International Aero Engines

SERVICE BULLETIN

ENGINE - ATTACHING PARTS AND FITTINGS - HP SYSTEM MODULE - IMPROVED COOLING AIR DEFLECTOR FOR CABIN AIR PRESSURE REGULATING VALVE - CATEGORY CODE 6 - MOD.ENG-72-0191

Printed in Great Britain

1. Planning Information

A. Effectivity

(1) Aircraft: (a) Airbus A320
(b) Airbus A321

(2) Engine: (a) V2527-A5 Engines prior to Serial No.V10065.
(b) V2530-A5 Engines prior to Serial No.V10065.

B. Concurrent Requirements

None

C. Reason

(1) Condition

The position of the cooling air deflector bracket relative to the cabin air pressure regulating valve (PRV) has resulted in the flow of cooling air to the valve being reduced.

(2) Background

The PRV on A5 engines was repositioned by rotating it 180 degrees from the original location on the A1 engines.

(3) Objective

Incorporation of the modified deflector bracket is designed to increase the flow of cooling air to the valve.

(4) Substantiation

Testing of the modified bracket on an A5 flight certification engine during ventilation testing was successfully completed.

Adequate cooling of the PRV was demonstrated.

(5) Effect of Bulletin on Workshop Procedures:

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

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

(6) Supplemental Information

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

D. Description

(1) Part 1

This Service Bulletin introduces the following changes:

(a) The existing deflector bracket assembly is deleted from the front face of flange FK along with the three securing bolts.

(b) The new deflector bracket assembly is introduced, mounted on the No.19 burner pad utilising the front 2 bolts.

(c) An additional support bracket is also introduced. The bracket is bolted to the rear face of flange FK using three standard bolts and is also bolted to the new deflector bracket.

(2) Part 2

This Service Bulletin introduces the following changes:

Several engines were delivered to operators with incorrect support bracket clearance holes.

(b) These support brackets are reworked to incorporate the correct size clearance holes.

(3) Part 3

This Service Bulletin introduces the following changes:

(a) Engines with incorrect support brackets were reworked to Service Bulletin Part 2 instructions.

(b) Visual inspection of the support bracket part numbers is necessary to confirm that the part numbers were altered after rework.

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E. Approval

The part number changes and/or part modifications 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.

F. 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.

G. Manpower

Estimated manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
Part 1	
(1) In Service	Not applicable
(2) At Overhaul	
(a) To gain access	Not applicable
(b) To embody	10 minutes
(c) To return to overhaul condition ..	Not applicable
Total:	10 minutes
Part 2	
(1) In Service	Not applicable
(2) At Overhaul	
(a) To gain access	Not applicable
(b) To embody	16 minutes
(c) To return to overhaul condition ..	Not applicable
Total:	16 minutes
Part 3	

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

(1) In Service .. .. .. Not applicable

(2) At Overhaul

(a) To gain access .. .. Not applicable

(b) To embody .. .. .. 5 minutes

(c) To return to overhaul condition .. Not applicable

Total: 5 minutes

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 .. .. .. Plus 0.4 lb (0,18 Kg)

(2) Moment arm .. .. .. 31.0in. (787 mm) forward

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

K. Electrical Load Data

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

L. References

(1) Internal Reference No.

EC93VR095

EC93VR095B

EC93VR095C

(2) Other references

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Overhaul Processes and Consumable Index (PCI-V2500-1IA).

This Service Bulletin is subject to Aircraft Modification 25368 and is covered by AIRBUS INDUSTRIE Service Bulletin A320-71-1901.

M. Other Publications Affected

(1) V2500 Engine Illustrated Parts Catalog (S-V2500-2IA), Chapter/Section 72-40-00 and 73-13-41.

(2) V2500 Engine Manual (E-V2500-1IA), 72-00-42, Installation-01.

(3) V2500 Engine Manual (E-V2500-1IA), 72-40-00, Cleaning-16 and Inspection/Check.

(4) V2500 Engine Manual (E-V2500-1IA), 72-42-00, Assembly.

(5) V2500 Component Maintenance Manual (CMM-MECH-V2500-1IA), 73-13-41, Cleaning-03 and Inspection/Check-03.

