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

DATE R Aug.10/01

V2500-A5/D5 PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits Revision 5 to Service Bulletin EV2500-73-0094

Document History

Service Bulletin Revision Status		Supplement Revision Status
Initial Issue	Nov.30/96	
Revision 1	Dec.30/96	
Revision 2	Jan.30/97	
Revision 3	Aug.5/98	
Revision 4	May 4/01	

Bulletin Revision 5

Remove	Incorporate	Reason for change
Pages 1 to 15 of the Service Bulletin	Pages 1 to 16 of the Service Bulletin	To correct effectivity and engine serial numbers, add ATA locator and internal reference numbers.

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 5 are as follows:

Page		Revision Number	Revision Date
	Bulletin		
R	1	5	Aug.10/01
R	2	5	Aug.10/01
R	3	5	Aug.10/01
R	4	5	Aug.10/01
R	5	5	Aug.10/01
R	6	5	Aug.10/01
R	7	5	Aug.10/01
R	8	5	Aug.10/01
R	9	5	Aug.10/01
R	10	5	Aug.10/01
R	11	5	Aug.10/01
R	12	5	Aug.10/01
R	13	5	Aug.10/01
R	14	5	Aug.10/01
R	15	5	Aug.10/01
R	16	5	Aug.10/01

ENGINE - FUEL AND CONTROL - REROUTE THE LEFT AND RIGHT PRESSURE CONTROL TUBE ASSEMBLIES

1. Planning Information

A. Effectivity

R (1) Airbus A319

R V2522-A5, V2524-A5, V2527M-A5 Engines V10001 thru V10374

R (2) Airbus A320

R (a) V2500-A1 Engines V0001 thru V0361

R (b) V2527-A5, V2527E-A5 Engines V10001 thru V10374

R (3) Airbus A321

R V2530-A5, V2533-A5 Engines V10001 thru V10374

R (4) ATA Locator 73-00-00

B. Concurrent Requirements

There are no concurrent requirements.

C. Reason

(1) Condition: There is a possibility of interference between the P4.9 manifolds and the nacelle thrust reverser heatshields that can lead to contact wear of the manifolds.

(2) Background: The shape of the P4.9 Manifold Assemblies can cause contact between the Manifolds and the Nacelle Thrust Reverser Heatshields in some situations. There have been several reports of manifold wear in service run engines.

(3) Objective: Revise the shape of the P4.9 Manifold Tube Assemblies to eliminate the possibility of interference between it and the thrust reverser heatshields.

(4) Substantiation: The Manifold Assemblies were successfully installed and operated on flight test aircraft.

(5) Effect 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.

D. Description

Install a new set of P4.9 Manifold Assemblies.

E. Compliance

Category 7

Accomplish when supply of superseded parts has been depleted.

F. Approval Data

The part number changes and/or part modifications specified in the Accomplishment Instructions and Material Information sections of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the engine model(s) given.

G. Manpower

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

Venue	Estimated Manhours
In Service	Not Applicable.
At Overhaul	Not Applicable.

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

H. Weight and Balance

Weight Change	None.
Moment	No Effect.
Datum	Engine Front Mount Centerline (Power Plant Station (PPS) 100).

I. Electrical Load Data

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

J. Software Accomplishment Summary

Not Applicable.

See Vendor Supplier Service Bulletin.

K. References

1. IAE V2500 Service Bulletin V2500-ENG-72-0063 (Engine - LP Turbine Rotor And Stator Assembly - Introduce New Tube Assemblies Required For Modified Turbine Exhaust Case).

2. IAE V2500 Service Bulletin V2500-ENG-73-0004 (Engine - LP Turbine Rotor And Stator Assembly - Introduce New Tube Assemblies Required For Modified Turbine Exhaust Case).

3. 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-V2500-71B), Chapter/Section 72-50-50, 72-50-53, and 73-22-51.

4. V2500 Engine Manual (E-V2500-1IA), Chapter/Section 73-22-31.

R 5. Internal reference number 94VA070, 94VA070G, 94VA070G-02

L. Other Publications Affected

1. V2500 Engine Illustrated Parts Catalogs (S-V2500-1IA, S-V2500-2IA,
R S-V2500-2IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, and S-V2500-7IB), Chapter/Section 72-50-50, 72-50-53, and 73-22-51 to add the new parts.

2. V2500 Engine Manuals (E-V2500-1IA), Chapter/Section 73-22-31 Cleaning, Inspection and Repair, to add the new part.

M. Interchangeability of Parts

Old and new parts are directly interchangeable in complete sets per tube location.

N. Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (Yes)

Added Data (Yes)

Revision to Table of Limits (No)

Inspection Procedures (No)

2. Material Information

A. Material - Price and Availability

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

2. Part availability information is provided in material data Instructions-Disposition.

B. Industry Support Program

Not Applicable.

C. The material data that follows is for each engine.

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.

