# SERVICE BULLETIN REVISION NOTICE

ENGINE — SEALS, BLADE OUTER AIR (DUCT SEGMENTS), 1ST AND 2ND STAGE HIGH PRESSURE TURBINE (HPT) — REPLACE OR MODIFY TO IMPROVE EFFICIENCY

Turbojet Engine Service Bulletin No. V2500-ENG-72-0634 Revision No. 1 dated February 27, 2014.

Revision History

Original Issue January 31, 2014

Revision 1 dated February 27, 2014

Reason for the Revision

To add information about Select retrofit kit part number 2A4243, and 2A4373 in the Material Information Section.

Effect of Revision on Prior Compliance

None.

This is a Complete Revision (Not Applicable to the SGML version)

The contents are in accordance with the list of effective pages. All pages have the current revision number. Technical changes are marked with black bars.

MODEL APPLICATION

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

BULLETIN ISSUE SEQUENCE

V2500 Series 72-0634

| Page | Revision No. | Date |
|---|---|---|
| 1 thru 27 | 1 | February 27/14 |

**A copy of this Revision Notice and any future revision notices must be filed as a permanent record with your copy of the subject bulletin.**

# SERVICE BULLETIN

ENGINE — SEALS, BLADE OUTER AIR (DUCT SEGMENTS), 1ST AND 2ND STAGE HIGH PRESSURE TURBINE (HPT) — REPLACE OR MODIFY TO IMPROVE EFFICIENCY

MODEL APPLICATION

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

BULLETIN ISSUE SEQUENCE

V2500 Series 72-0634

ATA NUMBER

72-45-00

72-45-20

72-45-23

72-45-25



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

Compliance Category

7

## Summary

The purpose of this Service Bulletin is to introduce a change in the HPT 1st & 2nd stage clearance reduction to optimize Thrust Specific Fuel Consumption (TSFC) and updates the table of limits fits.

## Planning Information

### Effectivity Data

#### Engine Models Applicable

V2522-A5, V2524-A5, V2527M-A5, V2527-A5, V2527E-A5, V2530-A5, V2533-A5
Engine Serial Nos. V10001 thru V13190

V2522-A5, V2524-A5, V2527M-A5, V2527-A5, V2527E-A5, V2530-A5, V2533-A5
Engine Serial Nos. V15001 thru V17168
Engine Serial No. V17170
Engine Serial No. V17172
Engine Serial No. V17174
Engine Serial No. V17176
Engine Serial No. V17178
Engine Serial No. V17180

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

### Concurrent Requirements

Part A

For V2500 A5 SelectOne™ HPT Rotor and Stator Assembly and HPT Case and Vane Assembly, this Service Bulletin must be done at the same time or after Reference 19, Service Bulletin No. V2500-ENG-72-0631.

V2500-A5 Engines with Engine Serial Numbers (ESN) V15001 and V15002, this Service Bulletin must be done at the same time or after Reference 18, Service Bulletin No V2500-ENG-72-0575.

Part B

For V2500-A5 (Standard Configuration) and D5 Engines, this Service Bulletin must be done at the same time or after Reference 12, Service Bulletin No V2500-ENG-72-0364.

In order to reidentify the V2500 A5 (Standard Configuration) and the V2500 D5, HPT Rotor and Stator Assembly this Service Bulletin must be done at the same time or after Reference 15, Service Bulletin No. V2500-ENG-72-0534.

In order to reidentify the V2500 A5 (Standard Configuration) and the V2500 D5 HPT Case and Vane Assembly, this Service Bulletin must be done at the same time or after Reference 14, Service Bulletin No. V2500-ENG-72-0522.

### Reason

1. Problem: Reduce the HPT 1st & 2nd Stage Blade Tip clearances to optimize Thrust Specific Fuel Consumption (TSFC) and update the Table of Limits fits.
2. Background: The A5 SelectOne™ HPT has capability to reduce the 1st & 2nd Blade tip and Blade Outer Airseal (BOAS) clearance. This further improves the efficiency of each stage without impacting HPT durability or time on wing. The 2nd stage BOAS is common to both the A5 SelectOne™ configuration and the A5/D5 configuration.

The Table of Limits fit for the A5 SelectOne™ configuration and A5/D5 2nd stage will be revised.

3. Objective: Incorporate the A5 SelectOne™ configuration 1st and 2nd stage BOAS to increase gas path abradable ceramic coating thickness. Redesign the 1st stage BOAS to include an eccentric coating grind to improved blade tip contact with 1st BOAS. Revise the Table of Limits fits. Incorporate the change into Production and Field Engines.

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

5. Effects of Bulletin on:

   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.

## Description

Remove the 1st and 2nd HPT duct segments (BOAS) and send them to the approved vendor for modification or acquire new ones.

## Compliance

Category 7

Accomplish when supply of superseded parts has been depleted.

## 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.

## Manpower

1. In Service

   ..... Not Applicable.

2. At Overhaul

   ..... Not Applicable.

## Weight and Balance

1. Weight Change

   For V2500-A5 SelectOne™ Engines .....+ 0.18 Pound(s) (+ 0.082 kg).

For V2500-A5 Standard and V2500-D5 Engines ....+ 0.11 Pound(s) (+ .050 kg).

2. Moment Arm

   No Effect.

3. Datum

   Engine Front Mount Centerline (Power Plant Station (PPS) 100)

Electrical Load Data

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

Software Accomplishment Summary

Not Applicable.

References

1. ATA Locator — 72-45-00, 72-45-20, 72-45-23, 72-45-25.
2. V2500 Standard Practices/Processes Manual (E-V2500-1IA), Chapter/Section 70-09-00.
3. V2500 Standard Practices/Processes Manual (E-V2500-3IA), Chapter/Section 70-09-00.
4. V2500 Engine Illustrated Parts Catalogs (S-V2500-2IA, S-V2500-2IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, S-V2500-7IB), Chapter/Section 72-45-00, 72-45-20, 72-45-23, 72-45-25.
5. V2500 Engine Illustrated Parts Catalogs (S-V2500-2SA, S-V2500-2SB, S-V2500-2NA, S-V2500-2NB, S-V2500-5SA, S-V2500-5SB, S-V2500-5NA, S-V2500-5NB, S-V2500-6SA, S-V2500-6SB, S-V2500-6NA, S-V2500-6NB, S-V2500-7SA, S-V2500-7SB, S-V2500-7NA, S-V2500-7NB), Chapter/Section 72-45-00, 72-45-20, 72-45-23, 72-45-25.
6. V2500 Engine Illustrated Parts Catalogs (V2500-3IA, S-V2500-3IB, S-V2500-3IC), Chapter/Section 72-45-00.
7. V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-45-00, 72-45-20, 72-45-23, 72-45-25
8. V2500 Engine Manual (E-V2500-3IA), Chapter/Section 72-45-00, 72-45-20, 72-45-23, 72-45-25.
9. IAE V2500 Service Bulletin V2500-ENG-70-0300 (Information — Engine — HP Turbine Rotor And Stator Assembly — Introduce New First Stage HPT Duct Segments With Revised Coated Areas).
10. IAE V2500 Service Bulletin V2500-ENG-70-0823 (Information — Engine — Provide Identification For Cast To Size Duct Segments).
11. IAE V2500 Service Bulletin V2500-ENG-72-0310 (Engine — High Pressure Turbine — Provide New Stage 1 And 2 High Pressure Turbine Duct Segments).
12. IAE V2500 Service Bulletin V2500-ENG-72-0364 (Engine — High Pressure Turbine — Provide New Stage 2 High Pressure Turbine Duct Segments).
13. IAE V2500 Service Bulletin V2500-ENG-72-0483 (Engine — New First Stage Duct Segments And HPT Vane Support).
14. IAE V2500 Service Bulletin V2500-ENG-72-0522 (Engine — Provide New Second Stage Vane With Increased Cooling Air).

