CHAPTER

77

ENGINE INDICATING

(GE90-100 SERIES ENGINES)

777-200/300
FAULT ISOLATION MANUAL

CHAPTER 77
ENGINE INDICATING

A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

77-EFFECTIVE PAGES

777-200/300
FAULT ISOLATION MANUAL

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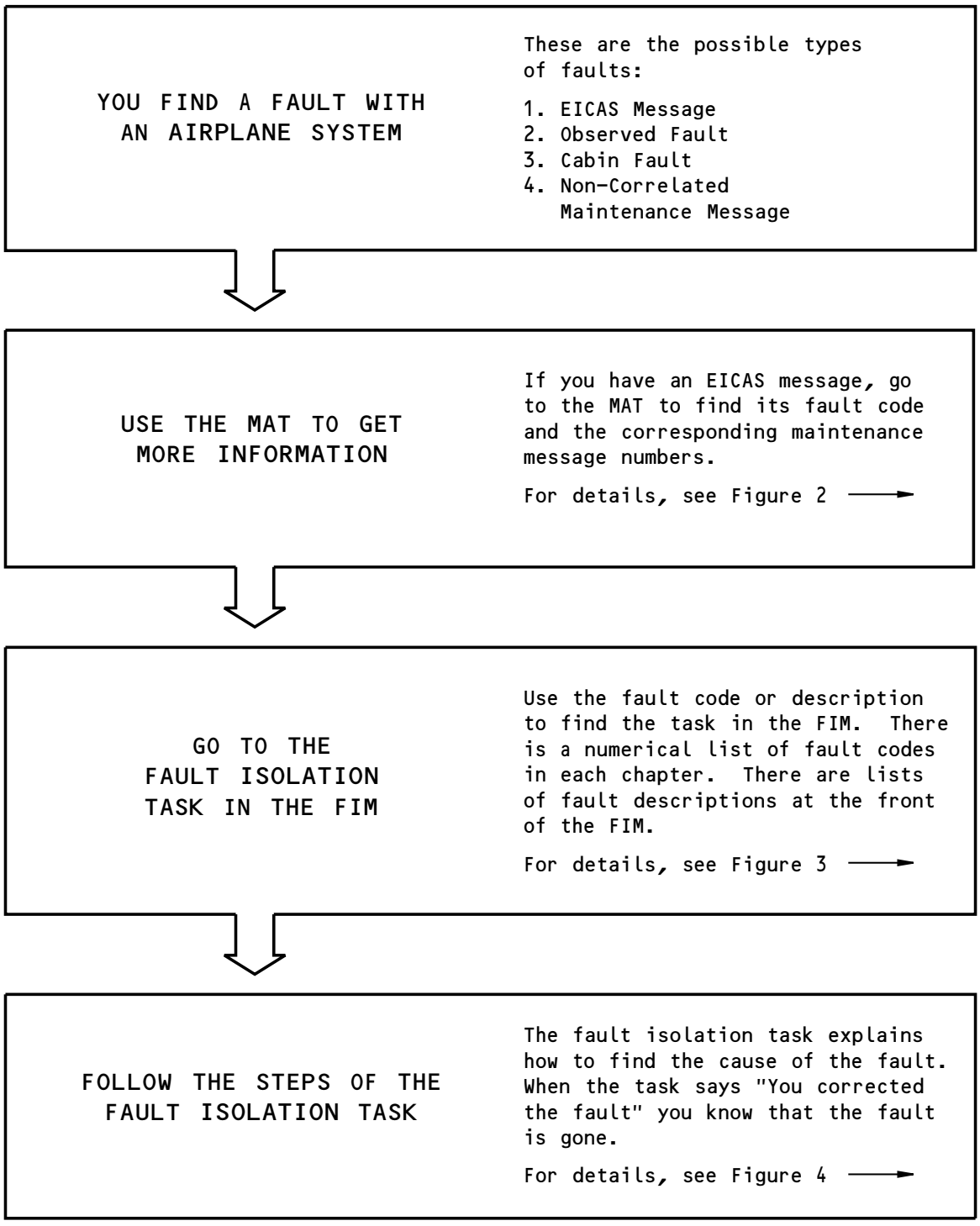
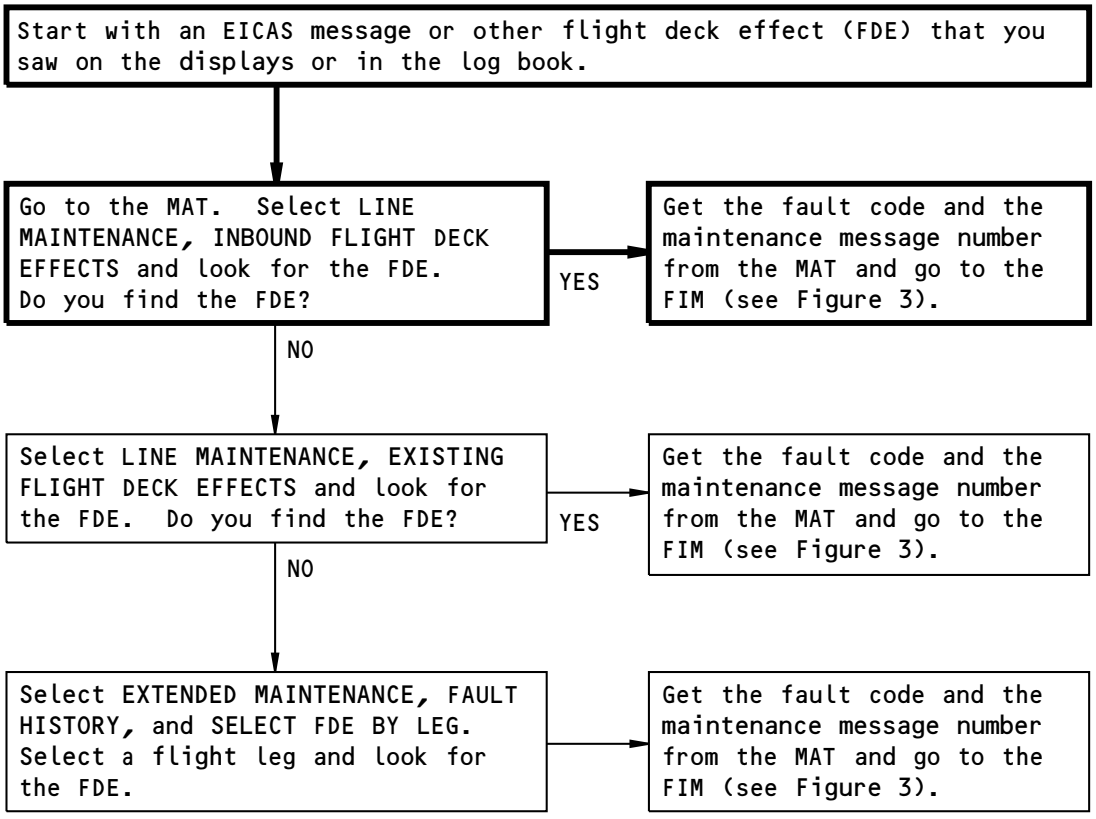
A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

77-EFFECTIVE PAGES



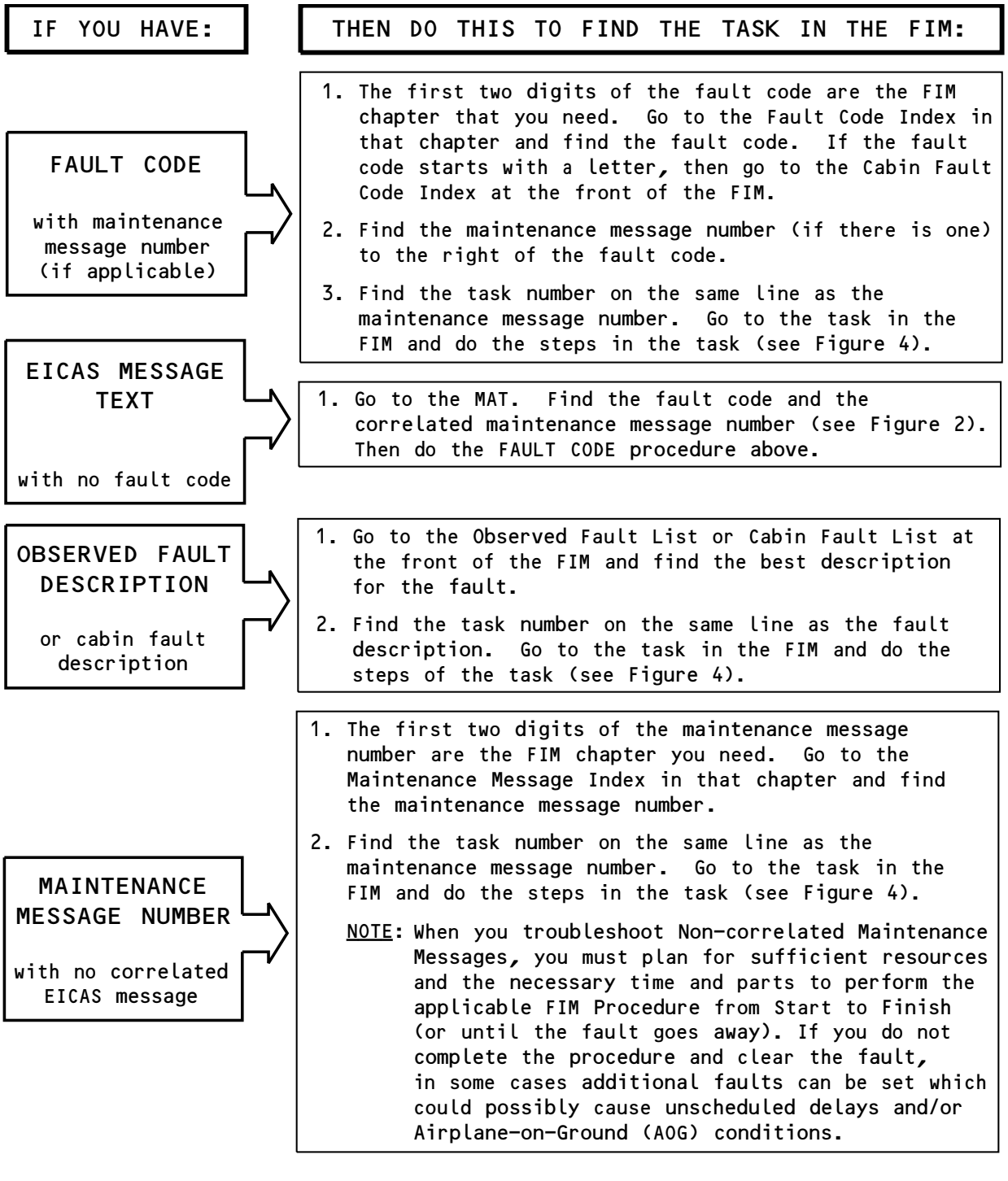
Basic Fault Isolation Process
Figure 1



NOTE: The bold lines show the most common path.

E84425 S0000132475_V1

Getting Fault Information from the MAT
Figure 2



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Finding the Fault Isolation Task in the FIM
Figure 3

ASSUMED CONDITIONS AT START OF TASK

- External electrical power is ON
- Hydraulic power and pneumatic power are OFF
- Engines are shut down
- No equipment in the system is deactivated

INITIAL EVALUATION PARAGRAPH

- The Initial Evaluation paragraph at the start of the task helps you determine whether you can detect the fault right now.
- If you cannot detect the fault right now, then the task cannot isolate the fault and the Initial Evaluation paragraph will say that there was an intermittent fault.
- If you have an intermittent fault, you must use your judgement (and follow your airline's policy) to decide which components to replace. Then monitor the airplane to see if the fault happens again on subsequent flights.

FAULT ISOLATION STEPS

- The FIM task steps are presented in a specified order. "The If... then" statements will guide you along a logical path. But if you do not plan to follow the FIM task exactly, make sure that you read it before you start to isolate the fault. Some FIM procedures start with important steps that have an effect on the other steps in the procedure.
- When you are at the endpoint of the path, the step says "You corrected the fault." Complete the step and exit the procedure.
- The Recommended Maintenance Action that shows on the MAT for the maintenance message gives a list of possible causes in order by probability of failure. In the FIM procedure, the possible causes can be in a different order from the MAT.

WIRING CHECKS

When a step says "Do a wiring check", do these three types of electrical checks for the specified contacts (pins):

- continuity from contact to contact
- shorts between the contacts
- shorts from each contact to ground

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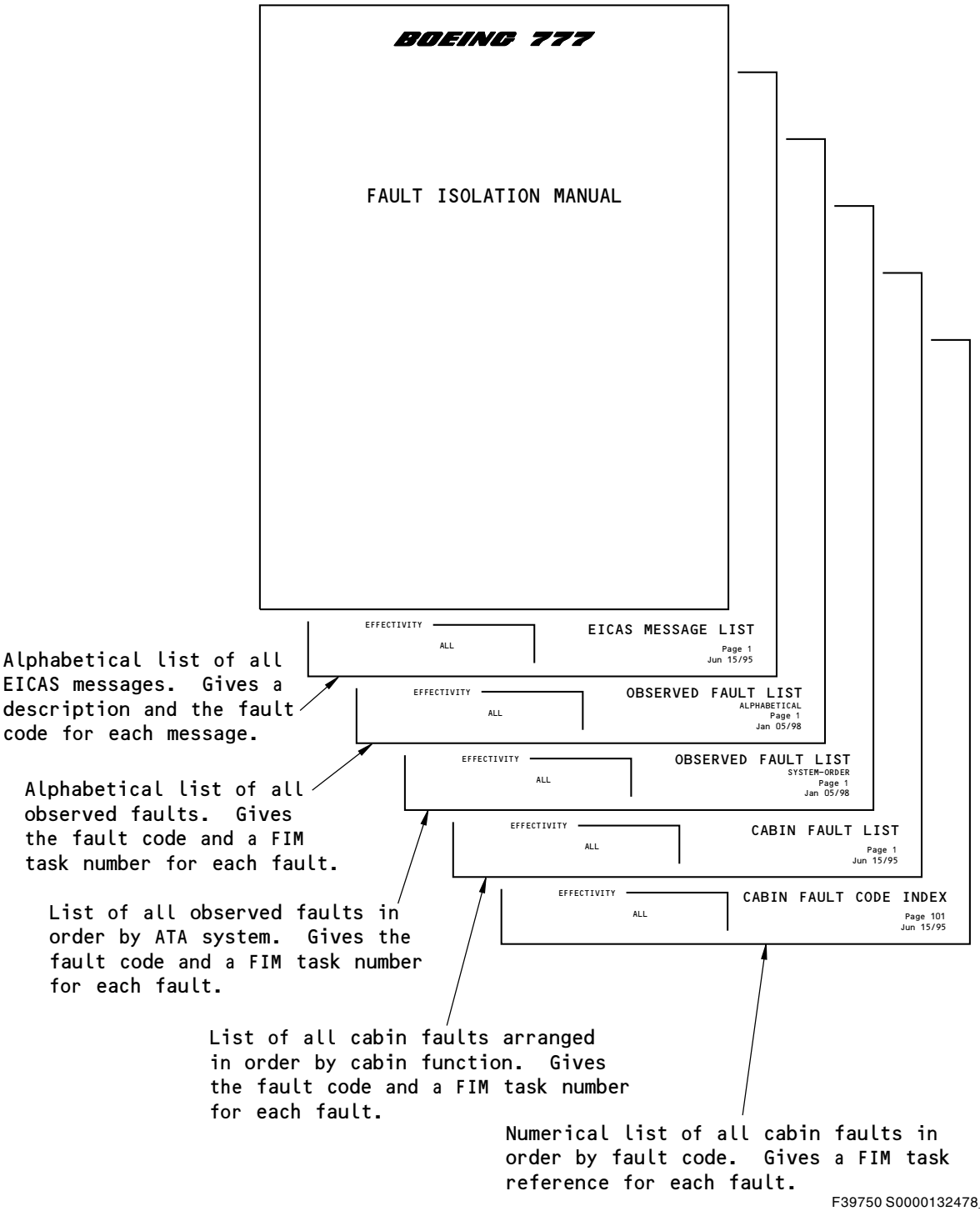
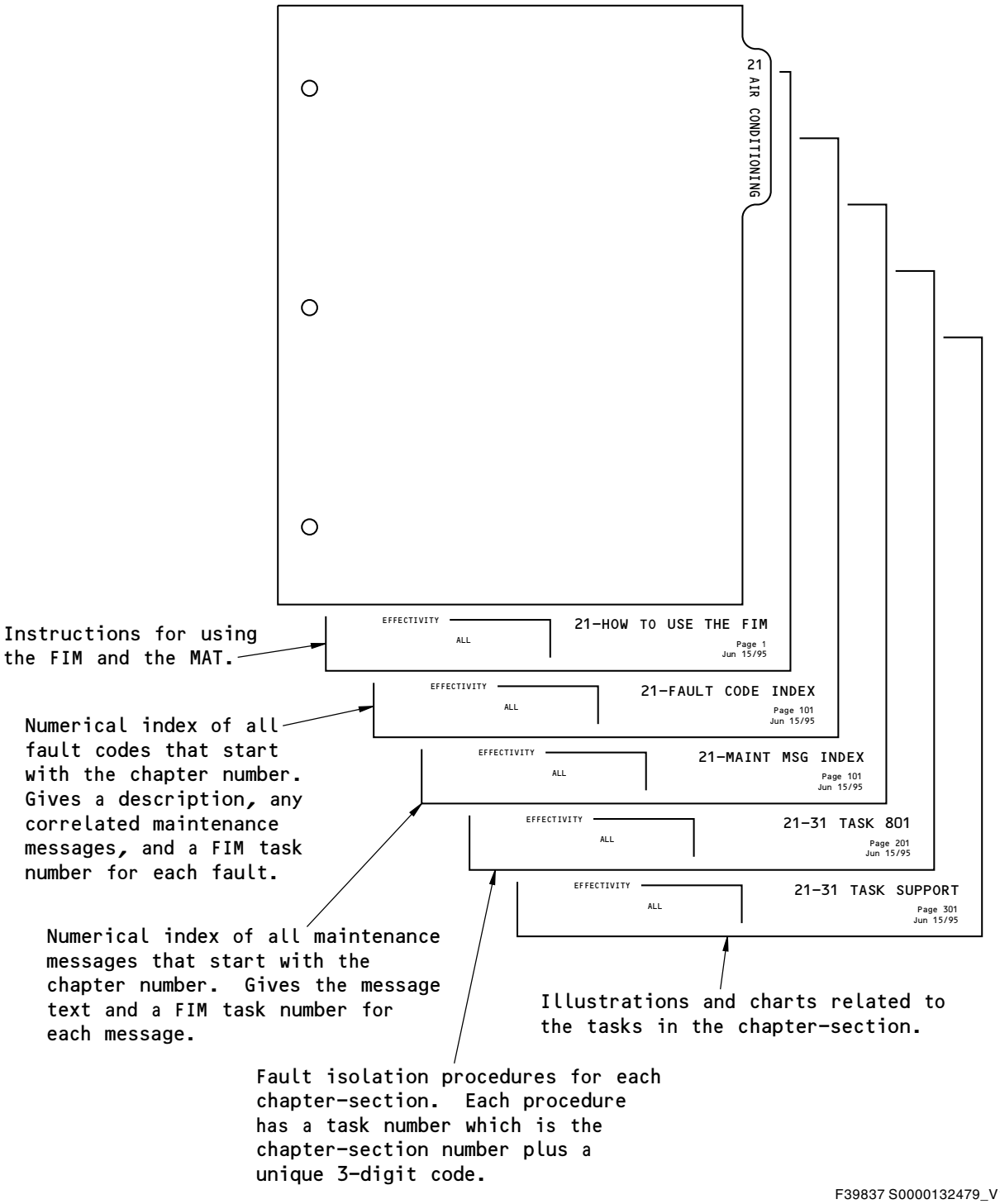
Doing the Fault Isolation Task
Figure 4



Subjects at Front of FIM
Figure 5



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Subjects in Each FIM Chapter
Figure 6

FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
771 301 51	N1 indication (engine): blank - left engine.	77-14601	77-12 TASK 814
		77-24601	77-12 TASK 814
771 301 52	N1 indication (engine): blank - right engine.	77-14602	77-12 TASK 814
		77-24602	77-12 TASK 814
771 311 51	N2 indication (engine): blank - left engine.	77-14611	77-12 TASK 816
		77-24611	77-12 TASK 816
771 311 52	N2 indication (engine): blank - right engine.	77-14612	77-12 TASK 816
		77-24612	77-12 TASK 816
771 621 51	Red line limits for engine: Do not show - left engine.		77-21 TASK 806
771 621 52	Red line limits for engine: Do not show - left engine.		77-21 TASK 806
772 301 51	EGT indication (engine): blank - left engine.	23-81004	23-91 TASK 804
		23-81005	23-91 TASK 805
		23-81007	23-91 TASK 807
		31-52013	31-43 TASK 866
		31-52014	31-43 TASK 867
		31-52121	31-41 TASK 821
		31-52122	31-41 TASK 822
		31-56013	31-43 TASK 870
		31-56014	31-43 TASK 871
		31-56121	31-41 TASK 848
		31-56122	31-41 TASK 849
		31-58013	31-43 TASK 872
		31-58014	31-43 TASK 873
		31-58121	31-41 TASK 856
		31-58122	31-41 TASK 857
		31-69401	31-42 TASK 825
		31-69402	31-42 TASK 825
		31-69469	31-42 TASK 850
		31-69470	31-42 TASK 850
		31-69471	31-42 TASK 850
		31-69472	31-42 TASK 850
		31-69501	31-42 TASK 852
		31-69502	31-42 TASK 852
		31-69569	31-42 TASK 856

FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
772 301 51	EGT indication (engine): blank - left engine.	(continued)	
		31-69570	31-42 TASK 856
		31-69573	31-42 TASK 856
		31-69574	31-42 TASK 856
		31-69701	31-42 TASK 879
		31-69702	31-42 TASK 879
		31-69771	31-42 TASK 880
		31-69772	31-42 TASK 880
		31-69773	31-42 TASK 880
		31-69774	31-42 TASK 880
		73-08801	73-27 TASK 805
		73-08803	73-27 TASK 810
		73-08805	73-27 TASK 810
		73-08807	73-27 TASK 810
		73-08841	73-27 TASK 806
		73-08843	73-27 TASK 806
		73-08851	73-27 TASK 806
		73-08855	73-27 TASK 806
		73-08873	73-27 TASK 806
		73-08875	73-27 TASK 806
		73-09401	73-27 TASK 808
		73-09403	73-27 TASK 808
		73-09501	73-27 TASK 808
		73-09505	73-27 TASK 808
		73-09703	73-27 TASK 808
		73-09705	73-27 TASK 808
		73-13111	73-21 TASK 842
		73-23111	73-21 TASK 842
		77-14661	77-21 TASK 808
		77-14671	77-21 TASK 809
		77-14672	77-21 TASK 809
		77-14691	77-21 TASK 811
		77-14711	77-21 TASK 812
		77-14721	77-21 TASK 813
		77-14722	77-21 TASK 813
		77-14741	77-21 TASK 815

FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
772 301 51	EGT indication (engine): blank - left engine.	(continued)	
		77-24661	77-21 TASK 808
		77-24681	77-21 TASK 810
		77-24682	77-21 TASK 810
		77-24691	77-21 TASK 811
		77-24711	77-21 TASK 812
		77-24731	77-21 TASK 814
		77-24732	77-21 TASK 814
		77-24741	77-21 TASK 815
772 301 52	EGT indication (engine): blank - right engine.	23-81005	23-91 TASK 805
		23-81006	23-91 TASK 806
		23-81007	23-91 TASK 807
		31-52013	31-43 TASK 866
		31-52014	31-43 TASK 867
		31-52121	31-41 TASK 821
		31-52122	31-41 TASK 822
		31-54013	31-43 TASK 868
		31-54014	31-43 TASK 869
		31-54121	31-41 TASK 838
		31-54122	31-41 TASK 839
		31-56013	31-43 TASK 870
		31-56014	31-43 TASK 871
		31-56121	31-41 TASK 848
		31-56122	31-41 TASK 849
		31-69501	31-42 TASK 852
		31-69502	31-42 TASK 852
		31-69577	31-42 TASK 856
		31-69578	31-42 TASK 856
		31-69579	31-42 TASK 856
		31-69580	31-42 TASK 856
		31-69601	31-42 TASK 857
		31-69602	31-42 TASK 857
		31-69675	31-42 TASK 877
		31-69676	31-42 TASK 877
		31-69677	31-42 TASK 877
		31-69678	31-42 TASK 877

FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
772 301 52	EGT indication (engine): blank - right engine.	(continued)	
		31-69701	31-42 TASK 879
		31-69702	31-42 TASK 879
		31-69775	31-42 TASK 880
		31-69776	31-42 TASK 880
		31-69779	31-42 TASK 880
		31-69780	31-42 TASK 880
		73-08802	73-27 TASK 805
		73-08804	73-27 TASK 810
		73-08806	73-27 TASK 810
		73-08808	73-27 TASK 810
		73-08854	73-27 TASK 807
		73-08856	73-27 TASK 807
		73-08862	73-27 TASK 807
		73-08864	73-27 TASK 807
		73-08872	73-27 TASK 807
		73-08876	73-27 TASK 807
		73-09504	73-27 TASK 809
		73-09506	73-27 TASK 809
		73-09602	73-27 TASK 809
		73-09604	73-27 TASK 809
		73-09702	73-27 TASK 809
		73-09706	73-27 TASK 809
		73-13112	73-21 TASK 842
		73-23112	73-21 TASK 842
		77-14662	77-21 TASK 808
		77-14671	77-21 TASK 809
		77-14672	77-21 TASK 809
		77-14692	77-21 TASK 811
		77-14712	77-21 TASK 812
		77-14721	77-21 TASK 813
		77-14722	77-21 TASK 813
		77-14742	77-21 TASK 815
		77-24662	77-21 TASK 808
		77-24681	77-21 TASK 810
		77-24682	77-21 TASK 810

FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
772 301 52	EGT indication (engine): blank - right engine.	(continued)	
		77-24692	77-21 TASK 811
		77-24712	77-21 TASK 812
		77-24731	77-21 TASK 814
		77-24732	77-21 TASK 814
		77-24742	77-21 TASK 815
773 001 51	ENG VIB MONITOR L (EICAS STATUS) Before you do any task listed here, see FIM 77-98 TASK 802. **NOTE:** AIMS CAN LATCH THIS MESSAGE.		
		77-00031	77-31 TASK 823
		77-00081	77-31 TASK 805
		77-00141	77-31 TASK 809
		77-01211	77-31 TASK 803
		77-03011	77-31 TASK 801
		77-03021	77-31 TASK 803
		77-03041	77-31 TASK 825
		77-03061	77-31 TASK 827
		77-06021	77-31 TASK 803
		77-09021	77-31 TASK 803
773 001 52	ENG VIB MONITOR R (EICAS STATUS) Before you do any task listed here, see FIM 77-98 TASK 802. **NOTE:** AIMS CAN LATCH THIS MESSAGE.		
		77-00032	77-31 TASK 824
		77-00082	77-31 TASK 806
		77-00142	77-31 TASK 810
		77-01212	77-31 TASK 804
		77-03012	77-31 TASK 802
		77-03022	77-31 TASK 804
		77-03042	77-31 TASK 826
		77-03062	77-31 TASK 828
		77-06022	77-31 TASK 804
		77-09022	77-31 TASK 804
773 301 51	Vibration indication (engine): blank - left engine.	23-81004	23-91 TASK 804
		24-11781	24-51 TASK 837

FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
773 301 51	Vibration indication (engine): blank - left engine.	(continued)	
		24-11786	24-51 TASK 833
		31-58013	31-43 TASK 872
		31-58014	31-43 TASK 873
		31-58121	31-41 TASK 856
		31-58122	31-41 TASK 857
		31-69401	31-42 TASK 825
		31-69402	31-42 TASK 825
		31-69467	31-42 TASK 849
		31-69468	31-42 TASK 849
		31-85311	31-98 TASK 801
		77-08841	77-31 TASK 813
773 301 52	Vibration indication (engine): blank - right engine.	23-81006	23-91 TASK 806
		24-12124	24-51 TASK 840
		24-12127	24-51 TASK 842
		31-54013	31-43 TASK 868
		31-54014	31-43 TASK 869
		31-54121	31-41 TASK 838
		31-54122	31-41 TASK 839
		31-69601	31-42 TASK 857
		31-69602	31-42 TASK 857
		31-69667	31-42 TASK 876
		31-69668	31-42 TASK 876
		31-85312	31-98 TASK 801
		77-08862	77-31 TASK 814
773 611 51	Vibration indication: Too high; high (N2) rotor frequency - left engine.		77-05 TASK 802
773 611 52	Vibration indication: Too high; high (N2) rotor frequency - right engine.		77-05 TASK 802
773 613 51	Vibration indication: Too high; low (N1) rotor frequency - left engine.		77-05 TASK 801
773 613 52	Vibration indication: Too high; low (N1) rotor frequency - right engine.		77-05 TASK 801
773 614 51	Vibration indication: Too high; frequencies not related to rotors (broad band) - left engine.		77-05 TASK 803

FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
773 614 52	Vibration indication: Too high; frequencies not related to rotors (broad band) - right engine.		77-05 TASK 803

MAINT MESSAGE	MESSAGE TEXT	GO TO FIM TASK
77-00031*	Signal Conditioner Unit (Left) has an internal fault.	77-31 TASK 823
77-00032*	Signal Conditioner Unit (Right) has an internal fault.	77-31 TASK 824
77-00081*	Signal Conditioner Unit (Left) has incorrect configuration for engine type.	77-31 TASK 805
77-00082*	Signal Conditioner Unit (Right) has incorrect configuration for engine type.	77-31 TASK 806
77-00091	Signal Conditioner Unit (Left) has incorrect software configuration.	77-31 TASK 807
77-00092	Signal Conditioner Unit (Right) has incorrect software configuration.	77-31 TASK 808
77-00141*	**AIMS-2, CMCF LDI 3114-BCG-00W-16;** Signal Conditioner Unit (Left) Program Pins are incorrect. **AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11;** **AIMS-2, CMCF LDI 3111-BCG-00W-13;** **AIMS-2, CMCF LDI 3116-BCG-00W-14;** **AIMS-2, CMCF LDI 3117-BCG-00W-15;** Signal Conditioner Unit (Left) program pins are incorrect.	77-31 TASK 809
77-00142*	**AIMS-2, CMCF LDI 3114-BCG-00W-16;** Signal Conditioner Unit (Right) Program Pins are incorrect. **AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11;** **AIMS-2, CMCF LDI 3111-BCG-00W-13;** **AIMS-2, CMCF LDI 3116-BCG-00W-14;** **AIMS-2, CMCF LDI 3117-BCG-00W-15;** Signal Conditioner Unit (Right) program pins are incorrect.	77-31 TASK 810
77-00151	Signal Conditioner Unit (Left) has an ARINC 629 fault.	77-31 TASK 811
77-00152	Signal Conditioner Unit (Right) has an ARINC 629 fault.	77-31 TASK 812
77-01211*	Remote Charge Converter (Left) signal is out of range.	77-31 TASK 803
77-01212*	Remote Charge Converter (Right) is out of range.	77-31 TASK 804
77-03011*	Remote Charge Converter (Left) circuit is open or shorted.	77-31 TASK 801
77-03012*	Remote Charge Converter (Right) circuit is open or shorted.	77-31 TASK 802
77-03021*	Remote Charge Converter (Left) has an internal fault.	77-31 TASK 803
77-03022*	Remote Charge Converter (Right) has an internal fault.	77-31 TASK 804
77-03041*	Turbine Rear Frame Accelerometer (Circuit 1 Left) signal is out of range.	77-31 TASK 825
77-03042*	Turbine Rear Frame Accelerometer (Circuit 1 Right) signal is out of range.	77-31 TASK 826
77-03061*	No.1 Bearing Accelerometer (Circuit 3 Left) signal is out of range.	77-31 TASK 827
77-03062*	No.1 Bearing Accelerometer (Circuit 3 Right) signal is out of range.	77-31 TASK 828

*If the MAT shows LATCHED for the correlated EICAS message, then you must erase the EICAS message after you complete the FIM task.

MAINT MESSAGE	MESSAGE TEXT	GO TO FIM TASK
77-03101	Signal Conditioner Unit (Left) has an out of range analog N1 speed input signal from N1 Speed Sensor (L Eng).	77-31 TASK 829
77-03102	Signal Conditioner Unit (Right) has an out of range analog N1 speed input signal from N1 Speed Sensor (R Eng).	77-31 TASK 830
77-03111	Signal Conditioner Unit (Left) has an out of range analog N2 speed input signal from N2 Speed Sensor (L Eng).	77-31 TASK 831
77-03112	Signal Conditioner Unit (Right) has an out of range analog N2 speed input signal from N2 Speed Sensor (R Eng).	77-31 TASK 832
77-03131	**AIMS-2, CMCF LDI 3114-BCG-00W-16;** N1 Speed Sensor (Left) Index Pulse signal is not available. **AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11;** **AIMS-2, CMCF LDI 3111-BCG-00W-13;** **AIMS-2, CMCF LDI 3116-BCG-00W-14;** **AIMS-2, CMCF LDI 3117-BCG-00W-15;** N1 Speed Sensor (Left) index pulse signal is not available.	77-31 TASK 829
77-03132	**AIMS-2, CMCF LDI 3114-BCG-00W-16;** N1 Speed Sensor (Right) Index Pulse signal is not available. **AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11;** **AIMS-2, CMCF LDI 3111-BCG-00W-13;** **AIMS-2, CMCF LDI 3116-BCG-00W-14;** **AIMS-2, CMCF LDI 3117-BCG-00W-15;** N1 Speed Sensor (Right) index pulse signal is not available.	77-31 TASK 830
77-06021*	Remote Charge Converter (Left) has an internal fault.	77-31 TASK 803
77-06022*	Remote Charge Converter (Right) has an internal fault.	77-31 TASK 804
77-08841	Signal Conditioner Unit (Left) has no output on System ARINC 629 Bus (left).	77-31 TASK 813
77-08862	Signal Conditioner Unit (Right) has no output on System ARINC 629 Bus (right).	77-31 TASK 814
77-09021*	Remote Charge Converter (Left) has an internal fault.	77-31 TASK 803
77-09022*	Remote Charge Converter (Right) has an internal fault.	77-31 TASK 804
77-09407	Signal Conditioner Unit (Left) has no input from Engine Data Interface Unit (L Eng,ch A) on System ARINC 629 Bus (left).	77-31 TASK 815
77-09409	Signal Conditioner Unit (Left) has no input from Engine Data Interface Unit (L Eng,ch B) on System ARINC 629 Bus (left).	77-31 TASK 816
77-09411	Signal Conditioner Unit (Left) has no input from Left AIMS on System ARINC 629 Bus (left).	77-31 TASK 819
77-09413	Signal Conditioner Unit (Left) has no input from Right AIMS on System ARINC 629 Bus (left).	77-31 TASK 820
77-09608	Signal Conditioner Unit (Right) has no input from Engine Data Interface Unit (R Eng,ch A) on System ARINC 629 Bus (right).	77-31 TASK 817

*If the MAT shows LATCHED for the correlated EICAS message, then you must erase the EICAS message after you complete the FIM task.

MAINT MESSAGE	MESSAGE TEXT	GO TO FIM TASK
77-09610	Signal Conditioner Unit (Right) has no input from Engine Data Interface Unit (R Eng,ch B) on System ARINC 629 Bus (right).	77-31 TASK 818
77-09612	Signal Conditioner Unit (Right) has no input from Left AIMS on System ARINC 629 Bus (right).	77-31 TASK 821
77-09614	Signal Conditioner Unit (Right) has no input from Right AIMS on System ARINC 629 Bus (right).	77-31 TASK 822
77-14601*	N1 Speed Sensor (L Eng ch A) signal is out of range.	77-12 TASK 814
77-14602*	N1 Speed Sensor (R Eng ch A) signal is out of range.	77-12 TASK 814
77-14611*	N2 Speed Sensor (L Eng ch A) signal is out of range.	77-12 TASK 816
77-14612*	N2 Speed Sensor (R Eng ch A) signal is out of range.	77-12 TASK 816
77-14661	T49 Sector 1 (L Eng ch A) signal is out of range.	77-21 TASK 808
77-14662	T49 Sector 1 (R Eng ch A) signal is out of range.	77-21 TASK 808
77-14671	T49 Sector 2 (L Eng ch A) signal is out of range.	77-21 TASK 809
77-14672	T49 Sector 2 (R Eng ch A) signal is out of range.	77-21 TASK 809
77-14691	T49 Sector 4 (L Eng ch A) signal is out of range.	77-21 TASK 811
77-14692	T49 Sector 4 (R Eng ch A) signal is out of range.	77-21 TASK 811
77-14701*	Speed signals from N1 Speed Sensor (L Eng) channel A and B do not agree.	77-12 TASK 813
77-14702*	Speed signals from N1 Speed Sensor (R Eng) channel A and B do not agree.	77-12 TASK 813
77-14711	T49 Sector 1 (L Eng ch A) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 812
77-14712	T49 Sector 1 (R Eng ch A) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 812
77-14721	T49 Sector 2 (L Eng ch A) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 813
77-14722	T49 Sector 2 (R Eng ch A) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 813
77-14741	T49 Sector 4 (L Eng ch A) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 815
77-14742	T49 Sector 4 (R Eng ch A) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 815
77-14841	Engine control system (L Eng ch A) has fault #4.	77-98 TASK 801
77-14842	Engine control system (R Eng ch A) has fault #4.	77-98 TASK 801
77-14901*	Speed signals from N2 Speed Sensor (L Eng) channel A and B do not agree.	77-12 TASK 815
77-14902*	Speed signals from N2 Speed Sensor (R Eng) channel A and B do not agree.	77-12 TASK 815

*If the MAT shows LATCHED for the correlated EICAS message, then you must erase the EICAS message after you complete the FIM task.

MAINT MESSAGE	MESSAGE TEXT	GO TO FIM TASK
77-24601*	N1 Speed Sensor (L Eng ch B) signal is out of range.	77-12 TASK 814
77-24602*	N1 Speed Sensor (R Eng ch B) signal is out of range.	77-12 TASK 814
77-24611*	N2 Speed Sensor (L Eng ch B) signal is out of range.	77-12 TASK 816
77-24612*	N2 Speed Sensor (R Eng ch B) signal is out of range.	77-12 TASK 816
77-24661	T49 Sector 1 (L Eng ch B) signal is out of range.	77-21 TASK 808
77-24662	T49 Sector 1 (R Eng ch B) signal is out of range.	77-21 TASK 808
77-24681	T49 Sector 3 (L Eng ch B) signal is out of range.	77-21 TASK 810
77-24682	T49 Sector 3 (R Eng ch B) signal is out of range.	77-21 TASK 810
77-24691	T49 Sector 4 (L Eng ch B) signal is out of range.	77-21 TASK 811
77-24692	T49 Sector 4 (R Eng ch B) signal is out of range.	77-21 TASK 811
77-24701*	Speed signals from N1 Speed Sensor (L Eng) channel B and A do not agree.	77-12 TASK 813
77-24702*	Speed signals from N1 Speed Sensor (R Eng) channel B and A do not agree.	77-12 TASK 813
77-24711	T49 Sector 1 (L Eng ch B) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 812
77-24712	T49 Sector 1 (R Eng ch B) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 812
77-24731	T49 Sector 3 (L Eng ch B) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 814
77-24732	T49 Sector 3 (R Eng ch B) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 814
77-24741	T49 Sector 4 (L Eng ch B) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 815
77-24742	T49 Sector 4 (R Eng ch B) signal does not agree with valid signals from other T49 sectors.	77-21 TASK 815
77-24841	Engine control system (L Eng ch B) has fault #4.	77-98 TASK 801
77-24842	Engine control system (R Eng ch B) has fault #4.	77-98 TASK 801
77-24901*	Speed signals from N2 Speed Sensor (L Eng) channel B and A do not agree.	77-12 TASK 815
77-24902*	Speed signals from N2 Speed Sensor (R Eng) channel B and A do not agree.	77-12 TASK 815
77-37911	N1 speed (L Eng) analog signal is out of range.	77-12 TASK 817
77-37912	N1 speed (R Eng) analog signal is out of range.	77-12 TASK 818

*If the MAT shows LATCHED for the correlated EICAS message, then you must erase the EICAS message after you complete the FIM task.

801. The Left (Right) Engine Has High N1 Vibration - Fault Isolation

A. Initial Evaluation

(1) Get access to PRESENT LEG FAULTS screen on the MAT, and look for related vibration maintenance messages.

(a) If you see a vibration related maintenance message, do the fault isolation for that message.

(b) If you do not see a vibration related maintenance message, then continue.

B. Fault Isolation Procedure

(1) Do a visual check of the internal surfaces of the inlet and turbine exhaust areas for obvious signs of damage.

These are the tasks:

Engine Foreign Object Damage Inspection, AMM TASK 71-00-00-200-802-H01

Turbine Exhaust System Visual Inspection, AMM TASK 78-11-00-210-801-H01

(a) Obvious signs of heat damage

(b) Hit (impact) marks

(c) Unwanted material

1) If you find a problem, identify the cause or source, and do the applicable repairs as it is necessary.

a) Monitor the engine for high N1 vibration on the subsequent flight.

2) If you cannot repair the problem, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

(d) If no fault is found, then continue.

(2) Do a check of the DMS sensor for debris (AMM TASK 79-00-00-200-804-H01).

(a) If you find signs of an internal engine failure, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

(b) If no fault is found, then continue.

(3) Do a check of the fan blades, the spinner and the platforms.

These are the tasks:

Fan Blade (Scheduled Maintenance Requirement) Inspection, AMM TASK 72-21-00-200-803-H01

Fan Rotor Spinner and Support Ring (Scheduled Maintenance Requirement) Inspection, AMM TASK 72-21-00-200-801-H01

Fan Blade Platforms (Scheduled Maintenance Requirement) Inspection, AMM TASK 72-21-00-220-803-H01.

(a) If you find damage that is in the specified limits, identify the cause or source, and do the applicable repairs as it is necessary.