For V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5, V2525-D5, V2528-D5 Engines:

	New PN	Qty	Estimate of Unit Price ($)	Keyword	Old PN	Instructions-Disposition
	2A3127	1	*	Washer, Saddle	MS9549-14 (72-50-50-20-330)	(S1)(A)(E)
	2A3120	1	*	Bracket, Loop Clamp	2A2232 (72-50-53-20-020)	(S1)(A)(B)
	2A3119	1	*	Bracket, Loop Clamp	(72-50-53-20-085)	(S1)(A)
	2A3125-01	1	*	Tube Assembly Pressure Control, Right	2A2358-01 (73-22-51-20-050)	(S1)(A)(B)
R R	4W1184	1	3.14	Bolt	4W1185 (73-22-51-20-090)	(S1)(A)(C) (E)
	MS122903	1	1.71	Clamp	(73-22-51-20-091)	(S1)(A)(C)
	4W0001	2	2.53	Nut, Option	(73-22-51-20-092)	(S1)(A)(C)
	4W0103	2	4.39	Bolt	(73-22-51-20-093)	(S1)(A)(C)
R R	AS3268-082	4	4.91	.Sleeve Half Reinforcing	AS3268-082 (73-22-51-20-050)	(S1)(A)(B) (D)

New PN	Qty	Estimate of Unit Price ($)	Keyword	Old PN	Instructions-Disposition
2A3124-01	1	*	Tube Assembly Pressure Control, Left	2A2361-01 (73-22-51-20-180)	(S2)(A)(B)
MS122903	1	1.71	Clamp	(73-22-51-20-207)	(S2)(A)(C)
4W0001	1	2.53	Nut, Option	(73-22-51-20-211)	(S2)(A)(C)
4W0001	1	2.53	Nut, Option	(73-22-51-20-212)	(S2)(A)(C)
4W1184	1	3.14	Bolt	4W1185 (73-22-51-20-220)	(S2)(A)(C)(E)
4W0103	1	4.39	Bolt	(73-22-51-20-221)	(S2)(A)(C)
4W0103	1	4.39	Bolt	(73-22-51-20-222)	(S2)(A)(C)
AS3268-082	4	4.91	.Sleeve Half Reinforcing	AS3268-082 (73-22-51-20-050)	(S2)(A)(B)(D)
2A3123	1	*	Bracket, Loop Clamp	(72-50-53-20-355)	(S2)(A)
2A3119	1	*	Bracket, Loop Clamp	(72-50-53-20-217)	(S2)(A)

D. Instructions/Disposition Code Statements:

(S1) New parts coded (S1) must replace Old parts coded (S1) in complete sets per engine.
(S2) New parts coded (S2) must replace Old parts coded (S2) in complete sets per engine.
(A) The new part is currently available.
(B) The old part will no longer be supplied.
(C) The new part is supplied for greater units.
(D) The quantity of this part is increased from 2 to 4 at this location.
(E) The old part will continue to be supplied for other applications.

E. Tooling - Price and Availability

Special tools are not required to accomplish this Service Bulletin.

F. Other Material Information Data

Not Applicable.

3. Accomplishment Instructions

(1) Reroute Left and Right Pressure Control Tube Assemblies.

(a) Disconnect the 6A5023 Oil Weep Tube Assembly as necessary to replace the MS9514-19 Washer with the 2A3127 Saddle Washer. See Figure 2 (Sheets 3 and 5).

(b) Remove the Right and Left Pressure Control Tube Assemblies by the procedure given in Reference (2), Chapter/Section 73-22-51, Removal/Installation, Figures 1 and 2, and as follows:

(i) Do not remove the Pipe Adapter after you remove the Right and Left Pressure Control Tube Assemblies.

(c) Install the 2A3124-01 Left Pressure Control Tube Assembly (1 off) and the 2A3125-01 Right Pressure Control Tube Assembly (1 off) by the procedure given in Reference (2), Chapter/Section 73-22-51, Removal/Installation, Figures 1 and 2 and as follows:

(i) Install the 2A3120 Loop Clamp Bracket (1 off) at the location shown (View E-E) in Figure 2, Sheet 4.

NOTE: This Loop Clamp Bracket replaces the 2A2232 Loop Clamp Bracket that was used at this location before.

(ii) When you install the 2A2212 Bracket, (View D-D) in Figure 2 (Sheet 4), install the 2A3123 Loop Clamp Bracket (1 off), the MS122903 Clamp (1 off), the 4W0103 Bolt (1 off) and the 4W0001 Nut (1 off).

(1) Position the loop clamp on the loop clamp bracket.

(2) Install the bolt through the hole in the bracket and the loop clamp.

NOTE: Bolts are to be lubricated with CoMat 10-077 Approved Engine Oil.

(3) Install the nut on the bolt and tighten it with your fingers.

(4) Torque the nut to between 85 and 105 lbin (9,604 to 11,863 Nm).

