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TROUBLE SHOOTING MANUAL

HIGHLIGHTS

REVISION NO. 54 May 01/08

Pages which have been revised are outlined below, together with the Highlights of the Revision

CH/SE/SU C **PAGES**

REASON FOR CHANGE **EFFECTIVITY**

CHAPTER 74

L.E.P. 1- 1 REVISED TO REFLECT THIS REVISION INDICATING NEW, REVISED, AND/OR DELETED PAGES

74-00-00 EFFECTIVITY UPDATED (THROUGHOUT THE TEXT) 218- 221

201-225, 227-227, 229-299, 426-499, 503-549, 551-599, 701-749,

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CHAPTER 74

IGNITION

LIST OF EFFECTIVE PAGES

N, R or D indicates pages which are New, Revised or Deleted respectively Remove and insert the affected pages and complete the Record of Revisions and the Record of Temporary Revisions as necessary

CH/SE/SU	С	PAGE	DATE	CH/SE/SU	C	PAGE	DATE	CH/SE/SU	С	PAGE	DATE
RECORD OF TEMP. REVISION											
L.E.P.	R	1- 1	May01/08								
T. of C.			Aug01/01								
74-0BSV		101	May01/99								
74-CFDS		101	May01/99								
74-00-00		201	Nov01/05								
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CHAPTER 74

IGNITION

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IGNITION - FAULT SYMPTOMS

	WARNINGS/MALFUNCTIONS		FAULT ISOLATION			
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R	ENG 1 - No light off with correct fuel flow					740000 P 217 T 810 817
R	ENG 1 - Uncommanded continuous IGNITION after engine start					740000 P 218 T 810 820
R	ENG 2 - No light off with correct fuel flow					740000 P 217 T 810 817
R	ENG 2 - Uncommanded continuous IGNITION after engine start					740000 P 220 T 810 821

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IGNITION - FAULT SYMPTOMS

	LIADNINGS / MALEUNCTIONS		FAULT ISOLATION			
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	
		EIU1FAD	IGN 1, ECU ENG1A	740000	1	740000 P 201 T 810 801
		EIU1FAD	IGN 1, ECU ENG1B	740000	1	740000 P 201 T 810 801
R		EIU1FAD	IGN 2, ECU ENG1B	740000	1	740000 P 207 T 810 803
R		EIU1FAD	IGN2, ECU ENG1A	740000	1	740000 P 207 T 810 803
R		EIU2FAD	IGN 1, ECU ENG2B	740000	1	740000 P 204 T 810 802
R		EIU2FAD	IGN 2, ECU ENG2B	740000	1	740000 P 210 T 810 804
R		EIU2FAD	IGN1, ECU ENG2A	740000	1	740000 P 204 T 810 802
R		EIU2FAD	IGN2, ECU ENG2A	740000	1	740000 P 210 T 810 804

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IGNITION - GENERAL - FAULT ISOLATION PROCEDURES

TASK 74-00-00-810-801

Failure of the Ignition 1 System - Engine 1 - Channel A or Channel B

1. Possible Causes

- right igniter plug (A)
- right ignition lead
- upper exciter box
- ECU (4000KS)
- HJ1 harness
- HJ2 harness

R

- EIU-1 (1KS1)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
_			
R		71-51-43-000-046	Removal of the ECU (Channel A) Harness (4211KS)
R	AMM	71-51-43-000-047	Removal of the ECU (Channel B) Harness (4212KS)
R	AMM	71-51-43-400-046	Installation of the ECU (Channel A) Harness (4211KS)
R	AMM	71-51-43-400-047	Installation of the ECU (Channel B) Harness (4212KS)
R			
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)
	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)
R	AMM	74-00-00-710-043	Operational Test of the Ignition System
	AMM	74-11-10-000-002	Removal of the Ignition Exciter (4000JH1, 4000JH2)
	AMM	74-11-10-400-002	<pre>Installation of the Ignition Exciter (4000JH1, 4000JH2)</pre>
	AMM	74-21-10-000-002	Removal of the Right Ignition Lead
	AMM	74-21-10-400-002	Installation of the Right Ignition Lead
	AMM	74-21-30-000-002	Removal of the Spark Igniter
	AMM	74-21-30-400-002	Installation of the Spark Igniter

3. Fault Confirmation

R A. Do the operational test of the ignition system, by performing an aural check of the igniter plug operation (Ref. AMM TASK 74-00-00-710-043).

