ENGINE - H.P. COMPRESSOR VARIABLE STATOR VANES - REDUCED NUMBER OF RIGGING PIN BRACKETS - CATEGORY CODE 7 - MOD.ENG-72-0084

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500-A1 Engines prior to Serial No.V0242

B. Reason

(1) Condition

Experience indicates that a single rigging location is sufficient.

(1) Background

The variable stator vane unison ring assemblies were designed with three rigging pin brackets per stage to ensure accurate setting of the vane mechanism.

Experience has shown that satisfactory vane setting of the H.P. compressor variable stator vanes can be obtained with a reduction from three to one rigging pin bracket per stage.

(3) Objective

To reduce setting time and achieve a slight weight reduction.

(4) Substantiation

Engine testing and static checks have established that the reduction in setting accuracy is minimal. The effect on compressor surge margin and efficiency is considered to be insignificant.

(5) Effect of Bulletin on workshop procedures

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

(6) Supplemental Information

None

C. Description

The two rigging pin brackets located on the upper half unison rings at the V.I.G.V. stage and at stages 4 and 5 are deleted. At stage 3, one bracket is deleted from each of the half rings. The associated hollow dowels and bolts for securing the brackets are no longer required.

The bracket assemblies within the stages 3 and 4 unison rings which were required to retain the rigging pin bracket bolts are deleted. On the stage 5 ring the two existing brackets are replaced by shorter brackets.

The rigging pin holes in the compressor case and the bolt holes in the unison rings are retained.

The compressor rigging procedure remains unchanged except that only one rigging pin is used on the first four stages.

D. Approval

The parts number changes and/or part modifications described in Sections 2 and 3 of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and FAA-APPROVED for the Engine Model listed.

E. Compliance

Category Code 7

Accomplish when supply of superseded parts has been depleted.

F. Manpower

Estimated manhours to incorporate the full intent of this Bulletin.

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

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 .. .. .. Minus 1.3 lb. (0.59 kg.)

(2) Moment arm .. .. .. 7.0in. (178 mm.) rearward of datum

(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.

