SWA 1248 Investigation, DCA06MA009

December 14, 2005

Location:

BAE Systems Service Center
BAE Systems Electronics & Integrated Solutions
2000 Taylor St,
Fort Wayne, IN 46802

Attendees:

John Faulks	BAE Systems Product Support
Tim Sorg	BAE Systems Service Center
Marty Koenemann	BAE Systems Service Center
Greg Young	GE Engineering
Phil Ketron	GE/CFMI PSE
Jeff Austin	FAA Safety Inspector
Mark Babb	SWA Sr Powerplant Engineer
Maurice Thacker	SWA Maintenance Technician
Matt Willard	BAE Systems Customer Support

Hardware:

Engine #1
EEC HW/SW Part number: 1853M33P06/1853M78P25
EEC Serial number: LMDN9120

Engine #2
EEC HW/SW Part number: 1853M33P06/1853M78P25
EEC Serial number: LMDN9114

Test Plan:

1. Hardware hand carried to BAE Systems by SWA and FAA attendees
    a. Induct hardware into the FWA system as SWA owned investigation items
2. Perform a physical inspection of each unit
    a. Record part number and serial number
    b. Record installed software version
    c. Document any physical anomalies
    d. Cracked Chassis
    e. Damaged pressure nipples
    f. Damaged connectors, connector pins
3. If condition is acceptable, use the Portable Data Loader to pull the non volatile memory contents from each unit. Alternative to extract the DPM's and use a slave EEC to retrieve NVM.
    a. Decode each unit's NVM
    b. Analyze NVM
4. Determine next step based on NVM

a. ATP?
b. Special testing?
c. Review test results

5. Hold units in bonded store until released by the NTSB

Results Summary:

The BAE Service Center does not have any prior shop history for these EEC's.

Photos of the two EEC's are attached. LMDN9120 appears intact and the connectors are in good condition. LMDN9114 was heavily damaged and three connectors (J9, J10, and J11) are nearly sheared from the main chassis.

Engine #1 NVM was retrieved directly from the ECU. Engine # 2 NVM was retrieved by moving the DPM's into a slave NVM. Both NVM files are intact and the readable reports generated normally.

Engine #1 had a total of 3 faults (1 on channel A and 2 on channel B). Engine #2 had a total of 36 faults (14 on channel A and 22 on channel B).

All faults appear to have originated during the event and appear consistent with the damage on the EEC's and other damage on the engines. For reference the connector pin definition has been scanned and included in this report for the three connectors on LMDN9114 that are damaged.

There are no throttle system or thrust reverser faults. And there were no faults from prior flight legs.

Abbreviated and detailed NVM fault reports are attached.

Both EEC's have been moved to bonded storage pending further instructions or disposition.

John Faulks
FADEC Product Support Manager

Phone 607 770 3959
Email john.t.faulks@baesystems.com

FADEC Fault Report Engine #1 LMDN9120

Number of Faults:

Type:	Chan A	Chan B	Total
Last 10 No Dispatch Faults	0	0	0
Last 10 Alternate Mode Faults	0	0	0
Last 10 Short Time Dispatch Faults	0	0	0
Last 10 Long Time Dispatch Faults	1	2	3
Last 10 Economic Dispatch Faults	0	0	0

Channel A.....Channel A.....Channel A.....Channel A.....Channel A.....

Fault Record: 1 Fault Code: 0A9h (169d)
Fault Class: C Description: ADIRU1/2 TAT DATA FRM DEU1/2 IS MISSING
ATA#: 73-11-69-N/A LRU's: N/A

Channel B.....Channel B.....Channel B.....Channel B.....Channel B.....

Fault Record: 1 Fault Code: 0A9h (169d)
Fault Class: C Description: ADIRU1/2 TAT DATA FRM DEU1/2 IS MISSING
ATA#: 73-21-69-N/A LRU's: N/A

Fault Record: 2 Fault Code: 051h (81d)
Fault Class: BETA Description: THE T12 SIGNAL IS OUT OF RANGE
ATA#: 73-20-81-T12 SELRU's: T12 SENSOR, EEC

FADEC Fault Report Engine #2 LMDN9114

Number of Faults:

Type:	Chan A	Chan B	Total
Last 10 No Dispatch Faults	9	9	18
Last 10 Alternate Mode Faults	0	0	0
Last 10 Short Time Dispatch Faults	1	1	2
Last 10 Long Time Dispatch Faults	2	10	12
Last 10 Economic Dispatch Faults	2	2	4

Channel A.....Channel A.....Channel A.....Channel A.....Channel A.....

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Fault Record: 1              Fault Code:  027h ( 39d)
Fault Class:  BETA       Description: THE VSV POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-10-39-HMU, ELRU's:       HMU, EEC
Fault Record: 2              Fault Code:  02Ch ( 44d)
Fault Class:  BETA       Description: THE VBV POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-10-44-VBV ACLRU's:       VBV ACT, EEC
Fault Record: 3              Fault Code:  03Bh ( 59d)
Fault Class:  BETA       Description: THE TBV POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-10-59-TBV, ELRU's:       TBV, EEC
Fault Record: 4              Fault Code:  052h ( 82d)
Fault Class:  BETA       Description: THE T25 SIGNAL IS OUT OF RANGE
ATA#:         75-10-82-T25 SELRU's:       T25 SENSOR, EEC
Fault Record: 5              Fault Code:  06Dh (109d)
Fault Class:  GAMMA      Description: THE PEO SIGNAL IS OUT OF RANGE
ATA#:         79-11-09-N/A   LRU's:       N/A
Fault Record: 6              Fault Code:  06Eh (110d)
Fault Class:  BETA       Description: THE TEO SIGNAL IS OUT OF RANGE
ATA#:         79-11-10-N/A   LRU's:       N/A
Fault Record: 7              Fault Code:  075h (117d)
Fault Class:  BETA       Description: THE N1 SIGNAL IS OUT OF RANGE
ATA#:         77-11-17-N1 SENLRU's:       N1 SENSOR, EEC
Fault Record: 8              Fault Code:  076h (118d)
Fault Class:  BETA       Description: THE N2 SIGNAL IS OUT OF RANGE
ATA#:         77-11-18-N2 SENLRU's:       N2 SENSOR, EEC
Fault Record: 9              Fault Code:  084h (132d)
Fault Class:  A          Description: ENG IDENT SIGNAL OUT OF RANGE
ATA#:         73-11-32-EEC, ELRU's:       EEC, ENGINE RATING PLUG
Fault Record: 1              Fault Code:  07Fh (127d)
Fault Class:  ALPHA      Description: ALTERNATOR VOLTAGE TO EEC OUT OF RANGE
ATA#:         73-11-27-ALTERNLRU's:       ALTERNATOR, EEC
Fault Record: 1              Fault Code:  051h ( 81d)
Fault Class:  BETA       Description: THE T12 SIGNAL IS OUT OF RANGE
ATA#:         73-10-81-T12 SELRU's:       T12 SENSOR, EEC
Fault Record: 2              Fault Code:  0A9h (169d)
Fault Class:  C          Description: ADIRU1/2 TAT DATA FRM DEU1/2 IS MISSING
ATA#:         73-11-69-N/A   LRU's:       N/A
Fault Record: 1              Fault Code:  024h ( 36d)
Fault Class:  D          Description: HPTACC POSITION SIGNAL IS OUT OF RANGE
ATA#:         73-10-36-HPTC, LRU's:       HPTC, EEC
Fault Record: 2              Fault Code:  036h ( 54d)
Fault Class:  D          Description: THE LPTC POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-10-54-LPTC, LRU's:       LPTC, EEC
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Channel B.....Channel B.....Channel B.....Channel B.....Channel B.....

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Fault Record: 1              Fault Code:  084h (132d)
Fault Class:  A          Description: ENG IDENT SIGNAL OUT OF RANGE
ATA#:         73-21-32-EEC, ELRU's:       EEC, ENGINE RATING PLUG
Fault Record: 2              Fault Code:  027h ( 39d)
Fault Class:  BETA       Description: THE VSV POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-20-39-HMU, ELRU's:       HMU, EEC
Fault Record: 3              Fault Code:  02Ch ( 44d)
Fault Class:  BETA       Description: THE VBV POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-20-44-VBV ACLRU's:       VBV ACT, EEC
Fault Record: 4              Fault Code:  03Bh ( 59d)
Fault Class:  BETA       Description: THE TBV POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-20-59-TBV, ELRU's:       TBV, EEC
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NVM Summary

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Fault Record: 5              Fault Code:  052h ( 82d)
Fault Class:  BETA       Description: THE T25 SIGNAL IS OUT OF RANGE
ATA#:         75-20-82-T25 SELRU's:       T25 SENSOR, EEC
Fault Record: 6              Fault Code:  06Dh (109d)
Fault Class:  GAMMA      Description: THE PEO SIGNAL IS OUT OF RANGE
ATA#:         79-21-09-N/A   LRU's:       N/A
Fault Record: 7              Fault Code:  06Eh (110d)
Fault Class:  BETA       Description: THE TEO SIGNAL IS OUT OF RANGE
ATA#:         79-21-10-N/A   LRU's:       N/A
Fault Record: 8              Fault Code:  075h (117d)
Fault Class:  BETA       Description: THE N1 SIGNAL IS OUT OF RANGE
ATA#:         77-21-17-N1 SENLRU's:       N1 SENSOR, EEC
Fault Record: 9              Fault Code:  076h (118d)
Fault Class:  BETA       Description: THE N2 SIGNAL IS OUT OF RANGE
ATA#:         77-21-18-N2 SENLRU's:       N2 SENSOR, EEC
Fault Record: 1              Fault Code:  06Dh (109d)
Fault Class:  GAMMA      Description: THE PEO SIGNAL IS OUT OF RANGE
ATA#:         79-21-09-N/A   LRU's:       N/A
Fault Record: 1              Fault Code:  0A9h (169d)
Fault Class:  C          Description: ADIRU1/2 TAT DATA FRM DEU1/2 IS MISSING
ATA#:         73-21-69-N/A   LRU's:       N/A
Fault Record: 2              Fault Code:  06Eh (110d)
Fault Class:  BETA       Description: THE TEO SIGNAL IS OUT OF RANGE
ATA#:         79-21-10-N/A   LRU's:       N/A
Fault Record: 3              Fault Code:  076h (118d)
Fault Class:  BETA       Description: THE N2 SIGNAL IS OUT OF RANGE
ATA#:         77-21-18-N2 SENLRU's:       N2 SENSOR, EEC
Fault Record: 4              Fault Code:  00Ch ( 12d)
Fault Class:  BETA       Description: INTERNAL EEC FAULT
ATA#:         73-20-12-EEC   LRU's:       EEC
Fault Record: 5              Fault Code:  027h ( 39d)
Fault Class:  BETA       Description: THE VSV POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-20-39-HMU, ELRU's:       HMU, EEC
Fault Record: 6              Fault Code:  02Ch ( 44d)
Fault Class:  BETA       Description: THE VBV POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-20-44-VBV ACLRU's:       VBV ACT, EEC
Fault Record: 7              Fault Code:  03Bh ( 59d)
Fault Class:  BETA       Description: THE TBV POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-20-59-TBV, ELRU's:       TBV, EEC
Fault Record: 8              Fault Code:  052h ( 82d)
Fault Class:  BETA       Description: THE T25 SIGNAL IS OUT OF RANGE
ATA#:         75-20-82-T25 SELRU's:       T25 SENSOR, EEC
Fault Record: 9              Fault Code:  053h ( 83d)
Fault Class:  BETA       Description: THE T3 SIGNAL IS OUT OF RANGE
ATA#:         75-20-83-T3 SENLRU's:       T3 SENSOR, EEC
Fault Record: 10             Fault Code:  075h (117d)
Fault Class:  BETA       Description: THE N1 SIGNAL IS OUT OF RANGE
ATA#:         77-21-17-N1 SENLRU's:       N1 SENSOR, EEC
Fault Record: 1              Fault Code:  024h ( 36d)
Fault Class:  D          Description: HPTACC POSITION SIGNAL IS OUT OF RANGE
ATA#:         73-20-36-HPTC, LRU's:       HPTC, EEC
Fault Record: 2              Fault Code:  036h ( 54d)
Fault Class:  D          Description: THE LPTC POSITION SIGNAL IS OUT OF RANGE
ATA#:         75-20-54-LPTC, LRU's:       LPTC, EEC
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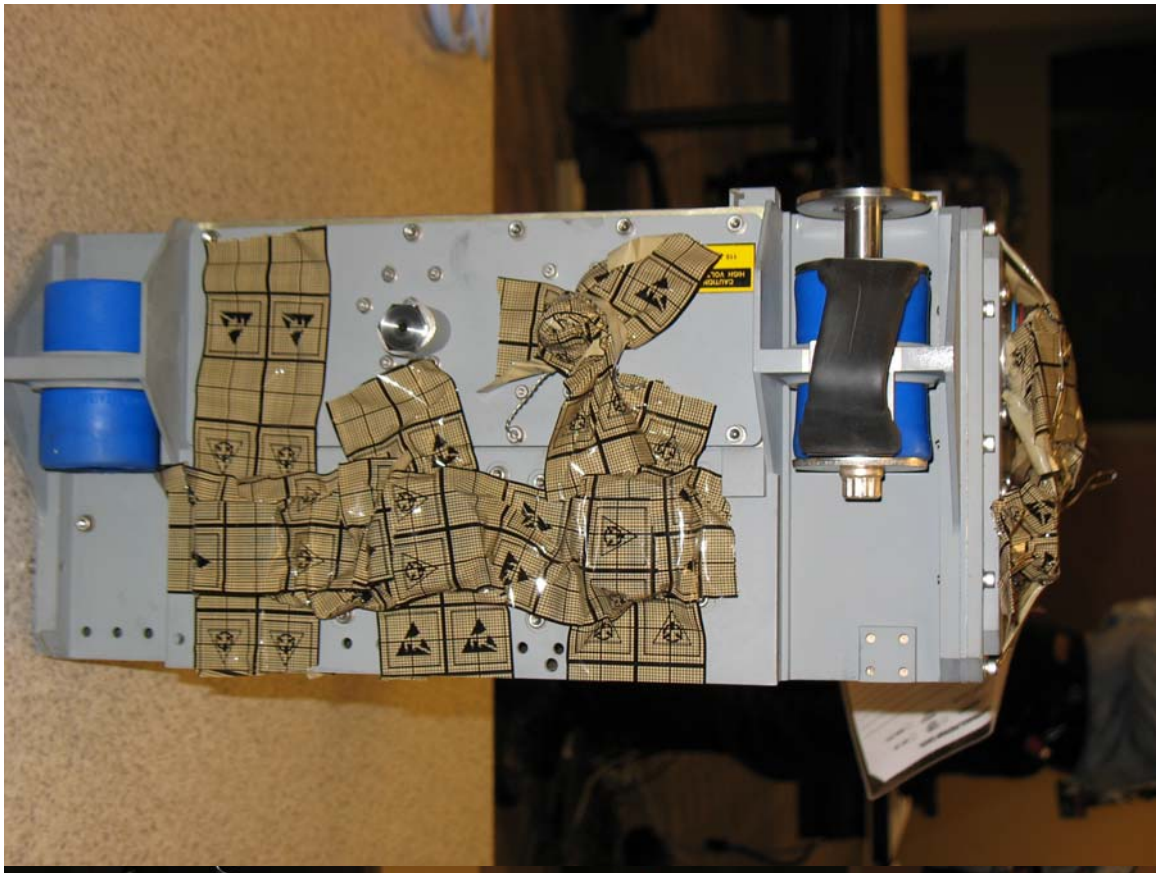

