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

DATER Aug.21/02

V2500-A1/A5/D5 PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits Revision 2 to Service Bulletin EV2500-72-0290

Document History

Service Bulletin Revision Status		Supplement Revision Status
Initial Issue	Nov.28/97	
Revision 1	Feb.20/98	

Bulletin Revision 2

Remove	Incorporate	Reason for change
All pages of the Service Bulletin	Pages 1 to 6 of the Service Bulletin	Compliance category changed from 5 to 4

V2500-ENG-72-0290

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 2 are as follows:

	Page	Revision Number	Revision Date
	Bulletin		
R	1	2	Aug.21/02
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ENGINE - HP SYSTEM MODULE INSTALLATION FITTINGS - INTRODUCTION OF HIGHER STRENGTH HP COMPRESSOR TO INTERMEDIATE CASING FLANGE BOLTS

1. Planning Information

A. Effectivity

(1) Airbus A319

V2522-A5, V2524-A5, V2527M-A5 Engines prior to Serial No.V10300.

(2) Airbus A320

V2500-A1 Engines prior to Serial No.V0362.

V2527-A5, V2527E-A5 Engines prior to Serial No.V10300.

(3) Airbus A321

V2530-A5, V2533-A5 Engines prior to Serial No.V10300.

(4) Boeing Longbeach Division MD-90

V2525-D5, V2528-D5 Engines prior to Serial No.20181.

(5) ATA Locator

72-00-00.

B. Concurrent Requirements

None.

C. Reason

(1) Condition

An operator has reported that a blade-off incident occurred during a ground run of a V2500-A1 engine. After the incident a Whole Engine Dynamic Analysis was done. This has shown that transient loading conditions can be put on the bolts that connect the HP compressor case to the Intermediate case. This can cause a loss of clamping load on the flange of the cases.

(2) Background

See (1) Condition.

(3) Substantiation

A satisfactory engineering and stress analysis has been done on the changes introduced by this Service Bulletin.

(4) Objective

The purpose of this Service Bulletin is to maintain engine reliability.

(5) Effect of Bulletin on:

(a) Operation

Not affected.

(b) Maintenance

Not affected.

(c) Overhaul

Not affected.

(d) Repair Schemes

Not affected.

(e) Interchangeability

Not affected.

(f) Fits and Clearances

Not affected.

D. Description

(1) Revised bolts that attach the HP compressor to Intermediate case are introduced with the changes that follow:

(a) The material has been changed from stainless steel to a nickel based alloy.

(b) The countersunk hole in the bolt head has been deleted. This is to identify the new bolt from the old one.

(c) The bolt length has been increased by 0.125 in. (3,175 mm.).

(d) The torque load value of the bolts has been increased from 210 lbfin. to 315 lbfin.

(e) The lubricant for the bolts has been changed from engine oil to a nickel based high temperature anti-seizure compound. This is to make the tightening of the bolts to the increased torque load easier.

E. Compliance

R Category Code 4

R Accomplish at the first shop visit of an engine or module to a maintenance base
R capable of compliance with the accomplishment instructions regardless of the
R planned maintenance action or the reason for engine removal.

F. Approval

The part number changes and/or part modifications described in sections 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 model(s) listed.

G. Manpower

Estimate of manhours necessary to do this Service Bulletin in full:

(1) In service:

(a) To gain access:

16 minutes.

(b) To replace the bolts:

8 hours.

(c) To return aircraft to a serviceable condition:

20 minutes.

Total - 8 hours 36 minutes.

(2) At overhaul:

NOTE: It is possible to get access to the parts affected by this Service Bulletin at overhaul.

(a) To replace the bolts:

8 hours.

Total - 8 hours.

H. Material Price and Availability

Modification kit not required.

For prices and availability of future spares see 2. Material Information.

I. Tooling Price and Availability

Special tools are not required.

J. Weight and Balance

(1) Weight Change

Plus 0.1 lb. (0,05 kg.).

(2) Moment Arm

18.2in. (461 mm.) rearwards of datum.

(3) Datum

Engine front mount centreline (Power Plant Station (PPS) 100).

K. Electrical Load Data

The aircraft electrical load is not affected by this Service Bulletin.

L. References

Engineering Change number - EC97VR010.

M. Other Publications Affected

(1) Illustrated Parts Catalogue (IPC), Chapter/Section 72-00-40 will be revised.

2. Material Information

A. Kits associated with this Bulletin:

None.

B. Part prices:

Part No.	Est. Unit Price US Dollars
BLT5654	35.70

The prices are an estimate and are given for planning purposes only. For information about actual prices, refer to the IAE Price catalogue or contact the IAE Spare Parts Sales Department.

C. Parts affected by this Bulletin:

For each V2500 Engine to incorporate this Bulletin:

72-00-40

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01050	BLT5654	41	Bolt, bihex head, HPC to intercase flange (0.312 in dia. to 1.125 in)	-	AS21116	(S1)

D. Instruction disposition codes:

(S1) New parts coded (S1) must replace old parts coded (S1) as a COMPLETE SET for each engine.

3. Accomplishment Instructions

A. Rework Instructions

None.

B. Assembly Instructions

CAUTION: MAKE SURE THAT THERE IS NO COUNTERSUNK HOLE ON THE HEAD OF THE NEW BOLTS. A COUNTERSUNK HOLE IDENTIFIES THE OLD BOLTS (AS21116) ONLY.

To replace the bolts, refer to the applicable Engine Manual (EM), Chapter/Section 72-00-40, Removal/Installation.

C. Recording Instructions

A record of accomplishment is necessary.