# P U B L I C A T I O N  T R A N S M I T T A L

International Aero Engines

400 MAIN STREET, MAIL STOP 121-10
EAST HARTFORD, CT 06108, USA.
TELEPHONE:- 860 565 5515

DATE: Jun.14/11

## V2500-A1/A5 SERIES PROPULSION SYSTEM SERVICE BULLETIN

This document transmits the Revision 1 of Service Bulletin V2500-ENG-75-0094.

Document History

Service Bulletin Revision Status

Initial Issue. Mar.20/08.

Service Bulletin Revision 1

| Remove | Incorporate | Reason for change |
|---|---|---|
| All Pages of the Service Bulletin. | Pages 1 to 16 of the Service Bulletin. | To correct Paragraph 3.A.(1). Minor editorial changes. |
| All Pages of the Supplement. | Page 1 of the Supplement. | To update the price. |

V2500-ENG-75-0094



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

SERVICE BULLETIN

# AIR – ACTIVE CLEARANCE CONTROL (ACC) – TO INCORPORATE THE OVERSIZE BUSHES OF THE ACC HOUSING ASSEMBLY

## 1. Planning Information

### A. Effectivity

(1) Airbus A319

(a) V2522-A5, V2524-A5, V2527M-A5 Engines.

(2) Airbus A320

(a) V2500-A1 Engines.

(b) V2527-A5, V2527E-A5 Engines.

(3) Airbus A321

(a) V2530-A5, V2533-A5 Engines.

### B. Concurrent Requirements

This Service Bulletin must be incorporated subsequent to accomplishment of the Service Bulletin No. V2500-ENG-75-0030 (V2500-A1 Engine Only).

### C. Reason

(1) Condition:

R During normal engine operations worn holes on the ACC housing assembly can
R develop.

(2) Background:

R See (1) Condition.

(3) Objective:

R The customer requested to have capability of repair on this part. The
R purpose of this Service Bulletin is to introduce the oversize bush and the
R reworked ACC housing assembly.

(4) Substantiation:

The mechanical integrity of the modified design has been proven by stress analysis.

(5) Effects of Bulletin on:

(a) Operation:

Not affected.

(b) Maintenance:

Not affected.

(c) Overhaul:

Affected.

(d) Repair Schemes:

Affected.

(e) Interchangeability:

Affected.

(f) Fits and Clearance:

Not affected.

(6) Supplemental Information

None.

D. Description

The changes introduced by this Service Bulletin are as follows:

(1) The oversize bush is introduced by this service bulletin. The oversize bush is used after ACC housing assembly is reworked.

| | |
|---|---|
| 75-24-51/02-165 | 6A8297 oversize bush |
| 75-24-51/02-385 | 6A8297 oversize bush |

(2) Existing 2A1512, ACC housing assembly can be reworked to the following new part numbers.

| | |
|---|---|
| 75-24-51/01-276 | 2A3735 ACC housing assembly |
| 75-24-51/01-286 | 2A3736 ACC housing assembly |
| 75-24-51/01-287 | 2A3737 ACC housing assembly |

R NOTE: Reference Accomplishment Instructions Page 12, Figure 1 ACC Housing
R Assembly Number table part number application.

(3) Existing 2A1534, ACC housing assembly can be reworked to the following new part numbers.

| | |
|---|---|
| 75-24-51/01-276 | 2A1587 ACC housing assembly |
| 75-24-51/01-286 | 2A1588 ACC housing assembly |
| 75-24-51/01-287 | 2A1589 ACC housing assembly |

R NOTE: Reference Accomplishment Instructions Page 12, Figure 1 ACC Housing
R Assembly Number table part number application.

(4) The installation procedure of the ACC housing assembly and the bush is changed. Please note the combination of the bush and the ACC housing assembly. Refer to Figure 2.

E. Compliance

Category Code 8

Accomplish based upon experience with the prior configuration.

F. Approval Data

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 models listed.

G. Manpower

Estimated Man-hours to incorporate the full intent of this Service Bulletin:

(1) In Service

(a) To gain access

16 minutes

(b) To remove the ACC housing assembly

50 minutes

(c) To incorporate the modification

50 minutes

(d) To re-assemble ACC housing assembly

60 minutes

(e) To return aircraft to flyable status

20 minutes

Total - 3 hours 16 minutes

(2) At Overhaul

(a) To remove the ACC housing assembly

50 minutes

(b) To incorporate the modification

50 minutes

(c) To re-assemble ACC housing assembly

60 minutes

Total - 2 hours 40 minutes

H. Material Price and Availability

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

R For prices and availability of future spares see 2. Material Information and the Supplement of this Service Bulletin.

