CHAPTER - 73 HIGHLIGHTS
(Summary of Changes)

Revision No. TR73-2 Aug 19/19

TO: HOLDERS OF THE AIRCRAFT MAINTENANCE MANUAL (06-117751)

Pages that have been added or revised are summarized below. Remove and insert the affected pages as listed, and enter the above revision number with issue date into the Record of Revisions sheet.

This Temporary Revision incorporates and supersedes previously released temporary revisions for the chapters listed below.

Do not remove this page. Keep it in place as a record of previous changes.

CH/SE/SU Page Block No.	Description of Change
73-20-10 PgBlk 501	Revised Note in SUBTASK AMM-73-20-10-071-701-004.

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FADEC FAULT COLLECTION - ADJUSTMENT/TEST

AMM-73-20-10-071-801

1. General

A. This task gives steps to do the Full Authority Digital Engine Controller (FADEC) fault collection.

2. Equipment and Materials

Table 501. Special Tools and Equipment

Name and Part Number
Avio Maintenance Computer (AMC) (EAI 20-120576-1001 or 20-121926-1001), • SW version “2.5.10 or higher”
USB Flash Drive Assembly (EAI, 20-121580-1001) or equivalent

3. Job Set Up

SUBTASK AMM-73-20-10-071-921-001

WARNING: TO PREVENT POSSIBLE DAMAGE TO SYSTEM RELIABILITY, DO NOT CONNECT OR DISCONNECT ELECTRICAL COMPONENTS WHILE POWER IS APPLIED TO THE ARICRAFT.

A. Make aircraft safe for maintenance. Refer to AMM-20-00-01-051-801 – Make Safe For Maintenance.

B. Connect external power. Refer to AMM-24-40-00-051-801 – External Power - Maintenance Practices. Do not turn on START BATT and SYS BATT switches.

4. FADEC Fault Collection

SUBTASK AMM-73-20-10-071-701-001

A. The following subtasks are presented in this procedure:

- SUBTASK AMM-73-20-10-071-701-002
  — Downloading Flight History Files (FHF) from the aircraft
- SUBTASK AMM-73-20-10-071-701-003
  — Collect & Analyze FADEC Faults from Flight History Files (FHF)
- SUBTASK AMM-73-20-10-071-701-004
  — Collecting FADEC Faults from a Ground Engine Run
- SUBTASK AMM-73-20-10-071-701-005
  — Checking for FADEC Faults with ACS 5.6.04 or later using the MFD
- SUBTASK AMM-73-20-10-071-701-006
  — Clearing FADEC Faults with ACS 5.6.04 or later

SUBTASK AMM-73-20-10-071-701-002

A. **Downloading Flight History Files (FHF) from the aircraft.**

(1) Power up the aircraft by setting the SYS BATT and START BATT switches to ON and the BUS TIE to AUTO.

(2) Wait for about 2 minutes for the DSU to complete its start up process.

(3) Insert a USB flash drive into the co-pilots armrest USB port.

(4) When the light on the flash drive stops blinking, remove the USB flash drive. If there is no light, or it is not visible, wait 15 minutes then remove the USB flash drive.

SUBTASK AMM-73-20-10-071-701-003

NOTE: The following subtask is for use with an AMC. The AMC will automatically display the appropriate interface based upon the DSU version.

A. **If collecting FADEC faults from FHF, downloaded from an aircraft with DSU 2.8.05.**

(1) Select Tab 73 Fuel Ctrl on the AMC. Select "FADEC Faults" from the pull down menu. Refer to Fig. 501.

(2) Insert the USB flash drive with the downloaded DSU data into the USB port on the AMC.

- Follow the prompts on the AMC to import the file.

(3) Select the file and wait for FADEC faults to populate. Refer to Fig. 501 & Fig. 502.

B. **If collecting FADEC faults from FHF, downloaded from an aircraft with all other verions of DSU.**

(1) Select Tab 73 Fuel Ctrl on the AMC. Select "FADEC FH Faults" from the pull down menu. Refer to Fig. 503.

(2) Insert the USB flash drive with the downloaded DSU data into the USB port on the AMC.

- Follow the prompts on the AMC to import the file.

(3) From the Aircraft Serial Number drop down list, select the aircraft that was just imported.

