

ZONES: 253  
 A/C NUMBER:  
 REV. DATE: 03/14/06  
 FREQUENCY: 1C

W/C NUMBER: 223M3102      DATE:

TOOLS	DESCRIPTION	QTY
964-0446-01	HAND HELD DOWNLOAD UNIT	1
MECH      INSP		

VERIFY ALL REQUIRED AIRCRAFT PARAMETERS ARE RECORDED PROPERLY ON THE FLIGHT DATA RECORDER (FDR).

NOTE: The following procedures apply to the on-aircraft portion of this task, either Step 1., Data Download, or Steps 2. and 3., FDR Removal/Installation (Mark the unused procedure "N/A").

Access Note: Access through lowered ceiling panel at BS 1640.

1. Make a Copy of the Flight Data with a Sundstrand Hand Held Download Unit (HHDLU).

NOTE: This is the preferred procedure. DO NOT remove the FDR unless a data download cannot be accomplished.

#### A. General

(1) This task uses an HHDLU to make a copy of the flight data from an FDR that records on solid state (SSFDR).

(2) The HHDLU is connected to the ATE connector on the front panel of the DFDR.

#### B. Equipment

(1) Unit, Hand Held Download 964-0446-001  
 97986 Sundstrand Data Control Inc.  
 15001 NE 36th Str.  
 P.O. Box 97001  
 Redmond, WA 98073-9701

#### C. References

(1) AMM 24-22-00/201, Electrical Power - Control

(2) AMM 25-22-02/401, Lower Ceiling Panel

#### D. Access

(1) Location Zone

A/C NUMBER:

CHECK BEING PERFORMED: Cust

W/C NUMBER: 223M3102 (continued)

MECH: INSP:

253 Area above passenger cabin ceiling (Left)

E. Procedure

- \_\_\_\_\_ XXXXXX (1) Supply electrical power (Ref. AMM 24-22-00).
- \_\_\_\_\_ XXXXXX (2) Open these circuit breakers on the overhead panel, P11, and attach DO-NOT-CLOSE tags:
  - (a) 11J7, FLIGHT RECORDER AC
  - (b) 11J8, FLIGHT RECORDER DC
- \_\_\_\_\_ XXXXXX (3) To get access to the DFDR, open the lower ceiling panel No.1 above the aft galley (Ref. AMM 25-22-02).
- \_\_\_\_\_ XXXXXX (4) Record DFDR part and serial numbers:
 

P/N \_\_\_\_\_ S/N \_\_\_\_\_
- \_\_\_\_\_ XXXXXX (5) Ensure the HHDLU power switch is OFF.
- \_\_\_\_\_ XXXXXX (6) Remove cover from FDR ATE connector and connect the HHDLU cable to the connector.
- \_\_\_\_\_ XXXXXX (7) Install the removable media (PCMIA Card) into the HHDLU.
- \_\_\_\_\_ XXXXXX (8) Remove the DO-NOT-CLOSE tags and close the circuit breakers on the P11 panel:
  - (a) 11J7, FLIGHT RECORDER AC
  - (b) 11J8, FLIGHT RECORDER DC
- \_\_\_\_\_ XXXXXX (9) At the P61 panel, set the ON-NORM-TEST switch on the flight recorder control panel (FRCP) to the ON position.
- \_\_\_\_\_ XXXXXX (10) Set the red POWER switch, installed adjacent to the HHDLU's RS-422 port, to the ON position.

NOTE: When power is first applied to the HHDLU, the HHDLU display will not be on. After approximately 30 seconds the HHDLU display will show the main menu.

(a) Ensure the HHDLU display shows DNLD in the main menu.

A/C NUMBER:

CHECK BEING PERFORMED: Cust

W/C NUMBER: 223M3102 (continued)

MECH: INSP:

\_\_\_\_\_ XXXXX (11) Push the DNLD key.

\_\_\_\_\_ XXXXX (12) Make sure the DOWNLOAD MENU shows on the display.

NOTE: The maximum quantity of flight data the HHDLU can make a copy of is 27.2 hours. If file DOWNLOAD01.DLU already exists on the removable media, the HHDLU will change the filename until a filename that is not used is found. To change the time or filename, push the TIME or FILE key.

\_\_\_\_\_ XXXXX (13) Push the GO key.

\_\_\_\_\_ XXXXX (14) If the HHDLU display shows DISK FULL, do the following:

- (a) Push a key.
- (b) Make sure the DELETE FILE menu shows on the display.
- (c) Use the NEXT or PREV key to move up and down the filenames.
- (d) Push the DEL key to make a selection of the file to be erased. Ensure the CONFIRM DELETE menu shows on the display.
- (e) Push the YES key to erase the file.
- (f) Erase files until sufficient memory is available to make a copy of the flight data.

NOTE: After each file is erased, the HHDLU makes sure the HHDLU has sufficient memory space. If there is sufficient memory, the HHDLU will start to make a copy.

- (g) Ensure the HHDLU display shows REC BLKS and XFER BLKS.

NOTE: REC BLKS is the number of blocks the HHDLU will move to the removable media. XFER BLKS is the number of blocks the HHDLU will move from the FDR. The REC BLKS and XFER BLKS fields will change during the copy procedure.