EC88VR161

ECM88VR161-02

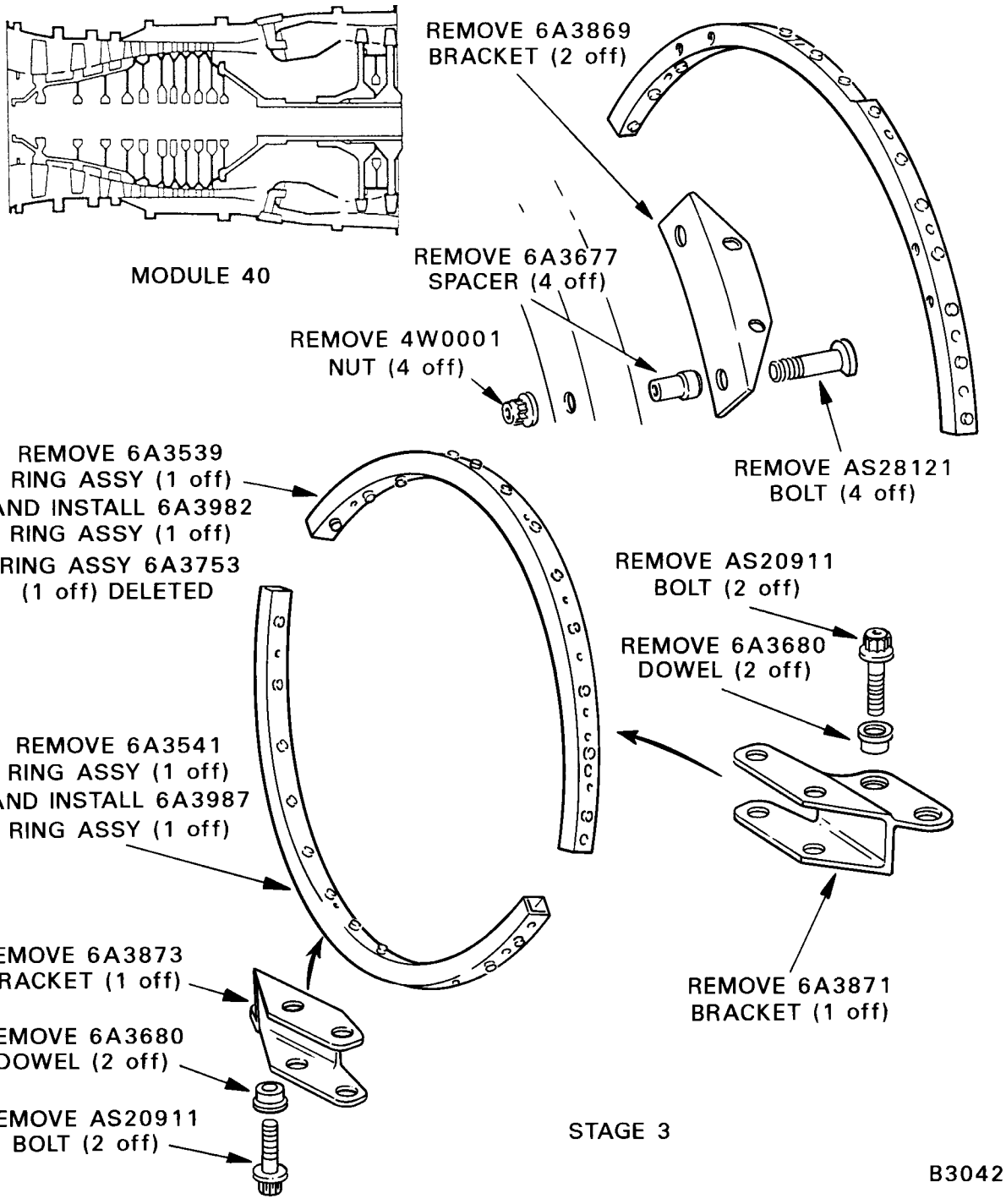
(2) Other References

Repair schemes VRS6155, 6156, 6195, 6247 and 6248 are also applicable to the new unison ring assemblies introduced by this Service Bulletin.

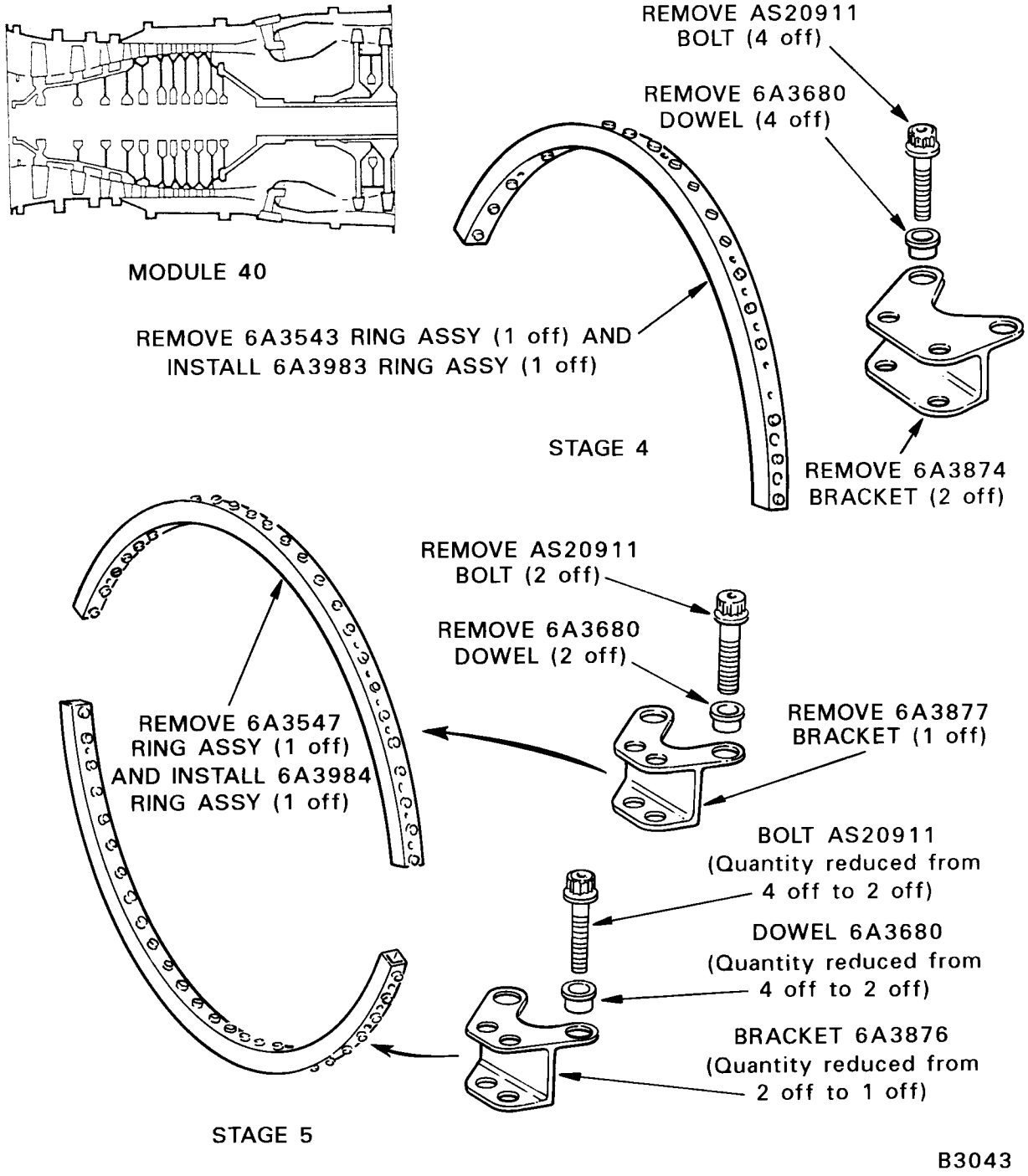
L. Other Publications Affected

(1) V2500 Illustrated Parts Catalog, 72-41-34.