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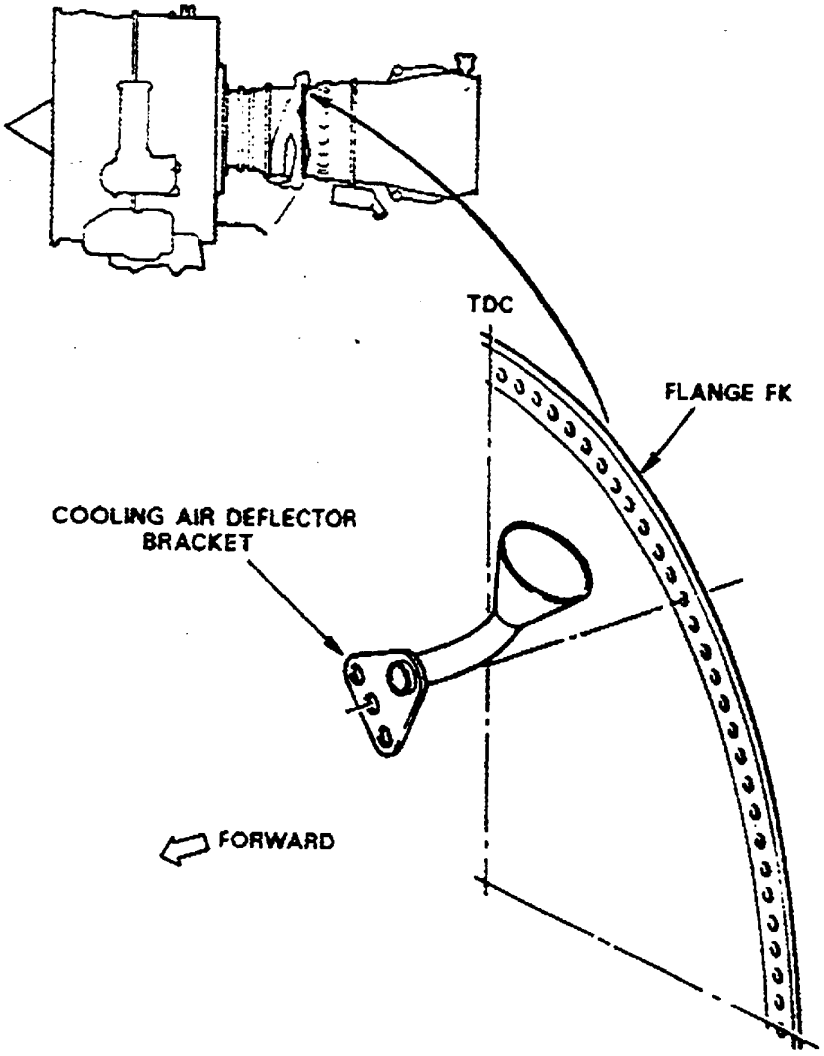

Location of cooling air deflector bracket
Fig.1

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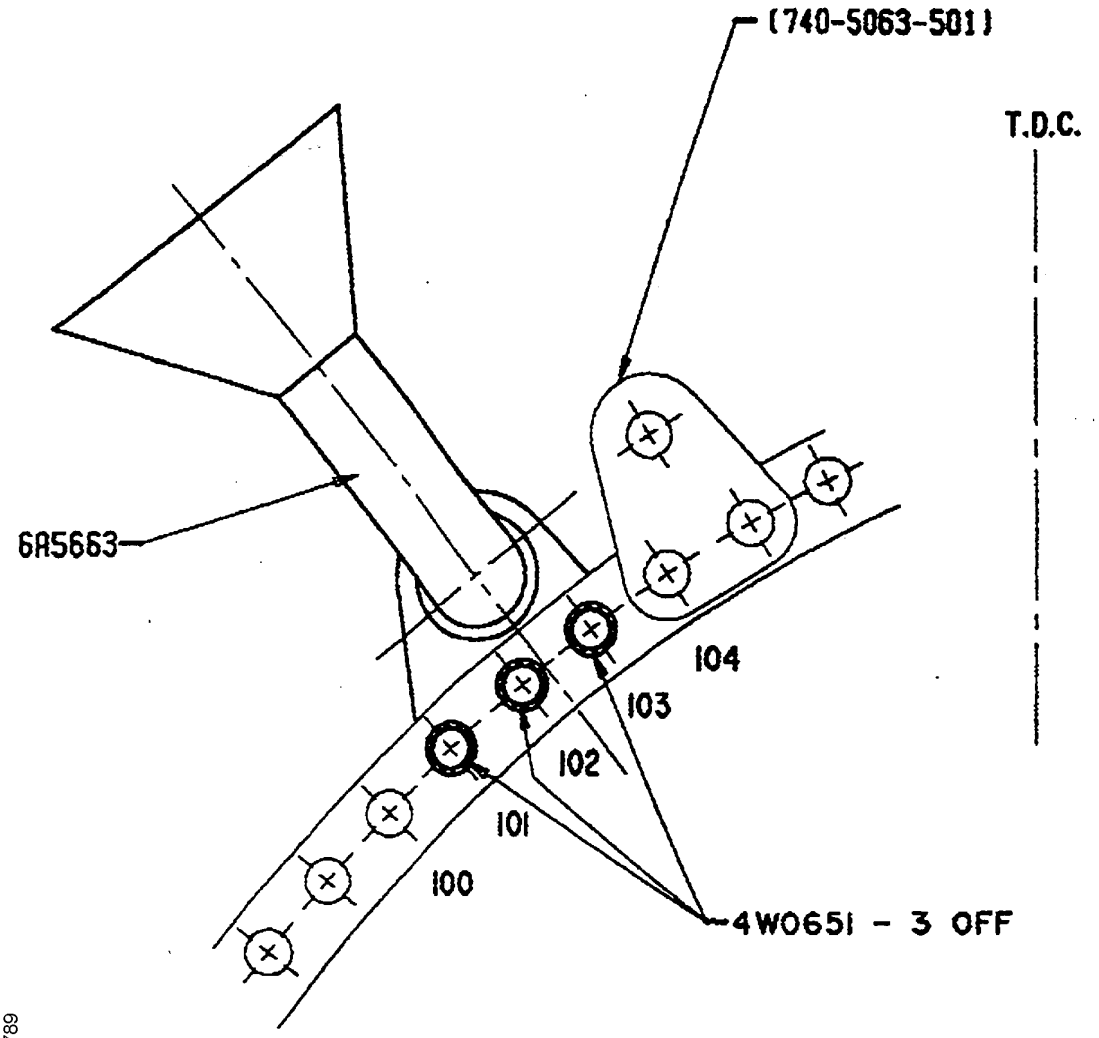

