International Aero Engines

SERVICE BULLETIN

AIR - PROVIDE HPT ACC TUBES WITH IMPROVED MAINTAINABILITY FEATURES - CATEGORY CODE 7 - MOD.ENG-75-0013

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500-A1 Engines prior to Serial Number V0146

B. Reason

(1) Condition

Existing 2A1571 R/H Turbine Cooling Manifold Assembly, 2A1572 L/H Turbine Cooling Manifold Assembly, and 2A0202 and 2A3665 Turbine Cooling Manifold have no fixing device for their jointing in themselves. Jointing with freeness makes a little difficulty of positioning when they are installed to the engine.

(2) Background

Bolt jointing is provided for jointing among R/H Turbine Cooling Manifold Assembly, L/H Turbine Cooling Manifold Assembly and Turbine Cooling Manifold. In time of installation of these parts to the engine, correct position can be got easily by reason that new jointing settles overlap dimension of tubes in constant.

(3) Objective

To improve maintainability of HP ACC Manifold by fixing device addition to the jointing among R/H Turbine Cooling Manifold Assembly, L/H Turbine Cooling Manifold Assembly and Turbine Cooling Manifold.

(4) Substantiation

The changes introduced by this bulletin were analytically substantiated.

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

Removal/Installation	Affected (See Supplemental Information)
Disassembly/Assembly	Affected (See Supplemental Information)
Cleaning	Not affectd
Inspection/Check	Affected (See Supplemental Information)
Repair	Affected (See Supplemental Information)
Testing	Not affected

(6) Supplemental Information

(a) The Post-Service Bulletin configuration requires addition of new Removal/Installation procedures to the IAE V2500-A1/A5 Engine Manual, Chapter/Section 72-00-50, Removal and Installation.

(b) The Post-Service Bulletin configuration requires addition of new Disassembly/Assembly procedures to the IAE V2500-A1/A5 Component Maintenance Manual, Tubes, Hoses and Ducts, Chapter/Section 75-24-48, Disassembly and Assembly.

(c) The Post-Service Bulletin configuration requires incorporation of inspection requirements for the plate nut to the IAE V2500-A1/A5 Component Maintenance Manual, Tubes, Hoses and Ducts, Chapter/Section 75-24-48, Inspection/Check.

(d) The Post-Service Bulletin configuration requires new Repair Scheme to provide the plate nut replacement procedure to the IAE V2500-A1/A5 Component Maintenance Manual, Tubes, Hoses and Ducts, Chapter/Section 75-24-48, Repair.

C. Description

(1) The changes introduced by this Service Bulletin are as follows:

(a) Bolt jointing is introduced to the jointing among R/H Turbine Cooling Manifold Assembly, L/H Turbine Cooling Manifold Assembly and Turbine Cooling Manifold. Following changes are provided for introduction of new jointing method.

(i) 2A1540 Turbine Cooling Manifold supersedes 2A0202 Turbine Cooling Manifold. 2A1569 Turbine Cooling Manifold supersedes 2A3665 Turbine Cooling Manifold. 2A1540 and 2A1569 Turbine Cooling Manifolds provide shortened tubes and the tubes have bolt holes.

(ii) Existing eight TCC tubes are superseded by new TCC tubes which each have MS21052-3 Plate Nut at the opened end side. Assemblies of these tubes, 2A1561 R/H Turbine Cooling Manifold Assembly and 2A1562 L/H Turbine Cooling Manifold Assembly, supersede 2A1571 R/H Turbine Cooling Manifold Assembly and 2A1572 L/H Turbine Cooling Manifold Assembly. For the part number transaction, refer to 3. Material Information Section of this Bulletin.

(iii) 2A1561 R/H Turbine Cooling Manifold Assembly and 2A1562 L/H Turbine Cooling Manifold Assembly are jointed to 2A1540 or 2A1569 Turbine Cooling Manifold using MS21052-3 Plate Nut on each TCC tube and 4W0102 Bolt.

(b) Existing R/H Turbine Cooling Manifold Assembly and L/H Turbine Cooling Manifold Assembly each are installed to the engine by using three 2A0289 Brackets. One of these Brackets which positions opened end side of TCC tubes is eliminated from each of R/H and L/H Turbine Cooling Manifold Assemblies. Following are parts affected by this change.

(i) Existing eight TCC tubes are superseded by new TCC Tubes which each are eliminated one pin placed opened end side.

(ii) 2A0296 TCC Manifold Bracket is superseded by 2A1581 TCC Manifold Bracket.

(iii) 2A0294 TCC Manifold bracket is superseded by 2A1579 TCC Manifold Bracket.

(iv) Number of 2A0290 TCC Tube Bracket is reduced from six to four.

(v) Six 4W1183 Bolts are superseded by four 4W0102 Bolts.

(c) Old TCC Tubes and Turbine Cooling Manifold can be modified to new part numbers.

D. Approval

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 Model listed.

E. Compliance

Category Code 7

Accomplish when supply of superseded parts has been depleted.

F. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

VENUE	EST'D MANHOURS
(1) In service	Not applicable

(2) At overhaul (Note: The parts affected by this Service Bulletin are accessible at overhaul)

(a) To rework Turbine Cooling Manifold and TCC tubes ..... 4 Hours 11 Minutes

G. Material - Price and Availability

(1) Modification Kit is not required.

(2) See "Material Information" section for prices and availability of future spares.

H. Tooling - Price and Availability

Special tools are not required.

I. Weight and Balance

(1) Weight change ..... None

(2) Moment arm ..... No effect

(3) Datum ..... Engine front mount centerline (Powerplant Section (P.P.S.) 100)

J. Electrical Load Data

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

K. References

(1) Internal Reference No.

88VJ251

92VK083A

(2) Other References

The IAE V2500-A1 Engines Illustrated Parts Catalog.

The IAE V2500-A1 Power Plant Illustrated Parts Catalog.

The IAE V2500-A1/A5 Engine Manual.

The IAE V2500-A1/A5 Component Maintenance Manual, Tubes, Hoses and Ducts.

The IAE V2500 Service Bulletin, V2500-ENG-75-0026.

The IAE V2500 Standard Practices/Processes Manual.

L. Other Publications Affected

(1) The IAE V2500-A1 Engine Illustrated Parts Catalog, 72-00-50, 72-40-00 and 75-24-48 to add Service Bulletin Information.

(2) The IAE V2500-A1 Power Plant Illustrated Parts Catalog, 72-00-50, 72-40-00 and 75-24-48 to add Service Bulletin Information.

(3) The IAE V2500-A1/A5 Engine Manual, Chapter/Section 72-00-50, Removal to add different procedures.

(4) The IAE V2500-A1/A5 Engine Manual, Chapter/Section 72-00-50, Installation to add different procedures.

(5) The IAE V2500-A1/A5 Component Maintenance Manual, Tubes, Hoses and Ducts, Chapter/Section 75-24-48, Disassembly to add different procedures.

(6) The IAE V2500-A1/A5 Component Maintenance Manual, Tubes, Hoses and Ducts, Chapter/Section 75-24-48, Assembly to add different procedures.

2. Accomplishment Instructions

A. Rework Instructions

(1) Make sure that 2A0202 or 2A3665 Turbine Cooling Manifold (See Reference (1), 75-24-48, Fig/Item No. 02-500) has been examined in accordance with Reference (4), Inspection/Check before application of this modification.

NOTE: Use the inspection requirements prepared for 2A0202 to examine 2A3665 Turbine Cooling Manifold until reference (4), Chapter/Section 75-24-48, Inspection Check incorporates requirements for 2A3665 Turbine Cooling Manifold.