I. Tooling Price and Availability

Special tools are not required.

J. Industry Support Information

None.

K. Weight and Balance

(1) Weight Change

None.

(2) Moment Arm

No effect.

(3) Datum

R Engine Front Mount Centerline (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 Manual (E-V2500-1IA), Chapter/Section 72-00-40, Installation-10 Config-1, Config-2.

(2) IAE V2500 Overhaul Process and Consumable Index (PCI-V2500-1IA).

(3) IAE V2500 Standard Practices/Procedures Manual (SPP-V2500-1IA).

(4) Internal Reference No. - 03VJ020, 03VJ020-01, 05VJ027.

(5) ATA Locator - 75-24-51.

O. Other Publications Affected

(1) IAE V2500 Engine Illustrated Parts Catalogs (S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, and S-V2500-7IB), Chapter/Section 75-24-51 to add the new part.

(2) IAE V2500 Engine Manuals (E-V2500-1IA), Chapter/Section 75-24-51 Cleaning, Inspection and Repair to add the new part.

(3) AIRBUS A319, A320, A321 Aircraft Illustrated Parts Catalogue (AIPC), Chapter/Section 75-24-51.

(4) AIRBUS A319, A320, A321 Aircraft Maintenance Manual (AMM), Chapter/Section 75-24-51.

P. Interchangeability of Parts

Affected (See 2.Material Information).

2. Material Information

A. The kit required consists of the following parts:

None.

B. New production parts:

Refer to the Supplement of this Service Bulletin.

C. Parts affected by this Service Bulletin:

Applicability: For V2500-A1 Engines post SBE75-0030 and V2500-A5 Engines

75-24-51

| | FIG- ITEM NUMBER | NEW PART NUMBER | QTY | PART TITLE | MAT | OLD PN | INSTR - DISP |
|---|---|---|---|---|---|---|---|
| R | 01-276 | 2A3735 | REF. | .ACC housing assembly | - | - | (B)(1D) |
| R | 01-286 | 2A3736 | REF. | .ACC housing assembly | - | - | (B)(1D) |
| R | 01-287 | 2A3737 | REF. | .ACC housing assembly | - | - | (B)(1D) |
| R | 01-276 | 2A1587 | 1 | .ACC housing assembly | - | - | (C)(2D) |
| R | 01-286 | 2A1588 | 1 | .ACC housing assembly | - | - | (C)(2D) |
| R | 01-287 | 2A1589 | 1 | .ACC housing assembly | - | - | (C)(2D) |
| | 02-165 | 6A8297 | 2 | .Oversize bush | - | - | (A) |
| | 02-385 | 6A8297 | 2 | .Oversize bush | - | - | (A) |

D. Instructions disposition codes:

(A) The new part is currently available.

R (B) 2A1512 is alternative to 2A1534.

R (C) 2A1534 will continue to be supplied.

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

R (2D) The new part can be obtained by modification of the old part as specified
R in the Accomplishment Instructions.

E. Other Material Information Data

Not Applicable.

3. Accomplishment Instructions

A. Rework Instructions for V2500-A1 post SBE75-0030 and V2500-A5 Engines, Refer to Figure 1 and Figure 3

(1) Do a modification on 2A1534 or 2A1512, ACC Housing Assembly and re-identify to the new part number.

| | PROCEDURE | RELATED DATA |
|---|---|---|
| | (a) Drill the holes position A1 and A2 of ACC housing assembly, if inner diameter is more than 0.363in (9,219 mm) at hole position A1 or A2. | Refer to Figure 1. |
| | (b) Drill the holes position B1 and B2 of ACC housing assembly, if inner diameter is more than 0.363in (9,219 mm) at hole position B1 or B2. | Refer to Figure 1. |
| R | (c) Clean the modified area. Wipe the modified area with solvent and cloth. | Refer to SPP TASK 70-11-26-300-503. Use CoMat 01-076 methylethylketone (MEK) and CoMat 02-099 lint free cloth. |
| R | (d) Surface treat the modified area. Use a clean brush to apply one coat of cleaner/passivator. Keep the modified area wet for at least 5 minutes. | Use CoMat 01-471 cleaner/passivator. |
| R | (e) Clean the modified area with clean water or with a clean cloth. | |
| R | (f) Dry the modified area. After complete removal of cleaner/passivator residual by clean wet cloth, dry the modified area with a clean dry cloth or with a clean air-flow. | |

(g) Identify the part number of modified ACC housing assembly in accordance with the figure 1 and figure 3. Re-identify the part adjacent to existing part number by electrochemical marking. Cross off the existing part number with a double line.