NOTE: The AMC will find the 3 most recent flight history records that contain engine runs or power cycles, depending on which filter was selected, and display them in the Engine Runs/Power On Cycles table. Each entry in the table will contain the date, time span and maximum altitude reached.

(4) Select the "Engine Runs" or "Power On" check box below the "Engine Runs" table.

(5) To find more flight history files with engine starts, click the "More..." button within the "Engine Runs" window.

(6) View Faults:

- To view only TLD faults, click the "Scan TLD" button.
- To view all FADEC data regardless of TLD status, click the "Scan All" button.

NOTE: Selecting "Scan All" may be helpful in determining causes of other faults.

(7) The AMC scans the flight history files listed in the "Engine Runs" table and displays the resulting data in the "FADEC FH Faults" panel.

(8) Use the scroll bar in the "FADEC FH Faults" panel to view the list. Refer to Fig. 503.

- Red boxes indicate faults that have occurred (set).
- Green boxes indicate faults that went away (cleared).
- Blue boxes indicate flight phase indication.
- Black lines indicate new engine starts or power cycles.

NOTE: A flight will be indicated in the Engine Runs list by a Max Alt above field elevation. A flight can be confirmed by a scan by a flight phase of **Begin Climb** followed later by a flight phase of **Land**. There may be multiple other flight phases in between. If there are no flights between the three engine starts, increase the number of engine starts with the **More** button and press the **Scan** button again.

(9) Find the first engine run that contains a flight. Refer to Fig. 504

C. **Analyze FADEC Faults.**

(1) Determine Status:

- If there are no faults, no action is required.
- If there are faults that set and clear, perform an investigation to determine if the fault is valid.
- If there are any faults that set but do not clear, this test fails. Investigate the fault until its cause is understood.
  — Repeat SUBTASK AMM-73-20-10-071-701-003 if necessary.

NOTE: If there is any question about how to interpret the fault history data, contact Eclipse Aerospace Service Engineering for assistance.

(2) Click the "Report" button to save a report to the USB flash drive.

- This report may be printed and kept with the aircraft permanent records.

(3) Power down aircraft by setting the SYS BATT and START BATT switches to the OFF position and BUS TIE to the OPEN position.

(4) Power down the AMC and remove USB Flash Drive Assembly from the AMC USB port.

SUBTASK AMM-73-20-10-071-701-004

A. **Collecting FADEC Faults from a Ground Engine Run**

NOTE: This procedure shall be used to check for current FADEC faults after replacing an APC or if there are no flight history records on the DSU showing flights for the previous 90 days.

NOTE: Aircraft electrical power must remain ON continuously in steps 1 thru 15.

CAUTION: STEPS 1 THRU 15 OF THIS PROCEDURE MAY BE DONE ONLY BY A PERSON QUALIFIED TO RUN THE ENGINES AND OPERATE THE AIRCRAFT ON THE AIRPORT OPERATIONS AREA.

(1) Start the left and right engines.

(2) Move the aircraft to a ground location where the engines can be run at high power.

(3) Set the parking brake.

(4) Move the left engine power lever to take-off power. Wait 15 seconds, then move the left engine power lever to the idle position.

(5) Move the right engine power lever to take-off power. Wait 15 seconds, then move the right engine power lever to the idle position.

(6) Wait a minimum of one minute, then shut down the left and right engines. Do NOT remove electrical power from the aircraft.

(7) When the left and right engine N2 indication is less than 2% start the left and right engines.

(8) Let the left and right engines idle for a minimum of one minute after starting.

(9) Move the left engine power lever to take-off power. Wait 15 seconds, then move the left engine power lever to the idle position.

(10) Move the right engine power lever to take-off power. Wait 15 seconds, then move the right engine power lever to the idle position.

(11) Release the parking brake.

(12) Move the aircraft to it's original ground location.

(13) Wait a minimum of one minute, then shut down the left and right engines. Do NOT remove electrical power from the aircraft.

(14) Download the Flight History Files from the aircraft. Refer to SUBTASK AMM-73-20-10-071-701-002.

(15) Remove power from the aircraft.

(16) Collect & Analyze the downloaded DSU data for FADEC Faults. Refer to SUBTASK AMM-73-20-10-071-701-003.

