International Aero Engines

SERVICE BULLETIN

ENGINE - HP TURBINE ROTOR AND STATOR ASSEMBLY - INTRODUCE A NEW STAGE 2 TURBINE BLADE LOCK RETAINER - CATEGORY CODE 4 - MOD.ENG-72-0222

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320, A321

(2) Engine: V2500-A1 Engines Before Serial No. V0362
V2527-A5 Engines before Serial No. V10166
V2530-A5 Engines before Serial No. V10166
V2525-D5 Engines before Serial No. V20043
V2528-D5 Engines before Serial No. V20043

B. Reason

(1) Condition:

The existing Stage 2 Turbine Blade Lock Retainers have, on occasion, exhibited distress at engine disassembly.

(2) Background:

A simple redesign of the Stage 2 Turbine Blade Lock Retainer, based on a proven design, will eliminate the distress currently seen in the existing part.

(3) Objective:

To provide an improved Stage 2 Turbine Blade Lock Retainer with increased thickness and length. This new blade lock will have improved strength and conform to a proven design.

(4) Substantiation

A previously proven design.

(5) Effects of Bulletin on Workshop Procedures:

Removal/Installation	Not affected
Disassembly/Assembly	Not affected
Cleaning	Not affected
Inspection/Check	Not affected

Repair	Not affected
Testing	Not affected

(6) Supplemental Information

None

C. Description

(1) Replace the Stage 2 Turbine Blade Lock Retainers.

D. Approval

The Part Number Changes and/or part modifications 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 Model listed.

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

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. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
(1) In Service	
(a) To gain access	Not applicable
(2) At overhaul (replacement without disassembly)	....30 minutes

NOTE: The parts affected by this Service Bulletin are accessible at overhaul.

(a) To replace the Stage 2 Turbine Blade Lock Retainers. .....30 minutes

Total...30 minutes

(3) At overhaul (replacement with disassembly).....51 hours 30 minutes

NOTE: The parts affected by this Service Bulletin are accessible at overhaul.

(a) To remove and replace the.....51 hours 30 minutes Stage 2 Turbine Blade Lock Retainers.

Total...51 hours 30 minutes

G. Material - Price and Availability

(1) Modification kit is not required. Parts are supplied as single line items.

(2) See "Material Information" section for prices and availability of future spares.

H. Tooling - Price and Availability

Special tools are not required to accomplish this Service Bulletin.

I. Weight and Balance

(1)	Weight change	None
(2)	Moment arm	No effect
(3)	Datum	Engine Front mount Centerline (Power Plant station (PPS) 100)

J. Electrical Load Data

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

K. References

(1) Internal Reference No.

94VA098

(2) Other References

IAE V2500 Service Bulletins:

V2500-ENG-72-0075 (Engine - Recontoured Stage 1 and 2 Turbine Rotor Hubs)

The V2500 Engine Illustrated Parts Catalog (S-V2500-1IA, S-V2500-2IA and S-V2500-3IA), Chapter/Section 72-45-3

The V2500 Engine Manual (E-V2500-1IA), 72-45-30, Assembly

The V2500 Engine Manual (E-V2500-3IA), 72-45-30, Assembly

The V2500 Aircraft Maintenance Manual

The MD-90 Aircraft Maintenance Manual

L. Other Publications Affected

(1) The V2500 Engine Illustrated Parts Catalog (S-V2500-1IA, S-V2500-2IA and S-V2500-3IA), Chapter/Section 72-45-33

2. Accomplishment Instructions

V2500-A1, V2527-A5 and V2530-A5

A. Replace the Stage 2 High Pressure Turbine Blade Lock Retainers as follows:

NOTE: The 2A3158 lock retainer introduced by this Service Bulletin replaces only the 2A1638 Lock Retainer configuration. The V2500-A1 engines incorporating hardware that requires the original 2A0143 configuration lock retainer can not incorporate this Service Bulletin until Service Bulletin V2500-ENG-72-0075 is incorporated.