Refer to Figure 1 and Figure 3.

| New P/N | Existing P/N |
|---|---|
| 2A3735, 2A3736 or 2A3737 | 2A1512 |
| 2A1587, 2A1588 or 2A1589 | 2A1534 |
| 2A1589 | 2A1587 |
| 2A1589 | 2A1588 |
| 2A3737 | 2A3735 |
| 2A3737 | 2A3736 |

B. Assembly Instructions for V2500-A1 post SBE75-0030 and V2500-A5 Engines, Refer to Figure 2

(1) Install the Active Clearance Control (ACC) Valve, the Front Duct and the Rear Duct.

(a) Attach the ACC front duct (75-24-47, 01-100) to the ACC valve (75-24-51, 01-100) with the 12 bolts (75-24-47, 01-140) and the 12 nuts (75-24-47, 07-135). Torque the 12 nuts to 85 to 105 lbfin (10 to 12 Nm).

(b) Attach the two clamps (75-24-47, 01-125 and 01-120) to the ACC valve with the two bolts (75-24-47, 01-115) and the two nuts (75-24-47, 01-110).

(c) Install the four bolts (75-24-47, 01-210) and the four nuts (75-24-47, 01-200) that attach the heat shield (75-24-47, 01-190) to the front duct.

(d) Torque the six nuts in steps (b) and (c) to 36 to 45 lbfin (4 to 5 Nm).

(e) Attach the rear duct (75-24-47, 01-300) to the ACC valve with the four bolts (75-24-47, 01-315) and the four nuts (75-24-47, 01-310).

(f) Attach the ACC valve bracket (75-24-47, 01-500) to the rear duct with the two bolts (75-24-47, 01-325) and the two nuts (75-24-47, 01-320).

(g) Torque the nuts in steps (e) and (f) to 85 to 105 lbfin (10 to 12 Nm).

(h) Attach the link (75-24-47, 01-550) to the ACC valve bracket with the two bushes (75-24-47, 01-590), the bolt (75-24-47, 01-570) and the nut
R (75-24-47, 01-565). Torque the nut to 85 to 105 lbfin (10 to 12 Nm) and align the hole in the bolt with a slot in the castellated nut. Install the new cotter pin (75-24-47, 01-560).

(i) Connect the stator rod (75-24-51, 01-485) to the ACC valve rod bracket (72-40-00, 01-790) installed to the flange FK with the two bushes (75-24-51, 01-210) the bolt (75-24-51, 01-155) and the nut (75-24-51, 01-140). Torque the nut to 32 to 42 lbfin (4 to 5 Nm). Align the slot of the nut with the pin hole of the bolt and safety the nut with the new cotter pin (75-24-51, 01-136).

(j) Connect the actuator rod (75-24-51, 01-400) to the HPT/LPT ACC air valve.

(i) Retract the valve rod to a position the actuator rod can be connected.

(ii) Connect the actuator rod to the valve rod with the bolt (75-24-51, 01-120) and the nut (75-24-51, 01-115).

(iii) Torque the nut to 22 to 30 lbfin (3 to 3.5 Nm) and align the slot of the nut with the pin hole of the bolt and safety the nut with the new cotter pin (75-24-51, 01-110).

(k) Attach the link to the bracket (72-40-00, 05-500) with the two bushes (75-24-47, 01-540), the bolt (75-24-47, 01-520) and the nut (75-24-47, 01-515). Torque the nut to 85 to 105 lbfin (10 to 12 Nm) and align the hole in the bolt with a slot in the castellated nut. Install and safety the new cotter pin (75-24-47, 01-510).

(l) Assemble ACC housing (75-24-51, 01-275, 01-276, 01-286 or 01-287), ACC seal retainer (75-24-51, 01-370), ACC seal (75-24-51, 01-350) and joint heat shield (75-24-51, 01-360) with the four bolts (75-24-51, 01-375). Torque the bolts to 36 to 45 lbfin (4 to 5 Nm).

(m) Identify the bush part numbers.

(i) Find the part number of the ACC housing assembly. Use record sheet.

(ii) Identify the part number of the bush in accordance with the record sheet.

(n) Attach the ACC HPT valve link (75-24-51, 02-100) to the ACC housing (75-24-51, 01-275, 01-276, 01-286 or 01-287) with the two bushes (75-24-51, 02-160 or 02-165), the bolt (75-24-51, 02-150) and the nut (75-24-51, 02-145). Torque the nut to 32 to 42 lbfin (4 to 5 Nm) and safety with the new cotter pin (75-24-51, 02-140).