View on flange FK looking forward, showing location of cooling air deflector - Before alteration
Fig.2

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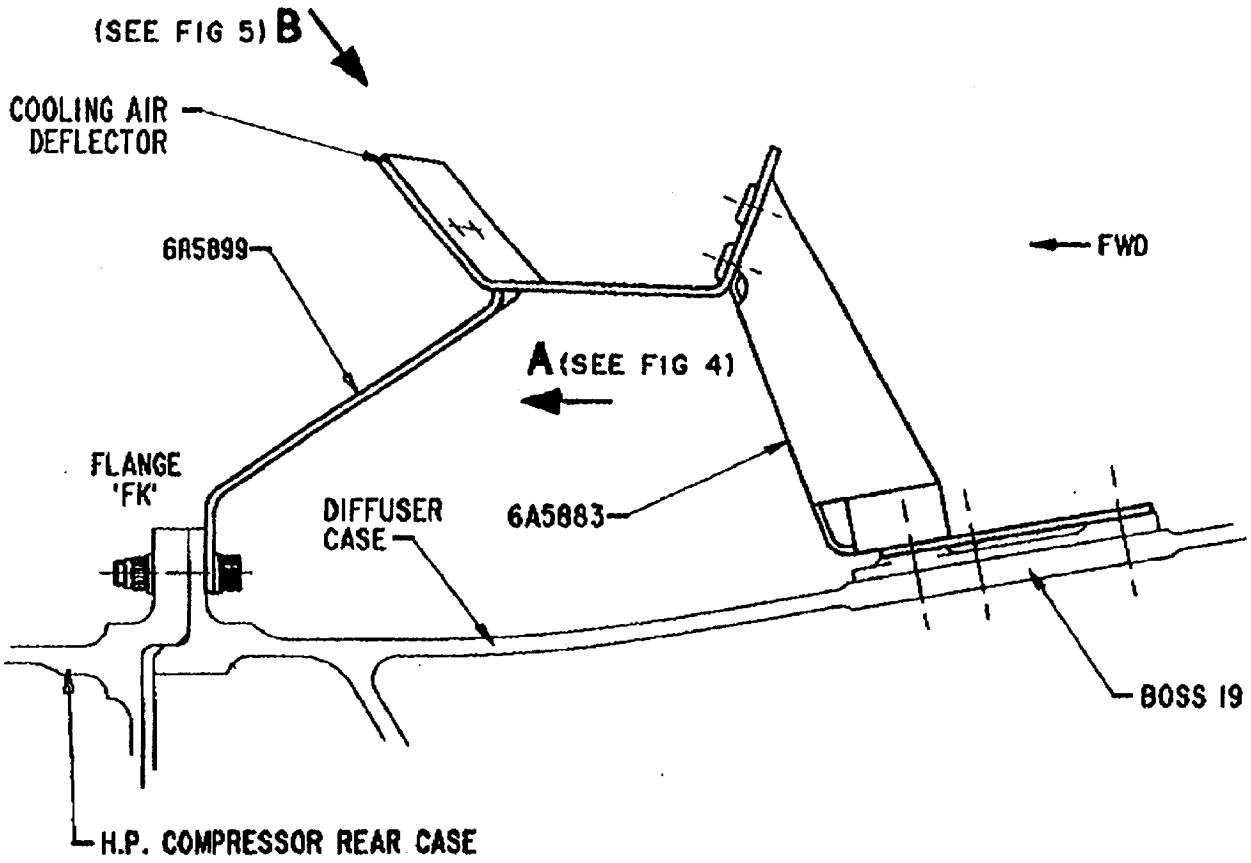

