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

RR-DERBY

V2500 International Aero Engines

400 MAIN STREET, MAIL STOP 121-10
EAST HARTFORD, CT 06108, USA.
TELEPHONE: 860 565 5515
FAX: 860 565 0600

P.O. BOX 31, DERBY
TELEGRAMS - 'ROYCAR' DERBY
TELEX - 37645
TELEPHONE - DERBY 242424

DATER Dec.15/00



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

This document transmits Revision 1 to Service Bulletin EV2500-75-0063

Document History

| Service Bulletin Revision Status | Supplement Revision Status |
|---|---|
| Initial Issue Jan.31/97 | |

Bulletin Revision 1

| Remove | Incorporate | Reason for change |
|---|---|---|
| All pages of the Service Bulletin | Pages 1 to 13 of the Service Bulletin | To revise illustrations to incorporate a more user friendly family tree |

V2500-ENG-75-0063



CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 1 are as follows:

| | Page | Revision Number | Revision Date |
|---|---|---|---|
| | Bulletin | | |
| R | 1 | 1 | Dec.15/00 |
| R | 2 | 1 | Dec.15/00 |
| R | 3 | 1 | Dec.15/00 |
| R | 4 | 1 | Dec.15/00 |
| R | 5 | 1 | Dec.15/00 |
| R | 6 | 1 | Dec.15/00 |
| R | 7 | 1 | Dec.15/00 |
| R | 8 | 1 | Dec.15/00 |
| R | 9 | 1 | Dec.15/00 |
| R | 10 | 1 | Dec.15/00 |
| R | 11 | 1 | Dec.15/00 |
| R | 12 | 1 | Dec.15/00 |
| R | 13 | 1 | Dec.15/00 |

# ENGINE - AIR - INTRODUCTION OF A HPT/LPT ACC AIR VALVE WITH NEW SLOTTED ENTRY TYPE ROD END ASSEMBLY



## 1. Planning Information

### A. Effectivity

(1) Airbus A320

(a) V2500-A1 Engines prior to Serial No. V0362.

(b) V2527-A5 Engines prior to Serial No. V10197.

(2) Airbus A321

V2530-A5 Engines prior to Serial No.V10197.

(3) Boeing - Longbeach Division MD-90

V2525-D5, V2528-D5 Engines prior to Serial No.V20072.

(4) ATA Locator 75-00-00

### B. Concurrent Requirements

None

### C. Reason

(1) Condition

Some operators have noticed excessively worn rod end bearing of HPT/LPT ACC Air Valve.

(2) Background

It does take considerable time to replace the rod end bearing with excessive wear.

(3) Objective

To reduce the replacement time by introduction of the slotted entry type rod end bearing and to increase the durability of rod end bearing.

(4) Substantiation

The changes introduced by this Bulletin were analytically substantiated.

(5) Efffect of Bulletin on the following shop functions:

(a) Removal/Installation

Not affected

(b) Disassembly/Assembly

Not affected

(c) Cleaning

Not affected

(d) Inspection/Check

Not affected

(e) Repair Schemes

Not affected.

(f) Testing

Not affected

(6) Supplemental Information

None

D. Description

Part numbers of HPT/LPT ACC Air Valve are changes by incorporation of the new rod end. For the details of part number change, refer to Section 2. Material Information of this Service Bulletin.

E. Approved

The part number changes described in this Bulletin have been shown to comply with the applicable Federal Aviation Regulation and are FAA approved for engine models listed.

F. Compliance

Category Code 6

Accomplish when the sub-assembly (i.e. models, accessories, components, build groups) is disassembled sufficiently to afford access to the affected parts and to all affected spare parts.

G. Manpower

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

(1) V2500-A1, V2527-A5 and V2530-A5 engines

(a) In service

Not affected

(b) At overhaul

Not affected

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

(i) To accomplish rework and re-identification of HPT/LPT ACC air valve

1 hour 48 minutes

(ii) Increase in time required for assembly of new HPT/LPT ACC air valve

Not affected

(2) V2525-D5 and V2528-D5 engines

(a) In service

Not affected

(b) At overhaul

Not affected

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

(i) To accomplish rework and re-identification of HPT/LPT ACC air valve

1 hour 48 minutes

(ii) Increase in time required for assembly of new HPT/LPT ACC air valve

Not affected

H. Material - Price and Availability

(1) Modifcation Kit not required.

(2) for price and availability for future spares, refer to, Parker Hannifin SB No. 5860016-75-97, and SB No. 5910478-75-98.

I. Tooling - Price and Availability

Refer to Parker Hannifin SB No. 5860016-75-97, and SB No. 5910478-75-98

J. Weight and Balance

(1) Weight change

None

Moment arm

No effect

(2) Datum

Engine front mount centreline (Power Plant Station PPS 100)

K. Electrical Load Data

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

L. References

(1) Internal Reference No.

95VJ039

(2) Other References

(a) IAE V2500 Engine Manual (E-V2500-1IA); 72-00-40 Removal and 72-00-40 Installation.

(b) IAE V2500 Engine Manual (E-V2500-3IA); 72-00-40 Removal and 72-00-40 Installation.

(c) IAE Overhaul Procedures and Consumable Index.

(d) IAE Standard Practices/Procedures Manual; 70-09-00 Marking of Parts.

(e) Parker Hannifin Service Bulletin No. 5860016-75-97.

(f) Parker Hannifin Service Bulletin No. 5910478-75-98.

(g) V2500 Service Bulletin No. V2500-ENG-75-0021.

M. Other Publications Affected

(1) V2500-A1 Engine Illustrated Parts Catalog (S-V2500-1IA), 75-24-51, to add new parts.

(2) V2500-A5 Engine Illustrated Parts Catalog (S-V2500-2IA), 75-24-51, to add new parts.

(3) V2500-D5 Engine Illustrated Parts Catalog (S-V2500-3IA), 75-24-51, to add new parts.

