

Project No: **BDHRN002**Job Card No **0158**

Notif.No.: 10049094

Activity: **1003**

Rev No: 20000622

Model.: F900EX

Sheet 1 of 1

A/C Regn: **D-AHRN**

Serial No.: 096

Type: F900EX

Starting Phase: Functions

Starting Work Centre: MTX AVIO DEPT

Job Description: **OPC Fdr System**

ETOPS A/C: No

RVSM A/C: No

Warranty: -

ATA: 31

Check Type: 2A+ Inspection

| Work Center | |
|---------------|--|
| MTX AVIO DEPT | |
| | |
| | |
| | |
| | |

Zone: 200**Access Required for this task:**

PAX

Corrective Action

| | | | | | | |
|------|---|------|-----------|------|--|--|
| 0001 | Task carried out in accordance with the attached Customer Card that quotes the Operator code detailed below. | | | | | Order: 80069260 Operation: 0010 Phase: Functions - scheduling activity Work Center: MTX AVIO DEPT |
| | Accomplished | | Inspected | | | |
| | Pers. No. | Date | Pers. No. | Date | | |
| | Stamp | | Stamp | | | |

Completed & Confirmed on SAP IAW MOE 2.13.

Defect Card Raised

Components Removed/Installed

| | Part Number | Part Name | S/N | Location | Comm. Off/On |
|-----|-------------|-----------|-----|----------|--------------|
| OFF | | | | | |
| ON | | | | | |
| OFF | | | | | |
| ON | | | | | |
| OFF | | | | | |
| ON | | | | | |
| OFF | | | | | |
| ON | | | | | |

Occurance Report Raised? YES ☐

Operations Above & Notifications Completed IAW MOE 2.13.



OEM Code: 31-31-00-710-802

Operator Code: 31-31-00-710-802-01

Form No: JA-SAP-MTX-002

Printed by: ADAMOVIC G



Printed: 03.09.2012

13:34:17

Print No: 1

Operator: **HERON AVIATION** Work Card No.: **31.120**
 Serial No.: **096** Model: **FALCON 900EX** PKG # **12 2A+ INSPECTION**
 Reg No.: **D-AHRN** Workorder No.: _____

| Due At | Date | A/C HRS | AFL | APH | | | |
|--------------|--------------------|---------|-----|-----|--|--|--|
| Accomplished | 25-NOV-2012 | | | | | | |

TECHNICIAN SIGNATURE: _____ KIND OF CERTIFICATE & NO.: _____

INSPECTED BY: _____ KIND OF CERTIFICATE & NO.: _____

| | | |
|---------------------|------------------------------|----------------------|
| 31-31-31-900-801-01 | DIGITAL FLIGHT DATA RECORDER | AMM 31-31-31-900-801 |
|---------------------|------------------------------|----------------------|

| | | | | | | | | | | | | |
|--------------------------------|---------------------------------------|----------------------------------|-------------------------------|---------------------------------|--|--------------------------------------|----------------------------------|--|--------------------------------------|---|----------------------------------|----------------------------------|
| REASON REMOVED: (CHECK ONE) | <input type="checkbox"/> TIME EXPIRED | <input type="checkbox"/> FAILURE | <input type="checkbox"/> WORN | <input type="checkbox"/> LOANER | <input type="checkbox"/> SCHEDULING CONV | <input type="checkbox"/> MOD/UPGRADE | <input type="checkbox"/> SERVICE | <input type="checkbox"/> ENGINE CHANGE | <input type="checkbox"/> TIRE CHANGE | <input type="checkbox"/> SWAP/TRBLE SHOOT | <input type="checkbox"/> DAMAGED | <input type="checkbox"/> UNKNOWN |
|--------------------------------|---------------------------------------|----------------------------------|-------------------------------|---------------------------------|--|--------------------------------------|----------------------------------|--|--------------------------------------|---|----------------------------------|----------------------------------|

If removed P/N & S/N information is incorrect please provide details below.

| | | | | | | | |
|---------------|--------------|--|---------------|------|--|-------------------------|-------|
| REMOVED P/N | 980-4710-003 | | S/N | 0339 | | LABOR-HRS | |
| INSTALLED P/N | | | S/N | | | PART COST\$ | |
| INSTALLED TSN | MOS | | INSTALLED TSO | MOS | | TIME SINCE REPAIR | MOS |
| | HRS | | | HRS | | | HRS |
| | LDGS | | | LDGS | | WARRANTY TIME REMAINING | LDGS |
| | | | | | | TECH: | INSP: |

REMARKS : _____

Note: INITIAL THE SERVICE TASKS BELOW WHICH WERE ACCOMPLISHED DURING CHANGE. IF TASKS WERE NOT ACCOMPLISHED, RECORD TIME ACCRUED SINCE TASK WAS LAST ACCOMPLISHED OR CHECK CONTINUE TIME (CT).

| TECH | INSP | LABOR-HRS HRS.MINS | TIME ACCRUED | CONTINUE TIME |
|------|------|-----------------------|-----------------|------------------|
|------|------|-----------------------|-----------------|------------------|

>31-31-00-710-802- **OPERATIONAL TEST DIGITAL FLIGHT DATA RECORDER**
01

REMARKS : _____

AMM 31-31-00-710-802

31-31-00-720-802-01 **FUNCTIONAL TEST DIGITAL FLIGHT DATA RECORDER**
57-PARAMETER

REMARKS : _____

AMM 31-31-00-720-802 NOTE: REFER TO COUNTRY OF REGISTRATION.

31-31-00-720-803-01 **FUNCTIONAL TEST DIGITAL FLIGHT DATA RECORDER**
32-PARAMETER

REMARKS : _____

AMM 31-31-00-720-803 NOTE: REFER TO COUNTRY OF REGISTRATION.

Operator: **HERON AVIATION**

Work Card No.: **31.120**

Serial No.: **096**

Model: **FALCON 900EX**

PKG # 12 2A+ INSPECTION

Reg No.: **D-AHRN**

Workorder No.: _____

| | Date | A/C HRS | AFL | APH | | | |
|--------------|--------------------|---------|-----|-----|--|--|--|
| Due At | 25-NOV-2012 | | | | | | |
| Accomplished | | | | | | | |

31-31-00-970-801-01 DOWNLOAD DIGITAL FLIGHT DATA RECORDER

REMARKS : _____

NOTE: REFER TO COUNTRY OF REGISTRATION.

AMM 31-31-00-970-801

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

TASK 31-31-31-900-801

REMOVAL / INSTALLATION OF THE FLIGHT DATA RECORDER (FDR)

1. OVERVIEW OF THE JOB

Operation code: 31-31-31-900-801-01 FDR (**14FZ**)

2. LOGISTICS

A. References

| Reference | Designation |
|---------------------------|---|
| • 31-31-00-710-802 | OPERATIONAL TEST OF THE FLIGHT DATA RECORDER (FDR) SYSTEM |

B. Tools and Ground Support Equipment

| Reference | Designation | Quantity |
|------------------------|-------------|----------|
| • F7XC202000008 | TOOL BOX | |

C. Ingredients and Consumable Products

| Designation | Additional designation |
|-------------------|------------------------|
| • LOCKWIRE | MS20995C32 |

D. Energy

- ELECTRICAL

E. Access

| Reference | Designation |
|--------------|----------------------------|
| • MSD | SERVICING COMPARTMENT DOOR |
| • PAX | PASSENGER DOOR |

3. PRELIMINARY STEPS

Refer to **fig. 1**

- A. In the cockpit, on LH circuit breaker panel (**10PP**), disengage "FLIGHT RECORDER" circuit breaker (**1FZ**).

4. REMOVAL OF FLIGHT DATA RECORDER (FDR) (**14FZ**)

- A. Removal of ALLIED SIGNAL "AR-Series" FDR (**14FZ**) (A/C with M 2842) (**fig. 2**)

- (1) In the mechanic's servicing compartment (**MSD**):

- (a) Disconnect the electrical cable from connector (1).
- (b) Remove the six screws with their washers (2).
- (c) Carefully extract FDR (**14FZ**) from its support (3).

- B. Removal of ALLIED SIGNAL "Solid State" FDR (A/C with M 1978 or M 2140) (**fig. 3**)

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

- (1) In the mechanic's servicing compartment (**MSD**):
 - (a) Unsafety the two quick-disconnect locks (1) by cutting lockwire (2).
 - (b) Loosen and clear the two quick-disconnect locks (1).
 - (c) Carefully extract FDR (**14FZ**) from its support rack (3).

5. INSTALLATION OF FDR (14FZ**)**

- A. Installation of ALLIED SIGNAL "AR-Series" FDR (**14FZ**) (A/C with M 2842) (**fig. 2**)
 - (1) In the mechanic's servicing compartment (**MSD**):
 - (a) Position FDR (**14FZ**) on its support (3).
 - (b) Tighten the six screws with their washers (2).
 - (c) Connect the electrical cable to connector (1).
- B. Installation of ALLIED SIGNAL "Solid State" FDR (**14FZ**) (A/C with M 1978 or M 2140) (**fig. 3**)
 - (1) In the mechanic's servicing compartment (**MSD**):
 - (a) Position FDR (**14FZ**) on its support rack (3) and bring it in contact with its locating pins.
NOTE: The two locating pins are located at the rear of the support rack (3).
 - (b) Tighten the two quick-disconnect locks (1).
 - (c) Safety the two quick-disconnect locks (1) with lockwire (2).

6. FINAL STEPS

Refer to **fig. 1**

- A. In the cockpit, on LH circuit breaker panel (**10PP**), engage "FLIGHT RECORDER" circuit breaker (**1FZ**).
- B. Perform the operational test of FDR (**14FZ**) (Refer to **TASK 31-31-00-710-802**).

