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EAST HARTFORD, CT 06108, USA.  
TELEPHONE:- 860 565 5515

DATE: Oct.21/11

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

This document transmits the Revision 3 of Service Bulletin V2500-ENG-75-0051.

### Document History

#### Service Bulletin Revision Status

Initial Issue	Jul.10/96.
Revision 1	Feb.21/00.
Revision 2	Jan. 4/06.

### Service Bulletin Revision 3

Remove	Incorporate	Reason for change
All pages of the Service Bulletin.	Pages 1 to 15 of the Service Bulletin.	To revise the Material Information and the Rework Instructions. To update the style and format.
All pages of the Supplement.	Page 1 of the Supplement.	No change.

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Transmittal - Page 1 of 1

**CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED**  
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AIR – ACTIVE CLEARANCE CONTROL (ACC) – REVISED CONNECTOR TUBE ASSEMBLY WITH NEW  
PERISEAL HOUSING CLAMPS

1. Planning Information

A. Effectivity

- R (1) Airbus A319
- R (a) V2522-A5, V2524-A5, V2527M-A5 Engines prior to Serial No. V10154  
R except Serial No. V10152 (A5 Standard and A5 SelectOne™ Retrofit  
R Standard).
- R (2) Airbus A320
- R (a) V2500-A1 Engines prior to Serial No. V0362.
- R (b) V2527-A5, V2527E-A5 Engines prior to Serial No. V10154 except Serial  
R No. V10152 (A5 Standard and A5 SelectOne™ Retrofit Standard).
- R (3) Airbus A321
- R (a) V2530-A5, V2533-A5 Engines prior to Serial No. V10154 except Serial  
R No. V10152 (A5 Standard and A5 SelectOne™ Retrofit Standard).
- R (4) Boeing MD-90
- R (a) V2525-D5, V2528-D5 Engines prior to Serial No. V20034.

B. Concurrent Requirements

None.

C. Reason

- R (1) Condition
- Many clamps on the LPT-ACC connector tube were found broken during maintenance inspections in service.
- R (2) Background
- The existing LPT ACC connector tubes features three clamps made of sheet metal which hold the periseal housing in place on the air supply duct. Vibration on the system caused the fractures of the clamps. Replacement of the clamps usually required removal of the connector tube because they are attached to the tubes with rivets.

(3) Substantiation

Engineering assessment has concluded that the change introduced by this Service Bulletin is beneficial.

(4) Objective

To introduce revised LP Turbine Active Clearance Control (ACC) connector tubes which give improved durability for the existing tubes and which are easier to manufacture.

After incorporation of this Service Bulletin it is no longer necessary to attach the periseal housing with safety wire.

(5) Effects of Bulletin on:

(a) Operation

None.

(b) Disassembly/Assembly

Affected.

(c) Cleaning

Affected.

(d) Inspection/Check

Affected.

(e) Repair Schemes

Affected.

(f) Testing

Not affected.

(6) Supplemental Information

None.

D. Description

(1) The changes introduced are:

- (a) The new LPT ACC connector tubes have a precision casting inlet duct featuring two lugs which hold a more robust clamp seal.

- (b) Existing tubes can be reworked by removal of the old clamps and installation of two brackets which allow fitment of the two new robust clamps.

E. Compliance

Category Code 6

Accomplish when the subassembly (i.e. Modules, Accessories, Components, Build Groups) is disassembled sufficiently to afford access to the affected spare parts.

F. Approval

The part number changes and/or part modification described in Section 2 and 3 of this Service Bulletin has been shown to comply with the applicable Federal Aviation Regulations and is FAA-APPROVED for the Engine Models listed.

G. Manpower

(1) In Service

- (a) To remove and install the ACC Connector Tube

1,0 hours

- (b) To remove the existing clips

0,1 hours

- (c) Blank the existing holes

0,1 hours

- (d) Drill and prepare for riveting

0,2 hours

- (e) Install the new mounting flange

0,1 hours

- (f) Re-identify the ACC connector tube with new P/N

0,1 hours

- (g) Install the new bracket

0,1 hours

TOTAL - 1,7 hours

(2) At Overhaul

(a) Procedure same as in service

TOTAL - 1,7 hours

R H. Material Price and Availability

Modification kit not required.

For prices and availability of future spares see 2. Material Information.

I. Tooling Price and Availability

Not applicable.

