



International Aero Engines

RR-DERBY

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

DATE ~~R~~ Aug.21/02

V2500-A5/D5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

Printed in Great Britain

This document transmits Revision 2 to Service Bulletin EV2500-72-0366

Document History

Service Bulletin Revision Status

Supplement Revision Status

Initial Issue Jun.22/01

Revision 1 Oct.5/01

Bulletin Revision 2

Remove

All pages of the
Service Bulletin

Incorporate

Pages 1 to 9 of the
Service Bulletin

Reason for change

To update 2. Material
Information

V2500-ENG-72-0366

Transmittal - Page 1 of 2

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED

If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England

© Rolls-Royce plc (date as above) Printed in Great Britain

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 2 are as follows:

<u>Page</u>		<u>Revision Number</u>	<u>Revision Date</u>
	Bulletin		
R	1	2	Aug.21/02
R	2	2	Aug.21/02
R	3	2	Aug.21/02
R	4	2	Aug.21/02
R	5	2	Aug.21/02
R	6	2	Aug.21/02
R	7	2	Aug.21/02
R	8	2	Aug.21/02
R	9	2	Aug.21/02

Printed in Great Britain



ENGINE – ACTUATING MECHANISM HP COMPRESSOR VARIABLE VANES – INTRODUCTION OF A REVISED
CRANKSHAFT ASSEMBLY

1. Planning Information

A. Effectivity

- (1) Airbus A319

V2522-A5, V2524-A5, V2527M-A5 Engines prior to Serial No. V11013

- (2) Airbus A320

V2527-A5, V2527E-A5 Engines prior to Serial No. V11013

- (3) Airbus A321

V2530-A5, V2533-A5 Engines prior to Serial No. V11013

- (4) Boeing Longbeach Division MD90

V2525-D5, V2528-D5 Engines prior to Serial No. V20286

- (5) ATA Locator 72-41-34

B. Concurrent Requirements

None

C. Reason

- (1) Problem

A design review has indicated that manufacture of the VSV system actuator crankshaft may be optimised.

- (2) Background

(See Problem).

- (3) Substantiation

The changes introduced by this Service Bulletin have been the subject of a successful run on V2500 development engine 811/12, during which the VSV system performed satisfactorily.

- (4) Objective

Incorporation of the changes introduced by this Service Bulletin (Modification) is designed to simplify manufacture.



(5) Effect on Bulletin on:

(a) Operation

Not affected

(b) Maintenance

Affected

(c) Overhaul

Affected

(d) Repair Scheme

Affected

(e) Interchangeability

Not affected

(f) Fits and Clearances

Not affected

D. Description

The existing standard of HP Compressor VSV system actuator assembly is fabricated from a number of components including a crankshaft machined from a solid forging with separate actuating levers for each stage. This Service Bulletin simplifies a number of these components.

The changes introduced are:

- (1) A revised crankshaft assembly is introduced similar to the existing item except for:
 - (a) The crankshaft is now cast from 17-4PH instead of being forged from Jethete.
 - (b) Integral VIGV, stage 3 and stage 5 lever features.
 - (c) A revised front housing, similar to the existing item except for the bearing which is now supplied as a single item.
- (2) A revised rear bearing housing assembly similar to the existing item except for the bearing which is now supplied as a single item.
- (3) The VIGV, stage 3 and stage 5 lever brackets and associated parts are deleted.

V2500-ENG-72-0366

Page 2



(4) A revised stage 4 lever bracket similar to the existing item except for:

(a) The material has been changed from Jethete to 17-4PH

(b) The profile has been simplified

(5) A retaining pin along with its attaching parts to attach the stage 5 connector rod.

(6) A revised bolt, along with two additional spacers and a washer, to attach the VIGV connector rod to the crankshaft assembly.

E. Compliance

Category Code 7.

Accomplish when the supply of superseded parts has been depleted.

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

Estimated Man-hours to incorporate the full intent of this bulletin:

(1) In service

Not applicable

(2) At overhaul

Not affected

H. Material Price and Availability

(1) Modification kit is not required.

(2) See "Material Information" section for prices and availability of future spares.