(iii) Install the 2A3119 Loop Clamp Brackets (2 off) at the locations given in (View C-C) Figure 2 (Sheets 2 through 4).

(1) Position the loop clamp bracket on the rear of the flange at the wear sleeve location.

(2) Install the 4W1184 Bolt (1 off) through the hole in the bracket and the flange.

(3) Install the 4W0001 Nut (1 off) through the hole in the bracket and the flange.

(4) Torque the nut to between 85 and 105 lbin (9,604 to 11,863 Nm).

(5) Position the MS122903 Loop Clamp (1 off) on the loop clamp bracket.

(6) Install the 4W0103 Bolt (1 off) through the hole in the bracket and the loop clamp.

(7) Install the 4W0001 Nut (1 off) on the bolt and tighten it with your fingers.

(8) Connect the tube nut to the turbine case connector.

(9) Torque the nut to between 85 and 105 lbin (9,604 to 11,863 Nm).

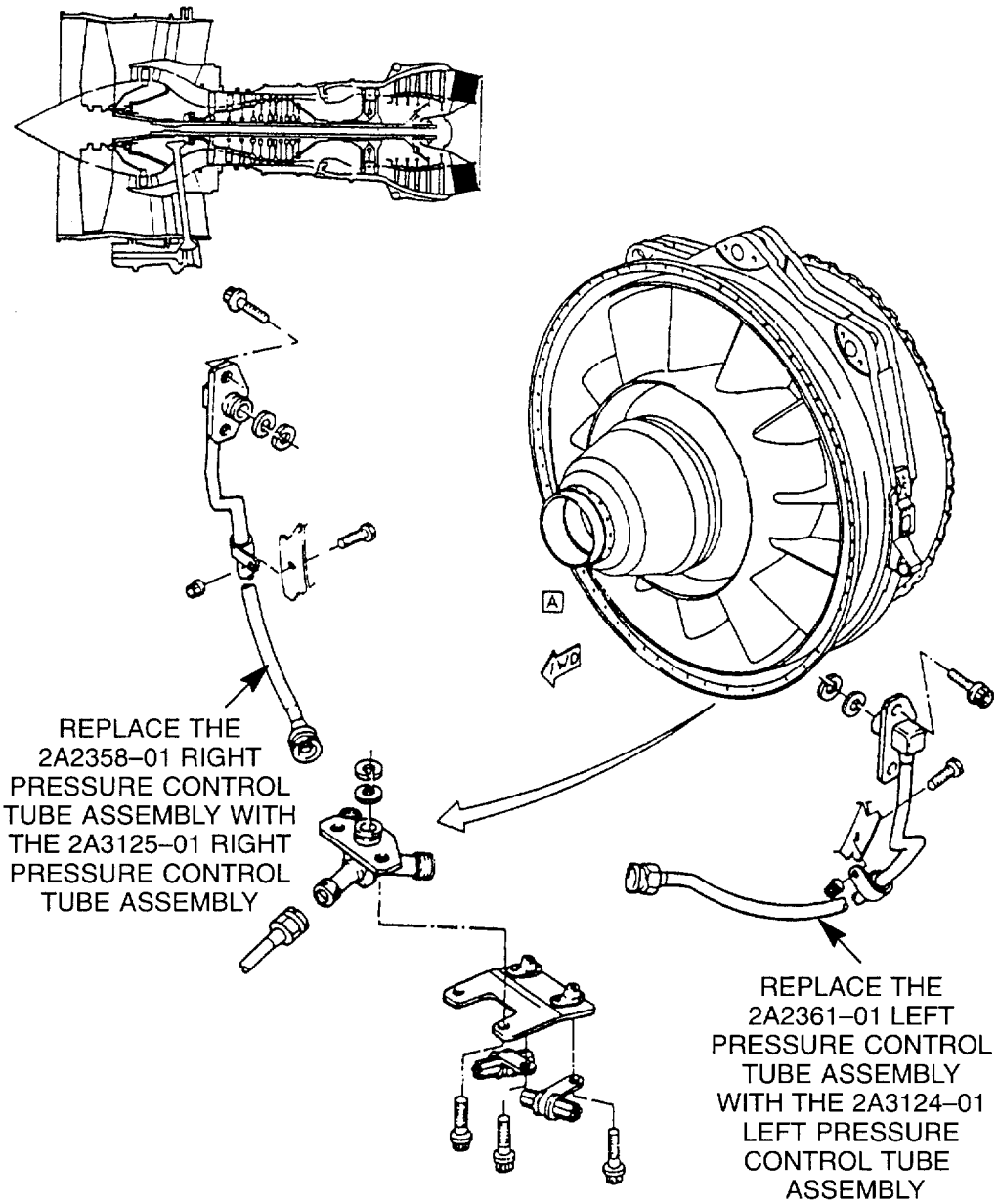
(iv) Install the 2A3119 Loop Clamp Bracket (1 off) on the rear of the flange at the wear sleeve location and by the procedure given in step (3), (a) through (i).

