BOMBARDIER

To: Dash 8, Model 102 Operators

Date: May 24, 2017

Subject: PSM 1−81−1B, Model 102, Dash 8, Quick Reference Handbook

Attached is a copy of Revision 27 to the Model 102 Quick Reference Handbook, dated MAY 24/17. Insert the attached revised pages using the List of Effective Pages (pages 15.1 and 15.2) as a guide. Remove and destroy superseded pages. Record the insertion of Revision 27 in the Log of Revisions at the front of the manual.

Highlights of the procedural and editorial changes in Revision 27 are follows:

- Page 9.8, Electrical:
  - The #1 DC Gen and #2 DC Gen caution light procedure is revised to change the second bullet item from “DC Gen(s) (affected)” to “DC Gen 1 and 2”.
- Pages 12.5 (Mod 8/2781) and 12.7 (Mod 8/2781), Hydraulic Power:
  - A “(use Flap 35 chart)” comment is added to the Landing Distance Factor in the #1 HYD ISO VLV caution light procedure.
  - Rudder System No.2 is removed from the Lost Services in the #2 HYD ISO VLV caution light procedure.
- Pages 13.4 and 13.5, Ice and Rain / Stall Protection:
  - The Deice Boot Failure and the Propeller Deicing Failure procedures are revised to remove the decision (rhomb) symbols, decision lines and Yes/No boxes.
- Pages 15.1 and 15.2, List of Effective Pages:
  - The List of Effective Pages (15.1 and 15.2) are updated for the revised pages.

Operators are encouraged to review the revised pages in their entirety.

Depending on the Modification status of the airplane, pilots and operators may retain both “Mod 8/1983” and “Mod 8/2781” pages in their copy of the QRH or just the pages appropriate to the modification status of the airplane. Variant pages not required may be discarded. Pilots and operators must ensure that the appropriate checklist is used and are urged to read the PREFACE at the front of the manual for further details.

Technical Publications Department
Bombardier Customer Services

LOG OF REVISIONS

RECORD INSERTION OF ALL REVISIONS IN THE LOG OF REVISIONS BELOW:					
REV NO.	REVISION DATE	ENTERED BY	REV NO.	REVISION DATE	ENTERED BY
1	JULY 7/95	BBD	18	JAN 14/11	BBD
2	OCT 20/95	BBD	19	JUL 14/11	BBD
3	FEB 1/96	BBD	20	NOV 9/11	BBD
4	MAY 3/96	BBD	21	AUG 24/12	BBD
5	AUG 2/96	BBD	22	JUN 07/13	BBD
6	DEC 2/96	BBD	23	FEB 20/14	BBD
7	MAY 30/97	BBD	24	SEP 02/14	BBD
8	JAN 5/98	BBD	25	MAY 18/16	BBD
9	AUG 28/98	BBD	26	SEP 12/16	BBD
10	SEPT 8/00	BBD	27	MAY 24/17	BBD
11	AUG 3/01	BBD			
12	JUNE 1/02	BBD			
13	FEB 3/03	BBD			
14	MAY 17/05	BBD			
15	FEB 11/09	BBD			
16	JUN 15/09	BBD			
17	OCT 27/10	BBD			

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QRH PREFACE

PURPOSE

The Dash 8 Quick Reference Handbook (QRH) is designed to assist trained pilots to verify that the proper procedures have been carried out.

The QRH provides the flight crew with information derived from the DOT Approved Airplane Flight Manual (AFM) to operate the airplane in most Normal and Non-normal/Emergency situations. It is the Operator's responsibility to ensure the checklists are applicable to their type of operation. In the event of an inconsistency between any checklist and the approved AFM, the AFM takes precedence.

Pilots must be aware that checklists cannot be created for all conceivable situations and are not intended to preclude good judgement. In some cases deviation from the checklists may, at the discretion of the Pilot-In-Command, be necessary. Under all circumstances, the first priority is to maintain safety of the airplane for the duration of the flight.

PRESENTATION

- Abbreviations do not have periods and are pluralized by an 's' in lower case (ECUs, RMIs, CBs).
- Revision bars located on the right hand margin of the page indicate changes incorporated in the latest revision.
- With some exceptions,only the most current modification status is reflected in the checks. (See Preface page iii for exceptions.)
  Operators are responsible for ensuring the checklists are applicable to the Mod status of their airplanes.
- With the exception of APU, TCAS and EFIS, options normally covered in AFM with Supplements are not addressed.

TERMINOLOGY

The following are terms unique to the QRH.

- Flap ..... set/ind
  This response is intended to include a particular flap setting.
- Altimeters ..... set
  Set means check or set the pilot's, copilot's and standby altimeters.
- Bleed Air refers to the selector and the switch and will have a response such as: On / Max or On / Min.
- Bleed Selector refers only to the selector and will have a response of either Min or Max.

QRH PREFACE

ABBREVIATIONS

Auto	Automatic
&	And
CB	Circuit Breaker
Diff	Differential
Gen	Generator
Hyd	Hydraulic
Max	Maximum
MCP	Maximum Continuous Power
MTOP	Maximum Take-off Power
Norm	Normal
Prop	Propeller
Qty	Quantity
req'd	Required
stby	Standby
Sys	System

NORMAL CHECKLIST

The Normal checklists are organized by phase of flight and assume completion of the previous checklist.

An unshaded box separating procedural steps (i.e. START APPROVED), defines a logical break that allows partial completion of the checklist until further action is appropriate.

PERFORMANCE

The Performance section contains abbreviated engine torque tables, unfactored landing distance tables, performance graphs, and speed tables.

NON-NORMAL/EMERGENCY CHECKLISTS

The Non-normal/Emergency checklists contain only those items and procedures that differ from the normal operations of the airplane.

The Non-normalEmergency checklist assumes that if an indicating light associated with a system is not illuminating, the integrity of the bulb is checked prior to referring to the checklist.

Each Non-normal/Emergency situation addressed in the checklist will be arranged as required in the following format:

1. Items enclosed within a box shall be given due consideration as immediate items to be accomplished in order to respond to the emergency situation. These boxed items may be completed by either following the checklist or from memory, as required by individual company approved procedures.

2. Checklist items specific to the malfunction.

3. Landing Considerations: This information is specific to the malfunction and is used to supplement the normal operations of the airplane. The Landing Considerations must be reviewed as part of the approach briefing.

4. The statement "Land immediately at the nearest suitable airport" is defined as:

– Land at the nearest airport that offers sufficient landing distance available and if required, emergency services to support the emergency or abnormality.

5. The statement “Land at the nearest suitable airport” is defined as:

– The airplane may continue to the destination airport or the nearest airport where maintenance services are available.

6. The statement “Maintenance action required prior to next flight” is defined as:

– “Next Flight” is referring to the immediate or imminent take–off after discovery.

A flow pattern concept is used throughout the QRH as applicable, utilizing the decision (rhomb) symbol ().

This decision symbol indicates a flow pattern which points to two or more possible courses of action. The procedure is completed once the (**– END –**) symbol is reached.

Following completion of the appropriate Non–normal/Emergency checklist, the Normal checklist will be used as modified by the Non–normal checklist for the remainder of the flight.

Non–normal/Emergency checklists are referenced on the Chapter 4 tab divider. Each section also contains a Table of Contents with boxed items being memory checks. Caution and Warning Light annunciations are shown capitalized in bold type within quotation marks.

The last page of the QRH is an illustration of the Caution and Warning Lights panel with a page reference for that particular Caution or Warning Light.

MOD 8/1983 and MOD 8/2781

Mod 8/1983 and Mod 8/2781 both introduce an automatic isolation of the rudder hydraulic circuit in the event of low hydraulic pressure in No. 2 hydraulic system. No. 2 Stby Hyd pump continues to operate within this isolated circuit and thus provides continuous hydraulic pressure. Mod 8/1983 and Mod 8/2781 impact various Non–normal/Emergency checklists in the QRH. Mod 8/1983 and Mod 8/2781 pages are provided for the specific QRH checklists affected. All of these variant pages may be retained in the QRH if the pilot is operating a mixed fleet of Mod airplanes. Pilots and operators must ensure that the appropriate QRH page is utilized depending on the Modification status of the airplane.

The specific QRH pages affected may be determined from the LOEP (pages 15.1 and 15.2). The applicability of these pages is indicated on the bottom of each page as follows:

MOD 8/1983 ONLY

OR

MOD 8/2781 ONLY

MODSUM 8Q100813 or 8Q110193

Modsum MS8Q100813 and 8Q110193 introduce an Auto Ignition System. On standard aircraft, ignition for engine starting is controlled by engine start control circuits with the ignition system in the Normal Mode. On aircraft with Modsum 8Q100813 or 8Q110193 incorporated, engine starting is controlled with the ignition switch in the Auto Mode. The ignition switch is marked OFF−AUTO−MANUAL. An auto relight system is armed when IGNITION 1 or IGNITION 2 switch on the ENGINE START panel is selected to AUTO. If, during engine operation, the NH speed falls below 60% a switch in the NH indicator closes. This switch causes power to be supplied to the ignition circuit. While the NH speed remains below 60%, the ignition circuit is powered and the spark igniters operate continuously. When the engine speed increases to above 60% the NH indicator switch opens and causes power to be removed from the ignition circuit. This function of the Auto ignition switch selection is disabled when the condition lever is in the FUEL OFF position.

MODSUM 8Q101291

Modsum 8Q101291 installs an Enhanced Ground Proximity Warning System in lieu of the Ground Proximity Warning System. As a service to operators, reference to the both systems will be retained in the QRH despite the GPWS not being the current production standard for Series 100 airplanes.

DASH 8 – COCKPIT PREPARATION

PREFLIGHT

External Check . . . . . completed
Documentation . . . . . check
Locking Devices . . . . . remove

COCKPIT PREPARATION – CAPTAIN

Safety Equipment . . . . . check serviceable & secure
Escape Hatch . . . . . secure
Oxygen Masks / Qty . . . . . check
Circuit Breakers . . . . . check
Alt Gear Doors / L/G Inhibit switch . . . . . closed / Normal

For DC External Power

Battery Master / Main & Aux . . . . . on
Main Bus Tie . . . . . Tie
DC Ext Power . . . . . on
Bus Voltage . . . . . check
Recirc Fan . . . . . on

For APU Power

Battery Master / Main & Aux . . . . . on
Main Bus Tie . . . . . Tie
Caution / Advisory Lights . . . . . test
APU Pwr . . . . . on
APU Fuel Valve . . . . . Open
APU Fire Detection . . . . . test
APU Pwr . . . . . off then on
APU Fuel Valve . . . . . Open
Position Lights . . . . . on
APU Start . . . . . press
APU Run . . . . . on
APU Gen . . . . . press
APU Generator Volts / Load . . . . . check
Battery Temperature . . . . . check
Recirc Fan . . . . . on
APU Bleed (20 Sec) . . . . . as req'd

COCKPIT PREPARATION – CAPTAIN (Cont'd)

For Battery Power Only

DC Gen 1 and 2 . . . . . on
Main Bus Tie . . . . . Tie
Ice Protection . . . . . Off
External Lighting . . . . . Off
Ignition 1 and 2 . . . . . Norm (Auto)
Recirc Fan . . . . . on
Bleed Air 1 and 2 . . . . . Min / Off
Emergency Lights . . . . . Arm
Passenger Signs . . . . . on
ECU Modes / Selector . . . . . On / TOP
Autofeather . . . . . off
Alternate Feather . . . . . Norm
Emerg Brake / Pressure . . . . . on / check
Power levers . . . . . Flt Idle
Condition levers . . . . . Fuel Off
Briefing . . . . . review

START APPROVED

Battery Master / Main & Aux . . . . . on
*Fire Detection . . . . . test
*ECU Enrichment switch . . . . . test
*Beta Lockout . . . . . test
Doors / Fueling Lights . . . . . out
Anti–Collision . . . . . Red
Engine . . . . . clear for start

Note: *Unfeather propeller of first engine and delay start of second engine for 30 seconds. Complete cockpit preparation before proceeding to AFTER START check list.*

*System Check Once Every 24 Hours Flying Day

COCKPIT PREPARATION – CAPTAIN (Cont'd)

DC Gen 1 and 2 . . . . . on
Ice Protection / WS Heat & Wipers . . . . . Off
Landing / Taxi Lights . . . . . Off
ELT . . . . . as req'd
*Fire Detection . . . . . test
Fuel Valves . . . . . Open
Baggage Smoke Warning . . . . . test
Panel Lighting . . . . . as req'd
Ignition 1 and 2 . . . . . Norm (Auto)
Cabin Altitude Controls . . . . . set
Exterior Lights . . . . . as req'd
Emergency Lights . . . . . Arm
Passenger Signs . . . . . as req'd
Caution / Advisory Lights . . . . . test
Temp Controls . . . . . set
Bleed Air 1 and 2 . . . . . Min / Off
AC External . . . . . Off
Inverters . . . . . Primary / left / Secondary
AC Gen 1 and 2 . . . . . on
GPWS Override . . . . . norm
Nosewheel Steering . . . . . Off
Stall Warning 1 and 2 . . . . . test
*ECU Enrichment switch . . . . . test
*Beta Lockout . . . . . test
CB & Panel Lighting . . . . . as req'd
Smoke Goggles . . . . . check
Clock . . . . . check
Flight / Taxi (if installed) . . . . . Taxi
GPWS . . . . . test
PFCS . . . . . norm
Flight Guidance Controller . . . . . check
Advisory Display Unit . . . . . check
Flight Instruments . . . . . check
Altimeters . . . . . set

*System Check Once Every 24 Hours Flying Day

COCKPIT PREPARATION – CAPTAIN (Cont'd)

Stby Attitude Indicator . . . . . erect
PFCS Indicator . . . . . check
Static Source . . . . . Normal
Alt Pre-selector . . . . . set
Standby Altimeter . . . . . set
Engine Intake Bypass Doors . . . . . as req'd
ECU Modes / Selector . . . . . On / TOP

Caution: *To ensure engine uptrim in the event of an engine failure, the Engine ECU selector must be at TOP.*

Engine Instruments . . . . . check
Landing Gear Sel / Lights / Horn . . . . . check
Fuel Temp . . . . . check
Alternate Feather . . . . . Norm
Autofeather . . . . . off
Fuel Transfer . . . . . Off
Tank Aux Pumps 1 and 2 . . . . . Off
Fuel Qty . . . . . check
Pitch & Roll Disc . . . . . in
Radios / Nav Aids . . . . . set
AHRS (if applicable) . . . . . test
GPWS Ldg Flap (if applicable) . . . . . as req'd
Radar . . . . . Off
Trims . . . . . check / set
Emerg Brake / Pressure . . . . . on / check
Control Lock . . . . . On
Power levers . . . . . Flt Idle
Condition levers . . . . . Fuel Off
*EFIS Control Panel . . . . . test
Audio Panel . . . . . set
TCAS . . . . . test

*System Check Once Every 24 Hours Flying Day

COCKPIT PREPARATION – FIRST OFFICER

Audio Panel ..... set
*EFIS Control Panel ..... test
Radios / Nav Aids ..... set
AHRS (if applicable) ..... test
Clock ..... set
Synchrophase ..... Off
Anti–Skid ..... On
Advisory Display ..... check
Flight Instruments ..... check
Manual PTU ..... off
Stby Hyd Press 1 and 2 ..... Norm
Hyd Qty ..... check
Roll Spoiler Pressure switches ..... norm
Static Source ..... Normal
Smoke Goggles ..... check
CB and Panel Lighting ..... as req'd
Oxygen Press ..... check
Forward Outflow Valve ..... Normal

*System Check Once Every 24 Hours Flying Day

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DASH 8 – NORMAL CHECKLIST

ORIGINATING BEFORE START

GPU / APU . . . . . on
Recirc Fan . . . . . on
External Check . . . . . completed
Cockpit Preparation . . . . . completed
Briefing . . . . . completed

BEFORE START

Escape Hatch . . . . . closed
Alt Gear Door / L/G Inhibit switch . . . . . closed / Normal
Circuit Breakers . . . . . check
Battery Master / Main & Aux . . . . . on
Passenger Signs . . . . . on
Emergency Lights . . . . . Arm
Anti–Skid . . . . . On
ECU Modes / Selector . . . . . On / TOP
Fuel Transfer / Qty . . . . . Off / check
Emerg Brake / Pressure . . . . . on / check
Power levers . . . . . Flt Idle
Condition levers . . . . . Fuel Off
Take–off Data . . . . . reviewed

START APPROVED

Door / Fueling Lights . . . . . out
APU Bleed . . . . . off
Anti–Collision . . . . . Red
Engine . . . . . clear for start

AFTER START

Ext Pwr / APU . . . . . Off
Main Bus Tie . . . . . Off
Bleed Air 1 and 2 . . . . . on / Max
Condition levers . . . . . Min
Battery Temps . . . . . check
DC / AC Volts and Load . . . . . check
Stby Hyd Press 1 and 2 . . . . . On
Hyd Press & Qty . . . . . check
Flap . . . . . select
Deice Pressure . . . . . check
Rudder Travel . . . . . full travel
Nosewheel Steering . . . . . on
Windshield Heat / Plt Wdo Heat . . . . . as req'd
Flight / Taxi (if installed) . . . . . Taxi
Advisory Display . . . . . check
Radar / Nav / Comm . . . . . set
Transponder . . . . . as req'd
Flight Instruments . . . . . check
Yaw Damper . . . . . on / check / off

*SYSTEM CHECK
ONCE EVERY 24 HRS – FLYING DAY

ECU Enrichment switch . . . . . test
ECU Enrichment valve . . . . . test
Beta Lockout . . . . . test
Beta Backup . . . . . test
Autofeather, Power Uptrim & Yaw Damper . . . . . test
Manual PTU . . . . . test
Fire Detection . . . . . test
EFIS Control Panel . . . . . test
Ice Protection . . . . . as req'd
Rudder Actuator . . . . . test

TAXI CHECK

Taxi Light . . . . . as req'd
Altimeters . . . . . set
Flight Instruments . . . . . check
Tank Aux Pumps 1 and 2 . . . . . On
Autofeather . . . . . Select
Flap . . . . . _____ set / ind
Trims . . . . . 3 set
Condition levers . . . . . Max
Pitot Static Heat / Stall Warn . . . . . on
Ice Protection . . . . . as req'd
Caution / Warning Lights . . . . . check
Flight Clearances . . . . . reviewed
Cabin . . . . . secure

