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:

- Hardware hand carried to BAE Systems by SWA and FAA attendees

 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

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- 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:

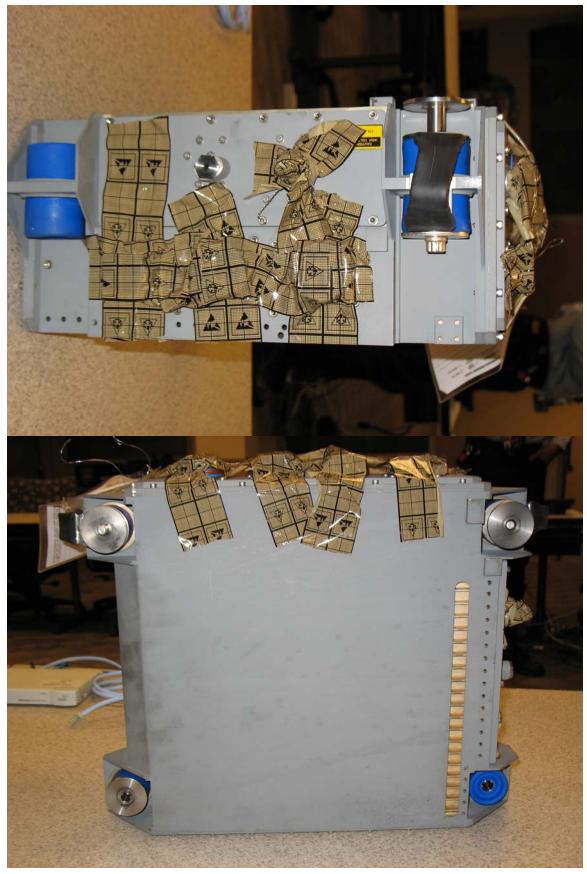
<u>Type:</u> Last 10 No Dispatch F Last 10 Alternate Mod Last 10 Short Time Di Last 10 Long Time Dis Last 10 Economic Disp	e Faults spatch Faults patch Faults	Chan Chan 0 0 0 0 0 0 1 2 0 0	<u>n B Total</u> 0 0 0 3 0
Channel AChannel A		nnel ACha	annel A
Fault Record: 1	Fault Code:	0A9h (169d)	
Fault Record: 1 Fault Class: C	Description:	ADIRUÌ/2 TÁT D	DATA FRM DEU1/2 IS
MISSING	L		
ATA#: 73-11-6	9-N/A LRU's:	N/A	
Channel BChannel B			annel B
Fault Record: 1	Fault Code:	0A9h (169d)	
Fault Record: 1 Fault Class: C	Description:		DATA FRM DEU1/2 IS
MISSING	Ľ		
ATA#: 73-21-6	9-N/A LRU's:	N/A	
Fault Record: 2	Fault Code:	051h (81d)	
Fault Class: BETA			IS OUT OF RANGE
ATA#: 73-20-8			

Number of Faults:

<u>Chan</u> B Total Type: <u>Chan A</u> 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 12 10 Last 10 Long Time Dispatch Faults 2 Last 10 Economic Dispatch Faults 2 2 4 Channel A......Channel A......Channel A......Channel A..... Fault Code: 027h (39d) Fault Record: 1 Fault Class: Description: THE VSV POSITION SIGNAL IS OUT OF RANGE BETA ATA#: 75-10-39-HMU, ELRU's: HMU, EEC Fault Record: 2 Fault Code: 02Ch (44d) Description: THE VBV POSITION SIGNAL IS OUT OF RANGE Fault Class: BETA ATA#: 75-10-44-VBV ACLRU's: VBV ACT, EEC Fault Record: 3 Fault Code: 03Bh (59d) Fault Class: Description: THE TBV POSITION SIGNAL IS OUT OF RANGE BETA 75-10-59-TBV, ELRU's: ATA#: TBV, EEC 052h (82d) Fault Record: 4 Fault Code: Description: THE T25 SIGNAL IS OUT OF RANGE Fault Class: BETA T25 SENSOR, EEC **АТА#:** 75-10-82-T25 SELRU's: Fault Record: 5 Fault Code: 06Dh (109d) Description: THE PEO SIGNAL IS OUT OF RANGE Fault Class: GAMMA ATA#: 79-11-09-N/A LRU's: N/A Fault Record: 6 Fault Code: 06Eh (110d) Description: THE TEO SIGNAL IS OUT OF RANGE Fault Class: BETA 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) Description: THE N2 SIGNAL IS OUT OF RANGE Fault Class: BETA ATA#: 77-11-18-N2 SENLRU's: N2 SENSOR, EEC Fault Record: 9 Fault Code: 084h (132d) Fault Class: Description: ENG IDENT SIGNAL OUT OF RANGE Α ATA#: 73-11-32-EEC, ELRU's: EEC, ENGINE RATING PLUG 07Fh (127d) Fault Code: Fault Record: 1 Description: ALTERNATOR VOLTAGE TO EEC OUT OF RANGE Fault Class: ALPHA ALTERNATOR, EEC 73-11-27-ALTERNLRU's: **АТА#:** 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 0A9h (169d) Fault Record: 2 Fault Code: Fault Class: С Description: ADIRU1/2 TAT DATA FRM DEU1/2 IS MISSING 73-11-69-N/A LRU's: **АТА#:** N/A Fault Record: 1 Fault Code: 024h (36d) Description: HPTACC POSITION SIGNAL IS OUT OF RANGE Fault Class: D ATA#: 73-10-36-HPTC, LRU's: HPTC, EEC Fault Record: 2 Fault Code: 036h (54d) Fault Class: Description: THE LPTC POSITION SIGNAL IS OUT OF RANGE D 75-10-54-LPTC, LRU's: ATA#: LPTC, EEC Channel B......Channel B.....Channel B.....Channel B..... Fault Record: 1 Fault Code: 084h (132d) Description: ENG IDENT SIGNAL OUT OF RANGE Fault Class: Α ATA#: 73-21-32-EEC, ELRU's: EEC, ENGINE RATING PLUG 027h (39d) Fault Record: 2 Fault Code: Fault Class: BETA Description: THE VSV POSITION SIGNAL IS OUT OF RANGE 75-20-39-HMU, ELRU's: ATA#: HMU, EEC Fault Code: 02Ch (44d) Fault Record: 3 Fault Class: BETA Description: THE VBV POSITION SIGNAL IS OUT OF RANGE VBV ACT, EEC ATA#: 75-20-44-VBV ACLRU's: Fault Record: 4 Fault Code: 03Bh (59d) Description: THE TBV POSITION SIGNAL IS OUT OF RANGE Fault Class: BETA 75-20-59-TBV, ELRU's: TBV, EEC ATA#:

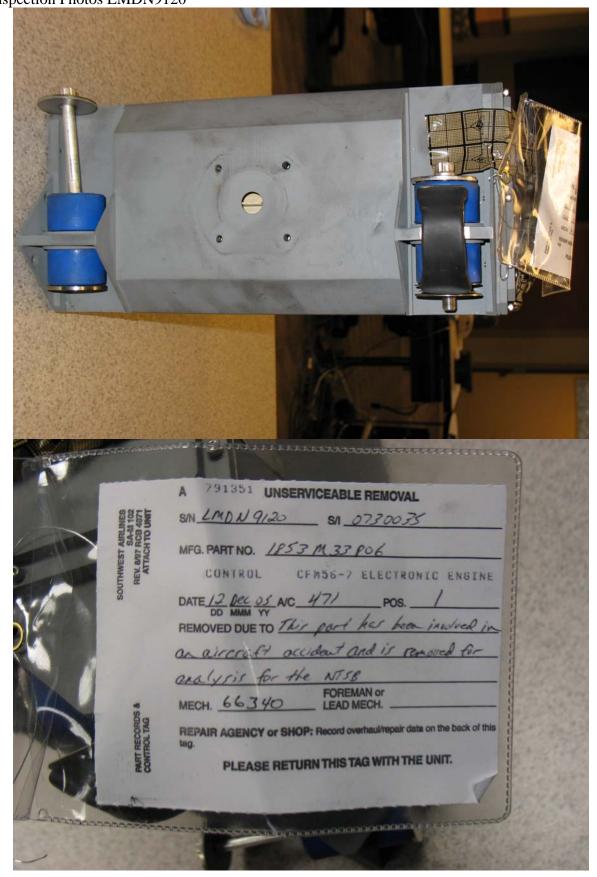
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NVM Summarv Fault Record: 5 Fault Code: 052h (82d) Fault Class: BETA Description: THE T25 SIGNAL IS OUT OF RANGE ATA#: T25 SENSOR, EEC 75-20-82-T25 SELRU's: Fault Code: 06Dh (109d) Fault Record: 6 Fault Class: GAMMA Description: THE PEO SIGNAL IS OUT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



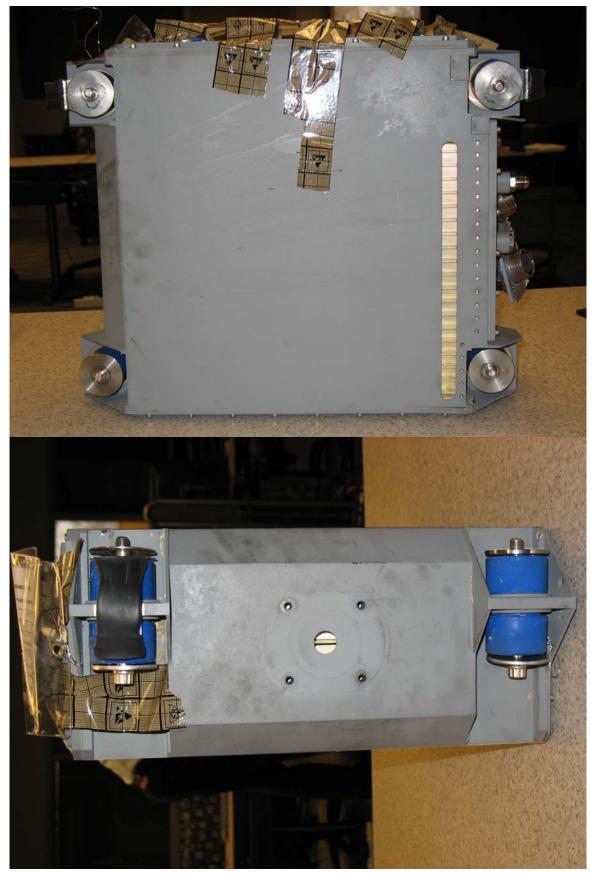
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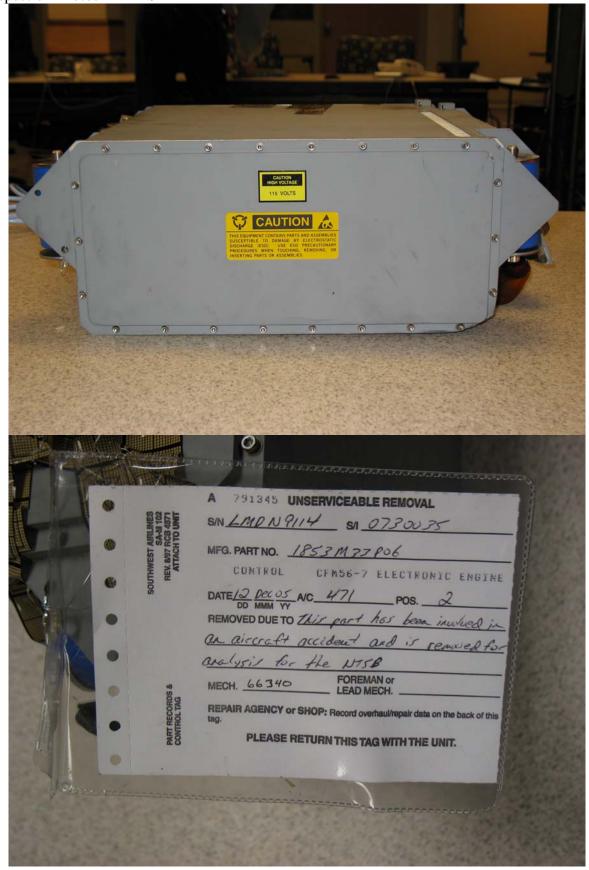


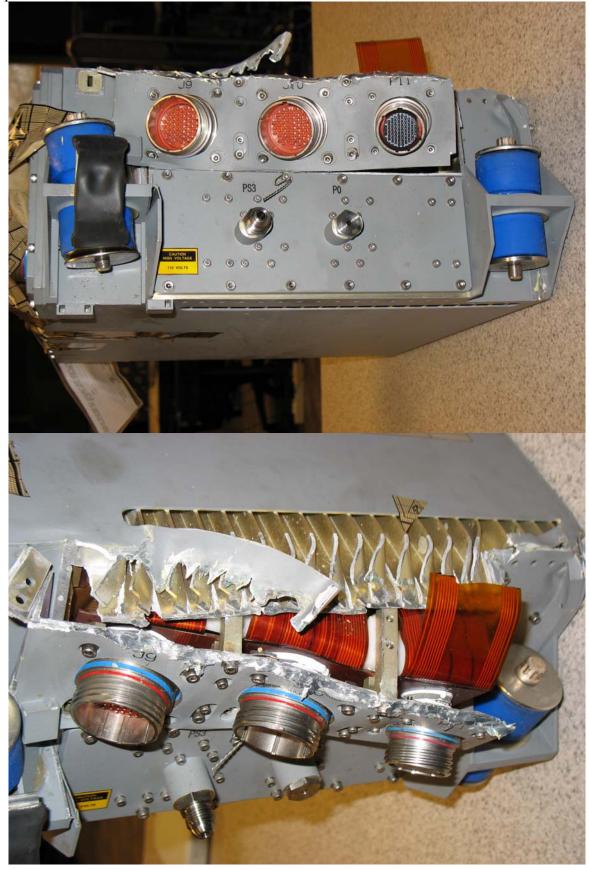




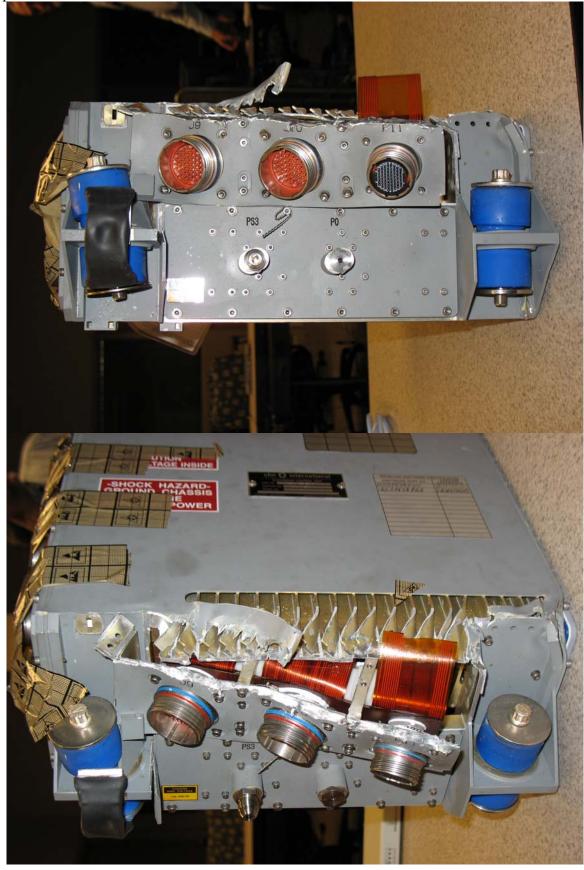
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SWA 1248 Investigation, DCA06MA009 Connector Pin Definitions