(v) Replace the MS9549-14 Washer with the 2A3127 Saddle Washer at the location shown in (View Z) Figure 2, (Sheets 3 and 5).

(vi) Connect the tube nut to the turbine case connector.

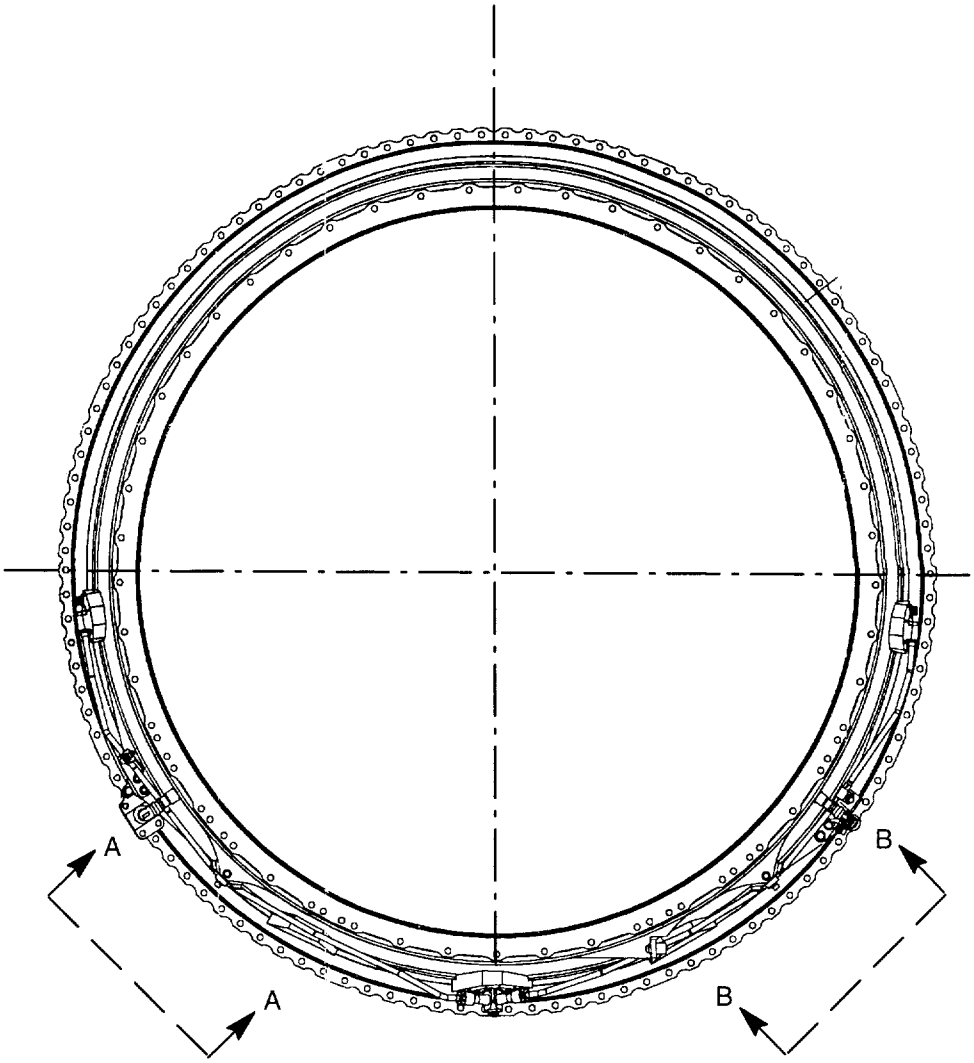
(vii) Torque the tube nut to the turbine case connector.

(viii) Torque the tube nut to 159 and 177 lbin (707,3 and 787,3 Nm) and safety with CoMat 02-126 Lockwire.