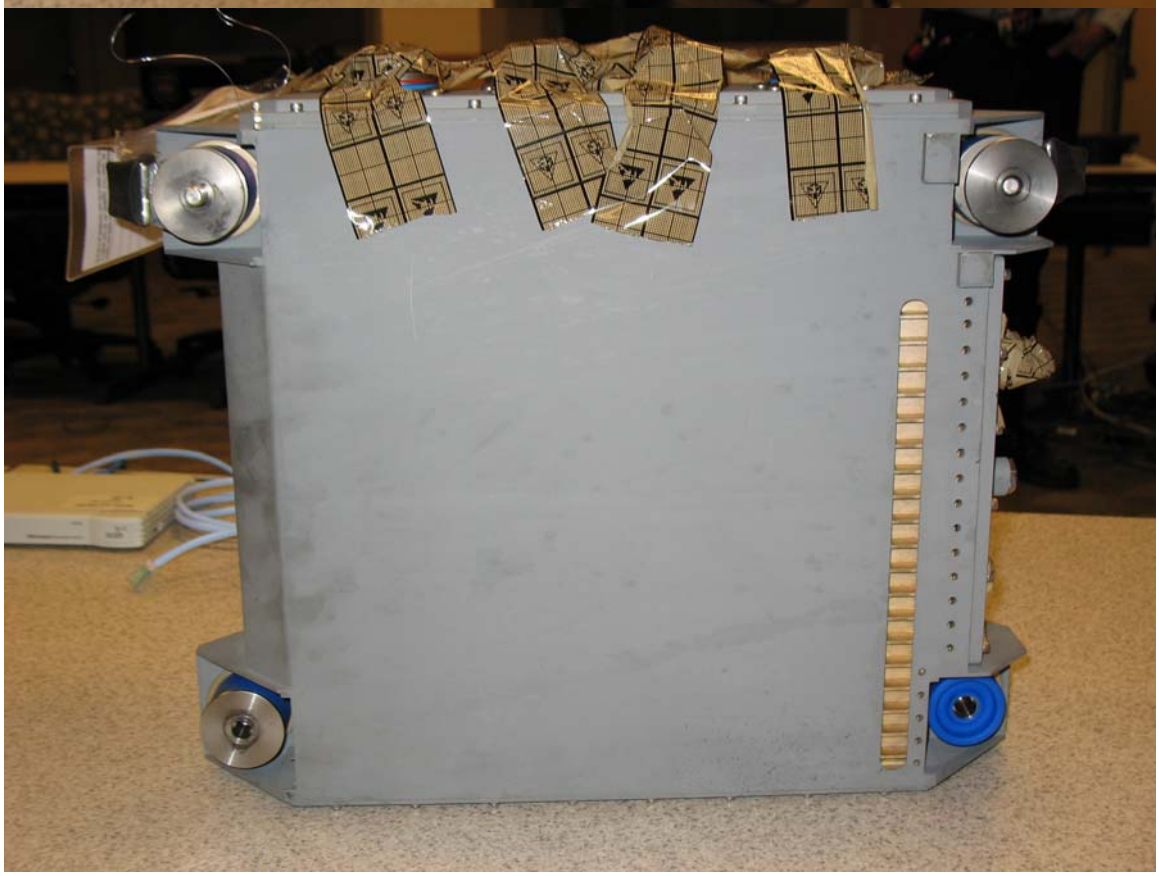

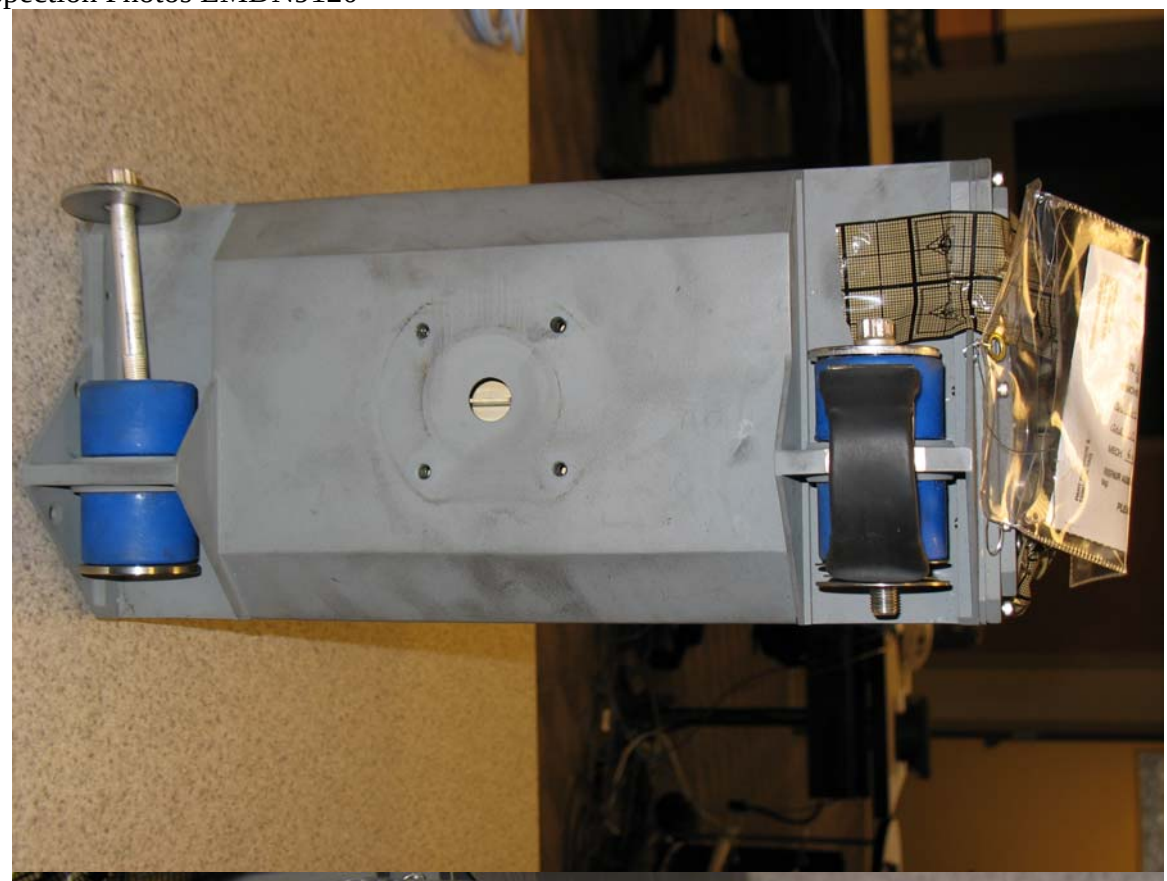

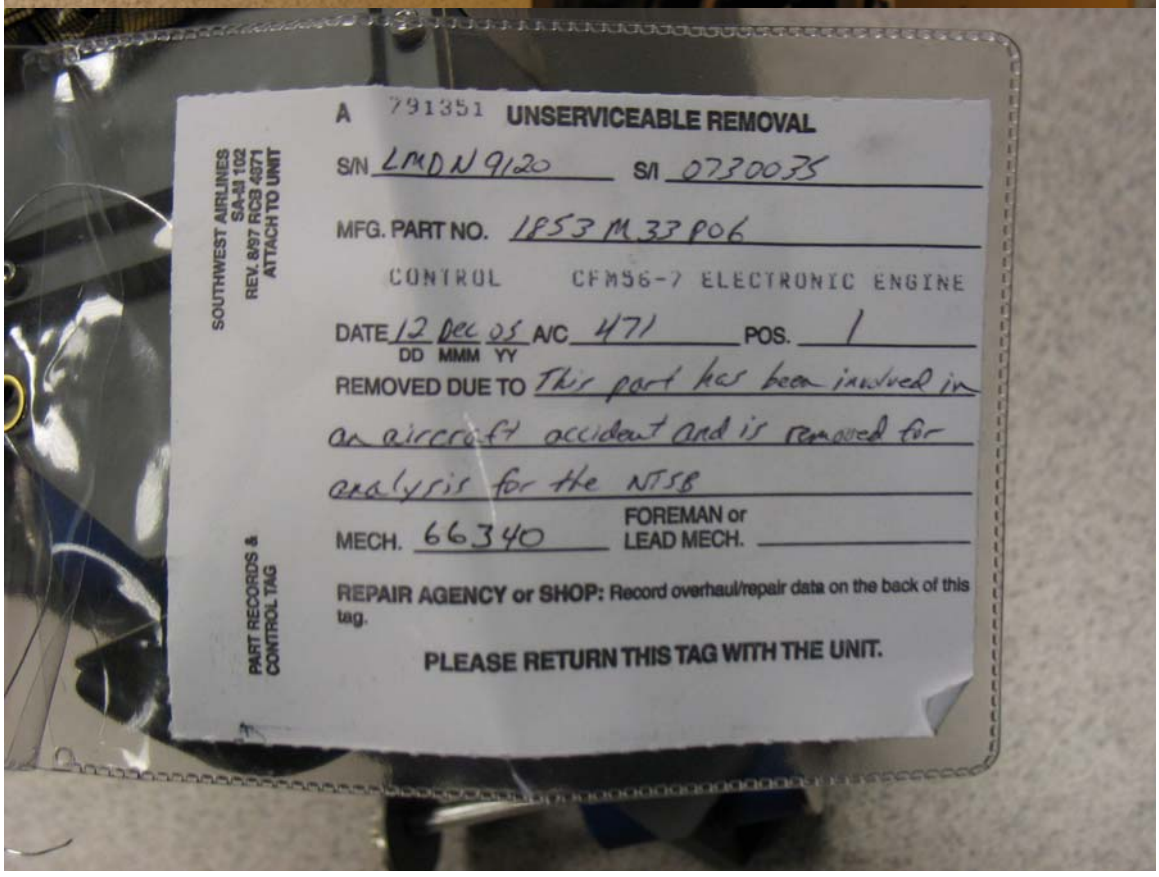
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SA-MI 102
REV. 8/97 RC9 4571
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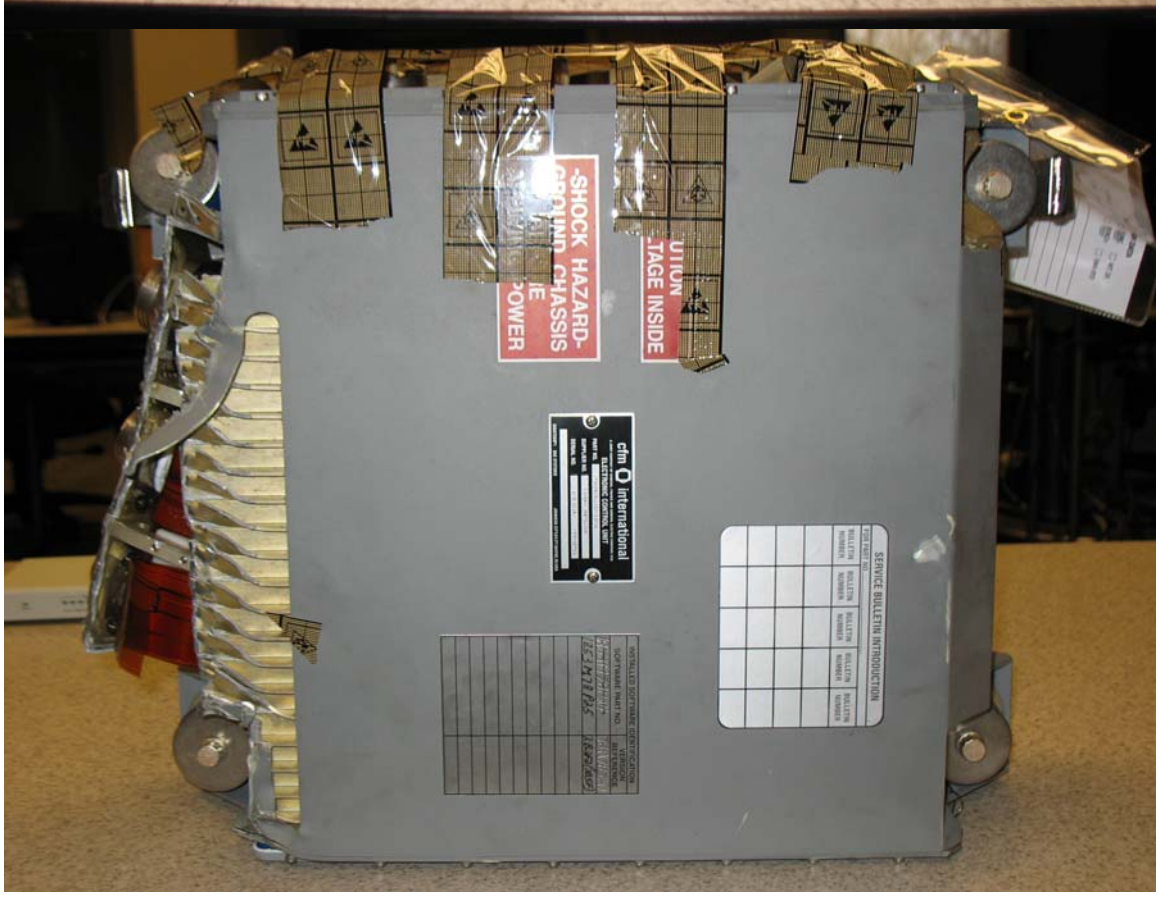
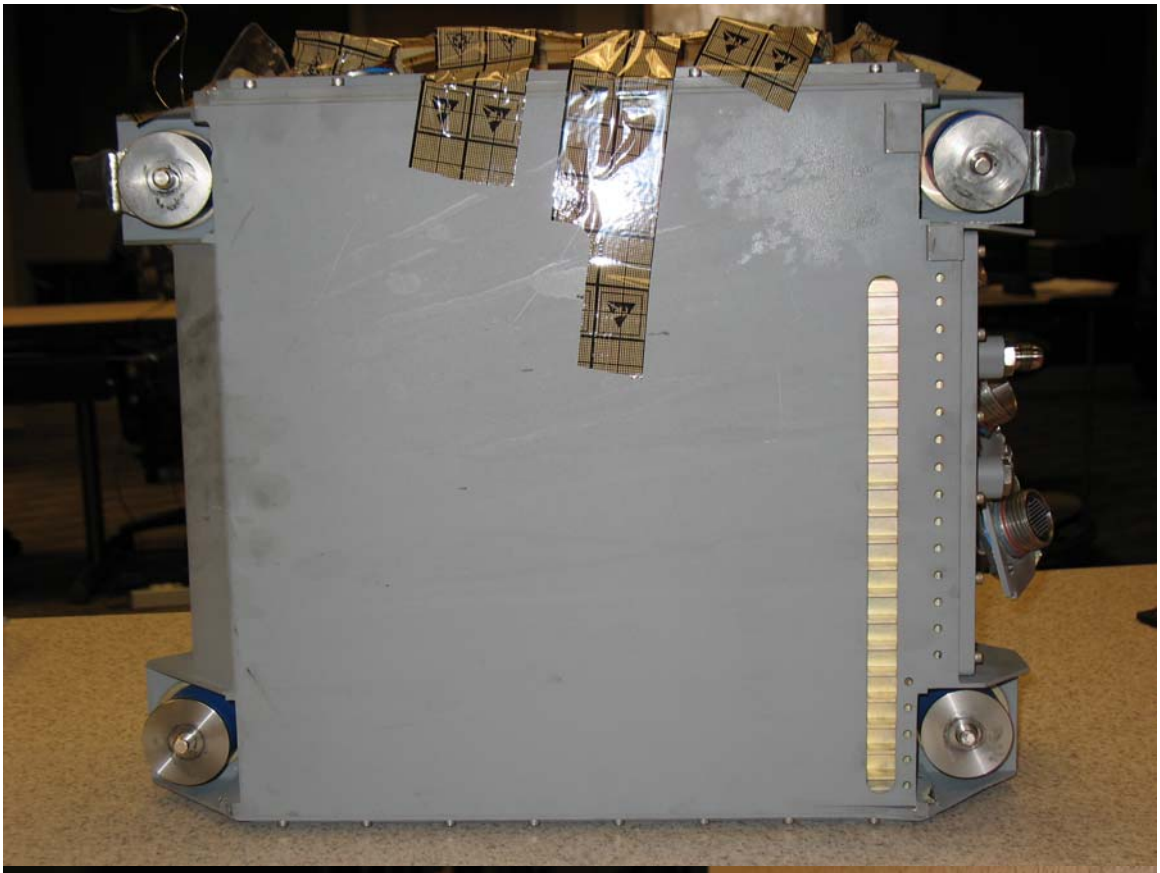
A 791351 UNSERVICEABLE REMOVAL
S/N LMDN9120 S/I 0730075
MFG. PART NO. 1853M33P06
CONTROL CFM56-7 ELECTRONIC ENGINE
DATE 12 DEC 05 A/C 471 POS. 1
DD MMM YY
REMOVED DUE TO This part has been involved in an aircraft accident and is removed for analysis for the NTSB
MECH. 66340 FOREMAN or LEAD MECH.
REPAIR AGENCY or SHOP: Record overhaul/repair data on the back of this tag.
PLEASE RETURN THIS TAG WITH THE UNIT.
PART RECORDS & CONTROL TAG

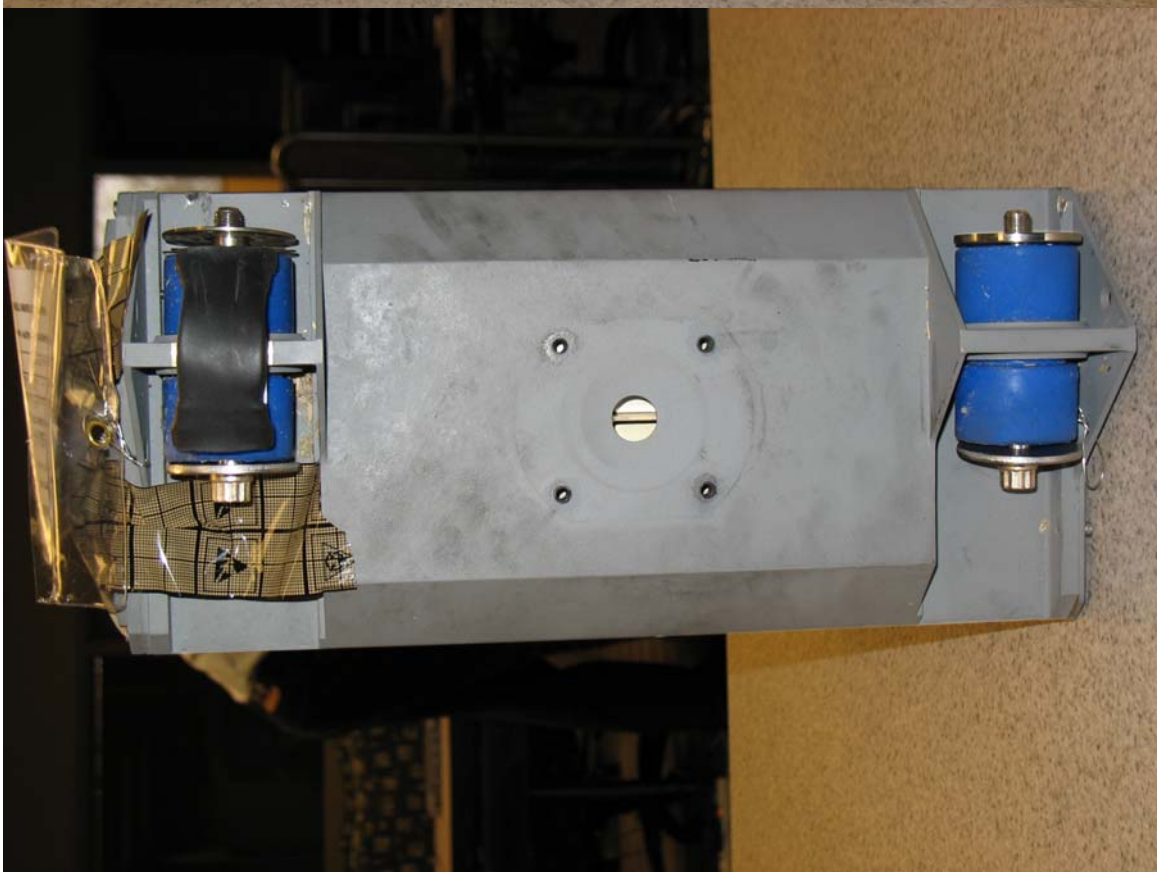

CAUTION
115 VOLTS


-SHOCK HAZARD-
SERVICE BULLETIN INTRODUCTION

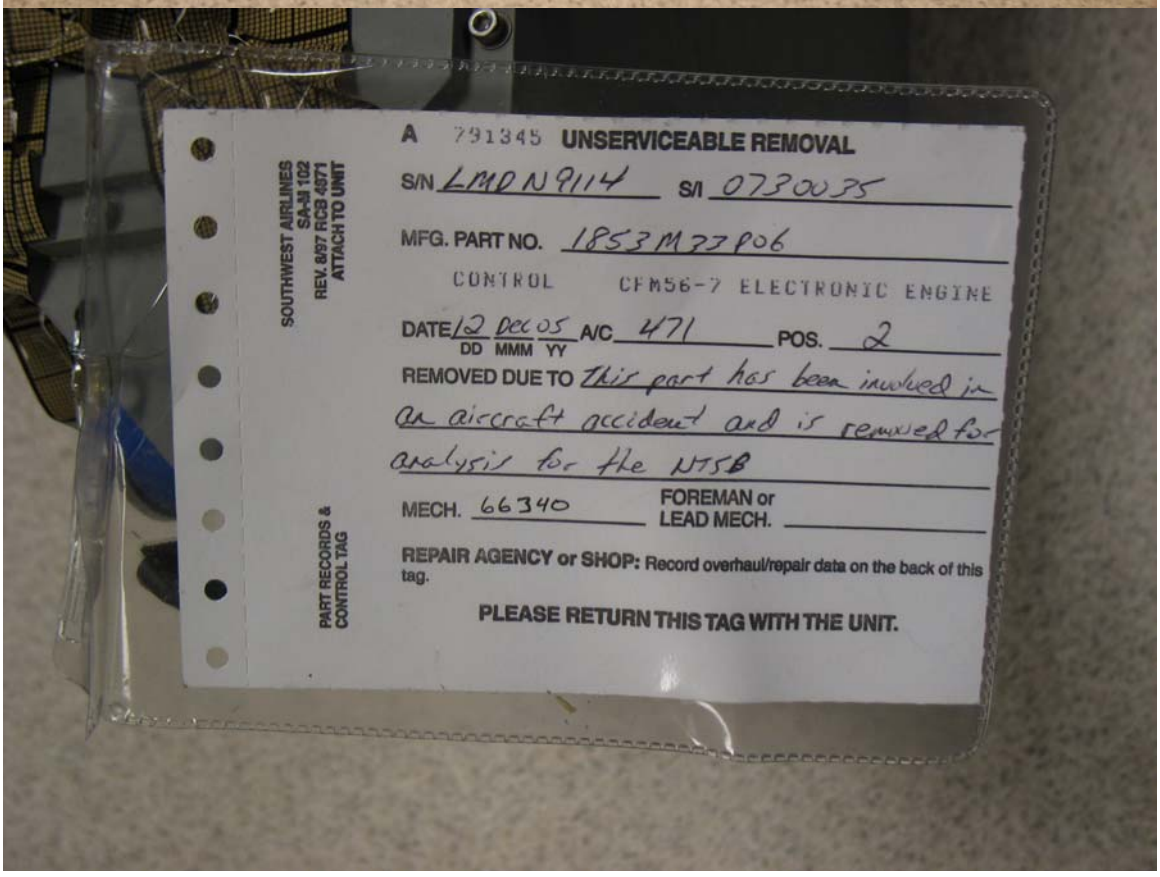

-SHOCK HAZARD-
POWER
INSIDE

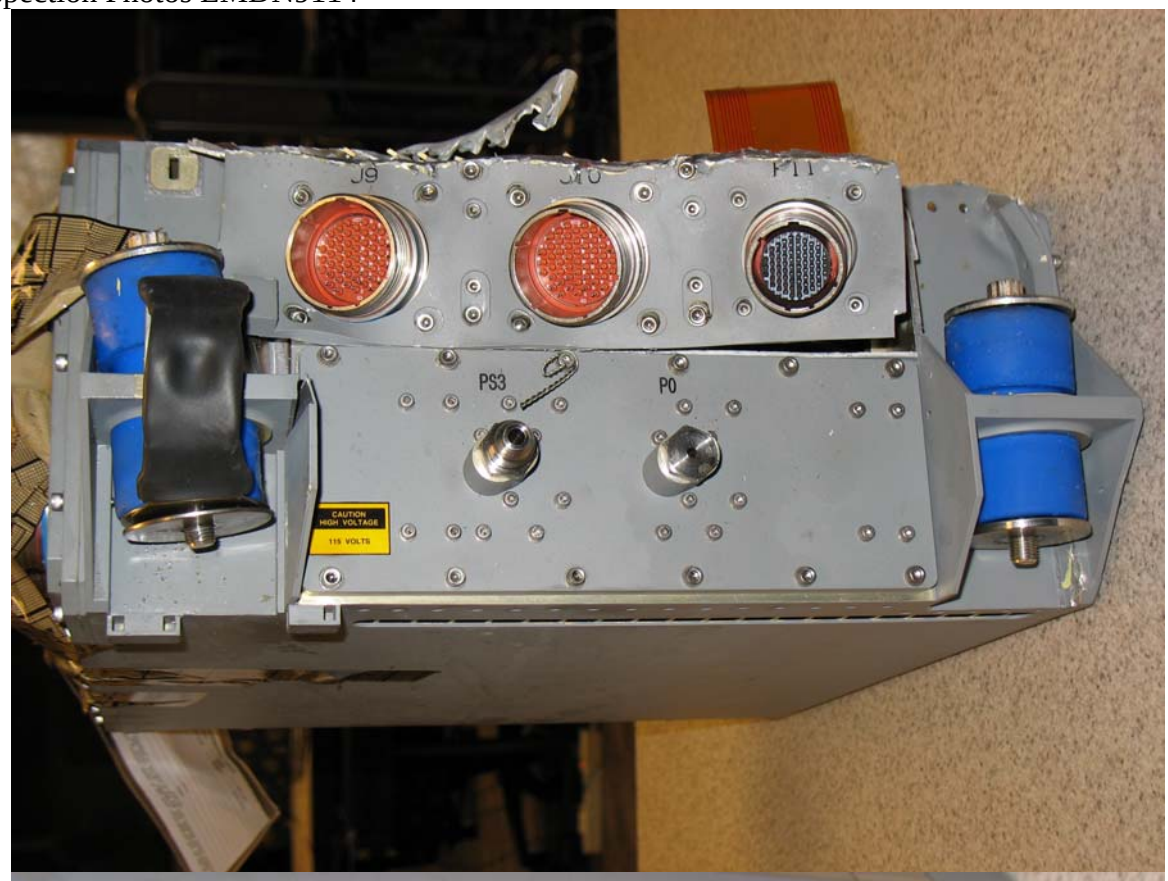

cfm international
A JOINT COMPANY OF SNECMA, FRANCE AND GENERAL ELECTRIC COMPANY, USA
ELECTRONIC CONTROL UNIT
PART NO. 07482SOCN1853M33P06
SUPPLIER NO. 83954-105E7590G6
SERIAL NO. LMDN9120 MFR-63760
356A7550P1 BAE SYSTEMS
JOHNSON CITY,NY/FT.WAYNE,IN/USA



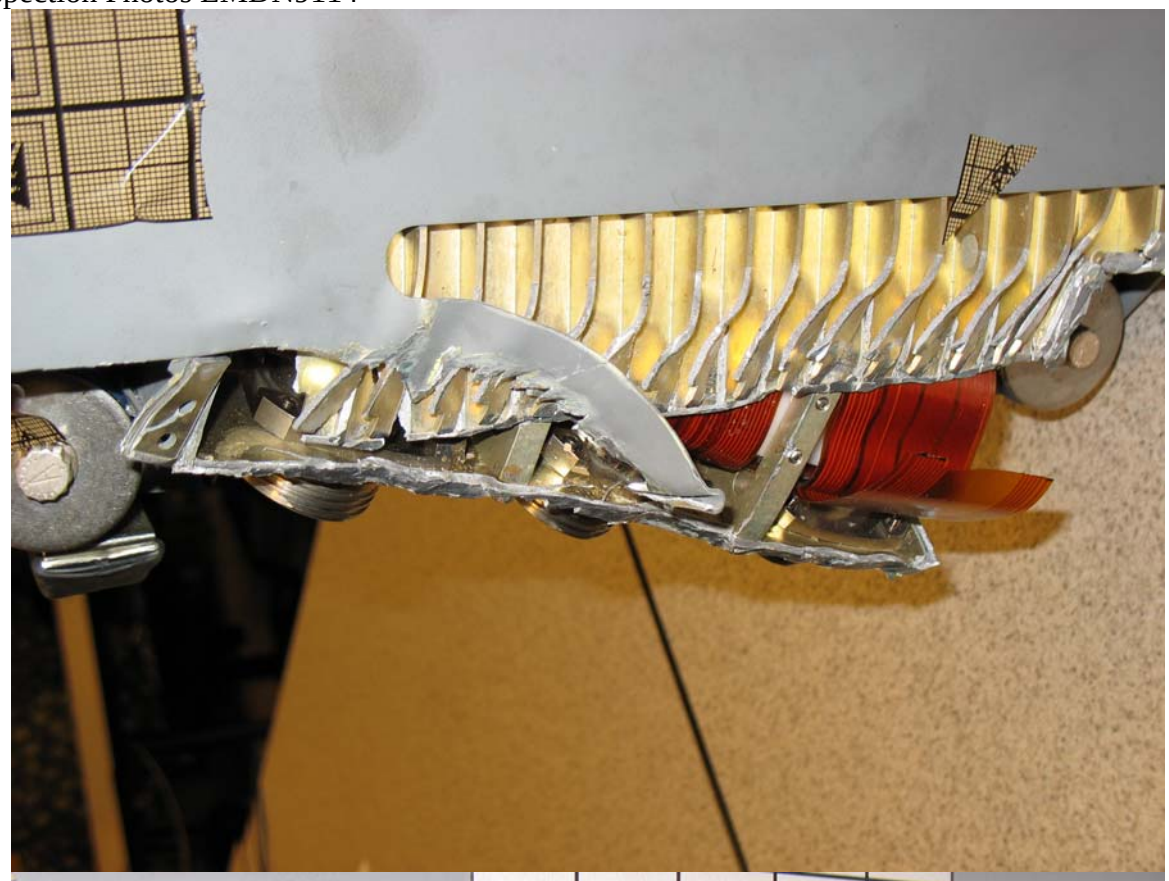


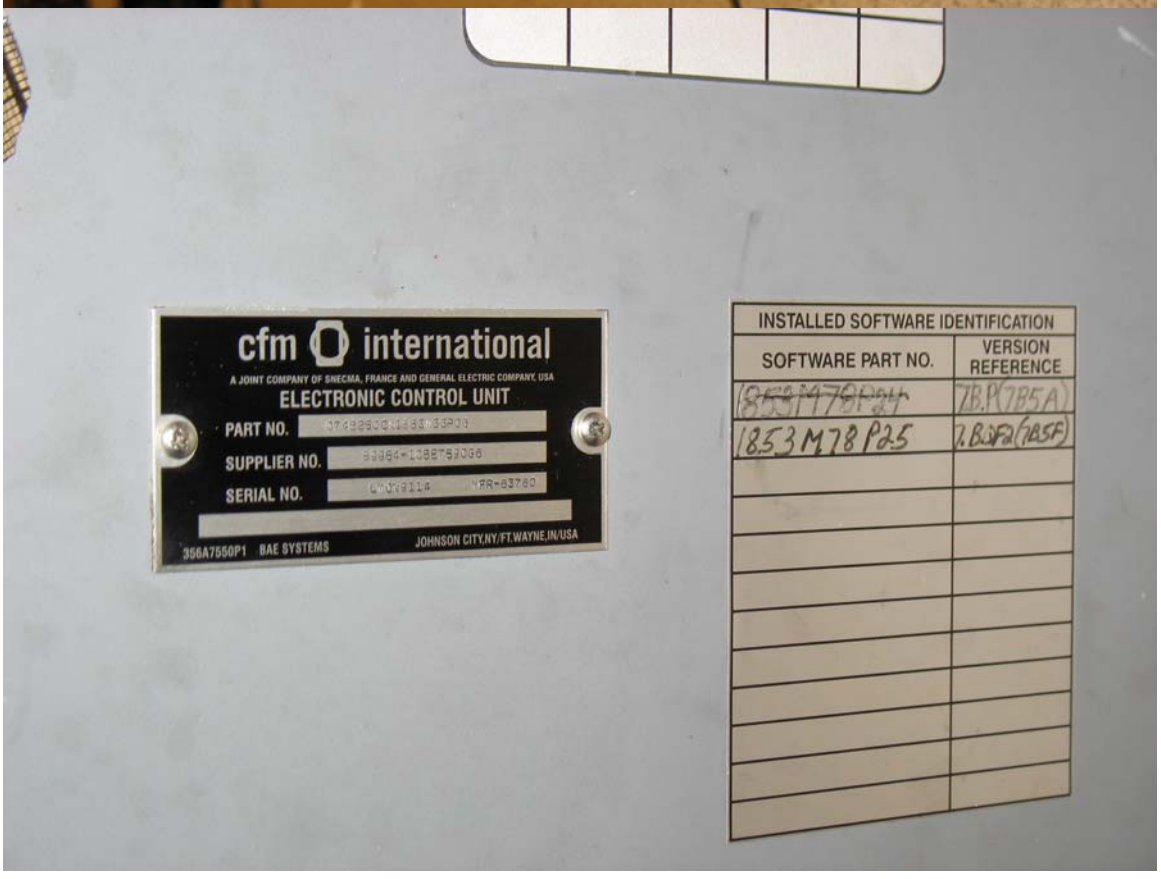

CAUTION
HIGH VOLTAGE
115 VOLTS
CAUTION
THIS EQUIPMENT CONTAINS PARTS AND ASSEMBLIES SUSCEPTIBLE TO DAMAGE BY ELECTROSTATIC DISCHARGE (ESD). USE ESD PRECAUTIONARY PROCEDURES WHEN TOUCHING, REMOVING, OR INSERTING PARTS OR ASSEMBLIES.