(2) Do a modification of 2A0202 and 2A3665 Turbine Cooling Manifold and identify as follows:

Procedure	Supplementary Information
(a) Set-up and machine the Turbine Cooling manifold to the dimensions specified	Refer to Figure 1 requirements
(i) Cut the tubes of Turbine Cooling Manifold to the dimensions specified	
(ii) Drill eight holes	
(iii) Remove burrs and sharp edges	
(b) Re-identify modified Turbine Cooling Manifold. Use the vibration peen method	Old Part No. / New Part No. 2A0202 / 2A1540 2A3665 / 2A1569 Refer to Figure 1 requirements and Reference (6), 70-11-00, Marking of Parts

(3) Make sure that 2A0220, 2A0225, 2A0229, 2A0233, 2A0227, 2A0231 and 2A0235 TCC Tubes have been examined in accordance with Reference (4), 75-24-48, Inspection/Check before application of this modification.

(4) Do a modification of 2A0220, 2A0225, 2A0229, 2A0233, 2A0223, 2A0227, 2A0231 and 2A0235 TCC Tubes (See Reference (1) Chapter/Section 75-24-48, Fig/Item No. 02-200, 02-210, 02-220, 02-230, 02-400, 02-410, 02-420 and 02-430) and identify as follows:

Procedure	Supplementary Information
(a) Remove a Hollow Pin which positions opened end side of each TCC Tube	Refer to Figure 2 requirements
(i) Cut off the Hollow Pin from the TCC Tube. Blend the cut ends and remove sharp edges	
(ii) Examine the blended area for cracks	Refer to Reference (6), 70-23-05 Penetrant Inspection
(b) Drill three holes to each TCC Tube	
(i) Drill three holes	
(ii) Remove burrs and sharp edges	
(c) Install MS21052-3 Plate Nut to each TCC Tube.	Refer to Figure 2 requirements
(i) Place MS21052-3 Plate Nut in position	
(ii) Insert and upset two MS20615-3M3 Rivets	Refer to Reference (6), 70-39-03, Machine Riveting
(d) Examine installed Plate Nut	
(i) Examine the Rivets	Refer to Reference (6), 70-39-03, Machine Riveting
(ii) Examine dimensions	Refer to Figure 2 requirements
(e) Re-identify modified TCC Tubes. Use the vibration peen method	Old Part No. / New Part No. 2A0220 / 2A1545 2A0225 / 2A1549 2A0229 / 2A1553 2A0233 / 2A1557 2A0223 / 2A1547 2A0227 / 2A1551 2A0231 / 2A1555 2A0235 / 2A1559

Refer to Figure 2 requirements and Reference (6), 70-11-00, Marking of Parts

(f) Re-identify part number of R/H Turbine Cooling manifold Assembly on 2A1545 TCC Tube. Use the vibration peen method

Old Part No.	New Part No.
2A1571	2A1561

Refer to Figure 5 requirements and Reference (6), 70-11-00, Marking of Parts

(g) Re-identify part number of R/H Turbine Cooling manifold Assembly on 2A1547 TCC Tube. Use the vibration peen method.

Old Part No.	New Part No.
2A1572	2A1562

Refer to Figure 5 requirements and Reference (6), 70-11-00, Marking of Parts

B. Assembly Instructions

(1) Assemble 2A1561 R/H Turbine Cooling manifold Assembly and 2A1562 L/H Turbine Cooling Manifold Assembly.

(a) Assemble 2A1561 R/H Turbine Cooling Manifold Assembly. Refer to Figure 5.

(i) Install eight AS3257-02 Clips to the Hollow Pins of 2A1545, 2A1549, 2A1553 and 2A1557 TCC Tubes.

NOTE: Make sure the direction of Clips is correct.

(ii) Lubricate threads of eight 4W1138 Bolts with CoMat 10-077 approved engine oils. Install the Clips to two 2A0289 Brackets with the Bolts and eight 4W0001 Nuts.

(iii) Torque the Nuts to 36 to 40 lbfin (4,00 and 4,52 Nm).

(b) Assemble 2A1562 L/H Turbine Cooling Manifold Assembly. Refer to Figure 6.

(i) Install eight AS3257-02 Clips to the Hollow Pins of 2A1547, 2A1551, 2A1555 and 2A1559 TCC tubes.

NOTE: Make sure the direction of Clips is correct.

(ii) Lubricate threads of eight 4W1138 Bolts with CoMat 10-077 approved engine oils. Install the Clips to two 2A0289 Brackets with the Bolts and eight 4W0001 Nuts.

(iii) Torque the Nuts to 36 to 40 lbfin (4,00 and 4,52 Nm).

(2) Assemble 2A1561 R/H Turbine Cooling manifold Assembly , 2A1562 L/H Turbine Cooling Manifold Assembly and 2A1540 or 2A1569 Turbine Cooling Manifold to the engine.

(a) Install four 2A0290 TCC Tube Bracket to FM flange when install HP Turbine Assembly or assemble HP System Module. Refer to Figure 3 and Reference (3), 72-00-45, Installation and 72-40-00, Assembly.

(b) Install 2A1581 and 2A1579 TCC Manifold Brackets to FN flange when install LP Turbine module. Refer to Figure 4 and Reference (3), 72-00-50, Installation.

(c) Install the Turbine Cooling Manifold to the engine. Refer to Figure 7.

(i) Install two AS3257-03 Clips to 2A1540 or 2A1569 Turbine Cooling Manifold.

NOTE: Make sure the direction of Clips is correct.

(ii) Lubricate threads of two 4W0471 Bolts with CoMat 10-077 approved engine oils. Install the Turbine Cooling Manifold to the FM flange with the Bolts and 4W0003 Nuts.

(iii) Torque the Nuts to 180 to 200 lbfin (20,34 to 22,59 Nm).

(iv) Lubricate threads of two 4W0102 Bolts with CoMat 10-077 approved engine oils. Install the Clips on the Turbine Cooling Manifold to the 2A1581 and 2A1579 TCC Manifold Brackets on FN flange with the Bolts.

(v) Torque the Bolts to 36 to 40 lbfin (4,00 to 4,52 Nm).

(d) Install the R/H Turbine Cooling Manifold Assembly to the engine. Refer to Figure 7.

(i) Insert tube ends of 2A1561 R/H Turbine Cooling Manifold Assembly to the turbine Cooling Manifold.

(ii) Lubricate threads of four 4W0102 Bolts with CoMat 10-077 approved engine oils. Install two Brackets of the R/H Turbine Cooling Manifold to 2A0290 TCC Tube Bracket on FM flange and 2A0292 TCC Manifold Bracket on FN flange with the Bolts. Hand tighten the Bolts.

(iii) Lubricate threads of four 4W0102 Bolts with CoMat 10-077 approved engine oils. Fix the connection of the Turbine Cooling Manifold and the R/H Turbine Cooling Manifold Assembly with the bolts. Torque the Bolts to 36 to 40 lbfin (4,00 to 4,52 Nm).

(iv) Torque the hand tightened Bolts which retain the Brackets of R/H Turbine Cooling Manifold Assembly to the TCC Tube Bracket and the TCC Manifold Bracket to 36 to 40 lbfin (4,00 to 4,52 Nm).

(e) Install the L/H Turbine Cooling Manifold Assembly to the engine. Refer to Figure 7.

(i) Insert tube ends of 2A1562 L/H Turbine Cooling Manifold Assembly to the Turbine Cooling Manifold.