A/C NUMBER:

CHECK BEING PERFORMED: Cust

W/C NUMBER: 223M3102 (continued)

MECH: INSP:

- \_\_\_\_\_ XXXXX (15) After the copy procedure is completed, make sure the main menu shows on the display.
- \_\_\_\_\_ XXXXX (16) At the P61 panel, set the ON-NORM-TEST switch on the FCRP to the NORM position.
- \_\_\_\_\_ XXXXX (17) Disconnect the interface cable from the DFDR.
- \_\_\_\_\_ XXXXX (18) Put the connector cover on the front of the DFDR.
- \_\_\_\_\_ XXXXX (19) Remove electrical power if it is not necessary (Ref. AMM 24-22-00).
- \_\_\_\_\_ XXXXX (20) Remove the PCMIA card from the HHDLU and route the card to Stores. Mark M-31 Tag "Send out for card to be read per CBSO FLT-31-958 or 959."

CAUTION: THE REMOVED DFDR MUST BE RETAINED AT THE REMOVING STATION, WITH SEALS INTACT, UNTIL THE NEWLY INSTALLED UNIT HAS ACQUIRED 25 HOURS OF DATA (REF. GMM, CHAP. 6, PARA. X).

| 2. Remove the Flight Data Recorder

NOTE: Removal/Installation of FDR is NOT required if a copy of FDR data can be made.

A. References

- (1) 20-10-01/401, E/E Rack Mounted Components
- (2) 20-41-01/201, Electrostatic Sensitive Devices

B. Access

- (1) Location Zone
  - 253 Area above passenger cabin ceiling (left)

C. Procedure

CAUTION: DO NOT TOUCH THE FDR BEFORE YOU DO THE "PROCEDURE FOR DEVICES" THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE DFDR.

A/C NUMBER:

CHECK BEING PERFORMED: Cust

W/C NUMBER: 223M3102 (continued)

MECH: INSP:

- 
- \_\_\_\_\_ XXXXX (1) Do the procedure for devices that are sensitive to electrostatic discharge (Ref. AMM 20-41-01).
- \_\_\_\_\_ XXXXX (2) Open these circuit breakers on the P11 panel and attach the DO-NOT-CLOSE tags:
- (a) 11J7, FLIGHT RECORDER AC
- (b) 11J8, FLIGHT RECORDER DC
- \_\_\_\_\_ XXXXX (3) To get access to the FDR, lower the ceiling panel No.1 above the aft galley (Ref. AMM 25-22-02).
- \_\_\_\_\_ XXXXX (4) Remove the FDR from the rack (Ref. AMM 20-10-01).
- \_\_\_\_\_ XXXXX (5) Record removed FDR part and serial numbers:
- P/N \_\_\_\_\_ S/N \_\_\_\_\_
- CAUTION: ATTACH AN M-31 TAG TO THE REMOVED DFDR AND INDICATE THE UNIT MUST BE RETAINED AT THE REMOVING STATION, WITH SEALS INTACT, UNTIL THE NEWLY INSTALLED UNIT HAS ACQUIRED 25 HOURS OF DATA (REF. GMM, CHAP. 6, PARA. X).
- \_\_\_\_\_ XXXXX (6) Tag DFDR and route to Avionics Shop for off-aircraft parameter recording verification.

| 3. Install the Flight Data Recorder

A. Access

1. Location Zone

253 Area above passenger cabin ceiling (left)

CAUTION: DO NOT TOUCH THE DFDR BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSISTIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISHARGE CAN CAUSE DAMAGE TO THE DFDR.

B. Procedure

- \_\_\_\_\_ XXXXX (1) Do the procedure for devices that are sensitive to electrostatic discharge (Ref 20-41-01).

A/C NUMBER:

CHECK BEING PERFORMED: Cust

W/C NUMBER: 223M3102 (continued)

MECH: INSP:

\_\_\_\_\_ XXXXX (2) Make sure these circuit breakers on the P11 panel are open:

(a) 11J7, FLIGHT RECORDER AC

(b) 11J8, FLIGHT RECORDER DC

\_\_\_\_\_ XXXXX (3) Install the FDR to the equipment rack (Ref. AMM 20-10-01).

\_\_\_\_\_ XXXXX (4) Record FDR part and serial numbers:

P/N \_\_\_\_\_ S/N \_\_\_\_\_

\_\_\_\_\_ XXXXX (5) Close the lower ceiling panel No. 1 (Ref. AMM 25-22-02).

\_\_\_\_\_ XXXXX (6) Remove the DO-NOT-CLOSE tags and close the circuit breakers on the P11 panel:

(a) 11J7, FLIGHT RECORDER AC

(b) 11J7, FLIGHT RECORDER DC

C. FDR Test

\_\_\_\_\_ XXXXX (1) Supply electrical power (Ref. AMM 24-22-00).

\_\_\_\_\_ XXXXX (2) At the P61 panel, set the ON-NORM-TEST switch on the flight recorder control panel to the ON position.

\_\_\_\_\_ XXXXX (3) Make sure the OFF light on the flight recorder control panel goes off.

\_\_\_\_\_ XXXXX (4) Set the switch to the NORM position.

\_\_\_\_\_ XXXXX (5) Remove electrical power if it is not necessary. (Ref. AMM 24-22-00)

\*\*\*\*\*END OF WORKCARD\*\*\*\*\*