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View on nozzle and support assembly showing cooling air deflector/support - After alteration
Fig.3

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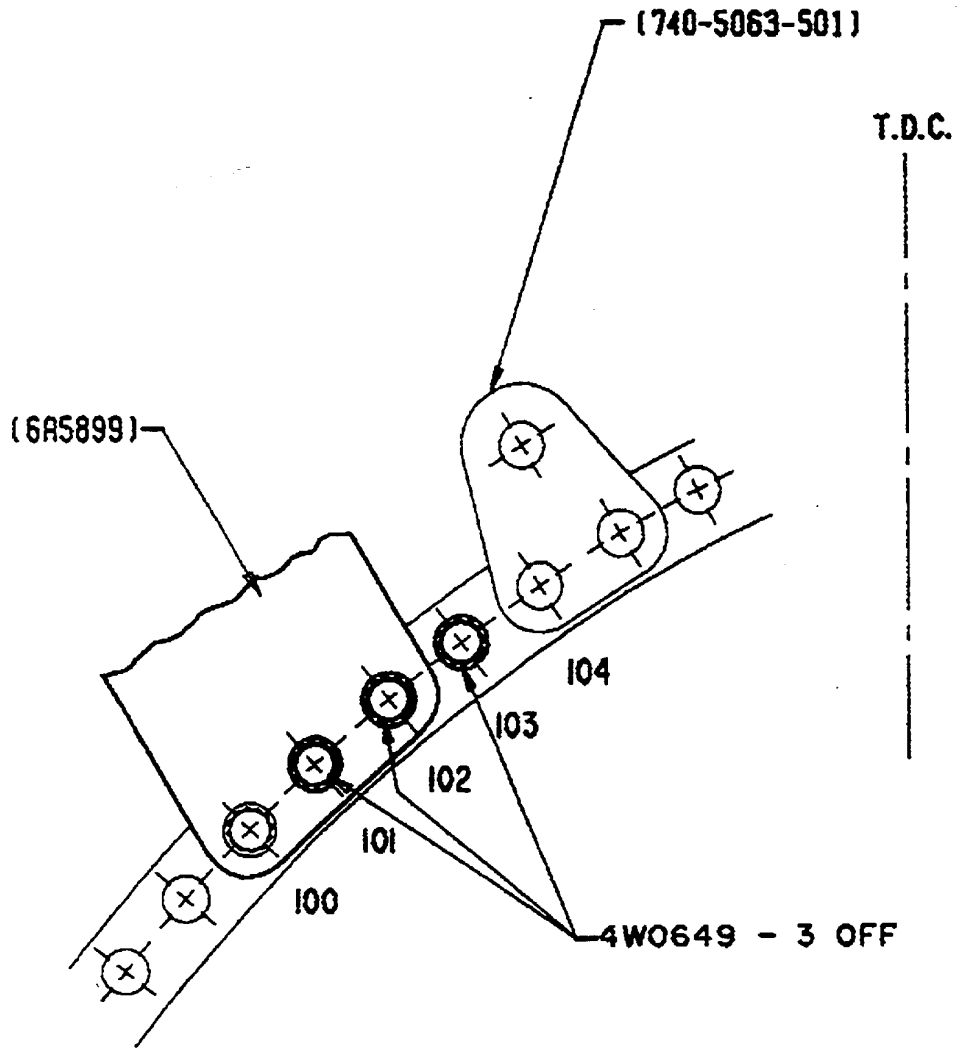

View on arrow A (see Figure 3) showing location of cooling air deflector - After alteration
Fig.4