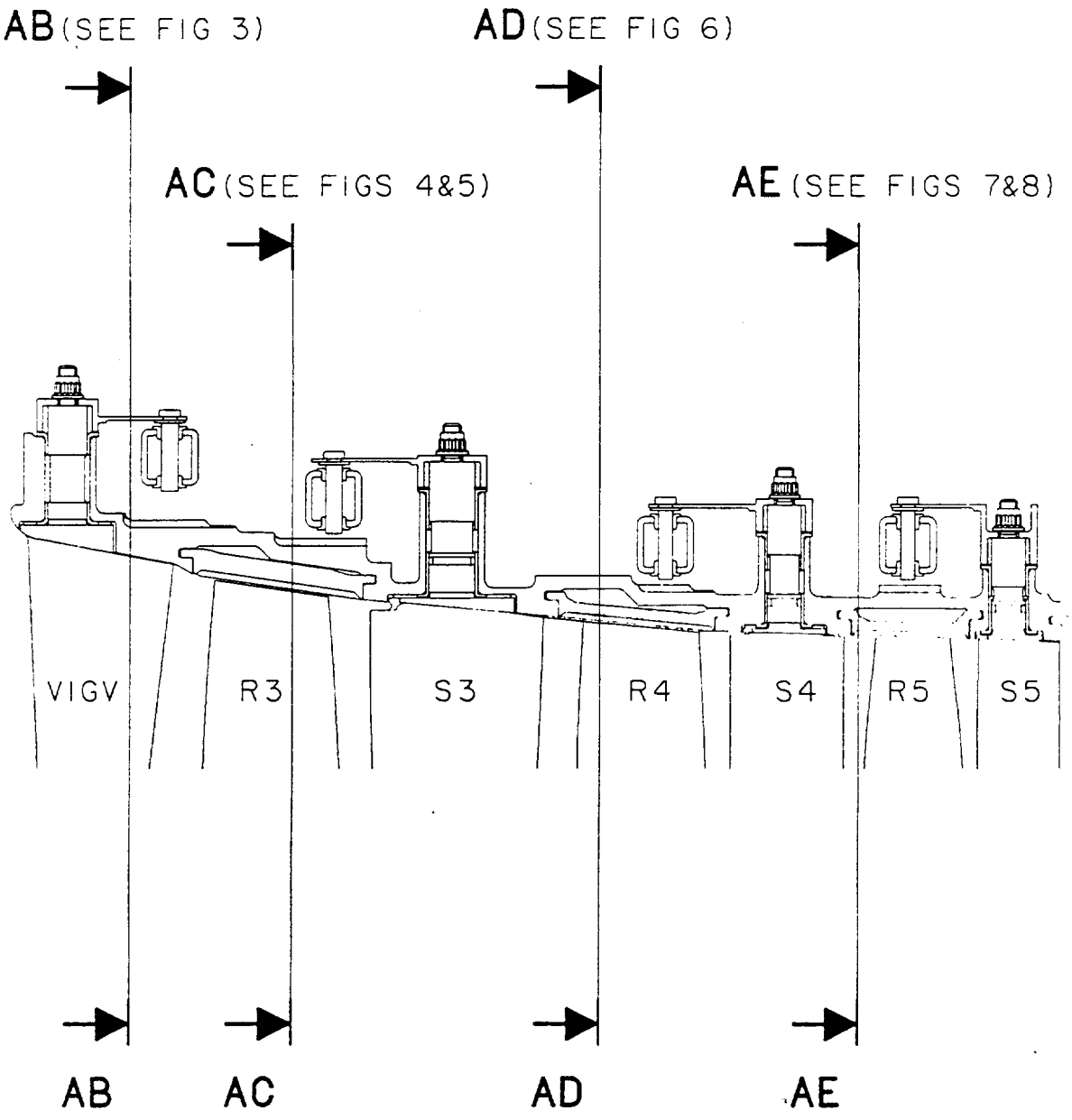
(2) V2500 Engine manual, 72-41-30, Disassembly and Assembly, 72-41-34, Cleaning, Inspection/Check and Repair.