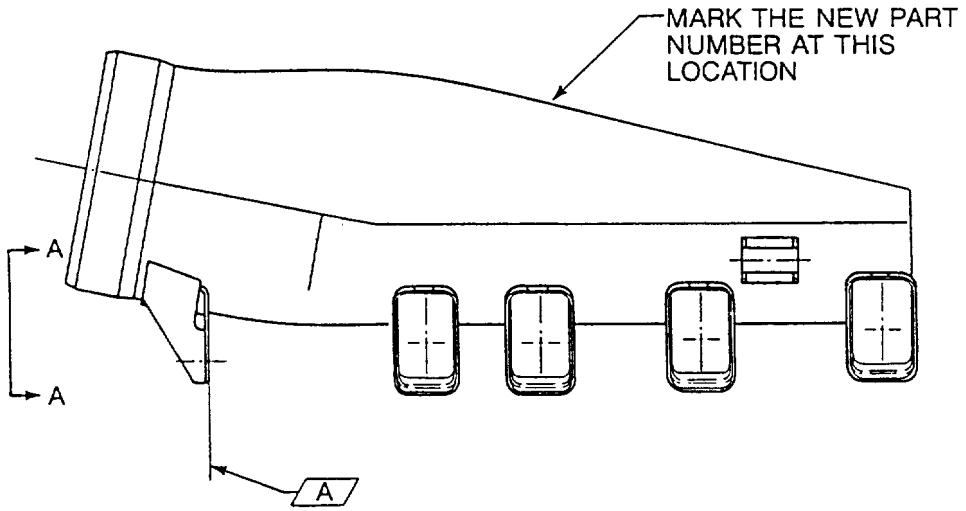
(ii) Lubricate threads of four 4W0102 Bolts with CoMat 10-077 approved engine oils. Install two Brackets of the R/H Turbine Cooling Manifold to 2A0290 TCC Tube Bracket on FM flange and 2A0292 TCC Manifold Bracket on FN flange with the Bolts. Hand tighten the Bolts.

(iii) Lubricate threads of four 4W0102 Bolts with CoMat 10-077 approved engine oils. Fix the connection of the Turbine Cooling Manifold and the R/H Turbine Cooling Manifold Assembly with the bolts. Torque the Bolts to 36 to 40 lbfin (4,00 to 4,52 Nm).

(iv) Torque the hand tightened Bolts which retain the Brackets of R/H Turbine Cooling Manifold Assembly to the TCC Tube Bracket and the TCC Manifold Bracket to 36 to 40 lbfin (4,00 to 4,52 Nm).

C. Recording Instructions

(1) A record of accomplishment is necessary.



NOTE : 1. SURF (A) DIA (B) AND (C) ARE CONSTRAINED CONTACT LOC

2. MARK NEW PART NUMBER NEAR BY OLD PART NUMBER PER SPM TASK 70-11-00

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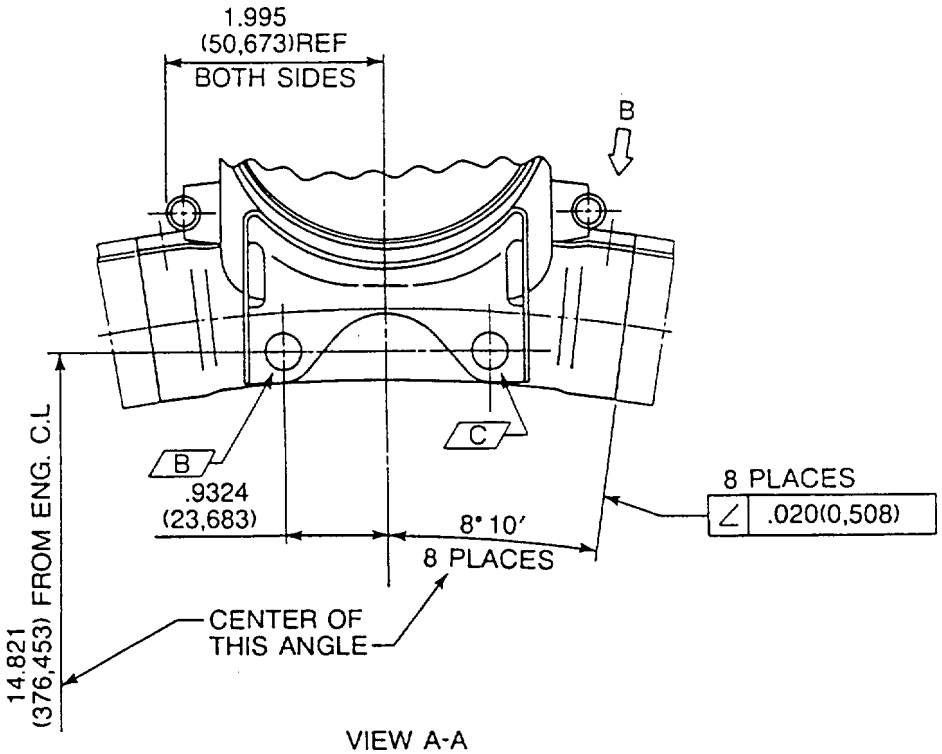
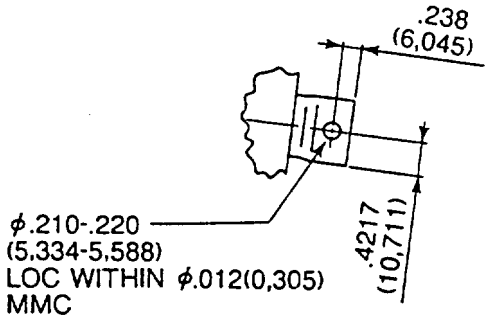
Modification of 2A0202 and 2A3665 Turbine Cooling Manifold
Fig.1 (Sheet 1 of 2)



VIEW A-A



VIEW AT B
8 PLACES

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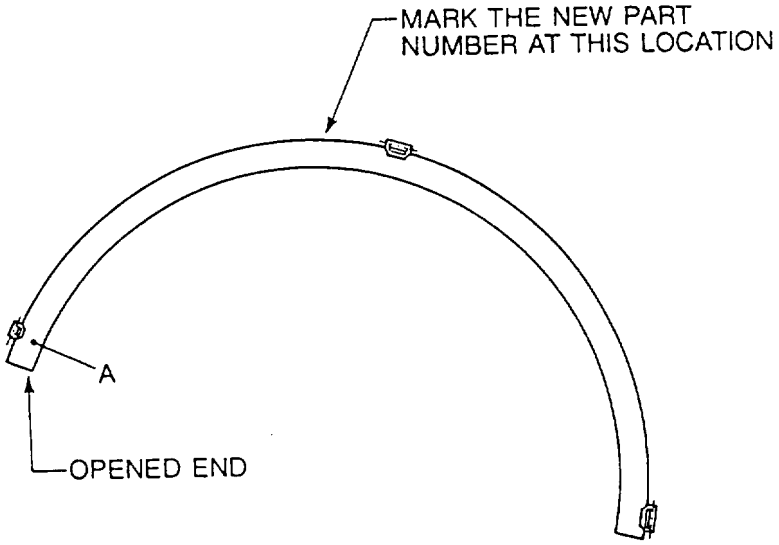
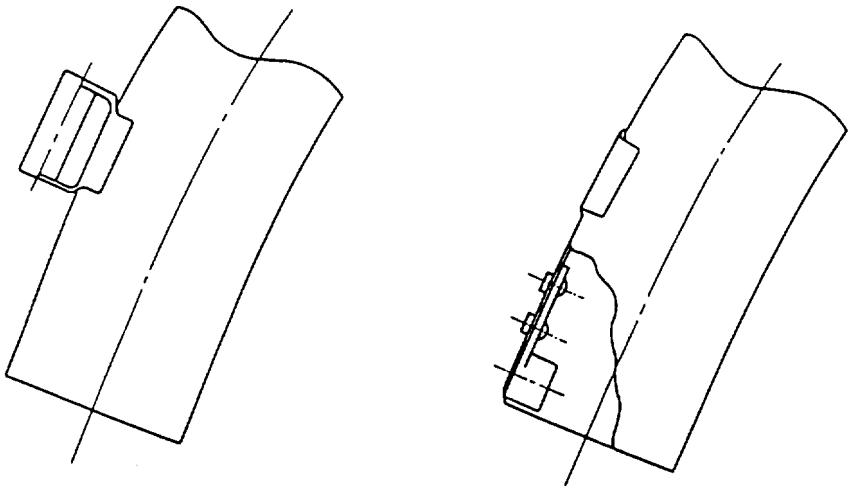
Modification of 2A0202 and 2A3665 Turbine Cooling Manifold
Fig.1 (Sheet 2 of 2)