(o) Attach the ACC HPT valve link (75-24-51, 02-250) to the ACC housing (75-24-51, 01-275, 01-276, 01-286 or 01-287) with the two bushes (75-24-51, 02-380 or 02-385), the bolt (75-24-51, 02-300) and the nut (75-24-51, 02-295). Torque the nut to 32 to 42 lbfin (4 to 5 Nm) and safety with new cotter pin (75-24-51, 02-290).

(p) Attach the ACC HPT valve bracket (72-40-00, 05-570) to the ACC HPT valve link (75-24-51, 02-250) with the two bushes (75-24-51, 02-310), the bolt (75-24-51, 02-270) and the nut (75-24-51, 02-265). Torque the nut to 32 to 42 lbfin (4 to 5 Nm) and safety with the new cotter pin (75-24-51, 02-260).

(q) Install the ACC housing assembly to the HPT/LPT ACC air valve.

(i) Lightly lubricate the five bolts with CoMat 10-077 approved engine oils.

(ii) Install the five bolts (72-24-51, 01-290) and torque tighten to 85 to 105 lbfin (10 to 12 Nm).

(r) Install the ACC HPT valve link (75-24-51, 02-100) to the ACC HPT valve bracket (72-40-00, 05-550) installed to the FM flange with the two bushes (75-24-51, 02-130), the bolt (75-24-51, 02-120) and the nut (75-24-51, 02-115). Torque the nut to 32 to 42 lbfin (4 to 5 Nm) and safety with new cotter pin (75-24-51, 02-110).

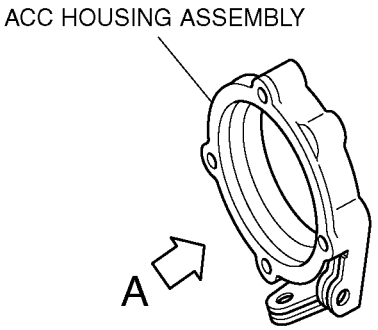
(s) Connect the ACC valve to the ACC actuator.

(i) Connect the actuator rod (75-24-51, 01-400) to the ACC actuator with the two bushes (75-24-51, 01-470), the bolt (75-24-51, 01-420) and the nut (75-24-51, 01-415). Torque the nut to 85 to 105 lbfin (10 to 12 Nm) and align the hole in the bolt with a slot in the castellated nut. Install and safety with the new cotter pin (75-24-51,01-410).

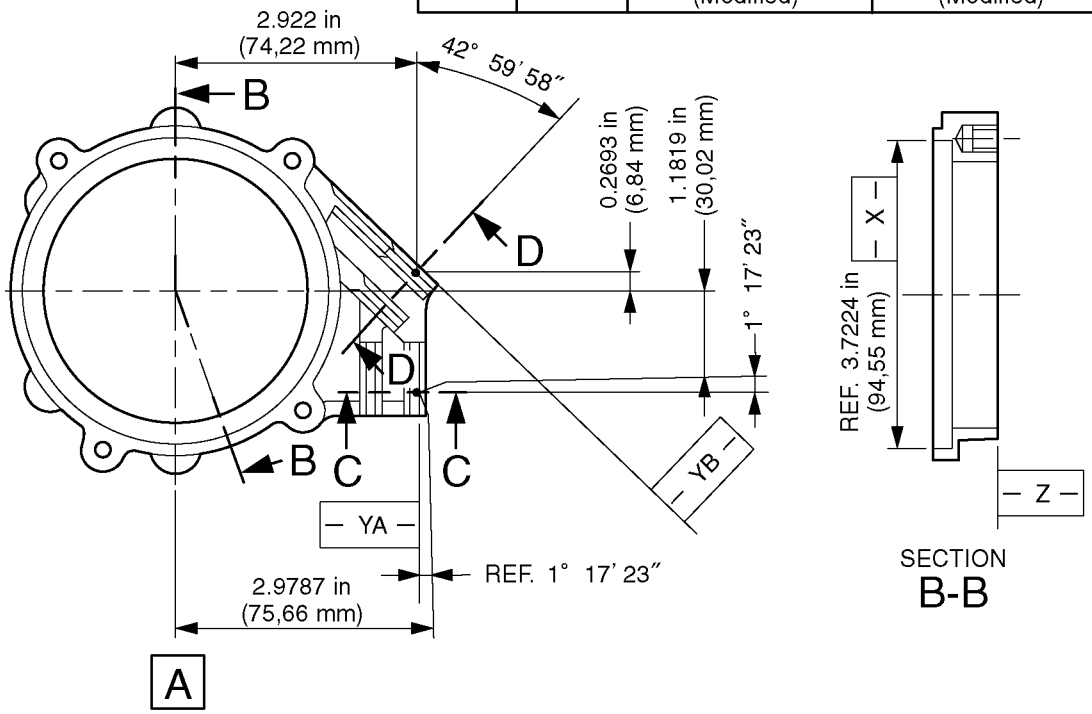
(ii) Connect the stator rod (75-24-51, 01-485) to the ACC actuator with the bush (75-24-51, 01-555), the bolt (75-24-51, 01-505) and the nut (75-24-51, 01-500). Torque the nut to 85 to 105 lbfin (10 to 12 Nm) and align the hole in the bolt with a slot in the castellated nut. Install and safety with the new cotter pin (75-24-51,01-495).