LINE UP

F/A Notification . . . . . as req'd
Bleed Air 1 and 2 . . . . . Min / as req'd
Anti–Collision . . . . . White
Transponder / TCAS . . . . . on
Flight Controls . . . . . check / free
Flight / Taxi (if installed) . . . . . Flight
Landing Lights / Taxi Lights . . . . . on / Off

Note: *Before entering icing conditions see page 2.7.*

AFTER TAKEOFF

Landing Gear ..... Up
Flap 0
Yaw Damper ..... on
Bleed Air 1 and 2 ..... on / Max
Autofeather ..... off
Climb Power ..... set
Synchrophase ..... On
Stby Hyd Press 1 and 2 ..... Norm
Tank Aux Pumps 1 and 2 ..... Off
ECU Selector ..... Norm
Engine Temps & Pressures ..... check
Ice Protection ..... as req'd
Cabin Press & Temp Controls ..... check
Passenger Signs ..... as req'd

CRUISE

Altimeters ..... set
Power ..... set
Cabin Press ..... check
Lights ..... as req'd

DESCENT

Altimeters ..... set
Approach / Landing Briefing ..... review
Cabin Alt Controls ..... set
Ice Protection ..... as req'd

Note: *Before entering icing conditions see page 2.7.*

APPROACH

Altimeters ..... set
Lights ..... as req'd
GPWS Ldg Flap (if applicable) ..... select
ECU Selector ..... TOP
Fuel Transfer ..... Off
Tank Aux Pumps 1 and 2 ..... on
Stby Hyd Press 1 and 2 ..... on
Hyd Press & Qty ..... check
Passenger Signs ..... on
Caution / Warning Lights ..... check
Cabin ..... secure

Note: *Before entering icing conditions see page 2.7*

LANDING

Ice Protection ..... as req'd
Landing Gear ..... Down / 3 green
Flap ..... _____ set / ind
Synchrophase ..... Off
Condition levers ..... Max
Bleed Air 1 and 2 ..... Min / as req'd
F/A Notification ..... as req'd

AFTER LANDING

Control Lock . . . . . On
Transponder . . . . . as req'd
Radar . . . . . stby
Flap 0
Tank Aux Pumps 1 and 2 . . . . . Off
Yaw Damper . . . . . off
Flight/Taxi (if installed) . . . . . Taxi
Anti-Collision . . . . . Red
Lights . . . . . as req'd
Ice Protection . . . . . Off
Main Bus Tie . . . . . Tie
APU (if applicable) . . . . . as req'd
Bleed Air 1 and 2 . . . . . as req'd

SHUTDOWN

Taxi Light . . . . . Off
Emerg Brake . . . . . on
Stby Hyd Press 1 and 2 . . . . . Norm
Power levers . . . . . Flt Idle
Condition levers . . . . . Start & Feather
Passenger Signs . . . . . Off
Nosewheel Steering . . . . . Off
Radar . . . . . Off
Transponder . . . . . stby
Bleed Air 1 and 2 . . . . . Min / Off
APU / GPU . . . . . as req'd
Emergency Lights . . . . . Off
Condition levers (30 Sec) . . . . . Fuel Off
Lights . . . . . as req'd
Battery Master . . . . . as req'd

LAST FLIGHT

Recirc Fan . . . . . as req'd
Anti-Skid . . . . . Off
Main & Aux Battery . . . . . Off
Battery Master . . . . . Off

FLIGHT IN ICING CONDITIONS

Take–off In Icing Conditions:

- Increase V_{CLIMB} and Take–Off Field lengths as follows:

FLAP	INCREASE V_{CLIMB}	INCREASE TOD, TOR
0	+15KTS	—
5	—	3%
15	—	4%

Holding, Approach and Landing in Icing Conditions:

Note: *Flap must be set at 0 when holding in icing conditions.*

- Increase Speeds and Landing Field lengths as follows:

FLAP	INCREASE V_{APP} & V_{GA}	INCREASE V_{REF}	INCREASE LFL	HOLDING
5	+ 15 KTS	–	–	–
15	+ 10 KTS	+ 10 KTS	16%	–
35	–	+ 5 KTS	10%	–
0	–	–	–	1.3 Vs+ 15 Kts

Holding, Approach and Landing After Flight in Icing Conditions and with Suspected Accumulation on Unprotected Surfaces (Ice Protection Systems "Off"):

- Increase speeds as follows:

– V_{APP} & V_{GA} for Flap 5 increase 5 KTS.

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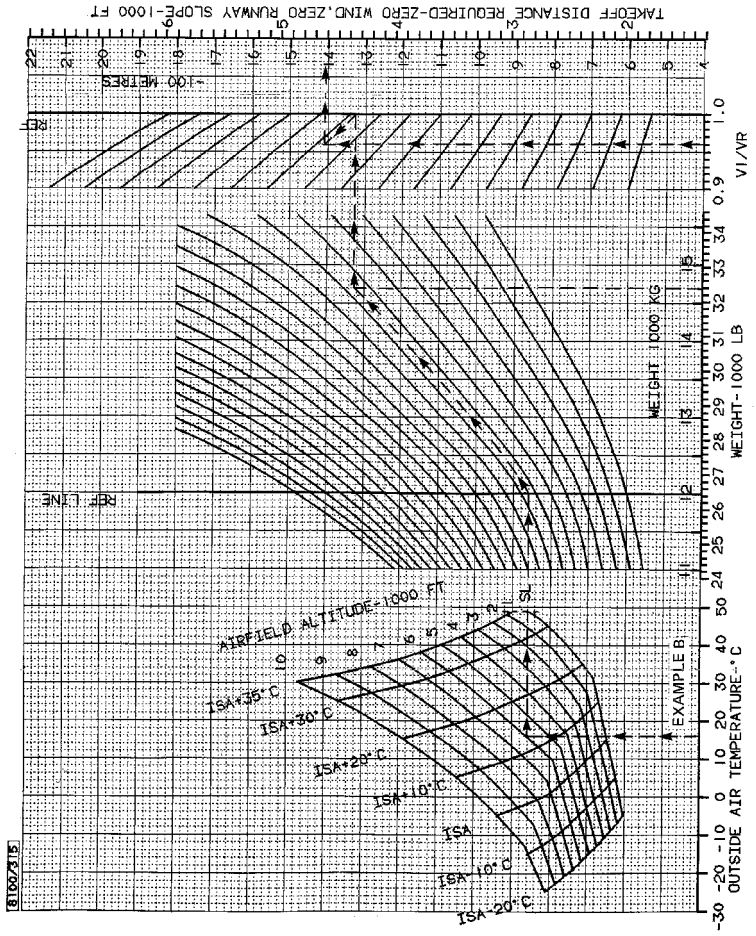
PART 3
PERFORMANCE

DASH 8 MODEL 102

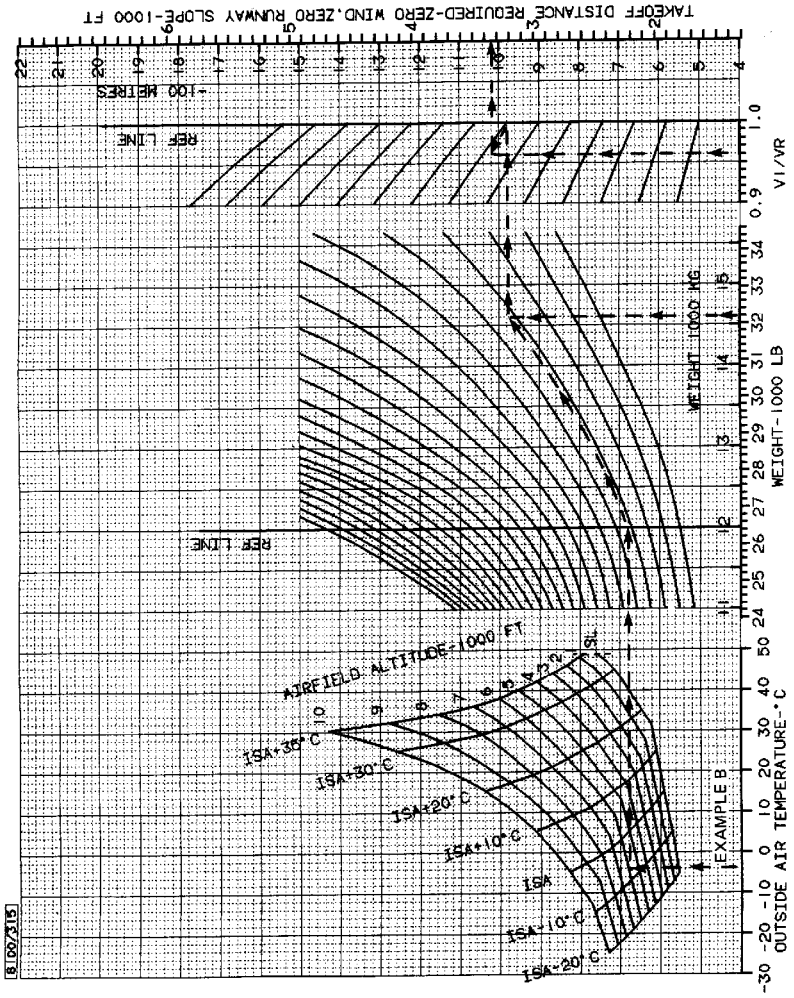
TAKE–OFF DISTANCE REQUIRED
FLAP 5
ZERO WIND
ZERO RUNWAY SLOPE



PART 3
PERFORMANCE

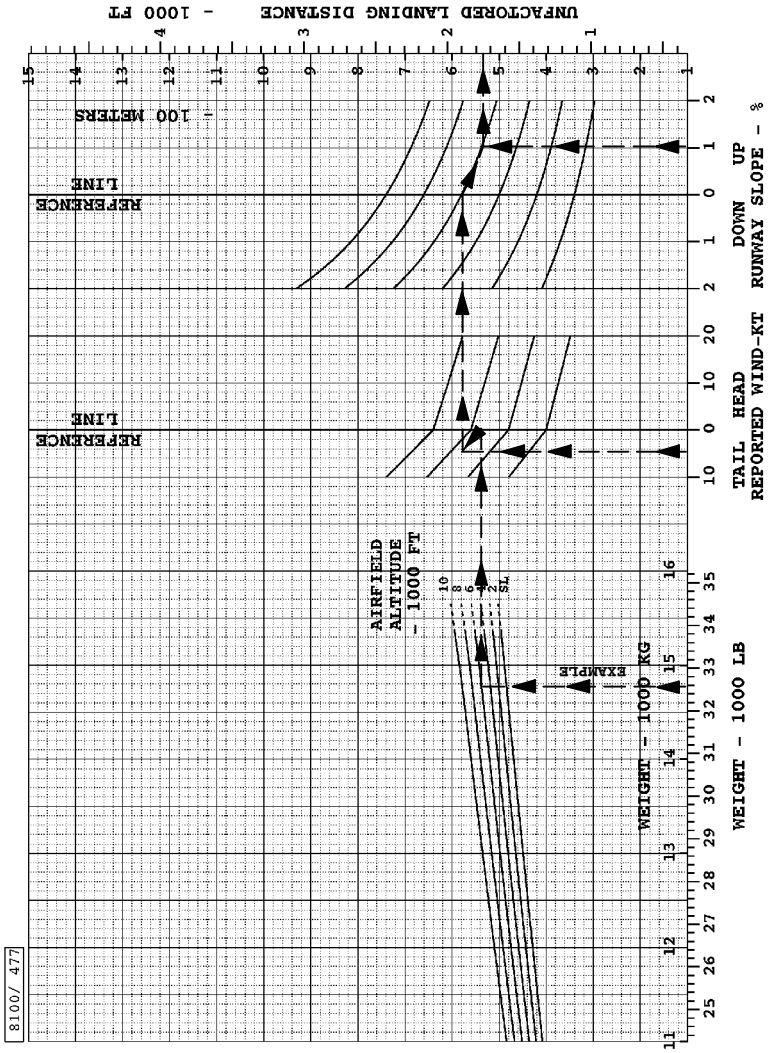
DASH 8 MODEL 102

TAKE–OFF DISTANCE REQUIRED
FLAP 15
ZERO WIND
ZERO RUNWAY SLOPE



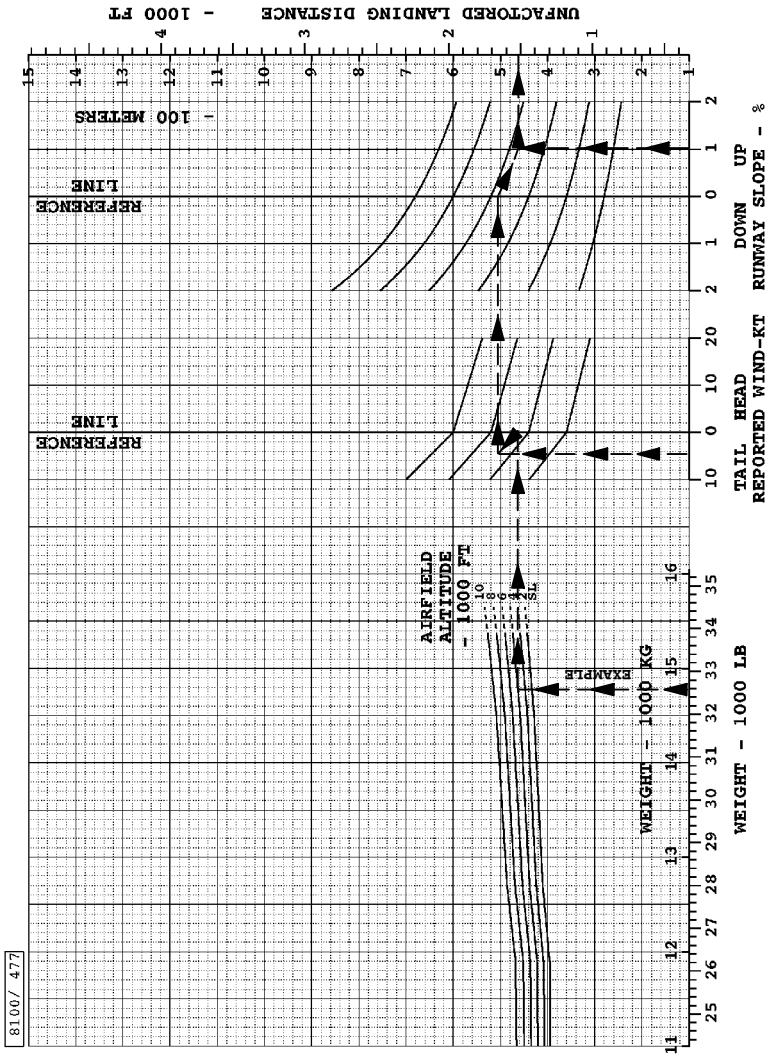
DASH 8 MODEL 102
UNFACTORED LANDING DISTANCE
FLAP 15

(SEE PAGE 3.5 FOR LANDING FIELD LENGTH REQUIRED)

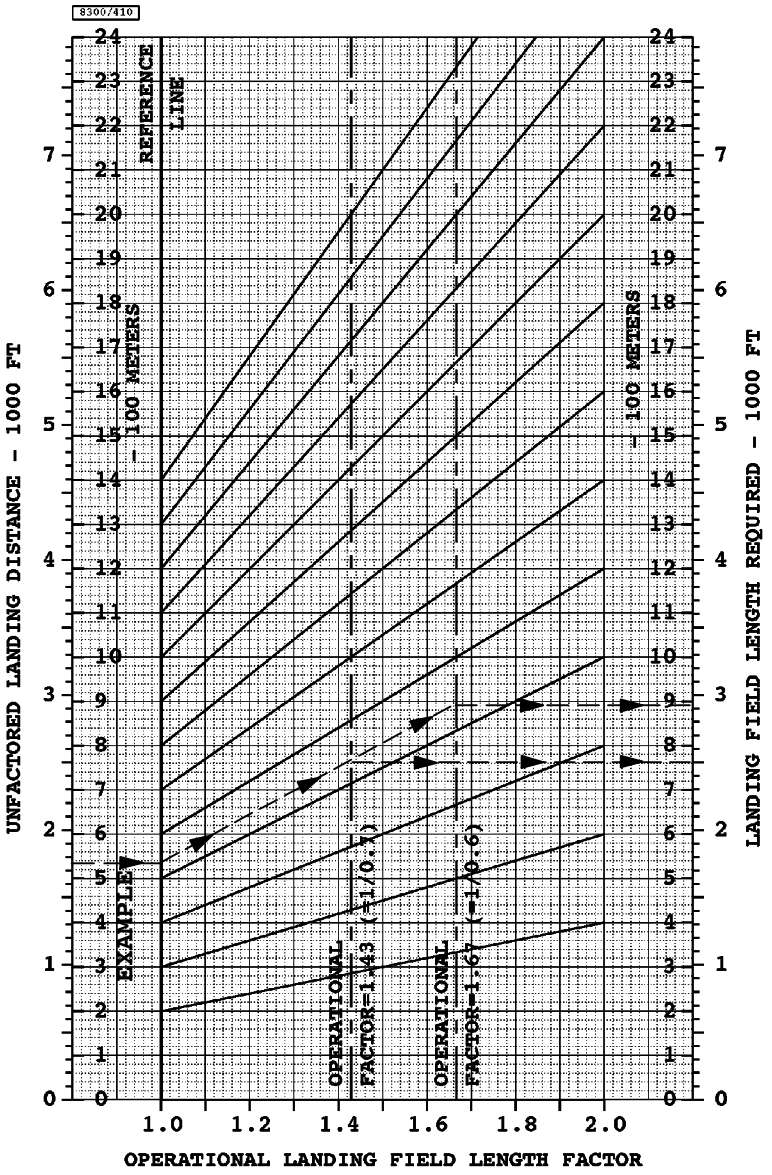


DASH 8 MODEL 102
UNFACTORED LANDING DISTANCE
FLAP 35

(SEE PAGE 3.5 FOR LANDING FIELD LENGTH REQUIRED)