1) Monitor the engine for high N1 vibration on the subsequent flight.

(b) If you find damage that is more than the specified limits, replace the applicable component, as it is necessary:

1) If it is necessary, replace the damaged fan blade(s).

These are the tasks:

One Fan Blade Removal, AMM TASK 72-21-02-020-803-H01

One Fan Blade Installation, AMM TASK 72-21-02-400-803-H01.

2) If it is necessary, replace the damaged fan rotor spinner.

These are the tasks:

Fan Rotor Spinner Removal, AMM TASK 72-21-01-000-801-H01

Fan Rotor Spinner Installation, AMM TASK 72-21-01-400-801-H01.

3) If it is necessary, replace the damaged platforms.

These are the tasks:

Fan Blade Platform Removal, AMM TASK 72-21-03-000-801-H01

Fan Blade Platform Installation, AMM TASK 72-21-03-400-801-H01.

(c) If no fault is found, then continue.

(4) Do this task: Engine Vibration Monitoring (AVM) System Inspection, AMM TASK 77-31-00-200-801-H01.

(a) If you find a problem, identify the cause or source, and do the applicable repairs as it is necessary.

1) Monitor the engine for high N1 vibration on the subsequent flight.

(b) If no fault is found, then continue.

(5) Do a borescope inspection of the LPT rotor (AMM TASK 72-00-00-290-807-H01).

(a) Examine all areas of the LPT rotor blades.

1) Cracks are not permitted.

2) Missing airfoils or missing tip shrouds are not permitted.

3) Monitor the engine for high N1 vibration on the subsequent flight.

(b) Examine the LPT shroud interlocks.

1) Shingled or not latched is not permitted.

(c) If you find damage that is more than the limits, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

(d) If no fault is found and N1 vibration was high at all conditions, do this task: Test No. 12A - Low Pressure System (Fan/LPT) Trim Balance (For SCU P/N S332W401-200), AMM TASK 71-00-00-700-811-H01 or Test No. 12B - Low Pressure System (Fan/LPT) Trim Balance (For SCU P/N 241-322-008-022 or 241-322-007-021, Media P/N 241-322-915-001), AMM TASK 71-00-00-700-821-H02.

1) Continue the airplane in service.

2) Monitor the engine for high N1 vibration on the subsequent flight.

(e) If no fault is found and N1 vibration had fluctuations or spikes, continue with the steps below.

(6) If the high N1 vibration was from the TCF accelerometer (Channel A) and the vibration had fluctuations or spikes, or the fault continues, replace the turbine center frame (TCF) vibration accelerometer.

These are the tasks:

Turbine Center Frame Accelerometer Removal, AMM TASK 77-31-06-000-801-H01

Turbine Center Frame Accelerometer Installation, AMM TASK 77-31-06-400-801-H01.

(a) Monitor the engine for high N1 vibration on the subsequent flight.

NOTE: For AIRPLANES with AVM SCU 241-322-007-021 or 241-322-915-001, the AVM will switch to an alternative mode when a No. 1 bearing fault is detected.

(7) If the high N1 vibration was from the Number 1 bearing accelerometer (Channel B) and the vibration had fluctuations or spikes, or the fault continues, do this task: Turbine Center Frame Accelerometer Activation, AMM TASK 77-31-06-400-802-H01.

(a) Monitor the engine for high N1 vibration on the subsequent flight.

(8) If the fault continues, replace the remote charge converter (RCC), M77101 (M77026).

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01.

(a) Monitor the engine for high N1 vibration on the subsequent flight.

(9) If the fault continues, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

——— END OF TASK ———

802. The Left (Right) Engine Has High N2 Vibration - Fault Isolation

A. Initial Evaluation

(1) Get access to PRESENT LEG FAULTS screen on the MAT, and look for related vibration maintenance messages.

(a) If you see a vibration related maintenance message, do the fault isolation for that message.

(b) If you do not see a vibration related maintenance message, then continue.

B. Fault Isolation Procedure

(1) Do a visual check of the internal surfaces of the inlet and turbine exhaust areas for obvious signs of damage.

These are the tasks:

Engine Foreign Object Damage Inspection, AMM TASK 71-00-00-200-802-H01

Turbine Exhaust System Visual Inspection, AMM TASK 78-11-00-210-801-H01.

(a) Obvious signs of heat damage

(b) Scratch marks

(c) Hit (impact) marks

(d) Unwanted material

1) If you find damage that is in the specified limits, identify the cause or source, and then do the applicable repairs as it is necessary.
   a) Monitor the engine for high N2 vibration on the subsequent flight.
2) If you find damage that is more than the specified limits, replace the engine.

   These are the tasks:

   Power Plant Removal, AMM TASK 71-00-02-000-811-H00

   Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

(e) If no fault is found, then continue.

(2) Do a check of the DMS sensor for debris (AMM TASK 79-00-00-200-804-H01).

(a) If you find signs of an internal engine failure, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

(b) If no fault is found, then continue.

(3) Do this task: Engine Vibration Monitoring (AVM) System Inspection, AMM TASK 77-31-00-200-801-H01.

(a) If you find damage that is in the specified limits, identify the cause or source, and do the applicable repairs as it is necessary.
   1) Monitor the engine for high N2 vibration on the subsequent flight.

(4) Do a borescope inspection of the HPC stage 1, stage 2, stage 5, and stage 8 (AMM TASK 72-00-00-290-803-H01).

(a) When you inspect the stage 2 HPC, make sure you look for loss of leading or trailing edge tip corners.

(b) If you find a tip corner is missing, inspect HPC stage 8 (AMM TASK 72-00-00-290-803-H01).

(c) If you find damage that is in the specified limits, identify the cause or source, and do the applicable repairs as it is necessary.
   1) Monitor the engine for high N2 vibration on the subsequent flight.

(d) If you find damage that is more than the specified limits, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

(e) If no fault is found, then continue.

(5) Do a borescope inspection of the HPT stage 1, and stage 2 (AMM TASK 72-00-00-290-806-H01).

(a) If you find damage that is in the specified limits, identify the cause or source, and do the applicable repairs as it is necessary.
   1) Monitor the engine for high N2 vibration on the subsequent flight.

(b) If you find damage that is more than the specified limits, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

(c) If no damage is found, then continue.

(6) If the fault continues, replace the turbine center frame (TCF) vibration accelerometer.

These are the tasks:

Turbine Center Frame Accelerometer Removal, AMM TASK 77-31-06-000-801-H01

Turbine Center Frame Accelerometer Installation, AMM TASK 77-31-06-400-801-H01.

(a) Monitor the engine for high vibration on the subsequent flight.

(7) If the fault continues, replace the remote charge converter (RCC), M77101 (M77026).

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01.

(a) Monitor the engine for high vibration on the subsequent flight.

(8) If the fault continues, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

——— END OF TASK ———

803. The Left (Right) Engine Has Broadband Vibration - Fault Isolation

A. Description

(1) AVM indication is high, and the vibration is not related with low (N1) or high (N2) rotors (broadband).

B. Initial Evaluation

(1) Get access to PRESENT LEG FAULTS screen on the MAT, and look for related vibration maintenance messages.

(a) If you see a vibration related maintenance message, do the fault isolation for that message.

(b) If you do not see a vibration related maintenance message, then continue.

C. Fault Isolation Procedure

(1) Do a visual check of the internal surfaces of the inlet and turbine exhaust areas for obvious signs of damage.

These are the tasks:

Engine Foreign Object Damage Inspection, AMM TASK 71-00-00-200-802-H01

Turbine Exhaust System Visual Inspection, AMM TASK 78-11-00-210-801-H01.

(a) Obvious signs of heat damage

(b) Scratch marks

(c) Hit (impact) marks

(d) Unwanted material

1) If you find a damage that is in the specified limits, identify the cause or source, and then do the applicable repairs as it is necessary.

a) Monitor the engine for high N2 vibration on the subsequent flight.

2) If you find damage that is more than the specified limits, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

(e) If no fault is found, then continue.

(2) Do a check of the DMS sensor for debris (AMM TASK 79-00-00-200-804-H01).

(a) If you find signs of an internal engine failure, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

(b) If no fault is found, then continue.

(3) Do this task: Engine Vibration Monitoring (AVM) System Inspection, AMM TASK 77-31-00-200-801-H01.

(a) If you find damage that is in the specified limits, identify the cause or source, and do the applicable repairs as it is necessary.

1) Monitor the engine for high vibration on the subsequent flight.

(4) Examine the vibration pickups and engine mount-to-strut for looseness.

(a) If there are signs of looseness, tighten the bolts.

(b) If there are no signs of looseness, then continue with the subsequent step of this fault isolation procedure.

(5) Examine the engine for the items that follow:

NOTE: Cable movement can cause a false vibration indication.

(a) Vibration pickup cables or clamps for looseness

(b) Oxidation of vibration wire connector pins

(c) Loose thrust reverser components

(d) Cowling incorrectly aligned or loose

(e) Loose pneumatic ducts.

1) If you find damage, repair or replace the applicable component, as it is necessary.

2) If you find damage, then continue with the subsequent step of this fault isolation procedure.

(6) If the fault continues, replace the turbine center frame (TCF) vibration accelerometer.

These are the tasks:

Turbine Center Frame Accelerometer Removal, AMM TASK 77-31-06-000-801-H01

Turbine Center Frame Accelerometer Installation, AMM TASK 77-31-06-400-801-H01.

(a) Monitor the engine for high vibration on the subsequent flight.

(7) If the fault continues, replace the Remote Charge Converter (RCC), M77101 (M77026).

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01.

(a) Monitor the engine for high vibration on the subsequent flight.

(8) If the fault continues, replace the engine.

These are the tasks:

Power Plant Removal, AMM TASK 71-00-02-000-811-H00

Power Plant Installation, AMM TASK 71-00-02-400-811-H00.

——— END OF TASK ———

804. The Left (Right) Vibration Indication is White - Fault Isolation

A. Fault Isolation Procedure

(1) If the rotor identification for the VIB indication on the secondary engine display is N1, then do the fault isolation task for fault code 773 613 51 (52) Vibration indication - too high; low (N1) rotor frequency - left (right) engine.

(2) If the rotor identification for the VIB indication on the secondary engine display is N2, then do the fault isolation task for fault code 773 611 51 (52) Vibration indication - too high; high (N2) rotor frequency - left (right) engine.

(3) If the rotor identification for the VIB indication on the secondary engine display is BB (broad band), then do the fault isolation task for fault code 773 614 51 (52) Vibration indication - too high; frequencies not related to rotors (broad band) - left (right) engine.

——— END OF TASK ———

813. N1 Soft Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14701, 77-14702, 77-24701, 77-24702.

B. Description

(1) The channel A and channel B fan speed (N1) signals disagree by more than 15 rpm for 60 seconds and the engine is running.

C. Initial Evaluation

(1) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

(a) If the MAT shows ACTIVE for the maintenance message while the engine operates, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

(c) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU DISCONNECT THE ELECTRICAL CONNECTORS. IF YOU DO NOT, YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Disconnect the two electrical connectors DP73704 (CH A) and DP73804 (CH B) from the N1 speed sensor, M77005.

(2) Measure the resistances between these pairs of pins on the channel A and channel B receptacles on the sensor:

DP73704	DP73704	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

DP73804	DP73804	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

(3) If the resistance is not in the range specified for each pair of pins, replace the N1 speed sensor, M77005.

These are the tasks:

N1 Speed Sensor Removal, AMM TASK 77-12-01-000-801-H01

N1 Speed Sensor Installation, AMM TASK 77-12-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(4) If the resistance is in the range specified for each pair of pins, connect the electrical connectors DP73704 (CH A) and DP73804 (CH B) to the N1 speed sensor, M77005.

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU DISCONNECT THE ELECTRICAL CONNECTORS. IF YOU DO NOT, YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(5) Disconnect the two electrical connectors DP70707 (CH A) and DP70808 (CH B) from the EEC (FADEC) M73003.

(6) Measure the resistances between these pairs of pins on the channel A and channel B harness connectors:

DP70707	**DP70707**	
n	N	5 - 200 ohms
n	GND	> 100K ohms
N	GND	> 100K ohms

DP70808	**DP70808**	
n	N	5 - 200 ohms
n	GND	> 100K ohms
N	GND	> 100K ohms

(7) If the resistance is not in the range specified for each pair of pins, replace the applicable electrical harness between N1 speed sensor and the EEC (FADEC) M73003.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(8) If the resistance is in the range specified for each pair of pins or if the fault continues, replace the EEC (FADEC) M73003. These are the tasks:

EEC (FADEC) Removal, AMM TASK 73-21-15-000-801-H01

EEC (FADEC) Installation, AMM TASK 73-21-15-400-801-H01.

E. Repair Confirmation

(1) Do these steps:

(a) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

1) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, (or if the message does not show) then you corrected the fault.

2) If the MAT shows ACTIVE for the maintenance message while the engine operates, then continue with this fault isolation procedure at the subsequent step.

(b) Stop the engine (AMM TASK 71-00-00-800-837-H00).

END OF TASK

814. N1 Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14601, 77-14602, 77-24601, 77-24602.

B. Description

(1) The fan speed (N1) signal is failed or the EEC input circuitry is failed. This fault can be reported whenever the EEC is powered and the engine is running.

(a) For maintenance message 73-14601, 73-14602, do the fault isolation for channel A.

(b) For maintenance message 73-24601, 73-24602, do the fault isolation for channel B.

C. Initial Evaluation

(1) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

(a) If the MAT shows ACTIVE for the maintenance message while the engine operates, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

(c) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU DISCONNECT THE ELECTRICAL CONNECTORS. IF YOU DO NOT, YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Disconnect the electrical connector DP73704 (CH A) or DP73804 (CH B) from the N1 speed sensor M77005.

(2) Measure the resistances between these pairs of receptacle pins:

DP73704	DP73704	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

DP73804	DP73804	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

(3) If the resistance is not in the range specified for each pair of pins, replace the N1 speed sensor, M77005.

These are the tasks:

N1 Speed Sensor Removal, AMM TASK 77-12-01-000-801-H01

N1 Speed Sensor Installation, AMM TASK 77-12-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(4) If the resistance is in the range specified for each pair of pins, connect the electrical connector DP73704 (CH A) or DP73804 (CH B) to the N1 speed sensor M77005.

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU DISCONNECT THE ELECTRICAL CONNECTORS. IF YOU DO NOT, YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(5) Disconnect the electrical connector DP70707 (CH A) or DP70808 (CH B) from the EEC (FADEC) M73003.

(6) Measure the resistances between these pairs of connector pins:

DP70707	**DP70707**	
n	N	5 - 200 ohms
n	GND	> 100K ohms
N	GND	> 100K ohms

DP70808	**DP70808**	
n	N	5 - 200 ohms
n	GND	> 100K ohms
N	GND	> 100K ohms

(7) If the resistance is not in the range specified for each pair of pins, replace the applicable electrical harness between N1 speed sensor and the EEC (FADEC) M73003.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(8) If the resistance is in the range specified for each pair of pins or if the fault continues, replace the EEC (FADEC) M73003.

These are the tasks:

EEC (FADEC) Removal, AMM TASK 73-21-15-000-801-H01

EEC (FADEC) Installation, AMM TASK 73-21-15-400-801-H01.

E. Repair Confirmation

(1) Do these steps:

(a) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

1) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, (or if the message does not show) then you corrected the fault.

2) If the MAT shows ACTIVE for the maintenance message while the engine operates, then continue with this fault isolation procedure at the subsequent step.

(b) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

815. N2 Soft Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14901, 77-14902, 77-24901, 77-24902.

B. Description

(1) The channel A and channel B N2 speed signals disagree by more than 120 rpm for 60 seconds and the engine is running.

C. Initial Evaluation

(1) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

(a) If the MAT shows ACTIVE for the maintenance message while the engine operates, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

(c) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU DISCONNECT THE ELECTRICAL CONNECTORS. IF YOU DO NOT, YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Disconnect the electrical connector DP72303 (CH A) or DP72403 (CH B) from the N2 speed sensor M77006.

(2) Measure the resistances between these pairs of receptacle pins:

DP72303	DP72303	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

DP72403	DP72403	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

(3) If the resistance is not in the range specified for each pair of pins, replace the N2 speed sensor, M77006.

These are the tasks:

N2 Speed Sensor Removal, AMM TASK 77-12-02-000-801-H01

N2 Speed Sensor Installation, AMM TASK 77-12-02-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(4) If the resistance is in the range specified for each pair of pins, connect the electrical connector DP72303 (CH A) or DP72403 (CH B) to the N2 speed sensor M77006.

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU DISCONNECT THE ELECTRICAL CONNECTORS. IF YOU DO NOT, YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(5) Disconnect the electrical connector DP70305 (CH A) or DP70406 (CH B) from the EEC (FADEC) M73003.

(6) Measure the resistances between these pairs of connector pins:

DP70305	**DP70305**	
d	e	5 - 200 ohms
d	GND	> 100K ohms
e	GND	> 100K ohms

DP70406	**DP70406**	
d	e	5 - 200 ohms
d	GND	> 100K ohms
e	GND	> 100K ohms

(7) If the resistance is not in the range specified for each pair of pins, replace the applicable electrical harness between N2 speed sensor and the EEC (FADEC) M73003.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(8) If the resistance is in the range specified for each pair of pins or if the fault continues, replace the EEC (FADEC) M73003.

These are the tasks:

EEC (FADEC) Removal, AMM TASK 73-21-15-000-801-H01

EEC (FADEC) Installation, AMM TASK 73-21-15-400-801-H01.

E. Repair Confirmation

(1) Do these steps:

(a) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

1) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, (or if the message does not show) then you corrected the fault.

2) If the MAT shows ACTIVE for the maintenance message while the engine operates, then continue with this fault isolation procedure at the subsequent step.

(b) Stop the engine (AMM TASK 71-00-00-800-837-H00).

END OF TASK

816. N2 Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14611, 77-14612, 77-24611, 77-24612.

B. Description

(1) The core speed (N2) signal is failed, or the EEC input circuitry is failed. This fault can be reported whenever the EEC is powered and the engine is running.

(a) For maintenance message 73-14611, 73-14612, do the fault isolation for channel A.

(b) For maintenance message 73-24611, 73-24612, do the fault isolation for channel B.

C. Initial Evaluation

(1) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

(a) If the MAT shows ACTIVE for the maintenance message while the engine operates, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

(c) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU DISCONNECT THE ELECTRICAL CONNECTORS. IF YOU DO NOT, YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Disconnect the electrical connector DP72303 (CH A) or DP72403 (CH B) from the N2 speed sensor M77006.

(2) Measure the resistances between these pairs of receptacle pins:

DP72303	**DP72303**	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

DP72403	**DP72403**	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

(3) If the resistance is not in the range specified for each pair of pins, replace the N2 speed sensor, M77006.

These are the tasks:

N2 Speed Sensor Removal, AMM TASK 77-12-02-000-801-H01

N2 Speed Sensor Installation, AMM TASK 77-12-02-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(4) If the resistance is in the range specified for each pair of pins, connect the electrical connector DP72303 (CH A) or DP72403 (CH B) to the N2 speed sensor, M77006.

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU DISCONNECT THE ELECTRICAL CONNECTORS. IF YOU DO NOT, YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(5) Disconnect the electrical connector DP70305 (CH A) or DP70406 (CH B) from the EEC (FADEC) M73003.

(6) Measure the resistances between these pairs of connector pins:

DP70305	**DP70305**	
d	e	5 - 200 ohms
d	GND	> 100K ohms
e	GND	> 100K ohms

DP70406	**DP70406**	
d	e	5 - 200 ohms
d	GND	> 100K ohms
e	GND	> 100K ohms

(7) If the resistance is not in the range specified for each pair of pins, replace the applicable electrical harness between N2 speed sensor and the EEC (FADEC) M73003.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(8) If the resistance is in the range specified for each pair of pins or if the fault continues, replace the EEC (FADEC), M73003.

These are the tasks:

EEC (FADEC) Removal, AMM TASK 73-21-15-000-801-H01

EEC (FADEC) Installation, AMM TASK 73-21-15-400-801-H01.

E. Repair Confirmation

(1) Do these steps:

(a) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

1) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, (or if the message does not show) then you corrected the fault.

2) If the MAT shows ACTIVE for the maintenance message while the engine operates, then continue with this fault isolation procedure at the subsequent step.

(b) Stop the engine (AMM TASK 71-00-00-800-837-H00).

END OF TASK

817. N1 Tachometer Signal Loss (L Eng)

A. Maintenance Messages

(1) This task is for maintenance message: 77-37911.

B. Description

(1) The left engine N1 speed sensor has an invalid or out of range signal detected by AIMS, the EDIU, and the AVM Signal Conditioning Unit.

C. Initial Evaluation

(1) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

(a) If the MAT shows ACTIVE for the maintenance message while the engine operates, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

(c) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Remove the connector DM77005 from the N1 speed sensor, M77005.

(2) Measure the resistances between these pairs of pins on the sensor:

DM77005	DM77005	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

(3) If the resistance is not in the range specified for each pair of pins, replace the N1 speed sensor, M77005.

These are the tasks:

N1 Speed Sensor Removal, AMM TASK 77-12-01-000-801-H01

N1 Speed Sensor Installation, AMM TASK 77-12-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(4) If the resistance is in the range specified for each pair of pins, do this check of the wiring:

(a) Remove the left EDIU, M73103 (AMM TASK 73-21-22-000-804-H00).

