



ENGINE - HP COMPRESSOR - VSV SYSTEM RIGGING PIN BRACKETS WITH SLOTTED HOLES - CATEGORY
CODE 6 - MOD.ENG-72-0181

1. Planning Information

A. Effectivity

- (1) Aircraft: Aibus A320
- (2) Engine: V2500-A1 Engines prior to Serial No.V0362

B. Concurrent requirements

This Service Bulletin is to be considered later in embodiment sequence than Service Bulletin V2500-ENG-72-0251 (EC93VR055)

C. Reason

(1) Condition

Difficulty in fitting the rigging pins when setting up the variable stator vane (VSV) system.

(2) Background

During setting up of the VSV system it is sometimes necessary to 'spring' the rigging pins into place. This is because the holes in the rigging pin brackets and the holes in the compressor front case are not always in axial alignment due to a build-up of tolerances in the various components.

(3) Objective

Axial slotting of the bracket holes will ensure that the pins can be fitted under all tolerance conditions.

(4) Substantiation

The unison rings to which the brackets are fitted only have to be at the required circumferential position to achieve the correct setting. Axial slotting of the bracket holes will have no effect on the rigging accuracy.

(5) Effect of Bulletin on Workshop Procedures:

V2500-ENG-72-0181



SERVICE BULLETIN

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

This Service Bulletin introduces rigging pin brackets at stages 3 to 6 with axially slotted holes.

Existing brackets can be reworked by slotting the circular holes.

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 sub-assembly (ie Modules, Accessories, Components, Build groups) is disassembled sufficiently to afford access to the affected parts and to all affected spare parts.

G. Manpower

Estimated manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
(1) In Service	Not applicable
(2) At Overhaul	
To make modification to	
stage 3, 4, 5 and 6 Rig	
pin bracket	2 hours 4 minutes
TOTAL	
2 hours 4 minutes	

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

V2500-ENG-72-0181



SERVICE BULLETIN

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 None
- (2) Moment arm No effect
- (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.

EC93VR030

- (2) Other References

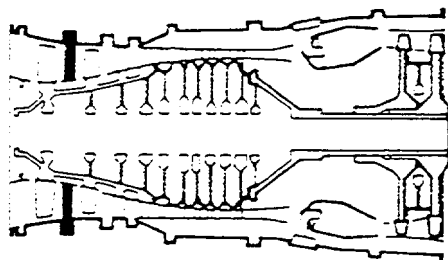
V2500 Service Bulletin V2500-ENG-72-0251 - HP Compressor - VSV system - Rigging pin brackets resued in number.

Standard Practices/Processes Manual (SPP-V2500-1IA)

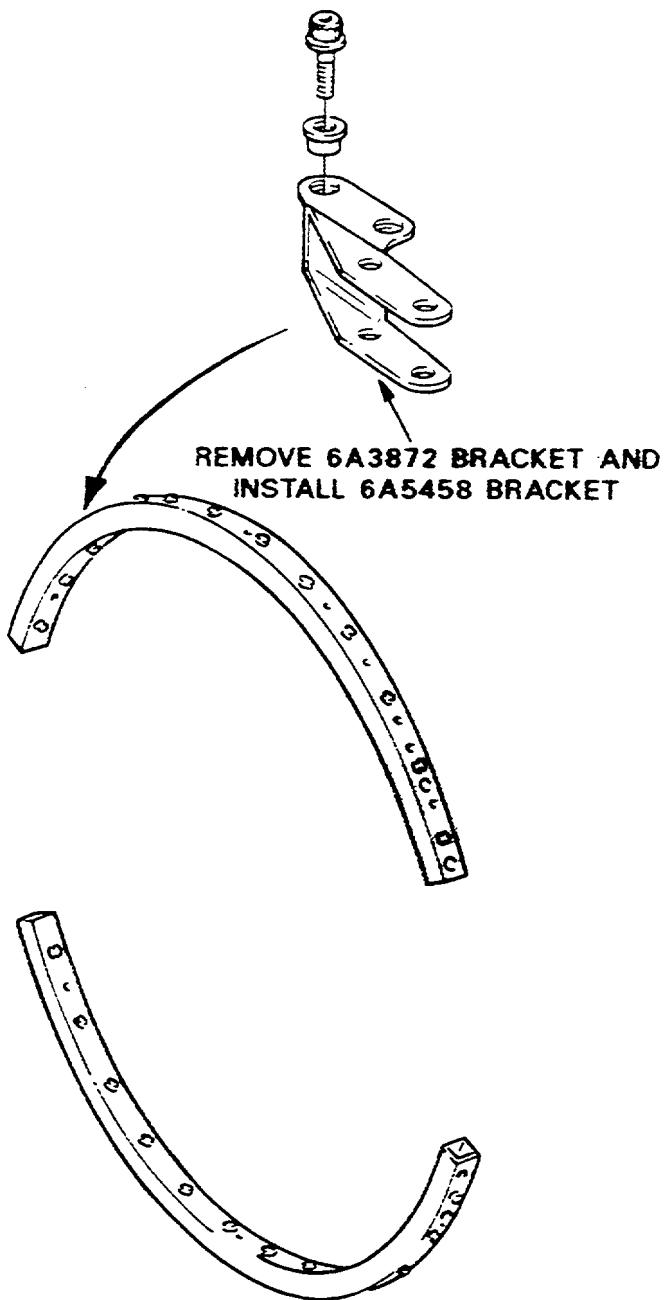
M. Other Publications Affected

- (1) V2500 Engine Illustrated Parts Catalog (S-V2500-1IA), Chapter/Section 72-41-34.
- (2) V2500 Engine Manual (E-V2500-1IA), 72-41-34, Cleaning-00 and -04, Inspection/Check-00 and -23, Repair VRS6364 and Rework.
- (3) V2500 Engine Maintenance Manual (M-V2500-1IA), 75-32-42, Removal/Installation Config-1 and Inspection/Check.

V2500-ENG-72-0181



MODULE 40

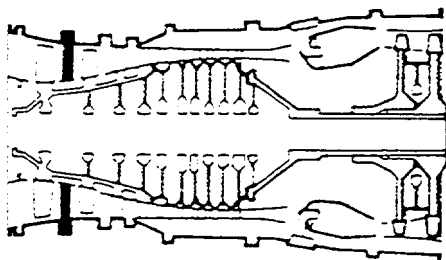


E1416

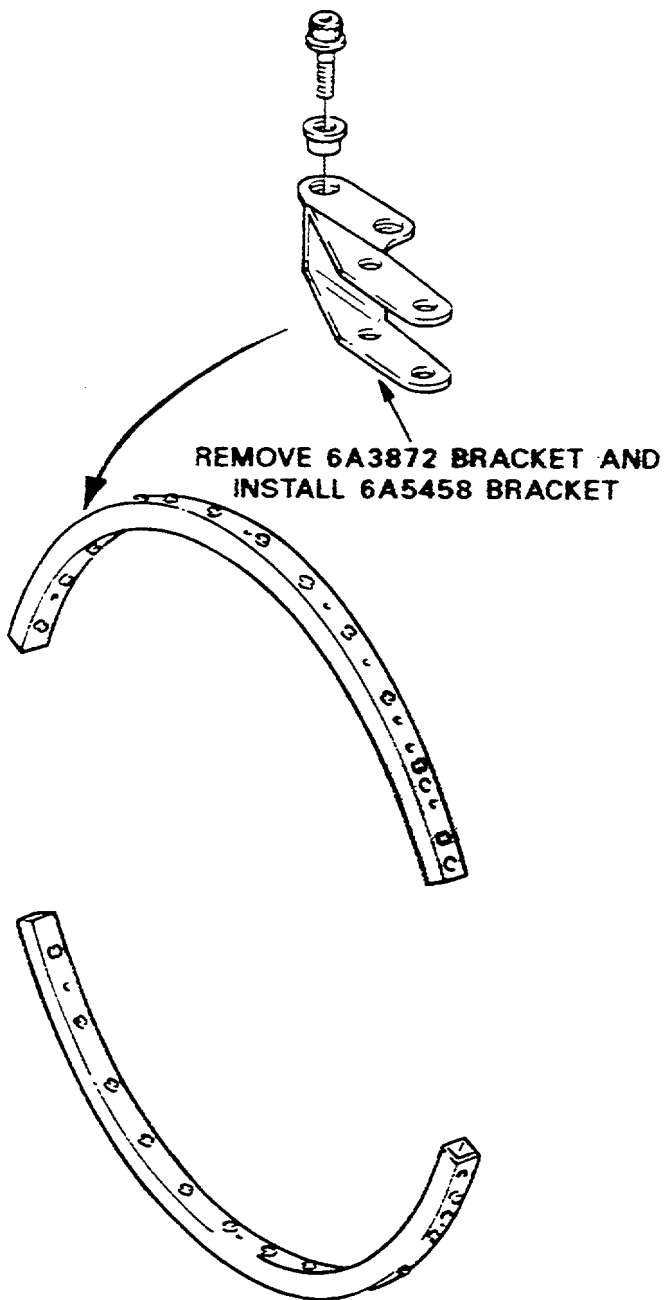
Location of bracket
Fig.1, Sheet 1 of 4

V2500-ENG-72-0181

Printed in Great Britain



MODULE 40



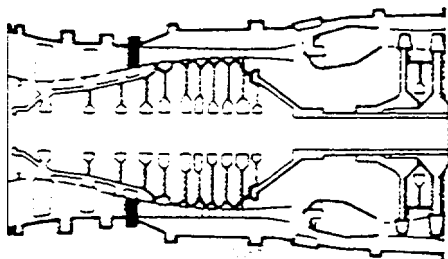
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Location of bracket
Fig.1, Sheet 2 of 4