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

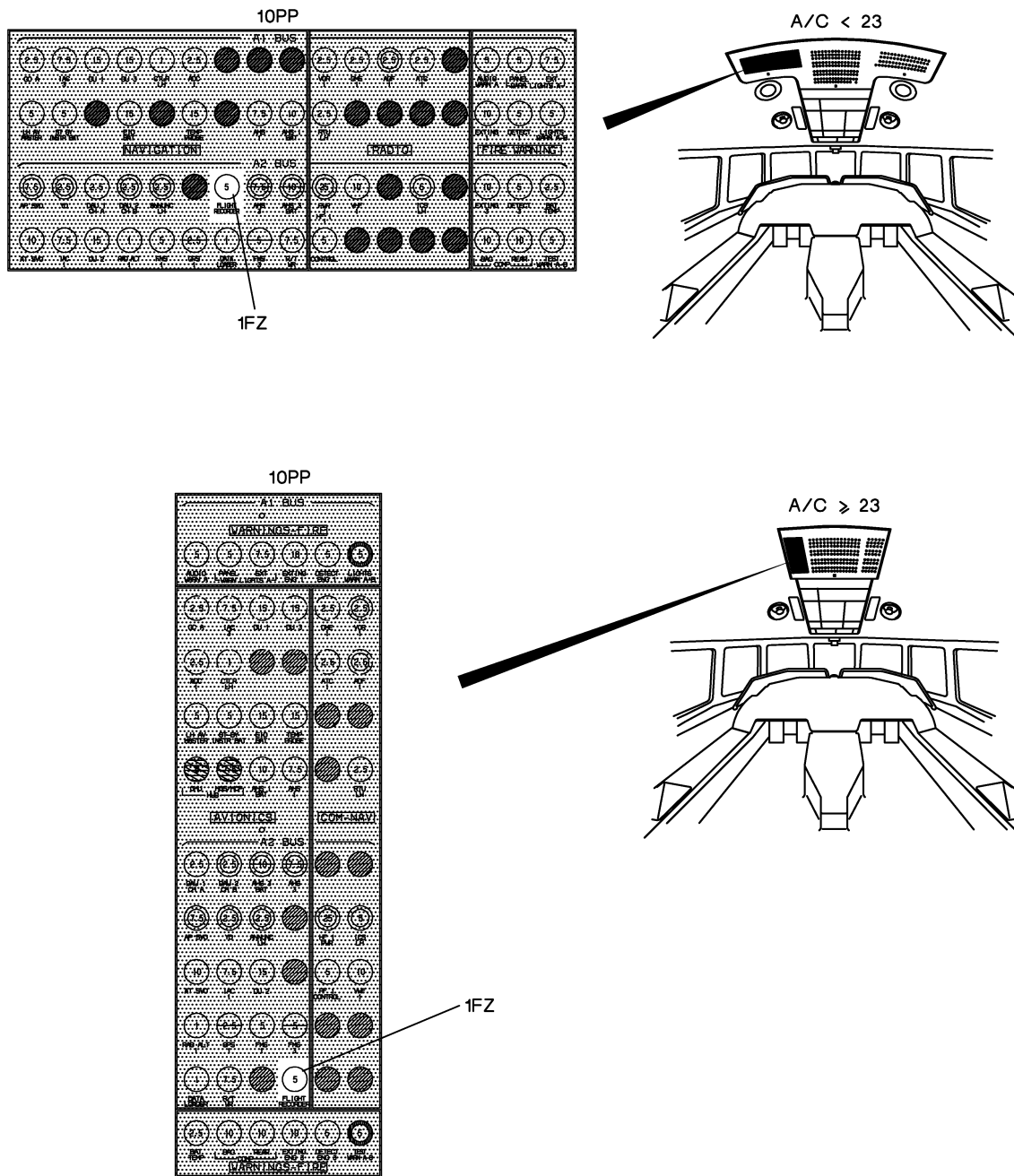


Figure 1: Location of Cockpit Controls

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

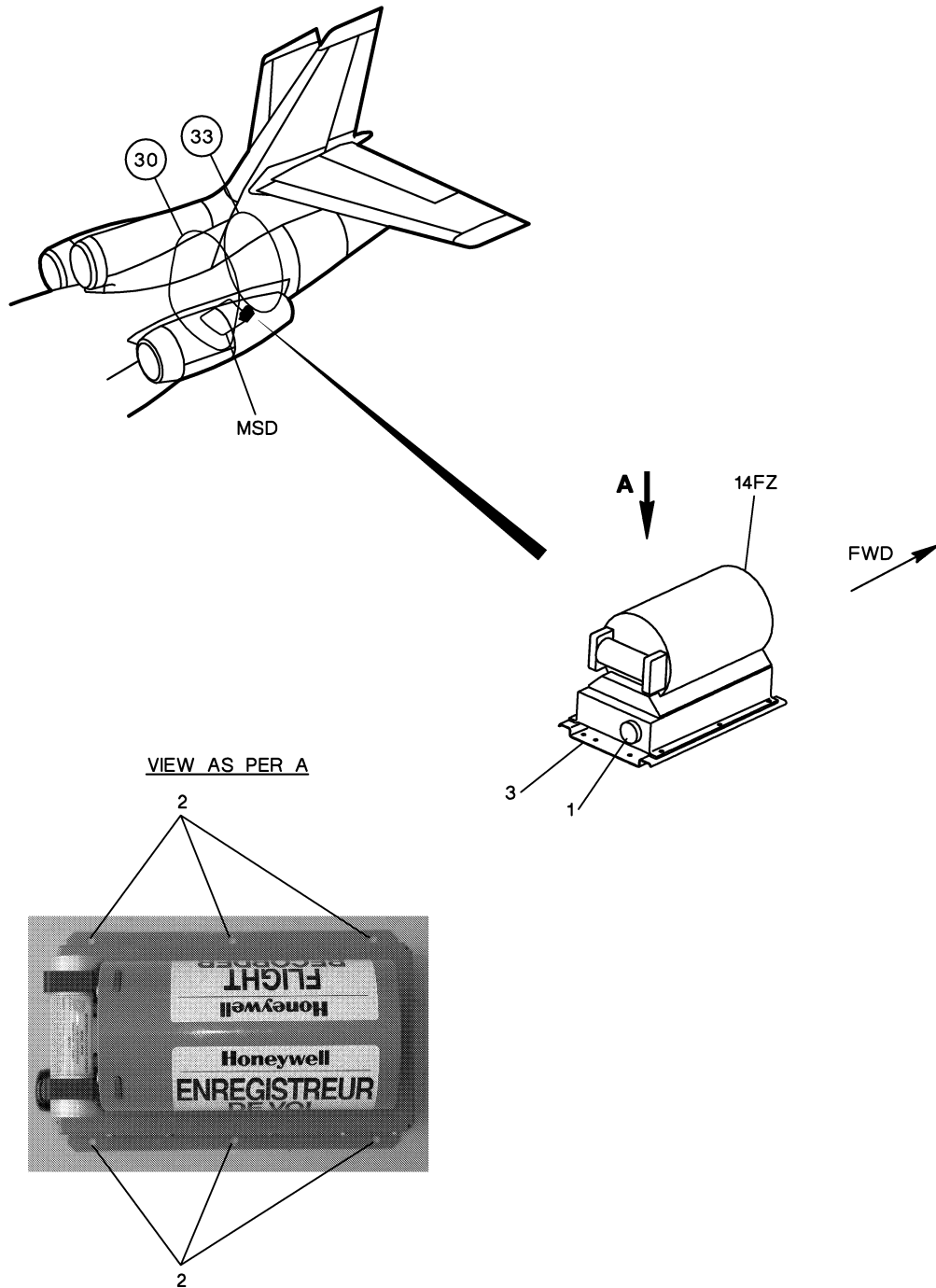


Figure 2: Removal/Installation of ALLIED SIGNAL "AR-Series" FDR (A/C WITH M 2842)

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

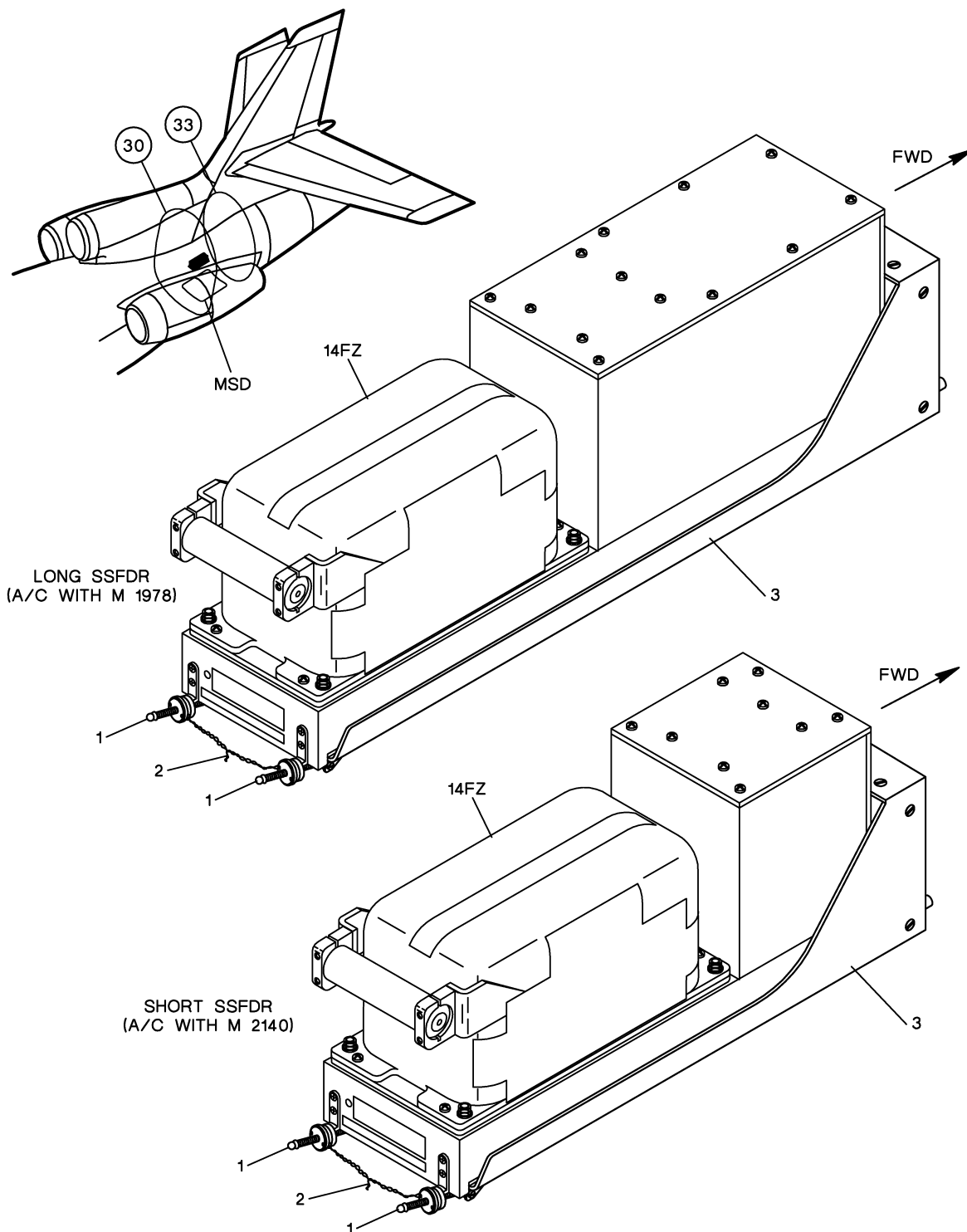


Figure 3: Removal/Installation of ALLIED SIGNAL "Solid State" FDR (A/C WITH M 1978 OR M 2140)

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

TASK 31-31-00-710-802 OPERATIONAL TEST OF THE FLIGHT DATA RECORDER (FDR) SYSTEM

1. OVERVIEW OF THE JOB

Operation code: 31-31-00-710-802-01

2. LOGISTICS

A. References

Reference

- [24-00-00-860-801](#)

Designation

ENERGIZATION / DE-ENERGIZATION OF THE AIRCRAFT

B. Energy

- ELECTRICAL

C. Access

Reference

- [PAX](#)

Designation

PASSENGER DOOR

3. PRELIMINARY STEPS

- Connect the electrical ground power unit (Refer to [TASK 24-00-00-860-801](#), paragraph "Connection of the Electrical Ground Power Unit").
- Energize the aircraft systems (Refer to [TASK 24-00-00-860-801](#), paragraph "Energization with the Electrical Ground Power Unit").

