P U B L I C A T I O N T R A N S M I T T A L

International Aero Engines

400 MAIN STREET, MAIL STOP 121-10
EAST HARTFORD, CT 06108, USA.
TELEPHONE:- 860 565 5515
FAX:- 860 565 0600

P.O. BOX 31, DERBY
TELEGRAMS - 'ROYCAR' DERBY
TELEX - 37645
TELEPHONE:- 44 (0) 1332 242424
FAX:- 44 (0) 1332 249936

DATE: Jul.16/07

V2500-A1/A5 SERIES PROPULSION SYSTEMS NON-MODIFICATION SERVICE BULLETIN

This document transmits the Initial Issue of Service Bulletin EV2500-72-0546

Bulletin Initial Issue

Remove	Incorporate	Reason for change
	Pages 1 to 10 of the Service Bulletin	Initial Issue.

V2500-ENG-72-0546

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
If any have not been received please advise Customer Data Services, Rolls-Royce plc, Derby, England

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin are as follows:

Page	Revision Number	Revision Date
Bulletin		
1		Jul.16/07
2		Jul.16/07
3		Jul.16/07
4		Jul.16/07
5		Jul.16/07
6		Jul.16/07
7		Jul.16/07
8		Jul.16/07
9		Jul.16/07
10		Jul.16/07

International Aero Engines

SERVICE BULLETIN

ENGINE - INSPECTION OF FUEL NOZZLE AND SUPPORT ASSEMBLIES FOR CORRECT PART NUMBER INSTALLATION - NON-MODIFICATION SERVICE BULLETIN

1. Planning Information

A. Effectivity

(1) Airbus A319

(a) V2522-A5, V2524-A5, V2527M-A5 Engines prior to Serial No. V12667.

(2) Airbus A320.

(a) V2500-A1 Engines prior to Serial No. V0362.

(b) V2527-A5, V2527E-A5 Engines prior to Serial No. V12667.

(3) Airbus A321.

(a) V2530-A5, V2533-A5 Engines prior to Serial No. V12667.

B. Concurrent Requirements

None.

C. Reason

(1) Problem

Installation of Incorrect Fuel Nozzle and Support Assembly configurations cause starting or in-flight relight problems, or the inability to achieve proper thrust. The error was due to the Aircraft Illustrated Parts Catalog (AIPC) not showing part number applicability clearly between A1 and A5 engine models.

(2) Background

An incorrect part number replacement fuel nozzle was discovered during troubleshooting procedure for a starting fault.

(3) Objective

Inspection of correct part number installation will mitigate the risk of starting or in-flight relight problems, or the inability to achieve proper thrust due to installation of incorrect configuration Fuel Nozzle and Support Assemblies.

(4) Substantiation

A Temporary Revision to the AIPC was issued in advance of the next scheduled formal revision.

(5) Effects of Bulletin on:

(a) Removal/Installation

Not affected.

(b) Disassembly/Assembly

Not affected.

(c) Cleaning

Not affected.

(d) Inspection/Check

Not affected.

(e) Repair Schemes

Not affected.

(f) Testing

Not affected.

(6) Supplemental Information

None.

D. Description

(1) Recently, while following the troubleshooting procedure for a starting fault, an operator replaced a fuel nozzle at the ignitor location with an incorrect part number replacement fuel nozzle. The error was due to the Aircraft Illustrated Parts Catalog (AIPC) listing part numbers for both the A1 engine model as well as the A5 engine model, without a clear indication of the applicability of each part number.

ATA Chapter 73-13-41 of the A5 AIPC contains BOTH figures 80 and 80A.

Figure 80 contains fuel nozzle and support assembly part numbers associated with the A1 model ONLY, (P/Ns 2A0994, 2A1637 and 2A3453),

Figure 80A contains the part number data for the A5 model ONLY. (P/Ns 2A2250 and 2A3448).

The customized A5 manuals and the AIPC for operators using a mixed fleet of A1 and A5 contain both figures, regardless of the engine model being used by the Operator. The error was introduced in the August 2006 revision to the Aircraft Manual and has since been corrected by a Temporary Revision to the Manual in advance of the next scheduled formal revision. The AIPC for the A1 ONLY operators did not contain this error.