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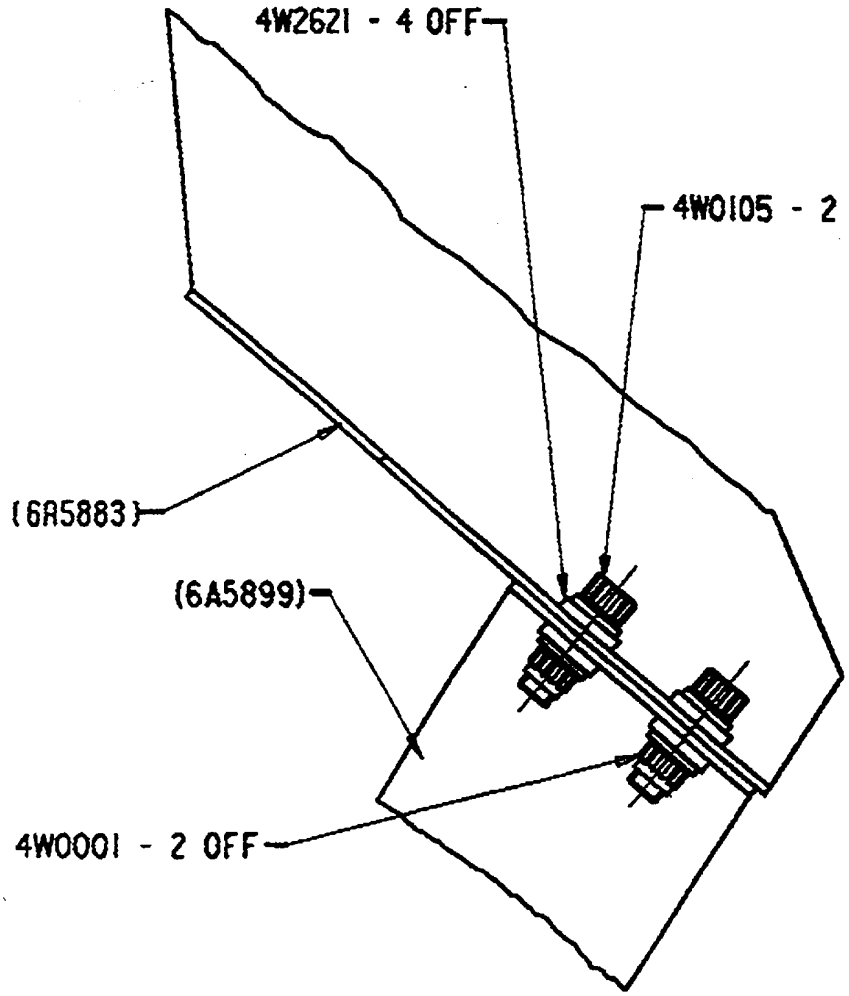

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Part view on arrow B (see Figure 3) - After alteration
Fig.5

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2. Accomplishment Instructions

Part 1

A. Removal Instructions

(1) Find 6A5663 bracket. Refer to Figures 1 and 2.

(2) Remove the 4W0651 bolts (3 off) and 4W0003 (3 off) retaining the 6A5663 bracket. Remove the 6A5663 bracket. Refer to Figure 2.

(3) Remove the retaining bolt at flange 'FK' hole position 100. Refer to Figure 2.

(4) Remove the MS9573-13 bolts (2 off) from the diffuser casing (boss 19) fuel nozzle boss. Refer to Figure 3.

B. Rework Instructions

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

C. Installation Instructions

(1) Install the 6A5899 bracket on to the rear face of flange 'FK' using 4W0649 bolts (3 off) and 4W0003 nuts (3 off). Do not tighten. Refer to Figures 3 and 4.

(2) Install the 4th 4W0649 bolt (1 off) and 4W0003 nut (1 off) to flange face 'FK' hole position 103. Refer to Figure 4.

(3) Install the 6A5883 bracket on to the diffuser case (boss 19) fuel nozzle boss using existing MS9575-13 bolts (2 off). Do not tighten. Refer to Figure 3.

(4) Centralise the 6A5883 and 6A5899 bracket hole positions, install 4W0105 bolts (2 off) 4W2621 washers (2 off) to 6A5883 and 6A5899 brackets, 4W2621 washers (2 off) and 4W0001 nuts (2 off). Refer to Figures 3 and 5.

(5) Torque the 4W0003 nuts installed in step (1) at flange face 'FK' hole positions 100, 101, 102 and 103 to 180 to 220 lbfin (20 to 25 Nm).

(6) Torque the 4W0001 nuts (2 off) installed at step (4) to 36 to 45 lbfin (4 to 5 Nm).

(7) Torque the MS9573-13 bolts (2 off)installed at diffuser casing (boss 19) fuel nozzle boss to 65 to 85 lbfin (7,3 to 10 Nm) and safety with CoMat 02-141 lockwire.

D. Recording Instructions

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

(1) A record of accomplishment is necessary.