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·			DEC Wiring (Sheet 9	9 of 10)
		and the second sec		A the second
		<u>ENGINE INTERFACE –</u>	110 MIL_C_38000 2	2-53-C (53#20)
	DIN	DESCRIPTION CHARACTER	510 Mil-C-307772	<u></u>
	PIN	Ch.B LVDT #4 Excitation (#)		
	A B	Ch.B LVDT #4 SEC 11(+)	(LPTC)	
2	Ċ		(LPTC) (LPTC)	an an an a' shi terreta 🖓 👔
	Ď	Ch.B LVDT #6 SEC 24(+) LVD	(TBV)	
	E	Ch.B. HUT. #6 Excitation (+)	(TBV)	
	F	Ch.B-LVDT #3 Excitation ()	(HPTC)	and the second
1 2.	G	Ch.B LVDT #3 SEC1.4	(HPTC)	and the second sec
	Н	Ch.B T/C.#3 (AL)	(T495S4)	
	1.	ChiB T/C #5 (ALD CALL DI	(Spare)	
	K	Ch.B T/C #6 (AL)	(Spare)	
	L	Not Available		
	M	Not Available C	(VSV)	and the last of the
D.	P	Ch.B LVDT #1 SEC.1 (+)	(VSV) (VSV)	
	Ř	Ch.B LVDT #2 SEC 2 (4)	(VSV) (VBV)	and the second
۳ ۲۲	Š	Ch.B LVDT #2 Excitation (+)	(VBV)	
Silgir	Ť,	Ch B LVDT #5 Excitation (+)	(Spare - SAC, DMV - DAC)	and the start of the
	U	Ch.B LVDT #4 Excitation (-)5	(LPTC)	and the second
	V	Ch.B LVDT#4 SEC 1&2 (-)	(LPTC)	the second s
		Ch.B LVDT 46 SEC 2 (+)	(TBV)	100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100
14		Ch.B LVDT #6, Excitation (-) Rat	(TBV)	A CARLES STREAM STREAM
in Liner	Y Z	Ch.B LVDT #3 Excitation (+)	(HPTC)	
E Edging I	2 a	2Ch.B LVDT #3 SEC 2 (+) Ch.B T/C #3 (CHR) B 775	(HPTC)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
t. Brance pi	b	CLE IC #DIAL) CLE	(T495S4) (T495S2)	
f Isine E	c	Not Available	(149,532)	12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 48-	d ?	Ch.B T/C #1 (AL)	(T3)	A Real Production of the second s
1 × 4	.e	Ch.B.T/G#5 (CHR)	(Spare)	
- Ac	f	Ch.B T/C #6 (CHR)	(Spare)	1 - HINA 11. HORAN 1
	g ,	Not Avaitable		with when the terms of the second
	h/ 26	Ch.B.LVDT #1 Excitation (-)	(VSV)	and a set of the set when the
1	k 27 m ⊰8	ChBLVDT#1SEC2(+)	(VSV)	and a second s
	ಗ್ಷನ	Ch.B EVDT #2 SEC 1 (+) Ch.B EVDT #2 Excitation (-)	(VBV)	2 DISTURD TO
	D T	Ch B LVDT #5 Excitation (-)	(VBV) (Spare – SAC, DMV – DAC)	
	q	Ch.BLYDT#5 SEC 1 (+)	(Spare - SAC, DMV - DAC) (Spare - SAC, DMV - DAC)	and while an end of the
	r ³ ?	- Ch B LVDT #6 SEC 1&2 (-)	(TBV)	(2) And a distribution of the second stage
	s	Ch A & B Engine Switch #14 (-)	(BSV.2)	
•	t	Ch.B LVDT #3 SEC 1&2 (-)	(HPTC)	in the day the epithery
	u	Ch.B T/C #2 (CHR)	(T495S3)	Correct sugar in
· · · ·	V	Not Available	· ·	Add with a fight wright
	. W	Ch.B T/C #1 (CHR)	(T3)	coust v a subble.
	• X	Ch.B VRT #2	(T25)	
	У.,	Not Available Ch.B LVDT #1 SEC 1&2 (-)	(181)	A COSTROLING
	z AA	Ch.B LVDT #2 SEC 1&2 (-)	(VSV) (VBV)	
: مور ي	BB	Ch.B LVDT #5 SEC 2 (+)	(Spare – SAC, DMV – DAC)	a sector data and the sector of a sector of a sector of the sector of th
	CC	Ch.A & B Engine Switch #14 (+)	(BSV.2)	
1 L. C.	DD	Ch.B VRT #3 (-)	(Spare)	
	EE	Ch.B VRT #3 (+)	(Spare)	
1999 - C.	FF	Ch.B VRT #2 (+)	(T25)	
· · ·	GG	Not Available	· · · · ·	
	HH	Ch.B LVDT #5 SEC 1 & 2 (-)	(Spare - SAC, DMV - DAC)	
4	GF	PROPRIETARY INFORMATION Subje	ect to the restrictions on the	cover or first nage
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SWA 1248 Investigation, DCA06MA009 Connector Pin Definitions

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I II A DLOCAIF I JUN	<u>CE – J9 MIL-C–38999 23</u>	
A Not Available B Ch.A LVDT #3 Excitation (+)	· · · · · · · · · · · · · · · · · · ·	
B Ch'A LVDT #3 Excitation (+) Ch A LVDT #3 SEC 1 (+)	(HPTC)	
Ch.A LVDT #6 SEC 1 (+)	(HPTĆ)	
E Ch.A LVD1 #0 SBC 1 (+) Ch.A LVDT #6 Excitation (+)	(TBV)	
F ChALVDT #4 Excitation (-)	(TBV)	
G ChALVDT #4 SEC 1 (+)		
. Ch.A T/C #3 (AL)	(LPTC)	
Ch.A T/C #5 (AL)	(T495\$2) (T5)	我们 一方 的复数形式
K Ch.A T/C #6 (AL)		
L	(Spare) (T25)	
M	(125)	
N Ch.A LVDT #1 SEC 1 (+)	(VSV)	
P Ch.A LVDT #1 Excitation (+)	(VSV)	
R Ch.A LVDT #2 Excitation (+)	(VBV)	
Not Available	((131))	
Not Available	14. 1	
dU Ch.A LVDT #3 Excitation (-)	(HPTC)	
V	(HPTC)	백국학 - 국가는 여기가 관망했다. 한 것이가
W	(TBV)	해 있었다. 그는 것 이가 가지 않는 것 같아.
X Ch.A LVDT #6 Excitation ()	(TBV)	· 특히 가지 수가서 올 집 중계를 했다.
Y Ch A LVDT #4 Excitation (+)	(LPTC)	
Z Ch A LVDT #4 SEC 2 (+)	(LPTC)	
Ch.A T/C #3 (CHR)	(T495S2)	
/ ch.A T/C #2 (AL)	(T495S1)	
Ch.A and B T/C #4 (CHR)	(TC)	
d Ch.A T/C #1 (AL)	(T3)	
2 ch A T/C #5 (CHR)	(T5)	
T / Ch.A T/C #6 (CHR)	(Spare)	· · · · · · · · · · · · · · · · · · ·
Spare	(-P - -)	 M. Magdel Feedback and the second seco
h Ch.A LVDT #1 SBC 2 (+)	(VSV)	
Ch.A LVDT #1 Excitation (-)	(VSV)	
m Ch.A LVDT #2 Excitation (-)	(VBV)	
n Not Available		
p Not Available		a second press
q Ch.A LVDT #3 SEC 1&2 ()	(HPTC)	and the second second second
Ch.A LVDT #6 SEC 1&2 (-)	(TBV)	
s Ch.A LVDT #5 Excitation (-)	(Spare - SAC, DMV - DAC)	and the second sec
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)	e politika Terretaria
w Ch.A T/C #1 (CHR)	(T3)	
x Ch.A & B Engine Switch #13 (-)	(BSV.1)	
Spare		
z Ch.A LVDT #1 SEC 1&2 ()	(VSV)	
AA Ch.A LVDT #2 SEC 1 (+)	(VBV)	 A state of the sta
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)	
E 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 .: CILAR LVDT #5 SEC 1 & 2 (-)	(Spare – SAC, DMV – DAC)	
	Subject to the restrictions on the c	

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SWA 1248 Investigation, DCA06MA009 Connector Pin Definitions

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	, k	: 6 2 16 - 5	ble III – FADEC	Wiring ((Sheet 10 of 10)		
		w AND INCOMP	NEW CONNEC	vana		AC 10/00/400	
		<u>T AND ENGINE F</u>	AIINGCONNEC	<u> 10k –</u>	<u>P11 MIL-C-38999 19</u>	<u> </u>	
PI	N	DESCRIPTION Ch.A. Monitor ARINC Out		PIN 34	DESCRIPTION Ch B RS=232 Return		ji k ∶
		Ch.A Monitor ARINC Out		35	Engine Discrete #18-20 Return		3.A.
3		Signature Resistor () Ch.A PSS RS-232 Receive		,36 37	Engine Discrete #9 Engine Discrete #15		
5		Ch.A Program Enable Ch.A Program Enable Retu		38 39	Engine Discrete #14–17 Return Not Available		
7		Ch.A ATP Test Discrete Signature Resistor (+)		40 41	Engine Discrete #10 Engine Discrete #21		
9		Ch B ATP Test Discrete Ch A CPU RS-232 Receive		42 43	Ch B Test DAC 2 Ch B CPU RS-232 Transmit		аў Парія
11	1	Spare Engine Discrete #4		44	Engine Discrete #19 Engine Discrete #7-10 Return		
13		Spare		46	Engine Discrete #16		
/14 15		Engine Discrete #4-6 Retui Engine Discrete #23		47 48	Engine Discrete #17 Engine Discrete #1		: 6
16 17		Spare Ch A CPU RS-232 Transm	it.	49 50	Not Available Ch.B Test DAC 1		and the second sec
18	ag	Not Available Engine Discrete #5		51 52	Ch.B.CFU RS-232 Receive Engine Discrete #20		Чк Эг
20	្លាលព្រំ	Engine Discrete #11 Engine Discrete #12		53 54	Engine Discrete #1-3 Return Engine Discrete #14		
22	<u>.</u>	Engine Discrete #6 Engine Discrete#6, 23 Re	um.	55 56	Engine Discrete #2 Engine Discrete #3		
24		Ch A Test DAC 1 Ch A RS-232 Return	N. Sizza	57 58	Ch & Program Enable Return Ch & PSS RS-232 Receive		
26 27		Engine Discrete #18		59 60	Ch.B Monitor A RINC (+) Ch.B Monitor ARINC (-)		
28		Engine Discrete #13 Engine Discrete #11-13, 22	Panna	61 62	Ch.A & B RSS ARINC (+) Ch.A & B PSS ARINC (-)		N. Ét
30		Engine Discrete #22	KCUM	63	Ch B Program Enable		
31 32		Engine Discrete #8	TRADE ST	_64 65	GSE Connected Discrete GSE/PSS Discrete Return		
33	š, d	Ch.A Test DAC 2		66	PSS Simulation Enable		
a DAT	.	12 D		600 (1) 600 (1) 19	and the second s		
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FADEC Fault Report

Setup Information:

Author:	T. Sorg		
Definition File: Input File: Report File:		Part Number: Serial Number: Channels:	

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	<u>Channel A</u>	<u>Channel B</u>
7B5F	7B5F	7B5F

Number of Faults:

_FADEC Fault Report Continued Serial# : LMDN9120	Page 1	DEC	14, 2005	10:03 AM
<u>Type:</u> Last 10 No Dispatch Faults Last 10 Alternate Mode Faults Last 10 Short Time Dispatch Fa Last 10 Long Time Dispatch Fau Last 10 Economic Dispatch Fau	ılts	<u>Chan A</u> 0 0 1 0	<u>Chan B</u> 0 0 2 0	<u>Total</u> 0 0 3 0

Comments:

None

Detailed NVM Report LMDN9120 Channel A.....Channel A.....Channel A.....Channel A.....

Checksums:

		Channel A:
AS Checksum Expected: Calculated:		871EA3F0 871EA3F0
AS Adjustment Checksum Expected: Calculated:		AC6041 AC6041
OS Adjustment Checksum Expected: Calculated:		833BE 833BE
NVM Maintenance Checksum Expected: Calculated:		10BDA9 10BDA9
_Channel A - Checksums Continued Serial# : LMDN9120	Page 2	DEC 14, 2005 10:03 AM
Control Learning Checksum Expected: Calculated:		C799F C799F

Fault Group: Last 10 Long Time Dispatch Faults

Fault Record: 1Fault Code: 0A9h (169d)Fault Class: CDescription: ADIRU1/2 TAT DATA FRM DEU1/2 ISMISSINGATA#:73-11-69-N/ALRU's:N/A

Independent Snapshot Data

Fault Location (1-10) Fault Storage NVM Zone Number Fault_History SET Fault occurred in current leg Selected Fan Rotational Speed Selected Core Rotational Speed Selected Core Rotational Speed Selected TRA Position Selected TRA Position Selected Amb. Static Pressure Sel. Comp. Deliv. Static Pres. Selected ECU Temperature N1 Command Sel. Fan Inlet Total Temp. Est. T25 Inlet Total Temp. Selected FMV Position Selected VSV Position	<pre>= 0x01 = 0x04 = 0100000000000000000 = Bit 14 = 1403.0000 RPM = 10116 RPM = 486.7500 DEG_C = 41.0000 DEGREES = 1.4441E+01 PSIA = 55.0000 PSIA = 1.8008E+01 DEG_C = 843.5000 RPM = -7.8125E-02 DEG_C = 2.7656E+00 DEG_C = 1.3035E+01 PERCENT = 2.8577E+00 INCHES</pre>
Selected FMV Position	= 1.3035E+01 PERCENT

Detailed NVM Report LMDN9120

Page 3

Channel A - Independent Snapshot Data Continued Serial# : LMDN9120 DEC 14, 2005 10:03 AM

Local Channel Active = Bit 14 SET

Dependent Snapshot Data

DATA LSBS(3) |SDI(2) |SM(2) | 0 ARINC Bus 1 L211 Label LSB->MS DATA LSBS(3) |SDI(2) |SM(2) | 0 ARINC Bus 2 L211 Label LSB->MS Cross-Channel ADC1L211 LVS Cross-Channel ADC1L211 LVS EDL_CHHLTWD1 CLEAR CH. HEALTH GIFLT CLEAR CH. HEALTH TM1 FAULT CLEAR CH. HEALTH TM2 FAULT CLEAR CH. HEALTH TM3 FAULT CLEAR CH. HEALTH TM3 FAULT CLEAR CH. HEALTH TM3 FAULT CLEAR CH. HEALTH SOL. 2 FAULT EDL_CHHTWD2 CLEAR CH. HEALTH SOL. 3 FAULT CLEAR CH. HEALTH SOL. 3 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH MM4 FAULT CLEAR CH. HEALTH MM4 FAULT CLEAR CH. HEALTH MM4 FAULT CLEAR CH. HEALTH MM5 FAULT CLEAR CH. HEALTH MM5 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH MM4 FAULT CLEAR CH. HEALTH MM5 FAULT CLEAR CH. HEALTH M5 FAULT CLEAR CH. HEALTH CHDSG FAULT Bit 03 CLEAR CH. HEALTH CHDSG FAULT BIT 01 THO THE STANDBY FAULT BIT 01 THO THE STANDBY FAULT BIT 01 CLEAR CH. HEALTH CHDSG FAULT BIT 01 THO THE STANDBY FA

Page 4

Channel A - Dependent Snapshot Data Continued Serial# : LMDN9120

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CLEAR BOOT PROM CHKSUM TEST FAIL= Bit 08CLEAR FAULT RELAY TEST FAIL= Bit 07CLEAR MASTER DISCONNECT TEST FAIL= Bit 06CLEAR WDM TEST FAIL= Bit 05CLEAR PROM CHECKSUM TEST FAIL= Bit 04CLEAR DATA ACQUISITION TEST FAIL= Bit 03CLEAR CPU TEST FAIL= Bit 02CLEAR DUAL PORT RAM TEST FAIL= Bit 01CLEAR RAM TEST FAIL= Bit 00DL FLTWRD2= x0xx00xxx0xx00x0CLEAR AS FAULT AREA NVM TEST FAIL= Bit 14CLEAR OS AREA NVM TEST FAIL= Bit 10CLEAR NVM SW VERSION ID TEST FAIL= Bit 03CLEAR NVM TEST FAIL= Bit 03CLEAR NVM TEST FAIL= Bit 06CLEAR NVM TEST FAIL= Bit 02CLEAR NVM TEST FAIL= Bit 03CLEAR NVM TEST FAIL= Bit 03CLEAR NVM TEST FAIL= Bit 02CLEAR NVM TEST FAIL= Bit 02CLEAR NVM TEST FAIL= Bit 02CLEAR NVM TEST FAIL= Bit 00CLEAR NVM TEST FAIL= Bit 00CLEAR MINOR FRAME TIME CALC FAULT= Bit 15 BDL FLTWRD2 EDL FLTWRD CLEAR MINOR FRAME TIME CALC FAULT = Bit 15

