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 PAGES	REASON FOR CHANGE	EFFECTIVITY
CHAPTER 76		
L.E.P. 1- 1	REVISED TO REFLECT THIS REVISION INDICATING NEW,REVISED, AND/OR DELETED PAGES	
T. OF C. 1	REVISED TO REFLECT THIS REVISION	
76-11-00	EFFECTIVITY UPDATED	
225- 226, 229	EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-253, 276-281, 426-432, 476-480, 503-549, 551-564, 701-749,

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CHAPTER 76

ENGINE CONTROLS

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

CHAPTER 76

ENGINE CONTROLS

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CHAPTER 76

ENGINE CONTROLS

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	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES				FAULT ISOLATION PROCEDURE
		SOURCE	MESSAGE	ATA	C	
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TASK 76-11-00-810-803

Loss of the TLA Resolver Signal through the two Channels on Engine 1

1. Possible Causes

- ECU (4000KS)
- CTL UNIT-THROTTLE, ENG1 (8KS1)
- A/C electrical wiring
- J3 harness
- J4 harness

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 71-51-43-000-046	Removal of the ECU (Channel A) Harness (4211KS)
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)
AMM 71-51-43-400-047	Installation of the ECU (Channel B) Harness (4212KS)
AMM 73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
AMM 76-11-19-000-042	Removal of the Throttle Control Unit (8KS1, 8KS2)
AMM 76-11-19-400-042	Installation of the Throttle Control Unit (8KS1, 8KS2)
ASM 73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 1A and 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure.

NOTE : The fault is triggered by the ECU if both TLA resolver input signals on channel A and B are invalid or out of range. Most probable cause is an electrical wiring failure or an ECU internal failure.

R (1) If the test does not give the maintenance messages TLA SNSR, J3, ECU and/or TLA SNSR, J4, ECU:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

(a) If the fault repeats on subsequent flights:
- replace the CTL UNIT-THROTTLE, ENG1 (8KS1) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

1 If the fault repeats on subsequent flights:
- Do a check of the electrical wiring between the throttle control unit (8KS1) and the ECU (4000KS) (Ref. ASM 73-25/12).

a if damage is found:
- replace or repair the above harness.

b if nothing is found:
- continue the troubleshooting as follows.

2 Do a continuity and insulation check of this wiring.

a if damage is found:
- replace or repair the above harness.

b if nothing is found:
- continue the troubleshooting as follows.

3 Do a pin retention check on connectors sockets.

a if damage is found:
- replace or repair the above harness.

b if nothing is found:
- continue the troubleshooting as follows.

4 Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connectors.

a If damage is found:
- repair the A/C electrical wiring or replace the J3 harness (Ref. AMM TASK 71-51-43-000-046) and (Ref. AMM TASK 71-51-43-400-046) as required.

R (2) If the test gives the maintenance messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU (confirmed on two channels):
- Do the two following steps (3) and (4).

(3) If the test gives the maintenance message TLA SNSR, J3, ECU (confirmed on channel A):
- Disconnect the J3 harness from the ECU (4000KS) receptacle and visually examine the ECU receptacle and the J3 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).

(a) If damage on a connector is found:
- replace or repair as required.

(b) If nothing is found:
- do an electrical resistance test through the J3 harness between:
  . pins 17 and 30 (30 to 40 ohms)
  . pins 5 and 15 (15 to 25 ohms)
  . pins 29 and 28 (15 to 25 ohms)
  . pins 17 and 16 (> 10 megohms)
  . pins 5 and 16 (> 10 megohms)
  . pins 29 and 16 (> 10 megohms)
  . pin 17 and the ground (> 10 megohms)
  . pin 5 and the ground (> 10 megohms)
  . pin 29 and the ground (> 10 megohms).

1 If the resistance values are in the specified limits:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
R - disconnect the connector CC at the throttle control unit
R (8KS1) and do the resistance check at the throttle control unit connector between:
  . pins A, B (30 to 40 ohms)
  . pins C, D (15 to 25 ohms)
  . pins E, F (15 to 25 ohms)
  .pin A and the ground (> 10 megohms)
  .pin B and the ground (> 10 megohms)
  .pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG1 (8KS1) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

b If the resistance values are in the specified limits:
- continue the troubleshooting as follows:

(c) Do a check of the electrical wiring between the throttle control unit (8KS1) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting as follows.

R (d) Do a continuity and insulation check of this wiring.

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting as follows.

R (e) Do a pin retention check on connectors sockets.

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting as follows.

R (f) Do a check for absence of corrosion or contamination. Pay
R particular attention to engine to pylon connector.

R 1 If damage is found:
R - repair the A/C electrical wiring or replace the J3 harness
R (Ref. AMM TASK 71-51-43-000-046) and (Ref. AMM TASK 71-51-43-400-046).

R (4) If the test gives the maintenance message TLA SNSR, J4, ECU
R (confirmed on channel B):
R - Disconnect the J4 harness from the ECU (4000KS) receptacle and
R visually examine the ECU receptacle and the J4 harness connector
R for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).

R (a) If damage on a connector is found:
R - replace or repair as required.

R (b) If nothing is found:
R - do an electrical resistance test through the J4 harness
R between:
R . pins 17 and 30 (30 to 40 ohms)
R . pins 5 and 15 (15 to 25 ohms)
R . pins 29 and 28 (15 to 25 ohms)
R . pins 17 and 16 (> 10 megohms)
R . pins 5 and 16 (> 10 megohms)
R . pins 29 and 16 (> 10 megohms)
R . pin 17 and the ground (> 10 megohms)
R . pin 5 and the ground (> 10 megohms)
R . pin 29 and the ground (> 10 megohms).

R 1 If the resistance values are in the specified limits:
R - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
R and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
R - disconnect the connector DD at the throttle control unit
R (8KS1) and do the resistance check at the throttle control unit connector between:
. pins A, B (30 to 40 ohms)
. pins C, D (15 to 25 ohms)
. pins E, F (15 to 25 ohms)
.pin A and the ground (> 10 megohms)
.pin B and the ground (> 10 megohms)
.pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG1 (8KS1) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

b If the resistance values are in the specified limits:
- continue the troubleshooting as follows.

(c) Do a check of the electrical wiring between the throttle control unit (8KS1) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting as follows.

(d) Do a continuity and insulation check of this wiring

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting as follows.

(e) Do a pin retention check on connectors sockets.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting as follows.

(f) Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connector.

1 If damage is found:
- repair the A/C electrical wiring or replace the J4 harness (Ref. AMM TASK 71-51-43-000-047) and (Ref. AMM TASK 71-51-43-400-047) as required

R B. Do the test given in Para. 3.A.

R (1) No additionnal maintenance action is required if the fault is not
R confirmed.

R (2) Repeat the fault isolation procedure if the fault continues.
R

TASK 76-11-00-810-804

Loss of the TLA Resolver Signal through the two Channels on Engine 2

1. Possible Causes

- ECU (4000KS)

R

- CTL UNIT-THROTTLE, ENG2 (8KS2)
R - A/C electrical wiring
R - J3 harness
R - J4 harness

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	71-51-43-000-046	Removal of the ECU (Channel A) Harness (4211KS)
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)
AMM	71-51-43-400-047	Installation of the ECU (Channel B) Harness (4212KS)
R AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
AMM	76-11-19-000-042	Removal of the Throttle Control Unit (8KS1, 8KS2)
AMM	76-11-19-400-042	Installation of the Throttle Control Unit (8KS1, 8KS2)
ASM	73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A and 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R A. Do this procedure.

R NOTE : The fault is triggered by the ECU if both TLA resolver input
R signals on channel A and B are invalid or out of range. Most
R probable cause is an electrical wiring failure or an ECU internal
R failure.

R (1) If the test does not give the maintenance messages TLA SNSR, J3, ECU and/or TLA SNSR, J4, ECU:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

(a) If the fault repeats on subsequent flights:
- replace the CTL UNIT-THROTTLE, ENG2 (8KS2) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

1 If the fault repeats on subsequent flights:
- Do a check of the electrical wiring between the throttle control unit (8KS2) and the ECU (4000KS) (Ref. ASM 73-25/12).

a if damage is found:
- replace or repair the above harness.

b if nothing is found:
- continue the troubleshooting as follows.

2 Do a continuity and insulation check of this wiring.

a if damage is found:
- replace or repair the above harness.

b if nothing is found:
- continue the troubleshooting as follows.

3 Do a pin retention check on connectors sockets.

a if damage is found:
- replace or repair the above harness.

b if nothing is found:
- continue the troubleshooting as follows.

4 Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connectors.

a If damage is found:
- repair the A/C electrical wiring or replace the J3 harness (Ref. AMM TASK 71-51-43-000-046) and (Ref. AMM TASK 71-51-43-400-046) as required.

R (2) If the test gives the maintenance messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU (confirmed on two channels):
- Do the two following steps (3) and (4).

(3) If the test gives the maintenance message TLA SNSR, J3, ECU (confirmed on channel A):
- Disconnect the J3 harness from the ECU (4000KS) receptacle and visually examine the ECU receptacle and the J3 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).

(a) If damage on a connector is found:
- replace or repair as required.