Part 2

A. Removal Instructions

(1) Remove the 4W0105 bolts (2 off), the 4W0001 nuts (2 off) and the 4W2621 washers (4 off) that attach the 6A5884 support bracket to the cooling air deflector. Refer to Figure 3 and Figure 5.

(2) Remove the three bolts and the three nuts that attach the 6A5884 support bracket to flange 'FK' and remove the support bracket. Refer to Figure 3 and Figure 4.

B. Rework Instructions

(1) Rework 6A5884 support bracket (Refer to 72-40-00, Fig/Item 01-880).

Consumable Materials

None required

Standard Equipment

Jig boring machine
Standard workshop equipment
Standard 0.348 in. (8,839 mm) diameter letter 'S' drill
Vibro-engraving equipment

Procedure	Supplementary Information
(a) Install the support bracket on to the machine table	Refer to Figures 6,7 and 8. Align the axis of the three existing bolt holes correctly to the table surface. Use jig boring machine with standard workshop equipment.
(b) Increase the diameter of the three existing holes	Refer to Figure 8. Use a standard 0.348 in. (8,839 mm) diameter letter 'S' drill.
(c) Remove sharp edges	Use standard workshop equipment.
(d) Cancel the old part number and identify with the new part number	Old Part No. 6A5884 New Part No. 6A5899 Refer to SPM TASK 70-09-00-400-501, SUBTASK 70-09-00-400-001. Use vibro-engraving equipment.

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C. Installation Instructions

(1) Install the 6A5899 support bracket on to the rear face of flange 'FK' using the three bolts and the three nuts. Refer to Figure 3 and Figure 4.

(2) Align the two bolt holes in the cooling air deflector with the two bolt holes in the support bracket. Install the two bolts, the four washers and the two nuts. Refer to Figure 3 and Figure 5.

(3) Torque the three nuts installed in step (1) at hole positions 100, 101 and 102 on flange 'FK' to 180 to 220 lbfin (20 to 25 Nm).

(4) Torque the two nuts installed in step (2) to 36 to 45 lbfin (4 to 5 Nm).

D. Recording Instructions

(1) A record of accomplishment is necessary.

Part 3

A. Removal Instructions

(1) Remove the 4W0105 bolts (2 off), the 4W0001 nuts (2 off) and the 4W2621 washers (4 off) that attach the support bracket to the cooling air deflector. Refer to Figure 3 and Figure 5.

(2) Remove the three bolts and the three nuts that attach the support bracket to flange 'FK' and remove the support bracket. Refer to Figure 3 and Figure 4.

B. Rework Instructions

(1) Identify the reworked support bracket (Refer to 72-40-00, Fig/Item 01-880).

Consumable Materials

None required.

Standard Equipment

Vibro-Engraving equipment
Standard workshop equipment

Procedure	Supplementary Information
(a) Visually examine the support bracket part number.	

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	If part number is 6A5899, no further action is necessary. Go to step D. Recording Instructions. If part number is 6A5884 go to step (b).	
(b)	Remove the support bracket using the procedure given in step A. Removal Instructions.	Refer to step A. Removal Instructions
(c)	Dimensionally examine the three bolt holes. If the bolt holes are not the correct size, do Part 2 of this Service Bulletin. If the bolt holes are the correct size, go to step (d).	Refer to Figures 6 and 8. Use standard workshop equipment.
(d)	Cancel the old part number and identify with the new part number.	Old Part No. 6A5884 — New Part No. 6A5899 Refer to SPM TASK 70-09-00-400-501, SUBTASK 70-09-00-400-001. Use vibro-engraving equipment.

C. Installation Instructions

(1) Install the 6A5899 support bracket on to the rear face of flange 'FK' using the three bolts and the three nuts. Refer to Figure 3 and Figure 4.

(2) Align the two bolt holes in the cooling air deflector with the two bolt holes in the support bracket. Install the two bolts, the four washers and the two nuts. Refer to Figure 3 and Figure 5.

(3) Torque the three nuts installed in step (1) at hole positions 100, 101 and 102 on flange 'FK' to 180 to 220 lbfin (20 to 25 Nm).

(4) Torque the two nuts installed in step (2) to 36 to 45 lbfin (4 to 5 Nm).

D. Recording Instructions

(1) A record of accomplishment is necessary.

