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V2500-A5/D5 PROPULSION SYSTEMS SERVICE BULLETIN

Printed in Great Britain

This document transmits the Initial Issue of Service Bulletin EV2500-72-0406

Bulletin Initial Issue

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Incorporate
Pages 1 to 9 of the
Service Bulletin

Reason for change
Initial issue

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LIST OF EFFECTIVE PAGES

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ENGINE – ACTUATING MECHANISM HP COMPRESSOR VARIABLE VANES – INTRODUCTION OF A FULLY
MACHINED FROM BAR CRANKSHAFT ASSEMBLY

1. Planning Information

A. Effectivity

(1) Airbus A319

V2522-A5, V2524-A5, V2527M-A5 Engines prior to Serial No. V11045

(2) Airbus A320

V2527-A5, V2527E-A5 Engines prior to Serial No. V11045

(3) Airbus A321

V2530-A5, V2533-A5 Engines prior to Serial No. V11045

(4) Boeing – Longbeach Division MD-90

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

(5) ATA Locator 72-41-34

B. Concurrent Requirements

None

C. Reason

(1) Condition

The manufacturer of the existing VSV system cast crankshaft has experienced problems in maintaining supply of the component.

This situation has generated the requirement for a short term replacement configuration to support the engine production programme.

(2) Background

(See Condition).

(3) Objective

Incorporation of the changes introduced by this Service Bulletin (Modification) is designed to maintain supply of the component to production build.



(4) Substantiation

The changes introduced by this Service Bulletin have been the subject of satisfactory engineering assessment, stress analysis and a successful assembly fit check of a representative crankshaft on a production HP compressor.

(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

- (1) This Service Bulletin introduces a HP compressor VSV system crankshaft assembly incorporating features common to both the previous machined from forged and cast crankshaft standards, to make sure connector interfaces remain constant and VSV system scheduling is unaffected.

The changes introduced are:

- (a) A revised crankshaft assembly similar to the existing item except for the following:
- (i) The crankshaft is now fully machined from corrosion resistant steel bar stock without integral VIGV and Stage 3 actuating levers.



- (ii) The weight saving hole at the front of the spannering flats has been reduced in depth to prevent damage to the Stage 4 Lever attachment area.
 - (iii) The area of the crankshaft forward of the front bearing is turned to a common diameter about the shaft's axis of rotation.
 - (iv) The land in front of the Spirolox groove has been increased to maintain support.
 - (v) The rigging arm profile has been simplified to ease manufacture.
 - (vi) Location holes and screw thread inserts are introduced to attach the VIGV and stage 3 actuating levers
- (b) Alternative detachable VIGV and stage 3 actuating levers made from corrosion resistant steel and associated attaching parts are introduced.
- (c) A revised bolt is introduced to attach the VIGV connector rod to the crankshaft which locates into a screw thread insert. Therefore the associated washer and two spacers are deleted.

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

(1) In service

Not applicable

(2) At overhaul

Not affected

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



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 1R19570	1	Extractor (disassembly)
To be used with		
IAE 1R18686	1	Adaptor (existing)

J. Industry Support Information

None

K. Weight and Balance

- (1) Weight Change
Plus 3.6lb (+1.63kg).
- (2) Moment Arm
10.0in (254mm) rearwards of datum.
- (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 01VR008
- (2) Engine Manual:
 - (a) 72-41-00, Disassembly, Config-2 and Assembly-02, Config-2 (A5)
 - (b) 72-41-00, Disassembly and Assembly-02 (D5)



(3) Aircraft Maintenance Manual:

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

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

0. Other Publications Affected

(1) Illustrated Parts Catalogue (IPC) 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 (A5)

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

(c) 72-41-34, Inspection/Check, Cleaning and Repairs (A5)

(d) 72-41-34, Inspection/Check, Cleaning and Repairs (D5)

(e) 72-41-34, Disassembly and Assembly-02, Config-2 (A5)

(f) 72-41-34, Disassembly and Assembly (D5)

(g) 72-00-40, Testing-01, Config-2 (A5)

(h) 72-00-40, Testing-01, (D5)

(3) Aircraft Maintenance Manual:

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

(b) 75-32-42, Inspection, Config-2 (A5)

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

(d) 75-33-42, inspection (D5)

P. Interchangeability of Parts

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

**2. Material Information****A. The kit required consists of the parts that follow:**

None

B. New production parts:

PART NO.	QTY	UNIT PRICE US DOLLARS
BLT5362	1	11.30
6A7806	1	1100.00
6A4516	1	1100.00
6A7807	1	1031.00
6A4400	1	1031.00
AS26318	2	11.70
4W0003	2	26.60
AS21115	2	7.76
6A7804	1	17180.00
AGS3733	2	2.79
6A7805	1	13453.00

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:

All Engines

72-41-34

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01179	-	2	Spacer	-	UP11193	(1D)
01183	-	1	Washer	-	4W2623	(1D)
01184	BLT5362	1	Bolt	-	BLT5382	(A)(S1) (1D)
01500	6A7806	1	Lever, actuating VIGV	-	-	(B)(E)
01500	6A4516	1	Lever, actuating VIGV	-	-	(A)(E)
01560	6A7807	1	Lever, actuating stage 3	-	-	(B)(F)
01560	6A4400	1	Lever, actuating stage 3	-	-	(A)(F)
01562	AS26318	2	Bolt, close tol. dee head (0.3125in. dia x 1.125in.)	-	-	(A)(C)
01563	4W0003	2	Nut, self locking, bihex	-	-	(A)(C)
01564	AS21115	2	Bolt, bihex Hd (0.3125in.- dia x 0.938in.)	-	-	(A)(C)
01600	6A7804	1	Shaft, assy - crank	-	6A7662	(B)(S1)



FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01614	AGS3733	2	Insert, screw thread	-	-	(A)(C)
01630	6A7805	1	Shaft, crank	-	6A7663	(B)(S1)

D. Instruction Disposition Codes

(A) New part is currently available.

(B) New part will be made available from June 2001

(C) Additional

(D) Part becomes redundant upon embodiment of this Service Bulletin

(E) Parts coded (E) are alternatives

(F) Parts coded (F) are alternatives

(S1) Old and new parts are not interchangeable

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



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 required.



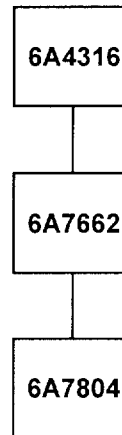
Baseline

ENG-72-0366

VSV Crankshaft Assy -
Introduction of crankshaft
cast from 17-4PH steel

ENG-72-0406

VSV Crankshaft Assy -
Introduction of a crankshaft
fully machined from 17-4PH
steel bar stock



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Family tree - HPcompressor VSV system crankshaft assembly A5 and D5 models
Fig 1

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