Location of H.P. compressor VIGV and variable stator vane actuating mechanism
Fig.1 (Sheet 1 of 2)



Location of H.P. compressor VIGV and variable stator vane actuating mechanism
Fig.1 (Sheet 2 of 2)



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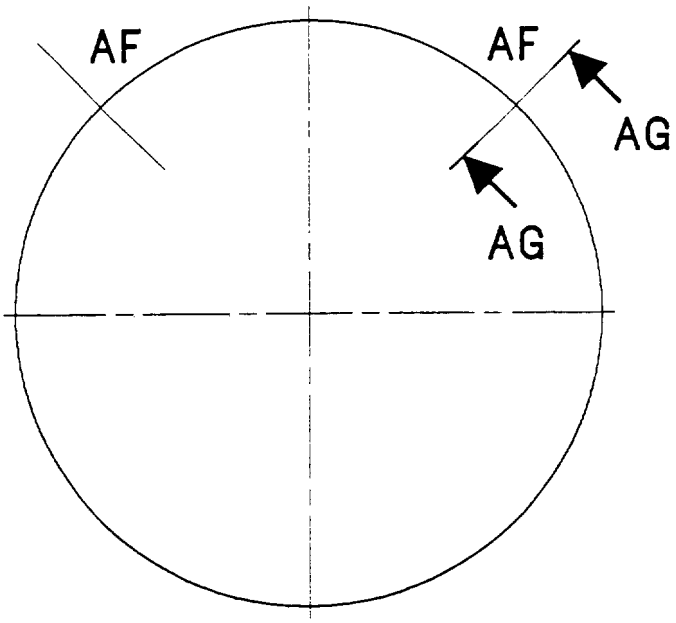
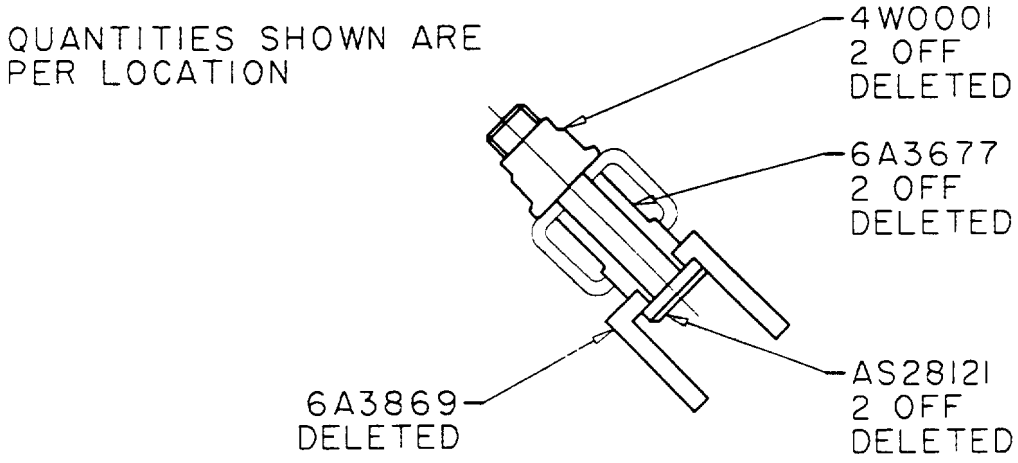
Section through HP compressor
Fig.2



DIAGRAMMATIC SECTION AB
(SEE FIG 2)