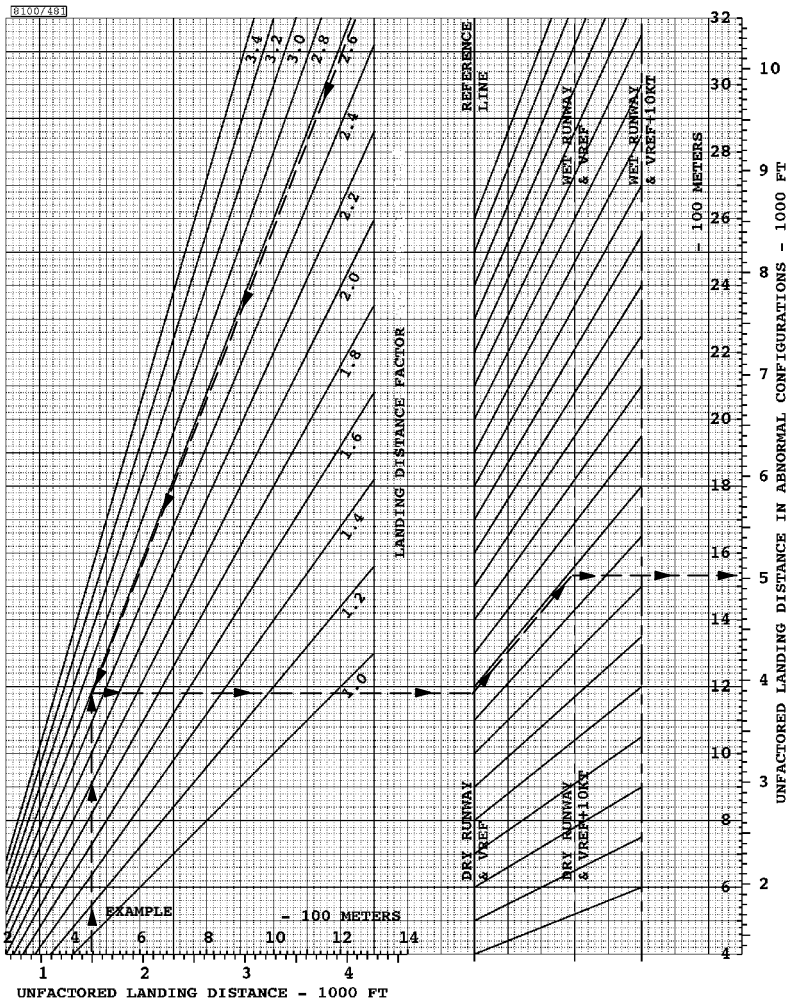


DASH 8 MODEL 102
LANDING FIELD LENGTH REQUIRED



DASH 8 MODEL 102

UNFACTORED LANDING DISTANCE IN ABNORMAL CONFIGURATIONS



(FROM PAGE 3.3 OR 3.4)

DASH 8 MODEL 102

SPEED VERSUS WEIGHT
ALL SPEEDS ARE IAS (KTS)

SPEED VERSUS WEIGHT

WEIGHT 1000		FLAP 0	
KG	LBS	1.3 Vs	1.4 Vs
11.3	25	106	113
11.8	26	108	115
12.2	27	110	118
12.7	28	112	120
13.1	29	114	122
13.6	30	116	124
14.0	31	118	126
14.5	32	119	128
14.9	33	121	130
15.4	34	123	132
15.6	34.5	124	133

SPEED VERSUS WEIGHT

WEIGHT 1000		FLAP 5	
KG	LBS	1.3 Vs	1.4 Vs
11.3	25	95	102
11.8	26	97	104
12.2	27	99	106
12.7	28	101	108
13.1	29	103	110
13.6	30	104	112
14.0	31	106	114
14.5	32	108	116
14.9	33	109	118
15.4	34	111	119
15.6	34.5	112	120

SPEED VERSUS WEIGHT

WEIGHT 1000		FLAP 15	
KG	LBS	1.3 Vs	1.4 Vs
11.3	25	87	93
11.8	26	89	95
12.2	27	91	97
12.7	28	92	99
13.1	29	94	101
13.6	30	96	102
14.0	31	97	104
14.5	32	99	106
14.9	33	100	108
15.4	34	102	109
15.6	34.5	102	110

SPEED VERSUS WEIGHT

WEIGHT 1000		FLAP 35	
KG	LBS	1.3 Vs	1.4 Vs
11.3	25	81	87
11.8	26	82	89
12.2	27	84	91
12.7	28	86	92
13.1	29	86	93
13.6	30	87	94
14.0	31	88	95
14.5	32	89	96
14.9	33	90	97
15.4	34	92	99
15.6	34.5	92	99

SHADED AREAS = WEIGHTS IN EXCESS OF MAX LANDING WEIGHT
15377 KG (33900 LB)

PART 3
PERFORMANCE

DASH 8 MODEL 102
LANDING /GO–AROUND SPEEDS (KIAS)

MIN V_{REF} SPEEDS

WEIGHT 1000		FLAP	
KG	LBS	15	35
11.3	25	87	81
11.8	26	89	82
12.2	27	90	84
12.7	28	92	86
13.1	29	94	86
13.6	30	96	87
14.0	31	97	88
14.5	32	99	89
14.9	33	100	90
15.4	34	102	92
15.6	34.5	102	92

APPROACH SPEEDS (V_{APP})

WEIGHT 1000		FLAP	
KG	LBS	5	15
11.3	25	95	87
11.8	26	97	89
12.2	27	99	90
12.7	28	101	92
13.1	29	103	94
13.6	30	105	96
14.0	31	106	97
14.5	32	108	99
14.9	33	109	100
15.4	34	111	102
15.6	34.5	112	102

$V_{REF} = 1.3\ V_S$

GO–AROUND SPEEDS

WEIGHT 1000		FLAP	
KG	LBS	5	15
11.3	25	89	82
11.8	26	90	82
12.2	27	92	84
12.7	28	94	86
13.1	29	95	87
13.6	30	97	88
14.0	31	99	90
14.5	32	100	91
14.9	33	102	93
15.4	34	103	94
15.6	34.5	104	95

***ALL SPEEDS ARE IAS (KTS)**

SHADED AREAS = WEIGHTS IN EXCESS OF MAX LANDING WEIGHT 15377 KG (33900 LB)

NORMAL TAKE–OFF POWER

DASH 8 MODEL 102 **STATIC**

PRESS ALT FEET	SAT °C = OAT °C								
	–30	–20	–10	0	10	20	30	40	49
10000		92	89	83	76	69	63	–	–
9000			92	87	80	73	66	–	–
8000				90	83	76	69	–	–
7000				92	86	79	72	–	–
6000					89	81	74	–	–
5000					92	84	77	–	–
4000						87	79	72	–
3000						90	82	75	–
2000		AREA OF CONSTANT 92% STATIC TORQUE				92	85	77	–
1000							89	80	–
SL							92	82	74

CONDITIONS: BLEED AIR OFF.
N_P 1200.
◆◆◆ Denotes ISA Line
— dashes indicate numbers outside charted values.

NORMAL TAKE–OFF POWER

DASH 8 MODEL 102 **IN FLIGHT 70 KIAS**

PRESS ALT FEET	SAT °C = OAT °C								
	–30	–20	–10	0	10	20	30	40	49
12000	90	86	80	76	68	62	–	–	–
11000		90	84	78	72	65	–	–	–
10000			88	82	75	68	62	–	–
9000			90	86	79	71	64	–	–
8000				89	82	75	67	–	–
7000				90	85	77	70	–	–
6000					89	80	73	–	–
5000					90	83	76	68	–
4000						86	78	71	–
3000						90	81	74	–
2000		AREA OF CONSTANT 90%TORQUE				90	84	76	–
1000							88	79	
SL							90	81	73

CONDITIONS: BLEED AIR OFF.
N_P 1200.
◆◆◆ Denotes ISA Line
— dashes indicate numbers outside charted values.

PART 3
PERFORMANCE

MAXIMUM TAKE–OFF POWER

DASH 8 MODEL 102 IN FLIGHT 100 KIAS

PRESS ALT FEET	SAT °C = OAT °C								
	–30	**–20**	**–10**	**0**	**10**	**20**	**30**	**40**	**49**
12000	**100**	**96**	**91**	**84**	**77**	**69**	**–**	**–**	**–**
11000		100	95	88	81	73	–	–	–
10000			98	92	84	76	69	–	–
9000			100	96	88	80	73	–	–
8000				99	92	83	76	–	–
7000				100	96	86	79	–	–
6000					99	90	82	–	–
5000					100	94	85	–	–
4000						97	88	80	–
3000						99	91	83	–
2000		AREA OF CONSTANT 100% TORQUE				100	94	85	–
1000							97	88	–
SL							100	91	81

CONDITIONS: BLEED AIR OFF. ◆ ◆ ◆ Denotes ISA Line
NP 1200.
AIRSPEED 100 KIAS.
DE–ICING ON or OFF
– dashes indicate numbers outside charted values.

MAXIMUM CONTINUOUS POWER

DASH 8 MODEL 102 IN FLIGHT 110 KIAS

PRESS ALT FEET	SAT °C = OAT °C									
	–50	**–40**	**–30**	**–20**	**–10**	**0**	**10**	**20**	**30**	**40**
25000	61	58	54	52	48	44	–	–	–	–
24000	64	60	57	54	50	46	–	–	–	–
23000	66	63	59	56	52	48	–	–	–	–
22000		65	62	58	55	50	–	–	–	–
21000		68	65	61	57	52	–	–	–	–
20000		71	67	63	59	55	50	–	–	–
19000		75	71	66	62	57	52	–	–	–
18000		78	74	69	65	59	54	–	–	–
17000			77	72	68	62	56	–	–	–
16000			80	76	71	65	59	–	–	–
15000			83	79	74	68	61	56	–	–
14000			87	82	77	71	64	58	–	–
13000			90	85	80	74	67	61	–	–
12000			90	89	83	77	70	64	–	–
11000				90	87	80	73	66	–	–
10000					90	83	76	69	63	–
9000					90	86	79	72	66	–
8000					90	89	82	74	68	–
7000						90	85	77	70	–
6000						90	88	80	73	–
5000							90	83	76	69
4000							90	87	79	71
3000								90	82	74
2000		AREA OF CONSTANT 90% TORQUE						90	85	77
1000								90	88	80
SL									90	83

INCREASE TORQUE BY 1% FOR EVERY 20 KTS ABOVE 110 KIAS. MAX. 90%.

CONDITIONS: FOR ALL WEIGHTS ◆ ◆ ◆ Denotes ISA Line
BLEED AIR ON.
N_P 1200.
DE–ICING ON or OFF
– dashes indicate numbers outside charted values.

TYPE II CLIMB TORQUE (%)

DASH 8 MODEL 102 **900 RPM**

PRESS ALT FEET	TYPE II KIAS	SAT °C = OAT °C										
		–50	–40	–30	–20	–10	0	10	20	30	40	49
25000	125	72	68	65	61	57	51	–	–	–	–	–
24000	129	76	72	68	64	59	54	–	–	–	–	–
23000	134	79	75	72	67	63	56	–	–	–	–	–
22000	139	84	79	75	71	65	59	–	–	–	–	–
21000	143		83	79	74	68	62	–	–	–	–	–
20000	148		86	82	78	72	65	59	–	–	–	–
19000	153		89	86	81	75	68	62	–	–	–	–
18000	158		90	89	85	79	71	65	–	–	–	–
17000	160			90	89	82	75	68	–	–	–	–
16000	160				90	85	78	70	63	–	–	–
15000	160					88	81	73	66	–	–	–
14000	160					90	84	76	68	–	–	–
13000	160						87	79	71	–	–	–
12000	160						90	82	74	–	–	–
11000	160						90	85	77	–	–	–
10000	160							88	80	72	–	–
9000	160							89	83	75	–	–
8000	160							90	87	78	–	–
7000	160								89	81	–	–
6000	160								90	84	75	–
5000	160									88	79	–
4000	160									90	82	–
3000	160										85	–
2000	160		AREA OF CONSTANT 90% TORQUE								89	–
1000	160										90	–
SL	160											86

CONDITIONS: FOR ALL WEIGHTS AND TEMPS. ◆ ◆ ◆ Denotes ISA Line
BLEED AIR ON.
– dashes indicate numbers outside charted values.

TYPE II CLIMB TORQUE (%)

DASH 8 MODEL 102 **1050 RPM**

PRESS ALT FEET	TYPE II KIAS	SAT °C = OAT °C										
		–50	–40	–30	–20	–10	0	10	20	30	40	49
25000	125	63	60	57	53	49	–	–	–	–	–	–
24000	129	66	63	60	56	52	47	–	–	–	–	–
23000	134	70	66	63	59	54	49	–	–	–	–	–
22000	139	73	69	66	62	57	51	–	–	–	–	–
21000	143		72	69	65	59	54	–	–	–	–	–
20000	148		76	72	68	62	56	51	–	–	–	–
19000	153		79	75	71	65	59	53	–	–	–	–
18000	158		83	79	74	68	62	56	–	–	–	–
17000	160		86	82	77	71	64	58	–	–	–	–
16000	160		90	85	80	74	67	61	54	–	–	–
15000	160			88	83	77	70	63	56	–	–	–
14000	160			90	87	80	73	65	58	–	–	–
13000	160				90	83	75	68	61	–	–	–
12000	160					87	78	71	63	56	–	–
11000	160					90	82	74	66	58	–	–
10000	160					90	85	77	69	61	–	–
9000	160						88	80	71	63	–	–
8000	160						90	83	74	66	–	–
7000	160							86	78	69	–	–
6000	160							90	81	72	64	–
5000	160							90	84	75	66	–
4000	160								87	78	69	–
3000	160								90	81	72	–
2000	160		AREA OF CONSTANT 90% TORQUE						90	84	75	66
1000	160									88	78	69
SL	160									90	81	72

CONDITIONS: FOR ALL WEIGHTS AND TEMPS. ◆ ◆ ◆ Denotes ISA Line
BLEED AIR ON.
– dashes indicate numbers outside charted values.

MAXIMUM CRUISE POWER TORQUE (%)

DASH 8 MODEL 102 900 RPM

PRESS ALT	SAT DEGREES C									
	–50	–40	–30	–20	–10	0	10	20	30	40
250	76	71	65	58	53	–	–	–	–	–
240	80	73	68	61	56	50	–	–	–	–
230	84	77	◆71	65	58	53	–	–	–	–
220	88	81	75	68	60	55	–	–	–	–
210	90	85	79◆	71	64	58	–	–	–	–
200		89	82	75	67	61	53	–	–	–
190		90	86	◆78	70	64	56	–	–	–
180			89	82	74	67	59	–	–	–
170			90	86	77	69	62	–	–	–
160				90◆	81	72	65	–	–	–
150					◆84	76	68	–	–	–
140					88	79	71	62	–	–
130					90	82	72	65	–	–
120					◆	86	77	67	–	–
110						89	79	70	–	–
100						90	82	73	64	–
90							85	74	67	–
80							89	80	70	–
70						◆	90	82	74	–
60							90	85	77	68
50							◆	88	80	72
40								90	85	75
30		AREA OF CONSTANT 90% TORQUE							86	78
20							◆		89	82
10									90	86
SL								◆		90

CONDITIONS: A.U.W. 30,870 lbs

Flaps 0°, BLEEDS ON.

◆ ◆ ◆ Denotes ISA Line

– dashes indicate numbers outside charted values.

MAXIMUM CRUISE POWER TORQUE (%)

DASH 8 MODEL 102 1050 RPM

PRESS ALT	SAT DEGREES C									
	–50	–40	–30	–20	–10	0	10	20	30	40
250	67	62	57	51	46	–	–	–	–	–
240	71	66	◆60	54	49	43	–	–	–	–
230	74	68	63	57	51	44	–	–	–	–
220	78	72	66◆	60	54	48	41	–	–	–
210		76	69	63	55	50	43	–	–	–
200		80	73	66	58	53	46	–	–	–
190		82	76	◆69	61	55	48	–	–	–
180		86	80	72	64	58	50	–	–	–
170		88	83	76◆	68	60	53	–	–	–
160		90	87	79	71	63	55	47	–	–
150			90	83	74	66	58	50	–	–
140				87	◆78	69	61	52	–	–
130				89	81	72	62	55	–	–
120				90	84◆	75	65	57	51	–
110				90	86	78	68	60	53	–
100					88	81	71	63	54	–
90					90	◆85	74	64	57	–
80						89	78	69	59	–
70						90◆	81	70	62	–
60						90	84	74	65	57
50							86	77	69	59
40							◆88	81	72	62
30							90◆	84	73	65
20		AREA OF V_{MO} LIMIT					90	87	78	68
10								90	80	71
SL								◆90	84	74

CONDITIONS: A.U.W. 30,870 lbs

Flaps 0°, BLEEDS ON.

◆ ◆ ◆ Denotes ISA Line

– dashes indicate numbers outside charted values.

AIR CONDITIONING, PRESSURIZATION AND PNEUMATICS

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RAPID DEPRESSURIZATION/ EMERGENCY DESCENT

- Oxygen Masks . . . . . on / 100%
- Mic Switch . . . . . Mask
- Passenger Signs . . . . . on

EMERGENCY DESCENT, accomplish as req'd:

- Power levers . . . . . Flt Idle
- Condition levers . . . . . Max
- Airspeed . . . . . V_{mo}

IF an immediate descent to an altitude where oxygen is not required cannot be conducted; within 5 minutes of donning oxygen masks:

- Oxygen Masks . . . . . Norm

Note: *If structural integrity is in doubt, limit airspeed as much as possible and avoid high maneuvering loads.*

UNPRESSURIZED FLIGHT (Bleeds On)

- Auto / Man / Dump . . . . . Dump
- Bleed Air 1 and 2 . . . . . on / Max
- Oxygen Masks . . . . . as req'd

RAM VENTILATION (Bleeds Off)

- Recirc Fan . . . . . Off
- Bleed Air 1 and 2 . . . . . Min / Off
- Auto / Man / Dump . . . . . Man
- Man knob . . . . . Fully Clockwise (INCR)
- Fwd Outflow Valve . . . . . Open

Note: *Ram ventilation is most effective above 150 KIAS.*

"CABIN PRESS" (Warning Light)

OR

CABIN PRESSURIZATION FAILURE

(Loss of cabin pressure and/or pressurization controller "FAULT" light illuminated)

- Bleed Air 1 and 2 . . . . . on / Max
- Auto / Man / Dump . . . . . Auto
- Man knob . . . . . fully counter–clockwise
- Fwd Outflow Valve . . . . . Normal

– Cab Alt Indicator . . . . . check

Control of pressurization is regained:

Yes

– No further action required.