pw000e7519a

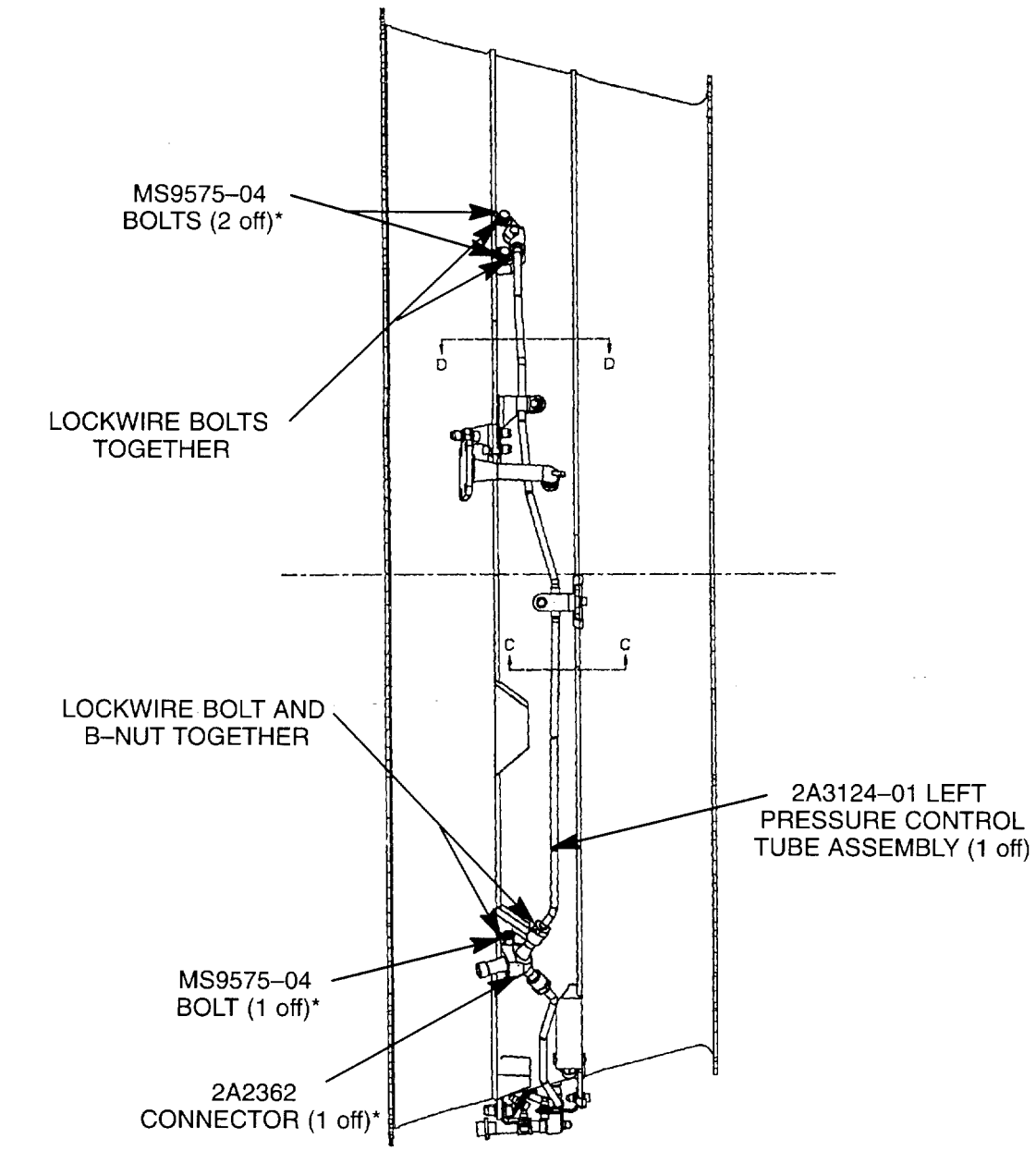
Location of the P4.9 manifolds
Fig 1



VIEW OF THE TURBINE EXHAUST CASE
ASSEMBLY WHEN YOU LOOK FORWARD

pw000e0544

Installation of the P4.9 manifolds
Fig 2 (sheet 1)