V2500-ENG-72-0181

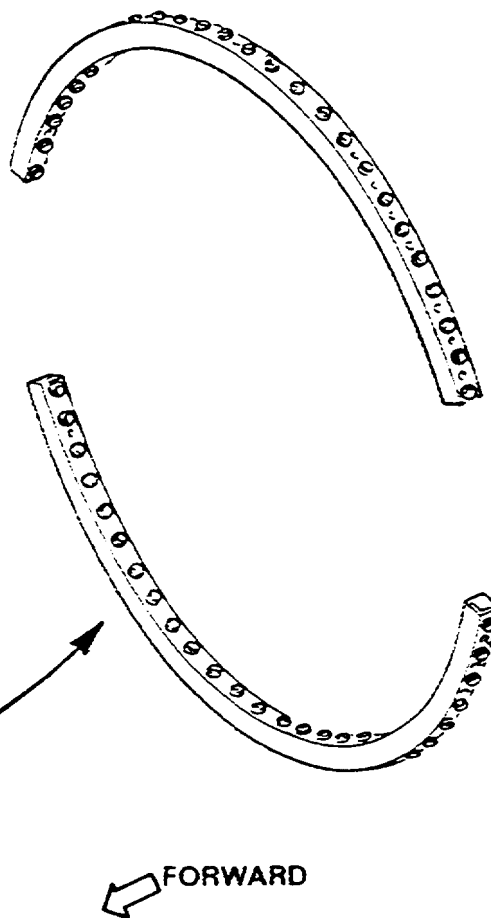
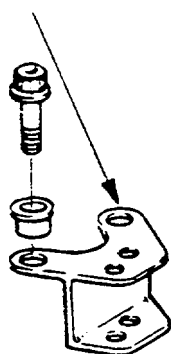
Feb.7/97

Page 5



MODULE 40

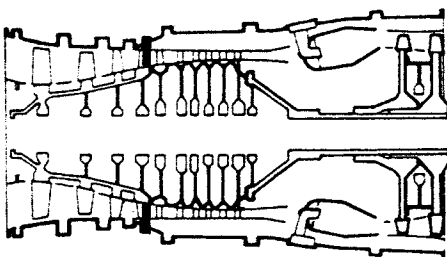
REMOVE 6A3876 BRACKET AND
INSTALL 6A5460 BRACKET