15. IAE V2500 Service Bulletin V2500-ENG-72-0534 (Engine — Provide New Second Stage Turbine Air Seal).
16. IAE V2500 Service Bulletin V2500-ENG-72-0562 (Engine — High Pressure Turbine (HPT) — V2500 SelectOne™ Production And Retrofit — HPT Upgrade).
17. IAE V2500 Service Bulletin V2500-ENG-72-0565 (Engine — Provide The Requirements For Modification To The V2500 SelectOne™ Retrofit Standard).
18. IAE V2500 Service Bulletin V2500-ENG-72-0575 (Engine — Rotor And Stator Assembly — Provide New SelectOne™ 2nd Stage High Pressure Turbine (HPT) Restaggered Blades).
19. IAE V2500 Service Bulletin V2500-ENG-72-0631 (Engine — Provide New Turbine Cooling Air (TCA) Orifice Plate To Improve Thrust Specific Fuel Consumption (TSFC)).

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 72-45-00, 72-45-20, 72-45-23, 72-45-25.
2. V2500 Engine Manuals (E-V2500-1IA and E-V2500-3IA), Chapter/Section 72-45-00, 72-45-20, 72-45-23, 72-45-25 Cleaning, Inspection and Repair, to add the new part.

Interchangeability of Parts

Old and new parts are directly interchangeable. However, to achieve the full benefit of this change it is recommended that this change be incorporated in sets.

Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (Yes)

Added Data (Yes)

Revision to Table of Limits (Yes)

Inspection Procedures (No)

Material Information

Material — Price and Availability

1. The estimated price of new material to do this Service Bulletin using new replacement parts is $317,262.00 for V2500 A5 SelectOne™ Configuration.
2. The estimated price of new material to do this Service Bulletin using new replacement parts is $128,364.00 for V2500 A5 Standard or V2500 D5 Configuration.
3. There is no kit provided to do this Service Bulletin for the HPT Stage 1 and 2 Duct Segments.
4. Part availability information is provided in material data Instructions — Disposition.
5. V2500 A5 SelectOne™ retrofit kit PN 2A4243, used in Reference 16, Service Bulletin V2500-ENG-72-0562, is no longer available. It is replaced with PN 2A4373 because of the new HPT Stage 1 Duct Segment PN 2A4359 introduced by this Service Bulletin. HPT Stage 1 Duct Segment PN 2A4169 is a detail of PN 2A4243 V2500 A5 SelectOne™ retrofit kit. HPT Stage 1 Duct Segment PN 2A4359 is a detail of PN 2A4373 V2500 A5 SelectOne™ retrofit kit. There are no other changes to the content of the V2500 A5 SelectOne™ retrofit kit.

Industry Support Program

Not Applicable.

The material data that follows is for each engine.

PART A: — For V2522-A5 (SelectOne™), V2524-A5 (SelectOne™), V2527-A5 (SelectOne™), V2527E-A5 (SelectOne™), V2527M-A5 (SelectOne™), V2530-A5 (SelectOne™), V2533-A5 (SelectOne™) Engines:

| New PN | Qty | Estimate of Unit Price ($) | Keyword | Old PN | Instructions — Disposition |
|---|---|---|---|---|---|
| 2A4380 | 1 | * | HPT ROTOR AND STATOR ASSY | 2A4350 (72-45-00-01-001) | (1)(F)(N)(I) |
| | | | OR | | |
| 2A4380 | 1 | * | HPT ROTOR AND STATOR ASSY | 2A4250-002 (72-45-00-01-001) | (1)(F)(N)(I) |
| 2A4370 | 1 | * | .HPT CASE & VANE ASSY | 2A4387 (72-45-20-01-005) | (1)(F)(N)(I) |
| | | | OR | | |

| New PN | Qty | Estimate of Unit Price ($) | Keyword | Old PN | Instructions — Disposition |
|---|---|---|---|---|---|
| 2A4370 | 1 | * | .HPT CASE & VANE ASSY | 2A4087-002 (72-45-20-01-005) | (1)(F)(N)(I) |
| 2A4359 | 38 | 4,971.00 | ..1ST STAGE DUCT SEGMENT | 2A4169 (72-45-23-01-060) | (1)(A)(L)(R)(K) |
| 2A4360 | 38 | 3,378.00 | ..2ND STAGE DUCT SEGMENT | 2A3393 (72-45-25-01-060) | (1)(A)(L)(R) |

The material data that follows is for each engine.

PART B: — For V2522-A5 (Standard), V2524-A5 (Standard), V2527-A5 (Standard), V2527E-A5 (Standard), V2527M-A5 (Standard), V2530-A5 (Standard), V2533-A5 (Standard), V2525-D5, V2528-D5 Engines:

| New PN | Qty | Estimate of Unit Price ($) | Keyword | Old PN | Instructions — Disposition |
|---|---|---|---|---|---|
| 2A4470 | 1 | * | HPT ROTOR AND STATOR ASSY | 2A4310 (72-45-00-01-001) | (1)(F)(N)(I) |
| | | | OR | | |
| 2A9800-002 | 1 | | HPT ROTOR AND STATOR ASSY | 2A9800-001 (72-45-00-01-001) | (M)(I) |
| | | | OR | | |
| 2A7000-032 | 1 | | HPT ROTOR AND STATOR ASSY | 2A7000-016 (72-45-00-01-001) | (M)(I) |
| | | | OR | | |
| 2A9300-009 | 1 | | HPT ROTOR AND STATOR ASSY | 2A9300-006 (72-45-00-01-001) | (M)(I) |
| | | | OR | | |
| 2A9300-009 | 1 | | HPT ROTOR AND STATOR ASSY | 2A7000-019 (72-45-00-01-001) | (M)(I) |
| 2A4390 | 1 | * | .HPT CASE & VANE ASSY | 2A4050 (72-45-20-01-005) | (1)(F)(N)(I) |

| New PN | Qty | Estimate of Unit Price ($) | Keyword | Old PN | Instructions — Disposition |
|---|---|---|---|---|---|
| | | | OR | | |
| 2A3469-005 | 1 | | .HPT CASE & VANE ASSY | 2A3416-005 (72-45-20-01-005) | (M)(I) |
| | | | OR | | |
| 2A3469-005 | 1 | | .HPT CASE & VANE ASSY | 2A3219-003 (72-45-20-01-005) | (M)(I) |
| | | | OR | | |
| 2A3469-005 | 1 | | .HPT CASE & VANE ASSY | 2A3469-004 (72-45-20-01-005) | (M)(I) |
| 2A4360 | 38 | 3,378.00 | ..2ND STAGE DUCT SEGMENT | 2A3393 (72-45-25-01-060) | (1)(A)(L)(R) |

Instructions/Disposition Code Statements:

Parts Modification Conditions

(1) The new part can be obtained by modification of the old part as specified in the Accomplishment Instructions.

Spare Parts Availability

(A) The new part is available.

(F) The new part will be available on a Full Manufacturing lead time quote basis only.

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

(M) It is possible to get the new part only by modification.

(N) The old part is not available.

(K) PN 2A4169 is a detail of 2A4243 V2500 A5 SelectOne™ retrofit kit. PN 2A4359 is a detail of 2A4373 V2500 A5 SelectOne™ retrofit kit. The old and new Stage 2 Duct Segments are not included in V2500 A5 SelectOne™ retrofit kits.

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.

(R) The cleaning, inspection and repair requirements are different for the old and new part. The applicable engine manuals will be revised to include the new requirements.

Vendor Services or Special Components/Materials

Vendor Services

| IAE Designation | Vendor Designation | Name | Vendor Name & Address |
|---|---|---|---|
| 2A4359 | | 1st Stage HPT Duct Segment Assembly | PRATT & WHITNEY GLOBAL SERVICES PARTNERS (GSP), NORTH BERWICK PART REPAIR OPERATIONS<br>113 WELLS STREET (ROUTE 9)<br>MAIL STOP 802-32<br>NORTH BERWICK, ME 03906<br>USA |
| 2A4360 | | 2nd Stage HPT Duct Segment Assembly | |
| FAA Repair License Number: PHYR378X | | | |
| Source Code: 8N802<br>See Standard Practices Source Code List | | | |

Tooling — Price and Availability

Special tools are not required to accomplish this Service Bulletin.