2. Material Information

A. The kit required consists of the following parts:

None

B. Parts affected by this Bulletin

V2500-A1 Engines

75-24-51

Applicability: For each V2500 engine to incorporate this Bulletin

For V2500-A1 Engines

| FIG ITEM NO. | NEW PART NO. | QTY | PART TITLE | OLD PART NO. | INSTR DISP |
|---|---|---|---|---|---|
| 01100 | 5860016-127 (5W2309) | 1 | Valve, Air HPT/LPT ACC | 5860016-119 (5W2226) | (C)(1D)(S1) |
| 01100 | 5860016-128 (5W2310) | 1 | Valve, Air HPT/LPT ACC | 5860016-120 (5W2227) | (C)(1D) (S1) |
| 01100 | 5860016-129 (5W2311) | 1 | Valve, Air HPT/LPT ACC | 5860016-121 (5W2228) | (C)(1D) (S1) |
| 0110 | 5860016-130 (5W2312) | 1 | Valve, Air HPT/LPT ACC | 5860016-122 (5W2229) | (C)(1D)(S1) |
| 01100 | 5860016-131 (5W2313) | 1 | Valve, Air HPT/LPT ACC | 5860016-123 (5W2233) | (A)(B) (1D)(S1) |
| 01100 | 5860016-132 (5W2314) | 1 | Valve, Air HPT/LPT ACC | 5860016-124 (5W2234) | (C)(1D)(S1) |
| 01100 | 5860016-133 (5W2315) | 1 | Valve, Air HPT/LPT ACC | 5860016-125 (5W2245) | (C)(1D)(S1) |
| 01100 | 5860016-134 (5W2316) | 1 | Valve, Air HPT/LPT ACC | 5860016-126 (5W2246) | (C)(1D)(S1) |
| 01102 | 5952015-101 | 1 | Rod, end | BRES4985 | (A)(B) |
| 01105 | 5953091-101 | 1 | Ball | - | (A) |

For V2527-A5 and V2530-A5 Engines

75-24-51

| FIG ITEM NO. | NEW PART NO. | QTY | PART TITLE | OLD PART NO. | INSTR DISP |
|---|---|---|---|---|---|
| 01100 | 5860016-131 (5W2313) | 1 | Valve, Air HPT/LPT ACC | 5860016-123 (5W2233) | (A)(B) (1D) (S1) |
| 01102 | 5952015-101 | 1 | Rod, end | BRES4985 | (A)(B) |

Printed in Great Britain

| FIG ITEM NO. | NEW PART NO. | QTY | PART TITLE | OLD PART NO. | INSTR DISP |
|---|---|---|---|---|---|
| 01105 | 5953091-101 (5W2311) | 1 | Ball | - | (A) |

For V2525-D5 and V2528-D5 Engines

75-24-51

| FIG ITEM NO. | NEW PART NO. | QTY | PART TITLE | OLD PART NO. | INSTR DISP |
|---|---|---|---|---|---|
| 01100 | 5910478-103 (5W2317) | 1 | Valve, Air HPT/LPT ACC | 5910478-101 (5W2208) | (A)(B) (1D) (S1) |
| 01102 | 5952015-101 | 1 | Rod, end | BRES4985 | (A)(B) |
| 01105 | 5953091-101 (5W2311) | 1 | Ball | - | (A) |

C. Instruction disposition codes:

(A) New part is currently available for sale.

(B) Old part will no longer be available for sale.

(C) New part will not be supplied as the spare.

(1D) Old part can be modified and re-identified.

(S1) Old and new parts are freely interchangeable both physically and functionally.

NOTE: Consult following vendor for price information

Parker Hannifin Corporation
Customer Support Commercial Division
16666 Von Karman Avenue
Irvine, CA 92714 USA
Tel: 714-660-8312
Fax: 714-660-8390

3. Accomplishment Instructions

A. For V2500-A1 Engine:

(1) Prerequisite Instructions

Remove the following HPT/LPC ACC Valve by the approved procedure, Engine Manual, (E-V2500-1IA) 72-00-40, Removal.

| Vendor Part No. | (IAE Part No.) |
|---|---|
| 5860016-119 | (5W2226) |
| 5860016-120 | (5W2227) |
| 5860016-121 | (5W2228) |
| 5860016-122 | (5W2229) |
| 5860016-123 | (5W2233) |
| 5860016-124 | (5W2234) |
| 5860016-125 | (5W2245) |
| 5860016-126 | (5W2246) |

(2) Rework Instructions

Rework and re-identify HPT/LPT ACC Air Valve in accordance with Parker Hannifin SB No. 5860016-75-97.

(3) Fitment Instructions

Install the following new part number by the approved procedure, Engine Manual, (E-V2500-1IA), 72-00-40, Installation.

| Vendor Part No. | (IAE Part No.) |
|---|---|
| 5860016-127 | (5W2309) |
| 5860016-128 | (5W2310) |
| 5860016-129 | (5W2311) |
| 5860016-130 | (5W2312) |
| 5860016-131 | (5W2313) |
| 5860016-132 | (5W2314) |
| 5860016-133 | (5W2315) |
| 5860016-134 | (5W2316) |

NOTE: New HPT/LPT ACC air valves have a holed HPT valve vane and four plugs the same as old ones. The requirement for the plug removal/installation has not been changed from the old ones. Installation position change of plugs and part number re-identification are subject to a service cycle of HP turbine, refer to V2500 Service Bulletin V2500-ENG-75-0021, for details.

(4) Recording Instructions

A record of accomplishment is necessary.

B. For V2527-A5 and V2530-A5 Engines:

(1) Prerequisite Instructions

Remove the following HPT/LPT ACC Air Valve by the approved procedure in Engine Manual, (E-V2500-1IA) 72-00-40, Removal.

Vendor Part No. (IAE Part No.)

5860016-123 (5W2233)

(2) Rework Instructions

Rework and re-identify HPT/LPT ACC Air Valve per Parker Hannifin SB No. 5860016-75-97.

(3) Fitment Instructions

Install the following new part number by the approved procedure in Reference (1), Chapter/Section 72-00-40, Installation.

