

International Aero Engines

SERVICE BULLETIN

ENGINE - ACTUATING MECHANISM HP COMPRESSOR VARIABLE VANES - INTRODUCTION OF STAGE-4 AND 5 VSV BRIDGE-PIECE ASSEMBLIES WITH REVISED METHOD OF MANUFACTURE

MODEL APPLICATION

V2500-A1
V2522-A5
V2524-A5
V2527-A5
V2527E-A5
V2530-A5
V2533-A5
V2525-D5
V2528-D5

BULLETIN INDEX LOCATOR

72-41-00

Compliance Category Code

7

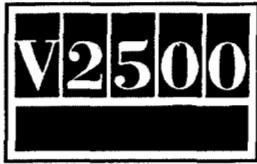
Internal Reference No.

EC98VR012

Jun 18/99

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ENGINE - ACTUATING MECHANISM HP COMPRESSOR VARIABLE VANES - INTRODUCTION OF STAGE-4 AND 5 VSV BRIDGE-PIECE ASSEMBLIES WITH REVISED METHOD OF MANUFACTURE

1. Planning Information

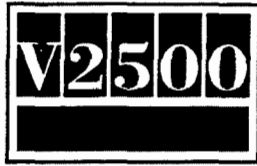
A. Effectivity

(1) Aircraft:

- (a) Airbus A319.
- (b) Airbus A320.
- (c) Airbus A321.
- (d) Boeing-Douglas MD-90.

(2) Engines:

- (a) V2500-A1 Engines prior to Engine Serial No. V0362.
- (b) V2522-A5 Engines prior to Engine Serial No. V10600.
- (c) V2524-A5 Engines prior to Engine Serial No. V10600.
- (d) V2527-A5 Engines prior to Engine Serial No. V10600.
- (e) V2527E-A5 Engines prior to Engine Serial No. V10600.
- (f) V2530-A5 Engines prior to Engine Serial No. V10600.
- (g) V2533-A5 Engines prior to Engine Serial No. V10600.
- (h) V2525-D5 Engines prior to Engine Serial No. V20286.
- (i) V2528-D5 Engines prior to Engine Serial No. V20286.



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B. Concurrent Requirements

None

C. Reason

(1) Problem

A design review has shown that the manufacture of the VSV bridge-piece assemblies for the Stage-4 and 5 of the HP Compressor can be easier.

(2) Evidence

(Refer to (1)).

(3) Objective

The purpose of this Service Bulletin is to make the process of manufacture easier.

(4) Substantiation

A satisfactory engineering analysis and a successful trial installation during module build and on a mock-up engine, have been done on the changes introduced by this Service Bulletin.

(5) Effect of Bulletin on:

(a) Operation

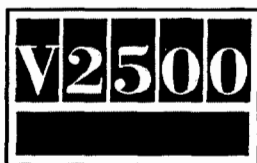
Not affected.

(b) Maintenance

Not affected.

(c) Overhaul

Affected.



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(d) Repair Schemes

Affected.

(e) Interchangeability

Not affected.

(f) Fits and Clearances

Not affected.

D. Description

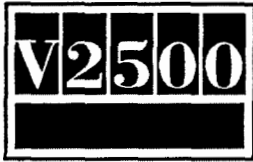
- (1) The VSV bridge-piece assemblies for Stage-4 and 5 of the HP Compressor have been revised, the changes are as follows:

- (a) The central section of the bridge assembly is extended to overlap the ends of the unison rings.
- (b) The two machined end pieces are replaced by U-Section channels which are fillet welded to the central section.
- (c) To position the bridge-piece assembly radially and to provide spigot location on the unison rings, four integral spacers are introduced.
- (d) To attach the bridge-piece to the unison ring, a revised bolt with an increase in length is introduced on each stage.
- (e) The dowel under the bolt head is deleted.
- (f) An additional washer is introduced between the bolt head and the spacer.

E. Compliance

Category Code 7.

Accomplish when there are no superseded parts remaining.



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F. Approval

The part number changes and/or part modification are given in Section 2 and 3 of this Service Bulletin. They comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the engine models listed.

G. Manpower

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

(1) In Service

Not applicable.

(2) At Overhaul

No additional time is necessary to embody this modification.

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

H. Material - Price and Availability

(1) A modification kit is not necessary.

