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V2500-D5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits the Initial Issue of Service Bulletin EV2500-73-0174

Bulletin Initial Issue

Remove

Incorporate
Pages 1 to 9 of the
Service Bulletin

Reason for change
Initial issue

V2500-ENG-73-0174

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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

The effective pages to this Service Bulletin are as follows:

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ENGINE FUEL AND CONTROL – FUEL FLOWMETER – INTRODUCTION OF A REVISED FUEL FLOW
TRANSMITTER SUPPORT BRACKET

1. Planning Information

A. Effectivity

(1) Boeing – Longbeach Division MD-90

V2525-D5 and V2528-D5 Engines

(2) ATA Locator 73-31-17

B. Concurrent Requirements

None

C. Reason

(1) Condition

Cracking of the fuel flow transmitter bracket assembly and support bracket at the common attaching location may occur.

The problem has been attributed to fatigue, resulting from a single fixing point combined with a cantilever effect, which induces bending stresses in both brackets.

(2) Background

There have been reports of several events to date.

(3) Objective

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

(4) Substantiation

The changes introduced by this Service Bulletin have been the subject of satisfactory engineering analysis and a successfully vibration survey and build check.

(5) Effect of Bulletin on:

(a) Operation

Not affected



(b) Maintenance

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

This Service Bulletin introduces a redesigned fuel flow transmitter support bracket and attaching parts designed to eliminate cantilever effects and reduce bending stresses in the bracket.

The changes introduced are:

- (1) A revised support bracket is introduced similar to the existing item except for the following:
 - (a) A secondary fixing point has been incorporated.
 - (b) The profile of the bracket has been changed to accommodate the additional fixing point.
 - (c) The fixing points have been changed from plain holes to slots.
 - (d) The material has been changed from titanium to steel.
- (2) The two bolts which attach the bracket assembly to the fancase have been increased in length to accommodate the additional fixing point on the revised support bracket.
- (3) The tightening sequence of the bracket attaching bolts has been defined to prevent pre-stressing of the bracket (see 3. Accomplishment).

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 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 affected

(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

None

(2) Moment Arm

No effect

(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 00VR019
- (2) Engine Manual, 72-00-32, Removal-05, Config-03 and Installation-01, Config-01 (3IA)
- (3) Aircraft Maintenance Manual, 73-31-02, Removal/installation

O. Other Publications Affected

- (1) Illustrated Parts Catalogue 3IA, 3IB, 73-31-17 will be revised.
- (2) Engine Manual, 72-00-32, Removal-03 and Installation-03, Removal-13 and Installation-13 and Removal-05 and Installation-01, Config-01 (3IA)
- (3) Miscellaneous Mechanical Components, 73-31-17, Cleaning-02, Config-01 and Inspection-01, Config-01 (3IA)
- (4) Aircraft Maintenance Manual, 73-31-02, Removal/Installation

P. Interchangeability of Parts

The fuel flow transmitter support bracket and attaching bolts 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. Parts to be reworked:

None

C. New production parts:

PART NO.	QTY	UNIT PRICE US DOLLARS
6A7638	1	47.20
4W1249	2	8.81

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.

D. Parts affected by this bulletin:

73-31-17

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01040	6A7638	1	.Bracket, support	-	6A5839	(A)(S1)
01082	4W1249	2	.Bolt, hex Head (0.250in. dia. x 0.938in.)	-	4W1248	(A)(S1)

E. Instructions disposition codes:

(A) New part will be made available from May 2001

(S1) Old and new parts are not interchangeable.



3. Accomplishment Instructions

A. Rework Instructions

None

B. Assembly Instructions

The parts introduced by this Service Bulletin are interchangeable as a complete set

NOTE: Torque tightening to be in accordance with Standard Practices 70-41-00

NOTE: To make sure brackets (73-31-17, 01-040 and 01-080) are not pre-stressed, fit to the installed flowmeter with bolt (73-11-49, 07-506) 2 off and washer (73-11-49, 07-507) 2 off and bolt (73-11-49, 08-106) 2 off and washer (73-11-49, 08-107) 2 off respectively, before tightening bolt (73-31-17, 01-042) and bolt (73-31-17, 01-082) with washers (73-31-17, 01-084) 4 off between the brackets and onto the fan case

NOTE: Fill the cavities at positions 16 and 17 with CoMat 08-014 primer and CoMat 08-013 cold curing silicone compound

Install the bracket

- (1) Attach the bracket (73-31-17, 01-040) to its location on the bracket (73-31-17, 01-080) with the bolt and washer (73-31-17, 01-042 and 01-044). Refer to the detail in Fig 1.
- (2) Attach the bracket assembly (73-31-17, 01-080) at the holes 16 and 17 (Refer to Fig 2) with the two bolts (73-31-17, 01-082), and the four washers (73-31-17, 01-084) and the two nuts (73-31-17, 01-086). Refer to the detail in Fig 1. Make sure the bolt inserted at hole 17 passes through the second hole in bracket (73-31-17, 01-040).