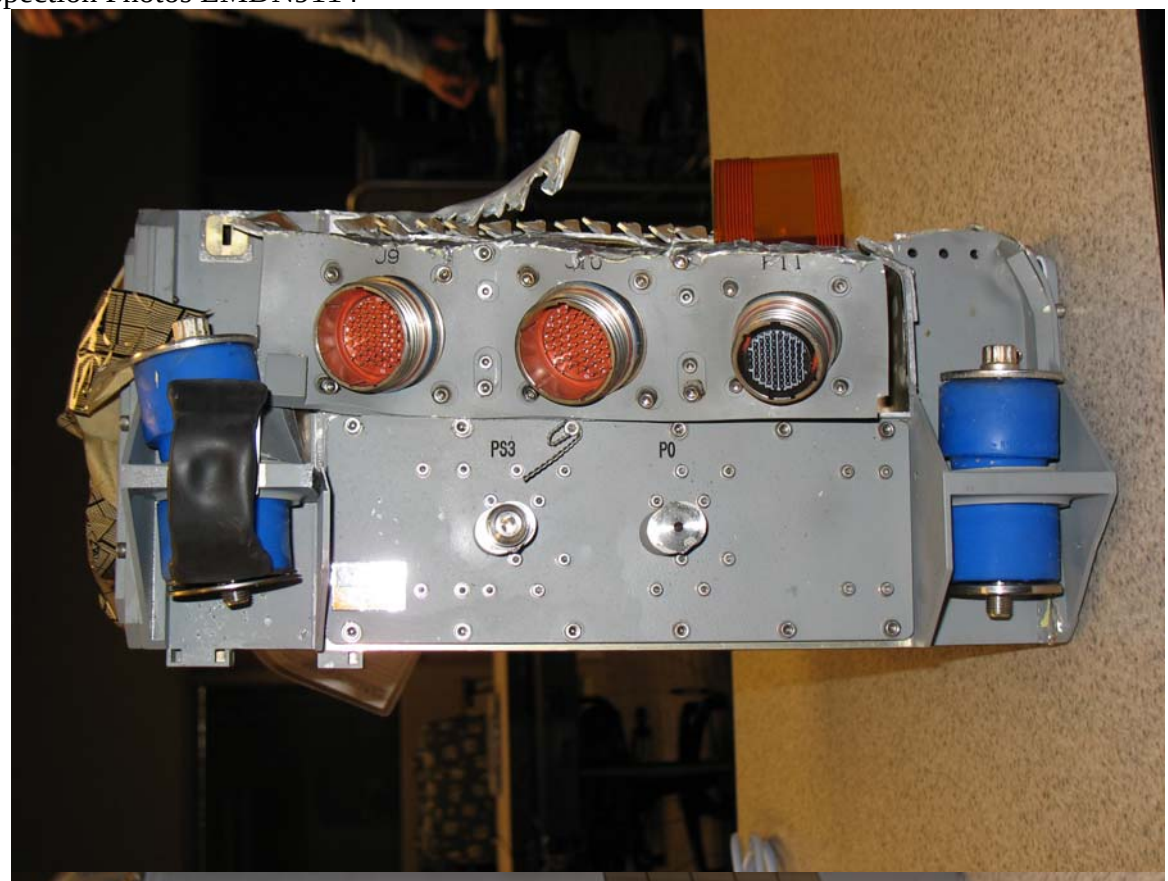

SOUTHWEST AIRLINES
SA-IU 102
REV. 8/97 RCB 4971
ATTACH TO UNIT
A 791345 UNSERVICEABLE REMOVAL
S/N LMDN9114 S/I 0730035
MFG. PART NO. 1853M77P06
CONTROL CFM56-7 ELECTRONIC ENGINE
DATE 12 DEC 05 A/C 471 POS. 2
DD MMM YY
REMOVED DUE TO This part has been involved in an aircraft accident and is removed for analysis for the NTSB
MECH. 66340 FOREMAN or LEAD MECH.
REPAIR AGENCY or SHOP: Record overhaul/repair data on the back of this tag.
PLEASE RETURN THIS TAG WITH THE UNIT.
PART RECORDS & CONTROL TAG

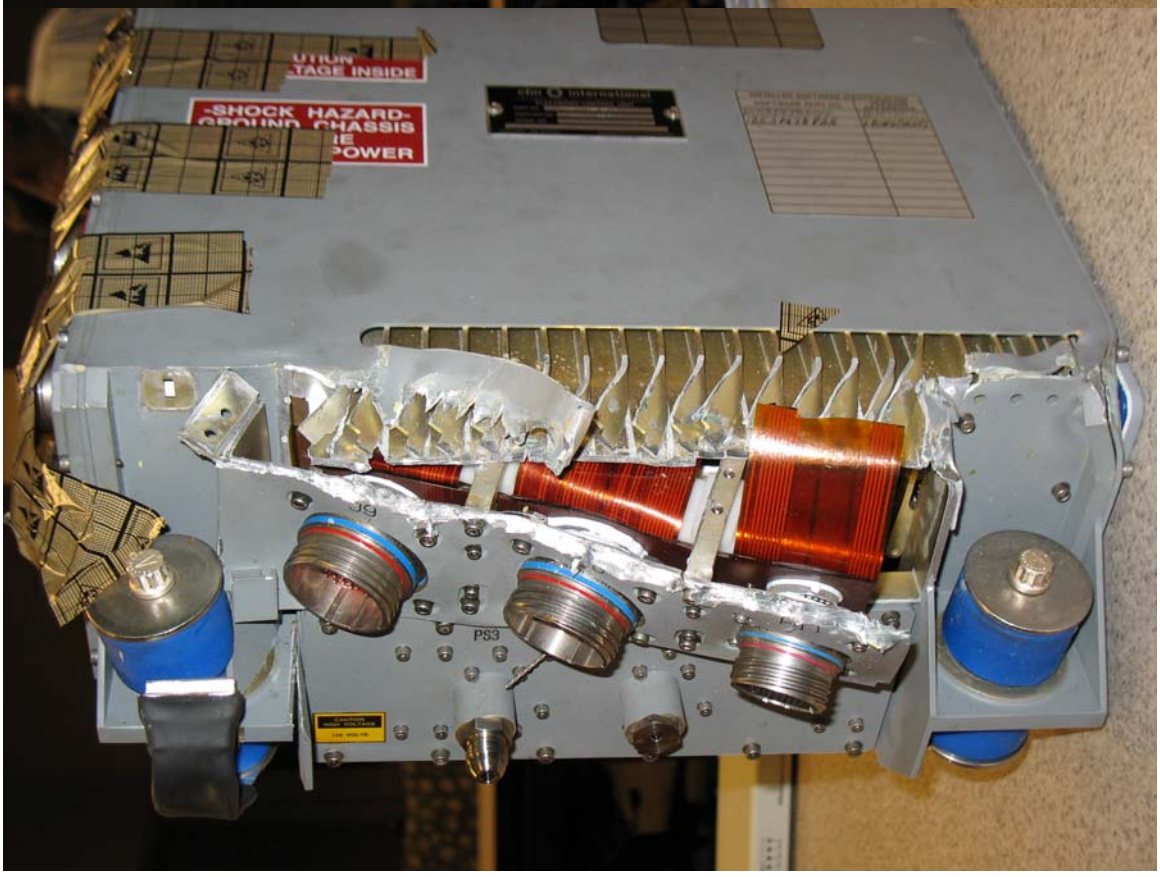

J9
J10
J11
PS3
P0
CAUTION
HIGH VOLTAGE
115 VOLTS


J9
PS3




cfm international
A JOINT COMPANY OF SNECMA, FRANCE AND GENERAL ELECTRIC COMPANY, USA
ELECTRONIC CONTROL UNIT
PART NO.
SUPPLIER NO.
SERIAL NO.
356A7550P1 BAE SYSTEMS
JOHNSON CITY,NY/FT.WAYNE,IN/USA
INSTALLED SOFTWARE IDENTIFICATION
SOFTWARE PART NO.
VERSION REFERENCE
1853M78P25


J9
J10
J11
PS3
PO


SHOCK HAZARD-
PS3

M50TF3816-S1

Table III – FADEC Wiring (Sheet 9 of 10)

ENGINE INTERFACE – J10 MIL–C–38999 23–53–C (53#20.)

PIN	DESCRIPTION	
A	Ch.B LVDT #4 Excitation (+)	(LPTC)
B	Ch.B LVDT #4 SEC 1 (+)	(LPTC)
C	Ch.B LVDT #4 SEC 2 (+)	(LPTC)
D	Ch.B LVDT #6 SEC 1 (+)	(TBV)
E	Ch.B LVDT #6 Excitation (+)	(TBV)
F	Ch.B LVDT #3 Excitation (+)	(HPTC)
G	Ch.B LVDT #3 SEC 1 (+)	(HPTC)
H	Ch.B T/C #3 (AL)	(T495S4)
J	Ch.B T/C #5 (AL)	(Spare)
K	Ch.B T/C #6 (AL)	(Spare)
L	Not Available	
M	Not Available	
N	Ch.B LVDT #1 Excitation (+)	(VSV)
P	Ch.B LVDT #1 SEC 1 (+)	(VSV)
R	Ch.B LVDT #2 SEC 2 (+)	(VBV)
S	Ch.B LVDT #2 Excitation (+)	(VBV)
T	Ch.B LVDT #5 Excitation (+)	(Spare – SAC, DMV – DAC)
U	Ch.B LVDT #4 Excitation (–)	(LPTC)
V	Ch.B LVDT #4 SEC 1&2 (–)	(LPTC)
W	Ch.B LVDT #6 SEC 2 (+)	(TBV)
X	Ch.B LVDT #6 Excitation (–)	(TBV)
Y	Ch.B LVDT #3 Excitation (+)	(HPTC)
Z	Ch.B LVDT #3 SEC 2 (+)	(HPTC)
a	Ch.B T/C #3 (CHR)	(T495S4)
b	Ch.B T/C #2 (AL)	(T495S2)
c	Not Available	
d	Ch.B T/C #1 (AL)	(T3)
e	Ch.B T/C #5 (CHR)	(Spare)
f	Ch.B T/C #6 (CHR)	(Spare)
g	Not Available	
h	Ch.B LVDT #1 Excitation (–)	(VSV)
k	Ch.B LVDT #1 SEC 2 (+)	(VSV)
m	Ch.B LVDT #2 SEC 1 (+)	(VBV)
n	Ch.B LVDT #2 Excitation (–)	(VBV)
p	Ch.B LVDT #5 Excitation (–)	(Spare – SAC, DMV – DAC)
q	Ch.B LVDT #5 SEC 1 (+)	(Spare – SAC, DMV – DAC)
r	Ch.B LVDT #6 SEC 1&2 (–)	(TBV)
s	Ch.A & B Engine Switch #14 (–)	(BSV.2)
t	Ch.B LVDT #3 SEC 1&2 (–)	(HPTC)
u	Ch.B T/C #2 (CHR)	(T495S3)
v	Not Available	
w	Ch.B T/C #1 (CHR)	(T3)
x	Ch.B VRT #2 (–)	(T25)
y	Not Available	
z	Ch.B LVDT #1 SEC 1&2 (–)	(VSV)
AA	Ch.B LVDT #2 SEC 1&2 (–)	(VBV)
BB	Ch.B LVDT #5 SEC 2 (+)	(Spare – SAC, DMV – DAC)
CC	Ch.A & B Engine Switch #14 (+)	(BSV.2)
DD	Ch.B VRT #3 (–)	(Spare)
EE	Ch.B VRT #3 (+)	(Spare)
FF	Ch.B VRT #2 (+)	(T25)
GG	Not Available	
HH	Ch.B LVDT #5 SEC 1 & 2 (–)	(Spare – SAC, DMV – DAC)

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M50TF3816-S1

Table III – FADEC Wiring (Sheet 8 of 10)

ENGINE INTERFACE – J9 MIL–C–38999 23–53–B (53#20,)

PIN	DESCRIPTION	
A	Not Available	
B	Ch.A LVDT #3 Excitation (+)	(HPTC)
C	Ch.A LVDT #3 SEC 1 (+)	(HPTC)
D	Ch.A LVDT #6 SEC 1 (+)	(TBV)
E	Ch.A LVDT #6 Excitation (+)	(TBV)
F	Ch.A LVDT #4 Excitation (–)	(LPTC)
G	Ch.A LVDT #4 SEC 1 (+)	(LPTC)
H	Ch.A T/C #3 (AL)	(T495S2)
J	Ch.A T/C #5 (AL)	(T5)
K	Ch.A T/C #6 (AL)	(Spare)
L	Ch.A VRT #2 (–)	(T25)
M	Ch.A VRT #2 (+)	(T25)
N	Ch.A LVDT #1 SEC 1 (+)	(VSV)
P	Ch.A LVDT #1 Excitation (+)	(VSV)
R	Ch.A LVDT #2 Excitation (+)	(VBV)
S	Not Available	
T	Not Available	
U	Ch.A LVDT #3 Excitation (–)	(HPTC)
V	Ch.A LVDT #3 SEC 2 (+)	(HPTC)
W	Ch.A LVDT #6 SEC 2 (+)	(TBV)
X	Ch.A LVDT #6 Excitation (–)	(TBV)
Y	Ch.A LVDT #4 Excitation (+)	(LPTC)
Z	Ch.A LVDT #4 SEC 2 (+)	(LPTC)
a	Ch.A T/C #3 (CHR)	(T495S2)
b	Ch.A T/C #2 (AL)	(T495S1)
c	Ch.A and B T/C #4 (CHR)	(TC)
d	Ch.A T/C #1 (AL)	(T3)
e	Ch.A T/C #5 (CHR)	(T5)
f	Ch.A T/C #6 (CHR)	(Spare)
g	Spare	
h	Ch.A LVDT #1 SEC 2 (+)	(VSV)
k	Ch.A LVDT #1 Excitation (–)	(VSV)
m	Ch.A LVDT #2 Excitation (–)	(VBV)
n	Not Available	
p	Not Available	
q	Ch.A LVDT #3 SEC 1&2 (–)	(HPTC)
r	Ch.A LVDT #6 SEC 1&2 (–)	(TBV)
s	Ch.A LVDT #5 Excitation (–)	(Spare – SAC, DMV – DAC)
t	Ch.A LVDT #4 SEC 1&2 (–)	(LPTC)
u	Ch.A T/C #2 (CHR)	(T495S1)
v	Ch.A and B T/C #4 (AL)	(TC)
w	Ch.A T/C #1 (CHR)	(T3)
x	Ch.A & B Engine Switch #13 (–)	(BSV.1)
y	Spare	
z	Ch.A LVDT #1 SEC 1&2 (–)	(VSV)
AA	Ch.A LVDT #2 SEC 1 (+)	(VBV)
BB	Ch.A LVDT #2 SEC 2 (+)	(VBV)
CC	Ch.A LVDT #5 Excitation (+)	(Spare – SAC, DMV – DAC)
DD	Ch.A LVDT #5 SEC 1 (+)	(Spare – SAC, DMV – DAC)
EE	Ch.A LVDT #5 SEC 2 (+)	(Spare – SAC, DMV – DAC)
FF	Ch.A & B Engine Switch #13 (+)	(BSV.1)
GG	Ch.A LVDT #2 SEC 1&2 (–)	(VBV)
HH	Ch.A LVDT #5 SEC 1 & 2 (–)	(Spare – SAC, DMV – DAC)

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M50TF3816-S1

Table III – FADEC Wiring (Sheet 10 of 10)

TEST AND ENGINE RATING CONNECTOR – P11 MIL–C–38999 19–35–B (66#22)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	Ch.A Monitor ARINC Output (+)	34	Ch.B RS–232 Return
2	Ch.A Monitor ARINC Output (–)	35	Engine Discrete #18–20 Return
3	Signature Resistor (–)	36	Engine Discrete #9
4	Ch.A PSS RS–232 Receive	37	Engine Discrete #15
5	Ch.A Program Enable	38	Engine Discrete #14–17 Return
6	Ch.A Program Enable Return	39	Not Available
7	Ch.A ATP Test Discrete	40	Engine Discrete #10
8	Signature Resistor (+)	41	Engine Discrete #21
9	Ch.B ATP Test Discrete	42	Ch.B Test DAC 2
10	Ch.A CPU RS–232 Receive	43	Ch.B CPU RS–232 Transmit
11	Spare	44	Engine Discrete #19
12	Engine Discrete #4	45	Engine Discrete #7–10 Return
13	Spare	46	Engine Discrete #16
14	Engine Discrete #4–6 Return	47	Engine Discrete #17
15	Engine Discrete #23	48	Engine Discrete #1
16	Spare	49	Not Available
17	Ch.A CPU RS–232 Transmit	50	Ch.B Test DAC 1
18	Not Available	51	Ch.B CPU RS–232 Receive
19	Engine Discrete #5	52	Engine Discrete #20
20	Engine Discrete #11	53	Engine Discrete #1–3 Return
21	Engine Discrete #12	54	Engine Discrete #14
22	Engine Discrete #6	55	Engine Discrete #2
23	Engine Discrete #21, 23 Return	56	Engine Discrete #3
24	Ch.A Test DAC 1	57	Ch.B Program Enable Return
25	Ch.A RS–232 Return	58	Ch.B PSS RS–232 Receive
26	Engine Discrete #18	59	Ch.B Monitor ARINC (+)
27	Engine Discrete #7	60	Ch.B Monitor ARINC (–)
28	Engine Discrete #13	61	Ch.A & B PSS ARINC (+)
29	Engine Discrete #11–13, 22 Return	62	Ch.A & B PSS ARINC (–)
30	Engine Discrete #22	63	Ch.B Program Enable
31	Engine Discrete #8	64	GSE Connected Discrete
32	Test DAC Return	65	GSE/PSS Discrete Return
33	Ch.A Test DAC 2	66	PSS Simulation Enable

FADEC Fault Report

Setup Information:

Author: T. Sorg

Definition File:	7b5fa00.dcd	Part Number:	1853M78P25
Input File:	N9120A00.RTV, N9120B00.RTV	Serial Number:	LMDN9120
Report File:	R9120000_200512141003.rtf	Channels:	A and B

File Information:

Input File Date: MAR 04, 1988 08:01 AM
Input File Path: A:\

Report File Date: DEC 14, 2005 10:03 AM
Report File Path: C:\Fadec Maintenance Software\DATA\

Program Information:

NVM Utility Program Version: v3.1

ECU Part Number:

Definition File	Channel A	Channel B
1853M78P25	1853M78P25	1853M78P25

ECU Software Version:

Definition File	Channel A	Channel B
7B5F	7B5F	7B5F

Number of Faults:

Type:	Chan A	Chan B	Total
Last 10 No Dispatch Faults	0	0	0
Last 10 Alternate Mode Faults	0	0	0
Last 10 Short Time Dispatch Faults	0	0	0
Last 10 Long Time Dispatch Faults	1	2	3
Last 10 Economic Dispatch Faults	0	0	0

Comments:

None

Checksums:

	Channel A:
AS Checksum	
Expected:	871EA3F0
Calculated:	871EA3F0
AS Adjustment Checksum	
Expected:	AC6041
Calculated:	AC6041
OS Adjustment Checksum	
Expected:	833BE
Calculated:	833BE
NVM Maintenance Checksum	
Expected:	10BDA9
Calculated:	10BDA9

Control Learning Checksum	
Expected:	C799F
Calculated:	C799F

Fault Group: Last 10 Long Time Dispatch Faults

Fault Record: 1 Fault Code: 0A9h (169d)
Fault Class: C Description: ADIRU1/2 TAT DATA FRM DEU1/2 IS MISSING
ATA#: 73-11-69-N/A LRU's: N/A

Independent Snapshot Data

Fault Location (1-10)	= 0x01
Fault Storage NVM Zone Number	= 0x04
Fault_History	= 0100000000000000
SET Fault occurred in current leg	= Bit 14
Selected Fan Rotational Speed	= 1403.0000 RPM
Selected Core Rotational Speed	= 10116 RPM
Sel. Exhaust Gas Total Temp.	= 486.7500 DEG_C
Selected TRA Position	= 41.0000 DEGREES
Selected Amb. Static Pressure	= 1.4441E+01 PSIA
Sel. Comp. Deliv. Static Pres.	= 55.0000 PSIA
Selected ECU Temperature	= 1.8008E+01 DEG_C
N1 Command	= 843.5000 RPM
Sel. Fan Inlet Total Temp.	= -7.8125E-02 DEG_C
Est. T25 Inlet Total Temp.	= 2.7656E+00 DEG_C
Selected FMV Position	= 1.3035E+01 PERCENT
Selected VSV Position	= 2.8577E+00 INCHES
Selected VBV Position	= 34.3906 DEGREES
Controlling Regulator	= 3
EDL_CHSTSWRD	= x1xxxxxxxxxxxxx

```
                                Page 3
_Channel A - Independent Snapshot Data Continued
Serial# : LMDN9120                              DEC 14, 2005   10:03 AM


       SET   Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     DATA LSBS(3)|SDI(2)|SM(2)|0               = 0x0F
     ARINC Bus 1 L211 Label LSB->MS            = 0x89 LABEL
     DATA LSBS(3)|SDI(2)|SM(2)|0               = 0x17
     ARINC Bus 2 L211 Label LSB->MS            = 0x89 LABEL
     Cross-Channel ADC1L211 LVS                = 3 0:VALID
     Cross-Channel ADC2L211 LVS                = 3 0:VALID
     EDL_CHHLTWD1                              = xx000000xxxxxx00
       CLEAR CH. HEALTH G1FLT                  = Bit 13
       CLEAR CH. HEALTH TM1 FAULT              = Bit 12
       CLEAR CH. HEALTH TM2 FAULT              = Bit 11
       CLEAR CH. HEALTH TM3 FAULT              = Bit 10
       CLEAR CH. HEALTH LCHCCDLFLT             = Bit 09
       CLEAR LOSS OF CRITICAL PRESSURE FLT     = Bit 08
       CLEAR CH. HEALTH ALT POWER FAULT        = Bit 01
       CLEAR CH. HEALTH SOL. 2 FAULT           = Bit 00
     EDL_CHHLTWD2                              = 0000x00000xx0000
       CLEAR CH. HEALTH SOL. 3 FAULT           = Bit 15
       CLEAR CH. HEALTH TRINLK FAULT           = Bit 14
       CLEAR CH. HEALTH NVM FAULT              = Bit 13
       CLEAR CH. HEALTH SOL. 1 FAULT           = Bit 12
       CLEAR CH. HEALTH SOL. 4 OR 5 FAULT      = Bit 10
       CLEAR CH. HEALTH TM4 FAULT              = Bit 09
       CLEAR CH. HEALTH TM5 FAULT              = Bit 08
       CLEAR CH. HEALTH TM6 FAULT              = Bit 07
       CLEAR CH. HEALTH ARINC FAULT            = Bit 06
       CLEAR CH. HEALTH 115V AVAIL. FLT        = Bit 03
       CLEAR CH. HEALTH LAST ACTIVE FLT        = Bit 02
       CLEAR CH. HEALTH STANDBY FAULT          = Bit 01
       CLEAR CH. HEALTH CHDSG FAULT            = Bit 00
     BDL_FLTWRD1                               = xxxxxxx000000000

                                Page 4
_Channel A - Dependent Snapshot Data Continued
Serial# : LMDN9120                              DEC 14, 2005   10:03 AM


       CLEAR BOOT PROM CHKSUM TEST FAIL        = Bit 08
       CLEAR FAULT RELAY TEST FAIL             = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL       = Bit 06
       CLEAR WDM TEST FAIL                     = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL           = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL        = Bit 03
       CLEAR CPU TEST FAIL                     = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL           = Bit 01
       CLEAR RAM TEST FAIL                     = Bit 00
     BDL_FLTWRD2                               = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL     = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL       = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL         = Bit 10
       CLEAR OS AREA NVM TEST FAIL             = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL       = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL    = Bit 02
       CLEAR NVM TEST FAIL                     = Bit 00
     EDL_FLTWRD                                = 0000000000000000
       CLEAR MINOR FRAME TIME CALC FAULT       = Bit 15
```

```
       CLEAR CHANNEL SYNC FAULT               = Bit 14
       CLEAR PRESSURE LABEL FAULT FLAG        = Bit 13
       CLEAR TYPE B FAULT                     = Bit 12
       CLEAR ILLEGAL INSTRUCTION FAULT        = Bit 11
       CLEAR BUS ERROR FAULT                  = Bit 10
       CLEAR ZERO DIVIDE FAULT                = Bit 09
       CLEAR TYPE C FAULT                     = Bit 08
       CLEAR BACKGROUND OVERRUN FAULT         = Bit 07
       CLEAR FOREGROUND OVERRUN FAULT         = Bit 06
       CLEAR ADDRESS ERROR INTERRUPT FAULT    = Bit 05
       CLEAR GENERAL INTERRUPT FAULT          = Bit 04
       CLEAR SYNC COMMAND WRAPAROUND FAULT    = Bit 03
       CLEAR ECM WDM RESET FAULT              = Bit 02
       CLEAR MAJOR FRAME SYNC FAULT           = Bit 01
       CLEAR CCDL FAULT FLAG                  = Bit 00
```

Control Learning Data:

```
                                    Page 5
_Channel A - Control Learning Data Continued
Serial# : LMDN9120                              DEC 14, 2005   10:03 AM
```

	Channel A:
Engine Position	1
Engine On Time (esstaind=run)	1565.7771 Hours
ECU On Time	1577.2303 Hours
Maximum ECU Temperature	64.3125 DEG_C
ECU Time Above Overtemp Limit	0.0000 Hours
Latched ECU Overtemp Flag	0
Peak N1 last engine cycle	5112.0000 RPM
N1 > RdLn Lst EngCyc 120ms/CNT	0 CNTS
Peak N2 last engine cycle	14108 RPM
N2 > RdLn Lst EngCyc 120ms/CNT	0 CNTS
Peak EGT last engine cycle	769.2500 DEG_C
EGT> RdLn Lst EngCyc 120ms/CNT	0 CNTS
Engine at Max (N2K25 > 12000)	1094.1830 Hours
Engine Cycle Counter	785
Flight Leg Counter	744
Number of start cycles	773
Number of relights	3
Engine Family Number	0x0890
Eng ID Val. Stat (0:valid)	0
Current Engine Serial Number	0x0899
Base Rating	4
Overboost Rating	4
N1 Trim Number	3
N1 Trim VST 0:valid 3:invalid	0
PMUX Inhibit (1 = inhibited)	1
Combustor/Fuel System Config	0
Flight Leg Synchronization Msk	0
Hardware Adjustment Checksum	0x00AC6041
Bump	0
Engine Configuration Val. Stat	0
Engine Rating	4
Engine Thrust	4
Thrust/Config Validation Stat.	0
Rating Validation Status	0

```
                                    Page 6
_Channel A - Control Learning Data Continued
Serial# : LMDN9120                              DEC 14, 2005   10:03 AM
```

7B Plug Installed (1=7B Plug)	1
Thrust Validation Status	0
Auto Ign. Disc. Wd. (1=enabld)	0x0000
Burner Staging Valve Config	0x0000
FMV Sensor Max Difference	0x001D
Adjustments RAM corruption cnt	0
Pointer RAM corruption cnt	0
State Var RAM corruption cnt	0
Total Peak EGT Value	857.5000 DEG_C
EGT Over RdLn Total Time	0 CNTS
SubIdle EGT Flight Value	474.5000 DEG_C
SubIdle EGT Ovr RdLn Flgt Time	0 CNTS
SubIdle Total Peak EGT Value	556.0000 DEG_C
SubIdle EGT Over RdLn Tot Time	0 CNTS
Worst minor frame time	1.4110E+01 mSec
Worst major frame time	216.1250 mSec
Worst minor frame count	3
Exception program counter	0x00000000
CPU_FAULT_WORD	xxx00000xx0xxxxx
CLEAR Type B fault	Bit 12
CLEAR Illegal instruction fault	Bit 11
CLEAR Bus error fault	Bit 10
CLEAR Zero divide fault	Bit 09
CLEAR Type C fault	Bit 08
CLEAR Address fault	Bit 05
Last active channel 1 = lstatv	1
Worst background time	3090 mSec
OS RAM corruption counter	0

Channel B.....Channel B.....Channel B.....Channel B.....Channel B.....