(b) If nothing is found:
- do an electrical resistance test through the J3 harness between:
  . pins 17 and 30 (30 to 40 ohms)
  . pins 5 and 15 (15 to 25 ohms)
  . pins 29 and 28 (15 to 25 ohms)
  . pins 17 and 16 (> 10 megohms)
  . pins 5 and 16 (> 10 megohms)
  . pins 29 and 16 (> 10 megohms)
  . pin 17 and the ground (> 10 megohms)
  . pin 5 and the ground (> 10 megohms)
  . pin 29 and the ground (> 10 megohms).

1 If the resistance values are in the specified limits:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
R - disconnect the connector CC at the throttle control unit
R (8KS2) and do the resistance check at the throttle control unit connector between:
  . pins A, B (30 to 40 ohms)
  . pins C, D (15 to 25 ohms)
  . pins E, F (15 to 25 ohms)
  .pin A and the ground (> 10 megohms)
  .pin B and the ground (> 10 megohms)
  .pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG2 (8KS2) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

b If the resistance values are in the specified limits:
- continue the troubleshooting as follows:

(c) Do a check of the electrical wiring between the throttle control unit (8KS2) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting as follows.

R (d) Do a continuity and insulation check of this wiring.

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting as follows.

R (e) Do a pin retention check on connectors sockets.

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting as follows.

R (f) Do a check for absence of corrosion or contamination. Pay
R particular attention to engine to pylon connector.

R 1 If damage is found:
R - repair the A/C electrical wiring or replace the J3 harness
R (Ref. AMM TASK 71-51-43-000-046) and (Ref. AMM TASK 71-51-43-400-046).

R (4) If the test gives the maintenance message TLA SNSR, J4, ECU
R (confirmed on channel B):
R - Disconnect the J4 harness from the ECU (4000KS) receptacle and
R visually examine the ECU receptacle and the J4 harness connector
R for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).

R (a) If damage on a connector is found:
R - replace or repair as required.

R (b) If nothing is found:
R - do an electrical resistance test through the J4 harness
R between:
R . pins 17 and 30 (30 to 40 ohms)
R . pins 5 and 15 (15 to 25 ohms)
R . pins 29 and 28 (15 to 25 ohms)
R . pins 17 and 16 (> 10 megohms)
R . pins 5 and 16 (> 10 megohms)
R . pins 29 and 16 (> 10 megohms)
R . pin 17 and the ground (> 10 megohms)
R . pin 5 and the ground (> 10 megohms)
R . pin 29 and the ground (> 10 megohms).

R 1 If the resistance values are in the specified limits:
R - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
R and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
R - disconnect the connector DD at the throttle control unit
R (8KS2) and do the resistance check at the throttle control unit connector between:
. pins A, B (30 to 40 ohms)
. pins C, D (15 to 25 ohms)
. pins E, F (15 to 25 ohms)
.pin A and the ground (> 10 megohms)
.pin B and the ground (> 10 megohms)
.pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG2 (8KS2) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

b If the resistance values are in the specified limits:
- continue the troubleshooting as follows.

(c) Do a check of the electrical wiring between the throttle control unit (8KS2) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting as follows.

(d) Do a continuity and insulation check of this wiring

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting as follows.

(e) Do a pin retention check on connectors sockets.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting as follows.

(f) Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connector.

1 If damage is found:
- repair the A/C electrical wiring or replace the J4 harness (Ref. AMM TASK 71-51-43-000-047) and (Ref. AMM TASK 71-51-43-400-047) as required

R B. Do the test given in Para. 3.A.

R (1) No additionnal maintenance action is required if the fault is not
R confirmed.

R (2) Repeat the fault isolation procedure if the fault continues.
R

TASK 76-11-00-810-805

Loss of the TLA Resolver Signal through the Channel A on Engine 1

1. Possible Causes

R - A/C electrical wiring
R
- CTL UNIT-THROTTLE, ENG1 (8KS1)
R - ECU (4000KS)
R - harness J3

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	71-51-43-000-046	Removal of the ECU (Channel A) Harness (4211KS)
AMM	71-51-43-400-046	Installation of the ECU (Channel A) Harness (4211KS)
R AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
AMM	76-11-19-000-042	Removal of the Throttle Control Unit (8KS1, 8KS2)
AMM	76-11-19-400-042	Installation of the Throttle Control Unit (8KS1, 8KS2)
ASM	73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R A. Do this procedure.
R

R NOTE : The fault is triggered by the ECU if the CHANNEL A TLA resolver
R input signal is invalid or out of range.

R (1) If the test does not give the maintenance message TLA SNSR, J3, ECU:

R (a) Do a check of the electrical wiring between the throttle control unit (8KS1) and the ECU (4000KS) (Ref. ASM 73-25/12).

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (b) Do a continuity and insulation check of this wiring

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (c) Do a pin retention check on connectors sockets.

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (d) Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connector.

R 1 If damage is found:
R - repair the A/C electrical wiring or replace the J3 harness as required

R 2 If nothing is found:
R - replace the CTL UNIT-THROTTLE, ENG1 (8KS1) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

R a if the fault repeats on subsequent flights:
R - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

R (2) If the test gives the maintenance message TLA SNSR, J3, ECU:
R - Disconnect the J3 harness from the ECU (4000KS) receptacle and visually examine the ECU receptacle and the J3 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).

R (a) If damage on a connector is found:
R - replace or repair as required.

(b) If nothing is found:
- do an electrical resistance test through the J3 harness between:
  . pins 17 and 30 (30 to 40 ohms)
  . pins 5 and 15 (15 to 25 ohms)
  . pins 29 and 28 (15 to 25 ohms)
  . pins 17 and 16 (> 10 megohms)
  . pins 5 and 16 (> 10 megohms)
  . pins 29 and 16 (> 10 megohms)
  . pin 17 and the ground (> 10 megohms)
  . pin 5 and the ground (> 10 megohms)
  . pin 29 and the ground (> 10 megohms).

1 If the resistance values are in the specified limits:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
R - disconnect the connector CC at the throttle control unit
R (8KS1) and do the resistance check at the throttle control unit connector between:
  . pins A, B (30 to 40 ohms)
  . pins C, D (15 to 25 ohms)
  . pins E, F (15 to 25 ohms)
  .pin A and the ground (> 10 megohms)
  .pin B and the ground (> 10 megohms)
  .pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG1 (8KS1) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

b If the resistance values are in the specified limits:
- replace the harness J3 (Ref. AMM TASK 71-51-43-000-046) and (Ref. AMM TASK 71-51-43-400-046).

B. Do the test given in Para. 3.A.

(1) No additionnal maintenance action is required if the fault is not confirmed.

(2) Repeat the fault isolation procedure if the fault continues.

TASK 76-11-00-810-806

Loss of the TLA Resolver Signal through the Channel A on Engine 2

1. Possible Causes

- A/C electrical wiring
- CTL UNIT-THROTTLE, ENG2 (8KS2)
- ECU (4000KS)
- harness J3

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 71-51-43-000-046	Removal of the ECU (Channel A) Harness (4211KS)
AMM 71-51-43-400-046	Installation of the ECU (Channel A) Harness (4211KS)
AMM 73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
AMM 76-11-19-000-042	Removal of the Throttle Control Unit (8KS1, 8KS2)
AMM 76-11-19-400-042	Installation of the Throttle Control Unit (8KS1, 8KS2)
ASM 73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure.

NOTE : The fault is triggered by the ECU if the CHANNEL A TLA resolver input signal is invalid or out of range.

(1) If the test does not give the maintenance message TLA SNSR, J3, ECU:

(a) Do a check of the electrical wiring between the throttle control unit (8KS2) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (b) Do a continuity and insulation check of this wiring

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (c) Do a pin retention check on connectors sockets.

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (d) Do a check for absence of corrosion or contamination. Pay
R particular attention to engine to pylon connector.

R 1 If damage is found:
R - repair the A/C electrical wiring or replace the J3 harness
R as required

R 2 If nothing is found:
R - replace the CTL UNIT-THROTTLE, ENG2 (8KS2) (Ref. AMM TASK
R 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

R a if the fault repeats on subsequent flights:
R - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
R and (Ref. AMM TASK 73-21-60-400-001).

R (2) If the test gives the maintenance message TLA SNSR, J3, ECU:
R - Disconnect the J3 harness from the ECU (4000KS) receptacle and
R visually examine the ECU receptacle and the J3 harness connector
R for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).

R (a) If damage on a connector is found:
R - replace or repair as required.

R (b) If nothing is found:
R - do an electrical resistance test through the J3 harness
R between:
R . pins 17 and 30 (30 to 40 ohms)
R . pins 5 and 15 (15 to 25 ohms)
R . pins 29 and 28 (15 to 25 ohms)
R . pins 17 and 16 (> 10 megohms)
R . pins 5 and 16 (> 10 megohms)
R . pins 29 and 16 (> 10 megohms)
R . pin 17 and the ground (> 10 megohms)

. pin 5 and the ground (> 10 megohms)
. pin 29 and the ground (> 10 megohms).