– END –

No

- Auto / Man / Dump . . . . . Man
- Man knob . . . . . as req'd (5.5 psi diff max)

– Use Cabin Altitude Differential placard to achieve appropriate cabin altitude in climb, cruise, or descent.

Control of pressurization is regained:

Yes

Prior to landing:

- Bleed Air 1 and 2 . . . . . Min / Off

– END –

No

– Descend to below 14,000 ft as soon as possible.

- UNPRESSURIZED FLIGHT (page 4.3) . . . . . accomplish

---------- END ----------

"AIR COND PACK HOT" (Caution Light)

Caution Light continues to cycle:

Yes

- Bleed Air 1 and 2 . . . . . Min / Off

– Descend to below 14,000 ft as soon as possible.

***Note**: ECS Pack airflow is lost and cabin will depressurize.*

WHEN cabin differential pressure has decreased to 0.5 psi or less:

- RAM VENTILATION (Page 4.3) . . . . . accomplish

– END –

No

– No further action required.

–––––––––– END ––––––––––

"CABIN DUCT HOT" or "FLT COMPT DUCT HOT" (Caution Light)

- Cabin or Flt Comp switch . . . . . Man
- Temp Control . . . . . Cool (10 secs)

Duct Temperature continues to rise:

Yes

- Bleed Air 1 and 2 . . . . . Min / Off

– Descend to below 14,000 ft as soon as possible.
WHEN cabin differential pressure has decreased to 0.5 or less:

- RAM VENTILATION (Page 4.3) . . . . . accomplish

– END –

No

– No further action required.

–––––––––– END ––––––––––

"#1 BLEED HOT" or "#2 BLEED HOT" (Caution Light)

Caution Light continues to cycle:

Yes

- Bleed Air (affected side) . . . . . Off

– END –

No

– No further action required.

–––––––––– END ––––––––––

"PASS DOOR" or "BAG DOOR" (Warning Light)

Warning: *Remain clear of affected door.*
Do not attempt to secure affected door.

- Passenger Signs . . . . . on
- Cabin . . . . . depressurize

– Land immediately at nearest suitable airport.

- UNPRESSURIZED FLIGHT (Page 4.3) . . accomplish

CRACKED WINDSHIELD

- Airspeed . . . . . reduce (180 KIAS max)
- Auto/Man/Dump . . . . . Man
- Man knob . . . . . INCR (2.5–3.0 psi Diff max)

– Descend to below 14,000 ft if practical.
– Use Man Knob to maintain 2.5–3.0 psi Diff, or less, in descent.

Prior to landing:

- Bleed Air 1 and 2 . . . . . Min / Off

EMERGENCY OPENING OF FLIGHT COMPARTMENT DOOR (Door Jammed)

- Unlock and push or step down on bottom hinge pin.
- Unlock and pull down upper hinge pin.
- Unlock and lift middle hinge pin.
- Push flight compartment door at hinge side.

Note*:* *It may require a large force to open the flight compartment door.*

- Rotate the flight compartment door counter-clockwise and stow against the lavatory.

Note*:* *Upon forcing the flight compartment door open, it may fall straight aft and lay flat on the cabin floor.*

APU, ENGINES AND PROPELLERS

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ON GROUND NON-NORMAL

When airplane comes to a stop:
- Emerg Brake . . . . . set

Engine fire:
- ENGINE FIRE (On Ground) (Page 5.3) . . . . . accomplish

Engine failure:
- Power levers . . . . . Flt Idle
- Condition lever (affected) . . . . . Fuel Off
- Pull Fuel Off handle (affected) . . . . . pull
- Tank Aux Pump (affected) . . . . . Off

Other failure:
- Appropriate Abnormal / Emergency procedure(s) . . . . . accomplish

ENGINE FIRE (On Ground)

- Emerg Brake . . . . . set
- Power levers . . . . . Flt Idle
- Condition levers . . . . . Fuel Off
- Pull Fuel Off handle (affected) . . . . . pull
- Tank Aux Pumps (1 and 2) . . . . . Off
- Extg switch . . . . . Fwd Btl

Wait up to 30 secs, If fire persists:
- Extg switch . . . . . Aft Btl
- EVACUATION (Page 5.3) . . . . . accomplish

EVACUATION

- Emerg Brake . . . . . set
- Power levers . . . . . Flt Idle
- Condition levers . . . . . Fuel Off
- Pull Fuel Off handles . . . . . pull
- Emergency Lights . . . . . On
- Fasten Seat Belts . . . . . Off
- Evacuation . . . . . initiate
- AC/DC Ext Pwr and APU . . . . . Off
- Battery Master . . . . . Off

ABORTED ENGINE START

FAILURE TO LIGHT UP (within 10 secs)

- Condition lever . . . . . Fuel Off
- Ignition (affected engine) . . . . . Off

Motor engine for 15 seconds:

- Start Select . . . . . off

IMMINENT OVERTEMPERATURE OR HUNG START

- Condition lever . . . . . Fuel Off

IF ITT does not decrease immediately:

- Pull Fuel Off Handle . . . . . pull
- Ignition (affected engine) . . . . . Off

Motor engine for 15 seconds:

- Start Select . . . . . off

CLEARING AN ENGINE:
(To Remove Internally Trapped Fuel)

- Condition lever . . . . . Fuel Off
- Power lever . . . . . Flt Idle
- Ignition (affected engine) . . . . . Off
- Start Select (affected engine) . . . . . select
- Start . . . . . press

Caution: *Observe Starter Cranking Limits.*

After desired engine rotation complete:

- Start Select . . . . . off

IF a subsequent engine start is to be attempted:

- Ignition (affected engine) . . . . . Norm (Auto)

NO STARTER CUT–OUT

(START Light remains illuminated)

- Start Select . . . . . off

Note: *ENGINE START and SELECT lights will take approximately 5 seconds to go out.*

- DC Ext Power . . . . . Off

– Carry out remaining portions of normal checklist Shutdown procedure.

Note: *Maintenance action required prior to next flight.*

APU FIRE

– Confirm APU Automatic Shutdown (APU RUN Advisory Light out and APU BTL discharges.)

IF APU BTL or APU FIRE Advisory Light remains illuminated:

- Extg switch . . . . . Extg

- POST APU AUTOMATIC SHUTDOWN (below) . . . . . accomplish

POST APU AUTOMATIC SHUTDOWN

- APU Bleed . . . . . off
- APU Gen . . . . . off
- APU Pwr . . . . . off

Caution: *Do not restart the APU following an automatic shutdown if the FIRE Advisory Light is illuminated.*

APU START FAILURE

(APU FLR Advisory Light illuminates during APU Start)

APU START and APU STARTER advisory lights go out:

Yes

- APU Pwr . . . . . off then on

Note: *After an APU start attempt, APU start will remain disabled for approximately 2 minutes.*

– Wait 2 minutes, then attempt second APU start.

Note: *Observe APU Starter cranking limits.*

– END –

No

- APU STARTER FAILURE (below) . . . . accomplish

APU STARTER FAILURE

(APU RUN with APU STARTER Advisory Light illuminated)

- APU Gen . . . . . On
- Main Battery . . . . . Off
- DC Ext Pwr . . . . . Off
- DC Gen 1 and 2 . . . . . Off
- AC Ext Pwr . . . . . Off
- AC Gen 1 and 2 . . . . . Off
- APU Pwr . . . . . off

–––––––––– END ––––––––––

"APU" (Caution Light)

APU Failure (APU FLR Advisory Light):

– Confirm APU Automatic Shutdown.

- POST APU AUTOMATIC SHUTDOWN
  (Page 5.5) . . . . . accomplish

– END –

APU GEN Overheat (GEN OHT Advisory Light):

– Confirm APU Automatic Shutdown.

- POST APU AUTOMATIC SHUTDOWN
  (Page 5.5) . . . . . accomplish

APU Rear Bay Overheat (RBYOHT Advisory Light):

– Confirm APU Automatic Shutdown.

- Post APU AUTOMATIC SHUTDOWN
  (Page 5.5) . . . . . accomplish

– END –

APU GEN Failure (GEN WARN Advisory Light):

- APU Gen . . . . . off then On

GEN WARN Advisory Light remains illuminated:

- APU Gen . . . . . off

– END –

- No further action required.

–––––––––– END ––––––––––

APU BLEED AIR OVERHEAT

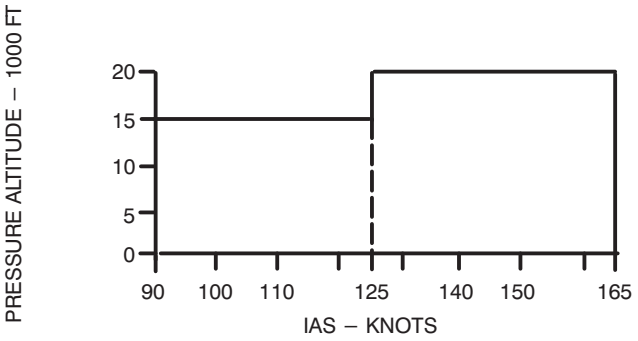
(FLT COMPT DUCT HOT or CABIN DUCT HOT or AIR COND PACK HOT Caution Light)

- APU Bleed . . . . . off

ENGINE AIRSTART

CAUTION: *For all conditions other than an emergency, do not restart an engine in the time period of 4 minutes to 25 minutes after shutdown unless N_H is 3% or greater. If S.B. 20039 is not incorporated, with SAT below −29°C, an engine start after 10 minutes following shutdown will require an engine inspection.*

IN-FLIGHT ENGINE START ENVELOPE



- Synchrophase . . . . . Off

Affected Engine:

- Power lever . . . . . Flt Idle
- Condition lever . . . . . Fuel Off
- Pull Fuel Off Handle . . . . . push in
- Ignition . . . . . Manual
- Bleed Air . . . . . Off
- Tank Aux Pump . . . . . on
- Autofeather . . . . . off
- Alternate Feather . . . . . Norm
- Main Bus Tie . . . . . Tie
- Conduct Normal Start

When Engine Stabilizes:

- Condition lever . . . . . Min
- Alternate Feather (if req'd) . . . . . Unfeather

When Propeller Np Stabilizes:

- Power levers . . . . . as req'd
- Condition levers . . . . . as req'd
- DC / AC Volts and Load . . . . . check
- Synchrophase . . . . . On
- Tank Aux Pumps 1 and 2 . . . . . Off
- Stby Hyd Press 1 and 2 . . . . . Norm
- Bleed Air 1 and 2 . . . . . as req'd
- Ignition 1 and 2 . . . . . Norm (Auto)
- Main Bus Tie . . . . . Off

OIL PRESSURE BELOW 40 PSI or "#1 ENG OIL PRESS" or "#2 ENG OIL PRESS" (Warning Light)

Affected Engine:

- ENGINE FAIL / FIRE / SHUTDOWN

(Page 5.14) . . . . . accomplish

LOW OIL PRESSURE (40 – 55 psi)

Affected Engine:

- Power lever . . . . . Flt Idle

To reduce inflight drag:

- Condition lever . . . . . Start&Feather

IF oil pressure decreases to below 40 psi:

- OIL PRESSURE BELOW 40 PSI

  (Page 5.9) . . . . . accomplish

"#1 ENG MANUAL" or "#2 ENG MANUAL" (Caution Light)

Caution: *Failure to select AUTOFEATHER to OFF before selecting ECU selector to NORM or decreasing engine torque may result in feathering of the affected engine.*

Above 400 ft AGL:

- Autofeather . . . . . off
- ECU Selector . . . . . Norm
- ECU Mode (affected engine) . . . . . Manual
- Power lever (affected engine) . . . . . as req'd

– Power lever positions will be asymmetric for symmetric torque.

– On the engine with the inoperative ECU, the rate of engine response to power lever advancement will be reduced at altitudes above 15,000 ft and at all altitudes with torque below 50%.

– Engine Surge may result from rapid power lever movement at altitudes above 15,000 ft particularly with engine bleed off, and is identified by a muffled popping sound and an unscheduled ITT (T_6) rise on the affected engine.

– To clear engine surge, immediately retard the power lever of the affected engine until the popping sound stops and the ITT (T_6) decreases, then, reset torque by slowly advancing the power lever until the desired torque is achieved.

Landing Considerations:

- ECU Selector . . . . . TOP

– Do not retard affected power lever below DISC on landing.

PROPELLER OVERSPEED

Above 400 ft AGL:

- Synchrophase . . . . . Off
- Airspeed . . . . . reduce toward minimum speed appropriate to flap configuration and flight conditions

Affected Engine:

- Power lever . . . . . Flt Idle
- Condition lever . . . . . Start&Feather
- Alternate Feather (if req'd) . . . . . feather

IF propeller does not feather:

– DO NOT SHUT DOWN ENGINE.

- Alternate Feather . . . . . Norm
- Condition levers . . . . . Max
- Power lever (affected engine) . . Advance. Do not exceed 1212 rpm
- Power lever (non affected engine) . . as required to maintain desired flight profile.

– Land immediately at nearest suitable airport.

IF propeller feathers:

- ENGINE FAIL / FIRE / SHUTDOWN

(page 5.14) . . . . . accomplish

***Note**: Power and Power levers will be asymmetric.*

UNSCHEDULED PROPELLER FEATHERING

(May be indicated by high torque)

Above 400 ft AGL:

Affected Engine:

- Power lever . . . . . Flt Idle
- ENGINE FAIL / FIRE / SHUTDOWN

(page 5.14) . . . . . accomplish

PROPELLER GROUND RANGE ADVISORY LIGHT CYCLING

- Power levers . . . . . advance above Flt Idle

Caution: *Avoid Power Lever positions that result in illumination of the Ground Range Advisory light.*

Landing Considerations:

– DO NOT select affected Power lever below Flt Idle on landing.
– Anticipate greater than normal braking requirements due to increased propeller thrust at Flt Idle setting.

Landing Distance Factor:

Flap 15 . . . . . 1.14
Flap 35 . . . . . 1.15

PROPELLER RPM CYCLING AT 1000 RPM

(Power Lever Micro Switch Failure with Beta Lockout System incorporated)

Above 400 ft AGL:

- Autofeather . . . . . off
- Power levers . . . . . reduce to climb setting
- Condition levers . . . . . Min / 900Np

– Check RPM of affected propeller stops cycling.

Note: *The Power lever of the affected engine will require adjusting when retarding the condition levers.*

– Continue flight with condition levers at Min / 900Np.

Landing Considerations:

– Land using Flap 15
– Land with condition levers at Min / 900Np

Landing Distance Factor:

Flap 15 . . . . . 1.14

Go-Around from Final Approach:

- Condition levers . . . . . Max
- Power levers . . . . . advance to NTOP ensuring peak torque on affected engine does not exceed 100%.

Note: *The RPM of the affected propeller will commence cycling above 1000Np.*

Note: *Power lever positions will be asymmetric with NTOP set on the non-affected engine.*

When Clear of Obstacles:

- Condition levers . . . . . Min / 900Np

– Check RPM of the affected propeller stops cycling.

"CHECK FIRE DET" (Warning Light) and "FAULT A" or "FAULT B" (Advisory Light)

(Fire Detector Loop Failure)

- Loop Select knob . . . . . set to non-illuminated fault position

– END –

ENGINE FAIL/ FIRE/ SHUTDOWN (In Flight)

Affected Engine:
- Power lever . . . . . Flt Idle
- Condition lever . . . . . Fuel Off
- Alternate Feather (if req'd) . . . . . feather
- Pull Fuel Off Handle . . . . . pull
- Tank Aux Pump . . . . . Off

IF Fire:
- Extg switch (affected engine) . . . . . Fwd Btl
  - If Fire Persists, Wait Up To 30 seconds:
- Extg switch (affected engine) . . . . . Aft Btl

Warning: *When Autofeather is selected off, uptrim power is cancelled.*

Caution: *Propeller will unfeather if Autofeather is selected off before condition lever is selected to Fuel Off.*

- Autofeather . . . . . off
- Power levers . . . . . operate together as req'd
- Ignition:
  Operating Engine . . . . . Manual (Auto)
  Affected Engine . . . . . Off
- Bleed Air:
  Operating Engine . . . . . as req'd
  Affected Engine . . . . . Off
- Synchrophase . . . . . Off
- Stby Hyd Press 1 and 2 . . . . . on
- Tank Aux Pump (Operating Engine) . . . . . on

– Transfer fuel as required to maintain fuel balance

<u>No. 1 Engine is inoperative:</u>

Landing Considerations:

Landing Distance Factor:
Flap 15 . . . . . 1.36
Flap 35 . . . . . 1.31

–––––––––– END ––––––––––

<u>No. 2 Engine is inoperative:</u>

– Prior to selecting Landing Gear Down:
- Manual PTU . . . . . on

Landing Considerations:

Landing Distance Factor:
Flap 15 . . . . . 1.36
Flap 35 . . . . . 1.31

–––––––––– END ––––––––––

"CHECK FIRE DET" (Warning Light) and "FAULT A" or "FAULT B" (Advisory Light)

(Fire Detector Loop Failure)

- Loop Select knob . . . . . set to non-illuminated fault position

– END –

ENGINE FAIL/ FIRE/ SHUTDOWN (In Flight)

Affected Engine:

- Power lever . . . . . Flt Idle
- Condition lever . . . . . Fuel Off
- Alternate Feather (if req'd) . . . . . feather
- Pull Fuel Off Handle . . . . . pull
- Tank Aux Pump . . . . . Off

IF Fire:

- Extg switch (affected engine) . . . . . Fwd Btl
  - If Fire Persists, Wait Up To 30 seconds:
- Extg switch (affected engine) . . . . . Aft Btl

Warning: *When Autofeather is selected off, uptrim power is cancelled.*

Caution: *Propeller will unfeather if Autofeather is selected off before condition lever is selected to Fuel Off.*

- Autofeather . . . . . off
- Power levers . . . . . operate together as req'd
- Ignition:
  Operating Engine . . . . . Manual (Auto)
  Affected Engine . . . . . Off
- Bleed Air:
  Operating Engine . . . . . as req'd
  Affected Engine . . . . . Off
- Synchrophase . . . . . Off
- Stby Hyd Press 1 and 2 . . . . . on
- Tank Aux Pump (Operating Engine) . . . . . on

– Transfer fuel as required to maintain fuel balance

No. 1 Engine is inoperative:

Landing Considerations:

Landing Distance Factor:

Flap 15 . . . . . 1.36
Flap 35 . . . . . 1.31

–––––––––– END ––––––––––

No. 2 Engine is inoperative:

– Prior to selecting Landing Gear Down:

- Manual PTU . . . . . on
- Landing Gear . . . . . Down / 3 Green
- Manual PTU . . . . . off

Landing Considerations:

Landing Distance Factor:

Flap 15 . . . . . 1.36
Flap 35 . . . . . 1.31

–––––––––– END ––––––––––

MOD 8/2781 ONLY

AUTO FLIGHT

FLIGHT INSTRUMENTS AND NAVIGATION

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AHRS FAILURES

HDG (Flag)
SLAVE (Advisory Light)

Electro–Mechanical HSI:

– Fly the aircraft by reference to the HSI displaying the non–affected source of heading data.