Checksums:

	Channel B:
AS Checksum	
Expected:	871EA3F0
Calculated:	871EA3F0
AS Adjustment Checksum	
Expected:	AC6041
Calculated:	AC6041
OS Adjustment Checksum	
Expected:	8F2FC
Calculated:	8F2FC
NVM Maintenance Checksum	
Expected:	1BEB04
Calculated:	1BEB04
Control Learning Checksum	
Expected:	D5B2C
Calculated:	D5B2C

Fault Group: Last 10 Long Time Dispatch Faults

```
     Fault Record: 1              Fault Code:  0A9h (169d)
     Fault Class:  C              Description: ADIRU1/2 TAT DATA FRM DEU1/2 IS
MISSING
     ATA#:         73-21-69-N/A   LRU's:       N/A
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x02
     Fault Storage NVM Zone Number            = 0x04

                                  Page 8
_Channel B - Independent Snapshot Data Continued
Serial# : LMDN9120                                   DEC 14, 2005   10:03 AM


     Fault_History                            = 0100000000000000
       SET   Fault occurred in current leg    = Bit 14
     Selected Fan Rotational Speed            = 1407.0000 RPM
     Selected Core Rotational Speed           = 10184 RPM
     Sel. Exhaust Gas Total Temp.             = 484.7500 DEG_C
     Selected TRA Position                    = 41.0234 DEGREES
     Selected Amb. Static Pressure            = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 53.1875 PSIA
     Selected ECU Temperature                 = 1.8008E+01 DEG_C
     N1 Command                               = 843.5000 RPM
     Sel. Fan Inlet Total Temp.               = -7.0312E-02 DEG_C
     Est. T25 Inlet Total Temp.               = 2.8281E+00 DEG_C
     Selected FMV Position                    = 9.5508E+00 PERCENT
     Selected VSV Position                    = 2.8547E+00 INCHES
     Selected VBV Position                    = 34.4062 DEGREES
     Controlling Regulator                    = 16
     EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     DATA LSBS(3)|SDI(2)|SM(2)|0              = 0x0F
     ARINC Bus 1 L211 Label LSB->MS           = 0x89 LABEL
     DATA LSBS(3)|SDI(2)|SM(2)|0              = 0x17
     ARINC Bus 2 L211 Label LSB->MS           = 0x89 LABEL
     Cross-Channel ADC1L211 LVS               = 3 0:VALID
     Cross-Channel ADC2L211 LVS               = 3 0:VALID
     EDL_CHHLTWD1                             = xx000000xxxxxx00
       CLEAR CH. HEALTH G1FLT                 = Bit 13
       CLEAR CH. HEALTH TM1 FAULT             = Bit 12
       CLEAR CH. HEALTH TM2 FAULT             = Bit 11
       CLEAR CH. HEALTH TM3 FAULT             = Bit 10
       CLEAR CH. HEALTH LCHCCDLFLT            = Bit 09
       CLEAR LOSS OF CRITICAL PRESSURE FLT    = Bit 08

                                  Page 9
_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9120                                   DEC 14, 2005   10:03 AM


       CLEAR CH. HEALTH ALT POWER FAULT       = Bit 01
       CLEAR CH. HEALTH SOL. 2 FAULT          = Bit 00
     EDL_CHHLTWD2                             = 0000x00000xx0111
```

```
       CLEAR CH. HEALTH SOL. 3 FAULT          = Bit 15
       CLEAR CH. HEALTH TRINLK FAULT          = Bit 14
       CLEAR CH. HEALTH NVM FAULT             = Bit 13
       CLEAR CH. HEALTH SOL. 1 FAULT          = Bit 12
       CLEAR CH. HEALTH SOL. 4 OR 5 FAULT     = Bit 10
       CLEAR CH. HEALTH TM4 FAULT             = Bit 09
       CLEAR CH. HEALTH TM5 FAULT             = Bit 08
       CLEAR CH. HEALTH TM6 FAULT             = Bit 07
       CLEAR CH. HEALTH ARINC FAULT           = Bit 06
       CLEAR CH. HEALTH 115V AVAIL. FLT       = Bit 03
       SET   CH. HEALTH LAST ACTIVE FLT       = Bit 02
       SET   CH. HEALTH STANDBY FAULT         = Bit 01
       SET   CH. HEALTH CHDSG FAULT           = Bit 00
     BDL_FLTWRD1                              = xxxxxxx000000000
       CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
       CLEAR FAULT RELAY TEST FAIL            = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
       CLEAR WDM TEST FAIL                    = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
       CLEAR CPU TEST FAIL                    = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
       CLEAR RAM TEST FAIL                    = Bit 00
     BDL_FLTWRD2                              = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
       CLEAR OS AREA NVM TEST FAIL            = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
       CLEAR NVM TEST FAIL                    = Bit 00
     EDL_FLTWRD                               = 0000000000000000

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_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9120                                DEC 14, 2005   10:03 AM



       CLEAR MINOR FRAME TIME CALC FAULT      = Bit 15
       CLEAR CHANNEL SYNC FAULT               = Bit 14
       CLEAR PRESSURE LABEL FAULT FLAG        = Bit 13
       CLEAR TYPE B FAULT                     = Bit 12
       CLEAR ILLEGAL INSTRUCTION FAULT        = Bit 11
       CLEAR BUS ERROR FAULT                  = Bit 10
       CLEAR ZERO DIVIDE FAULT                = Bit 09
       CLEAR TYPE C FAULT                     = Bit 08
       CLEAR BACKGROUND OVERRUN FAULT         = Bit 07
       CLEAR FOREGROUND OVERRUN FAULT         = Bit 06
       CLEAR ADDRESS ERROR INTERRUPT FAULT    = Bit 05
       CLEAR GENERAL INTERRUPT FAULT          = Bit 04
       CLEAR SYNC COMMAND WRAPAROUND FAULT    = Bit 03
       CLEAR ECM WDM RESET FAULT              = Bit 02
       CLEAR MAJOR FRAME SYNC FAULT           = Bit 01
       CLEAR CCDL FAULT FLAG                  = Bit 00
```

Fault Group: Last 10 Long Time Dispatch Faults

```
     Fault Record: 2              Fault Code:  051h ( 81d)
     Fault Class:  BETA           Description: THE T12 SIGNAL IS OUT OF RANGE
     ATA#:         73-20-81-T12 SELRU's:       T12 SENSOR, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x01
     Fault Storage NVM Zone Number            = 0x04
     Fault_History                            = 0100000000000000
       SET   Fault occurred in current leg    = Bit 14
     Selected Fan Rotational Speed            = 1406.0000 RPM
     Selected Core Rotational Speed           = 10112 RPM

                                  Page 11
_Channel B - Independent Snapshot Data Continued
Serial# : LMDN9120                                DEC 14, 2005   10:03 AM


     Sel. Exhaust Gas Total Temp.             = 487.7500 DEG_C
     Selected TRA Position                    = 40.9766 DEGREES
     Selected Amb. Static Pressure            = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 55.1250 PSIA
     Selected ECU Temperature                 = 1.8008E+01 DEG_C
     N1 Command                               = 843.5000 RPM
     Sel. Fan Inlet Total Temp.               = -3.0469E-01 DEG_C
     Est. T25 Inlet Total Temp.               = 1.9062E+00 DEG_C
     Selected FMV Position                    = 1.3238E+01 PERCENT
     Selected VSV Position                    = 2.8574E+00 INCHES
     Selected VBV Position                    = 34.3984 DEGREES
     Controlling Regulator                    = 3
     EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     Buffered T12 Raw Input                   = 3313.5000 COUNTS
     ECU TEMPERATURE AMBIENT                  = -75.0000 COUNTS
     T12 Reference Input Conversion           = 200.1250 OHMS
     Validated Fan Inlet Total Temp           = 1.6406E-01 DEG_C
     EDL_CHHLTWD1                             = xx000000xxxxxx00
       CLEAR CH. HEALTH G1FLT                 = Bit 13
       CLEAR CH. HEALTH TM1 FAULT             = Bit 12
       CLEAR CH. HEALTH TM2 FAULT             = Bit 11
       CLEAR CH. HEALTH TM3 FAULT             = Bit 10
       CLEAR CH. HEALTH LCHCCDLFLT            = Bit 09
       CLEAR LOSS OF CRITICAL PRESSURE FLT    = Bit 08
       CLEAR CH. HEALTH ALT POWER FAULT       = Bit 01
       CLEAR CH. HEALTH SOL. 2 FAULT          = Bit 00
     EDL_CHHLTWD2                             = 0000x00000xx0111
       CLEAR CH. HEALTH SOL. 3 FAULT          = Bit 15
       CLEAR CH. HEALTH TRINLK FAULT          = Bit 14
       CLEAR CH. HEALTH NVM FAULT             = Bit 13

                                  Page 12
_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9120                                DEC 14, 2005   10:03 AM


       CLEAR CH. HEALTH SOL. 1 FAULT          = Bit 12
       CLEAR CH. HEALTH SOL. 4 OR 5 FAULT     = Bit 10
       CLEAR CH. HEALTH TM4 FAULT             = Bit 09
       CLEAR CH. HEALTH TM5 FAULT             = Bit 08
       CLEAR CH. HEALTH TM6 FAULT             = Bit 07
       CLEAR CH. HEALTH ARINC FAULT           = Bit 06
       CLEAR CH. HEALTH 115V AVAIL. FLT       = Bit 03
       SET   CH. HEALTH LAST ACTIVE FLT       = Bit 02
       SET   CH. HEALTH STANDBY FAULT         = Bit 01
       SET   CH. HEALTH CHDSG FAULT           = Bit 00
     BDL_FLTWRD1                              = xxxxxxx000000000
```

```
       CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
       CLEAR FAULT RELAY TEST FAIL            = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
       CLEAR WDM TEST FAIL                    = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
       CLEAR CPU TEST FAIL                    = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
       CLEAR RAM TEST FAIL                    = Bit 00
     BDL_FLTWRD2                              = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
       CLEAR OS AREA NVM TEST FAIL            = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
       CLEAR NVM TEST FAIL                    = Bit 00
     EDL_FLTWRD                               = 0000000000000000
       CLEAR MINOR FRAME TIME CALC FAULT      = Bit 15
       CLEAR CHANNEL SYNC FAULT               = Bit 14
       CLEAR PRESSURE LABEL FAULT FLAG        = Bit 13
       CLEAR TYPE B FAULT                     = Bit 12
       CLEAR ILLEGAL INSTRUCTION FAULT        = Bit 11
       CLEAR BUS ERROR FAULT                  = Bit 10

                                  Page 13
_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9120                          DEC 14, 2005   10:03 AM


       CLEAR ZERO DIVIDE FAULT                = Bit 09
       CLEAR TYPE C FAULT                     = Bit 08
       CLEAR BACKGROUND OVERRUN FAULT         = Bit 07
       CLEAR FOREGROUND OVERRUN FAULT         = Bit 06
       CLEAR ADDRESS ERROR INTERRUPT FAULT    = Bit 05
       CLEAR GENERAL INTERRUPT FAULT          = Bit 04
       CLEAR SYNC COMMAND WRAPAROUND FAULT    = Bit 03
       CLEAR ECM WDM RESET FAULT              = Bit 02
       CLEAR MAJOR FRAME SYNC FAULT           = Bit 01
       CLEAR CCDL FAULT FLAG                  = Bit 00
```

Control Learning Data:

	Channel B:
Engine Position	1
Engine On Time (esstaind=run)	1565.6981 Hours
ECU On Time	1577.2843 Hours
Maximum ECU Temperature	68.0938 DEG_C
ECU Time Above Overtemp Limit	0.0000 Hours
Latched ECU Overtemp Flag	0
Peak N1 last engine cycle	5112.0000 RPM
N1 > RdLn Lst EngCyc 120ms/CNT	0 CNTS
Peak N2 last engine cycle	14108 RPM
N2 > RdLn Lst EngCyc 120ms/CNT	0 CNTS
Peak EGT last engine cycle	769.2500 DEG_C
EGT> RdLn Lst EngCyc 120ms/CNT	0 CNTS
Engine at Max (N2K25 > 12000)	1094.1826 Hours
Engine Cycle Counter	785
Flight Leg Counter	744
Number of start cycles	773
Number of relights	2
Engine Family Number	0x0890
Eng ID Val. Stat (0:valid)	0
Current Engine Serial Number	0x0899

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_Channel B - Control Learning Data Continued
Serial# : LMDN9120 DEC 14, 2005 10:03 AM

Base Rating	4
Overboost Rating	4
N1 Trim Number	3
N1 Trim VST 0:valid 3:invalid	0
PMUX Inhibit (1 = inhibited)	1
Combustor/Fuel System Config	0
Flight Leg Synchronization Msk	0
Hardware Adjustment Checksum	0x00AC6041
Bump	0
Engine Configuration Val. Stat	0
Engine Rating	4
Engine Thrust	4
Thrust/Config Validation Stat.	0
Rating Validation Status	0
7B Plug Installed (1=7B Plug)	1
Thrust Validation Status	0
Auto Ign. Disc. Wd. (1=enabld)	0x0000
Burner Staging Valve Config	0x0000
FMV Sensor Max Difference	0x001D
Adjustments RAM corruption cnt	0
Pointer RAM corruption cnt	0
State Var RAM corruption cnt	0
Total Peak EGT Value	857.5000 DEG_C
EGT Over RdLn Total Time	0 CNTS
SubIdle EGT Flight Value	479.2500 DEG_C
SubIdle EGT Ovr RdLn Flgt Time	0 CNTS
SubIdle Total Peak EGT Value	558.7500 DEG_C
SubIdle EGT Over RdLn Tot Time	0 CNTS
Worst minor frame time	1.4095E+01 mSec
Worst major frame time	215.7500 mSec
Worst minor frame count	3
Exception program counter	0x00000000
CPU_FAULT_WORD	xxx00000xx0xxxxx
CLEAR Type B fault	Bit 12
CLEAR Illegal instruction fault	Bit 11

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_Channel B - Control Learning Data Continued
Serial# : LMDN9120 DEC 14, 2005 10:03 AM

CLEAR Bus error fault	Bit 10
CLEAR Zero divide fault	Bit 09
CLEAR Type C fault	Bit 08
CLEAR Address fault	Bit 05
Last active channel 1 = lstatv	0
Worst background time	3075 mSec
OS RAM corruption counter	0

END OF REPORT

FADEC Fault Report

Setup Information:

Author: T. Sorg

Definition File:	7b5fa00.dcd	Part Number:	1853M78P25
Input File:	N9114A00.RTV, N9114B00.RTV	Serial Number:	LMDN9114
Report File:	R9114000_200512141043.rtf	Channels:	A and B

File Information:

Input File Date: MAR 04, 1988 08:00 AM
Input File Path: A:\

Report File Date: DEC 14, 2005 10:43 AM
Report File Path: C:\Fadec Maintenance Software\DATA\

Program Information:

NVM Utility Program Version: v3.1

ECU Part Number:

Definition File	Channel A	Channel B
1853M78P25	1853M78P25	1853M78P25

ECU Software Version:

Definition File	Channel A	Channel B
7B5F	7B5F	7B5F

Number of Faults:

Type:	Chan A	Chan B	Total
Last 10 No Dispatch Faults	9	9	18
Last 10 Alternate Mode Faults	0	0	0
Last 10 Short Time Dispatch Faults	1	1	2
Last 10 Long Time Dispatch Faults	2	10	12
Last 10 Economic Dispatch Faults	2	2	4

Comments:

None

Channel A.....Channel A.....Channel A.....Channel A.....Channel A.....

Checksums:

	Channel A:
AS Checksum	
Expected:	871EA3F0
Calculated:	871EA3F0
AS Adjustment Checksum	
Expected:	AC6041
Calculated:	AC6041
OS Adjustment Checksum	
Expected:	C12B5
Calculated:	C12B5
NVM Maintenance Checksum	
Expected:	73633F
Calculated:	73633F

Control Learning Checksum	
Expected:	B028F
Calculated:	B028F

Fault Group: Last 10 No Dispatch Faults

Fault Record: 1 Fault Code: 027h (39d)
Fault Class: BETA Description: THE VSV POSITION SIGNAL IS OUT OF RANGE
ATA#: 75-10-39-HMU, ELRU's: HMU, EEC

Independent Snapshot Data

Fault Location (1-10)	= 0x09
Fault Storage NVM Zone Number	= 0x01
Fault_History	= 1000000000000000
SET Fault Occurred in Ground Run	= Bit 15
Selected Fan Rotational Speed	= 6215.0000 RPM
Selected Core Rotational Speed	= 17524 RPM
Sel. Exhaust Gas Total Temp.	= 426.0000 DEG_C
Selected TRA Position	= 36.2422 DEGREES
Selected Amb. Static Pressure	= 1.4441E+01 PSIA
Sel. Comp. Deliv. Static Pres.	= 2.0562E+01 PSIA
Selected ECU Temperature	= 2.0375E+01 DEG_C
N1 Command	= 889.0000 RPM
Sel. Fan Inlet Total Temp.	= 3.0000E+01 DEG_C
Est. T25 Inlet Total Temp.	= 164.9688 DEG_C
Selected FMV Position	= -1.1719E-02 PERCENT
Selected VSV Position	= 4.2969E-01 INCHES

```
     Selected VBV Position                    = 42.0000 DEGREES
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x1xxxxxxxxxxxxx

                                  Page 3
_Channel A - Independent Snapshot Data Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


       SET   Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Input VSV LVDT SEC1           = 8189.0000 COUNTS
     Buffrd Raw Input VSV LVDT SEC2           = 8189.0000 COUNTS
     VSV LVDT A REF Input Conversio           = 0.0000 VOLTS
     VSV LVDT B REF Input Conversio           = 0.0000 VOLTS
     VSV Cross-Channel Validated              = 2.7637E+00 INCHES
     VSV Modeled                              = 4.2969E-01 INCHES
     VSV Servo-Actuator Model                 = 3.2319E+00 INCHES
     VSV Selection Status                     = 7 SST
     Cross-Channel VSVVST                     = 3 0:VALID
```

Fault Group: Last 10 No Dispatch Faults

```
     Fault Record: 2              Fault Code:  02Ch ( 44d)
     Fault Class:  BETA           Description: THE VBV POSITION SIGNAL IS OUT
OF RANGE
     ATA#:         75-10-44-VBV ACLRU's:       VBV ACT, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x08
     Fault Storage NVM Zone Number            = 0x01
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 422.0000 DEG_C
     Selected TRA Position                    = 36.2266 DEGREES

                                  Page 4
_Channel A - Independent Snapshot Data Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     Selected Amb. Static Pressure            = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 2.0812E+01 PSIA
     Selected ECU Temperature                 = 2.0375E+01 DEG_C
     N1 Command                               = 889.0000 RPM
     Sel. Fan Inlet Total Temp.               = 3.0000E+01 DEG_C
     Est. T25 Inlet Total Temp.               = 164.9688 DEG_C
     Selected FMV Position                    = -4.6875E-02 PERCENT
     Selected VSV Position                    = 4.3262E-01 INCHES
     Selected VBV Position                    = 42.0000 DEGREES
     Controlling Regulator                    = 10
```

```
     EDL_CHSTSWRD                              = x1xxxxxxxxxxxxx
       SET   Local Channel Active              = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Input VBV LVDT Sec1            = 8189.0000 COUNTS
     Buffrd Raw Input VBV LVDT Sec2            = 8189.0000 COUNTS
     VBV LVDT A REF Input Conversio            = 0.0000 VOLTS
     VBV LVDT B REF Input Conversio            = 0.0000 VOLTS
     VBV Cross-Channel Validated               = 34.5156 DEGREES
     VBV Servo-Actuator Model                  = 36.7578 DEGREES
     VBV Selection Status                      = 7 SST
     VBV Validation Status                     = 3 0:VALID
     Cross-Channel VBVVST                      = 3 0:VALID
```

Fault Group: Last 10 No Dispatch Faults

```
     Fault Record: 3              Fault Code:  03Bh ( 59d)
     Fault Class:  BETA           Description: THE TBV POSITION SIGNAL IS OUT
OF RANGE
     ATA#:         75-10-59-TBV, ELRU's:       TBV, EEC
```

Independent Snapshot Data

```
                                    Page 5
_Channel A - Independent Snapshot Data Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     Fault Location (1-10)                     = 0x07
     Fault Storage NVM Zone Number             = 0x01
     Fault_History                             = 1000000000000000
       SET   Fault Occurred in Ground Run      = Bit 15
     Selected Fan Rotational Speed             = 6215.0000 RPM
     Selected Core Rotational Speed            = 17524 RPM
     Sel. Exhaust Gas Total Temp.              = 426.0000 DEG_C
     Selected TRA Position                     = 36.2188 DEGREES
     Selected Amb. Static Pressure             = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.            = 2.0625E+01 PSIA
     Selected ECU Temperature                  = 2.0375E+01 DEG_C
     N1 Command                                = 889.0000 RPM
     Sel. Fan Inlet Total Temp.                = 3.0000E+01 DEG_C
     Est. T25 Inlet Total Temp.                = 164.9688 DEG_C
     Selected FMV Position                     = -1.1719E-02 PERCENT
     Selected VSV Position                     = 4.2969E-01 INCHES
     Selected VBV Position                     = 42.0000 DEGREES
     Controlling Regulator                     = 10
     EDL_CHSTSWRD                              = x1xxxxxxxxxxxxx
       SET   Local Channel Active              = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Input TBV LVDT Sec1            = 8189.0000 COUNTS
     Buffrd Raw Input TBV LVDT Sec2            = 8189.0000 COUNTS
     TBV LVDT A REF Input Conversio            = 0.0000 VOLTS
```

```
     TBV LVDT B REF Input Conversio          = 0.0000 VOLTS
     Transient Bleed Valve Validate          = 100.0000 PERCENT
     Validated TBV Cross Channel             = 96.2656 PERCENT
     CROSS Channel TBVVSTX                   = 3 0:VALID
     TBV Selection Status                    = 7 SST
     Selected TBV Position                   = 101.0000 PERCENT
     TB Valve Position Demand                = 0.0000 PERCENT
```

Fault Group: Last 10 No Dispatch Faults


```
     Fault Record: 4             Fault Code:  052h ( 82d)
     Fault Class:  BETA          Description: THE T25 SIGNAL IS OUT OF RANGE
     ATA#:         75-10-82-T25 SELRU's:      T25 SENSOR, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                   = 0x06
     Fault Storage NVM Zone Number           = 0x01
     Fault_History                           = 1000000000000000
       SET   Fault Occurred in Ground Run    = Bit 15
     Selected Fan Rotational Speed           = 6215.0000 RPM
     Selected Core Rotational Speed          = 17524 RPM
     Sel. Exhaust Gas Total Temp.            = 424.0000 DEG_C
     Selected TRA Position                   = 36.2344 DEGREES
     Selected Amb. Static Pressure           = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.          = 2.0688E+01 PSIA
     Selected ECU Temperature                = 2.0375E+01 DEG_C
     N1 Command                              = 889.0000 RPM
     Sel. Fan Inlet Total Temp.              = 3.0000E+01 DEG_C
     Est. T25 Inlet Total Temp.              = 164.9688 DEG_C
     Selected FMV Position                   = 1.5625E-02 PERCENT
     Selected VSV Position                   = 4.2676E-01 INCHES
     Selected VBV Position                   = 42.0000 DEGREES
     Controlling Regulator                   = 10
     EDL_CHSTSWRD                            = x1xxxxxxxxxxxxx
       SET   Local Channel Active            = Bit 14
```

Dependent Snapshot Data

```
     Buffered T25 Raw Input                  = 0.0000 COUNTS
     ECU TEMPERATURE AMBIENT                 = -63.0000 COUNTS
     T25 Reference Input Conversion          = 0.0000 OHMS
```



```
     Val HP Comp Inlet Total Temp            = 1.5000E+01 DEG_C
     T25 Cross-Channel Validated Va          = 46.8438 DEG_C
```

```
Cross-Channel T25VST                    = 3 0:VALID
T25 Sensor Estimate                     = 164.9844 DEG_C
IDL_T25MSTWD                            = xxxxxxxxxxxxxxx0
  CLEAR T25 MODEL HEALTH STATUS         = Bit 00
Sel HP Comp Inlet Total Temp            = 164.9844 DEG_C
```

Fault Group: Last 10 No Dispatch Faults

```
Fault Record: 5             Fault Code:  06Dh (109d)
Fault Class:  GAMMA         Description: THE PEO SIGNAL IS OUT OF RANGE
ATA#:         79-11-09-N/A  LRU's:       N/A
```

