

POWER PLANT - ENGINE - EEC LINK HARNESS-CORE AND EGT HARNESS - INTRODUCTION OF IMPROVED
CLIPS FOR HARNESS CLIPPING - CATEGORY CODE 4 - MOD.ENG-71-0054

1. Planning Information

A. Effectivity

- (1) Aircraft: Airbus A320
- (2) Engine: V2500-A1 Engines prior to V0093

B. Reason

(1) Condition

Because of the metal braided harness, the cushion portion of clip may become frayed.

(2) Background

During the development tests some cushions of 471 type clips frayed. New clips are introduced to prevent this condition. These clips have cushion with coated hem and can reduce the possibility of fraying.

(3) Objective

To prevent fraying of cushion and a direct contact between the harness and metal part of clips.

(4) Substantiation

Substantiation test is not required.

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

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

C. Description

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

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- (a) All 471 type clips used for EEC link harness-core clipping and EGT harness clipping are superseded by TA0210046FT type or ST1455 type clips.
- (b) All 471-4 clips used for EGT harness clipping are changed to large size clips, TA0210046FT05 or ST1455-05 clips.
- (c) 471-7 clip used at clipping point CP3735 is changed to small size clip, TA0210046FT05 or ST1455-05 clip.

D. Approval

The part number changes and the alternative parts additions 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

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Accomplish at the first visit of an engine to a maintenance base capable of compliance with the accomplishment instructions regardless of the planned maintenance action or the reason for engine removal.

F. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
(1) In service	TOTAL 1 hour 41 minutes
(a) To gain access	
(i) Open fan cowls	17 minutes
(ii) Open 'C' ducts	18 minutes
	TOTAL 35 minutes
(b) To embody	
(i) Remove the defective clips	10 minutes
(ii) Install modified clips	16 minutes
	TOTAL 26 minutes

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(c) To return to flyable status

(i) Close 'C' ducts .. 21 minutes

(ii) Close fan cowls .. 19 minutes

TOTAL 40 minutes

G. Material - Price and Availability

(1) Modification kit 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
(Power Plant Station (PPS) 100) |

J. Electrical Load Data

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

K. References

(1) Internal Reference No.

89VJ027

(2) Other References

Aircraft Maintenance Manual; 71-13-00 Maintenance Practices and 78-32-00 maintenance Practices.

V2500 Service Bulletin; V2500-ENG-71-0053

L. Other Publications Affected

(1) V2500 Engine Illustrated Parts Catalog; 71-52-44 and 71-52-45.

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2. Accomplishment Instructions

A. Prerequisite Instructions

- (1) Open the Fan cowls (Refer to Reference (1), Chapter/Section 71-13-00 Maintenance Practices, TASK 71-13-00-010-010).
- (2) Open the Thrust reverser halves (Refer to Reference (1), Chapter/Section 78-32-00 Maintenance Practices, TASK 78-32-00-010-010).

B. Rework Instructions (Refer to Figure 1, 2, 3 and 4)

CAUTION: CONFIRM THE HARNESS IS FREE FROM INTERFERENCE WITH ADJOINING PARTS WHILE YOU INSTALL CLIPS. INTERFERENCE WILL CAUSE DAMAGES FOR HARNESS AND ADJOINING PARTS.

NOTE: For selection of alternative clip size, refer to V2500 Engine Illustrated Parts Catalog, 70-40-10. Nominal clip size is used in this Service Bulletin.

- (1) Replace old clip to new clip at clipping point 5554
 - (a) Remove 4W0043 Nut, 5W1086 Washer and 4W0103 Bolt to release 471-7 Clip on the EEC link harness-core.
 - (b) Remove 471-7 Clip from the EEC link harness-core and install TA0210046FT07 or ST1455-07 Clip to the EEC link harness-core.
 - (c) Install the clip using 4W0103 Bolt, 5W1086 Washer and 4W0043 Nut.
 - (d) Torque the bolt to 36 to 45 lbfin (4 to 5 Nm).
- (2) Replace old clip to new clip at clipping point 5739
 - (a) Remove 4W0043 Nut, 5W1086 Washer and 4W0103 Bolt to release 471-7 Clip on the EEC link harness-core.
 - (b) Remove 471-7 Clip from the EEC link harness-core and install TA0210046FT07 or ST1455-07 Clip to the EEC link harness-core.
 - (c) Install the clip using 4W0103 Bolt, 5E1086 Washer and 4W0043 Nut.
 - (d) Torque the bolt to 36 to 45 lbfin (4 to 5 Nm).
- (3) Replace old clips to new clips at clipping point 5788
 - (a) Remove 4W0001 Nut, 5W1086 Washer and 4W0107 Bolt to release 471-5 and 471-4 Clips on the EEC link harness-core.

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- (b) Remove 471-5 Clip from the EEC link harness-core and install TA0210046FT05 or ST1455-05 Clip to the EEC link harness-core.
- (c) Remove 472-4 Clip from the EEC link harness-core and install TA0210046FT04 or ST1455-04 Clip to the EEC link harness-core.
- (d) Install the clips using 4W0107 Bolt, 5W1086 Washer and 4W0001 Nut.
- (e) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (4) Replace old clip to new clip at clipping point 5789
 - (a) Remove 4W0001 Nut, 5W1086 Washer and 4W0105 Bolt to release 471-4 Clip on the EEC link harness-core and terminals of the EEC link harness-core.
 - (b) Remove 471-4 Clip from the EEC link harness-core and install TA0210046FT04 or ST1455-04 Clip to the EEC link harness-core.
 - (c) Install the clip and the terminals using 4W0105 Bolt, 5W1086 Washer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (5) Replace old clip to new clip at clipping point 5790
 - (a) Remove 4W0043 Nut, 5W1086 Washer and 4W0103 Bolt to release 471-4 Clip on the EEC link harness-core.
 - (b) Remove 471-4 Clip from the EEC link harness-core and install TA0210046FT04 or ST1455-04 Clip to the EEC link harness-core.
 - (c) Install the clip using 4W0103 Bolt, 5W1086 Washer and 4W0043 Nut.
 - (d) Torque the bolt to 36 to 45 lbfin (4 to 5 Nm).
- (6) Replace old clip to new clip at clipping point 5791
 - (a) Remove 4W0043 Nut, 5W1086 Washer and 4W0103 Bolt to release 471-4 Clip on the EEC link harness-core.
 - (b) Remove 471-4 Clip from the EEC link harness-core and install TA0210046FT04 or ST1455-04 Clip to the EEC link harness-core.
 - (c) Install the clip using 4W0103 Bolt, 5W1086 Washer and 4W0043 Nut.
 - (d) Torque the bolt to 36 to 45 lbfin (4 to 5 Nm).
- (7) Replace old clip to new clip at clipping point 5211