Detailed NVM Report LMDN9120	
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
	= 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

Engine Position	<u>Channel A:</u> 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 N1 Trim Number	4 3
NI Trim VST 0:valid 3:invalid	3 0
	1
PMUX Inhibit (1 = inhibited) 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	õ
	-

Page 6 _Channel A - Control Learning Data Continued Serial# : LMDN9120

DEC 14, 2005 10:03 AM

Detailed NVM Report LMDN9120

7B Plug Installed (1=7B Plug) Thrust Validation Status Auto Ign. Disc. Wd. (1=enabld) Burner Staging Valve Config FMV Sensor Max Difference Adjustments RAM corruption cnt Pointer RAM corruption cnt State Var RAM corruption cnt Total Peak EGT Value EGT Over RdLn Total Time SubIdle EGT Flight Value SubIdle EGT Ovr RdLn Flqt Time SubIdle Total Peak EGT Value SubIdle EGT Over RdLn Tot Time Worst minor frame time Worst major frame time Worst minor frame count Exception program counter CPU_FAULT_WORD CLEAR Type B fault CLEAR Illegal instruction fault CLEAR Bus error fault CLEAR Zero divide fault CLEAR Type C fault CLEAR Address fault Last active channel 1 = 1statv Worst background time OS RAM corruption counter

1 0 0x0000 0x0000 0x001D 0 0 0 857.5000 DEG C 0 CNTS 474.5000 DEG C 0 CNTS 556.0000 DEG C 0 CNTS 1.4110E+01 mSec 216.1250 mSec 3 0x00000000 xxx00000xx0xxxxx Bit 12 Bit 11 Bit 10 Bit 09 Bit 08 Bit 05 1 3090 mSec 0

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

Checksums:

	Page 7		
_Channel B - Checksums Continued Serial# : LMDN9120		DEC 14, 2005	10:03 AM
AS Checksum Expected: Calculated:		<u>Channel B:</u> 871EA3F0 871EA3F0	
AS Adjustment Checksum Expected: Calculated:		AC6041 AC6041	
OS Adjustment Checksum Expected: Calculated:		8F2FC 8F2FC	
NVM Maintenance Checksum Expected: Calculated:		1BEB04 1BEB04	
Control Learning Checksum Expected: Calculated:		D5B2C D5B2C	

SWA 1248 Investigation, DCA06MA009 Detailed NVM Report LMDN9120 Fault Group: Last 10 Long Time Dispatch Faults

Fault Record: 1 Fault Class: C Fault Code: 0A9h (169d) 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)= 0x02Fault Storage NVM Zone Number= 0x04Page 8 Channel B - Independent Snapshot Data Continued Serial# : LMDN9120 DEC 14, 2005 10:03 AM Fault_History= 010000000000000SETFault occurred in current legSelected Fan Rotational Speed= 1407.0000 RPMSelected Core Rotational Speed= 10184 RPMSelected TRA Position= 484.7500 DEG CSelected TRA Position= 41.0234 DEGREESSelected Amb. Static Pressure= 1.4441E+01 PSIASelected ECU Temperature= 1.8008E+01 DEG_CN1 Command= 843.5000 RPMSelected FMV Position= -7.0312E-02 DEG CSelected VSV Position= 2.8547E+00 INCHESSelected VSV Position= 34.4062 DEGREESSelected VBV Position= 16EDL_CHSTSWRD= 16CLEAR 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 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 01CLEAR CH. HEALTH SOL. 2 FAULT= Bit 00DL CHHLTWD2= 0000x00000xx0111 EDL CHHLTWD2

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SVVA 1240 Investigation, DCAUOWA009	
Detailed NVM Report LMDN9120	
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 TRINLK FAULT CLEAR CH. HEALTH NVM FAULT CLEAR CH. HEALTH SOL. 1 FAULT	= Bit 12
CLEAR CH. HEALTH SOL. 4 OR 5 FAULT	= Bit 10
CLEAR CH. HEALTH NVM FAULT CLEAR CH. HEALTH SOL. 1 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH TM4 FAULT CLEAR CH. HEALTH TM5 FAULT CLEAR CH. HEALTH TM5 FAULT CLEAR CH. HEALTH ARINC FAULT CLEAR CH. HEALTH ARINC FAULT CLEAR CH. HEALTH 115V AVAIL. FLT SET CH. HEALTH LAST ACTIVE FLT SET CH. HEALTH CHDSG FAULT BDL_FLTWRD1 CLEAR BOOT PROM CHKSUM TEST FAIL CLEAR MASTER DISCONNECT TEST FAIL CLEAR WDM TEST FAIL CLEAR PROM CHECKSUM TEST FAIL CLEAR DATA ACQUISITION TEST FAIL CLEAR DUAL PORT RAM TEST FAIL CLEAR RAM TEST FAIL CLEAR RAM TEST FAIL CLEAR RAM TEST FAIL CLEAR AS CONTROL AREA NVM TEST FAIL CLEAR AS ADJ AREA NVM TEST FAIL CLEAR AS ADJ AREA NVM TEST FAIL	= 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	= xxxxxx000000000
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 II
CLEAR AS FAULI AREA NVM TEST FAIL CLEAR AS ADJ AREA NVM TEST FAIL CLEAR OS AREA NVM TEST FAIL CLEAR NVM SW VERSION ID TEST FAIL CLEAR CHARACTERIZATION MEMORY TST FL	= 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 U2
CLEAR NVM TEST FAIL EDL FLTWRD	= Bit 00
EDL_FLTWRD	= 000000000000000000000000000000000000
Page 10	
_Channel B - Dependent Snapshot Data Continue	≥d
Serial# : LMDN9120	DEC 14, 2005 10:03 AM
CLEAR MINOR FRAME TIME CALC FAULT CLEAR CHANNEL SYNC FAULT	= Bit 15
CLEAR CHANNEL SYNC FAULT	= Bit 14

= Bit 13 CLEAR PRESSURE LABEL FAULT FLAG CLEAR TYPE B FAULT = Bit 12 CLEAR ILLEGAL INSTRUCTION FAULT = Bit 11 CLEAR BUS ERROR FAULT = Bit 10 = Bit 09 CLEAR ZERO DIVIDE FAULT CLEAR TYPE C FAULT= Bit 08CLEAR BACKGROUND OVERRUN FAULT= Bit 07CLEAR 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:2Fault Code:051h (81d)Fault Class:BETADescription:THE T12 SIGNAL IS OUT OF RANGEATA#:73-20-81-T12 SELRU's:T12 SENSOR, EEC

Independent Snapshot Data

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Detailed NVM Report LMDN9120

Fault Location (1-10)= 0x01Fault Storage NVM Zone Number= 0x04Fault_History= 010000000000000SETFault occurred in current legSelected Fan Rotational Speed= 1406.0000 RPMSelected Core Rotational Speed= 10112 RPM Page 11 Channel B - Independent Snapshot Data Continued DEC 14, 2005 10:03 AM Serial# : LMDN9120 Sel. Exhaust Gas Total Temp.= 487.7500 DEG_CSelected TRA Position= 40.9766 DEGREESSelected Amb. Static Pressure= 1.4441E+01 PSIASelected ECU Temperature= 55.1250 PSIASelected ECU Temperature= 1.8008E+01 DEG_CN1 Command= 843.5000 RPMSel. Fan Inlet Total Temp.= -3.0469E-01 DEG_CEst. T25 Inlet Total Temp.= 1.9062E+00 DEG_CSelected FMV Position= 1.3238E+01 PERCENTSelected VSV Position= 34.3984 DEGREESControlling Regulator= 3EDL_CHSTSWRD= x0xxxxxxxxxxxxxCLEAR Local Channel Active= Bit 14 **Dependent Snapshot Data** Buffered T12 Raw Input= 3313.5000 COUNTSECU TEMPERATURE AMBIENT= -75.0000 COUNTST12 Reference Input Conversion= 200.1250 OHMSValidated Fan Inlet Total Temp= 1.6406E-01 DEG_CEDL_CHHLTWD1= Bit 13CLEAR CH. HEALTH GIFLT= Bit 12CLEAR CH. HEALTH TM1 FAULT= Bit 11CLEAR CH. HEALTH TM2 FAULT= Bit 11CLEAR CH. HEALTH TM3 FAULT= Bit 10CLEAR CH. HEALTH LCHCCDLFLT= Bit 09CLEAR CH. HEALTH ALT POWER FAULT= Bit 01CLEAR CH. HEALTH SOL. 2 FAULT= Bit 01EDL_CHHLTWD2= 00000x00000xx0111CLEAR CH. HEALTH TRINLK FAULT= Bit 14CLEAR CH. HEALTH NVM FAULT= Bit 13 Page 12 Channel B - Dependent Snapshot Data Continued Serial# : LMDN9120 DEC 14, 2005 10:03 AM BDL FLTWRD1

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SWA 1240 III	esugation, DCAUONIA009		
Detailed NVM	Report LMDN9120		
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	REPORT LIMIDN9120 BOOT PROM CHKSUM TEST FAIL FAULT RELAY TEST FAIL MASTER DISCONNECT TEST FAIL WDM TEST FAIL PROM CHECKSUM TEST FAIL DATA ACQUISITION TEST FAIL CPU TEST FAIL DUAL PORT RAM TEST FAIL RAM TEST FAIL WRD2 AS CONTROL APEA NUM 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_FLTW	VRD2	= x0xx00xxx0xx00x0	
CLEAR	VRD2 AS CONTROL AREA NVM TEST FAIL AS FAULT AREA NVM TEST FAIL AS ADJ AREA NVM TEST FAIL OS AREA NVM TEST FAIL NVM SW VERSION ID TEST FAIL CHARACTERIZATION MEMORY TST FL NVM TEST FAIL VRD MINOR FRAME TIME CALC FAULT CHANNEL SYNC FAULT PRESSURE LABEL FAULT FLAG TYPE B FAULT	= 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_FLTV	VRD	= 000000000000000000000000000000000000	
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	PRESSURE LABEL FAULT FLAG TYPE B FAULT ILLEGAL INSTRUCTION FAULT BUS ERROR FAULT	= Bit 10	
~l] =	Page 13		
	Dependent Snapshot Data Continue		
Serial# : LMI	DN9120	DEC 14, 2005 10:03 AM	
CT FAD	ZERO DIVIDE FAULT TYPE C FAULT BACKGROUND OVERRUN FAULT FOREGROUND OVERRUN FAULT ADDRESS ERROR INTERRUPT FAULT GENERAL INTERRUPT FAULT SYNC COMMAND WRAPAROUND FAULT ECM WDM RESET FAULT	- pi+ 00	
CLEAR	TYPE C FAILT	= Bit 08	
CLEAR	BACKGPOIND OVERBIN FAILT	= Bit 07	
CLEAR		= Bit 06	
CLEAR	AUDARAS EDUQ INGLIGATION EVILA	= Bit 05	
	CENEDAT INTEDDIDT FAIIT	- Bit 0/	
	GENERAL INTERRUFT FAULT	- Dit 04 - Dit 02	
	ECM WDM RESET FAULT	- DIL US - Di+ 02	
	ANTOR FRAME SYNC FAILT	= BIt 02 $= Bit 01$	

= Bit 00

CLEAR ECM WDM RESET FAULT= Bit 02CLEAR MAJOR FRAME SYNC FAULT= Bit 01Dit 01Dit 01 CLEAR CCDL FAULT FLAG

Control Learning Data:

ECU On Time1577.2843 HoursMaximum ECU Temperature68.0938 DEG_CECU Time Above Overtemp Limit0.0000 HoursLatched ECU Overtemp Flag0Peak N1 last engine cycle5112.0000 RPMN1 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak N2 last engine cycle14108 RPMN2 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0		<u>Channel B:</u>
ECU On Time1577.2843 HoursMaximum ECU Temperature68.0938 DEG_CECU Time Above Overtemp Limit0.0000 HoursLatched ECU Overtemp Flag0Peak N1 last engine cycle5112.0000 RPMN1 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak N2 last engine cycle14108 RPMN2 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0		1
Maximum ECU Temperature68.0938 DEG_CECU Time Above Overtemp Limit0.0000 HoursLatched ECU Overtemp Flag0Peak N1 last engine cycle5112.0000 RPMN1 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak N2 last engine cycle14108 RPMN2 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	Engine On Time (esstaind=run)	1565.6981 Hours
ECU Time Above Overtemp Limit0.0000 HoursLatched ECU Overtemp Flag0Peak N1 last engine cycle5112.0000 RPMN1 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak N2 last engine cycle14108 RPMN2 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	ECU On Time	1577.2843 Hours
ECU Time Above Overtemp Limit0.0000 HoursLatched ECU Overtemp Flag0Peak N1 last engine cycle5112.0000 RPMN1 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak N2 last engine cycle14108 RPMN2 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	Maximum ECU Temperature	68.0938 DEG C
Peak N1 last engine cycle5112.0000 RPMN1 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak N2 last engine cycle14108 RPMN2 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0		0.0000 Hours
N1 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak N2 last engine cycle14108 RPMN2 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	Latched ECU Overtemp Flag	0
Peak N2 last engine cycle14108 RPMN2 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	Peak N1 last engine cycle	5112.0000 RPM
N2 > RdLn Lst EngCyc 120ms/CNT0 CNTSPeak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	N1 > RdLn Lst EngCyc 120ms/CNT	0 CNTS
Peak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	Peak N2 last engine cycle	14108 RPM
Peak EGT last engine cycle769.2500 DEG_CEGT> RdLn Lst EngCyc 120ms/CNT0 CNTSEngine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	N2 > RdLn Lst EngCyc 120ms/CNT	0 CNTS
Engine at Max (N2K25 > 12000)1094.1826 HoursEngine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	Peak EGT last engine cycle	769.2500 DEG C
Engine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	EGT> RdLn Lst EngCyc 120ms/CNT	0 CNTS
Engine Cycle Counter785Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	Engine at Max ($N2K25 > 12000$)	1094.1826 Hours
Flight Leg Counter744Number of start cycles773Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	Engine Cycle Counter	785
Number of relights2Engine Family Number0x0890Eng ID Val. Stat (0:valid)0		744
Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	Number of start cycles	773
Engine Family Number0x0890Eng ID Val. Stat (0:valid)0	Number of relights	2
Eng ID Val. Stat (0:valid) 0		0x0890
		0
	Current Engine Serial Number	0x0899

Detailed NVM Report LMDN9120

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Channel B - Control Learning Data Continued Serial# : LMDN9120

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Base Rating Overboost Rating N1 Trim Number N1 Trim VST 0:valid 3:invalid PMUX Inhibit (1 = inhibited) Combustor/Fuel System Config Flight Leg Synchronization Msk Hardware Adjustment Checksum Bump Engine Configuration Val. Stat Engine Rating Engine Thrust Thrust/Config Validation Stat. Rating Validation Status 7B Plug Installed (1=7B Plug) Thrust Validation Status Auto Ign. Disc. Wd. (1=enabld) Burner Staging Valve Config FMV Sensor Max Difference Adjustments RAM corruption cnt Pointer RAM corruption cnt State Var RAM corruption cnt State Var RAM corruption cnt State EGT Over RdLn Total Time SubIdle EGT Over RdLn Flgt Time SubIdle EGT Over RdLn Tot Time Worst minor frame time Worst minor frame time Worst minor frame count Exception program counter CPU_FAULT_WORD CLEAR Type B fault	4 4 3 0 1 0 0 0 0 0 0 0 4 4 4 0 0 0 0 0 0 0 0 0 0 0 0 0
CLEAR Illegal instruction fault	Bit 11
Page 15 _Channel B - Control Learning Data Continued Serial# : LMDN9120	DEC 14, 2005 10:03 AM
CLEAR Bus error fault CLEAR Zero divide fault CLEAR Type C fault	Bit 10 Bit 09 Bit 08