4. OPERATIONAL TEST

Refer to **fig. 1**

- A/C with 32-parameter DFDR ([14FZ](#)):

- Check that the "DFDR" message (1) is not displayed on Engine Instrument Display ([62FV](#)).
- If not, troubleshoot the DFDR installation.

- A/C with 57-parameter DFDR ([14FZ](#)):

- Check that:
 - the "DFDR" message (1) is not displayed on engine instrument display ([62FV](#)).
 - the "FDAU" and "DFDR" lights ([556FZ](#)) and ([555FZ](#)) on flight data entry panel ([703FZ](#)) are extinguished.
- If not, troubleshoot the DFDR installation.

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

5. FINAL STEPS

- A. De-energize the aircraft systems (Refer to **TASK 24-00-00-860-801**, paragraph "De-energization with the Electrical Ground Power Unit").
- B. Disconnect the electrical ground power unit (Refer to **TASK 24-00-00-860-801**, paragraph "Disconnection of the Electrical Ground Power Unit").

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

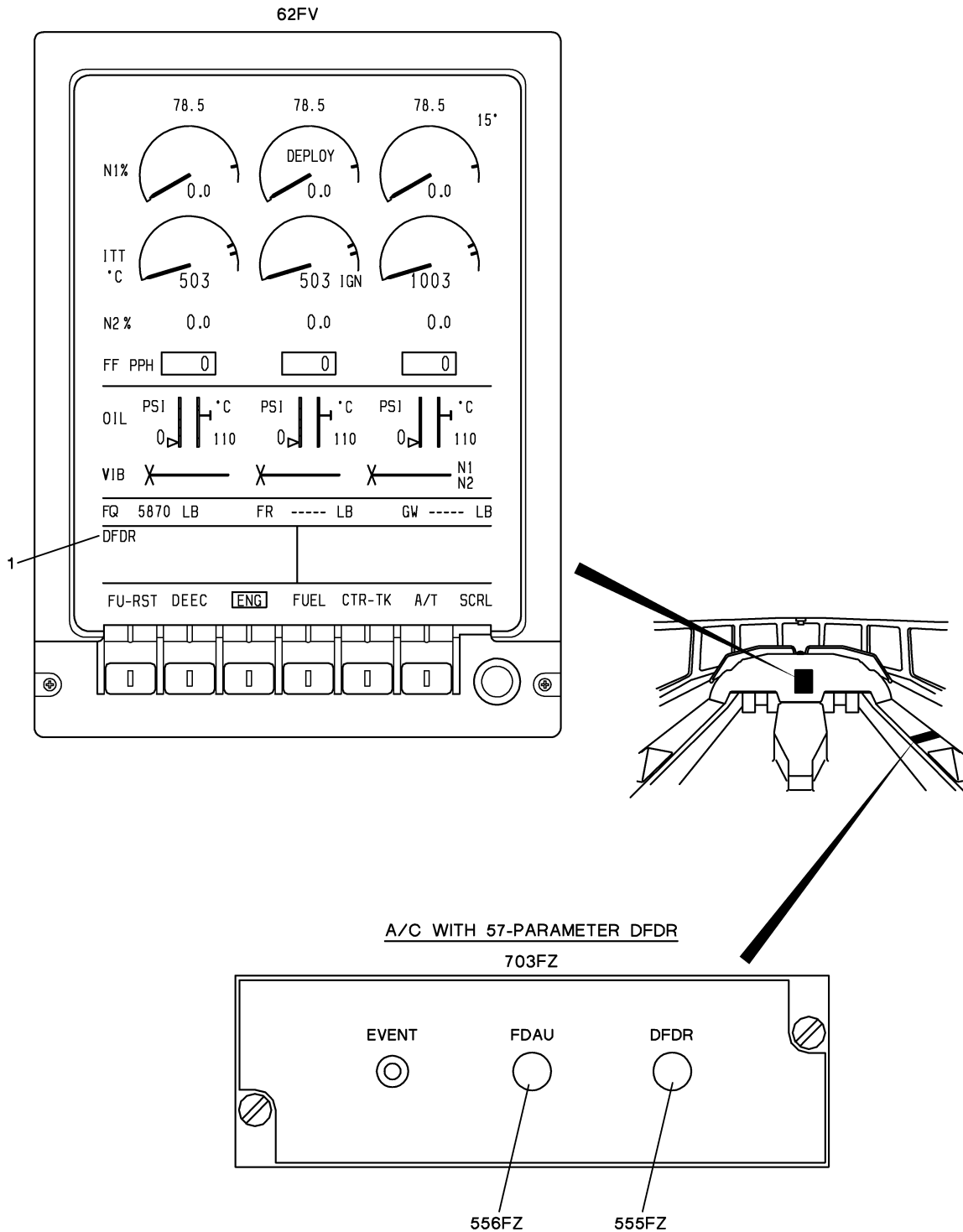


Figure 1: Location of DFDR Fault Displays

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

TASK 31-31-00-720-802 FUNCTIONAL TEST OF THE 57-PARAMETER FDR

WARNING: SERIOUS PERSONNEL INJURIES CAN RESULT FROM OPERATIONS ON ACTIVE FLIGHT CONTROLS IF THE FOLLOWING INSTRUCTIONS ARE NOT OBSERVED:

- THE FLIGHT CONTROLS MANEUVERING SPACES MUST BE UNOBSTRUCTED,
- APPROPRIATE SAFETY FENCES AND WARNING LIGHTS MUST BE INSTALLED AROUND THE AIRCRAFT,
- THE PERSONNEL INSIDE THE FENCED AREA MUST BE AWARE OF THE ONGOING OPERATIONS AND OF THE ASSOCIATED HAZARDS.

1. OVERVIEW OF THE JOB

Operation code: 31-31-00-720-802-01 FDR (**14FZ**)

2. LOGISTICS

A. References

| Reference | Designation |
|---------------------------|--|
| • 24-00-00-860-801 | ENERGIZATION / DE-ENERGIZATION OF THE AIRCRAFT |
| • 27-00-00-910-804 | USE OF THE FLIGHT CONTROL SURFACE DEFLECTION MEASURING FIXTURES |
| • 29-00-00-860-801 | PRESSURIZATION / DE-PRESSURIZATION OF THE HYDRAULIC SYSTEMS |
| • 31-31-09-720-801 | FUNCTIONAL TEST OF THE FDR / CVR ACCELERATION CONTACTS |
| • 31-31-33-900-801 | REMOVAL / INSTALLATION / ADJUSTMENT OF THE FDR FLIGHT CONTROL SURFACE POSITION SENSORS |
| • 31-31-37-820-801 | ADJUSTMENT OF THE FDR FLIGHT CONTROL POSITION POTENTIOMETERS |
| • 32-10-00-860-801 | MANUAL OPENING / CLOSING OF THE MLG DOORS |
| • 32-60-00-910-801 | USE OF THE GROUND / FLIGHT BOX |
| • 71-00-00-910-802 | ENGINE INSPECTION RUN-UP |
| • 78-30-00-910-802 | DEPLOYMENT / STOWING OF THE THRUST REVERSER |

B. Tools and Ground Support Equipment

| Reference | Designation | Quantity |
|------------------------|---------------------------------|----------|
| • F7XC202000008 | TOOL BOX | |
| • 964-0446-001 | HHDLU (HAND HELD DOWNLOAD UNIT) | |
| • 704-2688-001 | HHDLU CONNECTING HARNESS | |

C. Energy

- ELECTRICAL
- HYDRAULIC

D. Access

| Reference | Designation |
|--------------|----------------------------|
| • MSD | SERVICING COMPARTMENT DOOR |

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 1 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

- | | |
|----------------|------------------|
| • PAX | PASSENGER DOOR |
| • 711AB | NLG MAIN DOOR |
| • 712AB | NLG MAIN DOOR |
| • 731AB | LH MLG MAIN DOOR |

E. Miscellaneous

- SAFETY FENCES (LOCAL PROCUREMENT)
- WARNING LIGHTS (LOCAL PROCUREMENT)

3. PRELIMINARY STEPS

- A. Install the safety fences and the warning lights.
- B. Connect the electrical ground power unit (Refer to **TASK 24-00-00-860-801**, paragraph "Connection of the Electrical Ground Power Unit").
- C. Connect the hydraulic ground power unit to systems 1 and 2 (Refer to **TASK 29-00-00-860-801**, paragraph "Connection of the Hydraulic Ground Power Unit").
- D. Connect the ground/flight box (Refer to **TASK 32-60-00-910-801**, paragraph "Installation").
- E. Open LH main landing gear door (**731AB**) (Refer to **TASK 32-10-00-860-801**).
- F. Disconnect connector (**9GA**) (L/G control unit) in the LH L/G compartment (**731AB**).
- G. Close LH main landing gear door (**731AB**) (Refer to **TASK 32-10-00-860-801**).
- H. Install a pennant indicating that connector (**9GA**) is disconnected.
- I. Using Hand Held DownLoad Unit (HHDLU) connecting harness (**704-2688-001**), connect the HHDLU (**964-0446-001**) to DFDR test connector (**8FZ**) located in the rear compartment (MSD).

WARNING: PERSONNEL INJURIES CAN RESULT FROM ANY OPERATION ON FLIGHT CONTROL SYSTEM EQUIPMENT. ELECTRICAL AND HYDRAULIC POWER SUPPLIES ARE PROHIBITED WHILE INSTALLING FLIGHT CONTROL SURFACE DEFLECTION MEASURING FIXTURES.

- J. Install the LH aileron deflection measuring fixtures (Refer to **TASK 27-00-00-910-804**, paragraph "Use of Aileron Deflection Measuring Fixture").
- K. Install the rudder deflection measuring fixture (Refer to **TASK 27-00-00-910-804**, paragraph "Use of Rudder Deflection Measuring Fixture").
- L. Install the LH elevator deflection measuring fixture (Refer to **TASK 27-00-00-910-804**, paragraph "Use of Elevator Deflection Measuring Fixture").
- M. Make sure that overhead panel switches "DEEC 1" (**L2EP**), "DEEC 2" (**M2EP**) and "DEEC 3" (**R2EP**) are set to "AUTO".