Independent Snapshot Data

```
Fault Location (1-10)                   = 0x05
Fault Storage NVM Zone Number           = 0x01
Fault_History                           = 1000000000000000
  SET   Fault Occurred in Ground Run    = Bit 15
Selected Fan Rotational Speed           = 6215.0000 RPM
Selected Core Rotational Speed          = 17524 RPM
Sel. Exhaust Gas Total Temp.            = 424.0000 DEG_C
Selected TRA Position                   = 36.2344 DEGREES
Selected Amb. Static Pressure           = 1.4441E+01 PSIA
Sel. Comp. Deliv. Static Pres.          = 2.0500E+01 PSIA
Selected ECU Temperature                = 2.0375E+01 DEG_C
N1 Command                              = 889.0000 RPM
Sel. Fan Inlet Total Temp.              = 3.0000E+01 DEG_C
Est. T25 Inlet Total Temp.              = 164.9688 DEG_C
Selected FMV Position                   = -1.1719E-02 PERCENT
```



```
Selected VSV Position                   = 4.2969E-01 INCHES
Selected VBV Position                   = 42.0000 DEGREES
Controlling Regulator                   = 10
EDL_CHSTSWRD                            = x1xxxxxxxxxxxxxx
  SET   Local Channel Active            = Bit 14
```

Dependent Snapshot Data

```
Buffrd Raw Input PEO LVDT Sec1          = 32756 COUNTS
Buffrd Raw Input PEO LVDT Sec2          = 5516 COUNTS
PEO LVDT A Ref Inpt Conversion          = 3.0674E+00 VOLTS
PEO LVDT B Ref Inpt Conversion          = 1.3152E+00 VOLTS
Val Engine Oil Pressure                 = 0.0000 PSI
Cross-channel Validated PEO             = 2.4688E+01 PSI
Cross-channel PEOVST                    = 3 0:VALID
PEO Selection Status                    = 7 SST
Selected Engine Oil Pressure            = 70.0000 PSI
BDL_FLTWRD1                             = xxxxxxx000000000
  CLEAR BOOT PROM CHKSUM TEST FAIL      = Bit 08
  CLEAR FAULT RELAY TEST FAIL           = Bit 07
  CLEAR MASTER DISCONNECT TEST FAIL     = Bit 06
  CLEAR WDM TEST FAIL                   = Bit 05
```

```
       CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
       CLEAR CPU TEST FAIL                    = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
       CLEAR RAM TEST FAIL                    = Bit 00
```

Fault Group: Last 10 No Dispatch Faults

```
     Fault Record: 6              Fault Code:  06Eh (110d)
     Fault Class:  BETA           Description: THE TEO SIGNAL IS OUT OF RANGE

                                   Page 9
_Channel A - Fault Info Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     ATA#:         79-11-10-N/A   LRU's:       N/A
```

Independent Snapshot Data

```
     Fault Location (1-10)                  = 0x04
     Fault Storage NVM Zone Number          = 0x01
     Fault_History                          = 1000000000000000
       SET   Fault Occurred in Ground Run   = Bit 15
     Selected Fan Rotational Speed          = 6215.0000 RPM
     Selected Core Rotational Speed         = 17524 RPM
     Sel. Exhaust Gas Total Temp.           = 426.0000 DEG_C
     Selected TRA Position                  = 36.2188 DEGREES
     Selected Amb. Static Pressure          = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.         = 2.0625E+01 PSIA
     Selected ECU Temperature               = 2.0375E+01 DEG_C
     N1 Command                             = 889.0000 RPM
     Sel. Fan Inlet Total Temp.             = 3.0000E+01 DEG_C
     Est. T25 Inlet Total Temp.             = 164.9688 DEG_C
     Selected FMV Position                  = -1.1719E-02 PERCENT
     Selected VSV Position                  = 4.2969E-01 INCHES
     Selected VBV Position                  = 42.0000 DEGREES
     Controlling Regulator                  = 10
     EDL_CHSTSWRD                           = x1xxxxxxxxxxxxx
       SET   Local Channel Active           = Bit 14
```

Dependent Snapshot Data

```
     Buffered TEO Raw Input                 = 0 COUNTS
     ECU TEMPERATURE AMBIENT                = -63.0000 COUNTS
     TEO Reference Input Conversion         = 0.0000 OHMS
     TEO Cross-Channel Validated Va         = 78.5625 DEG_C
     Cross-Channel TEOVST                   = 3 0:VALID

                                   Page 10
_Channel A - Dependent Snapshot Data Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     TEO Selection Status                   = 7 SST
     Selected Engine Oil Temperatur         = 170.0000 DEG_C
```

```
BDL_FLTWRD1                              = xxxxxxx000000000
  CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
  CLEAR FAULT RELAY TEST FAIL            = Bit 07
  CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
  CLEAR WDM TEST FAIL                    = Bit 05
  CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
  CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
  CLEAR CPU TEST FAIL                    = Bit 02
  CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
  CLEAR RAM TEST FAIL                    = Bit 00
BDL_FLTWRD2                              = x0xx00xxx0xx00x0
  CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
  CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
  CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
  CLEAR OS AREA NVM TEST FAIL            = Bit 06
  CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
  CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
  CLEAR NVM TEST FAIL                    = Bit 00
```

Fault Group: Last 10 No Dispatch Faults

```
Fault Record: 7              Fault Code:  075h (117d)
Fault Class:  BETA           Description: THE N1 SIGNAL IS OUT OF RANGE
ATA#:         77-11-17-N1 SENLRU's:       N1 SENSOR, EEC
```

Independent Snapshot Data

```
Fault Location (1-10)                    = 0x03
Fault Storage NVM Zone Number            = 0x01
```



```
Fault_History                            = 1000000000000000
  SET   Fault Occurred in Ground Run     = Bit 15
Selected Fan Rotational Speed            = 6215.0000 RPM
Selected Core Rotational Speed           = 17524 RPM
Sel. Exhaust Gas Total Temp.             = 424.0000 DEG_C
Selected TRA Position                    = 36.2344 DEGREES
Selected Amb. Static Pressure            = 1.4441E+01 PSIA
Sel. Comp. Deliv. Static Pres.           = 2.0688E+01 PSIA
Selected ECU Temperature                 = 2.0375E+01 DEG_C
N1 Command                               = 889.0000 RPM
Sel. Fan Inlet Total Temp.               = 3.0000E+01 DEG_C
Est. T25 Inlet Total Temp.               = 164.9688 DEG_C
Selected FMV Position                    = -1.1719E-02 PERCENT
Selected VSV Position                    = 4.2969E-01 INCHES
Selected VBV Position                    = 42.0000 DEGREES
Controlling Regulator                    = 10
EDL_CHSTSWRD                             = x1xxxxxxxxxxxxxx
  SET   Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
N1 REGISTER 1 RAW INPUT                  = 0 COUNTS
```

```
     N1 REGISTER 2 RAW INPUT                  = 32768 COUNTS
     Val Fan Rotational Speed                 = 0.0000 RPMS
     N1ACT Cross-Ch Validated Value           = 1843.5000 RPMS
     Cross Channel N1ACTVST                   = 3
     Modeled Fan Rotational Speed             = 6215.0000 RPM
     N1ACT Selection Status                   = 7 N1ACT
     Selected Fan Rotational Speed            = 6215.0000 RPM
     BDL_FLTWRD1                              = xxxxxxx000000000
       CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
       CLEAR FAULT RELAY TEST FAIL            = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
       CLEAR WDM TEST FAIL                    = Bit 05

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_Channel A - Dependent Snapshot Data Continued
Serial# : LMDN9114                                DEC 14, 2005   10:43 AM


       CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
       CLEAR CPU TEST FAIL                    = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
       CLEAR RAM TEST FAIL                    = Bit 00
     BDL_FLTWRD2                              = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
       CLEAR OS AREA NVM TEST FAIL            = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
       CLEAR NVM TEST FAIL                    = Bit 00
```

Fault Group: Last 10 No Dispatch Faults

```
     Fault Record: 8              Fault Code:  076h (118d)
     Fault Class:  BETA           Description: THE N2 SIGNAL IS OUT OF RANGE
     ATA#:         77-11-18-N2 SENLRU's:       N2 SENSOR, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x02
     Fault Storage NVM Zone Number            = 0x01
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 424.0000 DEG_C
     Selected TRA Position                    = 36.2344 DEGREES
     Selected Amb. Static Pressure            = 1.4441E+01 PSIA

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_Channel A - Independent Snapshot Data Continued
Serial# : LMDN9114                                DEC 14, 2005   10:43 AM


     Sel. Comp. Deliv. Static Pres.           = 2.0688E+01 PSIA
     Selected ECU Temperature                 = 2.0375E+01 DEG_C
     N1 Command                               = 889.0000 RPM
```

```
Sel. Fan Inlet Total Temp.                = 3.0000E+01 DEG_C
Est. T25 Inlet Total Temp.                = 164.9688 DEG_C
Selected FMV Position                     = -1.1719E-02 PERCENT
Selected VSV Position                     = 4.2969E-01 INCHES
Selected VBV Position                     = 42.0000 DEGREES
Controlling Regulator                     = 10
EDL_CHSTSWRD                              = x1xxxxxxxxxxxxx
  SET   Local Channel Active              = Bit 14
```

Dependent Snapshot Data

```
N2 REGISTER 1 RAW INPUT                   = 0 COUNTS
N2 REGISTER 2 RAW INPUT                   = 32768 COUNTS
Val Core Rotational Speed                 = 0.0000 RPM
N2ACT Cross-Ch Validated Value            = 12406.0000 RPMS
Cross-Channel N2ACTVST                    = 3
Modeled Core Rotational Speed             = 17524.0000 RPM
```

Fault Group: Last 10 No Dispatch Faults

```
Fault Record: 9              Fault Code:  084h (132d)
Fault Class:  A              Description: ENG IDENT SIGNAL OUT OF RANGE
ATA#:         73-11-32-EEC, ELRU's:       EEC, ENGINE RATING PLUG
```

Independent Snapshot Data

```
Fault Location (1-10)                     = 0x01
```



```
Fault Storage NVM Zone Number             = 0x01
Fault_History                             = 1000000000000000
  SET   Fault Occurred in Ground Run      = Bit 15
Selected Fan Rotational Speed             = 6215.0000 RPM
Selected Core Rotational Speed            = 17524 RPM
Sel. Exhaust Gas Total Temp.              = 424.0000 DEG_C
Selected TRA Position                     = 36.2344 DEGREES
Selected Amb. Static Pressure             = 1.4441E+01 PSIA
Sel. Comp. Deliv. Static Pres.            = 2.0625E+01 PSIA
Selected ECU Temperature                  = 2.0375E+01 DEG_C
N1 Command                                = 889.0000 RPM
Sel. Fan Inlet Total Temp.                = 3.0000E+01 DEG_C
Est. T25 Inlet Total Temp.                = 164.9688 DEG_C
Selected FMV Position                     = -1.1719E-02 PERCENT
Selected VSV Position                     = 4.2969E-01 INCHES
Selected VBV Position                     = 42.0000 DEGREES
Controlling Regulator                     = 10
EDL_CHSTSWRD                              = x1xxxxxxxxxxxxx
  SET   Local Channel Active              = Bit 14
```

Dependent Snapshot Data

```
VDL_ENGIDIWRD1                            = 1111111111111111
```

```
       SET   ENGINE ID DISCRETE #16          = Bit 15
       SET   ENGINE ID DISCRETE #15          = Bit 14
       SET   ENGINE ID DISCRETE #14          = Bit 13
       SET   ENGINE ID DISCRETE #13          = Bit 12
       SET   ENGINE ID DISCRETE #12          = Bit 11
       SET   ENGINE ID DISCRETE #11          = Bit 10
       SET   ENGINE ID DISCRETE #10          = Bit 09
       SET   ENGINE ID DISCRETE #09          = Bit 08
       SET   ENGINE ID DISCRETE #08          = Bit 07
       SET   ENGINE ID DISCRETE #07          = Bit 06
       SET   ENGINE ID DISCRETE #06          = Bit 05
```



```
       SET   ENGINE ID DISCRETE #05          = Bit 04
       SET   ENGINE ID DISCRETE #04          = Bit 03
       SET   ENGINE ID DISCRETE #03          = Bit 02
       SET   ENGINE ID DISCRETE #02          = Bit 01
       SET   ENGINE ID DISCRETE #01          = Bit 00
     VDL_ENGIDIWRD2                          = xxxxx11111111111
       SET   EXTERNAL PROGRAM ENABLE         = Bit 10
       SET   PRESSURE SIMULATION ENABLE      = Bit 09
       SET   H/W MASTER LEVER ON             = Bit 08
       SET   SPARE BIT                       = Bit 07
       SET   ENGINE ID DISCRETE #23          = Bit 06
       SET   ENGINE ID DISCRETE #22          = Bit 05
       SET   ENGINE ID DISCRETE #21          = Bit 04
       SET   ENGINE ID DISCRETE #20          = Bit 03
       SET   ENGINE ID DISCRETE #19          = Bit 02
       SET   ENGINE ID DISCRETE #18          = Bit 01
       SET   ENGINE ID DISCRETE #17          = Bit 00
     EDL_CHHLTWD1                            = xx000000xxxxxx10
       CLEAR CH. HEALTH G1FLT                = Bit 13
       CLEAR CH. HEALTH TM1 FAULT            = Bit 12
       CLEAR CH. HEALTH TM2 FAULT            = Bit 11
       CLEAR CH. HEALTH TM3 FAULT            = Bit 10
       CLEAR CH. HEALTH LCHCCDLFLT           = Bit 09
       CLEAR LOSS OF CRITICAL PRESSURE FLT   = Bit 08
       SET   CH. HEALTH ALT POWER FAULT      = Bit 01
       CLEAR CH. HEALTH SOL. 2 FAULT         = Bit 00
     EDL_CHHLTWD2                            = 0000x00000xx0000
       CLEAR CH. HEALTH SOL. 3 FAULT         = Bit 15
       CLEAR CH. HEALTH TRINLK FAULT         = Bit 14
       CLEAR CH. HEALTH NVM FAULT            = Bit 13
       CLEAR CH. HEALTH SOL. 1 FAULT         = Bit 12
       CLEAR CH. HEALTH SOL. 4 OR 5 FAULT    = Bit 10
       CLEAR CH. HEALTH TM4 FAULT            = Bit 09
       CLEAR CH. HEALTH TM5 FAULT            = Bit 08
       CLEAR CH. HEALTH TM6 FAULT            = Bit 07
```



```
       CLEAR CH. HEALTH ARINC FAULT          = Bit 06
       CLEAR CH. HEALTH 115V AVAIL. FLT      = Bit 03
       CLEAR CH. HEALTH LAST ACTIVE FLT      = Bit 02
       CLEAR CH. HEALTH STANDBY FAULT        = Bit 01
```

```
       CLEAR CH. HEALTH CHDSG FAULT           = Bit 00
     BDL_FLTWRD1                              = xxxxxxx000000000
       CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
       CLEAR FAULT RELAY TEST FAIL            = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
       CLEAR WDM TEST FAIL                    = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
       CLEAR CPU TEST FAIL                    = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
       CLEAR RAM TEST FAIL                    = Bit 00
     BDL_FLTWRD2                              = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
       CLEAR OS AREA NVM TEST FAIL            = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
       CLEAR NVM TEST FAIL                    = Bit 00
     EDL_FLTWRD                               = 0000000000000000
       CLEAR MINOR FRAME TIME CALC FAULT      = Bit 15
       CLEAR CHANNEL SYNC FAULT               = Bit 14
       CLEAR PRESSURE LABEL FAULT FLAG        = Bit 13
       CLEAR TYPE B FAULT                     = Bit 12
       CLEAR ILLEGAL INSTRUCTION FAULT        = Bit 11
       CLEAR BUS ERROR FAULT                  = Bit 10
       CLEAR ZERO DIVIDE FAULT                = Bit 09
       CLEAR TYPE C FAULT                     = Bit 08
       CLEAR BACKGROUND OVERRUN FAULT         = Bit 07
       CLEAR FOREGROUND OVERRUN FAULT         = Bit 06
       CLEAR ADDRESS ERROR INTERRUPT FAULT    = Bit 05
```



```
       CLEAR GENERAL INTERRUPT FAULT          = Bit 04
       CLEAR SYNC COMMAND WRAPAROUND FAULT    = Bit 03
       CLEAR ECM WDM RESET FAULT              = Bit 02
       CLEAR MAJOR FRAME SYNC FAULT           = Bit 01
       CLEAR CCDL FAULT FLAG                  = Bit 00
```

Fault Group: Last 10 Short Time Dispatch Faults

```
     Fault Record: 1              Fault Code:  07Fh (127d)
     Fault Class:  ALPHA          Description: ALTERNATOR VOLTAGE TO EEC OUT
OF RANGE
     ATA#:         73-11-27-ALTERNLRU's:       ALTERNATOR, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x01
     Fault Storage NVM Zone Number            = 0x03
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 435.5000 DEG_C
```

```
     Selected TRA Position                    = 36.2266 DEGREES
     Selected Amb. Static Pressure            = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 2.0125E+01 PSIA
     Selected ECU Temperature                 = 2.0344E+01 DEG_C
     N1 Command                               = 889.0000 RPM
     Sel. Fan Inlet Total Temp.               = 3.0000E+01 DEG_C
     Est. T25 Inlet Total Temp.               = 164.9688 DEG_C
     Selected FMV Position                    = -1.1719E-02 PERCENT
     Selected VSV Position                    = 4.2969E-01 INCHES
     Selected VBV Position                    = 42.0000 DEGREES
```



```
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x1xxxxxxxxxxxxxx
       SET   Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     BDL_PWRFLTWRD                            = xxxxxxxxx0100000
       CLEAR 115 VOLT RELAY FAULT FLAG        = Bit 06
       SET   ALTERNATOR POWER FAULT           = Bit 05
       CLEAR PLUS 5V FAULT                    = Bit 04
       CLEAR PLUS 25V FAULT                   = Bit 03
       CLEAR MINUS 25V FAULT                  = Bit 02
       CLEAR PLUS 12V FAULT                   = Bit 01
       CLEAR MINUS 12V FAULT                  = Bit 00
     BDL_RESRAMWRD                            = xxxxxxxxxxxxxxx1
       SET   ALTERNATOR POWER FAULT LATCHED   = Bit 00
     EDL_CHHLTWD1                             = xx000000xxxxxx10
       CLEAR CH. HEALTH G1FLT                 = Bit 13
       CLEAR CH. HEALTH TM1 FAULT             = Bit 12
       CLEAR CH. HEALTH TM2 FAULT             = Bit 11
       CLEAR CH. HEALTH TM3 FAULT             = Bit 10
       CLEAR CH. HEALTH LCHCCDLFLT            = Bit 09
       CLEAR LOSS OF CRITICAL PRESSURE FLT    = Bit 08
       SET   CH. HEALTH ALT POWER FAULT       = Bit 01
       CLEAR CH. HEALTH SOL. 2 FAULT          = Bit 00
     EDL_CHHLTWD2                             = 0000x00000xx0000
       CLEAR CH. HEALTH SOL. 3 FAULT          = Bit 15
       CLEAR CH. HEALTH TRINLK FAULT          = Bit 14
       CLEAR CH. HEALTH NVM FAULT             = Bit 13
       CLEAR CH. HEALTH SOL. 1 FAULT          = Bit 12
       CLEAR CH. HEALTH SOL. 4 OR 5 FAULT     = Bit 10
       CLEAR CH. HEALTH TM4 FAULT             = Bit 09
       CLEAR CH. HEALTH TM5 FAULT             = Bit 08
       CLEAR CH. HEALTH TM6 FAULT             = Bit 07
```



```
       CLEAR CH. HEALTH ARINC FAULT           = Bit 06
       CLEAR CH. HEALTH 115V AVAIL. FLT       = Bit 03
       CLEAR CH. HEALTH LAST ACTIVE FLT       = Bit 02
       CLEAR CH. HEALTH STANDBY FAULT         = Bit 01
       CLEAR CH. HEALTH CHDSG FAULT           = Bit 00
```

```
BDL_FLTWRD1                              = xxxxxxx000000000
  CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
  CLEAR FAULT RELAY TEST FAIL            = Bit 07
  CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
  CLEAR WDM TEST FAIL                    = Bit 05
  CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
  CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
  CLEAR CPU TEST FAIL                    = Bit 02
  CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
  CLEAR RAM TEST FAIL                    = Bit 00
BDL_FLTWRD2                              = x0xx00xxx0xx00x0
  CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
  CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
  CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
  CLEAR OS AREA NVM TEST FAIL            = Bit 06
  CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
  CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
  CLEAR NVM TEST FAIL                    = Bit 00
EDL_FLTWRD                               = 0000000000000000
  CLEAR MINOR FRAME TIME CALC FAULT      = Bit 15
  CLEAR CHANNEL SYNC FAULT               = Bit 14
  CLEAR PRESSURE LABEL FAULT FLAG        = Bit 13
  CLEAR TYPE B FAULT                     = Bit 12
  CLEAR ILLEGAL INSTRUCTION FAULT        = Bit 11
  CLEAR BUS ERROR FAULT                  = Bit 10
  CLEAR ZERO DIVIDE FAULT                = Bit 09
  CLEAR TYPE C FAULT                     = Bit 08
  CLEAR BACKGROUND OVERRUN FAULT         = Bit 07
  CLEAR FOREGROUND OVERRUN FAULT         = Bit 06
  CLEAR ADDRESS ERROR INTERRUPT FAULT    = Bit 05
```



```
  CLEAR GENERAL INTERRUPT FAULT          = Bit 04
  CLEAR SYNC COMMAND WRAPAROUND FAULT    = Bit 03
  CLEAR ECM WDM RESET FAULT              = Bit 02
  CLEAR MAJOR FRAME SYNC FAULT           = Bit 01
  CLEAR CCDL FAULT FLAG                  = Bit 00
```

Fault Group: Last 10 Long Time Dispatch Faults

```
Fault Record: 1              Fault Code:  051h ( 81d)
Fault Class:  BETA           Description: THE T12 SIGNAL IS OUT OF RANGE
ATA#:         73-10-81-T12 SELRU's:       T12 SENSOR, EEC
```

Independent Snapshot Data

```
Fault Location (1-10)                    = 0x02
Fault Storage NVM Zone Number            = 0x04
Fault_History                            = 1000000000000000
  SET   Fault Occurred in Ground Run     = Bit 15
Selected Fan Rotational Speed            = 6215.0000 RPM
Selected Core Rotational Speed           = 17524 RPM
Sel. Exhaust Gas Total Temp.             = 424.0000 DEG_C
Selected TRA Position                    = 36.2344 DEGREES
Selected Amb. Static Pressure            = 1.4441E+01 PSIA
```

```
     Sel. Comp. Deliv. Static Pres.          = 2.0688E+01 PSIA
     Selected ECU Temperature                = 2.0375E+01 DEG_C
     N1 Command                              = 889.0000 RPM
     Sel. Fan Inlet Total Temp.              = 3.0000E+01 DEG_C
     Est. T25 Inlet Total Temp.              = 164.9688 DEG_C
     Selected FMV Position                   = 1.5625E-02 PERCENT
     Selected VSV Position                   = 4.2676E-01 INCHES
     Selected VBV Position                   = 42.0000 DEGREES
```



```
     Controlling Regulator                   = 10
     EDL_CHSTSWRD                            = x1xxxxxxxxxxxxx
       SET   Local Channel Active            = Bit 14
```

Dependent Snapshot Data

```
     Buffered T12 Raw Input                  = 0.0000 COUNTS
     ECU TEMPERATURE AMBIENT                 = -63.0000 COUNTS
     T12 Reference Input Conversion          = 0.0000 OHMS
     Validated Fan Inlet Total Temp          = 1.5000E+01 DEG_C
     EDL_CHHLTWD1                            = xx000000xxxxxx10
       CLEAR CH. HEALTH G1FLT                = Bit 13
       CLEAR CH. HEALTH TM1 FAULT            = Bit 12
       CLEAR CH. HEALTH TM2 FAULT            = Bit 11
       CLEAR CH. HEALTH TM3 FAULT            = Bit 10
       CLEAR CH. HEALTH LCHCCDLFLT           = Bit 09
       CLEAR LOSS OF CRITICAL PRESSURE FLT   = Bit 08
       SET   CH. HEALTH ALT POWER FAULT      = Bit 01
       CLEAR CH. HEALTH SOL. 2 FAULT         = Bit 00
     EDL_CHHLTWD2                            = 0000x00000xx0000
       CLEAR CH. HEALTH SOL. 3 FAULT         = Bit 15
       CLEAR CH. HEALTH TRINLK FAULT         = Bit 14
       CLEAR CH. HEALTH NVM FAULT            = Bit 13
       CLEAR CH. HEALTH SOL. 1 FAULT         = Bit 12
       CLEAR CH. HEALTH SOL. 4 OR 5 FAULT    = Bit 10
       CLEAR CH. HEALTH TM4 FAULT            = Bit 09
       CLEAR CH. HEALTH TM5 FAULT            = Bit 08
       CLEAR CH. HEALTH TM6 FAULT            = Bit 07
       CLEAR CH. HEALTH ARINC FAULT          = Bit 06
       CLEAR CH. HEALTH 115V AVAIL. FLT      = Bit 03
       CLEAR CH. HEALTH LAST ACTIVE FLT      = Bit 02
       CLEAR CH. HEALTH STANDBY FAULT        = Bit 01
       CLEAR CH. HEALTH CHDSG FAULT          = Bit 00
     BDL_FLTWRD1                             = xxxxxxx000000000
```



```
       CLEAR BOOT PROM CHKSUM TEST FAIL      = Bit 08
       CLEAR FAULT RELAY TEST FAIL           = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL     = Bit 06
       CLEAR WDM TEST FAIL                   = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL         = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL      = Bit 03
       CLEAR CPU TEST FAIL                   = Bit 02
```

```
      CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
      CLEAR RAM TEST FAIL                    = Bit 00
    BDL_FLTWRD2                              = x0xx00xxx0xx00x0
      CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
      CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
      CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
      CLEAR OS AREA NVM TEST FAIL            = Bit 06
      CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
      CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
      CLEAR NVM TEST FAIL                    = Bit 00
    EDL_FLTWRD                               = 0000000000000000
      CLEAR MINOR FRAME TIME CALC FAULT      = Bit 15
      CLEAR CHANNEL SYNC FAULT               = Bit 14
      CLEAR PRESSURE LABEL FAULT FLAG        = Bit 13
      CLEAR TYPE B FAULT                     = Bit 12
      CLEAR ILLEGAL INSTRUCTION FAULT        = Bit 11
      CLEAR BUS ERROR FAULT                  = Bit 10
      CLEAR ZERO DIVIDE FAULT                = Bit 09
      CLEAR TYPE C FAULT                     = Bit 08
      CLEAR BACKGROUND OVERRUN FAULT         = Bit 07
      CLEAR FOREGROUND OVERRUN FAULT         = Bit 06
      CLEAR ADDRESS ERROR INTERRUPT FAULT    = Bit 05
      CLEAR GENERAL INTERRUPT FAULT          = Bit 04
      CLEAR SYNC COMMAND WRAPAROUND FAULT    = Bit 03
      CLEAR ECM WDM RESET FAULT              = Bit 02
      CLEAR MAJOR FRAME SYNC FAULT           = Bit 01
      CLEAR CCDL FAULT FLAG                  = Bit 00
```