SUBTASK AMM-73-20-10-071-701-005

A. **Checking for FADEC Faults with ACS 5.6.04 or later using the MFD**

(1) Power up the aircraft by setting the SYS BATT and START BATT switches to ON and the BUS TIE to AUTO.

(2) Select the OPS tab on the MFD.

(3) Push the SYSTEM TESTS LSK on the MFD and set LSK - AIRCRAFT MAINTENANCE MODE to ON.

(4) On the Engine Synoptic page ensure that FADEC status OK is displayed. Refer to Fig. 505.

(5) **If FADEC status is MINOR,** the engine may continue in service upon completion of the following:

- Faults must be investigated and corrective actions done in accordance with the fault isolation charts and faults cleared before the end of 300 flight hours or 90 days, whichever comes first. Refer to:
  — SUBTASK AMM-73-20-10-071-701-003, and/or
  — SUBTASK AMM-73-20-10-071-701-004, and
  — SUBTASK AMM-73-20-10-071-701-006.

(6) **If FADEC status is MAJOR,** the engine may continue in service upon completion of the following:

- Faults must be investigated and corrective actions done in accordance with the fault isolation charts and faults cleared before the end of 125 flight hours or one calendar month, whichever comes first. Refer to:
  — SUBTASK AMM-73-20-10-071-701-003, and/or
  — SUBTASK AMM-73-20-10-071-701-004, and
  — SUBTASK AMM-73-20-10-071-701-006.

(7) **If FADEC status is FAIL,** refer to P&WC EMM/LMM 72-00-02-810-801, FAULT ISOLATION-1 - EEC FAULTS.

SUBTASK AMM-73-20-10-071-701-006

NOTE: MAKE SURE ALL FAULTS ARE ANALYZED PRIOR TO CLEARING.

A. **Clearing FADEC Faults with ACS 5.6.04 or later**

(1) Power up the aircraft.

(2) Establish the AMC to DSU connection using the Ethernet cable, Ethernet to USB adapter, and the extension cable.

(3) On the AMC, select tab 73 Fuel Ctrl. From the drop down menu, select the "Real-time FADEC Faults".

(4) Select the "TLD only" check box.

(5) If there is a FADEC fault, the AMC "Minor Advisory" area will highlight the respective affected engine in amber; otherwise, the AMC will indicate "both engines good" status.

(6) To clear the FADEC fault(s):

- Follow the AMC instruction and press on the amber-colored engine.
- An acknowledgement window will appear prompting operator to confirm the FADEC fault clearing.
- After the acknowledgement on the AMC, the respective engine depiction will turn green and the fault must disappear from the screen.

NOTE: When cycling power to the aircraft, allow at least 20 seconds for the DSU to de-power.

(7) Cycle power to the aircraft. Wait for the DSU to ACS connection and verify that no FADEC faults appear.