1 If the resistance values are in the specified limits:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
R - disconnect the connector CC at the throttle control unit
R (8KS2) and do the resistance check at the throttle control unit connector between:
. pins A, B (30 to 40 ohms)
. pins C, D (15 to 25 ohms)
. pins E, F (15 to 25 ohms)
.pin A and the ground (> 10 megohms)
.pin B and the ground (> 10 megohms)
.pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG2 (8KS2) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

b If the resistance values are in the specified limits:
- replace the harness J3 (Ref. AMM TASK 71-51-43-000-046) and (Ref. AMM TASK 71-51-43-400-046).

B. Do the test given in Para. 3.A.

(1) No additionnal maintenance action is required if the fault is not confirmed.

(2) Repeat the fault isolation procedure if the fault continues.

TASK 76-11-00-810-807

Loss of the TLA Resolver Signal through the Channel B on Engine 1

1. Possible Causes

R - A/C electrical wiring
R
- CTL UNIT-THROTTLE, ENG1 (8KS1)
R - ECU (4000KS)
R - harness J4

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	71-51-43-000-047	Removal of the ECU (Channel B) Harness (4212KS)
AMM	71-51-43-400-047	Installation of the ECU (Channel B) Harness (4212KS)
R AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
AMM	76-11-19-000-042	Removal of the Throttle Control Unit (8KS1, 8KS2)
AMM	76-11-19-400-042	Installation of the Throttle Control Unit (8KS1, 8KS2)
ASM	73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R A. Do this procedure.

R NOTE : The fault is triggered by the ECU if the CHANNEL B TLA resolver
R input signal is invalid or out of range.

R (1) If the test does not give the maintenance message TLA SNSR, J4, ECU:

R (a) Do a check of the electrical wiring between the throttle control
R unit (8KS1) and the ECU (4000KS) (Ref. ASM 73-25/12).

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (b) Do a continuity and insulation check of this wiring

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (c) Do a pin retention check on connectors sockets.

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (d) Do a check for absence of corrosion or contamination. Pay
R particular attention to engine to pylon connector.

R 1 If damage is found:
R - repair the A/C electrical wiring or replace the J4 harness
R as required

R 2 If nothing is found:
R - replace the CTL UNIT-THROTTLE, ENG1 (8KS1) (Ref. AMM TASK
R 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

R a if the fault repeats on subsequent flights:
R - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
R and (Ref. AMM TASK 73-21-60-400-001).

R (2) If the test gives the maintenance message TLA SNSR, J4, ECU:
R - Disconnect the J4 harness from the ECU (4000KS) receptacle and
R visually examine the ECU receptacle and the J4 harness connector
R for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).

R (a) If damage on a connector is found:
R - replace or repair as required.

R (b) If nothing is found:
R - do an electrical resistance test through the J4 harness
R between:
R . pins 17 and 30 (30 to 40 ohms)
R . pins 5 and 15 (15 to 25 ohms)
R . pins 29 and 28 (15 to 25 ohms)
R . pins 17 and 16 (> 10 megohms)
R . pins 5 and 16 (> 10 megohms)
R . pins 29 and 16 (> 10 megohms)
R . pin 17 and the ground (> 10 megohms)

. pin 5 and the ground (> 10 megohms)
. pin 29 and the ground (> 10 megohms).

1 If the resistance values are in the specified limits:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
R - disconnect the connector DD at the throttle control unit
R (8KS1) and do the resistance check at the throttle control unit connector between:
. pins A, B (30 to 40 ohms)
. pins C, D (15 to 25 ohms)
. pins E, F (15 to 25 ohms)
.pin A and the ground (> 10 megohms)
.pin B and the ground (> 10 megohms)
.pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG1 (8KS1) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

b If the resistance values are in the specified limits:
- replace the harness J4 (Ref. AMM TASK 71-51-43-000-047) and (Ref. AMM TASK 71-51-43-400-047).

B. Do the test given in Para. 3.A.

(1) No additionnal maintenance action is required if the fault is not confirmed.

(2) Repeat the fault isolation procedure if the fault continues.

TASK 76-11-00-810-808

Loss of the TLA Resolver Signal through the Channel B on Engine 2

1. Possible Causes

- A/C electrical wiring
- CTL UNIT-THROTTLE, ENG2 (8KS2)
- ECU (4000KS)
- harness J4

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 71-51-43-000-047	Removal of the ECU (Channel B) Harness (4212KS)
AMM 71-51-43-400-047	Installation of the ECU (Channel B) Harness (4212KS)
AMM 73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
AMM 76-11-19-000-042	Removal of the Throttle Control Unit (8KS1, 8KS2)
AMM 76-11-19-400-042	Installation of the Throttle Control Unit (8KS1, 8KS2)
ASM 73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure.

NOTE : The fault is triggered by the ECU if the CHANNEL B TLA resolver input signal is invalid or out of range.

(1) If the test does not give the maintenance message TLA SNSR, J4, ECU:

(a) Do a check of the electrical wiring between the throttle control unit (8KS2) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (b) Do a continuity and insulation check of this wiring

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (c) Do a pin retention check on connectors sockets.

R 1 if damage is found:
R - replace or repair the above harness.

R 2 if nothing is found:
R - continue the troubleshooting.

R (d) Do a check for absence of corrosion or contamination. Pay
R particular attention to engine to pylon connector.

R 1 If damage is found:
R - repair the A/C electrical wiring or replace the J4 harness
R as required

R 2 If nothing is found:
R - replace the CTL UNIT-THROTTLE, ENG2 (8KS2) (Ref. AMM TASK
R 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

R a if the fault repeats on subsequent flights:
R - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
R and (Ref. AMM TASK 73-21-60-400-001).

R (2) If the test gives the maintenance message TLA SNSR, J4, ECU:
R - Disconnect the J4 harness from the ECU (4000KS) receptacle and
R visually examine the ECU receptacle and the J4 harness connector
R for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).

R (a) If damage on a connector is found:
R - replace or repair as required.

R (b) If nothing is found:
R - do an electrical resistance test through the J4 harness
R between:
R . pins 17 and 30 (30 to 40 ohms)
R . pins 5 and 15 (15 to 25 ohms)
R . pins 29 and 28 (15 to 25 ohms)
R . pins 17 and 16 (> 10 megohms)
R . pins 5 and 16 (> 10 megohms)
R . pins 29 and 16 (> 10 megohms)
R . pin 17 and the ground (> 10 megohms)

. pin 5 and the ground (> 10 megohms)
. pin 29 and the ground (> 10 megohms).

1 If the resistance values are in the specified limits:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
R - disconnect the connector DD at the throttle control unit
R (8KS2) and do the resistance check at the throttle control unit connector between:
. pins A, B (30 to 40 ohms)
. pins C, D (15 to 25 ohms)
. pins E, F (15 to 25 ohms)
.pin A and the ground (> 10 megohms)
.pin B and the ground (> 10 megohms)
.pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG2 (8KS2) (Ref. AMM TASK 76-11-19-000-042) and (Ref. AMM TASK 76-11-19-400-042).

b If the resistance values are in the specified limits:
- replace the harness J4 (Ref. AMM TASK 71-51-43-000-047) and (Ref. AMM TASK 71-51-43-400-047).

B. Do the test given in Para. 3.A.

(1) No additionnal maintenance action is required if the fault is not confirmed.

(2) Repeat the fault isolation procedure if the fault continues.

R **ON A/C 201-205, 227-227, 229-237, 276-281, 476-478,

TASK 76-11-00-810-809

Misalignment between the Two Throttle Control Levers at Idle Stop Position

1. Possible Causes

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 76-11-41-000-042	Removal of the Throttle Control Lever Assembly
AMM 76-11-41-400-042	Installation of the Throttle Control Lever Assembly

3. Fault Confirmation

A. Test
Not applicable.

4. Fault Isolation

A. If the fault symptom is identified by the crew observation
ENG-Misalignment between the two throttle control levers at idle stop position (clearance 2 to 3 degrees):
- inspect and replace, as necessary, the bearing (IDLE stop) (Ref. AMM TASK 76-11-41-000-042) and (Ref. AMM TASK 76-11-41-400-042).

**ON A/C ALL

TASK 76-11-00-810-811

Internal Failure of the ECU on Engine 1

1. Possible Causes

- ECU (4000KS)
- DMU (1TV)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 31-36-34-000-001	Removal of the Data Management Unit (DMU) (1TV)
AMM 31-36-34-400-001	Installation of the Data Management Unit (DMU) (1TV)
AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-740-007	Correct Time Limited Faults (Non Asterisked) of the Engine Scheduled Maintenance Report
AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM 73-25/10	

3. Fault Confirmation

A. Do the operational test of the FADEC 1A and 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-253, 276-281, 426-432, 476-480, 503-549,
R 551-564, 701-749,

A. If the ECAM Warning "THR LEVER FAULT" is not associated with failure messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU this is most likely indicating an internal failure of the ECU. In such a case this ECAM Warning is usually displayed with other engine related ECAM Warnings. This can be checked in the Post Flight Report (PFR) (Ref. AMM TASK 73-21-60-740-007).

(1) If the test does not give the failure messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

(a) If the fault repeats and is accompagned by failure message NO ECU 1(2) ADATA:
- replace the DMU (1TV) (Ref. AMM TASK 31-36-34-000-001) and (Ref. AMM TASK 31-36-34-400-001).