J. Industry Support Information

Not applicable.

K. Weight and Balance

(1) Weight Change

None.

(2) Moment Arm

R 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

R (1) Engineering Change 92VM036, 92VM036A, 92VM036B, 92VM036-01, 92VM036-02, 94VM025.

(2) V2500 Engine Illustrated Parts Catalogues (V2500-A1, V2500-A5 and V2500-D5).

(3) V2500 Standard Practices Manual.

- (4) ATA Locator - 75-24-49.

0. Other Publications Affected

- (1) V2500 Engine Illustrated Parts Catalogue, Chapter/Section 75-24-49 (for V2500-A1, V2500-A5 and V2500-D5) to add the new part numbers.
- (2) V2500 Component Maintenance Manual, Chapter/Section 75-24-49, Cleaning to add the new part numbers.
- (3) V2500-D5 Component Maintenance Manual, Chapter/Section 75-24-49, Cleaning to add the new part numbers.
- (4) V2500 Component Maintenance Manual, Chapter/Section 75-24-49, Inspection/Check to add the new part numbers.
- (5) V2500-D5 Component Maintenance Manual, Chapter/Section 75-24-49, Inspection/ Check to add the new part numbers.
- (6) V2500 Component Maintenance Manual, Chapter/Section 75-24-49, Repair to add the new part numbers.
- (7) V2500-D5 Component Maintenance Manual, Chapter/Section 75-24-49, Repair to add the new part numbers.
- (8) V2500 Engine Manual, Chapter/Section 75-24-49, to describe removal/installation procedures of the new connector tubes.
- (9) V2500-D5 Engine Manual, Chapter/Section 75-24-49, to describe removal/installation procedures of the new connector tubes.
- (10) V2500 Power plant Illustrated Parts Catalogue, Chapter 75-24-49 to add the new part numbers.
- (11) A320/321 Aircraft Maintenance Manual, Chapter 75-24-49, to show the removal/installation procedures of the new connector tubes.
- (12) MD 90 Aircraft Maintenance Manual, Chapter 75-24-49, to show the removal/installation procedures of the new connector tubes.

P. Interchangeability of Parts

Affected - Refer to Section 2 Material Information.

## 2. Material Information

### A. The kit required consists of the following parts:

Not applicable.

### B. New production parts:

R See supplement to this Service Bulletin.

### C. Parts affected by this Bulletin:

Applicability: For each A1 Engine affected by this Service Bulletin:

75-24-49

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01-010	3A2181	1	Connector, A/O Tube	-	3A1549	(A)(B)(S1)
01-010	3A2316	1	Connector, A/O Tube	-	3A1549	(E)(B) (S1)(D1)
01-010	3A2335	1	Connector, A/O Tube	-	3A0494	(E)(B) (S1)(D1)
01-370	-	1	Clamp	-	3A0558	(B)or(D)
01-380	-	1	Clamp	-	3A0559	(B)or(D)
01-390	-	1	Clamp	-	3A0560	(B)or(D)
01-400	-	6	Rivet, blind	-	ST1086-01	(C)
01-400	-	Ref	Rivet, solid univ. hd	-	AN123168	(C)
01-401	-	6	Rivet, solid univ. hd	-	AN123184	(C)
01-401	-	Ref	Rivet, blind	-	NAS1398C4-1	(C)
01-460	3A2317	1	Bracket, angle	-	-	(A)(S2)
01-465	3A2318	1	Bracket, angle	-	-	(A)(S2)
R 01-470	4W0043	2	Nut, A/O self locking	-	-	(A)(S2)
01-475	ST1086-02	6	Rivet, blind csk hd	-	-	(A)(S2)
R 01-477	ST1086-01	6	Rivet, blind	-	-	(A)
R 01-477	AN123184	6	Rivet, solid univ. hd	-	ST1086-01	(A)
R 01-477	NAS1398C4-1	Ref	Rivet, blind	-	-	(A)
R 01-477	AN123168	Ref	Rivet, solid univ. hd	-	-	(A)
01-480	3A2313	2	Clamp, A/O periseal	-	-	(A)
01-490	4W0104	2	Bolt	-	-	(A)

Applicability: For each A5 Engine affected by this Service Bulletin:

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01-010	3A2181	1	Connector, A/O Tube	-	3A1549	(A)(B)(S1)



FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01-010	3A2316	1	Connector, A/O Tube	—	3A1549	(E)(B) (S1)(D1)
01-370	—	1	Clamp	—	3A0558	(B)or(D)
01-380	—	1	Clamp	—	3A0559	(B)or(D)
01-390	—	1	Clamp	—	3A0560	(B)or(D)
01-400	—	6	Rivet, blind	—	ST1086-01	(C)
01-400	—	Ref	Rivet, solid univ. hd	—	AN123168	(C)
01-401	—	6	Rivet, solid univ. hd	—	AN123184	(C)
01-401	—	Ref	Rivet, blind	—	NAS1398C4-1	(C)
01-460	3A2317	1	Bracket, angle	—	—	(A)(S2)
01-465	3A2318	1	Bracket, angle	—	—	(A)(S2)
R 01-470	4W0043	2	Nut, A/O self locking	—	—	(A)(S2)
01-475	ST1086-02	6	Rivet, blind csk hd	—	—	(A)(S2)
R 01-477	ST1086-01	6	Rivet, blind	—	—	(A)
R 01-477	AN123184	6	Rivet, solid univ. hd	—	ST1086-01	(A)
R 01-477	NAS1398C4-1	Ref	Rivet, blind	—	—	(A)
R 01-477	AN123168	Ref	Rivet, solid univ. hd	—	—	(A)
01-480	3A2313	2	Clamp, A/O periseal	—	—	(A)
01-490	4W0104	2	Bolt	—	—	(A)

Applicability: For each D5 Engine affected by this Service Bulletin:

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01-010	3A2198	1	Connector, A/O Tube	—	3A2003	(A)(B)(S1)
01-010	3A2319	1	Connector, A/O Tube	—	3A2003	(E)(B) (S1)(D1)
01-370	—	1	Clamp	—	3A0558	(B)or(D)
01-380	—	1	Clamp	—	3A0559	(B)or(D)
01-400	—	6	Rivet, blind	—	ST1086-01	(C)
01-400	—	Ref	Rivet, solid univ. hd	—	AN123168	(C)
01-401	—	6	Rivet, solid univ. hd	—	AN123184	(C)
01-401	—	Ref	Rivet, blind	—	NAS1398C4-1	(C)
01-460	3A2317	1	Bracket, angle	—	—	(A)(S2)
01-465	3A2318	1	Bracket, angle	—	—	(A)(S2)
R 01-470	4W0043	2	Nut, A/O self locking	—	—	(A)(S2)
01-475	ST1086-02	6	Rivet, blind csk hd	—	—	(A)(S2)
R 01-477	ST1086-01	6	Rivet, blind	—	—	(A)
R 01-477	AN123168	Ref	Rivet, solid univ. hd	—	—	(A)
R 01-477	AN123184	6	Rivet, solid univ. hd	—	ST1086-01	(A)
R 01-477	NAS1398C4-1	Ref	Rivet, blind	—	—	(A)
01-480	3A2313	2	Clamp, A/O periseal	—	—	(A)
01-490	4W0104	2	Bolt	—	—	(A)



**D. Instructions disposition codes:**

- (A) New part is available for sale.
- (B) Old part is no longer available for sale.
- (S1) Old and new parts are fully interchangeable.
- (D1) Old part can be reworked to new part number.
- (C) Old part will continue to be available for other locations.
- (S2) Parts coded (S2) must be used as a set.
- (D) Old parts will continue to be available until supply is depleted.
- (E) New part number can be obtained by rework only.