TYPICAL TCC TUBE



Ⓐ BEFORE MODIFICATION

Ⓐ AFTER MODIFICATION

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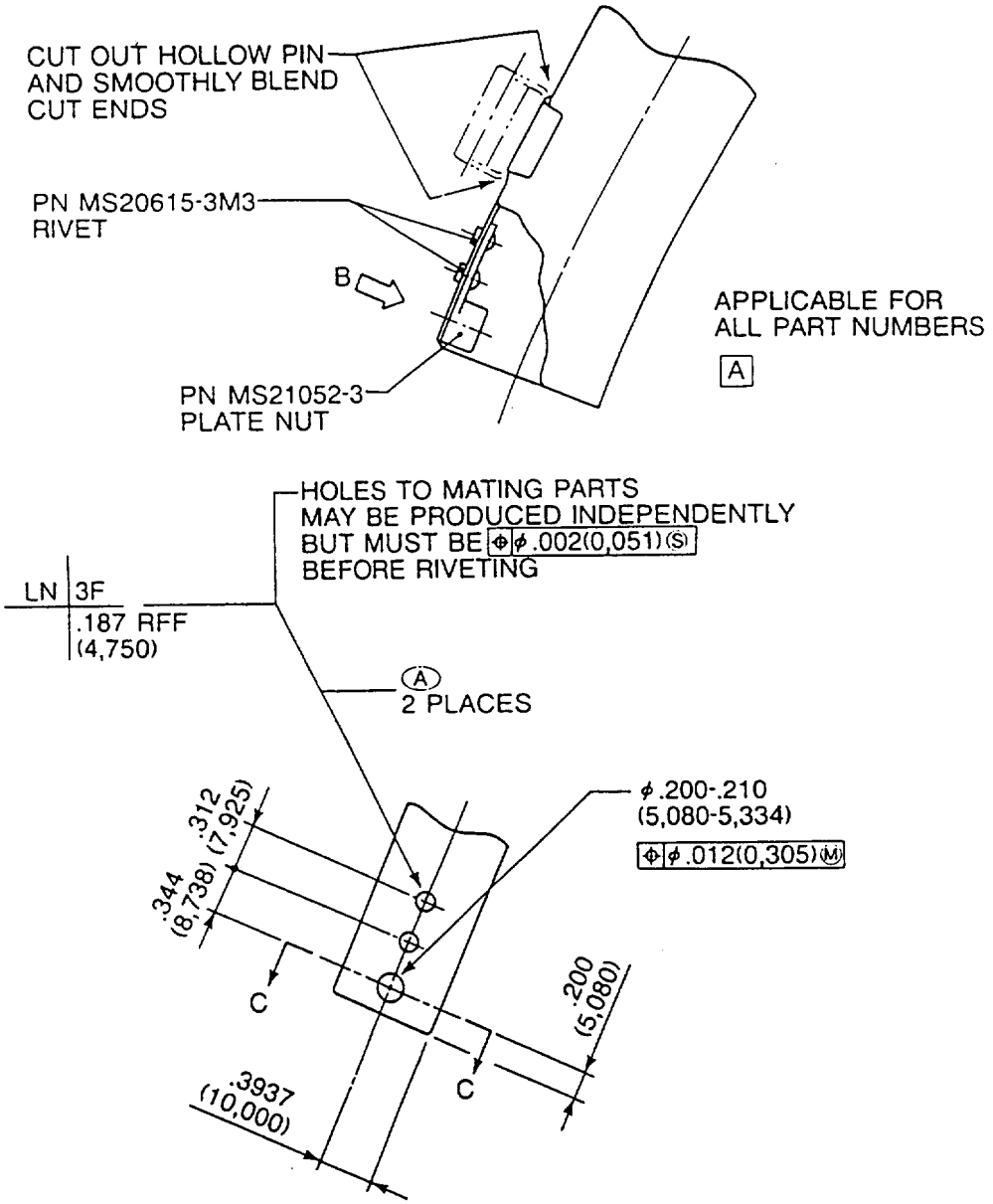
Modification of 2A0220, 2A0225, 2A0229, 2A0233, 2A0223, 2A0227, 2A0231 and 2A0235 TCC Tubes
Fig.2 (Sheet 1 of 3)



VIEW AT B

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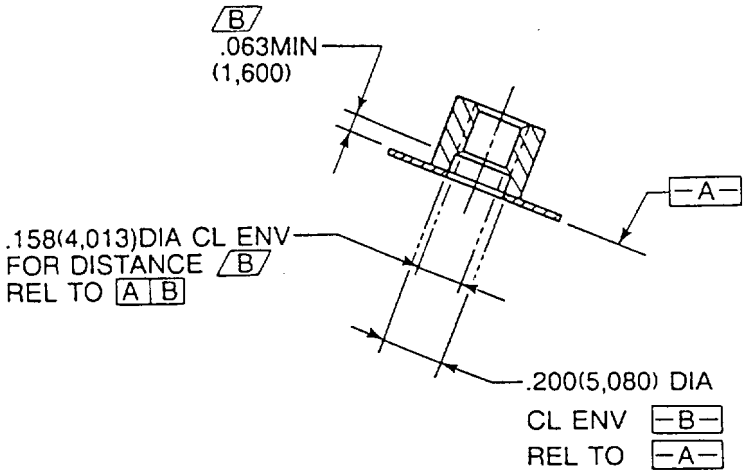
Modification of 2A0220, 2A0225, 2A0229, 2A0233, 2A0223, 2A0227, 2A0231 and 2A0235 TCC Tubes
Fig.2 (Sheet 2 of 3)



