International Aero Engines

SERVICE BULLETIN

ENGINE - FUEL AND CONTROL - ENGINE - ELECTRONIC ENGINE CONTROL (EEC) - BURNER PRESSURE (PB) SENSOR TUBE ASSEMBLIES - MOISTURE CONTAMINATION CHECK - CATEGORY CODE 3 - MOD.ENG-73-0012

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: All V2500-A1 Engines that do not incorporate Service Bulletin Number V2500-ENG-73-0011

B. Reason

(1) Condition

Moisture/water was found in the Burner Pressure (pb) Sensor Tubes. If (because of moisture) an ice blockage in one of the two line drain holes occurs, incorrect burner pressure could be sensed by the Electronic Engine Control (EEC).

(2) Background

Two A320/V2500 operators have experienced incidents of a single engine uncommanded power reduction and EPR limitations.

(3) Objective

To provide an inspection procedure to minimize the possiblity of further incidents of uncommanded power reduction.

(4) Substantiation

This procedure is in reference to the V2500 all operators wire No.1001.

(5) Effects of Bulletin on Workshop Procedures:

Removal/Installation	Not affected
Disassembly/Assembly	Not affected
Cleaning	Not affected
Inspection/Check	Not affected
Repair	Not affected
Testing	Not affected

C. Description

(1) To provide a procedure to examine the Electronic Engine Control (EEC) and Burner Pressure (pb) Sensor tubes for presence of contaminates and moisture/water.

D. Compliance

Category Code 3

Accomplish within 50 hours after receipt of this Service Bulletin, and subsequently at 175 hours intervals.

E. Approval

The 'Compliance' statement, and the requirement for performing the moisture accumulation checks specified in Paragraph 2 of this Service Bulletin, have been shown to comply with the applicable Federal Aviation Regulations and are FAA - APPROVED for the Engine Model listed.

F. References

(1) Internal Reference No.

89VC080A/B

(2) Other References

A320 Aircraft Maintenance Manual

A320 Troubleshooting Manual.

2. Accomplishment Instructions

A. Do a moisture accumulation check on the Burner Pressure (pb) Sensor Tubes.

(1) Open the Fan Cowls (Refer to the A320 Aircraft Maintenance Manual, 71-13-00, Maintenance Practices, TASK 71-13-00-010-010).

(2) Open the Thrust Reverser Halves (Refer to the A320 Aircraft Maintenance Manual, 78-32-00, Maintenance Practices, TASK 78-32-00-010-010).

(3) Find the PN 5A8735 (06-100) and PN 5A8736 (07-100) PB Air Tube Assemblies, which run from the Bifurcation panel to the EEC.

(4) Remove the Bolts, Washers and Nuts from the clip positions on the two Tube Assemblies.

(5) Cut the lockwire and disconnect the Nut on PN 5A8762 (05-500) Tube Assembly from PN 5A8735 Tube Assembly.

(6) Cut the Lockwire and disconnect the Nut on PN 5A8735 Tube Assembly from PN 5A9093 (06-500) Tube Assembly.

(7) Remove the two PN 4W0163 (06-500) Bolts and two PN 4W0002 (06-102) Nuts which attach the PN 5A8735 Tube Assembly to the Bifurcation Panel.

(8) Remove PN 5A8735 Tube Assembly from the engine.

(9) Cut the lockwire and disconnect the Nut on PN 5A8736 Tube Assembly from PN 5A9093 Tube Assembly.

(10) Cut the lockwire and disconnect the Nut on PN 5A9166 (04-100) Flexible Hose from PN 5A8736 Tube Assembly.

(11) Cut the lockwire and remove PN MS9201-04 (03-510) Locknut from PN 5A9169 (03-800) Bracket Assembly and remove PN 5A8736 Tube Assembly from the engine.

(12) Cut the lockwire and disconnect the Nut on PN 5A9166 Flexible Hose from the EEC Inlet Sensor Union. Remove the Hose from the engine.