Reidentified Parts

Reidentified Parts Data

| New PN | Keyword | Old PN | V2500 CONFIGURATION |
|---|---|---|---|
| 2A4380 | HPT ROTOR AND STATOR ASSY | 2A4350 | A5 SelectOne™ |
| 2A4380 | HPT ROTOR AND STATOR ASSY | 2A4250-002 | A5 SelectOne™ |
| 2A4370 | HPT CASE & VANE ASSY | 2A4387 | A5 SelectOne™ |
| 2A4370 | HPT CASE & VANE ASSY | 2A4087-002 | A5 SelectOne™ |
| 2A4359 | DUCT SEGMENT, HPT, 1ST STAGE | 2A4169 | A5 SelectOne™ |
| 2A4360 | DUCT SEGMENT, HPT, 2ND STAGE | 2A3393 | A5 Standard<br>A5 SelectOne™ and D5 |
| 2A4390 | HPT CASE & VANE ASSY | 2A4050 | A5 Standard, and D5 |
| 2A3469-005 | HPT CASE & VANE ASSY | 2A3416-005 | A5 Standard, and D5 |
| 2A3469-005 | HPT CASE & VANE ASSY | 2A3219-003 | A5 Standard, and D5 |

| New PN | Keyword | Old PN | V2500 CONFIGURATION |
|---|---|---|---|
| 2A3469-005 | HPT CASE & VANE ASSY | 2A3469-004 | A5 Standard, and D5 |
| 2A4470 | HPT ROTOR AND STATOR ASSY | 2A4310 | A5 Standard, and D5 |
| 2A9800-002 | HPT ROTOR AND STATOR ASSY | 2A9800-001 | A5 Standard, and D5 |
| 2A7000-032 | HPT ROTOR AND STATOR ASSY | 2A7000-016 | A5 Standard, and D5 |
| 2A9300-009 | HPT ROTOR AND STATOR ASSY | 2A9300-006 | A5 Standard, and D5 |
| 2A9300-009 | HPT ROTOR AND STATOR ASSY | 2A7000-019 | A5 Standard, and D5 |

Other Material Information Data

Not Applicable.

Accomplishment Instructions

PART A – V2500 A5 SelectOne™ Configuration

NOTE: V2500 SelectOne™ is defined as either a V2500 A5 engine produced with the V2500 SelectOne™ configuration or a V2500 A5 Standard which has performed Reference 17, Service Bulletins V2500-ENG-72-0565.

1. Replace the HPT Rotor and Stator Assembly, PN 2A4350 or PN 2A4350-002 with PN 2A4380 or modify as follows:

   A. Replace the HPT Case and Vane Assembly, PN 2A4387 or PN 2A4087-002 with PN 2A4370 or modify as follows:

      (1) Remove 38 1st Stage Duct Segments, PN 2A4169, and 38 2nd Stage Duct Segments, PN 2A3393 from the inner diameter of the HPT case & vane assembly, per Reference 7, V2500 A5 Engine Manual Task 72-45-20-040-001-C00.

      (2) For modification send the removed 1st and 2nd stage duct segments to the approved vendor as stated in the Vendor Services section of this Service Bulletin.

      (3) Install the 38 new or modified 1st Stage Duct Segments, PN 2A4359 and 38 new or modified 2nd Stage Duct Segments, PN 2A4360 into the inner diameter of the HPT case & vane assembly per Reference 7, V2500 A5 Engine Manual Task 72-45-20-440-002-C00.

      (4) Reidentify the modified HPT case and vane assembly using the vibration peen method as described in Reference 2, V2500-A5 Standard Practices Manual, Section 70-09-00. Locate new part marking location as shown in Figure 1. The reidentification part numbers are as follows.

         NOTE: In order to reidentify the HPT Case and Vane Assembly all 38 of the new or modified 1st and 2nd stage Duct Segments, PN 2A4359 and PN 2A4360, along with Reference 19 Service Bulletin, 72-0631 (TCA Orifice Plate) must be installed.

HPT Case And Vane Assembly

| New PN | Old PN |
|---|---|
| 2A4370 | 2A4387 |
| 2A4370 | 2A4087-002 |

   B. Install the modified HPT case and vane assembly into the HPT rotor and stator assembly, per Reference 7, V2500 A5 Engine Manual Task 72-45-00-430-001-D00.

   C. Reidentify the HPT rotor and stator assembly using the vibration peen method as described in Reference 2, V2500-A5 Standard Practices manual, Section 70-09-00. Locate new part marking location as shown in Figure 2. The reidentification part numbers are as follows:

      NOTE: In order to reidentify the HPT rotor and stator assembly all 38 of the new 1st and all 38 of the new 2nd Stage Duct Segments, PN 2A4359 and PN 2A4360, along with Reference 19 Service Bulletin, 72-0631 (TCA Orifice Plate) must be installed.

HPT Rotor And Stator Assembly

| New PN | Old PN |
|---|---|
| 2A4380 | 2A4350 |
| 2A4380 | 2A4250-002 |

2. Recording Instructions

   A. A record of accomplishment is required.

PART B – V2500 A5 Standard, and D5 Configurations

1. Replace the HPT Rotor and Stator Assembly, PN 2A4310 with PN 2A4470 or modify PN 2A4310 or PN 2A9800-001 or PN 2A7000-016 or PN 2A9300-006 or PN 2A7000-019 as follows:

   A. Replace the HPT Case and Vane Assembly, PN 2A4050 with PN 2A4390 or modify PN 2A4050 or PN 2A3416-005 or PN 2A3219-003 or PN 2A3469-004 as follows:

      (1) Remove the 38 2nd Stage Duct Segments. PN 2A3393 from the inner diameter of the HPT case & vane assembly, Per Reference 7, V2500 A5 Engine Manual Task 72-45-20-040-001-C00 or Reference 8 V2500 D5 Engine Manual Task 72-45-20-040-001.

      (2) For modification send the removed 2nd stage duct segments to the approved vendor as stated in rthe Vendor Services section of this Service Bulletin.

      (3) Install the 38 new or modified 2nd stage duct segments into the inner diameter of the HPT case and vane assembly per Reference 7, V2500 A5 Engine Manual Task 72-45-20-440-002-B00 or Reference 8, V2500 D5 Engine Manual Task 72-45-20-440-002.

      (4) Reidentify the HPT case and vane assembly using the vibration peen method as described in Reference 2 or 3, V2500-A5/D5 Standard Practices/Processes manual, Section 70-09-00. Locate new part marking location as shown in Figure 1. The reidentification part numbers are as follows.

         NOTE: In order to reidentify the V2500 A5 (Standard Configuration) and the V2500 D5 HPT Case and Vane Assembly, this Service Bulletin must be done at the same time or after Reference 14, Service Bulletin No. V2500-ENG-72-0522.

HPT Case And Vane Assembly

| New PN | Old PN |
|---|---|
| 2A3469-005 | 2A3219-003 |
| 2A3469-005 | 2A3469-004 |
| 2A3469-005 | 2A3416-005 |
| 2A4390 | 2A4050 |

   B. Install the modified HPT Case and Vane Assembly into the HPT Rotor and Stator Assembly per Reference 7, V2500 A5 Engine Manual Task 72-45-00-430-001-C00 (or) Reference 8, V2500 D5 Engine Manual Task 72-45-00-430-001.

