POWER PLANT - CORE HARNESSES - REVISED CLIPPING OF LOOMS E, F AND G - CATEGORY CODE 6 - MOD.ENG-71-0152

1. Planning Information

A. Effectivity

(1) Aircraft: McDonnell Douglas MD-90

(2) Engine: V2500-D5 Engines prior to Serial No.V20009.

B. Concurrent Requirements

None

B. Reason

(1) Condition

Insufficient clearance between the EGT harness (Loom F) and the core firerail also between the link harness/firewire (Loom H) and the Stage 10 Make Up Valve.

(2) Background

During assembly it was highlighted that insufficient clearance existed between the E.G.T. harness (Loom F) and the core firerail in the region of clipping points 7812 and 8029. It was also highlighted that there was insufficient clearance between Loom H and the Stage 10 Make Up Valve in the region of clipping points 7825 and 7831. In addition it was found necessary to reroute the General Services Harness (Loom E) at clipping point 7835.

(3) Objective

To eliminate possible harness fouls.

(4) Substantiation

The parts instructed by this Service Bulletin were assembled on a mock-up installation with acceptable results.

(5) Effect of Bulletin on Workshop Procedures:

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

(6) Supplemental Information

The Removal/Installation will be revised to add the new configuration of this Bulletin.

C. Description

The changes introduced by this Bulletin are as follows:

(1) To overcome the insufficient clearance between Loom F and the core firerail, the EGT limb of Loom F is no longer clipped at CP8029. The T.3 limb will now be clipped at CP8029 with an additional spacer. CP8030 is no longer required and is now deleted. The clip at CP7812 is rotated 180 degrees.

(2) To overcome the insufficient clearance between Loom H and the Make Up Valve a separate clip is introduced onto existing clipping points 7825 and 7831 to clip loom H only. This opportunity has also been taken to introduce a longer Loom H.

(3) The breakout of the 10th Stage Make Up Valve limb from the main Loom E is now repositioned between CP7835 and CP7836. The datum clipping point for Loom E is CP7837 the harness should be repositioned accordingly.

E. Approval

The part number changes and/or part modifications described in Section 2 and 3 of this bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

F. Compliance

Category Code 6

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

G. Manpower

Estimated manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
(1) In Service	Not applicable
(2) At Overhaul	Not affected

H. Material - Price and Availability

(1) Modification kit not required.

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

I. Tooling - Price and Availability

Special tools are not required.

J. Weight and Balance

(1) Weight Change	None
(2) Moment Arm	No effect
(3) Datum	Engine front mount centerline (Power Plant Station (PPS) 100)

K. Electrical Load Data

This Bulletin has no effect on the aircraft electrical load.

L. References

(1) Internal Reference No.

EC94VR024

(2) Other References

None.

M. Other Publications Affected

(1) V2500 Engine Illustrated Parts Catalog (S-V2500-3IA), Chapter/Section 71-52-51, 71-52-54, 71-52-61 and 72-42-20.

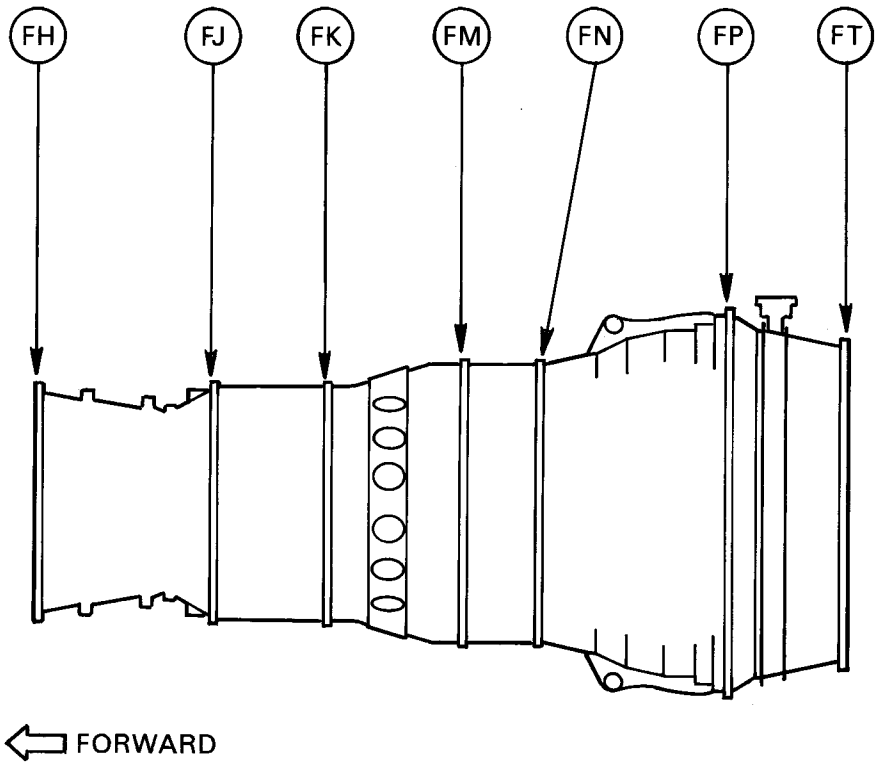
(2) V2500 Engine Manual (E-V2500-3IA), 72-00-40, Removal-04, Installation-07 and -09.

(3) V2500 Component Maintenance Manual (EHC-V2500-3IA), 71-52-51, Cleaning and Inspection, 71-52-54, Cleaning and Inspection and 71-52-61, Cleaning and Inspection.

(4) V2500 Component Maintenance Manual (MECH-V2500-3IA), 72-42-20, Cleaning and Inspection.

(5) V2500 Power Plant Build-Up Manual (PPB-V2500-3IA), 71-00-02, P/P Build-UP and P/P Conversion.

(6) V2500 Maintenance Manual (M-V2500-3IA), 71-51-54, Removal and Installation, 72-52-51, Removal and Installation.