R NOTE: The igniter test will spark the right igniter plug (A) for 10 seconds, wait 2 seconds then spark the left igniter plug (B) for 10 seconds. This test provides for an aural feedback of proper ignition operation. No CFDS test results are available.

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4. Fault Isolation

- A. The failure message IGN1, ECU is generated if there is no light off detected 10 seconds after the fuel is turned on.
 - (1) If an audible spark cannot be heard on the right igniter plug (A):
 replace the right igniter plug (A) (Ref. AMM TASK 74-21-30-000-002)
 and (Ref. AMM TASK 74-21-30-400-002).
 - (a) If an audible spark is not heard:
 - replace the right ignition lead (Ref. AMM TASK 74-21-10-000-002) and (Ref. AMM TASK 74-21-10-400-002).
 - (b) If an audible spark is not heard:
 - replace the upper exciter box (Ref. AMM TASK 74-11-10-000-002) and (Ref. AMM TASK 74-11-10-400-002).
 - (c) If an audible spark is not heard:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (d) If an audible spark is not heard:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If an audible spark can be heard on the right igniter plug (A):
 - replace the right ignition lead (Ref. AMM TASK 74-21-10-000-002) and (Ref. AMM TASK 74-21-10-400-002).
 - (3) If an audible spark can be heard on the right igniter (A), but the failure message is repetitive:
 - do the following steps after trouble shooting per steps Para.
 4.A.(2). has been fully done,
 - replace the igniter A (right igniter plug) (Ref. AMM TASK 74-21-30-000-002) and (Ref. AMM TASK 74-21-30-400-002).
 - (a) If the fault continues during subsequent flights:
 - replace the upper exciter box (Ref. AMM TASK 74-11-10-000-002) and (Ref. AMM TASK 74-11-10-400-002).
 - (b) If the fault continues during subsequent flights:
 - replace the HJ1 harness (Ref. AMM TASK 71-51-43-000-046) and (Ref. AMM TASK 71-51-43-400-046) for channel A.
 - replace the HJ2 harness (Ref. AMM TASK 71-51-43-000-047) and (Ref. AMM TASK 71-51-43-400-047) for channel B.
 - (c) If the fault continues during subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TASK 74-00-00-810-802

Failure of the Ignition 1 System - Engine 2 - Channel A or Channel B

1. Possible Causes

- right igniter plug (A)
- right ignition lead
- upper exciter box
- ECU (4000KS)
- HJ1 harness
- HJ2 harness

R

- EIU-2 (1KS2)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
R	AMM	71-51-43-000-046	Removal of the ECU (Channel A) Harness (4211KS)
R	AMM	71-51-43-000-047	Removal of the ECU (Channel B) Harness (4212KS)
R	AMM	71-51-43-400-046	Installation of the ECU (Channel A) Harness (4211KS)
R	AMM	71-51-43-400-047	Installation of the ECU (Channel B) Harness (4212KS)
R			
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)
	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)
R	AMM	74-00-00-710-043	Operational Test of the Ignition System
	AMM	74-11-10-000-002	Removal of the Ignition Exciter (4000JH1, 4000JH2)
	AMM	74-11-10-400-002	Installation of the Ignition Exciter (4000JH1, 4000JH2)
	AMM	74-21-10-000-002	Removal of the Right Ignition Lead
	AMM	74-21-10-400-002	Installation of the Right Ignition Lead
	AMM	74-21-30-000-002	Removal of the Spark Igniter
	AMM	74-21-30-400-002	Installation of the Spark Igniter

3. Fault Confirmation

A. Do the operational test of the ignition system, by performing an aural R check of the igniter plug operation (Ref. AMM TASK 74-00-00-710-043).

R NOTE: The igniter test will spark the right igniter plug (A) for 10 seconds, wait 2 seconds then spark the left igniter plug (B) for R 10 seconds. This test provides for an aural feedback of proper R R ignition operation. No CFDS test results are available.

