P U B L I C A T I O N T R A N S M I T T A L

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V2500-A1/A5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits the Revision 2 of Service Bulletin V2500-ENG-72-0329.

Document History

Service Bulletin Revision Status

Initial Issue	Nov.20/98
Revision 1	Jun. 2/03

Service Bulletin Revision 2

Remove	Incorporate	Reason for change
All pages of the Service Bulletin.	Pages 1 to 14 of the Service Bulletin.	To update the Effectivity. To update the Concurrent Requirements. To update the Format and Style.
All pages of the Supplement.	Page 1 of the Supplement.	To update the Format and Style.

V2500-ENG-72-0329

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
If any have not been received please advise IAE International Aero Engines AG

SERVICE BULLETIN

ENGINE – ATTACHING PARTS AND FITTINGS – HP SYSTEM – INTRODUCTION OF REVISED BRACKETS TO PROVIDE INCREASED CLEARANCE WITH FUEL MANIFOLDS

1. Planning Information

A. Effectivity

R (1) Airbus A319

R (a) V2522-A5, V2524-A5, V2527M-A5 Engines from Serial No. V10001 to Serial
R No. V10434 except Serial No. V10428.

R (2) Airbus A320

R (a) V2500-A1 Engines from Serial No. V0001 to Serial No. V0361.

R (b) V2527-A5, V2527E-A5 Engines from Serial No. V10001 to Serial No.
R V10434 except Serial No. V10428.

R (3) Airbus A321

R (a) V2530-A5, V2533-A5 Engines from Serial No. V10001 to Serial No. V10434
R except Serial No. V10428.

B. Concurrent Requirements

R None.

C. Reason

R (1) Condition

The clearance between two fuel manifolds and two brackets on the rear flange of the rear outer case of the HP Compressor is not sufficient.

R (2) Background

R This has been found during engine build.

(3) Substantiation

A satisfactory engineering analyis has been done on the changes introduced by this Service Bulletin.

(4) Objective

The purpose of this Service Bulletin is to maintain reliability.

(5) Effect of Bulletin on:

(a) Operation

Not affected.

(b) Maintenance

Not affected.

(c) Overhaul

R Affected (Refer to paragraph 1.M. Other Publications Affected).

(d) Repair Schemes

Not affected.

(e) Interchangeability

Not affected.

(f) Fits and Clearances

Not affected.

D. Description

(1) The changes introduced are as follows:

(a) Clipping bracket 5W8363 has been revised, the profile of the folded edge has been relieved.

(b) Attaching bracket 6A5911 has been revised, a corner has been removed.

(i) A rework standard of attaching bracket 6A3992 is introduced with an increase in size of the top corner radii.

(c) The clip nuts that attach bracket 6A5911 or 6A3992 to the air deflector bracket, are replaced by standard nuts.

(2) The old brackets can be reworked. (Refer to Figures 3, 4 and 5).

E. Compliance

Category Code 4.

This Service Bulletin must be accomplished at the first visit of an engine or module to a maintenance base that can comply with the accomplishment instructions. This is regardless of the planned maintenance action or the reason for engine removal.

F. Approval

The part number changes and/or part modification are given in Sections 2 and 3 of this Service Bulletin. They comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the engine models listed.

G. Manpower

Estimate of manhours necessary to embody this Service Bulletin in full:

(1) In Service

(a) To gain access - 16 Minutes

(b) To remove, rework and replace brackets - 2 Hours 35 Minutes

(c) To return engine to a serviceable status - 20 Minutes

Total - 3 Hours 11 Minutes

(2) At Overhaul

(a) No additional time is necessary to embody this Service Bulletin

NOTE: It is possible to get access to the parts affected by this Service Bulletin at overhaul.

H. Material - Price and Availability

(1) A modification kit is not necessary.

(2) For prices and availability of future spares refer to Supplement to this bulletin.

I. Tooling - Price and Availability

Special tools are not necessary.

J. Weight and Balance

(1) Weight Change

None.

(2) Moment Arm

R No effect.

(3) Datum

R Engine front mount centerline (Power Plant Station (PPS) 100).

K. Electrical Load Data

The aircraft electrical load is not affected by this Service Bulletin.