1 If the fault continues:
- Do a continuity and insulation check of the wiring between the ECU (ARINC OUTPUT) connector J3 (pins 11 and 24) / connector J4 (pins 11 and 24) and FWC 1 and 2 (Ref. ASM 73-25/10).

a if damage is found:
- replace or repair wiring as required.

b if nothing is found:
- repeat the fault isolation procedure.

(2) If the test gives the failure messages TLA SNSR, J3, ECU and/or TLA SNSR, J4, ECU:
- Do the related troubleshooting procedure.

**ON A/C 254-275, 282-299, 433-475, 481-499, 565-599,

A. If the ECAM Warning "THR LEVER FAULT" is not associated with failure messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU this is most likely indicating an internal failure of the ECU. In such a case this ECAM Warning is usually displayed with other engine related ECAM Warnings. This can be checked in the Post Flight Report (PFR) (Ref. AMM TASK 73-21-60-740-007).

(1) If the test does not give the failure messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

(a) If the fault repeats and is accompagned by failure message NO ECU 1(2) ADATA:
- replace the DMU (1TV) (Ref. AMM TASK 31-36-34-000-001) and (Ref. AMM TASK 31-36-34-400-001).

1 If the fault continues:
- Do a continuity and insulation check of the wiring between the ECU (ARINC OUTPUT) connector J3 (pins 11 and 24) / connector J4 (pins 11 and 24) and FWC 1 and 2 (Ref. ASM 73-25/10).

a if damage is found:
- replace or repair wiring as required.

b if nothing is found:
- repeat the fault isolation procedure.

(2) If the test gives the failure messages TLA SNSR, J3, ECU and/or TLA SNSR, J4, ECU:
- Do the related troubleshooting procedure.

**ON A/C ALL

B. Do the test given in Para. 3.A.

(1) No additionnal maintenance action is required if the fault is not confirmed.

(2) Repeat the fault isolation procedure if the fault continues.

TASK 76-11-00-810-812

Internal Failure of the ECU on Engine 2

1. Possible Causes

- ECU (4000KS)
- DMU (1TV)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 31-36-34-000-001	Removal of the Data Management Unit (DMU) (1TV)
AMM 31-36-34-400-001	Installation of the Data Management Unit (DMU) (1TV)
AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-740-007	Correct Time Limited Faults (Non Asterisked) of the Engine Scheduled Maintenance Report
AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM 73-25/10	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A and 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-253, 276-281, 426-432, 476-480, 503-549,
R 551-564, 701-749,

A. If the ECAM Warning "THR LEVER FAULT" is not associated with failure messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU this is most likely indicating an internal failure of the ECU. In such a case this ECAM Warning is usually displayed with other engine related ECAM Warnings. This can be checked in the Post Flight Report (PFR) (Ref. AMM TASK 73-21-60-740-007).

(1) If the test does not give the failure messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

(a) If the fault repeats and is accompagned by failure message NO ECU 1(2) ADATA:
- replace the DMU (1TV) (Ref. AMM TASK 31-36-34-000-001) and (Ref. AMM TASK 31-36-34-400-001).

1 If the fault continues:
- Do a continuity and insulation check of the wiring between the ECU (ARINC OUTPUT) connector J3 (pins 11 and 24) / connector J4 (pins 11 and 24) and FWC 1 and 2 (Ref. ASM 73-25/10).

a if damage is found:
- replace or repair wiring as required.

b if nothing is found:
- repeat the fault isolation procedure.

(2) If the test gives the failure messages TLA SNSR, J3, ECU and/or TLA SNSR, J4, ECU:
- Do the related troubleshooting procedure.

**ON A/C 254-275, 282-299, 433-475, 481-499, 565-599,

A. If the ECAM Warning "THR LEVER FAULT" is not associated with failure messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU this is most likely indicating an internal failure of the ECU. In such a case this ECAM Warning is usually displayed with other engine related ECAM Warnings. This can be checked in the Post Flight Report (PFR) (Ref. AMM TASK 73-21-60-740-007).

(1) If the test does not give the failure messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

(a) If the fault repeats and is accompagned by failure message NO ECU 1(2) ADATA:
- replace the DMU (1TV) (Ref. AMM TASK 31-36-34-000-001) and (Ref. AMM TASK 31-36-34-400-001).

1 If the fault continues:
- Do a continuity and insulation check of the wiring between the ECU (ARINC OUTPUT) connector J3 (pins 11 and 24) / connector J4 (pins 11 and 24) and FWC 1 and 2 (Ref. ASM 73-25/10).

a if damage is found:
- replace or repair wiring as required.

b if nothing is found:
- repeat the fault isolation procedure.

(2) If the test gives the failure messages TLA SNSR, J3, ECU and/or TLA SNSR, J4, ECU:
- Do the related troubleshooting procedure.

**ON A/C ALL

B. Do the test given in Para. 3.A.

(1) No additionnal maintenance action is required if the fault is not confirmed.

(2) Repeat the fault isolation procedure if the fault continues.

TASK 76-11-00-810-813

Disagree between the two TLA Resolver Signals on Engine 1

1. Possible Causes

- A/C electrical wiring
- J3 harness
- J4 harness
- CTL UNIT-THROTTLE, ENG1 (8KS1)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

	REFERENCE	DESIGNATION
R	AMM 71-51-44-000-004	Removal of the Electronic Control Unit (ECU) Channel A Harness 238W0904
R	AMM 71-51-44-000-005	Removal of the Electronic Control Unit (ECU) Channel B Harness 238W0904
R	AMM 71-51-44-400-004	Installation of the Electronic Control Unit (ECU) Channel A Harness 238W0904
R	AMM 71-51-44-400-005	Installation of the Electronic Control Unit (ECU) Channel B Harness 238W0904
	AMM 73-21-50-210-001	Visual Inspection of the Wiring Harness
	AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
	AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM 76-11-19-000-040	Removal of the Throttle Control Unit (8KS1, 8KS2)
	AMM 76-11-19-400-040	Installation of the Throttle Control Unit (8KS1, 8KS2)
	ASM 73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 1A and 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure.

NOTE : The fault is triggered by the ECU if both TLA resolver input signals on channel A and B disagree. Most probable cause is an electrical wiring failure.

(1) If the test does not give the maintenance messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU:

(a) Do a check of the electrical wiring between the throttle control unit (8KS1) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(b) Do a continuity and insulation check of this wiring.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(c) Do a pin retention check on connectors sockets.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(d) Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connectors.

1 If damage is found:
- repair the A/C electrical wiring or replace the J3 harness (Ref. AMM TASK 71-51-44-000-004) and (Ref. AMM TASK 71-51-44-400-004) or J4 harness (Ref. AMM TASK 71-51-44-000-005) and (Ref. AMM TASK 71-51-44-400-005) as required.

2 If nothing is found:
- replace the CTL UNIT-THROTTLE, ENG1 (8KS1) (Ref. AMM TASK 76-11-19-000-040) and (Ref. AMM TASK 76-11-19-400-040).

a if the fault repeats on subsequent flights:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

(2) If the test gives the maintenance messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU (confirmed on two channels):
- Do the two following steps (3) and (4).

R (3) If the test gives the maintenance message TLA SNSR, J3, ECU (confirmed on channel A):
- Disconnect the J3 harness from the ECU (4000KS) receptacle and visually examine the ECU receptacle and the J3 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001).

(a) If damage on a connector is found:
- replace or repair as required.

(b) If nothing is found:
- do an electrical resistance test through the J3 harness between:
  . pins 17 and 30 (30 to 40 ohms)
  . pins 5 and 15 (15 to 25 ohms)
  . pins 29 and 28 (15 to 25 ohms)
  . pins 17 and 16 (> 10 megohms)
  . pins 5 and 16 (> 10 megohms)
  . pins 29 and 16 (> 10 megohms)
  . pin 17 and the ground (> 10 megohms)
  . pin 5 and the ground (> 10 megohms)
  . pin 29 and the ground (> 10 megohms).

1 If the resistance values are in the specified limits:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
- disconnect the connector 1209VC at the throttle control unit (8KS1) and do the resistance check at the throttle control unit connector between:
  . pins A, B (30 to 40 ohms)
  . pins C, D (15 to 25 ohms)
  . pins E, F (15 to 25 ohms)
  .pin A and the ground (> 10 megohms)
  .pin B and the ground (> 10 megohms)
  .pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG1 (8KS1) (Ref. AMM TASK 76-11-19-000-040) and (Ref. AMM TASK 76-11-19-400-040).

b If the resistance values are in the specified limits:
- continue the troubleshooting as follows:

(c) Do a check of the electrical wiring between the throttle control unit (8KS1) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(d) Do a continuity and insulation check of this wiring.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(e) Do a pin retention check on connectors sockets.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(f) Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connector.

1 If damage is found:
- repair the A/C electrical wiring or replace the J3 harness
R (Ref. AMM TASK 71-51-44-000-004) and (Ref. AMM TASK 71-51-
R 44-400-004).

(4) If the test gives the maintenance message TLA SNSR, J4, ECU (confirmed on channel B):
- Disconnect the J4 harness from the ECU (4000KS) receptacle and visually examine the ECU receptacle and the J4 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001).

(a) If damage on a connector is found:
- replace or repair as required.