Affected Side:

- HDG / DG . . . . . press
- DG SLEW . . . . . manually slew

Note: *Manually slew HSI heading to align with RMI heading at intervals of less than 5 min or when HDG MISMATCH message is presented on advisory display.*

EFIS:

– Fly the aircraft by reference to the HSI displaying the non–affected source of heading data.

Affected Side:

- HDG REV . . . . . select HDG 1 or 2 (as appropriate)

BASIC (Advisory Light)

Electro–Mechanical HSI:

– Fly the aircraft by reference to the ADI displaying the non–affected source of attitude data.

Note: *Loss of valid true airspeed data from the air data computers will result in automatic entry into basic mode, as indicated by illumination of the BASIC annunciator on the applicable AHRS controller, and appearance of the ATT flag on the affected ADI.*

Affected ADI prone to acceleration errors.

EFIS:

– Fly the aircraft by reference to the EADI displaying the non–affected source of attitude data.

Affected Side:

- ATT REV . . . . . select ATT 1 or 2 (as appropriate)

AUXPR (Advisory Light)

– No crew action req'd.

Note: *Loss of primary power source and switch to backup source. System will automatically revert to primary when it becomes available.*

EFIS MALFUNCTIONS

SYMBOL GENERATOR FAILURE

(Failure is indicated by a red “x” centered across both EADI and EHSI screens together with a red “SG FAIL” message or blank EADI and EHSI screens)

– Fly the aircraft by reference to the operative EADI / EHSI.

Affected Side:

- REVN switch . . . . . press
- HSI SEL . . . . . select unaffected side.

CRT DISPLAY FAILURE

(Failure is indicated by a blank screen on the affected EHSI or EADI screen)

– Fly the aircraft by reference to the operative EADI / EHSI.

To present a composite display on the serviceable screen:

Affected Side:

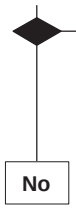
- EHSI or EADI dim control knob . . . . . Off

Note: *ILS/MLS approaches are not permitted using composite display.*

"FLT DATA RECORDER" (Caution Light)

- Anti–Collision Light . . . . . Red or White

Caution Light remains on:



– Maintenance action required prior to next flight.

– END –

– No further action required.

–––––––––– END ––––––––––

"GPWS" (Caution Light)

(Loss of GPWS Terrain Display and Audible Warnings)

– Establish and use alternate means to ensure required clearance from terrain is maintained.

ABNORMAL INDICATIONS OF AIRSPEED, ALTITUDE AND VERTICAL SPEED

- Static Source selector (affected side) . . . . . Alternate

IF switching the Static Source Selector to Alternate does not correct the abnormal indications:

– Fly the aircraft by reference to the flight instruments on the unaffected side.

– Land at nearest suitable airport.

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FUSELAGE FIRE, SMOKE or FUMES

"SMOKE" (Warning Light)

OR

FUSELAGE FIRE, SMOKE or FUMES

- Oxygen Masks . . . . . on / 100%
- Smoke Goggles (if applicable) . . . . . on
- Mic Switch . . . . . Mask
- Recirc Fan . . . . . Off

– Prepare to land the aircraft without delay while completing fire suppression and/or smoke or fumes evacuation procedures.

Known Source of Fire, Smoke or Fumes:

Flight Compartment:

***Note**: If an electrical source of fire, smoke or fumes is positively identified, remove power to source if possible.*

– Extinguish fire with portable fire extinguishers.

– If it cannot be visibly verified that the fire has been completely extinguished whether the smoke has cleared or not, land immediately at nearest suitable airfield or landing site.

To remove smoke or fumes:

- Cabin Alt Man knob . . . . . turn towards INCR

***Note**: Flight compartment airflow will carry the smoke or fumes forward.*

IF additional assistance to remove smoke or fumes is required:

***Note**: This step will de-pressurize the aircraft rapidly.*

- Fwd Outflow Valve . . . . . Open

– Descend to below 14,000 ft as soon as possible.

– END –

CONTINUED ON NEXT PAGE

Cabin:

- Emergency Lights . . . . . if req'd
- Evacuate passengers from affected area.
- Extinguish fire with portable fire extinguishers.

***Note**: If a pilot is required to fight the fire, protective breathing equipment must be donned prior to exiting the flight compartment.*

- If it cannot be visibly verified that the fire has been completely extinguished whether the smoke has cleared or not, land immediately at nearest suitable airfield or landing site.

To encourage smoke or fume dissipation:

- Baggage Compartment Door . . . . . open

***Note**: Cabin airflow will carry the smoke or fumes aft.*

IF assistance to remove smoke or fumes from the cabin is required:

***Note**: This step will de-pressurize the aircraft rapidly.*

- Auto / Man / Dump . . . . . Dump
- Descend to below 14,000 ft as soon as possible.

– END –

Baggage Compartment:

To locate and extinguish a fire in the baggage compartment:

- Baggage Compartment Light . . . . . On
- Extinguish fire with portable fire extinguishers.

***Note**: If a pilot is required to fight the fire, protective breathing equipment must be donned prior to exiting the flight compartment.*

- If it cannot be visibly verified that the fire has been completely extinguished whether the smoke has cleared or not, land immediately at nearest suitable airfield or landing site.

IF assistance to remove smoke or fumes from the baggage compartment or cabin is required:

***Note**: This step will de-pressurize the aircraft rapidly.*

- Auto / Man / Dump . . . . . Dump
- Descend to below 14,000 ft as soon as possible.

– END –

Unknown Source of Fire, Smoke or Fumes:

PROCEDURE ON NEXT PAGE

Unknown Source of Fire, Smoke or Fumes:

***Note**: To prepare for and manage an immediate landing, the Unknown Source of Fire, Smoke or Fumes procedure may be terminated prior to completion.*

Bleed Source or Air Conditioning Suspected:

- Bleed Air 1 . . . . . Off

Wait up to 1 minute.

Improvement:

Yes

- Leave Bleed Air 1 in the Off position.

IF necessary to assist in removal of smoke or fumes:

- SMOKE or FUMES REMOVAL (Page 7.6) . . . . . accomplish

– END –

No

- Bleed Air 1 . . . . . on
- Bleed Air 2 . . . . . Off

Wait up to 1 minute.

Improvement:

Yes

- Leave Bleed Air 2 in the Off position.

IF necessary to assist in removal of smoke or fumes:

- SMOKE or FUMES REMOVAL (Page 7.6) . . . . . accomplish

– END –

No

- Bleed Air 1 and 2 . . . . . Off

Wait up to 1 minute.

Improvement:

Yes

- Leave Bleed Air 1 and 2 in the Off position.
- – Descend to below 14,000 ft as soon as possible.

IF necessary to assist in removal of smoke or fumes:

- SMOKE or FUMES REMOVAL (Page 7.6) . . . . . accomplish

– END –

No

- Bleed Air 1 and 2 . . . . . on

CONTINUED ON NEXT PAGE

Source of Fire, Smoke or Fumes cannot be Identified:

- DC Gen 1 and 2 . . . . . Off
- AC Gen 1 and 2 . . . . . Off
- Storm/Dome Lights . . . . . Storm (if req'd)
- Main & Aux Batteries . . . . . Off
- Emergency Lights . . . . . On then Off (until req'd)

– Land immediately at the nearest suitable airport.

***Caution**: Battery duration for operation of essential services is 30 minutes.*

***Note**: Automatic control of cabin altitude is lost. Cabin differential pressure will increase until the safety outflow valve opens.*

To depressurize the aircraft and establish ram ventilation:

***Note**: This procedure will de-pressurize the aircraft rapidly.*

- Auto / Man / Dump . . . . . Man
- Man knob . . . . . fully clockwise (INCR)
- Fwd Outflow Valve . . . . . Open

***Note**: Ram ventilation is most effective above 150 KIAS.*

– Descend to below 14,000 ft as soon as possible.

---------- **END** ----------

SMOKE or FUMES REMOVAL (UNKNOWN SOURCE)

– If it cannot be visibly verified that the fire has been completely extinguished whether the smoke has cleared or not, land immediately at nearest suitable airfield or landing site.

***Note**: Carry out this procedure only when directed by the Unknown Source of Fire, Smoke or Fumes checklist.*

- Recirc Fan . . . . . Off
- Bleed Air (unaffected) . . . . . on / Max

***Note**: Leave affected Bleed Air switch in the Off position.*

To encourage smoke or fume dissipation from the cabin:

- Baggage Compartment Door . . . . . open

IF necessary to remove smoke or fumes from the flight compartment:

- Man knob . . . . . turn towards INCR

IF additional assistance to remove smoke or fumes from the flight compartment is required:

***Note**: This step will de-pressurize the aircraft rapidly.*

- Fwd Outflow Valve . . . . . Open

– Descend to below 14,000 ft as soon as possible.

EMERGENCY LANDING,
FORCED LANDING

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- Cabin . . . . . secure
– IF possible ensure no passengers are seated in the plane of the propellers.
- GPWS cb – B9 (EGPWS cb – B3) (Left Upper cb panel) . . . . . pull
- Emergency Lights . . . . . On
- Auto/Man/Dump . . . . . Dump
- ELT . . . . . On
- Shoulder Harness . . . . . lock

Review appropriate Landing Considerations:

LANDING GEAR EXTENDED:

Landing Considerations

When airplane comes to a stop:

- Emerg Brake . . . . . on
- Condition levers . . . . . Fuel Off
- Pull Fuel Off Handles . . . . . pull
- Battery Master . . . . . Off

– Evacuate airplane

LANDING GEAR RETRACTED:

- Ldg Gear Horn cb (Left Lower panel – E5) . . . . . pull

Landing Considerations

- Flap 35

– Maintain V_{REF} until immediately prior to flare.
– DO NOT exceed 5° nose up during flare.
– Touch down with minimum speed and minimum rate of descent without stalling.

After ground contact:

- Condition levers . . . . . Fuel Off
- Pull Fuel Off Handles . . . . . pull
- Battery Master . . . . . Off

When airplane comes to a stop:

– Evacuate airplane

CONTINUED ON NEXT PAGE

DITCHING

- Landing Gear . . . . . Up
- Synchrophase . . . . . Off
- Condition levers . . . . . Max
- Bleed Air 1 and 2 . . . . . Off
- Ldg Gear Horn cb (Left Lower panel – E5) . . . . . pull
- Flap 35

Landing Considerations

– In rolling swell surface conditions attempt to ditch along and parallel to the crests as much into wind as swell line permits. In other water surface conditions land into wind.
– Maintain V_{REF} until immediately prior to flare.
– Set rate of descent to 200 to 300 FPM.
– Commence flare to achieve zero vertical velocity immediately prior to water contact.
– Maintain pitch attitude of 10° nose up.
– Touchdown with minimum speed and minimum rate of descent without stalling.
– A transient nose–up pitching motion may result following touchdown. Overcorrection of this tendency could result in porpoising or nosing in.

After water contact:

- Condition levers . . . . . Fuel Off
- Pull Fuel Off Handles . . . . . pull
- Battery Master . . . . . Off

When airplane comes to a stop:

– Evacuate Airplane

Warning: *DO NOT open the front door on the lower side.*

FORCED LANDING
(Both Engines Inoperative)

- Flap (if possible) 0
- Airspeed . . . . . 1.3 V_S

Note: *With flap 0, landing gear retracted, propellers feathered and zero wind, 2.5 nautical miles can be travelled for every 1000 feet of altitude loss.*

All hydraulic, pneumatic and non-essential electrical services will be inoperative.

– Attempt engine airstart:

- Engine Airstart (page 5.8) . . . . . accomplish

When all attempts to achieve a successful airstart have failed:

- Cabin . . . . . secure
- Main & Aux Batteries . . . . . Off
- Passenger Signs . . . . . on
- Emergency Lights . . . . . On
- ELT . . . . . On
- Shoulder Harness . . . . . lock

– Make the approach and landing into wind.

– Extending landing gear will steepen the glide angle and decrease the glide distance.

Review Appropriate Landing Considerations:

Landing Gear Extended . . . . . Page 8.6
Landing Gear Retracted . . . . . Page 8.6
Ditching . . . . . Page 8.7

CONTINUED ON NEXT PAGE

FORCED LANDING (cont'd)
(Both Engines Inoperative)

LANDING GEAR EXTENDED:

Landing Considerations

IF the available surface is appropriate extend landing gear allowing sufficient time for alternate gear extension.

– Maintain 1.3 Vs until immediately prior to flare.
– Commence flare to achieve zero vertical velocity immediately prior to ground contact.
– Touchdown with minimum speed and minimum rate of descent without stalling.

- ALTERNATE LANDING GEAR EXTENSION (page 14.3) . . . . . accomplish

Prior to touchdown:

- Battery Master . . . . . Off

After touchdown:

- Emerg Brake . . . . . apply intermittently

When airplane comes to a stop:

– Evacuate Airplane

LANDING GEAR RETRACTED:

Landing Considerations

– Maintain 1.3 Vs until immediately prior to flare.
– Commence flare to achieve zero vertical velocity immediately prior to ground contact.
– DO NOT exceed 6° nose up during flare.
– Touchdown with minimum speed and minimum rate of descent without stalling.

Prior to touchdown:

- Battery Master . . . . . Off

When airplane comes to a stop:

– Evacuate Airplane

CONTINUED ON NEXT PAGE

FORCED LANDING (cont'd)
(Both Engines Inoperative)

DITCHING:

Landing Considerations

– DO NOT select landing gear down.
– In rolling swell surface conditions attempt to ditch along and parallel to the crests as much into wind as swell line permits. In other water surface conditions land into wind.
– Maintain 1.3 Vs until immediately prior to flare.
– Commence flare to achieve zero vertical velocity immediately prior to water contact.
– Maintain pitch attitude of 10° nose up.
– Touchdown with minimum speed and minimum rate of descent without stalling.
– A transient nose–up pitching motion may result following touchdown. Overcorrection of this tendency could result in porpoising or nosing in.

After water contact:

- Battery Master . . . . . Off

When airplane comes to a stop:

Warning: *DO NOT open the front door on the lower side.*

– Evacuate Airplane

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ELECTRICAL

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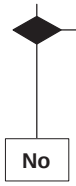
LOSS OF MAIN DC BUS POWER

Lost Services:

LEFT MAIN DC BUS	RIGHT MAIN DC BUS
Rud Sys Isol 1	Rud Sys Isol 2
Ovrhd, Glareshied, Plt Lts	Cntr Console, Eng Inst Lts,
L Appr, L Flare, Taxi Lts	Co-Plt Lts
Stall Wrn & Htr 1	R Appr, R Flare, Anti-Col Lts
Stall Fail Mon 2	Stall Wrn & Htr 2
Ground Spoilers	Stall Fail Mon 1
Take–off Warning	Cabin Lights
Overspeed Warning	Clock 2
Landing Gear Warning	Pitot Heater 2
Door Warning	Static Port Heater 2
Static Port Heater 2	Alternate Feather
Cabin Pressurization	Brake Pressure Indicator
Auto Cabin Temp Control	Man. Cabin Temp Control,
Man. Flt Com Temp Cntrl	Auto Flt Comp Temp Cntrl
Bleed Sys Control 1	Bleed Sys Control 2
Nosewheel Steer Ind	Anti-Skid
Fuel Flow Ind Eng 1	Nosewheel Steer Control
Rudder Speed Ind	Fuel Flow Indication Eng 2
Auxilliary Inverter	Deice Boot Lights
Elev Horn Heater Warning	Copilot Windshield Heat
GPWS, Advisory Display 1	Rudder Speed
FGC 1 and Yaw Damper	Weather Radar
DME 1, RNAV 1	Observer Audio
	Advisory Display 2
	AHRS 2, ADC 2, VHF 2
	FGC 2 and Yaw Damper
	ATC 2, RAD ALT 2
	VOR 2, DME 2, RNAV 2
	EADI 2, EHSI 2, SYM GEN 2

"DC BUS" (Caution Light)

Other associated Caution lights are illuminated:



- MAIN DC BUS FAULT (Page 9.4) . . . . accomplish

– END –

- Bus Fault Reset . . . . . Reset

–––––––––– END ––––––––––

MAIN DC BUS FAULT

Left Main DC Bus Fault:

("DC BUS", "#1 DC GEN", "AUX INV" and "AUX BATTERY" Caution Lights are illuminated)

- Aux Battery ..... Off
- DC Gen 1 ..... Off
- Bus Fault Reset ..... Reset

– Leave selected switches in the OFF position.

DC BUS Caution Light remains illuminated:

Yes

– Land at the nearest suitable airport.

– Refer to LOSS OF MAIN DC BUS POWER (Page 9.3) for a list of lost services.

– END –

No

– No further action required.

–––––––––– END ––––––––––

Right Main DC Bus Fault:

("DC BUS", "#2 DC GEN", and MAIN BATT Caution Lights)

- Main Battery ..... Off
- DC Gen 2 ..... Off
- Bus Fault Reset ..... Reset

– Leave selected switches in the OFF position.