SECTION C-C

NOTE : 1. (A) RIVET PER SPM TASK 70-39-03

2. MARK NEW PART NUMBER NEAR BY OLD PART NUMBER PER SPM TASK 70-11-00

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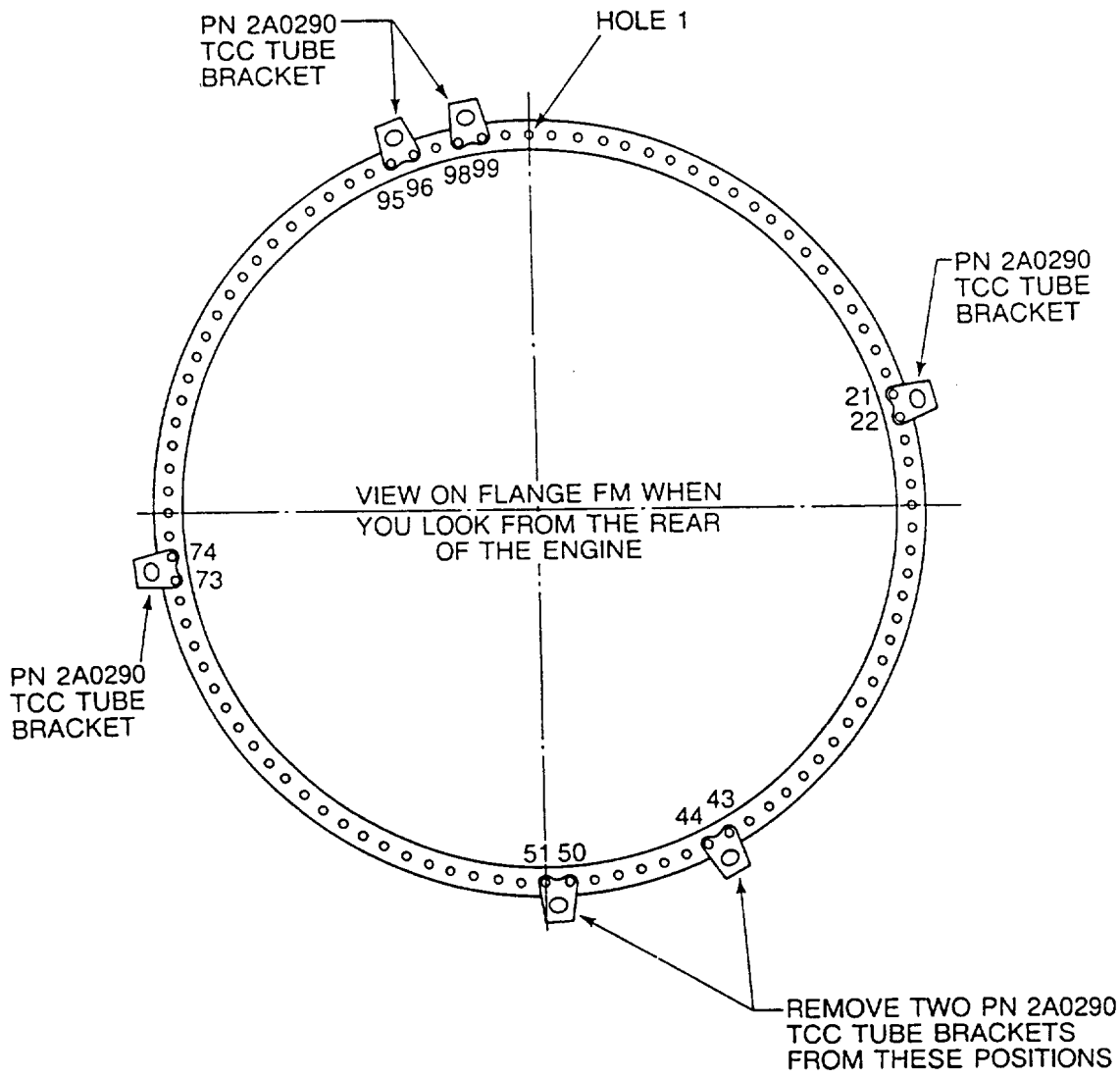
Modification of 2A0220, 2A0225, 2A0229, 2A0233, 2A0223, 2A0227, 2A0231 and 2A0235 TCC Tubes

Fig.2 (Sheet 3 of 3)



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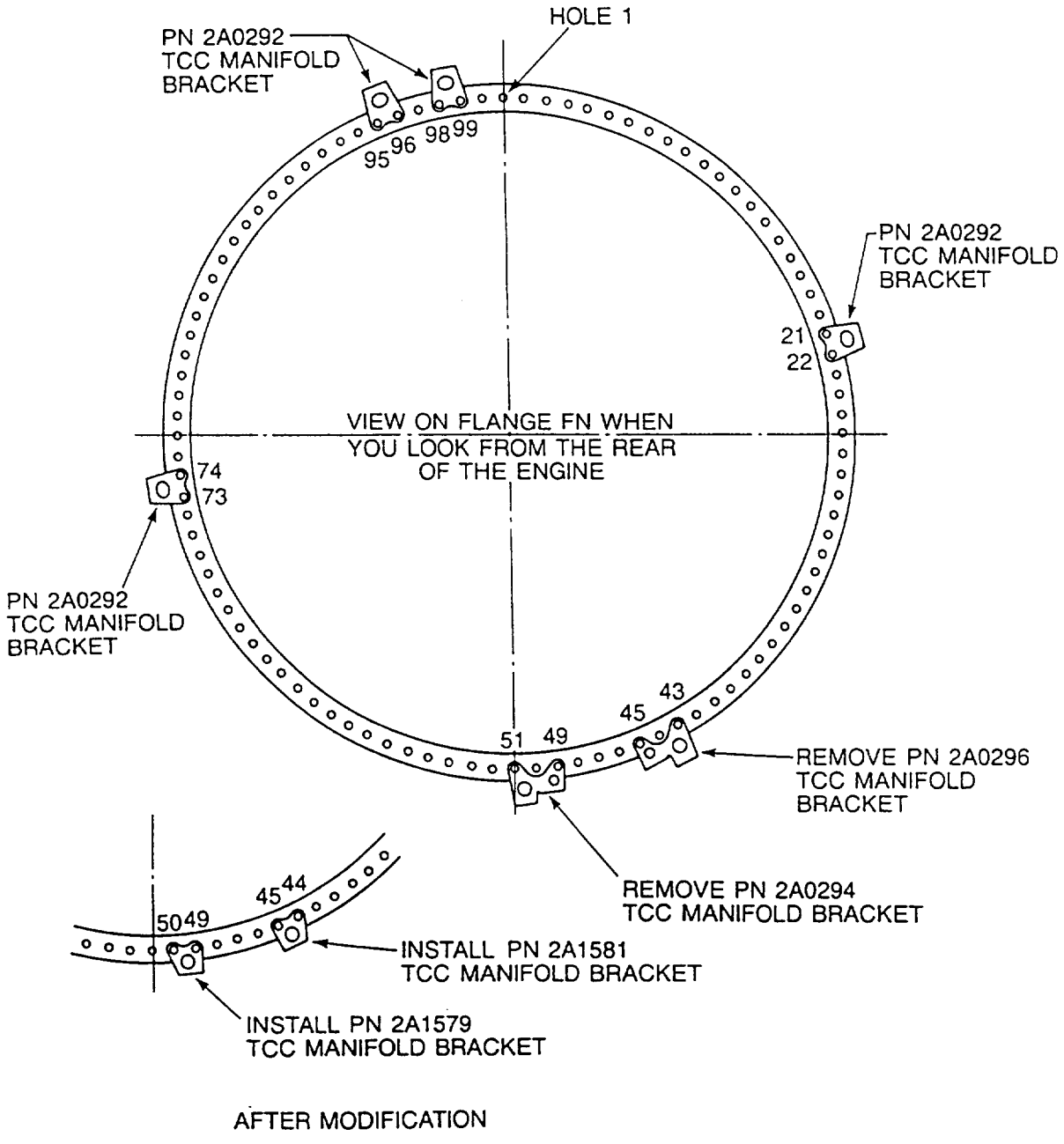
Change of Brackets on FM Flange
Fig.3