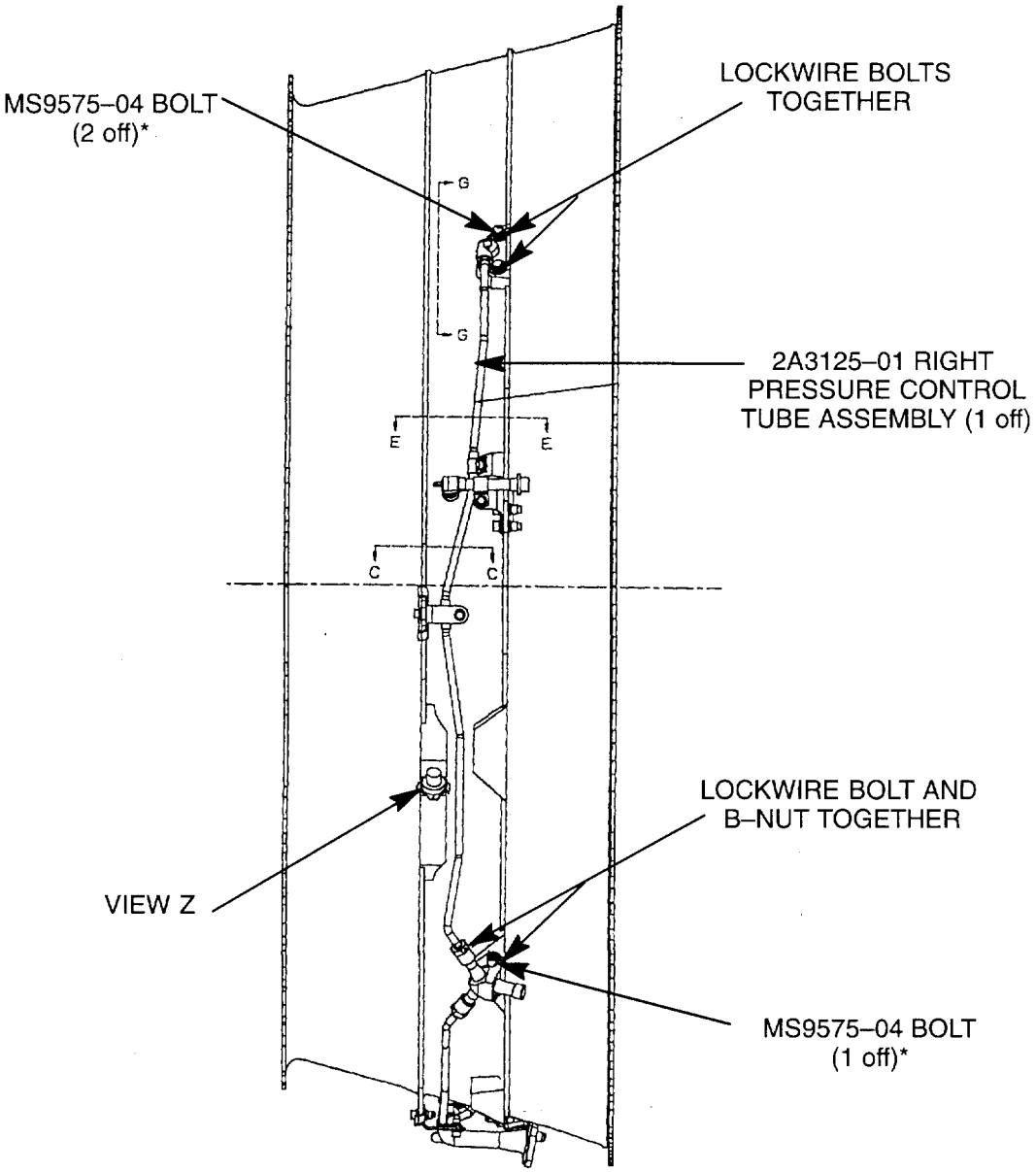


*PARTS ARE SHOWN FOR
REFERENCE ONLY

VIEW A–A

pw000e7521

Installation of the P4.9 manifolds
Fig 2 (sheet 2)