   C. Reidentify the HPT Rotor and Stator Assembly using the vibration peen method as described in Reference 2 or 3 V2500-A5/D5 Standard Practices manual, Section 70-09-00. Locate new part marking location as shown in Figure 2. The reidentification part numbers are as follows:

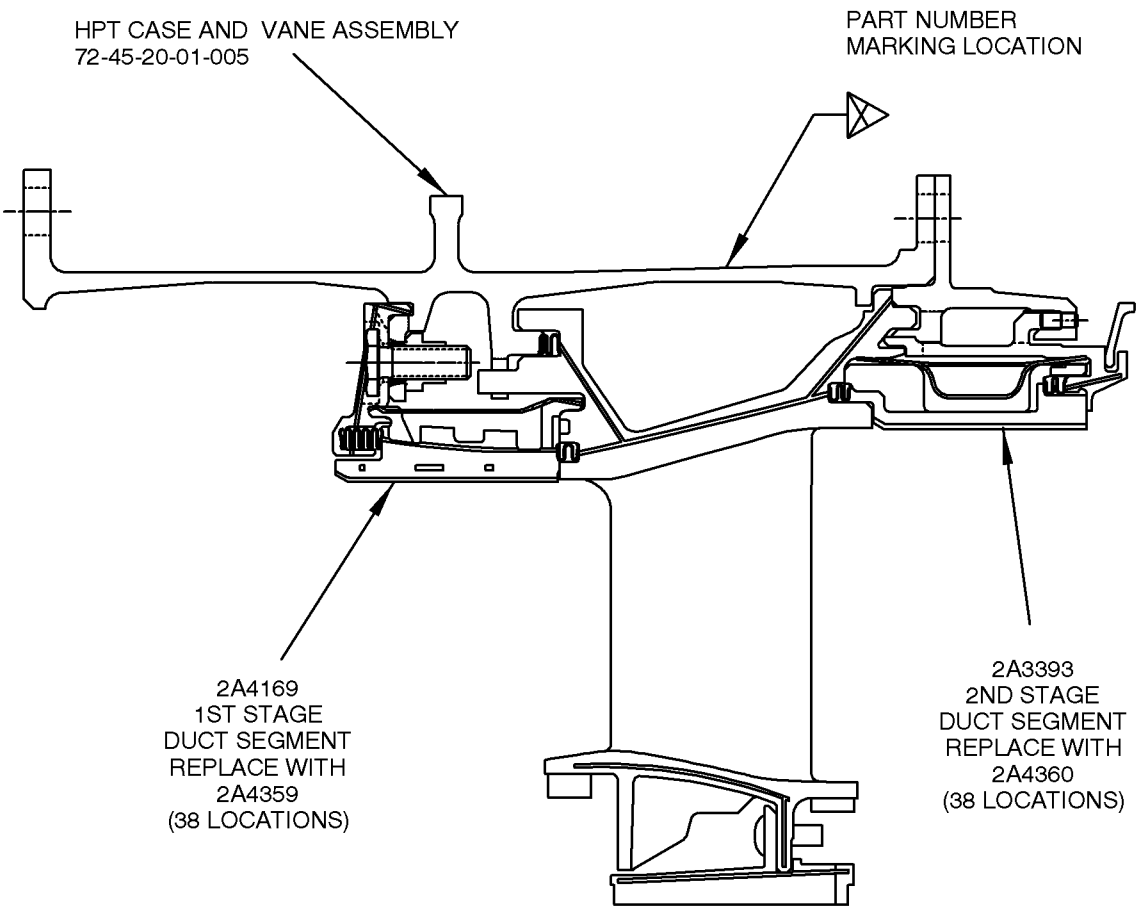
      NOTE: In order to reidentify the V2500 A5 (Standard Configuration) and the V2500 D5, HPT Rotor and Stator Assembly this Service Bulletin must be done at the same time or after Reference 15, Service Bulletin No. V2500-ENG-72-0534.

HPT Rotor And Stator Assembly

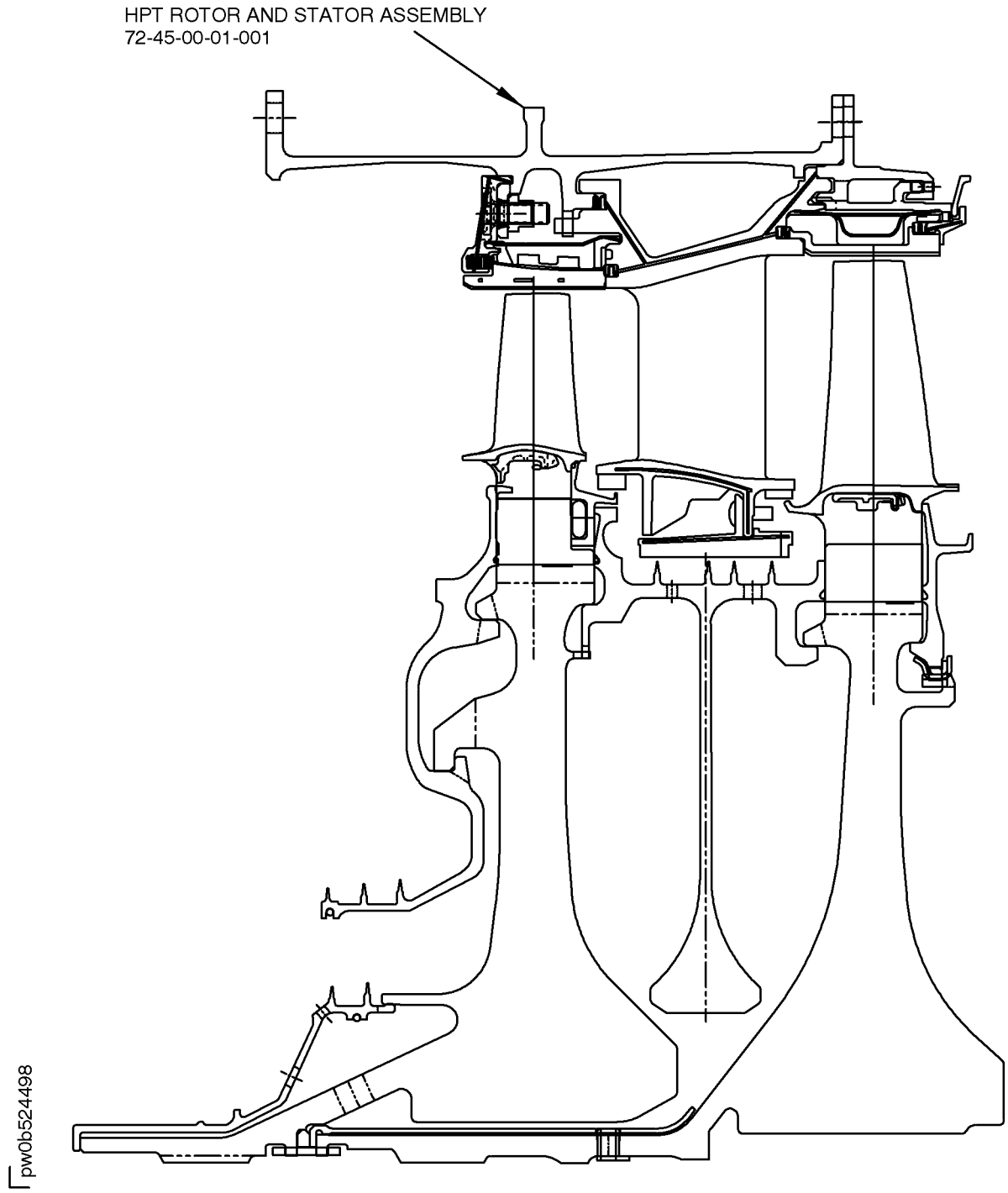
| New PN | Old PN |
|---|---|
| 2A9800-002 | 2A9800-001 |
| 2A9300-009 | 2A9300-006 |
| 2A7000-032 | 2A7000-016 |
| 2A9300-009 | 2A7000-019 |
| 2A4470 | 2A4310 |