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- (a) Remove 4W0043 Nut, 5W1033 Spacer, 5W1086 Washer and 4W0119 Bolt to release 471-4 Clip on the EGT harness and 5W1110 Clip on the oil tube.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clips using 4W0119 Bolt, 5W1086 Washer, 5W1033 Spacer and 4W0043 Nut.
 - (d) Torque the bolt to 36 to 45 lbfin (4 to 5 Nm).
- (8) Replace old clip to new clip at clipping point 5524
- (a) Remove 4W0001 Nut, two 5W1086 Washers, three 5W1031 Spacers and 4W0131 Bolt to release 471-4 Clip on the EGT harness, 5W1110 Clip on the oil tube and 5W1109 Clip on the drain tube.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clips using 4W0131 Bolt, two 5W1086 washers, three 5W1031 Spacers and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (9) Replace old clip to new clip at clipping point 5526
- (a) Remove 4W0001 Nut, 5W1086 Washer, 5W1031 Spacer and 4W0113 Bolt to release 471-4 Clip on the EGT harness and 5W1109 Clip on the air tube.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clips using 4W0113 Bolt, 5W1086 Washer, 5W1031 Spacer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (10) Replace old clip to new clip at clipping point 5527
- (a) Remove 4W0001 Nut, 5W1086 Washer, 5W1030 Spacer, 5W1029 Spacer and 4W0114 Bolt to release 471-4 Clip on the EGT harness and 5W1109 Clip on the air tube.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.



- (c) Install the clips using 4W0114 Bolt, 5W1086 Washer, 5W1030 Spacer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (11) Replace old clip to new clip at clipping point 5529
- (a) Remove 4W0001 Nut, two 5W1086 Washers and 4W0104 Bolt to release 471-4 Clip on the EGT harness and 5W1109 Clip on the air tube.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clips using 4W0104 Bolt, two 5W1086 Washers and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (12) Replace old clip to new clip at clipping point 5547
- (a) Remove 4W0001 Nut, 5W1086 Washer and 4W0102 Bolt to release 471-4 Clip on the EGT harness.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clip using 4W0102 Bolt, 5W1086 Washer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (13) Replace old clip to new clip at clipping point 5549
- (a) Remove 4W0001 Nut, 5W1086 Washer, 5W1031 Spacer and 4W0112 Bolt to release 471-4 Clip on the EGT harness.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clip using 4W0112 Bolt, 5W1086 Washer, 5W1031 Spacer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 46 lbfin (4 to 5 Nm).
- (14) Replace old clip to new clip at clipping point 5550
- (a) Remove 4W0001 Nut, 5W1086 Washer, 5W1030 Spacer and 4W0109 Bolt to release 471-4 Clip on the EGT harness.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.



- (c) Install the clip using 4W0109 Bolt, 5W1086 Washer, 5W1030 Spacer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (15) Replace old clip to new clip at clipping point 5551
- (a) Remove 4W0001 Nut, 5W1086 Washer and 4W0102 Bolt to release 471-4 Clip on the EGT harness.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clip using 4W0102 Bolt, 5W1086 Washer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (16) Replace old clip to new clip at clipping point 5552
- (a) Remove 4W0043 Nut, 5W1086 Washer and 4W0103 Bolt to release 471-4 Clip on the EGT harness.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clip using 4W0103 Bolt, 5W1086 Washer and 4W0043 Nut.
 - (d) Torque the bolt to 36 to 45 lbfin (4 to 5 Nm).
- (17) Replace old clip to new clip at clipping point 5553
- (a) Remove 4W0043 Nut, 5W1086 Washer and 4W0103 Bolt to release 471-4 Clip on the EGT harness.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clip using 4W0103 Bolt, 5W1086 Washer and 4W0043 Nut.
 - (d) Torque the bolt to 36 to 45 lbfin (4 to 5 Nm).
- (18) Replace old clip to new clip at clipping point 5734
- (a) Remove 4W0001 Nut, 5W1086 Washer, 5W1032 Spacer and 4W0115 Bolt to release 471-7 Clip on the EGT harness.
 - (b) Remove 471-7 Clip from the EGT harness and install TA0210046FT07 or ST1455-07 Clip to the EGT harness.



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- (c) Install the clip using 4W0115 Bolt, 5W1086 Washer, 5W1032 Spacer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (19) Replace old clip to new clip at clipping point 5735
- (a) Remove 4W0001 Nut, 5W1086 Washer and 4W0102 Bolt to release 471-7 Clip on the EGT harness.
 - (b) Remove 471-7 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clip using 4W0102 Bolt, 5W1086 Washer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (20) Replace old clip to new clip at clipping point 5736
- (a) Remove 4W0001 Nut, 5W1086 Washer and 4W0102 Bolt to release 471-4 Clip on the EGT harness.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clip using 4W0102 Bolt, 5W1086 Washer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).
- (21) Replace old clip to new clip at clipping point 5781
- (a) Remove 4W0001 Nut, 5W1086 Washer and 4W0103 Bolt to release 471-4 Clip on the EGT harness.
 - (b) Remove 471-4 Clip from the EGT harness and install TA0210046FT05 or ST1455-05 Clip to the EGT harness.
 - (c) Install the clip using 4W0103 Bolt, 5W1086 Washer and 4W0001 Nut.
 - (d) Torque the nut to 36 to 45 lbfin (4 to 5 Nm).

C. Postrequisite Instructions

- (1) Close the Thrust Reverser Halves (Refer to Reference (1), Chapter/Section 78-32-00 Maintenance Practices, TASK 78-32-00-410-010).
- (2) Close the Fan Cowls (Refer to Reference (1), Chapter/Section 71-13-00 maintenance Practices, TASK 71-13-00-410-010).

