SERVICE BULLETIN REVISION NOTICE

ENGINE — PROVIDE NEW TURBINE COOLING AIR (TCA) ORIFICE PLATE TO IMPROVE THRUST SPECIFIC FUEL CONSUMPTION (TSFC)

Turbojet Engine Service Bulletin No. 72-631 Revision No. 1 dated August 16, 2016.

Revision History

Original Issue August 7, 2012

Revision 1 August 16, 2016

Reason for the Revision

To change the engine effectivity range.

Effect of Revision on Prior Compliance

None.

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

The format of this Service Bulletin has been changed from previous versions. This revision shows flow bars and the revision date on the bottom of every page. Technical changes incorporated in this revision are marked with revision bars. The contents are in accordance with the list of effective pages.

MODEL APPLICATION

V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5

BULLETIN ISSUE SEQUENCE

V2500 Series 72-0631

Page	Revision No.	Date
1 thru 16	1	August 16/16

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

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MODEL APPLICATION

V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5

BULLETIN ISSUE SEQUENCE

V2500 Series 72-0631

ATA NUMBER

72-45-00

Compliance Category

7

P&W Distribution Code

V2500

Planning Information

Effectivity Data (For Airbus A319)

Engine Models Applicable

V2522-A5, V2524-A5, V2527M-A5
Engines from Serial No. V10001 thru V13190 that have incorporated Reference 2, Service Bulletin V2500-ENG-72-0565

V2522-A5, V2524-A5, V2527M-A5
Engines from Serial No. V15001 thru V16507.

Effectivity Data (For Airbus A320)

Engine Models Applicable

V2527-A5, V2527E-A5
Engines from Serial No. V10001 thru V13190 that have incorporated Reference 2, Service Bulletin V2500-ENG-72-0565

V2527-A5, V2527E-A5
Engines from Serial No. V15001 thru V16507.

Effectivity Data (For Airbus A321)

Engine Models Applicable

V2530-A5, V2533-A5
Engines from Serial No. V10001 thru V13190 that have incorporated Reference 2, Service Bulletin V2500-ENG-72-0565

V2530-A5, V2533-A5
Engines from Serial No. V15001 thru V16507.

Concurrent Requirements

This Service Bulletin must be done at the same time or after Reference 1, Service Bulletin No. V2500-ENG-72-0562, Reference 3, Service Bulletin No. V2500-ENG-72-0575, and Reference 4, Service Bulletin No. V2500-ENG-72-0576.

Reason

1. Problem: Redesign the Turbine Cooling Air (TCA) Orifice Plate to optimize the airflow for Thrust Specific Fuel Consumption (TSFC) benefit on V2500-A5 SelectOne™ Production and V2500-A5 SelectOne™ Retrofit engine models.
2. Background: For V2500-A5 SelectOne™ Production and V2500-A5 SelectOne™ Retrofit engine models, the size of the TCA Orifice Plate opening within the High Pressure Turbine (HPT) can be decreased resulting in a reduced airflow without impacting the HPT Stage 1-2 Airseal durability. The 2nd Stage Vane will have the same airflow volume as the V2500-A5 standard engine model and the V2500-D5 engine model.
3. Objective: Reduce the inner diameter of the TCA Orifice Plate to improve TSFC on V2500-A5 SelectOne™ Production and V2500-A5 SelectOne™ Retrofit engine models.

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

Provide a new TCA orifice plate.

Compliance

Category 7

Accomplish when supply of superseded parts has been depleted.

Approval Data

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(s) listed.

The aircraft Type Certificate (TC) holder has been informed of this change.

Manpower

1. In Service

   ..... Not Applicable.

2. At Overhaul

   ..... Not Applicable.

Weight and Balance

1. Weight Change

   None.

