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V2500-A1/A5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits Revision 5 to Service Bulletin V2500-ENG-71-0177

Document History

Service Bulletin Revision Status

Supplement Revision Status

Initial Issue	Jun.30/03
Revision 1	May 26/04
Revision 2	Jun.24/04
Revision 3	Jul. 1/04
Revision 4	Feb. 9/06

Service Bulletin Revision 5

Remove	Incorporate	Reason for change
All pages of the Service Bulletin	Pages 1 to 35 of the Service Bulletin	To change the disposition codes in the Material Information section, all Illustrations and to apply editorial changes.

V2500-ENG-71-0177

Transmittal - Page 1 of 1

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED

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ENGINE – POWERPLANT – EEC AND IGNITION SUPPLY HARNESS – THRUST REVERSER CONTROL VALVE
CABLES – REROUTE OF

1. Planning Information

A. Effectivity

(1) Aircraft:

- (a) Airbus A319
- (b) Airbus A320
- (c) Airbus A321

(2) Engine:

- (a) ALL V2500-A1 Engines.
- (b) V2522-A5 Engines Prior to V10190 except V10117, V10118, V10127 and V10128.
- (c) V2524-A5 Engines Prior to V10190 except V10117, V10118, V10127 and V10128.
- (d) V2527-A5 Engines Prior to V10190 except V10117, V10118, V10127 and V10128.
- (e) V2527E-A5 Engines Prior to V10190 except V10117, V10118, V10127 and V10128.
- (f) V2530-A5 Engines Prior to V10190 except V10117, V10118, V10127 and V10128.

B. Reason

(1) Condition

An FAA audit has highlighted the possibility that under adverse conditions electrical contact may occur between the Thrust Reverser control valve cables. This may cause inadvertent deployment of the Thrust Reverser.

(2) Background

The FAA has highlighted the possibility of a Thrust Reverser malfunction due to electrical contact between the control valve cables.

(3) Objective

To separate the cables that operate the Thrust Reverser control valve (Channels 'A' and 'B') and so prevent inadvertent operation of the Thrust Reverser.

(4) Substantiation

Trial installation of the new configuration has been shown to be satisfactory (Ref: Service Bulletin V2500-ENG-71-0165; ENGINE - INTRODUCE A NEW EEC AND IGNITION SUPPLY HARNESS, FOR CONTROLLED SERVICE USE).

(5) Effect of Bulletin on:

(a) Removal/Installation

Affected

(b) Disassembly/Assembly

Not affected

(c) Cleaning

Not affected

(d) Inspection/Check

Not affected.

(e) Repair

Not affected.

(f) Testing

Not affected.

(6) Supplemental Information

The A320/V2500-A1, A320/A321/V2500-A5 Engine Manual (E-V2500-1IA) Chapter 72-00-32 will be revised to include the new installation instructions.

C. Description

(1) The changes introduced by this Service Bulletin are as follows:

- (a) The Thrust Reverser control valve cables are disconnected from their connectors, cut and the ends capped. Two new harnesses (Channel A and B) are introduced and routed separately. The new cables are connected in place of the old cables.

(b) Eight new clipping points and a new clipping point support bracket are introduced.

(c) Various clipping points are modified.

(d) A new raceway and two new support brackets are introduced.

(e) A new raft assembly and support bracket is introduced.

D. Approval

R The technical content of this Service Bulletin has been approved under the
R authority of the EASA Design Organization Approval No. EASA.21J.031.

R The authorizing IAE documents are EC 92VN020/E/-01/F/-01/G/H/J.

R In addition, the part number changes and/or part modifications that are given
R in sections 2 and 3 of this Service Bulletin comply with the applicable Federal
R Aviation Regulations and are FAA approved for the engine models listed.

R E. Compliance

R Category 3

R Accomplish within 5 years or at the next engine shop visit, whichever occurs
R earlier.

F. Manpower

(1) In shop

(a) To embody

Not applicable (Parts are accessible at overhaul).

G. Material Cost and Availability

The parts to accomplish this Service Bulletin are available from the manufacturer as Kit No. V2571177-553.

NOTE: Operators who have previously received V2571177-551 kits will require two free of charge (FOC) supplemental parts to amend the previously issued kits. Affected operators should submit a FOC purchase order, referencing SB V2500-ENG-71-0177, to Goodrich Aerostructures equal to the quantity of -551 kits previously received.

Operators with units listed in Paragraph 1.A should submit a charge purchase order for the applicable quantity of kits. The purchase order must specify this Service Bulletin number and the parts listed therein. Operators will have one year from the issue date of this Service Bulletin to place an order. After one year, kits will no longer be available and operators will have to order parts individually at catalog prices.