CLEAR Bus error fault CLEAR Zero divide fault CLEAR Type C fault CLEAR Address fault Last active channel 1 = 1statv Worst background time OS RAM corruption counter

END OF REPORT

Bit 08

Bit 05

3075 mSec

0

0

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 1853M78P25	<u>Channel A</u> 1853M78P25	<u>Channel B</u> 1853M78P25	
ECU Software Version:			
<u>Definition File</u> 7B5F	<u>Channel A</u> 7B5F	<u>Channel B</u> 7B5F	
Number of Faults:			
_FADEC Fault Report Continue Serial# : LMDN9114	Page 1 ed	DEC 14, 2005	10:43 AM
<u>Type:</u> Last 10 No Dispatch Fau Last 10 Alternate Mode Last 10 Short Time Disp Last 10 Long Time Dispat Last 10 Economic Dispat	Faults Datch Faults Atch Faults	Chan AChan B99001121022	Total 18 0 2 12 4

Comments:

None

Detailed NVM Report LMDN9114

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

Checksums:

AS Checksum	Channel A:
Expected: Calculated:	871EA3F0 871EA3F0
AS Adjustment Checksum Expected: Calculated:	AC6041 AC6041
OS Adjustment Checksum Expected: Calculated:	C12B5 C12B5
NVM Maintenance Checksum Expected: Calculated:	73633F 73633F
P. _Channel A - Checksums Continued Serial# : LMDN9114	age 2 DEC 14, 2005 10:43 AM
Control Learning Checksum Expected: Calculated:	B028F B028F

Fault Group: Last 10 No Dispatch Faults

Fault Record: 1Fault Code:027h (39d)Fault Class: BETADescription:THE VSV POSITION SIGNAL IS OUTOF RANGEATA#:75-10-39-HMU, ELRU's:HMU, EEC

Independent Snapshot Data

Fault Location (1-10)	$= 0 \times 09$
Fault Storage NVM Zone Number	$= 0 \times 0 1$
Fault_History	= 1000000000000000000000000000000000000
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

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Selected VBV Position = 42.0000 DEGREES Controlling Regulator = 10 EDL_CHSTSWRD = x1xxxxxxxxxx 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 Cross-Channel Validated= 2.7637E+00 INCHESVSV Modeled= 4.2969E-01 INCHESVSV Servo-Actuator Model= 3.2319E+00 INCHESVSV Selection Status= 7 SSTCross-Channel VSVVST= 3 0:VALID

Fault Group: Last 10 No Dispatch Faults

Fault Record: 2Fault Code:02Ch (44d)Fault Class: BETADescription:THE VBV POSITION SIGNAL IS OUTOF RANGEATA#:75-10-44-VBV ACLRU's:VBV ACT, EEC

Independent Snapshot Data

Fault Location (1-10) Fault Storage NVM Zone Number Fault_History SET Fault Occurred in Ground Run Selected Fan Rotational Speed Selected Core Rotational Speed Sel. Exhaust Gas Total Temp. Selected TRA Position	= 0x08 = 0x01 = 100000000000000000000000 = Bit 15 = 6215.0000 RPM = 17524 RPM = 422.0000 DEG_C = 36.2266 DEGREES
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_Channel A - Independent Snapshot Data Co 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

Detailed NVM Report LMDN9114

EDL_CHS	TSWRD	= x1xxxxxxxxxxxxxxx
$S\overline{E}T$	Local Channel Active	= Bit 14

Dependent Snapshot Data

Buffrd Raw Input VBV LVDT Sec1	<pre>= 8189.0000 COUNTS</pre>
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
	= 3 0:VALID = 3 0:VALID

Fault Group: Last 10 No Dispatch Faults

Fault Record: 3Fault Code:03Bh (59d)Fault Class:BETADescription:THE TBV POSITION SIGNAL IS OUTOF RANGEATA#:75-10-59-TBV, ELRU's:TBV, EEC

Independent Snapshot Data

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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

Detailed NVM Report LMDN9114

TBV LVDT B REF Input Conversio= 0.0000 VOLTSTransient Bleed Valve Validate= 100.0000 PERCENTValidated TBV Cross Channel= 96.2656 PERCENTCROSS Channel TBVVSTX= 3 0:VALID IDV Selection Status= 7 SSTSelected TBV Position= 101.0000 PERCENTTB Valve Position Demand= 0.0000 PERCENT

Fault Group: Last 10 No Dispatch Faults

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

Independent Snapshot Data

Fault Location (1-10)= 0x06Fault Storage NVM Zone Number= 0x01Fault_History= 10000000000000000SETFault Occurred in Ground RunSelected Fan Rotational Speed= 6215.0000 RPMSelected Core Rotational Speed= 17524 RPMSelected TRA Position= 36.2344 DEGREESSelected Amb. Static Pressure= 1.4441E+01 PSIASelected ECU Temperature= 2.0688E+01 PSIASelected ECU Temperature= 2.0375E+01 DEG_CN1 Command= 889.0000 RPMSelected FMV Position= 1.5625E-02 PERCENTSelected VSV Position= 4.2676E-01 INCHESSelected VSV Position= 42.0000 DEGREESSelected VBV Position= 10SET Local Channel Active= 14

Dependent Snapshot Data

ECU TEMPERATURE AMBIENT	=	0.0000 COUNTS -63.0000 COUNTS 0.0000 OHMS
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		1.5000E+01 DEG_C 46.8438 DEG_C

Detailed NVM Report LMDN9114

Cross-Channel T25VST = 3 0:VALID T25 Sensor Estimate = 164.9844 DEG C IDL T25MSTWD = xxxxxxxxxxxxxxxxxxxxxx0 CLEAR T25 MODEL HEALTH STATUS Sel HP Comp Inlet Total Temp = Bit 00 = 164.9844 DEG_C

Fault Group: Last 10 No Dispatch Faults

Fault Record:5Fault Code:06DBFault Class:GAMMADescription:THEATA#:79-11-09-N/ALRU's:N/A Fault Code: 06Dh (109d) Description: THE PEO SIGNAL IS OUT OF RANGE

Independent Snapshot Data

Fault Location (1-10) Fault Storage NVM Zone Number	= 0x05 = 0x01
Fault_History	= 1000000000000000000000000000000000000
SET Fault Occurred in Ground R	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

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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 COUNTSBuffrd Raw Input PEO LVDT Sec2= 5516 COUNTSPEO LVDT A Ref Inpt Conversion= 3.0674E+00 VOLTSPEO LVDT B Ref Inpt Conversion= 1.3152E+00 VOLTSVal Engine Oil Pressure= 0.0000 PSICross-channel Validated PEO= 2.4688E+01 PSICross-channel PEOVST= 3 0:VALIDPEO Selection Status= 7 SSTSelected Engine Oil Pressure= 70.0000 PSIBDL_FLTWRD1= xxxxxxx000000000CLEAR BOOT PROM CHKSUM TEST FAIL= Bit 08CLEAR MASTER DISCONNECT TEST FAIL= Bit 06CLEAR WDM TEST FAIL= Bit 05 CLEAR WDM TEST FAIL

Detailed NVM Report LMDN9114

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: Fault Class:	-	Fault Code: Description:	•	,	OUT OF RANGE
_Channel A - Fault Serial# : LMDN9114	Info Continued	Page 9	DEC 1	14, 2005	10:43 AM

Independent Snapshot Data

Fault Location (1-10) Fault Storage NVM Zone Number Fault_History SET Fault Occurred in Ground Run Selected Fan Rotational Speed Selected Core Rotational Speed Selected Core Rotational Speed Selected TRA Position Selected TRA Position Selected Amb. Static Pressure Sel. Comp. Deliv. Static Pres. Selected ECU Temperature N1 Command Sel. Fan Inlet Total Temp. Est. T25 Inlet Total Temp.	<pre>= 0x04 = 0x01 = 100000000000000000 = Bit 15 = 6215.0000 RPM = 17524 RPM = 426.0000 DEG_C = 36.2188 DEGREES = 1.4441E+01 PSIA = 2.0625E+01 PSIA = 2.0375E+01 DEG_C = 889.0000 RPM = 3.0000E+01 DEG_C = 164.9688 DEG C</pre>
-	—
Est. T25 Inlet Total Temp.	—
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	= x1xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
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

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

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BDL_FLTWRD1	= xxxxxx000000000
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	
CLEAR PROM CHECKSUM TEST FAIL	
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 CLEAR OS 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: 7Fault Code:075h (117d)Fault Class:BETADescription:THE N1 SIGNAL IS OUT OF RANGEATA#:77-11-17-N1 SENLRU'S:N1 SENSOR, EEC

Independent Snapshot Data

Fault Location (1-10)	$= 0 \times 03$
Fault Storage NVM Zone Number	$= 0 \times 0 1$

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Fault_History	= 1000000000000000000000000000000000000
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	= x1xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
SET Local Channel Active	= Bit 14

Dependent Snapshot Data

N1 REGISTER 1 RAW INPUT

= 0 COUNTS

Detailed NVM Report LMDN9114

N1ACT Cross-Ch Validated Value Cross Channel N1ACTVST Modeled Fan Rotational Speed N1ACT Selection Status Selected Fan Rotational Speed	= 3 = 6215.0000 RPM = 7 N1ACT = 6215.0000 RPM = xxxxxxx000000000 = Bit 08 = Bit 07
Page 12 _Channel A - Dependent Snapshot Data Continue Serial# : LMDN9114	ed DEC 14, 2005 10:43 AM
CLEAR DUAL PORT RAM TEST FAIL	<pre>= Bit 03 = Bit 02 = Bit 01 = Bit 00 = x0xx00xxx0xx00x0 = Bit 14 = Bit 11 = Bit 10 = Bit 06 = Bit 03</pre>

Fault Group: Last 10 No Dispatch Faults

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

Independent Snapshot Data

Fault Location (1-10) Fault Storage NVM Zone Number Fault_History SET Fault Occurred in Ground Run Selected Fan Rotational Speed Selected Core Rotational Speed Sel. Exhaust Gas Total Temp. Selected TRA Position Selected Amb. Static Pressure	<pre>= 0x02 = 0x01 = 100000000000000000 = Bit 15 = 6215.0000 RPM = 17524 RPM = 424.0000 DEG_C = 36.2344 DEGREES = 1.4441E+01 PSIA</pre>	
Page 13 _Channel A - Independent Snapshot Data Conti Serial# : LMDN9114	nued DEC 14, 2005	10:43 AM
Sel. Comp. Deliv. Static Pres. Selected ECU Temperature N1 Command	= 2.0688E+01 PSIA = 2.0375E+01 DEG_C = 889.0000 RPM	

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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	= x1xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
SET Local Channel Active	= Bit 14

Dependent Snapshot Data

N2 REGISTER 1 RAW INPUT N2 REGISTER 2 RAW INPUT	= 0 COUNTS = 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:9Fault Code:084h (132d)Fault Class:ADescription:ENG IDENT SIGNAL OUT OF RANGEATA#:73-11-32-EEC,ELRU's:EEC,ENGINE RATING PLUG

Independent Snapshot Data

Fault Location (1-10)	$= 0 \times 0 1$
Page 14 _Channel A - Independent Snapshot Data Conti Serial# : LMDN9114	nued DEC 14, 2005 10:43 AM
Fault Storage NVM Zone Number Fault_History SET Fault Occurred in Ground Run Selected Fan Rotational Speed Selected Core Rotational Speed	= 0x01 = 100000000000000 = Bit 15 = 6215.0000 RPM = 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	= x1xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
SET Local Channel Active	= Bit 14

Dependent Snapshot Data

VDL_ENGIDIWRD1

= 11111111111111111

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SET ENGINE ID DISCRETE #16 SET ENGINE ID DISCRETE #15 SET ENGINE ID DISCRETE #14 SET ENGINE ID DISCRETE #13 SET ENGINE ID DISCRETE #12 SET ENGINE ID DISCRETE #11 SET ENGINE ID DISCRETE #10 SET ENGINE ID DISCRETE #09 SET ENGINE ID DISCRETE #09 SET ENGINE ID DISCRETE #08 SET ENGINE ID DISCRETE #07 SET ENGINE ID DISCRETE #06 Page 15 Channel A - Dependent Snapshot Data Continue Serial# : LMDN9114	= Bit 14 = Bit 13 = Bit 12 = Bit 11 = Bit 10 = Bit 09 = Bit 08 = Bit 07 = Bit 06 = Bit 05
SET ENGINE ID DISCRETE #05 SET ENGINE ID DISCRETE #04 SET ENGINE ID DISCRETE #03 SET ENGINE ID DISCRETE #02 SET ENGINE ID DISCRETE #01 VDL_ENGIDIWRD2 SET EXTERNAL PROGRAM ENABLE SET PRESSURE SIMULATION ENABLE SET PRESSURE SIMULATION ENABLE SET H/W MASTER LEVER ON SET SPARE BIT SET ENGINE ID DISCRETE #23 SET ENGINE ID DISCRETE #23 SET ENGINE ID DISCRETE #22 SET ENGINE ID DISCRETE #21 SET ENGINE ID DISCRETE #21 SET ENGINE ID DISCRETE #21 SET ENGINE ID DISCRETE #19 SET ENGINE ID DISCRETE #19 SET ENGINE ID DISCRETE #18 SET ENGINE ID DISCRETE #17 EDL_CHHLTWD1 CLEAR CH. HEALTH G1FLT CLEAR CH. HEALTH TM1 FAULT CLEAR CH. HEALTH TM2 FAULT	= Bit 05 = Bit 04 = Bit 03 = Bit 02 = Bit 01 = Bit 00 = xx000000xxxxx10 = Bit 13
CLEAR CH. HEALTH TM3 FAULT CLEAR CH. HEALTH LCHCCDLFLT CLEAR LOSS OF CRITICAL PRESSURE FLT SET CH. HEALTH ALT POWER FAULT CLEAR CH. HEALTH SOL. 2 FAULT EDL_CHHLTWD2 CLEAR CH. HEALTH SOL. 3 FAULT CLEAR CH. HEALTH TRINLK FAULT CLEAR CH. HEALTH NVM FAULT CLEAR CH. HEALTH SOL. 1 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT	<pre>= Bit 10 = Bit 09 = Bit 08 = Bit 01 = Bit 00 = 0000x00000xx0000 = Bit 15 = Bit 14 = Bit 13 = Bit 12</pre>
Page 16 _Channel A - Dependent Snapshot Data Continue Serial# : LMDN9114	d DEC 14, 2005 10:43 AM
CLEAR CH. HEALTH 115V AVAIL. FLT	= Bit 06 = Bit 03 = Bit 02 = Bit 01

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CLEAR CH. HEALTH CHDSG FAULT	= Bit 00
BDL_FLTWRD1 CLEAR BOOT PROM CHKSUM TEST FAIL CLEAR FAULT RELAY TEST FAIL CLEAR MASTER DISCONNECT TEST FAIL CLEAR WDM TEST FAIL CLEAR PROM CHECKSUM TEST FAIL CLEAR PROM CHECKSUM TEST FAIL	= xxxxxx000000000
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 CLEAR CPU 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 CPU TEST FAIL CLEAR DUAL PORT RAM TEST FAIL CLEAR RAM TEST FAIL BDL_FLTWRD2 CLEAR AS CONTROL AREA NVM TEST FAIL CLEAR AS FAULT AREA NVM TEST FAIL CLEAR AS ADJ AREA NVM TEST FAIL CLEAR OS 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	= Bit 00 = 000000000000000
CLEAR MINOR FRAME TIME CALC FAULT CLEAR CHANNEL SYNC FAULT CLEAR PRESSURE LABEL FAULT FLAG CLEAR TYPE B FAULT CLEAR ILLEGAL INSTRUCTION FAULT CLEAR BUS ERROR FAULT CLEAR ZERO DIVIDE FAULT CLEAR TYPE C 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 FOREGROUND OVERRUN FAULT CLEAR FOREGROUND OVERRUN FAULT	= Bit 07
CLEAR FOREGROUND OVERRUN FAULT	= Bit 06
CLEAR ADDRESS ERROR INTERRUPT FAULT	= Bit 05
	220 00
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Channel A - Dependent Snapshot Data Continu	ed
Serial# : LMDN9114	DEC 14, 2005 10:43 AM
	,
CLEAR GENERAL INTERRUPT FAULT	= Bit 04

