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V2500-A1/A5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits Revision 1 to Service Bulletin EV2500-72-0394

Document History

Service Bulletin Revision Status
 Initial Issue Dec.20/00

Supplement Revision Status

Bulletin Revision 1

Remove
 All pages of the
 Service Bulletin

Incorporate
 Pages 1 to 12 of the
 Service Bulletin

Reason for change
 Effectivity revised,
 illustrations added (Fig.3
 and Fig.4)

V2500-ENG-72-0394

Transmittal - Page 1 of 2

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED

If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England

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LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 1 are as follows:

<u>Page</u>		<u>Revision Number</u>	<u>Revision Date</u>
	Bulletin		
R	1	1	Apr.20/01
R	2	1	Apr.20/01
R	3	1	Apr.20/01
R	4	1	Apr.20/01
R	5	1	Apr.20/01
R	6	1	Apr.20/01
R	7	1	Apr.20/01
R	8	1	Apr.20/01
R	9	1	Apr.20/01
R	10	1	Apr.20/01
R	11	1	Apr.20/01
R	12	1	Apr.20/01

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ENGINE – PROVIDE NEW LOOP CLAMP BRACKET FOR USE WITH NON AT RISK FUEL MANIFOLDS

1. Planning Information

A. Effectivity

(1) Airbus A319

V2522-A5, V2524-A5, V2527M-A5 Engines

(2) Airbus A320

(a) V2500-A1 Engines

(b) V2527-A5, V2527E-A5 Engines

(3) Airbus A321

V2530-A5, V2533-A5 Engines

NOTE: The following engines must incorporate this Service Bulletin as a Category 3 if Service Bulletin V2500-ENG-73-0147 has been incorporated. If Service Bulletin V2500-ENG-73-0147 has not been incorporated follow the concurrent requirements below.

V2500-A1 – V0001, thru V0361

V2500-A5 – V10001, thru V10888, V10890, V10892, V10894, V10896, V10898

B. Concurrent Requirements

This Service Bulletin must be done at the same time as Reference 6, Service Bulletin No. V2500-ENG-73-0147.

This change must be incorporated on a retrofit basis on all engines currently featuring the downchange bracket part number 2A3389 introduced by V2500-ENG-73-0147 and prior to revenue service.

C. Reason

(1) Condition

During engine assembly, it was noted there is a close clearance condition between the fuel manifold part number 2A3264-01 with an adjacent tube clamp bolt head located on bracket part number 2A3389.



(2) Background

It is determined the bolt head was inadvertently mislocated on the bracket which resulted in this close condition.

(3) Objective

A new detail bracket featuring a new bent tab is provided which correctly locates the bolt and provides the required clearance with the fuel manifold.

(4) Substantiation

This new bracket configuration only allows the clamp to rotate approximately 15 degrees and does not effect the tube assembly support. Additional analysis has shown there are no differences between the downchange tube assembly clamping verses the new tube assembly clamping per the new bracket redesign.

(5) Effects 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**

Replace bracket part number 2A3389 at hole 62 and 63 (as viewed facing rearward counting clockwise from the 12 o'clock position, see figure 1) with a redesigned bracket featuring a bent tab to provide additional bolt clearance.

E. Compliance

Category 3

Accomplish within 5 hours.

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

No more man-hours are necessary when done at complete disassembly/assembly.

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

The estimate of man-hours of labor directly necessary to do the intent of this Service Bulletin are as follows:

(1) Necessary for Replacement

0.0

(2) Necessary to Make a Modification

60.0

(3) Other Items that are Necessary

15.0

(4) Total Necessary Man-Hours

75.0

H. Weight Data

(1) Weight Change

None



(2) Moment Arm

No effect

(3) 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. The V2500 Engine Illustrated Parts Catalog, S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, S-V2500-7IB, Chapter/Section 72-40-00 Figure 01-061.
2. The V2500 Engine Manual, 72-42-00, Disassembly and Assembly.
3. The V2500 Engine Manual, 72-00-42, Disassembly and Assembly.
4. The V2500 Standard Practices/Processes Manual, 70-00-00.
5. The V2500 Overhaul Processes and Consumables Index.
6. IAE V2500 Service Bulletin V2500-ENG-73-0147 (Engine - Fuel And Control - Replace certain Fuel Nozzle Supply Manifolds Assemblies and the Related Hardware).

L. Other Publications Affected

The V2500 Engine Illustrated Parts Catalog, S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, S-V2500-7IB, Chapter/Section 72-40-00 Figure 01-061, to add the new part.

M. Interchangeability of Parts

Old and new parts are directly interchangeable.

This Service Bulletin must be done at the same time as Reference 6, Service Bulletin No. V2500-ENG-73-0147.



N. Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (Yes)

Added Data (No)

Revision to Table of Limits (No)

Inspection Procedures (No)

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**2. Material Information****A. Material – Price and Availability**

1. The estimated price of new material to do this Service Bulletin using new replacement parts is \$57.60.

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.

Applicability: For each V2500 Engine to incorporate this Bulletin.

For V2500-A1, V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5 Engines:

New PN	Qty	Estimate of Unit Price (\$)	Keyword	Old PN(ATA/IPC NO.)	Instr Disp
2A3553	1	46.70	.Bracket	2A3389 (72-40-00 -01-161)	(1D)(A)(B)
-	10	-	.Bolt	4W0103 73-11-41 -03-480)	(C)
4W0103	9	5.40	.Bolt	(73-11-41 -03-480)	(C)
-	2	-	.Bolt	4W1183 (73-11-41 -03-480)	(C)
4W1183	3	5.50	.Bolt	(73-11-41 -03-480)	(C)

D. Instructions/Disposition Code Statements:

(1D) The new part can be obtained by modification of the old part as specified in the Accomplishment Instructions.

(A) The new part will be available approximately January, 2001.

(B) The old part will no longer be supplied.

(C) The new part is currently available.



E. Tooling - Price and Availabilty

Special tools are not required to accomplish this Service Bulletin.

F. Parts Kit

Parts kit is not required. Parts are supplied as single line items.