DC BUS Caution Light remains illuminated:

Yes

– Land at the nearest suitable airport.

– Refer to LOSS OF MAIN DC BUS POWER (Page 9.3) for a list of lost services.

Landing Considerations:

– Anti-Skid will be inoperative, use Manual Technique for braking.

***Caution**: Excessive brake application can result in skidding and tire failure.*

Manual Technique – for maximum deceleration, brakes should be applied intermittently with momentary release at about 1 second intervals.

Landing Distance Factor:

Flap 15 ..... 1.54

Flap 35 ..... 1.43

– END –

No

– No further action required.

–––––––––– END ––––––––––

LOSS OF AC BUS POWER

Lost services:

L AC BUS	R AC BUS
L Aux Fuel Pump	R Aux Fuel Pump
L Prop Deicing	R Prop Deicing
L Stall Transducer Heater	R Stall Transducer Heater
L TRU	L Standby Hydraulic Pump
Pilot's Side Window Heat	R TRU
Pilot's Windshield Heat	Copilot's Windshield Heat
L Engine Intake Heater	R Engine Intake Heater
Copilot's Windshield Heat	R Elevator Horn Heat
L Elevator Horn Heat	

"L AC BUS" or "R AC BUS" (Caution Light)

- Airspeed . . . . . V_{REF} (min)
  - Maintain airspeed appropriate for icing conditions and other failures if applicable.
  - Fuel transfer from the tank associated with the affected fuel aux pump is unavailable.
  - Affected windshield will not be de-misted or anti-iced.
  - Avoid icing conditions.
  - Refer to LOSS OF AC BUS POWER (Page 9.5) for a list of lost services.

IF icing conditions are encountered:

- Flap . . . . . 0°
- Airspeed . . . . . 173 KIAS (min)
- Condition levers . . . . . Max
  - Affected propeller and engine intake will not be anti-iced.
  - Monitor affected engine performance.
  - Exit icing conditions as soon as possible.

FOR remainder of flight (affected engine):

- Engine Intake Bypass Door . . . . . open
- Ignition . . . . . Manual (Auto)

IF landing in icing conditions:

- Land using Flap 15

Minimum Hold Speed:

Flap 0 . . . . . 173 KIAS

Approach, V_{REF} and V_{GA} Speeds:

Flap 15 . . . . . add 15 KTS

Landing Distance Factor:

Flap 15 . . . . . 1.66

MOD 8/1983 ONLY

"L 26 AC" or "R 26 AC" (Caution Light)

- Aux Inverter . . . . . select operating side

Note: *Power is lost on 26 V AC Bus with possible loss of 115 V AC Bus.*

Possible Lost Services:

L 115 V AC	R 115 V AC
FDR REC	CVR REC
ADVSY 1 FAN	ADVSY 2 FAN
GPWS	Weather Radar

L 26 V AC	R 26 V AC
VHF NAV 1	VHF NAV 2
ADF 1	HYD QTY 2 IND and TRANS
PFCS IND	HSI 2
HYD QTY 1 IND and TRANS	ADI 2
HSI 1	RMI 1
ADI 1	RMI 2
RMI 1	ADF 2
RMI 2	ALT 2
ALT 1	SYMBOL GEN #2 (EFIS A/C)
SYMBOL GEN #1 (EFIS A/C)	STALL WARNING #2
STALL WARNING #1	
EGPWS (MS 8Q100880)	

LOSS OF AC BUS POWER

Lost services:

L AC BUS	R AC BUS
L Aux Fuel Pump	R Aux Fuel Pump
L Prop Deicing	R Prop Deicing
L Stall Transducer Heater	R Stall Transducer Heater
L TRU	L Standby Hydraulic Pump
Pilot's Side Window Heat	R TRU
Pilot's Windshield Heat	Copilot's Windshield Heat
L Engine Intake Heater	R Engine Intake Heater
Copilot's Windshield Heat	R Elevator Horn Heat
L Elevator Horn Heat	
R Standby Hydraulic Pump	

"L AC BUS" or "R AC BUS" (Caution Light)

- Airspeed . . . . . V_{REF} (min)
- – Maintain airspeed appropriate for icing conditions and other failures if applicable.
- – Fuel transfer from the tank associated with the affected fuel aux pump is unavailable.
- – Affected windshield will not be de-misted or anti-iced.
- – Avoid icing conditions.
- – Refer to LOSS OF AC BUS POWER (Page 9.5) for a list of lost services.

IF icing conditions are encountered:

- Flap . . . . . 0°
- Airspeed . . . . . 173 KIAS (min)
- Condition levers . . . . . Max
- – Affected propeller and engine intake will not be anti-iced.
- – Monitor affected engine performance.
- – Exit icing conditions as soon as possible.

FOR remainder of flight (affected engine):

- Engine Intake Bypass Door . . . . . open
- Ignition . . . . . Manual (Auto)

IF landing in icing conditions:

- – Land using Flap 15

Minimum Hold Speed:

Flap 0 . . . . . 173 KIAS

Approach, V_{REF} and V_{GA} Speeds:

Flap 15 . . . . . add 15 KTS

Landing Distance Factor:

Flap 15 . . . . . 1.66

MOD 8/2781 ONLY

"L 26 AC" or "R 26 AC" (Caution Light)

- Aux Inverter . . . . . select operating side

Note: *Power is lost on 26 V AC Bus with possible loss of 115 V AC Bus.*

Possible Lost Services:

L 115 V AC	R 115 V AC
FDR REC	CVR REC
ADVSY 1 FAN	ADVSY 2 FAN
GPWS	Weather Radar

L 26 V AC	R 26 V AC
VHF NAV 1	VHF NAV 2
ADF 1	HYD QTY 2 IND and TRANS
PFCS IND	HSI 2
HYD QTY 1 IND and TRANS	ADI 2
HSI 1	RMI 1
ADI 1	RMI 2
RMI 1	ADF 2
RMI 2	ALT 2
ALT 1	SYMBOL GEN #2 (EFIS A/C)
SYMBOL GEN #1 (EFIS A/C)	STALL WARNING #2
STALL WARNING #1	
EGPWS (MS 8Q100880)	

LOSS OF GENERATED POWER

"#1 DC GEN" and "#2 DC GEN"
and either

"#1 AC GEN"		**"L TRU"**
and	**or**	**and/or**
"#2 AC GEN"		**"R TRU"**

(Caution Lights)

(Loss of BOTH DC Generators and BOTH AC Generators or loss of BOTH DC Generators and ONE or BOTH TRUs)

- DC, AC Gens (affected) . . . Off then on (individually)

IF Caution Lights remain on:

- DC, AC Gens (affected) . . . . . Off
- Storm/Dome Lights . . . . . Storm (if req'd)
- Main & Aux Batteries . . . . . Off
- Emergency Lights . . . . . On then Off (until req'd)

– Land immediately at nearest suitable airport.

***Caution**: Battery duration for operation of essential services is 30 minutes.*

***Note**: Automatic control of cabin altitude is lost. Cabin differential pressure will increase until the safety outflow valve opens.*

When below 14,000 ft, de-pressurize cabin:

- Auto / Man / Dump . . . . . Man
- Man knob . . . . . fully clockwise (INCR)
- Forward Outflow Valve . . . . . Open

Landing Considerations:

– Anti-Skid will be inoperative, use Manual Technique for braking.

***Caution**: Excessive brake application can result in skidding and tire failure.*

Manual Technique – for maximum deceleration, brakes should be applied intermittently with momentary release at about 1 second intervals.

Landing Distance Factor:

Flap 15	1.54
Flap 35	1.43

"#1 DC GEN" and "#2 DC GEN" (Caution Lights)

(Loss of BOTH DC Generators)

- DC Gen 1 and 2 . . . . . Off then on (individually)

IF Caution Lights remain on:

- DC Gen 1 and 2 . . . . . Off
- Main and Aux Battery . . . . . Off

Note: *With the Battery Master switch off, failure of one TRU will cause loss of all electrical power until the Battery Master switch is selected On.*

- Battery Master . . . . . Off

– Land at nearest suitable airport.

IF All DC electrical power is subsequently lost:

- Battery Master . . . . . on

Note: *The AHRS will require 3 minutes to initialize after Battery Master is selected ON.*

- LOSS OF GENERATED POWER (Page 9.7) . . . . . accomplish

"#1 DC GEN" or "#2 DC GEN" and "L TRU" and "R TRU" (Caution Lights)

(Loss of ONE DC Generator and BOTH TRUs)

- Emergency Lights . . . . . On then Off (until req'd)

Note: *All secondary bus services are inoperative.*

"#1 DC GEN" or "#2 DC GEN" (Caution Light)

(Loss of ONE DC Generator)

- Gen switch (affected) . . . . . Off then on

Caution Light remains on:

- Gen switch (affected) . . . . . Off

– END –

– No further action required.

–––––––––– END ––––––––––

"#1 DC GEN HOT" or "#2 DC GEN HOT" (Caution Light)

(Overheat of ONE DC Generator)

- Gen switch (affected) . . . . . Off

Note: *Continued operation of the associated engine is permissible for the remainder of the flight.*

The affected GEN HOT Caution Light may remain illuminated for the remainder of the flight.

"#1 AC GEN" or "#2 AC GEN" (Caution Light)

(Loss of ONE AC Generator)

- Gen switch (affected) . . . . . Off then on

Caution Light remains on:

Yes

- Gen switch (affected) . . . . . Off

– END –

No

– No further action required.

Note: *After selecting the affected AC Control Gen switch On, it may be necessary to select the Synchrophase switch Off and back to On to maintain propeller synchronization.*

–––––––––– END ––––––––––

"#1 AC GEN HOT" or "#2 AC GEN HOT" (Caution Light)

(Overheat of ONE AC Generator)

- Gen switch (affected) . . . . . Off

Note: *Continued operation of the associated engine is permissible for the remainder of the flight.*

The affected GEN HOT Caution Light may remain illuminated for the remainder of the flight.

"L TRU" or "R TRU" or "L TRU HOT" or "R TRU HOT" (Caution Light)

(Loss or Overheat of ONE TRU)

- Affected TRU cb (Right Upper cb panel) . . . . . pull

"PRI INV" (Caution Light)

- Primary Inverter . . . . . Off
- Auxiliary Inverter L

"SEC INV" (Caution Light)

- Secondary Inverter . . . . . Off
- Auxiliary Inverter . . . . . R

"AUX INV" (Caution Light)

- Auxiliary Inverter . . . . . Off

With MODSUM 8Q101917 incorporated

Note: With the AUXILIARY INVERTER switch selected L or R and a failure of the primary, secondary or auxiliary inverter, both associated inverters may indicate failed (Illumination of PRI INV and AUX INV or SEC INV and AUX INV caution lights). Selection of PRI INV or SEC INV switch OFF, may result in the AUX INV caution light extinguishing.

If AUX INV Caution Light remains on:

- Auxiliary Inverter . . . . . Off

"PRI INV",
"SEC INV",
"AUX INV",
"L26 AC" and "R26 AC"
(Caution Lights)

(Multiple Inverter Failure – with MS 8Q101917 not incorporated)

- 115V Bus Tie CB (top row Left Upper cb panel) . . . . . pull
- Determine the inoperative inverters by reference to the illuminated PRI INV and/or SEC INV and/or AUX INV caution lights.
- Inverter switches (affected) . . . . . Off

IF AUX Inverter operative:

- Auxiliary Inverter . . . . . L or R toward the illuminated L26 AC or R26 AC caution light

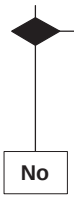
WHEN one or more inverters are operating:

- 115V Bus Tie cb . . . . . push in
- Monitor operating inverter volts and loads for normal operation.

"MAIN BATTERY" or "AUX BATTERY" (Caution Light)

- Battery (affected) . . . . . Off then on

Caution Light remains on:



- Battery (affected) . . . . . Off

– END –

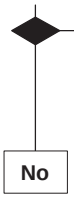
– No further action required.

---------- END ----------

"MAIN BAT HOT" or "AUX BAT HOT" (Warning Light)

- Battery Temperature Monitor . . . . . confirm overheat
- Battery (affected) . . . . . Off

Battery temperature continues to rise:



– Land immediately at nearest suitable airport.

– END –

– Continue to monitor affected battery temperature.

---------- END ----------

"EMER LTS DISARMED" (Caution Light)

- Emergency Lights . . . . . Arm

FLIGHT CONTROLS

ROLL

GROUND SPOILERS

PITCH

FLAP

RUDDERS

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ROLL CONTROL JAM

- Autopilot . . . . . disengage
- Roll Disc Handle . . . . . pull and turn 90°
- Control Wheels . . . . . both pilots attempt roll control

– Pilot with free control wheel will fly the aircraft.

***Caution**: With the ROLL DISC handle pulled, the autopilot must not be engaged.*

Right Control Wheel free:

***Note**: Roll control will be degraded and forces will be normal.*

IF continuous illumination of SPLR 1 and SPLR 2 PUSH OFF switchlights:

- Illuminated switchlights . . . . . push both Off

Landing Considerations:

– Land at airport with minimum crosswind and turbulence using Flap 15.

Landing Distance Factor:
Flap 15 . . . . . 1.17

– END –

Left Control Wheel free:

***Note**: Roll control forces will be low and tendency to overcontrol should be avoided.*

Landing Considerations:

– Land at airport with minimum crosswind and turbulence using Flap 15 or 35.

–––––––––– END ––––––––––

AILERON TRIM TAB RUNAWAY

- Airspeed . . . . . reduce
- Aileron Trim . . . . . opposite to runaway

WHEN trim is at neutral position or IF trim actuator cannot be reversed:

- Ail Trim Act cb (Left Lower cb panel – J7) . . . . . pull

ROLL CONTROL MALFUNCTION

(Airplane Rolls with No Control Wheel Input)

- Roll control . . . . . apply to hold wings level

IF continuous illumination of SPLR 1 or SPLR 2 PUSH OFF switchlights in wings–level flight:

- Illuminated switchlight . . . . . push Off

Landing Considerations:

– Land at an airport with minimum crosswind and turbulence using Flap 15 or 35.

Landing Distance Factor:

Flap 15 . . . . . 1.16
Flap 35 . . . . . 1.18

IF SPLR 1 or SPLR 2 PUSH OFF switchlights do not illuminate continuously in wings–level flight:

- Power . . . . . apply
- Airspeed . . . . . increase

Landing Considerations:

– Land at an airport with minimum crosswind and turbulence using Flap 15 or 35.

Approach and V_{REF} Speeds:

Flap 15 or 35 . . . . . 1.4 Vs

Landing Distance Factor:

Flap 15 . . . . . 1.55
Flap 35 . . . . . 1.56

"ROLL SPLR INBD HYD" or "ROLL SPLR OUTBD HYD" (Caution Light)

- Roll Spoiler Pressure (affected system) . . . . push Off

Landing Considerations:

– Land using Flap 15 or 35

Approach and V_{REF} Speeds:

Flap 15 or 35 . . . . . V_{REF} + 6 Kts

Landing Distance Factor:

Flap 15 . . . . . 1.52
Flap 35 . . . . . 1.55

Note: *Illumination of the ROLL SPLR INBD HYD caution light at an airspeed above 135kts or greater may be indicative of a spoiler cable failure.*

"ROLL SPLR INBD HYD" and "ROLL SPLR OUTBD HYD" (Caution Lights)

(Spoiler Cable Failure)

- SPLR 1 and SPLR 2 switchlights . . . . . push Off

Landing Considerations:

– Land at an airport with minimum crosswind and turbulence using Flap 15.

Landing Distance Factor:
Flap 15 . . . . . 1.17

"ROLL SPLR INBD GND or "ROLL SPLR OUTBD GND" (Caution Light)

– No crew action req'd.

Landing Considerations:

Landing Distance Factor:
Flap 15 . . . . . 1.17
Flap 35 . . . . . 1.19

"GROUND SPLR" (Caution Light)

Note: *Ground Spoilers may not extend at touchdown.*

GROUND SPOILER MALFUNCTION IN FLIGHT

(Illumination of Ground Spoiler Advisory Light)

- Roll Control . . . . . hold wings level
- Power . . . . . apply as req'd
- Airspeed . . . . . increase

Landing Considerations:

– Land at an airport with minimal crosswind and turbulence in VMC conditions.
– Land with Flap 15 or 35.
– Minimum Airspeed:
Flap 15 or 35 . . . . . 1.4 V_S

Landing Distance Factor:
Flap 15 . . . . . 1.55
Flap 35 . . . . . 1.56

PITCH CONTROL JAM

- Autopilot . . . . . disengage
- Flap and Airspeed . . . . . maintain at time of jam
- Control Columns . . . . . both pilots attempt to overcome jam

IF unable to overcome jam:

- Relax control column force
- Pitch Disc Handle . . . . . pull and turn 90°
- Control Columns . . . . . both pilots attempt pitch control

– Pilot with free control column will fly the aircraft.

***Caution**: With pitch disconnect handle pulled, the autopilot must not be engaged.*

***Note:** Elevator forces will be lighter than normal and pitch control degraded.*

IF jam occurs below 150 KIAS:

- Airspeed . . . . . 150 KIAS (max)

IF jam occurs above 150 KIAS:

- Airspeed . . . . . airspeed at time of jam (max)

IF elevator is free and floating:

- Airspeed . . . . . 180 KIAS (max)

Landing Considerations:

– Land with Flap setting at time of jam at an airport with minimum crosswind and turbulence.

IF Flap 0 or 5 landing:

- GPWS Flap Override . . . . . press

Approach and V_{REF} Speeds:

Flap 0 . . . . . 1.4 V_S
Flap 5 or 15 . . . . . 1.3 V_S

Landing Distance Factor:

Flap 0 (use Flap 35 chart) 2.90
Flap 5 (use Flap 35 chart) 1.88
Flap 15 . . . . . 1.10

***Caution**: Avoid pitch attitudes in excess of 8° at touchdown.*

If reverse power is required, care should be taken to ensure that engine torque limit in reverse is not exceeded.