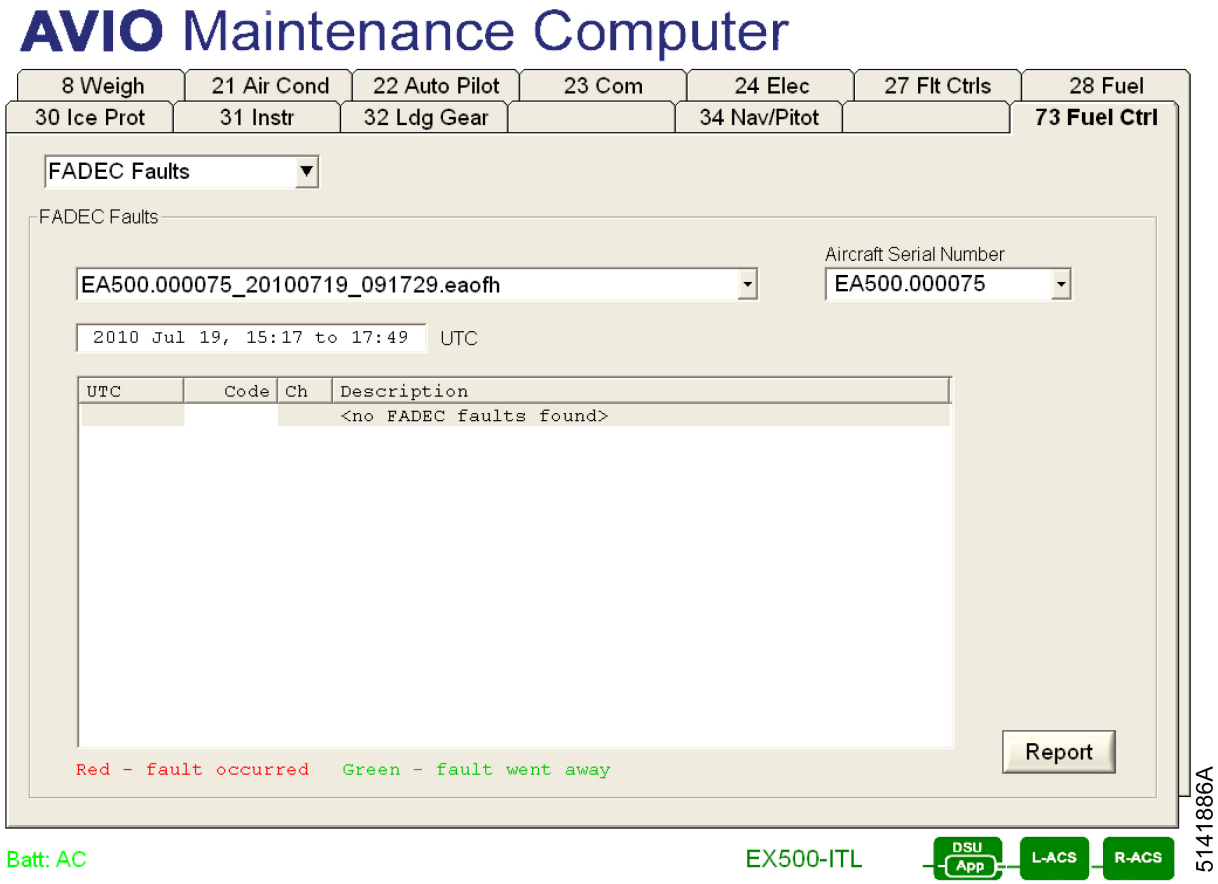
(8) Enter aircraft Maintenance Mode and verify that Engine Synoptic page now indicates "OK" status for each engine.