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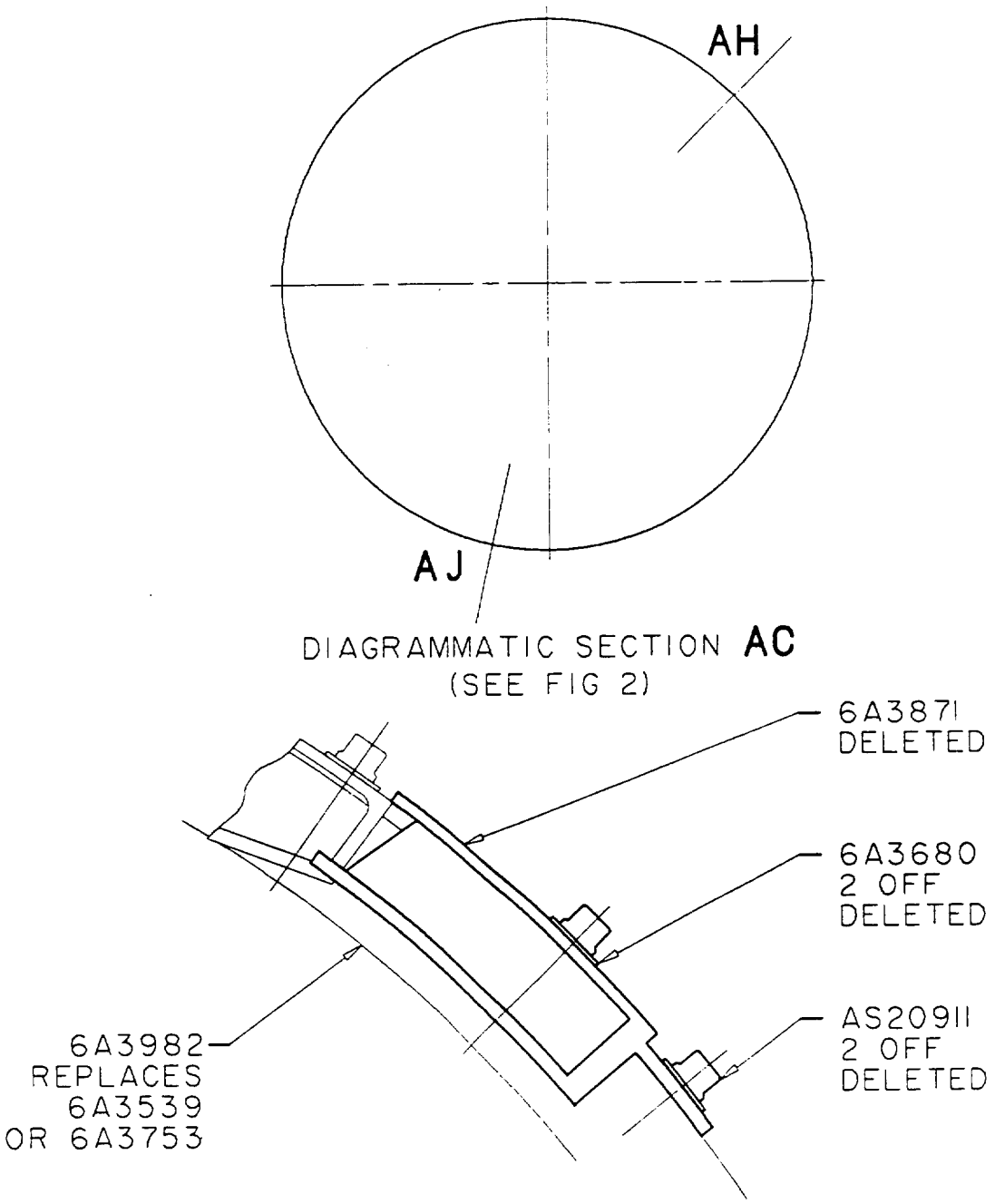
Section AG at 2 positions AF showing VIGG rig pin brackets before and after alteration
Fig.3



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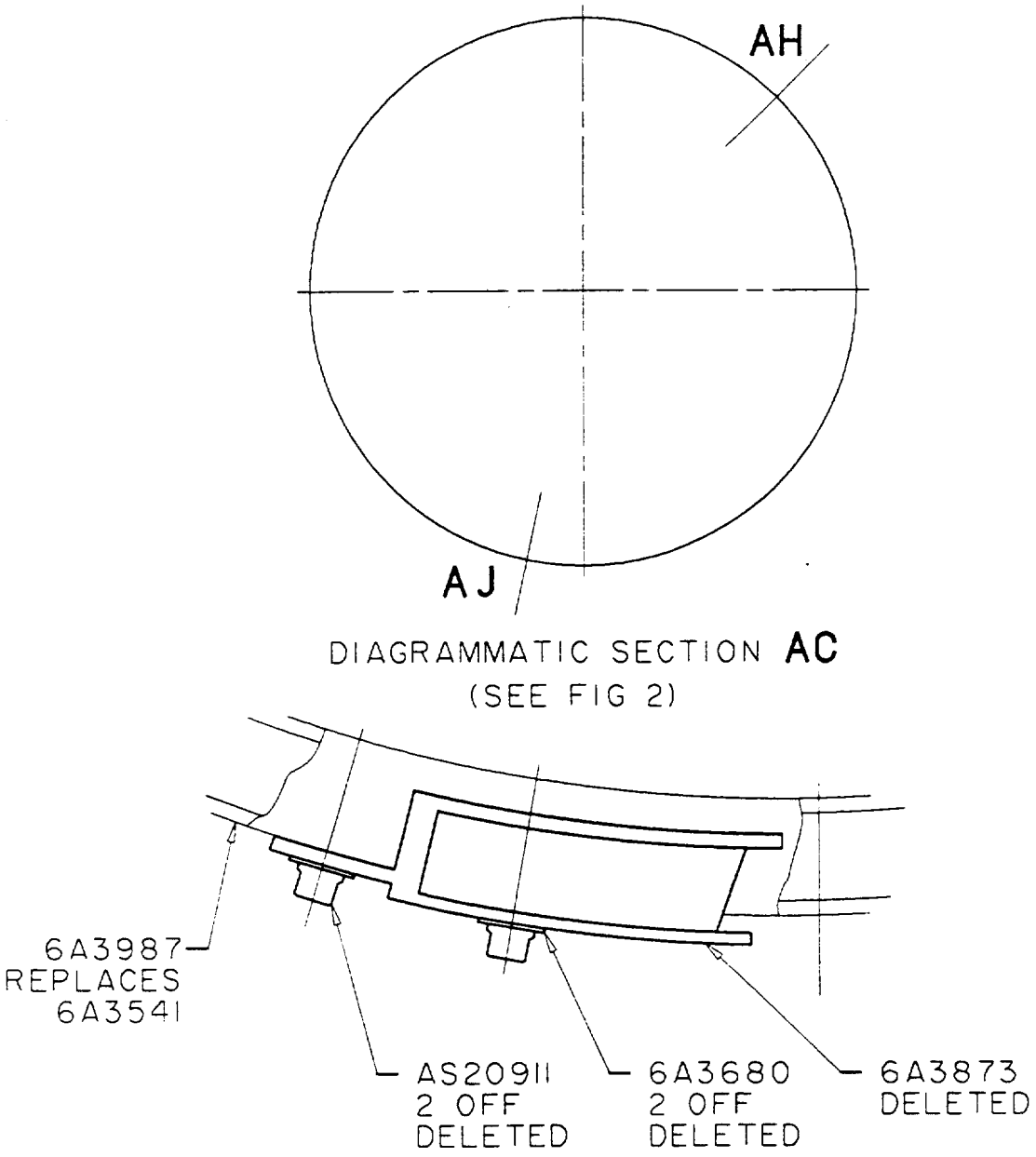
View at AH showing rig pin bracket before and after alteration
Fig.4