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 2 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

- N. On circuit breaker panel (**10PP**), disengage the following circuit breakers (**fig. 1**):
- (1) On LH breaker panel:
 - "EXTING 1" (A/C without M 1848) or "EXTING ENG 1" (A/C with M 1848) (**L1WB**),
 - "EXTING 3" (A/C without M 1848) or "EXTING ENG 3" (A/C with M 1848) (**R1WB**),
 - "DETECT 1" (A/C without M 1848) or "DETECT ENG 1" (A/C with M 1848) (**L1WG**),
 - "DETECT 3" (A/C without M 1848) or "DETECT ENG 3" (A/C with M 1848) (**R1WG**),
 - "REAR COMP" (**11WG**),
 - "BAG COMP" (**21WG**).
 - (2) On RH breaker panel:
 - "EXTING 2" (A/C without M 1848) or "EXTING ENG 2" (A/C with M 1848) (**M1WB**),
 - "DETECT 2" (A/C without M 1848) or "DETECT ENG 2" (A/C with M 1848) (**M1WG**),
 - "APU FIRE" (**21WB**).
- O. Energize the aircraft systems (Refer to **TASK 24-00-00-860-801**, paragraph "Energization with the Electrical Ground Power Unit").

4. FUNCTIONAL CHECK OF DFDR

- A. Check of the acceleration contact logic circuit
- (1) Perform a functional test of DFDR acceleration contact (Refer to **TASK 31-31-09-720-801**, paragraph "Functional test of DFDR acceleration contact (**15FZ**)").
- B. Check of power supply
- (1) Make sure that "FLIGHT RECORDER" circuit breaker (**1FZ**) (**fig. 1**) is engaged.
 - (2) Check that HHDLU (**964-0446-001**) connected to DFDR (**14FZ**) is energized.
 - (3) Disengage "FLIGHT RECORDER" circuit breaker (**1FZ**) (**fig. 1**).
 - (4) Check that HHDLU (**964-0446-001**) is not energized.
 - (5) Engage "FLIGHT RECORDER" circuit breaker (**1FZ**) (**fig. 1**).
- C. Check of downloading function
- (1) Using HHDLU reader provided with a cartridge memory, store the parameters in memory:
 - Check that "DFDR" light on Flight Data Entry Panel (FDEP) (**703FZ**) is illuminated during the transfer.
- D. Reading and check of DFDR parameters
- (1) Acquisition of system parameters
- NOTE 1: Legend for the following tables:
- "PARAMETER" column: name of the parameter,
 - "WORD" and "BIT No." and "SUB-FRAME" (if specified) columns: location of the parameter (used to set the HHDLU),
 - "OBS." column (if specified): additional data such as A/C initial configuration, origin of the data, etc.,

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 3 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

- "ACTION" column: action to be performed to test the parameter,
- "DESIRED VALUE" column: A/C physical value to be reached when the "ACTION" is performed,
- "HHDLU EXPECTED VALUE" column: coded value expected on the HHDLU (corresponding to the "DESIRED VALUE" to within tolerances),
- "HHDLU READ VALUE" column: coded value read on the HHDLU (to be compared with the HHDLU expected value).

NOTE 2: The HHDLU must be set as follows:

- Base selection:
 - "BIN" (binary base) for checking the bit status changes,
 - "DEC" (decimal base) for checking all the other parameters.
- Sub-frame selection ("SF") set to the specified value or to "ALL" (if no value is specified).

NOTE 3: It is not necessary to test some of the parameters which are already tested during avionics tests. All DFDR-dedicated bus, analog and discrete parameters, listed hereafter, are to be tested.

- (a) After each following check, reset all the controls used during these tests to their initial configuration.

| PARAMETER | WORD | BIT No. | SUB-FRAME | OBS. | ACTION | DESIRED VALUE | HHDLU EXPECTED VALUE | HHDLU READ VALUE |
|---------------------|-----------------------------------|---------|-----------|-----------------------------|--|--------------------------|----------------------|------------------|
| BITE | 256 | 12-1 | 3 | | None | NO FAULT = all bits at 0 | | |
| NORMAL ACCELERATION | 2, 34, 66, 98, 130, 162, 194, 226 | 12-1 | ALL | From accelerometer (4FZ) | None | 1 g | 152 ± 26 | |
| PILOT PTT | 107 | 11 | ALL | RTU 1 (L12RC) energized | Press pilot push-to-talk button (L8TB3) | Active PTT Bit 11 = 0 | | |
| COPILOT PTT | 107 | 10 | ALL | RTU 2 (R12RC) energized | Press copilot push-to-talk button (R8TB3) | Active PTT Bit 10 = 0 | | |

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 4 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| PARAMETER | WORD | BIT No. | SUB-FRAME | OBS. | ACTION | DESIRE D VALUE | HHDLU EXPECTED VALUE | HHDL U READ VALUE |
|----------------|---------|---------|-----------|---|---|---------------------------|----------------------|-------------------|
| MASTER WARNING | 99 | 12 | ALL | Red "MASTER WARNING" lights (<u>L5WW</u>)/ (<u>R5WW</u>) flash | Set "TEST" switch (<u>2WW01</u>) on warning panel (<u>2WW</u>) to LIGHTS position | Illuminated Bit 12 = 0 | | |
| DOORS | 99 | 7 | ALL | "DOORS" light (<u>2WW64</u>) illuminates | | Open Bit 7 = 0 | | |
| CABIN | 94, 222 | 7 | ALL | "CABIN" light (<u>2WW66</u>) illuminates | | Illuminated Bit 7 = 0 | | |
| HOT BAT | 113 | 2 | ALL | "HOT BAT" (<u>2WW62</u>) light illuminates | | Illuminated Bit 2 = 0 | | |
| CHECK PFD | 113 | 3 | ALL | "CHECK PFD" (<u>2WW41</u>) light illuminates | | Illuminated Bit 3 = 0 | | |

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 5 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| PARAMETER | WORD | BIT No. | SUB-FRAME | OBS. | ACTION | DESIRE D VALUE | HHDLU EXPECTE D VALUE | HHDL U READ VALU E |
|-------------------|------------------|---------|-----------|--|---|--------------------------|-----------------------|--------------------|
| T/R | 239 | 3 | ALL | "THRUST REVERSER" (2WW46) light illuminates | Set "TEST" switch (2WW01) on warning panel (2WW) LIGHTS position to | Illuminated Bit 3 = 0 | | |
| L. WHL OVHT | 113 | 5 | ALL | "L. WHL OVHT" light (2WW54) illuminates | | Illuminated Bit 5 = 0 | | |
| R. WHL OVHT | 113 | 6 | ALL | "R. WHL OVHT" light (2WW56) illuminates | | Illuminated Bit 6 = 0 | | |
| ENGINE 2 DUCT | 113 | 7 | ALL | "ENGINE 2 DUCT" light (2WW67) illuminates | | Illuminated Bit 7 = 0 | | |
| ENGINE 2 FAIL | 230 | 8 | ALL | "ENGINE 2 FAIL" light (2WW11) illuminates | | Illuminated Bit 8 = 0 | | |
| AIR/GROUND SENSOR | 14, 78, 142, 206 | 2 | ALL | (Refer to TASK 32-60-00-91 0-801) | Set aircraft to flight mode then to ground mode using the ground/flight box | LH main L/G on ground | Bit 2 = 0 | |
| | 14, 78, 142, 206 | 1 | | | | Nose L/ G on ground | Bit 1 = 0 | |
| | 15, 79, 143, 207 | 2 | | | | RH main L/G on ground | Bit 2 = 0 | |
| EVENT MARKER | 239 | 1 | ALL | | Press "EVENT" pushbutton on DFDR Control Unit (703FZ) | | Bit 1 = 0 | |

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 6 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| PARAMETER | WORD | BIT No. | SUB-FRAME | OBS. | ACTION | DESIRED VALUE | HHDLU EXPECTED VALUE | HHDLU READ VALUE |
|--------------------|------|---------|-----------|---------------------------|---|---------------|----------------------|------------------|
| EVENT MARKER | 107 | 12 | ALL | | Press "EVENT" pushbutton (2FZ) of instrument panel | | Bit 12 = 0 | |
| MAINTENANCE DFDR#1 | 230 | 11 | ALL | DFDR maintenance status | None | NO FAULT | Bit 11 = 0 | |
| FRAME SELECT LSB | 173 | 1 | ALL | GND/ OPEN discrete signal | None | OPEN | Bit 1 = 1 | |
| FRAME SELECT MSB | 173 | 2 | ALL | GND/ OPEN discrete signal | None | GND | Bit 2 = 0 | |

(2) Acquisition of hydraulic parameters

WARNING: COMPLY WITH THE SAFETY MEASURES APPLYING TO THE OPERATIONS PERFORMED ON FLIGHT CONTROLS. MAKE SURE THAT THE FLIGHT CONTROL MANEUVERING SPACES ARE UNOBSTRUCTED.

- (a) Pressurize hydraulic systems 1 and 2 (Refer to [TASK 29-00-00-860-801](#), paragraph "Pressurization from Hydraulic Ground Power Unit").

NOTE 1: If one of the values of the control position potentiometers is out of tolerance, adjust the relevant potentiometer (Refer to [TASK 31-31-37-820-801](#)).

NOTE 2: If one of the values of the control surface position potentiometers is out of tolerance, adjust the relevant potentiometer (Refer to [TASK 31-31-33-900-801](#)).

- (b) After each following check, reset all the controls used during these tests to their initial configuration.