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4. Fault Isolation

- A. The failure message IGN1, ECU is generated if there is no light off detected 10 seconds after the fuel is turned on.
 - (1) If an audible spark cannot be heard on the right igniter plug (A):
 replace the right igniter plug (A) (Ref. AMM TASK 74-21-30-000-002)
 and (Ref. AMM TASK 74-21-30-400-002).
 - (a) If an audible spark is not heard:
 - replace the right ignition lead (Ref. AMM TASK 74-21-10-000-002) and (Ref. AMM TASK 74-21-10-400-002).
 - (b) If an audible spark is not heard:
 - replace the upper exciter box (Ref. AMM TASK 74-11-10-000-002) and (Ref. AMM TASK 74-11-10-400-002).
 - (c) If an audible spark is not heard:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (d) If an audible spark is not heard:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If an audible spark can be heard on the right igniter plug (A):
 - replace the right ignition lead (Ref. AMM TASK 74-21-10-000-002) and (Ref. AMM TASK 74-21-10-400-002).
 - (3) If an audible spark can be heard on the right igniter (A), but the failure message is repetitive:
 - do the following steps after trouble shooting per steps Para.
 4.A.(2). has been fully done,
 - replace the igniter A (right igniter plug) (Ref. AMM TASK 74-21-30-000-002) and (Ref. AMM TASK 74-21-30-400-002).
 - (a) If the fault continues during subsequent flights:
 - replace the upper exciter box (Ref. AMM TASK 74-11-10-000-002) and (Ref. AMM TASK 74-11-10-400-002).
 - (b) If the fault continues during subsequent flights:
 - replace the HJ1 harness (Ref. AMM TASK 71-51-43-000-046) and (Ref. AMM TASK 71-51-43-400-046) for channel A.
 - replace the HJ2 harness (Ref. AMM TASK 71-51-43-000-047) and (Ref. AMM TASK 71-51-43-400-047) for channel B.
 - (c) If the fault continues during subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TASK 74-00-00-810-803

Failure of the Ignition 2 System - Engine 1 - Channel A or Channel B

1. Possible Causes

- left igniter plug (B)
- left ignition lead
- lower exciter box
- ECU (4000KS)
- HJ1 harness
- HJ2 harness
- EIU-1 (1KS1)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION		
ł	AMM	71-51-43-000-046	Removal of the ECU (Channel A) Harness (4211KS)		
ł	AMM	71-51-43-000-047	Removal of the ECU (Channel B) Harness (4212KS)		
?	AMM	71-51-43-400-046	Installation of the ECU (Channel A) Harness (4211KS)		
ł	AMM	71-51-43-400-047	Installation of the ECU (Channel B) Harness (4212KS)		
ł					
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)		
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)		
	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)		
	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)		
ł	AMM	74-00-00-710-043	Operational Test of the Ignition System		
	AMM	74-11-10-000-002	Removal of the Ignition Exciter (4000JH1, 4000JH2)		
	AMM		Installation of the Ignition Exciter (4000JH1,		
			4000JH2)		
	AMM	74-21-20-000-002	Removal of the Left Ignition Lead		
	AMM	74-21-20-400-002	Installation of the Left Ignition Lead		
	AMM	74-21-30-000-002	Removal of the Spark Igniter		
	AMM	74-21-30-400-002	Installation of the Spark Igniter		

3. Fault Confirmation

A. Do the operational test of the ignition system, by performing an aural R check of the igniter plug operation (Ref. AMM TASK 74-00-00-710-043).

R NOTE: The igniter test will spark the right igniter plug (A) for 10 seconds, wait 2 seconds then spark the left igniter plug (B) for R 10 seconds. This test provides for an aural feedback of proper R R ignition operation. No CFDS test results are available.

