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SERVICE INFORMATION LETTER

Inform All Bombardier Global Express RE220 APU Operators of Line Maintenance Fault Isolation Procedure to Correct Auxiliary Power Unit (APU) Operational Issue

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Transmittal Information

Publication Number D201007000037

Summary

This revision is a FULL replacement. This revision includes the changes that follow:

- Changed the troubleshooting procedure.

Revision History

This service information letter has had one revision(s) as shown in Table 1.

Table 1. Revision History

Revision Number	Revision Date
0	13 Sep 2010
1	10 Apr 2012

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1. General Information

A. Effectivity

- (1) This service information letter (SIL) is to inform operators to replace the APU start counter meter, PN WE3876069-1, and/or the APU time totalizing meter, PN WE3876284-2, to correct the APU full authority digital engine control (FADEC) system lock-up problem.

B. Reason

(1) Problem

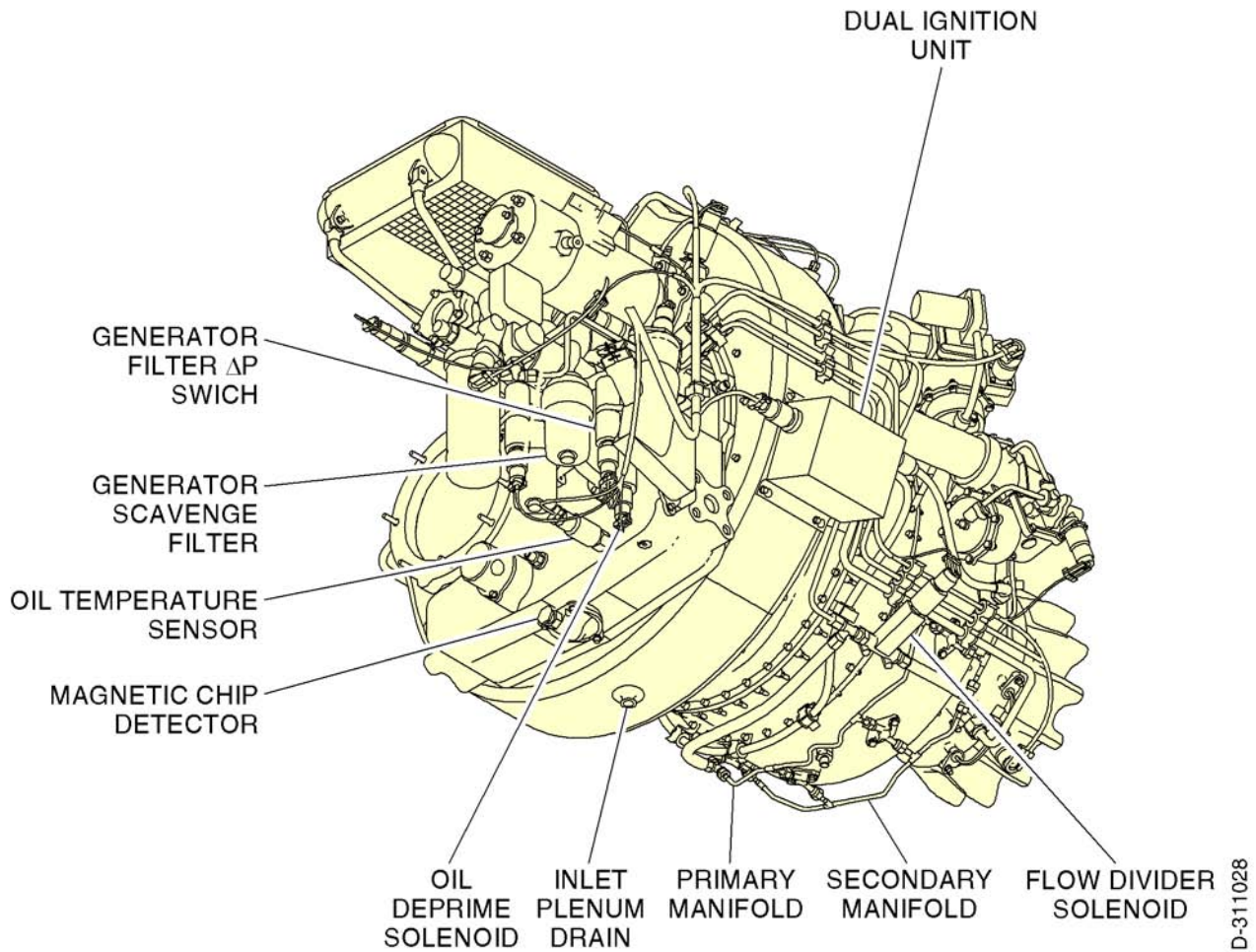
- (a) Some operators report that the Bombardier Global Express RE220 APUs experience an APU FADEC lock-up during the APU cool down sequence. The APU cannot start again after there is a lock-up mode. After the APU Shutdown, at approximately 10% to 0% RPM, the "APU FADEC FAIL" advisory crew alert system (CAS) message is posted. The APU exhaust gas temperature, APU RPM, and oil quantity on EICAS status page dash out. The maintenance system (CAIMS) displays "FADEC CONTROLLER" in red. The CAS and CAIMS message shows that there is no ARINC communication between the APU FADEC and Data Acquisition Unit (DAU) number 3.

