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

This document transmits the Revision 1 of Service Bulletin V2500-ENG-72-0596.

### Document History

#### Service Bulletin Revision Status

Initial Issue. Jun.22/09.

### Service Bulletin Revision 1

Remove	Incorporate	Reason for change
All pages of the Service Bulletin.	Pages 1 to 7 of the Service Bulletin.	To revise the effectivity.
All pages of the Supplement.	Page 1 of the Supplement.	To add the part price.

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**CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED**  
If any have not been received please advise IAE International Aero Engines AG

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ENGINE – HIGH PRESSURE (HP) COMPRESSOR DISCS – INTRODUCTION OF NUTS WITH SILVER  
PLATING ON THREAD ONLY

1. Planning Information

A. Effectivity

(1) Airbus A319

- R (a) V2522-A5, V2524-A5, V2527M-A5 Engines prior to Serial No. V13181 (A5  
Standard and A5 SelectOne™ Retrofit Standard).
- R (b) V2522-A5, V2524-A5, V2527M-A5 Engines prior to Serial No. V15204 and  
R Engines with Serial No. V15205 to V15245 (A5 SelectOne™ Production  
R Standard).

(2) Airbus A320

- (a) All V2500-A1 Engines.
- R (b) V2527-A5, V2527E-A5 Engines prior to Serial No. V13181 (A5 Standard  
and A5 SelectOne™ Retrofit Standard).
- R (c) V2527-A5, V2527E-A5 Engines prior to Serial No. V15204 and Engines  
R with Serial No. V15205 to V15245 (A5 SelectOne™ Production Standard).

(3) Airbus A321

- R (a) V2530-A5, V2533-A5 Engines prior to Serial No. V13181 (A5 Standard and  
R A5 SelectOne™ Retrofit Standard).
- R (b) V2530-A5, V2533-A5 Engines prior to Serial No. V15204 and Engines with  
R Serial No. V15205 to V15245 (A5 SelectOne™ Production Standard).

(4) Boeing MD-90

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

B. Concurrent Requirements

None.

**C. Reason****R (1) Condition**

Fully silver plated nuts are used at the bolted joint between the 3 to 8 and the 9 to 12 drum assemblies. Shop Level Inspections have revealed depletion of the silver plate, which can form silver chloride inside the HP compressor stage 3 to 8 drum. Depletion of silver is caused by corrosion of the nuts. Contamination with sulphate and chloride increases the corrosion rate.

Silver chloride can contribute to stress corrosion when in contact with titanium at high temperatures. Experience shows this can occur at the stage 8 titanium compressor disc drive arm and possibly cause cracking of the HP compressor stages 3 to 8 drum. Replacing the fully silver plated nuts with partially silver plated nuts (internal thread only), will prevent the formation of silver chloride by eliminating the silver on the exposed surface of the nuts.

**(2) Background**

This has been experienced during Shop Level Inspections.

**(3) Objective**

Incorporation of this Service Bulletin is designed to maintain reliability.

**(4) Substantiation**

The changes introduced by this Service Bulletin were the subject of satisfactory engineering analysis. This Service Bulletin complies with the applicable engine certification basis.

**(5) Effect of Bulletin on:****(a) Operation**

Not affected.

**(b) Maintenance**

Not affected.

**(c) Overhaul**

Not affected.

**(d) Repair Schemes**

Not affected.

## (e) Interchangeability

Not affected.

## (f) Fits and Clearances

Not affected.

**D. Description**

This Service Bulletin introduces a new standard of nut for the bolted joint between the HP compressor stages 3 to 8 and 9 to 12 drum assemblies. The new nuts are made from the same base material, but plated with silver only on the internal threads.

The new nuts have the same spline drive outer geometry and the sequence and tightening torque are unchanged. The new nuts eliminate the potential for stress corrosion by silver contamination on the HP compressor stages 3 to 8 drum assembly.

**E. Compliance**

Category Code 6

Accomplish when the sub-assembly is disassembled sufficiently to afford access to the affected 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

Applicable (Hours not affected).

**H. Material Price and Availability**

Modification kit is not required; parts supplied as single line items.

For prices and availability of spares, refer to supplement to this Service Bulletin.

**I. Tooling Price and Availability**

Special tools are not required.

**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) IAE V2500 Engine Manuals (E-V2500-1IA and -3IA), Chapters 72-00-41, 72-41-00 and 72-41-10.

(2) Internal Reference No.

R                      Engineering Change No. 09VR004 and 09VR004-02.

(3) ATA Locator - 72-41-12.

**O. Other Publications Affected**

(1) IAE V2500 Engine Illustrated Parts Catalogue (S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-2SA, S-V2500-2SB, S-V2500-3IA, S-V2500-3IB, S-V2500-3IC, S-V2500-5IA, S-V2500-5IB, S-V2500-5SA, S-V2500-5SB, S-V2500-6IA, S-V2500-6IB, S-V2500-6SA, S-V2500-6SB, S-V2500-7IA, S-V2500-7IB, S-V2500-7SA and S-V2500-7SB), Chapter 72-41-12 will be amended to incorporate the new part number (Refer to paragraph 2. Material Information).

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P. Interchangeability of Parts

Affected (Refer to paragraph 2. Material Information).

## 2. Material Information

### A. The kit required consists of the following parts:

None.

### B. Parts to be reworked:

None.

### C. New production parts:

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
72-41-12						
01-602	AS64367	34	.Nut	-	AS44862	(A)(B) (C)(S1)

### D. Redundant parts:

None.

### E. Instruction disposition codes:

(A) The new part is a replacement part only and cannot be obtained by the old part.

**NOTE:** These parts are to be replaced every time the nut/bolted joint is disassembled.

R (B) The new part is currently available for sale.

R (C) The old part is no longer available.

(S1) The old and new parts are interchangeable as a set only.



### 3. Accomplishment Instructions

#### A. Rework Instructions

- (1) None.

#### B. Assembly Instructions

APPLICABLE FOR ENGINES 'AT OVERHAUL'

##### (1) General

- (a) Obey all the WARNINGS and CAUTIONS in the procedures that are referred to.

##### (b) Consumable Materials

- (i) Refer to the related Manual tasks given in this instruction.

##### (c) Tools and Equipment

- (i) Refer to the related Manual tasks given in this instruction.

- (2) For the correct Removal/Installation procedures, refer to the manual that follows:

- (a) IAE V2500-A1/A5/D5 Engine Manual, Chapter/Section 72-00-41, Removal/Installation.

- (b) IAE V2500-A1/A5/D5 Engine Manual, Chapter/Section 72-41-00, Disassembly/Assembly.

- (c) IAE V2500-A1/A5/D5 Engine Manual, Chapter/Section 72-41-10, Disassembly/Assembly.

#### C. Recording Instructions

- (1) A record of accomplishment is required.



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PLATING ON THREAD ONLYSUPPLEMENT – PRICES AND AVAILABILITY

The prices (if 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 catalogue for current prices.

1. Modification Kit:

Not applicable.

2. New Production Parts:

	Part No.	Description	Unit Price US Dollars
R	AS64367	Nut	26.20

3. Tools

None.