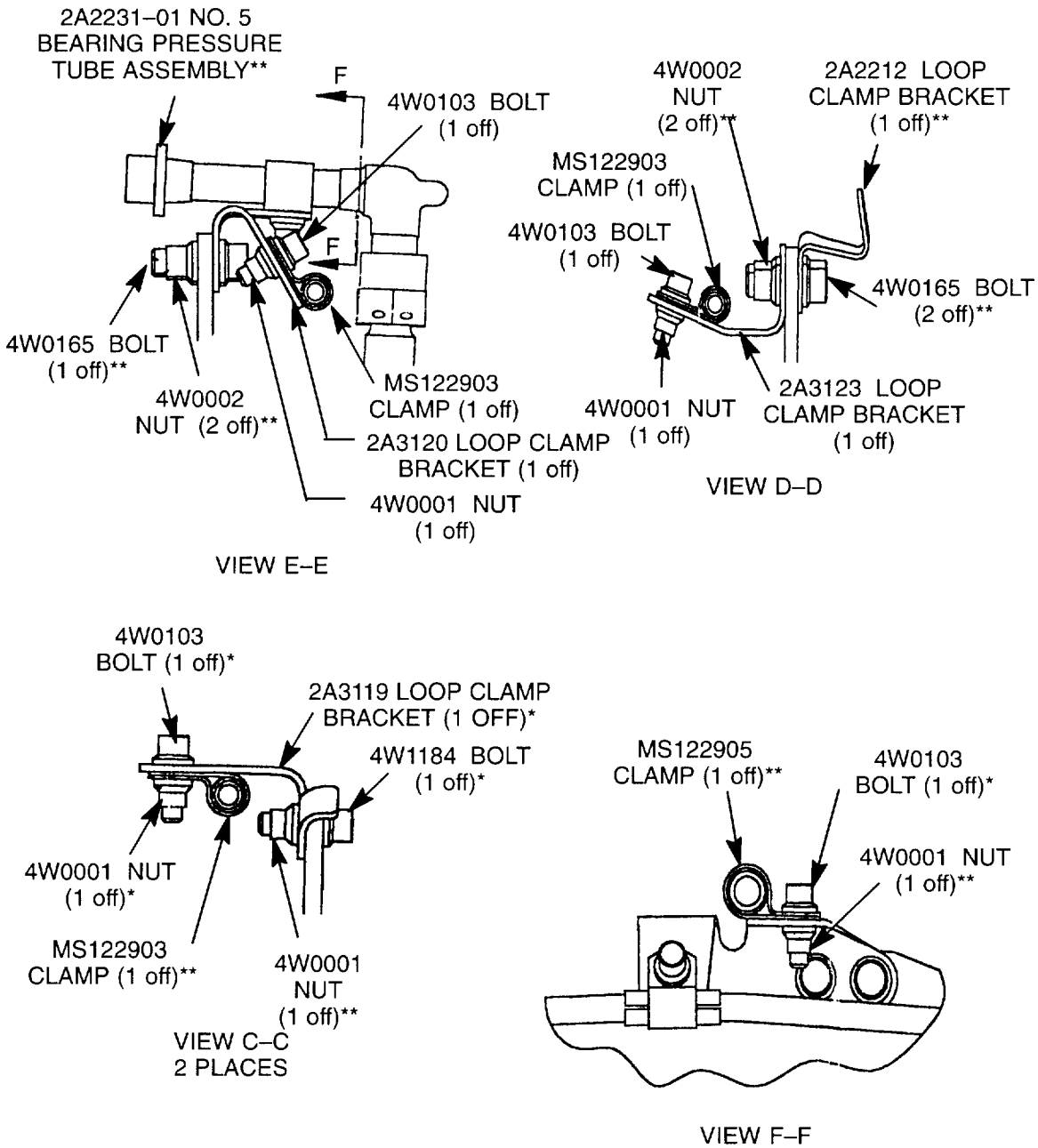


*PARTS ARE SHOWN FOR REFERENCE ONLY

VIEW B–B

pw000e7522

Installation of the P4.9 manifolds
Fig 2 (sheet 3)

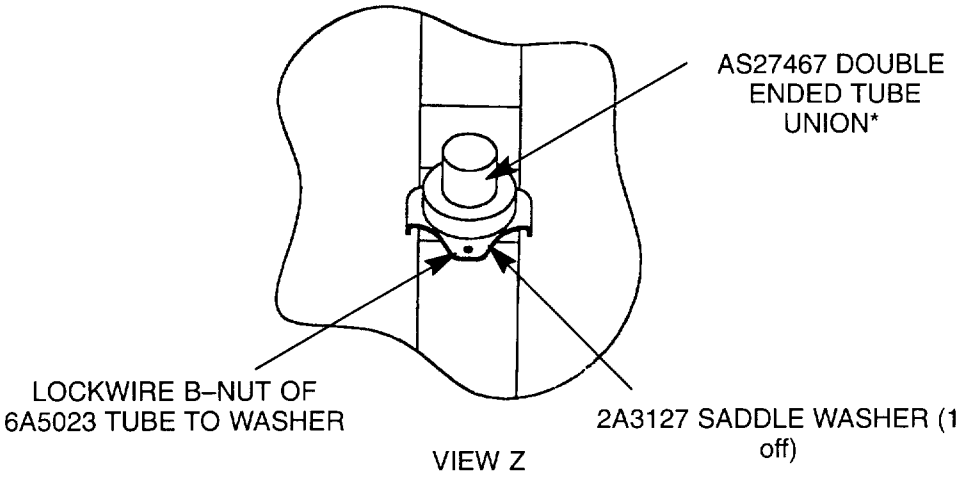


*QUANTITIES GIVEN ARE FOR 1 LOCATION

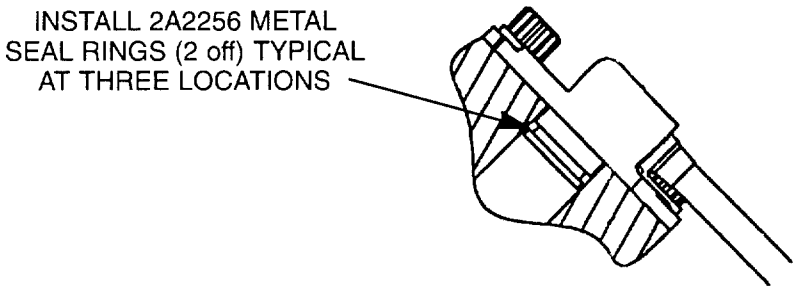
**PARTS ARE SHOWN FOR
REFERENCE ONLY

pw000e7523a

Installation of the P4.9 manifolds
Fig 2 (sheet 4)