(b) Remove the left AVM, M77102 (AMM TASK 77-31-03-000-803-H00).

(c) Remove the Input/Output Modules M008 and M009 from the left and right AIMS cabinets (AMM TASK 31-41-11-000-801).

(d) Do a check for electrical continuity between all of these pins:

1) Left AIMS Cabinet, M31101, connector P8-A, pin F11

2) Left AIMS Cabinet, M31101, connector P9-A, pin F11

3) Right AIMS Cabinet, M31201, connector P8-A, pin F11

4) Right AIMS Cabinet, M31201, connector P9-A, pin F11

5) Left AVM SCU, M77102, connector DM77102AC, pin A7

6) Left EDIU, M73103, connector DM73103AB, pin F2

7) Left Engine N1 Speed Sensor, M77005, connector DM77005, pin 1

(e) Do a check for electrical continuity between all of these pins:

1) Left AIMS Cabinet, M31101, connector P8-A, pin F12
2) Left AIMS Cabinet, M31101, connector P9-A, pin F12
3) Right AIMS Cabinet, M31201, connector P8-A, pin F12
4) Right AIMS Cabinet, M31201, connector P9-A, pin F12
5) Left AVM SCU, M77102, connector DM77102AC, pin C7
6) Left EDIU, M73103, connector DM73103AB, pin D2
7) Left Engine N1 Speed Sensor, M77005, connector DM77005, pin 2

(f) If you find a problem with the wiring, then do these steps:
1) Repair the wiring.
2) Install the left EDIU, M73103 (AMM TASK 73-21-22-400-808-H00).
3) Install the left AVM, M77102 (AMM TASK 77-31-03-400-804-H00).
4) Re-install the Input/Output Modules M008 and M009 into the left and right AIMS cabinets (AMM TASK 31-41-11-400-801).
5) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Do these steps:
(a) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).
1) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, (or if the message does not show) then you corrected the fault.
2) If the MAT shows ACTIVE for the maintenance message while the engine operates, then continue with this fault isolation procedure at the subsequent step.
(b) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

818. N1 Tachometer Signal Loss (R Eng)

A. Maintenance Messages

(1) This task is for maintenance message: 77-37912.

B. Description

(1) The right engine N1 speed sensor has an invalid or out of range signal detected by AIMS, the EDIU, and the AVM Signal Conditioning Unit.

C. Initial Evaluation

(1) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).
(a) If the MAT shows ACTIVE for the maintenance message while the engine operates, then do the fault isolation procedure below.
(b) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

(c) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Remove the connector DM77005 from the N1 speed sensor, M77005.

(2) Measure the resistances between these pairs of pins on the sensor:

DM77005	DM77005	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

(3) If the resistance is not in the range specified for each pair of pins, replace the N1 speed sensor, M77005.

These are the tasks:

N1 Speed Sensor Removal, AMM TASK 77-12-01-000-801-H01

N1 Speed Sensor Installation, AMM TASK 77-12-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(4) If the resistance is in the range specified for each pair of pins, do this check of the wiring:

(a) Remove the right EDIU, M73203 (AMM TASK 73-21-22-000-804-H00).

(b) Remove the right AVM, M77202 (AMM TASK 77-31-03-000-803-H00).

(c) Remove the Input/Output Modules M003 and M004 from the left and right AIMS cabinets (AMM TASK 31-41-11-000-801).

(d) Do a check for electrical continuity between all of these pins:

1) Left AIMS Cabinet, M31101, connector J240-B, pin F12
2) Left AIMS Cabinet, M31101, connector J250-B, pin F12
3) Right AIMS Cabinet, M31201, connector J240-B, pin F12
4) Right AIMS Cabinet, M31201, connector J250-B, pin F12
5) Right AVM SCU, M77202, connector DM77102AC, pin A7
6) Right EDIU, M73203, connector DM73203AB, pin F2
7) Right Engine N1 Speed Sensor, M77005, connector DM77005, pin 1

(e) Do a check for electrical continuity between all of these pins:

1) Left AIMS Cabinet, M31101, connector J240-B, pin G13
2) Left AIMS Cabinet, M31101, connector J250-B, pin G13
3) Right AIMS Cabinet, M31201, connector J240-B, pin G13
4) Right AIMS Cabinet, M31201, connector J250-B, pin G13
5) Right AVM SCU, M77202, connector DM77202AC, pin C7
6) Right EDIU, M73203, connector DM73203AB, pin D2
7) Right Engine N1 Speed Sensor, M77005, connector DM77005, pin 2

(f) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Install the right EDIU, M73203 (AMM TASK 73-21-22-400-808-H00).
3) Install the right AVM, M77202 (AMM TASK 77-31-03-400-804-H00).
4) Re-install the Input/Output Modules M003 and M004 into the left and right AIMS cabinets (AMM TASK 31-41-11-400-801).

5) Do the repair confirmation procedure at the end of this task.

(5) If you do not find a problem with the wiring, then do these steps:

(a) Install the right EDIU, M73203 (AMM TASK 73-21-22-400-808-H00).

(b) Install the right AVM, M77202 (AMM TASK 77-31-03-400-804-H00).

(c) Re-install the Input/Output Modules M003 and M004 into the left and right AIMS cabinets (AMM TASK 31-41-11-400-801).

(d) Continue with the subsequent step of this procedure.

E. Repair Confirmation

(1) Do these steps:

(a) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

1) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, (or if the message does not show) then you corrected the fault.

2) If the MAT shows ACTIVE for the maintenance message while the engine operates, then continue with this fault isolation procedure at the subsequent step.

(b) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

819. N2 Tachometer Signal Loss (L Eng)

A. Maintenance Messages

(1) This task is for maintenance message: 73-37911.

B. Description

(1) The left engine N2 speed sensor has an invalid or out of range signal detected by AIMS or the AVM Signal Conditioning Unit.

C. Initial Evaluation

(1) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

(a) If the MAT shows ACTIVE for the maintenance message while the engine operates, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

(c) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Remove the connector DM77006 from the N2 speed sensor, M77006.

(2) Measure the resistances between these pairs of pins on the sensor:

DM77006	DM77006	
1	2	5 - 200 ohms
1	GND	> 100K ohms
2	GND	> 100K ohms

(3) If the resistance is not in the range specified for each pair of pins, replace the N2 speed sensor, M77006.

These are the tasks:

N2 Speed Sensor Removal, AMM TASK 77-12-02-000-801-H01

N2 Speed Sensor Installation, AMM TASK 77-12-02-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(4) If the resistance is in the range specified for each pair of pins, do this check of the wiring:

(a) Remove the left AVM, M77102 (AMM TASK 77-31-03-000-803-H00).

(b) Remove the Input/Output Modules M008 and M009 from the left and right AIMS cabinets (AMM TASK 31-41-11-000-801).

(c) Do a check for electrical continuity between all of these pins:

1) Left AIMS Cabinet, M31101, connector J410-B, pin F14
2) Left AIMS Cabinet, M31101, connector J420-B, pin F14
3) Right AIMS Cabinet, M31201, connector J410-B, pin F14
4) Right AIMS Cabinet, M31201, connector J420-B, pin F14
5) Left AVM SCU, M77102, connector DM77102AC, pin A9
6) Left Engine N2 Speed Sensor, M77006, connector DM77006, pin 1

(d) Do a check for electrical continuity between all of these pins:

1) Left AIMS Cabinet, M31101, connector J410-B, pin G15
2) Left AIMS Cabinet, M31101, connector J420-B, pin G15
3) Right AIMS Cabinet, M31201, connector J410-B, pin G15
4) Right AIMS Cabinet, M31201, connector J420-B, pin G15
5) Left AVM SCU, M77102, connector DM77102AC, pin C9
6) Left Engine N2 Speed Sensor, M77005, connector DM77005, pin 2

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Install the left AVM, M77102 (AMM TASK 77-31-03-400-804-H00).
3) Re-install the Input/Output Modules M008 and M009 into the left and right AIMS cabinets (AMM TASK 31-41-11-400-801).
4) Do the repair confirmation procedure at the end of this task.

(5) If you do not find a problem with the wiring, then do these steps:

(a) Install the right AVM, M77202 (AMM TASK 77-31-03-400-804-H00).

This is the task:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(b) Re-install the Input/Output Modules M008 and M009 into the left and right AIMS cabinets (AMM TASK 31-41-11-400-801).

(c) Continue with the subsequent step of this procedure.

(6) Replace the input/output modules, M008 and M009 in the left AIMS cabinet, M31101.

These are the tasks:

Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801

Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.

(a) Do the repair confirmation procedure at the end of this task.

(7) Replace the input/output modules, M008 and M009 in the right AIMS cabinet, M31201.

These are the tasks:

Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801

Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.

(a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Do these steps:

(a) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

1) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, (or if the message does not show) then you corrected the fault.

2) If the MAT shows ACTIVE for the maintenance message while the engine operates, then continue with this fault isolation procedure at the subsequent step.

(b) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

820. N2 Tachometer Signal Loss (R Eng)

A. Maintenance Messages

(1) This task is for maintenance message: 73-37912.

B. Description

(1) The right engine N2 speed sensor has an invalid or out of range signal detected by AIMS or the AVM Signal Conditioning Unit.

C. Initial Evaluation

(1) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

(a) If the MAT shows ACTIVE for the maintenance message while the engine operates, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

(c) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Remove the connector DM77006 from the N2 speed sensor, M77006.

(2) Measure the resistances between these pairs of pins on the sensor:

DM77006		DM77006	
1	. . . . .	2	5 - 200 ohms
1	. . . . .	GND	> 100K ohms
2	. . . . .	GND	> 100K ohms

(3) If the resistance is not in the range specified for each pair of pins, replace the N2 speed sensor, M77005.

These are the tasks:

N2 Speed Sensor Removal, AMM TASK 77-12-02-000-801-H01

N2 Speed Sensor Installation, AMM TASK 77-12-02-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(4) If the resistance is in the range specified for each pair of pins, do this check of the wiring:

(a) Remove the right AVM, M77202 (AMM TASK 77-31-03-000-803-H00).

(b) Remove the Input/Output Modules M003 and M004 from the left and right AIMS cabinets (AMM TASK 31-41-11-000-801).

(c) Do a check for electrical continuity between all of these pins:

1) Left AIMS Cabinet, M31101, connector J240-B, pin F14
2) Left AIMS Cabinet, M31101, connector J250-B, pin F14
3) Right AIMS Cabinet, M31201, connector J240-B, pin F14
4) Right AIMS Cabinet, M31201, connector J250-B, pin F14
5) Right AVM SCU, M77202, connector DM77202AC, pin A9
6) Right Engine N2 Speed Sensor, M77006, connector DM77006, pin 1

(d) Do a check for electrical continuity between all of these pins:

1) Left AIMS Cabinet, M31101, connector J240-B, pin G15
2) Left AIMS Cabinet, M31101, connector J250-B, pin G15
3) Right AIMS Cabinet, M31201, connector J240-B, pin G15
4) Right AIMS Cabinet, M31201, connector J250-B, pin G15
5) Right AVM SCU, M77202, connector DM77202AC, pin C9
6) Right Engine N2 Speed Sensor, M77005, connector DM77005, pin 2

(e) If you find a problem with the wiring, then do these steps:

1) Repair the wiring.
2) Install the right AVM, M77202 (AMM TASK 77-31-03-400-804-H00).
3) Re-install the Input/Output Modules M003 and M004 into the left and right AIMS cabinets (AMM TASK 31-41-11-400-801).
4) Do the repair confirmation procedure at the end of this task.

(5) If you do not find a problem with the wiring, then do these steps:

(a) Install the right AVM, M77202 (AMM TASK 77-31-03-400-804-H00).

(b) Re-install the Input/Output Modules M003 and M004 into the left and right AIMS cabinets (AMM TASK 31-41-11-400-801).

(c) Continue with the subsequent step of this procedure.

(6) Replace the input/output modules, M003 and M004 in the left AIMS cabinet, M31101.

These are the tasks:

Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801

Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.

(a) Do the repair confirmation procedure at the end of this task.

(7) Replace the input/output modules, M003 and M004 in the right AIMS cabinet, M31201.

These are the tasks:

Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801

Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.

(a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Do these steps:

(a) Start the engine and permit the engine to operate at ground idle (AMM TASK 71-00-00-800-835-H00).

1) If the MAT shows NOT ACTIVE for the maintenance message while the engine operates, (or if the message does not show) then you corrected the fault.

2) If the MAT shows ACTIVE for the maintenance message while the engine operates, then continue with this fault isolation procedure at the subsequent step.

(b) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

806. Engine Red Line Limits Do Not Show On EICAS and Secondary Engine Display - Fault Isolation

A. Description

(1) The red line limits (EPR, N1, EGT, etc.) do not show for one or both engines on the EICAS and secondary engine displays. The fault may occur on the ground or in flight.

NOTE: The AIMS CPM/GGs read the engine red-line limit information from the EEC via the EDIU four seconds after AIMS senses EEC activity. Each CPM/GG attempts to read the red-line information. A timing anomaly has been identified where the EEC may not be transmitting valid information while the CPM/GG attempts to read the information. If a CPM/GG does not receive valid engine red-line limit data and this CPM/GG is driving the EICAS display, the red-line limits will not show on the EICAS display. Each CPM/GG reads the limits independently, and EICAS displays driven by different CPM/GGs may or may not show the limit information. If the engine limit information disappears during flight, this could be due to a hot spare CPM/GG (without the engine red-line limits) taking over for a CPM/GG that had the limits.

NOTE: Even if the engine red-line limits do not show, EICAS will still be able indicate an exceedance condition.

B. Fault Isolation Procedure

NOTE: These steps will make sure that all the AIMS CPM/GG units have stored the engine red-line limits.

(1) Examine the upper center EICAS display and verify the red-line engine limits show.

(a) If the red-line limits do not show, set the applicable EEC MAINT L or R ENG POWER switch on the Overhead Maintenance Panel, P61, to the TEST position for 15 seconds, then return the switch to the NORM position and continue with this procedure.

(b) If the red-line limits do show, continue with this procedure.

(2) Move the captain's inboard display selector switch, on the P1 panel, to the EICAS position and verify the red-line engine limits show on the left inboard display unit.

(a) If the red-line limits do not show, set the applicable EEC MAINT L or R ENG POWER switch on the Overhead Maintenance Panel, P61, to the TEST position for 15 seconds, then return the switch to the NORM position. Return the captain's inboard display selector switch to the normal position and continue with this procedure.

(b) If the red-line limits do show, continue with this procedure.

(3) Move the first officer's inboard display selector switch, on the P3 panel, to the EICAS position and verify the red-line engine limits show on the right inboard display unit.

(a) If the red-line limits do not show, set the applicable EEC MAINT L or R ENG POWER switch on the Overhead Maintenance Panel, P61, to the TEST position for 15 seconds, then return the switch to the NORM position. Return the first officer's inboard display selector switch to the normal position and continue with this procedure.

(b) If the red-line limits do show, continue with this procedure.

(4) Move the center display control (DSPL CTRL) switch, on the P9 panel, to the alternate (ALTN) position and verify the red-line engine limits show on the upper center EICAS display unit.

(a) If the red-line limits do not show, set the applicable EEC MAINT L or R ENG POWER switch on the Overhead Maintenance Panel, P61, to the TEST position for 15 seconds, then return the switch to the NORM position. Return the center display control switch to the normal position.

(5) If the red-line limits do not show after you do the above steps, then contact your local GE representative.

——— END OF TASK ———

808. EGT Sector 1 Sensor Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14661, 77-14662, 77-24661, 77-24662.

B. Description

(1) The EGT Sector 1 signal exceeds valid electrical range, or the EEC input circuitry is failed.

C. Initial Evaluation

(1) Set the applicable EEC MAINT L or R ENG POWER switch on the Overhead Maintenance Panel, P61, to the TEST position..

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(c) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

D. Fault Isolation Procedure

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU REMOVE THE ELECTRICAL CONNECTORS. IF YOU DO NOT REMOVE ELECTRICAL POWER FROM THE EEC (FADEC) YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Make sure the applicable EEC MAINT POWER switch is in the NORM position.

(2) Disconnect the terminal connections from both EGT Probe 1 and EGT Probe 2 located in EGT Sector 1. EGT Probes 1 and 2 can be found (aft looking forward) at the 12:45 and 1:45 o'clock positions, respectively, on the engine turbine case.

(3) Measure the resistance between these terminal pins of both EGT probes:

EGT Probe 1	**EGT Probe 1**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

EGT Probe 2	**EGT Probe 2**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

(4) If the resistance is not in the appropriate range, replace the applicable EGT probe.

These are the tasks:

EGT Probe Removal, AMM TASK 77-21-01-000-801-H01

EGT Probe Installation, AMM TASK 77-21-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(5) Reconnect the terminal connections to both EGT Probe 1 and EGT Probe 2.

(6) Disconnect connector DP72103 from the high temperature electrical harness.

(7) Measure the resistance between these pairs of pins in the high temperature electrical harness connector.

EGT Probe 1	EGT Probe 1	
1	4	4 - 8 ohms
1	GND	> 100K ohms
4	GND	> 100K ohms

EGT Probe 2	EGT Probe 2	
1	4	4 - 8 ohms
1	GND	> 100K ohms
4	GND	> 100K ohms

(8) If the resistance is not in the appropriate range, replace the high temperature electrical harness.

These are the tasks:

Right EGT Harness Removal, AMM TASK 77-21-04-000-801-H01

Right EGT Harness Installation, AMM TASK 77-21-04-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(9) If the fault continues, disconnect the connector DP72102 at the fan/core disconnect.

(a) Measure the resistance between these pairs of pins in the electrical harness connector, DP72102.

DP72102	DP72102	
31	30	1-18 ohms
31	GND	100k ohms
30	GND	100k ohms

DP72102	DP72102	
15	32	1-18 ohms
15	GND	100k ohms
32	GND	100k ohms

(b) If the resistance is not in the appropriate range, replace the W721 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(c) Do the repair confirmation procedure at the end of this task.

(10) If the fault continues, replace the W701 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then put the EEC MAINT POWER switch back to the NORM position and no more action is necessary (you corrected the fault).

(c) If the MAT shows ACTIVE for the maintenance message, then put the EEC MAINT POWER switch back to the NORM position and continue with this fault isolation procedure at the subsequent step.

——— END OF TASK ———

809. EGT Sector 2 Sensor Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14671, 77-14672.

B. Description

(1) The EGT Sector 2 signal exceeds valid electrical range, or the EEC input circuitry is failed.

C. Initial Evaluation

(1) Set the applicable EEC MAINT L or R ENG POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(c) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

D. Fault Isolation Procedure

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU REMOVE THE ELECTRICAL CONNECTORS. IF YOU DO NOT REMOVE ELECTRICAL POWER FROM THE EEC (FADEC) YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Make sure the applicable EEC MAINT POWER switch is in the NORM position.

(2) Disconnect the terminal connections from both EGT Probe 3 and EGT Probe 4 located in EGT Sector 2. EGT Probes 3 and 4 can be found (aft looking forward) at the 3:45 and 4:45 o'clock positions, respectively, on the engine turbine case.

(3) Measure the resistance between these terminal pins of both EGT probes:

EGT Probe 3	EGT Probe 3	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

EGT Probe 4	EGT Probe 4	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

(4) If the resistance is not in the appropriate range, replace the applicable EGT probe.

These are the tasks:

EGT Probe Removal, AMM TASK 77-21-01-000-801-H01

EGT Probe Installation, AMM TASK 77-21-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(5) Reconnect the terminal connections to both EGT Probe 3 and EGT Probe 4.

(6) Disconnect connector DP72103 from the high temperature electrical harness.

(7) Measure the resistance between these pairs of pins in the high temperature electrical harness connector.

EGT Probe 3	EGT Probe 3	
2	3	4 - 8 ohms
2	GND	> 100K ohms
3	GND	> 100K ohms

EGT Probe 4	EGT Probe 4	
2	3	4 - 8 ohms
2	GND	> 100K ohms
2	GND	> 100K ohms

(8) If the resistance is not in the appropriate range, replace the high temperature electrical harness.

These are the tasks:

Right EGT Harness Removal, AMM TASK 77-21-04-000-801-H01

Right EGT Harness Installation, AMM TASK 77-21-04-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(9) If the fault continues, disconnect the connector DP72102 at the fan/core disconnect.

(a) Measure the resistance between these pairs of pins in the electrical harness connector, DP72102.

DP72102	DP72102	
32	15	1-18 ohms
32	GND	100k ohms
15	GND	100k ohms

DP72102		DP72102	
30	. . . . .	31	1-18 ohms
30	. . . . .	GND	100k ohms
31	. . . . .	GND	100k ohms

(b) If the resistance is not in the appropriate range, replace the W721 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(c) Do the repair confirmation procedure at the end of this task.

(10) If the fault continues, replace the W701 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then put the EEC MAINT POWER switch back to the NORM position and no more action is necessary (you corrected the fault).

(c) If the MAT shows ACTIVE for the maintenance message, then put the EEC MAINT POWER switch back to the NORM position and continue with this fault isolation procedure at the subsequent step.

——— END OF TASK ———

810. EGT Sector 3 Sensor Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-24681, 77-24682.

B. Description

(1) The EGT Sector 3 signal exceeds valid electrical range, or the EEC input circuitry is failed.