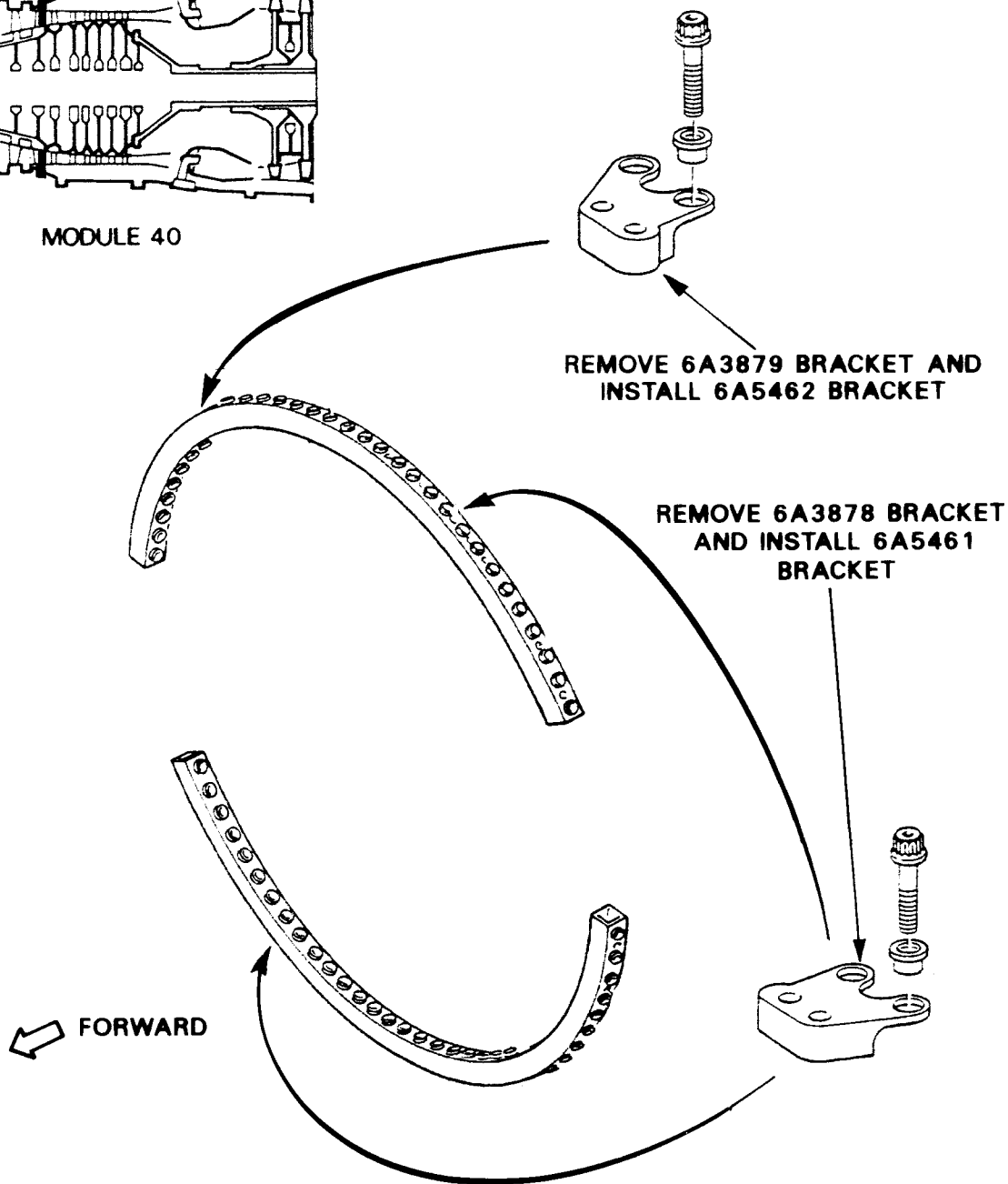
E1418

Location of bracket
Fig.1, Sheet 3 of 4

V2500-ENG-72-0181



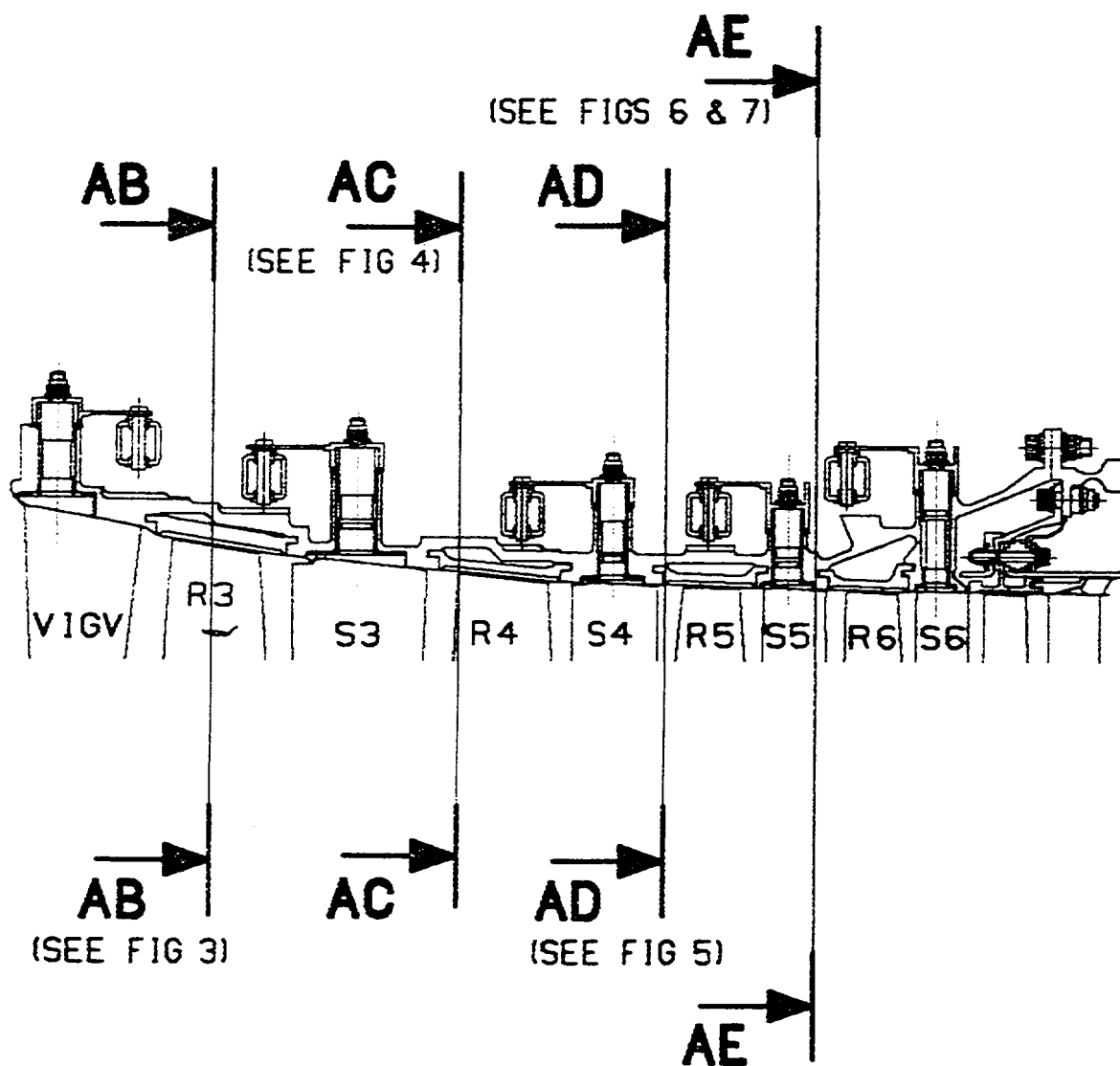
MODULE 40



E1419

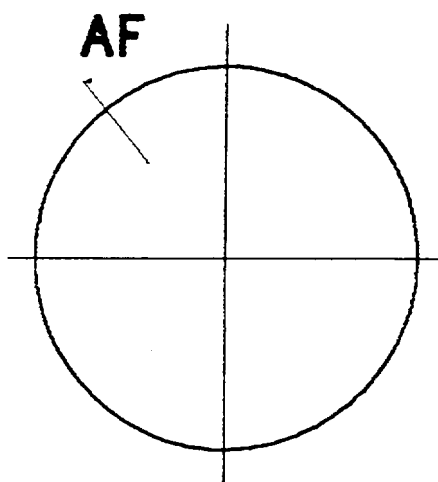
Location of bracket
Fig.1, Sheet 4 of 4

V2500-ENG-72-0181



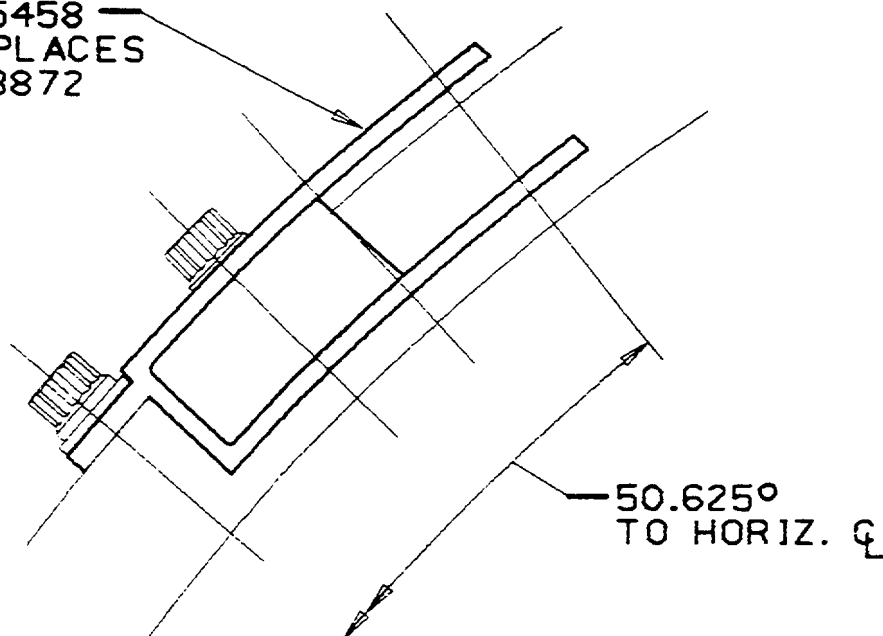
Typical section through HP compressor
Fig.2

V2500-ENG-72-0181



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

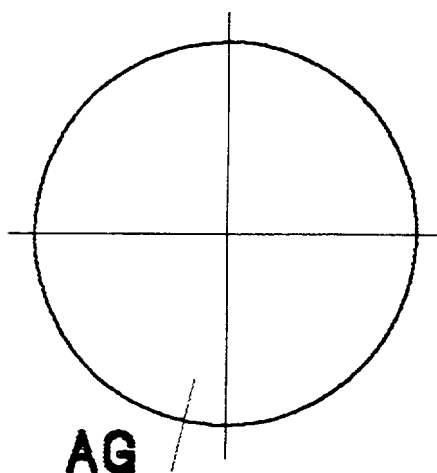
6A5458
REPLACES
6A3872



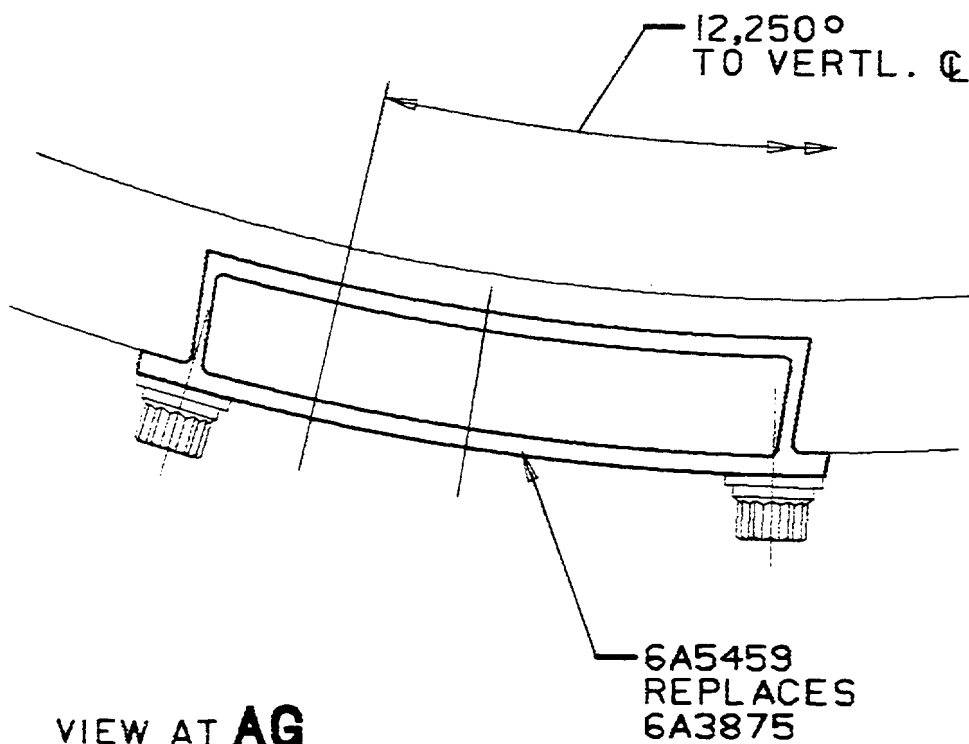
VIEW AT **AF**

View showing stage 3 rigging bracket - Before and after alteration
Fig.3

ded0000761



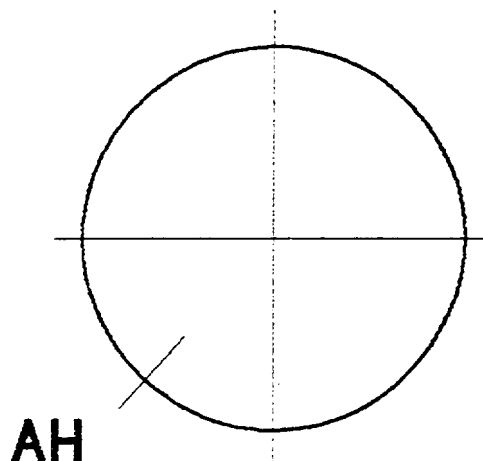
DIAGRAMMATIC SECTION **AC** (SEE FIG 2)