Vendor Part No. (IAE Part No.)

5860016-131 (5W2313)

(4) Recording Instructions

A record of accomplishment is necessary.

For V2525-D5 and V2528-D5 Engines:

(1) Prerequisite Instructions

Remove the following HPT/LPT ACC Valve by the approved procedure in Engine manual, (E-V2500-3IA) 72-00-40, Removal.

Vendor part No. (IAE Part No.)

5910478-101 (5W2208)

(2) Rework Instructions

Rework and re-identify HPT/LPT ACC Valve per Parker Hannifin SB No. 5910478-75-98.

(3) Fitment Instructions

Install the following new part number by the approved procedure in Reference (2), Chapter/Section 72-00-40, Installation.

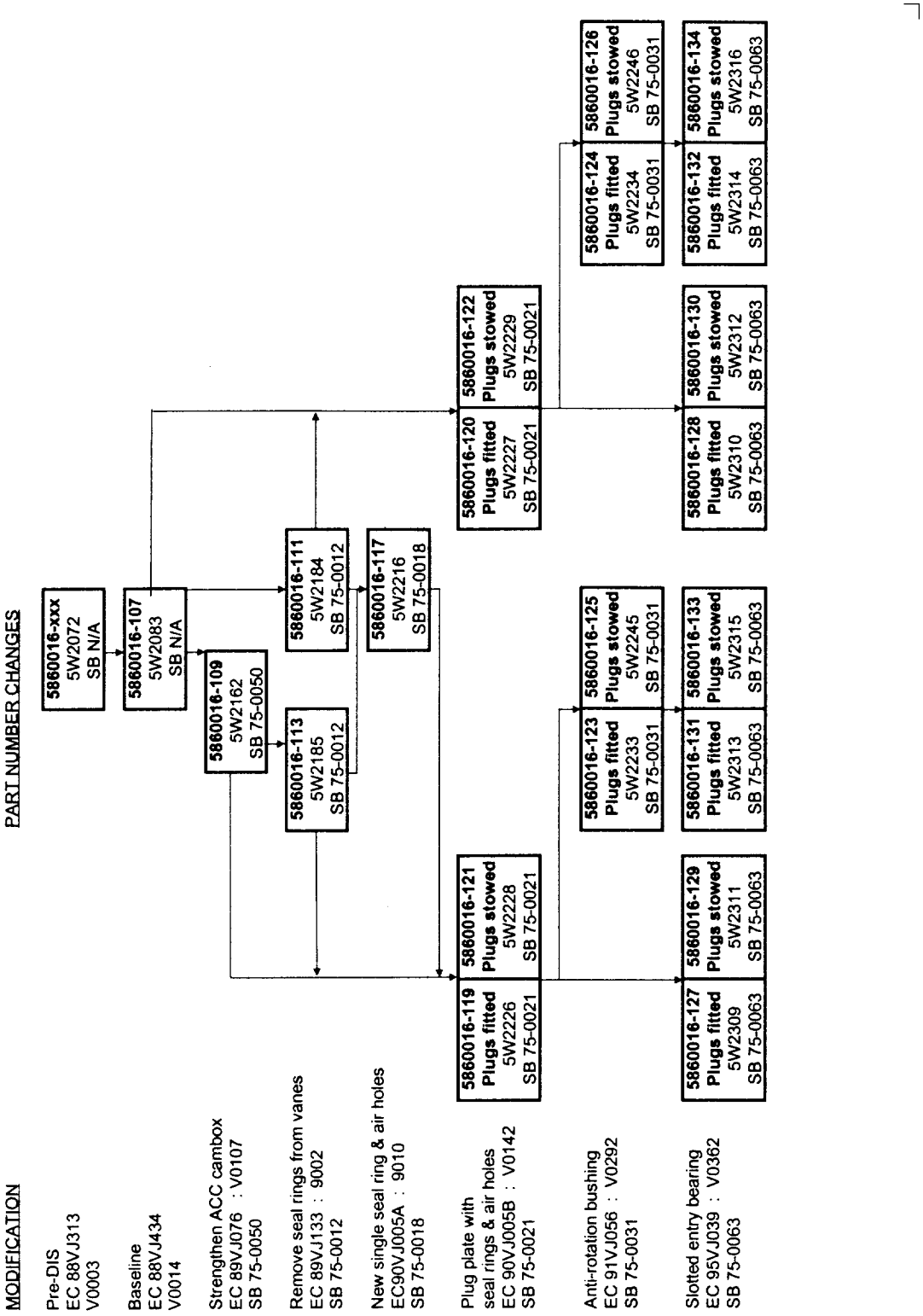
Vendor Part No. (IAE Part No.)

5910478-103 (5W2317)

(4) Recording Instructions

A record of accomplishment is necessary.

R




ded0003954

Family Tree - HPT/LPT ACC Air Valve for V2500-A1 Ref. Catalog Sequence No. 75-24-51

R Fig. 01 Item 100 (Part No. 5860016)

R Fig 1

MODIFICATION

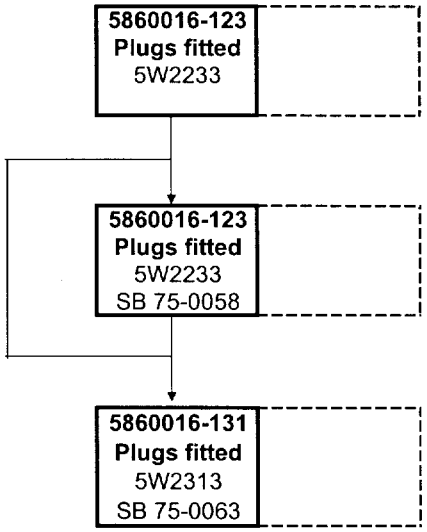
PART NUMBER CHANGES

Baseline

Controlled service use:
Replacement rod end
SB 75-0058

R

Slotted entry bearing
EC 95VJ039 : V0362
SB 75-0063




ded0003955

Family Tree - HPT/LPT ACC Air Valve for V2527-A5 and V2530-A5 Ref. Catalog Sequence
R No. 75-24-51 Fig. 01 Item 100 (Part No. 5860016)
R Fig 2

| | MODIFICATION | PART NUMBER CHANGES |
|---|---|---|
| | Baseline | **5910478-101** **Plugs fitted** 5W2208 |
| R | Slotted entry bearing EC 95VJ039 SB 75-0063 | **5910478-103** **Plugs fitted** 5W2317 SB 75-0063 |

ded0003956

Family Tree - HPT/LPT ACC Air Valve for V2525-D5 and V2528-D5 Ref. Catalog Sequence
R No. 75-24-51 Fig. 01 Item 100 (Part No. 5910478)
R Fig 3