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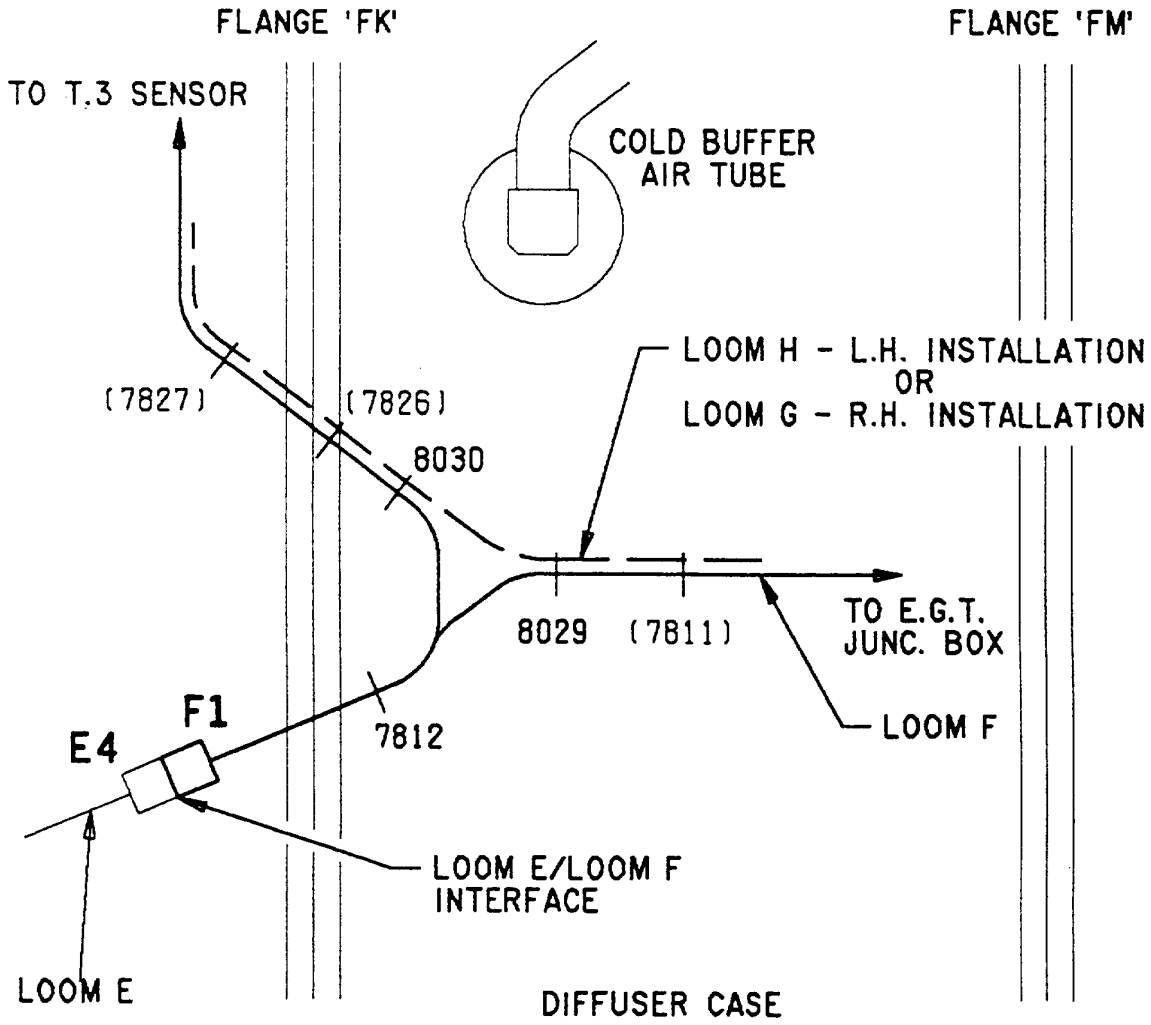
Location of flanges on engine core
Fig.1



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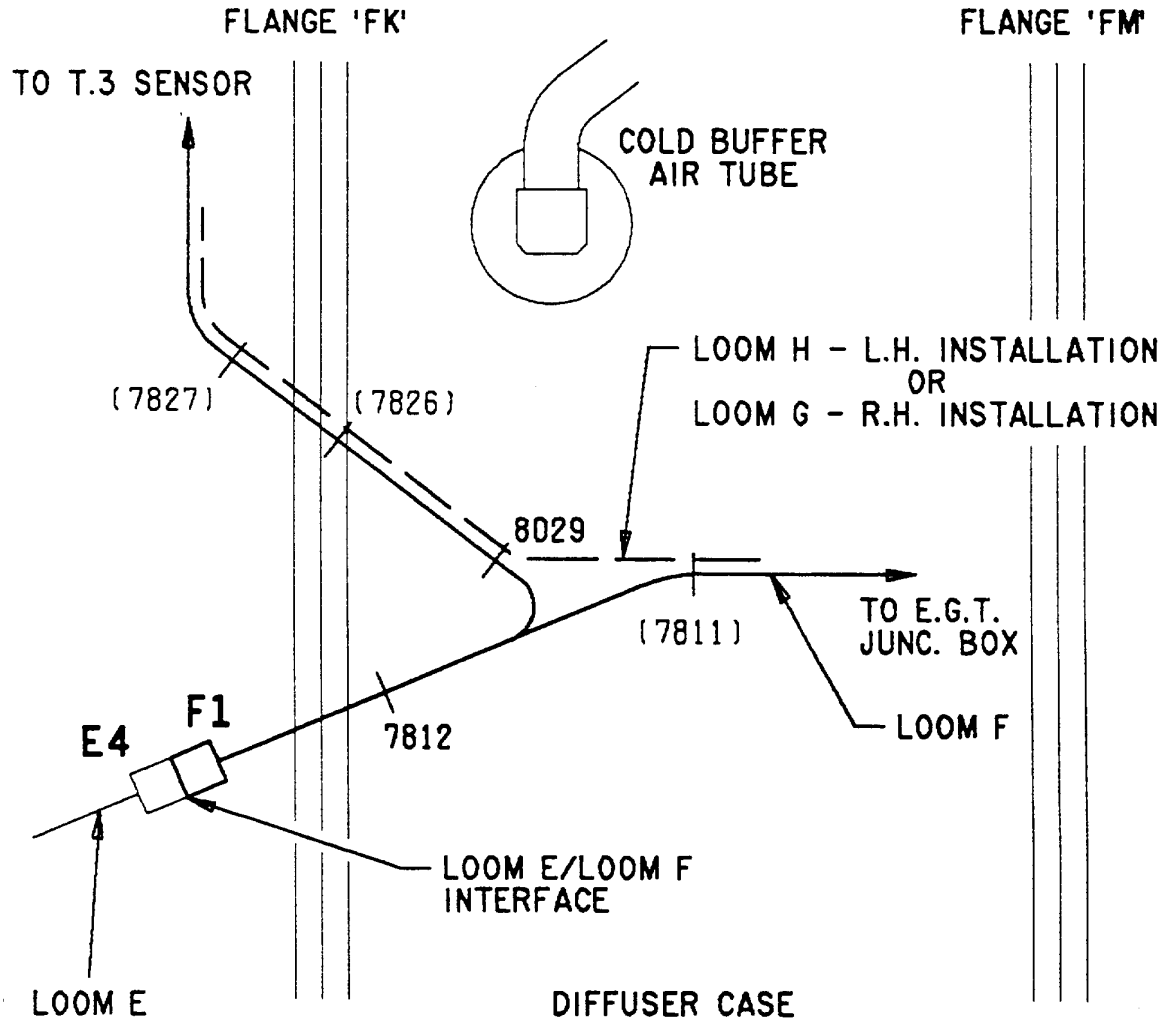
Schematic view of Loom 'F' showing clipping configuration - Before alteration
Fig.2