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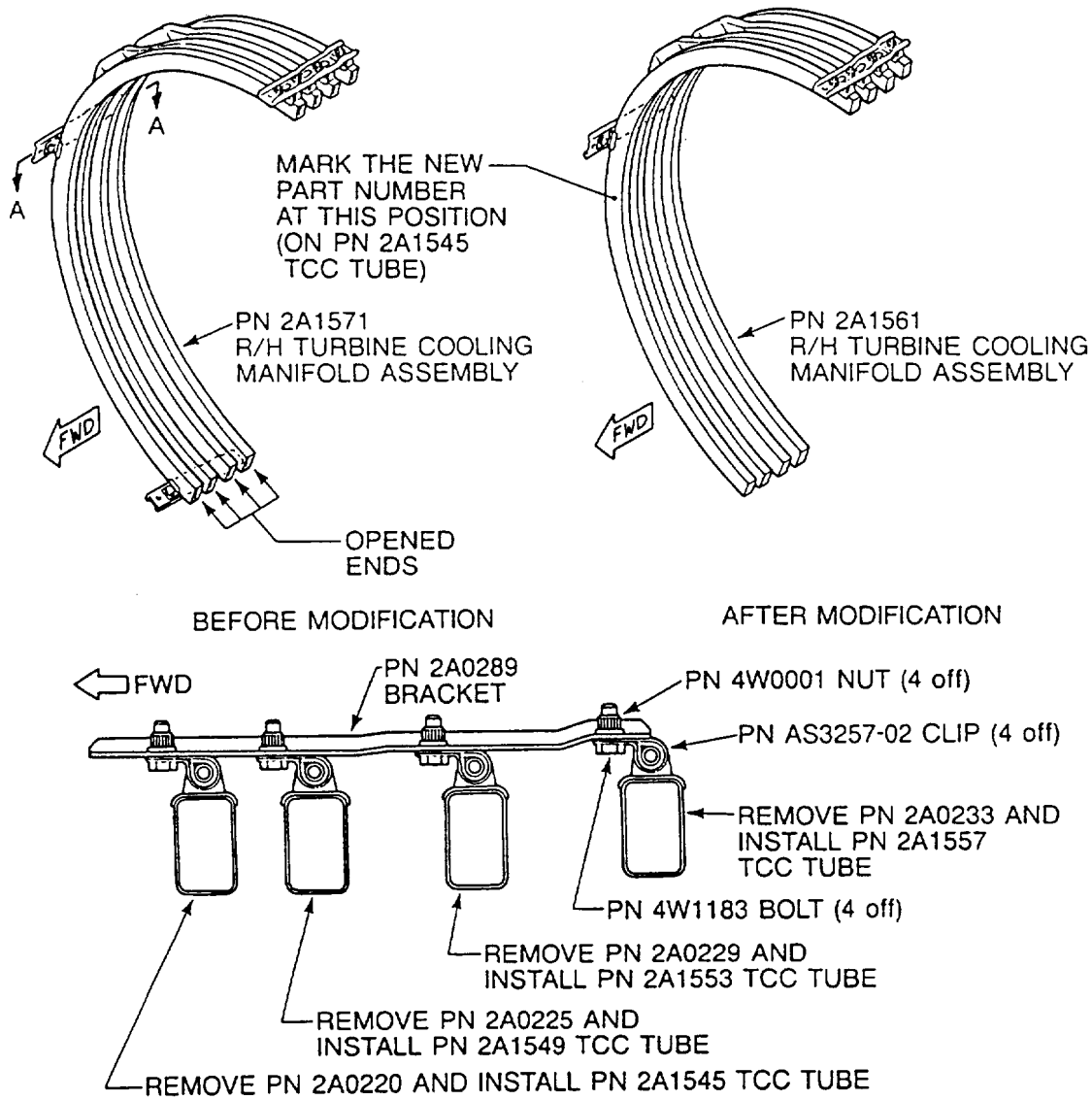
Change of Brackets on FN Flange
Fig.4



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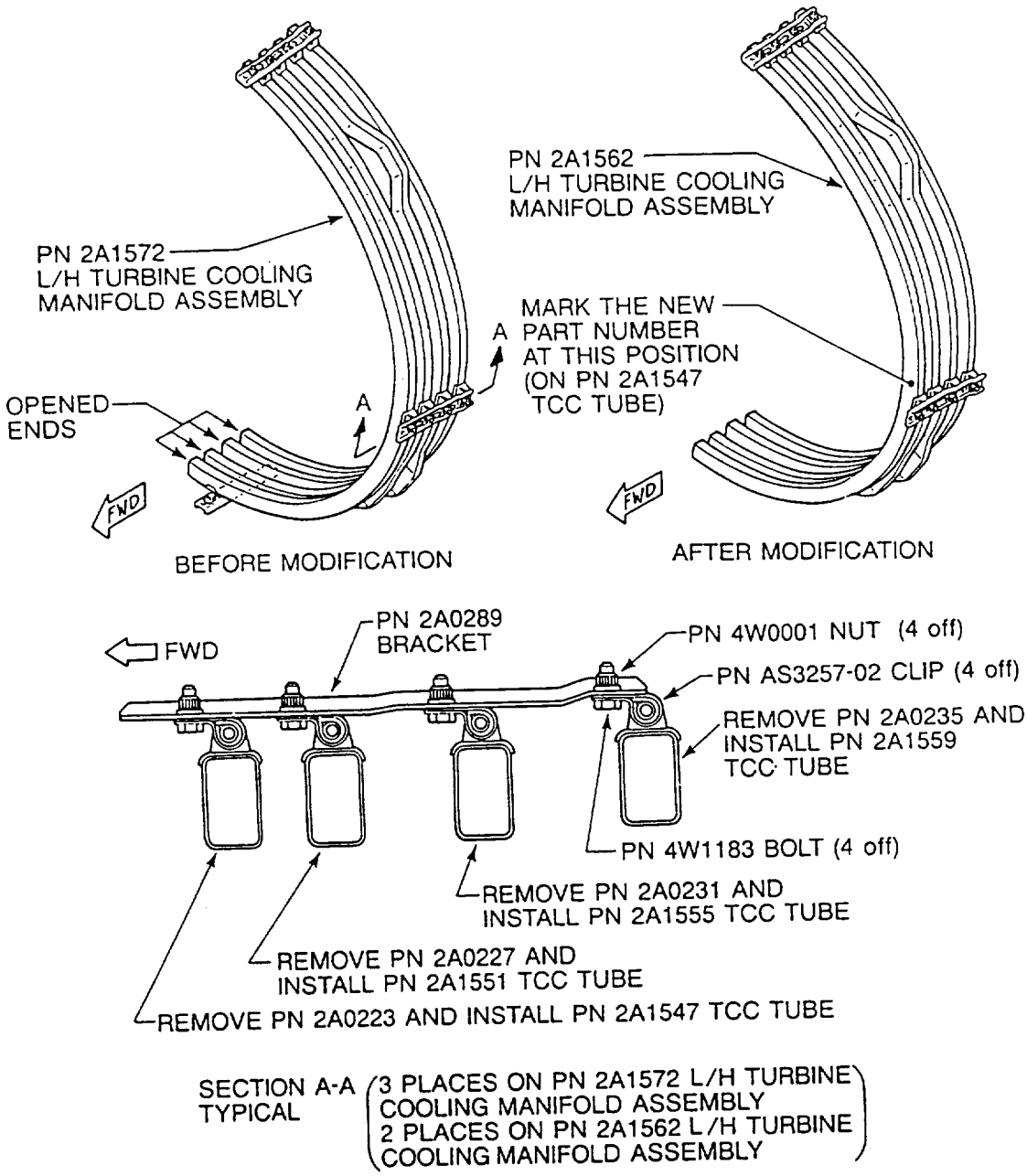
Modification of R/H Turbine Cooling Manifold Assembly
Fig.5