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	то	EEC	OUT
OF RANGE							
ATA# :	73-11-27-ALTER	NLRU's:	ALTERNATOR	, EEC			

Fault Location (1-10)	$= 0 \times 0 1$
Fault Storage NVM Zone Number	$= 0 \times 03$
Fault History	= 1000000000000000000000000000000000000
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

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Selected TRA Position Selected Amb. Static Pressure Sel. Comp. Deliv. Static Pres. Selected ECU Temperature N1 Command Sel. Fan Inlet Total Temp. Est. T25 Inlet Total Temp. Selected FMV Position Selected VSV Position Selected VBV Position	= 2.0125E+01 PSIA = 2.0344E+01 DEG_C
Page 18 _Channel A - Independent Snapshot Data Conti Serial# : LMDN9114	nued DEC 14, 2005 10:43 AM
Controlling Regulator EDL_CHSTSWRD SET Local Channel Active Dependent Snapshot Data	= 10 = x1xxxxxxxxxxxx = Bit 14
CLEAR 115 VOLT RELAY FAULT FLAG SET ALTERNATOR POWER FAULT CLEAR PLUS 5V FAULT CLEAR PLUS 25V FAULT CLEAR MINUS 25V FAULT CLEAR MINUS 12V FAULT CLEAR MINUS 12V FAULT BDL_RESRAMWRD SET ALTERNATOR POWER FAULT LATCHED EDL_CHHLTWD1 CLEAR CH. HEALTH GIFLT CLEAR CH. HEALTH TM1 FAULT CLEAR CH. HEALTH TM2 FAULT CLEAR CH. HEALTH TM3 FAULT CLEAR CH. HEALTH IM3 FAULT CLEAR CH. HEALTH LCHCCDLFLT CLEAR CH. HEALTH ALT POWER FAULT CLEAR CH. HEALTH SOL. 2 FAULT CLEAR CH. HEALTH SOL. 3 FAULT CLEAR CH. HEALTH TRINLK FAULT CLEAR CH. HEALTH TRINLK FAULT CLEAR CH. HEALTH SOL. 1 FAULT CLEAR CH. HEALTH SOL. 1 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH TM4 FAULT CLEAR CH. HEALTH TM5 FAULT CLEAR CH. HEALTH TM6 FAULT	<pre>= Bit 00 = xxxxxxxxxxxx1 = Bit 00 = xx000000xxxxxx10 = Bit 13 = Bit 12 = Bit 12 = Bit 11 = Bit 09 = Bit 09 = Bit 08 = Bit 01 = Bit 00 = 0000x000000xx0000 = Bit 15 = Bit 14 = Bit 12 = Bit 12 = Bit 10 = Bit 09 = Bit 08 = Bit 07</pre>
_Channel A - Dependent Snapshot Data Continu- Serial# : LMDN9114 CLEAR CH. HEALTH ARINC FAULT CLEAR CH. HEALTH 115V AVAIL. FLT CLEAR CH. HEALTH LAST ACTIVE FLT CLEAR CH. HEALTH STANDBY FAULT CLEAR CH. HEALTH CHDSG FAULT	DEC 14, 2005 10:43 AM = Bit 06

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BDL_FLTWRD1	= xxxxxxx00000000	
CLEAR BOOT PROM CHKSUM TEST	AIL = Bit 08	
BDL_FLTWRD1 CLEAR BOOT PROM CHKSUM TEST CLEAR FAULT RELAY TEST FAIL CLEAR MASTER DISCONNECT TEST CLEAR WDM TEST FAIL CLEAR PROM CHECKSUM TEST FAIL CLEAR DATA ACQUISITION TEST CLEAR CPU TEST FAIL CLEAR DUAL PORT RAM TEST FAIL CLEAR RAM TEST FAIL BDL_FLTWRD2 CLEAR AS CONTROL AREA NVM TEST CLEAR AS FAULT AREA NVM TEST CLEAR AS ADJ AREA NVM TEST FAIL CLEAR OS AREA NVM TEST FAIL CLEAR NVM SW VERSION ID TEST CLEAR NVM TEST FAIL CLEAR NVM TEST FAIL EDL_FLTWRD CLEAR MINOR FRAME TIME CALC	= Bit 07	
CLEAR MASTER DISCONNECT TEST	FAIL = Bit 06	
CLEAR WDM TEST FAIL	= Bit 05	
CLEAR PROM CHECKSUM TEST FAI	= Bit 04	
CLEAR DATA ACQUISITION TEST	AIL = Bit 03	
CLEAR CPU TEST FAIL	= Bit 02	
CLEAR DUAL PORT RAM TEST FAI	= Bit 01	
CLEAR RAM TEST FAIL	= Bit 00	
BDL FLTWRD2	= x0xx00xxx0xx00x0	
CLEAR AS CONTROL AREA NVM TE	T FAIL = Bit 14	
CLEAR AS FAULT AREA NVM TEST	FAIL = Bit 11	
CLEAR AS ADJ AREA NVM TEST F.	IL = Bit 10	
CLEAR OS AREA NVM TEST FAIL	= Bit 06	
CLEAR NVM SW VERSION ID TEST	FAIL = Bit 03	
CLEAR CHARACTERIZATION MEMOR	TST FL = Bit 02	
CLEAR NVM TEST FAIL	= Bit 00	
EDL FLTWRD	= 000000000000000000000000000000000000	
EDL_FLTWRD CLEAR MINOR FRAME TIME CALC CLEAR CHANNEL SYNC FAULT CLEAR PRESSURE LABEL FAULT F CLEAR TYPE B FAULT CLEAR ILLEGAL INSTRUCTION FA CLEAR BUS ERROR FAULT CLEAR ZERO DIVIDE FAULT CLEAR TYPE C FAULT CLEAR BACKGROUND OVERRUN FAU CLEAR FOREGROUND OVERRUN FAU	AULT = Bit 15	
CLEAR CHANNEL SYNC FAULT	= Bit 14	
CLEAR PRESSURE LABEL FAULT F	AG = Bit 13	
CLEAR TYPE B FAULT	= Bit 12	
CLEAR ILLEGAL INSTRUCTION FA	LT = Bit 11	
CLEAR BUS ERROR FAULT	= Bit 10	
CLEAR ZERO DIVIDE FAULT	= Bit 09	
CLEAR TYPE C FAULT	= Bit 08	
CLEAR BACKGROUND OVERRUN FAU	T = Bit 07	
CLEAR FOREGROUND OVERRUN FAU	T = Bit 06	
CLEAR ADDRESS ERROR INTERRIP	FAULT = Bit 05	
	age 20	
Channel A - Dependent Snapshot Dat		
Serial# : LMDN9114	DEC 14, 2005	10:43 AM
		10010 101
CLEAR GENERAL INTERRUPT FAUL CLEAR SYNC COMMAND WRAPAROUN CLEAR ECM WDM RESET FAULT CLEAR MAJOR FRAME SYNC FAULT CLEAR CCDL FAULT FLAG	= Bit 04	
CLEAR SYNC COMMAND WRADAROUN	FAIII.T = Bi+ 03	
CLEAR ECM WDM RESET FAILT	= Bit 02	
CLEAR MAJOR FRAME SVNC FAILT	= Bit 01	
CLEAR CODI. ENHILE EINC FROUI	= Bit 01	
CHEAR CODE FAOLI FLAG	- DIC 00	

Fault Group: Last 10 Long Time Dispatch Faults

CLEAR CCDL FAULT FLAG

 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 Location (1-10)	$= 0 \times 02$
Fault Storage NVM Zone Number	$= 0 \times 04$
Fault History	= 1000000000000000000000000000000000000
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

Detailed NVM Report LMDN9114

Sel. Comp. Deliv. Static Pres.= 2.0688E+01 PSIASelected ECU Temperature= 2.0375E+01 DEG_CN1 Command= 889.0000 RPMSel. Fan Inlet Total Temp.= 3.0000E+01 DEG_CEst. T25 Inlet Total Temp.= 164.9688 DEG_CSelected FMV Position= 1.5625E-02 PERCENTSelected VSV Position= 4.2676E-01 INCHESSelected VBV Position= 42.0000 DEGREES Page 21 Channel A - Independent Snapshot Data Continued Serial# : LMDN9114 DEC 14, 2005 10:43 AM Controlling Regulator= 10EDL_CHSTSWRD= x1xxxxxxxxxxSETLocal Channel Active= Bit 14 Dependent Snapshot Data Buffered T12 Raw Input ECU TEMPERATURE AMBIENT T12 Reference Input Conversion Validated Fan Inlet Total Temp EDL_CHHLTWD1 CLEAR CH. HEALTH GIFLT CLEAR CH. HEALTH TM1 FAULT CLEAR CH. HEALTH TM2 FAULT CLEAR CH. HEALTH TM2 FAULT CLEAR CH. HEALTH TM3 FAULT CLEAR CH. HEALTH TM3 FAULT EDL_CHHLTWD2 CLEAR CH. HEALTH SOL. 2 FAULT EDL_CHHLTWD2 CLEAR CH. HEALTH SOL. 3 FAULT CLEAR CH. HEALTH SOL. 1 FAULT EDL_CH. HEALTH SOL. 4 OR 5 FAULT EDL CLEAR CH. HEALTH TM5 FAULT EDL CLEAR CH. HEALTH TM5 FAULT EDL CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH TM5 FAULT EDL CLEAR CH. HEALTH TM5 FAULT EDL CLEAR CH. HEALTH SOL. 4 OR 5 FAULT EDL CLEAR CH. HEALTH SOL. 4 OR 5 FAULT EDL CLEAR CH. HEALTH TM6 FAULT EDL CLEAR CH. HEALTH TM5 FAULT EDL CLEAR CH. HEALTH SOL. 4 OR 5 FAULT EDL CLEAR CH. HEALTH SOL. 4 OR 5 FAULT EDL CLEAR CH. HEALTH TM5 FAULT EDL CLEAR CH. HEALTH TM5 FAULT EDI CLEAR CH. HEALTH TM5 FAULT EDI CLEAR CH. HEALTH TM5 FAULT EDI CLEAR CH. HEALTH TM6 FAULT EDI 09 CLEAR CH. HEALTH TM6 FAULT EDI 09 CLEAR CH. HEALTH TM6 FAULT EDI 00 CLEAR CH. HEALTH TM6 FAULT EDI 00 CLEAR CH. HEALTH TM6 FAULT EDI 00 CLEAR CH. HEALTH TM6 FAULT EDI 01 CLEAR CH. HEALTH CHDSG FAULT EDI 01 EDI_FITWRD1 EDI 00 EDI_FITWRD1 EDI 00 E Page 22 Channel A - Dependent Snapshot Data Continued DEC 14, 2005 10:43 AM Serial# : LMDN9114 CLEAR BOOT PROM CHKSUM TEST FAIL= Bit 08CLEAR FAULT RELAY TEST FAIL= Bit 07CLEAR MASTER DISCONNECT TEST FAIL= Bit 06CLEAR WDM TEST FAIL= Bit 05CLEAR PROM CHECKSUM TEST FAIL= Bit 04CLEAR DATA ACQUISITION TEST FAIL= Bit 03CLEAR CPU TEST FAIL= Bit 02

Detailed NVM Report LMDN9114

CLEAR DUAL PORT RAM TEST FAIL CLEAR RAM TEST FAIL BDL FLTWRD2	= Bit 01 = Bit 00
BDL FLTWRD2	= x0xx00xxx0xx00x0
BDL_FLTWRD2 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	
CLEAR NVM TEST FAIL	= Bit 00
EDL FLTWRD	= 0000000000000000000000000000000000000
CLEAR MINOR FRAME TIME CALC FAULT CLEAR CHANNEL SYNC FAULT	= Bit 15
CLEAR CHANNEL SYNC FAULT	= Bit 14
	$- D_{1}^{+} + 12$
CLEAR TYPE B FAULT	= Bit 12
CLEAR ILLEGAL INSTRUCTION FAULT	= Bit 11
CLEAR PRESSORE LABEL FAULT FLAG CLEAR TYPE B FAULT CLEAR ILLEGAL INSTRUCTION FAULT CLEAR BUS ERROR FAULT CLEAR ZERO DIVIDE FAULT CLEAR TYPE C FAULT CLEAR BACKGROUND OVERRUN 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 CLEAR GENERAL 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

Fault Location (1-10) Fault Storage NVM Zone Number Fault_History SET Fault Occurred in Ground Run Selected Fan Rotational Speed Selected Core Rotational Speed Sel. Exhaust Gas Total Temp.	<pre>= 0x01 = 0x04 = 10000000000000000 = Bit 15 = 6215.0000 RPM = 17524 RPM = 430.0000 DEG_C</pre>
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

Detailed NVM Report LMDN9114

elected VBV Position= 42.0000 DEGREESontrolling Regulator= 10OL CHSTSWRD= x1xxxxxxxxxxSETLocal Channel Active= Bit 14 Selected VBV Position Controlling Regulator EDL CHSTSWRD **Dependent Snapshot Data** DATA LSBS(3) | SDI(2) | SM(2) | 0= 0x00ARINC Bus 1 L211 Label LSB->MS= 0x00 LABELDATA LSBS(3) | SDI(2) | SM(2) | 0= 0x00Page 24 Channel A - Dependent Snapshot Data Continued DEC 14, 2005 10:43 AM Serial# : LMDN9114 ARINC Bus 2 L211 Label LSB->MS Cross-Channel ADC1L211 LVS Cross-Channel ADC2211 LVS EDL_CHHLTWD1 CLEAR CH. HEALTH GIFLT CLEAR CH. HEALTH GIFLT CLEAR CH. HEALTH TM1 FAULT CLEAR CH. HEALTH TM2 FAULT CLEAR CH. HEALTH TM3 FAULT CLEAR CH. HEALTH TM3 FAULT CLEAR CH. HEALTH SOL. 2 FAULT CLEAR CH. HEALTH SOL. 2 FAULT CLEAR CH. HEALTH SOL. 3 FAULT CLEAR CH. HEALTH SOL. 3 FAULT CLEAR CH. HEALTH SOL. 3 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH TM5 FAULT CLEAR CH. HEALTH TM5 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH TM5 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH TM5 FAULT CLEAR CH. HEALTH STANDBY FAULT CLEAR CH. HEALTH STANDBY FAULT CLEAR CH. HEALTH CHDSG FAULT CLEAR MASTER DISCONNECT TEST FAIL CLEAR MASTER DISCONNECT TEST FAIL CLEAR MASTER DISCONNECT TEST FAIL CLEAR CPU TEST FAIL CLEAR C Page 25 Channel A - Dependent Snapshot Data Continued Serial# : LMDN9114 DEC 14, 2005 10:43 AM CLEAR RAM TEST FAIL= Bit 00DL_FLTWRD2= x0xx00xxx0xx00x0CLEAR AS CONTROL AREA NVM TEST FAIL= Bit 14CLEAR AS FAULT AREA NVM TEST FAIL= Bit 11 BDL FLTWRD2