(1) Remove the engine by the procedure specified in Reference (5), Chapter/Section 71-00-00 Removal/Installation, Control No./Task No. 71-00-00-000-040, V2500 Aircraft Maintenance Manual.

(2) Disassemble the engine sufficiently to gain access to the High Pressure Turbine Rotor and Stator Assembly. Use the applicable procedures specified in Reference (3), Engine Manual.

NOTE: It is not necessary to disassemble the High Pressure Turbine Rotor and Stator Assembly to replace the Retainers. You can accomplish this on the assembly. Use the applicable steps given in 2. A.,(3).

(3) Disassemble the High Pressure Turbine Rotor and Stator Assembly by the procedure given in Reference (3), Chapter/Section 72-45-00, Disassembly.

(4) Disassemble the Stage 2 High Pressure Turbine Rotor Assembly by the procedure given in Reference (3), Chapter/Section 72-45-30, Disassembly.

(5) Replace the Stage 2 Turbine Blade Lock Retainers 2A1638 with Stage 2 Blade Lock Retainers 2A3158 (2 off) by the procedure specified in Reference (3), Chapter/Section 72-45-30, Assembly.

(6) Assemble the High Pressure Turbine Rotor and Stator Assembly by the procedure given in Reference (3), Chapter/Section 72-45-00, Assembly

(7) Assemble the engine by the applicable procedures specified in Reference (3), Chaptre/Section 72-45-00, Engine Manual.

(8) Install the engine by the procedure specified in Reference (5), Chapter/Section 71-00-00 Removal?Installation, Control No./Task No. 71-00-00-400-040, V2500 Aircraft Maintenance Manual.

V2525-D5 and V2528-D5

B. Replace the Stage 2 High Pressure Turbine Blade Lock Retainers as follows:

(1) Remove the engine by the procedure specified in Reference (6), Chapter/Section 71-00-10 Removal/Installation Powerplant, MD-90 Aircraft Maintenance Manual.

(2) Disassemble the engine sufficiently to gain access to the High Pressure Turbine Rotor and Stator Assembly. Use the applicable procedures specified in Reference (4), Engine Manual.

NOTE: It is not necessary to disassemble the High Pressure Turbine Rotor and Stator Assembly to replace the Retainers. You can accomplish this on the assembly. Use the applicable steps given in 2. A.,(3).

(3) Disassemble the High Pressure Turbine Rotor and Stator Assembly by the procedure given in Reference (4), Chapter/Section 72-45-00, Disassembly.

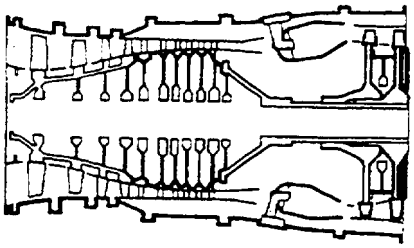
(4) Disassemble the Stage 2 High Pressure Turbine Rotor Assembly by the procedure given in Reference (4), Chapter/Section 72-45-30, Disassembly.

(5) Replace the Stage 2 Turbine Blade Lock Retainers 2A1638 with Stage 2 Blade Lock Retainers 2A3158 (2 off) by the procedure specified in Reference (4), Chapter/Section 72-45-30, Assembly.

(6) Assemble the High Pressure Turbine Rotor and Stator Assembly by the procedure given in Reference (4), Chapter/Section 72-45-00, Assembly.

(7) Assemble the engine by the applicable procedures specified in Reference (4), Chaptre/Section 72-45-00, Engine Manual.

(8) Install the engine by the procedure specified in Reference (6), Chapter/Section 71-00-10, Removal/Installation Powerplant MD-90 Aircraft Maintenance Manual.