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. IAE V2500 Service Bulletin V2500-ENG-72-0562 (Engine — High Pressure Turbine (HPT) — V2500 SelectOne™ Production And Retrofit — HPT Upgrade).
2. IAE V2500 Service Bulletin V2500-ENG-72-0565 (Engine — Provide The Requirements For Modification To The V2500 SelectOne™ Retrofit Standard).
3. IAE V2500 Service Bulletin V2500-ENG-72-0575 (Engine — Rotor And Stator Assembly — Provide New SelectOne™ 2nd Stage High Pressure Turbine (HPT) Restaggered Blades).
4. IAE V2500 Service Bulletin V2500-ENG-72-0576 (Engine — Turbine Nozzle — Provide A SelectOne™ New High Pressure Turbine (HPT) 1ST Stage Vane Assembly).
5. V2500 Engine Illustrated Parts Catalogs (S-V2500-7SA, S-V2500-2SA, S-V2500-5SA, S-V2500-6SA, S-V2500-7SB, S-V2500-2SB, S-V2500-5SB, S-V2500-6SB), Chapter/Section 72-45-00, 72-45-20, 72-45-21.
6. V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-45-00, 72-45-20, 72-45-21.
7. V2500 Standard Practices/Processes Manual (E-V2500-1IA), Chapter/Section 70-09-00.
8. Internal Reference No. — EC 11VA009.
9. ATA Locator — 72-45-00, 72-45-20, 72-45-21.

Other Publications Affected

1. V2500 Engine Illustrated Parts Catalogs (S-V2500-7SA, S-V2500-2SA, S-V2500-5SA, S-V2500-6SA, S-V2500-7SB, S-V2500-2SB, S-V2500-5SB, S-V2500-6SB), Chapter/Section 72-45-00, 72-45-20, 72-45-21.
2. V2500 Engine Manuals (E-V2500-1IA), Chapter/Section 72-45-21 Cleaning, Inspection and Repair, to add the new part.

Interchangeability of Parts

Old and new parts are interchangeable only in full sets.

Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (Yes)

Added Data (Yes)

Revision to Table of Limits (No)

Inspection Procedures (No)

Material Information

Material — Price and Availability

Modification kit is not required.

For Price and availability of spares refer to the supplement of this service bulletin.

Industry Support Program

Not Applicable.

The material data that follows is for each engine.

For V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5 Engines that have incorporated Reference 2, Service Bulletin V2500-ENG-72-0565:

FIG-ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	MAT	OLD PN	INSTR — DISP
	72-45-00					
01-001	2A4350	1	ROTOR, AND STATOR ASSY	—	2A4250	(1)(NP)(I)
			OR			
01-001	2A4250-002	1	ROTOR, AND STATOR ASSY	—	2A4250-001	(M)(I)
	72-45-20					
01-005	2A4387	1	CASE, & VANE ASSY, HPT	—	2A4087	(1)(F)(I)
			OR			
01-005	2A4087-002	1	CASE, & VANE ASSY, HPT	—	2A4087-001	(M)(I)
	72-45-21					
01-100	2A3739	4	PLATE, ORIFICE	—	2A3738	(2)(B)(L)(I)

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.

(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 October 1, 2012

(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.

(NP) The part is an item that is usually not procured as a spare item.

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.

Tooling — Price and Availability

Special tools are not required to accomplish this Service Bulletin.

Reidentified Parts

Reidentified Parts Data

New PN	Keyword	Old PN
2A4350	ROTOR, AND STATOR ASSY	2A4250
2A4250-002	ROTOR, AND STATOR ASSY	2A4250-001
2A4387	CASE, & VANE ASSY HPT STG 1	2A4087
2A4087-002	CASE, & VANE ASSY HPT STG 1	2A4087-001

Other Material Information Data

Not Applicable.

Accomplishment Instructions

1. Replace the HPT Case And Vane Assembly, PN 2A4087 with PN 2A4387 or do a modification of the HPT Case And Vane Assembly, PN 2A4087 or PN 2A4087-001 as follows: See Figures 1 and 2.

   A. Remove the old Orifice Plate, PN 2A3738 (4 off), from the four bosses on the outer diameter of the HPT Case and Vane Assembly.

   B. Replace the Orifice Plate, PN 2A3738 with PN 2A3739.

   C. Install the new Orifice Plate, PN 2A3739 (4 off) on the four bosses of the HPT Case and Vane Assembly per Reference 6, V2500-A5 Engine Manual TASK 72-45-20-440-002-C00, Subtask 72-45-20-440-134.

   D. Reidentify the HPT Case And Vane Assembly per Table 1. Mark the new part number per Reference 7 Standard Practices/Processes Manual, Chapter/Section 70-09-00, marking of parts. See Figure 3 for the location of marking. Use vibropeen method (manual or mechanical).