G. Re-identified Parts

Re-identified Parts Data

New PN
2A3553

Keyword
Bracket

Old PN
2A3389

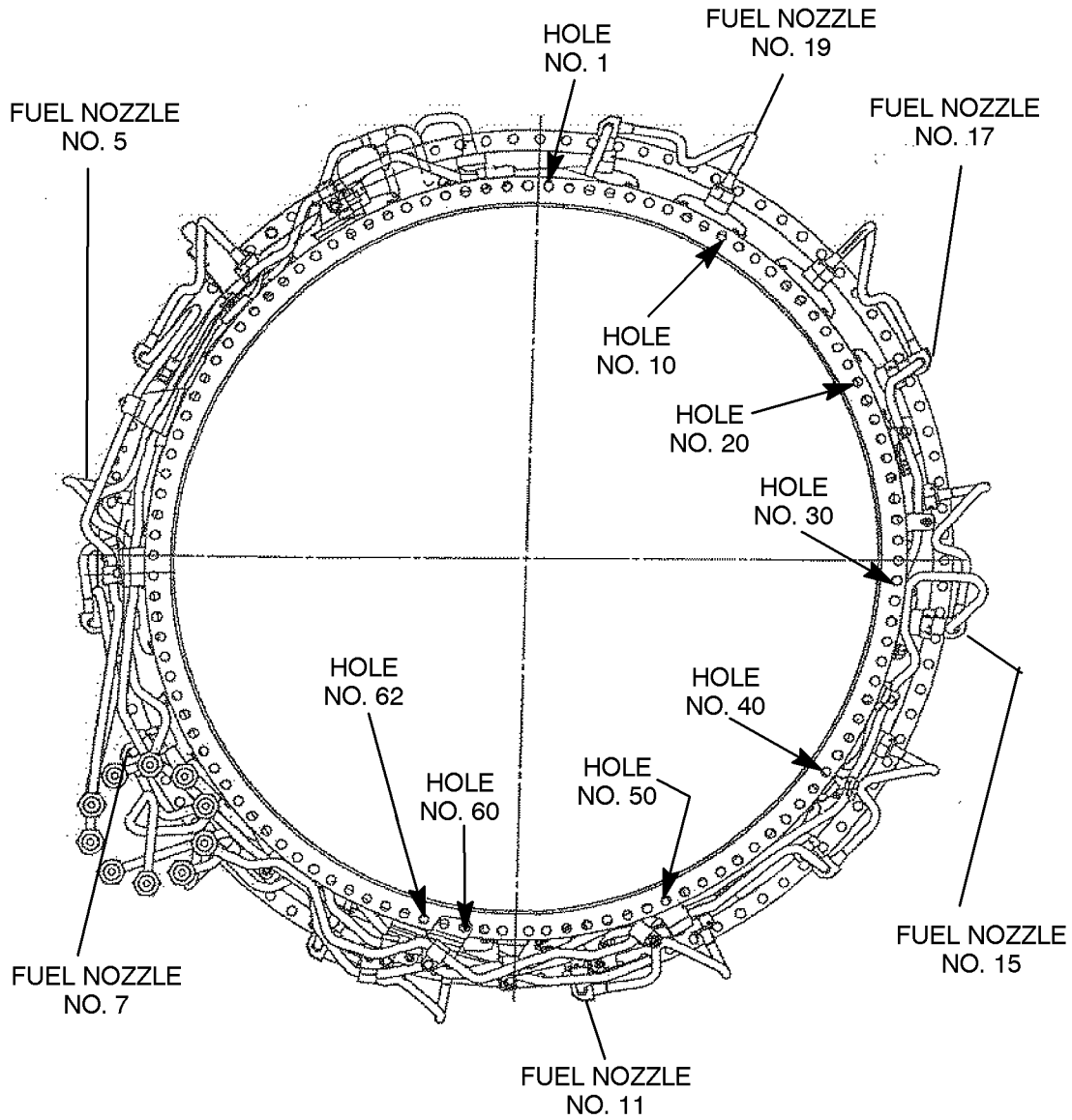
H. Other Material Information Data

Not Applicable.



3. Accomplishment Instructions

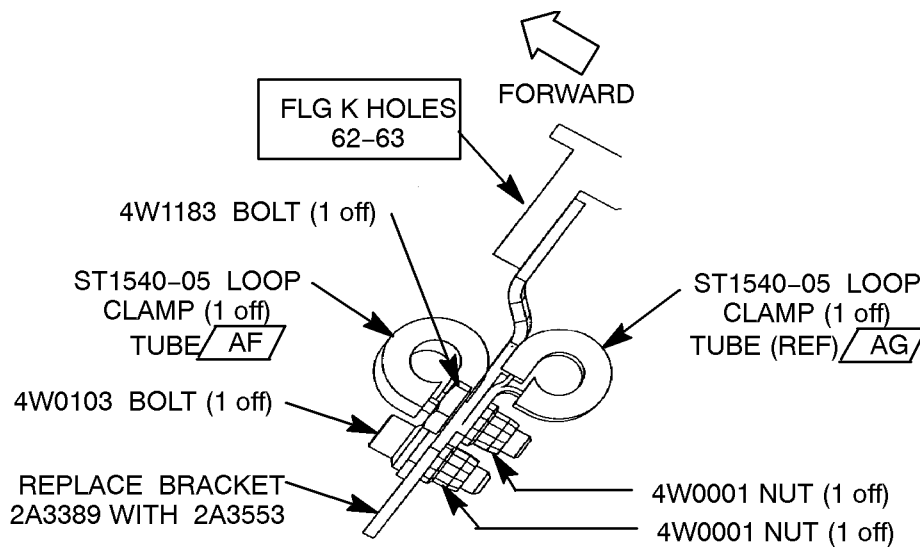
- (1) Remove the existing bracket part number 2A3389 as follows:
 - (a) Locate the bracket on K flange at bolt holes 62 and 63. See Figure 1 for location of the part.
 - (b) Remove the bolts and nuts holding the loop clamps to the bracket. See Figure 2.
 - (c) Slide the loop clamps out of the way.
 - (d) Remove the existing bracket part number 2A3389.
- (2) Rework the bracket part number 2A3389 as follows:
 - (a) Produce a slot 1.050 inch (26.670 mm) long (+/- 0.025 inch (0.625 mm)), by 0.090 inch (2.286 mm) wide (+/- 0.010 inch (0.254 mm)) in the bracket. The slot shall be parallel to the right edge of the bracket. The right edge of the slot shall be 0.625 inch (15.875 mm) (+/- 0.020 inch (0.508 mm)) from the right edge of the bracket. The end of the slot shall feature a 0.045 inch (1.143 mm) radius (+/- 0.005 inch (0.127 mm)). See Figure 3.
 - (b) Bend back (toward engine rear) 15 degrees (+/- 2 degrees), the portion of the bracket to the right of the slot. See Figure 3.
 - (c) Inspect the bracket per VIS 517.
 - (d) Identify the reworked bracket to part number 2A3553 in accordance with reference 3 the V2500 Standard Practices/Processes Manual, 70-00-00.
- (3) Assemble the new bracket part number 2A3553 as follows:
 - (a) Install the new bracket on K flange at bolt holes 62 and 63. See Figures 1 and 2.
 - (b) Torque the flange nuts by the procedure specified in reference (3), Engine Manual, Chapter/Section 72-00-42, Installation-01.
 - (c) Attach the loop clamps to the new bracket. See Figure 2.
 - (d) Torque the clamp nuts to 36 to 40 Lbfin (4,069 to 4,519 Nm).
- (4) Recording Instructions
 - (a) A record of accomplishment is necessary.