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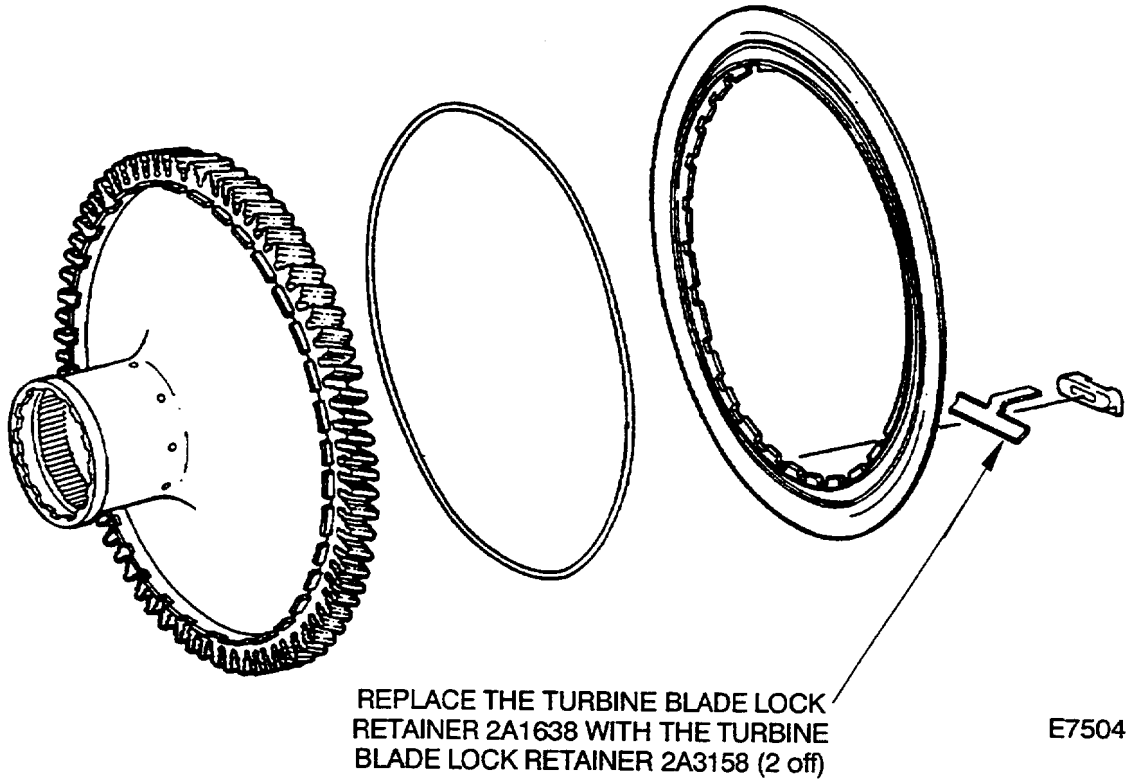