### 3. Accomplishment Instructions

#### A. Rework Instructions

- (1) Install connector tube on a suitable work bench.
- (2) Carefully grind off the heads of the rivets . Refer to Fig 1, sheet 1.
- (3) Remove the clamps and the six rivets. Refer to Fig 1, sheet 1.
- R (4) Examine the local surface for cracks. Refer to SPP TASK 70-23-05-230-501.  
R No cracks are permitted. Repair the cracks. Refer to the Engine Manual  
R TASK 75-24-49-300-007 (75-24-49, REPAIR 007; Page 901).
- R (5) Clean the surface around the rivet holes. Refer to SPP TASK  
R 70-11-06-300-503 or SPP TASK 70-11-26-300-503
- R (6) Measure and examine the rivet hole dimension. If hole diameter is smaller  
R than 0.103 in. (2,616 mm) continue with step (a). If the hole diameter is  
R more than above, perform step (7).
- R (a) Blank off the six existing rivet holes with blind rivets. Use  
R ST1086-01 or AN123168 replacement rivet. (Fig 1, sheet 2). Refer to  
R SPP TASK 70-39-03-390-501. Rivet holes must be tight.
- R (7) Drill initial rivet holes to oversize diameter 0.1275 to 0.1315 in. (3,24  
R to 3,34 mm)
- R (a) Blank off the six existing rivet holes with blind rivets. Use AN123184  
R or NAS1398C4-1 replacement rivet. (Fig 1, sheet 2). Refer to SPP TASK  
R 70-39-03-390-501. Rivet holes must be tight.
- R CAUTION: KEEP THE MATERIAL REMOVAL TO THE MINIMUM TO AVOID DAMAGE TO THE  
R CONNECTOR TUBE.
- (8) Prepare the connector tube surface for installation of the angle brackets  
(3A2317 and 3A2318).
  - (a) Remove the weld build up at the weld seams. Use a hand hold grinder or  
a suitable file.
  - R (b) Do a crack test of dressed areas. Refer to SPP TASK 70-23-05-230-501.  
R Cracks are not permitted except linear indications up to 0.008 in.  
(0,2 mm) in weld seams.
- R (9) Install angle brackets (Fig 1, sheet 3) (3A2317 and 3A2318). Use six blind  
R rivets (Fig 1, sheet 3) (ST1086-02) to attach the angle brackets. Refer to  
R SPP TASK 70-39-03-390-501.
- R (10) Visually examine the quality of the machine riveting and safety of the  
R joints. For acceptance standards refer to SPP TASK 70-39-03-390-501.

(11) Install clip nuts (4W0043) on to the angle brackets. Refer to Fig 1, sheet 4.

R (12) Re-identify the LPT ACC connector tubes as subsequent shown. Use shallow electro-chemical marking method. Refer to SPP TASK 70-09-00-400-501.