L. References

(1) Internal Reference No. EC 98VR022

(2) IAE V2500 Service Bulletins:

R (a) V2500-ENG-73-0131

ENGINE - FUEL AND CONTROL - REPLACE CERTAIN FUEL NOZZLE SUPPLY
R MANIFOLD ASSEMBLIES AND THE RELATED ATTACHING HARDWARE

R (b) V2500-ENG-73-0139

R ENGINE - FUEL AND CONTROL - REPLACE A FUEL NOZZLE SUPPLY MANIFOLD
R ASSEMBLY AND THE RELATED ATTACHING HARDWARE

(3) Standard Practices Manual (SPM), TASK 70-09-00-400-501, SUBTASK 70-09-00-400-001.

(4) Standard Practices Manual (SPM), TASK 70-11-03-300-503.

(5) Standard Practices Manual (SPM), TASK 70-23-05-230-501.

R (6) ATA Locator - 72-40-00.

M. Other Publications Affected

(1) Illustrated Parts Catalogue (IPC), Chapter/Sections 71-52-44 and 72-40-00.

(2) A1/A5 Engine Manual (EM), Chapter/Section 72-00-40, Removal-04 and Installation-07.

2. Material Information

A. Kits necessary for this Service Bulletin:

None.

B. Parts affected by this Service Bulletin:

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
R	71-52-44						
R	05-954	4W0001	2	Nut, self locking dbl hex (.190 dia)	-	AS41104	(A)(S1) (1D)
R	72-40-00						
R	01-075	6A7458	1	Bracket, attaching	-	6A5911	(S1)(2D)
R	01-300	6A7457	1	Bracket, clipping	-	5W8363	(S1)(2D)
R	For Engines which do not have ENG-71-0162 embodied						
R	72-40-00						
R	01-075	6A7459	1	Bracket, attaching	-	6A3992	(S1)(3D)

C. Instruction Disposition Codes:

(A) New part is available.

(S1) New parts can replace old parts, but old parts cannot replace new parts.

(1D) Old part can be used on other applications.

(2D) Old part can be reworked and re-identified with the new part number.

(3D) New part to be produced by rework only. This part will not be supplied as a spare for stock.

3. Accomplishment Instructions

A. Rework Instructions

(1) Consumable Materials

CoMat 02-124 - Marking ink

CoMat 06-022 - Fluorescent penetrant

(2) Standard Equipment

Chemical cleaning equipment

Standard workshop equipment

Penetrant crack test equipment

Vibro-engraving equipment

(3) Rework the part that follows - Pre Service Bulletin ENG-71-0162:

6A3992, Bracket, attaching (72-40-00, Fig/Item 01-075).

PROCEDURE	RELATED DATA
(a) Chemically clean the bracket	Use chemical cleaning equipment. Refer to the Standard Practices Manual (SPM), TASK 70-11-03-300-503.
(b) Apply marking ink to the area(s) to be reworked	Use standard workshop equipment. Refer to Figure 5.
(c) Mark-off the area(s) of the bracket to be removed	Use standard workshop equipment. Refer to Figure 5.
(d) Rework the bracket in the area(s) shown	Use standard workshop equipment. Refer to Figure 5.
(e) Remove any sharp edges	Use standard workshop equipment. Refer to Figure 5.
(f) Chemically clean the bracket	Use chemical cleaning equipment. Refer to the Standard Practices Manual (SPM), TASK 70-11-03-300-503.

(g) Do a local penetrant crack test on the reworked area(s)	Use CoMat 06-022 fluorescent penetrant with penetrant crack test equipment. Refer to the Standard Practices Manual (SPM), TASK 70-23-05-230-501.	
(i) If cracked, reject the bracket.		
(h) Visually examine and measure the dimensions of the reworked area(s)	Refer to Figure 5.	
(i) Cancel the old part number and identify with the new part number	Use vibro-engraving equipment. Refer to the Standard Practices Manual (SPM), TASK 70-09-00-400-501, SUBTASK 70-09-00-400-001.	
	Old Part No.	New Part No.
	6A3992	6A7459

(4) Rework the parts that follow - Post Service Bulletin ENG-71-0162:

6A5911, Bracket, attaching (72-40-00, Fig/Item 01-075).

