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

RR-DERBY

V2500 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 - DERBY 242424

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V2500-A5/D5 PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits Revision 1 to Service Bulletin EV2500-72-0400

Document History

Service Bulletin Revision Status		Supplement Revision Status
Initial Issue	Aug.17/01	

Bulletin Revision 1

Remove	Incorporate	Reason for change
All pages of the Service Bulletin	Pages 1 to 6 of the Service Bulletin	To revise Effectivity

V2500-ENG-72-0400

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

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 1 are as follows:

Page		Revision Number	Revision Date
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ENGINE HP COMPRESSOR VARIABLE VANES - INLET GUIDE, STAGE 3, STAGE 4 AND STAGE 5 WITH OPTIMISED BUILD AND SETTING INSTRUCTIONS (A5 & D5 MODELS)

1. Planning Information

A. Effectivity

(1) Airbus A319

R V2522-A5, V2524-A5, V2527M-A5 Engines

(2) Airbus A320

R V2527-A5, V2527E-A5 Engines

(3) Airbus A321

R V2530-A5, V2533-A5 Engines

(4) Boeing - Longbeach Division MD-90

R V2525-D5, V2528-D5 Engines

(5) ATA locator 72-41-00

B. Concurrent Requirements

None

C. Reason

(1) Condition

Excessive clearance between the H.P. Compressor (HPC) Variable Stator Vane (VSV) system unison ring pads and the HPC Front Case can result in loss of concentricity leading to intra-stage mal-scheduling. The problem is attributed to inconsistent build and overhaul practices employed by production and individual overhaul shops.

(2) Background

An extensive data gathering exercise to support V2500 Engineering investigations, identified the problems of the HPC VSV systems clearances and varying build and overhaul practices.

(3) Substantiation

The changes introduced by this Service Bulletin have been the subject of extensive engineering analysis combined with successful development engine and rig testing of the VSV system and associated hardware.

(4) Objective

Incorporation of the changes introduced by this Service Bulletin (Modification) is designed to optimise VSV system setting and maintain engine reliability.

(5) Effect of Bulletin on:

(a) Operation

Not affected

(b) Maintenance

Affected

(c) Overhaul

Affected

(d) Repair Schemes

Not affected

(e) Interchangeability

Not affected

(f) Fits and Clearances

Not affected

D. Description

In order to reduce the potential for system hysteresis and intra stage vane mal-schedule, this Service Bulletin introduces optimised build and setting instructions for the HP Compressor VSV system designed to standardise the approach for the setting/re-setting and checking of VSV system unison ring pad clearances, for all V2500-A5 & -D5 Engine models.

The changes introduced are:

(1) Revised values for the clearances of all pads on each of the individual stages. The new values are fundamentally a rationalisation of the existing tolerances, thus tightening the overall tolerance band for each stage.

(2) A correct method of establishing connector rod lengths to set the system rigging, and prescribe a best practice method to enable accurate and consistent measurement of pad clearance values to be achieved.

(3) Guidance on corrective action to rectify unison ring bridge piece mis-alignment.

E. Compliance

Category 5

Accomplish when the engine is disassembled sufficiently to afford access to the affected subassembly (i.e. modules, accessories, components, build groups) and to all affected spare subassemblies.

F. Approval

The part number changes and/or part modification described in Section 2 and 3 of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved for the Engine Models listed.

G. Manpower

(1) In service

Not affected

(2) At overhaul

Not affected

NOTE: The parts affected by this Service Bulletin are accessible at overhaul

H. Material Price and Availability

Modification kit not required

I. Tooling Price and Availability

Special tools are not required

J. Industry Support Information

None

K. Weight and Balance

(1) Weight Change

None

(2) Moment Arm

No effect

(3) Datum

Engine front mount centreline (Power Plant Station PPS 100)

L. Electrical Load Data

This Service Bulletin does not affect the aircraft elecrical load

M. Software Accomplishment Summary

Not applicable

N. References

(1) Engine Manual:

(a) 72-41-00, Disassembly, Config-02 (A5)

(b) 72-41-00, Disassembly (D5)

(c) 72-41-00, Assembly-02, Config-02 (A5)

(d) 72-41-00, Assembly-02 (D5)

(e) 72-41-30, Disassembly, Config-02 (A5)

(f) 72-41-30, Disassembly (D5)

(g) 72-41-30, Assembly-03 to 08, 10 and 11 Config-02 (A5)

(h) 72-41-30, Assembly-03 to 08, 10 and 11 (D5)

(2) Aircraft Maintenance Manual:

(a) 75-32-42, Removal/Installation, Config-02 (A5)

(b) 75-33-42, Removal/Installation (D5)

(3) Internal reference 01VR002

O. Other Publications Affected

(1) Illustrated Parts Catalogue (IPC):

(a) 2IA, 2IB, 5IA, 5IB, 6IA, 6IB, 7IA, 7IB, 72-41-34, Fig 02 to 06 (A5)

(b) 3IA, 3IB, 72-41-34, Fig 02 to 06 (D5)

(2) Engine Manual:

(a) 72-41-00, Assembly-02, Config-02 (A5)

(b) 72-41-00, Assembly-02 (D5)

(c) 72-41-30, Assembly-03 to 08, 10 and 11 Config-02 (A5)

(d) 72-41-30, Assembly-03 to 08, 10 and 11 (D5)

(3) Aircraft Maintenance Manual:

(a) 75-32-42, Removal/Installation, Config-02 (A5)

(b) 75-33-42, Removal/Installation (D5)

P. Interchangeability of Parts

Not affected

2. Material Information

None

3. Accomplishment Instructions

A. Rework Instructions.

None

B. Assembly Instructions.

This Service Bulletin revises the build and setting instructions for the inlet variable gude vanes for the V2500-A5/D5 engines. Refer to the Engine Manual, 72-41-00 and 72-41-30, Disassembly and Assembly and Aircraft Maintenance Manual, 75-32-42 and 75-33-42, Removal/Installation (See 1.N. References).

C. Recording Instructions.

A record of accomplishment is required.