Fault Group: Last 10 Long Time Dispatch Faults

```
                                  Page 23
_Channel A - Fault Info Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     Fault Record: 2              Fault Code:  0A9h (169d)
     Fault Class:  C              Description: ADIRU1/2 TAT DATA FRM DEU1/2 IS
MISSING
     ATA#:         73-11-69-N/A   LRU's:       N/A
```

Independent Snapshot Data

```
     Fault Location (1-10)                   = 0x01
     Fault Storage NVM Zone Number           = 0x04
     Fault_History                           = 1000000000000000
       SET   Fault Occurred in Ground Run    = Bit 15
     Selected Fan Rotational Speed           = 6215.0000 RPM
     Selected Core Rotational Speed          = 17524 RPM
     Sel. Exhaust Gas Total Temp.            = 430.0000 DEG_C
     Selected TRA Position                   = 36.2422 DEGREES
     Selected Amb. Static Pressure           = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.          = 2.0500E+01 PSIA
     Selected ECU Temperature                = 2.0375E+01 DEG_C
     N1 Command                              = 889.0000 RPM
     Sel. Fan Inlet Total Temp.              = 3.0000E+01 DEG_C
     Est. T25 Inlet Total Temp.              = 164.9688 DEG_C
     Selected FMV Position                   = -1.5625E-02 PERCENT
     Selected VSV Position                   = 4.2676E-01 INCHES
```

```
     Selected VBV Position                    = 42.0000 DEGREES
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x1xxxxxxxxxxxxxx
       SET   Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     DATA LSBS(3)|SDI(2)|SM(2)|0              = 0x00
     ARINC Bus 1 L211 Label LSB->MS           = 0x00 LABEL
     DATA LSBS(3)|SDI(2)|SM(2)|0              = 0x00

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_Channel A - Dependent Snapshot Data Continued
Serial# : LMDN9114                                DEC 14, 2005   10:43 AM


     ARINC Bus 2 L211 Label LSB->MS           = 0x00 LABEL
     Cross-Channel ADC1L211 LVS               = 3 0:VALID
     Cross-Channel ADC2L211 LVS               = 3 0:VALID
     EDL_CHHLTWD1                             = xx000000xxxxxx10
       CLEAR CH. HEALTH G1FLT                 = Bit 13
       CLEAR CH. HEALTH TM1 FAULT             = Bit 12
       CLEAR CH. HEALTH TM2 FAULT             = Bit 11
       CLEAR CH. HEALTH TM3 FAULT             = Bit 10
       CLEAR CH. HEALTH LCHCCDLFLT            = Bit 09
       CLEAR LOSS OF CRITICAL PRESSURE FLT    = Bit 08
       SET   CH. HEALTH ALT POWER FAULT       = Bit 01
       CLEAR CH. HEALTH SOL. 2 FAULT          = Bit 00
     EDL_CHHLTWD2                             = 0000x00000xx0000
       CLEAR CH. HEALTH SOL. 3 FAULT          = Bit 15
       CLEAR CH. HEALTH TRINLK FAULT          = Bit 14
       CLEAR CH. HEALTH NVM FAULT             = Bit 13
       CLEAR CH. HEALTH SOL. 1 FAULT          = Bit 12
       CLEAR CH. HEALTH SOL. 4 OR 5 FAULT     = Bit 10
       CLEAR CH. HEALTH TM4 FAULT             = Bit 09
       CLEAR CH. HEALTH TM5 FAULT             = Bit 08
       CLEAR CH. HEALTH TM6 FAULT             = Bit 07
       CLEAR CH. HEALTH ARINC FAULT           = Bit 06
       CLEAR CH. HEALTH 115V AVAIL. FLT       = Bit 03
       CLEAR CH. HEALTH LAST ACTIVE FLT       = Bit 02
       CLEAR CH. HEALTH STANDBY FAULT         = Bit 01
       CLEAR CH. HEALTH CHDSG FAULT           = Bit 00
     BDL_FLTWRD1                              = xxxxxxx000000000
       CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
       CLEAR FAULT RELAY TEST FAIL            = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
       CLEAR WDM TEST FAIL                    = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
       CLEAR CPU TEST FAIL                    = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL          = Bit 01

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_Channel A - Dependent Snapshot Data Continued
Serial# : LMDN9114                                DEC 14, 2005   10:43 AM


       CLEAR RAM TEST FAIL                    = Bit 00
     BDL_FLTWRD2                              = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
```

```
       CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
       CLEAR OS AREA NVM TEST FAIL            = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
       CLEAR NVM TEST FAIL                    = Bit 00
     EDL_FLTWRD                               = 0000000000000000
       CLEAR MINOR FRAME TIME CALC FAULT      = Bit 15
       CLEAR CHANNEL SYNC FAULT               = Bit 14
       CLEAR PRESSURE LABEL FAULT FLAG        = Bit 13
       CLEAR TYPE B FAULT                     = Bit 12
       CLEAR ILLEGAL INSTRUCTION FAULT        = Bit 11
       CLEAR BUS ERROR FAULT                  = Bit 10
       CLEAR ZERO DIVIDE FAULT                = Bit 09
       CLEAR TYPE C FAULT                     = Bit 08
       CLEAR BACKGROUND OVERRUN FAULT         = Bit 07
       CLEAR FOREGROUND OVERRUN FAULT         = Bit 06
       CLEAR ADDRESS ERROR INTERRUPT FAULT    = Bit 05
       CLEAR GENERAL INTERRUPT FAULT          = Bit 04
       CLEAR SYNC COMMAND WRAPAROUND FAULT    = Bit 03
       CLEAR ECM WDM RESET FAULT              = Bit 02
       CLEAR MAJOR FRAME SYNC FAULT           = Bit 01
       CLEAR CCDL FAULT FLAG                  = Bit 00
```

Fault Group: Last 10 Economic Dispatch Faults

```
     Fault Record: 1              Fault Code:  024h ( 36d)
     Fault Class:  D              Description: HPTACC POSITION SIGNAL IS OUT
OF RANGE
     ATA#:         73-10-36-HPTC, LRU's:       HPTC, EEC
```

Independent Snapshot Data

```
                                  Page 26
_Channel A - Independent Snapshot Data Continued
Serial# : LMDN9114                                DEC 14, 2005   10:43 AM


     Fault Location (1-10)                    = 0x02
     Fault Storage NVM Zone Number            = 0x05
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 424.0000 DEG_C
     Selected TRA Position                    = 36.2344 DEGREES
     Selected Amb. Static Pressure            = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 2.0750E+01 PSIA
     Selected ECU Temperature                 = 2.0375E+01 DEG_C
     N1 Command                               = 889.0000 RPM
     Sel. Fan Inlet Total Temp.               = 3.0000E+01 DEG_C
     Est. T25 Inlet Total Temp.               = 164.9688 DEG_C
     Selected FMV Position                    = -1.1719E-02 PERCENT
     Selected VSV Position                    = 4.2969E-01 INCHES
     IDL_PMUXDISWD                            = xxxxxxxxxxxxxxx0
       CLEAR PMUX Inhibit Discrete (RES RAM   = Bit 00
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x1xxxxxxxxxxxxx
       SET   Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Inpt HPTC LVDT Sec1           = 8189.0000 COUNTS
     Buffrd Raw Inpt HPTC LVDT Sec2           = 8189.0000 COUNTS
     HPTC LVDT A REF Input Conversi           = 0.0000 VOLTS
     HPTC LVDT B REF Input Conversi           = 0.0000 VOLTS
     Val HP Turbine Clearance Contr           = 100.0000 PERCENT
     Validated HPTC Cross Channel             = 2.4578E+01 PERCENT
     Cross-Channel HPTCVST                    = 3 0:VALID
     HPTC Selection Status                    = 7 SST
     Sel HP Turbine                           = 101.0000 PERCENT
     HPTC Position Demand                     = 8.0000E+00 PERCENT

                                  Page 27
_Channel A - Dependent Snapshot Data Continued
Serial# : LMDN9114                                DEC 14, 2005   10:43 AM
```

Fault Group: Last 10 Economic Dispatch Faults

```
     Fault Record: 2              Fault Code:  036h ( 54d)
     Fault Class:  D              Description: THE LPTC POSITION SIGNAL IS OUT
OF RANGE
     ATA#:         75-10-54-LPTC, LRU's:       LPTC, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x01
     Fault Storage NVM Zone Number            = 0x05
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 426.0000 DEG_C
     Selected TRA Position                    = 36.2188 DEGREES
     Selected Amb. Static Pressure            = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 2.0438E+01 PSIA
     Selected ECU Temperature                 = 2.0375E+01 DEG_C
     N1 Command                               = 889.0000 RPM
     Sel. Fan Inlet Total Temp.               = 3.0000E+01 DEG_C
     Est. T25 Inlet Total Temp.               = 164.9688 DEG_C
     Selected FMV Position                    = -1.5625E-02 PERCENT
     Selected VSV Position                    = 4.2969E-01 INCHES
     IDL_PMUXDISWD                            = xxxxxxxxxxxxxxx0
       CLEAR PMUX Inhibit Discrete (RES RAM   = Bit 00
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x1xxxxxxxxxxxxxx
       SET   Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
                                  Page 28
_Channel A - Dependent Snapshot Data Continued
```

Serial# : LMDN9114 DEC 14, 2005 10:43 AM

Buffrd Raw Inpt LPTC LVDT Sec1	= 8189.0000 COUNTS
Buffrd Raw Inpt LPTC LVDT Sec2	= 8189.0000 COUNTS
LPTC LVDT A REF Input Conversi	= 0.0000 VOLTS
LPTC LVDT B REF Input Conversi	= 0.0000 VOLTS
Val LP Turbine Clearance Contr	= -3.0000E+00 PERCENT
LPTC Cross-Channel Validated	= 3.0953E+01 PERCENT
Cross-Channel LPTCVST	= 3 0:VALID
LPTC Selection Status	= 7 SST
Sel LP Turbine Clearance Contr	= 105.0000 PERCENT
LPTC Position Demand	= 2.4500E+01 PERCENT

Control Learning Data:

	Channel A:
Engine Position	2
Engine On Time (esstaind=run)	1559.6031 Hours
ECU On Time	1571.4528 Hours
Maximum ECU Temperature	67.5156 DEG_C
ECU Time Above Overtemp Limit	0.0000 Hours
Latched ECU Overtemp Flag	0
Peak N1 last engine cycle	6215.0000 RPM
N1 > RdLn Lst EngCyc 120ms/CNT	85 CNTS
Peak N2 last engine cycle	17524 RPM
N2 > RdLn Lst EngCyc 120ms/CNT	86 CNTS
Peak EGT last engine cycle	794.0000 DEG_C
EGT> RdLn Lst EngCyc 120ms/CNT	0 CNTS
Engine at Max (N2K25 > 12000)	1096.3635 Hours
Engine Cycle Counter	791
Flight Leg Counter	743
Number of start cycles	770
Number of relights	3
Engine Family Number	0x0890
Eng ID Val. Stat (0:valid)	3
Current Engine Serial Number	0x0900

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_Channel A - Control Learning Data Continued
Serial# : LMDN9114 DEC 14, 2005 10:43 AM

Base Rating	4
Overboost Rating	4
N1 Trim Number	3
N1 Trim VST 0:valid 3:invalid	0
PMUX Inhibit (1 = inhibited)	1
Combustor/Fuel System Config	0
Flight Leg Synchronization Msk	0
Hardware Adjustment Checksum	0x00AC6041
Bump	0
Engine Configuration Val. Stat	0
Engine Rating	4
Engine Thrust	4
Thrust/Config Validation Stat.	0
Rating Validation Status	0
7B Plug Installed (1=7B Plug)	0
Thrust Validation Status	0
Auto Ign. Disc. Wd. (1=enabld)	0x0000
Burner Staging Valve Config	0x0000

FMV Sensor Max Difference	0x0061
Adjustments RAM corruption cnt	0
Pointer RAM corruption cnt	0
State Var RAM corruption cnt	0
Total Peak EGT Value	851.2500 DEG_C
EGT Over RdLn Total Time	0 CNTS
SubIdle EGT Flight Value	450.0000 DEG_C
SubIdle EGT Ovr RdLn Flgt Time	0 CNTS
SubIdle Total Peak EGT Value	564.0000 DEG_C
SubIdle EGT Over RdLn Tot Time	0 CNTS
Worst minor frame time	1.4335E+01 mSec
Worst major frame time	215.2500 mSec
Worst minor frame count	9
Exception program counter	0x00000000
CPU_FAULT_WORD	xxx00000xx0xxxxx
CLEAR Type B fault	Bit 12
CLEAR Illegal instruction fault	Bit 11

CLEAR Bus error fault	Bit 10
CLEAR Zero divide fault	Bit 09
CLEAR Type C fault	Bit 08
CLEAR Address fault	Bit 05
Last active channel 1 = lstatv	1
Worst background time	3015 mSec
OS RAM corruption counter	4

Channel B.....Channel B.....Channel B.....Channel B.....Channel B.....

Checksums:

	Channel B:
AS Checksum	
Expected:	871EA3F0
Calculated:	871EA3F0
AS Adjustment Checksum	
Expected:	AC6041
Calculated:	AC6041
OS Adjustment Checksum	
Expected:	8B568
Calculated:	8B568
NVM Maintenance Checksum	
Expected:	B88604
Calculated:	B88604
Control Learning Checksum	
Expected:	B9CF5
Calculated:	B9CF5

Fault Group: Last 10 No Dispatch Faults

```
Fault Record: 1              Fault Code:  084h (132d)
Fault Class:  A              Description: ENG IDENT SIGNAL OUT OF RANGE
ATA#:         73-21-32-EEC, ELRU's:       EEC, ENGINE RATING PLUG
```

Independent Snapshot Data

```
Fault Location (1-10)                    = 0x09
Fault Storage NVM Zone Number            = 0x01
Fault_History                            = 1000000000000000
  SET   Fault Occurred in Ground Run     = Bit 15
Selected Fan Rotational Speed            = 6215.0000 RPM
Selected Core Rotational Speed           = 17524 RPM
Sel. Exhaust Gas Total Temp.             = 422.0000 DEG_C
Selected TRA Position                    = 36.2266 DEGREES
Selected Amb. Static Pressure            = 1.4441E+01 PSIA
Sel. Comp. Deliv. Static Pres.           = 2.6250E+01 PSIA
Selected ECU Temperature                 = 2.0375E+01 DEG_C
N1 Command                               = 841.0000 RPM
Sel. Fan Inlet Total Temp.               = 4.7656E-01 DEG_C
Est. T25 Inlet Total Temp.               = 121.7344 DEG_C
Selected FMV Position                    = -1.1719E-02 PERCENT
Selected VSV Position                    = 4.2969E-01 INCHES
Selected VBV Position                    = 42.0000 DEGREES
Controlling Regulator                    = 10
EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
  CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
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_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9114                              DEC 14, 2005   10:43 AM


VDL_ENGIDIWRD1                           = 1111111111111111
  SET   ENGINE ID DISCRETE #16           = Bit 15
  SET   ENGINE ID DISCRETE #15           = Bit 14
  SET   ENGINE ID DISCRETE #14           = Bit 13
  SET   ENGINE ID DISCRETE #13           = Bit 12
  SET   ENGINE ID DISCRETE #12           = Bit 11
  SET   ENGINE ID DISCRETE #11           = Bit 10
  SET   ENGINE ID DISCRETE #10           = Bit 09
  SET   ENGINE ID DISCRETE #09           = Bit 08
  SET   ENGINE ID DISCRETE #08           = Bit 07
  SET   ENGINE ID DISCRETE #07           = Bit 06
  SET   ENGINE ID DISCRETE #06           = Bit 05
  SET   ENGINE ID DISCRETE #05           = Bit 04
  SET   ENGINE ID DISCRETE #04           = Bit 03
  SET   ENGINE ID DISCRETE #03           = Bit 02
  SET   ENGINE ID DISCRETE #02           = Bit 01
  SET   ENGINE ID DISCRETE #01           = Bit 00
```

```
     VDL_ENGIDIWRD2                          = xxxxx11111111111
       SET   EXTERNAL PROGRAM ENABLE         = Bit 10
       SET   PRESSURE SIMULATION ENABLE      = Bit 09
       SET   H/W MASTER LEVER ON             = Bit 08
       SET   SPARE BIT                       = Bit 07
       SET   ENGINE ID DISCRETE #23          = Bit 06
       SET   ENGINE ID DISCRETE #22          = Bit 05
       SET   ENGINE ID DISCRETE #21          = Bit 04
       SET   ENGINE ID DISCRETE #20          = Bit 03
       SET   ENGINE ID DISCRETE #19          = Bit 02
       SET   ENGINE ID DISCRETE #18          = Bit 01
       SET   ENGINE ID DISCRETE #17          = Bit 00
     EDL_CHHLTWD1                            = xx001100xxxxxx00
       CLEAR CH. HEALTH G1FLT                = Bit 13
       CLEAR CH. HEALTH TM1 FAULT            = Bit 12
       SET   CH. HEALTH TM2 FAULT            = Bit 11
       SET   CH. HEALTH TM3 FAULT            = Bit 10
       CLEAR CH. HEALTH LCHCCDLFLT           = Bit 09

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_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9114                              DEC 14, 2005   10:43 AM


       CLEAR LOSS OF CRITICAL PRESSURE FLT   = Bit 08
       CLEAR CH. HEALTH ALT POWER FAULT      = Bit 01
       CLEAR CH. HEALTH SOL. 2 FAULT         = Bit 00
     EDL_CHHLTWD2                            = 0000x00000xx0011
       CLEAR CH. HEALTH SOL. 3 FAULT         = Bit 15
       CLEAR CH. HEALTH TRINLK FAULT         = Bit 14
       CLEAR CH. HEALTH NVM FAULT            = Bit 13
       CLEAR CH. HEALTH SOL. 1 FAULT         = Bit 12
       CLEAR CH. HEALTH SOL. 4 OR 5 FAULT    = Bit 10
       CLEAR CH. HEALTH TM4 FAULT            = Bit 09
       CLEAR CH. HEALTH TM5 FAULT            = Bit 08
       CLEAR CH. HEALTH TM6 FAULT            = Bit 07
       CLEAR CH. HEALTH ARINC FAULT          = Bit 06
       CLEAR CH. HEALTH 115V AVAIL. FLT      = Bit 03
       CLEAR CH. HEALTH LAST ACTIVE FLT      = Bit 02
       SET   CH. HEALTH STANDBY FAULT        = Bit 01
       SET   CH. HEALTH CHDSG FAULT          = Bit 00
     BDL_FLTWRD1                             = xxxxxxx000000000
       CLEAR BOOT PROM CHKSUM TEST FAIL      = Bit 08
       CLEAR FAULT RELAY TEST FAIL           = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL     = Bit 06
       CLEAR WDM TEST FAIL                   = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL         = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL      = Bit 03
       CLEAR CPU TEST FAIL                   = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL         = Bit 01
       CLEAR RAM TEST FAIL                   = Bit 00
     BDL_FLTWRD2                             = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL   = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL     = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL       = Bit 10
       CLEAR OS AREA NVM TEST FAIL           = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL     = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL  = Bit 02
       CLEAR NVM TEST FAIL                   = Bit 00

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_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9114                              DEC 14, 2005   10:43 AM
```

```
     EDL_FLTWRD                                = 0000000000000000
       CLEAR MINOR FRAME TIME CALC FAULT       = Bit 15
       CLEAR CHANNEL SYNC FAULT                = Bit 14
       CLEAR PRESSURE LABEL FAULT FLAG         = Bit 13
       CLEAR TYPE B FAULT                      = Bit 12
       CLEAR ILLEGAL INSTRUCTION FAULT         = Bit 11
       CLEAR BUS ERROR FAULT                   = Bit 10
       CLEAR ZERO DIVIDE FAULT                 = Bit 09
       CLEAR TYPE C FAULT                      = Bit 08
       CLEAR BACKGROUND OVERRUN FAULT          = Bit 07
       CLEAR FOREGROUND OVERRUN FAULT          = Bit 06
       CLEAR ADDRESS ERROR INTERRUPT FAULT     = Bit 05
       CLEAR GENERAL INTERRUPT FAULT           = Bit 04
       CLEAR SYNC COMMAND WRAPAROUND FAULT     = Bit 03
       CLEAR ECM WDM RESET FAULT               = Bit 02
       CLEAR MAJOR FRAME SYNC FAULT            = Bit 01
       CLEAR CCDL FAULT FLAG                   = Bit 00
```

Fault Group: Last 10 No Dispatch Faults

```
     Fault Record: 2              Fault Code:  027h ( 39d)
     Fault Class:  BETA           Description: THE VSV POSITION SIGNAL IS OUT
OF RANGE
     ATA#:         75-20-39-HMU, ELRU's:       HMU, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                     = 0x08
     Fault Storage NVM Zone Number             = 0x01
     Fault_History                             = 1000000000000000
       SET   Fault Occurred in Ground Run      = Bit 15
     Selected Fan Rotational Speed             = 6215.0000 RPM
```



```
     Selected Core Rotational Speed            = 17524 RPM
     Sel. Exhaust Gas Total Temp.              = 421.0000 DEG_C
     Selected TRA Position                     = 36.2344 DEGREES
     Selected Amb. Static Pressure             = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.            = 2.5812E+01 PSIA
     Selected ECU Temperature                  = 2.0375E+01 DEG_C
     N1 Command                                = 843.0000 RPM
     Sel. Fan Inlet Total Temp.                = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.                = 121.7500 DEG_C
     Selected FMV Position                     = -1.5625E-02 PERCENT
     Selected VSV Position                     = 4.2969E-01 INCHES
     Selected VBV Position                     = 42.0000 DEGREES
     Controlling Regulator                     = 10
     EDL_CHSTSWRD                              = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active              = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Input VSV LVDT SEC1          = 8189.0000 COUNTS
     Buffrd Raw Input VSV LVDT SEC2          = 8189.0000 COUNTS
     VSV LVDT A REF Input Conversio          = 3.8125E+00 VOLTS
     VSV LVDT B REF Input Conversio          = 1.9275E+00 VOLTS
     VSV Cross-Channel Validated             = 3.7002E+00 INCHES
     VSV Modeled                             = 4.2969E-01 INCHES
     VSV Servo-Actuator Model                = 4.2969E-01 INCHES
     VSV Selection Status                    = 7 SST
     Cross-Channel VSVVST                    = 3 0:VALID
```

Fault Group: Last 10 No Dispatch Faults

```
     Fault Record: 3              Fault Code:  02Ch ( 44d)
     Fault Class:  BETA           Description: THE VBV POSITION SIGNAL IS OUT
OF RANGE

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_Channel B - Fault Info Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     ATA#:         75-20-44-VBV ACLRU's:       VBV ACT, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                   = 0x07
     Fault Storage NVM Zone Number           = 0x01
     Fault_History                           = 1000000000000000
       SET   Fault Occurred in Ground Run    = Bit 15
     Selected Fan Rotational Speed           = 6215.0000 RPM
     Selected Core Rotational Speed          = 17524 RPM
     Sel. Exhaust Gas Total Temp.            = 423.0000 DEG_C
     Selected TRA Position                   = 36.3594 DEGREES
     Selected Amb. Static Pressure           = 1.4449E+01 PSIA
     Sel. Comp. Deliv. Static Pres.          = 2.6375E+01 PSIA
     Selected ECU Temperature                = 2.0375E+01 DEG_C
     N1 Command                              = 841.0000 RPM
     Sel. Fan Inlet Total Temp.              = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.              = 121.7500 DEG_C
     Selected FMV Position                   = 3.1250E-02 PERCENT
     Selected VSV Position                   = 4.2969E-01 INCHES
     Selected VBV Position                   = 42.0000 DEGREES
     Controlling Regulator                   = 10
     EDL_CHSTSWRD                            = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active            = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Input VBV LVDT Sec1          = 8189.0000 COUNTS
     Buffrd Raw Input VBV LVDT Sec2          = 8189.0000 COUNTS
     VBV LVDT A REF Input Conversio          = 4.0295E+00 VOLTS
     VBV LVDT B REF Input Conversio          = 1.5471E+00 VOLTS
     VBV Cross-Channel Validated             = 39.0000 DEGREES

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```

```
_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     VBV Servo-Actuator Model                  = 42.0000 DEGREES
     VBV Selection Status                      = 7 SST
     VBV Validation Status                     = 3 0:VALID
     Cross-Channel VBVVST                      = 3 0:VALID
```

Fault Group: Last 10 No Dispatch Faults