(b) If nothing is found:
- do an electrical resistance test through the J4 harness between:
  . pins 17 and 30 (30 to 40 ohms)
  . pins 5 and 15 (15 to 25 ohms)
  . pins 29 and 28 (15 to 25 ohms)
  . pins 17 and 16 (> 10 megohms)
  . pins 5 and 16 (> 10 megohms)
  . pins 29 and 16 (> 10 megohms)
  . pin 17 and the ground (> 10 megohms)
  . pin 5 and the ground (> 10 megohms)
  . pin 29 and the ground (> 10 megohms).

1 If the resistance values are in the specified limits:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
- disconnect the connector 1209VC at the throttle control unit (8KS1) and do the resistance check at the throttle control unit connector between:
. pins A, B (30 to 40 ohms)
. pins C, D (15 to 25 ohms)
. pins E, F (15 to 25 ohms)
.pin A and the ground (> 10 megohms)
.pin B and the ground (> 10 megohms)
.pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG1 (8KS1) (Ref. AMM TASK 76-11-19-000-040) and (Ref. AMM TASK 76-11-19-400-040).

b If the resistance values are in the specified limits:
- continue the troubleshooting.

(c) Do a check of the electrical wiring between the throttle control unit (8KS1) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(d) Do a continuity and insulation check of this wiring

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(e) Do a pin retention check on connectors sockets.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(f) Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connector.

1 If damage is found:
- repair the A/C electrical wiring or replace the J4 harness
R (Ref. AMM TASK 71-51-44-000-004) and (Ref. AMM TASK 71-51-
R 44-400-004) as required

R B. Do the test given in Para. 3.A.

R (1) No additionnal maintenance action is required if the fault is not
R confirmed.

R (2) Repeat the fault isolation procedure if the fault continues.

TASK 76-11-00-810-814

Disagree between the two TLA Resolver Signals on Engine 2

1. Possible Causes

- A/C electrical wiring
- J3 harness
- J4 harness
- CTL UNIT-THROTTLE, ENG2 (8KS2)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

	REFERENCE	DESIGNATION
R	AMM 71-51-44-000-004	Removal of the Electronic Control Unit (ECU) Channel A Harness 238W0904
R	AMM 71-51-44-000-005	Removal of the Electronic Control Unit (ECU) Channel B Harness 238W0904
R	AMM 71-51-44-400-004	Installation of the Electronic Control Unit (ECU) Channel A Harness 238W0904
R	AMM 71-51-44-400-005	Installation of the Electronic Control Unit (ECU) Channel B Harness 238W0904
	AMM 73-21-50-210-001	Visual Inspection of the Wiring Harness
	AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
	AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM 76-11-19-000-040	Removal of the Throttle Control Unit (8KS1, 8KS2)
	AMM 76-11-19-400-040	Installation of the Throttle Control Unit (8KS1, 8KS2)
	ASM 73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A and 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure.

NOTE : The fault is triggered by the ECU if both TLA resolver input signals on channel A and B disagree. Most probable cause is an electrical wiring failure.

(1) If the test does not give the maintenance messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU:

(a) Do a check of the electrical wiring between the throttle control unit (8KS2) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(b) Do a continuity and insulation check of this wiring.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(c) Do a pin retention check on connectors sockets.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(d) Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connectors.

1 If damage is found:
- repair the A/C electrical wiring or replace the J3 harness (Ref. AMM TASK 71-51-44-000-004) and (Ref. AMM TASK 71-51-44-400-004) or J4 harness (Ref. AMM TASK 71-51-44-000-005) and (Ref. AMM TASK 71-51-44-400-005) as required.

2 If nothing is found:
- replace the CTL UNIT-THROTTLE, ENG2 (8KS2) (Ref. AMM TASK 76-11-19-000-040) and (Ref. AMM TASK 76-11-19-400-040).

a if the fault repeats on subsequent flights:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

(2) If the test gives the maintenance messages TLA SNSR, J3, ECU and TLA SNSR, J4, ECU (confirmed on two channels):
- Do the two following steps (3) and (4).

R (3) If the test gives the maintenance message TLA SNSR, J3, ECU (confirmed on channel A):
- Disconnect the J3 harness from the ECU (4000KS) receptacle and visually examine the ECU receptacle and the J3 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001).

(a) If damage on a connector is found:
- replace or repair as required.

(b) If nothing is found:
- do an electrical resistance test through the J3 harness between:
  . pins 17 and 30 (30 to 40 ohms)
  . pins 5 and 15 (15 to 25 ohms)
  . pins 29 and 28 (15 to 25 ohms)
  . pins 17 and 16 (> 10 megohms)
  . pins 5 and 16 (> 10 megohms)
  . pins 29 and 16 (> 10 megohms)
  . pin 17 and the ground (> 10 megohms)
  . pin 5 and the ground (> 10 megohms)
  . pin 29 and the ground (> 10 megohms).

1 If the resistance values are in the specified limits:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
- disconnect the connector 1208VC at the throttle control unit (8KS2) and do the resistance check at the throttle control unit connector between:
  . pins A, B (30 to 40 ohms)
  . pins C, D (15 to 25 ohms)
  . pins E, F (15 to 25 ohms)
  .pin A and the ground (> 10 megohms)
  .pin B and the ground (> 10 megohms)
  .pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG2 (8KS2) (Ref. AMM TASK 76-11-19-000-040) and (Ref. AMM TASK 76-11-19-400-040).

b If the resistance values are in the specified limits:
- continue the troubleshooting as follows:

(c) Do a check of the electrical wiring between the throttle control unit (8KS2) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(d) Do a continuity and insulation check of this wiring.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(e) Do a pin retention check on connectors sockets.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(f) Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connector.

1 If damage is found:
- repair the A/C electrical wiring or replace the J3 harness
R (Ref. AMM TASK 71-51-44-000-004) and (Ref. AMM TASK 71-51-
R 44-400-004).

(4) If the test gives the maintenance message TLA SNSR, J4, ECU (confirmed on channel B):
- Disconnect the J4 harness from the ECU (4000KS) receptacle and visually examine the ECU receptacle and the J4 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001).

(a) If damage on a connector is found:
- replace or repair as required.

(b) If nothing is found:
- do an electrical resistance test through the J4 harness between:
  . pins 17 and 30 (30 to 40 ohms)
  . pins 5 and 15 (15 to 25 ohms)
  . pins 29 and 28 (15 to 25 ohms)
  . pins 17 and 16 (> 10 megohms)
  . pins 5 and 16 (> 10 megohms)
  . pins 29 and 16 (> 10 megohms)
  . pin 17 and the ground (> 10 megohms)
  . pin 5 and the ground (> 10 megohms)
  . pin 29 and the ground (> 10 megohms).

1 If the resistance values are in the specified limits:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

2 If the resistance values are out of the specified limits:
- disconnect the connector 1208VC at the throttle control unit (8KS2) and do the resistance check at the throttle control unit connector between:
. pins A, B (30 to 40 ohms)
. pins C, D (15 to 25 ohms)
. pins E, F (15 to 25 ohms)
.pin A and the ground (> 10 megohms)
.pin B and the ground (> 10 megohms)
.pin C and the ground (> 10 megohms)

a If the resistance values are out of the specified limits:
- replace the CTL UNIT-THROTTLE, ENG2 (8KS2) (Ref. AMM TASK 76-11-19-000-040) and (Ref. AMM TASK 76-11-19-400-040).

b If the resistance values are in the specified limits:
- continue the troubleshooting.

(c) Do a check of the electrical wiring between the throttle control unit (8KS2) and the ECU (4000KS) (Ref. ASM 73-25/12).

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(d) Do a continuity and insulation check of this wiring

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(e) Do a pin retention check on connectors sockets.

1 if damage is found:
- replace or repair the above harness.

2 if nothing is found:
- continue the troubleshooting.

(f) Do a check for absence of corrosion or contamination. Pay particular attention to engine to pylon connector.

1 If damage is found:
- repair the A/C electrical wiring or replace the J4 harness
R (Ref. AMM TASK 71-51-44-000-004) and (Ref. AMM TASK 71-51-
R 44-400-004) as required

R B. Do the test given in Para. 3.A.

R (1) No additionnal maintenance action is required if the fault is not
R confirmed.

R (2) Repeat the fault isolation procedure if the fault continues.

TASK 76-12-00-810-805

Failure of the ENG 1/MASTER Control Switch

1. Possible Causes

- EIU-1 (1KS1)
- CTL SW-ENG/MASTER 1 (3KC)
- wiring from the EIU 1 (1KS1) to the ENG panel (115VU)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
R ESPM 204521	
R AMM 31-10-00-700-001	Test Program after Removal/Installation of a VU panel
AMM 71-00-00-710-002	Wet Motoring Check
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 73-25-34-710-043	Operational Test of the Engine Interface Unit
ASM 76-12/01	

3. Fault Confirmation

A. Test
Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

A. If the test gives the maintenance message 115VU (MASTER LEVER 1) SW:
R - replace the CTL SW-ENG/MASTER 1 (3KC) on the panel 115VU (Ref. ESPM
R 204521) and perform the a motoring check (Ref. AMM TASK 71-00-00-710-002).
R - install the panel 115VU and do a test program after
R removal/installation of a VU panel (Ref. AMM TASK 31-10-00-700-001).