2. Recording Instructions

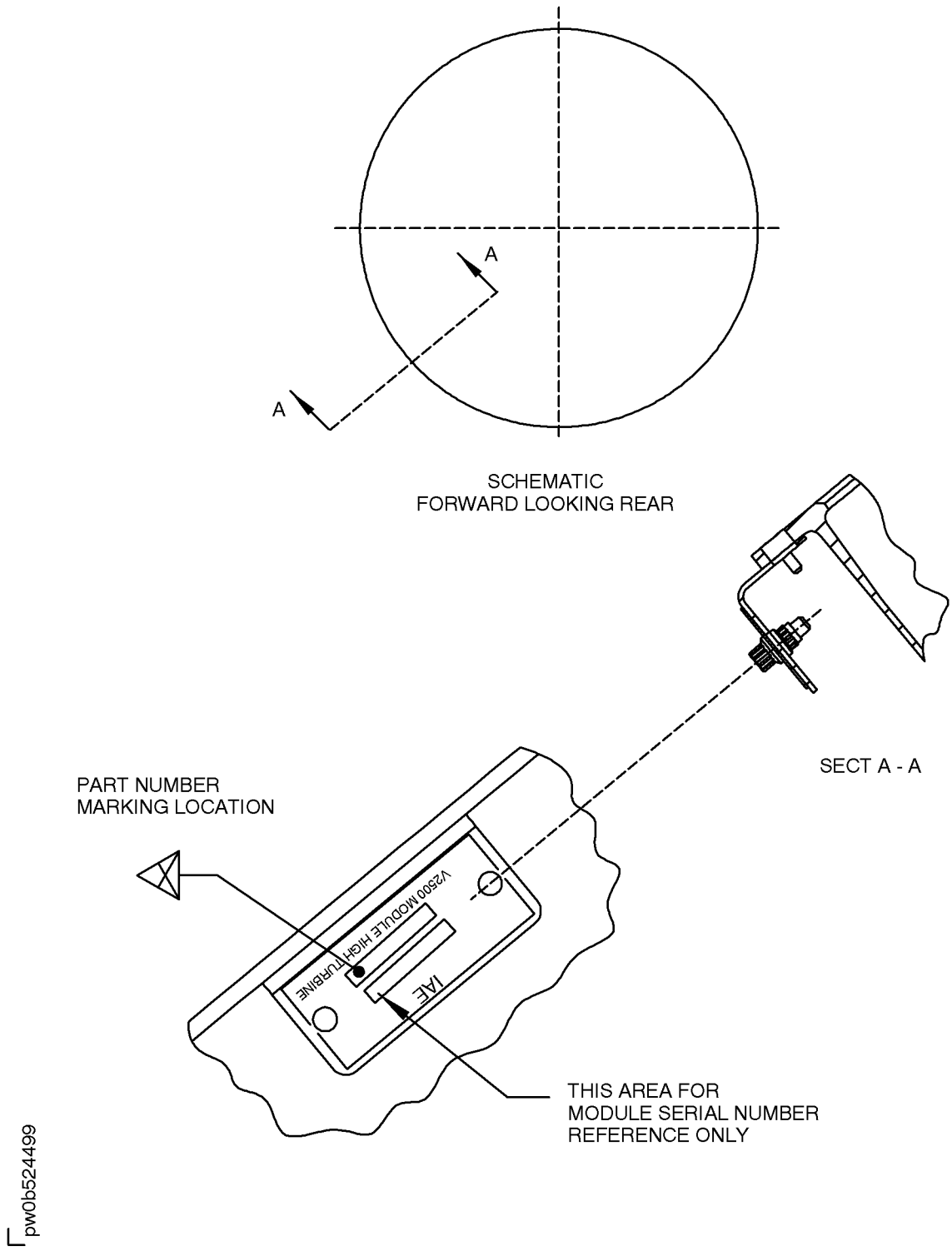
   A. A record of accomplishment is required.