(2) Refer to 2. Material Information for prices and availability of future spares.

I. Tooling - Price and Availability

Special tools are not necessary.

J. Industry Support Information

Not applicable.



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K. Weight and Balance

(1) **Weight Change**

Plus 0.4 lb (0.18kg).

(2) **Moment Arm**

8.4in (213mm) to the rear.

(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

None

O. Other Publications Affected

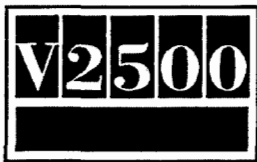
- (1) Illustrated Parts Catalogue (IPC), Chapter/Section 72-41-34.
- (2) Engine Manual (EM) Chapter/Section 72-41-34, Cleaning/Inspection and Repair.
Chapter/Section 72-41-30, Assembly/Disassembly.

P. Interchangeability of Parts

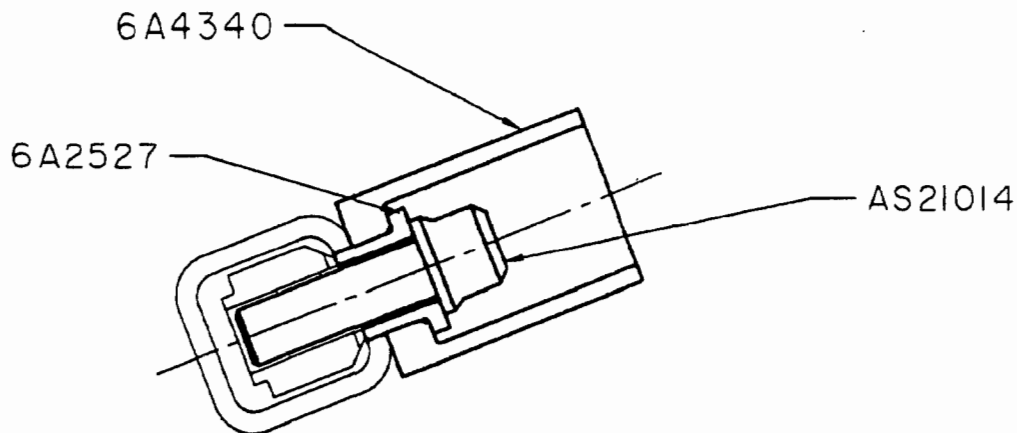
Affected (refer to 2. B.)



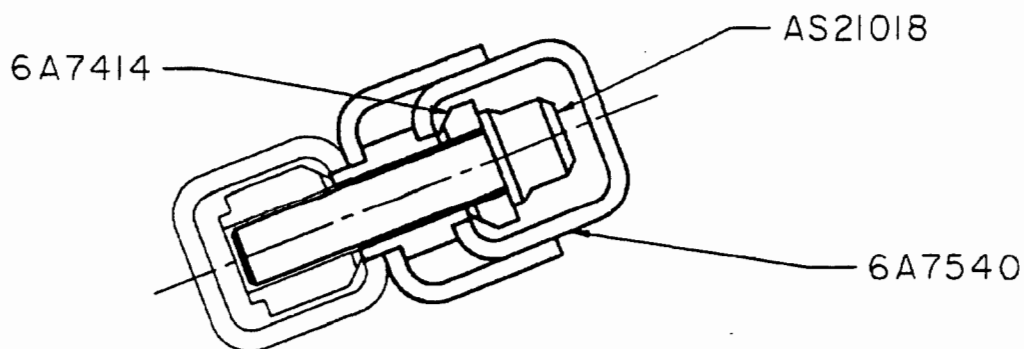
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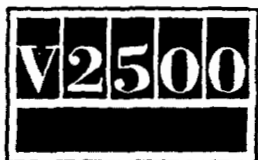
SECTION AD
TYP.4 POS MARKED AE
PRIOR TO ALTERATION