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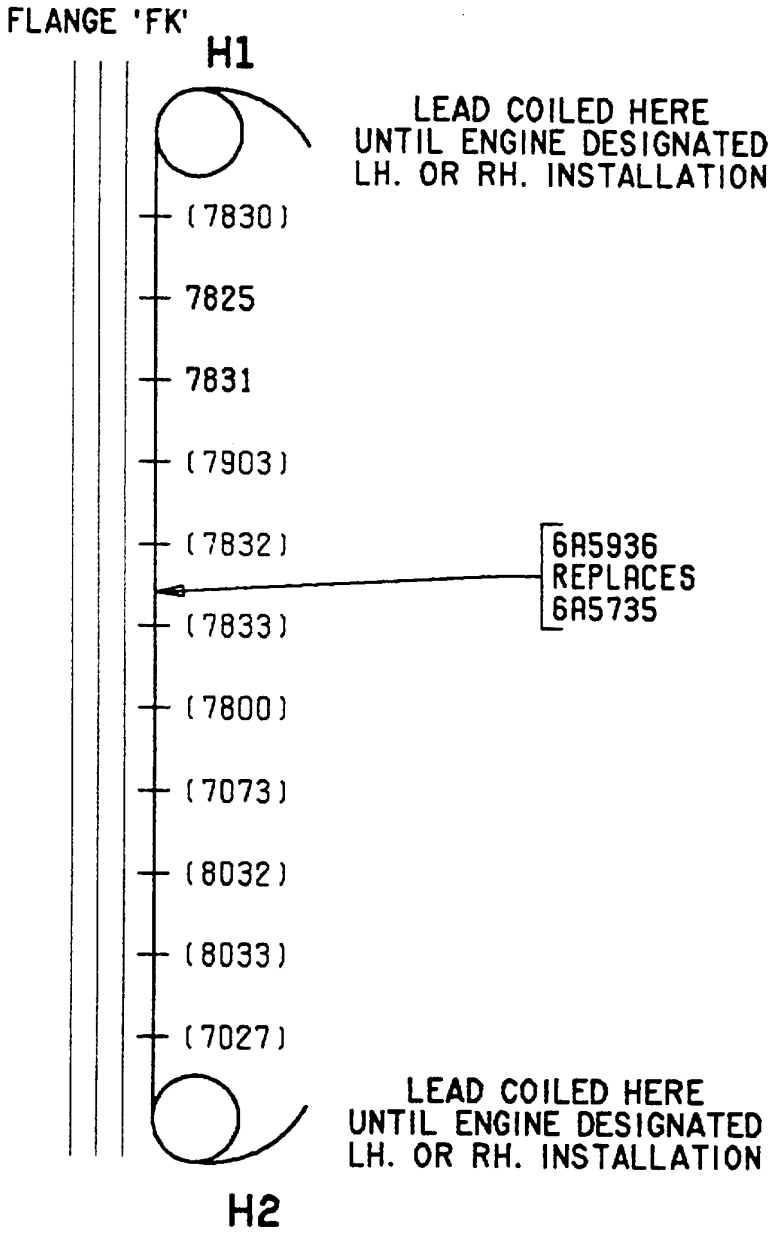
Schematic view of Loom 'F' showing clipping configuration - After alteration
Fig.3