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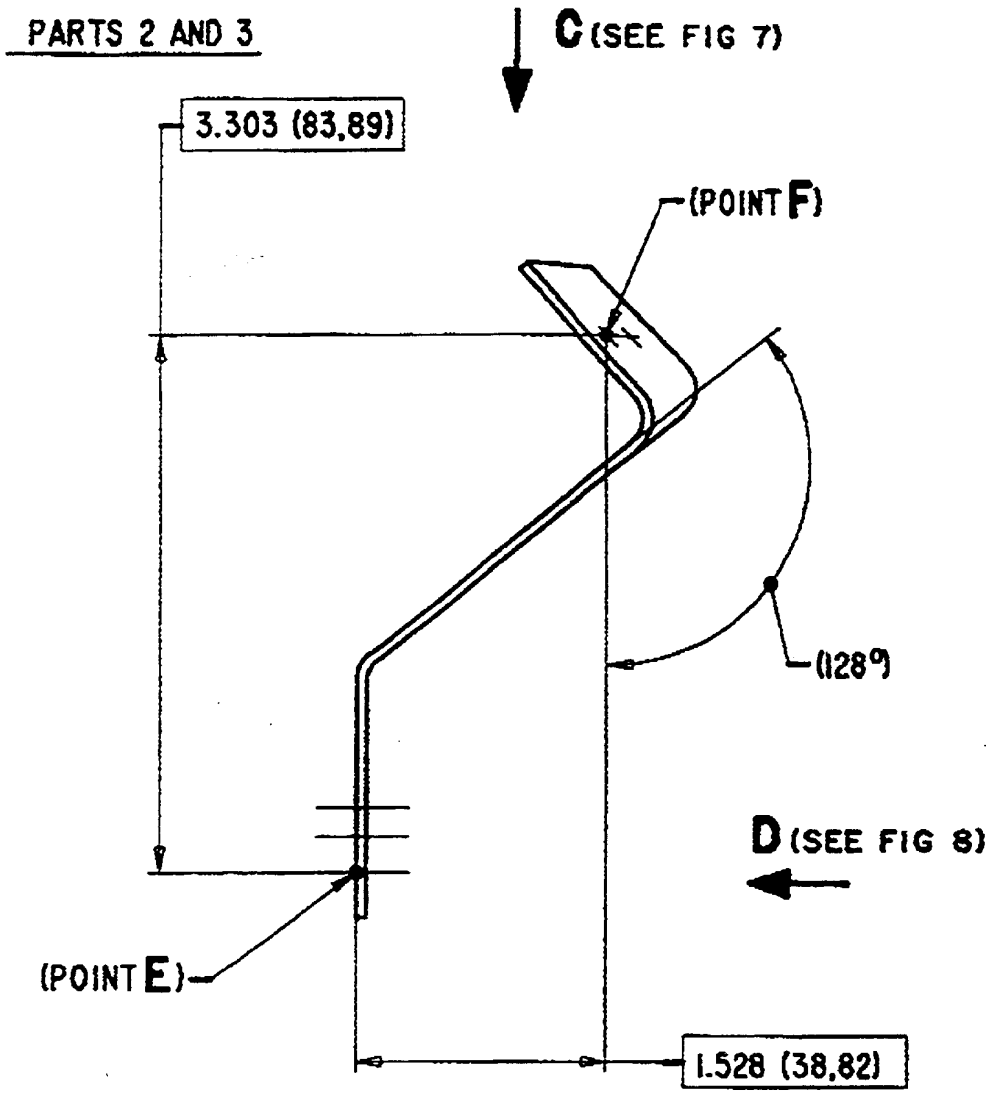

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INCHES (MILLIMETRES)
REMOVE BURRS AND BREAK SHARP EDGES

View on support bracket (6A5884) showing reworking required
Fig.6

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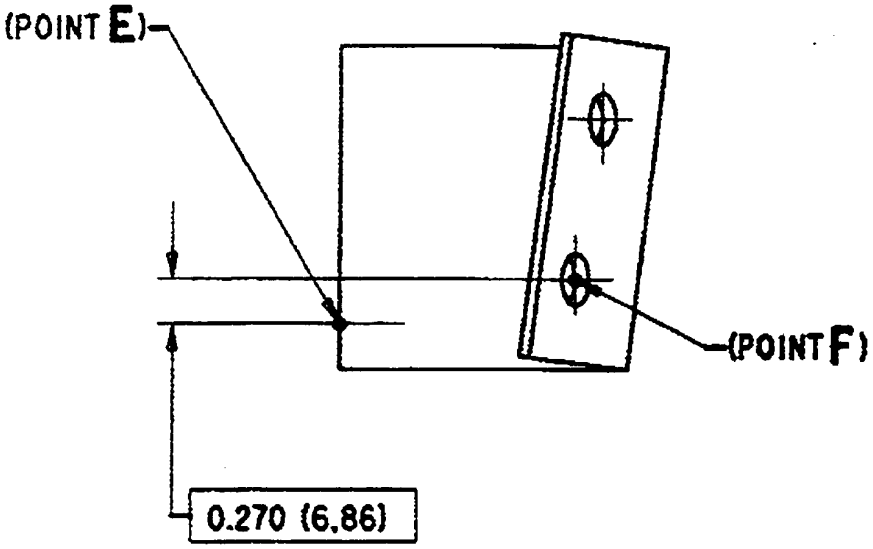
PARTS 2 AND 3



