



## FAULT ISOLATION MANUAL

\*\*ON A/C ALL

### TASK 31-32-00-810-802

#### FLIGHT DATA RECORDER (Caution) – Fault Isolation

##### 1. General

- A. This fault isolation procedure is for when the FLT DATA RECORDER caution light on the Caution and Warning Panel (CAWP) comes on.
- B. The FLT DATA RECORDER caution light comes on for the conditions that follow:
  - Solid State Flight Data Recorder (SSFDR) is not energized
  - SSFDR is defective
  - SSFDR ARINC 717 input data bus is defective
  - SSFDR ARINC 717 output data bus for data rate miscompare is defective
  - Inertia switch is defective
  - Flight Signal Conditioning Unit (FSCU) is defective.

**NOTE:** The FLT DATA RECORDER caution light comes on for conditions that are not malfunctions as follows:

- Testing with the Automated Test Unit (ATU)
  - Downloading with the Download Unit (DLU).
- C. The Central Diagnostic System (CDS) can show the related messages that follow:
  - FDR
  - FDR/IOP1.

##### 2. Job Set-Up Information

\*\*ON A/C 4001, 4003-4004, 4006, 4008-4140, 4142-4199, 4201-4322, 4324-4327, 4329-4331, 4334, 4337, 4343-4344, 4349-4350

Subtask 31-32-00-946-009

##### A. Reference Information

REFERENCE	DESIGNATION
AMM20-30-11-760-801	Electrical Test of the Aircraft Wiring
AMM24-50-60-000-801	Removal of the Relay Junction Box 1, 2, 3
AMM24-50-60-400-801	Installation of the Relay Junction Box 1, 2, 3
AMM31-32-00-710-801	Operational Test of the Flight Data Recorder System (FDR)
AMM31-32-01-000-801	Removal of the Flight Data Recorder
AMM31-32-01-400-801	Installation of the Flight Data Recorder



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REFERENCE	DESIGNATION
AMM31-32-11-000-801	Removal of the Flight Signal Conditioning Unit (FSCU)
AMM31-32-11-400-801	Installation of the Flight Signal Conditioning Unit (FSCU)
AMM31-32-16-000-801	Removal of the Inertia Switch
AMM31-32-16-400-801	Installation of the Inertia Switch
AMM31-41-06-000-801	Removal of the Input/Output Processor Module
AMM31-41-06-400-801	Installation of the Input/Output Processor Module
AMM45-00-34-742-802	Retrieval of Data from the Central Diagnostic System (CDS) – Avionics Data (AVIONICS DATA)
FIM31-32-00-810-801	FDR (Status) – Fault Isolation
FIM31-32-00-810-803	FDR/IOP1 (Status) – Fault Isolation
WM31-32-00	Flight Data Recorder (FDR) System

\*\*ON A/C 4323, 4328, 4332-4333, 4335-4336, 4338-4342, 4345-4348, 4351-4999

Subtask 31-32-00-946-020

### B. Reference Information

REFERENCE	DESIGNATION
AMM20-30-11-760-801	Electrical Test of the Aircraft Wiring
AMM24-50-60-000-801	Removal of the Relay Junction Box 1, 2, 3
AMM24-50-60-400-801	Installation of the Relay Junction Box 1, 2, 3
AMM31-32-00-710-801	Operational Test of the Flight Data Recorder System (FDR)
AMM31-32-01-000-802	Removal of the Flight Data Recorder (Universal)
AMM31-32-01-400-802	Installation of the Flight Data Recorder (Universal)
AMM31-32-11-000-801	Removal of the Flight Signal Conditioning Unit (FSCU)
AMM31-32-11-400-801	Installation of the Flight Signal Conditioning Unit (FSCU)
AMM31-32-16-000-801	Removal of the Inertia Switch
AMM31-32-16-400-801	Installation of the Inertia Switch
AMM31-41-06-000-801	Removal of the Input/Output Processor Module
AMM31-41-06-400-801	Installation of the Input/Output Processor Module
AMM45-00-34-742-802	Retrieval of Data from the Central Diagnostic System (CDS) – Avionics Data (AVIONICS DATA)