Table 1

New PN	Old PN
2A4387	2A4087
2A4087-002	2A4087-001

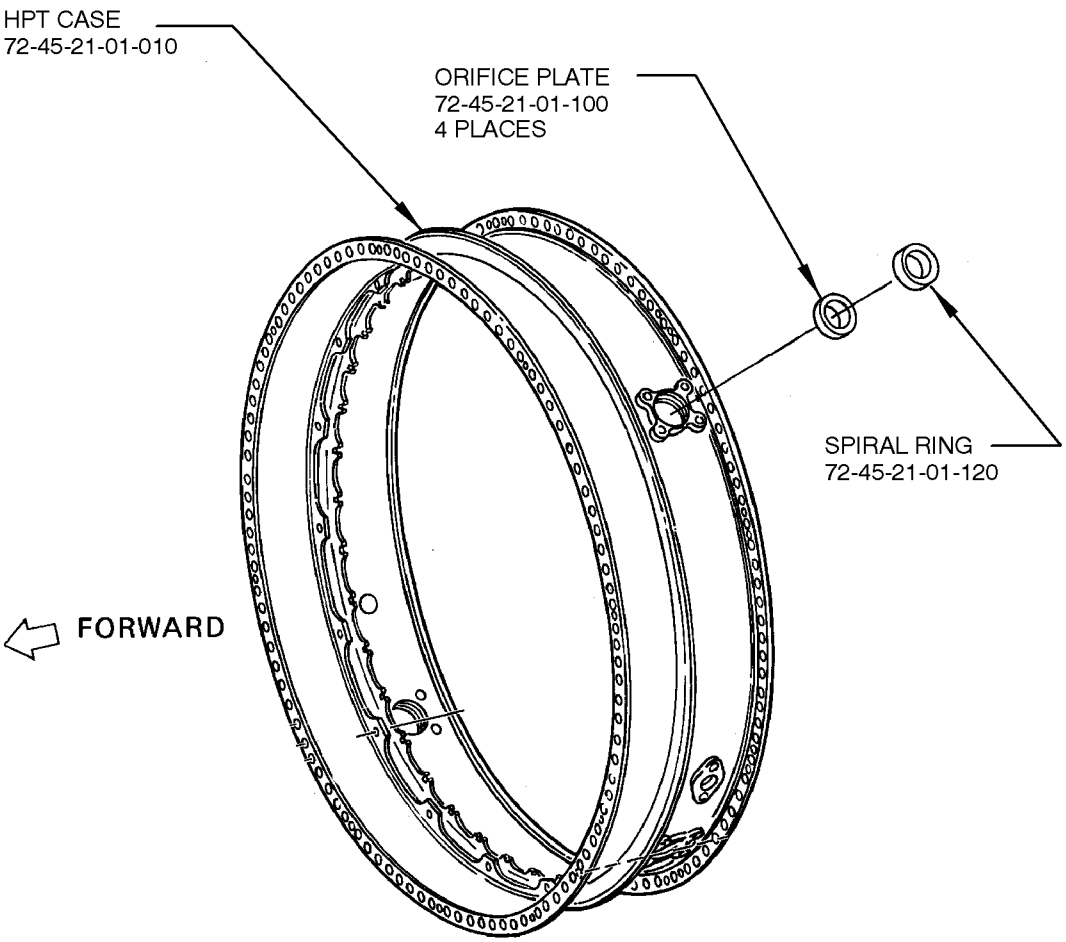
   E. Reidentify the HPT Rotor And Stator Assembly per Table 2. Mark the new part number per References 7, Standard Practices/Processes Manual, Chapter/Section 70-09-00, marking of parts. See Figure 4 for the location of marking. Use vibropeen method (manual or mechanical).