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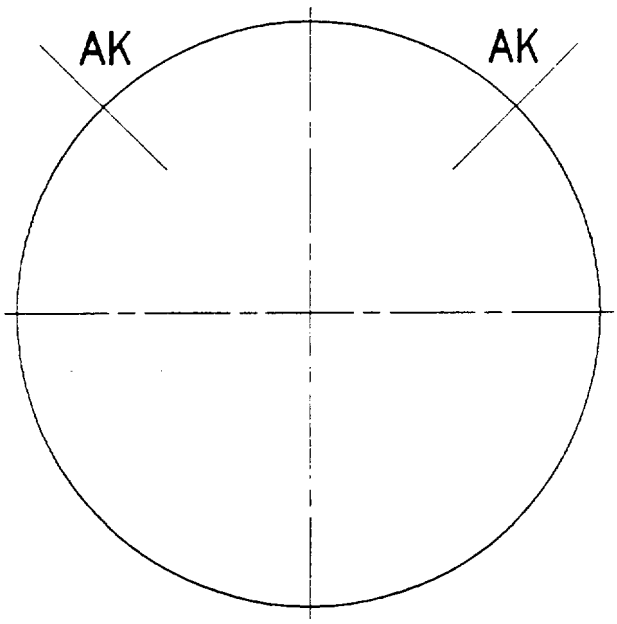
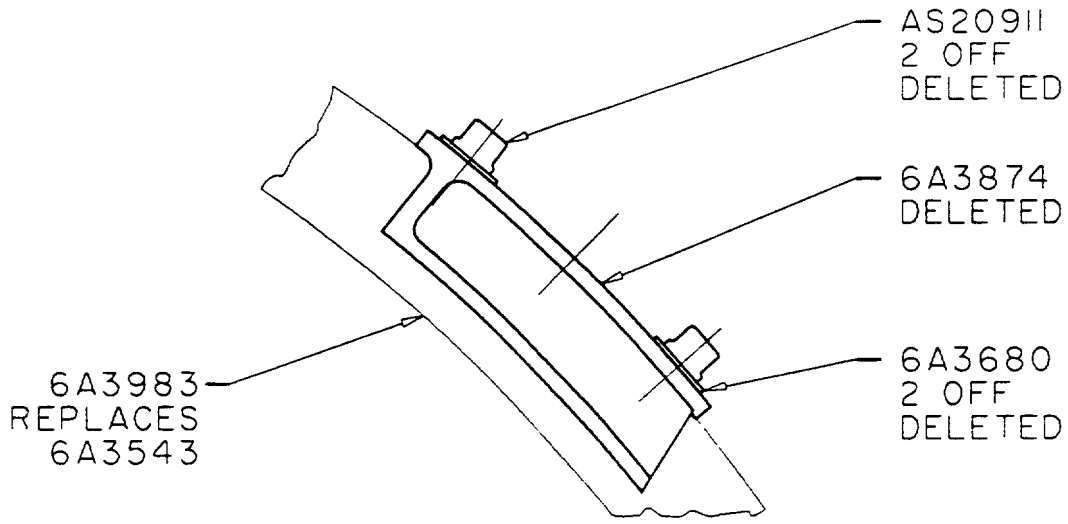
View at AJ showing rig pin bracket before and after alteration
Fig.5



DIAGRAMMATIC SECTION AD
(SEE FIG 2)