Parker

Customer Support Commercial

# SERVICE BULLETIN

| | | |
|---|---|---|
| AIR | V2500 ENGINE - HPT/LPT ACC VALVE ASSEMBLY | UPGRADE TO 5860016-127 THROUGH -134 BY INCORPORATION OF NEW SLOTTED-ENTRY ROD END ASSEMBLY |

1. Planning Information

A. Effectivity

This service bulletin is applicable to the HPT/LPT ACC valve (hereinafter referred to as the valve), part numbers (P/N) 5860016-119 through -126, installed on the IAE V2500-A1/A5 engine.

B. Reason

This service bulletin is issued to introduce a new rod end assembly, P/N 5952015-101. The new rod end assembly is a slotted-entry design that uses high temperature materials. In addition, it allows the operator to replace the ball, P/N 5953091-101, without removing the rod end body, P/N 5953092-101, if the rod end body is still usable.

C. Description

(1) This service bulletin provides operators with rework and reidentification instructions to modify the valve with the new rod end assembly, P/N 5952015-101.

(2) This service bulletin also provides operators with instructions to return the valve to Parker Hannifin Corporation for implementation of this service bulletin.

(3) This service bulletin also provides instructions to those operators who have incorporated this service bulletin and want to procure the rod end body, P/N 5953092-101, or ball, P/N 5953091-101.

D. Compliance - Code 6

This service bulletin is classified as a Life Extension element. The compliance recommendation, therefore, falls into the Operator's Decision category, as defined by the ATA Implementation Guideline Manual (IGM), July 1994. Parker Hannifin Corporation recommends that this service bulletin be accomplished when the valve is disassembled sufficiently to afford access to the affected part.

E. Approval

This service bulletin has been reviewed by the Federal Aviation Administration (FAA), and the modifications herein comply with the applicable Federal Aviation Regulations (FAR) and are approved for installation in the IAE V2500 engines.

F. Manpower

(1) Manpower estimates listed in Table 1 are based on work performed after the valve has been removed from the engine and do not include the time required to reinstall the valve on the engine.

(2) The time required is based on one individual performing all tasks listed in Table 1.

(3) Estimates shown are for each valve.

Man-Hours
Table 1

| TASK | MAN-HOURS |
|---|---|
| 1. Remove the rod end, P/N BRES-4985. | 0.2 |
| 2. Assemble the new rod end assembly, P/N 5952015-101. | 0.3 |
| 3. Perform the required tests according to CMM, ATA 75-24-51. | 1.0 |
| 4. Reidentification of valve. | 0.3 |
| **TOTAL** | 1.8 |

G. Weight and Balance

None.

H. Electrical Load Data

Not changed.

I. Software Accomplishment Summary

Not applicable.

J. References

Parker Hannifin Corporation Component Maintenance Manual (CMM), ATA 75-24-51.

IAE Service Bulletin V2500-ENG-75-0063.

K. Other Publications Affected

This service bulletin will be incorporated into the Parker Hannifin Corporation CMM, ATA 75-24-51, at the next scheduled revision of the manual.

L. Family Tree

Table 2 shows the revised configuration numbers and IAE part numbers for valves upgraded with the improved rod end assembly.

Family Tree
Table 2

| OLD CONFIGURATION NO. | OLD IAE PART NO. | NEW CONFIGURATION NO. | NEW IAE PART NO. |
|---|---|---|---|
| 5860016-119 | 5W2226 | 5860016-127 | 5W2309 |
| 5860016-120 | 5W2227 | 5860016-128 | 5W2310 |
| 5860016-121 | 5W2228 | 5860016-129 | 5W2311 |
| 5860016-122 | 5W2229 | 5860016-130 | 5W2312 |
| 5860016-123 | 5W2233 | 5860016-131 | 5W2313 |
| 5860016-124 | 5W2234 | 5860016-132 | 5W2314 |
| 5860016-125 | 5W2235 | 5860016-133 | 5W2315 |
| 5860016-126 | 5W2236 | 5860016-134 | 5W2316 |

2. Material Information

A. Material - Cost and Availability

(1) Operators who want to implement this service bulletin should order the rod end assembly, P/N 5952015-101, and nameplate, P/N 5883677-10X (see Table 3). The rod end assembly is available at a cost of $350 each, and the nameplate at a cost of $50 each. Parts will be delivered within 30 days after receipt of order. Operators may order parts from:

| | | |
|---|---|---|
| PARKER HANNIFIN CORPORATION | PHONE: | (714) 833-3000 |
| Customer Support Commercial | FAX: | (714) 660-8390 |
| 16666 Von Karman Avenue | TELEX: | 678304 |
| Irvine, California 92606 | SITA: | JNPPHCR |
| USA | REPAIR STATION NO.: | AU4R063M |

(2) Operators who want this service bulletin accomplished by Parker Hannifin Corporation may forward the valve to the address referenced in paragraph 2.A.(1). The cost for accomplishment of this service bulletin is $850. Turnaround time is 30 days after receipt of the valve.

(3) Operators who have incorporated this service bulletin and want to procure the rod end body, P/N 5953092-101, or ball, P/N 5953091-101, may order the parts from the address referenced in paragraph 2.A.(1).

(4) The change provisions referenced in this service bulletin will be valid for 24 months from the issue date of this service bulletin. After that date, please refer to the Parker Airline Spare Parts Catalog or request a quotation from Parker Hannifin Corporation, Customer Support Commercial.

