

ENGINE INDICATING - ENGINE - INDICATING - PROVIDE PERMANENTLY ATTACHED WASHERS TO BRACKET AT CLIPPING POINTS CP6004 AND CP6009 - CATEGORY CODE 6 - MOD.ENG-77-0007

1. Planning Information

A. Effectivity

- (1) Aircraft: Airbus A320
- (2) Engine: (a) V2500-A1 Engines Serial No.V0082 through V0179 except V0083.
(b) Any V2500-A1 Engine Serial Number that incorporated Service Bulletin V2500-ENG-77-0001.

B. Reason

(1) Condition

There may be insufficient clearance on some installations between the Exhaust Gas Temperature (EGT) Harness and the adjacent stiffening rib on the Turbine Exhaust Case (TEC). The condition occurs due to the misassembly of loose Washers. Loose Washers can be installed on the wrong side of the Loop Clamp Brackets.

(2) Background

Engineering review showed that the clearance between the EGT Harness and the adjacent stiffening rib on the TEC may not be sufficient because the EGT Harnesses are not always the same size and the Flange Mounting Bolt Holes in the Loop Clamp Bracket Assemblies are not always in the same location. This situation was corrected with the introduction of a Washer. Since misassembly of the Washer could occur, it has been decided to permanently attach the Washer to the Bracket.

(3) Objective

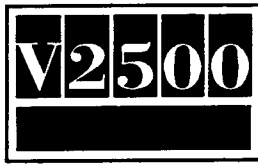
To avoid the misassembly of loose washers which were originally provided to increase the clearance between the EGT Harness and the adjacent stiffening rib on the TEC.

(4) Substantiation

Not considered necessary.

(5) Effect of Bulletin on Workshop Procedures:

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Removal/Installation	Not affected
Disassembly/Assembly	Not affected
Cleaning	Not affected
Inspection/Check	Not affected
Repair	Not affected
Testing	Not affected

(6) Supplemental Information:

- (a) The requirements in this Service Bulletin can be incorporated at the same time when you incorporate Reference (1). Do not incorporate Reference (2) if you incorporate this Service Bulletin.

D. Description

- (1) This modification installs a tack welded washer to the Loop Clamp Bracket Assembly at each of the flange "FT" locations specified, to obtain the desired clearance between the EGT Harness and the TEC Stiffening Rib.

D. Approval

The Part Number Changes and/or part modifications in Sections 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 6

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

F. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

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

G. Material - Price and Availability

- (1) Modification kit not required.
- (2) See "Material Information" section for prices and availability of future spares.

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H. Tooling - Price and Availability

Special tools are not necessary.

I. Weight and Balance

- | | |
|-------------------|--|
| (1) Weight change | None |
| (2) Moment arm | No effect |
| (3) Datum | Engine front mount centreline
(Power Plant Station (PPS) 100) |

J. Electrical Load Data

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

K. References

- (1) Internal Reference No.

89VA174

- (2) Other References

IAE Service Bulletin Number

V2500-ENG-77-0001 (Engine - LP Turbine Module and Exhaust Gas Temperature (EGT) Indicating Systems - Replacement of Turbine Exhaust Case and Installation of a Revised EGT Bracket Configuration.

IAE Service Bulletin Number

V2500-ENG-77-0005 (Engine - Indicating - Add Washers at Clipping Points CP60004 and CP60009.

The V2500 Engine Manual.

The V2500 Standard Practices Manual.

L. Other Publications Affected

- (1) The V2500 Engine Illustrated Parts Catalog, Chapter/Section 77-21-43, Figure 1, To add the new part.
- (2) The V2500 Engine Manual, Chapter/Section 77-21-43, Cleaning to add the new part.
- (3) The V2500 Engine Manual, Chapter/Section 77-21-43, Inspection/Check, to add the new part.

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International Aero Engines

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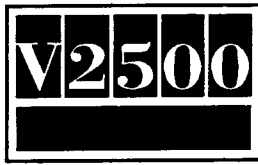
- (4) The V2500 Engine Manual, Chapter/Section 77-21-43, Repair, to add the new part.

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2. Accomplishment Instructions

A. Rework Instructions

- (1) There are no rework instructions necessary for this Service Bulletin.