5. Job Close Up

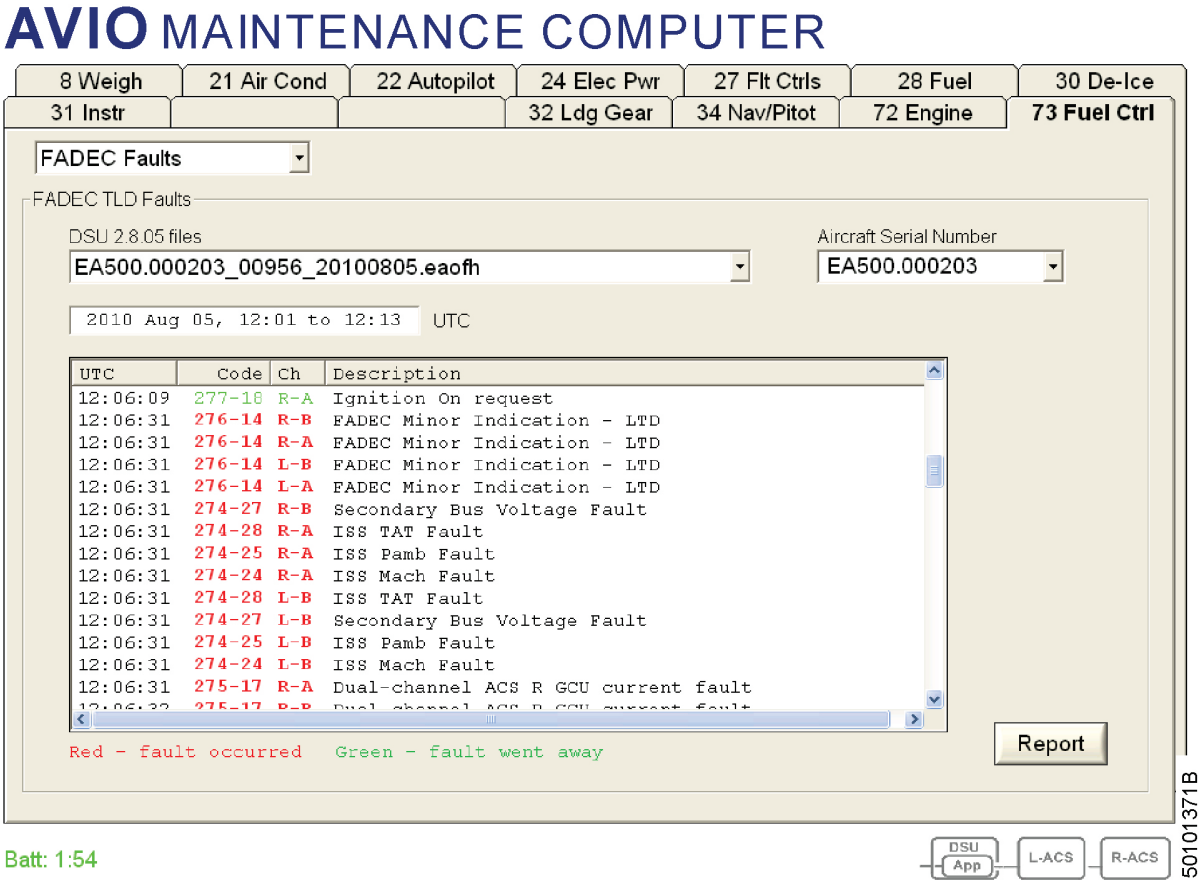
SUBTASK AMM-73-20-10-071-921-002

A. Remove all tools, equipment, and unwanted material from work area.

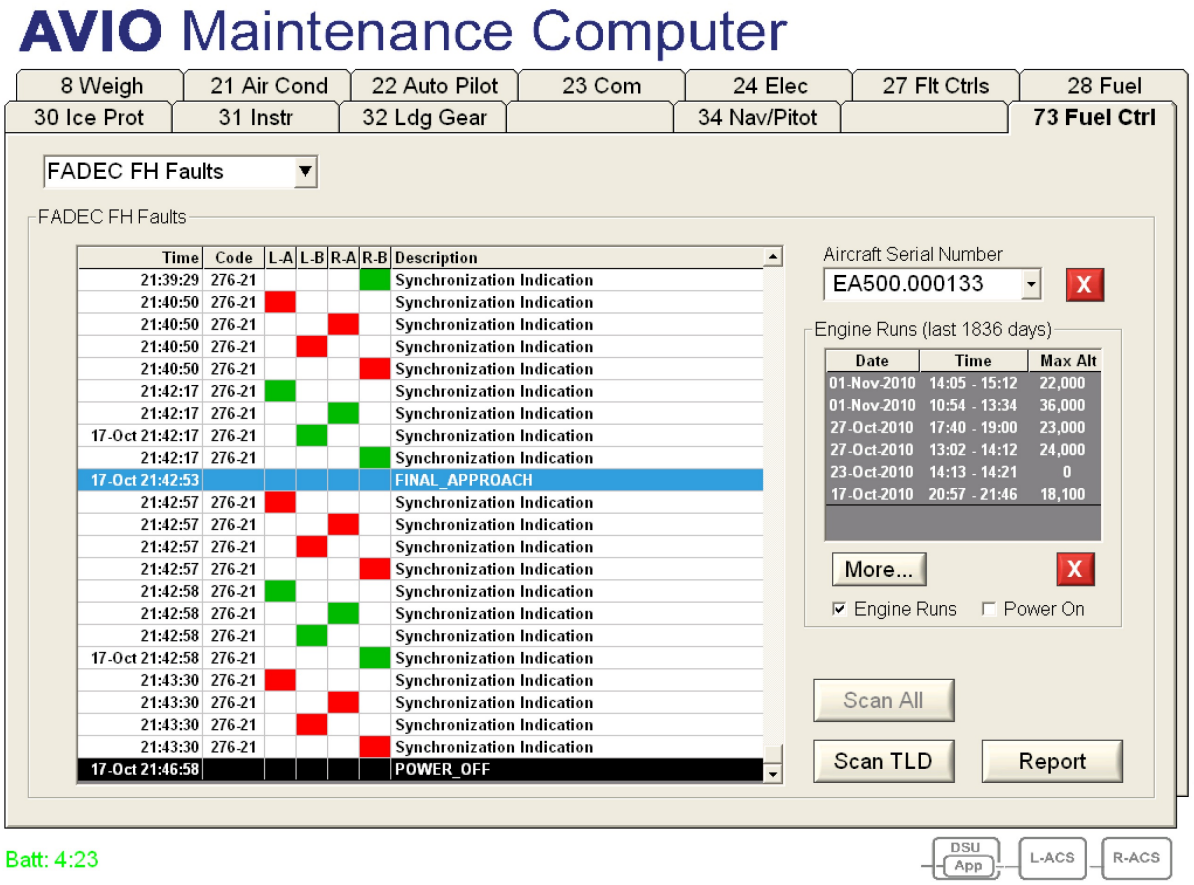
B. If all other maintenance is complete, return aircraft to service. Refer to AMM-20-00-02-051-801 – Return To Service (After Maintenance).



