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DATE: **Apr.28/03****V2500-A1/A5/D5 SERIES PROPULSION SYSTEM SERVICE BULLETIN**

Printed in Great Britain

This document transmits the Initial Issue of Service Bulletin EV2500-72-0455

Bulletin Initial Issue

Remove	Incorporate	Reason for change
	Pages 1 to 8 of the	Initial issue
	Service Bulletin	
	Pages 1 to 3 of	Initial issue
	Appendix 1	

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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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ENGINE – PROVIDE NEW ADAPTER AND TUBE FOR DIFFUSER 10TH STAGE POSITIONS 72 AND 288 DEGREES

1. Planning Information

A. Effectivity Data

- (1) For Airbus A319

Engine Models Applicable

V2522-A5, V2524-A5, V2527M-A5 Engine Serial Nos. V10001 thru V11506, V11508, V11510, V11512, V11514

- (2) For Airbus A320

Engine Models Applicable

V2500-A1 Engine Serial Nos. V0001 thru V0361

V2527-A5, V2527E-A5 Engine Serial Nos. V10001 thru V11506, V11508, V11510, V11512, V11514

- (3) For Airbus A321

Engine Models Applicable

V2530-A5, V2533-A5 Engine Serial Nos. V10001 thru V11506, V11508, V11510, V11512, V11514

- (4) For Boeing MD-90

Engine Models Applicable

V2525-D5, V2528-D5 Engine Serial Nos. V20001 thru V20285

B. Concurrent Requirements

There are no concurrent requirements.

C. Reason

- (1) Problem: Air leakage has been detected at the Diffuser 10th Stage make-up air bosses during new engine testing.
- (2) Background: Tight fits between the 10th Stage make-up air diffuser hardware may not allow the mating Gasket to be properly sealed against the Diffuser Case boss. The resulting vibratory distress on the Gasket results in air leakage.



- (3) Objective: Incorporate a redesigned Tube and Adapter to obtain a loose fit around the diffuser case inner sleeve. The loose fit-up will allow proper hardware constraint and eliminate vibratory distress.
- (4) Substantiation: Successfully completed engineering review. The redesigned Tube and Adapter successfully completed endurance testing on X804-20 (200 hours) and X807-13 (44 hours). The mating Gaskets did not experience vibratory distress and hardware witness marks confirmed proper seal.
- (5) Effects of Bulletin on:
- Removal/Installation: None.
- Disassembly/Assembly: Yes.
- Cleaning: None.
- Inspection/Check: None.
- Repair: None.
- Testing: None.
- Fits and Clearances: Yes.
- (6) Supplemental Information
- None.

D. Description

Replace the 10th stage Transfer Tube and Adapter 2 places (Diffuser Case positions 72 and 288).

E. Compliance

Category 7

Accomplish when supply of superseded parts has been depleted.

F. Approval Data

The part number changes and/or part modifications specified in the Accomplishment Instructions and Material Information sections of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the engine model(s) given.

The compliance statement and the procedures described in this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

G. Manpower

Estimated man-hours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
In Service	Not Applicable
At Overhaul	Not Applicable

H. Weight and Balance

Weight Change	None
Moment	No Effect
Datum	Engine Front Mount Centerline (Power Plant Station (PPS) 100)

I. Electrical Load Data

This Service Bulletin has no effect on the aircraft electrical load.

J. Software Accomplishment Summary

Not Applicable.

K. References

1. IAE V2500 Service Bulletin V2500-ENG-72-0148 (Engine - No. 4 Bearing Compartment - Replace Existing Tube Adapters with Tube Adapters having a Decreased Inner Diameter).
2. IAE V2500 Service Bulletin V2500-ENG-72-0239 (Engine - Diffuser and Combustor Group - Provide New Diffuser Group Adapters and Tube Assemblies).
3. V2500 Engine Illustrated Parts Catalogs (S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-3IA, S-V2500-3IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, and S-V2500-71B), Chapter/Section 72-42-20, Figure 06.
4. V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-42-20.
5. V2500 Engine Manual (E-V2500-3IA), Chapter/Section 72-42-20.
6. Internal Reference - 97VB053, 97VB053-01.
7. ATA Locator - 72-00-00.



L. Other Publications Affected

1. V2500 Engine Illustrated Parts Catalogs (S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-3IA, S-V2500-3IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, and S-V2500-71B), Chapter/Section 72-42-20, Figure 06 to add the new parts.
2. V2500 Engine Manuals (E-V2500-1IA and E-V2500-3IA), Chapter/Section 72-42-20 Cleaning, Inspection and Repair, to add the new parts.

M. Interchangeability of Parts

The new Tube and Adapter must be incorporated in sets to maintain proper fits.

N. Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (Yes)

Added Data (Yes)

Revision to Table of Limits (Yes)

Inspection Procedures (No)



2. Material Information

A. Material – Price and Availability

1. The estimated price of new material to do this Service Bulletin using new replacement parts is \$1,312.00 for V2500-A1 and \$ 1,452.00 for V2500-A5/D5.
2. There is no kit provided to do this Service Bulletin.
3. Part availability information is provided in material data Instructions – Disposition.

B. Industry Support Program

Not Applicable.

C. The material data that follows is for each engine.

NOTE: The prices shown are for estimating purposes only and as such are given in good faith without commercial liability for advanced planning purposes only. Refer to IAE Spares and/or current Price Catalog for current prices.

CAUTION: THE NEW TUBE AND ADAPTER MUST BE INCORPORATED IN SETS TO MAINTAIN PROPER FITS.

FOR V2500-A1 ENGINES:

72-42-20

New PN	Qty	Estimate of Unit Price (\$)	Keyword	Old PN (Fig/Item)	Inst/Disp
2A3466	2	228.00	.Tube – Transfer 0.942 x 0.055 x 2.100	2A1034 (06-220)	(2)(B1) (L)(I)
2A3464	2	464.00	.Adapter – Tube to Boss, 2.125, 3 Hole	2A1912 (06-240)	(2)(B2) (L)(I)



CAUTION: THE NEW TUBE AND ADAPTER MUST BE INCORPORATED IN SETS TO MAINTAIN PROPER FITS.

FOR V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5, V2525-D5, V2528-D5 ENGINES:

72-42-20

New PN	Qty	Estimate of Unit Price (\$)	Keyword	Old PN (Fig/Item)	Inst/Disp
2A3466	2	228.00	.Tube - Transfer 0.942 x 0.055 x 2.100	2A1034 (06-220)	(2)(B1) (L)(I)
2A3465	2	538.00	.Adapter - Tube to Boss, 2.125, 3 Hole	2A3188 (06-240)	(2)(B1) (L)(I)

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D. Instructions/Disposition Code Statements:

Parts Modification Conditions

(2) The new part is a replacement part only, and cannot be obtained by modification of the old part.

Spare Parts Availability

(B1) The new part will be available approximately May 15, 2003.

(B2) The new part will be available approximately June, 2003.

(L) The old part will be supplied until the supply is fully used.

Cleaning, Inspection and Repair Information

(I) The cleaning, inspection and repair requirements are the same for the old and new part. The applicable engine manuals will be revised.

E. Tooling - Price and Availability

Special tools are not required to accomplish this Service Bulletin.

F. Reidentified Parts

Not Applicable.

G. Other Material Information Data

Not Applicable.



3. Accomplishment Instructions

(1) For Engine Model V2500-A1.

(a) Replace Tube PN 2A1034 with PN 2A3466, see Figure 1.

(b) Replace Adapter PN 2A1912 with PN 2A3464, see Figure 1.

CAUTION: ADAPTER AND TUBE MUST BE ASSEMBLED IN SETS PRIOR TO INSERTION INTO THE DIFFUSER CASE.

(c) After assembling the Adapter and Tube check for space between the adapter flange and the tube. This distance may not exceed 0.045 (1.143 mm).

(d) Install the assembled Adapter and Tube into the Diffuser Case.

(2) For Engine Models V2500-A5/D5.

(a) Replace Tube PN 2A1034 with PN 2A3466, see Figure 1

(b) Replace Adapter PN 2A3188 with PN 2A3465, see Figure 1.