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| PARAMETER | WORD | BIT No. | OBS. | ACTION | DESIRED VALUE | HHDLU EXPECTED VALUE | HHDLU READ VALUE |
|--------------------------|-------------------|---------|------|---|---------------|-------------------------|------------------|
| PITCH CONTROL POSITION | 40, 104, 168, 232 | 12-3 | | Actuate elevator using the pilot or copilot control column/ wheel (L8TB) or (R8TB) | 20° UP | 320 ± 32 | |
| | | | | | 10° UP | 160 ± 32 | |
| | | | | | 0° | 0 to 32 or 4063 to 4095 | |
| | | | | | 10° DOWN | 3935 ± 32 | |
| | | | | | 16° DOWN | 3839 ± 32 | |
| LATERAL CONTROL POSITION | 52, 116, 180, 244 | 12-3 | | Actuate aileron using the pilot or copilot control column/ wheel (L8TB) or (R8TB) | 25° RIGHT | 400 ± 32 | |
| | | | | | 10° RIGHT | 160 ± 32 | |
| | | | | | 0° | 0 to 32 or 4063 to 4095 | |
| | | | | | 10° LEFT | 3935 ± 32 | |
| | | | | | 25° LEFT | 3695 ± 32 | |
| YAW CONTROL POSITION | 57, 121, 185, 249 | 12-3 | | Actuate rudder using the pilot or copilot rudder control pedal (L550CC) or (R550CC) | 29° RIGHT | 464 ± 32 | |
| | | | | | 20° RIGHT | 320 ± 32 | |
| | | | | | 10° RIGHT | 160 ± 32 | |
| | | | | | 0° | 0 to 32 or 4063 to 4095 | |
| | | | | | 10° LEFT | 3935 ± 32 | |
| | | | | | 20° LEFT | 3775 ± 32 | |
| | | | | | 29° LEFT | 3631 ± 32 | |

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 8 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| PARAMETER | WORD | BIT No. | OBS. | ACTION | DESIRED VALUE | HHDLU EXPECTED VALUE | HHDLU READ VALUE |
|--|-------------------|---------|------|--|-----------------|----------------------|------------------|
| PITCH CONTROL SURFACE POSITION | 39, 103, 167, 231 | 12-1 | | Actuate elevator using the pilot or copilot control column/ wheel (L8TB) or (R8TB) | 20° UP | 436 ± 148 | |
| | | | | | 10° UP | 1195 ± 148 | |
| | | | | | 0° | 1965 ± 148 | |
| | | | | | 10° DOWN | 2728 ± 148 | |
| | | | | | 16° DOWN | 3188 ± 148 | |
| LATERAL CONTROL SURFACE POSITION LEFT | 50, 114, 178, 242 | 12-1 | | Actuate LH aileron using the pilot or copilot control column/ wheel (L8TB) or (R8TB) | TURN LEFT STOP | 3467 ± 117 | |
| | | | | | 20° LEFT | 3144 ± 117 | |
| | | | | | 10° LEFT | 2570 ± 117 | |
| | | | | | 0° | 1965 ± 117 | |
| | | | | | 10° RIGHT | 1360 ± 117 | |
| | | | | | 20° RIGHT | 758 ± 117 | |
| | | | | | TURN RIGHT STOP | 463 ± 117 | |
| LATERAL CONTROL SURFACE POSITION RIGHT | 51, 115, 179, 243 | 12-1 | | Actuate RH aileron using the pilot or copilot control column/ wheel (L8TB) or (R8TB) | TURN LEFT STOP | 3467 ± 117 | |
| | | | | | 20° LEFT | 3144 ± 117 | |
| | | | | | 10° LEFT | 2570 ± 117 | |
| | | | | | 0° | 1965 ± 117 | |
| | | | | | 10° RIGHT | 1360 ± 117 | |
| | | | | | 20° RIGHT | 758 ± 117 | |
| | | | | | TURN RIGHT STOP | 436 ± 117 | |

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 9 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| PARAMETER | WORD | BIT No. | OBS. | ACTION | DESIRED VALUE | HHDLU EXPECTED VALUE | HHDLU READ VALUE |
|--|-------------------|---------|---|---|-----------------|-------------------------|------------------|
| YAW CONTROL SURFACE POSITION | 58, 122, 186, 250 | 12-1 | | Actuate rudder using the pilot or copilot rudder control pedal (L550CC) or (R550CC) | TURN LEFT STOP | 3263 ± 86 | |
| | | | | | 20° LEFT | 2860 ± 86 | |
| | | | | | 10° LEFT | 2412 ± 86 | |
| | | | | | 0° | 1965 ± 86 | |
| | | | | | 10° RIGHT | 1516 ± 86 | |
| | | | | | 20° RIGHT | 1068 ± 86 | |
| | | | | | TURN RIGHT STOP | 668 ± 86 | |
| PITCH TRIM SURFACE POSITION | 53, 117, 181, 245 | 12-1 | Position is read on the trim position indicator (2DQ) | Actuate HS using the pilot or copilot HS dual rocker (L8TB2) or (R8TB2) | + 2° | 256 ± 51 | |
| | | | | | 0° | 0 to 51 or 4044 to 4095 | |
| | | | | | - 11° | 2687 ± 51 | |
| TRAILING EDGE FLAP COCKPIT CONTROL SELECTION | 88 | 10-5 | On Slats-Flaps control box (2CG) | Set normal slat extension control to "7° FLAPS + SLATS", "20° FLAPS + SLATS" and "40° FLAPS + SLATS" | Position 7° | Bits 8, 5 = 1 | |
| | | | | | Position 20° | Bits 9, 6 = 1 | |
| | | | | | Position 40° | Bits 10, 7 = 1 | |
| STAND-BY PUMP | 253 | 8 | After the record, set Stand-By pump selector (5ML) to "IN-FLIGHT" position | Set Stand-By pump selector (5ML) to "GROUND TEST" position | | Bit 8 = 0 | |

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 10 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| PARAMETER | WORD | BIT No. | OBS. | ACTION | DESIRED VALUE | HHDLU EXPECTED VALUE | HHDLU READ VALUE |
|--------------------------|---------|---------|---|--------------------------------|---------------|----------------------|------------------|
| THRUST REVERSER POSITION | 18, 146 | 2 | (Refer to TASK 78-30-00-910-802), paragraph "Deployment / Stowing of Thrust Reverser (using Hydraulic Ground Power Unit)" | Actuate engine thrust reverser | Deployed | Bit 2 = 0 | |
| | | 1 | | | In transit | Bit 1 = 0 | |

- (c) Command the HS deflection to the take-off position:
- Using HS dual rocker (**L8TB2**) or (**R8TB2**) on pilot or copilot control wheels,
 - Reading the HS take-off position on "STAB" sector (green sector) of trim position indicator (**2DQ**).
- (d) Cut off and drop the pressure in hydraulic systems 1 and 2 (Refer to **TASK 29-00-00-860-801**, paragraph "Cut off and Drop Pressure from Hydraulic Ground Power Unit").
- (3) Airbrakes, flaps, pressurization, fuel and landing gear parameters
- WARNING: DO NOT APPLY HYDRAULIC POWER TO THE AIRCRAFT**
- (a) After each following check, reset all the controls used during these tests to their initial configuration.

| PARAMETER | WORD | BIT No. | ACTION | DESIRED VALUE | HHDLU EXPECTED VALUE | HHDLU READ VALUE |
|---|---------|---------|---|-----------------------|----------------------|------------------|
| LEADING EDGE FLAP COCKPIT CONTROL SELECTION EMERGENCY SLATS | 88 | 3 | Set "EMERG SLAT" switch to "ON" on the Slats-Flaps control box (2CG) | Extended Bit 3 = 1 | | |
| AIRBRAKES MEDIAN | 18, 146 | 4 | Set "AIRBRAKE S" lever on control unit (2CF) to "1" | Extended Bit 4 = 1 | | |

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| PARAMETER | WORD | BIT No. | ACTION | DESIRED VALUE | HHDLU EXPECTED VALUE | HHDLU READ VALUE |
|------------------------------------|---------------------|---------|--|-----------------------|----------------------|------------------|
| AIRBRAKES INTERNAL, EXTERNAL | 18, 146 | 3 | Set "AIRBRAKE S" lever on control unit (2CF) to "2" | Extended Bit 3 = 1 | | |
| LANDING GEAR POSITION | 15, 79, 143, 207 | 1 | With L/G downlocked, disconnect the electrical connector from proximity sensor (11GA1) installed on drag brace (11GA) | L/G up | Bit 1 = 1 | |
| | | | | L/G down | Bit 1 = 0 | |

- (b) De-energize the aircraft systems (Refer to **TASK 24-00-00-860-801**, paragraph "De-energization with the Electrical Ground Power Unit").
- (c) Connect the electrical connector from proximity sensor (**11GA1**) installed on drag brace (**11GA**).
- (d) Open LH main landing gear door (**731AB**) (Refer to **TASK 32-10-00-860-801**).
- (e) Connect connector (**9GA**) (L/G control unit) in the LH L/G compartment.
- (f) Close LH main landing gear door (**731AB**) (Refer to **TASK 32-10-00-860-801**).
- (g) Remove the pennant indicating that connector (**9GA**) is disconnected.
- (h) Disconnect the ground/flight box (Refer to **TASK 32-60-00-910-801**, paragraph "Removal").
- (i) On circuit breaker panel (**10PP**), engage the following circuit breakers (**fig. 1**):
 - 1 On LH breaker panel:
 - "EXTING 1" (A/C without M 1848) or "EXTING ENG 1" (A/C with M 1848) (**L1WB**),
 - "EXTING 3" (A/C without M 1848) or "EXTING ENG 3" (A/C with M 1848) (**R1WB**),
 - "DETECT 1" (A/C without M 1848) or "DETECT ENG 1" (A/C with M 1848) (**L1WG**),
 - "DETECT 3" (A/C without M 1848) or "DETECT ENG 3" (A/C with M 1848) (**R1WG**),
 - "REAR COMP" (**11WG**),
 - "BAG COMP" (**21WG**).
 - 2 On RH breaker panel:
 - "EXTING 2" (A/C without M 1848) or "EXTING ENG 2" (A/C with M 1848) (**M1WB**),
 - "DETECT 2" (A/C without M 1848) or "DETECT ENG 2" (A/C with M 1848) (**M1WG**),
 - "APU FIRE" (**21WB**).

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 12 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

- (j) Disconnect the hydraulic ground power unit to systems 1 and 2 (Refer to [TASK 29-00-00-860-801](#), paragraph "Disconnection of the Hydraulic Ground Power Unit").
- (k) Disconnect the electrical ground power unit (Refer to [TASK 24-00-00-860-801](#), paragraph "Disconnection of the Electrical Ground Power Unit").
- (l) Remove the LH aileron deflection measuring fixtures (Refer to [TASK 27-00-00-910-804](#), steps "Removal" and "Final steps" in paragraph "Use of Aileron Deflection Measuring Fixture").
- (m) Remove the rudder deflection measuring fixture (Refer to [TASK 27-00-00-910-804](#), steps "Removal" and "Final steps" in paragraph "Use of Rudder Deflection Measuring Fixture").
- (n) Remove the LH elevator deflection measuring fixture (Refer to [TASK 27-00-00-910-804](#), steps "Removal" and "Final steps" in paragraph "Use of Elevator Deflection Measuring Fixture").
- (o) Remove the safety fences and the warning lights.
- (4) Acquisition of parameters during run-up

WARNING: BE CAREFUL WHEN PERFORMING OPERATIONS WITH ENGINES OR APU OPERATING. THE ENGINES HAVE HOT SURFACES AND MAKE A LOUD NOISE. HOT SURFACES AND LOUD NOISES CAN CAUSE INJURY TO PERSONS.

- (a) Perform "Preliminary Steps" of the Engine Inspection Run-up (Refer to [TASK 71-00-00-910-802](#)) without removing the engine doors and cowlings.
- (b) Start up the engines (see Airplane Flight Manual).
- (c) After each following check, reset all the controls used during these tests to their initial configuration.

| PARAMETER | WORD | BIT No. | ACTION | DESIRED VALUE | HHDLU EXPECTED VALUE | HHDLU READ VALUE |
|-------------------------------|------|---------|--------|---------------|----------------------|------------------|
| HYDRAULIC PRESSURE LEFT LOW | 99 | 4 | None | Low pressure | Bit 4 = 0 | |
| HYDRAULIC PRESSURE CENTER LOW | 99 | 5 | None | Low pressure | Bit 5 = 0 | |
| HYDRAULIC PRESSURE RIGHT LOW | 99 | 6 | None | Low pressure | Bit 6 = 0 | |

5. FINAL STEPS

- A. Stop the engines (see Airplane Flight Manual).
- B. Perform "Final Steps" of the Engine Inspection Run-up (Refer to [TASK 71-00-00-910-802](#)).
- C. Disconnect HHDLU ([964-0446-001](#)) from DFDR test connector ([8FZ](#)) and HHDLU connecting harness ([704-2688-001](#)).