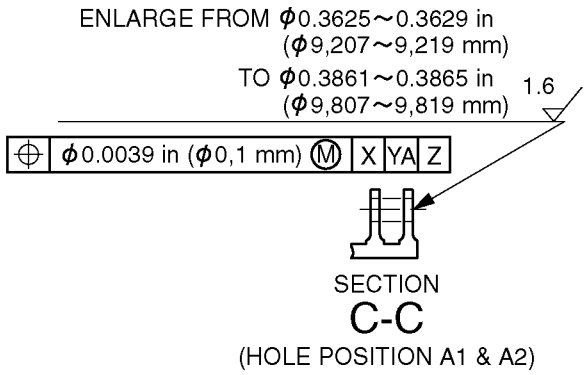
C. Recording Instructions

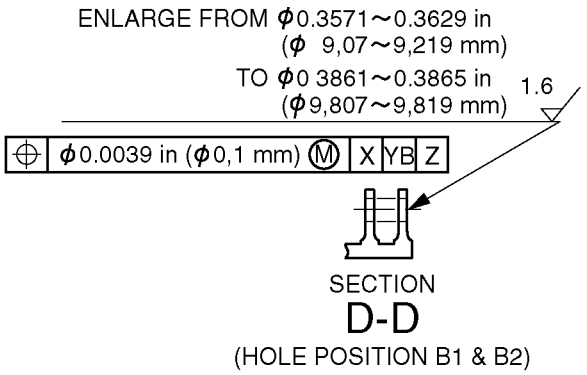
(1) Record of accomplishment is necessary.




| ACC HOUSING ASSEMBLY PART NUMBER | | HOLE POSITION & SIZE | |
|---|---|---|---|
| | | A1 & A2 | B1 & B2 |
| 2A1512 | 2A1534 | ϕ0.3625～0.3629 in (ϕ9,207～9,219 mm) (Original) | ϕ0.3625～0.3629 in (ϕ9,207～9,219 mm) (Original) |
| 2A3735 | 2A1587 | ϕ0.3861～0.3865 in (ϕ9,807～9,819 mm) (Modified) | ϕ0.3625～0.3629 in (ϕ9,207～9,219 mm) (Original) |
| 2A3736 | 2A1588 | ϕ0.3625～0.3629 in (ϕ9,207～9,219 mm) (Original) | ϕ0.3861～0.3865 in (ϕ9,807～9,819 mm) (Modified) |
| 2A3737 | 2A1589 | ϕ0.3861～0.3865 in (ϕ9,807～9,819 mm) (Modified) | ϕ0.3861～0.3865 in (ϕ9,807～9,819 mm) (Modified) |