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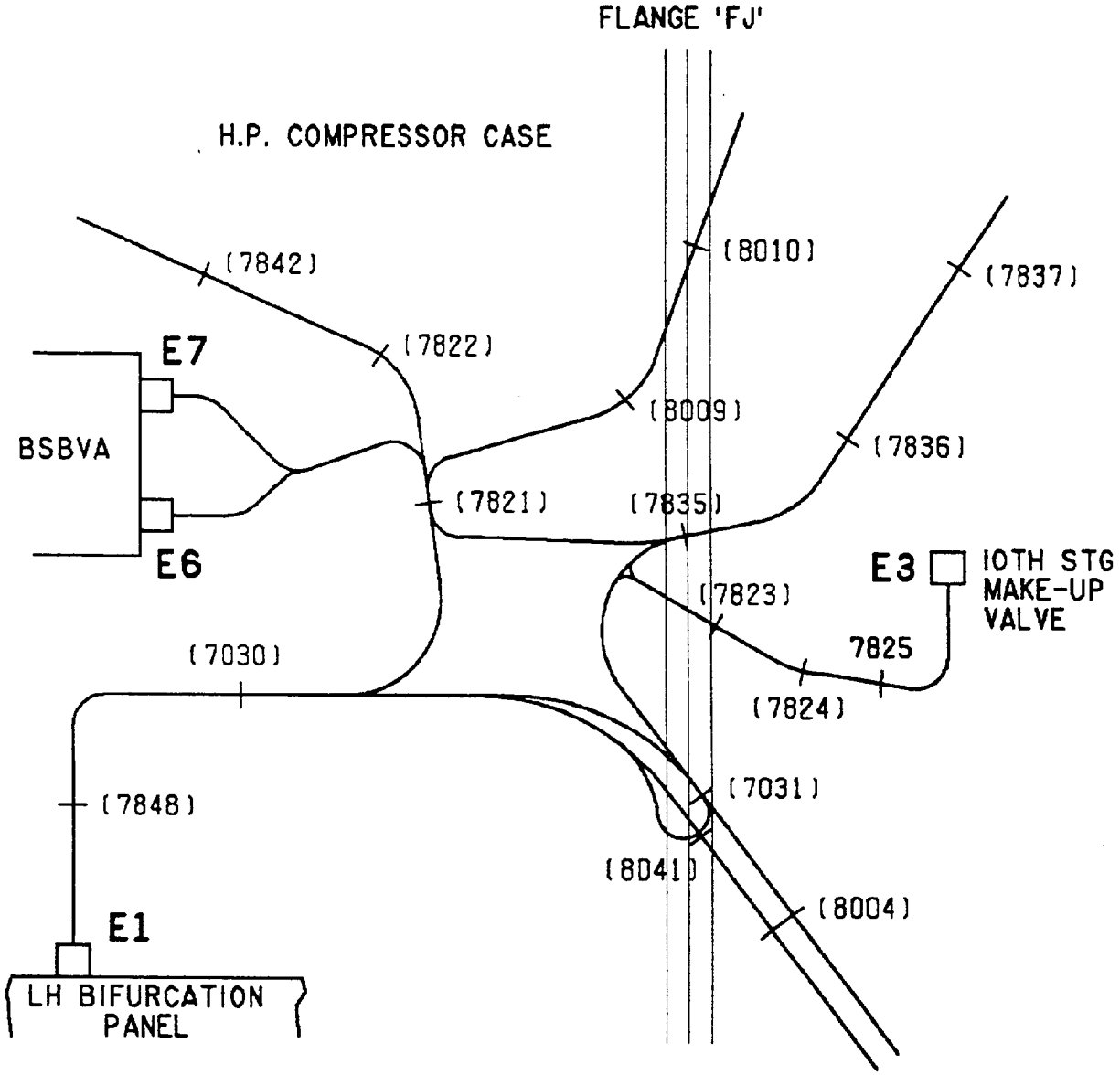
Schematic view of Loom 'H' showing clipping configuration - Before and after alteration
Fig.4



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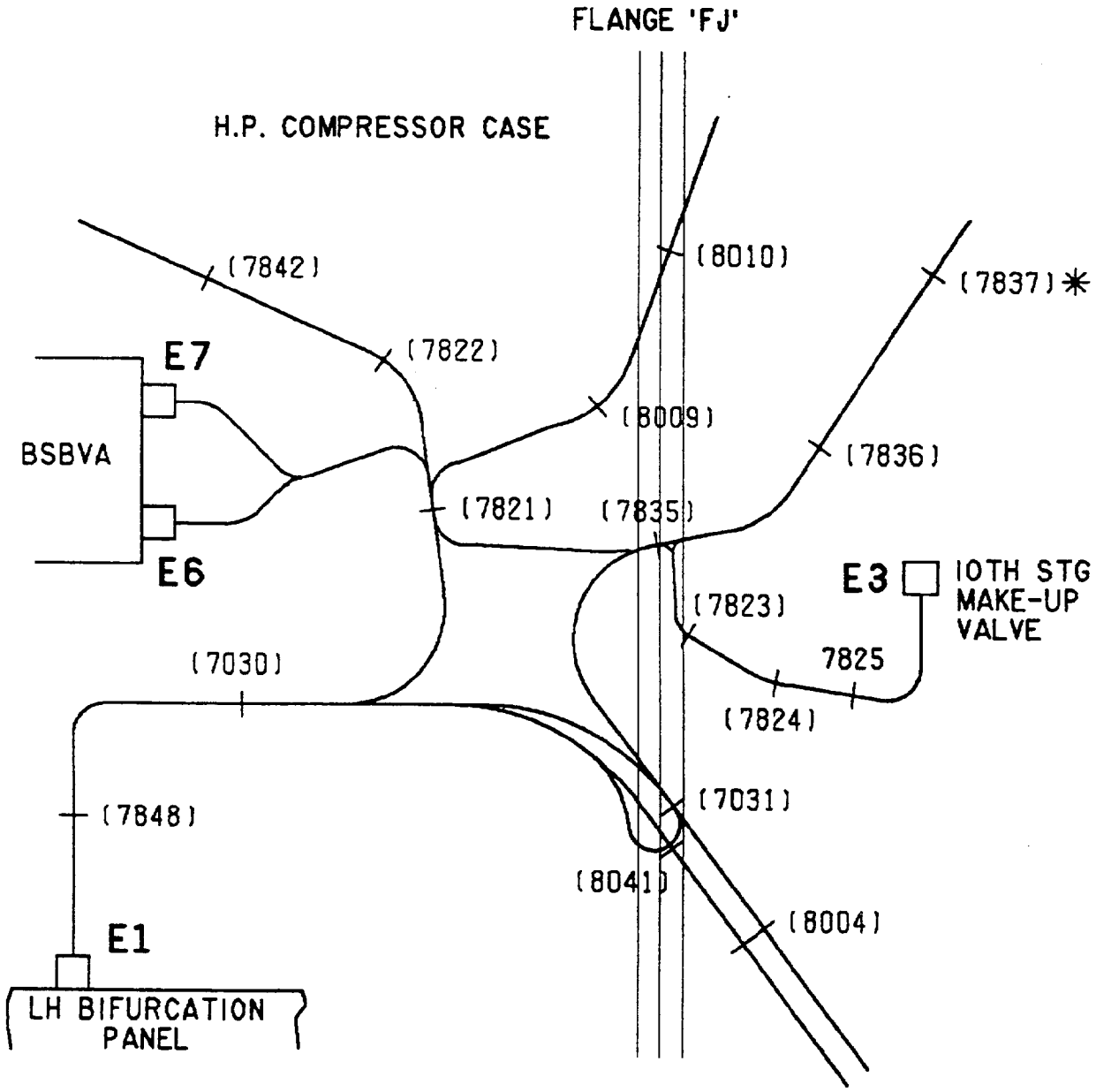
Schematic view of Loom 'E' showing clipping configuration - Before alteration
Fig.5