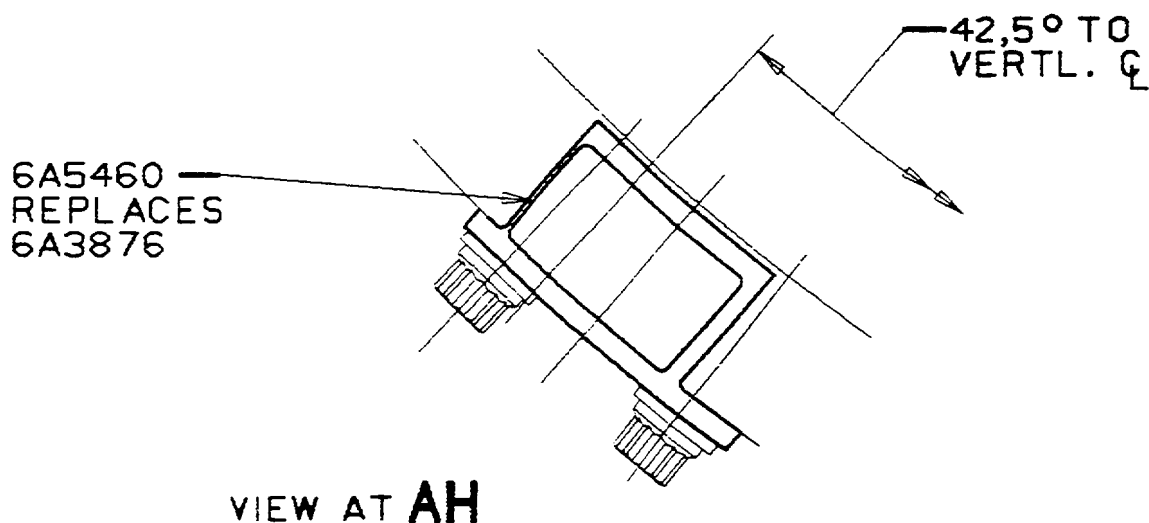
View showing stage 4 rigging bracket - Before and after alteration
Fig.4



SERVICE BULLETIN



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



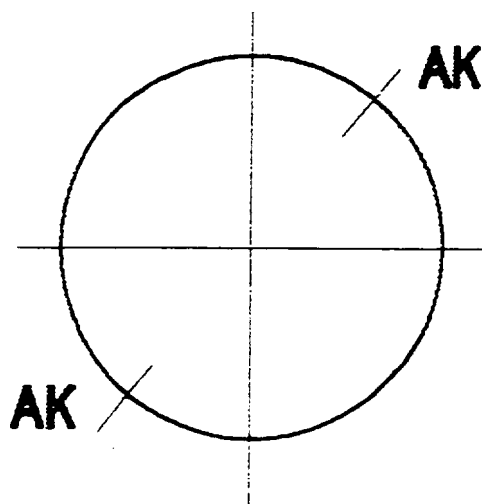
View showing stage 5 rigging bracket - Before and after alteration
Fig.5

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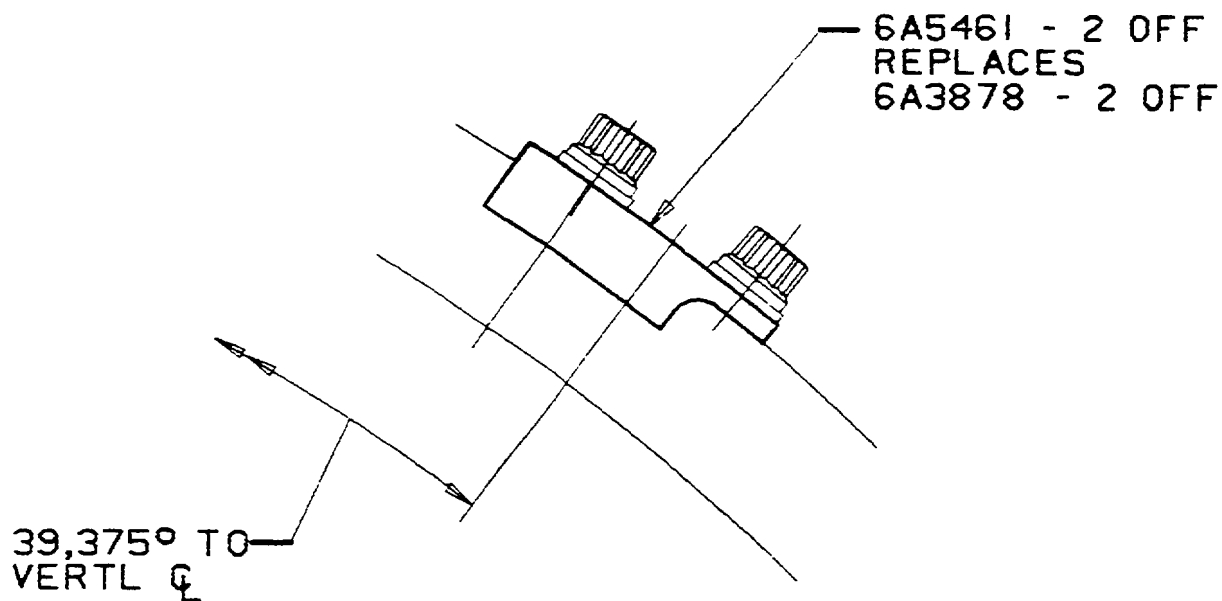
V2500-ENG-72-0181

Feb.7/97

Page 11



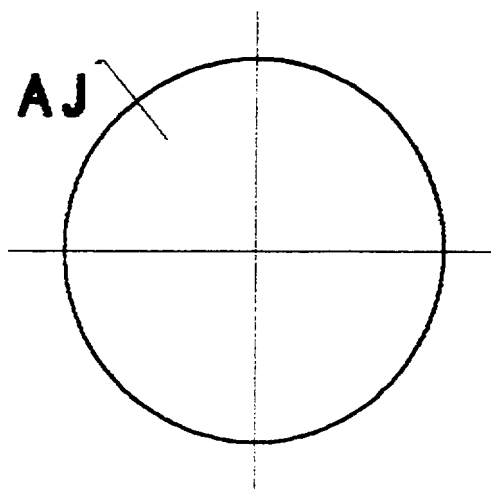
REPEAT DIAGRAMMATIC SECTION **AE** (SEE FIG 2)



TYPICAL VIEW AT **AK**

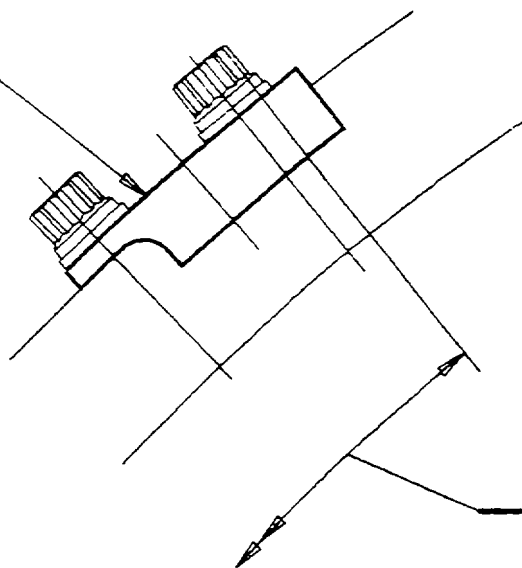
View showing stage 6 rigging bracket - Before and after alteration
Fig.6

V2500-ENG-72-0181



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

6A5462
REPLACES
6A3879



51.0° TO
HORIZ C

VIEW AT **AJ**

View showing stage 7 rigging bracket - Before and after alteration
Fig.7

dec0000765



2. Accomplishment Instructions

A. Rework Instructions

(1) Rework the following parts:

6A3872, Bracket stg.3, Rig pin locating (Refer to 72-41-34, Fig/Item 03-770)
6A3875, Bracket stg.4, Rig pin locating (Refer to 72-41-34, Fig/Item 04-770)
6A3876, Bracket stg.5, Rig pin locating (Refer to 72-41-34, Fig/Item 05-760)
6A3878, Bracket stg.6, Rig pin locating (Refer to 72-41-34, Fig/Item 06-780)
6A3879, Bracket stg.6, Rig pin locating (Refer to 72-41-34, Fig/Item 06-790)

Consumable Materials

None required

Standard Equipment

Chemical cleaning equipment
Standard workshop tools
Milling machine
Penetrant crack test equipment
Vibro engraving equipment

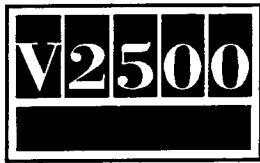
Procedure

Supplementary Information

- CAUTION 1. TITANIUM COMPONENT - USE SILICON CARBIDE TYPE ABRASIVE WHEELS, STONES AND PAPERS TO DRESS, BLEND AND POLISH THIS COMPONENT.
2. TITANIUM COMPONENT - DO NOT USE FORCE WITH MECHANICAL CUTTERS OR THE MATERIAL WILL BECOME TOO HOT.
3. TITANIUM COMPONENTS - IF THE MATERIAL SHOWS A CHANGE IN COLOR TO DARKER THAN A LIGHT STRAW COLOR, THE COMPONENT IS TO BE REJECTED.

