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V2500-A5 SERIES PROPULSION SYSTEMS NON-MODIFICATION SERVICE BULLETIN

Printed in Great Britain

This document transmits the Initial Issue of Service Bulletin EV2500-72-0530

Bulletin Initial Issue

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If any have not been received please advise Customer Data Services, Rolls-Royce plc, Derby, England
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LIST OF EFFECTIVE PAGES

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ENGINE – HIGH PRESSURE (HP) COMPRESSOR, REAR STATIC AIR SEAL – CONFORMITY CHECK –
NON-MODIFICATION SERVICE BULLETIN

1. Planning Information

A. Effectivity

- (1) Airbus A319, A320, A321

V2500-A5 Engines with serial numbers: 12169, 12198, 12200, 12202, 12205, 12206, 12208, 12209, 12210, 12211, 12212, 12213, 12214, 12215, 12216, 12217, 12219.

B. Reason

Purpose of this Non-Modification Service Bulletin is to verify the conformity of the High Pressure (HP) compressor Rear Static Air Seal (serial number D086), that has been assembled into a production V2500-A5 engine, referenced in step A. Effectivity.

C. Description

A batch of four HP compressor Rear Static Air Seal assemblies (part number 6A4447) were incorporated into four V2500-A5 engines. Three of these seals were subsequently identified/located.

The fourth seal (serial number D086) entered service and has been traced to one of the Engine builds listed in step A. Effectivity above. If at shop visit the seal serial number D086 is found to have been incorporated into one of the affected engines, the seal is to have dimensional checks carried out on the seal diameters. Should seal non-conformance be found the seal assembly is to be rejected.

The suspected undersized HP compressor Rear Static Air Seal diameter non-conformance on serial number D086, has been assessed acceptable for the following reasons:

- (1) Negligible affected on engine air system –

A CFD Analysis was performed with non-conformance modelled to determine the down stream cooling affects on No. 4 bearing and flow redistribution through the turbine cooling transfer tubes, showing no detrimental effect on the engine air system.

(2) No effect on structural integrity -

The seal non-conformance reduced nominal seal operation clearance, but it was demonstrated during assembly that the reduced seal diameters did not cause a clash or foul condition. However a heavier labyrinth seal rub is expected in service, but well within structural capability of the labyrinth to cut it's required grooves into the honeycomb lining as per design intent without adverse affect on the air seal configuration.

D. Compliance

Category Code 5

One time action; for first scheduled routine inspection/maintenance overhaul that permits access to identify assembly serial number.

Inspect listed engines to determine if HP compressor Rear Static Air Seal assembly serial number D086 has been incorporated and if identified carry out seal diameter dimensional checks.

If non-conformance to the seal liner diameters are found, the seal assembly is to be rejected.

E. Approval

The compliance statement in Section 1.D. of this Non-Modification Service Bulletin complies with the applicable Federal Aviation Regulations and is FAA-Approved for the engine models listed.

This Non-Modification Service Bulletin affects engine certified items, no aircraft items are affected.

F. Manpower

At overhaul - Time to inspect for:

- (1) HP compressor Rear Static Air Seal assembly 6A4447 Serial Number D086 - 30 Minutes.
- (2) If present, time to inspect for seal diameters, as per reference in step I.(2) - 1.0 Hour.

G. Material Price and Availability

The incorporation of this Non-Modification Service Bulletin is free of charge.

H. Tooling Price and Availability

No special tooling required.

I. References

(1) V2500 INSPECTION REVIEW ORDER (VIRO)

VIRO CONTROL NO: 060110-002

(2) V2500 A5 Engine Manual, Chapter 72-42-00 Assembly/Disassembly and Chapter 72-42-50 Inspection/Check.

(3) Internal Reference No.

Engineering Change No. 06VR950.

(4) ATA Locator - 72-42-50.

2. Material Information

A. Parts to be replaced:

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
72-42-50						
01- 100	6A4447	1	Seal, A/O static air, HP compressor	-	6A4447	(S1)

B. Instruction disposition codes:

(S1) The old part must be replaced with the new part based upon the inspection results which have been found out during the inspection instructed in this Non-Modification Service Bulletin.

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3. Accomplishment Instructions

A. Inspection Instructions

NOTE: It is assumed that the Diffuser and Combustion Module is disassembled to have access to the High Pressure (HP) compressor Rear Static Air Seal assembly. Ref. Disassembly EM TASK 72-42-00-040-001.

(1) General

- (a) Obey all the WARNINGS and CAUTIONS referenced in applicable procedures.

(2) Consumable Materials

- (a) Refer to the Engine Manual (EM) tasks given in this instruction.

(3) Tools and Equipment

- (a) Refer to the EM tasks given in this instruction.

(4) Inspect HP compressor Rear Static Air Seal assembly, identification markings located of the rear face of outer seal carrier cone

- (a) If suspect serial number D086 is not found then reassemble HP compressor Rear Static Air Seal into Diffuser and Combustion Group, in accordance with EM TASK 72-42-00-430-001.
- (b) If serial number D086 is found, then inspect witness diameters of seal liners for conformity to EM TASK 72-42-50-200-001-C00
 - (i) If seal is in EM limits – Accept. Reassemble HP compressor Rear Static Air Seal into Diffuser and Combustion Group, in accordance with EM TASK 72-42-00-430-001.
 - (ii) If seal is outside EM limits – Reject. Install a new HP compressor Rear Static Air Seal assembly, as per: EM TASK 72-42-00-430-001 into Diffuser and Combustion Group, in accordance with EM TASK 72-42-00-430-001.



(c) Ship rejected part (serial number D086) to return part address:

Rolls-Royce plc

Royal Ordnance Depot (ROD)

Gate1, Sinfon Lane

Derby

England

Accompanying documentation to contain the following reference:

REFERENCE – VIRO CONTROL No: 060110-002.

B. Recording Instructions

- (1) Record accomplishment of Non-Modification Service Bulletin V2500-ENG-72-0530 in the applicable engine logbook.
- (2) Inform the IAE local office that this Non-Modification Service Bulletin has been accomplished.