D. Recording Instructions

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International Aero Engines

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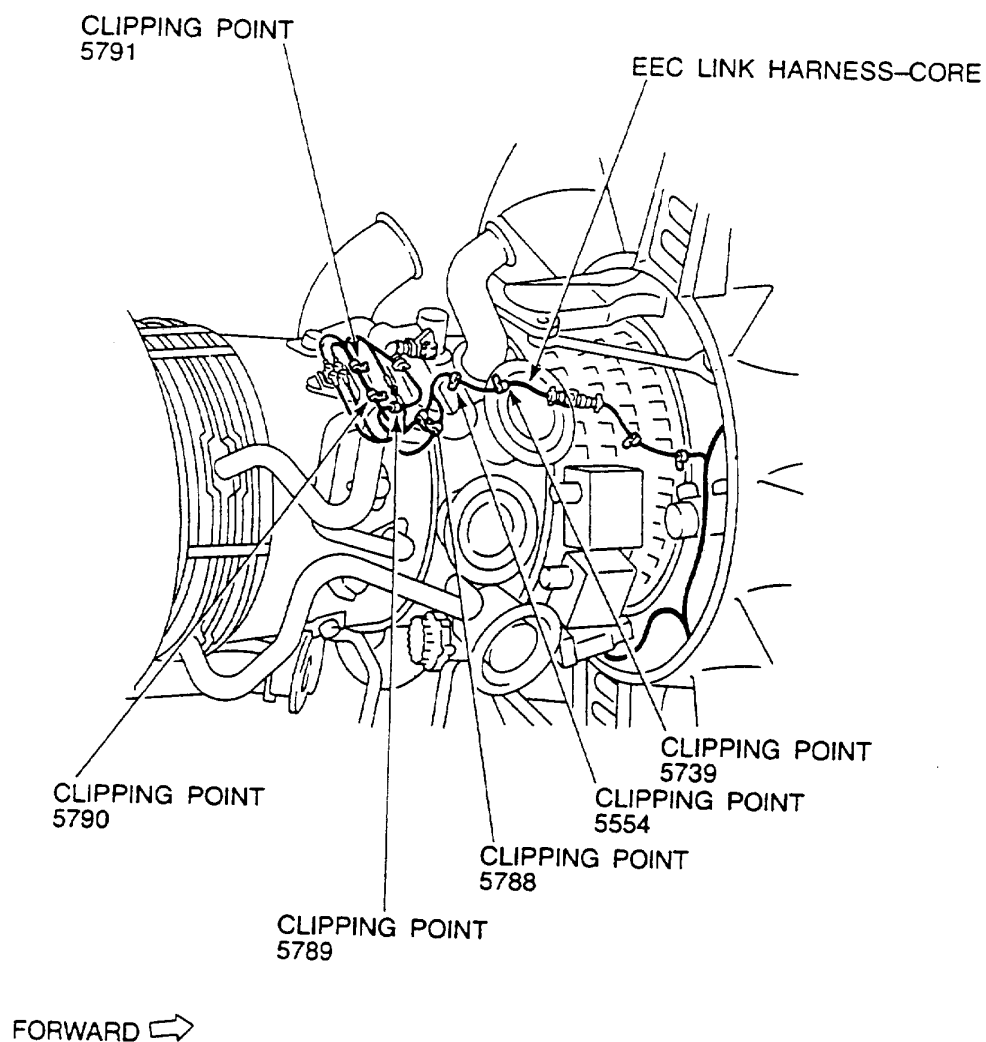
- (1) A record of accomplishment is required.

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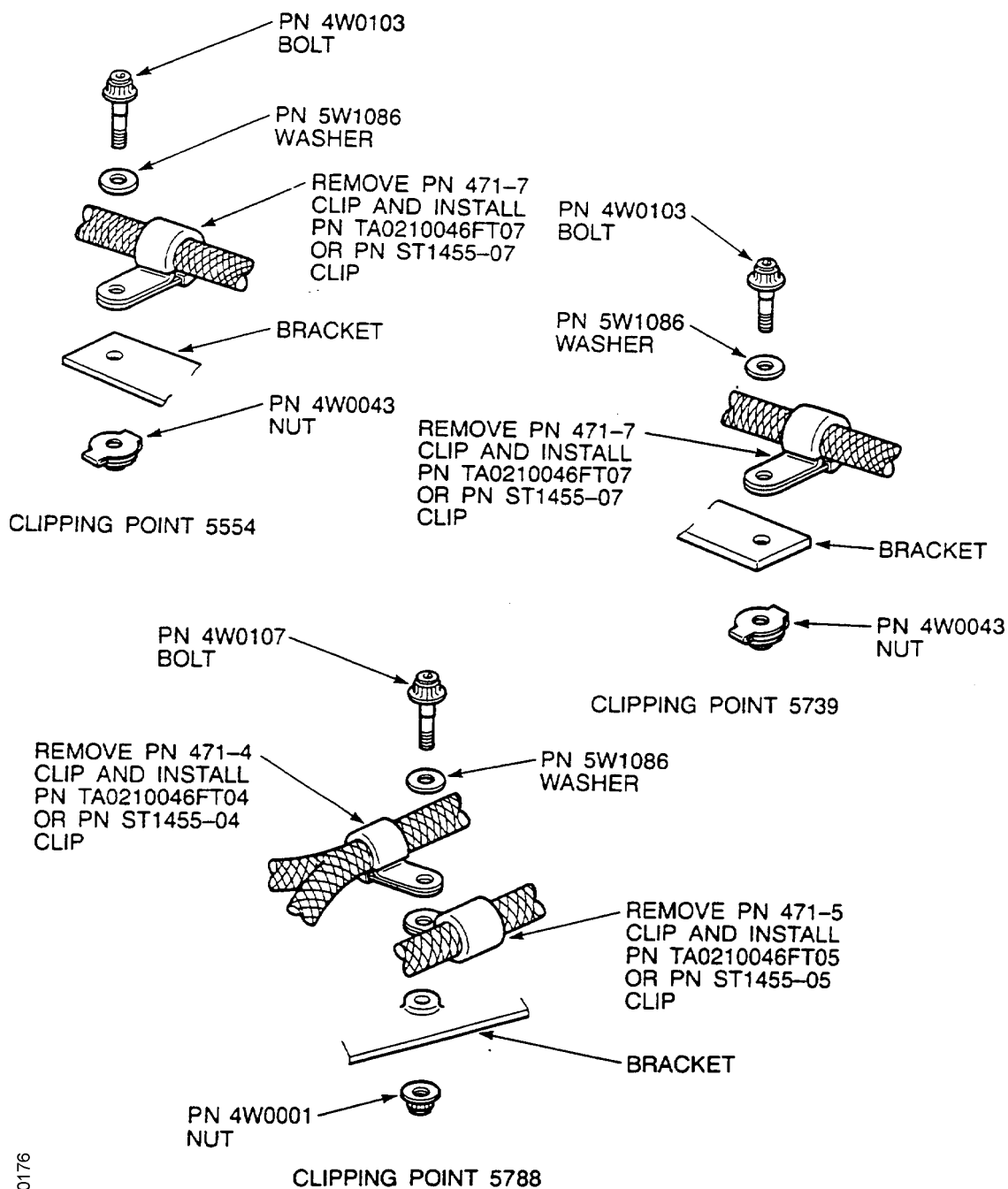
Page 10