(2) Caution

- (a) The replacement of the APU FADEC, PN 2118990-3, does not correct the APU FADEC system lock-up. Do not replace the APU FADEC at the start of the troubleshooting process.
- (b) Make sure the "APU FADEC FAIL" is not posted before the Battery Master Switch (BMS) is set to OFF. If the APU FADEC is left in the lock-up mode after the BMS is set to OFF, the line replaceable units (LRUs) that follow can stay energized.
 - Oil de-prime solenoid
 - Fuel flow divider solenoid
 - Hour meter (external Hobbs meter still running)
 - The avionics battery can be discharged over an extended period of time.

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- (c) If any of the above symptoms are present, you can clear the fault to release the aircraft without troubleshooting. Disconnect the APU battery and the avionics battery. Remove the APU FADEC from the connector on the mounting tray. Leave the APU FADEC on the mounting tray.
- Wait 10 to 15 minutes or until the APU FADEC goes back to normal temperature. Rack the APU FADEC and connect the APU battery and the avionics battery.
 - Make sure the "APU FADEC FAIL" message is clear.

WARNING: IF THE "APU FADEC FAIL" MESSAGE IS POSTED BEFORE SELECTING THE BMS TO OFF AND NO TIME IS ALLOCATED TO PERFORM TROUBLESHOOTING, MAKE SURE THE AVIONICS BATTERY IS DISCONNECTED TO PREVENT THE DRAINAGE OF THE BATTERY.

- (d) If the APU FADEC is not the only LRU that shows in red on the CAIMS, do the operative troubleshooting procedures in Smartfix™ Plus, ATA Section 45.

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C. Action

- (1) If an APU FADEC system lock-up is found, do the troubleshooting steps that follow:
 - (a) Make sure the PMAT reports in CAIMS the FADEC controller in red. If another fault is reported under the ATA 49 in CAIMS, do the troubleshooting recommended in Smartfix™ Plus.
 - (b) Shutdown the power completely from the aircraft. Make sure the BMS, engines, and external power are set to OFF.
 - (c) Disconnect the avionics battery and APU battery connectors.
 - (d) Remove the APU FADEC.
 - (e) Get access to the start counter meter and the time totalizing meter.
 - (f) Replace the start counter and time totalizer per BA AMM/FIM.
 - (g) Deleted.
 - (h) Deleted.
 - (i) Install the APU FADEC per the Aircraft Maintenance Manual.
 - (j) Deleted.
 - (k) Deleted.
 - (l) Deleted.
 - (m) Deleted.
 - (n) Deleted.
 - (o) Deleted.
 - (p) Run the APU to make sure the APU FADEC system lock-up does not occur.

NOTE: Make sure you continue to record the accurate hour and cycle data in your flight log book.

- (2) Do this procedure to reduce the cost that can occur with incorrect troubleshooting, which leads to a No Fault Found (NFF) APU FADEC.
- (3) If there are any questions regarding this SIL, please contact:

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