C. Initial Evaluation

(1) Set the applicable EEC MAINT L or R ENG POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(c) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

D. Fault Isolation Procedure

CAUTION MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU REMOVE THE ELECTRICAL CONNECTORS. IF YOU DO NOT REMOVE ELECTRICAL POWER FROM THE EEC (FADEC) YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Make sure the applicable EEC MAINT POWER switch is in the NORM position.

(2) Disconnect the terminal connections from both EGT Probe 5 and EGT Probe 6 located in EGT Sector 3. EGT Probes 5 and 6 can be found (aft looking forward) at the 5:45 and 6:45 o'clock positions, respectively, on the engine turbine case.

(3) Measure the resistance between these terminal pins of both EGT probes:

EGT Probe 5	**EGT Probe 5**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

EGT Probe 6	**EGT Probe 6**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

(4) If the resistance is not in the appropriate range, replace the applicable EGT probe.

These are the tasks:

EGT Probe Removal, AMM TASK 77-21-01-000-801-H01

EGT Probe Installation, AMM TASK 77-21-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(5) Reconnect the terminal connections to both EGT Probe 5 and EGT Probe 6.

(6) Disconnect connector DP72203 from the high temperature electrical harness.

(7) Measure the resistance between these pairs of pins in the high temperature electrical harness connector.

EGT Probe 5	**EGT Probe 5**	
2	3	4 - 8 ohms
2	GND	> 100K ohms
3	GND	> 100K ohms

EGT Probe 6	**EGT Probe 6**	
2	3	4 - 8 ohms
2	GND	> 100K ohms
3	GND	> 100K ohms

(8) If the resistance is not in the appropriate range, replace the high temperature electrical harness.

These are the tasks:

Left EGT Harness Removal, AMM TASK 77-21-05-000-801-H01

Left EGT Harness Installation, AMM TASK 77-21-05-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(9) If the fault continues, disconnect the connector DP72202 at the fan/core disconnect.

(a) Measure the resistance between these pairs of pins in the electrical harness connector, DP72202.

DP72202	DP72202	
31	32	1-18 ohms
31	GND	100k ohms
32	GND	100k ohms

DP72202	DP72202	
14	29	1-18 ohms
14	GND	100k ohms
29	GND	100k ohms

(b) If the resistance is not in the appropriate range, replace the W722 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(c) Do the repair confirmation procedure at the end of this task.

(10) If the fault continues, replace the W702 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then put the EEC MAINT POWER switch back to the NORM position and no more action is necessary (you corrected the fault).

(c) If the MAT shows ACTIVE for the maintenance message, then put the EEC MAINT POWER switch back to the NORM position and continue with this fault isolation procedure at the subsequent step.

END OF TASK

811. EGT Sector 4 Sensor Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14691, 77-14692, 77-24691, 77-24692.

B. Description

(1) The EGT Sector 4 signal exceeds valid electrical range, or the EEC input circuitry is failed.

C. Initial Evaluation

(1) Set the applicable EEC MAINT L or R ENG POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(c) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

D. Fault Isolation Procedure

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU REMOVE THE ELECTRICAL CONNECTORS. IF YOU DO NOT REMOVE ELECTRICAL POWER FROM THE EEC (FADEC) YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Make sure the applicable EEC MAINT POWER switch is in the NORM position.

(2) Disconnect the terminal connections from both EGT Probe 7 and EGT Probe 8 located in EGT Sector 4. EGT Probes 7 and 8 can be found (aft looking forward) at the 9:00 and 10:00 o'clock positions, respectively, on the engine turbine case.

(3) Measure the resistance between these terminal pins of both EGT probes:

EGT Probe 7	**EGT Probe 7**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

EGT Probe 8	**EGT Probe 8**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

(4) If the resistance is not in the appropriate range, replace the applicable EGT probe.

These are the tasks:

EGT Probe Removal, AMM TASK 77-21-01-000-801-H01

EGT Probe Installation, AMM TASK 77-21-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(5) Reconnect the terminal connections to both EGT Probe 7 and EGT Probe 8.

(6) Disconnect connector DP72203 from the high temperature electrical harness.

(7) Measure the resistance between these pairs of pins in the high temperature electrical harness connector.

EGT Probe 7	EGT Probe 7	
1	4	4 - 8 ohms
1	GND	> 100K ohms
4	GND	> 100K ohms

EGT Probe 8	EGT Probe 8	
1	4	4-8 ohms
1	GND	>100k ohms
4	GND	>100k ohms

(8) If the resistance is not in the appropriate range, replace the high temperature electrical harness.

These are the tasks:

Left EGT Harness Removal, AMM TASK 77-21-05-000-801-H01

Left EGT Harness Installation, AMM TASK 77-21-05-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(9) If the fault continues, disconnect the connector DP72202 at the fan/core disconnect.

(a) Measure the resistance between these pairs of pins in the electrical harness connector, DP72202.

DP72202	DP72202	
31	32	1-18 ohms
32	GND	100k ohms
31	GND	100k ohms

DP72202	DP72202	
29	14	1-18 ohms
14	GND	100k ohms
29	GND	100k ohms

(b) If the resistance is not in the appropriate range, replace the W722 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(c) Do the repair confirmation procedure at the end of this task.

(10) If the fault continues, replace the W702 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then put the EEC MAINT POWER switch back to the NORM position and no more action is necessary (you corrected the fault).

(c) If the MAT shows ACTIVE for the maintenance message, then put the EEC MAINT POWER switch back to the NORM position and continue with this fault isolation procedure at the subsequent step.

END OF TASK

812. EGT Sector 1 Sensor Shift Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14711, 77-14712, 77-24711, 77-24712.

B. Description

(1) The EGT Sector 1 EGT signal disagrees with the average of all sectors.

C. Initial Evaluation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(c) If the MAT shows NOT ACTIVE for the maintenance message, then continue with the initial evaluation.

(2) Do this task: Test No. 7 - Power Assurance Test, AMM TASK 71-00-00-700-806-H01.

NOTE: If there is a fault, the MAT will show the maintenance message during the test.

(a) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

D. Fault Isolation Procedure

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU REMOVE THE ELECTRICAL CONNECTORS. IF YOU DO NOT REMOVE ELECTRICAL POWER FROM THE EEC (FADEC) YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Make sure the applicable EEC MAINT POWER switch is in the NORM position.

(2) Disconnect the terminal connections from both EGT Probe 1 and EGT Probe 2 located in EGT Sector 1. EGT Probes 1 and 2 can be found (aft looking forward) at the 12:45 and 1:45 o'clock positions, respectively, on the engine turbine case.

(3) Measure the resistance between these terminal pins of both EGT probes:

EGT Probe 1	**EGT Probe 1**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

EGT Probe 2	**EGT Probe 2**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

(4) If the resistance is not in the appropriate range, replace the applicable EGT probe.

These are the tasks:

EGT Probe Removal, AMM TASK 77-21-01-000-801-H01

EGT Probe Installation, AMM TASK 77-21-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(5) Reconnect the terminal connections to both EGT Probe 1 and EGT Probe 2.

(6) Disconnect connector DP72103 from the high temperature electrical harness.

(a) Do the repair confirmation procedure at the end of this task.

(7) Measure the resistance between these pairs of pins in the high temperature electrical harness connector.

EGT Probe 1	**EGT Probe 1**	
1	4	4 - 8 ohms
1	GND	> 100K ohms
4	GND	> 100K ohms

EGT Probe 2	**EGT Probe 2**	
1	4	4 - 8 ohms
1	GND	> 100k ohms
4	GND	> 100k ohms

(8) If the resistance is not in the appropriate range, replace the high temperature electrical harness.

These are the tasks:

Right EGT Harness Removal, AMM TASK 77-21-04-000-801-H01

Right EGT Harness Installation, AMM TASK 77-21-04-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(9) Do a borescope inspection of the combustion section and high pressure turbine section stage 1 nozzle leading edge (AMM TASK 72-00-00-290-804-H01).

(a) Do the repair confirmation procedure at the end of this task.

(10) If the fault continues, disconnect the connector DJ72102 at the fan/core disconnect.

(a) Measure the resistance between these pairs of pins in the electrical harness connector, DP72102.

DP72102		DP72102	
32	. . . . .	15	1-18 ohms
32	. . . . .	GND	100k ohms
15	. . . . .	GND	100k ohms

DP72102		DP72102	
30	. . . . .	31	1-18 ohms
30	. . . . .	GND	100k ohms
31	. . . . .	GND	100k ohms

(b) If the resistance is not in the appropriate range, replace the W721 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(c) Do the repair confirmation procedure at the end of this task.

(11) If the fault continues, replace the W701 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then put the EEC MAINT POWER switch back to the NORM position and no more action is necessary (you corrected the fault).

(c) If the MAT shows ACTIVE for the maintenance message, then put the EEC MAINT POWER switch back to the NORM position and continue with this fault isolation procedure at the subsequent step.

——— END OF TASK ———

813. EGT Sector 2 Sensor Shift Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14721, 77-14722.

B. Description

(1) The EGT Sector 2 EGT signal disagrees with the average of all sectors.

C. Initial Evaluation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(c) If the MAT shows NOT ACTIVE for the maintenance message, then continue with the initial evaluation.

(2) Do this task: Test No. 7 - Power Assurance Test, AMM TASK 71-00-00-700-806-H01.

NOTE: If there is a fault, the MAT will show the maintenance message during the test.

(a) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

D. Fault Isolation Procedure

CAUTION MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU REMOVE THE ELECTRICAL CONNECTORS. IF YOU DO NOT REMOVE ELECTRICAL POWER FROM THE EEC (FADEC) YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Make sure the applicable EEC MAINT POWER switch is in the NORM position.

(2) Disconnect the terminal connections from both EGT Probe 3 and EGT Probe 4 located in EGT Sector 2. EGT Probes 3 and 4 can be found (aft looking forward) at the 3:45 and 4:45 o'clock positions, respectively, on the engine turbine case.

(3) Measure the resistance between these terminal pins of both EGT probes:

EGT Probe 3	**EGT Probe 3**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

EGT Probe 4	**EGT Probe 4**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

(4) If the resistance is not in the appropriate range, replace the applicable EGT probe.

These are the tasks:

EGT Probe Removal, AMM TASK 77-21-01-000-801-H01

EGT Probe Installation, AMM TASK 77-21-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(5) Reconnect the terminal connections to both EGT Probe 3 and EGT Probe 4.

(6) Disconnect connector DP72103 from the high temperature electrical harness.

(7) Measure the resistance between these pairs of pins in the high temperature electrical harness connector.

EGT Probe 3	EGT Probe 3	
2	3	4 - 8 ohms
2	GND	> 100K ohms
3	GND	> 100K ohms

EGT Probe 4	EGT Probe 4	
2	3	4 - 8 ohms
2	GND	> 100K ohms
3	GND	> 100K ohms

(8) If the resistance is not in the appropriate range, replace the high temperature electrical harness. These are the tasks:

Right EGT Harness Removal, AMM TASK 77-21-04-000-801-H01

Right EGT Harness Installation, AMM TASK 77-21-04-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(9) Do a borescope inspection of the combustion section and high pressure turbine section stage 1 nozzle leading edge (AMM TASK 72-00-00-290-804-H01).

(a) Do the repair confirmation procedure at the end of this task.

(10) If the fault continues, disconnect the connector DJ72102 at the fan/core disconnect.

(a) Measure the resistance between these pairs of pins in the electrical harness connector, DP72102.

DP72102	DP72102	
32	15	1-18 ohms
32	GND	100k ohms
15	GND	100k ohms

DP72102	DP72102	
30	31	1-18 ohms
30	GND	100k ohms
31	GND	100k ohms

(b) If the resistance is not in the appropriate range, replace the W721 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(c) Do the repair confirmation procedure at the end of this task.

(11) If the fault continues, replace the W701 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then put the EEC MAINT POWER switch back to the NORM position and no more action is necessary (you corrected the fault).

(c) If the MAT shows ACTIVE for the maintenance message, then put the EEC MAINT POWER switch back to the NORM position and continue with this fault isolation procedure at the subsequent step.

——— END OF TASK ———

814. EGT Sector 3 Sensor Shift Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-24731, 77-24732.

B. Description

(1) The EGT Sector 3 EGT signal disagrees with the average of all sectors.

C. Initial Evaluation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(c) If the MAT shows NOT ACTIVE for the maintenance message, then continue with the initial evaluation.

(2) Do this task: Test No. 7 - Power Assurance Test, AMM TASK 71-00-00-700-806-H01.

NOTE: If there is a fault, the MAT will show the maintenance message during the test.

(a) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

D. Fault Isolation Procedure

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU REMOVE THE ELECTRICAL CONNECTORS. IF YOU DO NOT REMOVE ELECTRICAL POWER FROM THE EEC (FADEC) YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Make sure the applicable EEC MAINT POWER switch is in the NORM position.

(2) Disconnect the terminal connections from both EGT Probe 5 and EGT Probe 6 located in EGT Sector 3. EGT Probes 5 and 6 can be found (aft looking forward) at the 5:45 and 6:45 o'clock positions, respectively, on the engine turbine case.

(3) Measure the resistance between these terminal pins of both EGT probes:

EGT Probe 5	**EGT Probe 5**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

EGT Probe 6	**EGT Probe 6**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

(4) If the resistance is not in the appropriate range, replace the applicable EGT probe.

These are the tasks:

EGT Probe Removal, AMM TASK 77-21-01-000-801-H01

EGT Probe Installation, AMM TASK 77-21-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(5) Reconnect the terminal connections to both EGT Probe 5 and EGT Probe 6.

(6) Disconnect connector DP72203 from the high temperature electrical harness.

(7) Measure the resistance between these pairs of pins in the high temperature electrical harness connector.

EGT Probe 5	**EGT Probe 5**	
2	3	4 -8 ohms
2	GND	> 100K ohms
3	GND	> 100K ohms

EGT Probe 6	**EGT Probe 6**	
2	3	4 - 8 ohms
2	GND	> 100K ohms
3	GND	> 100K ohms

(8) If the resistance is not in the appropriate range, replace the high temperature electrical harness. These are the tasks:

Left EGT Harness Removal, AMM TASK 77-21-05-000-801-H01

Left EGT Harness Installation, AMM TASK 77-21-05-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(9) Do a borescope inspection of the combustion section and high pressure turbine section stage 1 nozzle leading edge (AMM TASK 72-00-00-290-804-H01).

(a) Do the repair confirmation procedure at the end of this task.

(10) If the fault continues, disconnect the connector DJ72202 at the fan/core disconnect.

(a) Measure the resistance between these pairs of pins in the electrical harness connector, DP72202.

DP72202	DP72202	
31	32	1-18 ohms
31	GND	100k ohms
32	GND	100k ohms

DP72202	DP72202	
14	29	1-18 ohms
14	GND	100k ohms
29	GND	100k ohms

(b) If the resistance is not in the appropriate range, replace the W722 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(c) Do the repair confirmation procedure at the end of this task.

(11) If the fault continues, replace the W702 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then put the EEC MAINT POWER switch back to the NORM position and no more action is necessary (you corrected the fault).

(c) If the MAT shows ACTIVE for the maintenance message, then put the EEC MAINT POWER switch back to the NORM position and continue with this fault isolation procedure at the subsequent step.

——— END OF TASK ———

815. EGT Sector 4 Sensor Shift Fault - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14741, 77-14742, 77-24741, 77-24742.

B. Description

(1) The EGT Sector 4 EGT signal disagrees with the average of all sectors.

C. Initial Evaluation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(c) If the MAT shows NOT ACTIVE for the maintenance message, then continue with the initial evaluation.

(2) Do this task: Test No. 7 - Power Assurance Test, AMM TASK 71-00-00-700-806-H01.

NOTE: If there is a fault, the MAT will show the maintenance message during the test.

(a) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

NOTE: If you have an intermittent fault, you must use your judgement (and your airlines policy) to make a decision if you will replace components and if so, which components to replace. Then monitor the airplane on the subsequent flight.

D. Fault Isolation Procedure

CAUTION

MAKE SURE YOU REMOVE THE ELECTRICAL POWER FROM THE EEC (FADEC) BEFORE YOU REMOVE THE ELECTRICAL CONNECTORS. IF YOU DO NOT REMOVE ELECTRICAL POWER FROM THE EEC (FADEC) YOU CAN CAUSE DAMAGE TO THE EEC (FADEC).

(1) Make sure the applicable EEC MAINT POWER switch is in the NORM position.

(2) Disconnect the terminal connections from both EGT Probe 7 and EGT Probe 8 located in EGT Sector 4. EGT Probes 7 and 8 can be found (aft looking forward) at the 9:00 and 10:00 o'clock positions, respectively, on the engine turbine case.

(3) Measure the resistance between these terminal pins of both EGT probes:

EGT Probe 7	**EGT Probe 7**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

EGT Probe 8	**EGT Probe 8**	
KP	KN	1.5 - 4 ohms
KP	GND	> 100K ohms
KN	GND	> 100K ohms

(4) If the resistance is not in the appropriate range, replace the applicable EGT probe.

These are the tasks:

EGT Probe Removal, AMM TASK 77-21-01-000-801-H01

EGT Probe Installation, AMM TASK 77-21-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(5) Reconnect the terminal connections to both EGT Probe 7 and EGT Probe 8.

(6) Disconnect connector DP72203 from the high temperature electrical harness.

(7) Measure the resistance between these pairs of pins in the high temperature electrical harness connector.

EGT Probe 7	EGT Probe 7	
1	4	4 - 8 ohms
1	GND	> 100K ohms
4	GND	> 100K ohms

EGT Probe 8	EGT Probe 8	
1	4	4 - 8 ohms
1	GND	> 100K ohms
4	GND	> 100K ohms

(8) If the resistance is not in the appropriate range, replace the high temperature electrical harness. These are the tasks:

Left EGT Harness Removal, AMM TASK 77-21-05-000-801-H01

Left EGT Harness Installation, AMM TASK 77-21-05-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(9) Do a borescope inspection of the combustion section and high pressure turbine section stage 1 nozzle leading edge (AMM TASK 72-00-00-290-804-H01).

(a) Do the repair confirmation procedure at the end of this task.

(10) If the fault continues, disconnect the connector DJ72202 at the fan/core disconnect.

(a) Measure the resistance between these pairs of pins in the electrical harness connector, DP72202.

DP72202	DP72202	
31	32	1-18 ohms
31	GND	100k ohms
32	GND	100k ohms

DP72202	DP72202	
14	29	1-18 ohms
14	GND	100k ohms
29	GND	100k ohms

(b) If the resistance is not in the appropriate range, replace the W722 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(c) Do the repair confirmation procedure at the end of this task.

(11) If the fault continues, replace the W702 electrical harness.

These are the tasks:

EEC (FADEC) Electrical Harness Removal, AMM TASK 73-22-01-000-801-H01

EEC (FADEC) Electrical Harness Installation, AMM TASK 73-22-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Set the applicable EEC MAINT POWER switch on the Overhead Maintenance Panel, P61, to the TEST position.

(a) If there is a fault, then the MAT will show the maintenance message in 120 seconds or less.

(b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then put the EEC MAINT POWER switch back to the NORM position and no more action is necessary (you corrected the fault).

(c) If the MAT shows ACTIVE for the maintenance message, then put the EEC MAINT POWER switch back to the NORM position and continue with this fault isolation procedure at the subsequent step.

END OF TASK

801. RCC-SCU Wiring Left Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-03011.

B. Description

(1) The remote charge converter (RCC), M77101, circuit is open, shorted to ground, or a wire-to-wire short exists.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Examine the harness, electrical connectors, and backshells between the signal conditioner unit (SCU), M77102, and the RCC, M77101, for these possible problems (WDM 77-31-11):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(2) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(3) Examine the electrical connector DM77101B on the RCC, M77101, as follows:

(a) Disconnect connector DM77101B from the RCC, M77101.

(b) Examine the connectors for damaged or bent contacts.

(c) If you find a problem with the contacts, repair the connector.

(d) Clean the contacts with alcohol, B00130.

(e) Re-connect connector DM77101B.

1) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(f) Do the repair confirmation procedure at the end of this task.

(4) Disconnect connector DM77101B from the RCC, M77101.

(5) Disconnect connectors DM77102AB and DM77102AC from the SCU, M77102.

(6) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77102, and the RCC, M77101, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

SCU-RCC Power Circuit

SCU	RCC
DM77102AB	**DM77101B**
A1	1
A4	2

SCU-RCC Vibration Circuit

SCU	RCC
DM77102AC	**DM77101B**
A1	3
A5	12
C1	11

(7) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-11).

(8) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(9) Do the repair confirmation procedure at the end of this task.

(10) Replace the RCC, M77101.

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01.

(11) Do the repair confirmation procedure at the end of this task.

(12) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(13) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

802. RCC-SCU Wiring Right Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-03012.

B. Description

(1) The remote charge converter (RCC), M77101, circuit is open, shorted to ground, or a wire-to-wire short exists.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Examine the harness, electrical connectors, and backshells between the signal conditioner unit (SCU), M77202, and the RCC, M77201, for these possible problems (WDM 77-31-21):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(2) If you found a problem with the harness, connectors, or backshells, do these steps:
   (a) Repair the problems that you found.
   (b) Re-connect all the connectors.
      1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.
   (c) Do the repair confirmation procedure at the end of this task.