SECTION AD
TYP.4 POS MARKED AE
AFTER ALTERATION

Figure 1 - Sheet 2
View of section AD - Before and after alteration

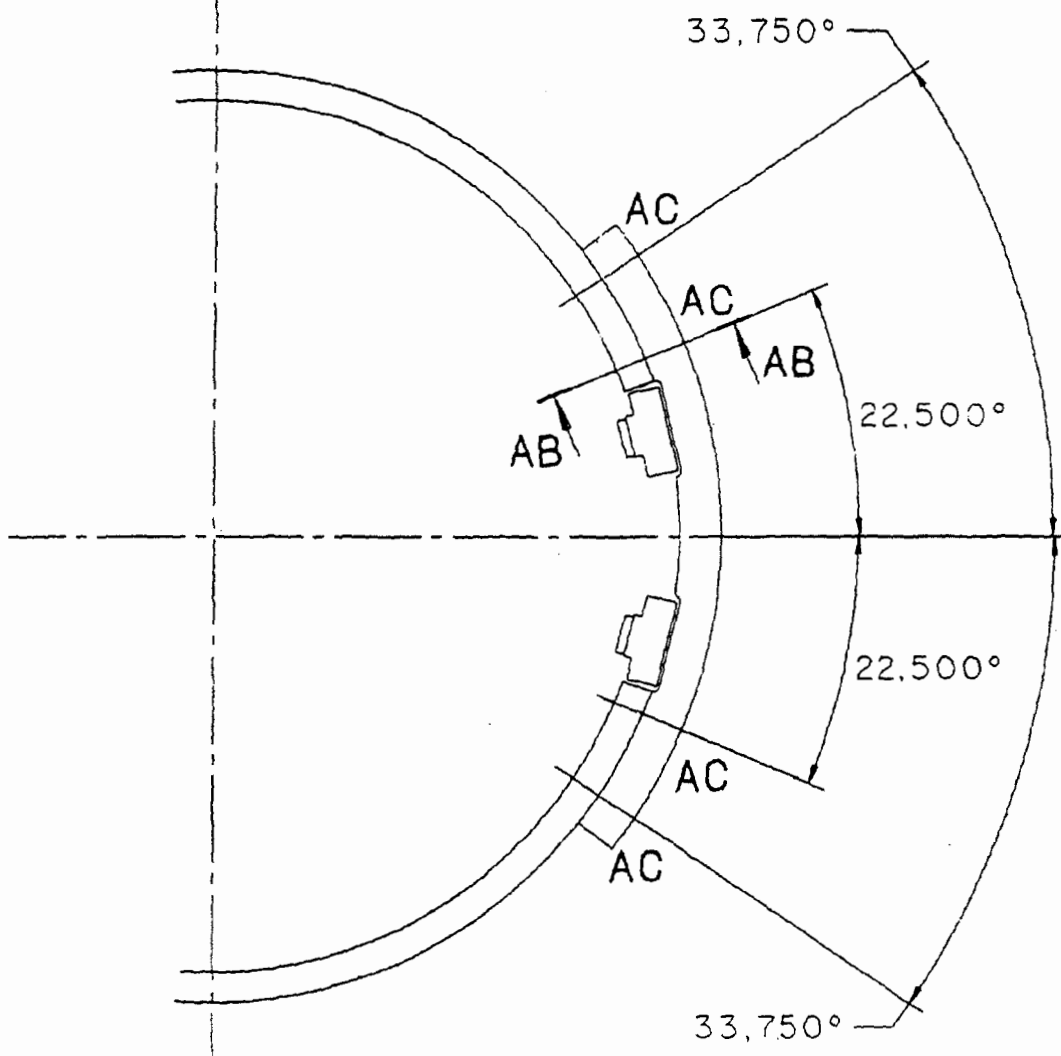
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SYMMETRICAL ABOUT VERTICAL
CENTRE LINE



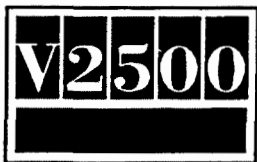
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Figure 2 - Sheet 1
Diagrammatic view of Stage-5 VSV mechanism