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REFERENCE	DESIGNATION
FIM31-32-00-810-801	FDR (Status) – Fault Isolation
FIM31-32-00-810-803	FDR/IOP1 (Status) – Fault Isolation
WM31-32-00	Flight Data Recorder (FDR) System

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### 3. Fault Confirmation

Subtask 31-32-00-810-006

A. Confirm the fault as follows:

- (1) Do the CDS fault indication retrieval (Refer to AMM45-00-34-742-802)
- (2) Do the operational test of the flight data recorder (Refer to AMM31-32-00-710-801).
  - (a) If the FLT DATA RECORDER caution light does not come on, no maintenance procedure is necessary. Do the Close Out.
  - (b) If the FLT DATA RECORDER caution light does come on, do the CDS fault indication retrieval again (Refer to AMM45-00-34-742-802) Do the Fault Isolation.

### 4. Fault Isolation

\*\*ON A/C 4001, 4003-4004, 4006, 4008-4140, 4142-4199, 4201-4322, 4324-4327, 4329-4331, 4334, 4337, 4343-4344, 4349-4350

Subtask 31-32-00-810-007

A. Isolate the fault as follows:

- (1) If the message is FDR, do the fault isolation for FDR (Refer to FIM31-32-00-810-801). Do the Close Out.
- (2) If the message is FDR/IOP1, do the fault isolation for FDR/IOP1 (Refer to FIM31-32-00-810-803). Do the Close Out.
- (3) If there are no related CDS messages, do the steps that follow:
  - (a) On the inertia switch, push the RESET button. Do the Close Out.
  - (b) If the fault still continues, do the wiring check for the continuity, ground fault and the isolation resistance between the 28 V dc left main bus and the relay junction box number 1 (Refer to AMM20-30-11-760-801 and WM31-32-00).

28 VDC L MAIN BUS (Avionics Circuit Breaker Panel)	9811-RJB1-P1E (Relay Junction Box No. 1)
FDR (F3)	53



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- (c) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (d) Do the wiring check for the continuity, ground fault and the isolation resistance between the relay junction box number 1 and the inertia switch (Refer to AMM20-30-11-760-801 and WM31-32-00):

9811-RJB1-P1E (Relay Junction Box No. 1)	3133-P1-A1 (Inertia Switch)
46	D

- (e) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (f) Do the wiring check for the continuity, ground fault and the isolation resistance between the inertia switch and the SSFDR (Refer to AMM20-30-11-760-801 and WM31-32-00).

3133-P1-A1 (Inertia Switch)	3133-P1-A14 (SSFDR)
C	5

- (g) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (h) Do the wiring check for the continuity and the isolation resistance between the ground stud GS5 and the SSFDR (Refer to AMM20-30-11-760-801 and WM31-32-00).

Ground Stud	3133-P1-A14 (SSFDR)
GS5	38

- (i) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (j) Do the wiring check for the continuity and the isolation resistance between the ground stud GS3 and the SSFDR (Refer to AMM20-30-11-760-801 and WM31-32-00).

Ground Stud	3133-P1-A14 (SSFDR)
GS3	6

- (k) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (l) Do the wiring check for the continuity, ground fault and the isolation resistance between the No. 1 Input/Output Processor (IOP1) and the SSFDR (Refer to AMM20-30-11-760-801 and WM31-32-00):

3141-P1A-A1 (IOP1)	3133-P1-A14 (SSFDR)
335	7
334	8



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- (m) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (n) Remove and replace the impact switch (Refer to AMM31-32-16-000-801 and AMM31-32-16-400-801). Do the Close Out.
- (o) If the fault still continues, remove and replace the relay junction box number 1 (Refer to AMM24-50-60-000-801 and AMM24-50-60-400-801). Do the Close Out.
- (p) If the fault still continues, remove and replace the SSFDR (Refer to AMM31-32-01-000-801 and AMM31-32-01-400-801). Do the Close Out.
- (q) If the fault still continues, remove and replace the IOP1 (Refer to AMM31-41-06-000-801 and AMM31-41-06-400-801). Do the Close Out.
- (r) If the fault still continues, do the wiring check for the continuity, ground fault and the isolation resistance between the FSCU and CAWP (Refer to AMM20-30-11-760-801 and WM31-32-00).