Old part number

Part number after rework

3A0494

3A2335

3A1549

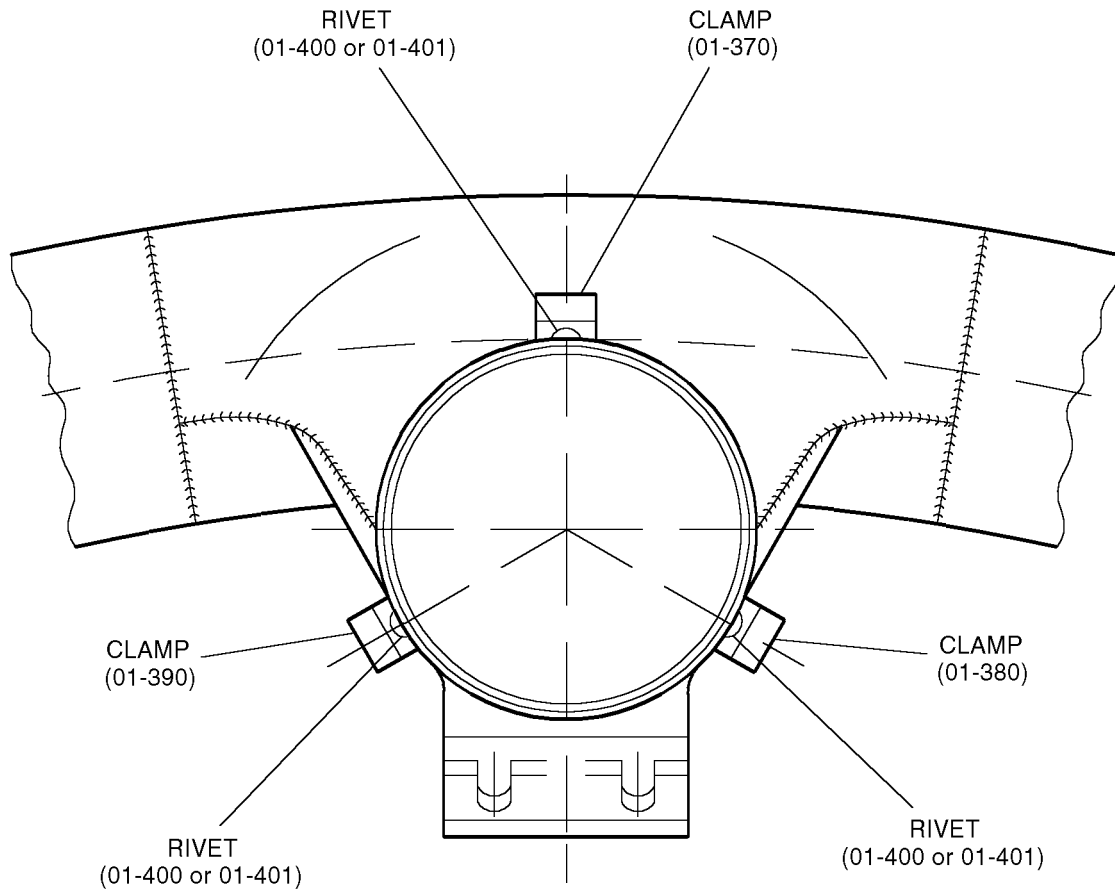
3A2316

3A2003

3A2319

#### B. Recording Instructions

A record of accomplishment is required.



ACC Connector tube  
