

International Aero Engines
SERVICE BULLETIN

Dec. 6/99

Subject: Transmittal of Revision 4 to Service Bulletin V2500-ENG-73-0130.

Service Bulletin Revision History:

Initial Issue	Nov.13/98.
Revision 1	Mar. 5/99.
Revision 2	Apr. 30/99
Revision 3	July 16/99
Revision 4	Dec. 6/99

Reason for Revision:

(1) Change to Effectivity, Incorporation Amendment.

Effect on Past Compliance:

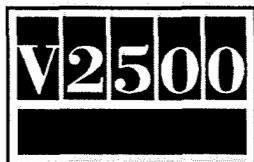
None.

List of Effective Pages:

<u>Page No.</u>	<u>Revision No.</u>	<u>Effective Date</u>
1 and 2	Revision 4	Dec. 6/99.
3	Initial Issue	Nov.13/99
4	Revision 3	July 16/99
5 to 8	Initial Issue	Nov. 13/99
9 to 10	Revision 2	Apr. 30/99
11 to 12	Initial Issue	Nov. 13/99
13 to 20	Revision 3	July 16/99
21 to 31	Initial Issue	Nov.13/99
32	Revision 2	Apr. 30/99
33 to 63	Initial Issue	Nov. 13/98
64	Revision 2	Apr. 30/99
65 to 75	Initial Issue	Nov. 13/99
76	Revision 2	Apr. 30/99
77 to 80	Initial Issue	Nov. 13/98

V2500-ENG-73-0130

Transmittal
Page 1 of 1



International Aero Engines

SERVICE BULLETIN

ENGINE - FUEL AND CONTROL - FUEL SYSTEM AIR TUBES - INTRODUCTION OF REVISED PB
SENSE LINE TUBES WITH INCREASED DIAMETER

MODEL APPLICATION

V2525-D5

V2528-D5

BULLETIN INDEX LOCATOR

73-22-00

Compliance Category Code

6

Internal Reference No.

EC97VR030 97VR030A 99VR005 97VR030B

Nov. 13/98

R Revision 4 Dec. 6/99

V2500-ENG-73-0130

Page 1 of 80



International Aero Engines

SERVICE BULLETIN

ENGINE - FUEL AND CONTROL - FUEL SYSTEM AIR TUBES - INTRODUCTION OF REVISED PB SENSE LINE TUBES WITH INCREASED DIAMETER

1. Planning Information

A. Effectivity

(1) Aircraft

(a) Boeing-Douglas Product Division MD-90

(2) Engines

R (a) V2525-D5 Engines prior to Serial No. V20282.

R (b) V2528-D5 Engines prior to Serial No. V20282.

B. Concurrent Requirements

None.

C. Reason

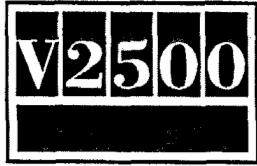
(1) Problem

Surge indications and Pb sensor fault messages which are not correct can be transmitted to the cockpit instruments. Poor engine starts can also occur.

The problem is caused by moisture contamination of the Pb sensor chamber.

(2) Background

The problem has been found on in-service engines.



International Aero Engines

SERVICE BULLETIN

(3) Substantiation

A satisfactory engineering analysis, a successful trial installation on a V2500 mock-up engine, a vibration model analysis and a successful Controlled Service Introduction (CSI) have been done on the changes contained in this Service Bulletin.

- (a) The vibration model analysis, has shown that no resonance occurred throughout the engine operating range.
- (b) For the CSI, five sets of the revised tubes were installed and flown on three separate operations.

(4) Objective

The purpose of this Service Bulletin is to maintain engine reliability.

(5) Effect of Bulletin on:

(a) Operation

Not affected.

(b) Maintenance

Affected.

(c) Overhaul

Affected.

(d) Repair Schemes

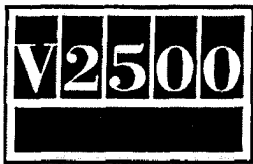
Affected.

(e) Interchangeability

Not affected.

(f) Fits and Clearances

Not affected.



SERVICE BULLETIN

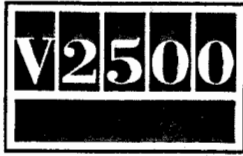
D. Description

- (1) This Service Bulletin introduces a different run for the Pb sense line tubes. The run goes from the EEC to a different moisture trap at the lowest part of the run. The run then goes from the moisture trap to the bifurcation panel. The diameter of the tubes has increased to make the flow of water to the moisture trap easier. The changes are as follows:

- (a) There is a different raceway for Loom-A of the EEC Harness, the positions of the clipping lugs have changed.
- (b) The tube assemblies that follow have changed:
 - (i) Pb air - Burner tapping to bifurcation.
 - (ii) Pb air - Bifurcation panel to line-break.
 - (iii) Pb air - Bifurcation disconnect to disconnect.
 - (iv) Pb air - Disconnect to EEC.
 - (v) P2.5 air - Disconnect to EEC.
 - (vi) Air - Stage-10 disconnect to bifurcation.
 - (vii) Air - Bifurcation to Stage-10 bleed valve.

- R (c) The Pb Air disconnect to disconnect tube and attaching parts
R (plain hexagon head nut, plug and washer) are discarded.

- (d) The Pb Air disconnect to EEC tube is discarded.
- (e) A vented plug assembly is added to the disconnect-to-bifurcation tubes.
- (f) The diameter of the double-ended union of the Pb port of the EEC has increased. This is to match the increased diameter of the PB tube.
- (g) The shape of bracket 6A5874 has been changed. The bracket has become 6A7396.
- (h) The bracket 6A4963 has had a hole added for CP2692. The bracket has become 6A7397
- (i) Two brackets 6A5249 have been added to flange B of the fan case.
- (j) Four bolts have changed to install the two additional brackets.



International Aero Engines

SERVICE BULLETIN

(k) The clip points that follow have been discarded:

CP2197, CP2601L, CP2680, CP2681, CP2682, CP2683, CP2685.

(l) The clip points that follow have changed:

CP2038, CP2118, CP2122, CP2132, CP2133, CP2134, CP2135, CP2135L, CP2135R, CP2144, CP2145, CP2147, CP2165, CP2166, CP2166L, CP2171, CP2172, CP2173, CP2174, CP2175, CP2196, CP2198, CP2331, CP2351, CP2351L, CP2444, CP2513, CP2636, CP7066.

(i) CP2512 has been changed and is only applicable to the left hand engine.

(m) The content of the clip points that follow has not changed. However tubes which are supported by the clip points have changed, therefore no material information changes have been recorded:

CP2195, CP2277, CP2333, CP2333L, CP2432, CP7073, CP7074, CP7076, CP7092, CP7834, CP8032, CP8033, CP8034.

(n) The clip points that follow have been added:

CP2688, CP2689, CP2690, CP2691, CP2692, CP2693, CP2694.

(2) Initial brackets can be reworked, refer to Figures 39 and 40.

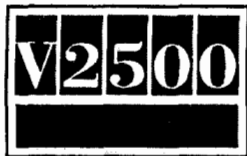
E. Compliance

Compliance Category Code 6

Accomplish when the sub-assembly (That is, modules accessories, components, build groups) is disassembled sufficiently to get access to all affected parts.

F. Approval

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



International Aero Engines

SERVICE BULLETIN

G. Manpower

Estimate of man-hours necessary to do this Service Bulletin in full:

<u>Venue</u>	<u>Estimated Man-hours</u>
(1) In Service	
(a) To get access	11 Minutes
(b) To replace Pb Sense line tubes	8 Hours 39 Minutes
(c) To return engine to to a serviceable status	17 Minutes
Total	9 Hours 07 Minutes
(2) At Overhaul	

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

(a) To replace the Pb sense line tubes	8 Hours 39 Minutes
--	--------------------

H. Material Price and Availability

- (1) Modification Kit MKV703001 is necessary for this Service Bulletin.

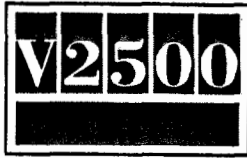
This Modification Kit is available free of charge to all affected operators between 01 January and 31 December 1999.

Operators must send a purchase order for the applicable quantity of kits. The purchase order must give the Serial Number of all affected engines and the IAE tracking number S 368 UI must be put an all purchase orders.

The purchase orders must be sent to:

IAE Spares Division
400 Main Street
M/S 121-10
East Hartford
CT 06108
USA

The sales department will advise operators about delivery schedules after the purchase orders have been received.



International Aero Engines
SERVICE BULLETIN

(2) See "Material Information" section for prices and availability of applicable spares.

I. Tooling Price and Availability

Special tools are not necessary.

J. Weight and Balance

(1) Weight Change

Plus 0,45kg (1.0lb)

(2) Moment Arm

457mm (18.0in) rearwards.

(3) Datum

Engine front mount centreline (Power Plant Station - PPS 100)

K. Electrical Load Data

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

L. References

(1) The IAE V2500 Service Bulletin that follows, is replaced by this Service Bulletin:

(a) SB ENG 73-0105 ENGINE FUEL AND CONTROL - FUEL SYSTEM AIR TUBES -
INTRODUCTION OF ADDITIONAL MOISTURE TRAP ON THE
PB AIR TUBE ASSEMBLY SENSE LINE.

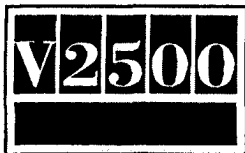
(2) D5 Engine Manual (EM):

(a) Chapter /Section 72-00-32, Removal-03/Installation-03.

(b) Chapter/Section 72-00-32, Removal-05 CONFIG-1 and CONFIG-2, Installation-01
CONFIG-2 and CONFIG-3 and Installation-03.

(c) Chapter/Section 72-00-40, Removal-04 and Installation-09.

(d) Chapter/Section 75-00-32, Removal-02 and Installation-02.



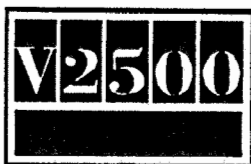
International Aero Engines

SERVICE BULLETIN

- (3) MD-90 Aircraft Maintenance Manual (AMM):
 - (a) Chapter/Section 71-12-00, Description and Operation
 - (b) Chapter/Section 71-12-11, Removal/Installation.
 - (c) Chapter/Section 71-13-00, Maintenance Practices.
 - (d) Chapter/Section 71-13-03, Maintenance Practices.
 - (f) Chapter/Section 71-52-61, Removal/Installation.
 - (e) Chapter/Section 75-33-51, Removal/Installation.
 - (g) Chapter/Section 78-32-00, Maintenance Practices.

M. Other Publications Affected

- (1) Component Maintenance Manual (CMM), Chapter/Section 73-22-49.
- (2) Engine Manual (EM), Chapter/Sections 72-00-32 and 72-00-40, Removal/Installation.
- (3) Illustrated Parts Catalogue (IPC), Chapter/Sections 71-51-50, 71-51-51, 71-51-52, 71-51-55, 73-11-49, 73-22-34, 73-22-49, 75-22-49, 75-23-48, 75-32-49 and 79-22-49.



International Aero Engines

SERVICE BULLETIN

2. Material Information

A. Consumable Materials

(1) Packing NAS 1595-4 (Fig/Item 01-271)

B. Kits necessary for this Service Bulletin:

MKV703001 Modkit

C. Parts affected by this Service Bulletin:

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
6A6190 (71-51-50)	1		.Tube assy - Raceway - EEC Harness Loom 'A'	6A5276 (01-300)	(A) (S1)
4W0103 (71-51-50)	1		.Bolt, machine double hex (.190 dia x .500) (CP2118)	AS20907 (06-133)	(A) (S1)
4W0103 (71-51-50)	1		.Bolt, machine double hex (.190 dia x .500) (CP2122)	AS20907 (06-141)	(A) (S1)
4W0118 (71-51-51)	1		.Bolt, machine double hex (.190 dia x 1.438) (CP2196)	AS20908 (01-149)	(A) (S1)
UP10482 (71-51-51)	1		.Spacer (25mm) (CP2196)	- (01-154)	(A) (C)
- (71-51-51)	1		.Bolt, bihex hd (CP2197)	AS20908 (01-157)	(1D)
- (71-51-51)	1		.Clamp, loop, style, cushion (CP2197)	AS62521 (01-160)	(1D)
- (71-51-51)	1		.Nut, A/O self locking (CP2197)	4W0043 (01-164)	(1D)
R 4W0115 R (71-51-51)	1		.Bolt, machine double hex (.190 dia x 1.250) (CP2198)	AS20908 (01-165)	(A) (S1)

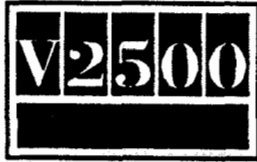
Nov. 13/98

R Revision 2 Apr. 30/99

V2500-ENG-73-0130

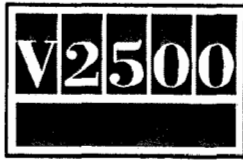
Page 9

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



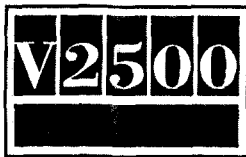
International Aero Engines
SERVICE BULLETIN

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
R UP10481 R (71-51-51)	1		.Spacer (20mm) (CP2198)	- (01-170)	(A) (C)
AS62502 (71-51-51)	1		.Clamp, loop, style, cushion (3,17mm (0.125)) (CP2636)	- (01-488)	(A) (C)
4W0113 (71-51-51)	1		.Bolt, machine double hex (.190 dia x 1.125) (CP2351)	4W0107 (01-625)	(A) (S1)
UP10480 (71-51-51)	1		.Spacer (15mm) (CP2351)	UP10478 (01-630)	(A) (E) (S1)
5W1031 (71-51-51)	1		.Spacer, sleeve (15mm) (CP2351)	5W1029 (01-630)	(A) (E) (S1)
R 4W0118 R (71-51-51)	1		.Bolt, machine double hex (.190 dia x 1.438) (CP2694)	- (01-801)	(A) (C)
AS62521 (71-51-51)	1		.Clamp, loop, style, cushion (3,2mm (1.312)) (CP2694)	- (01-804)	(A) (C)
R UP10482 R (71-51-51)	1		.Spacer (25mm) (CP2694)	- (01-806)	(A) (C)
4W0043 (71-51-51)	1		.Nut, A/O self locking (.190 dia) (CP2694)	- (01-808)	(A) (C)
6A7396 (71-51-51)	1		.Bracket	6A5874 (05-320)	(A) (S3) (3D)
- (73-11-49)	1		.Bolt, machine double hex (CP2685)	4W0109 (08-149)	(1D)
- (73-11-49)	1		.Clip (CP2685)	AS62412 (08-152)	(1D)
- (73-11-49)	1		.Spacer (CP2685)	UP10479 (08-154)	(1D)



International Aero Engines
SERVICE BULLETIN

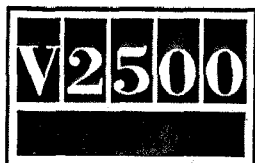
NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
- (73-11-49)	1		.Nut, self locking double hex (CP2685)	4W0001 (08-156)	(1D)
5A8226 (73-22-34)	1		.Union	5A8234 (01-270)	(A) (B) (S1)
4W0102 (73-22-49)	1		.Bolt, machine double hex (.190 dia x .438) (CP2444)	AS20908 (02-533)	(A) (S1)
4W0043 (73-22-49)	1		.Nut, A/O self locking (.190 dia) (CP2444)	4W0001 (02-540)	(A) (S1)
4W0102 (73-22-49)	1		.Bolt, machine double hex (.190 dia x .438) (CP2693)	- (02-549)	(A) (C)
AS62404 (73-22-49)	1		.Clip (6,35mm (0.250)) (CP2693)	- (02-552)	(A) (C)
4W0043 (73-22-49)	1		.Nut, A/O self locking (.190 dia) (CP2693)	- (02-556)	(A) (C)
4W0123 (73-22-49)	1		.Bolt, machine double hex (.190 dia x 1.750) (CP2171)	AS20929 (02-557)	(A) (S1)
4W0103 (73-22-49)	1		.Bolt, machine double hex (.190 dia x .500) (CP2513)	4W0104 (02-571)	(A) (S1)
4W0043 (73-22-49)	1		.Nut, A/O self locking (.190 dia) (CP2513)	4W0001 (02-578)	(A) (S1)
4W0112 (73-22-49)	1		.Bolt, machine double hex (.190 dia x 1.062) (CP2172)	AS20918 (03-125)	(A) (S1)
4W0113 (73-22-49)	1		.Bolt, machine double hex (.190 dia x 1.125) (CP2173)	AS20918 (03-133)	(A) (S1)
4W0123 (73-22-49)	1		.Bolt, machine double hex (.190 dia x 1.750) (CP2174)	AS20929 (03-141)	(A) (S1)



International Aero Engines

SERVICE BULLETIN

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
4W0113 (73-22-49)	1		.Bolt, machine double hex (.190 dia x 1.125) (CP2175)	AS20918 (03-149)	(A) (S1)
6A6184 (73-22-49)	1		.Tube assy - Pb air - Burner tapping to bifurcation	6A6037 (05-100)	(A) (B) (S1)
AS20916 (73-22-49)	1		.Bolt, bihex hd (.190 dia x 1.000) (CP7066)	- (05-181)	(A) (C) (H)
TA025022-04 (73-22-49)	1		.Clamp, loop style, cushion (6,35mm (0.250)) (CP7066)	- (05-184)	(A) (C) (J)
LK53268 (73-22-49)	1		.Spacer (CP7066)	- (05-186)	(A) (C) (K)
4W0001 (73-22-49)	1		.Nut, self locking double hex (.190 dia) (CP7066)	- (05-188)	(A) (C) (L)
6A6185 (73-22-49)	1		.Tube assy - Pb air - Bifurcation panel to line break	6A6177 (06-100)	(A) (B) (S1)
- (73-22-49)	1		.Clip (CP2444)	AS62404 (06-128)	(1D) (F)
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2165)	- (06-128)	(A) (C)
- (73-22-49)	1		.Bolt, machine double hex (CP2681)	4W0102 (06-133)	(1D)
- (73-22-49)	1		.Clip (CP2681)	AS62404 (06-136)	(1D) (G)
AS62408 (73-22-49)	1		.Clip (12,70mm (0.500)) (CP2636)	- (06-136)	(A) (C)
- (73-22-49)	1		.Nut, A/O self locking (CP2681)	4W0043 (06-140)	(1D)



International Aero Engines

SERVICE BULLETIN

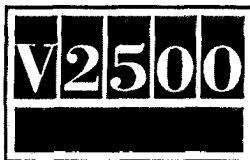
NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
R AS62406 R (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2132)	- (06-144)	(A) (C)
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2134)	- (06-152)	(A) (C)
- (73-22-49)	1		.Clip (CP2171)	AS62404 (06-160)	(1D)
- (73-22-49)	1		.Clip (CP2172)	AS62404 (06-168)	(1D)
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2166)	- (06-176)	(A) (C)
- (73-22-49)	1		.Clip (CP2513)	AS62404 (06-184)	(1D)
- (73-22-49)	1		.Bolt, machine double hex (CP2512)	4W0101 (06-189)	(1D)
- (73-22-49)	1		.Clip (CP2512)	AS62404 (06-192)	(1D)
- (73-22-49)	1		.Nut, A/O self locking (CP2512)	4W0043 (06-196)	(1D)
6A7398 (73-22-49)	1		.Plug assy, vented	- (06-260)	(A) (C)
- (73-22-49)	1		.Tube, assy of - Air - Discon. to discon. (Pb)	6A5243 (06-500)	(1D)
- (73-22-49)	1		.Clip (CP2173)	AS62404 (06-528)	(1D)
- (73-22-49)	1		.Clip (CP2174)	AS62404 (06-536)	(1D)

Nov. 13/98

R Revision 3 July 16/99

V2500-ENG-73-0130

Page 13



International Aero Engines

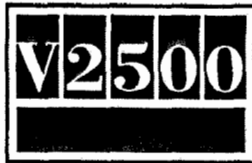
SERVICE BULLETIN

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
- (73-22-49)	1		.Clip (CP2175)	AS62404 (06-544)	(1D)
- (73-22-49)	1		.Clip (CP2145)	AS62404 (06-552)	(1D)
R R (73-22-49)	1		.Nut, plain hexagon head (.500 dia)	MS9201-05 (06-645)	(1D)
R R (73-22-49)	1		.Plug	MS9405-01 (06-650)	(1D)
R R (73-22-49)	1		.Washer, flat	MS9321-10 (06-655)	(1D)
6A6186 (73-22-49)	1		.Tube assy - Pb air - Bifurcation disconnect to disconnect	6A6178 (06-700)	(A) (B) (S1)
- (73-22-49)	1		.Clip (CP2038)	AS62404 (06-728)	(1D)
- (73-22-49)	1		.Clip (CP2331)	AS62404 (06-736)	(1D)
4W0102 (73-22-49)	1		.Bolt, machine double hex (.190 dia x .438) (CP2690)	- (06-741)	(A) (C)
K8831 (73-22-49)	1		.Washer (Max 0,51 thick)(CP2690)	- (06-742)	(A) (C)
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2690)	- (06-744)	(A) (C)
4W0001 (73-22-49)	1		.Nut, self locking double hex (.190 dia) (CP2690)	- (06-748)	(A) (C)
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2118)	- (06-752)	(A) (C)