ELEVATOR CONTROL MALFUNCTION

(Loss of elevator and manual trim control)

- Stby Elevator Trim . . . . . Arm
- Nose Down / Nose Up . . . . . as req'd

***Warning**: The standby elevator trim rate is slow. Monitor the effect of a change in trim setting before initiating another change.*

***Note**: Elevator Trim pointer will not indicate trim position.*

– One pilot to control pitch with Stby Elevator Trim switch and engine power controls.
– Other pilot to control roll throughout the approach and landing (maximum bank angle 15°).
– Minimize power changes.
– If possible, shift C.G. aft subject to normal limits.

Landing Considerations:

– Land at an airport with minimal crosswind and turbulence in VMC conditions.
– Select Flap 5 and trim aircraft to not less than 1.4 Vs Flap 5 before proceeding to select Flap 15.
– Select Flap 15 and trim aircraft to not less than 1.4 Vs.
– Stabilize aircraft on approach and in landing configuration Flap 15, prior to passing 1000 ft AGL.
– No configuration change may be made after the approach has been commenced.

Approach and V_{REF} Speeds:

Flap 5 and 15 . . . . . 1.4 V_S

Landing Distance Factor:

Flap 15 . . . . . 1.28

***Warning:** Power changes during approach should be limited to small amounts and the airplane should be trimmed before a subsequent power change is made.*

DO NOT flare or reduce power to Flight Idle prior to touchdown.

ABNORMAL FLAP LANDING

Flap failed between 0 and 15:

Yes

- GPWS Flap Override . . . . . press

Landing Considerations:

– Nosewheel should be promptly brought into contact with the ground following main wheel contact.

Approach and V_{REF} Speeds:

Flap 0 . . . . . 1.3 V_S

Landing Distance Factor:

Flap 0 (use Flap 35 chart) 2.55

Caution: *Avoid pitch attitudes in excess of 8° at touchdown.*

If reverse power is required, care should be taken to ensure that engine torque limit in reverse is not exceeded.

– END –

No

Flap failed between 15 and 35:

Landing Considerations:

– The smaller flap angle must be used when calculating landing performance.

–––––––––– END ––––––––––

"FLAP DRIVE" (Caution Light)

– No crew action req'd.

Note: *Flap will continue to operate normally and may be used to complete the flight.*

"FLAP POWER" (Caution Light)

- #1 Hyd Qty and Press . . . . . check

System 1 Pressure is low and Quantity is normal:

Yes

- Stby Hyd Press 1 . . . . . on
- Flap . . . . . as req'd

***Note**:* *Operation of flap with No. 1 standby hydraulic pump may cause illumination of FLAP Power caution light.*

– END –

No

System 1 Pressure is low and Quantity is depleted:

***Note**:* *With complete loss of hydraulic fluid, flap will remain in selected position.*

- No. 1 HYDRAULIC SYSTEM FAILURE (PAGE 12.4) . . . . . accomplish

–––––––––– END ––––––––––

RUDDER JAM

(Restricted Rudder Pedal Movement)

Warning: *Should the rudder pedal (rudder jam) suddenly break free, do not apply rudder pedal input in the opposite direction.*

- Affected rudder pedal . . apply normal push force

Rudder pedal moves as required:

- Affected rudder pedal . . . . reduce push force and allow rudder to centre

– END –

Rudder pedal does not respond to normal push force (rudder remains jammed or rudder jam reoccurs):

– Use roll control as required for directional control.

- Airspeed . . . . . 1.3 V_S (min)

IF rudder jam occurs on take-off and conditions permit:

– Return for landing on the take-off runway.

Landing Considerations:

- Nosewheel Steering . . . . . Off

– Land at an airport with minimum crosswind and turbulence using Flap 15 or 35.

– Small amounts of asymmetric power may be used to maintain directional control on approach.

– Use asymmetric braking and power, as required, to maintain directional control after touchdown.

Approach and V_{REF} Speeds:

Flap 15 or 35 . . . . . 1.3 V_S

Landing Distance Factor:

Flap 15 . . . . . 1.36

Flap 35 . . . . . 1.31

After Landing:

– Nosewheel Steering . . . . . on

–––––––––– END ––––––––––

RUD 1 or RUD 2 PUSH OFF (Switchlight On)

- Illuminated switchlight . . . . . push off
- Airspeed . . . . . 200 KIAS (max)

Caution: *Avoid abrupt or excessive rudder movements above 150 KIAS.*

"#1 RUD HYD" or "#2 RUD HYD" (Caution Light)

- Affected RUD 1 or RUD 2 switchlight . . . . push off

- Airspeed . . . . . 200 KIAS (max)

***Caution**: Avoid abrupt or excessive rudder movements above 150 KIAS.*

"RUD PRESS" or "RUD FULL PRESS" (Caution Light)

- Airspeed . . . . . 200 KIAS (max)

***Caution:** Avoid abrupt or excessive rudder movements above 150 KIAS.*

RUDDER TRIM ACTUATOR RUNAWAY

- Rudder Trim . . . . . opposite to runaway

WHEN trim is at the neutral position or IF the trim actuator cannot be reversed:

- Rud Trim Act cb (Left Lower cb panel – F7) . . . . pull

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FUEL

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"#1 TANK FUEL LOW" or "#2 TANK FUEL LOW" (Caution Light)

- Fuel Quantity . . . . . check

Affected tank fuel content is low:

Yes

– Check for external and internal fuel leaks.

***Note**: A check of the cabin will be necessary to identify a possible internal fuel leak.*

Fuel leak confirmed:

Yes

- ENGINE FAIL/FIRE/SHUTDOWN (Page 5.14) . . . . . accomplish

– END –

No

– Transfer fuel from unaffected tank.
– Monitor Fuel quantity.

– END –

No

– Maintain level attitude as much as possible.
- Tank Aux Pump (affected side) . . . . . on
– Monitor Fuel quantity

IF "ENG FUEL PRESS" Caution Light illuminates:

- ENGINE FAIL/FIRE/SHUTDOWN (Page 5.14) . . . . . accomplish

–––––––––– END ––––––––––

"#1 ENG FUEL PRESS" or "#2 ENG FUEL PRESS" (Caution Light)

- Tank Aux Pump (affected side) . . . . . on

Caution Light remains on:

Yes

- Tank Aux Pump (affected side) . . . . . Off
– Check for external leaks and for fuel odour within airplane.

IF either is confirmed:

- ENGINE FAIL/ FIRE/ SHUTDOWN (page 5.14). . . . . accomplish

– END –

No

- No further action required.

–––––––––– END ––––––––––

ABNORMAL FUEL TEMPERATURE (Below 11° C or Above 57° C)

- Tank Aux Pump (affected side) . . . . . on
- Continue flight but maintain level attitude as much as possible.

– Monitor fuel temperature and fuel pressure.

IF fuel temperature does not return to normal:

– Maintenance action required before next flight.

FUEL TRANSFER FAILURE

Tank Aux Pump Fails to Automatically Activate:

Tank Aux Pump Advisory Light Fails to illuminate:

- Tank Aux Pump (affected side) . . . . . on

When transfer is complete:

- Tank Aux Pump (affected side) . . . . . Off
- Fuel Transfer . . . . . Off

– END –

One or Both Fuel Transfer Valve Advisory Lights not at OPEN:

- Fuel Transfer . . . . . Off

– Consider the effects of maximum lateral fuel asymmetry or low fuel level.

– END –

"#1 FUEL FLTR BYPASS" or "#2 FUEL FLTR BYPASS" (Caution Light)

– Monitor fuel flow, ITT and N_H. If erratic, indicates contamination has passed filter.

– Maintenance action required before next flight.

"FUELING ON" (Caution Light)

– This is a normal indication during ground refueling operations.

Note: *Fuel transfer is not possible.*

HYDRAULIC POWER

MOD 8/1983 ONLY

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#1 and #2 HYDRAULIC SYSTEM FAILURE

(Loss of all Hydraulic systems, except Rudder No. 2)

- Autopilot . . . . . disengage
- Stby Hyd Press 1 . . . . . Norm
  2 . . . . . on
- Airspeed . . . . 1.4Vs (min) but not less than 105 KIAS

– Use aileron, elevator and rudder to control the aircraft

***Warning**: Max airspeed is 200 KIAS.*

***Caution**: Avoid abrupt or excessive rudder movements above 150 KIAS.*

IF flap is at 0 or 5:

- GPWS Flap Override . . . . . press

Lost Services:

– Rudder System #1
– Normal Landing Gear Retraction and Extension
– Outboard and Inboard Roll Spoilers
– Nosewheel Steering
– Flap
– Normal/Anti-skid Brakes
– Ground Spoilers (if applicable)

Landing Considerations:

– Land immediately at the nearest suitable airport with minimum crosswind and turbulence.

- Alternate Landing Gear Extension
  (page 14.3) . . . . . accomplish when required

– Use asymmetric power, as required, to maintain directional control after touchdown.
– Use Emergency Brake to stop aircraft (approximately 6 brake applications available).
– Use of maximum reverse power for stopping may cause directional deviation.

Approach and V_{REF} Speeds:

Flap 0 . . . . . 1.4 Vs
Flap 5 . . . . . 1.4 Vs (105 KIAS min)
Flap 15 . . . . . 1.4 Vs (100 KIAS min)

Landing Distance Factor:

Flap 0 (use Flap 35 chart) 3.32
Flap 5 (use Flap 35 chart) 2.87
Flap 15 . . . . . 2.54

***Caution:** Pitch attitudes in excess of 8° in the landing flare may cause the fuselage to contact the runway.*
Excessive application of emergency braking can result in skidding and tire failure.
Landing with one engine inoperative, use Discing commensurate with directional control.

MOD 8/1983 ONLY

LOSS of ALL FLUID from No. 1 HYDRAULIC SYSTEM

(#1 ENG HYD PUMP caution light and no quantity indicated on #1 HYD QTY Gauge)

- Stby Hyd Press 1 . . . . . Norm
- Airspeed . . . . . 200 KIAS (max)

***Caution**: Avoid abrupt or excessive rudder movements above 150 KIAS.*

IF Flap is at 0 or 5:

- GPWS Flap Override . . . . . press

Lost services:

– Inboard Roll Spoilers
– Rudder System No. 1
– Flap
– Normal / Anti-skid Brakes

Landing Considerations:

– Use Emergency Brake to stop aircraft (unlimited brake applications available).

Approach and V_{REF} Speeds:

Flap 0 . . . . . 1.4 V_S

Landing Distance Factor:

Flap 0 (use Flap 35 chart) 3.32

***Caution:** Avoid pitch attitudes in excess of 8° at touchdown.*

Excessive application of emergency braking can result in skidding and tire failure.

If reverse power is required, care should be taken to ensure that engine torque limit in reverse is not exceeded.

---------- END ----------

#1 ENG HYD PUMP (Caution Light)

(No pressure may be indicated in the No. 1 Hydraulic system)

- #1 Hyd Qty . . . . . check

IF system 1 quantity is normal:

- Stby Hyd Press 1 . . . . . on

– Monitor pressure and quantity in the No. 1 Hydraulic system for normal indications.

Landing Considerations:

– Flap extension and retraction is slower than normal.

– Flap Power caution light may come in during flap operation.

No. 2 HYDRAULIC SYSTEM FAILURE

LOSS of ALL FLUID from No. 2 HYDRAULIC SYSTEM

(#2 ENG HYD PUMP caution light and no quantity indicated on #2 HYD QTY Gauge)

- Stby Hyd Press 2 . . . . . on

Lost Services:

– Normal Landing Gear Retraction and Extension
– Outboard Roll Spoilers
– Ground Spoilers (if applicable)
– Nosewheel Steering
– Emerg Brakes (if Park Brake pressure indicator shows depleted pressure)

Landing Considerations:

- Alternate Landing Gear Extension (Page 14.3) . . . . . accomplish when required

– Use asymmetric power and braking, as required, to maintain directional control after touchdown.

Approach and V_{REF} speeds:

Flap 15 . . . . . V_{REF}+6 KTS
Flap 35 . . . . . V_{REF}+6 KTS

Landing Distance Factor:

Flap 15 . . . . . 1.52
Flap 35 . . . . . 1.55

#2 ENG HYD PUMP (Caution Light)

(No pressure may be indicated in the No. 2 Hydraulic system)

- #2 Hyd Qty Indicator . . . . . check

IF system 2 quantity is normal:

- Stby Hyd Press 2 . . . . . on

– Monitor pressure and quantity in the No. 2 Hydraulic System for normal indications.

Landing Considerations:

– Prior to selecting Landing Gear Down:

- Manual PTU . . . . . on

"#1 HYD FLUID HOT" or "#2 HYD FLUID HOT" (Caution Light)

- Pressure and Quantity . . . . . monitor

"#1 STBY HYD PUMP HOT" or "#2 STBY HYD PUMP HOT" (Caution Light)

Flap Selector Lever set at 0:

- Stby Hyd Press (affected) . . . . . Norm

– END –

Flap Selector Lever set greater than 0:

– No crew action req'd.

–––––––––– END ––––––––––

"#2 SPU AUX PWR" (Caution Light)

– No crew action req'd.

Note: *Maintenance action required prior to next flight..*

HYDRAULIC POWER

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"#1 HYD ISO VLV" and "#2 HYD ISO VLV" (Caution Lights)

(Loss of all hydraulic systems, except rudder)

- Stby Hyd Press 1 and 2 . . . . . on
- Airspeed . . . . 1.4Vs (min) but not less than 105 KIAS

– Use aileron, elevator and rudder to control the aircraft

If flap is at 0 or 5:

- GPWS Flap Override . . . . . press

Lost Services:

– Normal Landing Gear Retraction and Extension
– Outboard and Inboard Roll Spoilers
– Ground Spoilers (if applicable)
– Nosewheel Steering
– Flap
– Normal/Anti–skid Brakes

Landing Considerations:

– Land immediately at the nearest suitable airport with minimum crosswind and turbulence.

- Alternate Landing Gear Extension (Page 14.3) . . . . . accomplish when required

– Use asymmetric power, as required, to maintain directional control after touchdown.
– Use Emergency Brake to stop aircraft (approximately 6 brake applications available).
– Use of maximum reverse power for stopping may cause directional deviation.

Approach and V_{REF} Speeds:

Flap 0 . . . . . 1.4 Vs
Flap 5 . . . . . 1.4 Vs (105 KIAS min)
Flap 15 . . . . . 1.4 Vs (100 KIAS min)

Landing Distance Factor:

Flap 0 (use Flap 35 chart) 3.32
Flap 5 (use Flap 35 chart) 2.87
Flap 15 . . . . . 2.54

Caution: *Pitch attitudes in excess of 8° in the landing flare may cause the fuselage to contact the runway.*

Excessive application of emergency braking can result in skidding and tire failure.

Landing with one engine inoperative, use discing commensurate with directional control.

No. 1 HYDRAULIC SYSTEM FAILURE

LOSS of ALL FLUID from No. 1 HYDRAULIC SYSTEM

("#1 ENG HYD PUMP" and "#1 HYD ISO VLV" Caution Lights and no quantity indicated in the No. 1 Hydraulic System)

***Note**: "#1 HYD ISO VLV" Caution Light may go out with very low hydraulic fluid quantity in the No. 1 Hydraulic System.*

- Stby Hyd Press 1 . . . . . Norm
- Airspeed . . . . . 200 KIAS (max)

If Flap is at 0 or 5:

- GPWS Flap Override . . . . . press

Lost Services:

Inboard Roll Spoilers
Rudder System No. 1
Flap
Normal /Anti-Skid Brakes

Landing Considerations:

– Use Emergency Brake to stop aircraft (unlimited brake applications available).

Approach & V_{REF} speeds:

Flap 0 . . . . . 1.4 V_S

Landing Distance Factor:

Flap 0 (use Flap 35 chart) 3.32

***Caution**: Avoid pitch attitudes in excess of 8° at touchdown.*

Excessive application of emergency braking can result in skidding and tire failure.

If reverse is required, care should be taken to ensure that engine torque limit in reverse is not exceeded.

#1 HYD ISO VLV (Caution Light)

(Partial loss of fluid from the No. 1 Hydraulic System)

– Monitor quantity in the No. 1 hydraulic System for further loss of fluid.

If Flap is at 0 or 5:

- GPWS Flap Override . . . . . press

Lost Services:

Inboard Roll Spoilers
Flap
Normal /Anti-Skid Brakes

Landing Considerations:

– Use Emergency Brake to stop aircraft (unlimited brake applications available).

Approach & V_{REF} speeds:

Flap 0 . . . . . 1.4 V_S

Landing Distance Factor:

Flap 0 (use Flap 35 chart) 3.32

***Caution**: Avoid pitch attitudes in excess of 8° at touchdown.*

Excessive application of emergency braking can result in skidding and tire failure.

If reverse is required, care should be taken to ensure that engine torque limit in reverse is not exceeded.

#1 ENG HYD PUMP (Caution Light)

(No pressure may be indicated in the No. 1 Hydraulic System)

- #1 Hyd Qty . . . . . check

If system 1 quantity is normal

- Stby Hyd Press 1 . . . . . on

– Monitor pressure and quantity in the No. 1 Hydraulic system for normal indications.

Landing Considerations:

– Flap extension and retraction is slower than normal.
– Flap power caution light may come in during flap operation.

No. 2 HYDRAULIC SYSTEM FAILURE

LOSS of ALL FLUID from No. 2 HYDRAULIC SYSTEM

("#2 ENG HYD PUMP" and "#2 HYD ISO VLV" Caution Lights and no quantity indicated in the No. 2 Hydraulic System)

***Note**: "#2 HYD ISO VLV" Caution Light may go out with very low hydraulic fluid quantity in the No. 2 Hydraulic System.*

- STBY HYD PRESS 2 . . . . . Norm
- Airspeed . . . . . 200 KIAS (max)

Lost Services:

Normal Gear Retraction And Extension
Nosewheel Steering
Emerg Brakes (when PK BRK press depleted)
Outboard Roll Spoilers
Ground Spoilers (if applicable)
Rudder System No. 2

Landing Considerations:

- Alternate Landing Gear Extension (Page 14.3) . . . . . accomplish when required
- – Use asymmetric braking and power, as required, to maintain directional control after touchdown.