Table 2

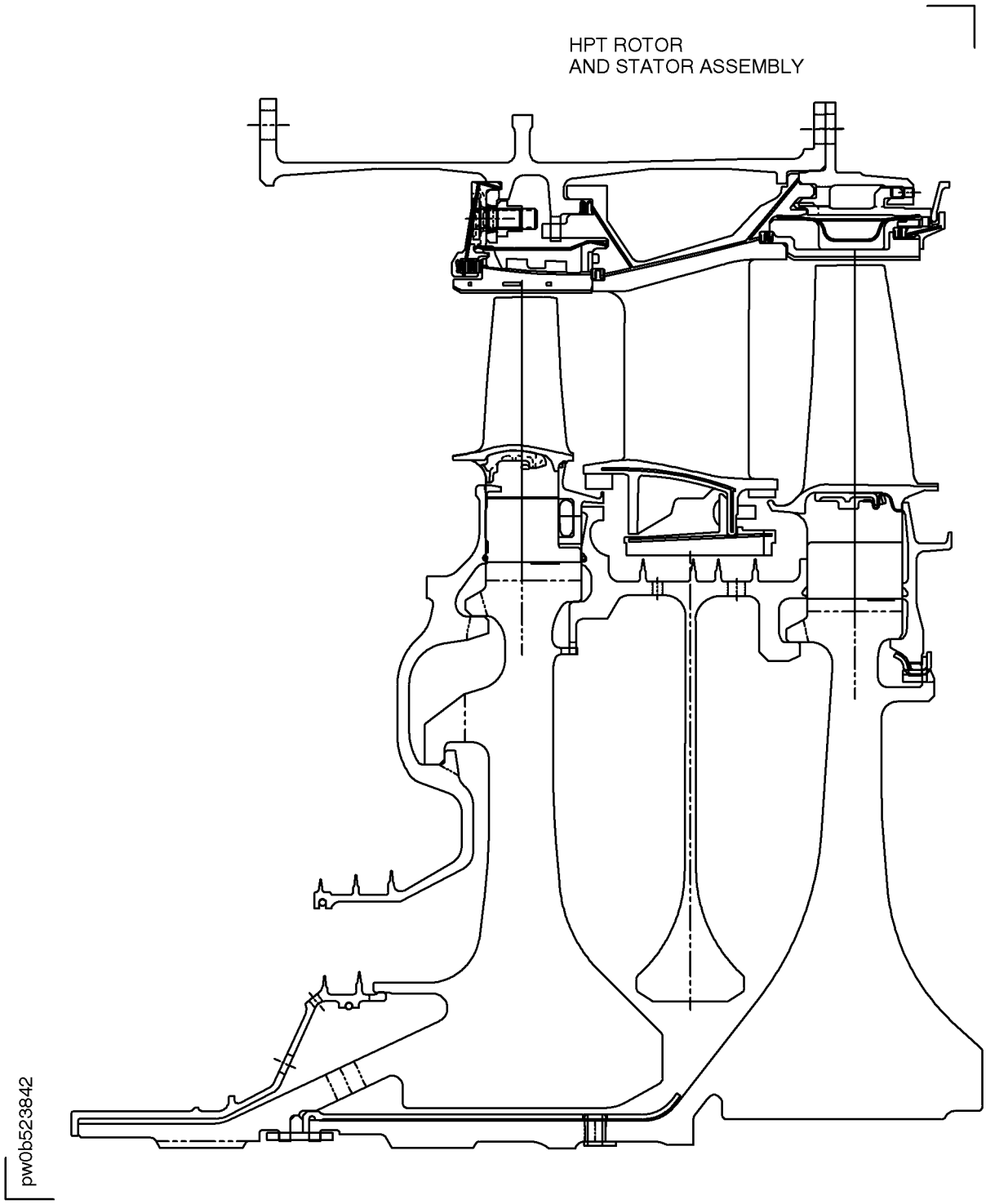
New PN	Old PN
2A4350	2A4250
2A4250-002	2A4250-001