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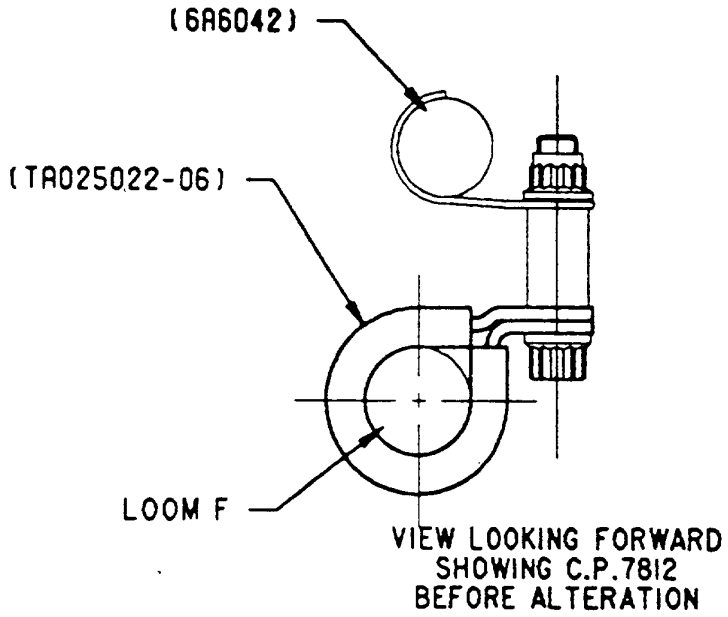
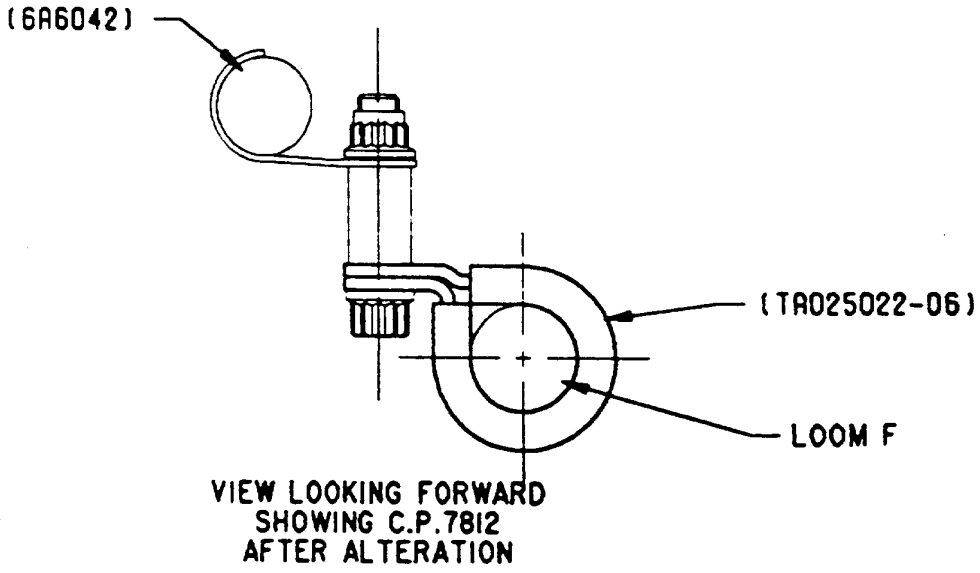
Schematic view of Loom 'E' showing clipping configuration - After alteration
Fig.6





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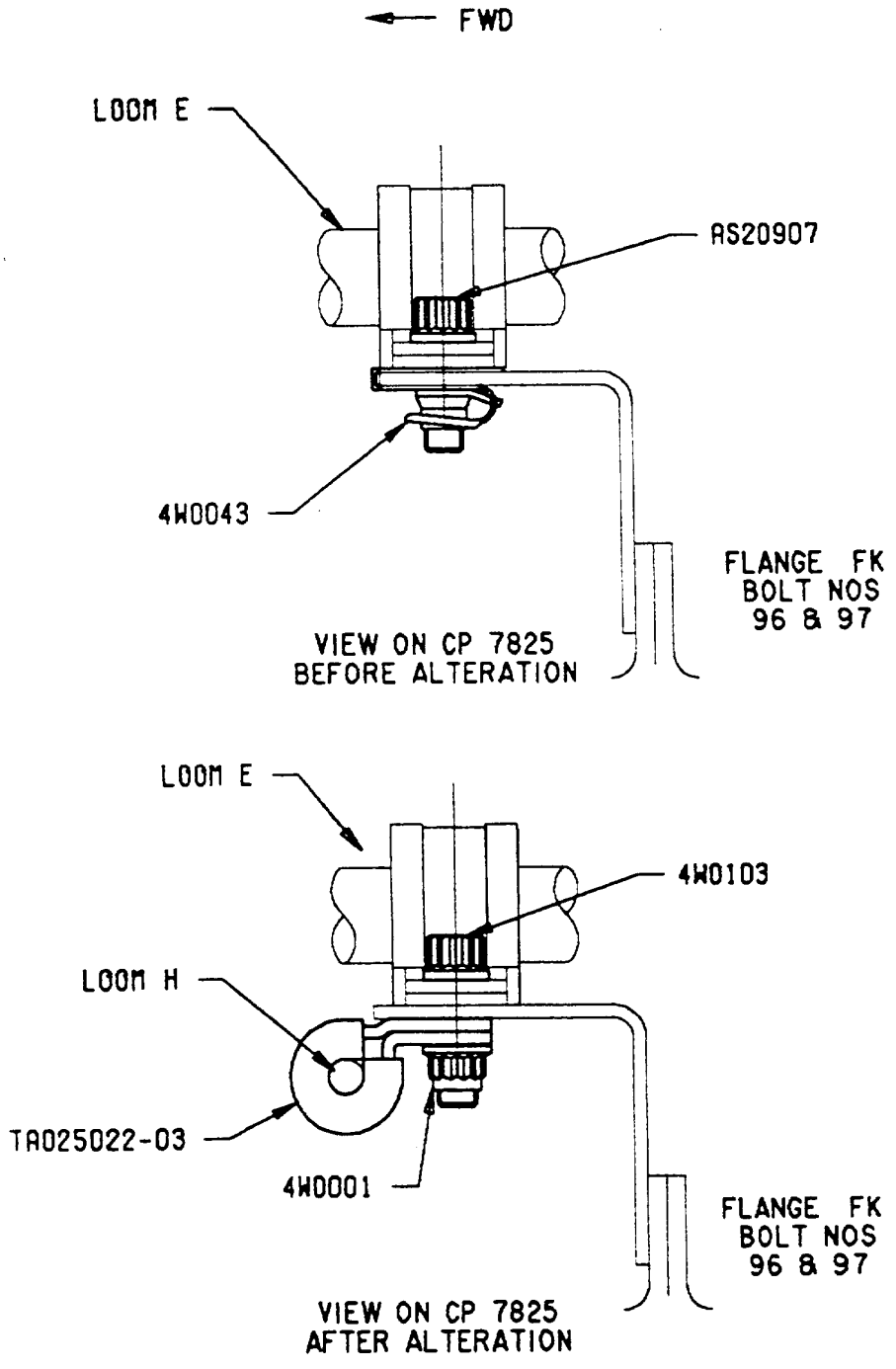
View looking forward showing clipping point 7812 - Before and after alteration
Fig.7