INCHES (MILLIMETRES)
REMOVE BURRS AND BREAK SHARP EDGES

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View on arrow C (see Figure 6) showing reworking required
Fig.7

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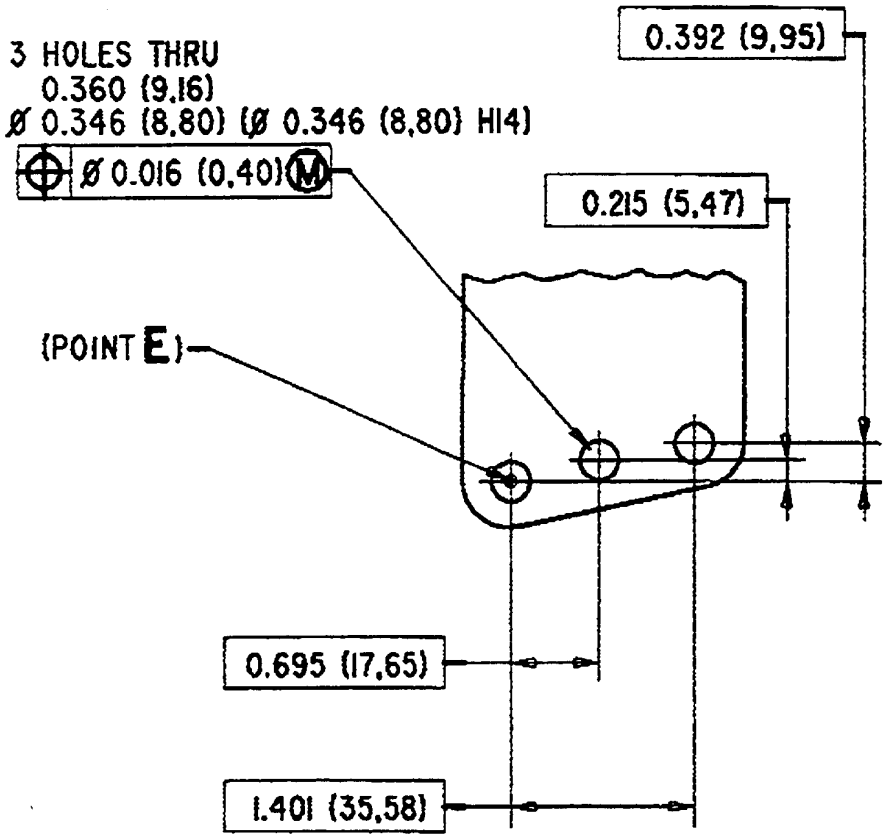
PARTS 2 AND 3



INCHES (MILLIMETRES)
REMOVE BURRS AND BREAK SHARP EDGES

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View on arrow D (see Figure 6) showing reworking required
Fig.8

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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
4W0649 (72-40-00)	112	15.30	Bolt, bi-hex head	- (01-050)	(A)(B)(S1)
- (72-40-00)	3		Bolt, bi-hex head	4W0651 (01-054)	(C)(S1)
- (72-40-00)	1		Funnel assy, air	6A5663 (01-860)	(E)(S1)
6A5899 (72-40-00)	1	70.90	Bracket - support	- (01-880)	(A)(S1)(1D)
4W0105 (72-40-00)	2	4.39	Bolt, bi-hex head	- (01-882)	(A)(S1)
4W2621 (72-40-00)	4	0.72	Washer	- (01-884)	(A)(S1)
4W0001 (72-40-00)	2	2.53	Nut, bi-hex	- (01-886)	(A)(S1)
6A5883 (73-13-41)	1	312.00	Bracket assy	- (01-480)	(A)(S1)

C. Instructions/Disposition Code Statements:

(A) New parts are currently available
(B) Quantity increased from 109 to 112
(C) Old parts can be used up on other applications
(1D) If 6A5884 bracket has been installed it can be reworked and/or identified to the new part number. See Part 2 or Part 3 of the Accomplishment Instructions.
(E) Old parts are no longer available
(S1) Old and new part are interchangeable in complete sets

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NOTE: The estimated 1996 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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