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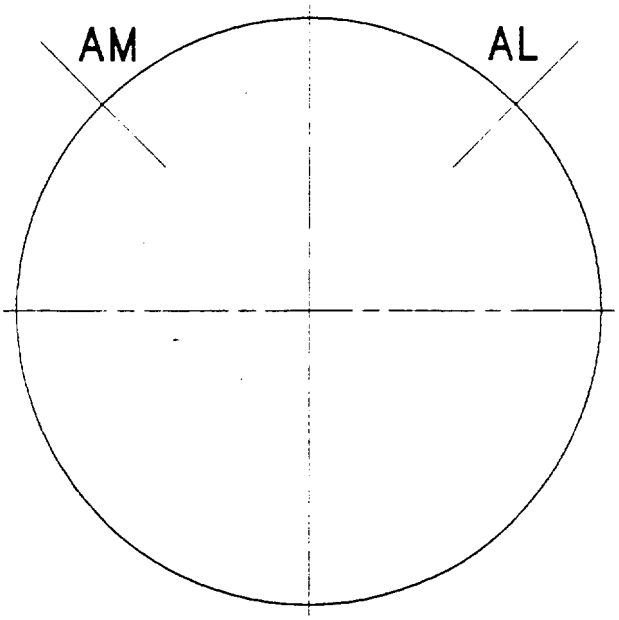
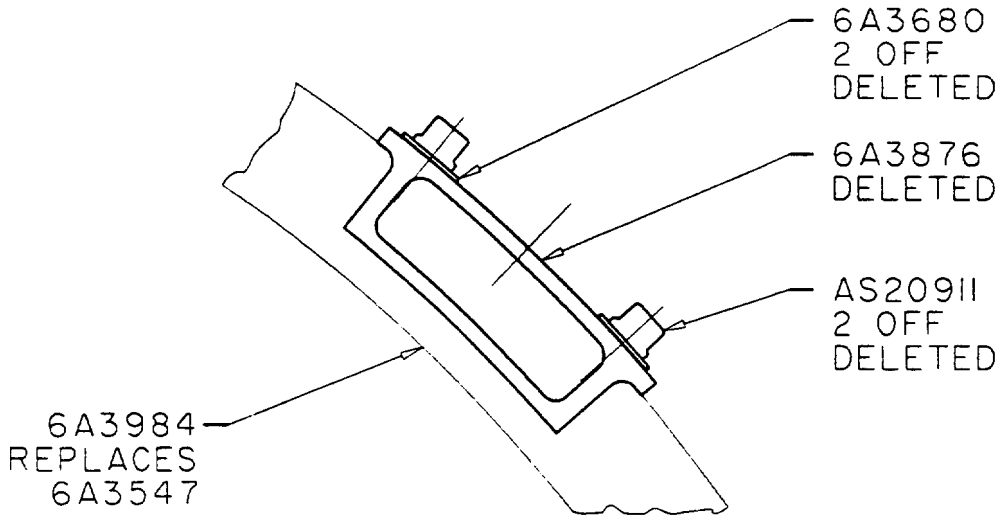
View at AK typical 2 positions showing rig pin brackets before and after alteration
Fig.6



DIAGRAMMATIC SECTION **AE**
(SEE FIG 2)



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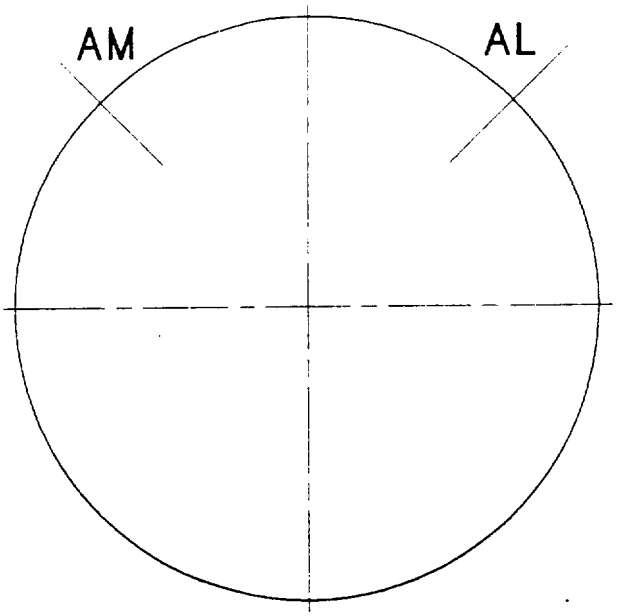
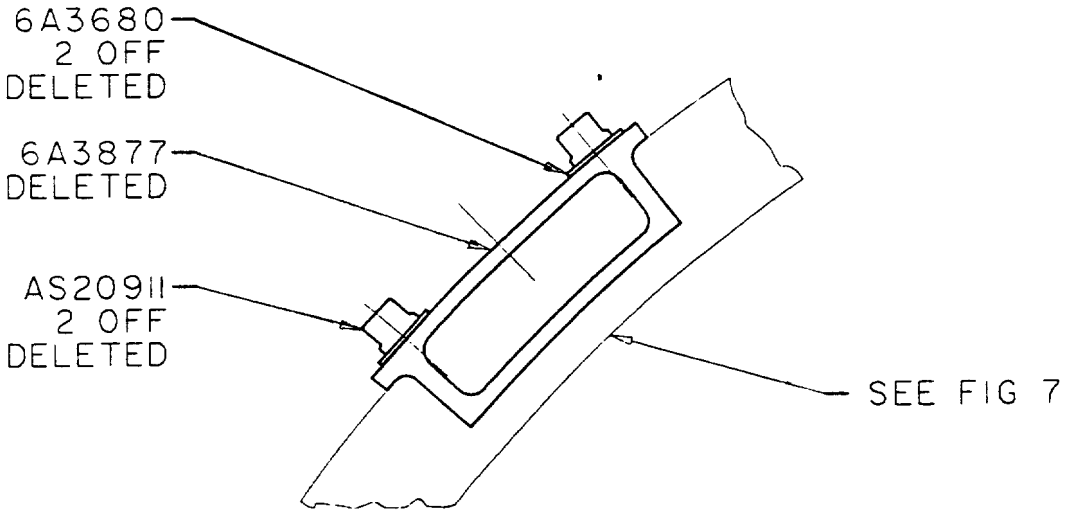
View at AL showing rig pin bracket before and after alteration
Fig.7