5W8363, Bracket, clipping (72-40-00, Fig/Item 01-300).

PROCEDURE	RELATED DATA
(a) Chemically clean the attaching and clipping brackets	Use chemical cleaning equipment. Refer to the Standard Practices Manual (SPM), TASK 70-11-03-300-503.
(b) Apply marking ink to the area(s) to be reworked	Use standard workshop equipment. Refer to Figures 3 and 4.
(c) Mark-off the area(s) of the brackets to be removed	Use standard workshop equipment. Refer to Figures 3 and 4.
(d) Rework the brackets in the area(s) shown	Use standard workshop equipment. Refer to Figures 3 and 4.
(e) Remove any sharp edges	Use standard workshop equipment. Refer to Figures 3 and 4.
(f) Chemically clean the brackets	Use chemical cleaning equipment. Refer to the Standard Practices Manual (SPM), TASK 70-11-03-300-503.

(g) Do a local penetrant crack test on the reworked area(s)	Use CoMat 06-022 fluorescent penetrant with penetrant crack test equipment. Refer to the Standard Practices Manual (SPM), TASK 70-23-05-230-501.	
(i) If cracked, reject the bracket.		
(h) Visually examine and measure the dimensions of the reworked area(s)	Refer to Figures 3 and 4.	
(i) Cancel the old part numbers and identify with the new part numbers	Use vibro-engraving equipment. Refer to the Standard Practices Manual (SPM), TASK 70-09-00-400-501, SUBTASK 70-09-00-400-001.	
	Old Part No.	New Part No.
	6A5911	6A7458
	5W8363	6A7457

B. Assembly Instructions

(1) Remove Brackets 5W8363 and 6A5911 or 6A3992 from the HPC/Diffuser flange. (Refer to Figure 1).

(a) Disconnect the clip position CP5759 of the high-energy ignition harness, from the bracket 5W8363.

(i) Remove the bolt washer and clip-nut.

(ii) Move the harness clear of the bracket.

(b) Remove the bracket 5W8363 from the HPC/Diffuser case flange.

(i) Remove the three nuts and bolts that attach the bracket to the flange.

(c) Remove the air deflector bracket 6A3991 from bracket 6A5911 or 6A3992.

(i) Remove the two bolts and clip nuts that attach bracket 6A3991 to bracket 6A5911 or 6A3992. Discard the clip nuts.

(d) Remove bracket 6A5911 or 6A3992 from the HPC/Diffuser case flange.

(i) Remove the three nuts and bolts that attach the bracket to the flange.

(2) Rework the brackets 6A3992 (Refer to 3.A.(3)), 6A5911 and 5W8363 (Refer to 3.A.(4)).

(3) Install the re-worked brackets 6A7458 or 6A7459 and 6A7457 to the HPC/Diffuser case flange. (Refer to Figure 1).

(a) With the three nuts and bolts, attach bracket 6A7458 or 6A7459 to the flange

(i) Torque load the nuts to between 180 to 220 lbf/in. (20,34 to 24,86 Nm).

(b) With the two new nuts 4W001 and two bolts, attach the air deflector bracket 6A3991, to bracket 6A7458 or 6A7459.

(i) Torque load the nuts to between 36 and 45 lbfin. (4 and 5 Nm).

(c) With the two nuts and bolts, attach bracket 6A7457 to the flange.