Fig.1 (Sheet 1)

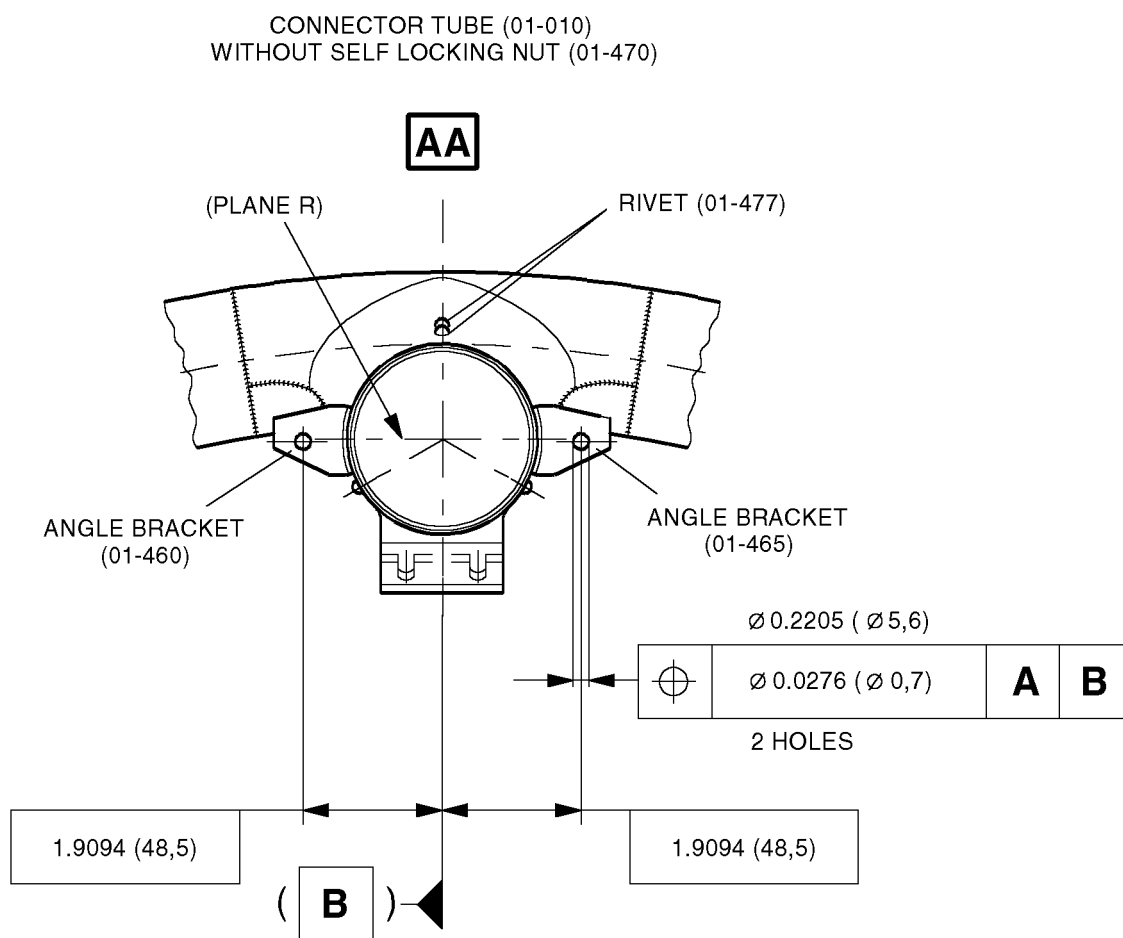
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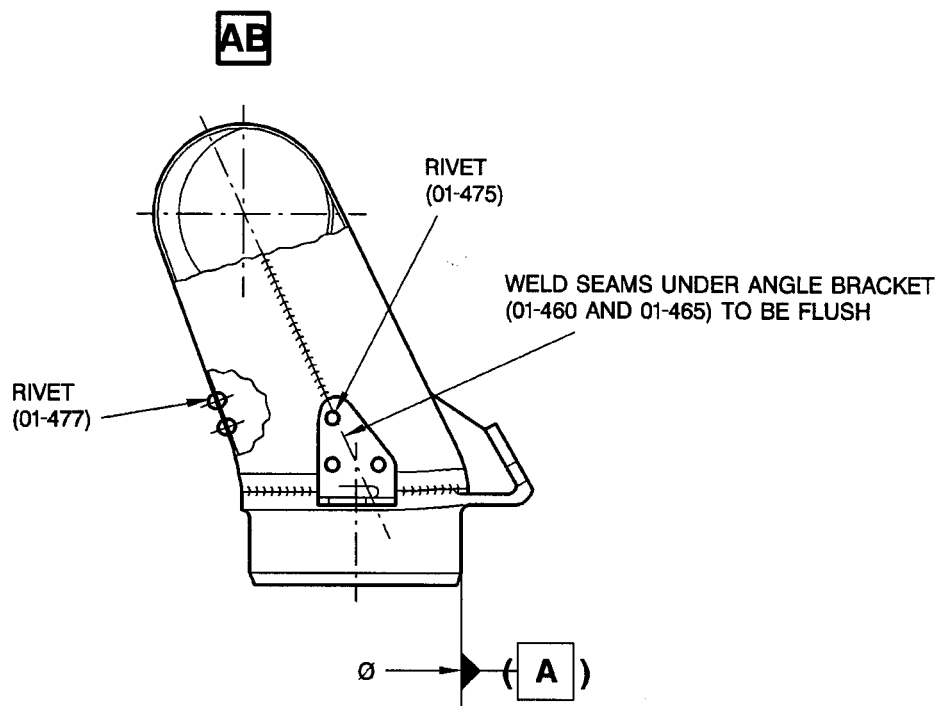
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ACC Connector tube  
Fig.1 (Sheet 2)