Torque the bolts installed in step (1) to 36 to 45 lbfin (4 to 5 Nm)

Torque the nuts installed in step (2) to 85 to 105 lbfin (10 to 12 Nm)

- (3) Make a clean lint-free cloth moist with CoMat 01-012 isopropanol ($\text{CH}_3\text{CH}_2\text{OH}$). Use the cloth to remove grease, fingerprints and the unwanted material. Clean the counterbores of the radial flange at the holes 16 and 17. Allow to air dry.
- (4) Apply one coat of CoMat 08-014 primer to the prepared counterbores and allow to air dry for 30 minutes.
- (5) Apply CoMat 08-013 cold curing silicone compound to the prepared counterbores. Smooth to blend with the inside diameter of the case. Allow to air dry for 48 hours.



International Aero Engines

SERVICE BULLETIN

C. Recording Instructions

A record of accomplishment is required.

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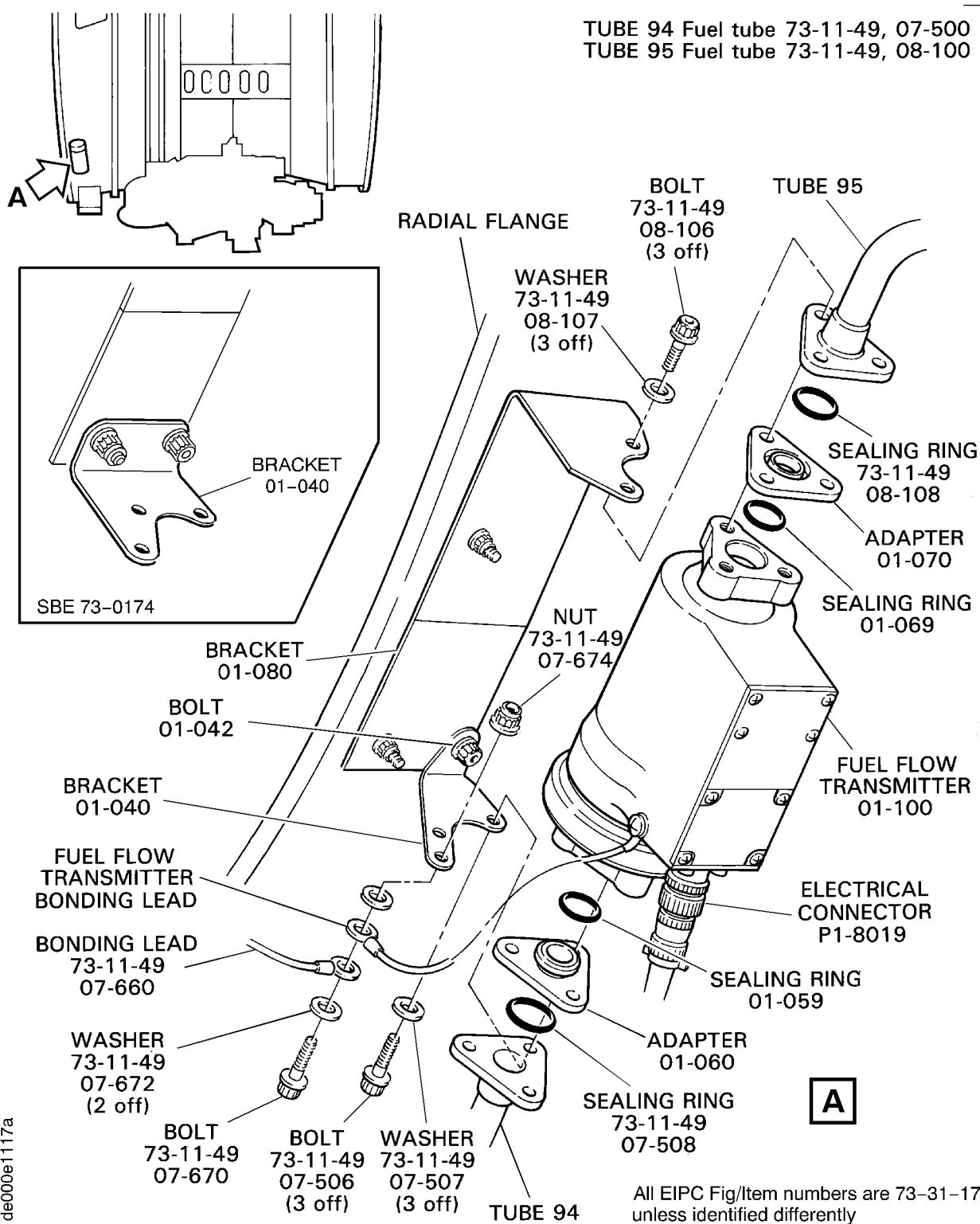
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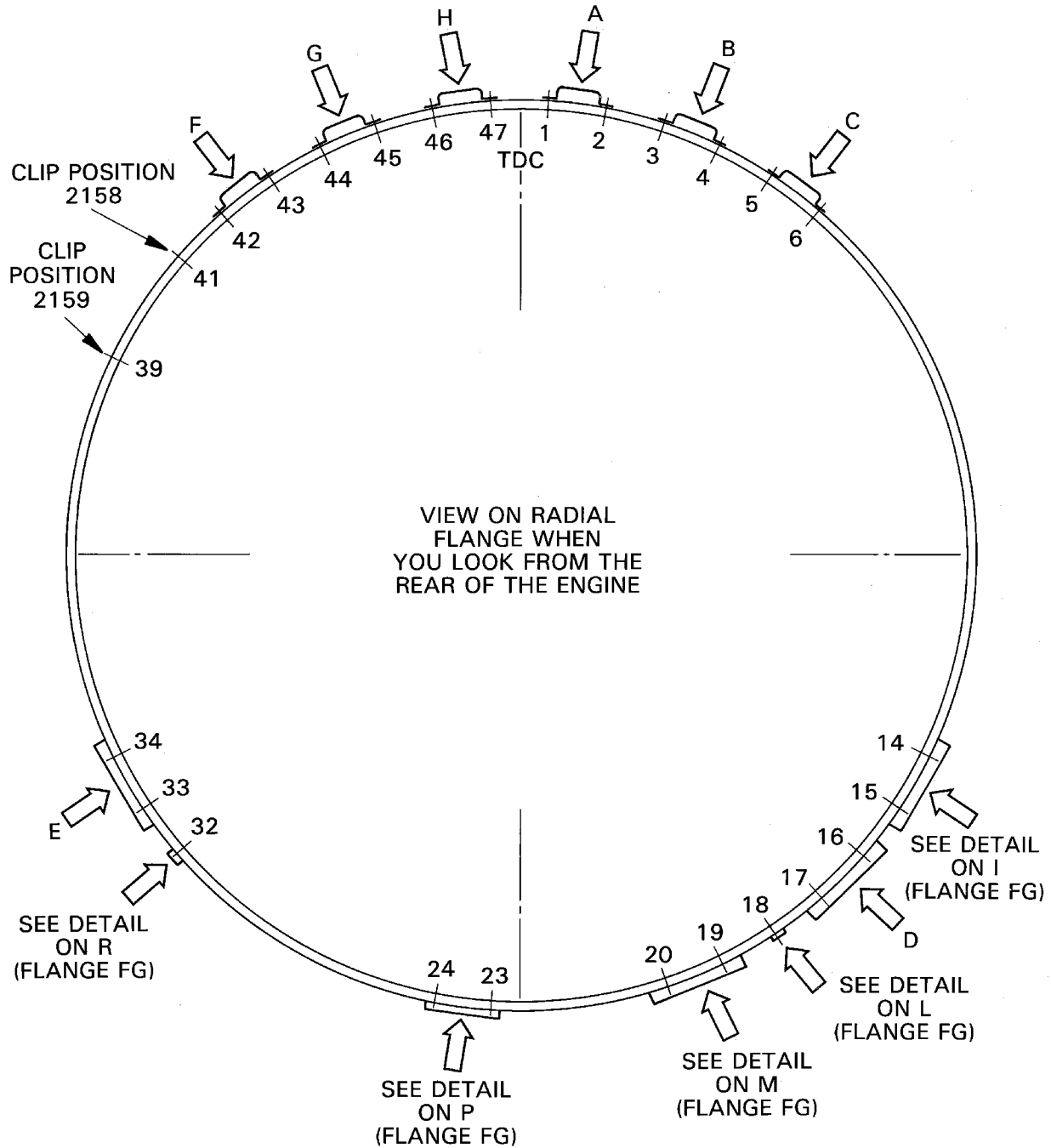
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Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).



Install the fuel flow transmitter bracket
Fig 1



E0389

Install the fuel flow transmitter bracket
Fig 2

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