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4. Fault Isolation

- A. The failure message IGN2, ECU is generated if there is no light off detected 10 seconds after the fuel is turned on.
 - (1) If an audible spark cannot be heard on the left igniter plug (B): - replace the left igniter plug (B) (Ref. AMM TASK 74-21-30-000-002) and (Ref. AMM TASK 74-21-30-400-002).
 - (a) If an audible spark is not heard:
 - replace the left ignition lead (Ref. AMM TASK 74-21-20-000-002) and (Ref. AMM TASK 74-21-20-400-002).
 - (b) If an audible spark is not heard:
 - replace the lower exciter box (Ref. AMM TASK 74-11-10-000-002) and (Ref. AMM TASK 74-11-10-400-002).
 - (c) If an audible spark is not heard:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (d) If an audible spark is not heard:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If an audible spark can be heard on the left igniter plug (B):
 - replace the left ignition lead (Ref. AMM TASK 74-21-20-000-002) and (Ref. AMM TASK 74-21-20-400-002).
 - (3) If an audible spark can be heard on the left igniter plug (B), but the failure message is repetitive:
 - do the following steps after trouble shooting per steps Para.
 4.A.(2). has been fully done,
 - replace the igniter B (left igniter plug) (Ref. AMM TASK 74-21-30-000-002) and (Ref. AMM TASK 74-21-30-400-002).
 - (a) If the fault continues during subsequent flights:
 - replace the lower exciter box (Ref. AMM TASK 74-11-10-000-002) and (Ref. AMM TASK 74-11-10-400-002).
 - (b) If the fault continues during subsequent flights:
 - replace the HJ1 harness (Ref. AMM TASK 71-51-43-000-046) and (Ref. AMM TASK 71-51-43-400-046) for channel A.
 - replace the HJ2 harness (Ref. AMM TASK 71-51-43-000-047) and (Ref. AMM TASK 71-51-43-400-047) for channel B.
 - (c) If the fault continues during subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TASK 74-00-00-810-804

Failure of the Ignition 2 System - Engine 2 - Channel A or Channel B

1. Possible Causes

- left igniter plug (B)
- left ignition lead
- lower exciter box
- ECU (4000KS)
- HJ1 harness
- HJ2 harness
- EIU-2 (1KS2)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
R	AMM	71-51-43-000-046	Removal of the ECU (Channel A) Harness (4211KS)
R	AMM	71-51-43-000-047	Removal of the ECU (Channel B) Harness (4212KS)
R	AMM	71-51-43-400-046	Installation of the ECU (Channel A) Harness (4211KS)
R	AMM	71-51-43-400-047	Installation of the ECU (Channel B) Harness (4212KS)
R			
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)
	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)
R	AMM	74-00-00-710-043	Operational Test of the Ignition System
	AMM	74-11-10-000-002	Removal of the Ignition Exciter (4000JH1, 4000JH2)
	AMM	74-11-10-400-002	Installation of the Ignition Exciter (4000JH1, 4000JH2)
	AMM	74-21-20-000-002	Removal of the Left Ignition Lead
	AMM	74-21-20-400-002	Installation of the Left Ignition Lead
	AMM	74-21-30-000-002	Removal of the Spark Igniter
	AMM	74-21-30-400-002	Installation of the Spark Igniter

3. Fault Confirmation

A. Do the operational test of the ignition system, by performing an aural R check of the igniter plug operation (Ref. AMM TASK 74-00-00-710-043).

R NOTE: The igniter test will spark the right igniter plug (A) for 10 seconds, wait 2 seconds then spark the left igniter plug (B) for R 10 seconds. This test provides for an aural feedback of proper R R ignition operation. No CFDS test results are available.

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4. Fault Isolation

- A. The failure message IGN2, ECU is generated if there is no light off detected 10 seconds after the fuel is turned on.
 - (1) If an audible spark cannot be heard on the left igniter plug (B): - replace the left igniter plug (B) (Ref. AMM TASK 74-21-30-000-002) and (Ref. AMM TASK 74-21-30-400-002).
 - (a) If an audible spark is not heard:
 - replace the left ignition lead (Ref. AMM TASK 74-21-20-000-002) and (Ref. AMM TASK 74-21-20-400-002).
 - (b) If an audible spark is not heard:
 - replace the lower exciter box (Ref. AMM TASK 74-11-10-000-002) and (Ref. AMM TASK 74-11-10-400-002).
 - (c) If an audible spark is not heard:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (d) If an audible spark is not heard:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If an audible spark can be heard on the left igniter plug (B):
 - replace the left ignition lead (Ref. AMM TASK 74-21-20-000-002) and (Ref. AMM TASK 74-21-20-400-002).
 - (3) If an audible spark can be heard on the left igniter plug (B), but the failure message is repetitive:
 - do the following steps after trouble shooting per steps Para.
 4.A.(2). has been fully done,
 - replace the igniter B (left igniter plug) (Ref. AMM TASK 74-21-30-000-002) and (Ref. AMM TASK 74-21-30-400-002).
 - (a) If the fault continues during subsequent flights:
 - replace the lower exciter box (Ref. AMM TASK 74-11-10-000-002) and (Ref. AMM TASK 74-11-10-400-002).
 - (b) If the fault continues during subsequent flights:
 - replace the HJ1 harness (Ref. AMM TASK 71-51-43-000-046) and (Ref. AMM TASK 71-51-43-400-046) for channel A.
 - replace the HJ2 harness (Ref. AMM TASK 71-51-43-000-047) and (Ref. AMM TASK 71-51-43-400-047) for channel B.
 - (c) If the fault continues during subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TASK 74-00-00-810-805