(3) Examine the electrical connector DM77201B on the RCC, M77201, as follows:
   (a) Disconnect connector DM77201B from the RCC, M77201.
   (b) Examine the connectors for damaged or bent contacts.
   (c) If you find a problem with the contacts, repair the connector.
   (d) Clean the contacts with alcohol, B00130.
   (e) Re-connect connector DM77201B.
      1) Use the strap wrench or the soft-jawed pliers to tighten the connector.
   (f) Do the repair confirmation procedure at the end of this task.

(4) Disconnect connector DM77201B from the RCC, M77201.

(5) Disconnect connectors DM77202AB and DM77202AC from the SCU, M77202.

(6) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77202, and the RCC, M77201, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

SCU-RCC Power Circuit

SCU	RCC
DM77202AB	**DM77201B**
A1	1
A4	2

SCU-RCC Vibration Circuit

SCU	RCC
DM77202AC	**DM77201B**
A1	3
A5	12
C1	11

(7) If you find a problem in the harness, do the applicable step:
   (a) Repair the applicable harness.
   (b) Replace the applicable harness (WDM 77-31-21).

(8) Re-connect all the connectors.
   (a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(9) Do the repair confirmation procedure at the end of this task.

(10) Replace the RCC, M77201.

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01.

(11) Do the repair confirmation procedure at the end of this task.

(12) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(13) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

END OF TASK

803. Remote Charge Converter Left Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-01211, 77-03021, 77-06021, 77-09021.

B. Description

(1) The remote charge converter (RCC) for the left engine has an internal fault.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Let this circuit breaker to remain open for a minimum of four minutes.

(4) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(5) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(6) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the RCC, M77101.

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

(Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01).

(2) Do the repair confirmation procedure at the end of this task.

(3) Examine the harness, electrical connectors, and backshells between the signal conditioner unit (SCU), M77102, and the RCC, M77101, for these possible problems (WDM 77-31-11):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(4) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(5) Examine the electrical connector DM77101B on the RCC, M77101, as follows:

(a) Disconnect connector DM77101B from the RCC, M77101.

(b) Examine the connectors for damaged or bent contacts.

(c) If you find a problem with the contacts, repair the connector.

(d) Clean the contacts with alcohol, B00130.

(e) Re-connect connector DM77101B.

1) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(f) Do the repair confirmation procedure at the end of this task.

(6) Disconnect connector DM77101B from the RCC, M77101.

(7) Disconnect connectors DM77102AB and DM77102AC from the SCU, M77102.

(8) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77102, and the RCC, M77101, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

SCU-RCC Power Circuit

SCU	RCC
DM77102AB	**DM77101B**
A1	1
A4	2

SCU-RCC Vibration Circuit

SCU	RCC
DM77102AC	**DM77101B**
A1	3
A5	12
C1	11

(9) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-11).

(10) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(11) Do the repair confirmation procedure at the end of this task.

(12) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(13) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

804. Remote Charge Converter Right Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-01212, 77-03022, 77-06022, 77-09022.

B. Description

(1) The remote charge converter (RCC) for the right engine has an internal fault.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Let this circuit breaker to remain open for a minimum of four minutes.

(4) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(5) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(6) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the RCC, M77201.

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01.

(2) Do the repair confirmation procedure at the end of this task.

(3) Examine the harness, electrical connectors, and backshells between the signal conditioner unit (SCU), M77202, and the RCC, M77201, for these possible problems (WDM 77-31-21):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(4) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(5) Examine the electrical connector DM77201B on the RCC, M77201, as follows:

(a) Disconnect connector DM77201B from the RCC, M77201.

(b) Examine the connectors for damaged or bent contacts.

(c) If you find a problem with the contacts, repair the connector.

(d) Clean the contacts with alcohol, B00130.

(e) Re-connect connector DM77201B.

1) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(f) Do the repair confirmation procedure at the end of this task.

(6) Disconnect connector DM77201B from the RCC, M77201.

(7) Disconnect connectors DM77202AB and DM77202AC from the SCU, M77202.

(8) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77202, and the RCC, M77201, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

SCU-RCC Power Circuit

SCU DM77202AB	RCC DM77201B
A1	1
A4	2

SCU-RCC Vibration Circuit

SCU DM77202AC	RCC DM77201B
A1	3
A5	12
C1	11

(9) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-21).

(10) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(11) Do the repair confirmation procedure at the end of this task.

(12) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(13) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

805. Signal Conditioner Unit Configuration Left Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-00081.

B. Description

(1) The signal conditioner unit (SCU), M77102, for the left engine has incorrect configuration for the engine type.

C. Fault Isolation Procedure

(1) Do a check of the programming pins on connector DM77102AC:

(a) Remove the SCU, M77102 (AMM TASK 77-31-03-000-803-H00).

(b) Look for continuity between these pins:

DM77102AC	DM77102AC
D3	B8
D3	B9
D3	B10
D3	D7
D3	D9

(c) Look for an open circuit between these pins:

DM77102AC	DM77102AC
D3	B7
D3	D8

(2) If you found a problem with the programming pins, do these steps:

(a) Repair the problems that you found.

(b) Install the SCU, M77102 (AMM TASK 77-31-03-400-804-H00).

(c) Select the Existing Fault Screen on the MAT.

(d) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(e) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(f) If the MAT does not show the maintenance message, then you corrected the fault.

(3) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(4) Select the Existing Fault Screen on the MAT.

(5) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(6) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(7) If the MAT does not show the maintenance message, then you corrected the fault.

END OF TASK

806. Signal Conditioner Unit Configuration Right Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-00082.

B. Description

(1) The signal conditioner unit (SCU), M77202, for the right engine has incorrect configuration for engine type.

C. Fault Isolation Procedure

(1) Do a check of the programming pins on connector DM77202AC:

(a) Remove the SCU, M77202 (AMM TASK 77-31-03-000-803-H00).

(b) Look for continuity between these pins:

DM77202AC	DM77202AC
D3	B7
D3	B9
D3	B10
D3	D7
D3	D9

(c) Look for an open circuit between these pins:

DM77202AC	DM77202AC
D3	B8
D3	D8

(2) If you found a problem with the programming pins, do these steps:

(a) Repair the problems that you found.

(b) Install the SCU, M77102 (AMM TASK 77-31-03-400-804-H00).

(c) Select the Existing Fault Screen on the MAT.

(d) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(e) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(f) If the MAT does not show the maintenance message, then you corrected the fault.

(3) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(4) Select the Existing Fault Screen on the MAT.

(5) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(6) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(7) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

807. Signal Conditioner Unit Software Left Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-00091.

B. Description

(1) The signal conditioner unit (SCU), M77102, has incorrect software configuration.

C. Fault Isolation Procedure

(1) Install the SCU software (AMM TASK 77-31-03-400-801-H01).

(2) Select the Existing Fault Screen on the MAT.

(3) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

808. Signal Conditioner Unit Software Right Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-00092.

B. Description

(1) The signal conditioner unit (SCU), M77202, has incorrect software configuration.

C. Fault Isolation Procedure

(1) Install the SCU software (AMM TASK 77-31-03-400-801-H01).

(2) Select the Existing Fault Screen on the MAT.

(3) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

809. Signal Conditioner Unit Programming Pins Left Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-00141.

B. Description

(1) The programming pins of the signal conditioner unit (SCU), M77102, for the left engine are incorrect.

C. Fault Isolation Procedure

(1) Do a check of the programming pins on connector DM77102AC:

(a) Remove the SCU, M77102 (AMM TASK 77-31-03-000-803-H00).

(b) Look for continuity between these pins:

DM77102AC	DM77102AC
D3	B8
D3	B9
D3	B10
D3	D7
D3	D9

(c) Look for an open circuit between these pins:

DM77102AC	DM77102AC
D3	B7
D3	D8

(2) If you found a problem with the programming pins, do these steps:

(a) Repair the problems that you found.

(b) Install the SCU, M77102 (AMM TASK 77-31-03-400-804-H00).

(c) Select the Existing Fault Screen on the MAT.

(d) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(e) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(f) If the MAT does not show the maintenance message, then you corrected the fault.

(3) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(4) Select the Existing Fault Screen on the MAT.

(5) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(6) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(7) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

810. Signal Conditioner Unit Programming Pins Right Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-00142.

B. Description

(1) The programming pins of the signal conditioner unit (SCU), M77202, for the right engine are incorrect.

C. Fault Isolation Procedure

(1) Do a check of the programming pins on connector DM77202AC:

(a) Remove the SCU, M77202.

This is the task:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00.

(b) Look for continuity between these pins:

DM77202AC	DM77202AC
D3	B7
D3	B9
D3	B10
D3	D7
D3	D9

(c) Look for an open circuit between these pins:

DM77202AC	DM77202AC
D3	B8
D3	D8

(2) If you found a problem with the programming pins, do these steps:

(a) Repair the problems that you found.

(b) Install the SCU, M77102 (AMM TASK 77-31-03-400-804-H00).

(c) Select the Existing Fault Screen on the MAT.

(d) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(e) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(f) If the MAT does not show the maintenance message, then you corrected the fault.

(3) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(4) Select the Existing Fault Screen on the MAT.

(5) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(6) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(7) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

811. SCU ARINC 629 Coupler Channel Left Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-00151.

B. Description

(1) The signal conditioner unit (SCU), M77102, for the left engine has an ARINC 629 fault.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the ARINC 629 coupler, B77105.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(4) Do the repair confirmation procedure at the end of this task.

(5) Examine the harness, electrical connectors, and backshells between the SCU, M77102, and the ARINC 629 coupler, B77105, for these possible problems (WDM 77-31-11):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(6) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(7) Disconnect connector DB77105 from the ARINC 629 coupler, B77105.

(8) Remove the SCU, M77102 (AMM TASK 77-31-03-000-803-H00).

(9) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77102, and the ARINC 629 coupler, B77105, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

ARINC 629 COUPLER CIRCUIT

SCU DM77102AB	ARINC 629 COUPLER DB77105
2T	5
2TR	4
1T	2
1TR	1

(10) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-11).

(11) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(12) Install the SCU, M77102 (AMM TASK 77-31-03-400-804-H00).

(13) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

812. SCU ARINC 629 Coupler Channel Right Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-00152.

B. Description

(1) The signal conditioner unit (SCU), M77202, for the right engine has an ARINC 629 fault.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the ARINC 629 coupler, B77205.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00

(4) Do the repair confirmation procedure at the end of this task.

(5) Examine the harness, electrical connectors, and backshells between the SCU, M77202, and the ARINC 629 coupler, B77205, for these possible problems (WDM 77-31-21):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(6) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(7) Disconnect connector DB77205 from the ARINC 629 coupler, B77205.

(8) Remove the SCU, M77202 (AMM TASK 77-31-03-000-803-H00).

(9) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77202, and the ARINC 629 coupler, B77205, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

ARINC 629 COUPLER CIRCUIT

SCU DM77202AB	**ARINC 629 COUPLER DB77205**
2T	5
2TR	4
1T	2
1TR	1

(10) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-21).

(11) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(12) Install the SCU, M77202 (AMM TASK 77-31-03-400-804-H00).

(13) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

813. SCU-ARINC 629 Bus Output Left Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-08841.

B. Description

(1) The signal conditioner unit (SCU), M77102, for the left engine has no output on the left System ARINC 629 Bus.

C. Initial Evaluation

(1) For airplanes with SCU Part Number 241-322-007-021 installed, if Maintenance Message 77-08841 or 77-08862 correlated to L/R vibration indication blanking on EICAS (Fault Code 773 301 51 or 773 301 52) occurs on engine start following an on-board software load to any LRU, operators should cycle the AVM circuit breaker. For the left SCU, cycle the L ENG VIB MON circuit breaker on the left power management panel P110, C23. For the right SCU, cycle the R ENG VIB MON circuit breaker on the right power management panel P210, E6. Cycling the circuit breaker will restore normal vibration indication.

(2) Select the Existing Fault Screen on the MAT.

(3) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(5) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(6) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the ARINC 629 coupler, B77105.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(4) Do the repair confirmation procedure at the end of this task.

(5) Examine the harness, electrical connectors, and backshells between the SCU, M77102, and the ARINC 629 coupler, B77105, for these possible problems (WDM 77-31-11):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(6) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(7) Disconnect connector DB77105 from the ARINC 629 coupler, B77105.

(8) Remove the SCU, M77102 (AMM TASK 77-31-03-000-803-H00).

(9) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77102, and the ARINC 629 coupler, B77105, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

ARINC 629 COUPLER CIRCUIT

SCU DM77102AB	ARINC 629 COUPLER DB77105
2T	5
2TR	4
1T	2
1TR	1

(10) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-11).

(11) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(12) Install the SCU, M77102 (AMM TASK 77-31-03-400-804-H00).

(13) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

814. SCU-ARINC 629 Bus Output Right Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-08862.

B. Description

(1) The signal conditioner unit (SCU), M77202, for the right engine has no output on the right System ARINC 629 Bus.

C. Initial Evaluation

(1) For airplanes with SCU Part Number 241-322-007-021 installed, if Maintenance Message 77-08841 or 77-08862 correlated to L/R vibration indication blanking on EICAS (Fault Code 773 301 51 or 773 301 52) occurs on engine start following an on-board software load to any LRU, operators should cycle the AVM circuit breaker. For the left SCU, cycle the L ENG VIB MON circuit breaker on the left power management panel P110, C23. For the right SCU, cycle the R ENG VIB MON circuit breaker on the right power management panel P210, E6. Cycling the circuit breaker will restore normal vibration indication.

(2) Select the Existing Fault Screen on the MAT.

(3) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(5) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(6) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the ARINC 629 coupler, B77205.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(4) Do the repair confirmation procedure at the end of this task.

(5) Examine the harness, electrical connectors, and backshells between the SCU, M77202, and the ARINC 629 coupler, B77205, for these possible problems (WDM 77-31-21):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(6) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(7) Disconnect connector DB77205 from the ARINC 629 coupler, B77205.

(8) Remove the SCU, M77202 (AMM TASK 77-31-03-000-803-H00).

(9) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77202, and the ARINC 629 coupler, B77205, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

ARINC 629 COUPLER CIRCUIT

SCU DM77202AB	ARINC 629 COUPLER DB77205
2T	5
2TR	4
1T	2
1TR	1

(10) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-21).

(11) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(12) Install the SCU, M77202 (AMM TASK 77-31-03-400-804-H00).

(13) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

END OF TASK

815. SCU ARINC 629 Bus EDIU Input Left Engine (Ch A) - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-09407.

B. Description

(1) The signal conditioner unit (SCU), M77102, for the left engine has no input from the engine data interface unit (EDIU), M73103, (Ch A) on the system ARINC 629 bus.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00,

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the EDIU, M73103.

These are the tasks:

Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00

Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.

(4) Do the repair confirmation procedure at the end of this task.

(5) Replace the ARINC 629 coupler, B77105.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(6) Do the repair confirmation procedure at the end of this task.

(7) Replace the ARINC 629 coupler, B73101.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(8) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

816. SCU ARINC 629 Bus EDIU Input Left Engine (Ch B) - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-09409.

B. Description

(1) The signal conditioner unit (SCU), M77102, for the left engine has no input from the engine data interface unit (EDIU) (Ch B) on the system ARINC 629 bus.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the EDIU, M73103.

These are the tasks:

Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00

Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.

(4) Do the repair confirmation procedure at the end of this task.

(5) Replace the ARINC 629 coupler, B77105.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(6) Do the repair confirmation procedure at the end of this task.

(7) Replace the ARINC 629 coupler, B73103.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(8) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

END OF TASK

817. SCU ARINC 629 Bus EDIU Input Right Engine (Ch A) - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-09608.

B. Description

(1) The signal conditioner unit (SCU), M77202, for the right engine has no input from the engine data interface unit (EDIU) (Ch A) on the system ARINC 629 bus.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the EDIU, M73203.

These are the tasks:

Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00

Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.

(4) Do the repair confirmation procedure at the end of this task.

(5) Replace the ARINC 629 coupler, B77205.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(6) Do the repair confirmation procedure at the end of this task.

(7) Replace the ARINC 629 coupler, B73201.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(8) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

818. SCU ARINC 629 Bus EDIU Input Right Engine (Ch B) - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-09610.

B. Description

(1) The signal conditioner unit (SCU), M77202, for the right engine has no input from the engine data interface unit (EDIU) (Ch B) on the system ARINC 629 bus.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the EDIU, M73203.

These are the tasks:

Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00

Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.

(4) Do the repair confirmation procedure at the end of this task.

(5) Replace the ARINC 629 coupler, B77205.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(6) Do the repair confirmation procedure at the end of this task.

(7) Replace the ARINC 629 coupler, B73203.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(8) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

819. SCU ARINC 629 Bus Left AIMS Input Left Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-09411.

B. Description

(1) The signal conditioner unit, M77102, for the left engine has no input from the left airplane information management system (AIMS) on the system ARINC 629 bus.

C. Initial Evaluation

(1) On airplanes with SCU Part Number 241-322-007-021 installed, maintenance messages for SCU faults related to AIMS can be set when the EICAS or CMCF switches master from either left to right or right to left. The fault is intermittent and does not effect flight deck vibration indication or collection of flight history data.

(a) If Maintenance Message 77-09411, 77-09413, 77-09612, or 77-09614 occurs with SCU Part Number 241-322-007-021 installed, ignore this fault.

(2) Select the Existing Fault Screen on the MAT.

(3) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(5) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(6) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the IOM, M009, in left AIMS.

These are the tasks:

Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801

Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.

(4) Do the repair confirmation procedure at the end of this task.

(5) Replace the ARINC 629 coupler, B77105.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(6) Do the repair confirmation procedure at the end of this task.

(7) Replace the ARINC 629 coupler, B31112.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(8) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

820. SCU ARINC 629 Bus Right AIMS Input Left Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-09413.

B. Description

(1) The signal conditioner unit, M77102, for the left engine has no input from the right airplane information management system (AIMS) on the system ARINC 629 bus.

C. Initial Evaluation

(1) On airplanes with SCU Part Number 241-322-007-021 installed, maintenance messages for SCU faults related to AIMS can be set when the EICAS or CMCF switches master from either left to right or right to left. The fault is intermittent and does not effect flight deck vibration indication or collection of flight history data.

(a) If Maintenance Message 77-09411, 77-09413, 77-09612, or 77-09614 occurs with SCU Part Number 241-322-007-021 installed, ignore this fault.

(2) Select the Existing Fault Screen on the MAT.

(3) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(5) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(6) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the IOM, M009, in the right AIMS.

These are the tasks:

Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801

Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.

(4) Do the repair confirmation procedure at the end of this task.

(5) Replace the ARINC 629 coupler, B77105.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(6) Do the repair confirmation procedure at the end of this task.

(7) Replace the ARINC 629 coupler, B31116.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(8) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

END OF TASK

821. SCU ARINC 629 Bus left AIMS Input Right Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-09612.

B. Description

(1) The signal conditioner unit (SCU), M77202, for the right engine has no input from the left airplane information management system (AIMS) on the system ARINC 629 bus.

C. Initial Evaluation

(1) On airplanes with SCU Part Number 241-322-007-021 installed, maintenance messages for SCU faults related to AIMS can be set when the EICAS or CMCF switches master from either left to right or right to left. The fault is intermittent and does not effect flight deck vibration indication or collection of flight history data.

(a) If Maintenance Message 77-09411, 77-09413, 77-09612, or 77-09614 occurs with SCU Part Number 241-322-007-021 installed, ignore this fault.

(2) Select the Existing Fault Screen on the MAT.

(3) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(5) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(6) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the IOM, M004, in the left AIMS.

These are the tasks:

Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801

Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.

(4) Do the repair confirmation procedure at the end of this task.

(5) Replace the ARINC 629 coupler, B77205.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(6) Do the repair confirmation procedure at the end of this task.

(7) Replace the ARINC 629 coupler, B31211.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(8) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

822. SCU ARINC 629 Bus right AIMS Input Right Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-09614.

B. Description

(1) The signal conditioner unit, M77202, for the right engine has no input from the right airplane information management system (AIMS) on the system ARINC 629 bus.

C. Initial Evaluation

(1) On airplanes with SCU Part Number 241-322-007-021 installed, maintenance messages for SCU faults related to AIMS can be set when the EICAS or CMCF switches master from either left to right or right to left. The fault is intermittent and does not effect flight deck vibration indication or collection of flight history data.

(a) If Maintenance Message 77-09411, 77-09413, 77-09612, or 77-09614 occurs with SCU Part Number 241-322-007-021 installed, ignore this fault.

(2) Select the Existing Fault Screen on the MAT.

(3) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(5) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(6) If the MAT does not show the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the IOM, M004, for the right AIMS.

These are the tasks:

Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801

Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.

(4) Do the repair confirmation procedure at the end of this task.

(5) Replace the ARINC 629 coupler, B77205.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(6) Do the repair confirmation procedure at the end of this task.

(7) Replace the ARINC 629 coupler, B31214.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

(8) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(3) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

823. Signal Conditioner Unit Left Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-00031.

B. Description

(1) The signal conditioner unit (SCU), M77102, for the left engine has an internal fault.