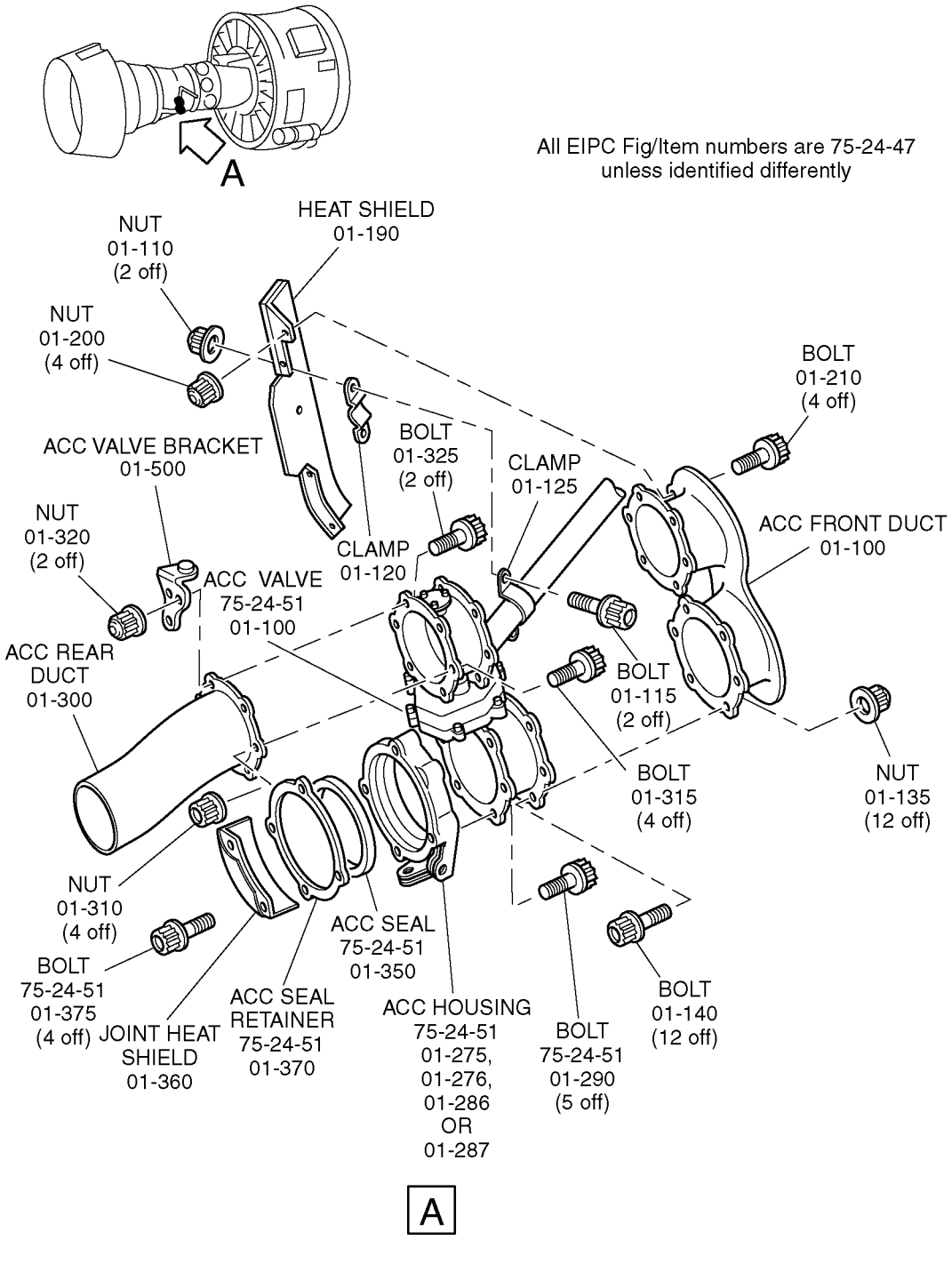


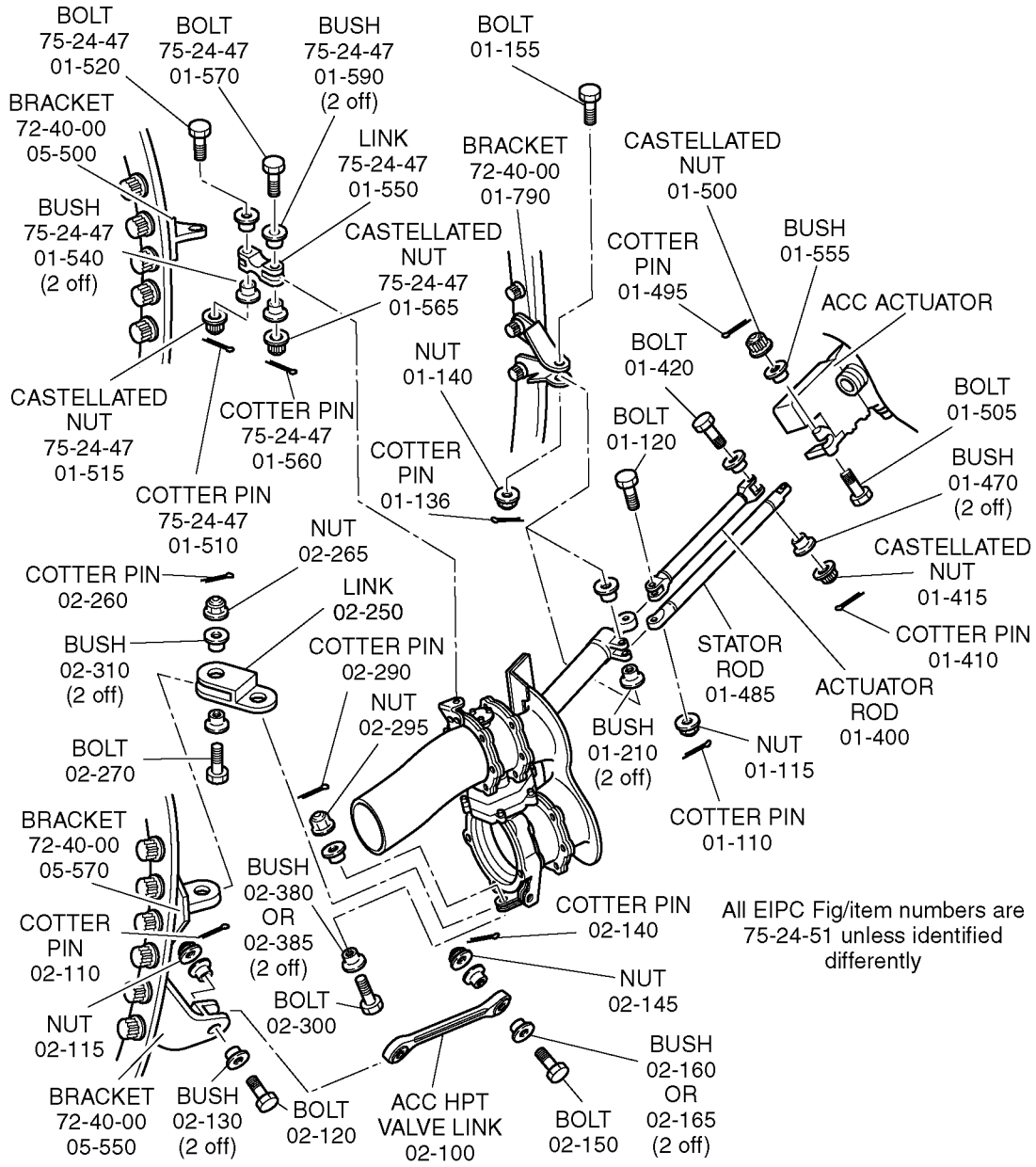




jaz00e1962

ACC Housing Assembly - Before and After Alteration
Figure 1

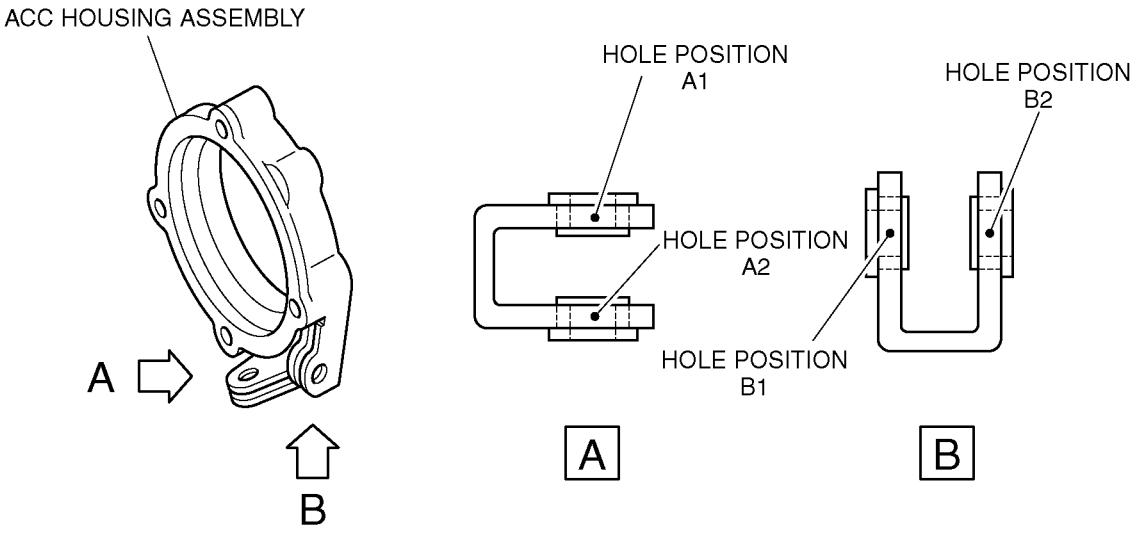



Installation of the bushes into the ACC Housing Assembly
Figure 2 (Sheet 1 of 3)




jaz00e1964

Installation of the bushes into the ACC Housing Assembly
Figure 2 (Sheet 2 of 3)