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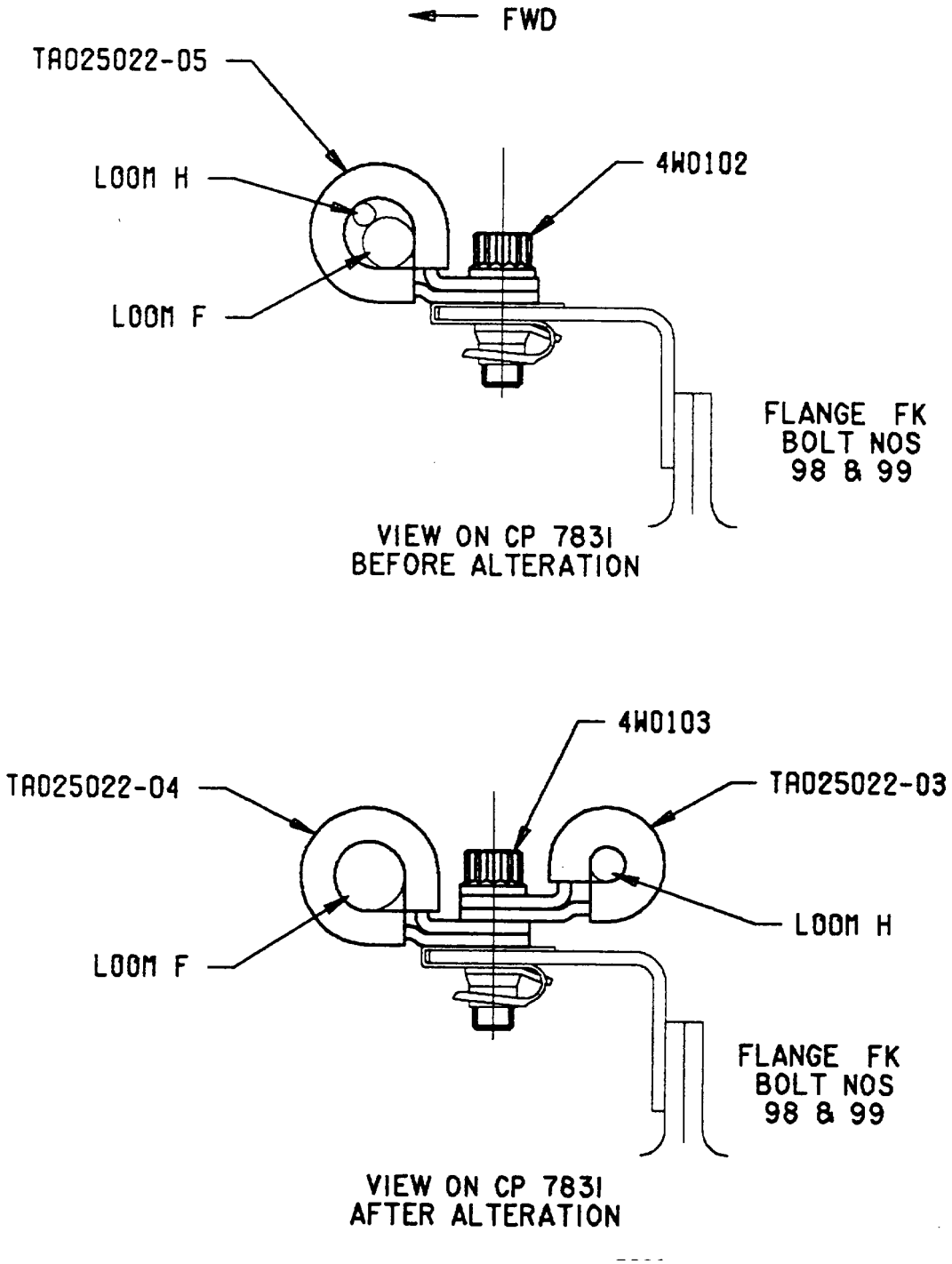
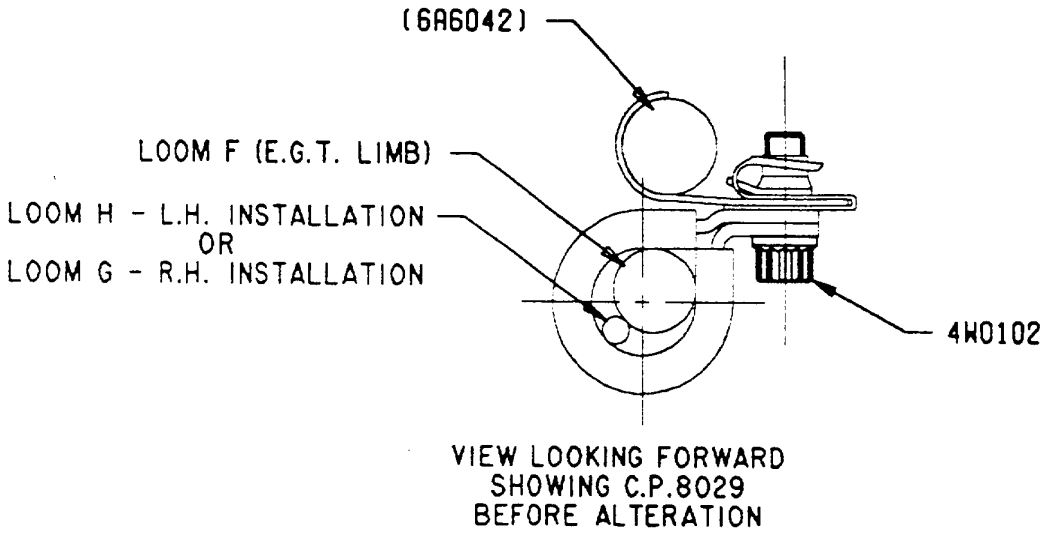
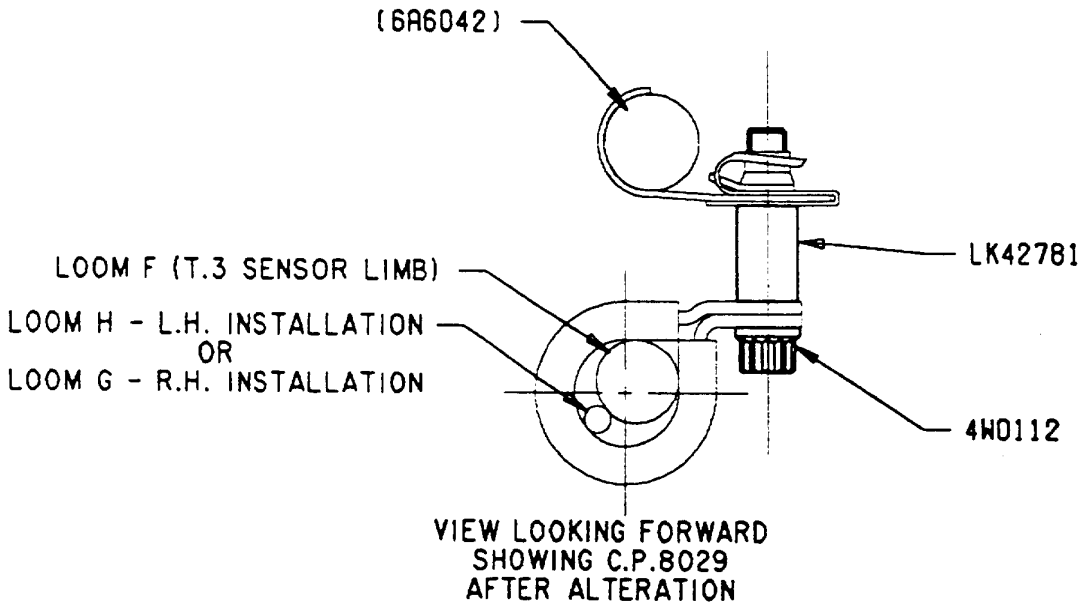
View on clipping point 7825 - Before and after alteration
Fig.8