(13) Position the PN 5A8735 and PN 5A8736 Tube Assemblies so that the 0.016 - 0.019in. (0,4 - 0,5 mm.) bleed holes in the water traps are up.

(14) Purge the inner diameter of the tube assemblies to remove the moisture with nitrogen or dry air. When you purge the tubes, put a piece of 0.016in. (0,4 mm.) wire or equivalent through the hole and lightly hit the sides of the moisture trap to remove any possible contaminates.

(15) Cut the lockwire and disconnect the Nut on PN 5A8785 (05-100) Tube Assembly from the P3/T3 Sensor located on the Diffuser Case Assembly.

(16) Purge the inner diameter of the tube to remove the moisture with nitrogen or dry air on the Tube Assemblies that follow.

(a) PN 5A9166 Flexible Hose, removed from the engine.

(b) PN 5A9093 Tube Assembly, located on the engine.

(c) PN 5A8785 and PN 5A8762 Tube Assemblies, located on the engine.

(17) Connect the Nut on PN 5A8785 Tube Assembly to the P3/T3 Sensor. Torque the Nut to 159 to 177 lbfin (18 to 20 Nm). Safety with CoMat 02-126 Lockwire. (Refer to the A320 Aircraft Maintenance Manual, 70-23-11, Torque Tightening Techniques and 70-40-11, Installation of Locking Devices, TASK 70-40-11-911-012).

(18) Install PN 5A8736 Tube Assembly to PN 5A9196 Bracket Assembly with PN MS9201-04 Locknut.

(19) Connect the Nut on PN 5A8736 Tube Assembly to PN 5A9093 Tube Assembly.

(20) Install the Bolts, Washers and Nuts at the two clip positions on the PN 5A8736 Tube Assembly.

(21) Torque the PN MS9201-04 Locknut to 145 - 155 lbfin (16,38 - 17,51 Nm). Safety with CoMat 02-126 Lockwire. (Refer to the A320 Aircraft Maintenance Manual, 70-23-11, Torque Tightening Techniques and 70-40-11, Installation of Locking Devices, TASK 70-40-11-911-012).

(22) Torque the Nut on PN 5A8736 Tube Assembly to 165 to 185 lbfin (18,64 - 20,90 Nm). Safety with CoMat 02-126 Lockwire. (Refer to the A320 Aircraft Maintenance Manual, 70-23-11, Torque Tightening Techniques and 70-40-11, Installation of Locking Devices, TASK 70-40-11-911-012).

(23) Torque the two Nuts to 36 - 45 lbfin (4 - 5 Nm) at the two clip positions located on PN 5A736 Tube Assembly. (Refer to the A320 Aircraft Maintenance Manual, 70-23-11, Torque Tightening Techniques).

(24) Install PN 5A8735 Tube Assembly to the Bifurcation Panel with two PN 4W0163 Bolts and two PN 4W0002 Nuts. Torque the Nuts to 85 - 95 lbfin (9,60 - 10,73 Nm). (Refer to the A320 Aircraft Maintenance Manual, 70-23-11, Torque Tightening Techniques).

(25) Install the Bolts, Washers and Nuts at the four clip positions on PN 5A8735 Tube Assembly

(26) Connect the Nut on PN 5A8735 Tube Assembly to PN 5A9093 Tube Assembly.

(27) Connect the Nut on PN 5A8762 Tube Assembly to PN 5A8735 Tube Assembly.

(28) Torque each Nut on PN 5A8735 and PN 2A8762 Tube Assemblies to 165 - 185 lbfin (18,64 - 20,90 Nm). Safety each Nut with CoMat 02-126 Lockwire. (Refer to the A320 Aircraft Maintenance Manual, 70-23-11, Torque Tightening Techniques and 70-40-11, Installation of Locking Devices, TASK 70-40-11-911-012).

