



International Aero Engines

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DATE ~~R~~ Oct.31/02

V2500-A1/A5/D5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

Printed in Great Britain

This document transmits Revision 1 to Service Bulletin EV2500-72-0434

Document History

Service Bulletin Revision Status
Initial Issue Oct.4/02

Supplement Revision Status

Bulletin Revision 1

Remove
All pages of the
Service Bulletin

Incorporate
Pages 1 to 8 of the
Service Bulletin

Reason for change
To remove all reference to
new Manifold PN 2A3848-01
which will restore original
PN 2A2495-01 Manifold
Assembly of, No.4 Bearing
Inner.

All pages of
Appendix 1

Page 1 and 2 of
Appendix 1

To remove all reference to
new Manifold PN 2A3848-01
which will restore original
PN 2A2495-01 Manifold
Assembly of, No.4 Bearing
Inner.

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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 following incorporation of Revision 1 are as follows:

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ENGINE – PROVIDE NEW NUMBER 4 BEARING INNER WEEP TUBE AND OUTER WEEP MANIFOLD

1. Planning Information

A. Effectivity

(1) Airbus A319

Engine Models Applicable

V2522-A5, V2524-A5, V2527M-A5 Engines Serial Nos.V10001 thru V11382 and Serial No.V11384

(2) Airbus A320

Engine Models Applicable

V2500-A1 Engines Serial Nos.V0001 thru V0361

V2527-A5, V2527E-A5 Engines Serial Nos.V10001 thru V11382 and Serial No.V11384

(3) Airbus A321

Engine Models Applicable

V2530-A5, V2533-A5 Engines Serial Nos.V10001 thru V11382 and Serial No.V11384

(4) Boeing MD-90

Engine Models Applicable

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

B. Concurrent Requirements

There are no concurrent requirements.

C. Reason

- (1) Problem: The Weep-Drain system prevents accumulation of oil outside the No. 4 Bearing Compartment, in the event of an inadvertent oil loss from that compartment. If any oil loss accumulation occurs, it could be ignited at engine high power condition and cause detrimental heat distress damage to HPT hardware.



(2) Background: Rig testing and oil system analysis has shown that the Weep-Drain system requires an increased flow capacity at engine idle condition. The current Weep-Drain design does not provide enough flow capacity margin to evacuate accumulated oil prior to engine acceleration to a high power condition.

(3) Objective: The Weep-Drain system was redesigned to increase its flow capacity by increasing the tube diameter through the diffuser strut.

(4) Substantiation: A rig validated analysis predicted that the increased diameter through the strut tube will be sufficient to drain the maximum amount of oil that can pool outside of the compartment in an adequate amount of time. Finite Element Vibration Analysis (FEA) and ping testing have ensured that the natural frequency of the increased diameter tube section is well above the engine natural frequency at Max N2. This tube was successfully run in X804-24 for 395 hours and 5585 cycles.

(5) Effects of Bulletin on:

Removal/Installation: Not Applicable

Disassembly/Assembly: Not Applicable.

Cleaning: Not Applicable.

Inspection/Check: Not Applicable.

Repair: Not Applicable.

Testing: Not Applicable.

(6) Supplemental Information

None.

D. Description

Provide an increased capacity number 4 Bearing Weep Tube Outer Assembly.

E. Compliance

Category 4

Accomplish at the first visit of an engine or module to a maintenance base capable of compliance with the accomplishment instructions regardless of the planned maintenance action or the reason for engine removal.

**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-72-0168 (Engine - No. 4 Bearing Compartment - Introduce a New No. 4 Bearing Oil Tube Assembly).
2. 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 03.
3. V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-42-20.
4. V2500 Engine Manual (E-V2500-3IA), Chapter/Section 72-42-20.



R 5. Internal Reference Numbers - 00VA028A, 00VA028A-01, 00VA028G, 00VA028H,
R 00VA028K.

6. ATA Locator - 72-42-00.

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-V2500-7IB), Chapter/Section 72-42-20 Figure 03, 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 part.

M. Interchangeability of Parts

Old and new parts are directly interchangeable.

N. Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (Yes)

Added Data (No)

Revision to Table of Limits (No)

Inspection Procedures (No)



2. Material Information

A. Material – Price and Availability

1. Part prices were not available at the time of Service Bulletin publication. Contact IAE's Spare Parts Sales Department for firm quotations.
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.

For V2500-A1, V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5, V2525-D5, V2528-D5 Engines:

New PN	Qty	Estimate of Unit Price (\$)	Keyword	Old PN (ATA/Figure/Item)	Inst - Disp
2A3587-01	1		.Tube Assy of, Weep, No. 4 Brg. Outer	2A2873-01 (72-42-20-03-040)	(2)(B) (N)(I)

For V2500-A1, V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5, V2525-D5, V2528-D5 Engines Prior to Service Bulletin V2500-ENG-72-0168:

New PN	Qty	Estimate of Unit Price (\$)	Keyword	Old PN (ATA/Figure/Item)	Inst - Disp
2A3587-01	1		.Tube Assy of, Weep, No. 4 Brg. Outer	2A0367-01 (72-42-20-03-040)	(2)(B) (N)(I)

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

(B) The new part will be available approximately September 30, 2002.

(N) The old part is not available.

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

A. Assembly Instructions

- (1) Install the Tube Assembly of, Weep, No. 4 Bearing Outer PN 2A3587-01 (1 off) by the approved procedure given in Reference (4 or 5), Chapter/Section 72-42-20 Assembly, and Figure 1.
- (2) Recording Instructions
 - (a) A record of accomplishment is required.

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REPLACE TUBE ASSEMBLY
2A2873-01 OR 2A0367
WITH 2A3587-01

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ENGINE - NUMBER 4 BEARING COMPARTMENT TUBES
Figure 1

V2500-ENG-72-0434



International Aero Engines

SERVICE BULLETIN

APPENDIX 1

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

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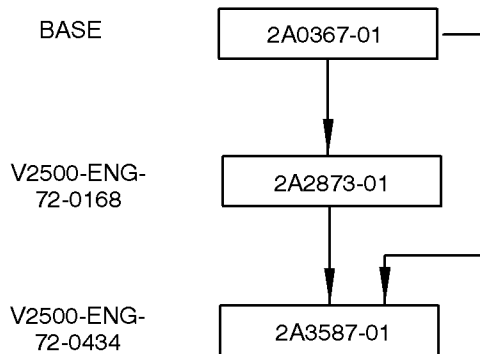
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Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).

MODIFICATION

PART NUMBER



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B511079

FAMILY TREE – TUBE ASSEMBLY NO.4 BEARING COMPARTMENT

Ref. Catalog Sequence No. 72-42-20-03-040

Chart 1

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