DIAGRAMMATIC SECTION AE
(SEE FIG 2)



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View at AM showing rig pin bracket before and after alteration
Fig.8

2. Accomplishment Instructions

A. Rework Instructions

Not applicable

B. Assembly Instructions

Assemble new 6A3982 ring assy - stage 3 upper, new 6A3987 ring assy - stage 3 lower, new 6A3983 ring assy - stage 4 upper and new 6A3984 ring assy - stage 5 upper by use of approved procedures, Engine Manual 72-41-00, Assembly.

C. Recording Instructions

(1) A record of accomplishment is necessary

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
- (72-41-34)	2		Bracket, Rig Pin	6A3869 (02-780)	(C)
- (72-41-34)	4	5.37	Nut	4W0001 (02-782)	(B)
- (72-41-34)	4	5.52	Bolt - Dee Head	AS28121 (02-784)	(B)
- (72-41-34)	4	42.20	Hollow Dowel, Spacer	6A3677 (02-786)	(B)
6A3982 (72-41-34)	1		Ring Assy - Stage 3 Upper	6A3539	(S1)(A)(C)
- (72-41-34)	1		Ring Assy - Stage 3 Upper	6A3753 (03-440)	(C)
6A3987 (72-41-34)	1		Ring Assy - Stage 3 Lower	6A3541 (03-540)	(S1)(A)(C)
- (72-41-34)	1		Bracket, Rig Pin	6A3871 (03-760)	(C)
- (72-41-34)	2	2.61	Bolt	AS20911 (03-762)	(B)
- (72-41-34)	2	11.00	Dowel, Hollow	6A3680 (03-766)	(B)
- (72-41-34)	1		Bracket, Rig Pin	6A3873 (03-780)	(C)
- (72-41-34)	2	2.60	Bolt	AS20911 (03-782)	(B)
- (72-41-34)	2	11.00	Dowel, Hollow	6A3680 (03-786)	(B)
6A3983 (72-41-34)	1		Ring Assy - Stage 4 Upper	6A3543 (04-440)	(S1)(A)(C)
- (72-41-34)	2		Bracket, Rig Pin	6A3874 (04-760)	(C)
- (72-41-34)	4	2.61	Bolt	AS20911 (04-762)	(B)
- (72-41-34)	4	11.00	Dowel, Hollow	6A3680 (04-766)	(B)
6A3984 (72-41-34)	1		Ring Assy - Stage 5	6A3547 (05-440)	(S1)(A)(C)

- (72-41-34)	1		Bracket, Rig Pin	6A3876 (05-760)	(3D)
- (72-41-34)	2	2.61	Bolt	AS20911 (05-762)	(2D)
- (72-41-34)	2	11.00	Dowel, Hollow	6A3680 (05-766)	(2D)
- (72-41-34)	1		Bracket, Rig Pin	6A3877 (05-770)	(C)
- (72-41-34)	2	2.61	Bolt	AS20911 (05-772)	(B)
- (72-41-34)	2	11.00	Dowel, Hollow	6A3680 (05-776)	(B)

C. Reference Instructions:

None

D. Instructions/Disposition code statements:

(S1) New parts (S1) must replace old parts coded (S1) as a COMPLETE SET per engine.
(2D) Quantity of part number decreased from 4 to 2.
(3D) Quantity of part number decreased from 2 to 1.
(A) new parts currently available for sale.
(B) Old parts will continue to be available for sale for other applications.
(C) Old parts no longer available for sale.

NOTE: The 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.