C. Initial Evaluation

(1) For airplanes with SCU Part Number 241-322-007-021 installed, if ENG VIB MONITOR L or R EICAS Status Level Messages correlated with Maintenance Message 77-00031 or 77-00032 occurs, cycle the AVM circuit breaker. Let the circuit breaker remain open for a minimum of four minutes. For the left SCU, cycle the L ENG VIB MON circuit breaker on the left power management panel P110, C23. For the right SCU, cycle the R ENG VIB MON circuit breaker on the right power management panel P210, E6. After cycling the circuit breaker, check the MAT to make sure that the maintenance message shows NOT ACTIVE. Cycling the AVM circuit breaker will reset the software.

(2) Use the engine or APU to supply electrical power (AMM TASK 24-22-00-860-805).

NOTE: The AVM signal conditioner will not operate correctly during the initial evaluation process unless electrical power is supplied from the engine or APU.

(3) Select the Existing Fault Screen on the MAT.

(4) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(5) Let this circuit breaker remain open for a minimum of four minutes.

(6) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(7) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(8) If the MAT shows NOT ACTIVE for the maintenance message (or the maintenance message does not show), then you corrected the fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Select the Existing Fault Screen on the MAT.

(3) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(4) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
C	23	C77403	L ENG VIB MON

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

824. Signal Conditioner Unit Right Engine - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-00032.

B. Description

(1) The signal conditioner unit (SCU), M77202, for the right engine has an internal fault.

C. Initial Evaluation

(1) For airplanes with SCU Part Number 241-322-007-021 installed, if ENG VIB MONITOR L or R EICAS Status Level Messages correlated with Maintenance Message 77-00031 or 77-00032 occurs, cycle the AVM circuit breaker. Let the circuit breaker remain open for a minimum of four minutes. For the left SCU, cycle the L ENG VIB MON circuit breaker on the left power management panel P110, C23. For the right SCU, cycle the R ENG VIB MON circuit breaker on the right power management panel P210, E6. After cycling the circuit breaker, check the MAT to make sure that the maintenance message shows NOT ACTIVE. Cycling the AVM circuit breaker will reset the software.

(2) Use the engine or APU to supply electrical power (AMM TASK 24-22-00-860-805).

NOTE: The AVM signal conditioner will not operate correctly during the initial evaluation process unless electrical power is supplied from the engine or APU.

(3) Select the Existing Fault Screen on the MAT.

(4) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(5) Let this circuit breaker remain open for a minimum of four minutes.

(6) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(7) If the MAT shows ACTIVE for the maintenance message, then do the fault isolation procedure below.

(8) If the MAT shows NOT ACTIVE for the maintenance message (or the maintenance message does not show), then you corrected the fault.

D. Fault Isolation Procedure

(1) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(2) Select the Existing Fault Screen on the MAT.

(3) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(4) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
E	6	C77400	R ENG VIB MON

(5) If the MAT does not show the maintenance message, then you corrected the fault.

——— END OF TASK ———

825. TCF Accelerometer Fault Left Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-03041.

B. Description

(1) The turbine center frame accelerometer (circuit 1 left), M77010, for the left engine is out of range.

C. Initial Evaluation

(1) For airplanes with SCU Part Number 241-322-007-021 or 241-322-008-022 installed, if ENG VIB MONITOR L or R EICAS Status Level Messages correlated with Maintenance Message 77-03041, 77-03042, 77-03061, or 77-03062 and/or momentary display blanking occurs during any phase of flight other than takeoff or climb, disregard the message.

(2) Select the Existing Fault Screen on the MAT.

(3) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

(6) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Replace the TCF accelerometer, M77010.

These are the tasks:

Turbine Center Frame Accelerometer Removal, AMM TASK 77-31-06-000-801-H01

Turbine Center Frame Accelerometer Installation, AMM TASK 77-31-06-400-801-H01.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the RCC, M77101.

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01.

(4) Do the repair confirmation procedure at the end of this task.

(5) Examine the harness, electrical connectors, and backshells between the RCC, M77101, and the TCF accelerometer, M77010, for these possible problems (WDM 77-31-11):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(6) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(7) Disconnect connector DM77101A from the RCC, M77101.

(8) Disconnect connector D71304P from the engine core strut, AN0223.

(9) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the RCC, M77101, and the engine core strut, AN0223, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

TCF Accelerometer Circuit

RCC DM77101A	Engine Strut D71104J/D71304P
1	1
2	2

(10) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-11).

(11) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(12) Do the repair confirmation procedure at the end of this task.

(13) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(14) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(3) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(4) If the MAT does not show the maintenance message, then you corrected the fault.

(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

826. TCF Accelerometer Fault Right Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-03042.

B. Description

(1) The turbine center frame accelerometer (circuit 1 right), M77010, for the right engine is out of range.

C. Initial Evaluation

(1) For airplanes with SCU Part Number 241-322-007-021 or 241-322-008-022 installed, if ENG VIB MONITOR L or R EICAS Status Level Messages correlated with Maintenance Message 77-03041, 77-03042, 77-03061, or 77-03062 and/or momentary display blanking occurs during any phase of flight other than takeoff or climb, disregard the message.

(2) Select the Existing Fault Screen on the MAT.

(3) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

(6) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Replace the TCF Accelerometer, M77010.

These are the tasks:

Turbine Center Frame Accelerometer Removal, AMM TASK 77-31-06-000-801-H01

Turbine Center Frame Accelerometer Installation, AMM TASK 77-31-06-400-801-H01.

(2) Do the repair confirmation procedure at the end of this task.

(3) Replace the RCC, M77201.

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01.

(4) Do the repair confirmation procedure at the end of this task.

(5) Examine the harness, electrical connectors, and backshells between the RCC, M77201, and the TCF accelerometer, M77010, for these possible problems (WDM 77-31-21):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(6) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(7) Disconnect connector DM77201A from the RCC, M77201.

(8) Disconnect connector D71304P from the Engine Core Strut, AN0223.

(9) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the RCC, M77201, and the engine core strut, AN0223, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

TCF Accelerometer Circuit

RCC DM77201A	Engine Strut D71204J/D71304P
1	1
2	2

(10) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-21).

(11) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(12) Do the repair confirmation procedure at the end of this task.

(13) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(14) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(3) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(4) If the MAT does not show the maintenance message, then you corrected the fault.

(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

827. No. 1 Bearing Accelerometer Fault Left Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-03061.

B. Description

(1) The No. 1 bearing accelerometer (circuit 3 left), M77011, for the left engine is out of range.

NOTE: For AIRPLANES with AVM SCU 241-322-007-021, or 241-322-915-001 the AVM will switch to an alternative mode when a No. 1 bearing fault is detected.

C. Initial Evaluation

(1) For airplanes with SCU Part Number 241-322-007-021 or 241-322-008-022 installed, if ENG VIB MONITOR L or R EICAS Status Level Messages correlated with Maintenance Message 77-03041, 77-03042, 77-03061, or 77-03062 and/or momentary display blanking occurs during any phase of flight other than takeoff or climb, disregard the message.

(2) Select the Existing Fault Screen on the MAT.

(3) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

(6) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Replace the No. 1 bearing accelerometer cable.

(a) Do the repair confirmation procedure at the end of this task.

(2) Replace the RCC, M77101.

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(3) Examine the harness, electrical connectors, and backshells between the RCC, M77101, and the No. 1 bearing accelerometer, M77011, for these possible problems(WDM 77-31-11) :

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(4) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(5) Disconnect connector DM77101A from the RCC, M77101.

(6) Disconnect connector DM77011 from the engine left core.

(7) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the RCC, M77101, and the engine core as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

RCC DM77101A	Engine Core D77011P/J
7	1
8	2

(8) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-11).

(9) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(b) Do the repair confirmation procedure at the end of this task.

(10) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(11) Do the repair confirmation procedure at the end of this task.

(12) Do the activation of the TCF accelerometer.

NOTE: This step applies to the Ametek SCU only.

These are the tasks:

Turbine Center Frame Accelerometer Removal, AMM TASK 77-31-06-000-801-H01

Turbine Center Frame Accelerometer Installation, AMM TASK 77-31-06-400-801-H01.

(13) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(3) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(4) If the MAT does not show the maintenance message, then you corrected the fault.

(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

828. No. 1 Bearing Accelerometer Fault Right Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-03062.

B. Description

(1) The No. 1 bearing accelerometer (circuit 3 right), M77011, for the right engine is out of range.

NOTE: For AIRPLANES with AVM SCU 241-322-007-021 or 241-322-915-001, the AVM will switch to an alternative mode when a No. 1 bearing fault is detected.

C. Initial Evaluation

(1) For airplanes with SCU Part Number 241-322-007-021 or 241-322-008-022 installed, if ENG VIB MONITOR L or R EICAS Status Level Messages correlated with Maintenance Message 77-03041, 77-03042, 77-03061, or 77-03062 and/or momentary display blanking occurs during any phase of flight other than takeoff or climb, disregard the message.

(2) Select the Existing Fault Screen on the MAT.

(3) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(4) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(5) If the MAT does not show the maintenance message, then there was an intermittent fault.

(6) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Replace the No. 1 bearing accelerometer cable.

(a) Do the repair confirmation procedure at the end of this task.

(2) Replace the RCC, M77201.

These are the tasks:

Remote Charge Converter Removal, AMM TASK 77-31-02-000-801-H01

Remote Charge Converter Installation, AMM TASK 77-31-02-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(3) Examine the harness, electrical connectors, and backshells between the RCC, M77201, and the No. 1 bearing accelerometer, M77011, for these possible problems (WDM 77-31-21):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(4) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(5) Disconnect connector DM77201A from the RCC, M77201.

(6) Disconnect connector DM77011 from the engine left core.

(7) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the RCC, M77201, and the engine core as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

RCC DM77201A	Engine Core D77011P/J
7	1
8	2

(8) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-31-21).

(9) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(b) Do the repair confirmation procedure at the end of this task.

(10) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(11) Do the repair confirmation procedure at the end of this task.

(12) Do the activation of the TCF accelerometer.

NOTE: This step applies to the Ametek SCU only.

These are the tasks:

Turbine Center Frame Accelerometer Removal, AMM TASK 77-31-06-000-801-H01

Turbine Center Frame Accelerometer Installation, AMM TASK 77-31-06-400-801-H01.

(13) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(3) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(4) If the MAT does not show the maintenance message, then you corrected the fault.

(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

829. SCU-N1 Tachometer Signal Loss Left Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-03101, 77-03131.

B. Description

(1) The signal conditioner unit (SCU), M77102, for the left engine has no analog N1 input or N1 speed sensor index pulse signal is not available.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(3) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(4) If the MAT does not show the maintenance message, then there was an intermittent fault.

(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Examine the harness, electrical connectors, and backshells between the SCU, M77102, and the N1 speed sensor, M77005, for these possible problems (WDM 77-12-11):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(2) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(3) Disconnect connector DM77102AC from the SCU, M77102.

(4) Disconnect connector DM77005 from the N1 speed sensor, M77005.

(5) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77102, and the N1 speed sensor, M77005, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

SCU N1 Input Wiring Circuit

SCU DM77102AC	N1 Speed Sensor DM77005
A7	1
C7	2

(6) If you find a problem in the harness, do the applicable step:
  (a) Repair the applicable harness.
  (b) Replace the applicable harness (WDM 77-12-11).
(7) Re-connect all the connectors.
  (a) Use the strap wrench or the soft-jawed pliers to tighten the connector.
(8) Do the repair confirmation procedure at the end of this task.
(9) Replace the N1 speed sensor, M77005.

These are the tasks:

N1 Speed Sensor Removal, AMM TASK 77-12-01-000-801-H01

N1 Speed Sensor Installation, AMM TASK 77-12-01-400-801-H01.

  (a) Do the repair confirmation procedure at the end of this task.
(10) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

  (a) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.
(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.
  (a) Let the engine become stable at idle.
(3) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.
(4) If the MAT does not show the maintenance message, then you corrected the fault.
(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

830. SCU-N1 Tachometer Signal Loss Right Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-03102, 77-03132.

B. Description

(1) The signal conditioner unit (SCU), M77202, for the right engine has no analog N1 input or N1 speed sensor index pulse signal is not available.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.
(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.
  (a) Let the engine become stable at idle.
(3) If the MAT shows the maintenance message, then do the fault isolation procedure below.
(4) If the MAT does not show the maintenance message, then there was an intermittent fault.
(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Examine the harness, electrical connectors, and backshells between SCU, M77202, and the N1 speed sensor, M77005, for these possible problems (WDM 77-12-11):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(2) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(3) Disconnect connector DM77202AC from the SCU, M77202.

(4) Disconnect connector DM77005 from the N1 speed sensor, M77005.

(5) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77202, and the N1 speed sensor, M77005, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

SCU N1 Input Wiring Circuit

SCU DM77202AC	N1 Speed Sensor DM77005
A7	1
C7	2

(6) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-12-11).

(7) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(8) Do the repair confirmation procedure at the end of this task.

(9) Replace the N1 Speed sensor, M77005.

These are the tasks:

N1 Speed Sensor Removal, AMM TASK 77-12-01-000-801-H01

N1 Speed Sensor Installation, AMM TASK 77-12-01-400-801-H01.

(a) Do the repair confirmation procedure at the end of this task.

(10) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(11) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(3) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(4) If the MAT does not show the maintenance message, then you corrected the fault.

(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

——— END OF TASK ———

831. SCU-N2 Tachometer Signal Loss Left Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-03111.

B. Description

(1) The signal conditioner unit (SCU), M77102, for the left engine has no analog N2 input.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(3) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(4) If the MAT does not show the maintenance message, then there was an intermittent fault.

(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Examine the harness, electrical connectors, and backshells between SCU, M77102, and the N2 speed sensor, M77006, for these possible problems (WDM 77-12-12):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(2) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(3) Disconnect connector DM77102AC from the SCU, M77102.

(4) Disconnect connector DM77006 from the N2 speed sensor, M77006.

(5) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77102, and the N2 speed sensor, M77006, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

SCU N2 Input Wiring Circuit

SCU DM77102AC	N2 Speed Sensor DM77006
A9	1
C9	2

(6) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-12-12).

(7) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(8) Do the repair confirmation procedure at the end of this task.

(9) Replace the N2 speed sensor, M77006.

These are the tasks:

N2 Speed Sensor Removal, AMM TASK 77-12-02-000-801-H01

N2 Speed Sensor Installation, AMM TASK 77-12-02-400-801-H01.

(10) Do the repair confirmation procedure at the end of this task.

(11) Replace the SCU, M77102.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(12) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(3) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(4) If the MAT does not show the maintenance message, then you corrected the fault.

(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

END OF TASK

832. SCU-N2 Tachometer Signal Loss Right Engine- Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance message: 77-03112.

B. Description

(1) The signal conditioner unit (SCU), M77202, for the right engine has no analog N2 input.

C. Initial Evaluation

(1) Select the Existing Fault Screen on the MAT.

(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

(a) Let the engine become stable at idle.

(3) If the MAT shows the maintenance message, then do the fault isolation procedure below.

(4) If the MAT does not show the maintenance message, then there was an intermittent fault.

(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

D. Fault Isolation Procedure

(1) Examine the harness, electrical connectors, and backshells between SCU, M77202, and the N2 speed sensor, M77006, for these possible problems (WDM 77-12-12):

(a) Harness damage

(b) Loose or damaged connectors

(c) Loose or damaged backshells.

NOTE: If you find a loose backshell, disassemble it and examine the internal wires for chafing.

(2) If you found a problem with the harness, connectors, or backshells, do these steps:

(a) Repair the problems that you found.

(b) Re-connect all the connectors.

1) Use the strap wrench or the soft-jawed pliers to tighten the connectors.

(c) Do the repair confirmation procedure at the end of this task.

(3) Disconnect connector DM77202AC from the SCU, M77202.

(4) Disconnect connector DM77006 from the N2 speed sensor, M77006.

(5) Do a check for continuity, shorts to ground, and wire-to-wire shorts between the SCU, M77202, and the N2 speed sensor, M77006, as follows:

NOTE: When you look for shorts to ground, the insulation resistance must be more than 100K ohms.

SCU DM77202AC	N2 Speed Sensor DM77006
A9	1
C9	2

(6) If you find a problem in the harness, do the applicable step:

(a) Repair the applicable harness.

(b) Replace the applicable harness (WDM 77-12-12).

(7) Re-connect all the connectors.

(a) Use the strap wrench or the soft-jawed pliers to tighten the connector.

(8) Do the repair confirmation procedure at the end of this task.

(9) Replace the N2 speed sensor, M77006.

These are the tasks:

N2 Speed Sensor Removal, AMM TASK 77-12-02-000-801-H01

N2 Speed Sensor Installation, AMM TASK 77-12-02-400-801-H01.

(10) Do the repair confirmation procedure at the end of this task.

(11) Replace the SCU, M77202.

These are the tasks:

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Removal, AMM TASK 77-31-03-000-803-H00

Airborne Vibration Monitor (AVM) Signal Conditioner Unit Installation, AMM TASK 77-31-03-400-804-H00.

(12) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

(1) Select the Existing Fault Screen on the MAT.

(2) Do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.

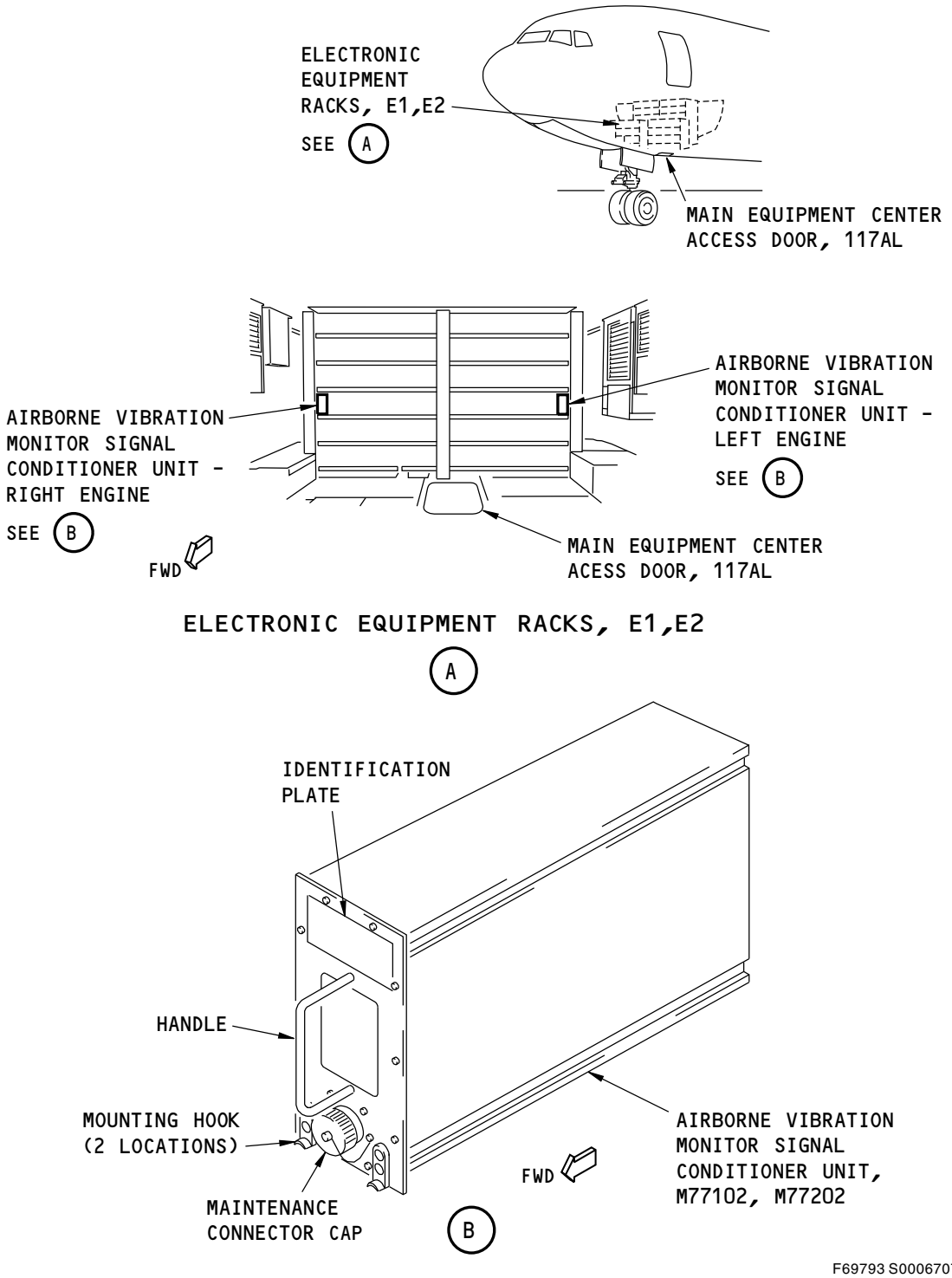
(a) Let the engine become stable at idle.

(3) If the MAT shows the maintenance message, then continue with the subsequent step of this fault isolation procedure.

(4) If the MAT does not show the maintenance message, then you corrected the fault.