Location of the Stage 2 Turbine Blade Lock Retainers
Fig.1

3. Material Information

A. Kit associated with this bulletin.

None

B. Parts affected by this Bulletin.

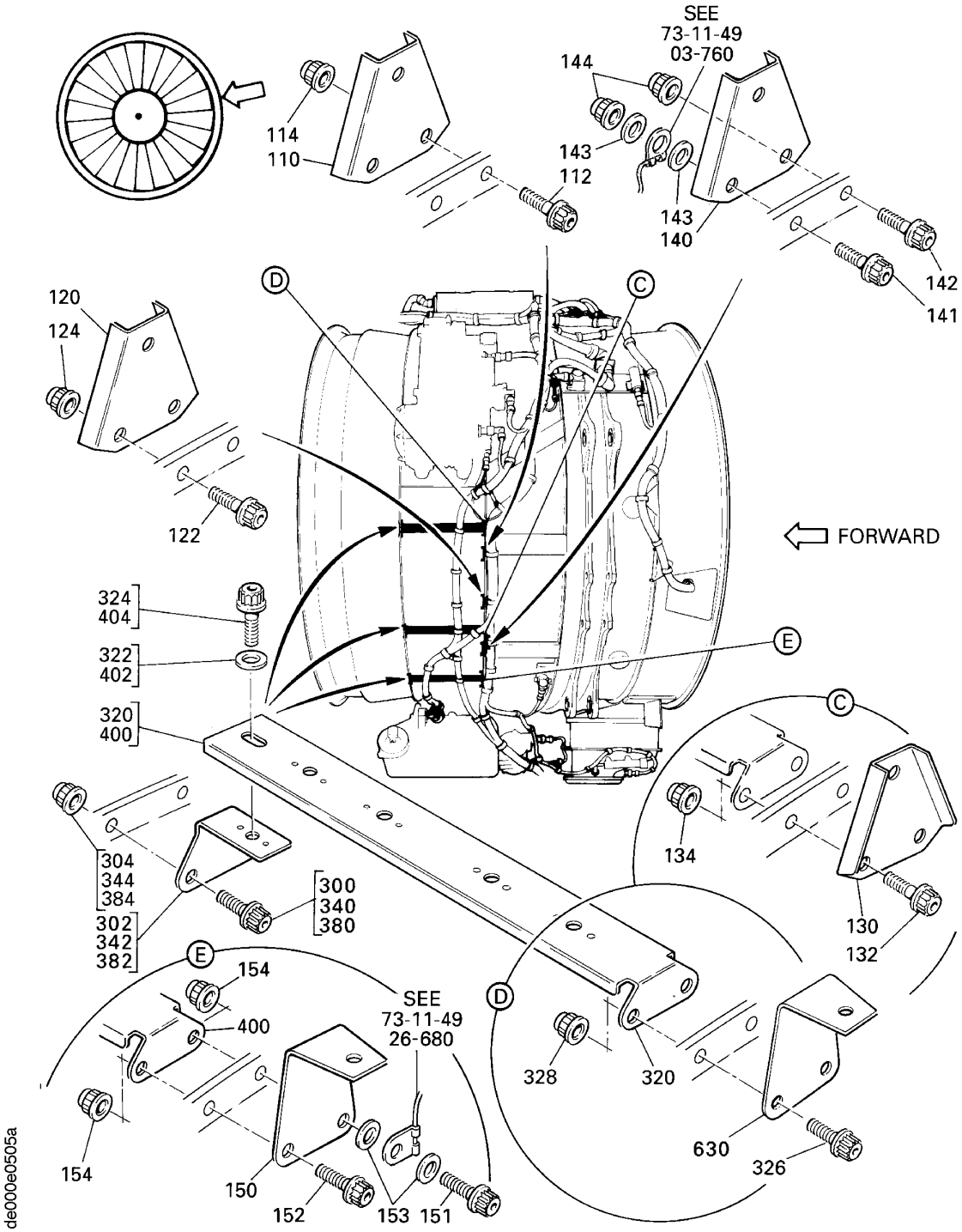
New Part No. (ATA No.)	Qty	Est'd Unit Price ($)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
Applicability: For each V2500-A1, V2527-A5, V2530-A5, V2525-D5 or V2528-D5 Engine to incorporate this Service Bulletin					
2A3158 (72-45-33)	2	23.10	Retainer - Turbine Blade Lock	2A1638 (01-040)	(S1)(A)(B)