Detailed NVM Report LMDN9114

CLEAR AS ADJ AREA NVM TEST FAIL CLEAR OS AREA NVM TEST FAIL	= Bit 06
CLEAR NVM SW VERSION ID TEST FAIL CLEAR CHARACTERIZATION MEMORY TST FL	
CLEAR NVM TEST FAIL	= Bit 00
EDL FLTWRD	= 00000000000000000
CLEAR MINOR FRAME TIME CALC FAULT	= Bit 15
CLEAR CHANNEL SYNC FAULT	= Bit 14
CLEAR PRESSURE LABEL FAULT FLAG	= Bit I3
	= Bit 12
CLEAR ILLEGAL INSTRUCTION FAULT	= Bit 11
CLEAR BUS ERROR FAULT	= Bit 10
CLEAR ZERO DIVIDE FAULT CLEAR TYPE C 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	
CLEAR SYNC COMMAND WRAPAROUND FAULT	= Bit 03
CLEAR ECM WDM RESET FAULT	= Bit 02
CLEAR MAJOR FRAME SYNC FAULT CLEAR CCDL FAULT FLAG	= Bit 01
CLEAR CCDL FAULT FLAG	= Bit 00

Fault Group: Last 10 Economic Dispatch Faults

Fault Record: Fault Class:	_	Fault Code: Description:	024h (36d) HPTACC POSITION SIGNAL IS OUT	т
OF RANGE ATA#:	73-10-36-HPTC,	_	HPTC, EEC	

Independent Snapshot Data

Detailed NVM Report LMDN9114

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

Selected Core Rotational Speed= 1Sel. Exhaust Gas Total Temp.= 4Selected TRA Position= 3Selected Amb. Static Pressure= 1Selected ECU Temperature= 2N1 Command= 6Selected FMU Position= 3Selected VSV Position= 4IDL_PMUXDISWD= 5CLEAR PMUX Inhibit Discrete (RES RAM= 5	
EDL_CHSTSWRD = 2	x1xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Dependent Snapshot Data

Page 28 Channel A - Dependent Snapshot Data Continued Detailed NVM Report LMDN9114

Serial# : LMDN9114

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Buffrd Raw Inpt LPTC LVDT Sec1= 8189.0000 COUNTSBuffrd Raw Inpt LPTC LVDT Sec2= 8189.0000 COUNTSLPTC LVDT A REF Input Conversi= 0.0000 VOLTSLPTC LVDT B REF Input Conversi= 0.0000 VOLTSVal LP Turbine Clearance Contr= -3.0000E+00 PERCENTLPTC Cross-Channel Validated= 3.0953E+01 PERCENTCross-Channel LPTCVST= 3 0:VALIDLPTC Selection Status= 7 SSTSel LP Turbine Clearance Contr= 105.0000 PERCENTLPTC Position Demand= 2.4500E+01 PERCENT

Control Learning Data:

Engine Position Engine On Time (esstaind=run) ECU On Time Maximum ECU Temperature ECU Time Above Overtemp Limit Latched ECU Overtemp Flag Peak N1 last engine cycle N1 > RdLn Lst EngCyc 120ms/CNT Peak N2 last engine cycle N2 > RdLn Lst EngCyc 120ms/CNT Peak EGT last engine cycle EGT> RdLn Lst EngCyc 120ms/CNT Engine at Max (N2K25 > 12000) Engine Cycle Counter Flight Leg Counter Number of start cycles Number of relights Engine Family Number Eng ID Val. Stat (0:valid) Current Engine Serial Number	Channel A: 2 1559.6031 Hours 1571.4528 Hours 67.5156 DEG_C 0.0000 Hours 0 6215.0000 RPM 85 CNTS 17524 RPM 86 CNTS 794.0000 DEG_C 0 CNTS 1096.3635 Hours 791 743 770 3 0x0890 3 0x0900
Page 29 _Channel A - Control Learning Data Continued	
Serial# : LMDN9114	DEC 14, 2005 10:43 AM
Base Rating Overboost Rating N1 Trim Number N1 Trim VST 0:valid 3:invalid PMUX Inhibit (1 = inhibited) Combustor/Fuel System Config Flight Leg Synchronization Msk Hardware Adjustment Checksum Bump Engine Configuration Val. Stat Engine Rating Engine Thrust Thrust/Config Validation Stat. Rating Validation Status 7B Plug Installed (1=7B Plug) Thrust Validation Status Auto Ign. Disc. Wd. (1=enabld) Burner Staging Valve Config	4 4 3 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

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FMV Sensor Max Difference Adjustments RAM corruption cnt Pointer RAM corruption cnt State Var RAM corruption cnt Total Peak EGT Value EGT Over RdLn Total Time SubIdle EGT Flight Value SubIdle EGT Ovr RdLn Flgt Time SubIdle Total Peak EGT Value SubIdle EGT Over RdLn Tot Time Worst minor frame time Worst minor frame time Worst minor frame count Exception program counter CPU_FAULT_WORD CLEAR Type B fault CLEAR Illegal instruction fault	0x0061 0 0 851.2500 DEG_C 0 CNTS 450.0000 DEG_C 0 CNTS 564.0000 DEG_C 0 CNTS 1.4335E+01 mSec 215.2500 mSec 9 0x00000000 xxx00000xx0xxxxx Bit 12 Bit 11
Page 30 _Channel A - Control Learning Data Continued Serial# : LMDN9114	DEC 14, 2005 10:43 AM
CLEAR Bus error fault CLEAR Zero divide fault CLEAR Type C fault CLEAR Address fault Last active channel 1 = lstatv Worst background time OS RAM corruption counter	Bit 10 Bit 09 Bit 08 Bit 05 1 3015 mSec 4

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

Checksums:

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

Channel B - Checksums Continued Serial# : LMDN9114

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Detailed NVM Report LMDN9114

Fault Group: Last 10 No Dispatch Faults

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

Independent Snapshot Data

Fault Location (1-10)= 0x09Fault Storage NVM Zone Number= 0x01Fault_History= 1000000000000000SETFault Occurred in Ground RunSelected Fan Rotational Speed= 6215.0000 RPMSelected Core Rotational Speed= 17524 RPMSel. Exhaust Gas Total Temp.= 422.0000 DEG_CSelected TRA Position= 36.2266 DEGREESSelected Amb. Static Pressure= 1.4441E+01 PSIASelected ECU Temperature= 2.0375E+01 DEG_CN1 Command= 4.7656E-01 DEG_CSelected FMV Position= 4.2969E-01 INCHESSelected VSV Position= 42.0000 DEGREESSelected VSV Position= 42.0000 DEGREESSelected VSV Position= 10EDL_CHSTSWRD= 10CLEAR Local Channel Active= Bit 14

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

VDL ENG	IDIWRD1				=	11111111111111111
$S\overline{E}T$	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

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VDL_ENGIDIWRD2 SET EXTERNAL PROGRAM ENABLE SET PRESSURE SIMULATION ENABLE SET H/W MASTER LEVER ON SET SPARE BIT SET ENGINE ID DISCRETE #23 SET ENGINE ID DISCRETE #22 SET ENGINE ID DISCRETE #21 SET ENGINE ID DISCRETE #20 SET ENGINE ID DISCRETE #20 SET ENGINE ID DISCRETE #19 SET ENGINE ID DISCRETE #19 SET ENGINE ID DISCRETE #19 SET ENGINE ID DISCRETE #18 SET ENGINE ID DISCRETE #17 EDL_CHHLTWD1 CLEAR CH. HEALTH G1FLT CLEAR CH. HEALTH TM1 FAULT SET CH. HEALTH TM2 FAULT SET CH. HEALTH TM3 FAULT CLEAR CH. HEALTH TM3 FAULT	<pre>= xxxxx1111111111 = Bit 10 = Bit 09 = Bit 08 = Bit 07 = Bit 07 = Bit 05 = Bit 04 = Bit 03 = Bit 02 = Bit 01 = Bit 00 = xx001100xxxxx00 = Bit 13 = Bit 12 = Bit 11 = Bit 10 = Bit 09</pre>
Page 33	
_Channel B - Dependent Snapshot Data Continu Serial# : LMDN9114	DEC 14, 2005 10:43 AM
CLEAR CPU TEST FAIL CLEAR DUAL PORT RAM TEST FAIL CLEAR RAM TEST FAIL BDL_FLTWRD2 CLEAR AS CONTROL AREA NVM TEST FAIL CLEAR AS FAULT AREA NVM TEST FAIL CLEAR AS ADJ AREA NVM TEST FAIL CLEAR OS AREA NVM TEST FAIL CLEAR NVM SW VERSION ID TEST FAIL CLEAR CHARACTERIZATION MEMORY TST FL CLEAR NVM TEST FAIL	<pre>= Bit 06 = Bit 05 = Bit 04 = Bit 03 = Bit 02 = Bit 01 = Bit 00 = x0xx00xxx0xx00x0 = Bit 14 = Bit 11 = Bit 10 = Bit 06</pre>
Page 34 _Channel B - Dependent Snapshot Data Continu	led
Serial# : LMDN9114	DEC 14, 2005 10:43 AM

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EDL_FLTWRD	= 0000000000000000000
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	
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	
CLEAR ECM WDM RESET FAULT	
CLEAR MAJOR FRAME SYNC FAULT	= Bit 01
CLEAR CCDL FAULT FLAG	= Bit 00

Fault Group: Last 10 No Dispatch Faults

Fault Record: 2Fault Code:027h (39d)Fault Class: BETADescription:THE VSV POSITION SIGNAL IS OUTOF RANGEATA#:75-20-39-HMU, ELRU's:HMU, EEC

Independent Snapshot Data

Fault Location (1-10) Fault Storage NVM Zone Number Fault_History SET Fault Occurred in Ground Run Selected Fan Rotational Speed	<pre>= 0x08 = 0x01 = 1000000000000000 = Bit 15 = 6215.0000 RPM</pre>
Page 35	
_Channel B - Independent Snapshot Data Contin	ued
Serial# : LMDN9114	DEC 14, 2005 10:43 AM
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	= x0xxxxxxxxxxxx

= Bit 14

Dependent Snapshot Data

CLEAR Local Channel Active

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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: Fault Class: OF RANGE	-	Fault Code: Description:	· · · ·	TION SIGNAL IS OUT
_Channel B - Fault Serial# : LMDN9114	Info Continued	Page 36	DEC 14,	2005 10:43 AM
ATA#:	75-20-44-VBV A	CLRU's:	VBV ACT, EEC	!

Independent Snapshot Data

Fault Location (1-10) Fault Storage NVM Zone Number Fault_History SET Fault Occurred in Ground Run Selected Fan Rotational Speed Selected Core Rotational Speed Selected Core Rotational Speed Selected TRA Position Selected TRA Position Selected Amb. Static Pressure Sel. Comp. Deliv. Static Pres. Selected ECU Temperature N1 Command Sel. Fan Inlet Total Temp. Est. T25 Inlet Total Temp. Selected FMV Position Selected VSV Position Selected VSV Position Controlling Regulator	<pre>= 0x07 = 0x01 = 10000000000000000 = Bit 15 = 6215.0000 RPM = 17524 RPM = 423.0000 DEG_C = 36.3594 DEGREES = 1.4449E+01 PSIA = 2.6375E+01 PSIA = 2.0375E+01 DEG_C = 841.0000 RPM = 4.7656E-01 DEG_C = 121.7500 DEG_C = 3.1250E-02 PERCENT = 4.2969E-01 INCHES = 42.0000 DEGREES = 10</pre>
ollin, local channel hetive	

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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Detailed NVM Report LMDN9114

_Channel B - Dependent Snapshot Data Continued Serial# : LMDN9114

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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: 4Fault Code: 03Bh (59d)Fault Class: BETADescription: THE TBV POSITION SIGNAL IS OUTOF RANGEATA#:75-20-59-TBV, ELRU's:TBV, EEC

Independent Snapshot Data

Fault Location (1-10)	$= 0 \times 06$
Fault Storage NVM Zone Number	$= 0 \times 0 1$
Fault History	= 1000000000000000000000000000000000000
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
Page 38 _Channel B - Independent Snapshot Data Con Serial# : LMDN9114	
EDL_CHSTSWRD CLEAR Local Channel Active Dependent Snapshot Data	= x0xxxxxxxxxxxxxx = Bit 14

Buffrd Raw Input TBV LVDT Sec1 Buffrd Raw Input TBV LVDT Sec2 TBV LVDT A REF Input Conversio TBV LVDT B REF Input Conversio Transient Bleed Valve Validate Validated TBV Cross Channel CROSS Channel TBVVSTX TBV Selection Status Selected TBV Position

= 8189.0000 COUNTS = 8189.0000 COUNTS = 2.5603E+00 VOLTS = 1.1365E+00 VOLTS = 96.2656 PERCENT = 100.0000 PERCENT = 3 0:VALID = 7 SST = 101.0000 PERCENT Detailed NVM Report LMDN9114

TB Valve Position Demand

= 0.0000 PERCENT

Fault Group: Last 10 No Dispatch Faults

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

Independent Snapshot Data

Fault Location (1-10)= 0x05Fault Storage NVM Zone Number= 0x01Fault_History= 1000000000000000SETFault Occurred in Ground RunSelected Fan Rotational Speed= 6215.0000 RPMSelected Core Rotational Speed= 17524 RPM Page 39 Channel B - Independent Snapshot Data Continued Serial# : LMDN9114 DEC 14, 2005 10:43 AM Sel. Exhaust Gas Total Temp.= 422.0000 DEG_CSelected TRA Position= 36.2266 DEGREESSelected Amb. Static Pressure= 1.4449E+01 PSIASelected ECU Temperature= 2.6250E+01 PSIASelected ECU Temperature= 2.0375E+01 DEG_CN1 Command= 841.0000 RPMSel. Fan Inlet Total Temp.= 4.7656E-01 DEG_CEst. T25 Inlet Total Temp.= 121.7500 DEG_CSelected FMV Position= 4.2969E-01 INCHESSelected VSV Position= 42.0000 DEGREESControlling Regulator= 10EDL CHSTSWRD= x0xxxxxxxxxxxCLEAR Local Channel Active= Bit 14 **Dependent Snapshot Data** Buffered T25 Raw Input= 6434.5000 COUNTSECU TEMPERATURE AMBIENT= -121.0000 COUNTST25 Reference Input Conversion= 237.0000 OHMSVal HP Comp Inlet Total Temp= 46.8438 DEG_CT25 Cross-Channel Validated Va= 1.5000E+01 DEG_CCross-Channel T25VST= 3 0:VALIDT25 Sensor Estimate= 119.2656 DEG_CIDL_T25MSTWD= xxxxxxxxxxxx0CLEAR T25 MODEL HEALTH STATUS= Bit 00Sel 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
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Independent Snapshot Data

Fault Location (1-10)= 0x04Fault Storage NVM Zone Number= 0x01Fault_History= 10000000000000000SETFault Occurred in Ground RunSelected Fan Rotational Speed= 6215.0000 RPMSelected Core Rotational Speed= 17524 RPMSelected TRA Position= 2.5516E+01 DEGREESSelected Amb. Static Pressure= 1.4449E+01 PSIASelected ECU Temperature= 2.0375E+01 DEG_CN1 Command= 0x04Selected FMV Position= 431.5000 RPMSelected FMV Position= 1.7422E+00 DEG_CSelected VSV Position= 119.0938 DEG_CSelected VSV Position= 42.0000 DEGREESSelected VSV Position= 42.0000 DEGREESControlling Regulator= 10EDL_CHSTSWRD= 10CLEAR Local Channel Active= Bit 14 **Dependent Snapshot Data** Buffrd Raw Input PEO LVDT Sec1= 32756 COUNTSBuffrd Raw Input PEO LVDT Sec2= 1420 COUNTSPEO LVDT A Ref Inpt Conversion= 4.4951E+00 VOLTSPEO LVDT B Ref Inpt Conversion= 2.4639E+00 VOLTSVal Engine Oil Pressure= 2.4688E+01 PSI Page 41 Channel B - Dependent Snapshot Data Continued DEC 14, 2005 10:43 AM Serial# : LMDN9114 Cross-channel Validated PEO= 0.0000 PSICross-channel PEOVST= 3 0:VALIDPEO Selection Status= 7 SSTSelected Engine Oil Pressure= 70.0000 PSIBDL_FLTWRD1= xxxxxx0000000000CLEAR BOOT PROM CHKSUM TEST FAIL= Bit 08CLEAR FAULT RELAY TEST FAIL= Bit 07CLEAR MASTER DISCONNECT TEST FAIL= Bit 06CLEAR WDM TEST FAIL= Bit 05CLEAR PROM CHECKSUM TEST FAIL= Bit 05CLEAR PROM CHECKSUM TEST FAIL= Bit 04CLEAR DATA ACQUISITION TEST FAIL= Bit 03CLEAR CPU TEST FAIL= Bit 02CLEAR DUAL PORT RAM TEST FAIL= Bit 01CLEAR RAM TEST FAIL= Bit 01