HPT CASE AND VANE ASSEMBLY — PART MARKING LOCATION
FIGURE 1




HPT ROTOR AND STATOR ASSEMBLY
FIGURE 2, SHEET 1

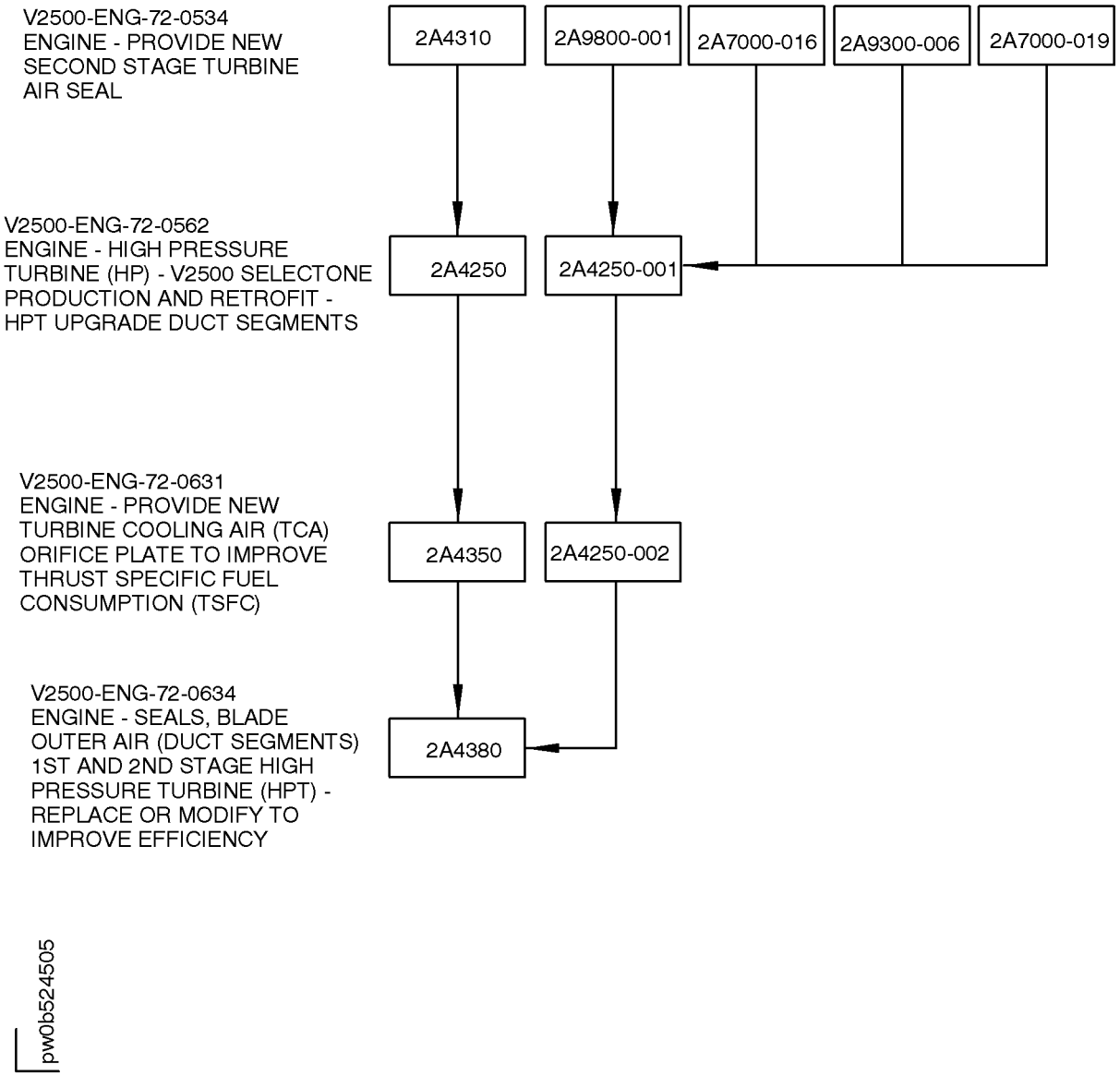



HPT ROTOR AND STATOR ASSEMBLY
FIGURE 2, SHEET 2

Appendix

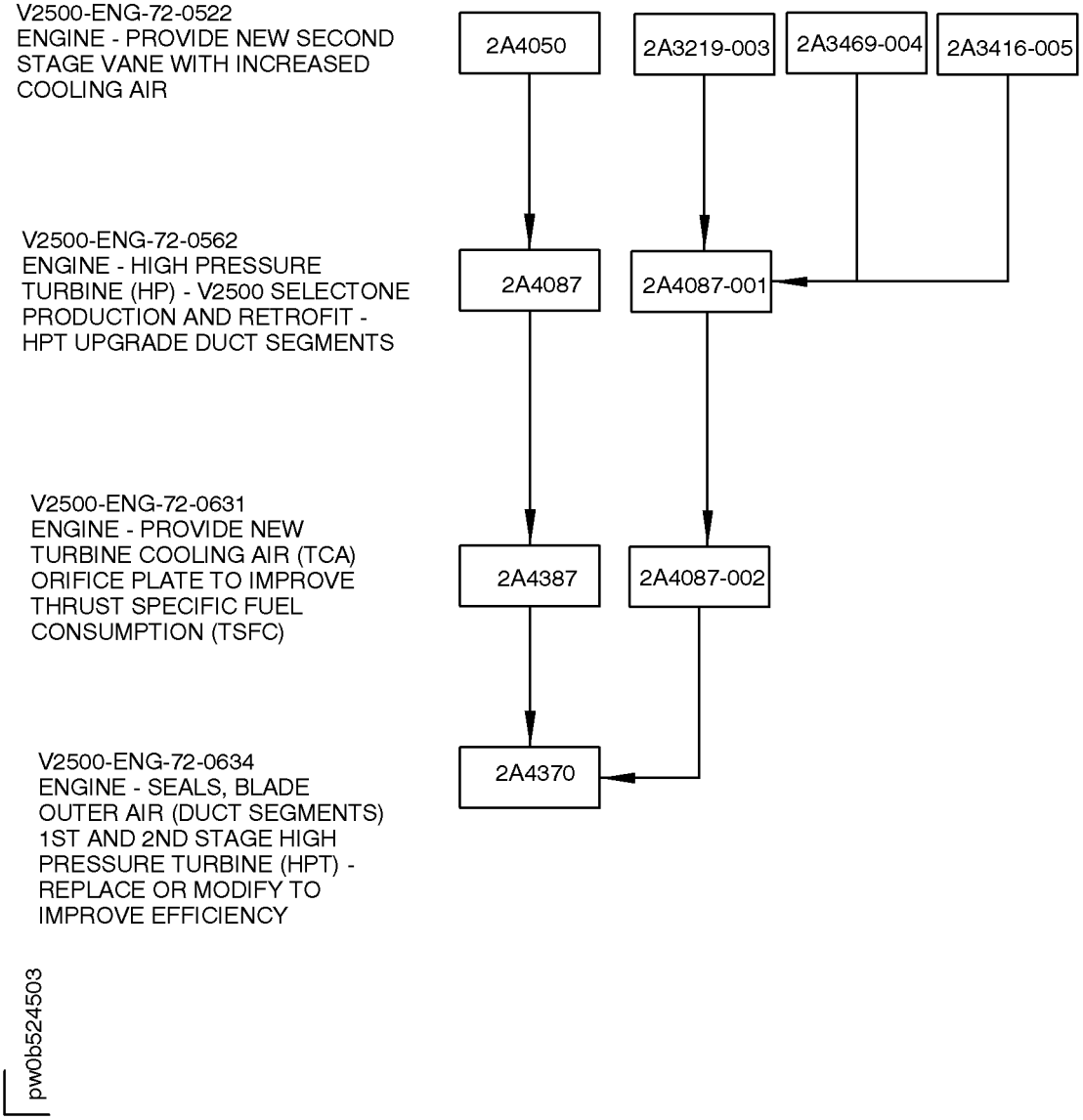
Parts Progression To Show the Changed Part in Relation to Other Parts

HPT ROTOR AND STATOR ASSEMBLY
FOR V2500 A5 SELECT ONE CONFIGURATION

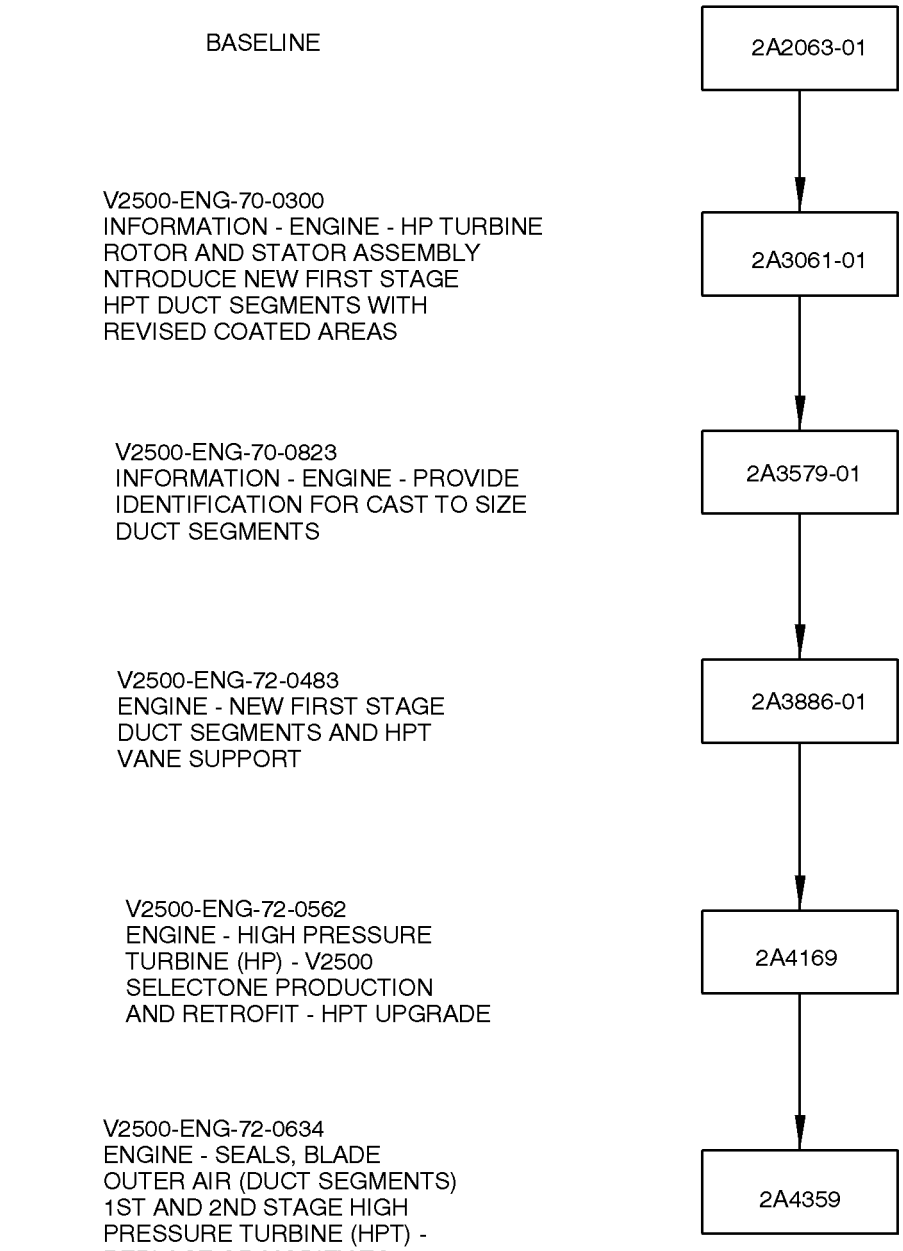



FAMILY TREE — ROTOR AND STATOR, TURBINE (V2500 A5 SELECTONE™ CONFIGURATION)
REF CATALOG SEQUENCE NO. 72-45-00-01-001
CHART A