View on clipping point 7831 - Before and after alteration
Fig.9





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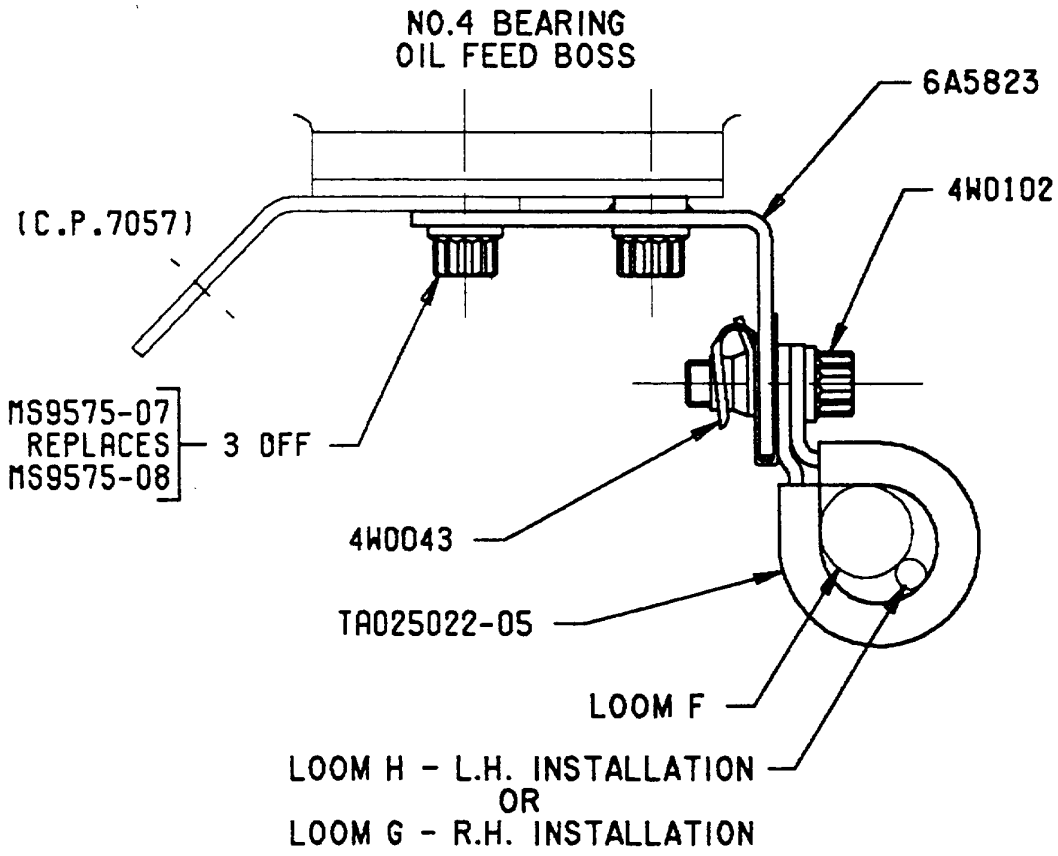
View looking forward showing clipping point 8029 - Before and after alteration
Fig.10