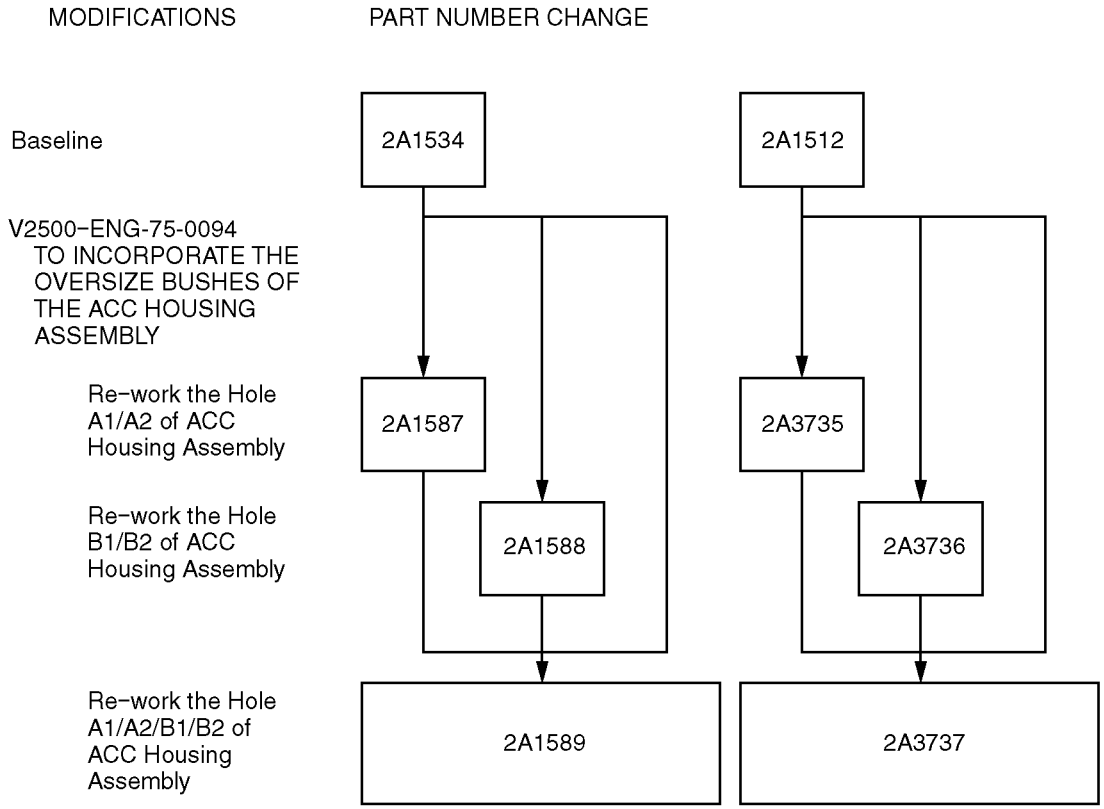



Record Sheet –
ACC Housing Assembly Part Number
and Bush Part Number

| ACC HOUSING ASSEMBLY PART NUMBER | BUSH PART NUMBER | |
|---|---|---|
| | HOLE POSITION A1 & A2 | HOLE POSITION B1 & B2 |
| □2A1534 OR 2A1512 | 5W2059 | 5W2059 |
| □2A1587 OR 2A3735 | 6A8297 | 5W2059 |
| □2A1588 OR 2A3736 | 5W2059 | 6A8297 |
| □2A1589 OR 2A3737 | 6A8297 | 6A8297 |

jaz00e1965

Installation of the bushes into the ACC Housing Assembly
Figure 2 (Sheet 3 of 3)

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Family Tree - ACC Housing Assembly
Figure 3

SERVICE BULLETIN

# AIR – ACTIVE CLEARANCE CONTROL (ACC) – TO INCORPORATE THE OVERSIZE BUSHES OF THE ACC HOUSING ASSEMBLY

## Supplement – Price and Availability

1. Modification Kit

   A. There is no kit provided to do this Service Bulletin.

2. Material Cost

   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.

3. New Production Parts

| | New Production Part Number | Description | Unit Price US Dollars |
|---|---|---|---|
| R | 6A8297 | Oversize bush | 34.30 |

R Part is currently available for sale.

4. Tools

   None.