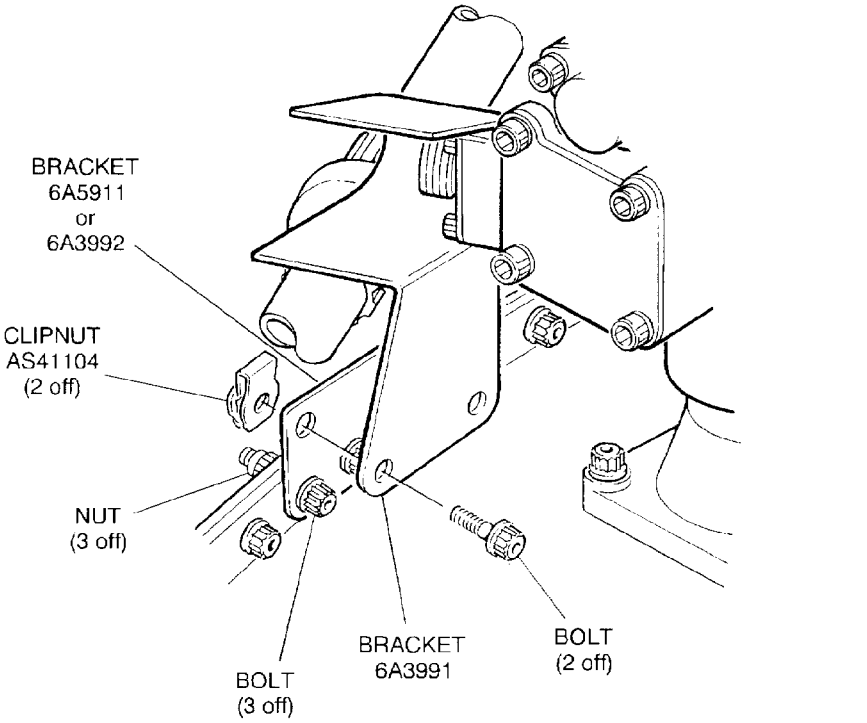
(i) Torque load the nuts to between 180 and 220 lbfin. (20,34 and 24,86 Nm).

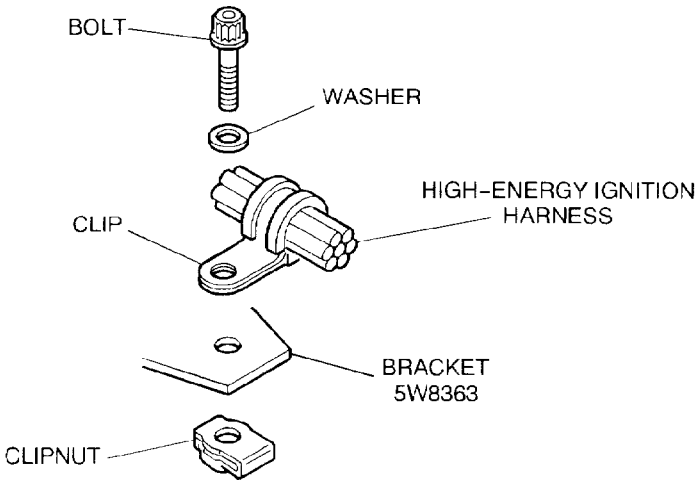
(d) With the nut washer and bolt attach clip position CP5759 of the high-energy ignition harness to bracket 6A7457.

(i) Torque load the bolt to between 36 and 45 lbfin. (4 and 5 Nm).

C. Recording Instructions

A record of accomplishment is necessary.