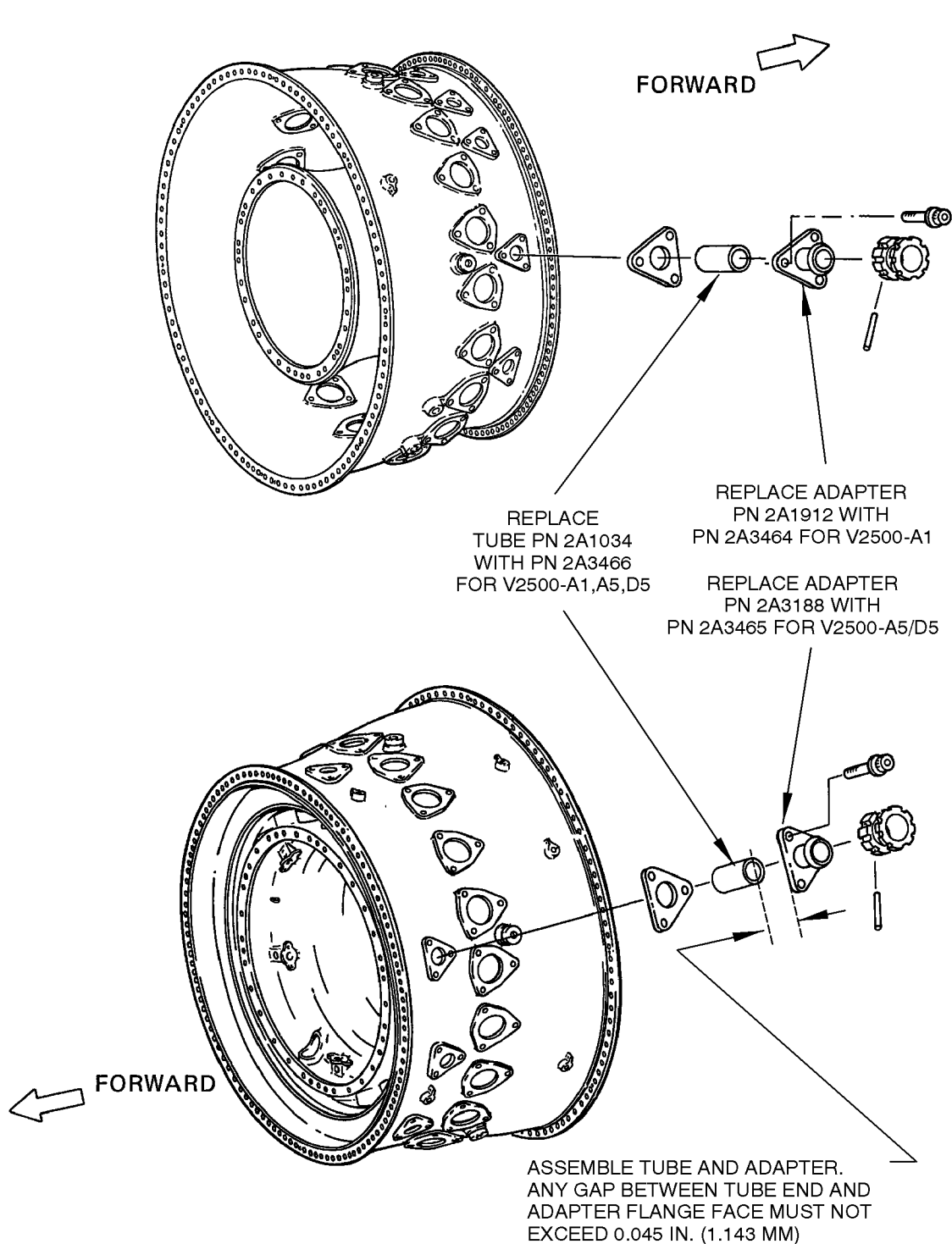
CAUTION: ADAPTER AND TUBE MUST BE ASSEMBLED IN SETS PRIOR TO INSERTION INTO THE DIFFUSER CASE.

(c) After assembling the Adapter and Tube check for space between the adapter flange and the tube. This distance may not exceed 0.045 (1.143 mm).

(d) Install the assembled Adapter and Tube into the Diffuser Case.

(3) Recording Instructions

(a) A record of accomplishment is required.



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NUMBER 4 BEARING COMPARTMENT TUBE AND ADAPTER LOCATION REF. CATALOG SEQUENCE NO.
72-40-20-FIG. 06

Figure 1

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

APPENDIX 1Parts Progression To Show the Changed Part in Relation to Other Parts

Added Data

Number values shown in parentheses adjacent to U.S. values are International System of units (SI) equivalents.

Revision to Table of Limits

Engine Manual(s) Chapter/Section 72-42-00-430-001 Subtask 72-42-00-220-062 and 72-42-00-220-063, will be revised to change the Fits and Clearances related to this Service Bulletin and will take precedence over the Service Bulletin.

Ref No.	Affected Parts	Dimensions		Limits	
		Min	Max	Min	Max
2089	Adapter Tube	.831 (21.133)	.832 (21.184)		
	Transfer Tube	.831 (21.107)	.832 (21.133)	.003T (0.076T)	0 (0)
2090	Sleeve - Sealing, Diffuser	.829 (21.057)	.831 (21.107)		
	Transfer Tube	.831 (21.107)	.832 (21.133)	0 (0)	.003L (0.076L)

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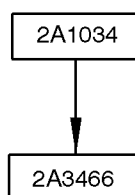
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MODIFICATIONS

BASE

V2500-ENG-
72-0455

PART NUMBER CHANGE



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FAMILY TREE - ENGINE NO. 4 BEARING TRANSFER TUBE REF. CATALOG SEQUENCE 72-42-20.
FIG. 06 ITEM 220
Figure 2

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