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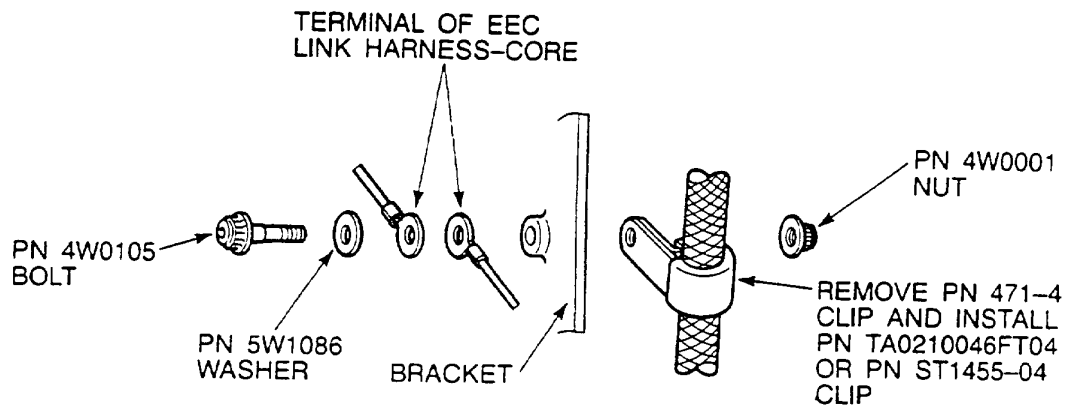
Location of clipping points on the EEC link harness-core
Fig.1

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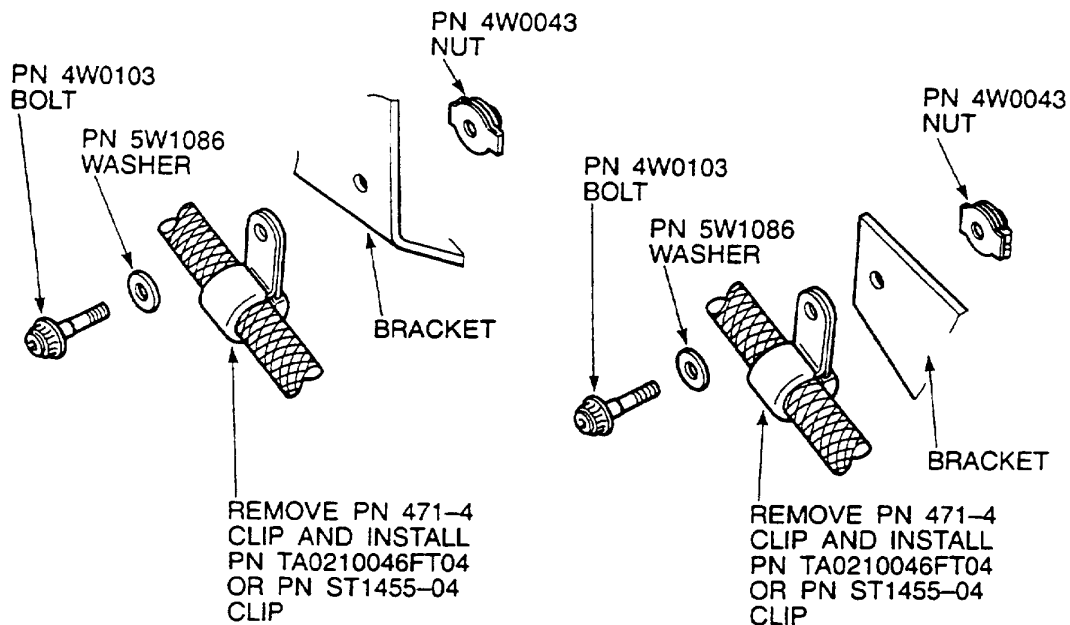


Replacement of clips for EEC link harness-core clipping
FIG.2 (Sheet 1 of 2)

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CLIPPING POINT 5789

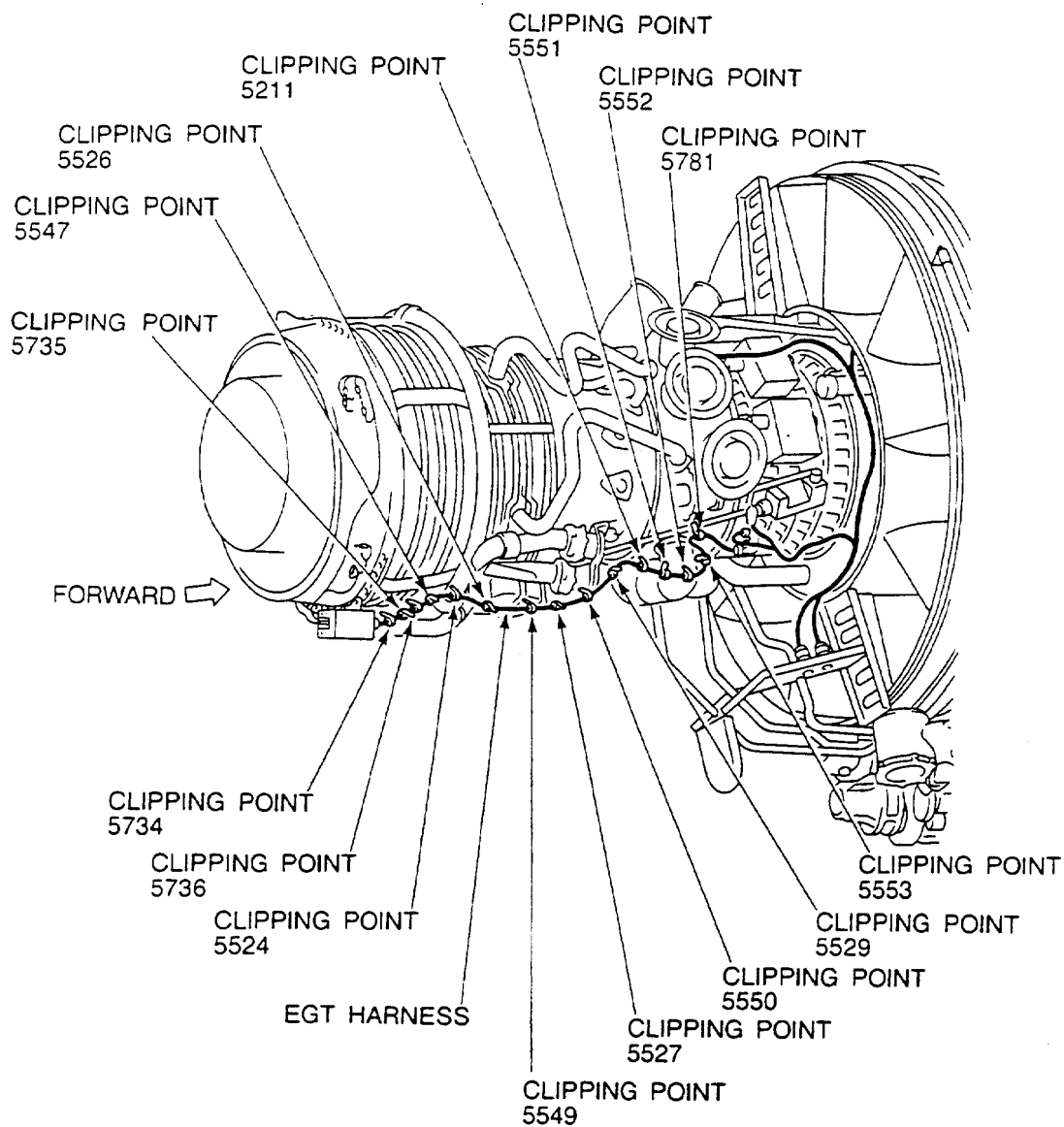


CLIPPING POINT 5790

CLIPPING POINT 5791

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Replacement of clips for EEC link harness-core clipping
Fig.2 (Sheet 2 of 2)