B. Material Necessary for Each Component

Table 3 shows the superseding part numbers and the disposition of hardware being replaced.

Material Information
Table 3

| New P/N | | | Old P/N | | | Disposition |
|---|---|---|---|---|---|---|
| Dash Number | Nameplate P/N | Rod End Assy P/N | Dash Number | Nameplate P/N | Rod End Assy P/N | |
| -127 | 5883677-101 | 5952015-101 | -119 | 5883677-101 | BRES-4985 | Scrap |
| -128 | 5883677-102 | 5952015-101 | -120 | 5883677-102 | BRES-4985 | Scrap |
| -129 | 5883677-101 | 5952015-101 | -121 | 5883677-101 | BRES-4985 | Scrap |
| -130 | 5883677-102 | 5952015-101 | -122 | 5883677-102 | BRES-4985 | Scrap |
| -131 | 5883677-101 | 5952015-101 | -123 | 5883677-101 | BRES-4985 | Scrap |
| -132 | 5883677-102 | 5952015-101 | -124 | 5883677-102 | BRES-4985 | Scrap |
| -133 | 5883677-101 | 5952015-101 | -125 | 5883677-101 | BRES-4985 | Scrap |
| -134 | 5883677-102 | 5952015-101 | -126 | 5883677-102 | BRES-4985 | Scrap |

C. Tooling

An assembly aid, F80-0-50623, is used to adjust the HPT and LPT vanes. An adjustment aid, F80-0-50625, is used to adjust the rod end assembly. Tool drawings are available on a no charge basis from the address listed in paragraph 2.A.(1).

3. Accomplishment Instructions

NOTE: Item numbers refer to IPL Figure 1 in CMM, ATA 75-24-51.

A. Disassemble the valve to remove the rod end assembly (5) according to CMM, ATA 75-24-51, DISASSEMBLY section, and per the following instructions.

(1) Cut and remove the lockwire from the jam nut (10).

(2) Use a 7/16-inch (11 mm) wrench on the flat of the actuator rod (60) to prevent the rod from turning.

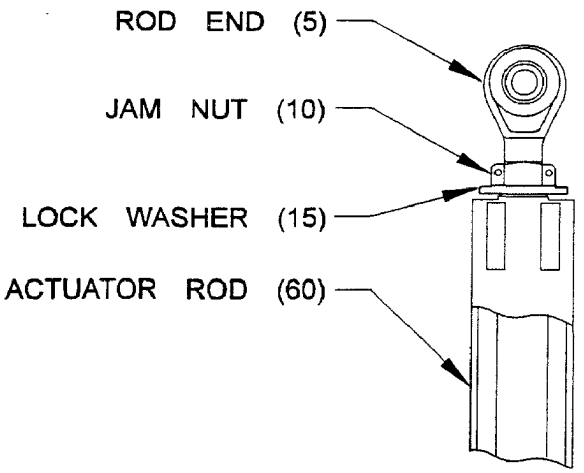
(3) Remove the rod end (5), jam nut (10), and lock washer (15) from the actuator rod (60).

(4) Remove the nameplate (300) from the HPT body assembly (265).

B. Assemble the valve with the new rod end assembly, P/N 5952015-101, according to CMM, ATA 75-24-51, ASSEMBLY section, and per the following instructions.

(1) Install lock washer (15), jam nut (10), and rod end (5) into actuator rod (60). (See Figure 1)

(2) Install the assembly aid, F80-0-50623, to the inlet side of the HPT body assembly (265).




NOTE 1: ITEM NUMBERS REFER TO IPL 1
NOTE 2: VALVE SHOWN RETRACTED

Figure 1

(3) Adjust the HPT vane (110) and LPT vane (170) to an angle of 30°36', and clamp the vanes in position using thumbscrews.

(4) Install the adjustment aid, F80-0-50625, onto the clevis end of the tube and fitting (20), using the pins supplied with the adjustment aid. (See Figure 2)

(5) Adjust the rod end (5) to 3.366 to 3.388 inch (85,496 to 86,055 mm).