Approach & V_{REF} speeds:

Flap 15 . . . . . V_{REF} + 6 kts
Flap 35 . . . . . V_{REF} + 6 kts

Landing Distance Factor:

Flap 15 . . . . . 1.52
Flap 35 . . . . . 1.55

#2 HYD ISO VLV (Caution Light)

(Partial loss of fluid from the No. 2 Hydraulic System)

– Monitor quantity in the No. 2 hydraulic System for further loss of fluid.

Lost Services:

Normal Gear Retraction And Extension
Nosewheel Steering
Emerg Brakes (when PK BRK press depleted)
Outboard Roll Spoilers
Ground Spoilers (if applicable)

Landing Considerations:

- Alternate Landing Gear Extension
  (Page 14.3) . . . . . accomplish when required

– Use asymmetric braking and power, as required, to maintain directional control after touchdown.

Approach & V_{REF} speeds:

Flap 15 . . . . . V_{REF} + 6 kts
Flap 35 . . . . . V_{REF} + 6 kts

Landing Distance Factor:

Flap 15 . . . . . 1.52
Flap 35 . . . . . 1.55

#2 ENG HYD PUMP (Caution Light)

(No pressure may be indicated in the No. 2 Hydraulic System)

- #2 Hyd Qty . . . . . check

If system 2 quantity is normal

- Stby Hyd Press 2 . . . . . on

– Monitor pressure and quantity in the No. 2 Hydraulic system for normal indications.

Landing Considerations:

– Prior to selecting Landing Gear Down
- Manual PTU . . . . . on
- Landing Gear . . . . . Down / 3 green
- Manual PTU . . . . . Off

"#1 HYD FLUID HOT" or "#2 HYD FLUID HOT" (Caution Light)

- Pressure and Quantity . . . . . monitor

"#1 STBY HYD PUMP HOT" or "#2 STBY HYD PUMP HOT" (Caution Light)

Flap Selector Lever set at 0:

- Stby Hyd Press (affected) . . . . . Norm

– END –

Flap Selector Lever set greater than 0:

– No crew action req'd.

---------- END ----------

ICE AND RAIN PROTECTION
STALL PROTECTION

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"DEICE PRESS" (Caution Light)

- Airframe Auto Selector . . . . . Off
- Boot Air . . . . . Iso
- Deice Pressure Indicator . . . . . check
- Engine Intake Bypass Doors . . . . . open
- Ignition 1 and 2 . . . . . Manual (Auto)

***Caution**: Do not select the outer two wing positions during manual deicing of the tail and engine intake.*

- Airframe Manual selector . . . . . Tail and engine intake positions

***Note**: The dwell at each Tail and engine Intake position should be 6 seconds.*

The engine intake boot on the side with normal pressure can be deiced.

– Exit and avoid icing conditions if possible.

Landing Considerations:

IF landing in icing conditions or the aircraft is not aerodynamically clean after leaving icing conditions:

– Land using Flap 15

Minimum Hold Speed:

Flap 0 . . . . . 1.3 Vs + 15 KTS

Approach, V_{REF} and V_{GA} Speeds:

Flap 15 . . . . . add 15 KTS

Landing Distance Factor:

Flap 15 . . . . . 1.66

DEICE BOOT FAILURE

Deice Boot Advisory Light does not Illuminate during boot cycle:

- Test Caut / Advsy . . . . . Advsy

IF affected advisory light illuminates:

– Exit and avoid icing conditions if possible

Landing Considerations:

IF landing in icing conditions or the aircraft is not aerodynamically clean after leaving icing conditions:

– Land using Flap 15

Minimum Hold Speed:
Flap 0 . . . . . 1.3 Vs + 15 KTS
Approach, V_{REF} and V_{GA} Speeds:
Flap 15 . . . . . add 15 KTS
Landing Distance Factor:
Flap 15 . . . . . 1.66

Deice Boot Advisory Light Illuminates Continuously:

– Exit and avoid icing conditions if possible

Landing Considerations:

IF landing in icing conditions or the aircraft is not aerodynamically clean after leaving icing conditions:

– Land using Flap 15

Minimum Hold Speed:
Flap 0 . . . . . 1.3 Vs + 15 KTS
Approach, V_{REF} and V_{GA} Speeds:
Flap 15 . . . . . add 15 KTS
Landing Distance Factor:
Flap 15 . . . . . 1.66

ENGINE INTAKE BOOT FAILURE

FOR remainder of flight (affected engine):

- Engine Intake Bypass Door . . . . . open
- Ignition . . . . . Manual (Auto)

– Exit and avoid icing conditions if possible.

PROPELLER DEICING FAILURE

(Propeller Advisory Light does not illuminate)

- Test Caut / Advsy . . . . . Advisory

IF all propeller advisory lights illuminate:

- Prop Timer Selector . . . . . select alternate position

IF propeller advisory lights do not cycle normally:

- Condition levers . . . . . increase as req'd

– Exit and avoid icing conditions if possible.

"L WSHLD HOT" or "R WSHLD HOT" (Caution Light)

- Windshield Heat . . . . . Warm Up

– Exit and avoid icing conditions if possible.

"SIDE WDO HOT" (Caution Light)

- Pilot Wdo Heat . . . . . Off

"L ELEV HORN HEAT" or "R ELEV HORN HEAT" (Caution Light)

– Exit and avoid icing conditions if possible.

IF icing conditions cannot be avoided:

- Flap . . . . . 0°
- Airspeed . . . . . 173 KIAS (min)

Landing Considerations:

– Land using Flap 15

Minimum Hold Speed:

Flap 0 . . . . . 173 KIAS

Approach, V_{REF} and V_{GA} Speeds:

Flap 15 . . . . . add 15 KTS

Landing Distance Factor:

Flap 15 . . . . . 1.66

"PITOT HEAT 1" or "PITOT HEAT 2" (Caution Light)

- Pitot Static Heat (affected) . . . . . on

  IF Caution Light remains on, fly the aircraft using opposite side instruments in icing and precipitation.

"L STALL WARNING" or "R STALL WARNING" (Caution Light)

- Stall Warn Heater . . . . . on
- Airspeed . . . . . 1.3 V_S (min)

Caution: *Spurious stall warning indications may occur during flight in icing conditions which are inconsistent with airspeed and flight conditions.*

LANDING GEAR

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ALTERNATE LANDING GEAR EXTENSION or "LDG GEAR INOP" (Caution Light)

Landing Considerations:

– Landing gear cannot be retracted.
– Nosewheel steering will be inoperative.
– Do not select PTU to manual during approach.

***Note**: The main and nose gear release handle pull forces will be significantly higher than experienced during practice alternate landing gear extensions. The required pull force, to release the gear uplocks, can be as high as 41 kg (90 lb). It may require a repeated pull effort to achieve a landing gear down and locked indication.*

- Airspeed . . . . . 140 KIAS (max)
- L/G Inhibit switch . . . . . Inhibit
- Landing Gear selector . . . . . Down
- Landing Gear Alternate Release door . . . . . open
- Main Gear Release handle . . . . . pull fully down
  Check L & R DOOR amber open and LEFT & RIGHT green gear locked down advisory lights illuminate.
- Landing Gear Alternate Extension door . . . . . Open

***Note:** If LEFT and/or RIGHT green gear locked Advisory Lights do not illuminate, insert Hydraulic Pump handle in socket and operate pump until LEFT and RIGHT green Advisory Lights illuminate.*

- Nose Gear Release handle . . . . . pull fully up
  Check N DOOR amber open and NOSE green gear locked down advisory lights illuminate.

***Note**: Leave Landing Gear Alternate Release and Landing Gear Alternate Extension doors fully open and L/G Inhibit switch at Inhibit.*

- Gear-Locked-Down indicator . . . . . on / check / off

***Warning:** Ensure the Alternate Nose Gear-Locked-Down indicator light is checked with the Taxi light Off.*

- Anti-skid . . . . . Test

After Landing:

As soon as possible after engine shutdown:

- Ground Locks . . . . . install

LANDING GEAR DOOR MALFUNCTIONS

(Illumination of Amber Door Open Advisory Light after Landing Gear selection)

Landing Gear Up:

Yes

- Airspeed . . . . . 140 KIAS (Max)
- Flap 0

Amber Door Open Advisory Light remains illuminated:

Yes

- Landing Gear selector . . . . . Down

Amber Door Open Advisory Light remains illuminated:

Yes

- Landing Gear selector . . . . . leave Down
- Airspeed . . . . . 140 KIAS (Max)

– Complete flight with landing gear down.

– END –

No

- Landing Gear selector . . . . . Up

Amber Door open advisory light illuminates:

Yes

- Airspeed . . . . . 140 KIAS (Max)

– Complete flight with amber Door open advisory light illuminated.

– END –

No

– No further action required.

– END –

No

Landing Gear Down selected:

- Airspeed . . . . . 140 KIAS (Max)

– Complete flight with landing gear down.

---------- END ----------

"INBD ANTI SKID"and/or "OUTBD ANTI SKID" (Caution Light)

- Anti-Skid . . . . . On

Caution Light remains on:

Yes

Landing Considerations:

– Anti-Skid will be inoperative, use Manual Technique for braking.

***Caution**: Excessive brake application can result in skidding and tire failure.*

Manual Technique – for maximum deceleration, brakes should be applied intermittently with momentary release at about 1 second intervals.

Landing Distance Factor:

Flap 15 . . . . . 1.54
Flap 35 . . . . . 1.43

– END –

No

– No further action required.

–––––––––– END ––––––––––

"WT ON WHEELS" (Caution Light)

– No crew action req'd.

– Complete flight with Caution Light on.

Caution: *Landing Gear may not retract.*

Note: *Caution Light may extinguish after landing, however, rectification will be required prior to next flight.*

"NOSE STEERING" (Caution Light)

In Flight:

- Steering Tiller . . . . . centered

IF Caution Light remains on:

- Nosewheel Steering . . . . . Off

Landing Considerations:

– Land at an airport with minimum crosswind and turbulence.

After touchdown:

– Use asymmetric braking and power, as required, to maintain directional control.

On the Ground:

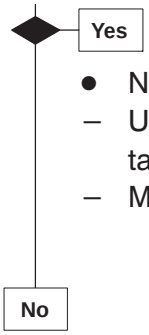
– Taxi airplane forward to centre nosewheel.

With the airplane stopped:

- Steering Tiller and Rudder pedals . . . . . centered
- Nosewheel Steering . . . . . Off then on

– Wait for Nosewheel Steering to re-engage.

Caution Light remains on:



- Nosewheel Steering . . . . . Off

– Use asymmetric braking and power, as required, to taxi airplane.

– Maintenance action required prior to flight.

– END –

– Check nosewheel for correct response to steering inputs prior to flight.

---------- END ----------

ALL LANDING GEAR FAIL TO RETRACT

(3 Red Gear Unsafe and Landing Gear Lever Advisory Lights illuminated with Landing Gear Lever selected Up)

Note: *If the Landing Gear Alternate Release door is open, the landing gear will not retract. Do not close the Landing Gear Alternate Release door with the Landing Gear Lever in the Up position.*

Note: *Landing Gear Doors may be open or closed (Amber Doors Open Advisory Lights illuminated or out).*

- Landing Gear selector . . . . . Down
  Confirm 3 Green Gear-Locked-Down Advisory Lights illuminate.
- DO NOT re-select landing gear up.
- Land at the nearest suitable airport.

LANDING GEAR INDICATOR MALFUNCTION

IF any of the Green gear-locked-down Advisory Lights fail to illuminate:

- Landing Gear Alternate Extension door . . . . . open
- Gear-Locked-Down indicator . . . . . on / check / off

Warning: *Ensure the Alternate Nose Gear-Locked-Down indicator light is checked with the Taxi light Off.*

- Landing Gear Alternate Extension door . . . . . close

"ALT GEAR IND FAIL" (Caution Light)

(Alternate Gear – Locked – Down Indicator malfunction)

Note: *One or more of the Alternate Gear-Locked-Down Indicator Light circuit(s) is unserviceable.*
With the landing gear indicating down and locked, the failed alternate Gear-Locked-Down indicator light circuit(s) can be identified by selecting the alternate Gear-Locked-Down Indicator Light switch. The light(s) associated with the failed circuit(s) will not illuminate.

- Maintenance action required before next flight.

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LIST OF EFFECTIVE PAGES

LIST OF EFFECTIVE PAGES (CONT'D)

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10.2	MAY 17/05			
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10.5	SEP 12/16			
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10.7	MAY 18/16			
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11.1	SEP 12/16			
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12.1	MAY 18/16	MOD8/1983		
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12.2	MAY 17/05			
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APPENDIX				
15.1	MAY 24/17	M102		
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15.3	MAY 17/05			
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	SEP 12/16	MOD8/2781		

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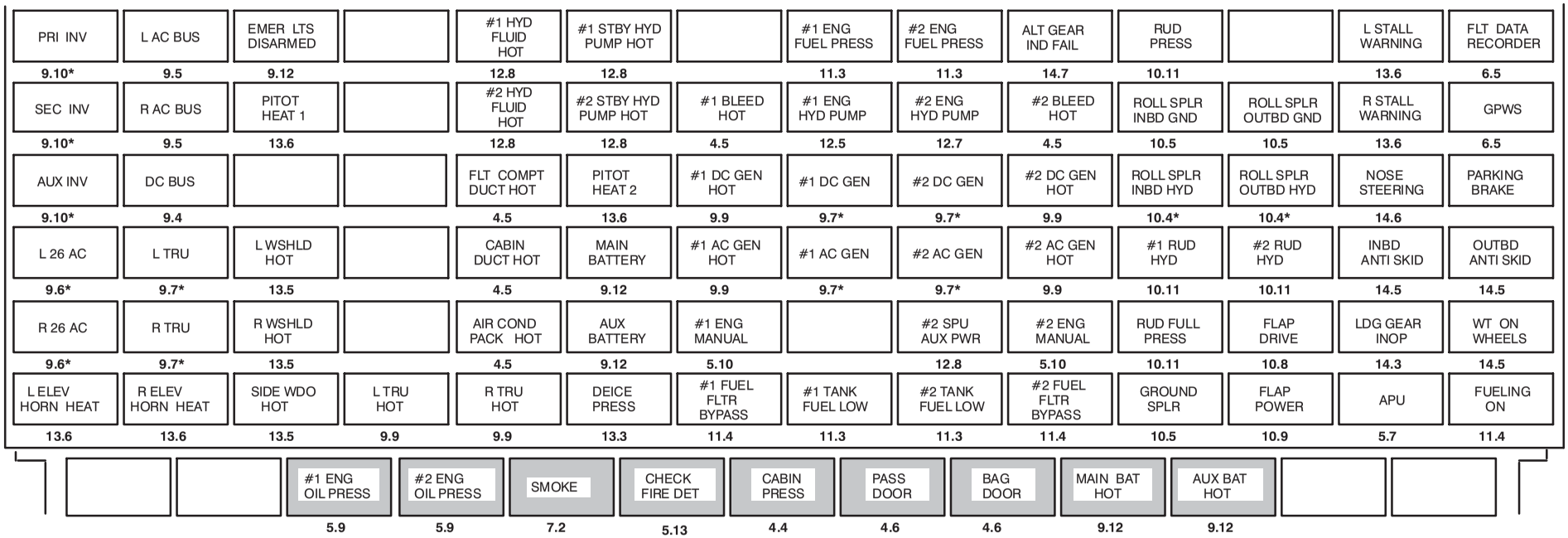

** This caution/warning light is addressed in multiple procedures. Where applicable, only the most critical of the associated procedures is page–referenced. Ensure the appropriate procedure is carried out.*

MOD 8/1983 ONLY

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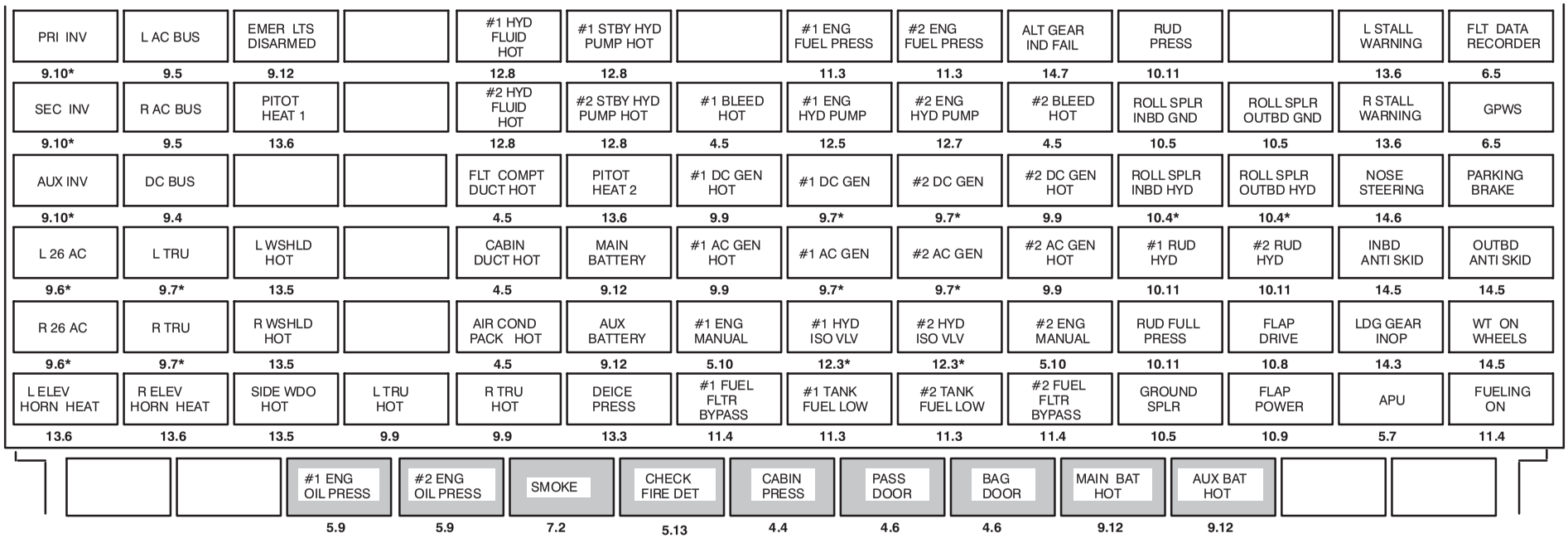

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MOD 8/2781 ONLY