(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:
- do a check and repair the wiring from the EIU 1 (1KS1) to the ENG panel (115VU) pins AA/4E, 5A to pins A/J, H (Ref. ASM 76-12/01).

B. Do the test given in Para. 3.A.

TASK 76-12-00-810-806

Failure of the ENG 2/MASTER Control Switch

1. Possible Causes

- EIU-2 (1KS2)
- CTL SW-ENG MASTER 2 (2KC)
- wiring from the EIU2 (1KS2) to the ENG panel (115VU)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
R ESPM 204521	
R AMM 31-10-00-700-001	Test Program after Removal/Installation of a VU panel
AMM 71-00-00-710-002	Wet Motoring Check
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 73-25-34-710-043	Operational Test of the Engine Interface Unit
ASM 76-12/01	

3. Fault Confirmation

A. Test
Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

A. If the test gives the maintenance message 115VU (MASTER LEVER 2) SW:
R - replace the CTL SW-ENG MASTER 2 (2KC) on the panel 115VU (Ref. ESPM
R 204521) and perform a wet motoring check (Ref. AMM TASK 71-00-00-710-002).
R - install the panel 115VU and do a test program after
R removal/installation of a VU panel (Ref. AMM TASK 31-10-00-700-001).

(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:
- do a check and repair the wiring from the EIU2 (1KS2) to the ENG panel (115VU) pins AA/5A, 4E to pins A/G, L, (Ref. ASM 76-12/01).

B. Do the test given in Para. 3.A.

TASK 76-12-00-810-807

Failure of the ENG 1/MODE Selector Switch

1. Possible Causes

- SEL SW-ENG/MODE/CRANK/AUTO IGN/IGN (6KS)
- EIU-1 (1KS1)
- wiring from the EIU 1 (1KS1) to the ENG panel (115VU)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
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 73-25-34-710-043	Operational Test of the Engine Interface Unit
ASM 73-25/08	

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

A. If the test gives the maintenance message 115VU CRANK/MODE AUTO/IGN SEL SW:
- replace the SEL SW-ENG/MODE/CRANK/AUTO IGN/IGN (6KS).

(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:
- do a check and repair the wiring from the EIU 1 (1KS1) to the ENG panel (115VU) pins AA/1C, 1A, 1B to pins 22, 23, 24 (Ref. ASM 73-25/08).

B. Do the test given in Para. 3.A.

TASK 76-12-00-810-808

Failure of the ENG 2/MODE Selector Switch

1. Possible Causes

- SEL SW-ENG/MODE/CRANK/AUTO IGN/IGN (6KS)
- EIU-2 (1KS2)
- wiring from the EIU 2 (1KS1) to the switch (6KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
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 73-25-34-710-043	Operational Test of the Engine Interface Unit
ASM 73-25/08	

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

A. If the test gives the maintenance message 115VU CRANK/MODE AUTO/IGN SEL SW:
- replace the SEL SW-ENG/MODE/CRANK/AUTO IGN/IGN (6KS).

(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:
- do a check and repair the wiring from the EIU 2 (1KS1) to the switch (6KS) pins AA/1C, 1A, 1B to pins 2, 3, 4, (Ref. ASM 73-25/08).

B. Do the test given in Para. 3.A.

TASK 76-12-00-810-810

Failure of the Control of the Fuel Shut-off Valve on Engine 1

1. Possible Causes

- aircraft wiring
- RELAY-ENG/MASTER 1 (11QG)
- ACTUATOR-LP FUEL VALVE, ENG 1 (9QG)
- VALVE-LP FUEL, ENG 1 (12QM)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 28-24-00-710-002	Operational Test of the ENG 1(2) LP Fuel Valve 12QM (13QM)
AMM 28-24-41-000-001	Removal of the LP Fuel Valve 12QM(13QM)
AMM 28-24-41-400-001	Installation of the LP Fuel Valve 12QM(13QM)
AMM 28-24-51-000-001	Removal of the LP Fuel Valve Actuator
AMM 28-24-51-400-001	Installation of the LP Fuel Valve Actuator
AMM 71-00-00-710-003	Engine Automatic Start
ASM 28-24/01	
ASM 76-12/01	

3. Fault Confirmation

A. Test

(1) Not applicable, the fault is evident.

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	FUEL/LP VALVE/MOT1/ENG1	1QG	A08
121VU	FUEL/LP VALVE/MOT2/ENG1	3QG	M25

B. If the fault symptom is identified by the CFDS message MASTER LEVER, HMU:
- make sure that the LP fuel valve is open (Ref. AMM TASK 28-24-00-710-002).

(1) If the valve is not open:
- do a check of the aircraft wiring between the circuit breakers (1QG), (3QG) and the ENG 1 LP fuel valve actuator (9QG) pins AA/A, BB/A (Ref. ASM 76-12/01) and (Ref. ASM 28-24/01).

(a) If there is no continuity:
- repair the above wiring or/and replace the RELAY-ENG/MASTER 1 (11QG).

(b) If there is continuity:
- replace the ACTUATOR-LP FUEL VALVE, ENG 1 (9QG) (Ref. AMM TASK 28-24-51-000-001) and (Ref. AMM TASK 28-24-51-400-001).

(c) If the fault continues:
- replace the VALVE-LP FUEL, ENG 1 (12QM) (Ref. AMM TASK 28-24-41-000-001) and (Ref. AMM TASK 28-24-41-400-001).

C. Test

(1) Start the engine 1 by the engine automatic start procedure (Ref. AMM TASK 71-00-00-710-003).

(2) Make sure that there is no ECAM and CFDS fault message shown.

TASK 76-12-00-810-811

Failure of the Control of the Fuel Shut-off Valve on Engine 2

1. Possible Causes

- aircraft wiring
- RELAY-ENG/MASTER 2 (12QG)
- ACTUATOR-LP FUEL VALVE, ENG 2 (10QG)
- VALVE-LP FUEL, ENG 2 (13QM)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 28-24-00-710-002	Operational Test of the ENG 1(2) LP Fuel Valve 12QM (13QM)
AMM 28-24-41-000-001	Removal of the LP Fuel Valve 12QM(13QM)
AMM 28-24-41-400-001	Installation of the LP Fuel Valve 12QM(13QM)
AMM 28-24-51-000-001	Removal of the LP Fuel Valve Actuator
AMM 28-24-51-400-001	Installation of the LP Fuel Valve Actuator
AMM 71-00-00-710-003	Engine Automatic Start
ASM 28-24/01	
ASM 76-12/01	

3. Fault Confirmation

A. Test

(1) Not applicable, the fault is evident.

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	FUEL/LP VALVE/MOT1/ENG2	2QG	A09
121VU	FUEL/LP VALVE/MOT2/ENG2	4QG	M26

B. If the fault symptom is identified by the CFDS message MASTER LEVER, HMU:
- make sure that the LP fuel valve is open (Ref. AMM TASK 28-24-00-710-002).

(1) If the valve is not open:
- do a check of the aircraft wiring between the circuit breakers (2QG), (4QG) and the ENG 2 LP fuel valve actuator (10QG) pins AA/A, BB/A (Ref. ASM 76-12/01) and (Ref. ASM 28-24/01).

(a) If there is no continuity:
- repair the above wiring or/and replace the RELAY-ENG/MASTER 2 (12QG).

(b) If there is continuity:
- replace the ACTUATOR-LP FUEL VALVE, ENG 2 (10QG) (Ref. AMM TASK 28-24-51-000-001) and (Ref. AMM TASK 28-24-51-400-001).

(c) If the fault continues:
- replace the VALVE-LP FUEL, ENG 2 (13QM) (Ref. AMM TASK 28-24-41-000-001) and (Ref. AMM TASK 28-24-41-400-001).

C. Test

(1) Start the engine 2 by the engine automatic start procedure (Ref. AMM TASK 71-00-00-710-003).

(2) Make sure that there is no ECAM and CFDS fault message shown.

TASK 76-12-00-810-812

Failure of the Control of the Fuel Shut-off Valve on Engine 1

1. Possible Causes

- aircraft wiring
- RELAY-ENG/MASTER 1 (11QG)
- ACTUATOR-LP FUEL VALVE, ENG 1 (9QG)
- VALVE-LP FUEL, ENG 1 (12QM)
- CTL SW-ENG/MASTER 1 (3KC)
- fuel pump and filter assembly
- HMU

2. Job Set-up Information

A. Referenced Information

	REFERENCE	DESIGNATION
R	ESPM 204521	
	AMM 28-24-00-710-002	Operational Test of the ENG 1(2) LP Fuel Valve 12QM (13QM)
	AMM 28-24-41-000-001	Removal of the LP Fuel Valve 12QM(13QM)
	AMM 28-24-41-400-001	Installation of the LP Fuel Valve 12QM(13QM)
	AMM 28-24-51-000-001	Removal of the LP Fuel Valve Actuator
	AMM 28-24-51-400-001	Installation of the LP Fuel Valve Actuator
R	AMM 31-10-00-700-001	Test Program after Removal/Installation of a VU panel
	AMM 71-00-00-710-003	Engine Automatic Start
	AMM 73-11-10-000-003	Removal of the Fuel Pump and Filter Assembly
	AMM 73-11-10-400-003	Installation of the Fuel Pump and Filter Assembly
	AMM 73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
	AMM 73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
	ASM 28-24/01	
	ASM 76-12/01	

3. Fault Confirmation

A. Test

(1) Not applicable, the fault is evident.