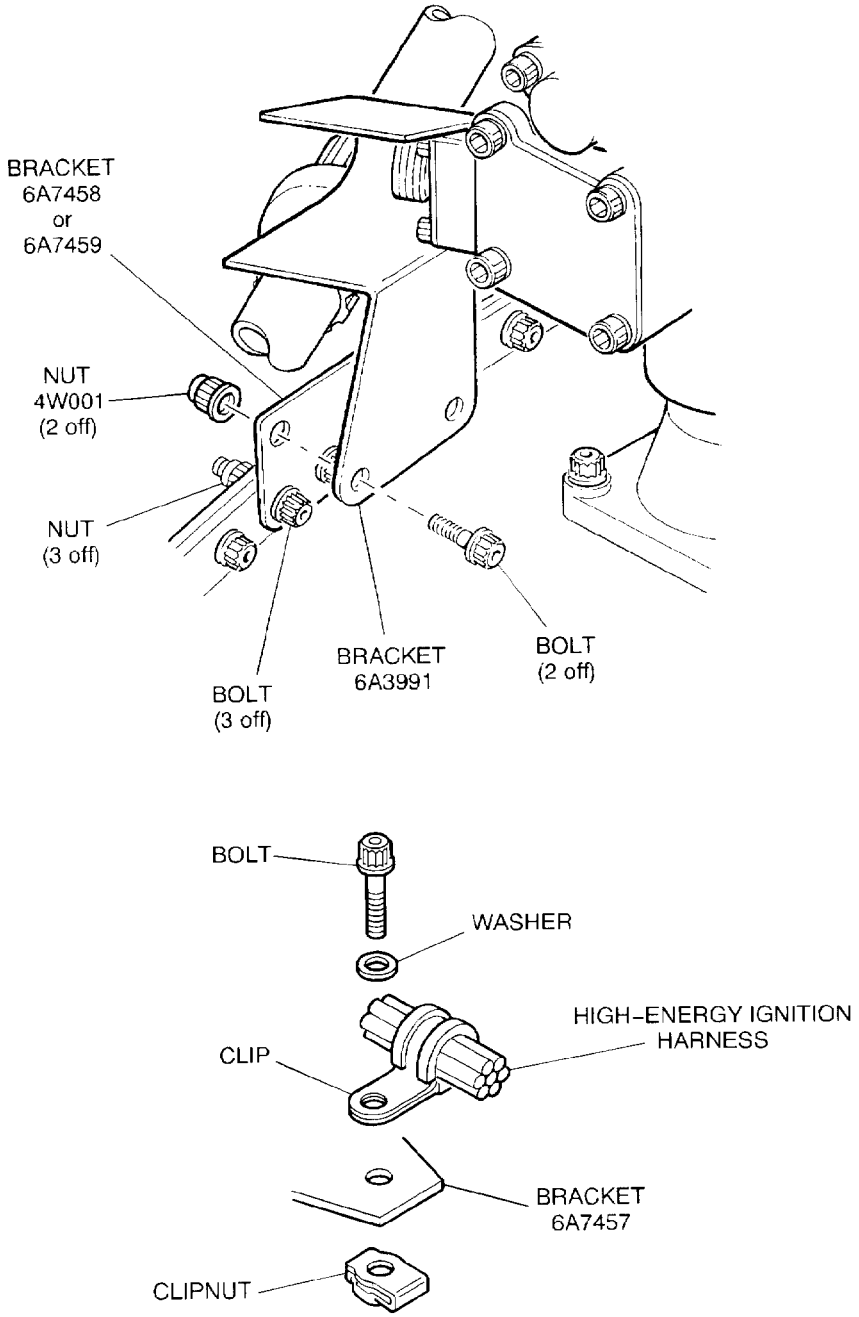




CLIP POSITION 5759

ded0002800

Removal of the brackets
Figure 1



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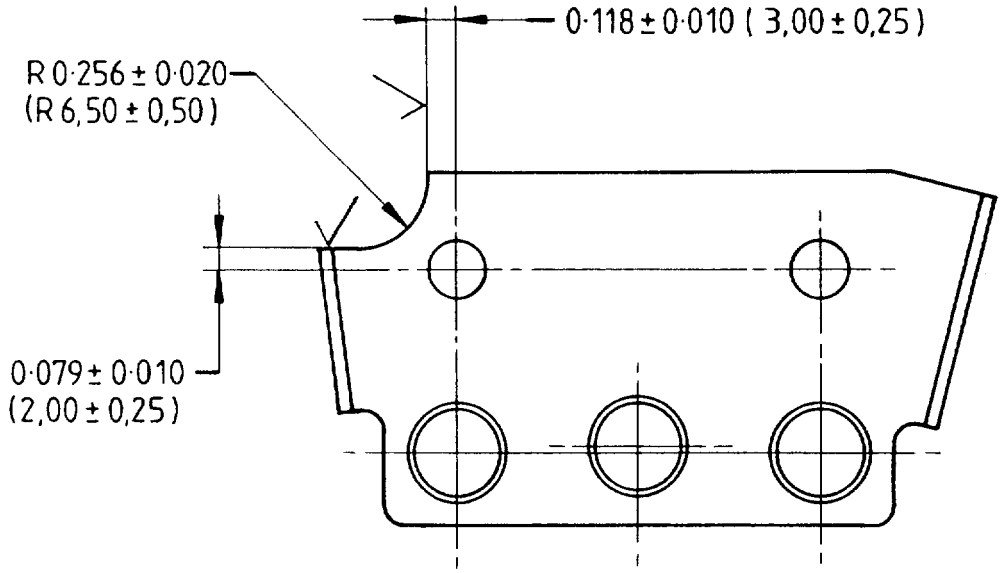
Installation of the brackets
Figure 2