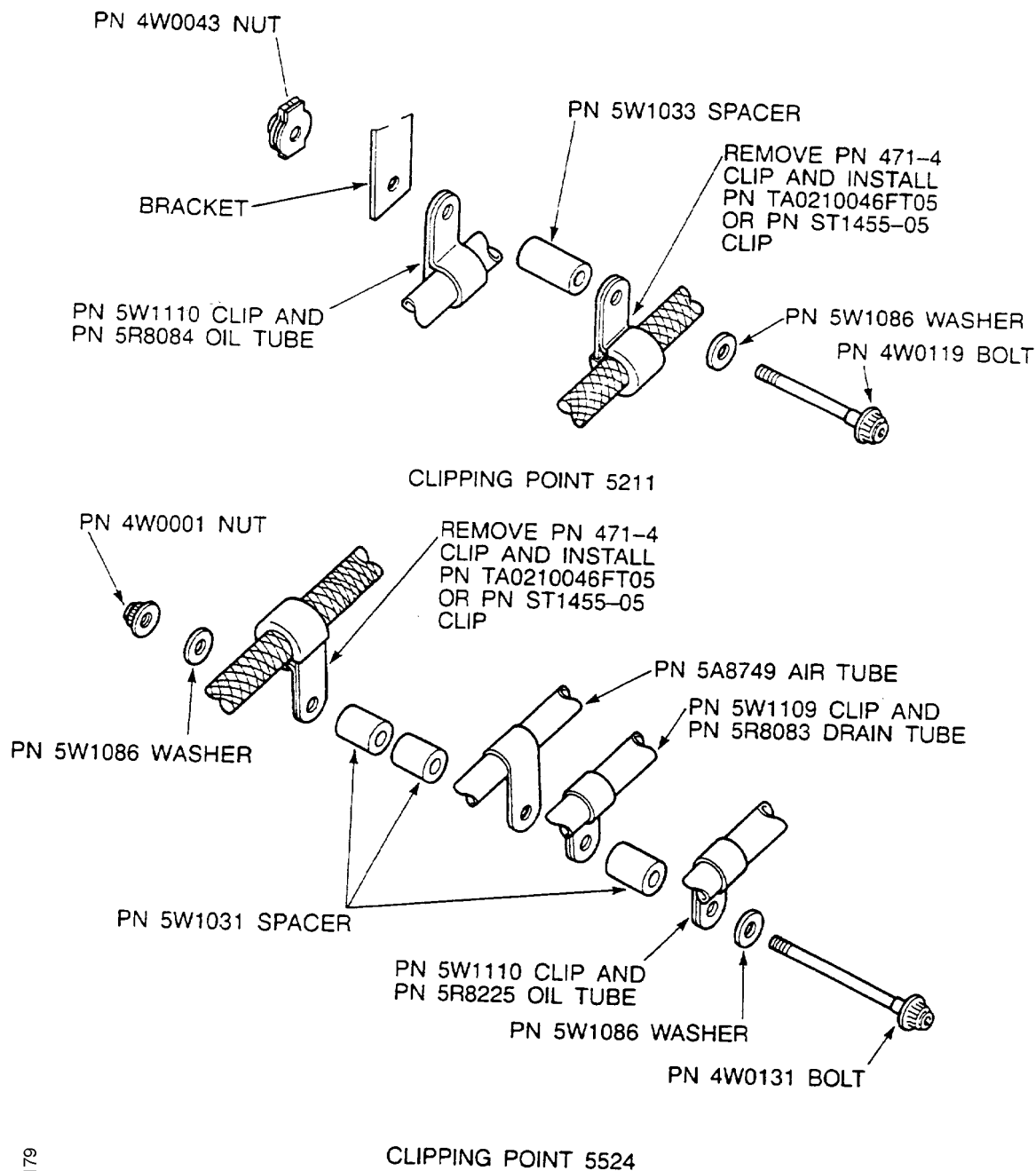
Location of clipping points on the EGT harness
Fig.3

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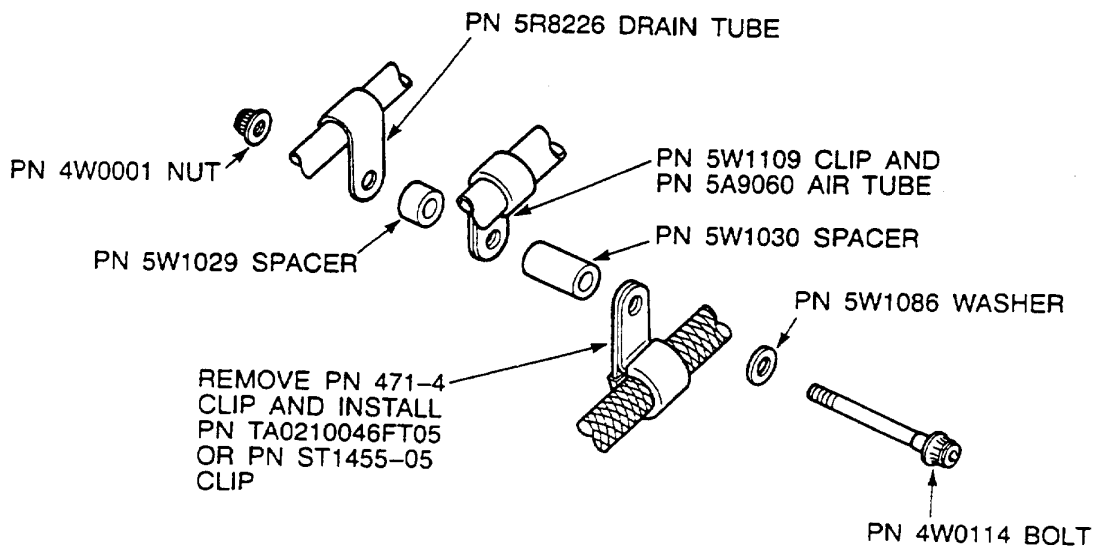
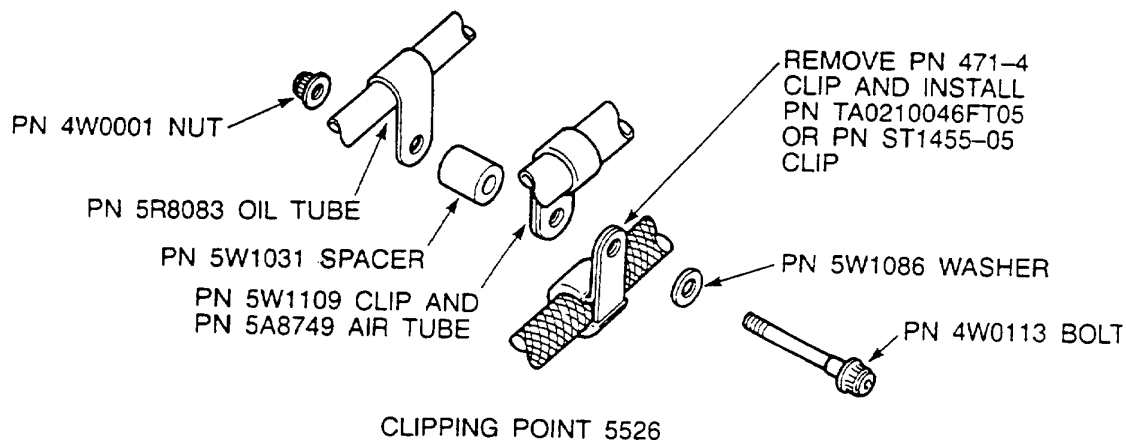
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Replacement of clips for EGT harness clipping
Fig.4 (Sheet 1 of 6)