(29) Torque the Nuts to 36 to 45 lbfin (4 - 5 Nm) at the four clip positions on PN 5A8735 Tube Assembly. (Refer to the A320 Aircraft Maintenance Manual, 70-23-11, Torque Tightening Techniques).

B. Visually examine the inlet port to the burner pressure (pb) sensor in the EEC.

(1) Remove PN 5A8234 (01-270) Union from the ECC PB Sensor Inlet Port and discard the packing.

(2) Use a 10X magnification glass and a white light. If you can see a white powder contaminant on the sensor screen, replace the EEC before the next flight.

(3) If moisture is present in the EEC inlet port, dry the area with a lint free cloth.

(4) Purge the inner diameter of PN 5A8234 Union to remove the moisture with nitrogen or dry air.

(5) Install a PN NAS1595-4 (01-271) Packing on the PN 5A8234 Union.

(6) Install the PN 5A8234 Union in the ECC PB Inlet Port with the external cone end toward the PN5A9166 flexible hose. Torque to 168 - 181 lbfin (19,0 - 20,5 Nm). Safety with CoMat 02-141 Lockwire. (Refer to the A320 Aircraft Maintenance Manual, 70-23-11, Torque Tightening Techniques and 70-40-11, Installation of Locking Devices, TASK 70-40-11-911-012).

(7) Install and connect the two connectors on PN 5A9166 Flexible Hose to the PN 5A8234 Union and PN 5A8736 Tube Assembly.

(8) Torque the connector on PN 5A9166 Flexible Hose to the PN 5A8234 Union to 142 - 150 lbfin (16 to 17 Nm). Torque the connector on the other end of the hose to 145 - 155 lbfin (16,38 - 17,51 Nm). Safety the two connectors with CoMat 02-126 Lockwire. (Refer to the A320 Aircraft Maintenance Manual, 70-23-11, Torque Tightening Techniques and 70-40-11, Installation of Locking Devices, TASK 70-40-11-911-012).

C. Do a EEC Self Test. To avoid possible nuisance faults being generated during the EEC self test, the EEC should be powered up by the following procedure.

(1) Make sure all of the circuit breakers related to the EEC under Test are IN.

(2) If the EEC under test is already powered up, reset the EEC by the Engine Master Fuel Lever. Move the lever from the OFF position to the ON position and return to the OFF position.

(3) If the EEC under test is not powered up (shown by no engine parameters on the aircraft ECAM screen), then power up the EEC by the EEC Ground Test Power Switch.

(4) Enter the menu mode of the MCDU and select the CFDS function.

(5) Select the SYSTEM REPORT/TEST function and for each channel of the EEC and do the EEC SELF TEST.

NOTE: After you do the self test on one channel of the EEC, it is necessary to exit the test mode for the channel and enter the EEC SELF TEST for the other channel.

(6) If the MCDU announcement is that the test is PASSED, the EEC is serviceable.

(7) If the MCDU announcement is that the STATIC PRESSURE TEST has FAILED, the EEC must be replaced before the next flight.

NOTE: This test should not be done in wind gust conditions as this could have a bad affect on the test results.

If the MCDU indicates that the EEC self test has failed for other causes. Refer to the A320 Troubleshooting Manual.

(8) If the MCDU announcement is that the test is NOT RUN, do the test of the channel of the EEC again as follows.

(a) Exit the test mode to the SYSTEM/REPORT test page and select the applicable EEC channel.

(b) Do the EEC self test.

(c) If the MCDU announcement is that the Test is PASSED, the EEC is serviceable.

(d) If the MCDU announcement is that the Test is NOT RUN, replace the EEC before the next flight.

(e) If the MCDU announcement is that the test has FAILED, replace the EEC before the next flight.

D. Close the Thrust Reverser Halves (Refer to the A320 Aircraft Maintenance Manual, 78-32-00, Maintenance Practices TASK 78-32-00-410-0101)

E. Close the Fan Cowls (Refer to the A320 Aircraft Maintenance Manual, 71-13-00, Maintenance Practices TASK 71-13-00-410-010).