Detailed NVM Report LMDN9114

Fault Group: Last 10 No Dispatch Faults

Fault Record:7Fault Code:06Eh (110d)Fault Class:BETADescription:THE TEO SIGNAL IS OUT OF RANGEATA#:79-21-10-N/ALRU's:N/A

Independent Snapshot Data

Fault Location (1-10)= 0x03Fault Storage NVM Zone Number= 0x01Fault_History= 1000000000000000SETFault Occurred in Ground RunSelected Fan Rotational Speed= 6215.0000 RPMSelected Core Rotational Speed= 17524 RPMSel. Exhaust Gas Total Temp.= 430.0000 DEG_CSelected TRA Position= 2.5570E+01 DEGREES Page 42 Channel B - Independent Snapshot Data Continued DEC 14, 2005 10:43 AM Serial# : LMDN9114 Selected Amb. Static Pressure= 1.4449E+01 PSIASel. Comp. Deliv. Static Pres.= 2.8250E+01 PSIASelected ECU Temperature= 2.0375E+01 DEG_CN1 Command= 841.0000 RPMSel. Fan Inlet Total Temp.= -1.7422E+00 DEG_CEst. T25 Inlet Total Temp.= 119.0938 DEG_CSelected FMV Position= 4.2969E-01 INCHESSelected VSV Position= 42.0000 DEGREESControlling Regulator= 10EDL_CHSTSWRD= x0xxxxxxxxxxxCLEAR Local Channel Active= Bit 14 Dependent Snapshot Data Buffered TEO Raw Input ECU TEMPERATURE AMBIENT TEO Reference Input Conversion TEO Cross-Channel Validated Va Cross-Channel TEOVST TEO Selection Status Selected Engine Oil Temperatur BDL_FLTWRD1 CLEAR BOOT PROM CHKSUM TEST FAIL CLEAR FAULT RELAY TEST FAIL CLEAR MASTER DISCONNECT TEST FAIL CLEAR PROM CHECKSUM TEST FAIL CLEAR PROM CHECKSUM TEST FAIL CLEAR PROM CHECKSUM TEST FAIL CLEAR DATA ACQUISITION TEST FAIL CLEAR CPU TEST FAIL CLEAR CPU TEST FAIL CLEAR RAM TEST FAIL CLEAR RAM TEST FAIL CLEAR RAM TEST FAIL CLEAR AS CONTROL AREA NVM TEST FAIL EDL_FLTWRD2 CLEAR AS CONTROL AREA NVM TEST FAIL CLEAR CPU TEST FAIL CLEAR AS CONTROL AREA NVM TEST FAIL CLEAR AS CONTROL AREA NVM TEST FAIL CLEAR AS CONTROL AREA NVM TEST FAIL CLEAR CPU TEST FAIL CLEAR AS CONTROL AREA NVM TEST FAIL

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Channel B - Dependent Snapshot Data Continued Serial# : LMDN9114

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CLEAR AS FAULT AREA NVM TEST FAIL= Bit 11CLEAR AS ADJ AREA NVM TEST FAIL= Bit 10CLEAR OS AREA NVM TEST FAIL= Bit 06CLEAR 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 Class: BETA Fault Code: 075h (117d) Description: THE N1 SIGNAL IS OUT OF RANGE 77-21-17-N1 SENLRU'S: N1 SENSOR, EEC ATA#:

Independent Snapshot Data

Fault Location (1-10) Fault Storage NVM Zone Number Fault_History SET Fault Occurred in Ground Run Selected Fan Rotational Speed Selected Core Rotational Speed Selected Core Rotational Speed Selected TRA Position Selected Amb. Static Pressure Sel. Comp. Deliv. Static Pres. Selected ECU Temperature N1 Command Sel. Fan Inlet Total Temp. Est. T25 Inlet Total Temp.	<pre>= 0x02 = 0x01 = 1000000000000000000 = Bit 15 = 6215.0000 RPM = 17524 RPM = 422.0000 DEG_C = 36.2266 DEGREES = 1.4441E+01 PSIA = 2.6188E+01 PSIA = 2.0375E+01 DEG_C = 841.0000 RPM = 4.7656E-01 DEG_C = 121.7344 DEG_C = 1.1710E_0.2_EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE</pre>
Est. T25 Inlet Total Temp. Selected FMV Position Selected VSV Position	= 121.7344 DEG_C = -1.1719E-02 PERCENT = 4.2969E-01 INCHES

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

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

Dependent Snapshot Data

N1 REGISTER 1 RAW INPUT= 7593 COUNTSN1 REGISTER 2 RAW INPUT= 32782 COUNTSVal Fan Rotational Speed= 1843.5000 RPMSN1ACT Cross-Ch Validated Value= 0.0000 RPMSCross Channel N1ACTVST= 3Modeled Fan Rotational Speed= 6215.0000 RPMN1ACT Selection Status= 7 N1ACTSelected Fan Rotational Speed= 6215.0000 RPM

Detailed NVM Report LMDN9114

BDL_FLTWRD1	= xxxxxx000000000
CLEAR BOOT PROM CHKSUM TEST FAIL	
CLEAR FAULT RELAY TEST FAIL	
CLEAR MASTER DISCONNECT TEST FAIL	= Bit 06
CLEAR WDM TEST FAIL	210 00
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

Page 45 _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	Ξ
ATA#:	77-21-18-N2	SENLRU's:	N2 SENSOR, EEC	

Independent Snapshot Data

Fault Location (1-10)	<pre>= 0x01</pre>
Fault Storage NVM Zone Number	= 0x01
Fault_History	= 10000000000000000
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

Detailed NVM Report LMDN9114

N2 REGISTER 2 RAW INPUT Val Core Rotational Speed		32903 COUNTS 12406.0000 RPM	
Page 46 _Channel B - Dependent Snapshot Data Continue Serial# : LMDN9114	ed	DEC 14, 2005	10:43 AM
N2ACT Cross-Ch Validated Value Cross-Channel N2ACTVST Modeled Core Rotational Speed	=	0.0000 RPMS 3 17524.0000 RPM	

Fault Group: Last 10 Short Time Dispatch Faults

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

Independent Snapshot Data

Fault Location (1-10)	<pre>= 0x01</pre>
Fault Storage NVM Zone Number	= 0x03
Fault_History	= 10000000000000000000
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 VSV Position	= 42.0000 DEGREES
Controlling Regulator	= 10
EDL_CHSTSWRD	= x0xxxxxxxxxxxxx

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CLEAR Local Channel Active	= Bit 14	:
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Dependent Snapshot Data

Buffrd Raw Input PEO LVDT Sec1= 32756 COUNTSBuffrd Raw Input PEO LVDT Sec2= 1420 COUNTSPEO LVDT A Ref Inpt Conversion= 4.4951E+00 VOLTSPEO LVDT B Ref Inpt Conversion= 2.4639E+00 VOLTSVal Engine Oil Pressure= 2.4688E+01 PSICross-channel Validated PEO= 0.0000 PSICross-channel PEOVST= 3 0:VALID

Detailed NVM Report LMDN9114

PEO Selection Status Selected Engine Oil Pressure BDL_FLTWRD1 CLEAR BOOT PROM CHKSUM TEST FAIL CLEAR FAULT RELAY TEST FAIL CLEAR MASTER DISCONNECT TEST FAIL CLEAR WDM TEST FAIL CLEAR PROM CHECKSUM TEST FAIL CLEAR DATA ACQUISITION TEST FAIL CLEAR CPUL TEST FAIL	<pre>= 7 SST = 70.0000 PSI = xxxxxx000000000 = Bit 08 = Bit 07 = Bit 06 = Bit 05 = Bit 04 = Bit 03 = Bit 02 Dit 01</pre>
CLEAR CPU TEST FAIL CLEAR DUAL PORT RAM TEST FAIL CLEAR RAM TEST FAIL	= Bit 02 = Bit 01 = Bit 00

Fault Group: Last 10 Long Time Dispatch Faults

Fault Record: Fault Class:		Fault Code: Description:	0A9h (169d) 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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$= 0 \times 0 A$
$= 0 \times 04$
= 1000000000000000000000000000000000000
= Bit 15
= 6215.0000 RPM
= 17524 RPM
= 438.0000 DEG C
= $2.5047E+01$ DEGREES
= 1.4449E+01 PSIA
= 3.0750E+01 PSIA
= 2.0500E+01 DEG C
= 841.0000 RPM [—]
= -1.7422E+00 DEG C
= 119.0938 DEG C ⁻
= -1.5625E - 02 PERCENT
= 4.3359E-01 INCHES
= 42.0000 DEGREES
= 10
= x0xxxxxxxxxxxxx
= 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 ADC1211 LVS
 = 3 0:VALID

 Cross-Channel ADC2L211 LVS

= 3 0:VALID

Detailed NVM Report LMDN9114

CLEAR CH. HEALTH G1FLT= xx001100xxxxxx00CLEAR CH. HEALTH TM1 FAULT= Bit 13CLEAR CH. HEALTH TM2 FAULT= Bit 12SET CH. HEALTH TM2 FAULT= Bit 11SET CH. HEALTH TM3 FAULT= Bit 10 EDL CHHLTWD1 Page 49 Channel B - Dependent Snapshot Data Continued Serial# : LMDN9114 DEC 14, 2005 10:43 AM EDL CHHLTWD2 BDL FLTWRD1 BDL FLTWRD2 CLEAR CHARACTERIZATION MEMORY TST FL = Bit 02 Page 50 Channel B - Dependent Snapshot Data Continued Serial# : LMDN9114 DEC 14, 2005 10:43 AM EDL FLTWRD

Detailed NVM Report LMDN9114

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: 2Fault Code:06Eh (110d)Fault Class:BETADescription:THE TEO SIGNAL IS OUT OF RANGEATA#:79-21-10-N/ALRU's:N/A

Independent Snapshot Data

Fault Location (1-10)= 0x09Fault Storage NVM Zone Number= 0x04Fault_History= 1000000000000000SETFault Occurred in Ground Run= Bit 15Page 51Page 51Data Continued

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

Selected Fan Rotational Speed= 6215.0000 RPMSelected Core Rotational Speed= 17524 RPMSel. Exhaust Gas Total Temp.= 430.0000 DEG_CSelected TRA Position= 2.5570E+01 DEGREESSelected Amb. Static Pressure= 1.4449E+01 PSIASelected ECU Temperature= 2.0375E+01 DEG_CN1 Command= 841.0000 RPMSel. Fan Inlet Total Temp.= -1.7422E+00 DEG_CEst. T25 Inlet Total Temp.= 119.0938 DEG_CSelected VSV Position= 4.2969E-01 INCHESSelected VSV Position= 42.0000 DEGREESControlling Regulator= 10EDL_CHSTSWRD= x0xxxxxxxxxxCLEAR Local Channel Active= Bit 14

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	= xxxxxx0000000000000000000000000000000
CLEAR BOOT PROM CHKSUM TEST FAIL	= Bit 08
CLEAR FAULT RELAY TEST FAIL	= Bit 07
CLEAR MASTER DISCONNECT TEST FAIL	= Bit 06

Detailed NVM Report LMDN9114

CLEAR WDM TEST FAIL CLEAR PROM CHECKSUM TEST FAIL CLEAR DATA ACQUISITION TEST FAIL CLEAR CPU TEST FAIL		04 03	
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_Channel B - Dependent Snapshot Data Continue Serial# : LMDN9114	ed	DEC 14, 2005	10:43 AM
CLEAR DUAL PORT RAM TEST FAIL	= Bit	01	
CLEAR RAM TEST FAIL	= Bit	00	
BDL FLTWRD2	= x0x	x00xxx0xx00x0	
CLEAR AS CONTROL AREA NVM TEST FAIL	= Bit	14	
CLEAR AS FAULT AREA NVM TEST FAIL	= Bit	11	
CLEAR AS FAULT AREA NVM TEST FAIL 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:3Fault Code:076h (118d)Fault Class:BETADescription:THE N2 SIGNAL IS OUT OF RANGEATA#:77-21-18-N2 SENLRU's:N2 SENSOR, EEC

Independent Snapshot Data

Fault Location (1-10)	$= 0 \times 08$
Fault Storage NVM Zone Number	$= 0 \times 04$
Fault_History	= 1000000000000000000000000000000000000
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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Sel. Fan Inlet Total Temp.= -1.7422E+00 DEG_CEst. T25 Inlet Total Temp.= 119.0938 DEG_CSelected FMV Position= -4.6875E-02 PERCENTSelected VSV Position= 4.3164E-01 INCHESSelected VBV Position= 42.0000 DEGREESControlling Regulator= 10EDL_CHSTSWRD= x0xxxxxxxxxxxCLEAR Local Channel Active= Bit 14

Detailed NVM Report LMDN9114

N2 REGISTER 1 RAW INPUT= 7531 COUNTSN2 REGISTER 2 RAW INPUT= 32903 COUNTSVal Core Rotational Speed= 12406.0000 RPMN2ACT Cross-Ch Validated Value= 0.0000 RPMSCross-Channel N2ACTVST= 3Modeled Core Rotational Speed= 17524.0000 RPM

Fault Group: Last 10 Long Time Dispatch Faults

Fault Record: 4Fault Code:00Ch (12d)Fault Class:BETADescription:INTERNAL EEC FAULTATA#:73-20-12-EECLRU's:EEC

Independent Snapshot Data

Fault Location (1-10)= 0x07Fault Storage NVM Zone Number= 0x04Fault_History= 1000000000000000SETFault Occurred in Ground Run= Bit 15

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Selected Fan Rotational Speed= 6215.0000 RPMSelected Core Rotational Speed= 17524 RPMSel. Exhaust Gas Total Temp.= 424.5000 DEG_CSelected TRA Position= 2.6344E+01 DEGREESSelected Amb. Static Pressure= 1.4449E+01 PSIASelected ECU Temperature= 2.0375E+01 DEG_CN1 Command= 841.0000 RPMSel. Fan Inlet Total Temp.= -1.7422E+00 DEG_CEst. T25 Inlet Total Temp.= 119.0938 DEG_CSelected VSV Position= 4.2969E-01 INCHESSelected VBV Position= 10EDL_CHSTSWRD= x0xxxxxxxxxxCLEAR Local Channel Active= Bit 14