VIEW OF K FLANGE AND FUEL MANIFOLD INSTALLATION WHEN YOU LOOK REARWARD FROM THE FRONT

E8362A

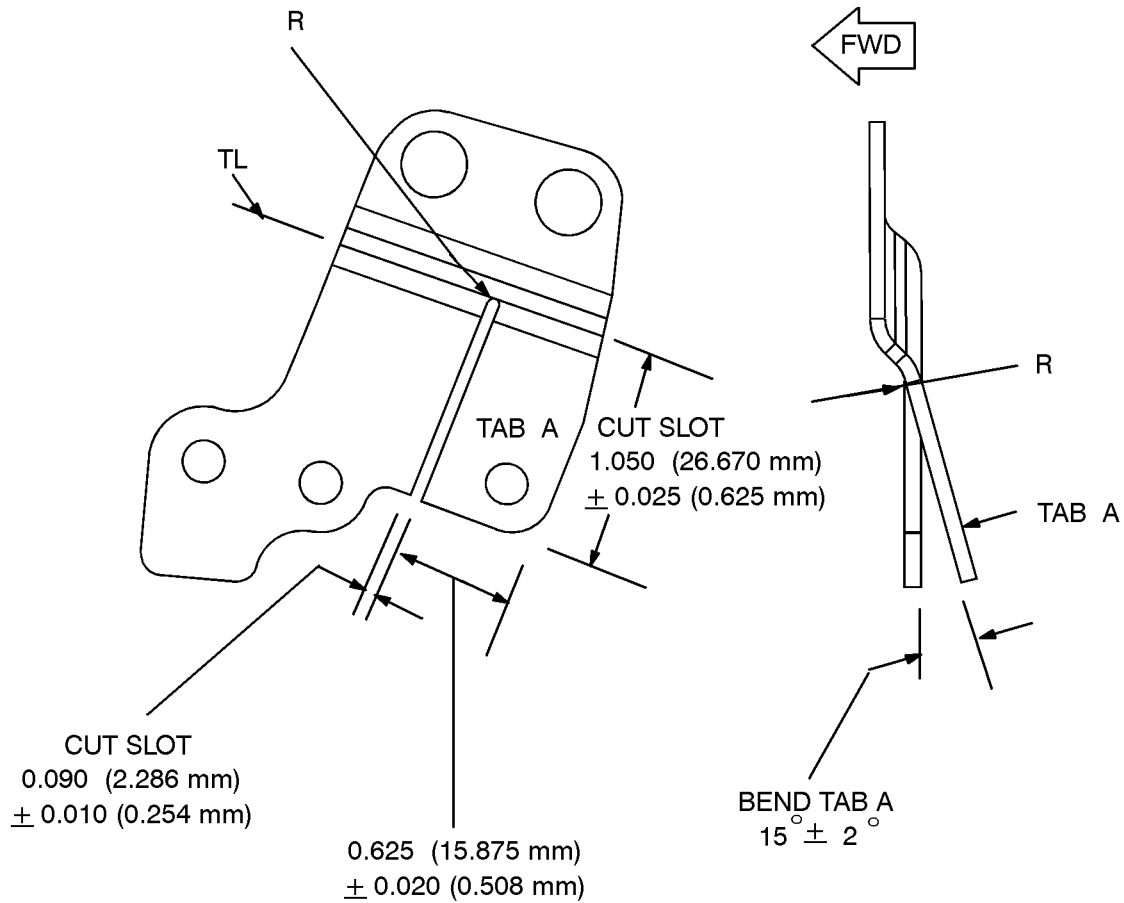
Flange K
Fig 1



Location of the Fuel Nozzle Supply Manifold Assemblies

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Clipping view
Fig 2



MODIFY BRACKET 2A3389 AND IDENTIFY TO 2A3553

E8373

Bracket modification
Fig 3

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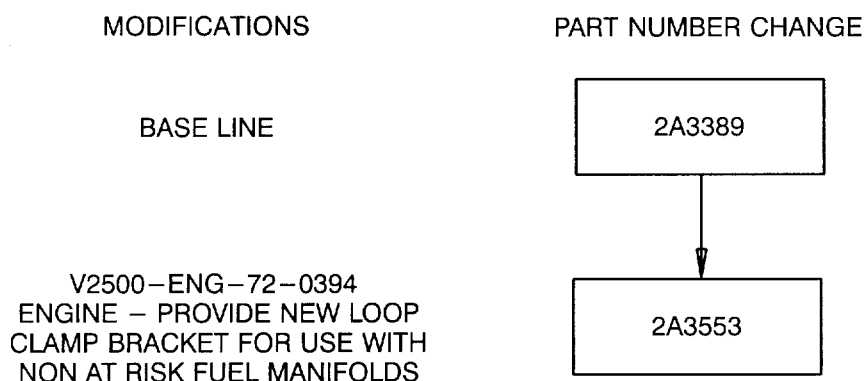
Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).



Appendix

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

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bMH

Family Tree for Bracket
Figure 4

Added Data

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

END OF APPENDIX

Family tree for bracket
Fig 4

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