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 13 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

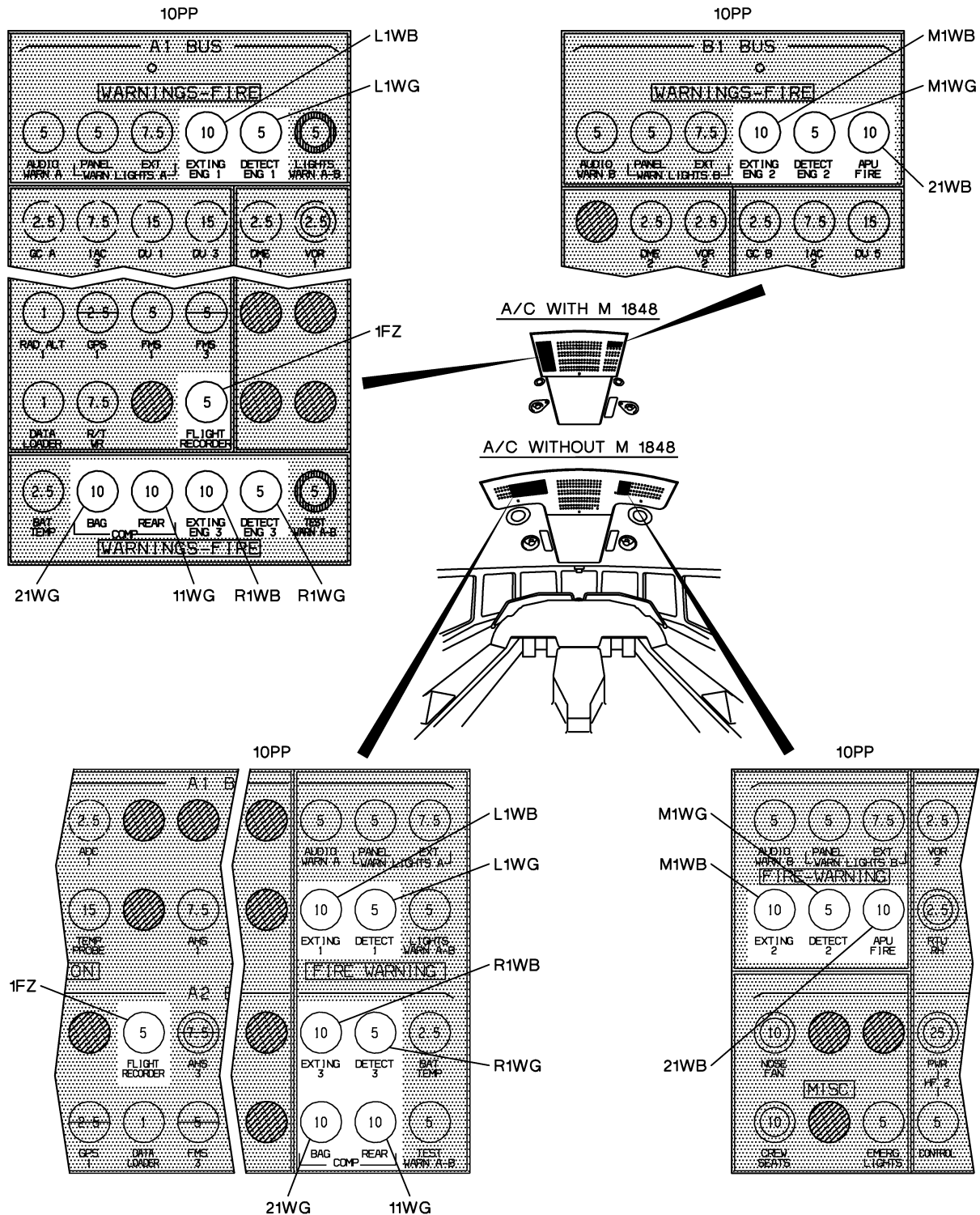


Figure 1: Location of Circuit Breakers

Effectivity: A/C WITH 57-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-802

page 14 / 14

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

TASK 31-31-00-720-803 FUNCTIONAL TEST OF THE 32-PARAMETER FDR

WARNING: SERIOUS PERSONNEL INJURIES CAN RESULT FROM OPERATIONS ON ACTIVE FLIGHT CONTROLS IF THE FOLLOWING INSTRUCTIONS ARE NOT OBSERVED:

- THE FLIGHT CONTROLS MANEUVERING SPACES MUST BE UNOBSTRUCTED,
- APPROPRIATE SAFETY FENCES AND WARNING LIGHTS MUST BE INSTALLED AROUND THE AIRCRAFT,
- THE PERSONNEL INSIDE THE FENCED AREA MUST BE AWARE OF THE ONGOING OPERATIONS AND OF THE ASSOCIATED HAZARDS.

1. OVERVIEW OF THE JOB

Operation code: 31-31-00-720-803-01 FDR (**14FZ**)

NOTE: The HHDLU connecting harness (**704-2688-001**) is used for A/C with M 2842.

The HHDLU connecting harness (**704-2554-002**) is used for A/C with M 1978 or M 2140.

2. LOGISTICS

A. References

| Reference | Designation |
|---------------------------|--|
| • 24-00-00-860-801 | ENERGIZATION / DE-ENERGIZATION OF THE AIRCRAFT |
| • 29-00-00-860-801 | PRESSURIZATION / DE-PRESSURIZATION OF THE HYDRAULIC SYSTEMS |
| • 31-31-09-720-801 | FUNCTIONAL TEST OF THE FDR / CVR ACCELERATION CONTACTS |
| • 31-31-37-820-801 | ADJUSTMENT OF THE FDR FLIGHT CONTROL POSITION POTENTIOMETERS |
| • 32-10-00-860-801 | MANUAL OPENING / CLOSING OF THE MLG DOORS |
| • 32-60-00-910-801 | USE OF THE GROUND / FLIGHT BOX |
| • 71-00-00-910-802 | ENGINE INSPECTION RUN-UP |
| • 78-30-00-910-802 | DEPLOYMENT / STOWING OF THE THRUST REVERSER |

B. Tools and Ground Support Equipment

| Reference | Designation | Quantity |
|------------------------|---------------------------------|----------|
| • F7XC202000008 | TOOL BOX | |
| • 964-0446-001 | HHDLU (HAND HELD DOWNLOAD UNIT) | |
| • 704-2688-001 | HHDLU CONNECTING HARNESS | |
| • 704-2554-002 | HHDLU CONNECTING HARNESS | |

C. Energy

- ELECTRICAL
- HYDRAULIC

D. Access

| Reference | Designation |
|--------------|----------------------------|
| • MSD | SERVICING COMPARTMENT DOOR |

Effectivity: A/C WITH 32-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-803

page 1 / 10

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

- | | |
|----------------|------------------|
| • PAX | PASSENGER DOOR |
| • 711AB | NLG MAIN DOOR |
| • 712AB | NLG MAIN DOOR |
| • 731AB | LH MLG MAIN DOOR |

E. Miscellaneous

- SAFETY FENCES (LOCAL PROCUREMENT)
- WARNING LIGHTS (LOCAL PROCUREMENT)

3. PRELIMINARY STEPS

- A. Install the safety fences and the warning lights.
- B. Connect the electrical ground power unit (Refer to **TASK 24-00-00-860-801**, paragraph "Connection of the Electrical Ground Power Unit").
- C. Connect the hydraulic ground power unit to systems 1 and 2 (Refer to **TASK 29-00-00-860-801**, paragraph "Connection of the Hydraulic Ground Power Unit").
- D. Connect the ground/flight box (Refer to **TASK 32-60-00-910-801**, paragraph "Installation").
- E. Open LH main landing gear door (**731AB**) (Refer to **TASK 32-10-00-860-801**).
- F. Disconnect connector (**9GA**) (L/G control unit) in the LH L/G compartment.
- G. Close LH main landing gear door (**731AB**) (Refer to **TASK 32-10-00-860-801**).
- H. Install a pennant indicating that connector (**9GA**) is disconnected.
- I. Using HHDLU connecting harness (**704-2688-001**) for A/C with M 2842 or (**704-2554-002**) for A/C with M 1978 or M 2140), connect the Hand-Held Download Unit (HHDLU) (**964-0446-001**) to DFDR test connector (**8FZ**) located in the rear compartment (**MSD**).
- J. On circuit breaker panel (**10PP**), disengage the following circuit breakers (**fig. 1**):
 - (1) On LH breaker panel:
 - "EXTING 1" (A/C without M 1848) or "EXTING ENG 1" (A/C with M 1848) (**L1WB**),
 - "EXTING 3" (A/C without M 1848) or "EXTING ENG 3" (A/C with M 1848) (**R1WB**),
 - "DETECT 1" (A/C without M 1848) or "DETECT ENG 1" (A/C with M 1848) (**L1WG**),
 - "DETECT 3" (A/C without M 1848) or "DETECT ENG 3" (A/C with M 1848) (**R1WG**),
 - "REAR COMP" (**11WG**),
 - "BAG COMP" (**21WG**).
 - (2) On RH breaker panel:
 - "EXTING 2" (A/C without M 1848) or "EXTING ENG 2" (A/C with M 1848) (**M1WB**),
 - "DETECT 2" (A/C without M 1848) or "DETECT ENG 2" (A/C with M 1848) (**M1WG**),
 - "APU FIRE" (**21WB**).

Effectivity: A/C WITH 32-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-803

page 2 / 10

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

- K. Set overhead panel switches "DEEC 1" (**L2EP**), "DEEC 2" (**M2EP**) and "DEEC 3" (**R2EP**) to "AUTO".
- L. Energize the aircraft systems (Refer to **TASK 24-00-00-860-801**, paragraph "Energization with the Electrical Ground Power Unit").

4. FUNCTIONAL CHECK OF DFDR

- A. Check of the acceleration contact logic circuit
 - (1) Perform a functional test of DFDR acceleration contact (Refer to **TASK 31-31-09-720-801**, paragraph "Functional test of DFDR acceleration contact (**15FZ**)").
- B. Check of power supply
 - (1) Make sure that "FLIGHT RECORDER" circuit breaker (**1FZ**) is engaged (**fig. 1**).
 - (2) Check that HHDLU (**964-0446-001**) connected to DFDR (**14FZ**) is energized.
 - (3) Disengage "FLIGHT RECORDER" circuit breaker (**1FZ**) (**fig. 1**).
 - (4) Check that HHDLU (**964-0446-001**) is not energized.
 - (5) Engage "FLIGHT RECORDER" circuit breaker (**1FZ**) (**fig. 1**).
- C. Reading and check of DFDR parameters
 - (1) Acquisition of system parameters

NOTE 1: To obtain the decoded value of the quantities measured (ft, degrees, %, etc.), multiply the value read on the bus reader by the resolution.
For binary reading with positive or negative sign (signed binary), bit 12 is the sign bit:

 - 12 = 0: positive value,
 - 12 = 1: negative value.