- | | |
|--|--|
| (a) Chemically clean the brackets | Refer to SPM TASK 70-11-03-300-503.
Use chemical cleaning equipment |
| (b) Machine the brackets to elongate the holes | See Figures 8 thru 14.
Use a milling machine and locally made tooling |
| (c) Remove sharp edges | Use standard workshop tools |

V2500-ENG-72-0181



SERVICE BULLETIN

- (d) Chemically clean the affected areas(s) Refer to SPM TASK 70-11-08-300-503, SUBTASK 70-11-08-300-001. Use chemical cleaning equipment
- (e) Swab etch the affected area(s) Refer to SPM TASK 70-11-08-300-503, SUBTASK 70-11-08-300-002. Use chemical claning equipment
- (f) Do a crack test Refer to SPM TASK 70-23-02-230-501. Use penetrant crack test equipment
- (g) Measure the dimensions See Figures 8 thru 14. Reject if slots are oversize
- (h) Cancel the existing part number and identify with the new part number Refer to SPM TASK 70-09-00-400-501, SUBTASK 70-09-00-400-001. Use vibro engraving equipment
- | Existing | Re-number |
|----------|-----------|
| 6A3872 | 6A5458 |
| 6A3875 | 6A5459 |
| 6A3876 | 6A5460 |
| 6A3878 | 6A5461 |
| 6A3879 | 6A5462 |

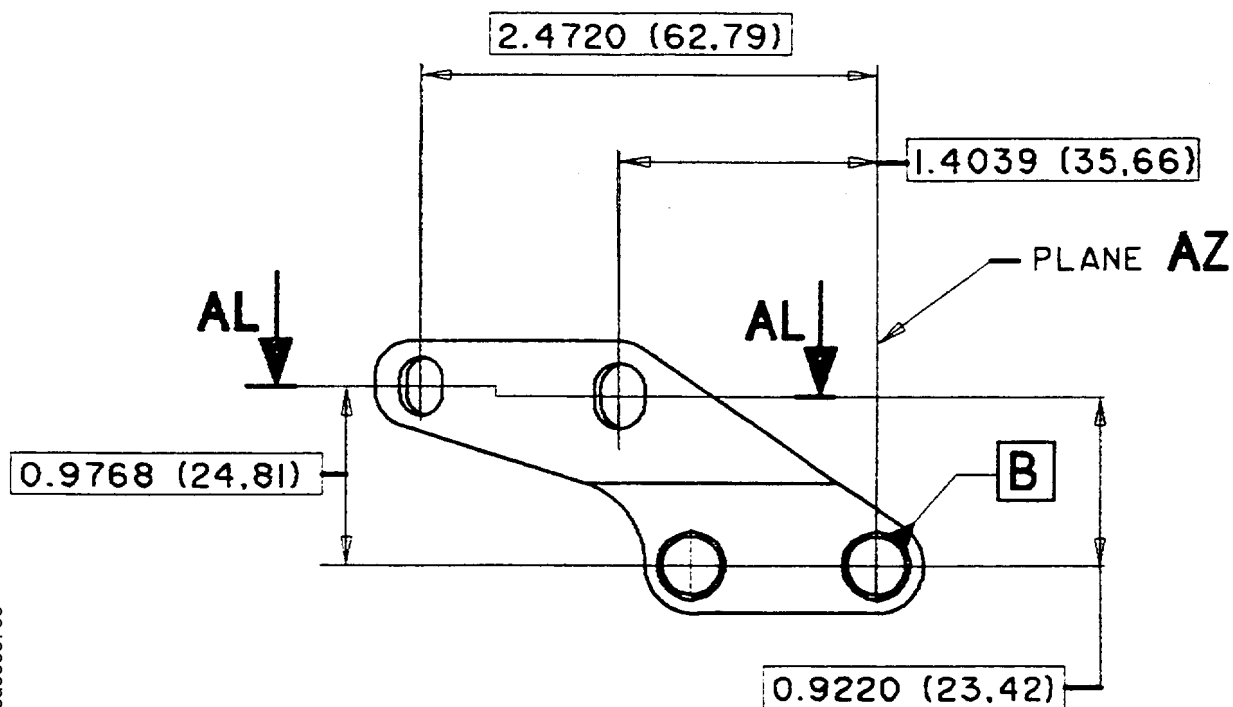
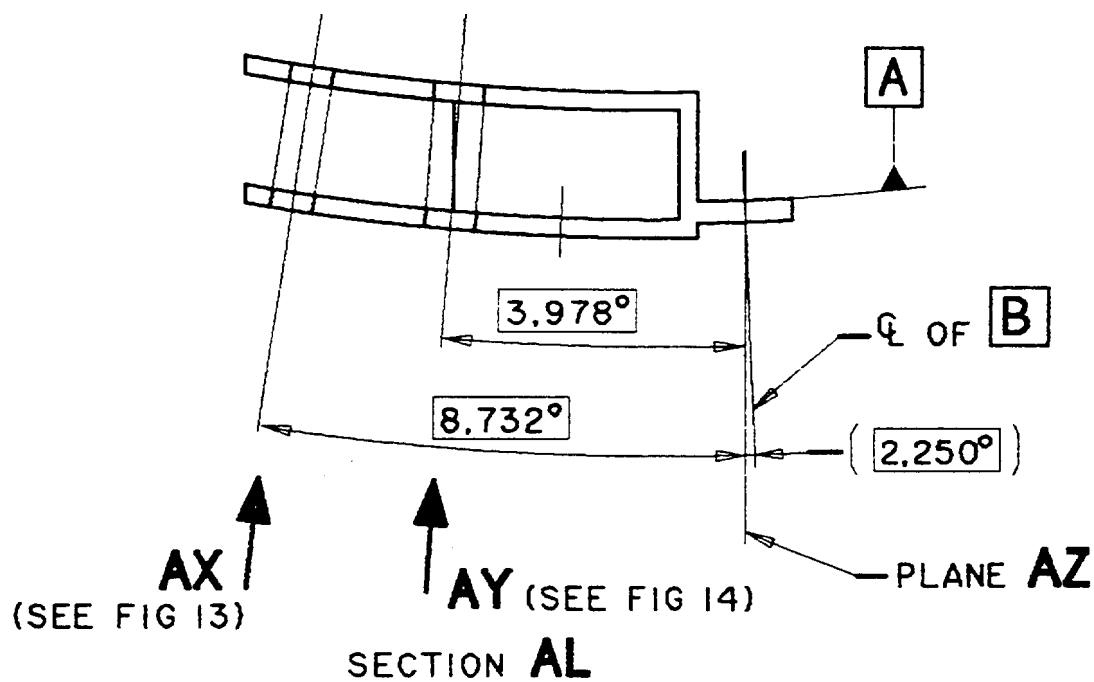
B. Assembly Instructions

Install the rigging pin brackets to the actuating rings by the approved procedures in the Engine Manual, 72-41-30:

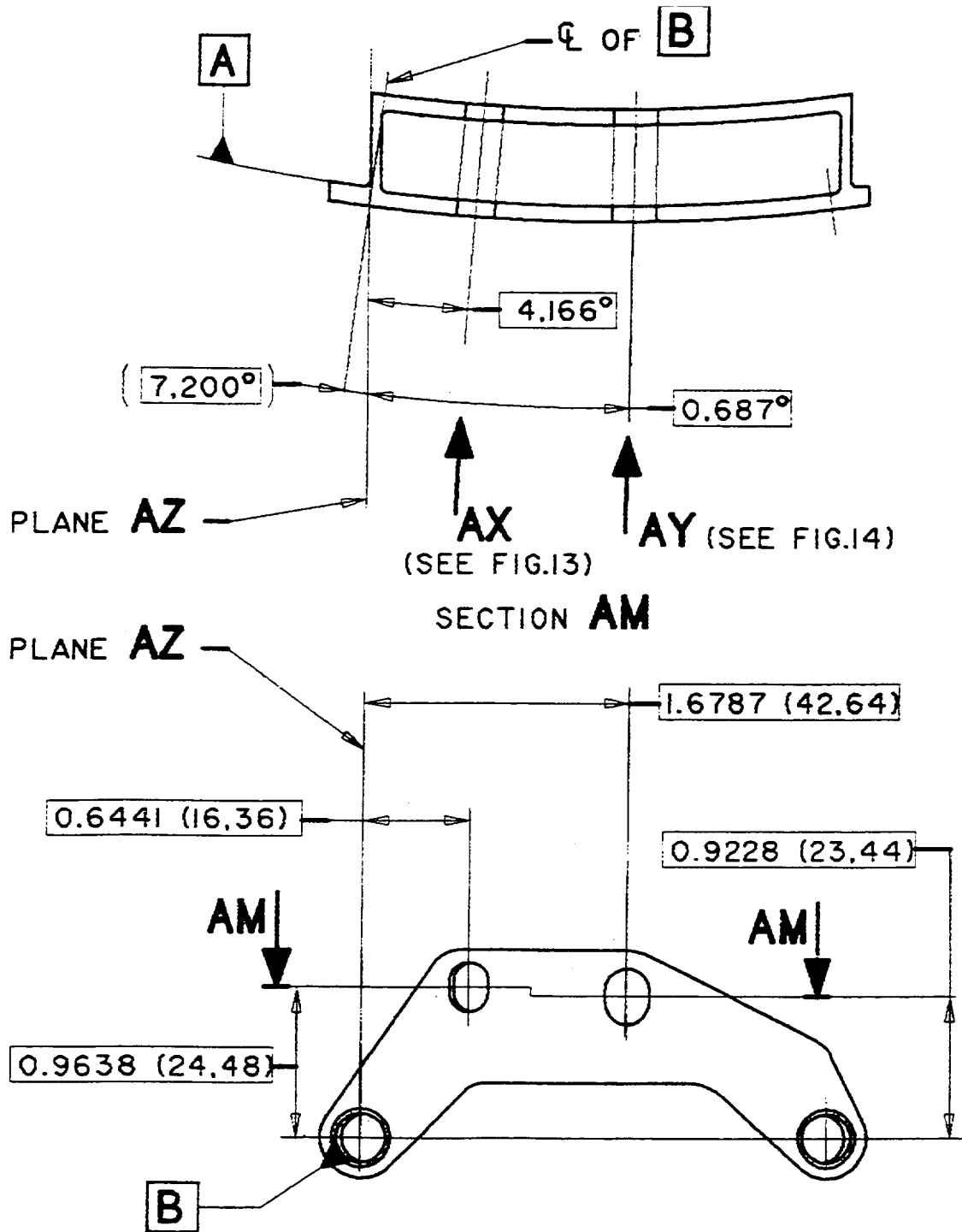
Assy-04, TASK 72-41-30-440-004
Assy-05, TASK 72-41-30-440-005
Assy-06, TASK 72-41-30-440-006
Assy-07, TASK 72-41-30-440-007

C. Recording Instructions

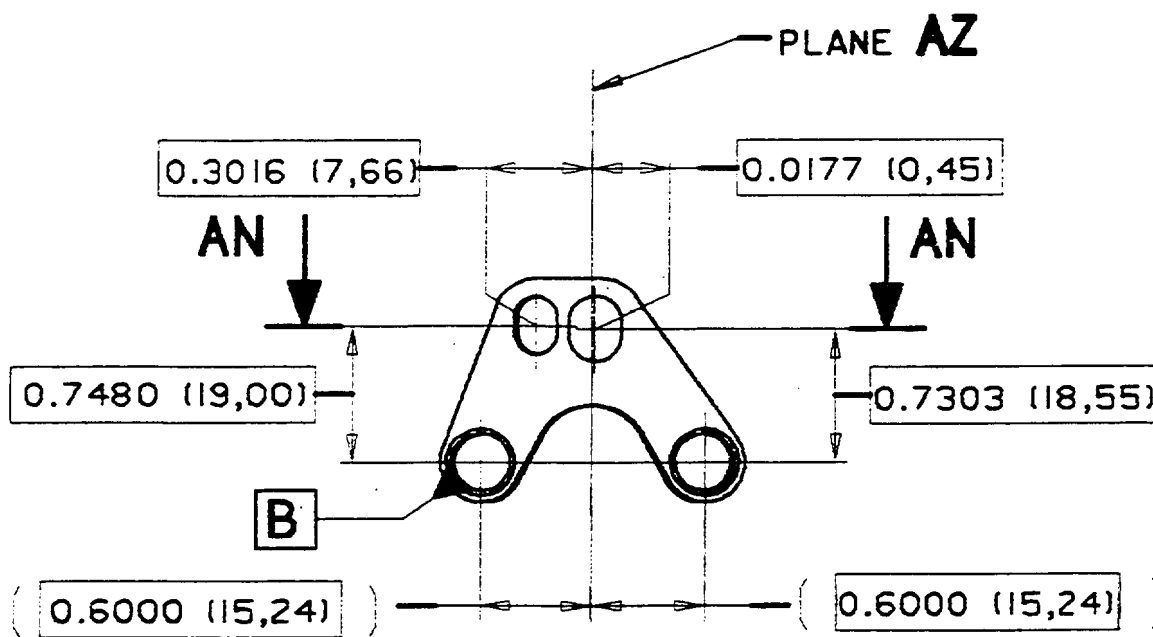
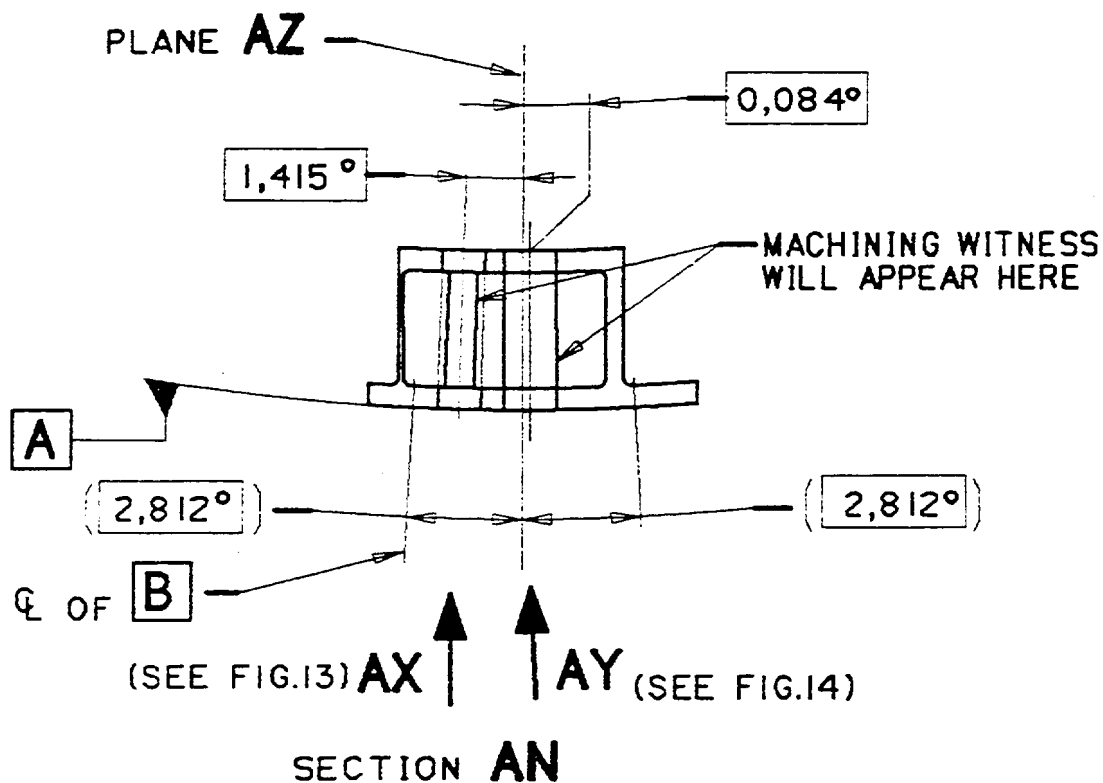
- (1) A record of accomplishment is necessary.