Nov. 13/98
R Revision 3 July 16/99

V2500-ENG-73-0130

Page 14



International Aero Engines

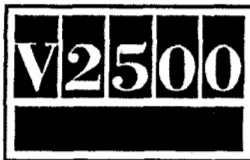
SERVICE BULLETIN

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2122)	- (06-760)	(A) (C)
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2135, CP2135L, CP2135R)	- (06-768)	(A) (C)
M1550-1 (73-22-49)	1		.Tube assy - Pb air - Disconnect to EEC	M1538-1 (07-100)	(A) (B) (S1)
- (73-22-49)	1		.Tube, flexible - A/O - Disconnect to EEC (Pb)	556-1-15775 (07-100)	(B)
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2144)	- (07-160)	(A) (C)
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2145)	- (07-168)	(A) (C)
4W0102 (73-22-49)	1		.Bolt, machine double hex (.190 dia x .438) (CP2691)	- (07-173)	(A) (C)
K8831 (73-22-49)	1		.Washer (Max 0,51 thick)(CP2691)	- (07-174)	(A) (C)
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2691)	- (07-176)	(A) (C)
4W0001 (73-22-49)	1		.Nut, self locking double hex (.190 dia) (CP2691)	- (07-180)	(A) (C)
4W0102 (73-22-49)	1		.Bolt, machine double hex (.190 dia x .438) (CP2692)	- (07-181)	(A) (C)
AS62406 (73-22-49)	1		.Clip (9,52mm (0.375)) (CP2692)	- (07-184)	(A) (C)
4W0001 (73-22-49)	1		.Nut, self locking double hex (.190 dia) (CP2692)	- (07-188)	(A) (C)

Nov. 13/98
R Revision 3 July 16/99

V2500-ENG-73-0130

Page 15



International Aero Engines

SERVICE BULLETIN

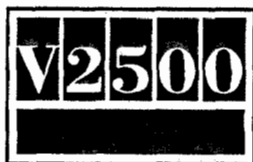
NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
6A7397 (73-22-49)	1		.Bracket support	6A4936 (08-671)	(A) (S3) (3D)
- (73-22-49)	1		.Bolt, machine double hex (CP2680)	4W0102 (10-173)	(1D)
- (73-22-49)	1		.Clip (CP2680)	AS62404 (10-176)	(1D)
(73-22-49)	1		.Nut, A/O self locking (CP2680)	4W0043 (10-180)	(1D)
M1549-1 (73-22-49)	1		.Tube assy - P2.5 air - Disconnect to EEC	556-1-15773 (11-100)	(A) (B) (S1)
4W0137 (75-22-49)	1		.Bolt, machine double hex (.190 dia x 3.250) (CP2134)	AS20950 (15-525)	(A) (S1)
AS21011 (75-23-48)	2		.Bolt, machine double hex (.250 dia x .6875)	AS21010 (01-377)	(A) (S1)
4W0104 (75-32-49)	1		.Bolt, machine double hex (.190 dia x .562) (CP2133)	AS20908 (02-125)	(A) (S1)
- (75-32-49)	1		.Bolt, machine double hex (CP2682)	4W0102 (02-165)	(1D)
- (75-32-49)	1		.Clip (CP2682)	AS62408 (02-168)	(1D)
- (75-32-49)	1		.Nut, A/O self locking (CP2682)	4W0043 (02-172)	(1D)
- (75-32-49)	1		.Bolt, machine double hex (CP2683)	4W0102 (02-173)	(1D)

Nov. 13/98

R Revision 3 July 16/99

V2500-ENG-73-0130

Page 16



International Aero Engines

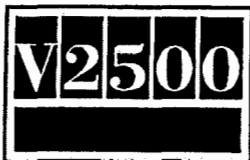
SERVICE BULLETIN

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
(75-32-49) 1	.Clip		(CP2683) AS62408	(02-176) - (1D)	
- (75-32-49)	1		.Nut, A/O self locking (CP2683)	4W0043 (02-180)	(1D)
4W0102 (75-32-49)	1		.Bolt, machine double hex (.190 dia x .438) (CP2688)	- (03-557)	(A) (C)
K8831 (75-32-49)	1		.Washer (Max 0,51 thick)(CP2688)	- (03-558)	(A) (C)
AS62404 (75-32-49)	1		.Clip (6,35mm (0.250)) (CP2688)	- (03-560)	(A) (C)
4W0001 (75-32-49)	1		.Nut, self locking double hex (.190 dia) (CP2688)	- (03-564)	(A) (C)
6A6188 (75-32-49)	1		.Tube assy - Air - Stg 10 disconnect to bifurcation	6A5170 (04-500)	(A) (B) (S1)
4W0107 (75-32-49)	1		.Bolt, machine double hex (.190 dia x .750) (CP2165)	AS20912 (04-541)	(A) (S2)
- (75-32-49)	1		.Clip (CP2165)	AS62404 (04-544)	(1D)
- (75-32-49)	1		.Clip (CP2166)	AS62404 (04-552)	(1D)
4W0109 (75-32-49)	1		.Bolt, machine double hex (.190 dia x .875) (CP2132)	AS20914 (04-557)	(A) (S1)
- (75-32-49)	1		.Clip (CP2132)	AS62404 (04-560)	(1D)
AS62404 (75-32-49)	1		.Clip (6,35mm (0.250)) (CP2038)	- (04-578)	(A) (C)

Nov. 13/98
R Revision 3 July 16/99

V2500-ENG-73-0130

Page 17



International Aero Engines

SERVICE BULLETIN

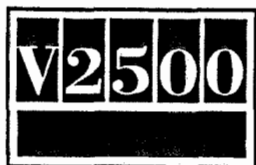
NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
AS62404 (75-32-49)	1		.Clip (6,35mm (0.250)) (CP2133)	- (04-586)	(A) (C)
AS21011 (75-32-49)	2		.Bolt, machine double hex (.250 dia x .6875)	AS21010 (07-377)	(A) (S1)
4W0122 (75-32-49)	1		.Bolt, machine double hex (.190 dia x 1.688) (CP2144)	AS20926 (07-525)	(A) (S1)
4W0121 (75-32-49)	1		.Bolt, machine double hex (.190 dia x 1.625) (CP2145)	AS20948 (07-535) -	(A) (S1)
1 (75-32-49)	.Spacer		6A4825 (CP2145)	(1D) (07-537)	
4W0115 (75-32-49)	1		.Bolt, machine double hex (.190 dia x 1.250) (CP2147)	AS20920 (07-549)	(A) (S2)
6A6189 (75-32-49)	1		.Tube assy - Air - Bifurcation to stage 10 bleed valve	6A5151 (14-100)	(A) (B) (S1)
- (75-32-49)	1		.Bolt, machine double hex (CP7066)	AS20916 (14-125)	(1D)
- (75-32-49)	1		.Clip (CP7066)	AS62404 (14-128)	(1D)
- (75-32-49)	1		.Spacer (CP7066)	LK53268 (14-130)	(1D)
- (75-32-49)	1		.Nut, self locking double hex (CP7066)	4W0001 (14-132)	(1D)
4W0120 (79-22-49)	1		.Bolt, machine double hex (.190 dia x 1.562) (CP2636)	AS20908 (06-125) UP10482	(A) (S1)
1 (79-22-49)	.Spacer	-	(A) (C) (25mm) (CP2636)	(06-130)	

Nov. 13/98

R Revision 3 July 16/99

V2500-ENG-73-0130

Page 18



International Aero Engines

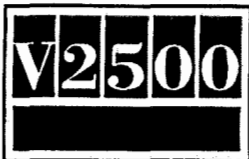
SERVICE BULLETIN

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
4W0001 (79-22-49)	1		.Nut, self locking double hex (.190 dia) (CP2636)	4W0043 (06-132)	(A) (S1)
6A5429 (79-22-49)	2		.Bracket clipping	6A5429 (10-385)	(A) (2D)
4W0102 (79-22-49)	1		.Bolt, machine double hex (.190 dia x .438) (CP2689)	- (10-549)	(A) (C)
AS62416 (79-22-49)	1		.Clip (25,4mm (1.000)) (CP2689)	- (10-552) 4W0001	(A) (C)
1 (79-22-49)		.Nut, self locking double hex	(.190 dia) (CP2689)	- (A) (C) (10-556)	
Left Engine Only					
4W0102 (71-51-52)	1		.Bolt, machine double hex (.190 dia x .438) (CP2512L)	4W0111 (01-261)	(A) (S1)
- (71-51-52)	1		.Spacer (CP2512L)	UP10480 (01-266)	(1D)
4W0043 (71-51-52)	1		.Nut, A/O self locking (.190 dia) (CP2512L)	- (01-268)	(A) (C)
4W0120 (71-51-55)	1		.Bolt, machine double hex (.190 dia x 1.562) (CP2166L)	4W0117 (01-277)	(A) (S1)
UP10481 (71-51-55)	1		.Spacer (20mm) (CP2166L)	UP10480 (01-282)	(A) (S1)
4W0114 (71-51-55)	1		.Bolt, machine double hex (.190 dia x 1.188) (CP2351L)	4W0111 (01-303)	(A) (S1)
- (71-51-55)	1		.Spacer (5mm) (CP2351)	UP10478 (01-306)	(1D)
- (71-51-55)	1		.Spacer, sleeve (5mm) (CP2351)	5W1029 (01-306)	(1D)

Nov. 13/98
R Revision 3 July 16/99

V2500-ENG-73-0130

Page 19

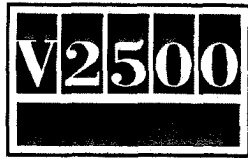


International Aero Engines

SERVICE BULLETIN

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR PART No. (IPC No.)	DISP
- (71-51-55)	1		.Bolt, machine double hex (CP2601L)	4W0105 (01-429)		(1D)
- (71-51-55)	1		.Clamp, loop, style, cushion (CP2601L)	AS62505 (01-432)		(1D)
- (71-51-55)	1		.Clip (CP2601L)	AS62404 (01-433)		(1D)
- (71-51-55)	1		.Nut, self locking (CP2601L)	AS27822 (01-436)		(1D)
Pre SB ENG 73-0105 Engines only						
4W0110 (71-51-51)	1		.Bolt, machine double hex (.190 dia x .938) (CP2486)	- (01-549)		(A) (C)
UP10479 (71-51-51)	1		.Spacer (10mm) (CP2486)	- (01-554)		(A) (C)
AS62510 (71-51-51)	1		.Clip 6.35 (0.250) (CP2486)	- (01-560)		(A) (C)
4W0120 (73-11-49)	1		.Bolt, machine double hex (.190 dia x 1.562) (CP2038)	- (08-133)		(A) (C)
4W0001 (73-11-49)	1		.Nut, assembly of, self locking (CP2038)	- (08-140)		(A) (C)
4W0102 (73-22-49)	1		.Bolt, machine double hex (.190 dia x .438) (CP2168)	- (02-252)		(A) (C)
AS62404 (73-22-49)	1		.Clip 6.35 (0.250) (CP2168)	- (06-136)		(A) (C)

NOTE: The unit prices, if shown, are an estimate and they are given for the purpose of planning only.
For information about actual prices, refer to IAE Price Catalog or contact IAE's spare parts sales department.

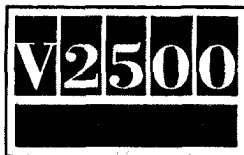


International Aero Engines

SERVICE BULLETIN

D. Instruction Disposition Codes.

- (A) New part is currently available.
- (B) Old part becomes redundant when this Service Bulletin has been embodied.
- (C) Additional.
- (E) Alternatives.
- (F) Clip deleted from CP2444, now on CP2165.
- (G) Clip deleted from CP2681, now on CP2636.
- (H) Previously located at chapter 75-32-49, fig item 14-125.
- (J) Previously located at chapter 75-32-49, fig item 14-128.
- (K) Previously located at chapter 75-32-49, fig item 14-130.
- (L) Previously located at chapter 75-32-49, fig item 14-132.
- (S1) Old and new parts are not interchangeable.
- (S2) Old and new parts are freely and fully interchangeable.
- (S3) New parts can replace old parts, but old parts cannot replace new parts.
- (1D) Old parts can be used on other applications.
- (2D) Quantity increased from 1 to 3.
- (3D) Old parts can be reworked and re-identified to the new part number.



International Aero Engines

SERVICE BULLETIN

3. Accomplishment Instructions

A. Rework bracket 6A5874 (71-51-51, Fig/Item 05-320), to make bracket 6A7396. (Refer to Figure 40).

(1) Consumable Materials

CoMat 06-022 Fluorescent penetrant

(2) Standard Equipment

Chemical cleaning equipment
Standard workshop equipment
Penetrant crack test equipment
Vibro engraving equipment

(3) Chemically clean the clipping bracket.

(a) Use chemical cleaning equipment. (Refer to Standard Practices Manual (SPM), TASK 70-11-03-300-503).

(4) Mark-off the area of the clipping bracket to be removed. (Refer to Figure 40).

(a) Use standard workshop equipment.

(5) Rework the clipping bracket in the area shown. (Refer to Figure 40).

(a) Use standard workshop equipment.

(6) Remove sharp edges. (Refer to Figure 40).

(a) Use standard workshop equipment.

(7) Chemically clean the clipping bracket.

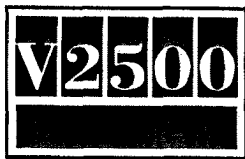
(a) Use chemical cleaning equipment. (Refer to Standard Practices Manual, (SPM), TASK 70-11-03-300-503).

(8) Do a local penetrant crack test of the reworked area.

(a) 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 cracks are found, reject the bracket.

(9) Visually examine and measure the dimensions of the reworked area. (Refer to Figure 40).



International Aero Engines

SERVICE BULLETIN

(10) Delete the initial part number and identify with the new part number.

- (a) Use vibro engraving equipment to change the part numbers as follows. (For the correct procedures, refer to the Standard Practices Manual (SPM), TASK 70-09-00-400-501, SUBTASK 70-09-00-400-001).

(i) Initial part number

New Part Number

6A5874

6A7396

B. Rework bracket 6A4936 (73-22-59, Fig/Item 08-671), to make bracket 6A7397. (Refer to Figure 41).

(1) Consumable Materials

CoMat 06-022 Fluorescent penetrant

(2) Standard Equipment

Chemical cleaning equipment
Standard workshop equipment
Penetrant crack test equipment
Vibro engraving equipment

CAUTION: TITANIUM COMPONENT - USE SILICON CARBIDE TYPE ABRASIVE WHEELS, STONES AND PAPERS TO DRESS, BLEND AND POLISH THIS COMPONENT. IF YOU DO NOT, THEN THIS COMPONENT CAN BE DAMAGED.

CAUTION: TITANIUM COMPONENT - DO NOT USE FORCE WITH MECHANICAL CUTTERS OR THE MATERIAL WILL BECOME TOO HOT.

CAUTION: TITANIUM COMPONENT - REJECT THE COMPONENT IF THE COLOR OF THE MATERIAL BECOMES DARKER THAN A LIGHT STRAW COLOUR.

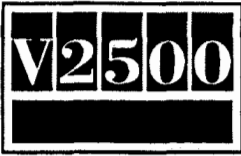
(3) Chemically clean the clipping bracket.

- (a) Use chemical cleaning equipment. (Refer to Standard Practices Manual (SPM), TASK 70-11-03-300-503).

(4) Put a new hole in the the clipping bracket. Use standard workshop equipment.

- (a) Mark the position of the hole with a centre punch. (Refer to Figure 41).

- (b) With a 0.226in (5,75mm) drill bit, drill the new hole at the marked position.



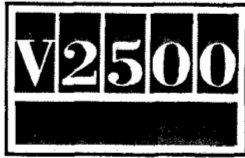
International Aero Engines
SERVICE BULLETIN

- (5) Remove sharp edges and burrs from around the hole. (Refer to Figure 41).
 - (a) Use standard workshop equipment.
- (6) Chemically clean the clipping bracket.
 - (a) Use chemical cleaning equipment. (Refer to Standard Practices Manual, (SPM), TASK 70-11-03-300-503).
- (7) Do a swab etch on the reworked area.
 - (a) Use chemical cleaning equipment. (Refer to the Standard Practices Manual (SPM), TASK 70-11-08-300-503, SUBTASK 70-11-08-300-002).
- (8) Do a local penetrant crack test of the reworked area.
 - (a) 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 cracks are found, reject the bracket.
- (9) Visually examine and measure the dimensions of the reworked area. (Refer to Figure 41).
- (11) Delete the initial part number and identify with the new part number.
 - (a) Use vibro engraving equipment to change the part numbers as follows, (For the correct procedures, refer to the Standard Practices Manual (SPM), TASK 70-09-00-400-501, SUBTASK 70-09-00-400-001):

<u>(i) Initial part number</u>	<u>New Part Number</u>
6A4936	6A7397

C. Job Set-up Instructions

- (1) Open the fan cowl doors. (Refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 71-13-00, Maintenance Practices).
 - (a) For the left engine only, remove the fan cowl doors. (Refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 71-13-03, Maintenance Practices).
- (2) Open the thrust reverser. (Refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 78-32-00, Maintenance Practices).

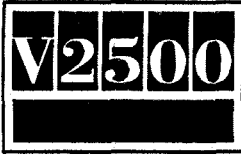


International Aero Engines
SERVICE BULLETIN

- (3) Remove the inner core cowls. (Refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 71-12-00, Description and Operation and 71-12-11, Removal/Installation).

D. Removal Instructions for engines that have had Service Bulletin ENG 73-0105 done.

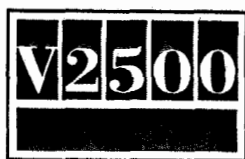
- (1) Remove tube assembly M1538-1 or tube 556-1-15775. (Refer to Figure 4).
 - (a) Disconnect tube M1538-1 or tube 556-1-15775 from tube 6A5243 and the Pb connector of the EEC.
 - (b) Remove and discard the tube.
 - (c) Remove and discard the union 5A8234 and the packing NAS 1595-4, from the Pb port of the EEC.
- (2) Remove the tube M1537-1 or tube 556-1-15773. (Refer to Figure 4).
 - (a) Disconnect tube M1537-1 or tube 556-1-15773 from tube 6A5102 and at the P2.5 connector of the EEC.
 - (b) Remove and discard the tube.
- (3) Remove raceway 6A5276 (Refer to Figures 4, 15, 24 and 25).
 - (a) Remove and discard CP 2197.
 - (b) Disconnect the clip points that follow from raceway 6A5276: CP2147, CP2195, CP2196, CP2198, CP2277 and CP2432.
 - (i) Remove and discard the bolt AS20920 from CP2147. (Refer to Figure 15).
 - (ii) Remove and discard the bolts AS20908 from CP2196 and CP2198. (Refer to Figures 24 and 25).
 - (c) Disconnect the raceway 6A5276 from raceway 6A5277.
 - (d) Remove and discard the raceway.



International Aero Engines

SERVICE BULLETIN

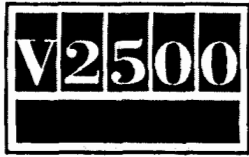
- (4) Remove tube assembly 6A5243. (Refer to Figures 4, 14, 21, 22 and 23).
 - (a) Disconnect CP2145 from tube 6A5243. (Refer to Figure 14).
 - (i) Disassemble CP2145.
 - (ii) Remove and discard bolt AS20948, clip AS62404 and spacer 6A4825.
 - (b) Disconnect CP2175 from tube 6A5243. (Refer to Figure 23).
 - (i) Disassemble CP2175.
 - (ii) Remove and discard bolt AS20918 and clip AS62404.
 - (iii) With bolt 4W0113 and the initial nut, assemble CP2175.
 - (c) Disconnect CP2174 from tube 6A5243. (Refer to Figure 22).
 - (i) Disassemble CP2174.
 - (ii) Remove and discard bolt AS20929 and clip AS62404.
 - (iii) With bolt 4W0123 and the initial nut, assemble CP2174.
 - (d) Disconnect CP2173 from tube 6A5243. (Refer to Figure 22).
 - (i) Disassemble CP2173.
 - (ii) Remove and discard bolt AS20918 and clip AS62404.
 - (iii) With bolt 4W0113 and the initial nut, assemble CP2173.
 - (e) Disconnect the tube from tube assembly 6A6178. (Refer to Figure 4).
 - (f) Remove and discard tube assembly 6A5243.
- (5) For the left engine only: To get sufficient access to tube assembly 6A6178, remove the thrust reverser, harness. (Refer to Figures 4 and 11). (For the correct removal procedures, Refer to the D5 Engine Manual (EM), Chapter/Section 72-00-40, Removal-02).
 - (a) Remove and discard CP2601.
 - (b) Disconnect the harness from CP2333 and CP2135.
 - (c) Move the harness clear of tube assembly 6A6178.