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	FUEL/LP VALVE/MOT1/ENG1	1QG	A08
121VU	FUEL/LP VALVE/MOT2/ENG1	3QG	M25

B. If the fault symptom is identified by the CFDS message MASTER LEVER, HMU:
- make sure that the LP fuel valve is open (Ref. AMM TASK 28-24-00-710-002).

(1) If the valve is not open:
- do a check of the aircraft wiring between the circuit breakers (1QG), (3QG) and the ENG 1 LP fuel valve actuator (9QG) pins AA/A, BB/A (Ref. ASM 76-12/01) and (Ref. ASM 28-24/01).

(a) If there is no continuity:
- repair the above wiring or/and replace the RELAY-ENG/MASTER 1 (11QG).

(b) If there is continuity:
- replace the ACTUATOR-LP FUEL VALVE, ENG 1 (9QG) (Ref. AMM TASK 28-24-51-000-001) and (Ref. AMM TASK 28-24-51-400-001).

(c) If the fault continues:
- replace the VALVE-LP FUEL, ENG 1 (12QM) (Ref. AMM TASK 28-24-41-000-001) and (Ref. AMM TASK 28-24-41-400-001).

(d) If the fault continues:
R - replace the CTL SW-ENG/MASTER 1 (3KC) on the panel 115VU (Ref. ESPM 204521).
R - install the panel 115VU and do a test program after removal/installation of a VU panel (Ref. AMM TASK 31-10-00-700-001).

(2) If the valve is open:
- replace the fuel pump and filter assembly (Ref. AMM TASK 73-11-10-000-003) and (Ref. AMM TASK 73-11-10-400-003).

(3) If the fault continues, replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

C. Test

(1) Start the engine 1 by the engine automatic start procedure (Ref. AMM TASK 71-00-00-710-003).

(2) Make sure that there is no ECAM and CFDS fault message shown.

TASK 76-12-00-810-813

Failure of the Control of the Fuel Shut-off Valve on Engine 2

1. Possible Causes

- aircraft wiring
- RELAY-ENG/MASTER 2 (12QG)
- ACTUATOR-LP FUEL VALVE, ENG 2 (10QG)
- VALVE-LP FUEL, ENG 2 (13QM)
- CTL SW-ENG/MASTER 2 (2KC)
- fuel pump and filter assembly
- HMU

2. Job Set-up Information

A. Referenced Information

	REFERENCE	DESIGNATION
R	ESPM 204521	
	AMM 28-24-00-710-002	Operational Test of the ENG 1(2) LP Fuel Valve 12QM (13QM)
	AMM 28-24-41-000-001	Removal of the LP Fuel Valve 12QM(13QM)
	AMM 28-24-41-400-001	Installation of the LP Fuel Valve 12QM(13QM)
	AMM 28-24-51-000-001	Removal of the LP Fuel Valve Actuator
	AMM 28-24-51-400-001	Installation of the LP Fuel Valve Actuator
R	AMM 31-10-00-700-001	Test Program after Removal/Installation of a VU panel
	AMM 71-00-00-710-003	Engine Automatic Start
	AMM 73-11-10-000-003	Removal of the Fuel Pump and Filter Assembly
	AMM 73-11-10-400-003	Installation of the Fuel Pump and Filter Assembly
	AMM 73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
	AMM 73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
	ASM 28-24/01	
	ASM 76-12/01	

3. Fault Confirmation

A. Test

(1) Not applicable, the fault is evident.

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	FUEL/LP VALVE/MOT1/ENG2	2QG	A09
121VU	FUEL/LP VALVE/MOT2/ENG2	4QG	M26

B. If the fault symptom is identified by the CFDS message MASTER LEVER, HMU:
- make sure that the LP fuel valve is open (Ref. AMM TASK 28-24-00-710-002).

(1) If the valve is not open:
- do a check of the aircraft wiring between the circuit breakers (2QG), (4QG) and the ENG 2 LP fuel valve actuator (10QG) pins AA/A, BB/A (Ref. ASM 76-12/01) and (Ref. ASM 28-24/01).

(a) If there is no continuity:
- repair the above wiring or/and replace the RELAY-ENG/MASTER 2 (12QG).

(b) If there is continuity:
- replace the ACTUATOR-LP FUEL VALVE, ENG 2 (10QG) (Ref. AMM TASK 28-24-51-000-001) and (Ref. AMM TASK 28-24-51-400-001).

(c) If the fault continues:
- replace the VALVE-LP FUEL, ENG 2 (13QM) (Ref. AMM TASK 28-24-41-000-001) and (Ref. AMM TASK 28-24-41-400-001).

(d) If the fault continues:
R - replace the CTL SW-ENG/MASTER 2 (2KC) on the panel 115VU (Ref. ESPM 204521).
R - install the panel 115VU and do a test program after removal/installation of a VU panel (Ref. AMM TASK 31-10-00-700-001).

(2) If the valve is open:
- replace the fuel pump and filter assembly (Ref. AMM TASK 73-11-10-000-003) and (Ref. AMM TASK 73-11-10-400-003).

(3) If the fault continues, replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

C. Test

(1) Start the engine 2 by the engine automatic start procedure (Ref. AMM TASK 71-00-00-710-003).

(2) Make sure that there is no ECAM and CFDS fault message shown.

TASK 76-12-00-810-814

Failure of the Control of the Fuel Shut-off Valve on Engine 1

1. Possible Causes

- HMU
- aircraft wiring
- CTL SW-ENG/MASTER 1 (3KC)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
R ESPM 204521	
AMM 31-10-00-700-001	Test Program after Removal/Installation of a VU panel
AMM 71-00-00-710-003	Engine Automatic Start
AMM 73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM 73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
ASM 76-12/01	
AWM 76-12-01	

3. Fault Confirmation

A. Test

(1) Not applicable, the fault is evident.

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	ENGINE/1/HP FUEL SOV	1KC1	A01

B. If the fault symptom is identified by the CFDS message MASTER LEVER, HMU:

NOTE : The fault is generated if there is a demand / position disagree on the HMU HP fuel shut-off valve. While the A/C is electrically powered and the engine master lever is set to OFF.

- disconnect the connector 4000KC-A from the HMU and make sure that, when the ENG/MASTER control switch on the 115VU is in the OFF position, there is 28VDC at pin AA/1 of the connector 4000KC-A (Ref. ASM 76-12/01) and (Ref. AWM 76-12-01).

(1) If there is 28VDC:
- replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

(2) If there is no 28VDC:
- remove the panel 115VU.
- do a check of the aircraft wiring between the connector 4000KC-A and the ENG/MASTER control switch (3KC) pin AA/1 to pin 1G.
- do a check of the aircraft wiring between the ENG/MASTER control switch (3KC) pin 3G and the circuit breaker (1KC1) (Ref. ASM 76-12/01).

(a) If the wiring is not correct:
- repair the above defective wirings.

(b) If the wiring is correct:
R - replace the CTL SW-ENG/MASTER 1 (3KC) on the panel 115VU (Ref.
R ESPM 204521) (Ref. AWM 76-12-01).
- install the panel 115VU and do a test program after
R removal/installation of a VU panel (Ref. AMM TASK 31-10-00-700-001).

C. Test

(1) Start the engine 1 by the engine automatic start procedure (Ref. AMM TASK 71-00-00-710-003).

(2) Make sure that there is no ECAM and CFDS fault message shown.

TASK 76-12-00-810-815

Failure of the Control of the Fuel Shut-off Valve on Engine 2

1. Possible Causes

- HMU
- aircraft wiring
- CTL SW-ENG/MASTER 2 (2KC)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
R ESPM 204521	
AMM 31-10-00-700-001	Test Program after Removal/Installation of a VU panel
AMM 71-00-00-710-003	Engine Automatic Start
AMM 73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM 73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
ASM 76-12/01	
AWM 76-12-01	

3. Fault Confirmation

A. Test

(1) Not applicable, the fault is evident.

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	ENGINE/2/HP FUEL SOV	1KC2	A02

B. If the fault symptom is identified by the CFDS message MASTER LEVER, HMU:

NOTE : The fault is generated if there is a demand / position disagree on the HMU HP fuel shut-off valve. While the A/C is electrically powered and the engine master lever is set to OFF.

- disconnect the connector 4000KC-A from the HMU and make sure that, when the ENG/MASTER control switch on the 115VU is in the OFF position, there is 28VDC at pin AA/1 of the connector 4000KC-A (Ref. ASM 76-12/01) and (Ref. AWM 76-12-01).

(1) If there is 28VDC:
- replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

(2) If there is no 28VDC:
- remove the panel 115VU.
- do a check of the aircraft wiring between the connector 4000KC-A and the ENG/MASTER control switch (2KC) pin AA/1 to pin 1G.
- do a check of the aircraft wiring between the ENG/MASTER control switch (2KC) pin 3G and the circuit breaker (1KC2) (Ref. ASM 76-12/01).