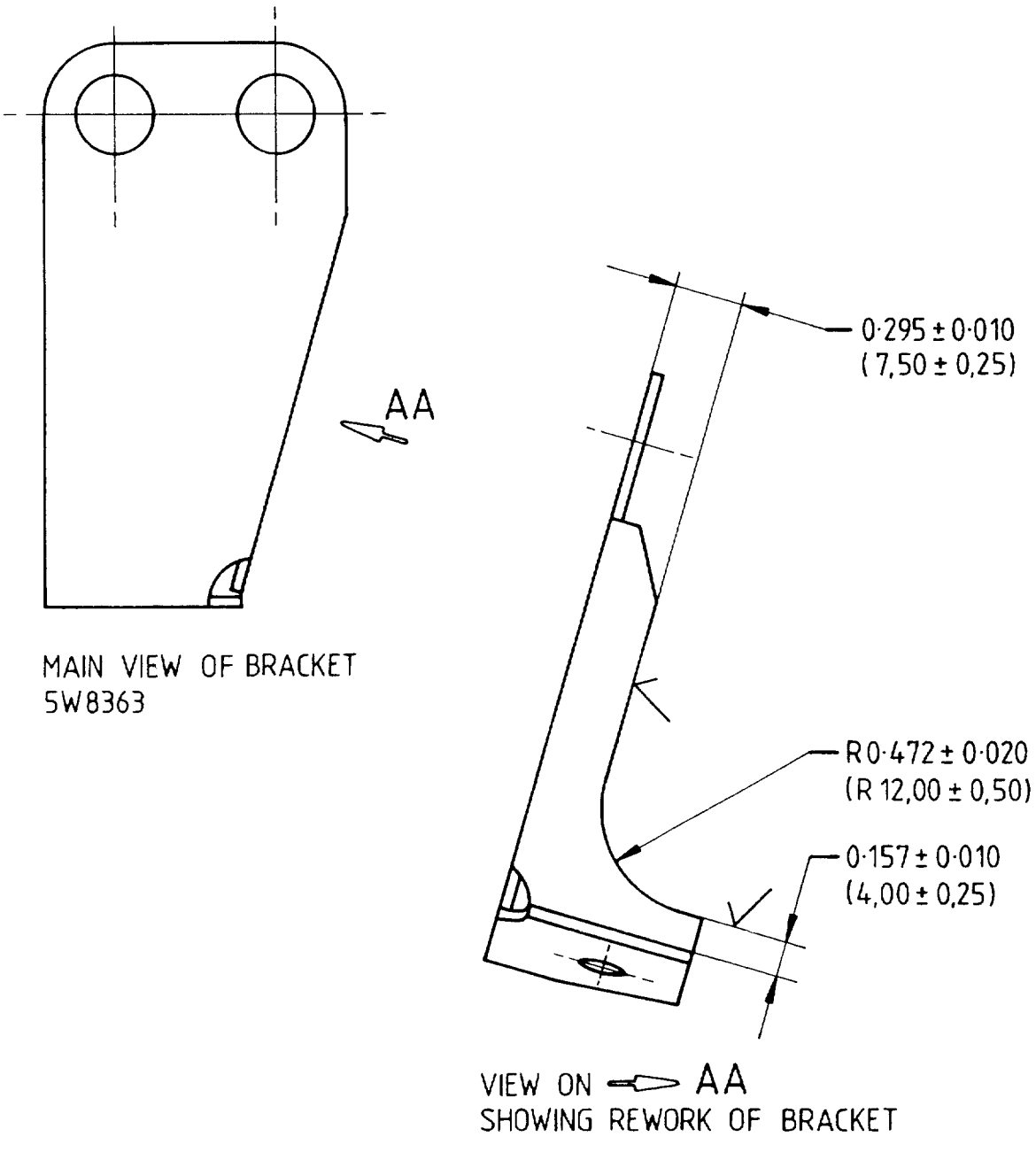


VIEW SHOWING REWORK OF 6A5911

DIMENSIONS ARE IN INCHES (MILLIMETRES)
MATERIAL REMOVAL WHERE SHOWN THUS √
SURFACE FINISH TO BE 125 MICROINCHES (3,2 MICROMETRES)
BREAK SHARP EDGES 0·012 ± 0·008 (0,30 ± 0,20)