International Aero Engines

SERVICE BULLETIN

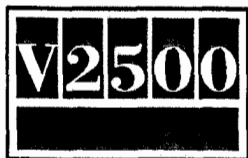
- (6) Remove tube assembly 6A6178. (Refer to Figures 4, 19, 20, 26, 29, 30, and 31).
 - (a) Remove and discard clip point CP2681, CP2685, and CP2683. (Refer to Figure 4).
 - (b) Disconnect CP2038 from tube 6A6178. (Refer to Figure 4).
 - (c) Disconnect CP2172 from tube 6A6178. (Refer to Figure 20).
 - (i) Remove CP2172 from the bracket.
 - (ii) Discard bolt AS20929 and clip AS62404.
 - (iii) With bolt 4W0123 and the initial nut, install CP2172 to the bracket.
 - (d) Disconnect CP2171 from tube 6A6178. (Refer to Figure 19)
 - (i) Remove CP2171 from the bracket.
 - (ii) Discard bolt AS20918 and clip AS62404.
 - (iii) With bolt 4W0112 and the initial nut, install CP2171 to the bracket.
 - (e) For the left engine only, disconnect CP2512 from tube 6A6178. (Refer to Figure 30).
 - (i) Remove CP2512 from the bracket.
 - (ii) Discard bolt 4W0111, spacer UP10480 and clip AS62404.
 - (iii) With bolt 4W0102 and the initial nut, install CP2512 to the bracket.
 - (f) For the right engine only, remove and discard CP2512.
 - (g) For the left engine only, disconnect CP2513 from tube 6A6178 as follows. (Refer to Figure 32):
 - (i) Remove CP2513 from the bracket.
 - (ii) Remove and discard nut 4W0001 and clip AS62404.
 - (iii) With the new nut 4W0043 and the initial bolt, assemble CP2513 to the bracket.



International Aero Engines

SERVICE BULLETIN

- (h) For the right engine only, disconnect CP2513 from tube 6A6178 as follows. (Refer to Figure 31):
 - (i) Remove CP2513 from the bracket.
 - (ii) Discard bolt 4W0104, clip AS62404 and nut 4W0001.
 - (iii) With bolt 4W0103 and nut 4W0043, install CP2513 to the bracket.
 - (i) Disconnect CP2444 from tube 6A6178. (Refer to Figure 29).
 - (i) Remove CP2444 from the bracket.
 - (ii) Discard bolt AS20908, clip AS62404 and nut 4W0001.
 - (iii) With bolt 4W0102 and nut 4W0043, install CP2444 to the bracket.
 - (j) Disconnect CP2331 from tube 6A6178. (Refer to Figure 26).
 - (i) Remove CP2331 from the bracket.
 - (ii) Discard clip AS62404.
 - (iii) With the initial bolt and nut, install CP2331 to the bracket.
 - (k) Disconnect tube 6A6178 from tube assembly 6A6177 and discard the tube.
- (7) Remove tube assembly 6A6177. (Refer to Figure 4).
- (a) Remove and discard CP2682 and CP2680.
 - (b) Disconnect tube 6A6177 from the Pb connector at the bifurcation panel.
 - (c) Remove and discard tube 6A6177.
- (8) Remove tube 6A6037. (Refer to Figure 4)
- (a) Disconnect the clip points that follow from tube 6A6037: CP7076, CP7074, CP8034, CP7092, CP8033, CP8032, CP7073, and CP7834.
 - (b) Disconnect tube 6A6037 at the Pb connector of the bifurcation panel and from the Pb sensor.
 - (c) Remove and discard the tube.



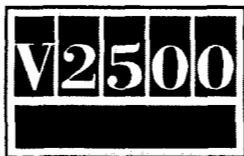
International Aero Engines

SERVICE BULLETIN

- (9) Remove tube 6A5170. (Refer to Figures 4, 8, 16, 17 and 18).
 - (a) Disconnect CP2333 from tube 6A5170.
 - (b) Disconnect CP2165, CP2166 and CP2132 from the tube.
 - (i) Disassemble CP2165 and remove and discard bolt AS20912 and clip AS62404. (Refer to Figure 16).
 - (ii) Disassemble CP2166 and remove and discard bolt 4W0117, spacer UP10480 and clip AS62404. (Refer to Figure 17 and 18).
 - (iii) Disassemble CP2132, then remove and discard bolt AS20914 and clip AS62404. (Refer to Figure 8).
 - (c) Disconnect tube 6A5170 from tube 6A5168 and at the Stage-10 bleed valve connector at the bifurcation panel.
 - (d) Remove and discard the tube.
- (10) Remove the tube 6A5151. (Refer to Figure 4 and 38).
 - (a) Disconnect tube 6A5151 from CP7066. (Refer to Figure 38).
 - (i) Remove and discard clip AS62404.
 - (b) Disconnect tube 6A5151 from CP7067.
 - (c) Disconnect the tube from the Stage-10 bleed valve connector at the bifurcation panel and at the Stage-10 bleed valve.
 - (d) Remove and discard the tube.

E. Removal Instructions for Base engines. (Engines without SB ENG 73-0105).

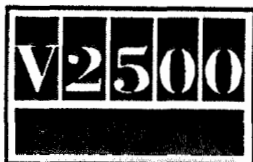
- (1) Remove tube assembly M1538-1 or tube 556-1-15775. (Refer to Figure 4).
 - (a) Disconnect tube M1538-1 or tube 556-1-15775 from tube 6A5243 and the Pb connector of the EEC.
 - (b) Remove and discard the tube.
 - (c) Remove and discard the union 5A8234 and the packing NAS 1595-4, from the Pb port of the EEC.



International Aero Engines

SERVICE BULLETIN

- (2) Remove the tube M1537-1 or tube 556-1-15773. (Refer to Figure 4).
 - (a) Disconnect tube M1537-1 or tube 556-1-15773 from tube 6A5102 and at the P2.5 connector of the EEC.
 - (b) Remove and discard the tube.
- (3) Remove raceway 6A5276 (Refer to Figures 4, 15, 24 and 25).
 - (a) Remove and discard CP 2197.
 - (b) Disconnect the clip points that follow from raceway 6A5276: CP2147, CP2195, CP2196, CP2198, CP2277 and CP2432.
 - (i) Remove and discard the bolt AS20920 from CP2147. (Refer to Figure 15).
 - (ii) Remove and discard the bolts AS20908 from CP2196 and CP2198. (Refer to Figures 24 and 25).
 - (c) Disconnect the raceway 6A5276 from raceway 6A5277.
 - (d) Remove and discard the raceway.
- (4) Remove tube assembly 6A5243. (Refer to Figures 4, 14, 21, 22 and 23).
 - (a) Disconnect CP2145 from tube 6A5243. (Refer to Figure 14).
 - (i) Disassemble CP2145.
 - (ii) Remove and discard bolt AS20948, clip AS62404 and spacer 6A4825.
 - (b) Disconnect CP2175 from tube 6A5243. (Refer to Figure 23).
 - (i) Disassemble CP2175.
 - (ii) Remove and discard bolt AS20918 and clip AS62404.
 - (iii) With bolt 4W0113 and the initial nut, assemble CP2175.
 - (c) Disconnect CP2174 from tube 6A5243. (Refer to Figure 22).
 - (i) Disassemble CP2174.
 - (ii) Remove and discard bolt AS20929 and clip AS62404.
 - (iii) With bolt 4W0123 and the initial nut, assemble CP2174.

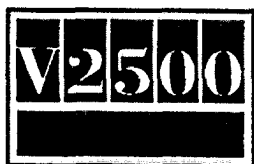


International Aero Engines
SERVICE BULLETIN

- (d) Disconnect CP2173 from tube 6A5243. (Refer to Figure 21).
 - (i) Disassemble CP2173.
 - (ii) Remove and discard bolt AS20918 and clip AS62404.
 - (iii) With bolt 4W0113 and the initial nut, assemble CP2173.
- (e) Disconnect the tube from tube assembly 6A6178. (Refer to Figure 4).
- (f) Remove and discard tube assembly 6A5243.
- (5) Identify the Pb pressure air tubes 6A5322 and 6A5243. These are located between the RH bifurcation panel and the support raft.
- (6) Disassemble the clip points CP2444, CP2512 and CP2513. Keep the nuts and bolts.
- (7) Remove the air tube 6A5322.
 - (a) Disassemble CP2171 and CP2172. Keep the bolts and spacers.
 - (b) Disconnect tube 6A5322 from tube 6A5243.
 - (c) Disconnect tube 6A5322 from the right bifurcation panel and then remove the tube.
 - (d) Remove and keep the five clips from the tube.
 - (e) Discard the tube.
- (8) Disassemble CP2038 and discard the bolt and the clipnut.
- (9) Disassemble CP2168 and discard the bolt.
- (10) Disassemble CP2486 and discard the bolt.

F. Installation Instructions.

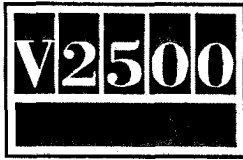
- (1) Install tube M1549-1. (Refer to Figure 5).
 - (a) Connect M1549-1 to the P2.5 connector of the EEC and to tube 6A5102.



International Aero Engines

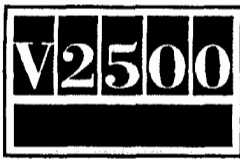
SERVICE BULLETIN

- R
R
R
R
- (2) Install raceway 6A6190. (Refer to Figures 5, 15, 24 and 25).
- (a) Attach the clip points that follow to 6A6190: CP2147, CP2195, CP2196, CP2198, CP2277 and CP2432.
- (i) With the bolt 4W0115 and the initial nut, install CP2147. (Refer to Figure 15).
- (ii) With the bolt 4W0118, the spacer UP10482 and the initial nut, install CP2195. (Refer to Figure 24).
- (iii) With the bolt 4W0115, the spacer UP10481 and the initial nut, install CP2198. (Refer to Figure 25)
- (b) Install CP2694 to 6A6190, Harness A and the vibration transducer loom. (Refer to Figure 37).
- (c) Attach the 6A6190 to raceway 6A5277. (Refer to Figure 5).
- (3) Install tube M1550-1. (Refer to Figures 1, 3, 5, 13, 14, 35 and 36).
- (a) Install the new packing ring NAS 1595-4 to the new union 5A8226.
- (a) Install the union 5A8226 to the Pb port of the EEC
- (b) Replace bracket 6A4936 with bracket 6A7397. (Refer to Figure 3). (For the correct removal/installation procedures refer to the D5 Engine Manual (EM), Chapter/Section 72-00-32, Removal-05 CONFIG-1 and CONFIG-2 and Installation-01 CONFIG-2 and CONFIG-3).
- CAUTION:** WHEN YOU INSTALL TUBE M1550-1 TO THE PB UNION (5A8226), MAKE SURE THAT THE UNION IS HELD WITH AN APPLICABLE SPANNER. IF YOU DO NOT, THE SCREW THREADS OF THE EEC PB PORT CAN BE DAMAGED BY TOO MUCH TORQUE.
- (c) Connect M1550-1 to the Pb union (5A8226) of the EEC.
- (d) Connect M1550-1 to CP2144. (Refer to Figure 13).
- (i) Disassemble CP2144. (If necessary, disconnect the electrical connector R5-8002 for Looms A and B adjacent to CP 2144 and then disassemble the clip points sufficiently to get access to CP2144).
- (ii) Remove and discard the bolt AS20926.
- (iii) Install clip AS62406 to M1550-1 and then to CP2144.
- (iv) With bolt 4W0122 and the initial spacers and nut, install CP2144 to the bracket.



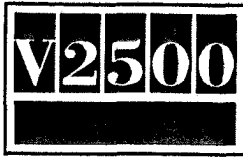
International Aero Engines
SERVICE BULLETIN

- (v) If necessary, connect the electrical connector and assemble any of the clip points removed at step (d) (i).
- (e) Connect M1550-1 to CP2145. (Refer to Figure 14).
 - (i) Install clip AS62406 to M1550-1 and then to CP2145.
 - (ii) With bolt 4W0121 and the initial spacers and nut, install CP2145 to the bracket.
- (f) Connect M1550-1 to CP2691. (Refer to Figures 1 and 35).
 - (i) Install clip AS62406 to M1550-1.
 - (ii) With bolt 4W0102, washer K8831 and nut 4W0001, install CP2691 to bracket 6A5429.
- (g) Connect M1550-1 to CP2692. (Refer to Figure 36).
 - (i) Install clip AS62406 to M1550-1.
 - (ii) With bolt 4W0102 and nut 4W0001, install CP2692 to bracket 6A7397. (Refer to Figure 3).
- (4) Install tube 6A6186. (Refer to Figures 5, 6, 7, 11, 12, 34 and 35).
 - (a) Disconnect the looms to the Stage-7 and Stage-10 solenoid valves.
 - (b) Remove the Stage-7 solenoid valve B and the Stage-10 make-up solenoid valve. (Refer to the D5 Engine Manual (EM), Chapter/Section, 75-00-32 Removal-02 or the MD90 Maintenance Manual (AMM), Chapter/Section 75-33-51, Removal/Installation).
 - (c) Disconnect tube 6A5075 from tube 6A5294. (Refer to the D5 Engine Manual (EM), Chapter/Section 72-00-32, Removal-03).
 - (d) For the left engine only, remove the HP3 supply tube 6A6129. (Refer to the D5 Engine Manual (EM), Chapter/Section 72-00-32, Removal-03).
 - (e) Put the vertical end of tube 6A6186 over the mounting bracket of the solenoid valves.
 - (f) Install clip AS62406 to tube 6A6186 and then connect the clip to CP2690. (Refer to Figures 1 and 35).
 - (g) Install clip AS62406 to tube 6A6186 and then connect the clip to CP2689. (Refer to Figure 34).



International Aero Engines
SERVICE BULLETIN

- (h) Install clip AS62404 to tube 6A6186 and then connect the clip to CP2688. (Refer to Figure 34).
- (i) Connect tube 6A6186 to CP2118 and CP2122. (Refer to Figures 6 and 7).
 - (i) Disassemble CP2118 and CP2122.
 - (ii) Remove and discard bolts AS20907.
 - (iii) Install two clips AS62406 to tube 6A6186.
 - (iv) With the two bolts 4W0103 and the initial nuts, install one of the clips to CP2118 and one to CP2122
- (j) For the left engine only, connect tube 6A6186 to CP2135L. (Refer to Figure 11).
 - (i) Disassemble CP2135L
 - (ii) Move the clip for the thrust reverser harness from the bottom of the clip-stack to the top.
 - (iii) Install clip AS62406 to tube 6A6186 and then connect it to CP2135L.
 - (iv) With the initial bolt, spacers and nut, assemble CP2135L.
- (k) For the right engine only, connect tube 6A6186 to CP2135R. (Refer to Figure 12).
 - (i) Install clip AS62406 to tube 6A6186.
 - (ii) Install clip AS62406 to the clip point.
 - (iii) With the initial bolt, spacers and nut, assemble CP2135R.
- (l) For the left engine only, move the thrust reverser harness to a different position at CP2351L. (Refer to Figure 27).
 - (i) Disassemble CP2351L, then remove and discard bolt 4W0111 and spacer UP10478.
 - (ii) Remove clip AS26512 from the harness. Turn clip AS26512 through 180 degrees and then install it again on the harness.
 - (iii) With bolt 4W0114, spacer UP10480 and the initial nut, assemble CP2351L.



International Aero Engines
SERVICE BULLETIN

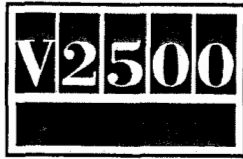
- (m) For the right engine only, move clip AS62512 to a different position at CP2351R. (Refer to Figure 27).
 - (i) Disassemble CP2351R.
 - (ii) Remove and discard bolt 4W0107 and spacer UP10478.
 - (iii) Remove clip AS26512 from the harness. Turn clip AS26512 through 180 degrees and then install it again on the harness.
 - (iv) With the new bolt 4W0113, new spacer UP10480 and the initial nut, install CP2351R to the bracket.
- (n) Safety tube 6A6186 to tube M1550-1.
- (o) Connect tube 6A5075 to tube 6A5294. (Refer to Figure 5). (For the correct installation procedures refer to the D5 Engine Manual (EM), Chapter/Section 72-00-32, Installation-03).
- (p) For the LH engine only, install the HP3 supply tube 6A6129. (Refer to the D5 Engine Manual (EM), Chapter/Section 72-00-32, Installation-03).
- (q) Install the Stage-7 solenoid valve B and the Stage-10 make-up solenoid valve. (Refer to the D5 Engine Manual (EM), Chapter/Section, 75-00-32 Installation-02 or the MD90 Maintenance Manual (AMM), Chapter/Section 75-33-51, Removal/Installation).
- (r) Connect the looms to the Stage-7 and Stage-10 solenoid valves.
- (5) Install tube 6A6188 between tube 6A5168 and the Stage-10 bleed valve connection of the bifurcation panel. (Refer to Figures 5, 9 and 36).
 - (a) Install CP2693. (Refer to Figure 36).
 - (i) Install clip AS62404 to tube 6A5321 adjacent to the brazed-on clip UP11152 of tube 6A6188.
 - (ii) Connect the clips together with the bolt 4W0102 and the nut 4W0043.
 - (b) For engines at Service Bulletin ENG 73-0105 standard, connect tube 6A6188 to CP2038. (Refer to Figure 5).
 - (c) For engines not at Service Bulletin ENG 73-0105 standard: with clip AS62404, bolt 4W0120 and nut 4W0001, connect tube 6A6188 to CP2038. (Refer to Figure 4 and 38).
 - (d) For engines not at Service Bulletin ENG 73-0105 standard, with bolt 4W0102 assemble CP2168. (Refer to Figures 4 and 39).



International Aero Engines

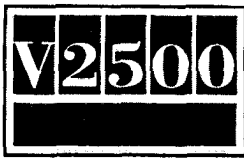
SERVICE BULLETIN

- (e) For engines not at Service Bulletin ENG 73-0105 standard: with bolt 4W0110, spacer UP10479 and the initial clip nut, assemble CP2486. (Refer to Figures 5 and 39).
- (f) Connect tube 6A6188 to CP2133. (Refer to Figure 9).
 - (i) Remove and discard bolt AS20908.
 - (ii) Install clip AS62404 to tube 6A6188.
 - (iii) With bolt 4W0104, attach clip AS62404 to CP2133.
- (g) Connect tube 6A6188 to CP2333. (Refer to Figure 5).
- (h) Safety tube 6A6188 to tube 6A5168.
- (i) Safety tube 6A6188 to the Stage-10 bleed-valve connector on the bifurcation panel.
- (6) Install tube 6A6185 between tube 6A6186 and the Pb connector of the bifurcation panel. (Refer to Figures 2, 5, 8, 10, 16, 17, 18 and 33).
 - (a) Connect tube 6A6185 to CP2636. (Refer to Figure 33).
 - (i) Disassemble CP2636 and discard the bolt AS20908 and the nut 4W0043.
 - (ii) Replace bracket 6A5874 with bracket 6A7396. (Refer to Figure 2). (For the correct removal/installation procedures refer to the MD-90 Engine Manual (EM), Chapter/Section 72-00-32, Removal-05 CONFIG-1 and CONFIG-2 and Installation-01 CONFIG-2 and CONFIG-3).
 - (iii) Install clip AS62408 to tube 6A6185
 - (iv) Install clip AS62502 to Harness A.
 - (v) With bolt 4W0120, spacer UP10482 and nut 4W0001, assemble CP2636 to bracket 6A7396.
 - (b) Connect tube 6A6185 to CP2134. (Refer to Figure 10).
 - (i) Disassemble CP2134 and discard the bolt AS20950.
 - (ii) Install clip AS62406 to tube 6A6185
 - (iii) With bolt 4W0137 and the initial nut, assemble CP2134.



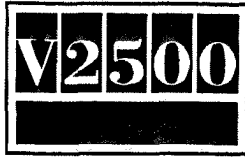
International Aero Engines
SERVICE BULLETIN

- (c) Connect tube 6A6185 to CP2165. (Refer to Figure 16).
 - (i) Install clip AS62406 to tube 6A6185 and then with the new bolt 4W0107, assemble CP2165.
- (d) Connect tube 6A6185 to CP2166. (Refer to Figure 17 and 18).
 - (i) Install clip AS62406 to tube 6A6185 and then assemble CP2166.
- (e) Connect tube 6A6185 to CP2132. (Refer to Figure 8).
 - (i) Install clip AS62406 to tube 6A6185.
 - (ii) With bolt 4W0109 and the initial nut, assemble CP 2132.
- (f) Safety the T-Piece of tube 6A6185 to tube 6A6186.
- (g) Safety tube 6A6185 to the Pb connector on the bifurcation panel.
- (h) Install the vented plug assembly (6A7398), to the end of tube 6A6185.
- (7) To get sufficient access to install tubes 6A6189 and 6A6184, move the core firewire harness clear of the tube-run. (Refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 71-52-61, Removal/Installation).
 - (a) For the left engine installation, do the steps that follow:
 - (i) On the right side of the engine adjacent to the flame deflector, disconnect the firewire harness at connectors G2 and H2.
 - (ii) Disconnect the harness at the clip points that follow: CP8026, CP8034 and CP7830.
 - (iii) Move the harness clear of the tube-run.
 - (b) For the right engine installation, do the steps that follow:
 - (i) On the left side of the engine adjacent to the flame deflector, disconnect the firewire harness at connectors G1 and H1.
 - (ii) Disconnect the harness from CP8054 on the left side, through to CP8039 on the right side.
 - (iii) Move the harness clear of the tube-run.