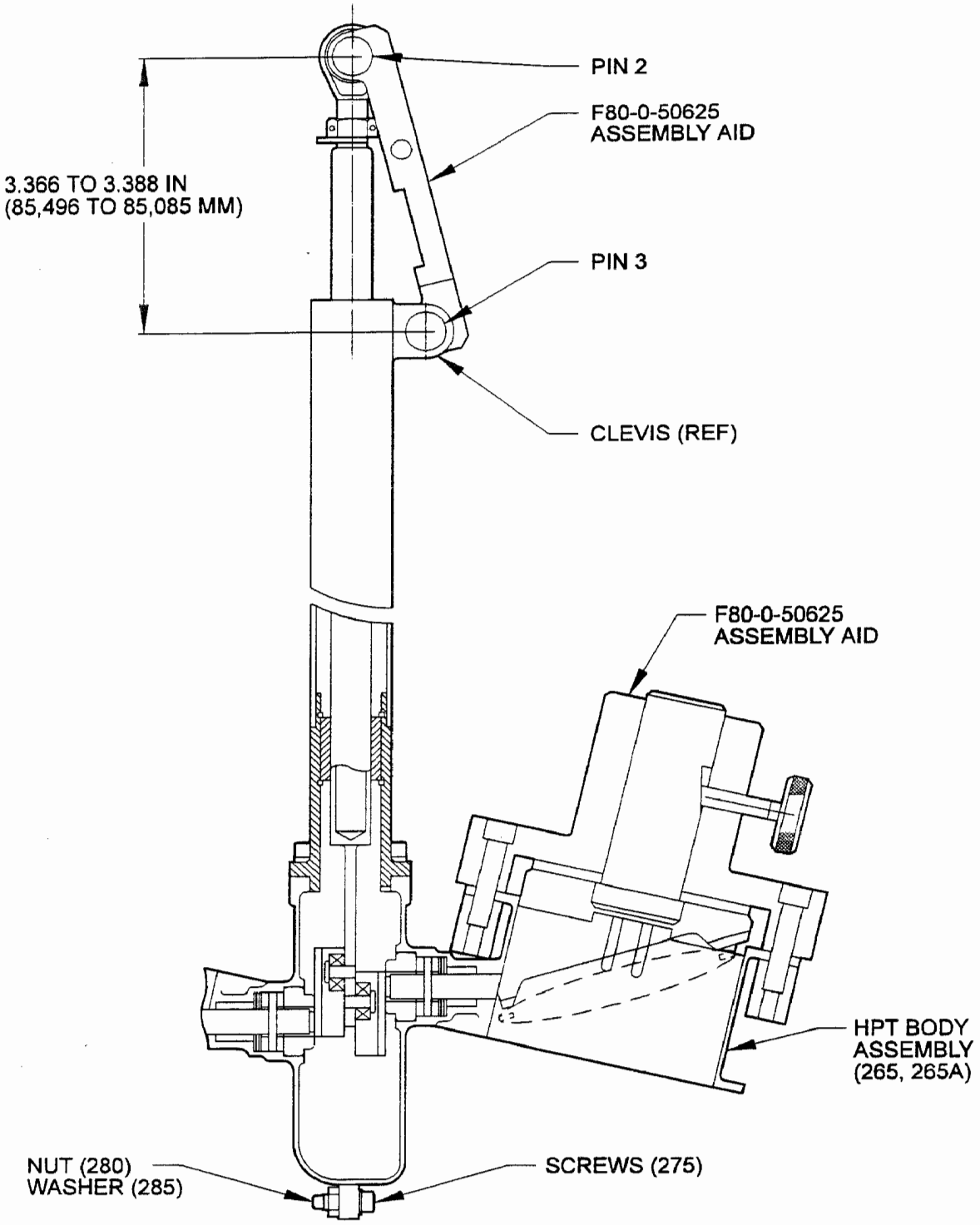
(6) Make sure that the tang of the lock washer (15) is in the groove of the actuator rod assembly (60).

(7) Tighten the jam nut (10) to a torque of 60 to 70 in-lb (6,78 to 7,91 N·m).

(8) Lockwire the jam nut to the lock washer using lockwire, MS20995N20.

(9) Remove the assembly aid, F80-0-50623, and the adjustment aid, F80-0-50625.

# SERVICE BULLETIN




NOTE 1: ITEM NUMBERS REFER TO IPL 1
NOTE 2: CLEVIS SHOWN ROTATED 90°

Figure 2

C. Perform the functional testing of the valve per CMM, ATA 75-24-51, TESTING AND FAULT ISOLATION section.

D. Use the new nameplate, P/N 5883677-10X (see Table 3), and reidentify the valve by impression stamping the information in the specific areas:

(a) For the 5860016-119 (IAE 5W2226) valve:

P/N 5860016-127 REV _ _ _
P/L 5891016-___ REV _ _ _
SER NO._ _ _ _
ACD NO 424JM
BLD STD __
IAE P/N 5W2309

(b) For the 5860016-120 (IAE 5W2227) valve:

P/N 5860016-128 REV _ _ _
P/L 5861016-___ REV _ _ _
SER NO._ _ _ _
ACD NO. 424JM
BLD STD __
IAE P/N 5W2310

(c) For the 5860016-121 (IAE 5W2228) valve:

P/N 5860016-129 REV _ _ _
P/L 5891016-___ REV _ _ _
SER NO._ _ _ _
ACD NO. 424JM
BLD STD __
IAE P/N 5W2311

(d) For the 5860016-122 (IAE 5W2234) valve:

P/N 5860016-130 REV _ _ _
P/L 5861016-___ REV _ _ _
SER NO._ _ _ _
ACD NO. 424JM
BLD STD __
IAE P/N 5W2312

(e) For the 5860016-123 (IAE 5W2233) valve:

P/N 5860016-131 REV ___
P/L 5891016-___ REV ___
SER NO._____
ACD NO. 424JM
BLD STD __
IAE P/N 5W2313

(f) For the 5860016-124 (IAE 5W2234) valve:

P/N 5860016-132 REV ___
P/L 5861016-___ REV ___
SER NO._____
ACD NO. 424JM
BLD STD __
IAE P/N 5W2314

(g) For the 5860016-125 (IAE 5W2235) valve:

P/N 5860016-133 REV ___
P/L 5861016-___ REV ___
SER NO._____
ACD NO. 424JM
BLD STD __
IAE P/N 5W2315

(h) For the 5860016-126 (IAE 5W2236) valve:

P/N 5860016-134 REV ___
P/L 5861016-___ REV ___
SER NO._____
ACD NO. 424JM
BLD STD __
IAE P/N 5W2316

E. Install the nameplate, P/N 5883677-10X (see Table 3), around the HPT body assembly (265). Tack weld the end of the strap on the nameplate.

Customer Support Commercial

# SERVICE BULLETIN

| | | |
|---|---|---|
| AIR | V2500 ENGINE - HPT/LPT ACC VALVE ASSEMBLY | UPGRADE TO 5910478-103 BY INCORPORATION OF NEW SLOTTED-ENTRY ROD END ASSEMBLY |

1. Planning Information

A. Effectivity

This service bulletin is applicable to the HPT/LPT ACC valve (hereinafter referred to as the valve), part number (P/N) 5910478-101, installed on the IAE V2500-D5 engine.

B. Reason

This service bulletin is issued to introduce a new rod end assembly, P/N 5952015-101. The new rod end assembly is a slotted-entry design that uses high temperature materials. In addition, it allows the operator to replace the ball, P/N 5953091-101, without removing the rod end body, P/N 5953092-101, if the rod end body is still usable.

C. Description

(1) This service bulletin provides operators with rework and reidentification instructions to modify the valve with the new rod end assembly, P/N 5952015-101.

(2) This service bulletin also provides operators with instructions to return the valve to Parker Hannifin Corporation for implementation of this service bulletin.