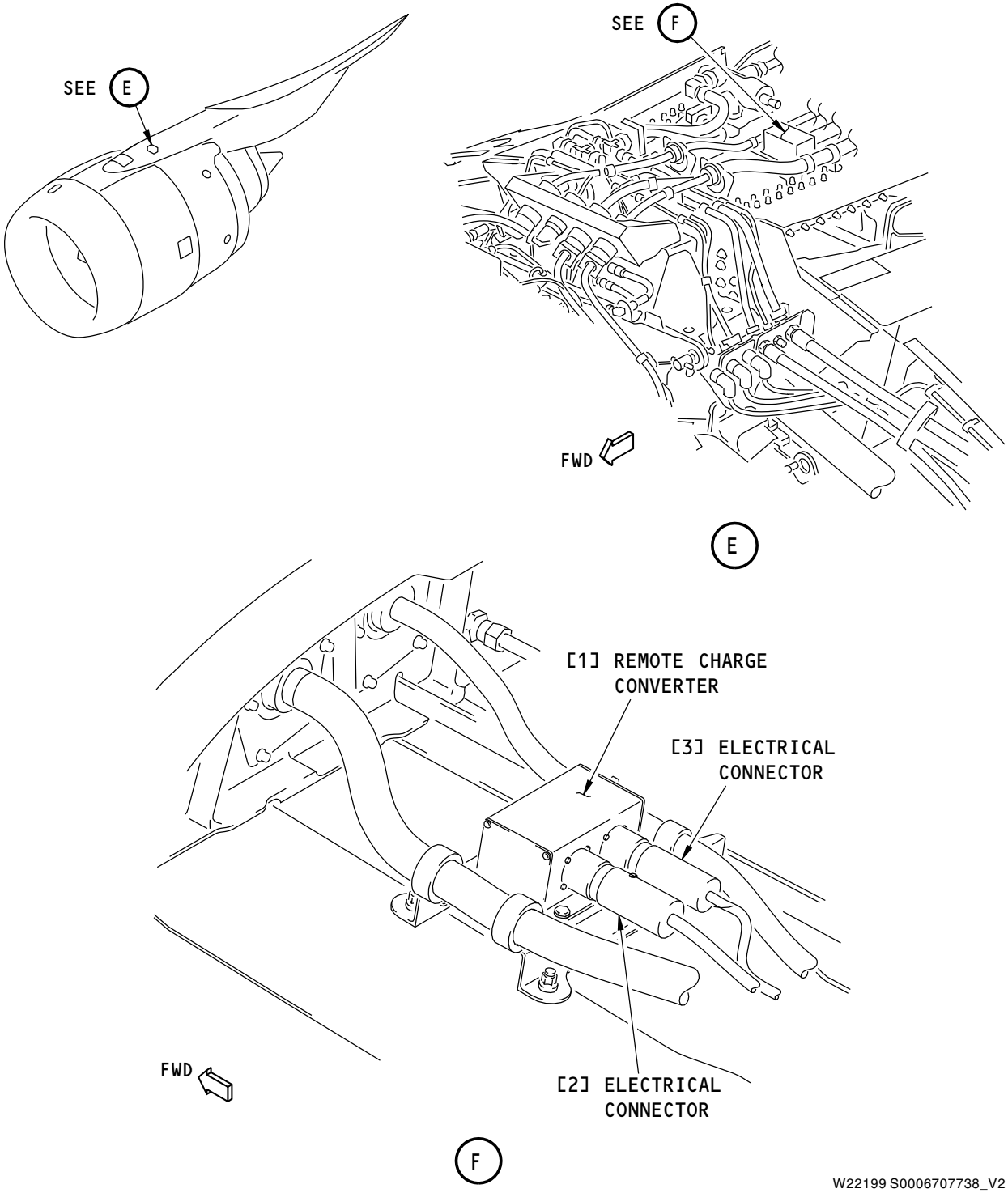
(5) Stop the engine (AMM TASK 71-00-00-800-837-H00).

END OF TASK

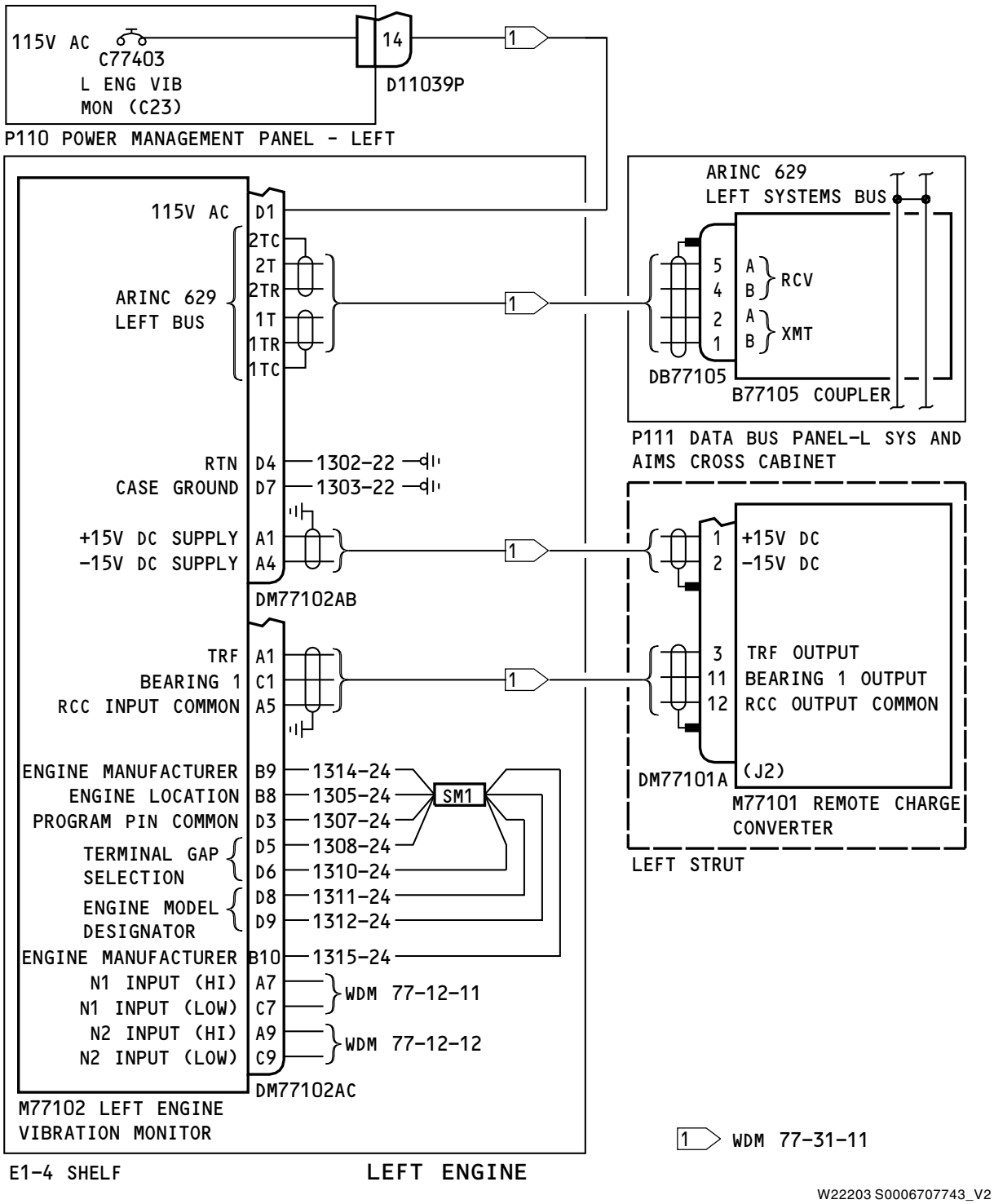


F69793 S0006707736_V2

Airborne Vibration Monitoring System
Figure 301/77-31-15-990-801-H00 (Sheet 1 of 2)

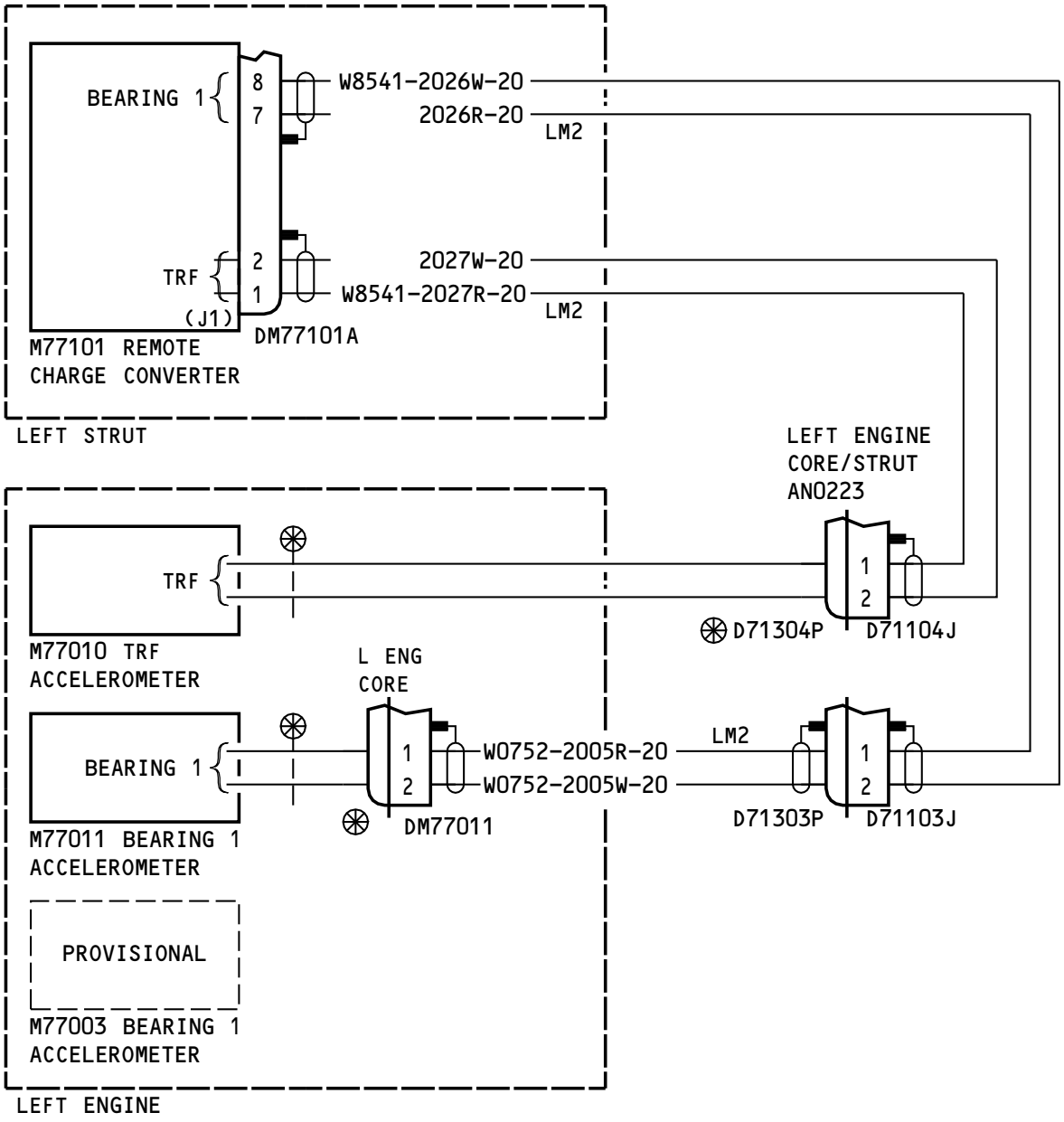


Airborne Vibration Monitoring System
Figure 301/77-31-15-990-801-H00 (Sheet 2 of 2)



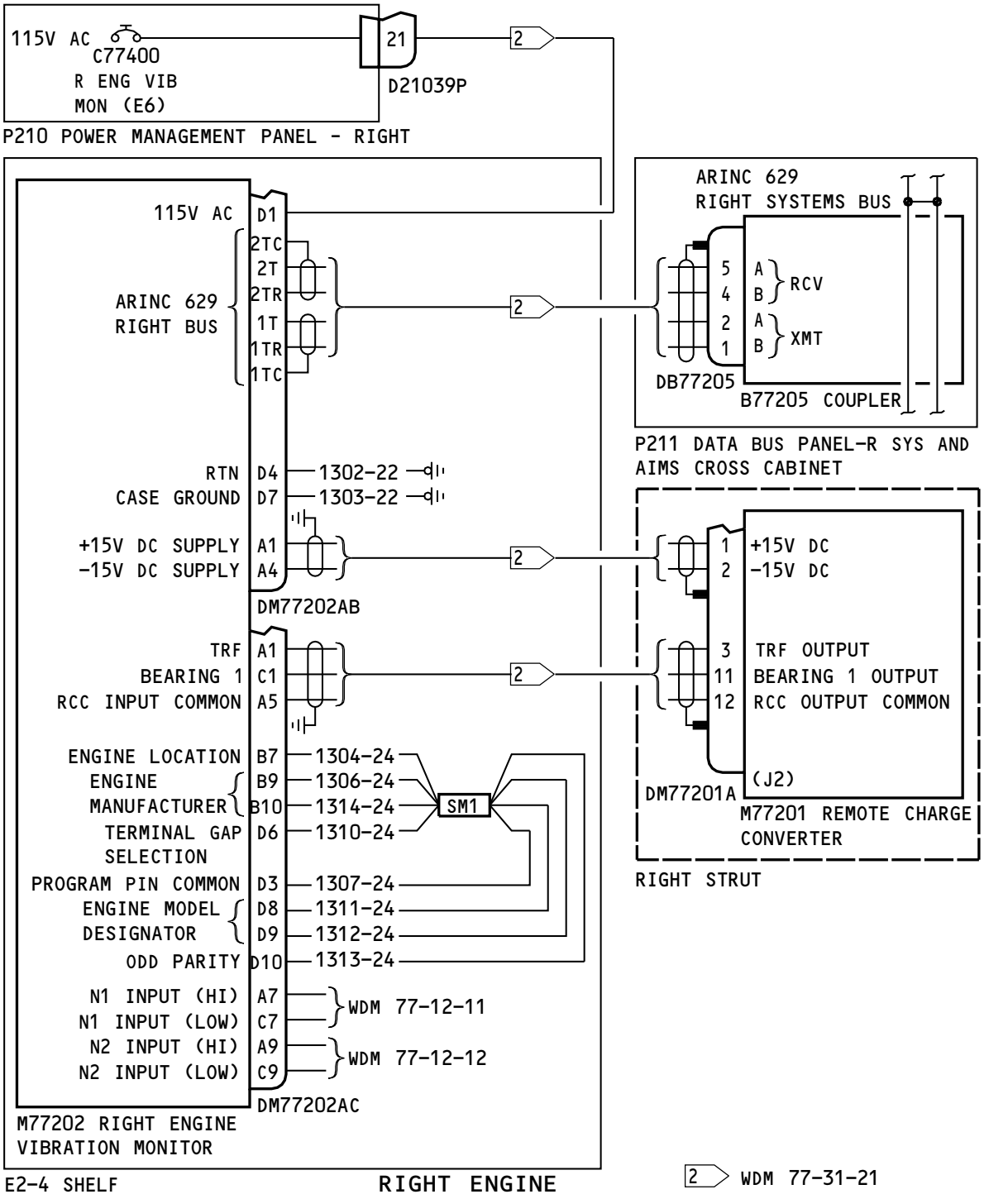
W22203 S0006707743_V2

Airborne Vibration Monitoring System Schematic
Figure 302/77-31-15-990-802-H00 (Sheet 1 of 4)

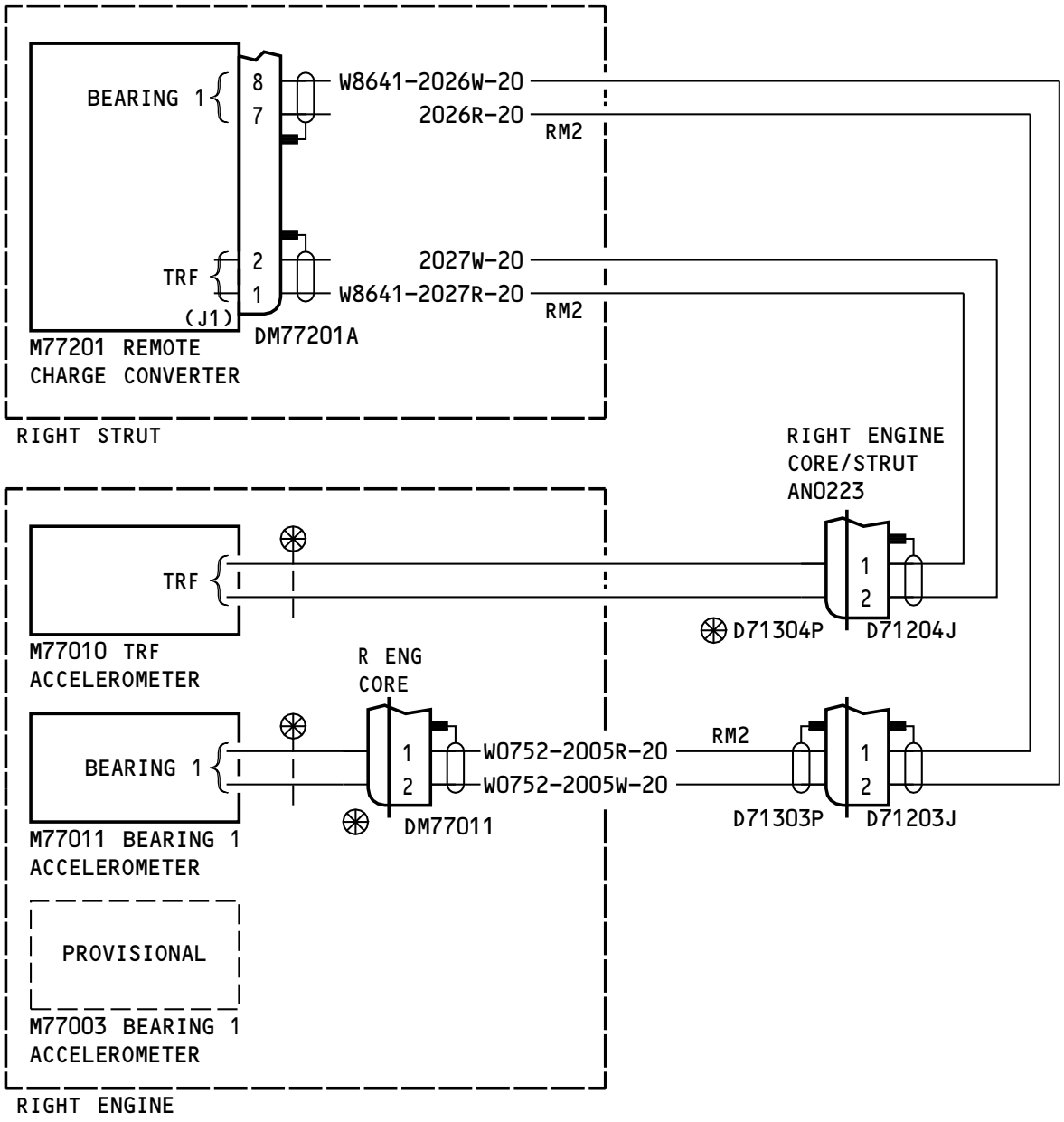


W22205 S0006707744_V2

Airborne Vibration Monitoring System Schematic
Figure 302/77-31-15-990-802-H00 (Sheet 2 of 4)



Airborne Vibration Monitoring System Schematic
Figure 302/77-31-15-990-802-H00 (Sheet 3 of 4)



W22213 S0006707746_V2

Airborne Vibration Monitoring System Schematic
Figure 302/77-31-15-990-802-H00 (Sheet 4 of 4)

801. Procedure To Be Determined - Fault Isolation

A. Maintenance Messages

(1) This task is for maintenance messages: 77-14841, 77-14842, 77-24841, 77-24842.

B. Fault Isolation Procedure

(1) At this time the FIM does not have a procedure for this fault. The FIM will contain a procedure for this fault in the future.

——— END OF TASK ———

802. EICAS Message Latched by AIMS - Fault Isolation

A. Initial Evaluation

NOTE: AIMS can latch this EICAS message when it occurs. After you find the cause of the fault and correct it, it is possible that the EICAS message will continue to show.

(1) Do not erase the EICAS message until you complete the task for the correlated maintenance message.

(2) When this EICAS message occurs, do these steps:

(a) Make sure that you have the correlated maintenance message number that shows on the MAT with the EICAS message.

(b) Go back to the FIM Fault Code Index and find the fault code for the EICAS message.

(c) Find the correlated maintenance message number and the task number to the right of the fault code.

(d) Go to the specified task in the FIM and do the steps in the task.

(e) After you do the actions in the task to correct the fault, do these steps:

1) Look at the MAT for the EICAS message.

2) If the MAT shows LATCHED for the EICAS message, then you must erase it from the EICAS status display (AMM TASK 31-61-00-800-802).

——— END OF TASK ———

803. Observed Fault with Correlated Maintenance Messages - Fault Isolation

A. Initial Evaluation

(1) Find the fault code to the right of the fault description in the Observed Faults List (at the front of the FIM).

(a) The first two digits of the fault code are the FIM chapter that you need. Go to the Fault Code Index in that chapter and find the fault code.

(b) Find the maintenance message to the right of the fault code.

(c) Find the task number on the same line as the maintenance message number.

(d) Go to the task in the FIM and do the steps in the task.

——— END OF TASK ———