International Aero Engines
SERVICE BULLETIN

- (8) Install tube 6A6189 between the bifurcation panel and the Stage-10 bleed-valve. (Refer to Figure 5).
 - (a) Connect tube 6A6189 to CP7076 and CP7067.
 - (b) Safety tube 6A6189 to the connector of the Stage-10 bleed-valve.
 - (c) Safety tube 6A6189 to the Stage-10 bleed-valve connector of the bifurcation panel.
- (9) Install tube 6A6184 between the Pb sensor and the Pb connection of the bifurcation panel. (Refer to Figures 5 and 38).
 - (a) Disconnect the electrical leads from the Pb sensor. (Refer to the D5-Engine Manual (EM), Chapter/Section 72-00-40, Removal-02).
 - (b) Connect tube 6A6184 to CP7066. (Refer to Figure 38).
 - (c) Connect tube 6A6184 to the clip points that follow: CP7074, CP8034, CP7092, CP8033, CP8032, CP7073 and CP7834.
 - (d) Safety tube 6A6184 to the Pb sensor.
 - (e) Safety tube 6A6184 to the Pb sensor connector at the bifurcation panel.
 - (f) Connect the electrical leads to the Pb sensor. (Refer to the D5 Engine Manual (EM), Chapter/Section 72-00-40, Installation-09).
- (10) Install the core firewire harness. (Refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 72-52-61, Removal/Installation).
 - (a) For the left engine installation, do the steps that follow:
 - (i) Connect the harness to the clip points that follow: CP8026, CP8034 and CP7830.
 - (ii) On the right side of the engine adjacent to the flame deflector, connect the harness to connectors G2 and H2.
 - (b) For the right engine installation, do the steps that follow:
 - (i) Connect the harness to CP8039 on the right side through to CP8054 on the left side.
 - (ii) On the left side of the engine adjacent to the flame deflector, connect the harness to connectors G1 and H1.



International Aero Engines
SERVICE BULLETIN

G. Job Close-up Instructions

- (1) Install the inner core cowls. (Refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 71-12-00, Description and Operation and 71-12-11, Removal/Installation).
- (2) Close the thrust reverser doors. (Refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 78-32-00, Maintenance Practices).
- (3) Close the fan cowl doors. (Refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 71-13-00, Maintenance Practices).
- (4) For the left engine only, install the fan cowl doors. (Refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 71-13-03, Removal/Installation).

H. Recording Instructions

A record of accomplishment is necessary.



International Aero Engines

SERVICE BULLETIN

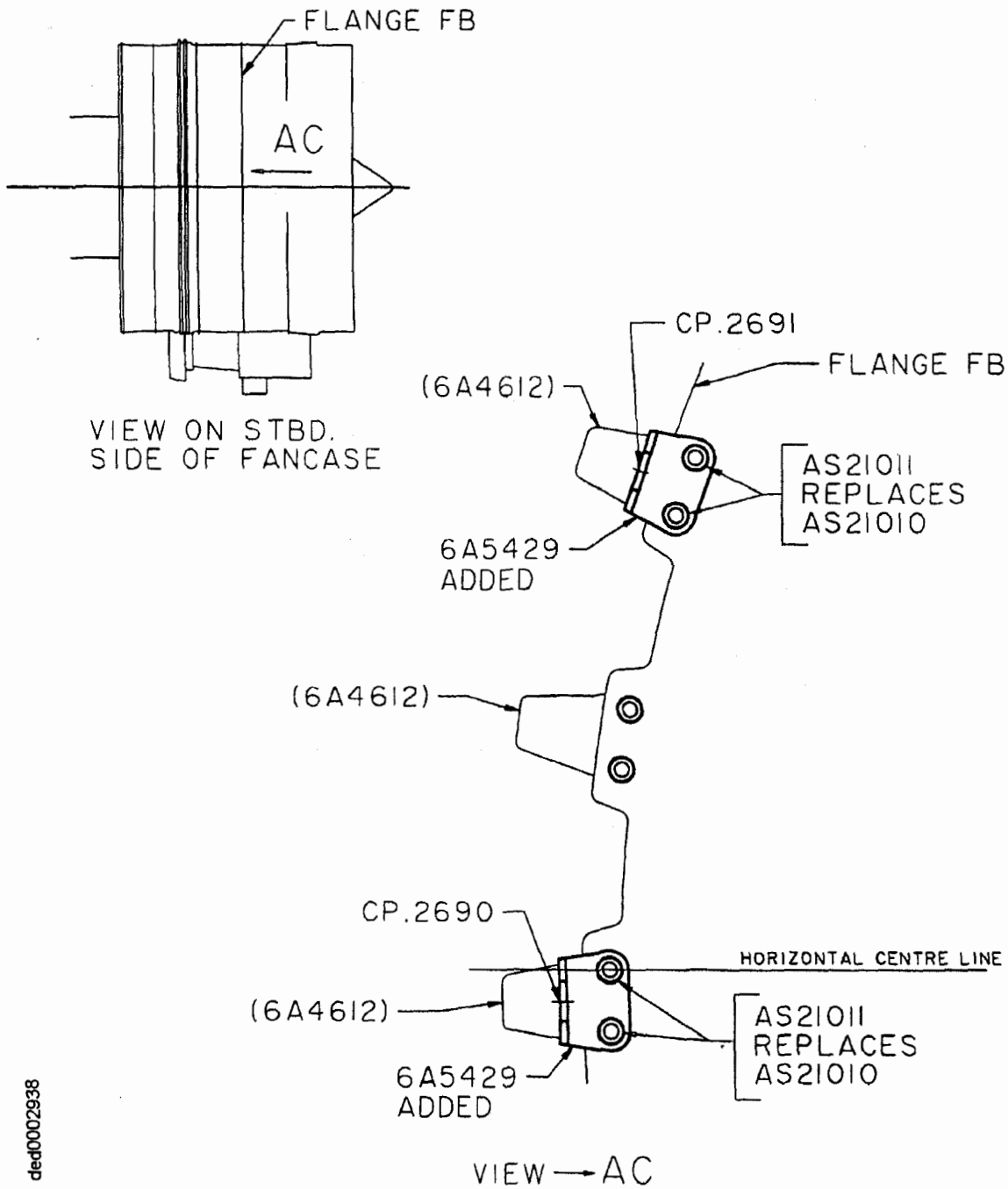
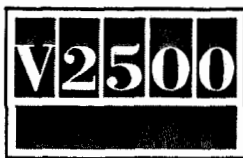


Figure 1
View AC of flange FB

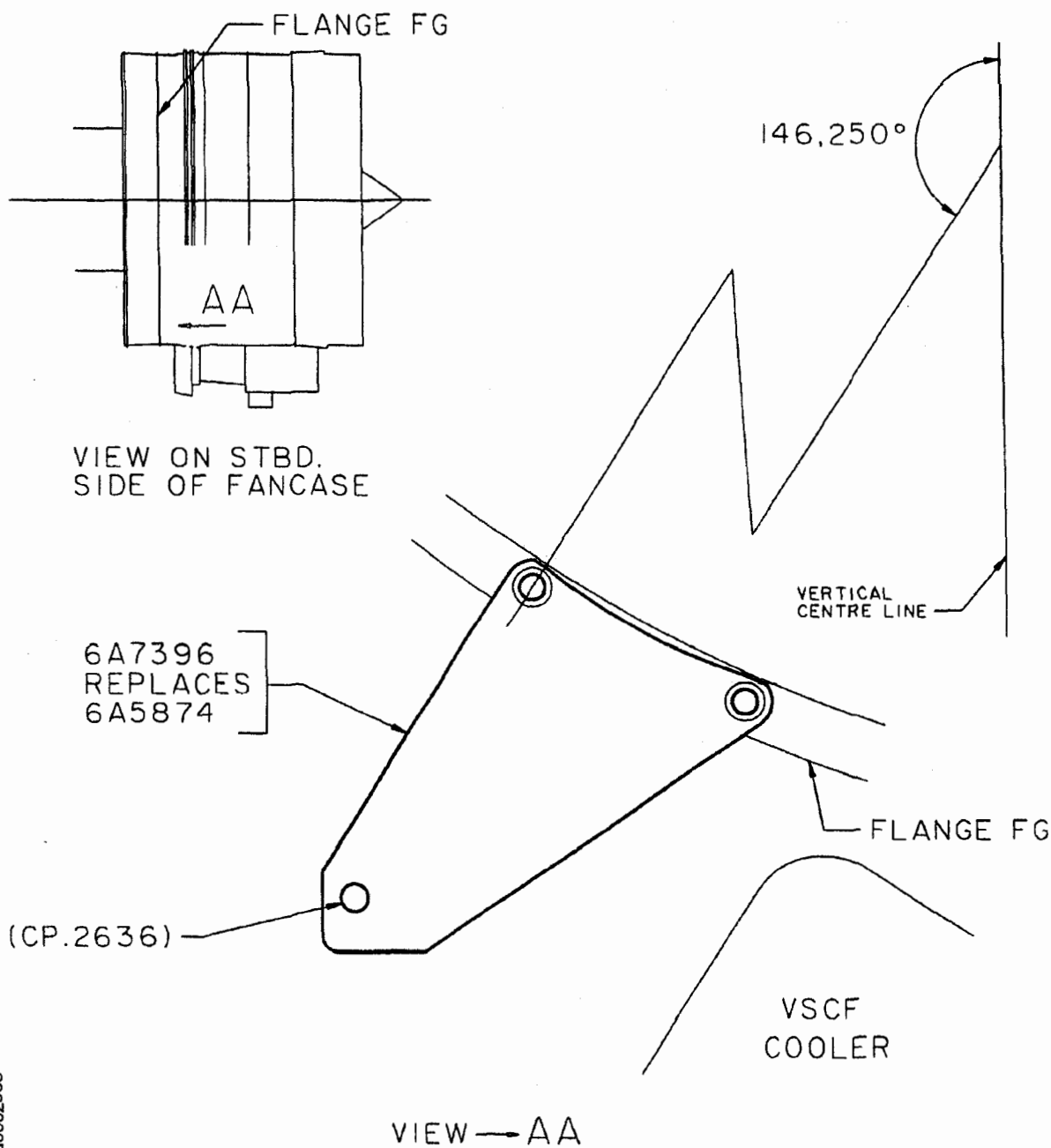
Nov. 13/98

V2500-ENG-73-0130

Page 40



International Aero Engines
SERVICE BULLETIN

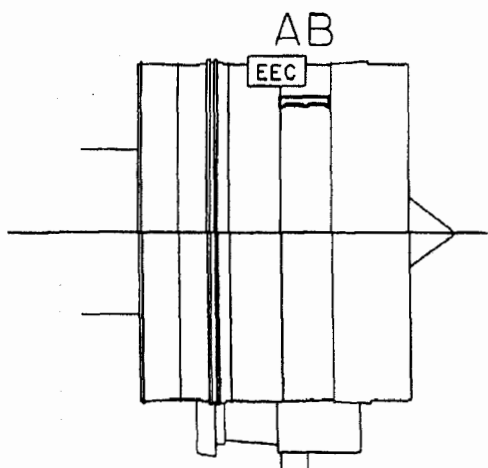


ded0002939

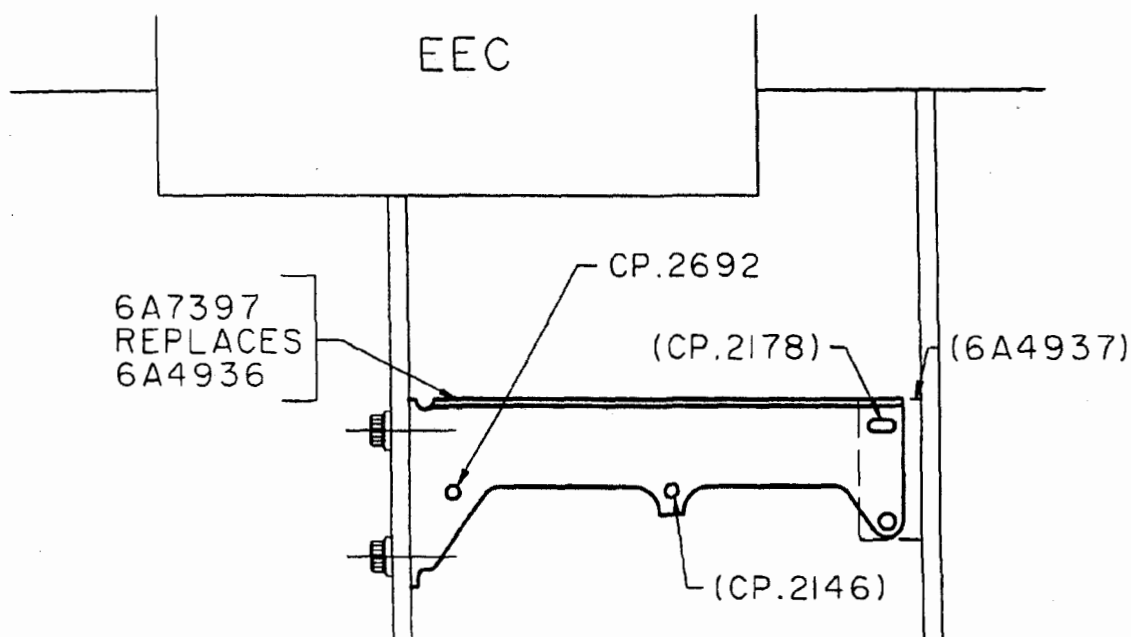
Figure 2
View AA of flange FG



International Aero Engines
SERVICE BULLETIN



VIEW ON STBD.
SIDE OF FAN CASE



VIEW AT AB

Figure 3
View AB of fan case

ded0002940

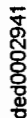
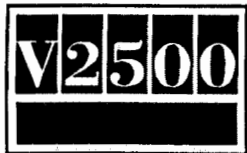


Figure 4



International Aero Engines

SERVICE BULLETIN

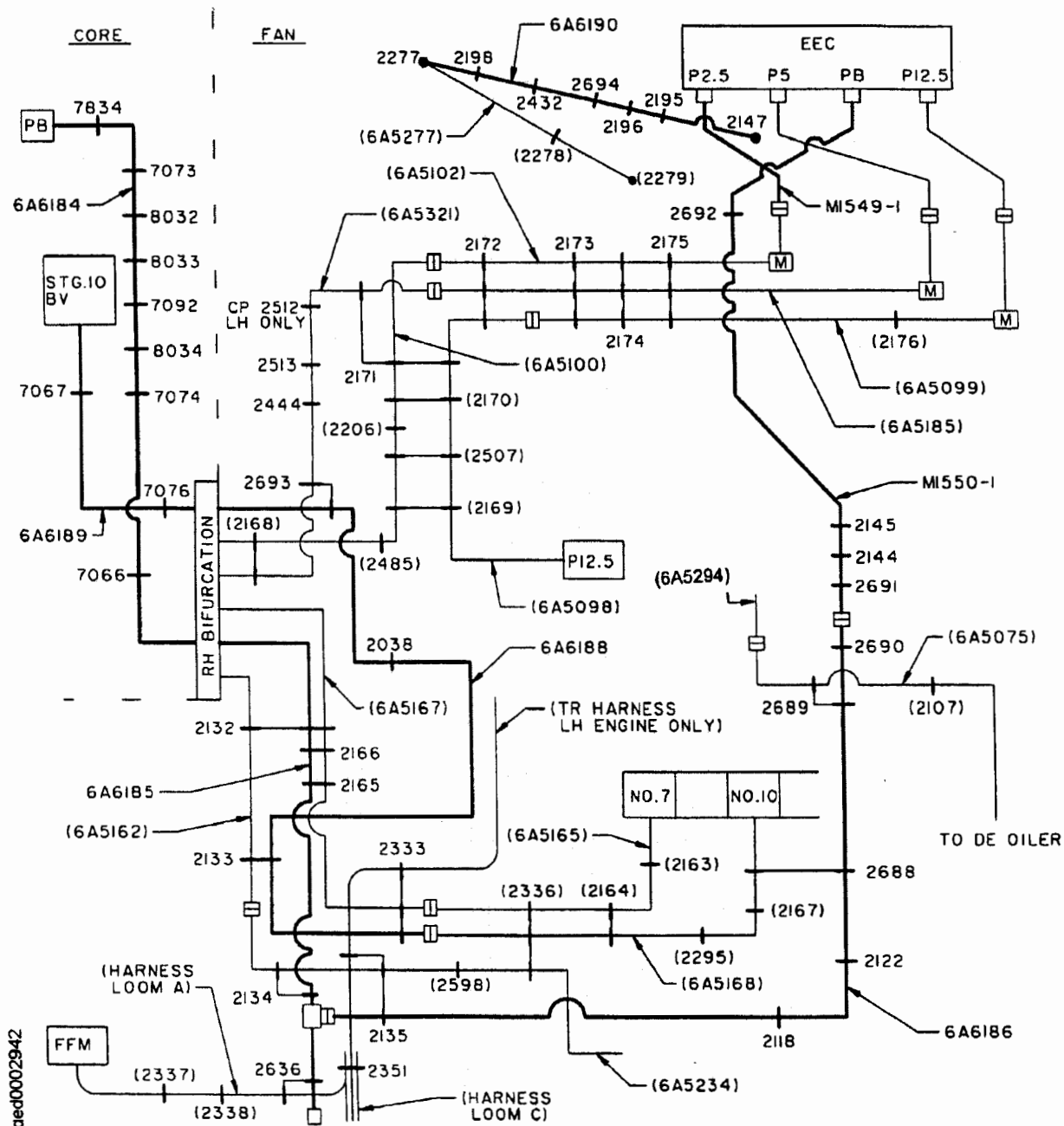


Figure 5
Schematic view of affected tubes and raceways - After alteration

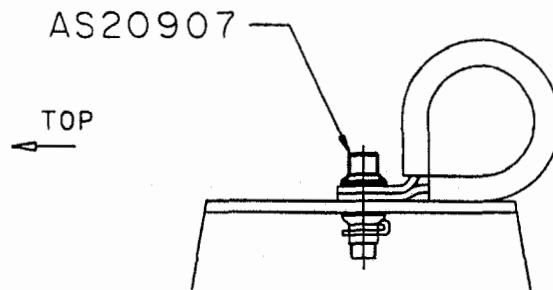
Nov. 13/98

V2500-ENG-73-0130

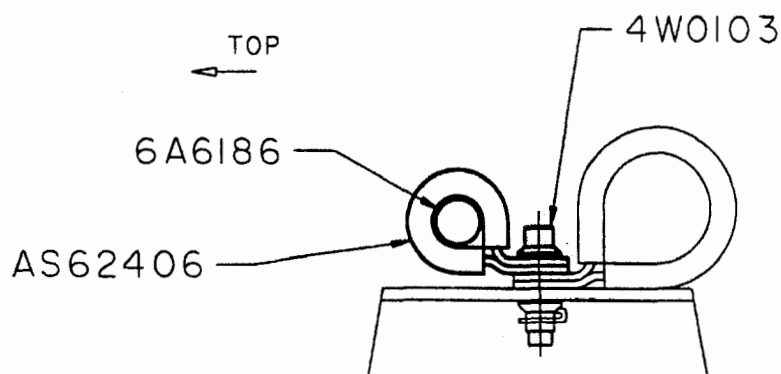
Page 44



International Aero Engines
SERVICE BULLETIN



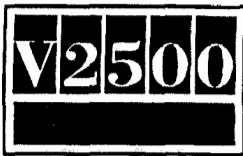
VIEW LOOKING FORWARD
CLIP POINT 2118 BEFORE ALTERATION



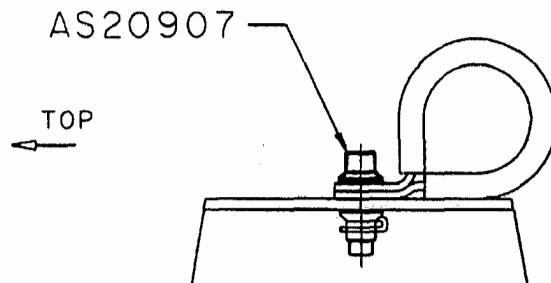
VIEW LOOKING FORWARD
CLIP POINT 2118 AFTER ALTERATION

ded0002943

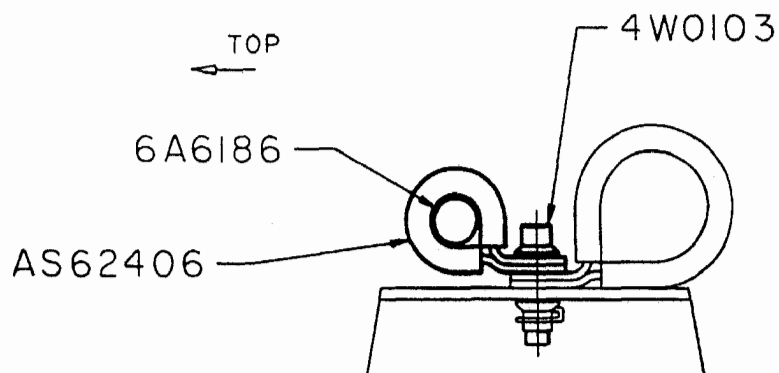
Figure 6
Clip point 2118 - Before and after alteration



International Aero Engines
SERVICE BULLETIN



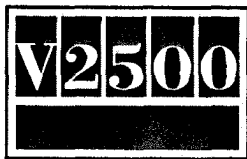
VIEW LOOKING FORWARD
CLIP POINT 2122 BEFORE ALTERATION