B. Assembly Instructions

- (1) Install the LP Turbine Module Components, External Harness and Tubes by the approved procedure in Reference (3), Chapter/Section 72-00-50, Installation-07 (except as specified in step (2)).
- (2) Install the 2A1763-01 Loop Clamp Bracket Assemblies (2 off) at clipping points CP6004 and CP6009 on Flange "FT" and connect the EGT Harness as follows:
- (a) Lubricate the threads of the 4W2386 Screws (4 off) and 4W0002 Nuts (4 off) with CoMat 10-039 Engine Oil.
 - (b) Put one of the Loop Clamp Bracket Assemblies (2 off) at the No's.17 and 18 hole locations on Flange "FT", clipping point CP6004. Refer to Figure 1.
 - (c) Install two of the 4W2386 Screws and the 4W0002 Nuts and tighten them with your hand.
 - (d) Do steps (2)(b) and (c) again at the location of the hole No's.44 and 45 on Flange "FT", clipping point VCP6009. Refer to Figure 1.
 - (e) Torque the nuts to 85-105 lbfin (9,60-11,86 Nm) by the approved procedure in reference (4), Chapter/Section 70-41-00, Torque Tightening Technique.
 - (f) Lubricate the threads of the 4W0001 Nuts (2 off) with CoMat 10-039 Engine Oil.
 - (g) Connect the Loop Clamp to the Loop Clamp Bracket Assembly at hole location No.17 and 18 on Flange "FT", clipping point CP6004. Refer to Figure 1.
 - (h) Install one of the 4W0001 Nuts and tighten it with your hand.
 - (i) Do steps (2)(g) and (h) again and install one Loop Clamp at the location of hole No's.44 and 45 on Flange "FT", clipping point CP6009. Refer to Figure 1.
- (e) Torque the nuts to 35-45 lbfin (4,00-5,00 Nm) by the approved procedure in reference (4), Chapter/Section 70-41-00, Torque Tightening Technique.

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C. Recording Instructions

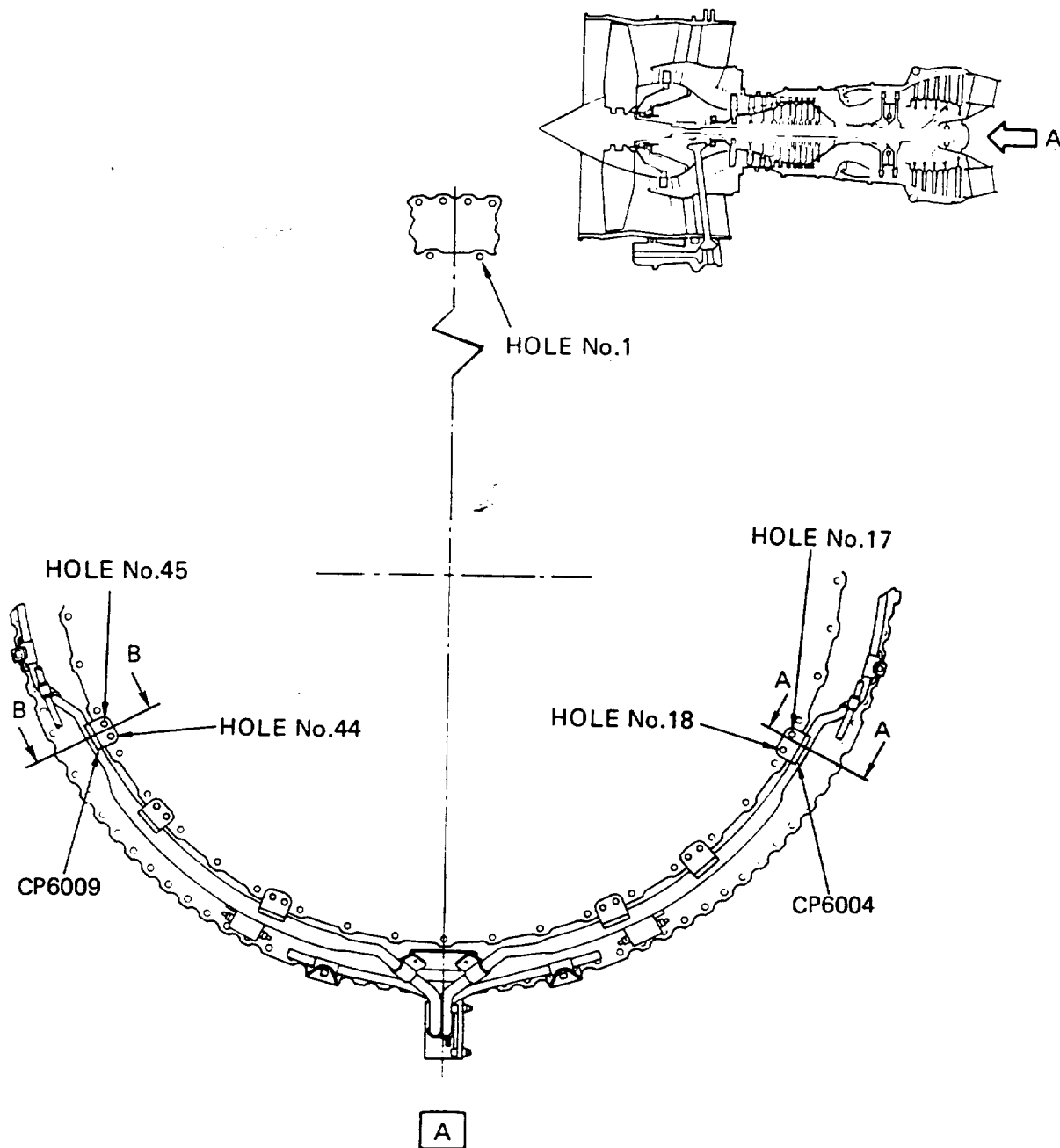
- (1) A record of accomplishment is necessary.