(2) The two different configurations for the fuel nozzle and support assembies are physically but not functionally interchangeable.

(3) When used in an A5 model, the lower fuel flow design of the A1 fuel nozzle will impact durability of the combustor and turbine hardware; may affect the starting or inflight relight capability when used at the ignitor locations; and, may affect thrust capability.

(4) The use of A5 fuel nozzles in an A1 model engine will impact the durability of the combustor and turbine hardware and may also affect starting or in-flight relight capability.

(5) In either case, the certification of the engine has been violated when the incorrect part number is used.

(6) This Non Modification Service Bulletin provides compliance recommendations for the suspected engine population.

E. Compliance

Category 3

Part A, Step 1: Accomplish within 600 hours or 750 cycles or 100 days.

Part A, Step 2: Accomplish within 1200 hours or 1500 cycles or 200 days.

Part B: Accomplish within 1200 hours or 1500 cycles or 200 days.

(1) This Non Modification Service Bulletin is applicable to all engines that have had on-wing replacement of one or more fuel nozzles between August 2006 and July 2007 with no subsequent shop visit to level 2 maintenance. Verification of the correct configuration is required.

The ACTION is divided by thrust ratings:

PART A - Applicable for V2530-A5 and V2533-A5 engines.

PART B - Applicable for all A1 engines and all remaining A5 engines not listed in PART A (V2522-A5, V2524-A5, V2527-A5, V2527E-A5 and V2527M-A5 engines).

PART A:

For all V2530-A5 and V2533-A5 engines within the suspect population defined above.

STEP 1: Verify at least one engine per aircraft has correct fuel nozzle configuration.

Accomplish within 600 Hours or 750 Cycles or 100 days of receiving this notification, depending on the maintenance interval:

a) For engines within the suspect population that are paired on the same aircraft, confirm by either maintenance record review or visual inspection of at least one engine per aircraft has the correct part number fuel nozzles are installed in all 20 positions.

b) Incorrect part number fuel nozzles must be corrected within 10 days.

STEP 2: Verify all remaining engines not completed in STEP 1 have correct fuel nozzle configuration.

Accomplish within 1200 Hours or 1500 Cycles or 200 days of receiving this notification, depending on the maintenance interval:

a) Confirm by either maintenance record review or visual inspection that the correct part number fuel nozzles are installed in all 20 positions.

b) Incorrect part number fuel nozzles must be corrected within 10 days.

PART B:

For all V2500-A1 engines and remaining V2500-A5 engines not listed in PART A above (V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5) within the suspect population defined above.

STEP 1: Verify all engines have correct fuel nozzle configuration.

Accomplish within 1200 Hours or 1500 Cycles or 200 days of receiving this notification, depending on the maintenance interval:

a) Confirm by either maintenance record review or visual inspection that the correct part number fuel nozzles are installed in all 20 positions.

b) Incorrect part number fuel nozzles must be corrected within 10 days.

F. Approval Data

The compliance statement and the procedures described in this Non-Modification Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Models listed.

G. Manpower

Estimate of manhours to embody this Non-Modification Service Bulletin:

(1) In Service

Total - 1 Hour 20 Minutes:

(a) To gain access - 20 Minutes.

(b) To embody - 40 Minutes.

(c) To return the engine to a serviceable status - 20 Minutes.

(2) At Overhaul

Applicable (Hours not affected).

H. References

(1) AOW 1079 dated 01-Jun-07 - Possible Incorrect Fuel Nozzle Configuration.

(2) ALL REPS PSCOMM TSP435 RG dated 16-May-07 ACCY (G).

(3) A319/A320/A321 Aircraft Maintenance Manual, Chapters 71-13-00 and 78-32-00 Opening/Closing.

(4) A319/A320/A321 Aircraft Maintenance Manual, Chapters 78-30-00 Thrust Reverser Deactivation.

(5) V2500 Engine Illustrated Parts Catalogs (S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA and S-V2500-7IB), Chapter/Section 73-13-41.

(6) Internal Reference No.:

Engineering Change No. 07VC136.

