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V2500-D5 PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits the Initial Issue of Service Bulletin EV2500-75-0087

Bulletin Initial Issue

Remove

Incorporate
 Pages 1 to 11 of the
 Service Bulletin

Reason for change
 Initial issue

V2500-ENG-75-0087

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

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LIST OF EFFECTIVE PAGES

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AIR – HP COMPRESSOR STAGE 7 SOLENOID VALVE – INTRODUCTION OF A REVISED MOUNTING
BRACKET ASSEMBLY AND SUPPORT BRACKETS

1. Planning Information

A. Effectivity

- (1) Boeing – Longbeach Division MD-90

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

- (2) ATA Locator 75-32-51

B. Concurrent Requirements

None

C. Reason

- (1) Condition

Cracking of the HP Compressor stage 7 solenoid valve mounting bracket assembly may occur.

The problem has been attributed to the poor seating of the attaching bolt on the bracket due to misalignment, resulting in high cycle fatigue.

- (2) Background

The problem has been observed on V2500-D5 engines in service.

- (3) Substantiation

The changes introduced by this Service Bulletin have been the subject of satisfactory engineering analysis.

- (4) Objective

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

- (5) Effect of Bulletin on:

- (a) Operation

Not affected

- (b) Maintenance

Not affected



(c) Overhaul

Affected

(d) Repair Schemes

Not affected

(e) Interchangeability

Affected. (See 1.P. Interchangeability of Parts).

(f) Fits and Clearances

Not affected.

D. Description

- (1) This Service Bulletin introduces a revised HP compressor stage 7 solenoid valve mounting bracket assembly to reduce the potential for misalignment and minimise residual stresses.

The changes introduced are:

- (a) A revised bleed valve solenoid mounting bracket similar to the existing item except for the following:
- (i) The two holes that locate the solenoid bracket to the fan case at flange FC (see Fig 1) have been changed from plain holes to slotted holes.
 - (ii) The shape of the base of the bracket has been changed to maintain clearance with the fancase.
 - (iii) The five plunged holes located under each solenoid have been changed to plain holes.
- (b) A washer under the base of each nut on the slotted holes.
- (c) Two support brackets similar to the existing items except for the following:
- (i) The fancase locating holes have been moved to ensure the brackets sit nominally level.
 - (ii) The web feature has been removed.
 - (iii) Anchor nuts have been riveted to the brackets to attach the solenoid mounting bracket (in place of the deleted clip nuts in (d) below).



(d) The four clip nuts which attach the solenoid mounting bracket have been deleted.

(2) A procedure for the installation of the solenoid mounting bracket has been introduced. (See 3. Accomplishment Instructions)

E. Compliance

Category Code 6.

Accomplish when the sub assembly (i.e. modules, accessories, components, build groups) is disassembled sufficiently to afford access to the affected part and to all affected spare parts.

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 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

For prices and availability of future spares, refer to 2. Material Information

I. Tooling Price and Availability

Special tools are not required to accomplish this Service Bulletin

J. Industry Support Information

Not applicable

K. Weight and Balance

(1) Weight Change

Minus 0.1lb (-0.05Kg)



(2) Moment Arm

20.7in. (526mm) forwards of datum.

(3) Datum

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

L. Electrical Load Data

This Service Bulletin has no effect on the aircraft electrical load

M. Software Accomplishment Summary

Not applicable

N. References

(1) Internal reference 00VR014

(2) Engine Manual, 72-00-32, Installation-01, Config-01 and Removal-05,
Config-03

O. Other Publications Affected

(1) Illustrated Parts Catalogue, 3IA, 3IB, 75-32-51, will be revised

(2) Engine Manual, 72-00-32, Installation-01, Config-01 and Removal-05,
Config-03

(3) Component Maintenance Manual, Miscellaneous Mechanical, 75-32-51, Cleaning
and Inspection/Check

P. Interchangeability of Parts

The HP Compressor stage 7 solenoid valve mounting bracket assembly and support
brackets are only interchangeable with the existing parts as a complete set.