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CLIPPING POINT 5527

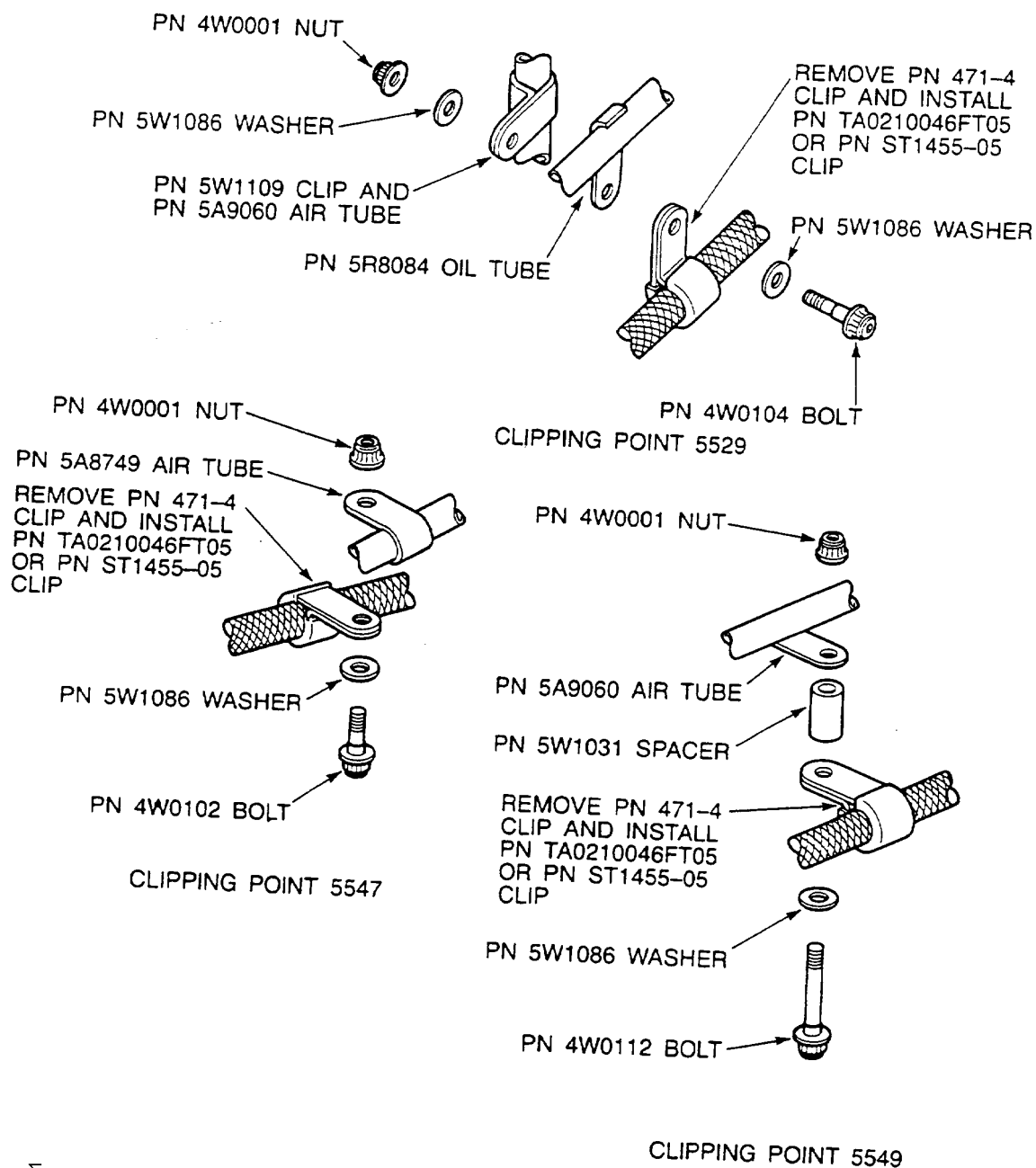
Replacement of clips for EGT harness clipping
Fig.4 (Sheet 2 of 6)

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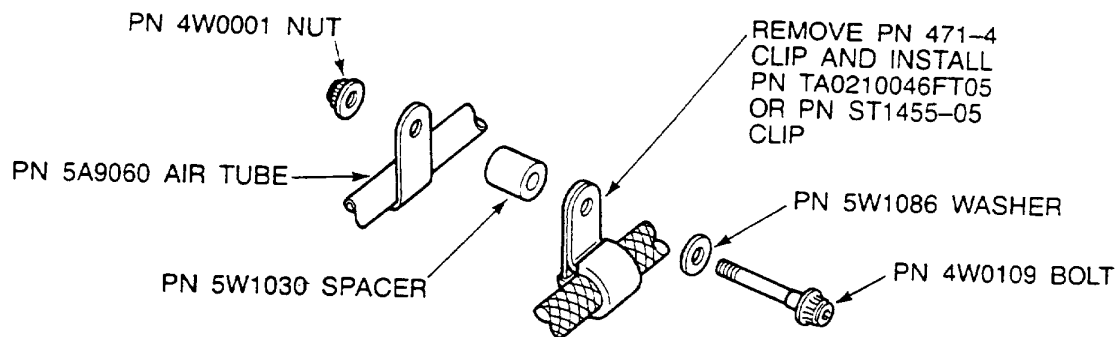
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Replacement of clips for EGT harness clipping
Fig.4 (Sheet 3 of 6)