VIEW Z



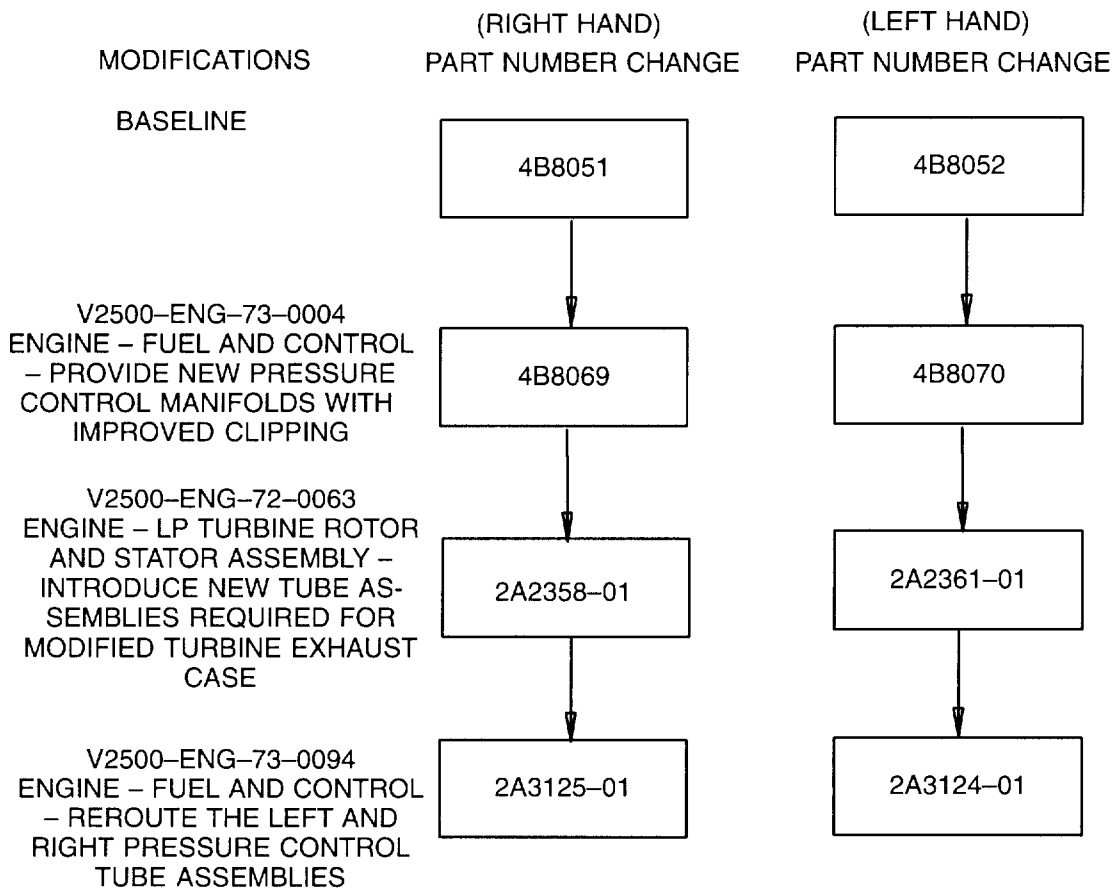
VIEW G–G

* PARTS ARE SHOWN FOR REFERENCE ONLY

pw000e7524

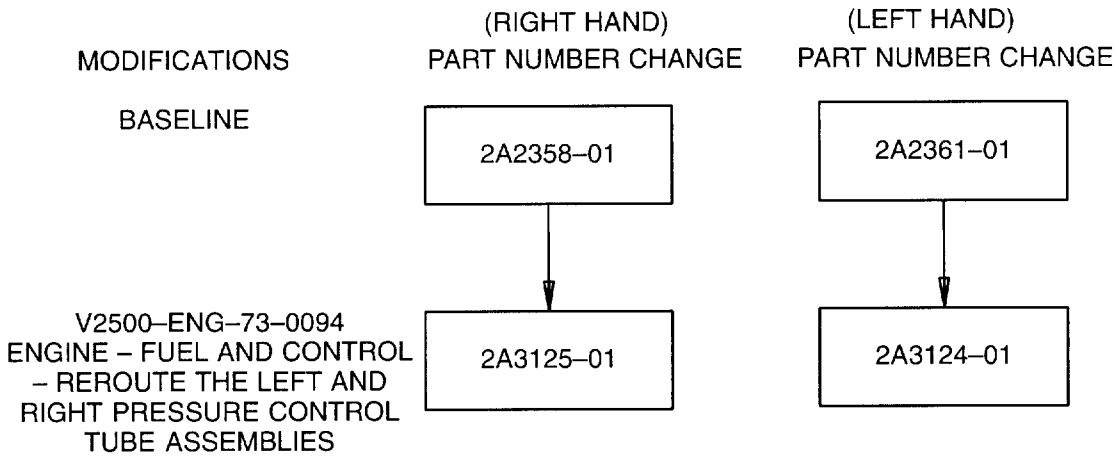
Installation of the P4.9 manifolds
Fig 2 (sheet 5)

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



pw000e7710a

Family tree - Right and left pressure control tube assemblies (V2500-A1) Ref. catalogue sequence no. 73-22-51, Fig 1 items 050 and 180
Fig 3



Added Data

Number values shown in parenthesis adjacent to U.S. values are Systeme Internationale equivalents.

pw000e7711a

Family tree - Right and left pressure control tube assemblies (V2500-A5) Ref. catalogue sequence no. 73-22-51, Fig 1 items 050 and 180
Fig 4