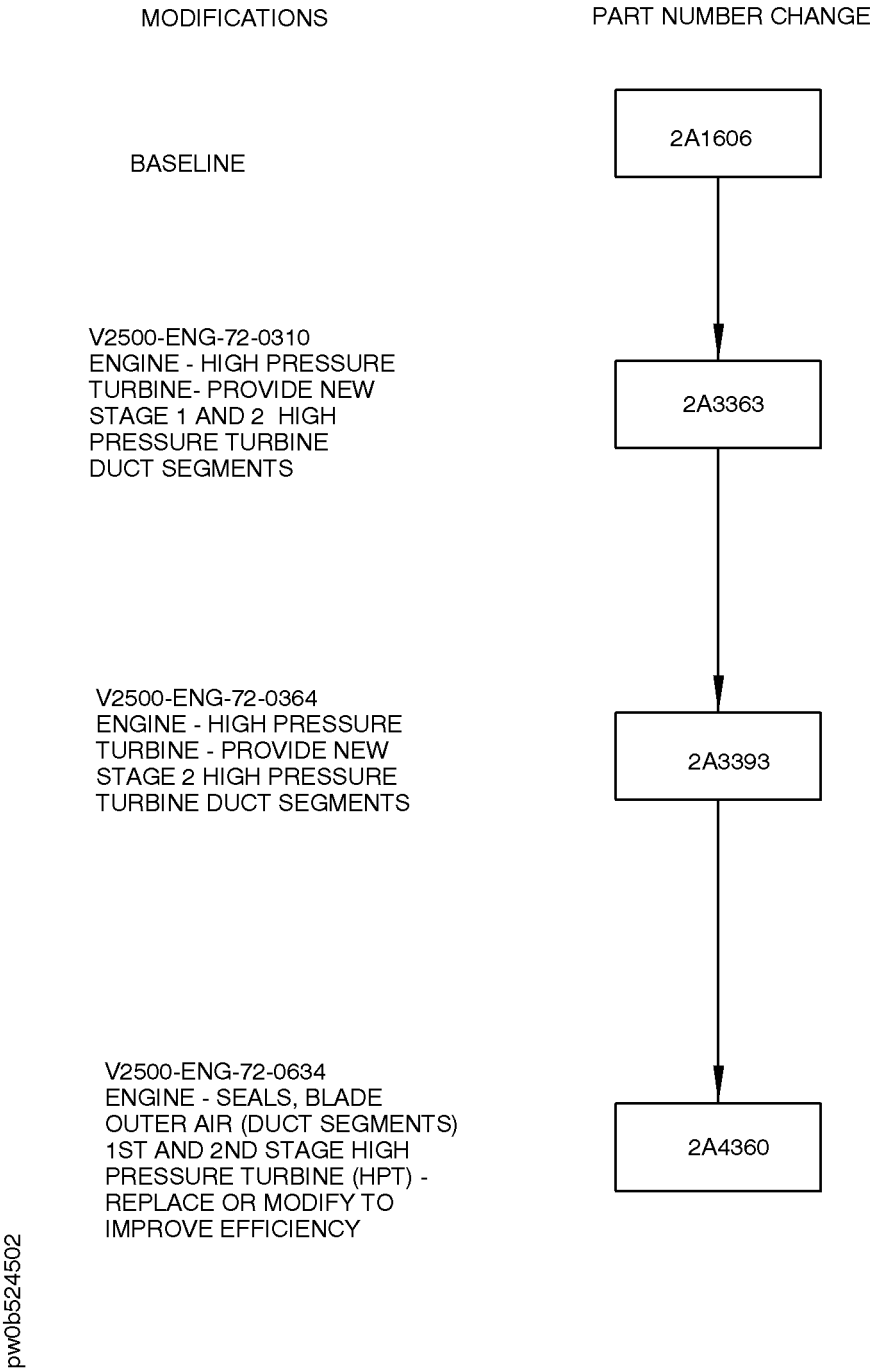
HPT CASE AND VANE ASSEMBLY
FOR V2500 A5 SELECT ONE CONFIGURATION




FAMILY TREE — CASE AND VANE ASSEMBLY, TURBINE (V2500 A5 SELECTONE™ CONFIGURATION)
REF CATALOG SEQUENCE NO. 72-45-20-01-005
CHART B

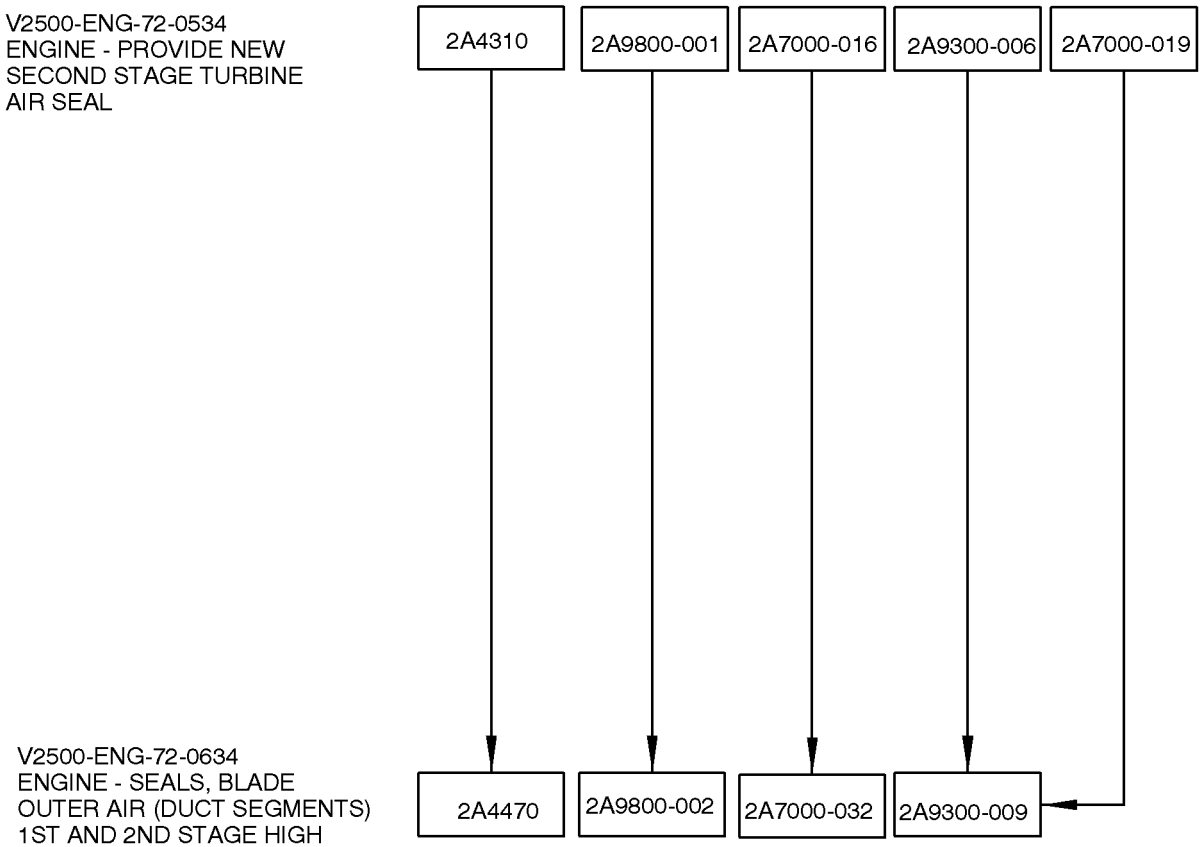



FAMILY TREE — STAGE 1 HIGH PRESSURE TURBINE DUCT SEGMENT
(V2500 A5 SELECTONE™ CONFIGURATION)
REF CATALOG SEQUENCE NO. 72-45-23-01-060
CHART C