Failure of the Ignition A and Ignition B Systems on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- ECU (4000KS)
- J1 wiring
- J2 wiring
- left or right igniter
- left or right ignition lead
- lower or upper exciter box
- 4000KS

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
R	AMM	73-11-40-000-002	Removal of the Fuel Nozzle
R	AMM	73-11-40-400-002	Installation of the Fuel Nozzle
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)
	AMM	74-00-00-710-040	Operational Test of the Ignition System
	AMM	74-00-00-710-043	Operational Test of the Ignition System
	AMM	74-11-10-000-002	Removal of the Ignition Exciter (4000JH1, 4000JH2)
	AMM	74-11-10-400-002	<pre>Installation of the Ignition Exciter (4000JH1, 4000JH2)</pre>
	AMM	74-21-10-000-002	Removal of the Right Ignition Lead
	AMM	74-21-10-400-002	Installation of the Right Ignition Lead
	AMM	74-21-20-000-002	Removal of the Left Ignition Lead
	AMM	74-21-20-400-002	Installation of the Left Ignition Lead
	AMM	74-21-30-000-002	Removal of the Spark Igniter
		74-21-30-400-002 74-31/01	Installation of the Spark Igniter

3. Fault Confirmation

A. Do an operational test of the ignition system to do an aural check of the igniter plug operation (Ref. AMM TASK 74-00-00-710-040).

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4. Fault Isolation

- A. If the test gives the maintenance message IGN1, ECU and IGN 2, ECU:
 - do an operational test of the ignition system to do an aural check of the igniter plugs operation (Ref. AMM TASK 74-00-00-710-043).
 - (1) If the igniters operate correctly:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the igniters do not operate:
 - do a check for open or short to ground of the J1 wiring between the ECU (4000KS) and the lower exciter box J2 wiring between the ECU (4000KS) and the upper exciter box.
 - (a) If the wirings are not correct:
 - repair the defective above wirings.
 - (3) If the fault continues:
 - replace the defective left or right igniter (Ref. AMM TASK 74-21-30-000-002) and (Ref. AMM TASK 74-21-30-400-002).
 - (4) If the fault continues:
 - replace the defective left or right ignition lead (Ref. AMM TASK 74-21-20-000-002), (Ref. AMM TASK 74-21-20-400-002) or (Ref. AMM TASK 74-21-10-000-002), (Ref. AMM TASK 74-21-10-400-002).
 - (5) If the fault continues:
 - replace the defective lower or upper exciter box (Ref. AMM TASK 74-11-10-000-002) and (Ref. AMM TASK 74-11-10-400-002).
 - (6) If the fault continues:
 - Make sure that there is no ground signal at the EIU-1 (1KS1) pin AA/5B (Ref. ASM 74-31/01).
 - (7) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (8) If the fault continues:
 - replace the 4000KS (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (9) If the fault continues:

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- replace the fuel nozzles in the igniter areas (fuel nozzles 7, 8, 14 and 15) (Ref. AMM TASK 73-11-40-000-002) and (Ref. AMM TASK 73-11-40-400-002).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 74-00-00-810-806

Failure of the Ignition A and B Systems on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- ECU (4000KS)
- J1 wiring
- J2 wiring
- left or right igniter
- left or right ignition lead
- lower or upper exciter box