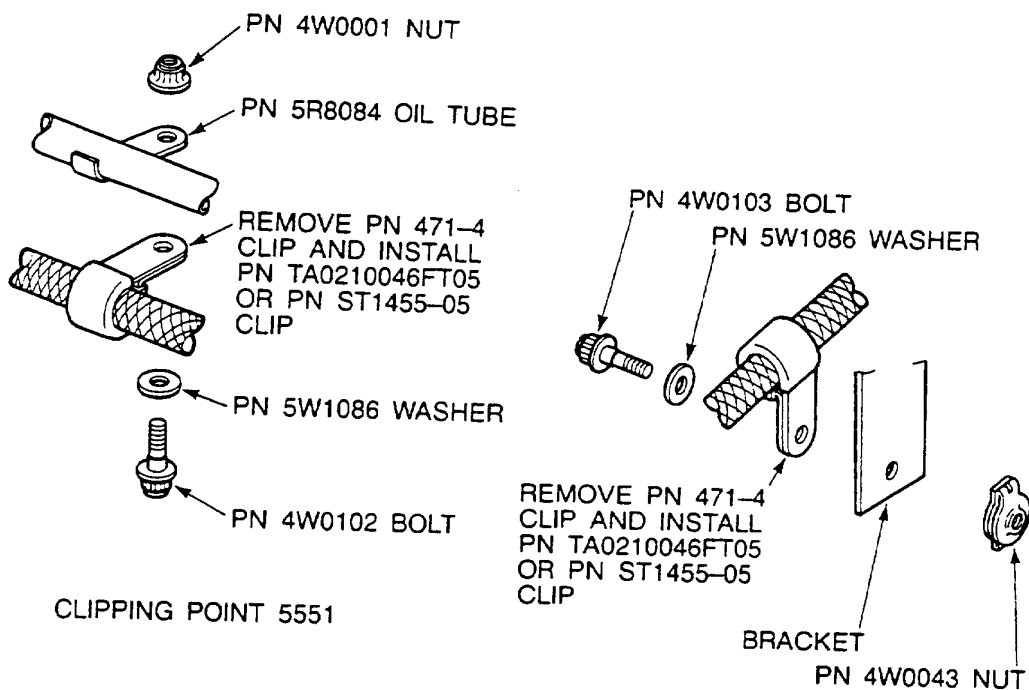
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CLIPPING POINT 5550

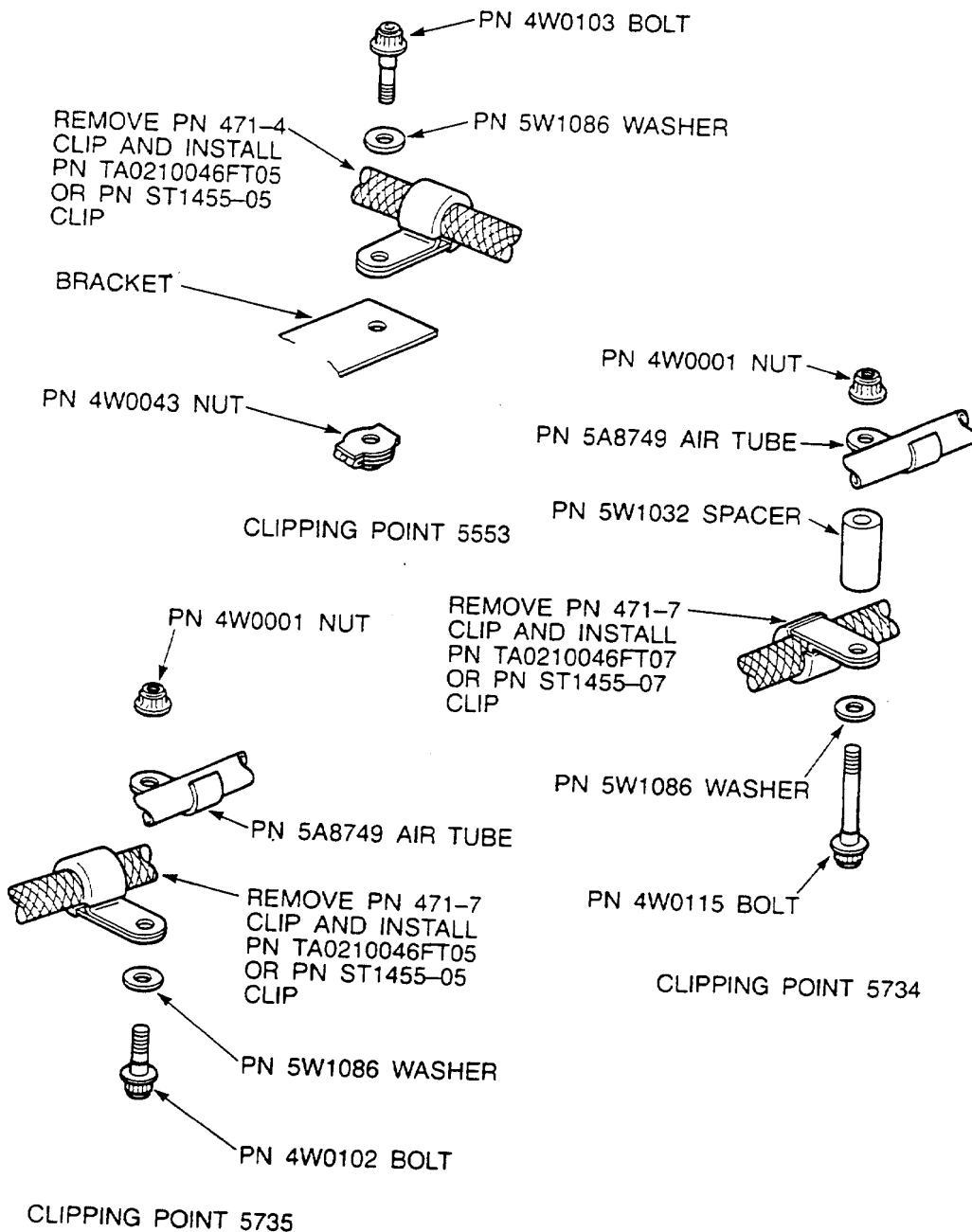


CLIPPING POINT 5551

CLIPPING POINT 5552

Replacement of clips for EGT harness clipping
Fig.4 (Sheet 4 of 6)