C. Consumable Materials

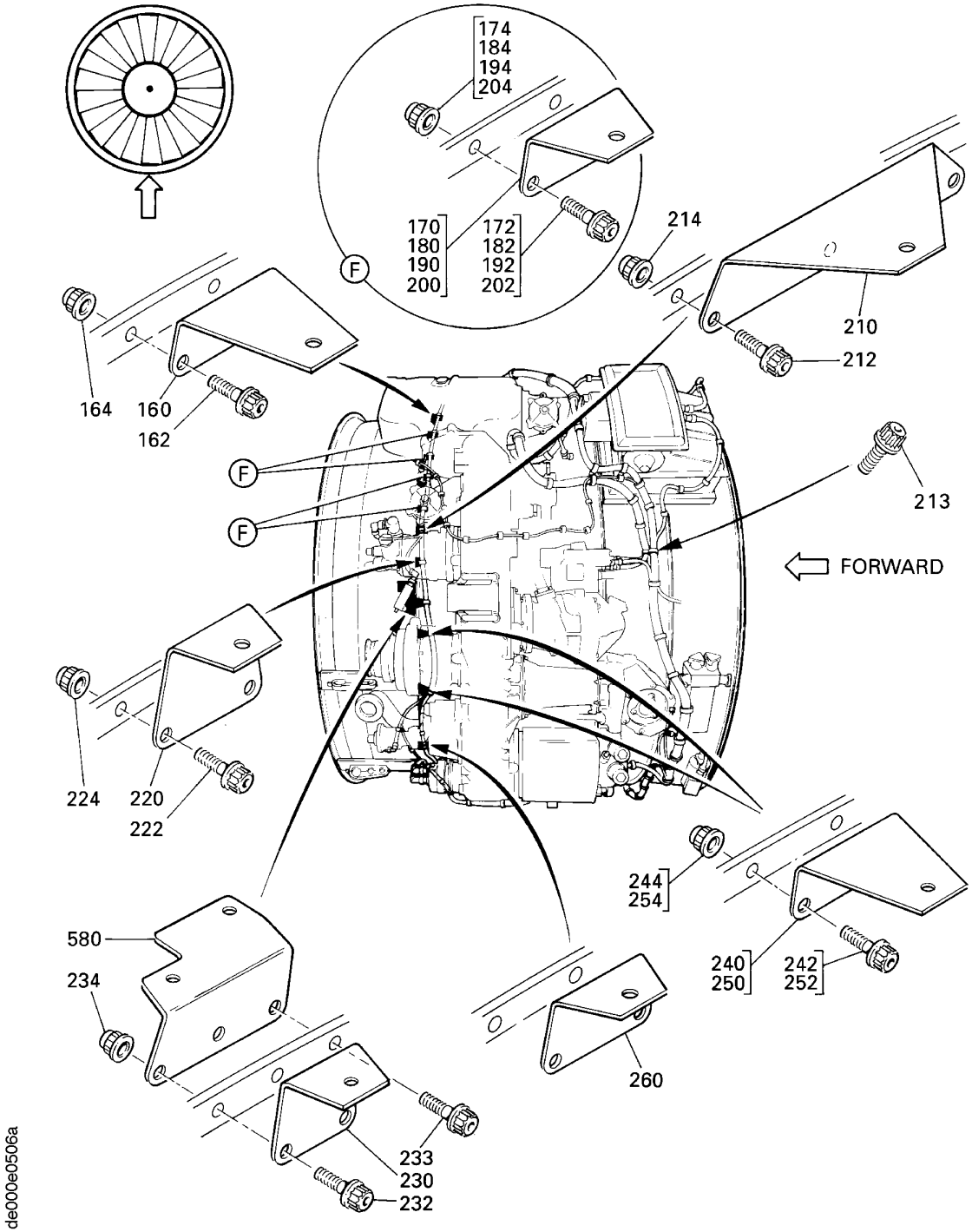
D. Instructions/Disposition Code Statements:

(S1)Old and New Parts are freely and fully interchangeable
(A) The new part will be available approximately 12/95.
(B) The old part will no longer be available.

NOTE: The estimated 1996 unit prices shown are provided for planning purposes only and do not constitute a firm quotation. Consult the IAE Price Catalog or contact IAE's Spare Parts Sales Department for information concerning firm prices.



Family Tree - Stage 2 HPT Blade Lock Retainers (V2500-A1) Ref. Catalog Sequence No 72-45-33. Fig. 01 Item 040
Fig.2



Family Tree - Stage 2 HPT Turbine Blade Lock Retainers (V2527-A5, V2530-A5, V2525-D5 and V2528-D5) Ref. Catalog Sequence No 72-45-33. Fig. 01 Item 040
Fig.3

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