```
     Fault Record: 4              Fault Code:  03Bh ( 59d)
     Fault Class:  BETA           Description: THE TBV POSITION SIGNAL IS OUT
OF RANGE
     ATA#:         75-20-59-TBV, ELRU's:       TBV, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                     = 0x06
     Fault Storage NVM Zone Number             = 0x01
     Fault_History                             = 1000000000000000
       SET   Fault Occurred in Ground Run      = Bit 15
     Selected Fan Rotational Speed             = 6215.0000 RPM
     Selected Core Rotational Speed            = 17524 RPM
     Sel. Exhaust Gas Total Temp.              = 421.0000 DEG_C
     Selected TRA Position                     = 36.2188 DEGREES
     Selected Amb. Static Pressure             = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.            = 2.6000E+01 PSIA
     Selected ECU Temperature                  = 2.0375E+01 DEG_C
     N1 Command                                = 843.0000 RPM
     Sel. Fan Inlet Total Temp.                = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.                = 121.7500 DEG_C
     Selected FMV Position                     = -7.4219E-02 PERCENT
     Selected VSV Position                     = 4.2969E-01 INCHES
     Selected VBV Position                     = 42.0000 DEGREES
     Controlling Regulator                     = 10
```



```
_Channel B - Independent Snapshot Data Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     EDL_CHSTSWRD                              = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active              = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Input TBV LVDT Sec1            = 8189.0000 COUNTS
     Buffrd Raw Input TBV LVDT Sec2            = 8189.0000 COUNTS
     TBV LVDT A REF Input Conversio            = 2.5603E+00 VOLTS
     TBV LVDT B REF Input Conversio            = 1.1365E+00 VOLTS
     Transient Bleed Valve Validate            = 96.2656 PERCENT
     Validated TBV Cross Channel               = 100.0000 PERCENT
     CROSS Channel TBVVSTX                     = 3 0:VALID
     TBV Selection Status                      = 7 SST
     Selected TBV Position                     = 101.0000 PERCENT
```

```
     TB Valve Position Demand                  = 0.0000 PERCENT
```

Fault Group: Last 10 No Dispatch Faults

```
     Fault Record: 5              Fault Code:  052h ( 82d)
     Fault Class:  BETA           Description: THE T25 SIGNAL IS OUT OF RANGE
     ATA#:         75-20-82-T25 SELRU's:       T25 SENSOR, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                     = 0x05
     Fault Storage NVM Zone Number             = 0x01
     Fault_History                             = 1000000000000000
       SET   Fault Occurred in Ground Run      = Bit 15
     Selected Fan Rotational Speed             = 6215.0000 RPM
     Selected Core Rotational Speed            = 17524 RPM
```



```
     Sel. Exhaust Gas Total Temp.              = 422.0000 DEG_C
     Selected TRA Position                     = 36.2266 DEGREES
     Selected Amb. Static Pressure             = 1.4449E+01 PSIA
     Sel. Comp. Deliv. Static Pres.            = 2.6250E+01 PSIA
     Selected ECU Temperature                  = 2.0375E+01 DEG_C
     N1 Command                                = 841.0000 RPM
     Sel. Fan Inlet Total Temp.                = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.                = 121.7500 DEG_C
     Selected FMV Position                     = -7.8125E-03 PERCENT
     Selected VSV Position                     = 4.2969E-01 INCHES
     Selected VBV Position                     = 42.0000 DEGREES
     Controlling Regulator                     = 10
     EDL_CHSTSWRD                              = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active              = Bit 14
```

Dependent Snapshot Data

```
     Buffered T25 Raw Input                    = 6434.5000 COUNTS
     ECU TEMPERATURE AMBIENT                   = -121.0000 COUNTS
     T25 Reference Input Conversion            = 237.0000 OHMS
     Val HP Comp Inlet Total Temp              = 46.8438 DEG_C
     T25 Cross-Channel Validated Va            = 1.5000E+01 DEG_C
     Cross-Channel T25VST                      = 3 0:VALID
     T25 Sensor Estimate                       = 119.2656 DEG_C
     IDL_T25MSTWD                              = xxxxxxxxxxxxxx0
       CLEAR T25 MODEL HEALTH STATUS           = Bit 00
     Sel HP Comp Inlet Total Temp              = 119.1875 DEG_C
```

Fault Group: Last 10 No Dispatch Faults

```
     Fault Record: 6              Fault Code:  06Dh (109d)
     Fault Class:  GAMMA          Description: THE PEO SIGNAL IS OUT OF RANGE
```

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_Channel B - Fault Info Continued
Serial# : LMDN9114 DEC 14, 2005 10:43 AM

ATA#: 79-21-09-N/A LRU's: N/A

Independent Snapshot Data

Fault Location (1-10)	= 0x04
Fault Storage NVM Zone Number	= 0x01
Fault_History	= 1000000000000000
SET Fault Occurred in Ground Run	= Bit 15
Selected Fan Rotational Speed	= 6215.0000 RPM
Selected Core Rotational Speed	= 17524 RPM
Sel. Exhaust Gas Total Temp.	= 431.5000 DEG_C
Selected TRA Position	= 2.5516E+01 DEGREES
Selected Amb. Static Pressure	= 1.4449E+01 PSIA
Sel. Comp. Deliv. Static Pres.	= 2.8750E+01 PSIA
Selected ECU Temperature	= 2.0375E+01 DEG_C
N1 Command	= 841.0000 RPM
Sel. Fan Inlet Total Temp.	= -1.7422E+00 DEG_C
Est. T25 Inlet Total Temp.	= 119.0938 DEG_C
Selected FMV Position	= -1.1719E-02 PERCENT
Selected VSV Position	= 4.2969E-01 INCHES
Selected VBV Position	= 42.0000 DEGREES
Controlling Regulator	= 10
EDL_CHSTSWRD	= x0xxxxxxxxxxxxx
CLEAR Local Channel Active	= Bit 14

Dependent Snapshot Data

Buffrd Raw Input PEO LVDT Sec1	= 32756 COUNTS
Buffrd Raw Input PEO LVDT Sec2	= 1420 COUNTS
PEO LVDT A Ref Inpt Conversion	= 4.4951E+00 VOLTS
PEO LVDT B Ref Inpt Conversion	= 2.4639E+00 VOLTS
Val Engine Oil Pressure	= 2.4688E+01 PSI

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_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9114 DEC 14, 2005 10:43 AM

Cross-channel Validated PEO	= 0.0000 PSI
Cross-channel PEOVST	= 3 0:VALID
PEO Selection Status	= 7 SST
Selected Engine Oil Pressure	= 70.0000 PSI
BDL_FLTWRD1	= xxxxxxx000000000
CLEAR BOOT PROM CHKSUM TEST FAIL	= Bit 08
CLEAR FAULT RELAY TEST FAIL	= Bit 07
CLEAR MASTER DISCONNECT TEST FAIL	= Bit 06
CLEAR WDM TEST FAIL	= Bit 05
CLEAR PROM CHECKSUM TEST FAIL	= Bit 04
CLEAR DATA ACQUISITION TEST FAIL	= Bit 03
CLEAR CPU TEST FAIL	= Bit 02
CLEAR DUAL PORT RAM TEST FAIL	= Bit 01
CLEAR RAM TEST FAIL	= Bit 00

Fault Group: Last 10 No Dispatch Faults

```
Fault Record: 7              Fault Code:  06Eh (110d)
Fault Class:  BETA           Description: THE TEO SIGNAL IS OUT OF RANGE
ATA#:         79-21-10-N/A   LRU's:       N/A
```

Independent Snapshot Data

```
Fault Location (1-10)                    = 0x03
Fault Storage NVM Zone Number            = 0x01
Fault_History                            = 1000000000000000
  SET   Fault Occurred in Ground Run     = Bit 15
Selected Fan Rotational Speed            = 6215.0000 RPM
Selected Core Rotational Speed           = 17524 RPM
Sel. Exhaust Gas Total Temp.             = 430.0000 DEG_C
Selected TRA Position                    = 2.5570E+01 DEGREES
```



```
Selected Amb. Static Pressure            = 1.4449E+01 PSIA
Sel. Comp. Deliv. Static Pres.           = 2.8250E+01 PSIA
Selected ECU Temperature                 = 2.0375E+01 DEG_C
N1 Command                               = 841.0000 RPM
Sel. Fan Inlet Total Temp.               = -1.7422E+00 DEG_C
Est. T25 Inlet Total Temp.               = 119.0938 DEG_C
Selected FMV Position                    = -3.1250E-02 PERCENT
Selected VSV Position                    = 4.2969E-01 INCHES
Selected VBV Position                    = 42.0000 DEGREES
Controlling Regulator                    = 10
EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
  CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
Buffered TEO Raw Input                   = 17180 COUNTS
ECU TEMPERATURE AMBIENT                  = -121.0000 COUNTS
TEO Reference Input Conversion           = 261.6875 OHMS
TEO Cross-Channel Validated Va           = 1.5000E+01 DEG_C
Cross-Channel TEOVST                     = 3 0:VALID
TEO Selection Status                     = 7 SST
Selected Engine Oil Temperatur           = 170.0000 DEG_C
BDL_FLTWRD1                              = xxxxxxx000000000
  CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
  CLEAR FAULT RELAY TEST FAIL            = Bit 07
  CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
  CLEAR WDM TEST FAIL                    = Bit 05
  CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
  CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
  CLEAR CPU TEST FAIL                    = Bit 02
  CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
  CLEAR RAM TEST FAIL                    = Bit 00
BDL_FLTWRD2                              = x0xx00xxx0xx00x0
  CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
```

```
_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


       CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
       CLEAR OS AREA NVM TEST FAIL            = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
       CLEAR NVM TEST FAIL                    = Bit 00
```

Fault Group: Last 10 No Dispatch Faults

```
     Fault Record: 8              Fault Code:  075h (117d)
     Fault Class:  BETA           Description: THE N1 SIGNAL IS OUT OF RANGE
     ATA#:         77-21-17-N1 SENLRU's:       N1 SENSOR, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                  = 0x02
     Fault Storage NVM Zone Number          = 0x01
     Fault_History                          = 1000000000000000
       SET   Fault Occurred in Ground Run   = Bit 15
     Selected Fan Rotational Speed          = 6215.0000 RPM
     Selected Core Rotational Speed         = 17524 RPM
     Sel. Exhaust Gas Total Temp.           = 422.0000 DEG_C
     Selected TRA Position                  = 36.2266 DEGREES
     Selected Amb. Static Pressure          = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.         = 2.6188E+01 PSIA
     Selected ECU Temperature               = 2.0375E+01 DEG_C
     N1 Command                             = 841.0000 RPM
     Sel. Fan Inlet Total Temp.             = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.             = 121.7344 DEG_C
     Selected FMV Position                  = -1.1719E-02 PERCENT
     Selected VSV Position                  = 4.2969E-01 INCHES
```



```
_Channel B - Independent Snapshot Data Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     Selected VBV Position                  = 42.0000 DEGREES
     Controlling Regulator                  = 10
     EDL_CHSTSWRD                           = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active           = Bit 14
```

Dependent Snapshot Data

```
     N1 REGISTER 1 RAW INPUT                = 7593 COUNTS
     N1 REGISTER 2 RAW INPUT                = 32782 COUNTS
     Val Fan Rotational Speed               = 1843.5000 RPMS
     N1ACT Cross-Ch Validated Value         = 0.0000 RPMS
     Cross Channel N1ACTVST                 = 3
     Modeled Fan Rotational Speed           = 6215.0000 RPM
     N1ACT Selection Status                 = 7 N1ACT
     Selected Fan Rotational Speed          = 6215.0000 RPM
```

```
BDL_FLTWRD1                              = xxxxxxx000000000
  CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
  CLEAR FAULT RELAY TEST FAIL            = Bit 07
  CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
  CLEAR WDM TEST FAIL                    = Bit 05
  CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
  CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
  CLEAR CPU TEST FAIL                    = Bit 02
  CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
  CLEAR RAM TEST FAIL                    = Bit 00
BDL_FLTWRD2                              = x0xx00xxx0xx00x0
  CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
  CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
  CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
  CLEAR OS AREA NVM TEST FAIL            = Bit 06
  CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
  CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
  CLEAR NVM TEST FAIL                    = Bit 00
```

Fault Group: Last 10 No Dispatch Faults

```
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_Channel B - Fault Info Continued
Serial# : LMDN9114                                DEC 14, 2005   10:43 AM


Fault Record: 9              Fault Code:  076h (118d)
Fault Class:  BETA           Description: THE N2 SIGNAL IS OUT OF RANGE
ATA#:         77-21-18-N2 SENLRU's:       N2 SENSOR, EEC
```

Independent Snapshot Data

```
Fault Location (1-10)                    = 0x01
Fault Storage NVM Zone Number            = 0x01
Fault_History                            = 1000000000000000
  SET   Fault Occurred in Ground Run     = Bit 15
Selected Fan Rotational Speed            = 6215.0000 RPM
Selected Core Rotational Speed           = 17524 RPM
Sel. Exhaust Gas Total Temp.             = 431.5000 DEG_C
Selected TRA Position                    = 2.5078E+01 DEGREES
Selected Amb. Static Pressure            = 1.4449E+01 PSIA
Sel. Comp. Deliv. Static Pres.           = 2.8812E+01 PSIA
Selected ECU Temperature                 = 2.0375E+01 DEG_C
N1 Command                               = 841.0000 RPM
Sel. Fan Inlet Total Temp.               = -1.7422E+00 DEG_C
Est. T25 Inlet Total Temp.               = 119.0938 DEG_C
Selected FMV Position                    = -4.6875E-02 PERCENT
Selected VSV Position                    = 4.3164E-01 INCHES
Selected VBV Position                    = 42.0000 DEGREES
Controlling Regulator                    = 10
EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
  CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
N2 REGISTER 1 RAW INPUT                  = 7531 COUNTS
```

```
     N2 REGISTER 2 RAW INPUT                  = 32903 COUNTS
     Val Core Rotational Speed                = 12406.0000 RPM

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_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9114                                DEC 14, 2005   10:43 AM


     N2ACT Cross-Ch Validated Value           = 0.0000 RPMS
     Cross-Channel N2ACTVST                   = 3
     Modeled Core Rotational Speed            = 17524.0000 RPM
```

Fault Group: Last 10 Short Time Dispatch Faults

```
     Fault Record: 1              Fault Code:  06Dh (109d)
     Fault Class:  GAMMA          Description: THE PEO SIGNAL IS OUT OF RANGE
     ATA#:         79-21-09-N/A   LRU's:       N/A
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x01
     Fault Storage NVM Zone Number            = 0x03
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 431.5000 DEG_C
     Selected TRA Position                    = 2.5516E+01 DEGREES
     Selected Amb. Static Pressure            = 1.4449E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 2.8750E+01 PSIA
     Selected ECU Temperature                 = 2.0375E+01 DEG_C
     N1 Command                               = 841.0000 RPM
     Sel. Fan Inlet Total Temp.               = -1.7422E+00 DEG_C
     Est. T25 Inlet Total Temp.               = 119.0938 DEG_C
     Selected FMV Position                    = -1.1719E-02 PERCENT
     Selected VSV Position                    = 4.2969E-01 INCHES
     Selected VBV Position                    = 42.0000 DEGREES
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx

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_Channel B - Independent Snapshot Data Continued
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       CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Input PEO LVDT Sec1           = 32756 COUNTS
     Buffrd Raw Input PEO LVDT Sec2           = 1420 COUNTS
     PEO LVDT A Ref Inpt Conversion           = 4.4951E+00 VOLTS
     PEO LVDT B Ref Inpt Conversion           = 2.4639E+00 VOLTS
     Val Engine Oil Pressure                  = 2.4688E+01 PSI
     Cross-channel Validated PEO              = 0.0000 PSI
     Cross-channel PEOVST                     = 3 0:VALID
```

```
     PEO Selection Status                    = 7 SST
     Selected Engine Oil Pressure            = 70.0000 PSI
     BDL_FLTWRD1                             = xxxxxxx000000000
       CLEAR BOOT PROM CHKSUM TEST FAIL      = Bit 08
       CLEAR FAULT RELAY TEST FAIL           = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL     = Bit 06
       CLEAR WDM TEST FAIL                   = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL         = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL      = Bit 03
       CLEAR CPU TEST FAIL                   = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL         = Bit 01
       CLEAR RAM TEST FAIL                   = Bit 00
```

Fault Group: Last 10 Long Time Dispatch Faults

```
     Fault Record: 1             Fault Code:  0A9h (169d)
     Fault Class:  C             Description: ADIRU1/2 TAT DATA FRM DEU1/2 IS
MISSING
     ATA#:         73-21-69-N/A  LRU's:       N/A
```

Independent Snapshot Data

```
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_Channel B - Independent Snapshot Data Continued
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     Fault Location (1-10)                   = 0x0A
     Fault Storage NVM Zone Number           = 0x04
     Fault_History                           = 1000000000000000
       SET   Fault Occurred in Ground Run    = Bit 15
     Selected Fan Rotational Speed           = 6215.0000 RPM
     Selected Core Rotational Speed          = 17524 RPM
     Sel. Exhaust Gas Total Temp.            = 438.0000 DEG_C
     Selected TRA Position                   = 2.5047E+01 DEGREES
     Selected Amb. Static Pressure           = 1.4449E+01 PSIA
     Sel. Comp. Deliv. Static Pres.          = 3.0750E+01 PSIA
     Selected ECU Temperature                = 2.0500E+01 DEG_C
     N1 Command                              = 841.0000 RPM
     Sel. Fan Inlet Total Temp.              = -1.7422E+00 DEG_C
     Est. T25 Inlet Total Temp.              = 119.0938 DEG_C
     Selected FMV Position                   = -1.5625E-02 PERCENT
     Selected VSV Position                   = 4.3359E-01 INCHES
     Selected VBV Position                   = 42.0000 DEGREES
     Controlling Regulator                   = 10
     EDL_CHSTSWRD                            = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active            = Bit 14
```

Dependent Snapshot Data

```
     DATA LSBS(3)|SDI(2)|SM(2)|0             = 0x0F
     ARINC Bus 1 L211 Label LSB->MS          = 0x89 LABEL
     DATA LSBS(3)|SDI(2)|SM(2)|0             = 0x17
     ARINC Bus 2 L211 Label LSB->MS          = 0x89 LABEL
     Cross-Channel ADC1L211 LVS              = 3 0:VALID
     Cross-Channel ADC2L211 LVS              = 3 0:VALID
```

```
     EDL_CHHLTWD1                          = xx001100xxxxxx00
       CLEAR CH. HEALTH G1FLT              = Bit 13
       CLEAR CH. HEALTH TM1 FAULT          = Bit 12
       SET   CH. HEALTH TM2 FAULT          = Bit 11
       SET   CH. HEALTH TM3 FAULT          = Bit 10
```



```
       CLEAR CH. HEALTH LCHCCDLFLT         = Bit 09
       CLEAR LOSS OF CRITICAL PRESSURE FLT  = Bit 08
       CLEAR CH. HEALTH ALT POWER FAULT     = Bit 01
       CLEAR CH. HEALTH SOL. 2 FAULT        = Bit 00
     EDL_CHHLTWD2                          = 0000x00000xx0011
       CLEAR CH. HEALTH SOL. 3 FAULT        = Bit 15
       CLEAR CH. HEALTH TRINLK FAULT        = Bit 14
       CLEAR CH. HEALTH NVM FAULT           = Bit 13
       CLEAR CH. HEALTH SOL. 1 FAULT        = Bit 12
       CLEAR CH. HEALTH SOL. 4 OR 5 FAULT   = Bit 10
       CLEAR CH. HEALTH TM4 FAULT           = Bit 09
       CLEAR CH. HEALTH TM5 FAULT           = Bit 08
       CLEAR CH. HEALTH TM6 FAULT           = Bit 07
       CLEAR CH. HEALTH ARINC FAULT         = Bit 06
       CLEAR CH. HEALTH 115V AVAIL. FLT     = Bit 03
       CLEAR CH. HEALTH LAST ACTIVE FLT     = Bit 02
       SET   CH. HEALTH STANDBY FAULT       = Bit 01
       SET   CH. HEALTH CHDSG FAULT         = Bit 00
     BDL_FLTWRD1                           = xxxxxxx000000000
       CLEAR BOOT PROM CHKSUM TEST FAIL     = Bit 08
       CLEAR FAULT RELAY TEST FAIL          = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL    = Bit 06
       CLEAR WDM TEST FAIL                  = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL        = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL     = Bit 03
       CLEAR CPU TEST FAIL                  = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL        = Bit 01
       CLEAR RAM TEST FAIL                  = Bit 00
     BDL_FLTWRD2                           = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL  = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL    = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL      = Bit 10
       CLEAR OS AREA NVM TEST FAIL          = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL    = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL = Bit 02
```



```
       CLEAR NVM TEST FAIL                  = Bit 00
     EDL_FLTWRD                            = 0000000000000000
       CLEAR MINOR FRAME TIME CALC FAULT    = Bit 15
       CLEAR CHANNEL SYNC FAULT             = Bit 14
       CLEAR PRESSURE LABEL FAULT FLAG      = Bit 13
       CLEAR TYPE B FAULT                   = Bit 12
       CLEAR ILLEGAL INSTRUCTION FAULT      = Bit 11
       CLEAR BUS ERROR FAULT                = Bit 10
       CLEAR ZERO DIVIDE FAULT              = Bit 09
       CLEAR TYPE C FAULT                   = Bit 08
```

```
  CLEAR BACKGROUND OVERRUN FAULT         = Bit 07
  CLEAR FOREGROUND OVERRUN FAULT         = Bit 06
  CLEAR ADDRESS ERROR INTERRUPT FAULT    = Bit 05
  CLEAR GENERAL INTERRUPT FAULT          = Bit 04
  CLEAR SYNC COMMAND WRAPAROUND FAULT    = Bit 03
  CLEAR ECM WDM RESET FAULT              = Bit 02
  CLEAR MAJOR FRAME SYNC FAULT           = Bit 01
  CLEAR CCDL FAULT FLAG                  = Bit 00
```

Fault Group: Last 10 Long Time Dispatch Faults

```
Fault Record: 2              Fault Code:  06Eh (110d)
Fault Class:  BETA           Description: THE TEO SIGNAL IS OUT OF RANGE
ATA#:         79-21-10-N/A   LRU's:       N/A
```

Independent Snapshot Data

```
Fault Location (1-10)                  = 0x09
Fault Storage NVM Zone Number          = 0x04
Fault_History                          = 1000000000000000
  SET   Fault Occurred in Ground Run   = Bit 15
```



```
Selected Fan Rotational Speed          = 6215.0000 RPM
Selected Core Rotational Speed         = 17524 RPM
Sel. Exhaust Gas Total Temp.           = 430.0000 DEG_C
Selected TRA Position                  = 2.5570E+01 DEGREES
Selected Amb. Static Pressure          = 1.4449E+01 PSIA
Sel. Comp. Deliv. Static Pres.         = 2.8250E+01 PSIA
Selected ECU Temperature               = 2.0375E+01 DEG_C
N1 Command                             = 841.0000 RPM
Sel. Fan Inlet Total Temp.             = -1.7422E+00 DEG_C
Est. T25 Inlet Total Temp.             = 119.0938 DEG_C
Selected FMV Position                  = -3.1250E-02 PERCENT
Selected VSV Position                  = 4.2969E-01 INCHES
Selected VBV Position                  = 42.0000 DEGREES
Controlling Regulator                  = 10
EDL_CHSTSWRD                           = x0xxxxxxxxxxxxx
  CLEAR Local Channel Active           = Bit 14
```

Dependent Snapshot Data

```
Buffered TEO Raw Input                 = 17180 COUNTS
ECU TEMPERATURE AMBIENT                = -121.0000 COUNTS
TEO Reference Input Conversion         = 261.6875 OHMS
TEO Cross-Channel Validated Va         = 1.5000E+01 DEG_C
Cross-Channel TEOVST                   = 3 0:VALID
TEO Selection Status                   = 7 SST
Selected Engine Oil Temperatur         = 170.0000 DEG_C
BDL_FLTWRD1                            = xxxxxxx000000000
  CLEAR BOOT PROM CHKSUM TEST FAIL     = Bit 08
  CLEAR FAULT RELAY TEST FAIL          = Bit 07
  CLEAR MASTER DISCONNECT TEST FAIL    = Bit 06
```

```
       CLEAR WDM TEST FAIL                    = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
       CLEAR CPU TEST FAIL                    = Bit 02

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_Channel B - Dependent Snapshot Data Continued
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       CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
       CLEAR RAM TEST FAIL                    = Bit 00
     BDL_FLTWRD2                              = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
       CLEAR OS AREA NVM TEST FAIL            = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
       CLEAR NVM TEST FAIL                    = Bit 00
```

Fault Group: Last 10 Long Time Dispatch Faults

```
     Fault Record: 3              Fault Code:  076h (118d)
     Fault Class:  BETA           Description: THE N2 SIGNAL IS OUT OF RANGE
     ATA#:         77-21-18-N2 SENLRU's:       N2 SENSOR, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x08
     Fault Storage NVM Zone Number            = 0x04
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 431.5000 DEG_C
     Selected TRA Position                    = 2.5078E+01 DEGREES
     Selected Amb. Static Pressure            = 1.4449E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 2.8812E+01 PSIA
     Selected ECU Temperature                 = 2.0375E+01 DEG_C
     N1 Command                               = 841.0000 RPM

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_Channel B - Independent Snapshot Data Continued
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     Sel. Fan Inlet Total Temp.               = -1.7422E+00 DEG_C
     Est. T25 Inlet Total Temp.               = 119.0938 DEG_C
     Selected FMV Position                    = -4.6875E-02 PERCENT
     Selected VSV Position                    = 4.3164E-01 INCHES
     Selected VBV Position                    = 42.0000 DEGREES
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
N2 REGISTER 1 RAW INPUT                  = 7531 COUNTS
N2 REGISTER 2 RAW INPUT                  = 32903 COUNTS
Val Core Rotational Speed                = 12406.0000 RPM
N2ACT Cross-Ch Validated Value           = 0.0000 RPMS
Cross-Channel N2ACTVST                   = 3
Modeled Core Rotational Speed            = 17524.0000 RPM
```

Fault Group: Last 10 Long Time Dispatch Faults