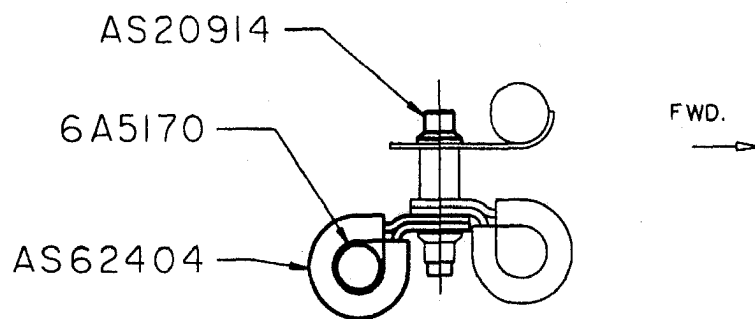
VIEW LOOKING FORWARD
CLIP POINT 2122 AFTER ALTERATION

Figure 7
Clip point 2122 - Before and after alteration

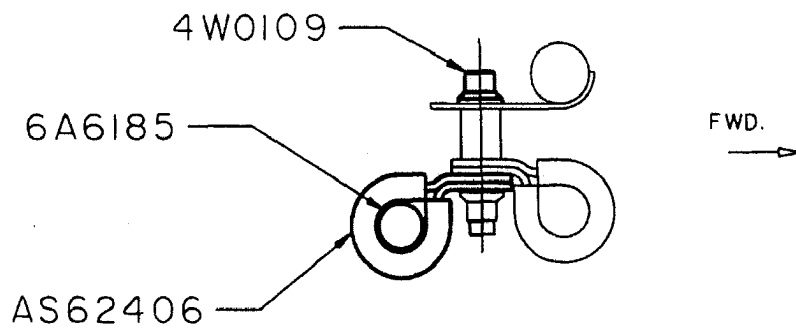
ded0002944



International Aero Engines
SERVICE BULLETIN



CLIP POINT 2132 BEFORE ALTERATION



CLIP POINT 2132 AFTER ALTERATION

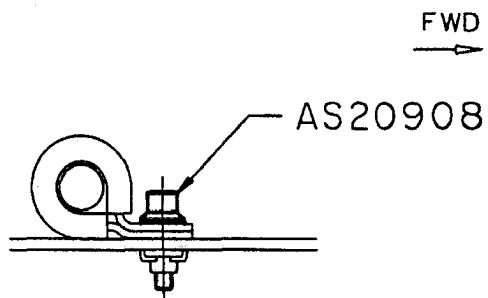
Figure 8
Clip point 2132 - Before and after alteration

ded0002945

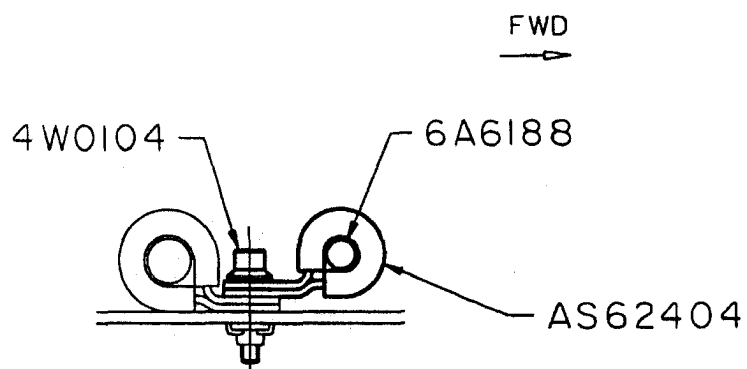


International Aero Engines

SERVICE BULLETIN



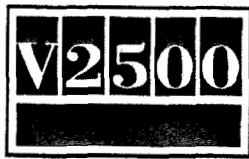
CLIP POINT 2133 BEFORE ALTERATION



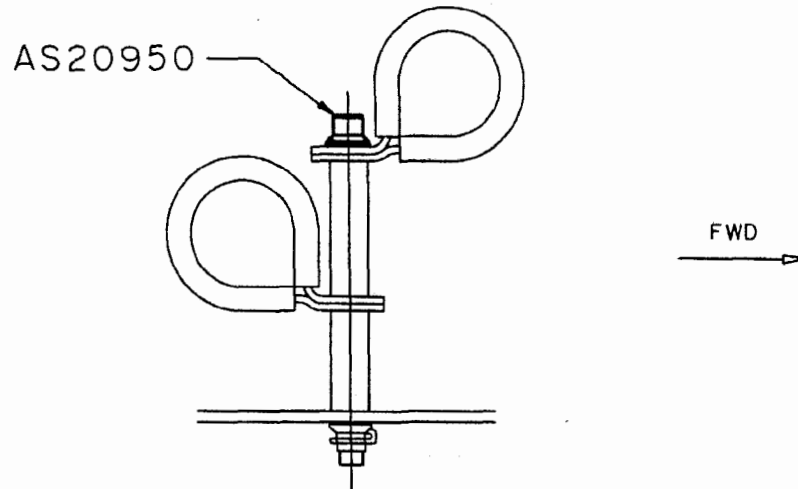
CLIP POINT 2133 AFTER ALTERATION

Figure 9
Clip point 2133 - Before and after alteration

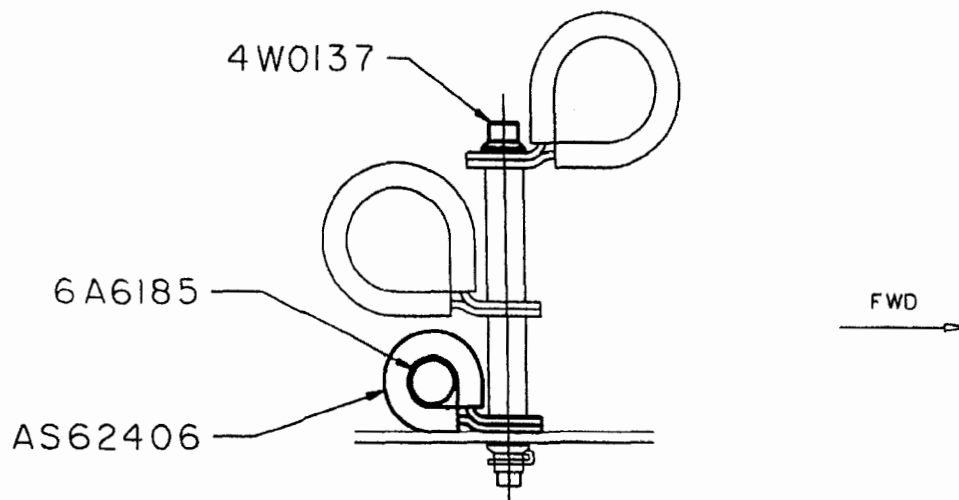
ded0002946



International Aero Engines
SERVICE BULLETIN



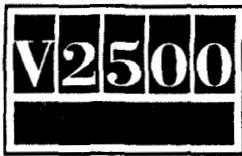
CLIP POINT 2134 BEFORE ALTERATION



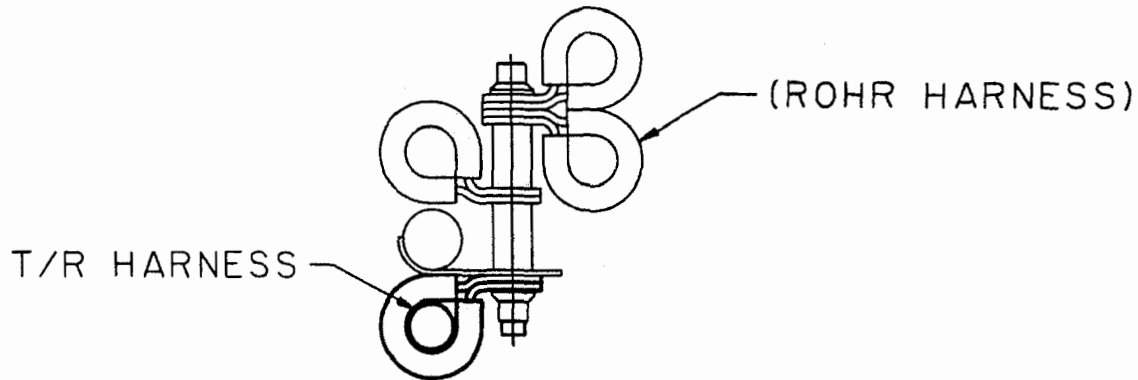
CLIP POINT 2134 AFTER ALTERATION

Figure 10
Clip point 2134 - Before and after alteration

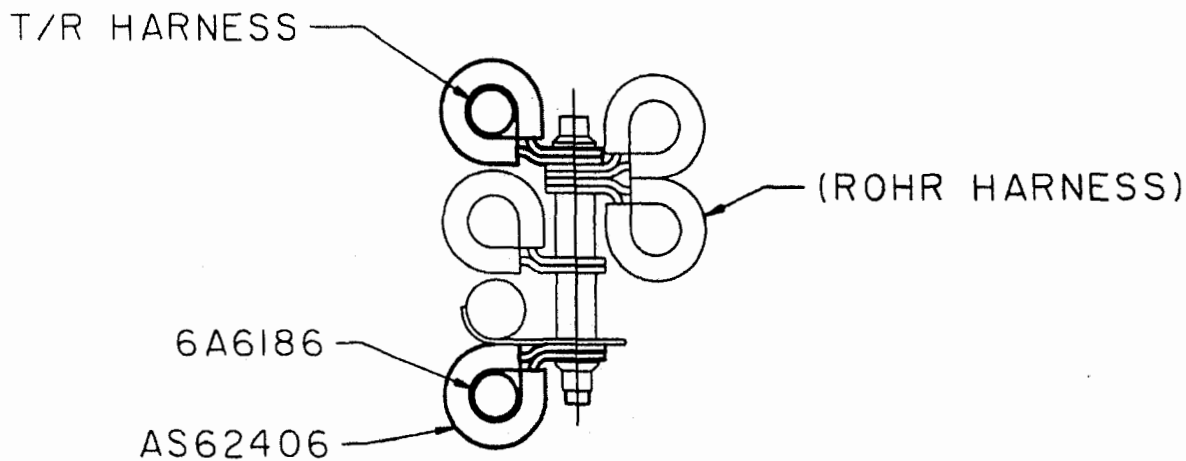
ded0002947



International Aero Engines
SERVICE BULLETIN



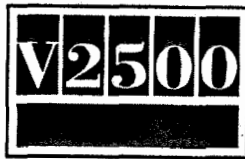
VIEW LOOKING FWD.
CLIP POINT 2135LH BEFORE ALTERATION



VIEW LOOKING FWD.
CLIP POINT 2135LH AFTER ALTERATION

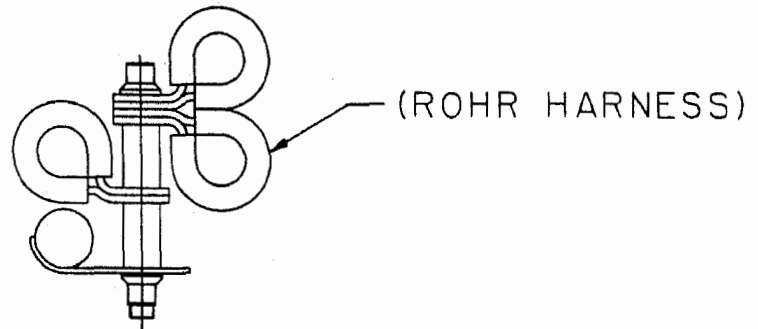
Figure 11
Clip point 2135L - Before and after alteration

ded0002948

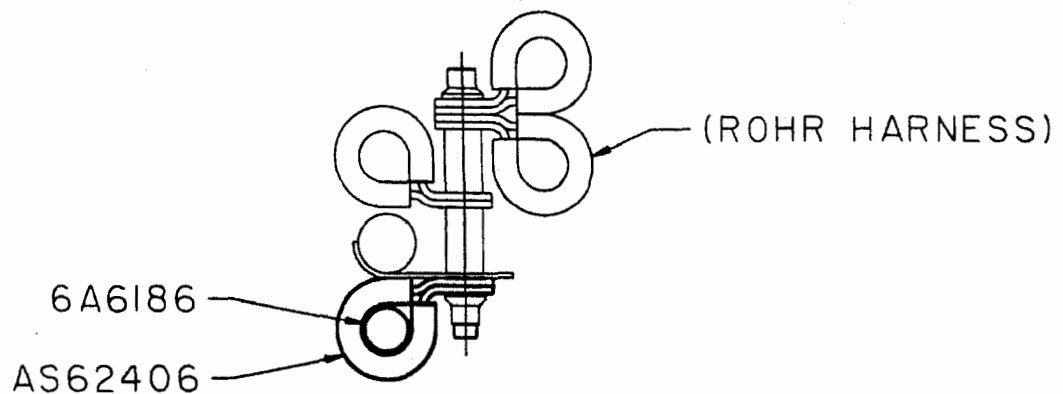


International Aero Engines

SERVICE BULLETIN



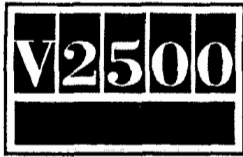
VIEW LOOKING FWD.
CLIP POINT 2135RH BEFORE ALTERATION



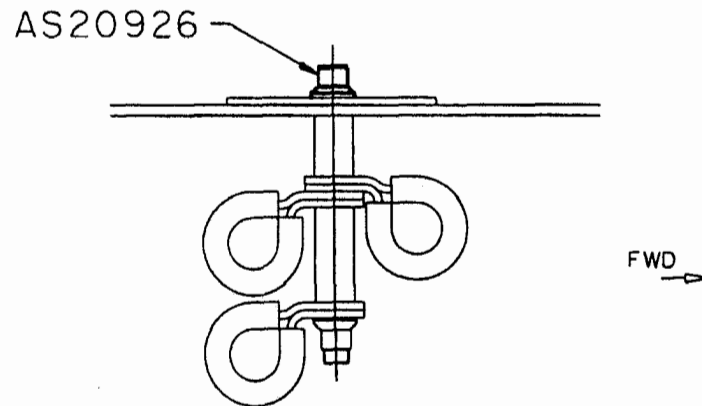
VIEW LOOKING FWD.
CLIP POINT 2135RH AFTER ALTERATION

Figure 12
Clip point 2135R - Before and after alteration

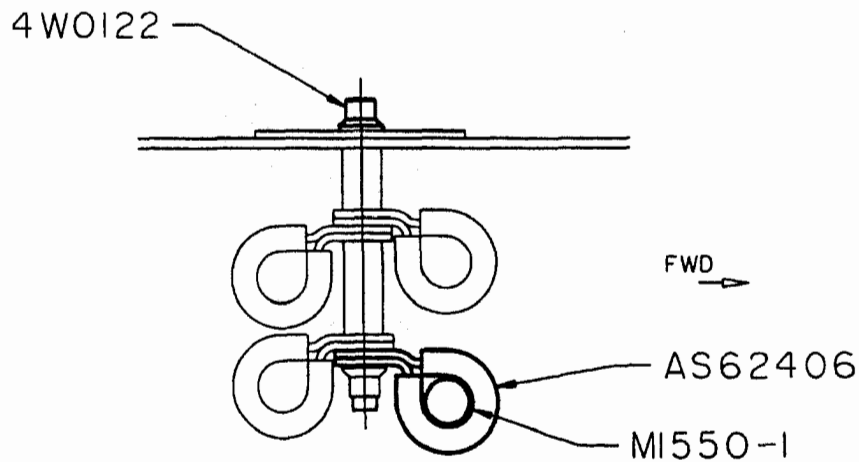
ded0002949



International Aero Engines
SERVICE BULLETIN



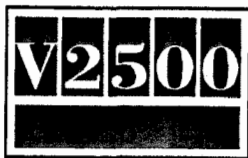
CLIP POINT 2144 BEFORE ALTERATION



CLIP POINT 2144 AFTER ALTERATION

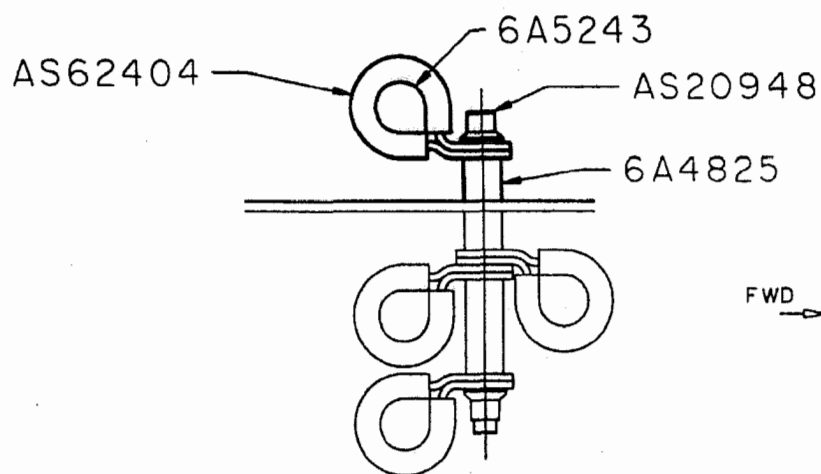
Figure 13
Clip point 2144 - Before and after alteration

ded0002950

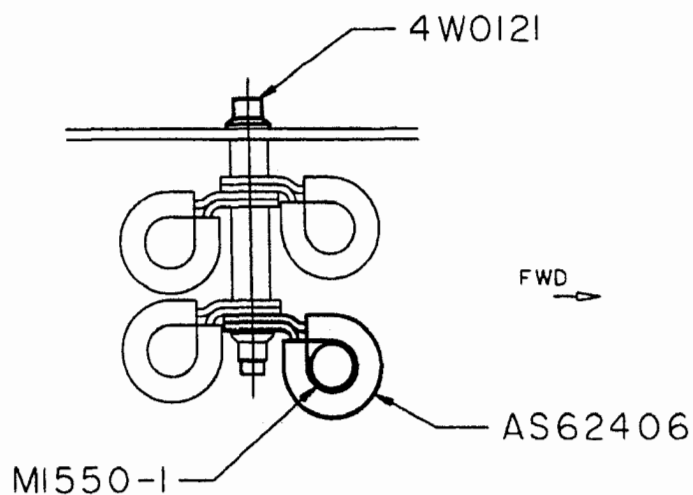


International Aero Engines

SERVICE BULLETIN



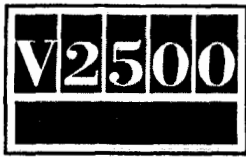
CLIP POINT 2145 BEFORE ALTERATION



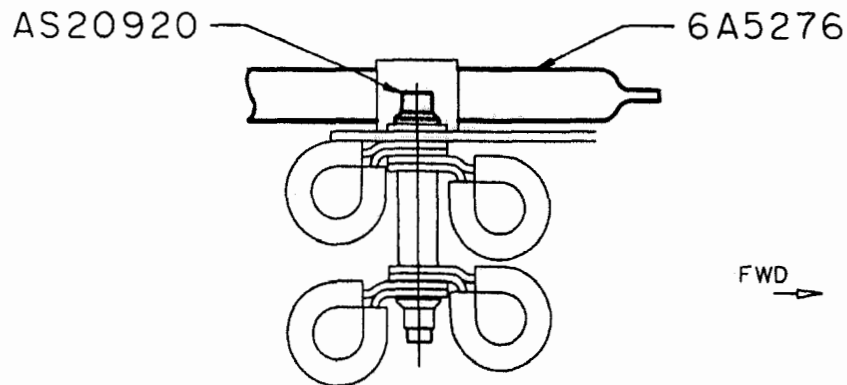
CLIP POINT 2145 AFTER ALTERATION

Figure 14
Clip point 2145 - Before and after alteration

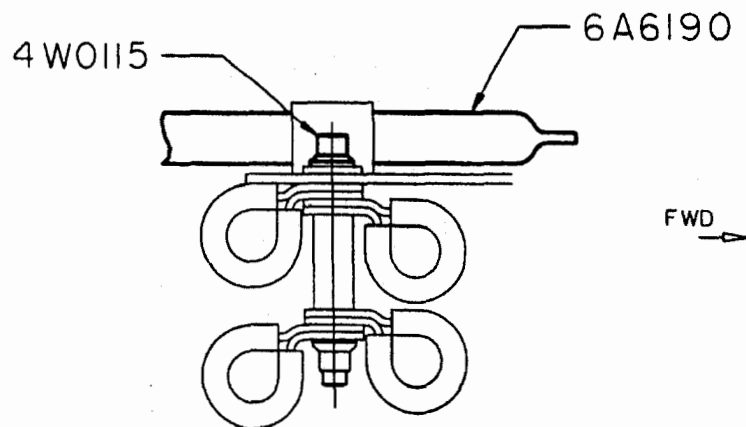
ded0002951



International Aero Engines
SERVICE BULLETIN



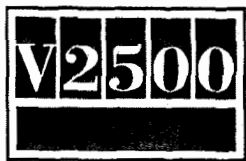
CLIP POINT 2147 BEFORE ALTERATION



CLIP POINT 2147 AFTER ALTERATION

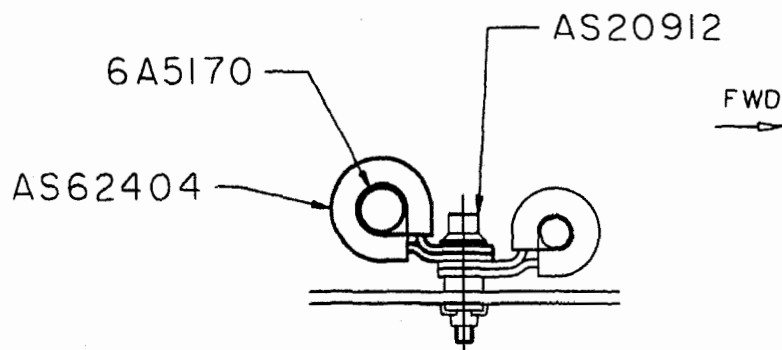
Figure 15
Clip point 2147 - Before and after alteration