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View looking rearward showing clipping point 8030 - Deleted
Fig.11

2. Accomplishment Instructions

A. Rework Instructions

(1) There are no rework instructions necessary to accomplish this Service Bulletin.

B. Assembly Instructions

(1) Find 6A5735 harness loom 'H'. Refer to Figure 1 and Figure 4.

(2) Disassemble clipping points CP7830, CP7831, CP7903, CP7832, CP7833, CP7800, CP7073, CP8032, CP8033 and CP7027 sufficiently to remove 6A5735 harness loom.

(3) Install new 6A5936 harness loom 'H'. Refer to Figure 4.

(4) Assemble existing clipping points CP7830, CP7903, CP7832, CP7833, CP7800, CP7073, CP8032, CP8033 and CP7027 using existing parts.

(5) At existing clipping point CP7831, install loom 'F' into new TA025022-04 clip, install loom 'H' into new TA025022-03 clip. Assemble revised clipping point using new 4W0103 bolt and existing nut. Refer to figure 4 and Figure 9.

(6) Find harness loom 'E'. Refer to Figure 1, Figure 5 and Figure 8.

(7) Disassemble clipping point CP7825, remove AS20907 bolt and 4W0043 clip nut. Install harness loom 'H' into new TA025022-03 clip. Assemble revised clipping point using new 4W0103 bolt and new 4W0001 nut. Refer to Figure 4, Figure 5 and Figure 8.

(8) Disassemble clipping point CP7835 sufficiently to allow the breakout limb for the 10th stage make-up valve to be installed and re-assemble clipping point using existing parts. Refer to Figure 5 and Figure 6.

(9) Loom 'E' datum clipping point is CP7837, check the harness is correctly positioned at CP7837, if necessary loosen off clipping points as required, reposition datum to CP7837 and re-torque clipping points to 36 to 45 lbfin (4 to 5 Nm). Refer to Figure 6.

(10) Torque the clipping points CP7830, CP7825, CP7831, CP7903, CP7832, CP7833, CP7800, CP7073, CP8032, CP8033, CP7027 and CP7835 to 36 to 45 lbfin (4 to 5 Nm)

(11) Find harness loom 'F'. Refer to Figure 1 and Figure 2.

(12) Disassemble clipping point CP8029 sufficiently to remove harness loom 'F' to E.G.T. Junc. Box from clip. Refer to Figure 2 and Figure 10.

(13) Disassemble clipping point CP7812 sufficiently to remove harness loom 'F' from clip. Refer to Figure 2 and Figure 7.

(14) Disassemble clipping point CP8030, clipping point is deleted. Refer to Figure 2 and Figure 11.

(15) Remove the MS9575-08 retaining bolts (3 off) from the No.4 bearing oil feed boss and discard the 6A5823 bracket. Refer to Figure 11.

(16) Install the new MS9575-07 bolts (3 off) to the No.4 bearing oil feed boss and torque to 85 to 105 lbfin (10 to 12 Nm). Refer to Figure 11.

(17) At existing clipping point CP7812 rotate the clip 180 degrees and install harness loom 'F' into clip. Assemble clipping point using existing parts. Refer to Figure 3 and Figure 7.

(18) At existing clipping point CP8029 install harness loom 'F' to T.3 sensor into clip. Assemble revised clipping point using new 4W0112 bolt, new LK42781 spacer and existing nut. Refer to Figure 3 and Figure 10.

(19) Torque the clipping points CP7812 and CP8029 to 36 to 45 lbfin (4 to 5 Nm).

C. Recording Instructions

(1) A record of accomplishment is necessary.

3. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin.

A. Kits Associated with this 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
4W0103 (71-52-51)	1		Bolt, bi-hex) CP7825	AS20907 (01-169)	(A)(C)
4W0001 (71-52-51)	1		Nut) CP7825	4W0043 (01-176	(A)(C)
TA025022-04 (71-52-54)	1		Clamp, loop CP7831	TA025022-05 (01-096)	(A)(C)
4W0103 (71-52-54)	1		Bolt, bi-hex CP7831	4W0102 (01-193)	(A)(C)
4W0112 (71-52-54)	1		Bolt, bi-hex) CP8029	4W0102 (01-265)	(A)(C)
LK42781 (71-52-54)	1		Spacer) CP8029	- (01-270)	(A)(B)
- (71-52-54)	1		Bolt, bi-hex) CP8030	4W0102 (01-273)	(C)
- (71-52-54)	1		Clamp, loop) CP8030	TA025022-05 (01-276)	(C)
- (71-52-54)	1		Nut) CP8030	4W0043 (01-280)	(C)
6A5936 (71-52-61)	1		Harness link /firewire leads (Loom H)	6A5735 (01-005)	(A)
TA025022-03 (71-52-61)	1		Clamp, loop CP7825	- (01-076)	(A)(B)

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TA025022-03 (71-52-61)	1	Clamp, loop CP7831	- (01-084)	(A)(B)
- (72-42-20)	1	Bracket CP8030	6A5823 (01-315)	(D)
MS9575-07 (72-42-20)	3	Bolt, Bi-hex	MS9575-08 (01-320)	(A)(C)

C. Instruction/Disposition Code Statements:

(A) New parts currently available.

(B) Additional Part

(C) Old part can be used on other applications

(D) Old part no longer available.

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.