2. Recording Instructions

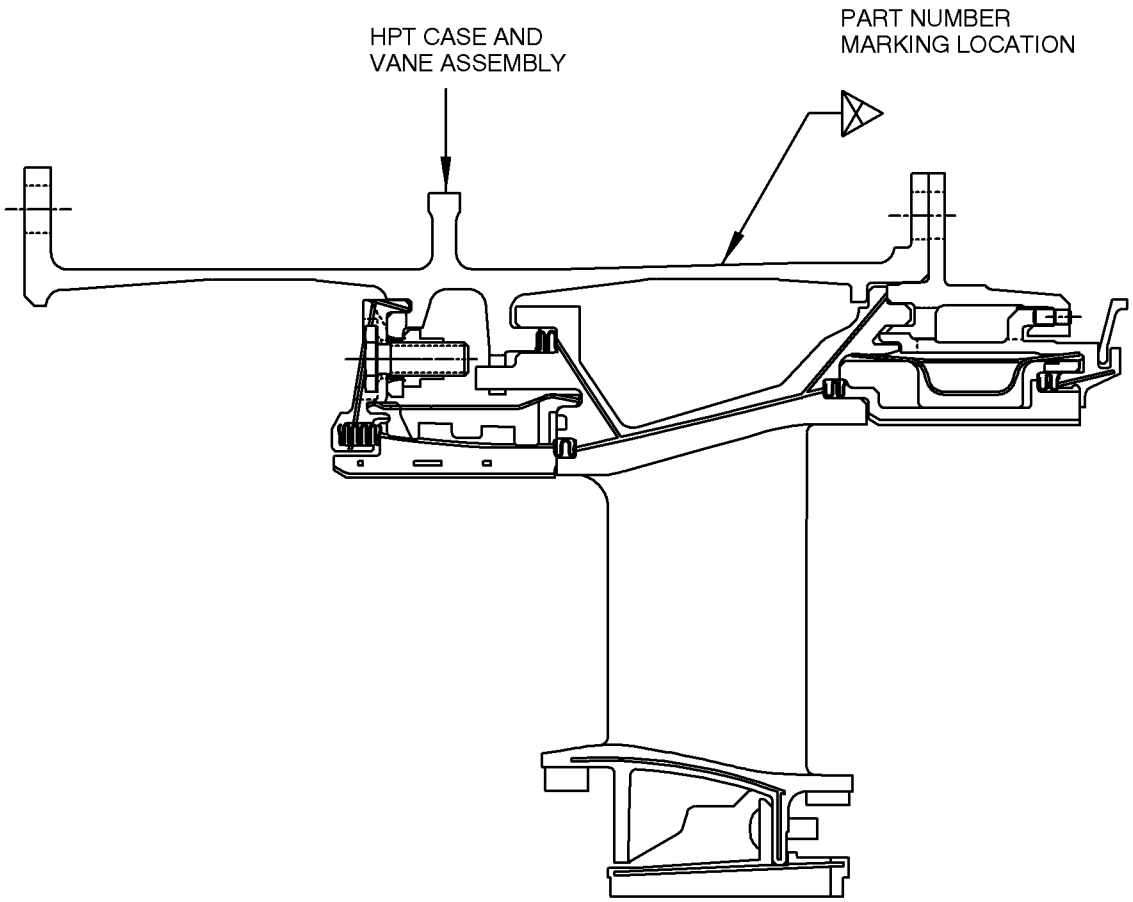
   A. A record of accomplishment is required.