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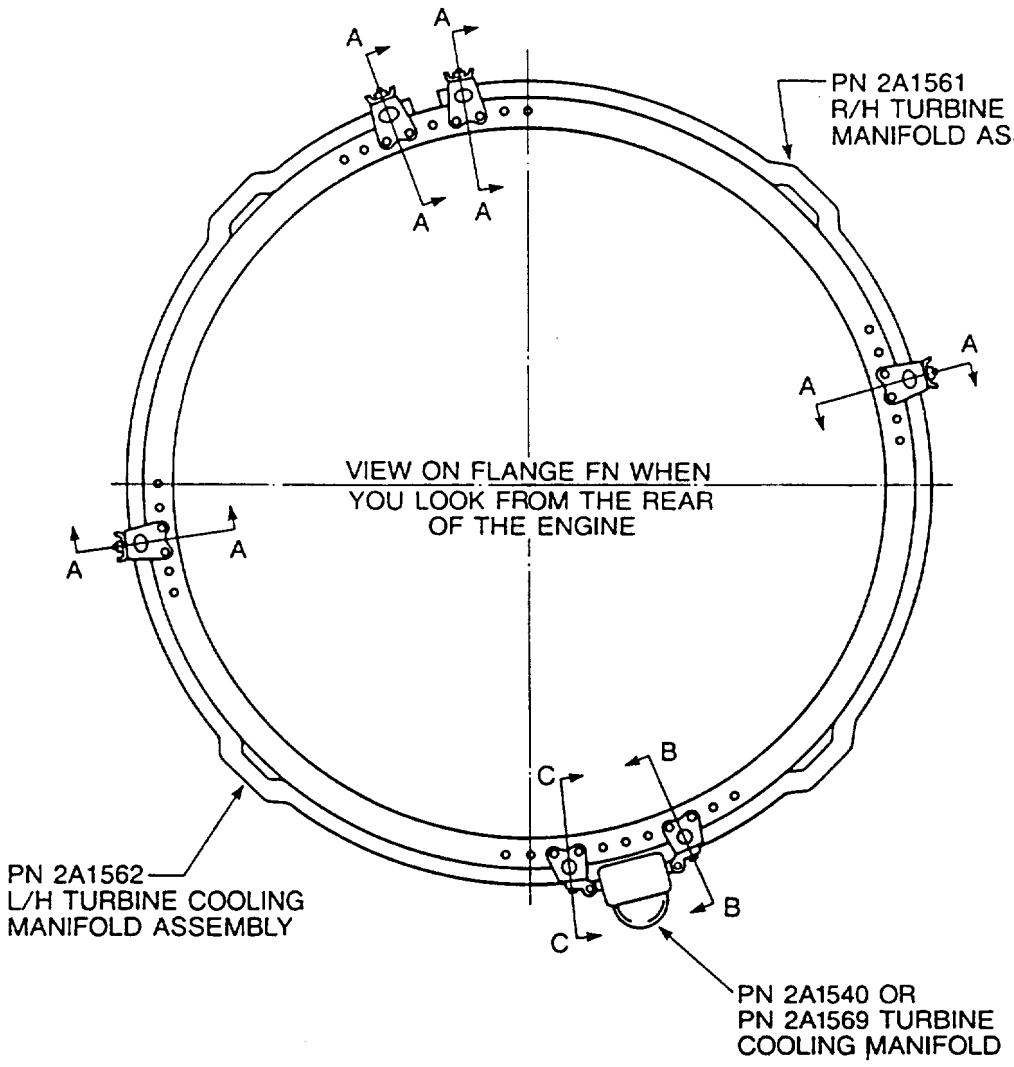
Modification of L/H Turbine Cooling Manifold Assembly
Fig.6



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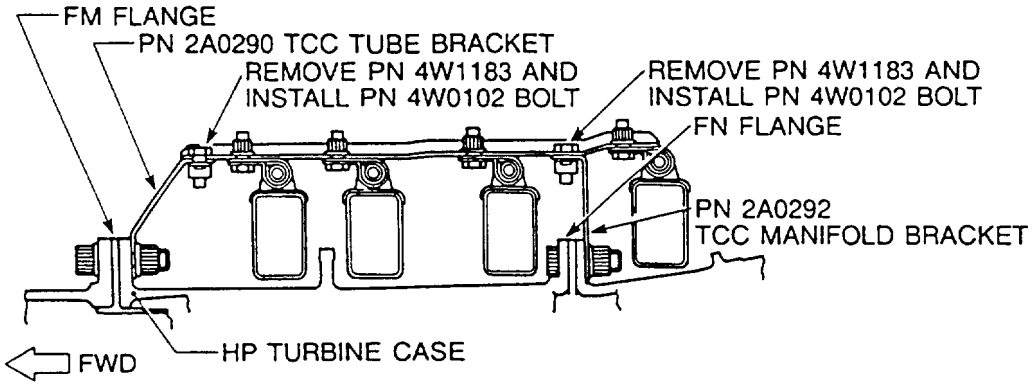
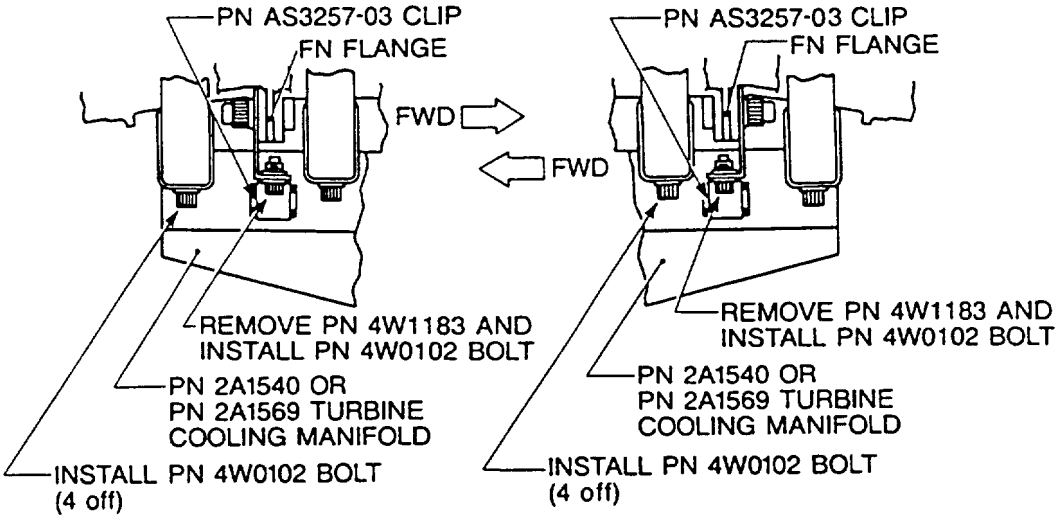
Installation of 2A1561 R/H Turbine Cooling Manifold Assembly, 2A1562 L/H Turbine Cooling manifold Assembly, and 2A1540 or 2A1569 Turbine Cooling Manifold
Fig.7 (Sheet 1 of 2)



SECTION A-A 4 PLACES



SECTION B-B

SECTION C-C

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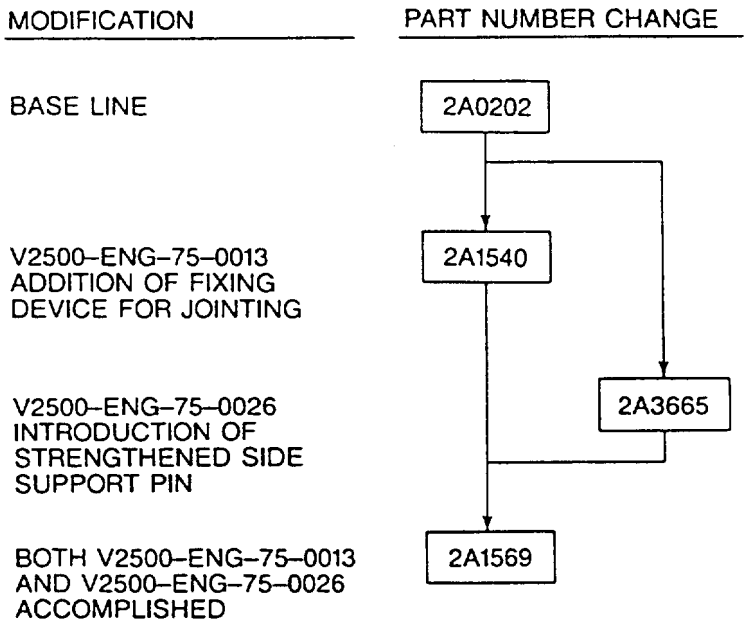
Installation of 2A1561 R/H Turbine Cooling Manifold Assembly, 2A1562 L/H Turbine Cooling manifold Assembly, and 2A1540 or 2A1569 Turbine Cooling Manifold
Fig.7 (Sheet 2 of 2)