FAMILY TREE — STAGE 2 HIGH PRESSURE TURBINE DUCT SEGMENT (V2500 A5 SELECTONE™ CONFIGURATION, V2500 A5 STANDARD AND V2500 D5)
REF CATALOG SEQUENCE NO. 72-45-25-01-060
CHART D

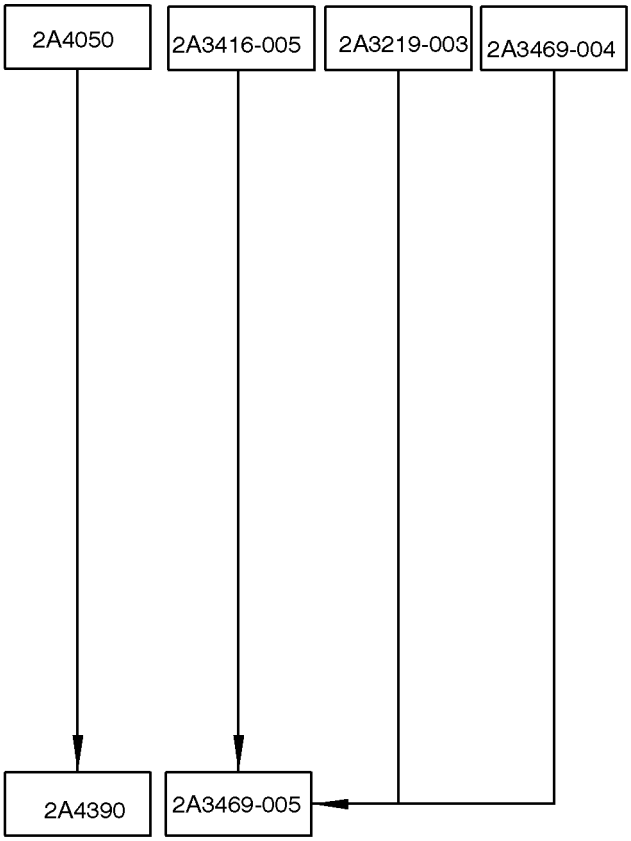
HPT ROTOR AND STATOR ASSEMBLY
FOR V2500-A5 STANDARD and V2500-D5




pw0b524515

FAMILY TREE — ROTOR AND STATOR, TURBINE (V2500 A5 STANDARD AND V2500 D5)
REF CATALOG SEQUENCE NO. 72-45-00-01-001
CHART E

V2500-ENG-72-0522
ENGINE - PROVIDE NEW SECOND STAGE VANE WITH INCREASED COOLING AIR




V2500-ENG-72-0634
ENGINE - SEALS, BLADE OUTER AIR (DUCT SEGMENTS) 1ST AND 2ND STAGE HIGH PRESSURE TURBINE (HPT) - REPLACE OR MODIFY TO IMPROVE EFFICIENCY

pw0b524510

FAMILY TREE — CASE AND VANE ASSEMBLY, TURBINE (V2500 A5 STANDARD AND V2500 D5 CONFIGURATION)
REF CATALOG SEQUENCE NO. 72-45-20-01-005
CHART F

Added Data

Internal Reference Information

| Revision No. | Reference Document | Origination |
|---|---|---|
| Original | EC 12VA006 | BB/CMS |
| 1 | PSAF 14VC077 | BB/JEJ |

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 72-45-00, dated November 1, 2014 is scheduled to incorporate the Part Service Life Limits related to this Service Bulletin and will take precedence over the Service Bulletin.

Revision to Table of Limits fits for V2500-A5 SelectOne™ configuration are as follows:

| Ref No. | Part Name | Dimensions (REFERENCE) | | Life Limit (cycles) | |
|---|---|---|---|---|---|
| | | MIN | MAX | MIN | MAX |
| 1552 | SEAL — AIR, HPT, 1 STG | .274 (6.960) | .276 (7.010) | | |
| | BLADE — HPT, 1 STG | .882 (22.403) | .890 (22.606) | (SEE NOTE) | |
| | NOTE: TO CALCULATE FIT USE:<br>FIT = ( P + N ) - G<br>BLADE P<br>SEAL N<br>HUB G | | | | |
| | HUB — TURBINE, 1 STG | .274 (6.960) | .276 (7.010) | | |
| | BLADE — HPT, 1 STG | .882 (22.403) | .890 (22.606) | | |
| | HUB — TURBINE, 1 STG | 1.160 (29.464) | 1.162 (29.514) | .006T (0.152) | .004 * (0.102) |
| | * ONLY IF BLADE MIN THICKNESS LESS THAN DISK OUTER RIM DIM .884 | | | | |
| 1554 | PLATE — RING, BLADE, HPT, 2 STG | .232 (5.89) | .242 (6.15) | | |
| | HUB — TURBINE, 2 STG | 1.158 (29.414) | 1.162 (29.514) | | |
| | HUB — TURBINE, 2 STG | .234 (5.944) | .240 (6.096) | | |
| | BLADE — HPT, 2 STG | 1.152 (29.261) | 1.158 (29.413) | .008T (0.203T) | .018 (0.457) |
| 1575 | 2 STG TURB ROTOR ASSY BLADE TIP RADIAL CLEARANCE | | | SEE NOTE | |
| | NOTE: .0365 – .0585 IN AVG (0.927 – 1.486 mm) | | | | |
| | REF: AXIS OF TURBINE CASE & VANE ASSY IS .010 IN BELOW (0.254 mm) ENGINE CENTERLINE. | | | | |
| 1576 | 1 STG TURB ROTOR ASSY BLADE TIP RADIAL CLEARANCE | | | SEE NOTE | |

| Ref No. | Part Name | Dimensions (REFERENCE) | | Life Limit (cycles) | |
|---|---|---|---|---|---|
| | | MIN | MAX | MIN | MAX |
| | NOTE: .025 – .047 IN AVG (0.635 – 1.194 mm) | | | | |
| | REF: AXIS OF TURBINE CASE & VANE ASSY IS .010 IN (0.254 mm) BELOW ENGINE CENTERLINE. | | | | |

Revision to Table of Limits fits for V2500-A5 Standard and V2500-D5 configurations are as follows:

| Ref No. | Part Name | Dimensions (REFERENCE) | | Life Limit (cycles) | |
|---|---|---|---|---|---|
| | | MIN | MAX | MIN | MAX |
| 1501 | DELETED SEAL — AIR, HPT, 1 STG DIMENSIONS DELETED | | | | |
| | DELETED HUB — TURBINE, 1 STG DIMENSIONS DELETED | | | | |
| 1552 | SEAL — AIR, HPT, 1 STG | .274 (6.960) | .276 (7.010) | | |
| | BLADE — HPT, 1 STG | .882 (22.403) | .890 (22.606) | | |
| | HUB — TURBINE, 1 STG | 1.160 (29.464) | 1.162 (29.514) | .006T (0.152) | .004 (0.102) |
| 1554 | PLATE — RING, BLADE, HPT, 2 STG | .232 (5.89) | .242 (6.15) | | |
| | HUB — TURBINE, 2 STG | 1.158 (29.414) | 1.162 (29.514) | | |
| | HUB — TURBINE, 2 STG | .234 (5.944) | .240 (6.096) | | |
| | BLADE — TURBINE, 2 STG | 1.152 (29.261) | 1.158 (29.413) | .008T (0.203) | .018 (0.457) |
| 1575 | 2 STG TURB ROTOR ASSY BLADE TIP RADIAL CLEARANCE | | | SEE NOTE | |
| | NOTE: .0365 – .0585 IN AVG (0.927 – 1.486 mm) | | | | |
| | REF: AXIS OF TURBINE CASE & VANE ASSY IS .010 IN (0.254 mm) BELOW ENGINE CENTERLINE. | | | | |