(3) This service bulletin also provides instructions to those operators who have incorporated this service bulletin and want to procure the rod end body, P/N 5953092-101, or ball, P/N 5953091-101.

D. Compliance - Code 6

This service bulletin is classified as a Life Extension element. The compliance recommendation, therefore, falls into the Operator's Decision category, as defined by the ATA Implementation Guideline Manual (IGM), July 1994. Parker Hannifin Corporation recommends that this service bulletin be accomplished when the valve is disassembled sufficiently to afford access to the affected part.

E. Approval

This service bulletin has been reviewed by the Federal Aviation Administration (FAA), and the modifications herein comply with the applicable Federal Aviation Regulations (FAR) and are approved for installation in the IAE V2500 engines.

F. Manpower

(1) Manpower estimates listed in Table 1 are based on work performed after the valve has been removed from the engine and do not include the time required to reinstall the valve on the engine.

(2) The time required is based on one individual performing all tasks listed in Table 1.

(3) Estimates shown are for each valve.

Man-Hours
Table 1

| TASK | MAN-HOURS |
|---|---|
| 1. Remove the rod end, P/N BRES-4985. | 0.2 |
| 2. Assemble the new rod end assembly, P/N 5952015-101. | 0.3 |
| 3. Perform the required tests according to CMM, ATA 75-24-71. | 1.0 |
| 4. Reidentification of valve. | 0.3 |
| **TOTAL** | 1.8 |

G. Weight and Balance

None.

H. Electrical Load Data

Not changed.

I. Software Accomplishment Summary

Not applicable.

J. References

Parker Hannifin Corporation Component Maintenance Manual (CMM), ATA 75-24-71.

IAE Service Bulletin V2500-ENG-75-0063.

K. Other Publications Affected

This service bulletin will be incorporated into the Parker Hannifin Corporation CMM, ATA 75-24-71, at the next scheduled revision of the manual.

L. Family Tree

Table 2 shows the revised configuration numbers and IAE part numbers for valves upgraded with the improved rod end assembly.

Family Tree
Table 2

| OLD CONFIGURATION NO. | OLD IAE PART NO. | NEW CONFIGURATION NO. | NEW IAE PART NO. |
|---|---|---|---|
| 5910478-101 | 5W2208 | 5910478-103 | 5W2317 |

2. Material Information

A. Material - Cost and Availability

(1) Operators who want to implement this service bulletin should order rod end assembly, P/N 5952015-101, and nameplate, P/N 5913054-101. The rod end assembly is available at a cost of $350 each, and the nameplate at a cost of $114 each. Parts will be delivered within 30 days after receipt of order. Operators may order parts from:

| | | |
|---|---|---|
| PARKER HANNIFIN CORPORATION | PHONE: | (714) 833-3000 |
| Customer Support Commercial | FAX: | (714) 660-8390 |
| 16666 Von Karman Avenue | TELEX: | 678304 |
| Irvine, California 92606 | SITA: | JNPPHCR |
| USA | REPAIR STATION NO.: | AU4R063M |

(2) Operators who want this service bulletin accomplished by Parker Hannifin Corporation may forward the valve to the address referenced in paragraph 2.A.(1). The cost for accomplishment of this service bulletin is $900. Turnaround time is 30 days after receipt of the valve.

(3) Operators who have incorporated this service bulletin and want to procure the rod end body, P/N 5953092-101, or ball, P/N 5953091-101, may order the parts from the address referenced in paragraph 2.A.(1).

(4) The change provisions referenced in this service bulletin will be valid for 24 months from the issue date of this service bulletin. After that date, please refer to the Parker Airline Spare Parts Catalog or request a quotation from Parker Hannifin Corporation, Customer Support Commercial.

B. Material Necessary for Each Component

Table 3 shows the superseding part numbers and the disposition of hardware being replaced.

Material Information
Table 3

| New P/N | | | Old P/N | | | Disposition |
|---|---|---|---|---|---|---|
| Dash Number | Nameplate P/N | Rod End Assy P/N | Dash Number | Nameplate P/N | Rod End Assy P/N | |
| -103 | 5913054-101 | 5952015-101 | -101 | SAME | BRES-4985 | Scrap |

C. Tooling

An assembly aid, F80-0-50623, is used to adjust the HPT and LPT vanes. An adjustment aid, F80-0-50625, is used to adjust the rod end assembly. Tool drawings are available on a no charge basis from the address listed in paragraph 2.A.(1).

3. Accomplishment Instructions

NOTE: Item numbers refer to IPL Figure 1 in CMM, ATA 75-24-71.

A. Disassemble the valve to remove the rod end assembly (5) according to CMM, ATA 75-24-71, DISASSEMBLY section, and per the following instructions.

(1) Cut and remove the lockwire from the jam nut (10).

(2) Use a 7/16-inch (11 mm) wrench on the flat of the actuator rod assembly (55) to prevent the rod from turning.

(3) Remove the rod end (5), jam nut (10), and lock washer (15) from the actuator rod (55).

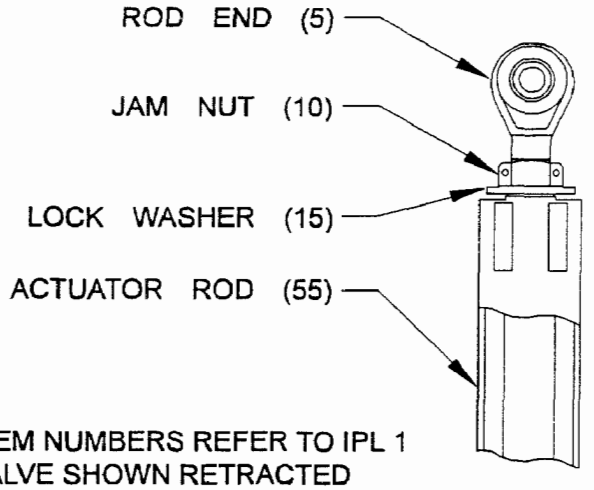
(4) Remove the nameplate (315) from the HPT body assembly (295).