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

None

B. New production parts:

PART NO.	QTY	UNIT PRICE US DOLLARS
6A7640	1	157.00
6A7641	1	157.00
6A7639	1	1416.00
AS21012	4	5.91
AS21011	2	3.98
AS12944	2	1.07

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

75-32-51

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01130	6A7640	1	Bracket, assy - support	-	6A4643	(A) (S1)
01140	6A7641	1	Bracket, assy - support	-	6A5457	(A) (S1)
01160	6A7639	1	Bracket, assy - mounting bleed valve solenoid	-	6A4642	(A) (S1)
01162	AS21012	2	Bolt, bihex HD (0.250in. dia x 0.750in.)	-	AS21010	(1D) (S1)
01164	AS21011	2	Bolt, bihex HD (0.250in. dia x 0.6875in.)	-	AS21010	(1D) (S1)
01165	AS21012	2	Bolt, bihex HD (0.250in. dia x 0.750in.)	-	AS21011	(1D) (S1)
01170	-	4	Nut, clip (0.250in. dia)	-	4W0044	(1D)
01172	AS12944	2	Washer, flat, csk (0.250in.- dia)	-	-	(B)

D. Instructions disposition codes:

(A) New parts will be made available from March 2001.



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(B) Additional.

(S1) Old and new parts are not interchangeable.

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

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



3. Accomplishment Instructions

A. Rework Instructions.

None

B. Assembly Instructions.

The HP compressor stage 7 solenoid valve mounting bracket assembly and support brackets introduced by this Service Bulletin should only be changed with existing as a complete set. Remove in accordance with current overhaul procedures (Engine Manual, 72-00-32, Removal-05, Config-03).

Install replacement parts as follows:

NOTE: Torque tighten in accordance with Standard Practices, 70-41-00

NOTE: During the installation procedure, refer to Fig 1, 2 and 3

NOTE: To relieve any stresses during assembly, the brackets must be fastened to the fancase in the order that follows:

- (1) Tighten bracket 6A7640 to the fancase at flange FB. Use bolt AS21010 (2 off) and nut 4W0002 (2 off)
- (2) Tighten bracket 6A7639 to bracket 6A7640. Use bolt AS21012 (2 off) and washer 4W2622 (2 off)
- (3) Loosely assemble bracket 6A7639 to flange FC. Use bolt AS21011 (2 off), nut 4W0002 (2 off) and washer AS12944 (2 off). This sets raft alignment
- (4) Tighten bracket 6A7641 to bracket 6A7639. Use bolt AS21012 (2 off) and washer NAS1587-4C (2 off)
- (5) Tighten bracket 6A7641 to fancase at flange FA1. Use bolt AS21012 (1 off), bolt AS21011 (2 off) and nut 4W0002 (3 off)
- (6) Loosen by one quarter turn, both fasteners AS21012 (2 off) between bracket 6A7639 and bracket 6A7640
- (7) Tighten bracket 6A7639 to the fancase at flange FC
- (8) Loosen by one quarter turn, both fasteners AS21012 (2 off) between bracket 6A7639 and bracket 6A7641
- (9) Tighten bracket 6A7639 to bracket 6A7640
- (10) Tighten bracket 6A7639 to bracket 6A7641



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C. Recording Instructions.

A record of accomplishment is required.