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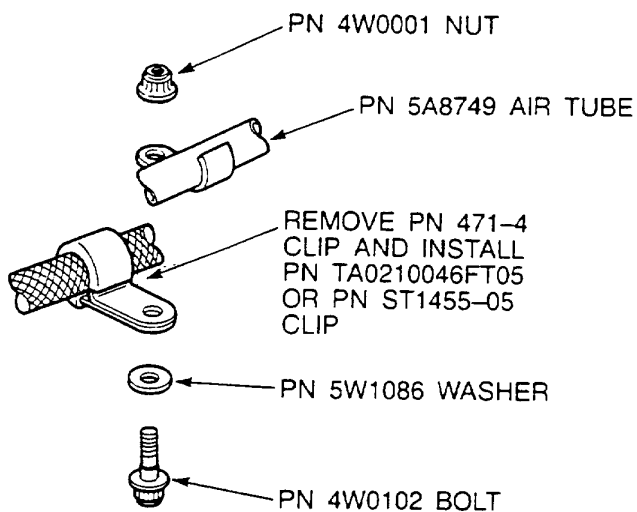


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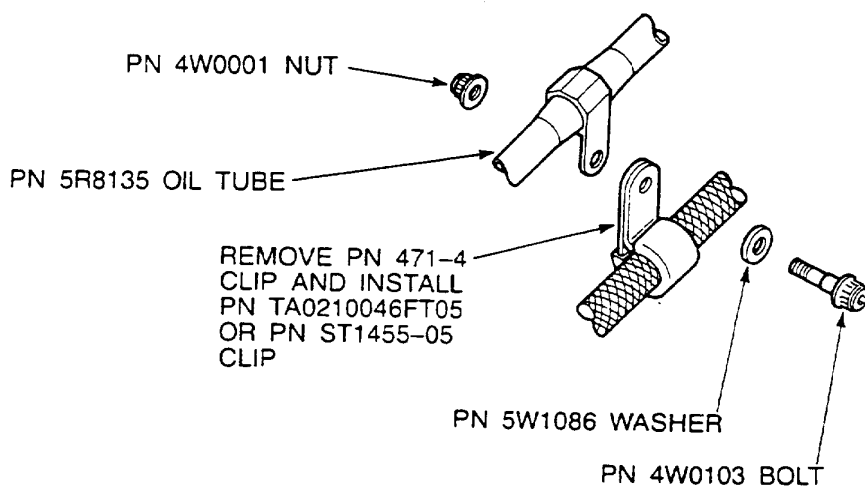
Replacement of clips for EGT harness clippings
Fig.4 (Sheet 5 of 6)



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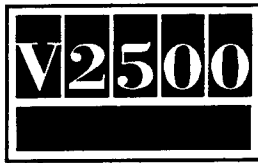
CLIPPING POINT 5736



CLIPPING POINT 5781

Replacement of clips for EGT harness clipping
Fig.4 (Sheet 6 of 6)

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3. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin.

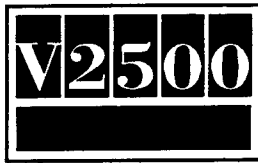
A. Kits associated with this Bulletin:

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
TA0210046 FT07 or ST1455-07 (71-52-44)	1	2.63	Clip, loop type CP5554	471-7 (01-073)	(S1)(A)(B)
TA0210046 FT07 or ST1455-07 (71-52-44)	1	2.63	Clip, loop type CP5739	471-7 (01-105)	(S1)(A)(B)
TA0210046 FT05 or ST1455-05 (71-52-44)	1	2.55	Clip, loop type CP5788	471-5 (01-113)	(S1)(A)(B)
TA0210046 FT04 or ST1455-04 (71-52-44)	1	2.55	Clip, loop type CP5788	471-4 (01-114)	(S1)(A)(B)
TA0210046 FT04 or ST1455-04 (71-52-44)	1	2.55	Clip, loop type CP5789	471-4 (01-121)	(S1)(A)(B)
TA0210046 FT04 or ST1455-04 (71-52-44)	1	2.55	Clip, loop type CP5790	471-4 (01-129)	(S1)(A)(B)
TA0210046 FT04 or ST1455-05 (71-52-44)	1	2.55	Clip, loop type CP5791	471-4 (01-137)	(S1)(A)(B)

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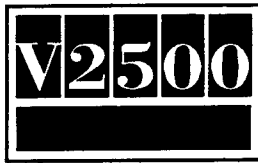


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TA-21--46 FT05 OR ST1455-05 (71-52-45)	1	2.55	Clip, loop type CP5211	471-4 (01-041)	(S1)(A)(B)
TA0210046 FT05 or ST1455-05 (71-52-45)	1	2.55	Clip, loop type CP5524	471-4 (01-057)	(S1)(A)(B)
TA0210046 FT05 or ST1455-05 (71-52-45)	1	2.55	Clip, loop type CP5526	471-4 (01-065)	(S1)(A)(B)
TA0210046 FT05 or ST1455-05 (71-52-45)	1	2.55	Clip, loop type CP5527	471-4 (01-073)	(S1)(A)(B)
TA0210046 FT05 or ST1455-05 (71-52-45)	1	2.55	Clip, loop type CP5529	471-4 (01-081)	(S1)(A)(B)
TA0210046 FT05 or ST1455-05 (71-52-45)	1	2.55	Clip, loop type CP5547	471-4 (01-113)	(S1)(A)(B)
TA0210046 FT05 or ST1455-05 (71-52-45)	1	2.55	Clip, loop type CP5549	471-4 (01-121)	(S1)(A)(B)
TA0210046 FT05 or ST1455-05 (71-52-45)	1	2.55	Clip, loop type CP5550	471-4 (01-129)	(S1)(A)(B)
TA0210046 FT05 or ST2455-05 (71-52-45)	1	2.55	Clip, loop type CP5551	471-4 (01-137)	(S1)(A)(B)
TA0210046 FT05 or ST1455-05 (71-52-45)	1	2.55	Clip, loop type CP5552	471-4 (01-145)	(S1)(A)(B)
TA0210046	1	2.55	Clip, loop type CP5553	471-4	(S1)(A)(B)

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(01-153)

or
ST1455-05
(71-52-45)
TA0210046 1 2.63 Clip, loop type CP5734 471-7 (S1)(A)(B)
FT07 (01-169)
or
ST1455-07
(71-52-45)
TA0210046 1 2.55 Clip, loop type CP5735 471-7 (S1)(A)(B)
FT05 (01-177)
or
ST1455-05
(71-52-45)
TA0210046 1 2.55 Clip, loop type CP5736 471-4 (S1)(A)(B)
FT05 (01-185)
or
ST1455-05
(71-52-45)
TA0210046 1 2.55 Clip, loop type CP5781 471-4 (S1)(A)(B)
FT05 (01-193)
or
ST1455-05
(71-52-45)

C. Instruction/Disposition Code Statements:

- (S1) New Parts Coded (S1) must be replace Old parts as a COMPLETE SET per Engine.
(A) New part is currently available.
(B) Old part will be no longer available for sale.

NOTE: The estimated 1990 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.