2. Job Set-up Information

A. Referenced Information

	REFERENCE I		DESIGNATION		
R	AMM	73-11-40-000-002	Removal of the Fuel Nozzle		
R	AMM	73-11-40-400-002	Installation of the Fuel Nozzle		
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)		
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>		
	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)		
	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)		
	AMM	74-00-00-710-040	Operational Test of the Ignition System		
	AMM	74-00-00-710-043	Operational Test of the Ignition System		
	AMM	74-11-10-000-002	Removal of the Ignition Exciter (4000JH1, 4000JH2)		
	AMM	74-11-10-400-002	Installation of the Ignition Exciter (4000JH1, 4000JH2)		
	AMM	74-21-10-000-002	Removal of the Right Ignition Lead		
	AMM	74-21-10-400-002	Installation of the Right Ignition Lead		
	AMM	74-21-20-000-002	Removal of the Left Ignition Lead		
	AMM	74-21-20-400-002	Installation of the Left Ignition Lead		
	AMM	74-21-30-000-002	Removal of the Spark Igniter		
	AMM	74-21-30-400-002	Installation of the Spark Igniter		
	ASM	74-31/01			

3. Fault Confirmation

A. Do an operational test of the ignition system to do an aural check of the igniter plug operation (Ref. AMM TASK 74-00-00-710-040).

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4. Fault Isolation

- A. If the test gives the maintenance messages IGN1, ECU and IGN2, ECU:
 - do an operational test of the ignition system to do an aural check of the igniter plugs operation (Ref. AMM TASK 74-00-00-710-043).
 - (1) If the igniters operate correctly:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the igniters does not operate:
 - do a check for open or short to ground of the J1 wiring between the ECU (4000KS) and the lower exciter box and J2 wiring between the ECU (4000KS) and the upper exciter box.
 - (a) If the wirings are not correct:
 - repair the defective above wirings.
 - (3) If the wirings are correct:
 - replace the defective left or right igniter (Ref. AMM TASK 74-21-30-000-002) and (Ref. AMM TASK 74-21-30-400-002).
 - (4) If the fault continues:
 - replace the defective left or right ignition lead (Ref. AMM TASK 74-21-20-000-002), (Ref. AMM TASK 74-21-20-400-002) or (Ref. AMM TASK 74-21-10-000-002), (Ref. AMM TASK 74-21-10-400-002).
 - (5) If the fault continues:
 - replace the defective lower or upper exciter box (Ref. AMM TASK 74-11-10-000-002) and (Ref. AMM TASK 74-11-10-400-002).
 - (6) If the fault continues:
 - Make sure that there is no ground signal at the EIU-2 (1KS2) pin AA/5B (Ref. ASM 74-31/01).
 - (7) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (8) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (9) If the fault continues:

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- replace the fuel nozzles in the igniter areas (fuel nozzles 7, 8, 14 and 15) (Ref. AMM TASK 73-11-40-000-002) and (Ref. AMM TASK 73-11-40-400-002).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 74-00-00-810-817

No Light Off with Correct Fuel Flow on Engine 1 or 2

- 1. Possible Causes
 - fuel nozzles
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION			
AMM 71-00-00-710-006	Minimum Idle Check			
AMM 73-11-40-000-002	Removal of the Fuel Nozzle			
AMM 73-11-40-400-002	Installation of the Fuel Nozzle			
AMM 74-00-00-710-043	Operational Test of the Ignition System			

- 3. Fault Confirmation
 - A. Test Not applicable, the fault is evident.
- 4. Fault Isolation
 - A. If the fault symptom is identified by the crew observation: No light off with correct fuel flow:
 - (1) Do an operational test of the ignition system (Ref. AMM TASK 74-00-00-710-043).
 - (2) Replace the fuel nozzles in the igniters area (Ref. AMM TASK 73-11-40-000-002) (Ref. AMM TASK 73-11-40-400-002).
 - B. Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).