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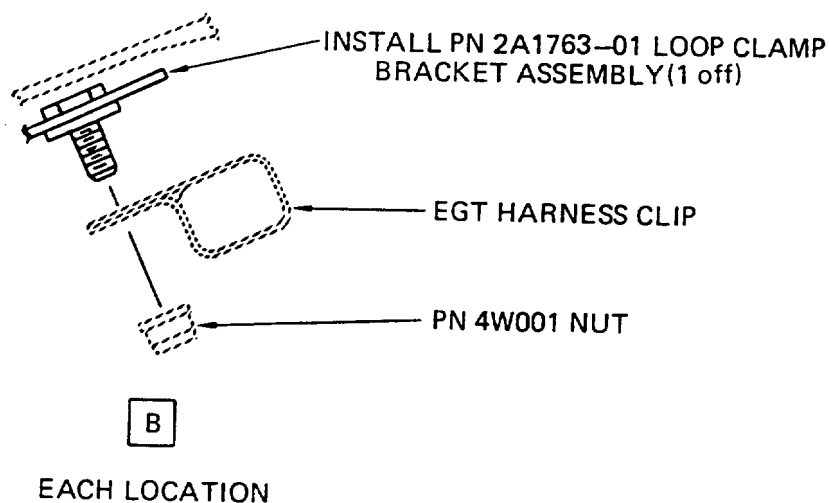
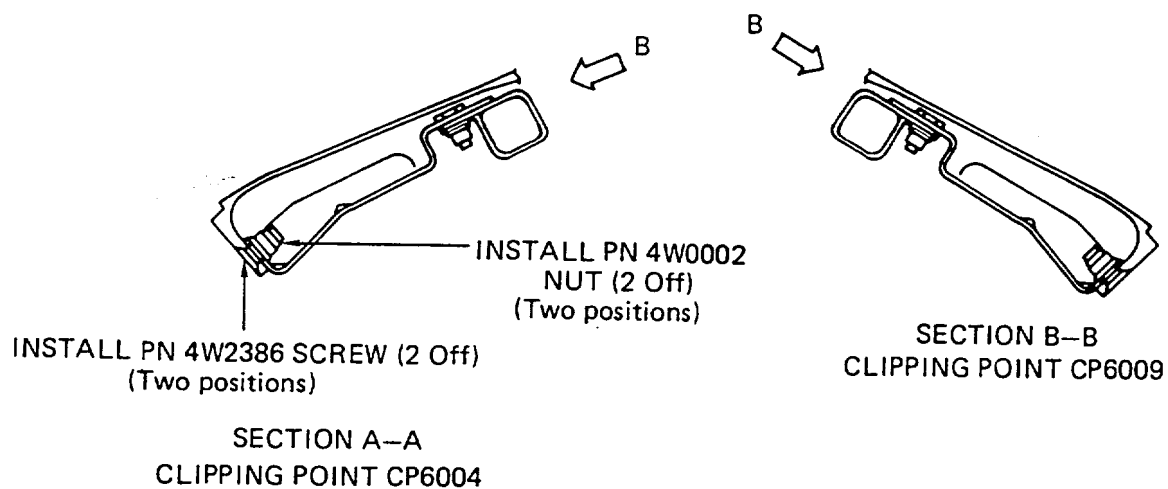
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Location of Loop Clamp Bracket Assemblies
Fig.1 (Sheet 1 of 2)

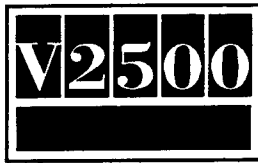
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Location of Loop Clamp Bracket Assemblies
Fig.1 (Sheet 2 of 2)

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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
- (77-21-43)	2		Washer, Flat	347493 (01-196) (01-221)	(S1)(A)
- (77-21-43)	2		Bracket - Loop Clamp, Assembly	2A1854-01 (01-360)	(S1)(B)
2A1763-01 (77-21-43)	2	200.00	Bracket - Loop Clamp, Assembly	- (01-420)	(S1)(C)

C. Instruction/Disposition Code Statements:

- (S1) New parts coded (S1) must replace old parts coded (S1) in a COMPLETE SET per engine.
- (A) Old part will no longer continue to be available.
- (B) Old part will be retained for lesser units.
- (C) New part is currently available.

NOTE: This estimated 1991 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.

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