B. Assemble the valve with the new rod end assembly, P/N 5952015-101, according to CMM, ATA 75-24-71, ASSEMBLY section, and per the following instructions.

(1) Install the lock washer (15), jam nut (10), and rod end assembly (5) into the actuator rod assembly (55). (See Figure 1)

(2) Install the assembly aid, F80-0-50623, onto the inlet side of the HPT body assembly (295).

(3) Adjust the HPT vane (115) and LPT vane (215) to an angle of 30°6', and clamp the vanes in position using thumbscrews.




NOTE 1: ITEM NUMBERS REFER TO IPL 1
NOTE 2: VALVE SHOWN RETRACTED

Figure 1

(4) Install the adjustment aid, F80-0-50625, onto the clevis end of the tube and fitting assembly (20), using the pins supplied with the adjustment aid. (See Figure 2)

(5) Adjust the rod end (5) to 3.366 to 3.388 inch (85,496 to 86,055 mm).

(6) Make sure that the tang of the lock washer (15) is in the groove of the actuator rod assembly (55).

(7) Tighten the jam nut (10) to a torque of 60 to 70 in-lb (6,78 to 7,91 N·m).

(8) Lockwire the jam nut to the lock washer using lockwire, MS20995N20, per AS567, using a double-twist method.

(9) Remove the assembly aid, F80-0-50623, and the adjustment aid, F80-0-50625.

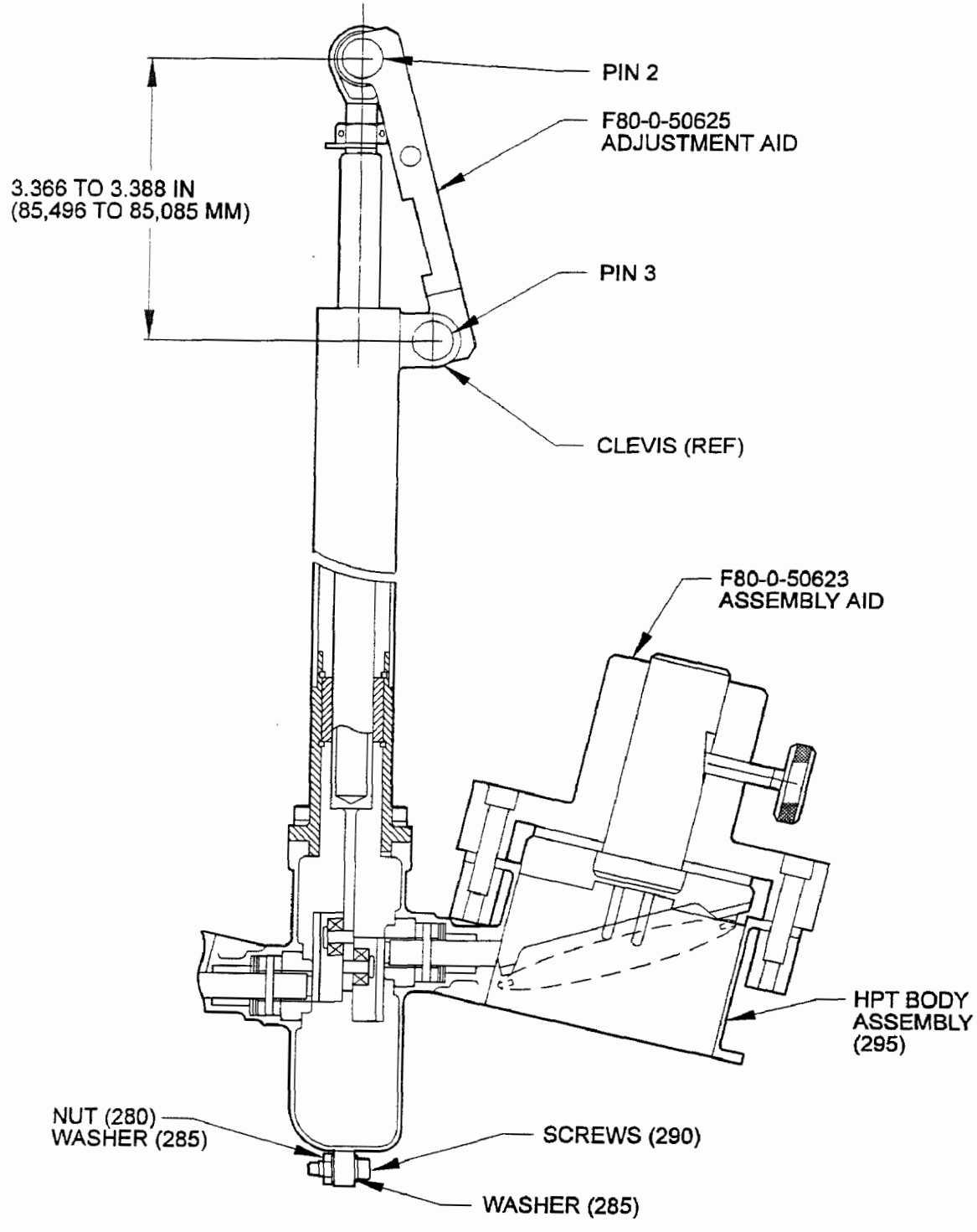
C. Perform the functional testing of the valve per CMM, ATA 75-24-71, TESTING AND FAULT ISOLATION section.

D. Use a new nameplate, P/N 5913054-101, and reidentify the valve from 5910478-101 to 5910478-103 by impression stamping the information in the specific areas:

P/N 5910478-103 REV ____
P/L 5911478-103 REV ____
SER NO _____
ACD NO 455JM
BLD STD 2
IAE P/N 5W2317

E. Install the nameplate, P/N 5913054-101, around the HPT body assembly (295). Tack weld the end of the strap on the nameplate.

# SERVICE BULLETIN




NOTE 1: ITEM NUMBERS REFER TO IPL 1
NOTE 2: CLEVIS SHOWN ROTATED 90°

Figure 2