A two's complement must be added for a negative value.

NOTE 2: It is not necessary to test some of the parameters which are already tested during avionics tests. All DFDR-dedicated bus, analog and discrete parameters, listed hereafter, are to be tested.

 - (a) After each following check, reset all the controls used during these tests to their initial configuration.

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| ACTION | OBS. | PARAMETER | F R A M E | W O R D S | B I T | RESOL. | A/C CONFIGURATION | | REC. VAL UE |
|--|----------------------------------|----------------------------|-----------------------|--|-------------|---|----------------------|---------------|-------------------|
| | | | | | | | DECOD ED VALUE | BUS READER | |
| | From accelero- meter (4FZ) | NORMAL ACCELERATI ON | 1, 2, 3, 4 | 4, 12, 20, 28, 36, 44, 52, 60 | 1 to 12 | 0.0065525 g | 1 g | 152 | |
| Press "EVENT" button (2FZ) | | EVENT MARKER | 1, 2, 3, 4 | 48 | 1 | | | Active = 0 | |
| Press pilot push-to-talk button (L8TB3) | | PILOT PTT | 1, 2, 3, 4 | 48 | 12 | | | Active = 0 | |
| Press copilot push-to-talk button (R8TB3) | | COPILOT PTT | 1, 2, 3, 4 | 48 | 11 | | | Active = 0 | |
| Set "TEST" switch (2WW01) on warning panel (2WW) to "LIGHTS" position | | MASTER WARNING | 1, 2, 3, 4 | 48 | 7 | Red "MASTER WARNING" lights (L5WW)/ (R5WW) flash | | Active = 0 | |
| | | MASTER CAUTION | 1, 2, 3, 4 | 48 | 6 | Amber "MASTER CAUTION" lights (L4WW)/ (R4WW) illuminate | | Active = 0 | |

(2) Acquisition of hydraulic parameters

**WARNING: COMPLY WITH THE SAFETY MEASURES APPLYING TO THE OPERATIONS
PERFORMED ON FLIGHT CONTROLS.
MAKE SURE THAT THE FLIGHT CONTROL MANEUVERING SPACES ARE
UNOBSTRUCTED.**

- (a) Pressurize hydraulic systems 1 and 2 (Refer to [TASK 29-00-00-860-801](#), paragraph "Pressurization from Hydraulic Ground Power Unit").

Effectivity: A/C WITH 32-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-803

page 4 / 10

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

NOTE: If one of the values of the control position potentiometers is out of tolerance, adjust the relevant potentiometer (Refer to [TASK 31-31-37-820-801](#)).

- (b) After each following check, reset all the controls used during these tests to their initial configuration.

| ACTION | OBS. | PARAMETER | FRAME | WORDS | BIT | RESOL. | A/C CONFIGURATION | | REC. VALUE |
|--|--------------------------------|--------------------------|------------|---------------|---------|-----------|-------------------------|------------|------------|
| | | | | | | | DECODED VALUE | BUS READER | |
| Pull pilot control column fully back and slowly bring it back to 0 | | PITCH CONTROL POSITION | 1, 2, 3, 4 | 7, 23, 39, 55 | 3 to 12 | 0.0625 | + 20° | 320 | |
| Turn pilot wheel fully to the right and slowly bring it back to 0 | | ROLL CONTROL POSITION | 1, 2, 3, 4 | 8, 24, 40, 56 | 3 to 12 | 0.0625 | + 25° | 400 | |
| Press the RH pilot rudder control pedal fully down and slowly bring it back to 0 | | YAW CONTROL POSITION | 1, 2, 3, 4 | 11, 43 | 3 to 12 | 0.0625 | + 29° | 464 | |
| Bring trim fully to NOSE DOWN and then back to 0 | On trim control unit (2CF) | PITCH TRIM POSITION | 1, 2, 3, 4 | 18 | 1 to 12 | 0.0078125 | + 2° | 256 | |
| Set normal slat extension control to either "7° FLAPS + SLATS", "20° FLAPS + SLATS" or "40° FLAPS + SLATS" | On SLAT-FLAP control box (2CG) | SLATS EXTERNAL + INBOARD | 1, 2, 3, 4 | 48 | 9 | | Outboard slats extended | Active = 0 | |
| | | | | | 10 | | Inboard slats extended | Active = 0 | |

Effectivity: A/C WITH 32-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-803

page 5 / 10

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| ACTION | OBS. | PARAMETER | FRAME | WORDS | BIT | RESOL. | A/C CONFIGURATION | | REC. VALUE |
|--|--------------------------------|-----------------|------------|-------|-----|--------|-------------------|------------|------------|
| | | | | | | | DECODED VALUE | BUS READER | |
| Set normal slat extension control to "7° FLAPS + SLATS", "20° FLAPS + SLATS" and "40° FLAPS + SLATS" | On SLAT-FLAP control box (2CG) | FLAPS | 1, 3 | 32 | 12 | | Flaps at 7° | Active = 1 | |
| | | | 2, 4 | 32 | 12 | | Flaps at 20° | Active = 1 | |
| | | | 1, 3 | 32 | 10 | | Flaps at 40° | Active = 1 | |
| Deploy thrust reverser (Refer to TASK 78-30-00-910-802) | | THRUST REVERSER | 1, 2, 3, 4 | 32 | 9 | | Deployed | Active = 0 | |
| | | | | | 8 | | In transit | Active = 0 | |

- (c) Command the HS deflection to the take-off position:
- Using HS dual rocker (**L8TB2**) or (**R8TB2**) on pilot or copilot control wheels,
 - Reading the HS take-off position on "STAB" sector (green sector) of trim position indicator (**2DQ**).
- (d) Cut off and drop the pressure in hydraulic systems 1 and 2 (Refer to **TASK 29-00-00-860-801**, paragraph "Cut off and Drop Pressure from Hydraulic Ground Power Unit").
- (3) Airbrakes, flaps, pressurization, fuel and landing gear parameters
- WARNING: DO NOT APPLY HYDRAULIC POWER TO THE AIRCRAFT.**
- (a) After each following check, reset all the controls used during these tests to their initial configuration.

| ACTION | OBS. | PARAMETER | FRAME | WORDS | BIT | RESOL. | A/C CONFIGURATION | | REC. VALUE |
|---|------|------------------|------------|-------|-----|--------|-------------------|------------|------------|
| | | | | | | | DECODED VALUE | BUS READER | |
| Set "AIRBRAKES" lever on control unit (2CF) to "1" | | AIRBRAKES MEDIAN | 1, 2, 3, 4 | 32 | 6 | | | Active = 1 | |
| | | | | 64 | 11 | | | Active = 1 | |

Effectivity: A/C WITH 32-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-803

page 6 / 10

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| ACTION | OBS. | PARAMETER | FRAME | WORDS | BIT | RESOL. | A/C CONFIGURATION | | REC. VALUE |
|---|--|------------------------------|------------|-------|-----|--------|-----------------------|------------|------------|
| | | | | | | | DECODED VALUE | BUS READER | |
| Set "AIRBRAKES" lever on control unit (2CF) to "2" | | AIRBRAKES INTERNAL, EXTERNAL | 1, 2, 3, 4 | 32 | 7 | | | Active = 1 | |
| | | | | 64 | 12 | | | Active = 1 | |
| Set "EMERG SLATS" switch to "ON" | | SLATS EMERGENCY | 1, 2, 3, 4 | 32 | 11 | | | Active = 1 | |
| With L/G downlocked, disconnect the electrical connector from proximity sensor (11GA1) installed on drag brace (11GA) | Nose landing gear | LANDING GEAR | 4 | 50 | 12 | | L/G down unlocked | Active = 1 | |
| Place nose landing gear in ground position | Use the ground/flight box (Refer to TASK 32-60-00-910-801) | WOW NOSE | 1, 2, 3, 4 | 32 | 4 | | NOSE L/G ON GROUND | Active = 0 | |
| Place LH main landing gear in ground position | Use the ground/flight box (Refer to TASK 32-60-00-910-801) | WOW LEFT | 1, 2, 3, 4 | 32 | 3 | | LH MAIN L/G ON GROUND | Active = 0 | |
| | | | | 64 | 2 | | LH MAIN L/G ON GROUND | Active = 0 | |
| Place RH main landing gear in ground position | Use the ground/flight box (Refer to TASK 32-60-00-910-801) | WOW RIGHT | 1, 2, 3, 4 | 32 | 5 | | RH MAIN L/G ON GROUND | Active = 0 | |
| | | | | 64 | 1 | | RH MAIN L/G ON GROUND | Active = 0 | |

Effectivity: A/C WITH 32-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-803

page 7 / 10

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

- (b) De-energize the aircraft systems (Refer to [TASK 24-00-00-860-801](#), paragraph "De-energization with the Electrical Ground Power Unit").
 - (c) Connect the electrical connector from proximity sensor ([11GA1](#)) installed on drag brace ([11GA](#)).
 - (d) Open LH main landing gear door ([731AB](#)) (Refer to [TASK 32-10-00-860-801](#)).
 - (e) Connect connector ([9GA](#)) (L/G control unit) in the LH L/G compartment.
 - (f) Close LH main landing gear door ([731AB](#)) (Refer to [TASK 32-10-00-860-801](#)).
 - (g) Remove the pennant indicating that connector ([9GA](#)) is disconnected.
 - (h) Disconnect the ground/flight box (Refer to [TASK 32-60-00-910-801](#), paragraph "Removal").
 - (i) Set overhead panel switches "DEEC 1" ([L2EP](#)), "DEEC 2" ([M2EP](#)) and "DEEC 3" ([R2EP](#)) to "OFF".
 - (j) On circuit breaker panel ([10PP](#)), engage the following circuit breakers ([fig. 1](#)):
 - 1 On LH breaker panel:
 - "EXTING 1" (A/C without M 1848) or "EXTING ENG 1" (A/C with M 1848) ([L1WB](#)),
 - "EXTING 3" (A/C without M 1848) or "EXTING ENG 3" (A/C with M 1848) ([R1WB](#)),
 - "DETECT 1" (A/C without M 1848) or "DETECT ENG 1" (A/C with M 1848) ([L1WG](#)),
 - "DETECT 3" (A/C without M 1848) or "DETECT ENG 3" (A/C with M 1848) ([R1WG](#)),
 - "REAR COMP" ([11WG](#)),
 - "BAG COMP" ([21WG](#)).
 - 2 On RH breaker panel:
 - "EXTING 2" (A/C without M 1848) or "EXTING ENG 2" (A/C with M 1848) ([M1WB](#)),
 - "DETECT 2" (A/C without M 1848) or "DETECT ENG 2" (A/C with M 1848) ([M1WG](#)),
 - "APU FIRE" ([21WB](#)).
 - (k) Disconnect the hydraulic ground power unit to systems 1 and 2 (Refer to [TASK 29-00-00-860-801](#), paragraph "Disconnection of the Hydraulic Ground Power Unit").
 - (l) Disconnect the electrical ground power unit (Refer to [TASK 24-00-00-860-801](#), paragraph "Disconnection of the Electrical Ground Power Unit").
 - (m) Remove the safety fences and the warning lights.
- (4) Acquisition of parameters during run-up
- WARNING: BE CAREFUL WHEN PERFORMING OPERATIONS WITH ENGINES OR APU OPERATING. THE ENGINES HAVE HOT SURFACES AND MAKE A LOUD NOISE. HOT SURFACES AND LOUD NOISES CAN CAUSE INJURY TO PERSONS.**
- (a) Perform "Preliminary Steps" of the Engine Inspection Run-up (Refer to [TASK 71-00-00-910-802](#)) without removing the engine doors and cowlings.
 - (b) Start up the engines (see Airplane Flight Manual).
 - (c) After each following check, reset all the controls used during these tests to their initial configuration.