VDL_RTDTCJFDW SET RTD TCJ CONVERSION FAULT	<pre>= xxxxxxxxxxxxxxxxxx1 = Bit 00</pre>
Buffered TCJ Raw Input	= 3540.5000 COUNTS
Bufd RTDTCJ Raw Vltage Referen	= 5014.0000 COUNTS
TCJ RAW INPUT RESISTANCE	= 105.8125 OHMS
EDL_CHHLTWD1	= xx001100xxxxx00
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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CLEAR LOSS OF CRITICAL PRESSURE FLT CLEAR CH. HEALTH ALT POWER FAULT CLEAR CH. HEALTH SOL. 2 FAULT EDL_CHHLTWD2	= Bit 08 = Bit 01 = Bit 00 = 0000x00000xx0011
Page 55 _Channel B - Dependent Snapshot Data Continue Serial# : LMDN9114	DEC 14, 2005 10:43 AM
CLEAR CH. HEALTH SOL. 3 FAULT CLEAR CH. HEALTH TRINLK FAULT CLEAR CH. HEALTH NVM FAULT CLEAR CH. HEALTH SOL. 1 FAULT CLEAR CH. HEALTH SOL. 4 OR 5 FAULT CLEAR CH. HEALTH TM4 FAULT CLEAR CH. HEALTH TM5 FAULT CLEAR CH. HEALTH TM5 FAULT CLEAR CH. HEALTH TM6 FAULT CLEAR CH. HEALTH ARINC FAULT CLEAR CH. HEALTH 115V AVAIL. FLT CLEAR CH. HEALTH LAST ACTIVE FLT SET CH. HEALTH LAST ACTIVE FLT SET CH. HEALTH CHDSG FAULT BDL FLTWRD1 CLEAR BOOT PROM CHKSUM TEST FAIL CLEAR FAULT RELAY TEST FAIL CLEAR MASTER DISCONNECT TEST FAIL CLEAR WDM TEST FAIL CLEAR DOAT ACQUISITION TEST FAIL CLEAR DATA ACQUISITION TEST FAIL CLEAR DATA ACQUISITION TEST FAIL CLEAR AST TAIL CLEAR AN TEST FAIL CLEAR AN TEST FAIL CLEAR AS CONTROL AREA NVM TEST FAIL CLEAR AS ADJ AREA NVM TEST FAIL CLEAR AS ADJ AREA NVM TEST FAIL CLEAR AS ADJ AREA NVM TEST FAIL CLEAR NVM SW VERSION ID TEST FAIL CLEAR NINOR FRAME TIME CALC FAULT CLEAR MINOR FRAME TIME CALC FAULT CLEAR CHANNEL SYNC FAULT CLEAR PRESSURE LABEL FAULT FLAG	= 00000000000000 = Bit 15 = Bit 14
Page 56 _Channel B - Dependent Snapshot Data Continue Serial# : LMDN9114	d DEC 14, 2005 10:43 AM
CLEAR TYPE B FAULT CLEAR ILLEGAL INSTRUCTION FAULT CLEAR BUS ERROR FAULT CLEAR ZERO DIVIDE FAULT CLEAR TYPE C FAULT CLEAR BACKGROUND OVERRUN FAULT CLEAR FOREGROUND OVERRUN FAULT CLEAR ADDRESS ERROR INTERRUPT FAULT CLEAR GENERAL INTERRUPT FAULT CLEAR SYNC COMMAND WRAPAROUND FAULT CLEAR ECM WDM RESET FAULT	= Bit 04

Detailed NVM Report LMDN9114

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

Fault Group: Last 10 Long Time Dispatch Faults

Fault Record: 5Fault Code: 027h (39d)Fault Class: BETADescription: THE VSV POSITION SIGNAL IS OUTOF RANGEATA#:75-20-39-HMU, ELRU's:HMU, EEC

Independent Snapshot Data

Fault Location (1-10) Fault Storage NVM Zone Number Fault_History SET Fault Occurred in Ground H Selected Fan Rotational Speed Selected Core Rotational Speed Sel. Exhaust Gas Total Temp. Selected TRA Position Selected Amb. Static Pressure	= 10000000000000 Run = Bit 15 = 6215.0000 RPM = 17524 RPM = 421.0000 DEG_C = 36.2344 DEGREES = 1.4441E+01 PSIA
_Channel B - Independent Snapshot Data	Continued
Serial# : LMDN9114	DEC 14, 2005 10:43 AM
Sel. Comp. Deliv. Static Pres. Selected ECU Temperature N1 Command Sel. Fan Inlet Total Temp. Est. T25 Inlet Total Temp. Selected FMV Position Selected VSV Position Selected VBV Position Controlling Regulator EDL_CHSTSWRD CLEAR Local Channel Active	= 2.0375E+01 DEG_C = 843.0000 RPM = 4.7656E-01 DEG_C = 121.7500 DEG_C = -1.5625E-02 PERCENT = 4.2969E-01 INCHES = 42.0000 DEGREES = 10 = x0xxxxxxxxxxxxxxx
Dependent Snapshot Data	
Buffrd Raw Input VSV LVDT SEC1 Buffrd Raw Input VSV LVDT SEC2 VSV LVDT A REF Input Conversio VSV LVDT B REF Input Conversio VSV Cross-Channel Validated VSV Modeled VSV Servo-Actuator Model VSV Selection Status Cross-Channel VSVVST	= 3.8125E+00 VOLTS

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

Detailed NVM Report LMDN9114

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

Independent Snapshot Data

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Fault Location (1-10)= 0x05Fault Storage NVM Zone Number= 0x04Fault_History= 10000000000000000SET Fault Occurred in Ground Run= Bit 15Selected Fan Rotational Speed= 6215.0000 RPMSelected Core Rotational Speed= 17524 RPMSelected TRA Position= 36.3594 DEGREESSelected Amb. Static Pressure= 1.4449E+01 PSIASelected ECU Temperature= 2.0375E+01 DEG_CN1 Command= 4.7656E-01 DEG_CSelected FMV Position= 3.1250E-02 PERCENTSelected VSV Position= 4.2969E-01 INCHESSelected VSV Position= 10Selected VSV Position= 10EDL_CHSTSWRD= 10CLEAR Local Channel Active= bit 14

Dependent Snapshot Data

VBV LVDT A REF Input Conversio VBV LVDT B REF Input Conversio VBV Cross-Channel Validated VBV Servo-Actuator Model	= 8189.0000 COUNTS = 8189.0000 COUNTS = 4.0295E+00 VOLTS = 1.5471E+00 VOLTS = 39.0000 DEGREES = 42.0000 DEGREES = 7.SST
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

Page 59 Channel B - Fault Info Continued Serial# : LMDN9114 DEC 14, 2005 10:43 AM 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 Detailed NVM Report LMDN9114

Independent Snapshot Data

Fault Location (1-10) Fault Storage NVM Zone Number Fault_History SET Fault Occurred in Ground Selected Fan Rotational Speed Selected Core Rotational Speed Selected Core Rotational Speed Selected TRA Position Selected Amb. Static Pressure Sel. Comp. Deliv. Static Pres. Selected ECU Temperature N1 Command Sel. Fan Inlet Total Temp. Est. T25 Inlet Total Temp. Selected FMV Position Selected VSV Position Selected VSV Position Selected VBV Position Controlling Regulator EDL_CHSTSWRD CLEAR Local Channel Active	= 10000000000000 Run = Bit 15 = 6215.0000 RPM = 17524 RPM = 421.0000 DEG_C = 36.2188 DEGREES = 1.4441E+01 PSIA
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
PacChannel B - Dependent Snapshot Data C Serial# : LMDN9114	ge 60 Continued DEC 14, 2005 10:43 AM
TBV LVDT B REF Input Conversio	<pre>= 1.1365E+00 VOLTS</pre>
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:8Fault Code:052h (82d)Fault Class:BETADescription:THE T25 SIGNAL IS OUT OF RANGEATA#:75-20-82-T25 SELRU's:T25 SENSOR, EEC

Independent Snapshot Data

Fault Location (1-10)= 0x03Fault Storage NVM Zone Number= 0x04Fault_History= 100000000000000SETFault Occurred in Ground Run= Bit 15

Detailed NVM Report LMDN9114

Selected Amb. Static Pressure Sel. Comp. Deliv. Static Pres. Selected ECU Temperature N1 Command	<pre>= 6215.0000 RPM = 17524 RPM = 422.0000 DEG_C = 36.2266 DEGREES = 1.4449E+01 PSIA = 2.6250E+01 PSIA = 2.0375E+01 DEG_C = 841.0000 RPM = 4.7656E-01 DEG_C = 121.7500 DEG_C = -7.8125E-03 PERCENT</pre>
Page 61 _Channel B - Independent Snapshot Data Con Serial# : LMDN9114	
Sellal# : LMDN9114	DEC 14, 2005 10:43 AM
Selected VSV Position Selected VBV Position	= 4.2969E-01 INCHES = 42.0000 DEGREES
Controlling Regulator	= 10
EDL_CHSTSWRD	= x0xxxxxxxxxxxxx
CLEAR Local Channel Active	= Bit 14
Dependent Snapshot Data	

Buffered T25 Raw Input= 6434.5000 COUNTSECU TEMPERATURE AMBIENT= -121.0000 COUNTST25 Reference Input Conversion= 237.0000 OHMSVal HP Comp Inlet Total Temp= 46.8438 DEG_CT25 Cross-Channel Validated Va= 1.5000E+01 DEG_CCross-Channel T25VST= 3 0:VALIDT25 Sensor Estimate= 119.2656 DEG_CIDL_T25MSTWD= xxxxxxxxxxxxxx0CLEAR T25 MODEL HEALTH STATUS= Bit 00Sel HP Comp Inlet Total Temp= 119.1875 DEG_C

Fault Group: Last 10 Long Time Dispatch Faults

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

Independent Snapshot Data

SETFault Occurred in Ground Run= Bit 15Selected Fan Rotational Speed= 6215.0000 RPMSelected Core Rotational Speed= 17524 RPM

Detailed NVM Report LMDN9114

Sel. Exhaust Gas Total Temp. Selected TRA Position Selected Amb. Static Pressure Sel. Comp. Deliv. Static Pres. Selected ECU Temperature N1 Command Sel. Fan Inlet Total Temp. Est. T25 Inlet Total Temp. Selected FMV Position Selected VSV Position Selected VSV Position Controlling Regulator EDL_CHSTSWRD CLEAR Local Channel Active Dependent Snapshot Data	<pre>= 422.0000 DEG_C = 36.2266 DEGREES = 1.4449E+01 PSIA = 2.6250E+01 PSIA = 2.0375E+01 DEG_C = 841.0000 RPM = 4.7656E-01 DEG_C = 121.7500 DEG_C = -7.8125E-03 PERCENT = 4.2969E-01 INCHES = 42.0000 DEGREES = 10 = x0xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx</pre>
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

Fault Group: Last 10 Long Time Dispatch Faults

Page 63 Channel B - Fault Info Continued Serial# : LMDN9114 DEC 14, 2005 10:43 AM Fault Record:10Fault Code:075h (117d)Fault Class:BETADescription:THE N1 SIGNAL IS OUT OF RANGEATA#:77-21-17-N1 SENLRU's:N1 SENSOR, EEC

Fault Location (1-10)	$= 0 \times 0 1$
Fault Storage NVM Zone Number	$= 0 \times 04$
Fault_History	= 10000000000000000
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

Detailed NVM Report LMDN9114

Selected VBV Position	= 42.0000 DEGREES
Controlling Regulator	= 10
EDL_CHSTSWRD	= x0xxxxxxxxxxxxxxxxx
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

Cross Channel N1ACTVST Modeled Fan Rotational Speed N1ACT Selection Status	= 7 N1ACT
Selected Fan Rotational Speed	= 6215.0000 RPM
BDL FLTWRD1	= xxxxxx000000000
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	
CLEAR PROM CHECKSUM TEST FAIL	
CLEAR DATA ACQUISITION TEST FAIL	= Bit 03
CLEAR CPU TEST FAIL	
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	
CLEAR AS ADJ AREA NVM TEST FAIL	= Bit 10
CLEAR OS AREA NVM TEST FAIL	= Bit 06
CLEAR NVM SW VERSION ID TEST FAIL	
CLEAR CHARACTERIZATION MEMORY TST FL	= Bit 02
CLEAR NVM TEST FAIL	= Bit 00

Fault Group: Last 10 Economic Dispatch Faults

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

Independent Snapshot Data

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Fault Location (1-10)

= 0 x 0 2

Detailed NVM Report LMDN9114

Fault Storage NVM Zone Number	$= 0 \times 05$
Fault History	= 1000000000000000000000000000000000000
	= Bit 15
SET Fault Occurred in Ground Run	
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	= xxxxxxxxxxxxx0
CLEAR PMUX Inhibit Discrete (RES RAM	= Bit 00
Controlling Regulator	= 10
EDL CHSTSWRD	= x0xxxxxxxxxxxxxxxx
CLEAR Local Channel Active	= Bit 14

Dependent Snapshot Data

Buffrd Raw Inpt HPTC LVDT Sec1= 8189.0000 COUNTSBuffrd Raw Inpt HPTC LVDT Sec2= 8189.0000 COUNTSHPTC LVDT A REF Input Conversi= 2.3284E+00 VOLTSHPTC LVDT B REF Input Conversi= 1.2490E+00 VOLTSVal HP Turbine Clearance Contr= 2.4578E+01 PERCENTValidated HPTC Cross Channel= 100.0000 PERCENTCross-Channel HPTCVST= 3 0:VALIDHPTC Selection Status= 7 SSTSel HP Turbine= 101.0000 PERCENTHPTC Position Demand= 78.8438 PERCENT

Page 66 _Channel B - Dependent Snapshot Data Continued Serial# : LMDN9114

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Fault Group: Last 10 Economic Dispatch Faults

Fault Record: 2Fault Code: 036h (54d)Fault Class: DDescription: THE LPTC POSITION SIGNAL IS OUTOF RANGEATA#:75-20-54-LPTC, LRU's:LPTC, EEC

Independent Snapshot Data

Fault Location (1-10)= 0x01Fault Storage NVM Zone Number= 0x05Fault_History= 1000000000000000SETFault Occurred in Ground RunSelected Fan Rotational Speed= 6215.0000 RPMSelected Core Rotational Speed= 17524 RPMSel. Exhaust Gas Total Temp.= 421.0000 DEG_CSelected TRA Position= 36.2188 DEGREES

Detailed NVM Report LMDN9114

Selected Amb. Static Pressure Sel. Comp. Deliv. Static Pres.	= 1.4441E+01 PSIA = 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	= x0xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
CLEAR Local Channel Active	= Bit 14

Dependent Snapshot Data

Page 67Channel B - Dependent Snapshot Data ContinuedSerial# : LMDN9114DEC 14, 2005 10:43 AMBuffrd Raw Inpt LPTC LVDT Sec1= 8189.0000 COUNTSBuffrd Raw Inpt LPTC LVDT Sec2= 8189.0000 COUNTSLPTC LVDT A REF Input Conversi= 3.1560E+00 VOLTSLPTC LVDT B REF Input Conversi= 5.1008E+00 VOLTSVal LP Turbine Clearance Contr= 3.0953E+01 PERCENTLPTC Cross-Channel Validated= -3.0000E+00 PERCENTCross-Channel LPTCVST= 3 0:VALIDLPTC Selection Status= 7 SSTSel LP Turbine Clearance Contr= 105.0000 PERCENTLPTC Position Demand= 2.4500E+01 PERCENT

Control Learning Data:

	<u>Channel B:</u>
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 Övertemp 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 EnqCyc 120ms/CNT	0 CNTS
Engine at Max ($N_{2}K_{2}5 > 12000$)	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

Page 68 _Channel B - Control Learning Data Continued Serial# : LMDN9114

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SWA 1248 Investigation, DCA06MA009 Detailed NVM Report LMDN9114

Base Rating Overboost Rating N1 Trim Number N1 Trim VST 0:valid 3:invalid PMUX Inhibit (1 = inhibited) Combustor/Fuel System Config Flight Leg Synchronization Msk Hardware Adjustment Checksum Bump Engine Configuration Val. Stat Engine Rating Engine Thrust Thrust/Config Validation Stat. Rating Validation Status 7B Plug Installed (1=7B Plug) Thrust Validation Status Auto Ign. Disc. Wd. (1=enabld) Burner Staging Valve Config FMV Sensor Max Difference Adjustments RAM corruption cnt Pointer RAM corruption cnt State Var RAM corruption cnt State Var RAM corruption cnt Otal Peak EGT Value EGT Over RdLn Total Time SubIdle EGT Flight Value SubIdle EGT Flight Value SubIdle EGT Over RdLn Flgt Time SubIdle EGT Over RdLn Flgt Time SubIdle EGT Over RdLn Tot Time Worst minor frame time Worst minor frame time Worst minor frame tount Exception program counter CPU_FAULT_WORD CLEAR Type B fault CLEAR Tllegal instruction fault	<pre>4 4 3 0 1 0 0 0x000AC6041 0 0 4 4 4 0 0 0 0 0 0x0000 0x0000 0x0000 0x0001 0 0 1 851.2500 DEG_C 0 CNTS 367.2500 DEG_C 0 CNTS 564.0000 DEG_C 0 CNTS 564.0000 DEG_C 0 CNTS 1.4240E+01 mSec 215.5000 mSec 13 0x00000xx0xxxxx Bit 12 Bit 11 DEC 14, 2005 10:43 AM</pre>
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