I. Tooling Price and Availability

TOOL NUMBER	QTY	DESCRIPTION
IAE 1R19464	1	Extractor (disassembly)



J. Industry Support Information

None

K. Weight and Balance

(1) Weight Change

Minus 4.6lb (2,09kg)

(2) Moment Arm

10.0in (254,00mm) rearwards

(3) Datum

Engine Front Mount Centreline (Power Plant Station – PPS 100)

L. Electrical Load Data

The aircraft electrical load is not affected by this Service Bulletin

M. Software Accomplishment Summary

Not applicable

N. References

(1) Internal reference 99VR001

(2) Engine Manual:

(a) 72-41-00, Disassembly, Config-2 and Assembly 02, Config-2 (1IA)

(b) 72-41-00, Disassembly and Assembly 02 (3IA)

(3) Aircraft Maintenance Manual:

(a) 75-32-42, Removal/Installation (1IA)

(b) 75-33-42, Removal/Installation (3IA)

O. Other Publications Affected

(1) Illustrated Parts Catalogue 72-41-34, 2IA, 2IB, 3IA, 3IB, 5IA, 5IB, 6IA, 6IB, 7IA, 7IB will be revised.

(2) Engine Manual:

(a) 72-41-00, Disassembly, Config-2 and Assembly 02, Config-2 (1IA)



- (b) 72-41-00, Disassembly, and Assembly 02, (3IA)
- (c) 72-41-34, Cleaning, Inspection/Check and Repair (1IA/3IA)
- (d) 72-41-34, Disassembly and Assembly 02, Config-2 (1IA)
- (e) 72-41-34, Disassembly and Assembly (3IA)
- (3) Aircraft Maintenance Manual:
 - (a) 75-32-42, Removal/Installation (A5)
 - (b) 75-33-42, Removal/Installation (D5)

P. Interchangeability of Parts

- (1) The parts introduced by this Service Bulletin must be fitted as a set.

**2. Material Information****A. Kits associated with this Bulletin:**

None

B. New production parts:

	PART NO.	QTY	UNIT PRICE US DOLLARS
R	6A7439	1	1102.00
R	AS26326	2	Price on request
R	6A7662	1	20121.00
R	AGS3731	1	Price on request
R	UP11193	2	18.40
R	4W2623	1	Price on request
R	BLT5382	1	9.87
R	6A7533	1	127.00
R	AS21409	1	Price on request
R	4W2621	1	Price on request
R	6A7436	1	202.00
R	AS21017	4	Price on request
R	AS20625	2	Price on request
R	6A7663	1	12830.00
R	6A7549	1	Price on request
R	RRN362	1	4.38
R	AS20643	1	Price on request
R	6A7372	1	6145.00
R	6A7551	1	Price on request
R	6A7370	1	6145.00
R	AS21018	2	Price on request
R	RSN287	1	Price on request
R	03-413-45E001	1	Price on request
R	03-413-40E002	1	Price on request

NOTE: The unit prices, if shown, are an estimate and they are given for the purpose of planning only. For actual prices, refer to the IAE Price Catalogue or contact IAE's spare parts sales department.

C. Parts affected by this Bulletin:

72-41-34

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
R	01179	UP11193	2	.Spacer	-	-	(A)(E)
R	01183	4W2623	1	.Washer	-	-	(A)(E)
R	01184	BLT5382	1	.Bolt	-	BLT5362	(A)(C)(S1)

V2500-ENG-72-0366

Page 6

Jun.22/01
R Aug.21/02

© Rolls-Royce plc

Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).