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

| ACTION | OBS. | PARAMETER | FRAME | WORDS | BIT | RESOL. | A/C CONFIGURATION | | REC. VALUE |
|-------------------------------|------|-------------------|-------|-------|-----|--------|----------------------------|------------|------------|
| | | | | | | | DECODED VALUE | BUS READER | |
| Stop then start the 3 engines | | LOW HYDR PRESSURE | 1, 3 | 32 | 2 | | HYDR 1 PUMP 1 illuminated | Active = 0 | |
| | | | 1, 3 | 32 | 2 | | HYDR 1 PUMP 1 extinguished | Active = 1 | |
| | | | 2, 4 | 32 | 2 | | HYDR 2 PUMP 2 illuminated | Active = 0 | |
| | | | 2, 4 | 32 | 2 | | HYDR 2 PUMP 2 extinguished | Active = 1 | |
| | | | 2, 4 | 32 | 1 | | HYDR 1 PUMP 3 illuminated | Active = 0 | |
| | | | 2, 4 | 32 | 1 | | HYDR 1 PUMP 3 extinguished | Active = 1 | |

5. FINAL STEPS

- A. Stop the engines (see the Airplane Flight Manual).
- B. Perform "Final Steps" of the Engine Inspection Run-up (Refer to [TASK 71-00-00-910-802](#)).
- C. Disconnect the HHDLU ([964-0446-001](#)) from DFDR test connector ([8FZ](#)), and HHDLU connecting harness ([704-2688-001](#)) for A/C with M 2842 or ([704-2554-002](#)) for A/C with M 1978 or M 2140).

Effectivity: A/C WITH 32-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-803

page 9 / 10

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

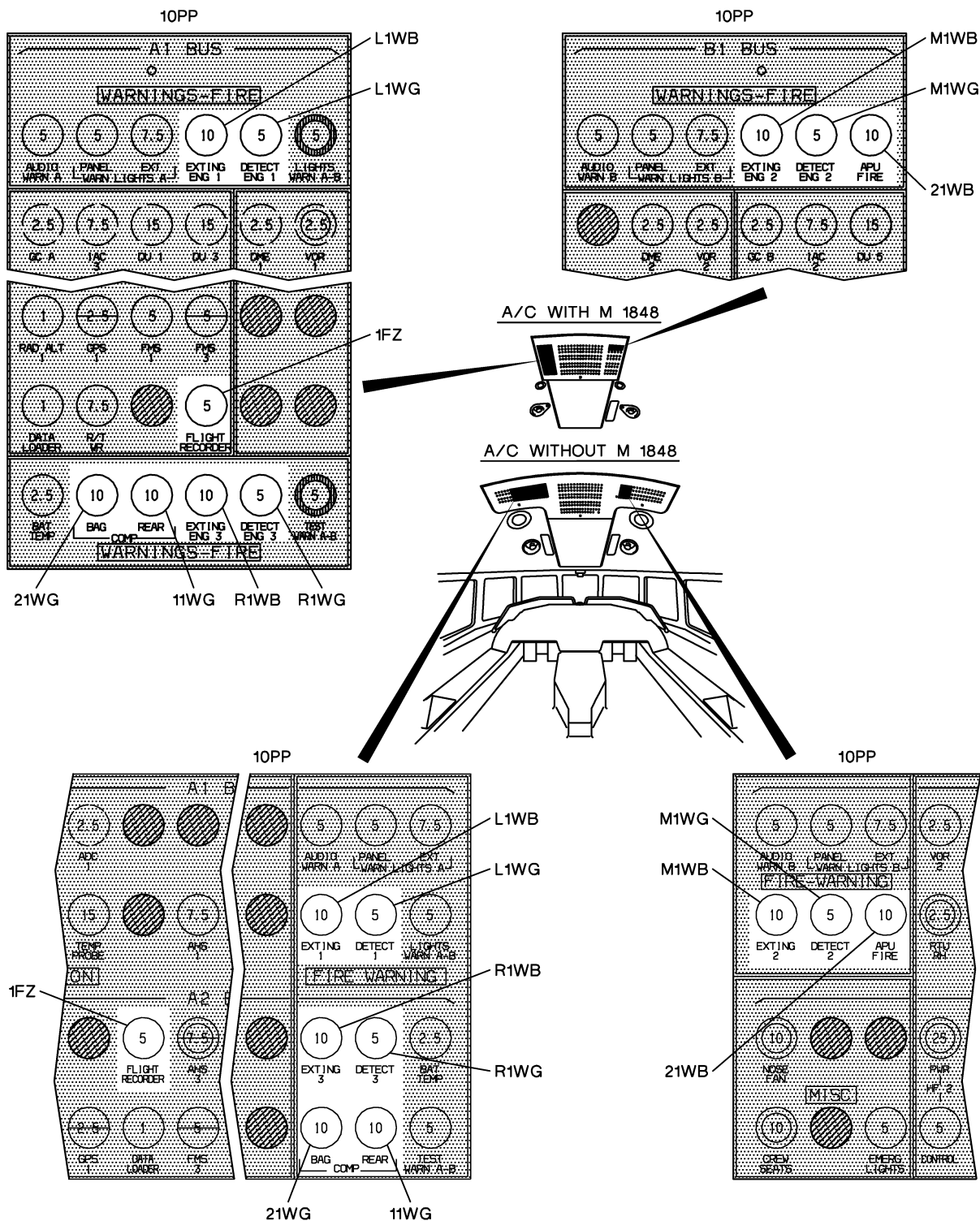


Figure 1: Location of Circuit Breakers

Effectivity: A/C WITH 32-PARAMETER FDR

Rev. Date: MAR 15/2011

31-31-00-720-803

page 10 / 10

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

TASK 31-31-00-970-801 DOWNLOAD OF THE FLIGHT DATA RECORDER (FDR)

1. OVERVIEW OF THE JOB

Operation code: 31-31-00-970-801-01 FDR (**14FZ**)

This procedure describes the download of the data recorded by the DFDR.

The download of the DFDR data can be performed:

- either by a specialized workshop (see paragraph "Download performed by a specialized workshop").
In this case, the DFDR (**14FZ**) must be removed from the aircraft and sent to a specialized workshop.
- or by the operator (if a DFDR download tool is available to him) (see paragraph "Download performed by the operator").

NOTE 1: The check of the downloaded data may be required by the airworthiness Authority depending on your type of operations. If required, do it in accordance with the applicable regulations (data to be analyzed, lead time, type of analysis).

This check is performed off-aircraft, the maintenance task being completed by the download.

Provisions should be made to address and correct any discrepancies found during the check at a next convenient opportunity. Refer to FAA Advisory Circular AC No.: 20-141A and to EASA Safety Information Bulletin SIB No.: 2009-28 for further recommendations.

The data can be analyzed:

- either by the operator, using a tool capable of performing data analysis,
- or by recording the data on a data carrier and sending it to the specialized workshop to have it analyzed.

NOTE 2: A download of DFDR data is only a copy of the DFDR data (data is not erased).

NOTE 3: The DFDR download tool must provide for the following:

- dialog with the DFDR,
- reading and downloading of the DFDR internal memory,
- storage of the downloaded data.

Example of DFDR download tool: Hand-Held Download Unit (HHDLU)

NOTE 4: The data carrier is needed only when the downloaded data has to be sent to a specialized workshop for analysis.

2. LOGISTICS

A. References

Reference

- **24-00-00-860-801**
- **31-31-31-900-801**

Designation

ENERGIZATION / DE-ENERGIZATION OF THE AIRCRAFT
REMOVAL / INSTALLATION OF THE FLIGHT DATA RECORDER
(FDR)

B. Energy

- ELECTRICAL

C. Access

FALCON 900EX AIRCRAFT MAINTENANCE MANUAL

Reference

- **MSD**
- **PAX**

Designation

SERVICING COMPARTMENT DOOR
PASSENGER DOOR

D. Miscellaneous

- DFDR DOWNLOAD TOOL (LOCAL PROCUREMENT) (QTY : SEE NOTE 1)
- DATA CARRIER (LOCAL PROCUREMENT) (QTY : SEE NOTE 2)

3. DOWNLOAD PERFORMED BY A SPECIALIZED WORKSHOP

- A. Remove the DFDR (**14FZ**) (Refer to **TASK 31-31-31-900-801**, paragraphs "Preliminary Steps" and "Removal").
- B. Send the DFDR (**14FZ**) to a specialized workshop to have the DFDR data downloaded.
- C. Install the DFDR (**14FZ**) (Refer to **TASK 31-31-31-900-801**, paragraphs "Installation" and "Final Steps").

4. DOWNLOAD PERFORMED BY THE OPERATOR

- A. Gain access to the DFDR (**14FZ**) through the mechanic's servicing compartment door (**MSD**).
- B. Install the DFDR download tool.
- C. Connect the electrical ground power unit (Refer to **TASK 24-00-00-860-801**, paragraph "Connection of the Electrical Ground Power Unit").
- D. Energize the aircraft systems (Refer to **TASK 24-00-00-860-801**, paragraph "Energization with the Electrical Ground Power Unit").
- E. Download the DFDR data.
- F. De-energize the aircraft systems (Refer to **TASK 24-00-00-860-801**, paragraph "De-energization with the Electrical Ground Power Unit").
- G. Remove the DFDR download tool.
- H. Disconnect the electrical ground power unit (Refer to **TASK 24-00-00-860-801**, paragraph "Disconnection of the Electrical Ground Power Unit").