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TROUBLE SHOOTING MANUAL

TASK 74-00-00-810-820

Uncommanded Continuous Ignition on Engine 1 After Engine Start

1. Possible Causes

- VALVE-ENG AIR INTAKE ANTI ICE (4000DN)
- wiring from the ENG/MODE/CRANK/AUTO IGN/IGN selector switch (6KS) to the EIU-1 (1KS1)
- EIU-1 (1KS1)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	30-21-51-000-041	Removal of the Engine Air Intake Anti-ice Valve (4000DN)
AMM	30-21-51-400-042	Installation of the Engine Air Intake Anti-ice Valve (4000DN)
AMM AMM ASM	73-25-34-000-040 73-25-34-400-040 73-25/08	Removal of the Engine Interface Unit (EIU) Installation of the Engine Interface Unit (EIU)

3. Fault Confirmation

- A. Test
 - (1) Not applicable, the fault is evident.
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-253, 276-299, 426-450, 476-499, 503-549, R 551-599, 701-749,
 - A. If the fault symptom is identified by the crew observation ENG 1 -Uncommanded continuous IGNITION after engine start:
 - do a check of the wiring from the ENG/MODE/CRANK/AUTO IGN/IGN selector switch (6KS) to the EIU-1 (1KS1)
 - pin 3 to pin AA/1A
 - pin 4 to pin AA/1B (Ref. ASM 73-25/08).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - remove and replace the VALVE-ENG AIR INTAKE ANTI ICE (4000DN) (Ref. AMM TASK 30-21-51-000-041) and (Ref. AMM TASK 30-21-51-400-042).

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R **ON A/C 201-201, 203-225, 227-227, 229-244, 247-299, 426-499, 551-551, 554-554, 557-563, 701-749, Post SB 73-1080 For A/C 201-201,203-225,227-227,229-244,247-253,276-299, 426-450,476-499,551-551,554-554,557-563,701-749,

- A. If the fault symptom is identified by the crew observation ENG 1 -Uncommanded continuous IGNITION after engine start:
 - do a check of the wiring from the ENG/MODE/CRANK/AUTO IGN/IGN selector switch (6KS) to the EIU-1 (1KS1)
 - . pin 3 to pin AA/1A
 - pin 4 to pin AA/1B (Ref. ASM 73-25/08).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

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B. After the subsequent flight, make sure that the fault does not continue.

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TROUBLE SHOOTING MANUAL

TASK 74-00-00-810-821

Uncommanded Continuous Ignition on Engine 2 After Engine Start

1. Possible Causes

- VALVE-ENG AIR INTAKE ANTI ICE (4000DN)
- wiring from the ENG/MODE/CRANK/AUTO IGN/IGN selector switch (6KS) to the EIU-2 (1KS2)
- EIU-2 (1KS2)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
A MM	70 24 54 000 074	Barrows of the Farine Air Tataly Acti in Value
AMM	30-21-51-000-041	Removal of the Engine Air Intake Anti-ice Valve (4000DN)
AMM	30-21-51-400-042	<pre>Installation of the Engine Air Intake Anti-ice Valve (4000DN)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)
AMM ASM	73-25-34-400-040 73-25/08	Installation of the Engine Interface Unit (EIU)

3. Fault Confirmation

- A. Test
 - (1) Not applicable, the fault is evident.
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-253, 276-299, 426-450, 476-499, 503-549, R 551-599, 701-749,
 - A. If the fault symptom is identified by the crew observation ENG 2 -Uncommanded continuous IGNITION after engine start:
 - do a check of the wiring from the ENG/MODE/CRANK/AUTO IGN/IGN selector switch (6KS) to the EIU-2 (1KS2)
 - pin 3 to pin AA/1A
 - pin 4 to pin AA/1B (Ref. ASM 73-25/08).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - remove and replace the VALVE-ENG AIR INTAKE ANTI ICE (4000DN) (Ref. AMM TASK 30-21-51-000-041) and (Ref. AMM TASK 30-21-51-400-042).

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R **ON A/C 201-201, 203-225, 227-227, 229-244, 247-299, 426-499, 551-551, R 554-554, 557-563, 701-749, R Post SB 73-1080 For A/C 201-201,203-225,227-227,229-244,247-253,276-299, R 426-450,476-499,551-551,554-554,557-563,701-749,

- A. If the fault symptom is identified by the crew observation ENG 2 Uncommanded continuous IGNITION after engine start:
 - do a check of the wiring from the ENG/MODE/CRANK/AUTO IGN/IGN selector switch (6KS) to the EIU-2 (1KS2)
 - . pin 3 to pin AA/1A
 - pin 4 to pin AA/1B (Ref. ASM 73-25/08).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

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B. After the subsequent flight, make sure that the fault does not continue.

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