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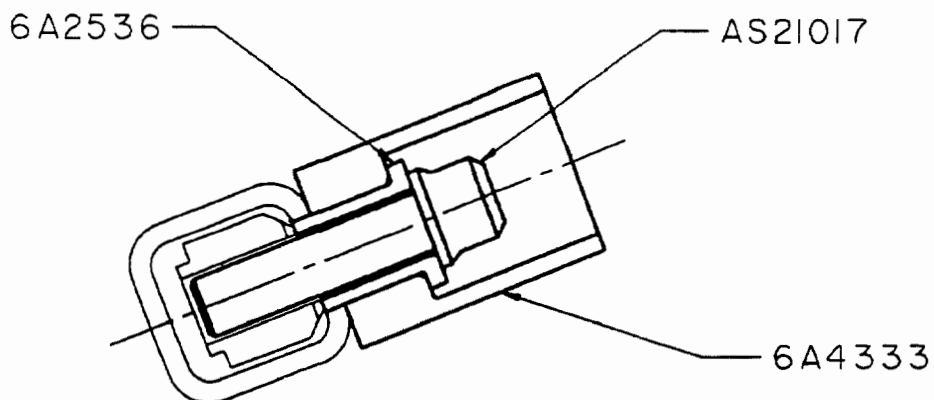
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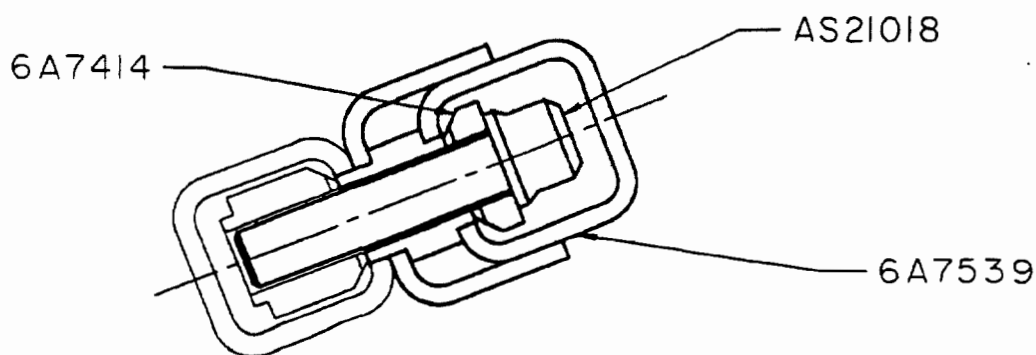


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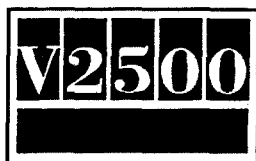


SECTION AB
TYP.4 POS MARKED AC
PRIOR TO ALTERATION



SECTION AB
TYP.4 POS MARKED AC
AFTER ALTERATION

Figure 2 - Sheet 2
View of section AB - Before and after alteration



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2. Material Information

A. Kits necessary for this Service Bulletin:

None.

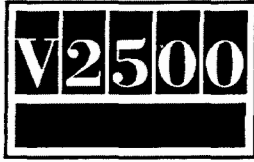
B. Parts affected by this Service Bulletin:

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
6A7540 (72-41-34)	2		.Bridge piece assy - HP Compressor Stage 4	6A4340 (04-200)	(A)(S1)
AS21018 (72-41-34)	8		.Bolt, bihex hd (.250 dia x 1.125)	AS21014 (04-202)	(B)(S1) (1D)
6A7414 (72-41-34)	8		.Washer, tube	- (04-204)	(A)(C) (S1)
- (72-41-34)	8		.Dowel, hollow	6A2527 (04-206)	(E)(S1)
6A7539 (72-41-34)	2		.Bridge piece assy - HP Compressor Stage 5	6A4333 (05-200)	(A)(S2)
AS21018 (72-41-34)	8		.Bolt, bihex hd (.250 dia x 1.125)	AS21017 (05-202)	(B)(S2) (1D)
6A7414 (72-41-34)	8		.Washer, tube	- (05-204)	(A)(C) (S2)
- (72-41-34)	8		.Dowel, hollow	6A2536 (05-206)	(E)(S2)

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

C. Instruction Disposition Codes

- (1) (A) New part is available.
- (2) (B) New part is currently available.
- (3) (C) Additional.
- (4) (E) Redundant.
- (5) (S1) New parts coded (S1) must replace old parts coded (S1) as a complete engine set.
- (6) (S2) New parts coded (S2) must replace old parts coded (S2) as a complete engine set.
- (7) (1D) Old part can be used for other applications.



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3. Accomplishment Instructions

A Rework Instructions

None.

B Assembly Instructions

For the correct removal/installation procedures, refer to Engine Manual 72-41-30.

C Recording Instructions

A record of accomplishment is necessary.