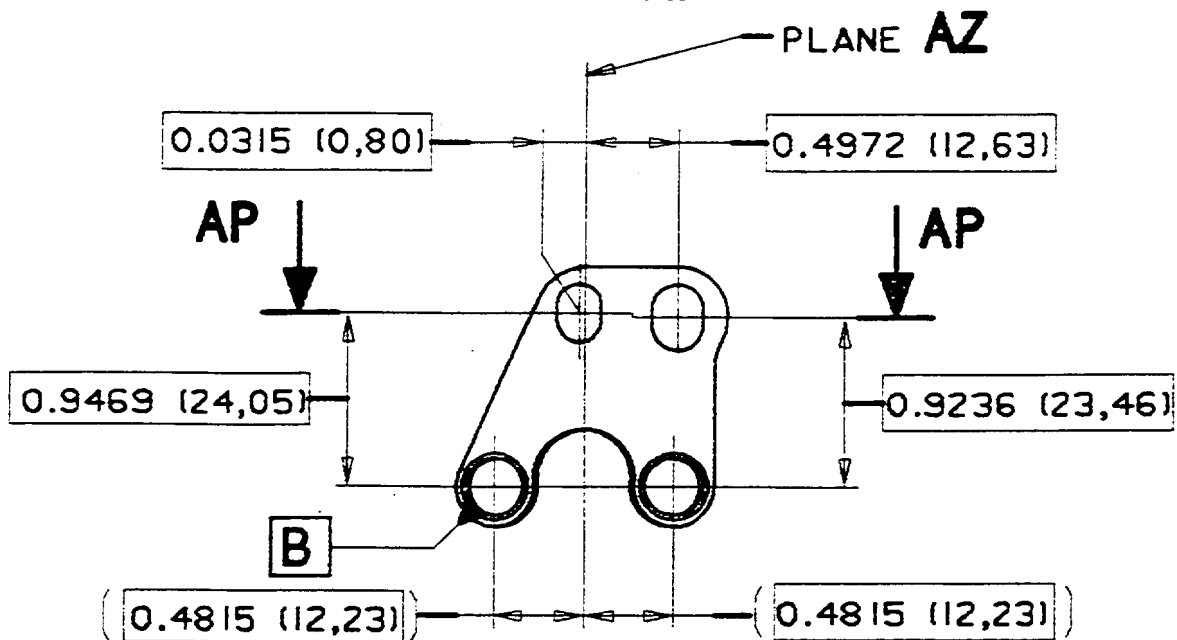
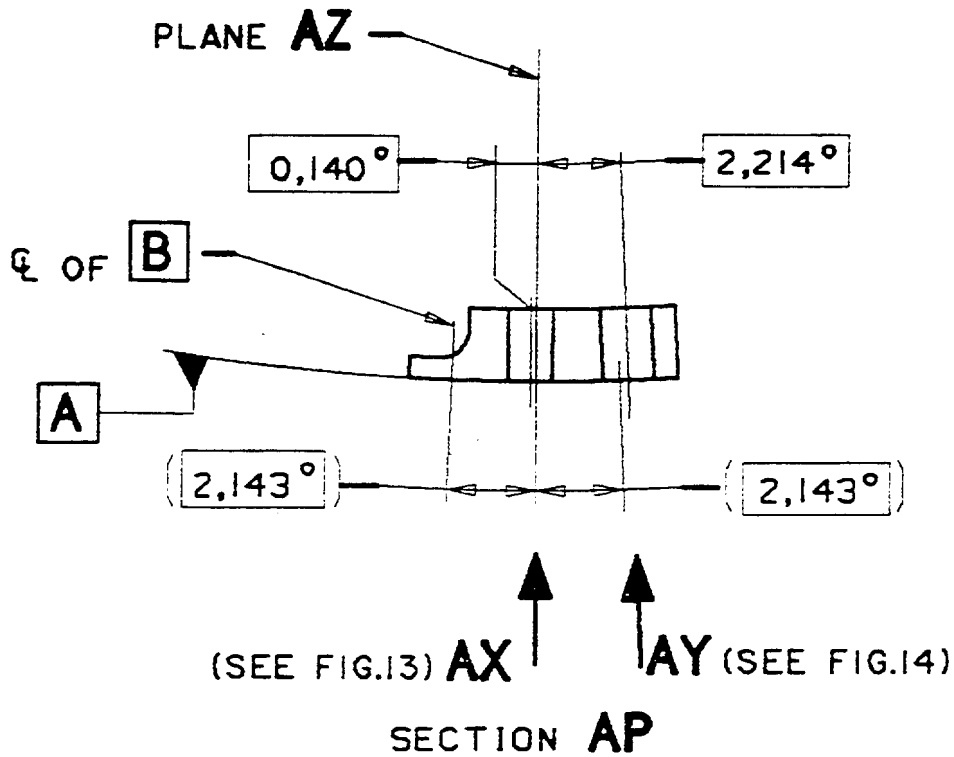
Rework of existing stage 3 brackets (6A3872)
Fig.8