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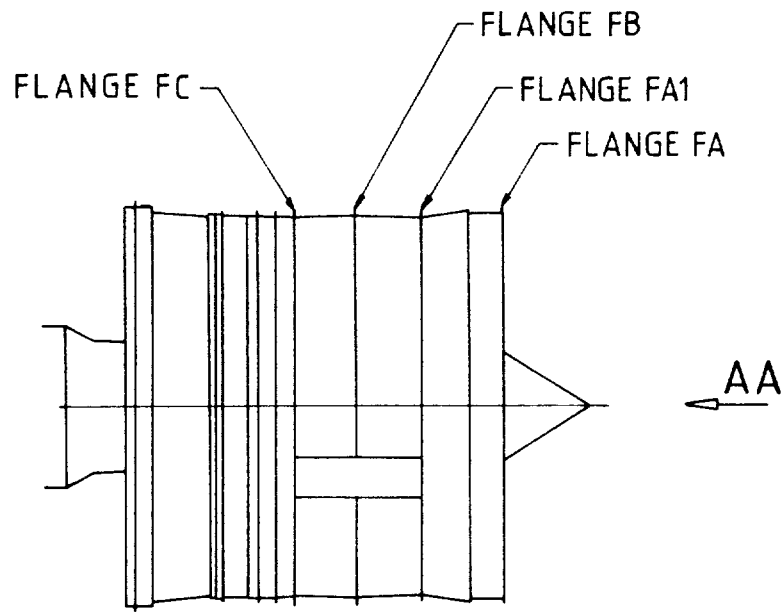
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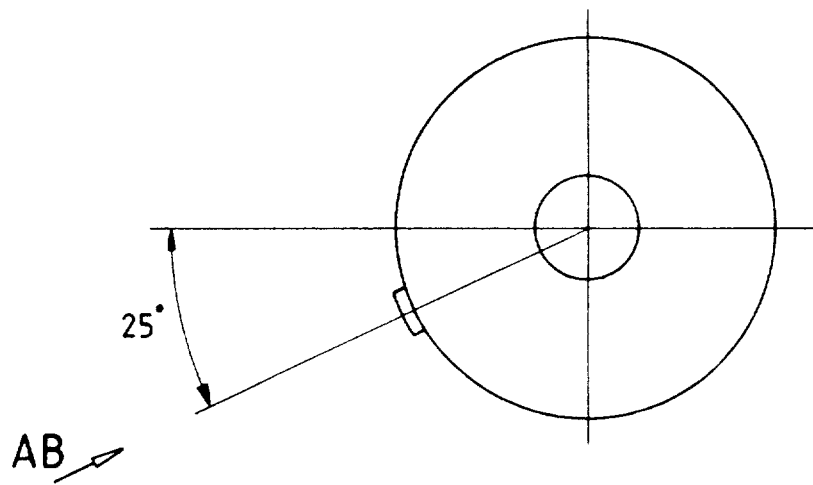
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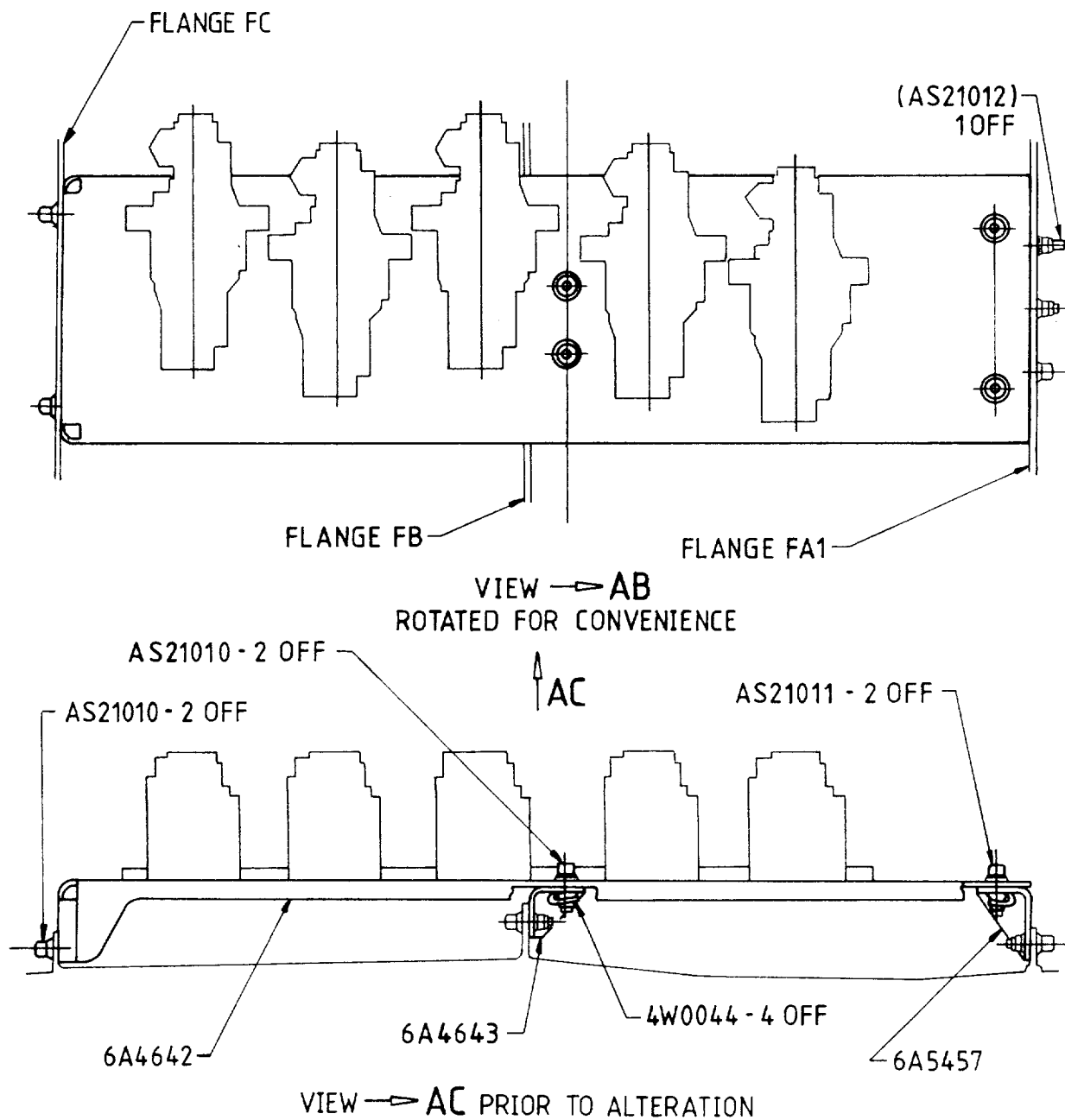
VIEW ON RIGHT HAND SIDE OF FAN CASE