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Family Tree - Turbine Cooling Manifold Catalog Sequence No. 75-24-48, Figure 02, Item 500
Fig.8

3. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin

A. Kits associated with the Bulletin

None

B. Parts affected by this Bulletin

NEW PART NO. (ATA NO.)	QTY	EST'D UNIT PRICE ($)	KEYWORD	OLD PART NO. (IPC NO.)	INSTRUCTIONS DISPOSITION
2A1581 (72-00-50)	1	334.00	.Bracket, A/O TCC Manifold	2A0296 (01-450)	(S1)(A)(C)
MS20427M3-4 (72-00-50)	2	.01	..Rivet	MS20427M3-4 (01-455)	(2D)(B)
MS21048-3 (72-00-50)	1	15.00	..Nut, Plate	MS21048-3 (01-460)	(2D)(B)
2A1579 (72-00-50)	1	334.00	.Bracket, A/O TCC Manifold	2A0294 (01-470)	(S1)(A)(C)
MS20427M3-4 (72-00-50)	2	.01	..Rivet	MS20427M3-4 (01-475)	(2D)(B)
MS21048-3 (72-00-50)	1	15.00	..Nut, Plate	MS21048-3 (01-480)	(2D)(B)
2A0290 (72-40-00)	4	177.00	.Bracket, A/O TCC Tube	2A0290 (05-520)	(S1)(2D)(B)
2A1561 (75-24-48)	1	8257.00	.Manifold, Assy R/H Turbine Cooling	2A1571 (02-100)	(S1)(1D)(A)(C)
4W0102 (75-24-48)	4	3.95	.Bolt	4W1183 (02-115)	(S1)(3D)(A)
4W0102 (75-24-48)	4	3.95	.Bolt	(02-120)	(S1)(A)
4W0001 (75-24-48)	8	2.28	..Nut	4W0001 (02-150)	(2D)(B)
4W1183 (75-24-48)	8	4.05	..Bolt	4W1183 (02-155)	(2D)(B)

AS3257-02 (75-24-48)	8	6.99	..Clip	AS3257-02 (02-165)	(2D)(B)
2A1545 (75-24-48)	1	1764.00	..Tube, A/O TCC	2A0220 (02-200)	(1D)(A)(C)
(75-24-48)			...Pin, Hollow	2A0239 (02-206)	(3D)
MS20615-3M3 (75-24-48)	2	.05	...Rivet	(02-207)	(A)
MS21052-3 (75-24-48)	1	21.00	...Nut, Plate	(02-209)	(A)
2A1549 (75-24-48)	1	1764.00	..Tube, A/O TCC	2A0225 (02-210)	(1D)(A)(C)
(75-24-48)			...Pin, Hollow	2A0239 (02-216)	(3D)
MS20615-3M3 (75-24-48)	2	.05	...Rivet	(02-217)	(A)
MS21052-3 (75-24-48)	1	21.00	...Nut, Plate	(02-219)	(A)
2A1553 (75-24-48)	1	1764.00	..Tube, A/O TCC	2A0229 (02-220)	(1D)(A)(C)
(75-24-48)			...Pin, Hollow	2A0239 (02-226)	(3D)
MS20615-3M3 (75-24-48)	2	.05	...Rivet	(02-227)	(A)
MS21052-3 (75-24-48)	1	21.00	...Nut, Plate	(02-229)	(A)
2A1557 (75-24-48)	1	1764.00	..Tube, A/O TCC	2A0233 (02-230)	(1D)(A)(C)
(75-24-48)			...Pin, Hollow	2A0239 (02-236)	(3D)
MS20615-3M3 (75-24-48)	2	.05	...Rivet	(02-237)	(A)
MS21052-3 (75-24-48)	1	21.00	...Nut, Plate	(02-239)	(A)

2A0289 (75-24-48)	2	154.00	..Bracket	2A0289 (02-240)	(2D)(B)
2A1562 (75-24-48)	1	8257.00	.Manifold, Assy L/H Turbine Cooling	2A1572 (02-300)	(S1)(1D)(A)(C)
4W0102 (75-24-48)	4	3.95	.Bolt	4W1183 (02-315)	(S1)(3D)(A)
4W0102 (75-24-48)	4	3.95	.Bolt	 (02-320)	(S1)(A)
4W0001 (75-24-48)	8	2.28	..Nut	4W0001 (02-350)	(2D)(B)
4W1183 (75-24-48)	8	4.05	..Bolt	4W1183 (02-355)	(2D)(B)
AS3257-02 (75-24-48)	8	6.99	..Clip	AS3257-02 (02-365)	(2D)(B)
2A1547 (75-24-48)	1	1764.00	..Tube, A/O TCC	2A0223 (02-400)	(1D)(A)(C)
 (75-24-48)			...Pin, Hollow	2A0239 (02-406)	(3D)
MS20615-3M3 (75-24-48)	2	.05	...Rivet	 (02-407)	(A)
MS21052-3 (75-24-48)	1	21.00	...Nut, Plate	 (02-209)	(A)
2A1551 (75-24-48)	1	1764.00	..Tube, A/O TCC	2A0227 (02-410)	(1D)(A)(C)
 (75-24-48)			...Pin, Hollow	2A0239 (02-416)	(3D)
MS20615-3M3 (75-24-48)	2	.05	...Rivet	 (02-417)	(A)
MS21052-3 (75-24-48)	1	21.00	...Nut, Plate	 (02-419)	(A)
2A1555 (75-24-48)	1	1764.00	..Tube, A/O TCC	2A0231 (02-420)	(1D)(A)(C)
 (75-24-48)			...Pin, Hollow	2A0239 (02-426)	(3D)

MS20615-3M3 (75-24-48)	2	.05	...Rivet	(02-427)	(A)
MS21052-3 (75-24-48)	1	21.00	...Nut, Plate	(02-429)	(A)
2A1559 (75-24-48)	1	1764.00	..Tube, A/O TCC	2A0235 (02-430)	(1D)(A)(C)
 (75-24-48)			...Pin, Hollow	2A0239 (02-436)	(3D)
MS20615-3M3 (75-24-48)	2	.05	...Rivet	(02-437)	(A)
MS21052-3 (75-24-48)	1	21.00	...Nut, Plate	(02-439)	(A)
2A0289 (75-24-48)	2	154.00	..Bracket	2A0289 (02-440)	(1D)(A)(C)
2A1540 (75-24-48)	1		.Manifold, A/O Cooling Turbine	2A0202 (02-500)	(S1)(1D)(A) (C)
2A1569 (75-24-48)	1		.Manifold, A/O Cooling Turbine	2A3665 (02-500)	(S1)(1D)
4W0102 (75-24-48)	2	3.95	.Bolt	4W1183 (02-515)	(S1)(3D)(A)

C. Instruction/Disposition Code Statements

(A) New part is currently available for sale.
(B) Part is currently available for sale.
(C) Old part will continue to be available.
(S1) New parts must be fitted as a COMPLETE SET per engine. Mixing of old and new parts is not permissible.
(1D) Old part number can be reworked and reidentified as a new part number.
(2D) Quantity of Part No. Decreased.
(3D) Old part can be used up on other applications.

D. Consumables required to incorporate this Bulletin:

CoMat 10-077 approved engine oils

NOTE: The estimated 1994 unit prices shown are provided for planning purposes only and do not constitute a firm quotation. Consult the IAE Price Catalog or contact IAE's Spare Parts Sales Department for information concerning firm prices.