```
Fault Record: 4              Fault Code:  00Ch ( 12d)
Fault Class:  BETA           Description: INTERNAL EEC FAULT
ATA#:         73-20-12-EEC   LRU's:       EEC
```

Independent Snapshot Data

```
Fault Location (1-10)                    = 0x07
Fault Storage NVM Zone Number            = 0x04
Fault_History                            = 1000000000000000
  SET   Fault Occurred in Ground Run     = Bit 15
```



```
Selected Fan Rotational Speed            = 6215.0000 RPM
Selected Core Rotational Speed           = 17524 RPM
Sel. Exhaust Gas Total Temp.             = 424.5000 DEG_C
Selected TRA Position                    = 2.6344E+01 DEGREES
Selected Amb. Static Pressure            = 1.4449E+01 PSIA
Sel. Comp. Deliv. Static Pres.           = 2.6688E+01 PSIA
Selected ECU Temperature                 = 2.0375E+01 DEG_C
N1 Command                               = 841.0000 RPM
Sel. Fan Inlet Total Temp.               = -1.7422E+00 DEG_C
Est. T25 Inlet Total Temp.               = 119.0938 DEG_C
Selected FMV Position                    = -1.1719E-02 PERCENT
Selected VSV Position                    = 4.2969E-01 INCHES
Selected VBV Position                    = 42.0000 DEGREES
Controlling Regulator                    = 10
EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
  CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
VDL_RTDTCJFDW                            = xxxxxxxxxxxxxx1
  SET   RTD TCJ CONVERSION FAULT         = Bit 00
Buffered TCJ Raw Input                   = 3540.5000 COUNTS
Bufd RTDTCJ Raw Vltage Referen           = 5014.0000 COUNTS
TCJ RAW INPUT RESISTANCE                 = 105.8125 OHMS
EDL_CHHLTWD1                             = xx001100xxxxxx00
  CLEAR CH. HEALTH G1FLT                 = Bit 13
  CLEAR CH. HEALTH TM1 FAULT             = Bit 12
  SET   CH. HEALTH TM2 FAULT             = Bit 11
  SET   CH. HEALTH TM3 FAULT             = Bit 10
  CLEAR CH. HEALTH LCHCCDLFLT            = Bit 09
```

```
       CLEAR LOSS OF CRITICAL PRESSURE FLT    = Bit 08
       CLEAR CH. HEALTH ALT POWER FAULT       = Bit 01
       CLEAR CH. HEALTH SOL. 2 FAULT          = Bit 00
     EDL_CHHLTWD2                             = 0000x00000xx0011

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       CLEAR CH. HEALTH SOL. 3 FAULT          = Bit 15
       CLEAR CH. HEALTH TRINLK FAULT          = Bit 14
       CLEAR CH. HEALTH NVM FAULT             = Bit 13
       CLEAR CH. HEALTH SOL. 1 FAULT          = Bit 12
       CLEAR CH. HEALTH SOL. 4 OR 5 FAULT     = Bit 10
       CLEAR CH. HEALTH TM4 FAULT             = Bit 09
       CLEAR CH. HEALTH TM5 FAULT             = Bit 08
       CLEAR CH. HEALTH TM6 FAULT             = Bit 07
       CLEAR CH. HEALTH ARINC FAULT           = Bit 06
       CLEAR CH. HEALTH 115V AVAIL. FLT       = Bit 03
       CLEAR CH. HEALTH LAST ACTIVE FLT       = Bit 02
       SET   CH. HEALTH STANDBY FAULT         = Bit 01
       SET   CH. HEALTH CHDSG FAULT           = Bit 00
     BDL_FLTWRD1                              = xxxxxxx000000000
       CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
       CLEAR FAULT RELAY TEST FAIL            = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
       CLEAR WDM TEST FAIL                    = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
       CLEAR CPU TEST FAIL                    = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
       CLEAR RAM TEST FAIL                    = Bit 00
     BDL_FLTWRD2                              = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
       CLEAR OS AREA NVM TEST FAIL            = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
       CLEAR NVM TEST FAIL                    = Bit 00
     EDL_FLTWRD                               = 0000000000000000
       CLEAR MINOR FRAME TIME CALC FAULT      = Bit 15
       CLEAR CHANNEL SYNC FAULT               = Bit 14
       CLEAR PRESSURE LABEL FAULT FLAG        = Bit 13

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_Channel B - Dependent Snapshot Data Continued
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       CLEAR TYPE B FAULT                     = Bit 12
       CLEAR ILLEGAL INSTRUCTION FAULT        = Bit 11
       CLEAR BUS ERROR FAULT                  = Bit 10
       CLEAR ZERO DIVIDE FAULT                = Bit 09
       CLEAR TYPE C FAULT                     = Bit 08
       CLEAR BACKGROUND OVERRUN FAULT         = Bit 07
       CLEAR FOREGROUND OVERRUN FAULT         = Bit 06
       CLEAR ADDRESS ERROR INTERRUPT FAULT    = Bit 05
       CLEAR GENERAL INTERRUPT FAULT          = Bit 04
       CLEAR SYNC COMMAND WRAPAROUND FAULT    = Bit 03
       CLEAR ECM WDM RESET FAULT              = Bit 02
```

```
       CLEAR MAJOR FRAME SYNC FAULT           = Bit 01
       CLEAR CCDL FAULT FLAG                  = Bit 00
```

Fault Group: Last 10 Long Time Dispatch Faults

```
     Fault Record: 5              Fault Code:  027h ( 39d)
     Fault Class:  BETA           Description: THE VSV POSITION SIGNAL IS OUT
OF RANGE
     ATA#:         75-20-39-HMU, ELRU's:       HMU, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                  = 0x06
     Fault Storage NVM Zone Number          = 0x04
     Fault_History                          = 1000000000000000
       SET   Fault Occurred in Ground Run   = Bit 15
     Selected Fan Rotational Speed          = 6215.0000 RPM
     Selected Core Rotational Speed         = 17524 RPM
     Sel. Exhaust Gas Total Temp.           = 421.0000 DEG_C
     Selected TRA Position                  = 36.2344 DEGREES
     Selected Amb. Static Pressure          = 1.4441E+01 PSIA
```



```
     Sel. Comp. Deliv. Static Pres.         = 2.5812E+01 PSIA
     Selected ECU Temperature               = 2.0375E+01 DEG_C
     N1 Command                             = 843.0000 RPM
     Sel. Fan Inlet Total Temp.             = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.             = 121.7500 DEG_C
     Selected FMV Position                  = -1.5625E-02 PERCENT
     Selected VSV Position                  = 4.2969E-01 INCHES
     Selected VBV Position                  = 42.0000 DEGREES
     Controlling Regulator                  = 10
     EDL_CHSTSWRD                           = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active           = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Input VSV LVDT SEC1         = 8189.0000 COUNTS
     Buffrd Raw Input VSV LVDT SEC2         = 8189.0000 COUNTS
     VSV LVDT A REF Input Conversio         = 3.8125E+00 VOLTS
     VSV LVDT B REF Input Conversio         = 1.9275E+00 VOLTS
     VSV Cross-Channel Validated            = 3.7002E+00 INCHES
     VSV Modeled                            = 4.2969E-01 INCHES
     VSV Servo-Actuator Model               = 4.2969E-01 INCHES
     VSV Selection Status                   = 7 SST
     Cross-Channel VSVVST                   = 3 0:VALID
```

Fault Group: Last 10 Long Time Dispatch Faults

```
     Fault Record: 6              Fault Code:  02Ch ( 44d)
     Fault Class:  BETA           Description: THE VBV POSITION SIGNAL IS OUT
```

```
OF RANGE
     ATA#:         75-20-44-VBV ACLRU's:       VBV ACT, EEC
```

Independent Snapshot Data

```
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_Channel B - Independent Snapshot Data Continued
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     Fault Location (1-10)                       = 0x05
     Fault Storage NVM Zone Number               = 0x04
     Fault_History                               = 1000000000000000
       SET   Fault Occurred in Ground Run        = Bit 15
     Selected Fan Rotational Speed               = 6215.0000 RPM
     Selected Core Rotational Speed              = 17524 RPM
     Sel. Exhaust Gas Total Temp.                = 423.0000 DEG_C
     Selected TRA Position                       = 36.3594 DEGREES
     Selected Amb. Static Pressure               = 1.4449E+01 PSIA
     Sel. Comp. Deliv. Static Pres.              = 2.6375E+01 PSIA
     Selected ECU Temperature                    = 2.0375E+01 DEG_C
     N1 Command                                  = 841.0000 RPM
     Sel. Fan Inlet Total Temp.                  = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.                  = 121.7500 DEG_C
     Selected FMV Position                       = 3.1250E-02 PERCENT
     Selected VSV Position                       = 4.2969E-01 INCHES
     Selected VBV Position                       = 42.0000 DEGREES
     Controlling Regulator                       = 10
     EDL_CHSTSWRD                                = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active                = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Input VBV LVDT Sec1              = 8189.0000 COUNTS
     Buffrd Raw Input VBV LVDT Sec2              = 8189.0000 COUNTS
     VBV LVDT A REF Input Conversio              = 4.0295E+00 VOLTS
     VBV LVDT B REF Input Conversio              = 1.5471E+00 VOLTS
     VBV Cross-Channel Validated                 = 39.0000 DEGREES
     VBV Servo-Actuator Model                    = 42.0000 DEGREES
     VBV Selection Status                        = 7 SST
     VBV Validation Status                       = 3 0:VALID
     Cross-Channel VBVVST                        = 3 0:VALID
```

Fault Group: Last 10 Long Time Dispatch Faults

```
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_Channel B - Fault Info Continued
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     Fault Record: 7              Fault Code:  03Bh ( 59d)
     Fault Class:  BETA           Description: THE TBV POSITION SIGNAL IS OUT
OF RANGE
     ATA#:         75-20-59-TBV, ELRU's:       TBV, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x04
     Fault Storage NVM Zone Number            = 0x04
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 421.0000 DEG_C
     Selected TRA Position                    = 36.2188 DEGREES
     Selected Amb. Static Pressure            = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 2.6000E+01 PSIA
     Selected ECU Temperature                 = 2.0375E+01 DEG_C
     N1 Command                               = 843.0000 RPM
     Sel. Fan Inlet Total Temp.               = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.               = 121.7500 DEG_C
     Selected FMV Position                    = -7.4219E-02 PERCENT
     Selected VSV Position                    = 4.2969E-01 INCHES
     Selected VBV Position                    = 42.0000 DEGREES
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Input TBV LVDT Sec1           = 8189.0000 COUNTS
     Buffrd Raw Input TBV LVDT Sec2           = 8189.0000 COUNTS
     TBV LVDT A REF Input Conversio           = 2.5603E+00 VOLTS
```



```
     TBV LVDT B REF Input Conversio           = 1.1365E+00 VOLTS
     Transient Bleed Valve Validate           = 96.2656 PERCENT
     Validated TBV Cross Channel              = 100.0000 PERCENT
     CROSS Channel TBVVSTX                    = 3 0:VALID
     TBV Selection Status                     = 7 SST
     Selected TBV Position                    = 101.0000 PERCENT
     TB Valve Position Demand                 = 0.0000 PERCENT
```

Fault Group: Last 10 Long Time Dispatch Faults

```
     Fault Record: 8              Fault Code:  052h ( 82d)
     Fault Class:  BETA           Description: THE T25 SIGNAL IS OUT OF RANGE
     ATA#:         75-20-82-T25 SELRU's:       T25 SENSOR, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x03
     Fault Storage NVM Zone Number            = 0x04
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
```

```
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 422.0000 DEG_C
     Selected TRA Position                    = 36.2266 DEGREES
     Selected Amb. Static Pressure            = 1.4449E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 2.6250E+01 PSIA
     Selected ECU Temperature                 = 2.0375E+01 DEG_C
     N1 Command                               = 841.0000 RPM
     Sel. Fan Inlet Total Temp.               = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.               = 121.7500 DEG_C
     Selected FMV Position                    = -7.8125E-03 PERCENT

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     Selected VSV Position                    = 4.2969E-01 INCHES
     Selected VBV Position                    = 42.0000 DEGREES
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     Buffered T25 Raw Input                   = 6434.5000 COUNTS
     ECU TEMPERATURE AMBIENT                  = -121.0000 COUNTS
     T25 Reference Input Conversion           = 237.0000 OHMS
     Val HP Comp Inlet Total Temp             = 46.8438 DEG_C
     T25 Cross-Channel Validated Va           = 1.5000E+01 DEG_C
     Cross-Channel T25VST                     = 3 0:VALID
     T25 Sensor Estimate                      = 119.2656 DEG_C
     IDL_T25MSTWD                             = xxxxxxxxxxxxxx0
       CLEAR T25 MODEL HEALTH STATUS          = Bit 00
     Sel HP Comp Inlet Total Temp             = 119.1875 DEG_C
```

Fault Group: Last 10 Long Time Dispatch Faults

```
     Fault Record: 9              Fault Code:  053h ( 83d)
     Fault Class:  BETA           Description: THE T3 SIGNAL IS OUT OF RANGE
     ATA#:         75-20-83-T3 SENLRU's:       T3 SENSOR, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x02
     Fault Storage NVM Zone Number            = 0x04
     Fault_History                            = 1000000000000000

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       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
```

```
Sel. Exhaust Gas Total Temp.            = 422.0000 DEG_C
Selected TRA Position                   = 36.2266 DEGREES
Selected Amb. Static Pressure           = 1.4449E+01 PSIA
Sel. Comp. Deliv. Static Pres.          = 2.6250E+01 PSIA
Selected ECU Temperature                = 2.0375E+01 DEG_C
N1 Command                              = 841.0000 RPM
Sel. Fan Inlet Total Temp.              = 4.7656E-01 DEG_C
Est. T25 Inlet Total Temp.              = 121.7500 DEG_C
Selected FMV Position                   = -7.8125E-03 PERCENT
Selected VSV Position                   = 4.2969E-01 INCHES
Selected VBV Position                   = 42.0000 DEGREES
Controlling Regulator                   = 10
EDL_CHSTSWRD                            = x0xxxxxxxxxxxxx
  CLEAR Local Channel Active            = Bit 14
```

Dependent Snapshot Data

```
T3 Buffered Raw Input Voltage           = 1488.0000 VDC
T3 Reference Input Conversion           = 7.0000E-03 VOLTS
Cold Junction Ref. Inp. Conv.           = 5.9319E-04 VOLTS
Val Compressor Delay Total Tem          = 249.0000 DEG_C
Modelled T3 Value                       = 647.8750 DEG_C
IDL_T3MSTWD                             = xxxxxxxxxxxxxx0
  CLEAR T3 Model Health Status          = Bit 00
T3 Cross-Channel Validated Val          = 184.5000 DEG_C
T495S1 Buffered Raw Input Volt          = 0.0000 VDC
```

Fault Group: Last 10 Long Time Dispatch Faults

```
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_Channel B - Fault Info Continued
Serial# : LMDN9114                                DEC 14, 2005   10:43 AM


Fault Record: 10            Fault Code:  075h (117d)
Fault Class:  BETA          Description: THE N1 SIGNAL IS OUT OF RANGE
ATA#:         77-21-17-N1 SENLRU's:      N1 SENSOR, EEC
```

Independent Snapshot Data

```
Fault Location (1-10)                   = 0x01
Fault Storage NVM Zone Number           = 0x04
Fault_History                           = 1000000000000000
  SET   Fault Occurred in Ground Run    = Bit 15
Selected Fan Rotational Speed           = 6215.0000 RPM
Selected Core Rotational Speed          = 17524 RPM
Sel. Exhaust Gas Total Temp.            = 422.0000 DEG_C
Selected TRA Position                   = 36.2266 DEGREES
Selected Amb. Static Pressure           = 1.4441E+01 PSIA
Sel. Comp. Deliv. Static Pres.          = 2.6188E+01 PSIA
Selected ECU Temperature                = 2.0375E+01 DEG_C
N1 Command                              = 841.0000 RPM
Sel. Fan Inlet Total Temp.              = 4.7656E-01 DEG_C
Est. T25 Inlet Total Temp.              = 121.7344 DEG_C
Selected FMV Position                   = -1.1719E-02 PERCENT
Selected VSV Position                   = 4.2969E-01 INCHES
```

```
     Selected VBV Position                    = 42.0000 DEGREES
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     N1 REGISTER 1 RAW INPUT                  = 7593 COUNTS
     N1 REGISTER 2 RAW INPUT                  = 32782 COUNTS
     Val Fan Rotational Speed                 = 1843.5000 RPMS

                                   Page 64
_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     N1ACT Cross-Ch Validated Value           = 0.0000 RPMS
     Cross Channel N1ACTVST                   = 3
     Modeled Fan Rotational Speed             = 6215.0000 RPM
     N1ACT Selection Status                   = 7 N1ACT
     Selected Fan Rotational Speed            = 6215.0000 RPM
     BDL_FLTWRD1                              = xxxxxxx000000000
       CLEAR BOOT PROM CHKSUM TEST FAIL       = Bit 08
       CLEAR FAULT RELAY TEST FAIL            = Bit 07
       CLEAR MASTER DISCONNECT TEST FAIL      = Bit 06
       CLEAR WDM TEST FAIL                    = Bit 05
       CLEAR PROM CHECKSUM TEST FAIL          = Bit 04
       CLEAR DATA ACQUISITION TEST FAIL       = Bit 03
       CLEAR CPU TEST FAIL                    = Bit 02
       CLEAR DUAL PORT RAM TEST FAIL          = Bit 01
       CLEAR RAM TEST FAIL                    = Bit 00
     BDL_FLTWRD2                              = x0xx00xxx0xx00x0
       CLEAR AS CONTROL AREA NVM TEST FAIL    = Bit 14
       CLEAR AS FAULT AREA NVM TEST FAIL      = Bit 11
       CLEAR AS ADJ AREA NVM TEST FAIL        = Bit 10
       CLEAR OS AREA NVM TEST FAIL            = Bit 06
       CLEAR NVM SW VERSION ID TEST FAIL      = Bit 03
       CLEAR CHARACTERIZATION MEMORY TST FL   = Bit 02
       CLEAR NVM TEST FAIL                    = Bit 00
```

Fault Group: Last 10 Economic Dispatch Faults

```
     Fault Record: 1              Fault Code:  024h ( 36d)
     Fault Class:  D              Description: HPTACC POSITION SIGNAL IS OUT
OF RANGE
     ATA#:         73-20-36-HPTC, LRU's:       HPTC, EEC
```

Independent Snapshot Data

```
                                   Page 65
_Channel B - Independent Snapshot Data Continued
Serial# : LMDN9114                                  DEC 14, 2005   10:43 AM


     Fault Location (1-10)                    = 0x02
```

```
     Fault Storage NVM Zone Number            = 0x05
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 422.0000 DEG_C
     Selected TRA Position                    = 36.2266 DEGREES
     Selected Amb. Static Pressure            = 1.4449E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 2.6188E+01 PSIA
     Selected ECU Temperature                 = 2.0375E+01 DEG_C
     N1 Command                               = 841.0000 RPM
     Sel. Fan Inlet Total Temp.               = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.               = 121.7344 DEG_C
     Selected FMV Position                    = -1.1719E-02 PERCENT
     Selected VSV Position                    = 4.2969E-01 INCHES
     IDL_PMUXDISWD                            = xxxxxxxxxxxxxx0
       CLEAR PMUX Inhibit Discrete (RES RAM   = Bit 00
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x0xxxxxxxxxxxxx
       CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
     Buffrd Raw Inpt HPTC LVDT Sec1           = 8189.0000 COUNTS
     Buffrd Raw Inpt HPTC LVDT Sec2           = 8189.0000 COUNTS
     HPTC LVDT A REF Input Conversi           = 2.3284E+00 VOLTS
     HPTC LVDT B REF Input Conversi           = 1.2490E+00 VOLTS
     Val HP Turbine Clearance Contr           = 2.4578E+01 PERCENT
     Validated HPTC Cross Channel             = 100.0000 PERCENT
     Cross-Channel HPTCVST                    = 3 0:VALID
     HPTC Selection Status                    = 7 SST
     Sel HP Turbine                           = 101.0000 PERCENT
     HPTC Position Demand                     = 78.8438 PERCENT

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_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9114                                DEC 14, 2005   10:43 AM
```

Fault Group: Last 10 Economic Dispatch Faults

```
     Fault Record: 2              Fault Code:  036h ( 54d)
     Fault Class:  D              Description: THE LPTC POSITION SIGNAL IS OUT
OF RANGE
     ATA#:         75-20-54-LPTC, LRU's:       LPTC, EEC
```

Independent Snapshot Data

```
     Fault Location (1-10)                    = 0x01
     Fault Storage NVM Zone Number            = 0x05
     Fault_History                            = 1000000000000000
       SET   Fault Occurred in Ground Run     = Bit 15
     Selected Fan Rotational Speed            = 6215.0000 RPM
     Selected Core Rotational Speed           = 17524 RPM
     Sel. Exhaust Gas Total Temp.             = 421.0000 DEG_C
     Selected TRA Position                    = 36.2188 DEGREES
```

```
     Selected Amb. Static Pressure            = 1.4441E+01 PSIA
     Sel. Comp. Deliv. Static Pres.           = 2.5750E+01 PSIA
     Selected ECU Temperature                 = 2.0375E+01 DEG_C
     N1 Command                               = 843.0000 RPM
     Sel. Fan Inlet Total Temp.               = 4.7656E-01 DEG_C
     Est. T25 Inlet Total Temp.               = 121.7812 DEG_C
     Selected FMV Position                    = 2.3438E-02 PERCENT
     Selected VSV Position                    = 4.2969E-01 INCHES
     IDL_PMUXDISWD                            = xxxxxxxxxxxxxxx0
       CLEAR PMUX Inhibit Discrete (RES RAM   = Bit 00
     Controlling Regulator                    = 10
     EDL_CHSTSWRD                             = x0xxxxxxxxxxxxxx
       CLEAR Local Channel Active             = Bit 14
```

Dependent Snapshot Data

```
                                  Page 67
_Channel B - Dependent Snapshot Data Continued
Serial# : LMDN9114                          DEC 14, 2005   10:43 AM


     Buffrd Raw Inpt LPTC LVDT Sec1           = 8189.0000 COUNTS
     Buffrd Raw Inpt LPTC LVDT Sec2           = 8189.0000 COUNTS
     LPTC LVDT A REF Input Conversi           = 3.1560E+00 VOLTS
     LPTC LVDT B REF Input Conversi           = 5.1008E+00 VOLTS
     Val LP Turbine Clearance Contr           = 3.0953E+01 PERCENT
     LPTC Cross-Channel Validated             = -3.0000E+00 PERCENT
     Cross-Channel LPTCVST                    = 3 0:VALID
     LPTC Selection Status                    = 7 SST
     Sel LP Turbine Clearance Contr           = 105.0000 PERCENT
     LPTC Position Demand                     = 2.4500E+01 PERCENT
```

Control Learning Data:

```
                                              Channel B:
     Engine Position                          2
     Engine On Time (esstaind=run)            1561.8813 Hours
     ECU On Time                              1573.9250 Hours
     Maximum ECU Temperature                  66.3906 DEG_C
     ECU Time Above Overtemp Limit            0.0000 Hours
     Latched ECU Overtemp Flag                0
     Peak N1 last engine cycle                6215.0000 RPM
     N1 > RdLn Lst EngCyc 120ms/CNT           97 CNTS
     Peak N2 last engine cycle                17524 RPM
     N2 > RdLn Lst EngCyc 120ms/CNT           97 CNTS
     Peak EGT last engine cycle               761.0000 DEG_C
     EGT> RdLn Lst EngCyc 120ms/CNT           0 CNTS
     Engine at Max (N2K25 > 12000)            1097.6355 Hours
     Engine Cycle Counter                     792
     Flight Leg Counter                       744
     Number of start cycles                   771
     Number of relights                       3
     Engine Family Number                     0x0890
     Eng ID Val. Stat (0:valid)               0
     Current Engine Serial Number             0x0900

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_Channel B - Control Learning Data Continued
Serial# : LMDN9114                          DEC 14, 2005   10:43 AM
```

Base Rating	4
Overboost Rating	4
N1 Trim Number	3
N1 Trim VST 0:valid 3:invalid	0
PMUX Inhibit (1 = inhibited)	1
Combustor/Fuel System Config	0
Flight Leg Synchronization Msk	0
Hardware Adjustment Checksum	0x00AC6041
Bump	0
Engine Configuration Val. Stat	0
Engine Rating	4
Engine Thrust	4
Thrust/Config Validation Stat.	0
Rating Validation Status	0
7B Plug Installed (1=7B Plug)	0
Thrust Validation Status	0
Auto Ign. Disc. Wd. (1=enabld)	0x0000
Burner Staging Valve Config	0x0000
FMV Sensor Max Difference	0x0061
Adjustments RAM corruption cnt	0
Pointer RAM corruption cnt	0
State Var RAM corruption cnt	1
Total Peak EGT Value	851.2500 DEG_C
EGT Over RdLn Total Time	0 CNTS
SubIdle EGT Flight Value	367.2500 DEG_C
SubIdle EGT Ovr RdLn Flgt Time	0 CNTS
SubIdle Total Peak EGT Value	564.0000 DEG_C
SubIdle EGT Over RdLn Tot Time	0 CNTS
Worst minor frame time	1.4240E+01 mSec
Worst major frame time	215.5000 mSec
Worst minor frame count	13
Exception program counter	0x00000000
CPU_FAULT_WORD	xxx00000xx0xxxxx
CLEAR Type B fault	Bit 12
CLEAR Illegal instruction fault	Bit 11

CLEAR Bus error fault	Bit 10
CLEAR Zero divide fault	Bit 09
CLEAR Type C fault	Bit 08
CLEAR Address fault	Bit 05
Last active channel 1 = lstatv	0
Worst background time	2865 mSec
OS RAM corruption counter	0

END OF REPORT