ded0002952

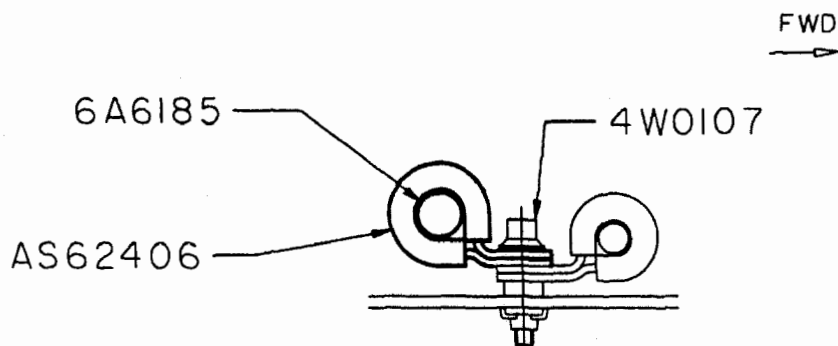


International Aero Engines

SERVICE BULLETIN



CLIP POINT 2165 BEFORE ALTERATION



CLIP POINT 2165 AFTER ALTERATION

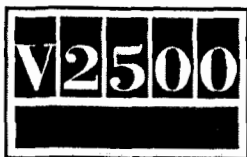
Figure 16
Clip point 2165 - Before and after alteration

ded0002953

Nov. 13/98

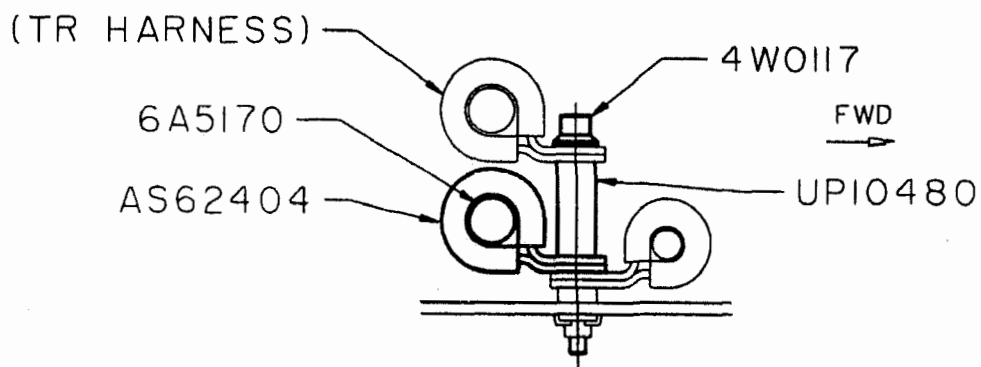
V2500-ENG-73-0130

Page 55

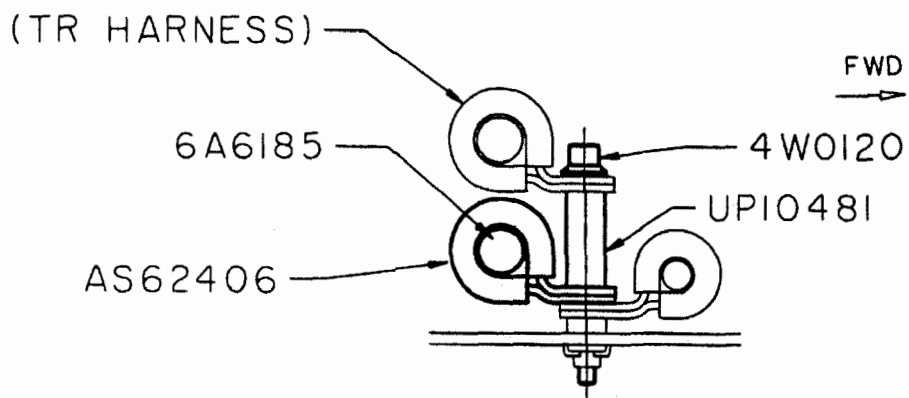


International Aero Engines

SERVICE BULLETIN

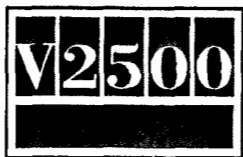


CLIP POINT 2166LH BEFORE ALTERATION

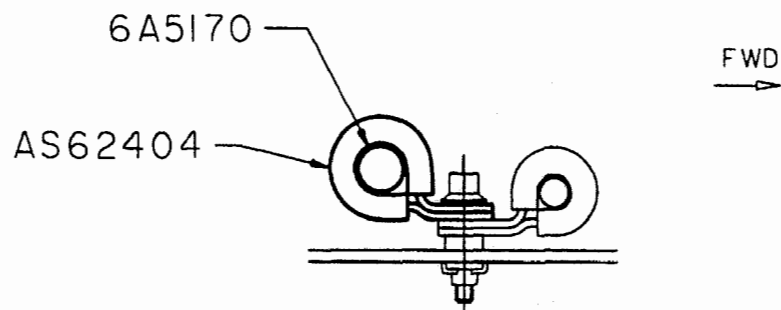


CLIP POINT 2166LH AFTER ALTERATION

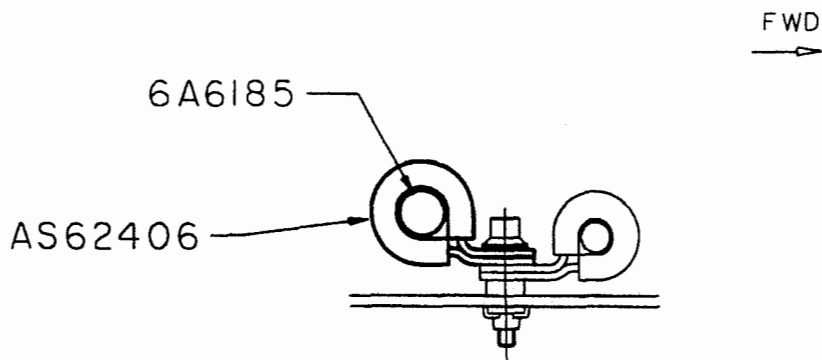
Figure 17
Clip point 2166L - Before and after alteration



International Aero Engines
SERVICE BULLETIN

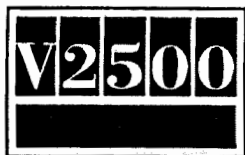


CLIP POINT 2166RH BEFORE ALTERATION



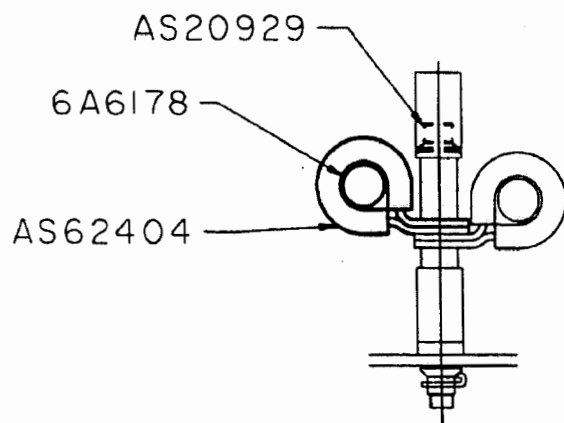
CLIP POINT 2166RH AFTER ALTERATION

Figure 18
Clip point 2166R - Before and after alteration

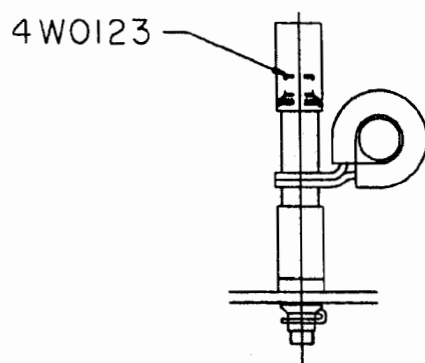


International Aero Engines

SERVICE BULLETIN



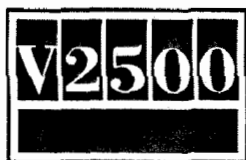
VIEW LOOKING FWD.
CLIP POINT 2171 BEFORE ALTERATION



VIEW LOOKING FWD.
CLIP POINT 2171 AFTER ALTERATION

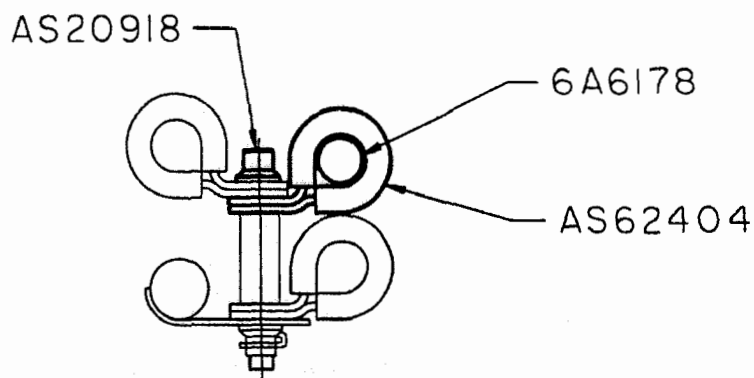
Figure 19
Clip point 2171 - Before and after alteration

ded0002956

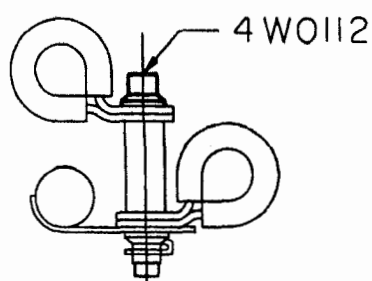


International Aero Engines

SERVICE BULLETIN



VIEW LOOKING FWD
CLIP POINT 2172 BEFORE ALTERATION



VIEW LOOKING FWD
CLIP POINT 2172 AFTER ALTERATION

Figure 20
Clip point 2172 - Before and after alteration

ded0002957

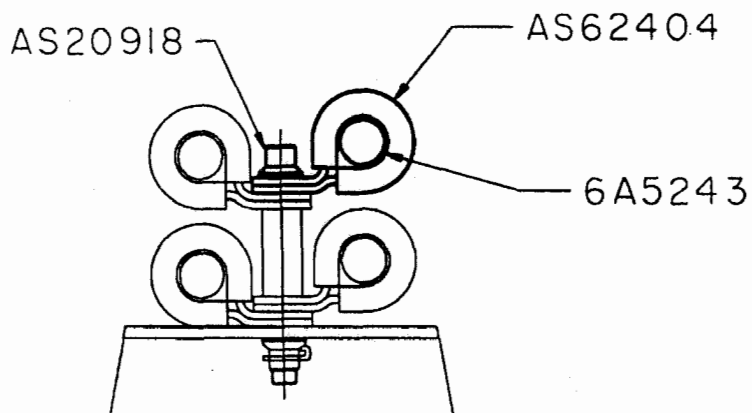
Nov. 13/98

V2500-ENG-73-0130

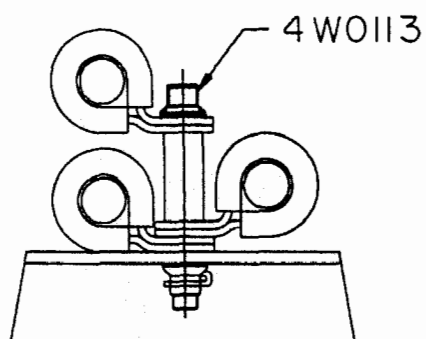
Page 59



International Aero Engines
SERVICE BULLETIN



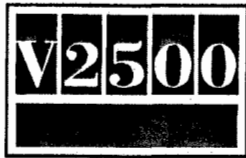
VIEW LOOKING FWD.
CLIP POINT 2173 BEFORE ALTERATION



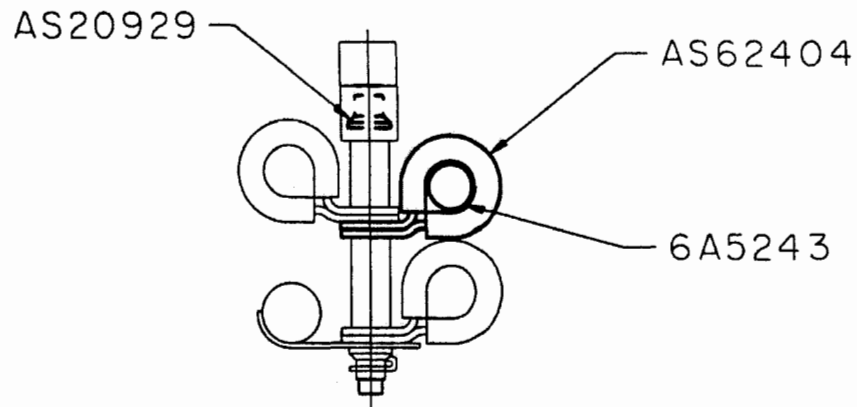
VIEW LOOKING FWD.
CLIP POINT 2173 AFTER ALTERATION

Figure 21
Clip point 2173 - Before and after alteration

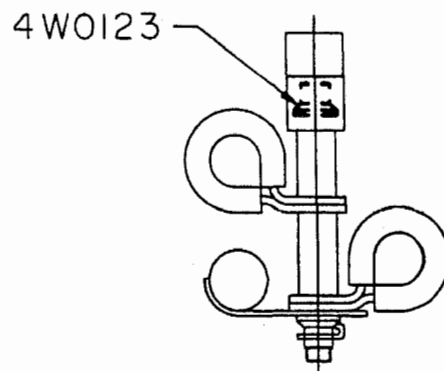
ded0002958



International Aero Engines
SERVICE BULLETIN



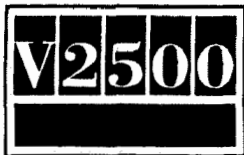
VIEW LOOKING FWD
CLIP POINT 2174 BEFORE ALTERATION



VIEW LOOKING FWD
CLIP POINT 2174 AFTER ALTERATION

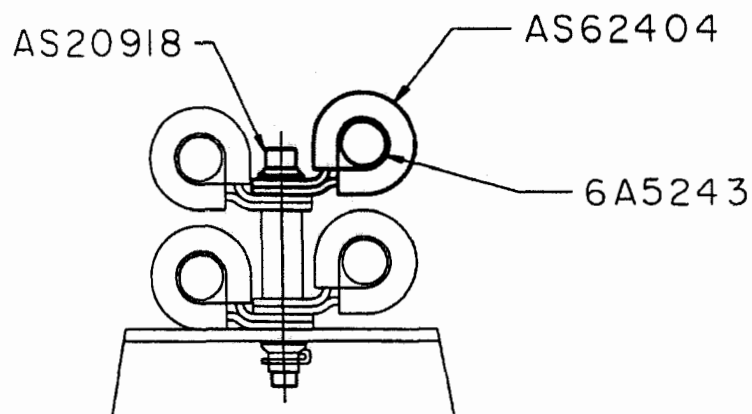
Figure 22
Clip point 2174 - Before and after alteration

ded0002959

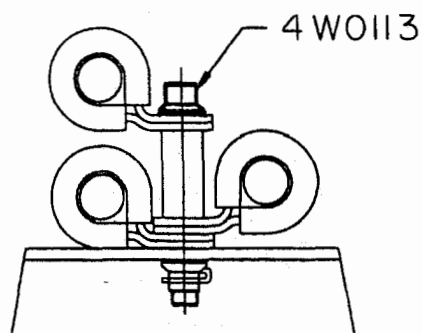


International Aero Engines

SERVICE BULLETIN



VIEW LOOKING FWD.
CLIP POINT 2175 BEFORE ALTERATION



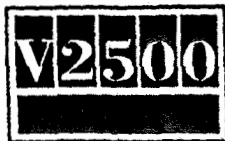
VIEW LOOKING FWD.
CLIP POINT 2175 AFTER ALTERATION

Figure 23
Clip point 2175 - Before and after alteration

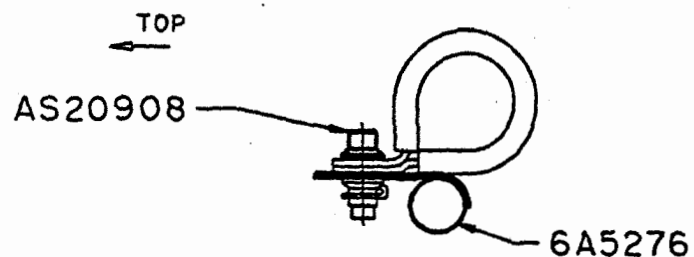
V2500-ENG-73-0130

Page 62

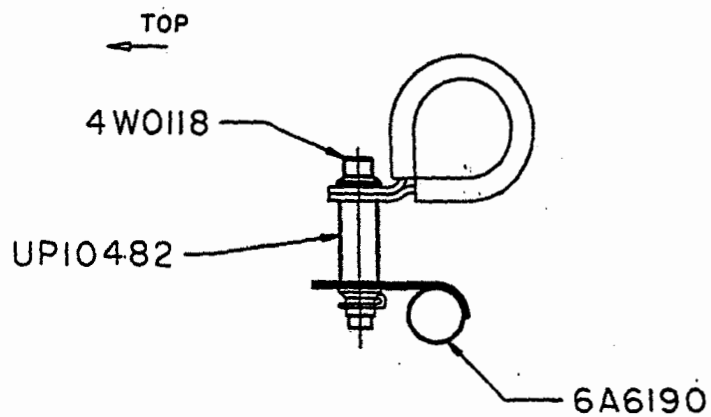
Nov. 13/98



International Aero Engines
SERVICE BULLETIN

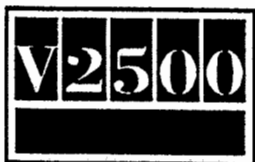


VIEW LOOKING FORWARD
CLIP POINT 2196 BEFORE ALTERATION



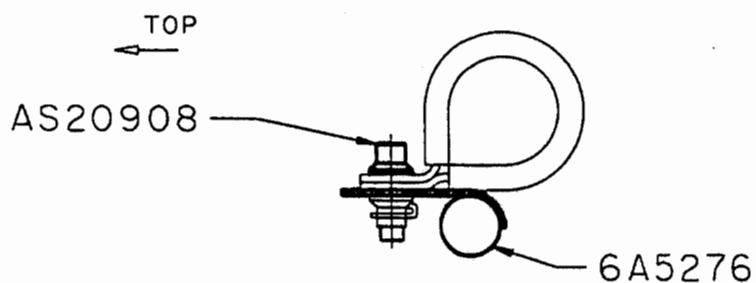
VIEW LOOKING FORWARD
CLIP POINT 2196 AFTER ALTERATION

Figure 24
Clip point 2196 - Before and after alteration

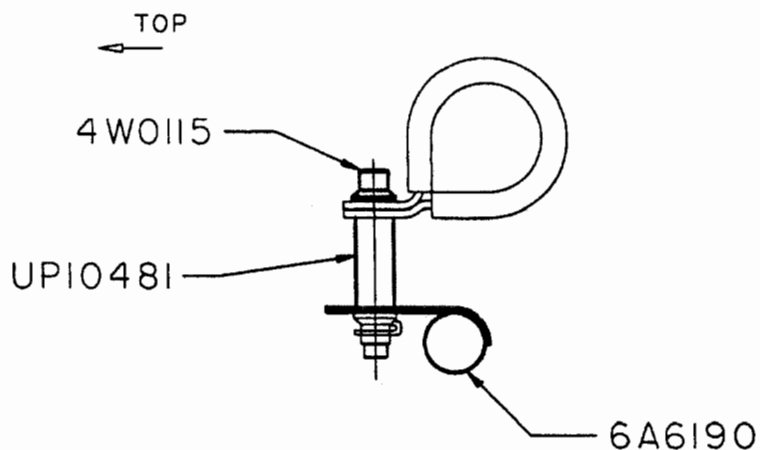


International Aero Engines

SERVICE BULLETIN



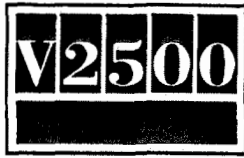
VIEW LOOKING FORWARD
CLIP POINT 2198 BEFORE ALTERATION