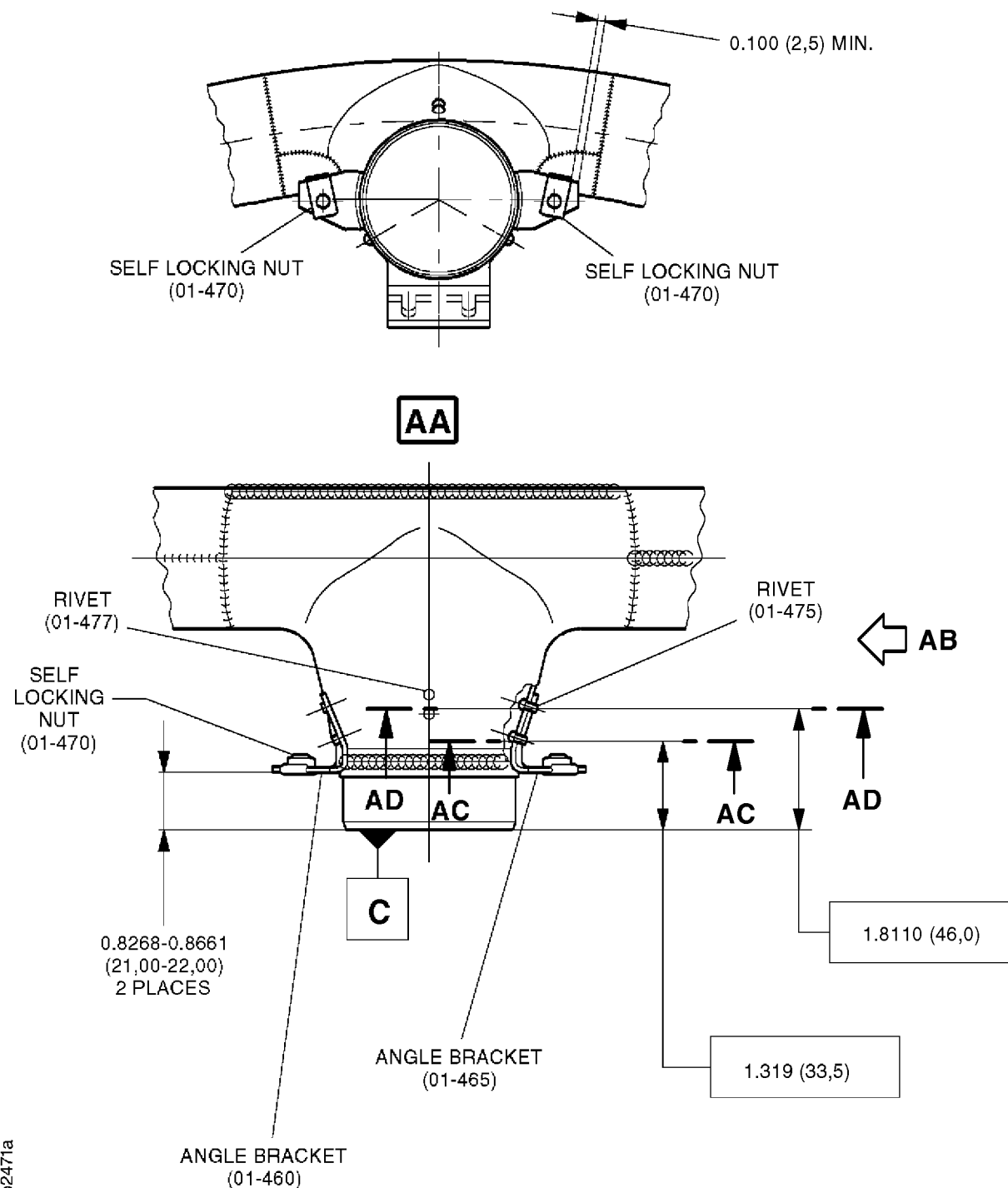


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ACC Connector tube  
Fig.1 (Sheet 3)

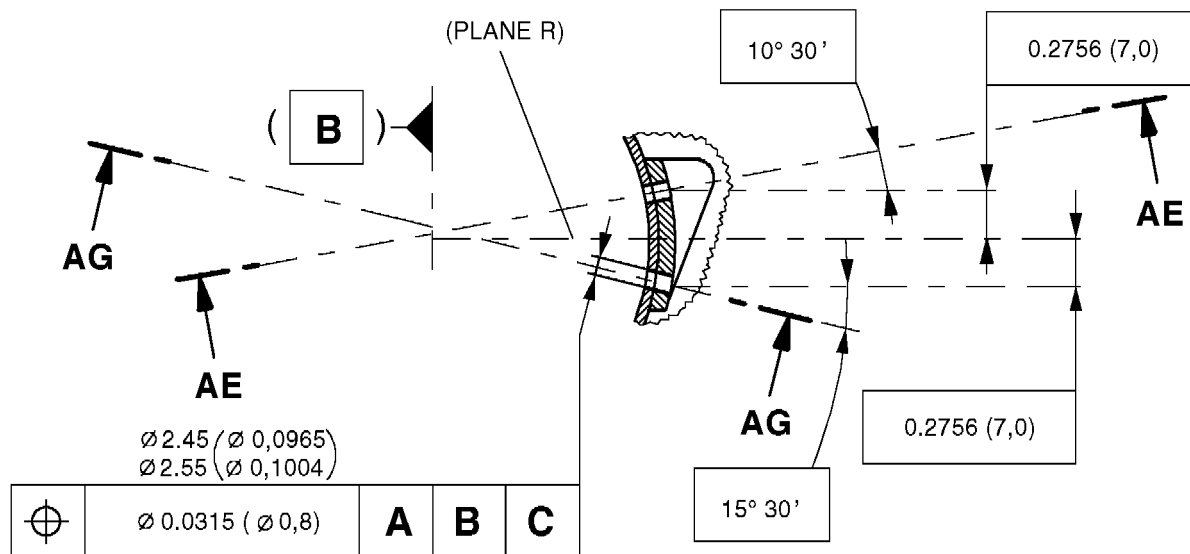
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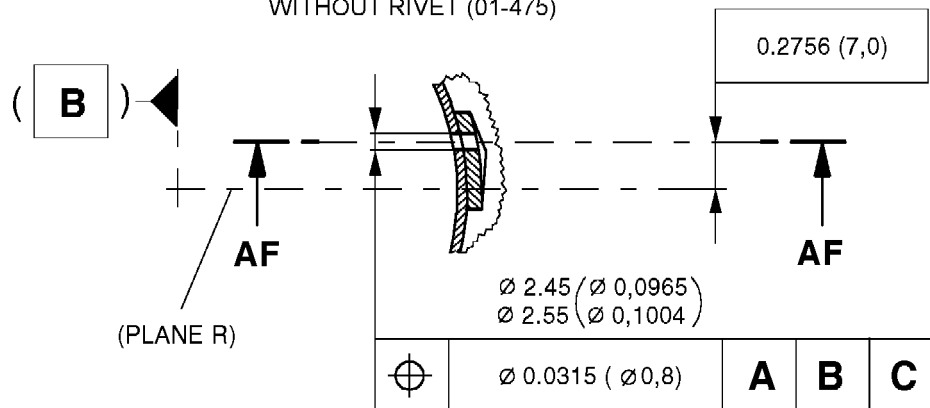
ACC Connector tube  
Fig.1 (Sheet 4)