(7) ATA Locator - 73-13-41.

I. Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (No)

Added Data (No)

Revision to Table of Limits (No)

Inspection Procedures (No)

2. Material Information

Not applicable.

3. Accomplishment Instructions

A. Inspection of Fuel Nozzle and Support Assemblies for correct Part Number installation

Inspection of Engines that have had "on-wing" replacement of one or more fuel nozzles between August 2006 and July 2007 with no subsequent shop visit to level 2 maintenance may be accomplished by Method A: Maintenance Record review or by Method B: visual inspection.

(1) Method A: Perform a Maintenance Record review

(a) Review Engine's Maintenance Records to confirm that the correct part number fuel nozzles are installed in all 20 positions

(b) Record the review result in the Accomplishment Form on page 10.

(2) Method B: Perform a visual inspection

(a) Get access to the Fuel Nozzle and Support Assemblies on the combustion case

(i) Open the fan cowl doors (Refer to the Aircraft Maintenance Manual, Chapter 71-13-00).

(ii) Open the thrust reverser halves (Refer to the Aircraft Maintenance Manual, Chapter 78-32-00).

(iii) Deactivate the thrust reverser hydraulic control unit (Refer to the Aircraft Maintenance Manual, Chapter 78-30-00).

(b) Inspect Fuel Nozzle and Support Assemblies for correct part number installation as follows:

Accomplishment instructions for each engine in suspect population that cannot be confirmed by records review to show that the correct part number was used during fuel nozzle and support assembly change event.

(i) Using light source, visually inspect each of 20 fuel nozzles for part number.

NOTE: The nozzles are numbered clockwise (as viewed from the rear) starting from the top center of the engine.

NOTE: The Part Number is etched in large numbers on the flange. (Note: Earlier P/N 2A0994 and some early P/N 2A1637 used smaller character height). A bracket on fuel nozzle position No. 8 partially blocks the part number, but enough of the number is visible that it can be determined.

NOTE: Brackets installed at fuel nozzle positions 2, 5, 8 and 14 partially obscure the part number. In each case, at least the top half of the number is visible and the part number can be determined.

NOTE: Brackets installed on fuel nozzle positions 11, 12, 16, 18 and 19 do not block visibility of the part number.

NOTE: A Bracket installed at fuel nozzle position No. 3 completely covers the part number, and bracket removal is required to view the number.

(ii) Record the inspection result in the Accomplishment Form on page 10.

(iii) Make sure that the work area is clean and clear of tools, equipment and other unwanted materials.

(c) Close the access to the Fuel Nozzle and Support Assemblies on the combustion case

(i) Close the thrust reverser halves (Refer to the Aircraft Maintenance Manual, Chapter 78-32-00).

(ii) Close the fan cowl doors (Refer to the Aircraft Maintenance Manual, Chapter 71-13-00).

(iii) Activate the thrust reverser hydraulic control unit (Refer to the Aircraft Maintenance Manual, Chapter 78-30-00).

B. Recording Instructions

(1) A record of accomplishment is required.

Complete the Accomplishment Form on page 10 an send the page to the local IAE representative for forwarding to the IAE Fleet Manager.

AIRCRAFT S/N	OPERATOR	ACCOMPLISHMENT DATE
ENGINE S/N	TIME SINCE NEW (TSN)	CYCLES SINCE NEW (CSN)
ACCOMPLISHMENT LOCATION OF THE NON-MODIFICATION SERVICE BULLETIN (RECORD THE ADDRESS)		
ACCOMPLISHED:	IN SERVICE: ☐	AT OVERHAUL/SHOP VISIT ☐

INSPECTION OF FUEL NOZZLE AND SUPPORT ASSEMBLIES
FOR CORRECT PART NUMBER INSTALLATION

FUEL NOZZLE AND SUPPORT ASSEMBLY	PART NUMBER

ADDITIONAL INFORMATION:

PLEASE SEND THE COMPLETED ACCOMPLISHMENT FORM TO THE LOCAL IAE REPRESENTATIVE OR IAE FLEET MANAGER.

pw0b519592

Printed in Great Britain