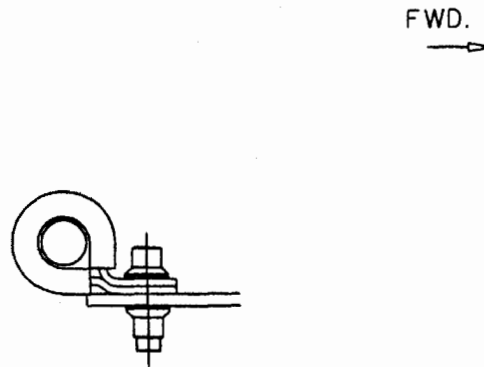
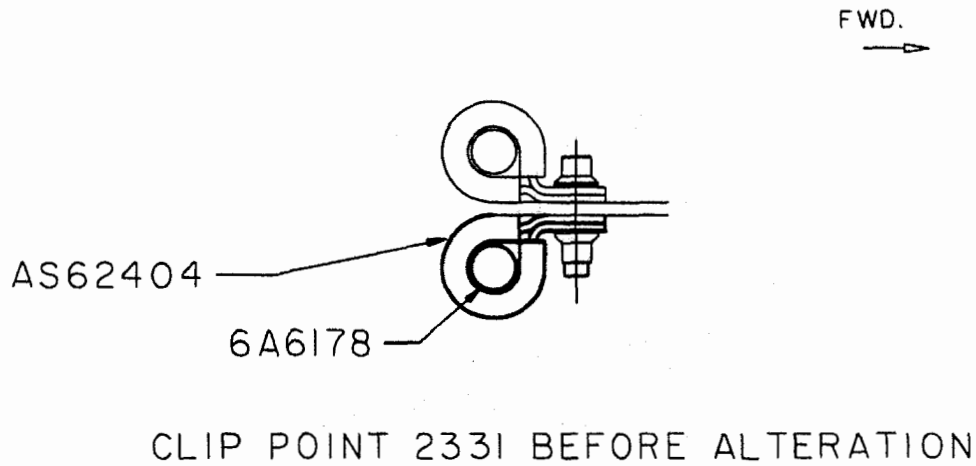
VIEW LOOKING FORWARD
CLIP POINT 2198 AFTER ALTERATION

Figure 25
Clip point 2198 - Before and after alteration

ded0003181



International Aero Engines
SERVICE BULLETIN



CLIP POINT 2331 AFTER ALTERATION

Figure 26
Clip point 2331 - Before and after alteration

ded0002963

Nov. 13/98

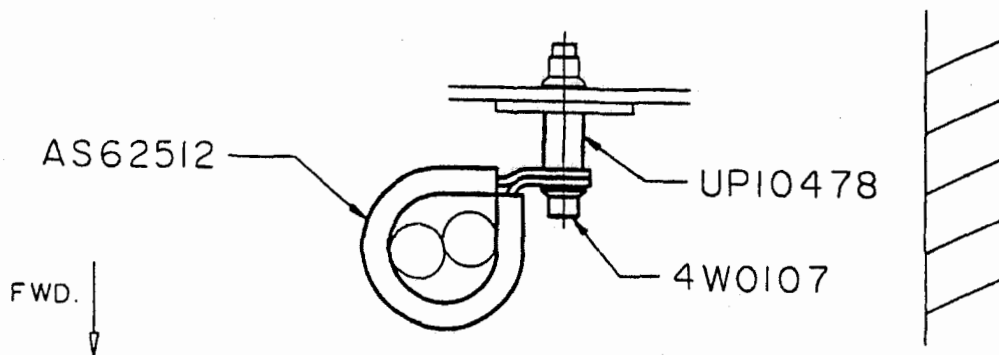
V2500-ENG-73-0130

Page 65

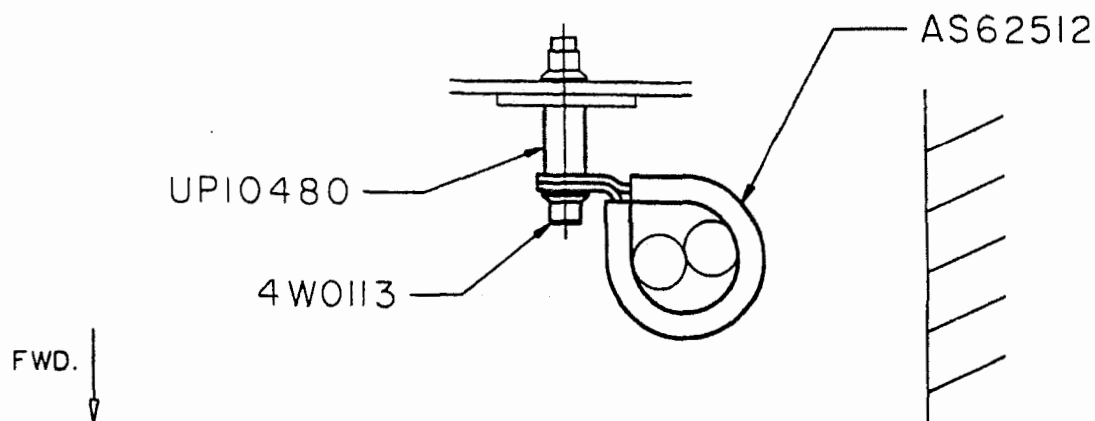


International Aero Engines

SERVICE BULLETIN



CLIP POINT 2351RH BEFORE ALTERATION



CLIP POINT 2351RH AFTER ALTERATION

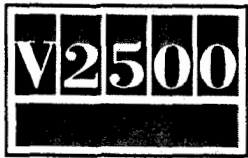
Figure 27

Clip point 2351R - Before and after alteration

Nov. 13/98

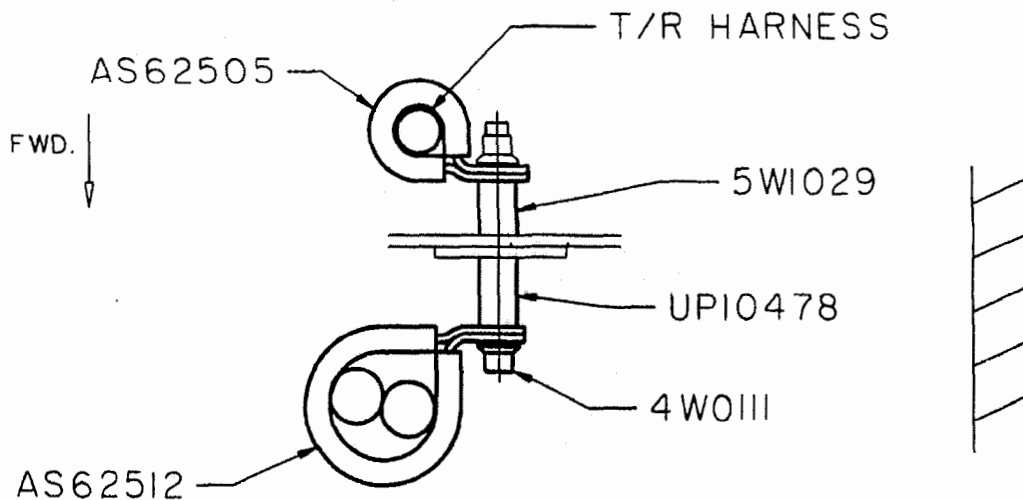
V2500-ENG-73-0130

Page 66

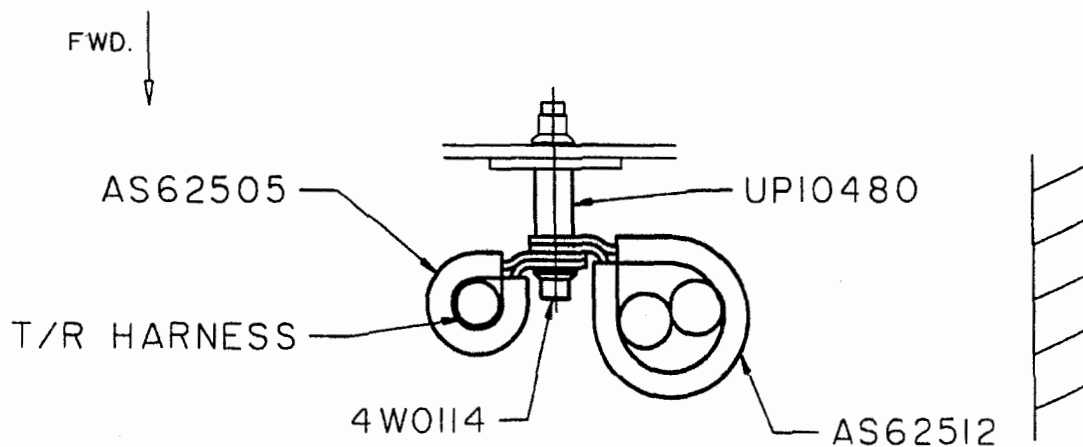


International Aero Engines

SERVICE BULLETIN



CLIP POINT 2351LH BEFORE ALTERATION



CLIP POINT 2351LH AFTER ALTERATION

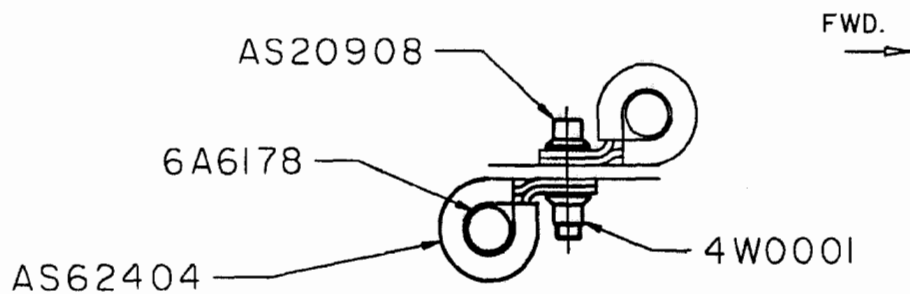
Figure 28
Clip point 2351L - Before and after alteration

dec0002965

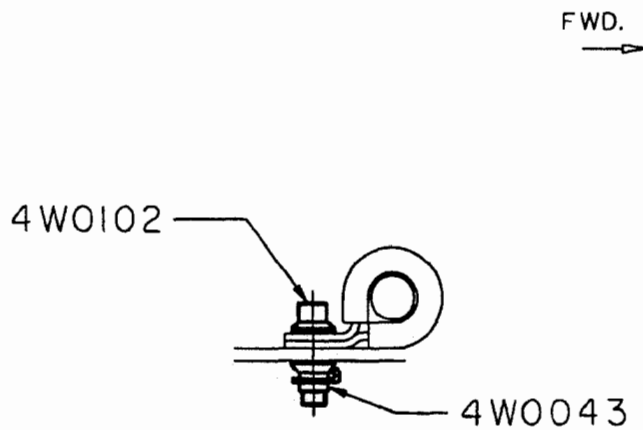


International Aero Engines

SERVICE BULLETIN

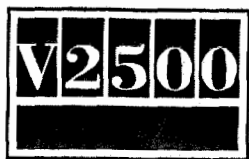


CLIP POINT 2444 BEFORE ALTERATION



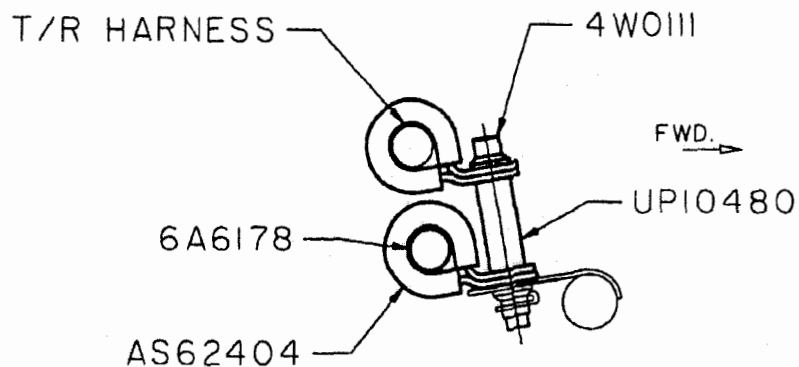
CLIP POINT 2444 AFTER ALTERATION

Figure 29
Clip point 2444 - Before and after alteration



International Aero Engines

SERVICE BULLETIN



CLIP POINT 2512LH BEFORE ALTERATION



CLIP POINT 2512LH AFTER ALTERATION

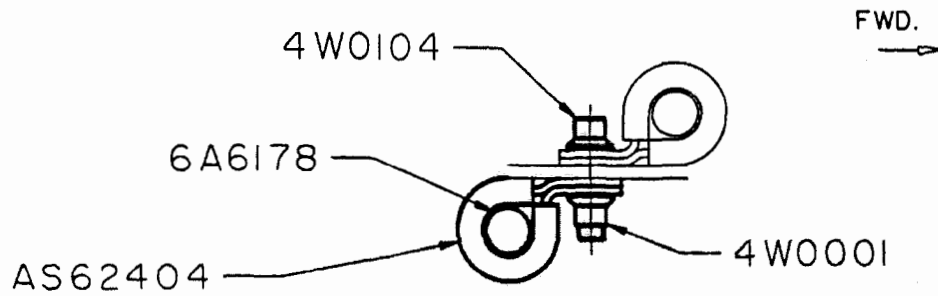
THIS CLIP POINT IS DELETED FOR NEUTRAL INSTALLATION

ded0002967

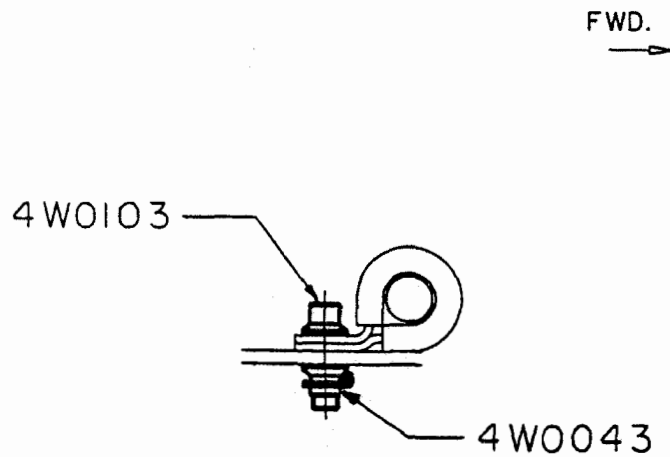
Figure 30
Clip point 2512L - Before and after alteration



International Aero Engines
SERVICE BULLETIN



CLIP POINT 2513RH BEFORE ALTERATION



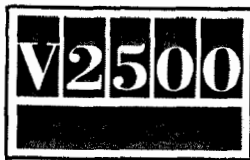
CLIP POINT 2513RH AFTER ALTERATION

Figure 31
Clip point 2513R - Before and after alteration

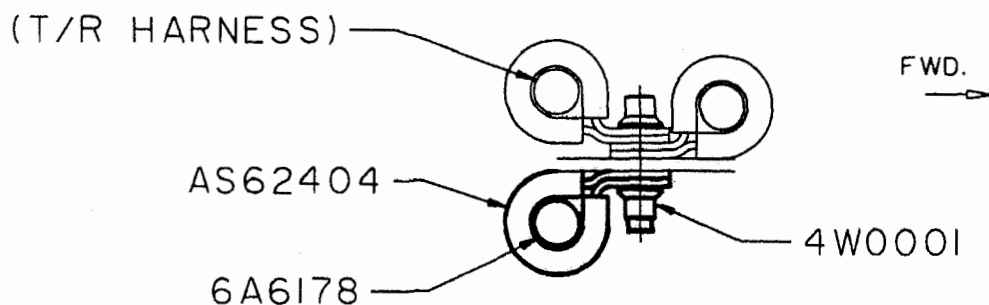
V2500-ENG-73-0130

Page 70

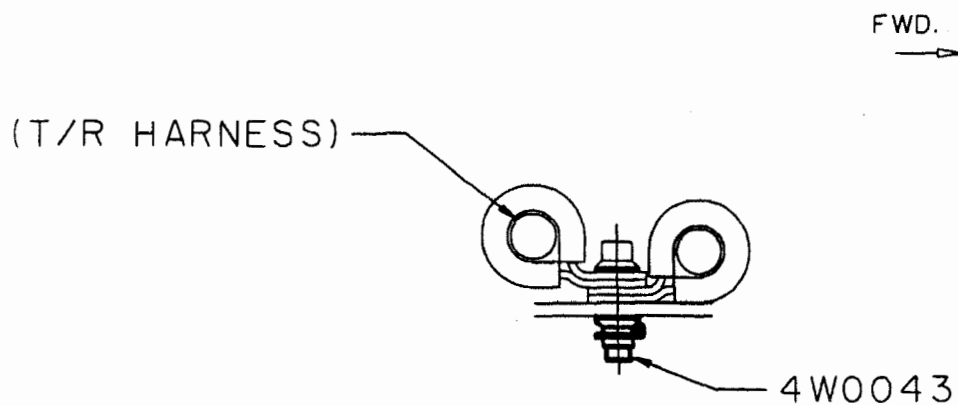
Nov. 13/98



International Aero Engines
SERVICE BULLETIN



CLIP POINT 2513LH BEFORE ALTERATION

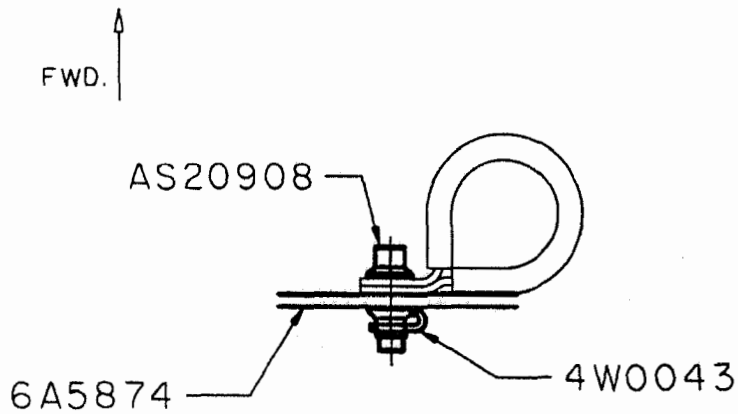


CLIP POINT 2513LH AFTER ALTERATION

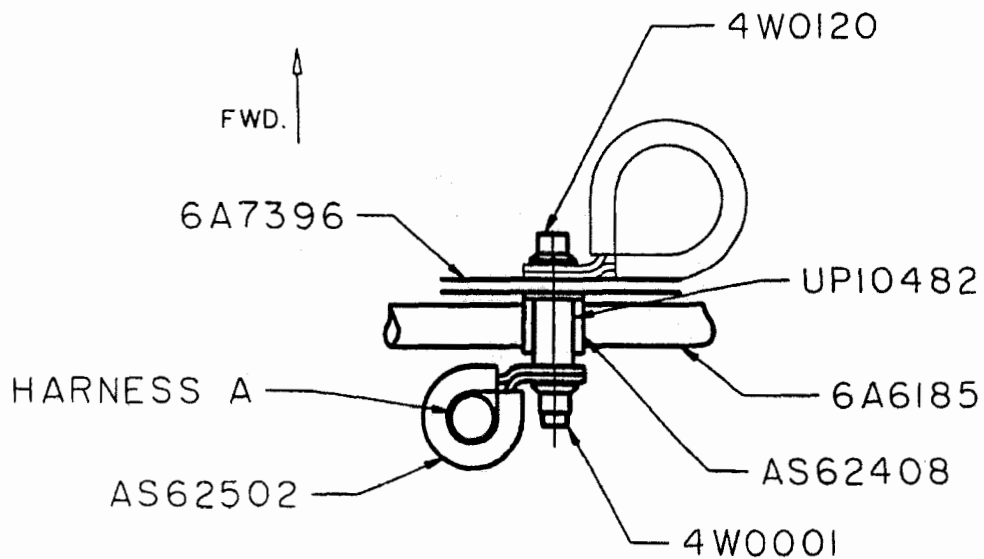
Figure 32
Clip point 2513L - Before and after alteration