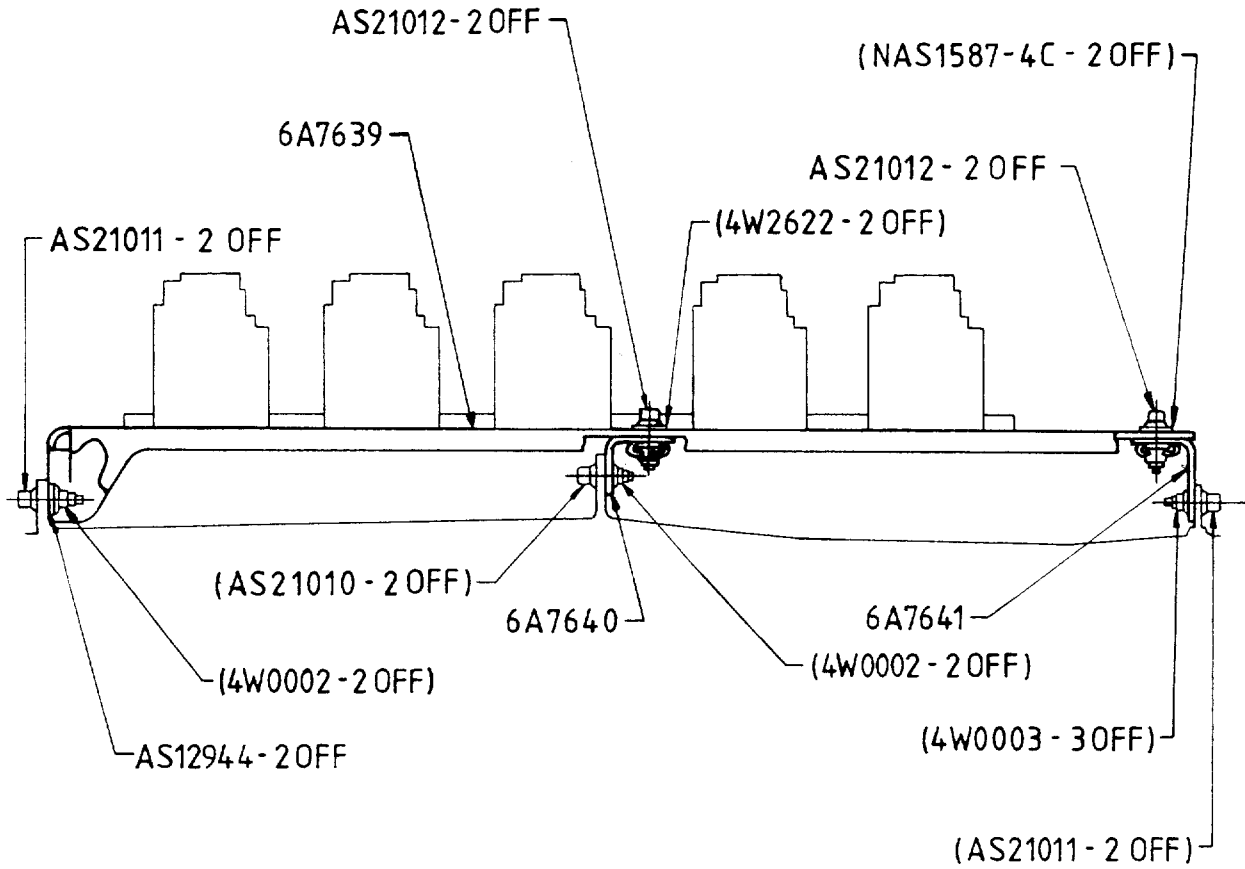
VIEW → AA

Location diagram
Fig 1

dem0000432



View of support bracket assembly
Fig 2



VIEW → AC AFTER ALTERATION

dem0000434

View of support bracket assembly after alteration
Fig 3