LOCATION OF THE ORIFICE PLATE
72-45-21
FIGURE 1



MODIFICATION OF THE HPT ROTOR AND STATOR ASSEMBLY AND CASE AND VANE ASSEMBLY
FIGURE 2



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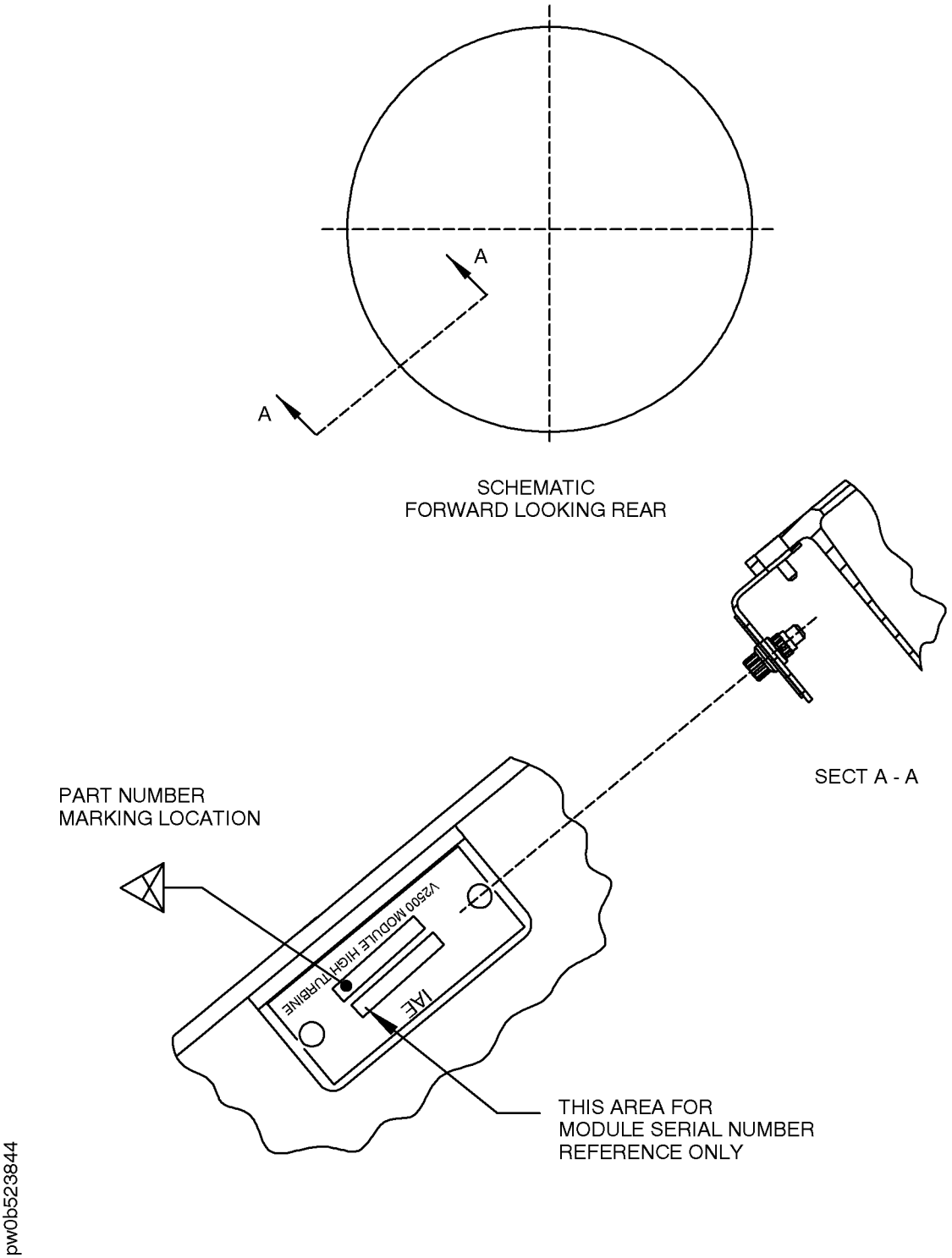
MARKING LOCATION OF THE HPT CASE AND VANE ASSEMBLY
FIGURE 3



MARKING LOCATION OF THE HPT ROTOR AND STATOR ASSEMBLY
FIGURE 4

Appendix

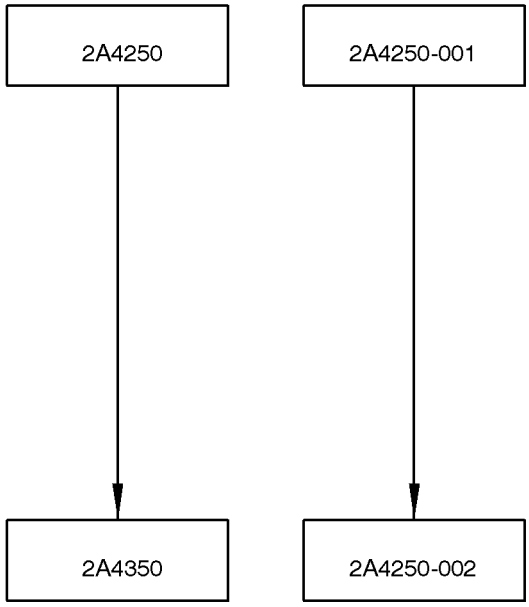
Parts Progression To Show the Changed Part in Relation to Other Parts

HPT ROTOR AND STATOR MODULE ASSEMBLY
that have incorporated Service Bulletin V2500-ENG-72-0565