International Aero Engines
SERVICE BULLETIN

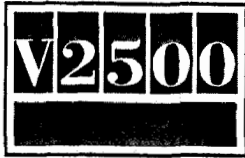


CLIP POINT 2636 BEFORE ALTERATION



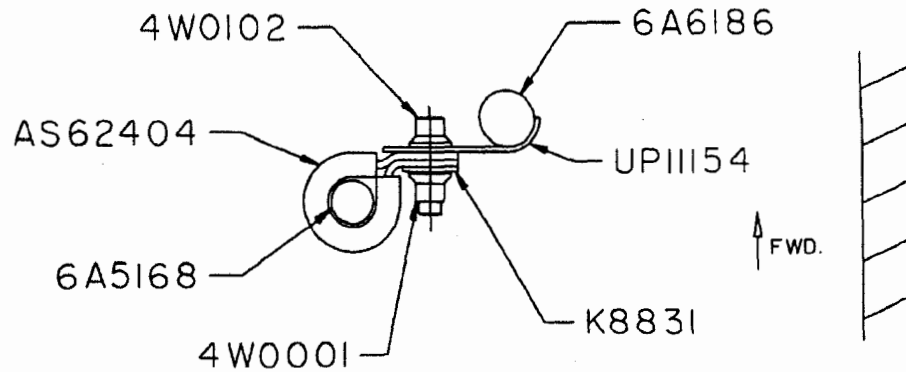
CLIP POINT 2636 AFTER ALTERATION

Figure 33
Clip point 2636 - Before and after alteration

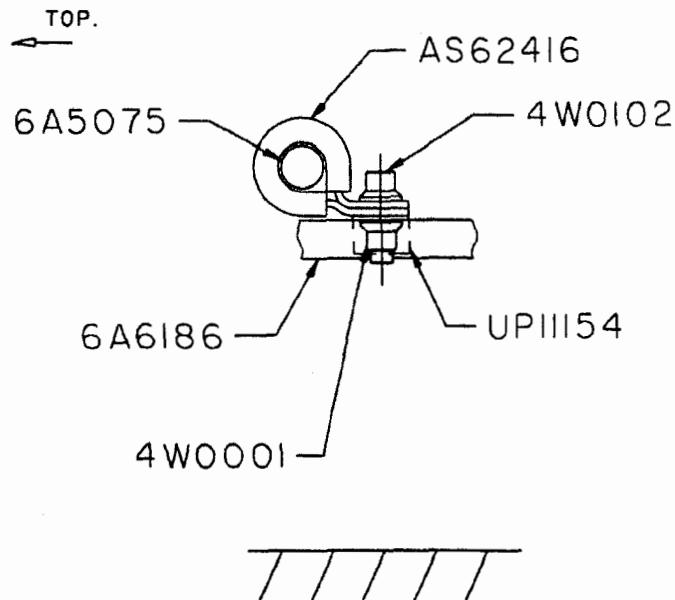


International Aero Engines

SERVICE BULLETIN



CLIP POINT 2688 ADDED



VIEW LOOKING FORWARD
CLIP POINT 2689 ADDED

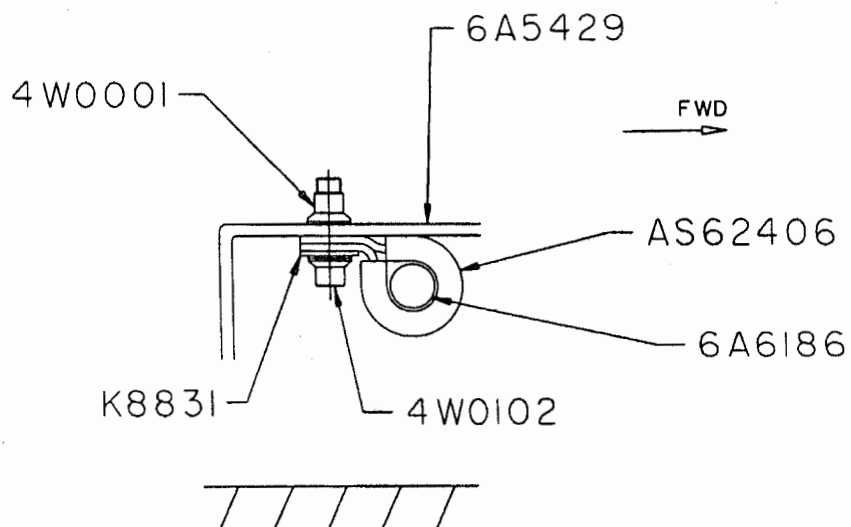
Figure 34
Clip point 2688 and 2689 - Added

ded0002971

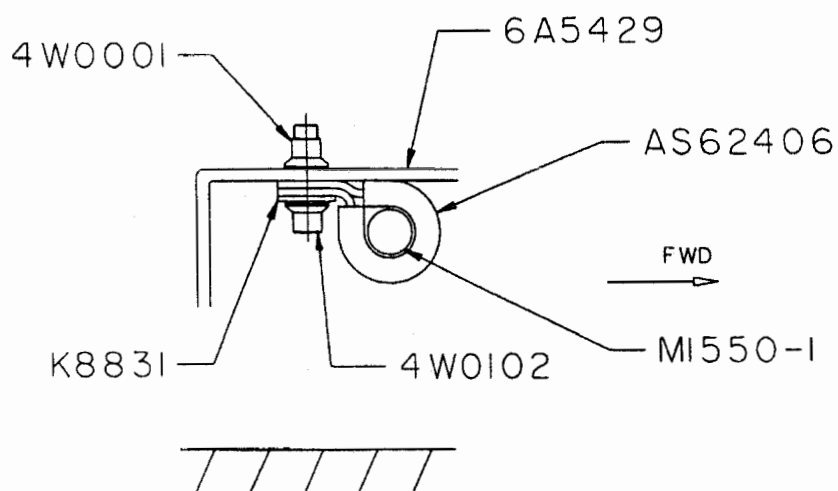


International Aero Engines

SERVICE BULLETIN



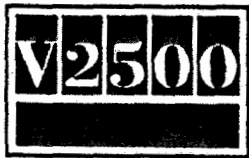
CLIP POINT 2690 ADDED



CLIP POINT 2691 ADDED

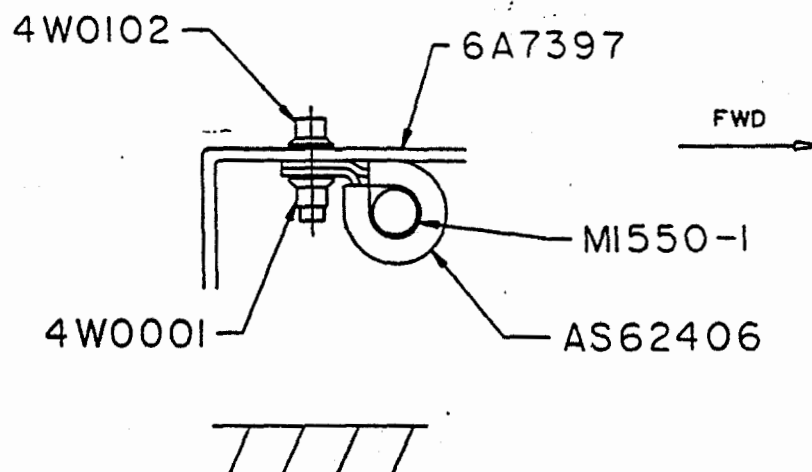
Figure 35
Clip point 2690 and 2691 - Added

ded0002972

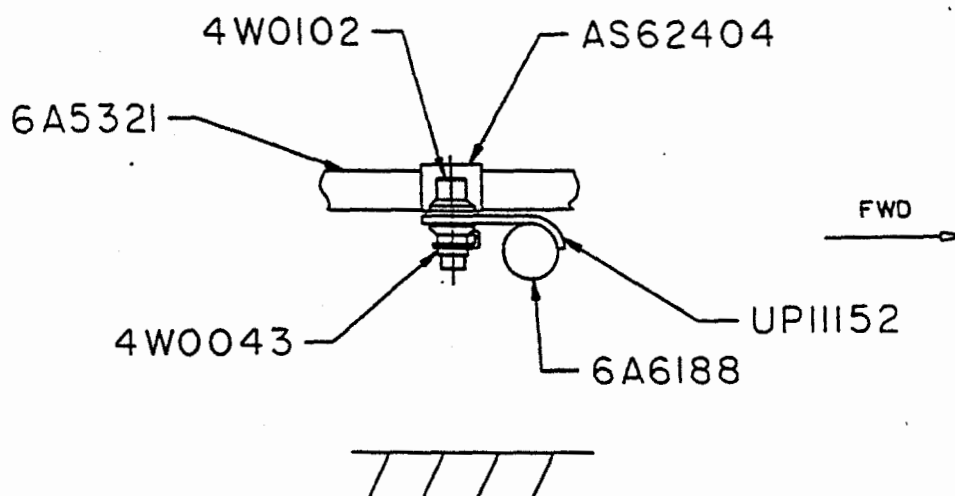


International Aero Engines

SERVICE BULLETIN

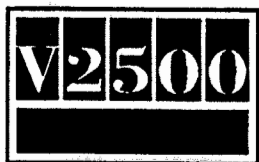


CLIP POINT 2692 ADDED

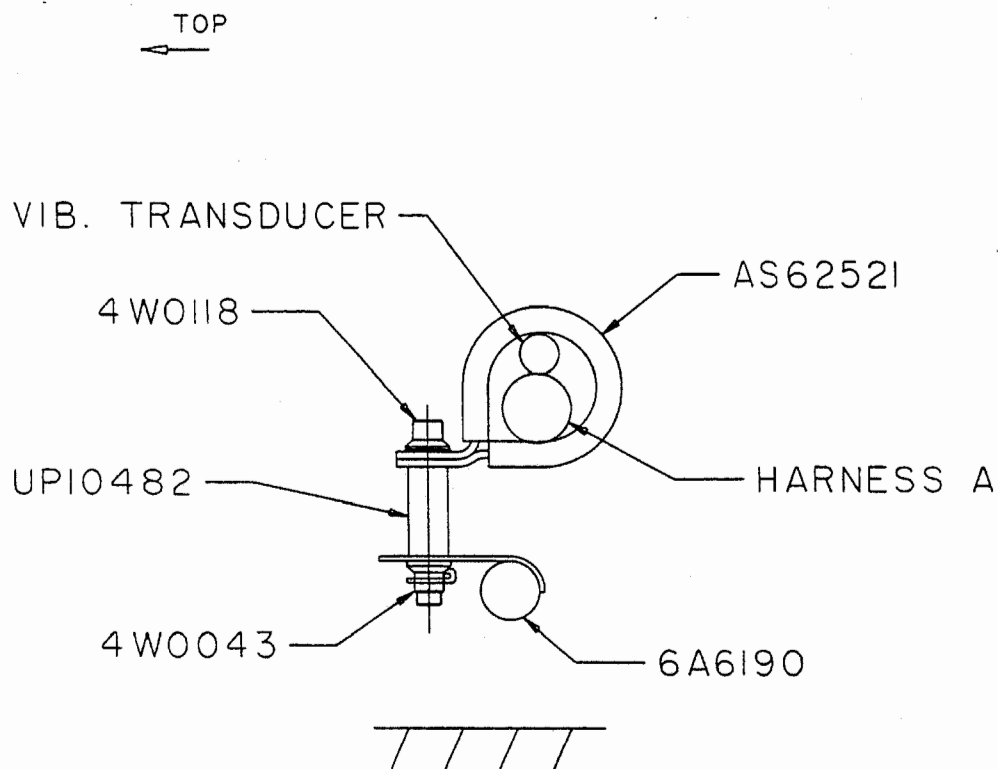


CLIP POINT 2693 ADDED

Figure 36
Clip point 2692 and 2693 - Added



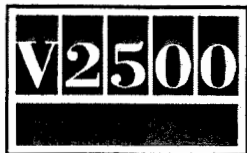
International Aero Engines
SERVICE BULLETIN



VIEW LOOKING FORWARD
CLIP POINT 2694 ADDED

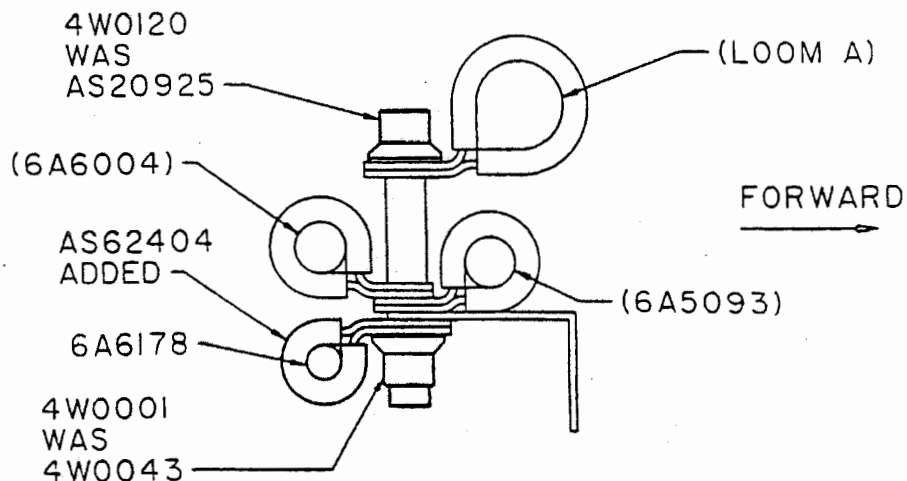
Figure 37
Clip point 2694 - Added

ded0003182

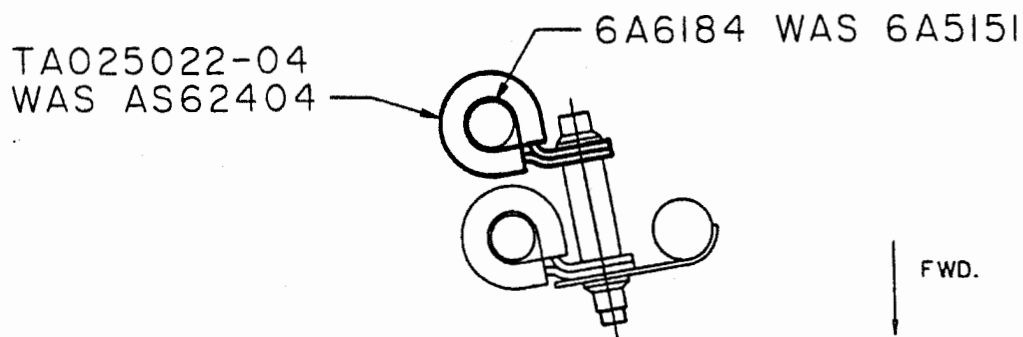


International Aero Engines

SERVICE BULLETIN



CLIP POINT 2038 BEFORE (PRE SB ENG 73-0105) AND AFTER ALTERATION



CLIP POINT 7066 BEFORE AND AFTER ALTERATION

Figure 38

Clip points 2038 and 7066 - Before and after alteration

ded0002975

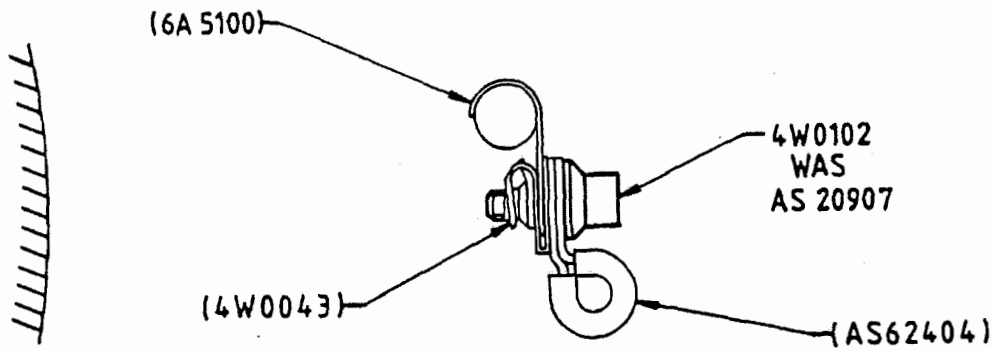
Nov. 13/98

V2500-ENG-73-0130

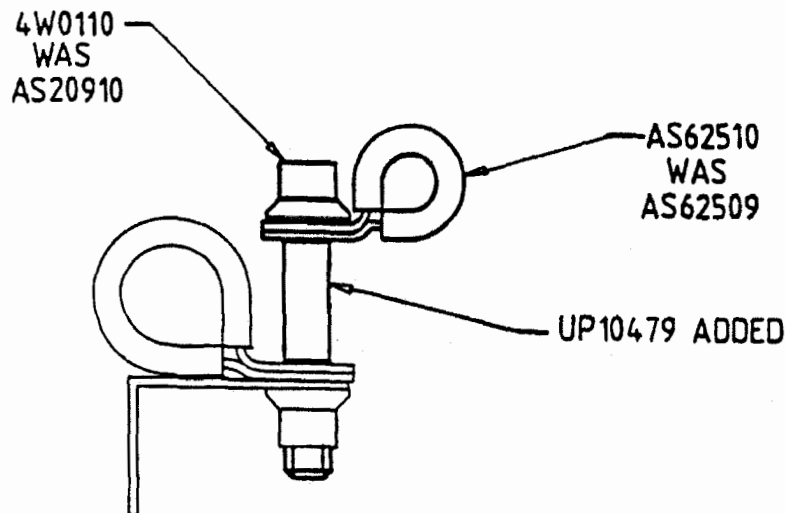
Page 77



International Aero Engines
SERVICE BULLETIN



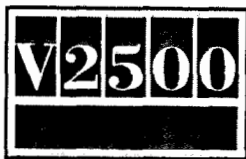
CLIP POINT 2168 BEFORE (PRE SB ENG 73-0105) AND AFTER ALTERATION



CLIP POINT 2486 BEFORE (PRE SB ENG 73-0105) AND AFTER ALTERATION

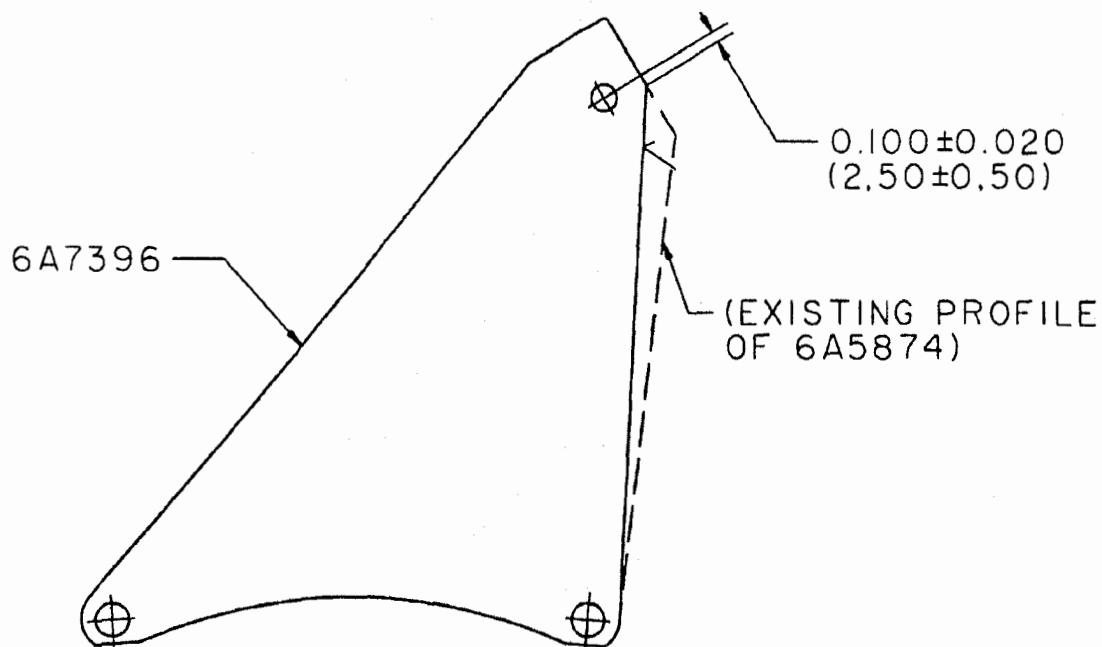
ded0002976

Figure 39
Clip points 2168 and 2486 - Before and after alteration



International Aero Engines

SERVICE BULLETIN



REMOVE MATERIAL WHERE SHOWN ✓

REMOVE BURRS AND
BREAK SHARP EDGES

DIMENSIONS IN INCHES (MILLIMETRES)

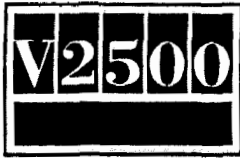
ded0002977

Figure 40
Clipping bracket 6A7396 - Before and after rework

Nov. 13/98

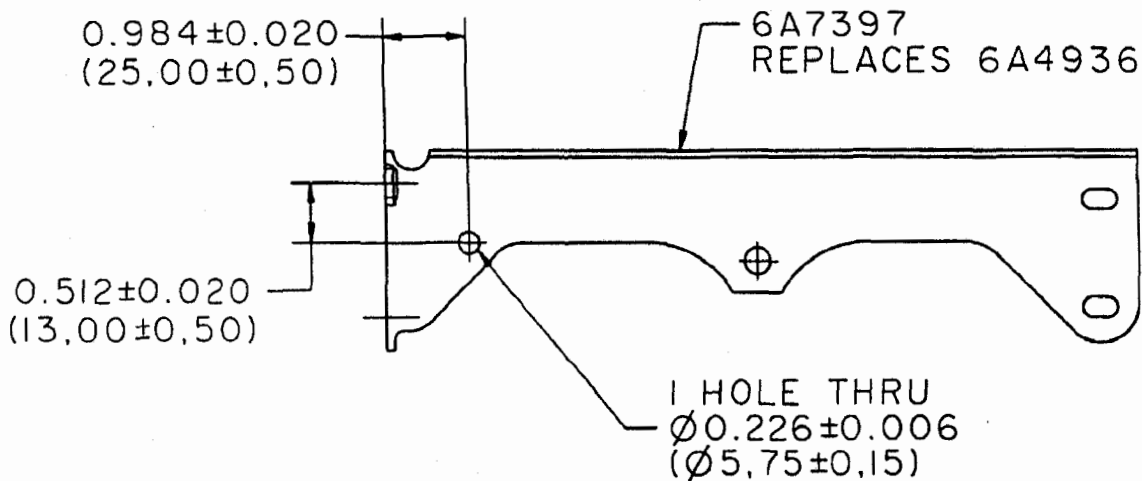
V2500-ENG-73-0130

Page 79



International Aero Engines

SERVICE BULLETIN



ADD HOLE SHOWN

REMOVE BURRS AND
BREAK SHARP EDGES

DIMENSIONS IN INCHES (MILLIMETRES)

ded0002978

Figure 41
Clipping bracket 6A7397 - After rework

Nov. 13/98

V2500-ENG-73-0130

Page 80