ded0002848

Rework bracket 6A5911
Figure 3



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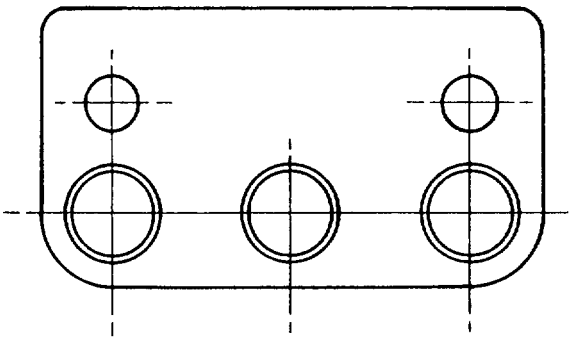
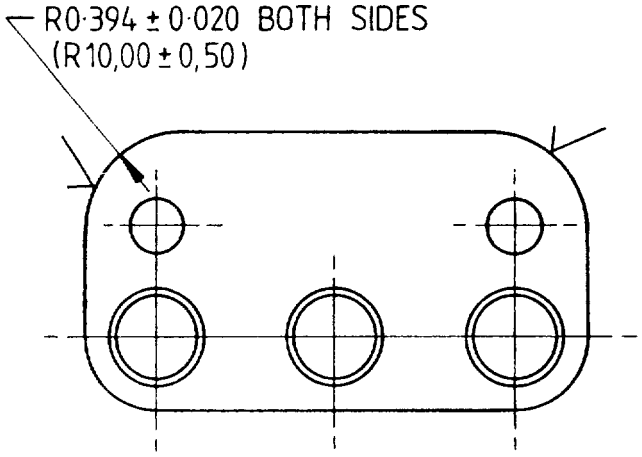
Rework bracket 5W8363
Figure 4



MAIN VIEW OF BRACKET 6A3992
BEFORE ALTERATION.



VIEW OF BRACKET
AFTER ALTERATION.

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Bracket 6A3992 - Before and after alteration
Figure 5

SERVICE BULLETIN

ENGINE – ATTACHING PARTS AND FITTINGS – HP SYSTEM – INTRODUCTION OF REVISED BRACKETS TO PROVIDE INCREASED CLEARANCE WITH FUEL MANIFOLDS

SUPPLEMENT – PRICES AND AVAILABILITY

R The prices (if 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 catalogue for current prices.

1. Modification Kit

Not applicable. Parts supplied as single line items

R 2. New Production Parts:

R	Part No.	Description	Unit Price US Dollars
	4W0001	Nut	3.58
	6A7457	Bracket,clipping	177.00
	6A7458	Bracket,attaching	16.00
	6A7459	Bracket,attaching	12.60

R Parts are currently available for sale.

R 3. Tools

R None.

SERVICE BULLETIN FEEDBACK FORM

Please use this form to give feedback on the quality of this Service Bulletin. The input you provide will be used to analyse areas of improvement and to take action to further improve on the quality of our Service Bulletins.

We thank you for the time you spent in completing this form.

Please rate on a scale of 1 to 5, with 5 being the highest score:

- General quality rating of this Service Bulletin	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Quality rating of the Accomplishment Instructions	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Quality rating of the Illustration	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Is this Service Bulletin easy to understand ?	☐ Yes ☐ No

If you have had difficulties to perform this Service Bulletin please quote below the area(s) and give a short description of the issue:

Planning Information Section:		Material Information Section:	Accomplishment Instruction Section:
☐ 1.A.	☐ 1.I.	☐ 2.A.	☐ General
☐ 1.B.	☐ 1.J.	☐ 2.B.	☐ Get Access
☐ 1.C.	☐ 1.K.	☐ 2.C.	☐ Removal/Installation
☐ 1.D.	☐ 1.L.	☐ 2.D.	☐ Inspection
☐ 1.E.	☐ 1.M.	☐ 2.E.	☐ Test
☐ 1.F.	☐ 1.N.	☐ 2.F.	☐ Close the Access
☐ 1.G.	☐ 1.O.		☐ Log Book Entry
☐ 1.H	☐ 1.P.		

Explanatory notes:

Operator:	Overhaul Site:
Name/Title:	Date:

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