(a) If the wiring is not correct:
- repair the above defective wirings.

(b) If the wiring is correct:
R - replace the CTL SW-ENG/MASTER 2 (2KC) on the panel 115VU (Ref.
R ESPM 204521) (Ref. AWM 76-12-01).
- install the panel 115VU and do a test program after
R removal/installation of a VU panel (Ref. AMM TASK 31-10-00-700-001).

C. Test

(1) Start the engine 2 by the engine automatic start procedure (Ref. AMM TASK 71-00-00-710-003).

(2) Make sure that there is no ECAM and CFDS fault message shown.

TASK 76-12-00-810-816

Failure of the Control of the Fuel Shut-off Valve on Engine 1

1. Possible Causes

- aircraft wiring
- RELAY-ENG/MASTER 1 (11QG)
- ACTUATOR-LP FUEL VALVE, ENG 1 (9QG)
- VALVE-LP FUEL, ENG 1 (12QM)
- CTL SW-ENG/MASTER 1 (3KC)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

	REFERENCE	DESIGNATION
R	ESPM 204521	
	AMM 28-24-00-710-002	Operational Test of the ENG 1(2) LP Fuel Valve 12QM (13QM)
	AMM 28-24-41-000-001	Removal of the LP Fuel Valve 12QM(13QM)
	AMM 28-24-41-400-001	Installation of the LP Fuel Valve 12QM(13QM)
	AMM 28-24-51-000-001	Removal of the LP Fuel Valve Actuator
	AMM 28-24-51-400-001	Installation of the LP Fuel Valve Actuator
R	AMM 31-10-00-700-001	Test Program after Removal/Installation of a VU panel
	AMM 71-00-00-710-003	Engine Automatic Start
	AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
	ASM 28-24/01	
	ASM 76-12/01	

3. Fault Confirmation

A. Test

(1) Not applicable, the fault is evident.

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	FUEL/LP VALVE/MOT1/ENG1	1QG	A08
121VU	FUEL/LP VALVE/MOT2/ENG1	3QG	M25

B. If the fault symptom is identified by the CFDS message MASTER LEVER, HMU:
- make sure that the LP fuel valve is open (Ref. AMM TASK 28-24-00-710-002).

(1) If the valve is not open:
- do a check of the aircraft wiring between the circuit breakers (1QG), (3QG) and the ENG 1 LP fuel valve actuator (9QG) pins AA/A, BB/A (Ref. ASM 76-12/01) and (Ref. ASM 28-24/01).

(a) If there is no continuity:
- repair the above wiring or/and replace the RELAY-ENG/MASTER 1 (11QG) .

(b) If there is continuity:
- replace the ACTUATOR-LP FUEL VALVE, ENG 1 (9QG) (Ref. AMM TASK 28-24-51-000-001) and (Ref. AMM TASK 28-24-51-400-001).

(c) If the fault continues:
- replace the VALVE-LP FUEL, ENG 1 (12QM) (Ref. AMM TASK 28-24-41-000-001) and (Ref. AMM TASK 28-24-41-400-001).

(d) If the fault continues:
R - replace the CTL SW-ENG/MASTER 1 (3KC) on the panel 115VU (Ref.
R ESPM 204521).
R - install the panel 115VU and do a test program after
R removal/installation of a VU panel (Ref. AMM TASK 31-10-00-700-
R 001).

(e) 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).

C. Test

(1) Start the engine 1 by the engine automatic start procedure (Ref. AMM TASK 71-00-00-710-003).

(2) Make sure that there is no ECAM and CFDS fault message shown.

TASK 76-12-00-810-817

Failure of the Control of the Fuel Shut-off Valve on Engine 2

1. Possible Causes

- aircraft wiring
- RELAY-ENG/MASTER 2 (12QG)
- ACTUATOR-LP FUEL VALVE, ENG 2 (10QG)
- VALVE-LP FUEL, ENG 2 (13QM)
- CTL SW-ENG/MASTER 2 (2KC)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

	REFERENCE	DESIGNATION
R	ESPM 204521	
	AMM 28-24-00-710-002	Operational Test of the ENG 1(2) LP Fuel Valve 12QM (13QM)
	AMM 28-24-41-000-001	Removal of the LP Fuel Valve 12QM(13QM)
	AMM 28-24-41-400-001	Installation of the LP Fuel Valve 12QM(13QM)
	AMM 28-24-51-000-001	Removal of the LP Fuel Valve Actuator
	AMM 28-24-51-400-001	Installation of the LP Fuel Valve Actuator
R	AMM 31-10-00-700-001	Test Program after Removal/Installation of a VU panel
	AMM 71-00-00-710-003	Engine Automatic Start
	AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
	ASM 28-24/01	
	ASM 76-12/01	

3. Fault Confirmation

A. Test

Not applicable, the fault is evident.

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	FUEL/LP VALVE/MOT1/ENG2	2QG	A09
121VU	FUEL/LP VALVE/MOT2/ENG2	4QG	M26

B. If the fault symptom is identified by the CFDS message MASTER LEVER, HMU:
- make sure that the LP fuel valve is open (Ref. AMM TASK 28-24-00-710-002).

(1) If the valve is not open:
- do a check of the aircraft wiring between the circuit breakers (2QG) (4QG) and the ENG 2 LP fuel valve actuator (10QG) pins AA/A, BB/A (Ref. ASM 76-12/01) and (Ref. ASM 28-24/01).

(a) If there is no continuity:
- repair the above wiring or/and replace the RELAY-ENG/MASTER 2 (12QG).

(b) If there is continuity:
- replace the ACTUATOR-LP FUEL VALVE, ENG 2 (10QG) (Ref. AMM TASK 28-24-51-000-001) and (Ref. AMM TASK 28-24-51-400-001).

(c) If the fault continues:
- replace the VALVE-LP FUEL, ENG 2 (13QM) (Ref. AMM TASK 28-24-41-000-001) and (Ref. AMM TASK 28-24-41-400-001).

(d) If the fault continues:
R - replace the CTL SW-ENG/MASTER 2 (2KC) on the panel 115VU (Ref. ESPM 204521).
R - install the panel 115VU and do a test program after removal/installation of a VU panel (Ref. AMM TASK 31-10-00-700-001).

(e) 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).

C. Test

(1) Start the engine 2 by the engine automatic start procedure (Ref. AMM TASK 71-00-00-710-003).

(2) Make sure that there is no ECAM and CFDS fault message shown.

TASK 76-12-00-810-828

Disagree between HPSOV position and Master Lever position on Engine 1

1. Possible Causes

- EIU (1KS1)
- CTL SW-ENG/MASTER 1 (3KC)
- HMU
- aircraft wiring
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
R	ESPM 204521	
R	AMM 31-10-00-700-001	Test Program after Removal/Installation of a VU panel
	AMM 73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
	AMM 73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
	AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
	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 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Non motoring)
	ASM 76-12/01	
	AWM 76-12-01	

3. Fault Confirmation

A. Do the operational test of the FADEC on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. If the test gives the CFDS message ENG MSTR, HMU or MASTER LEVER, HMU:
- replace the EIU (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

(1) If the fault continues:
- replace the CTL SW-ENG/MASTER 1 (3KC) on the 115VU (Ref. ESPM 204521) (Ref. AWM 76-12-01).
- install the panel 115VU and do a test program after removal/installation of a VU panel (Ref. AMM TASK 31-10-00-700-001).

(2) If the fault continues:
- replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

(3) If the fault continues:
- do a check of the aircraft wiring between the pin AA/4E and AA/5A
R of EIU (1KS1) and the pin 2A and 3A of ENG/MASTER control switch
R (3KC).

(a) If there is no continuity:
- repair the above wiring (Ref. ASM 76-12/01)

(4) 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).

B. Do the test given in Para. 3.

TASK 76-12-00-810-829

Disagree between HPSOV position and Master Lever position on Engine 2

1. Possible Causes

- EIU (1KS2)
- CTL SW-ENG/MASTER 1 (2KC)
- HMU
- aircraft wiring
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

	REFERENCE	DESIGNATION
R	ESPM 204521	
R	AMM 31-10-00-700-001	Test Program after Removal/Installation of a VU panel
	AMM 73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
	AMM 73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
	AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM 73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
	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 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Non motoring)
	ASM 76-12/01	
	AWM 76-12-01	

3. Fault Confirmation

A. Do the operational test of the FADEC on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. If the test gives the CFDS message ENG MSTR, HMU or MASTER LEVER, HMU:
- replace the EIU (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

(1) If the fault continues:
- replace the CTL SW-ENG/MASTER 1 (2KC) on the 115VU (Ref. ESPM 204521) (Ref. AWM 76-12-01).
- install the panel 115VU and do a test program after removal/installation of a VU panel (Ref. AMM TASK 31-10-00-700-001).

(2) If the fault continues:
- replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

(3) If the fault continues:
- do a check of the aircraft wiring between the pin AA/4E and AA/5A
R of EIU (1KS2) and the pin 2A and 3A of the ENG/MASTER control
R switch (2KC).

(a) If there is no continuity:
- repair the above wiring (Ref. ASM 76-12/01)

(4) 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).

B. Do the test given in Para. 3.