3133-P10 (FSCU)	3312-P5 (CAWP)
6	15

- (s) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (t) If the fault still continues, remove and replace the FSCU (Refer to AMM31-32-11-000-801 and AMM31-32-11-400-801). Do the Close Out.

\*\*ON A/C 4323, 4328, 4332-4333, 4335-4336, 4338-4342, 4345-4348, 4351-4999

### Subtask 31-32-00-810-018

#### B. Isolate the fault as follows:

- (1) If the message is FDR, do the fault isolation for FDR (Refer to FIM31-32-00-810-801). Do the Close Out.
- (2) If the message is FDR/IOP1, do the fault isolation for FDR/IOP1 (Refer to FIM31-32-00-810-803). Do the Close Out.
- (3) If there are no related CDS messages, do the steps that follow:
  - (a) On the inertia switch, push the RESET button. Do the Close Out.
  - (b) If the fault still continues, do the wiring check for the continuity, ground fault and the isolation resistance between the 28 V dc right essential bus and the relay junction box number 1 (Refer to AMM20-30-11-760-801 and WM31-32-00).

28 VDC R ESS BUS (Avionics Circuit Breaker Panel)	9811-RJB1-P1E (Relay Junction Box No. 1)
FDR/SCU (E10)	53

- (c) If the wiring is unserviceable, repair the wiring. Do the Close Out.



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- (d) Do the wiring check for the continuity, ground fault and the isolation resistance between the relay junction box number 1 and the inertia switch (Refer to AMM20-30-11-760-801 and WM31-32-00).

9811-RJB1-P1E (Relay Junction Box No. 1)	3133-P1-A1 (Inertia Switch)
46	B

- (e) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (f) Do the wiring check for the continuity, ground fault and the isolation resistance between the inertia switch and the SSFDR (Refer to AMM20-30-11-760-801 and WM31-32-00).

3133-P1-A1 (Inertia Switch)	3133-P1-A14 (SSFDR)
A	9

- (g) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (h) Do the wiring check for the continuity and the isolation resistance between the ground stud GS6 and the SSFDR (Refer to AMM20-30-11-760-801 and WM31-32-00)

Ground Stud	3133-P1-A14 (SSFDR)
GS6	17

- (i) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (j) Do the wiring check for the continuity and the isolation resistance between the ground stud GS3 and the SSFDR (Refer to AMM20-30-11-760-801 and WM31-32-00).

Ground Stud	3133-P1-A14 (SSFDR)
GS3	16

- (k) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (l) Do the wiring check for the continuity, ground fault and the isolation resistance between the IOP1 and the SSFDR (Refer to AMM20-30-11-760-801 and WM31-32-00).

3141-P1A-A1 (IOP1)	3133-P1-A14 (SSFDR)
335	66
334	61



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- (m) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (n) Remove and replace the inertia switch (Refer to AMM31-32-16-000-801 and AMM31-32-16-400-801 Do the Close Out.
- (o) If the fault still continues, remove and replace the relay junction box number 1 (Refer to AMM24-50-60-000-801 and AMM24-50-60-400-801). Do the Close Out.
- (p) If the fault still continues, remove and replace the SSFDR (Refer to AMM31-32-01-000-802 and AMM31-32-01-400-802). Do the Close Out.
- (q) If the fault still continues, remove and replace the IOP1 (Refer to AMM31-41-06-000-801 and AMM31-41-06-400-801). Do the Close Out.
- (r) If the fault still continues, do the wiring check for the continuity, ground fault and the isolation resistance between the FSCU and CAWP (Refer to AMM20-30-11-760-801 and WM31-32-0 ).)

3133-P10 (FSCU)	3312-P5 (CAWP)
6	15

- (s) If the wiring is unserviceable, repair the wiring. Do the Close Out.
- (t) If the fault still continues, remove and replace the FSCU (Refer to AMM31-32-11-000-801 and AMM31-32-11-400-801). Do the Close Out.

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### 5. Close Out

Subtask 31-32-00-941-015

- A. Make sure that the FLT DATA RECORDER caution light on the CAWP is not on.
- B. Remove all tools, equipment, and unwanted materials from the work area.