V2500-ENG-72-0562
Engine - High Pressure Turbine (HPT)
V2500 SelectOne Production And Retrofit
HPT Upgrade

OR

V2500-ENG-72-0575
Engine - Rotor And Stator Assembly -
Provide New Selectone 2nd Stage
High Pressure Turbine (HPT)
Restaggered Blades



V2500-ENG-72-0631
Engine - Provide New Turbine
Cooling Air (TCA) Orifice Plate
To Improve Thrust Specific Fuel
Consumption (TSFC)

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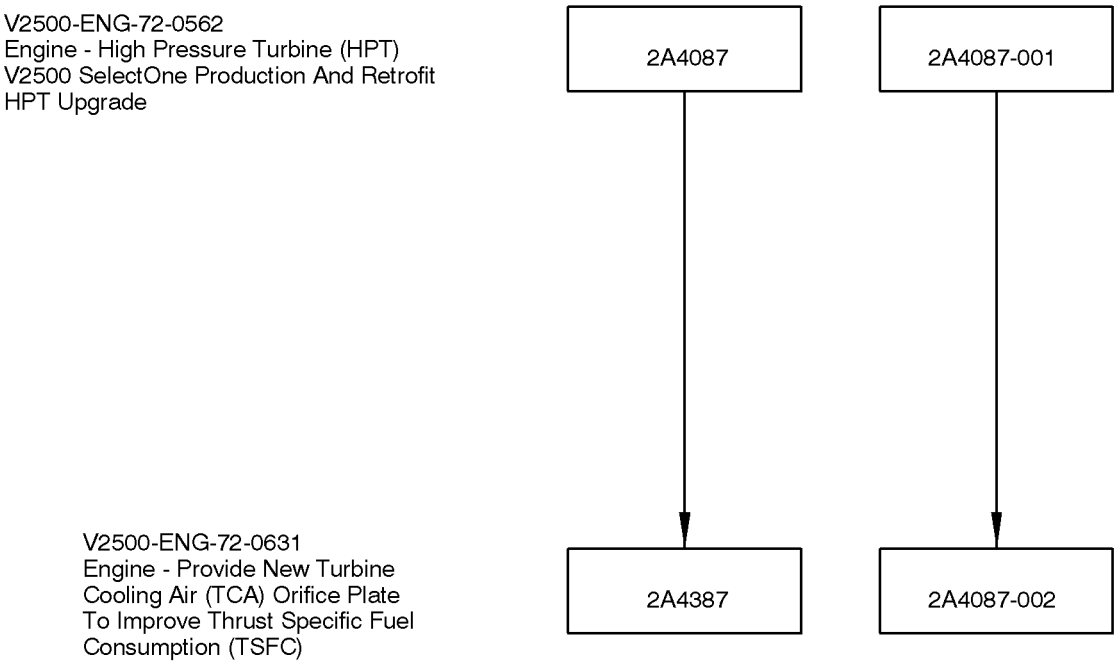
FAMILY TREE — HPT ROTOR AND STATOR MODULE ASSEMBLY
CHART A

HPT CASE AND VANE ASSEMBLY
that have incorporated Service Bulletin V2500-ENG-72-0565



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FAMILY TREE — HPT CASE AND VANE ASSEMBLY
CHART B

HPT ORIFICE PLATE
that have incorporated Service Bulletin V2500-ENG-72-0565

V2500-ENG-72-0562
Engine - High Pressure Turbine (HPT)
V2500 SelectOne Production And Retrofit
HPT Upgrade

2A3738

V2500-ENG-72-0631
Engine - Provide New Turbine
Cooling Air (TCA) Orifice Plate
To Improve Thrust Specific Fuel
Consumption (TSFC)

2A3739

pw0b524365

FAMILY TREE — ORIFICE PLATE
CHART C

Added Data

Internal Reference Information

Revision No.	Reference Document	Origination
Original	EC11VA009	BB/IEL/CMS
1	EC11VA009/01	BB/RCM

Supplement - 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 Catalog for current prices.

1. Modification Kit

   Not applicable.

2. New Production Parts

New Production Part Number	Description	Unit Price US Dollars
2A3739	PLATE, ORIFICE	244.00

   The new part will be available approximately October 1, 2012.

3. Tools

   None.