SECTION  
**AC-AC**  
WITHOUT RIVET (01-475)  
BOTH SIDES



2 PLACES  
MACHINED TOGETHER WITH 01-010 CONNECTOR TUBE

SECTION  
**AD-AD**  
WITHOUT RIVET (01-475)



MACHINED TOGETHER WITH 01-010 CONNECTOR TUBE

ACC Connector tube  
Fig.1 (Sheet 5)



AIR – ACTIVE CLEARANCE CONTROL (ACC) – REVISED CONNECTOR TUBE ASSEMBLY WITH NEW PERISEAL HOUSING CLAMPS

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 catalogue for current prices.

1. New Production Parts:

	Part No.	Desc.	Unit Price US Dollars
	3A2181	Connector, A/O Tube	7,714.00
	3A2316	Connector, A/O Tube	–
	3A2335	Connector, A/O Tube	–
	3A2317	Bracket, angle	323.00
	3A2318	Bracket, angle	323.00
	ST1086-02	Rivet, blind csk hd	15.00
	ST1086-01	Rivet, blind	11.70
	AN123168	Rivet, solid univ. hd	–
R	AN123184	Rivet, solid univ. hd	4.85
R	NAS1398C4-1	Rivet, blind	4.85
	4W0043	Nut, A/O self locking	3.66
	3A2313	Clamp, A/O periseal	350.00
	4W0104	Bolt	6.93
	3A2198	Connector, A/O Tube	14,850.00
	3A2319	Connector, A/O Tube	14,850.00



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- General quality rating of this Service Bulletin	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
- Quality rating of the Accomplishment Instructions	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
- Quality rating of the Illustration	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
- Is this Service Bulletin easy to understand ?	<input type="checkbox"/> Yes		<input type="checkbox"/> No		

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<input type="checkbox"/> 1.B.	<input type="checkbox"/> 1.J.	<input type="checkbox"/> 2.B.	<input type="checkbox"/> Get Access
<input type="checkbox"/> 1.C.	<input type="checkbox"/> 1.K.	<input type="checkbox"/> 2.C.	<input type="checkbox"/> Removal/Installation
<input type="checkbox"/> 1.D.	<input type="checkbox"/> 1.L.	<input type="checkbox"/> 2.D.	<input type="checkbox"/> Inspection
<input type="checkbox"/> 1.E.	<input type="checkbox"/> 1.M.	<input type="checkbox"/> 2.E.	<input type="checkbox"/> Test
<input type="checkbox"/> 1.F.	<input type="checkbox"/> 1.N.	<input type="checkbox"/> 2.F.	<input type="checkbox"/> Close the Access
<input type="checkbox"/> 1.G.	<input type="checkbox"/> 1.O.		<input type="checkbox"/> Log Book Entry
<input type="checkbox"/> 1.H.	<input type="checkbox"/> 1.P.		

Explanatory notes:

Operator:	Overhaul Site:
Name/Title:	Date:

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