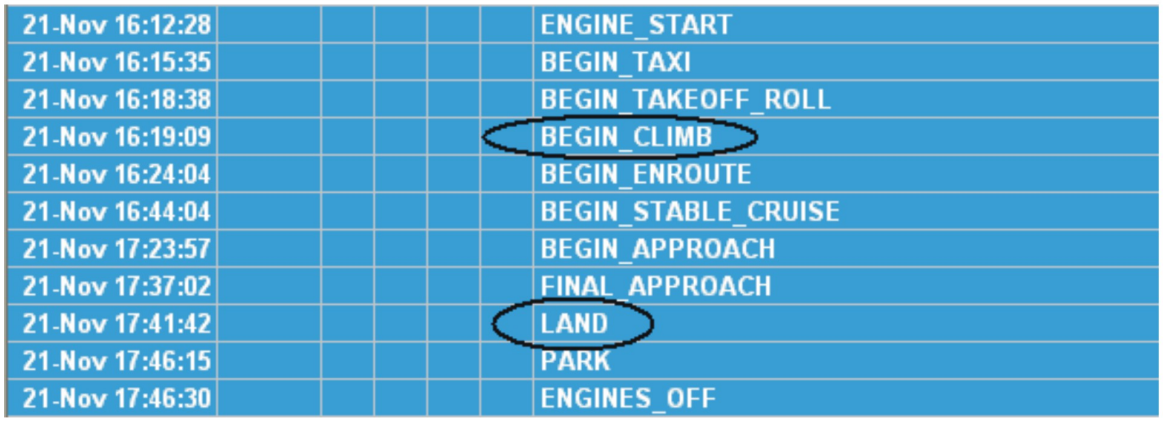
AMC - TAB 73 - FADEC Fault Review — (DSU 2.8.05) — No Faults Found —
Figure 501 (Sheet 1 of 1)



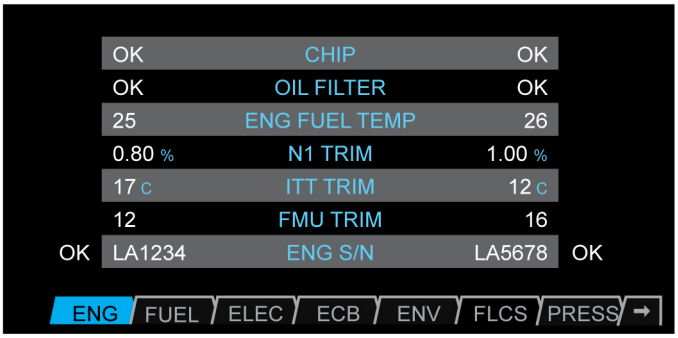
**AMC - TAB 73 - FADEC Fault Review — (DSU 2.8.05) — Faults Found —
Figure 502 (Sheet 1 of 1)**



FADEC Faults Recorded
Figure 503 (Sheet 1 of 1)



Indication of a Flight Within an Engine Run
Figure 504 (Sheet 1 of 1)



Ops Tab
Figure 505 (Sheet 1 of 1)