Rework of existing stage 4 brackets (6A3875)
Fig.9

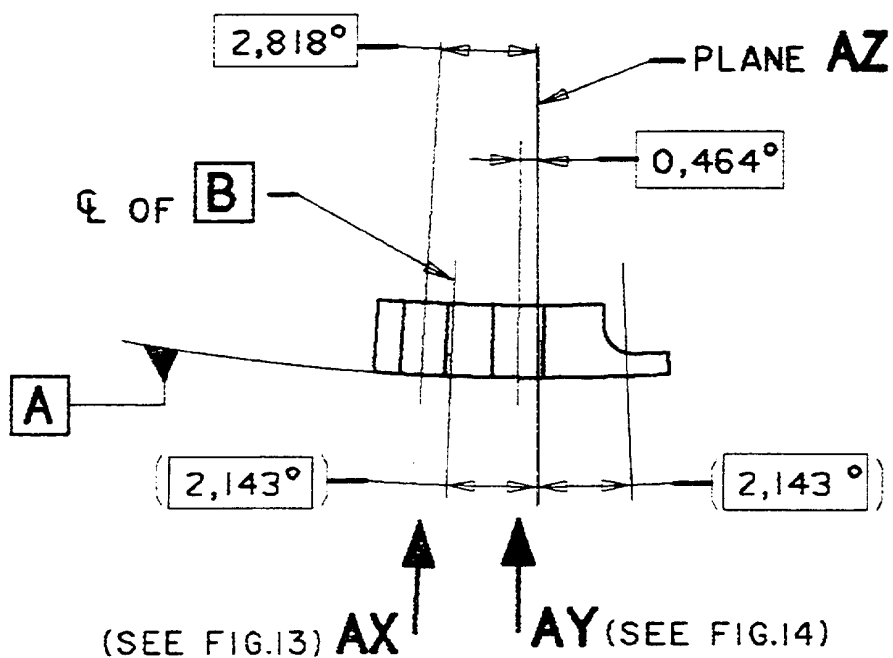


Rework of existing stage 5 brackets (6A3876)
Fig.10

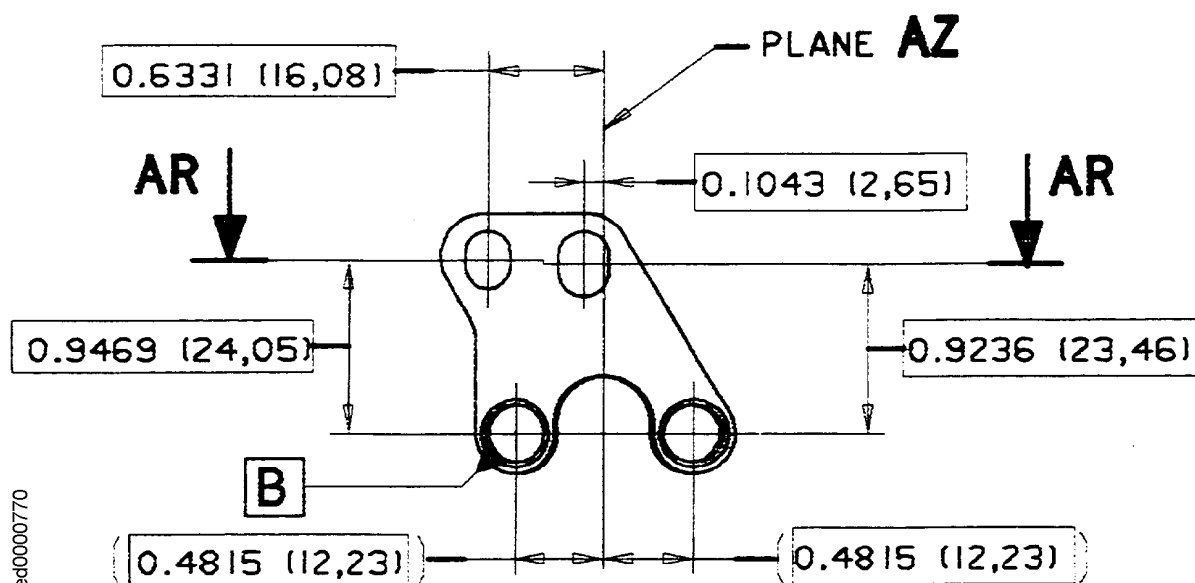


Rework of existing stage 6 brackets (6A3878)
Fig.11

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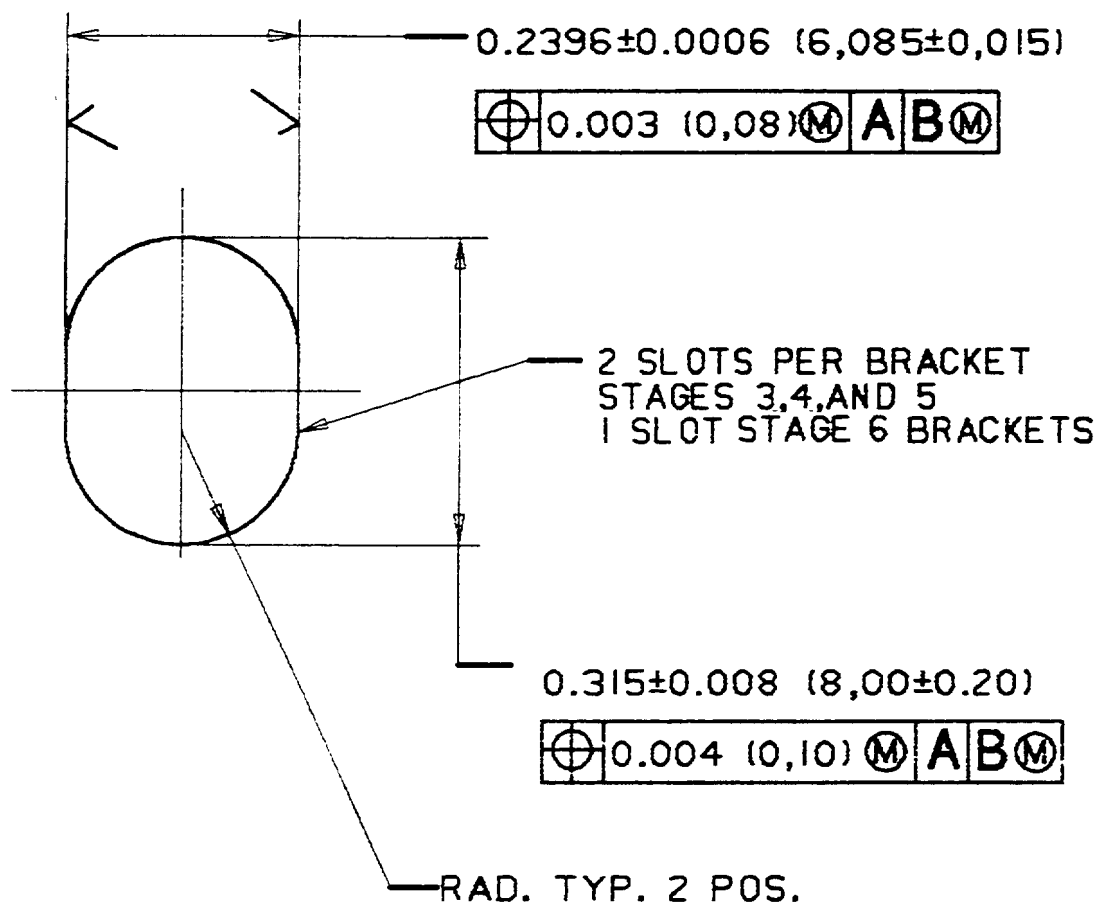


SECTION AR



Rework of existing stage 6 brackets (6A3879)
Fig.12

V2500-ENG-72-0181

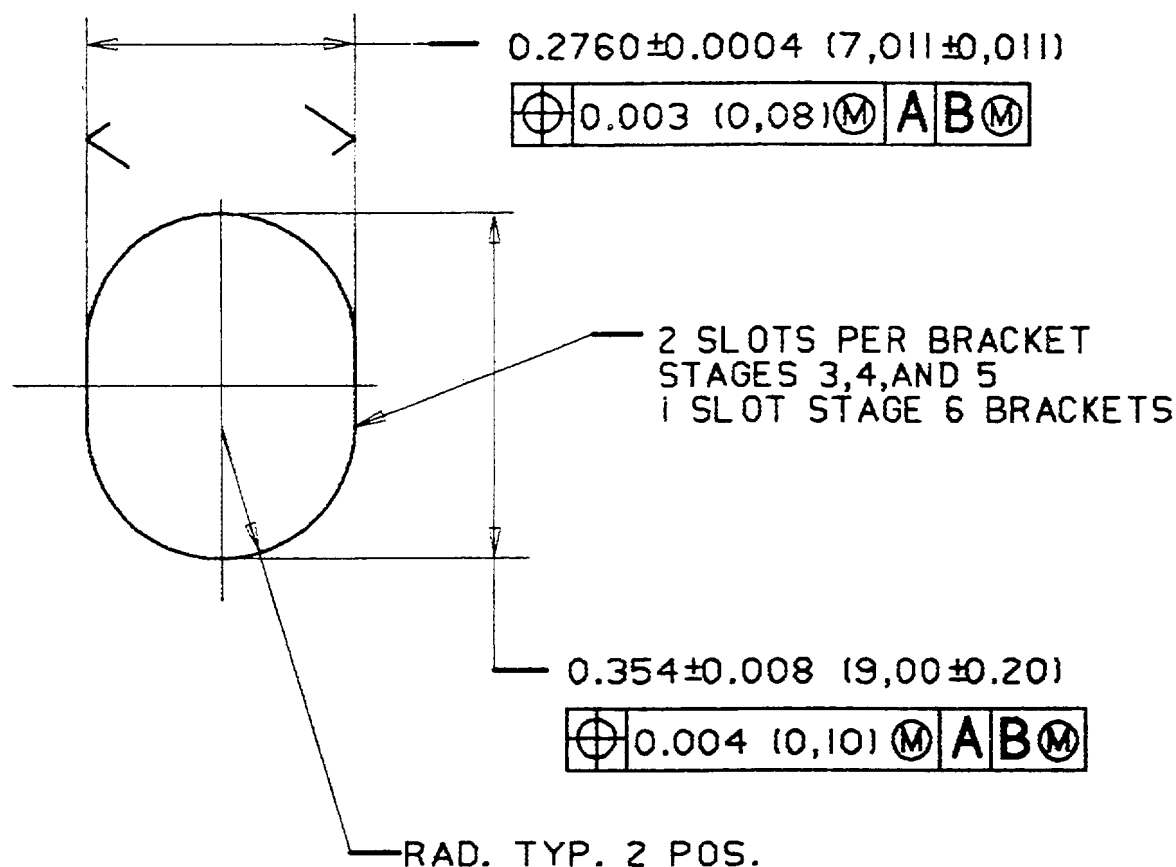


VIEW ON ARROW **AX** (SEE FIGS 8,9,10,11 & 12)
SHOWING MACHINING OF SLOTTED HOLE

ALL DIMENSIONS ARE IN INCHES(MILLIMETRES)
ANGULAR DIMENSIONS ARE IN DEGREES AND DECIMAL PARTS OF A DEGREE.
GEOMETRIC SYMBOLS CONFORM TO I.S.O R1101-1969.
SURFACE FINISH TO BE 125 MICROINCHES(3,2 MICROMETRES) U.O.S.
MACHINE WHERE MARKED ✓
BREAK SHARP EDGES 0.012(0,30)±0.008(0,20) U.O.S.

ded0000771

Rework of existing stages 3 to 6 rigging brackets
Fig.13



VIEW ON ARROW **AY** (SEE FIGS 8,9,10,11 & 12)
SHOWING MACHINING OF SLOTTED HOLE

ALL DIMENSIONS ARE IN INCHES(MILLIMETRES)
ANGULAR DIMENSIONS ARE IN DEGREES AND DECIMAL PARTS OF A DEGREE.
GEOMETRIC SYMBOLS CONFORM TO I.S.O R1101-1969.
SURFACE FINISH TO BE 125 MICROINCHES(3,2 MICROMETRES) U.O.S.
MACHINE WHERE MARKED ✓
BREAK SHARP EDGES 0.012(0,30)±0.008(0,20) U.O.S.

Rework of existing stages 3 to 6 rigging brackets
Fig.14

V2500-ENG-72-0181



SERVICE BULLETIN

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
6A5458 (72-41-34)	1	999.00	Bracket, stg.3 - Rig pin locating	6A3872 (03-770)	(A)(B)(S1) (1D)
6A5459 (72-41-34)	1	1059.00	Bracket, stg.4 - Rig pin locating	6A3875 (04-770)	(A)(B)(S1) (1D)
6A5460 (72-41-34)	1	1259.00	Bracket, stg.5 - Rig pin locating	6A3876 (05-760)	(A)(B)(S1) (1D)
6A5461 (72-41-34)	2	1049.00	Bracket, stg.6 - Rig pin locating	6A3878 (06-780)	(A)(B)(S1) (1D)
6A5462 (72-41-34)	1	1049.00	Bracket, stg.6 - Rig pin locating	6A3879 (06-790)	(A)(B)(S1) (1D)

C. Instructions/Disposition Code Statements:

(A) New parts are currently available.

(B) Old parts are no longer available.

(S1) Old and new parts are interchangeable.

(1D) Old parts may be reworked and re-identified to new part number.

NOTE: The estimated 1997 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.

V2500-ENG-72-0181