	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
Printed in Great Britain	R	01328	—	1	.Pin, cotter split	—	SP90C4 (1D)
	R	01330	—	1	.Nut, castellated	—	U755245 (1D)
	R	01331	—	1	.Washer	—	4W2623 (1D)
	R	01336	—	1	.Bolt	—	BLT5382 (1D)
	R	01370	6A7533	1	.Pin, retaining	—	(A)(E)
	R	01372	AS21409	1	.Bolt, bihex hd (0.190in. dia x 0.562in.)	—	(A)(E)
	R	01374	4W2621	1	.Washer	—	(A)(E)
	R	01470	6A7436	1	.Support, bearing housing -- VSV crankshaft	—	6A3299 (B)(C) (S1)
	R	01472	AS21017	2	.Bolt, bihex hd (0.250in. dia x 1.062in.)	—	AS21019 (A)(S1) (1D)
	R	01477	AS20625	2	.Nut, self locking, bihex (0.250in. dia)	—	(A)(E)
	R	01500	—	1	.Lever, actuating VIGV	—	6A4516 (C)(F)
	R	01520	6A7439	1	.Lever, actuating - Stage 4-	—	6A4398 (B)(C) (S1)
	R	01523	AS26326	2	.Bolt, close tol dee head	—	AS26319 (A)(S1) (1D)
	R	01540	—	1	.Lever, Stage 5	—	6A4399 (C)(F)
	R	01560	—	1	.Lever, Stage 3	—	6A4400 (C)(F)
	R	01562	—	2	.Bolt, close tol dee head	—	AS26318 (1D)
	R	01563	—	2	.Nut, self locking dbl hex	—	4W0003 (1D)
	R	01564	—	2	.Bolt, bihex hd	—	AS21115 (1D)
	R	01581	—	2	.Bolt, bihex hd	—	AS21118 (1D)
	R	01582	—	2	.Bolt, close tol dee head	—	AS26318 (1D)
	R	01583	—	4	.Nut, self locking double hex	—	4W0003 (1D)
	R	01600	6A7662	1	.Shaft assy - Crank	—	6A4316 (B)(C) (S1)
	R	01613	AGS3731	1	..Insert, screw thread	—	AGS3733 (A)(S1) (2D)
	R	01623	RSN287	1	..Ring, retaining - Inner (V80756)	—	RSN250 (B)(C) (S1)
	R	01630	6A7663	1	..Shaft, crank	—	6A4317 (B)(C) (S1)
	R	01631	6A7370	1	..Housing assy - Front bearing	—	(B)(E)
	R	01634	03-413- 45E001	1	...Bearing assy - Front spherical (V09455)	—	(B)(E) (G)
	R	01634	6A7549	1	...Bearing assy - Front spherical	—	(B)(E) (G)
	R	01636	RRN362	1	...Ring, retaining - Outer (V80756)	—	(B)(E)
	R	01638	AS20643	1	...Pin, straight headless	—	(A)(E)
	R	01730	—	1	...Housing assy, front	—	6A3517 (C)(F)



	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP	Printed in Great Britain
R	01760	6A7372	1	.Housing assy, rear	-	6A3519	(B)(C) (S1)	
R	01774	03-413- 40E002	1	..Bearing assy - Rear spherical (V09455)	-	-	(B)(E) (H)	
R	01774	6A7551	1	..Bearing, spherical - rear-	-	-	(B)(E) (H)	
R	A5 Engines only							
R	01475	AS21017	2	.Bolt, bihex hd (.250 dia x- 1.062)		AS21012	(A)(S1)(1D)	
R	D5 Engines only							
R	01475	AS21018	2	.Bolt, bihex hd (.250 dia x- 1.125)		AS21014	(A)(S1)(1D)	
R								
R								

D. Instructions disposition codes

(A) New part is currently available.

(B) New part will be made available from September 2000.

(C) Old part will continue to be made available.

(E) Additional.

(F) Part becomes redundant upon embodiment of this Service Bulletin.

(G) Parts coded (G) are alternatives

(H) Parts coded (H) are alternatives

(S1) Old and new parts are not interchangeable.

(1D) Old part may be used up on other applications.

(2D) Quantity reduced from 2 to 1.



3. Accomplishment Instructions

A Rework Instructions

None

B Assembly Instructions

The revised crankshaft assembly introduced by this Service Bulletin is interchangeable only as a complete set. Remove and install in accordance with current overhaul procedures and maintenance practices (Engine Manual, 72-41-00, Disassembly, Config-2 and Assembly 02, Config-2 (1IA) 72-41-00, Disassembly and Assembly 02 (3IA). Aircraft Maintenance Manual, 75-32-42, Removal/Installation (1IA), 75-33-42, Removal/installation (3IA)).

C Recording Instructions

A record of accomplishment is necessary.