Direct request to:

Goodrich Aerostructures

850 Lagoon Drive

Chula Vista, CA 91910-2098 USA

Attn: Regional Business Manager - MZ-107A (Service Bulletin No. V2500-ENG-71-0177).

H. Tooling Cost and Availability

None required.

I. Weight and Balance

(1) Weight Change

Plus 1.3 lbs

(2) Moment Arm

No effect

(3) Datum

Engine Front Mount Centreline (Powerplant Station - PPS 100.00)

J. Electrical Load Data

Not affected.

K. References

- (1) A320/V2500-A1, A320/A321/V2500-A5 Engine Manual (E-V2500-1IA) Chapter/Section 72-00-32.
- (2) A320/V2500-A1, A320/A321/V2500-A5 Standard Practices/Processes Manual (SPP-V2500-1IA) Chapter/Section 70-43-02.
- (3) Component Maintenance Manual (EHC-V2500-1IA) Chapter/Section 71-51-42.
- (4) Aircraft Modification Number 26084.

- (5) Overhaul Processes and Consumables Index (PCI-V2500-1IA).
- (6) Internal Reference No. - 92VN020/E/-01/F/-01/G/H/J.
- (7) ATA Locator - 71-00-00 and 77-00-00.
- (8) Airbus Service Bulletin A320-78-1026.

L. Other Publications Affected

- (1) A319/A320/A321/V2500-A5 Engine Illustrated Parts Catalog (All Variants)
Chapter/Section 71-51-42 and 77-32-43 will be revised.
- (2) A320/V2500-A1 Engine Illustrated Parts Catalog (S-V2500-1IA)
Chapter/Section 71-51-42 and 77-32-43 will be revised.

2. Material Information

A. Kits associated with this Bulletin:

Applicability: For each V2500-A1 or V2500-A5 Engine to incorporate this Bulletin

NEW PART NO.	QTY	EST UNIT PRICE (\$)	PART TITLE	INSTR DISP
V2571177-553	1	7118.00	Kit, Rework of the EEC (A) and Ignition Supply Harness	
Consisting of:				
EJS26012-20F1	10M		Cable	
Superpole 3	1,5M		Sleeving	
TMS CM20	1		50mm Cable ident sleeve	
3/16 HTMS	2		Cable ident sleeve	
3/16 HTMS	2		Cable ident sleeve	
3/16 HTMS	2		Cable ident sleeve	
3/16 HTMS	2		Cable ident sleeve	
1/8 HTMS	2		Contact ident sleeve	
1/8 HTMS	2		Contact ident sleeve	
1/8 HTMS	2		Contact ident sleeve	
1/8 HTMS	2		Contact ident sleeve	
3/16	A/R		Slleaving, heat shrink	
ESC30S16BC	6		Contact	
8533-1002	2		Contact	
4W0106	3		Bolt	
ST1698D47	3		Spacer	
TA025074-02	13		'P' Clip	
AS21415	1		Bolt	
ST1698D48	1		Spacer	
AS21416	1		Bolt	
4W0001	8		Nut	
AS21418	1		Bolt	
ST1698D49	1		Spacer	
SP154D	10		Washer	
4W0103	7		Bolt	
4W0104	2		Bolt	
TA025074-11	1		'P' Clip	
745-5496-501	1		Raceway	
745-5494-501	1		Raft	
4W0164	7		Bolt	
4W0002	7		Nut	
740-5429-501	1		Bracket	
745-5495-501	1		Bracket	
740-5426-501	2		Bracket	
740-5439-507	1		Bracket	

NEW PART NO.	QTY	EST UNIT PRICE (\$)	PART TITLE	INSTR DISP
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4W0165	2		Bolt	
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NOTE: All operators who have previously purchased the discontinued V2571177-551 Kit will also require two FOC parts to supplement the previously delivered kits. Affected operators should submit a FOC purchase order for the following two parts:

Additional Parts Required (per each V2571177-551 kit):	Supplemental Parts, Rework of EEC and Ignition Supply Harness
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740-5426-501	1	Bracket	(B)
Superpole 3	1M	Sleeving	(B)

B. Parts affected by this Bulletin

V2500-A1

71-51-42

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R 01005	740-5870-9003	REF	.Harness, EEC and Ignition Supply	740-5870-503	(C)(S1)
R 01005	740-5870-9005	REF	.Harness, EEC and Ignition Supply	740-5870-505	(C)(S1)
R 01005	740-5870-9007	REF	.Harness, EEC and Ignition Supply	740-5870-507	(C)(S1)
R 01005	740-5870-9011	REF	.Harness, EEC and Ignition Supply	740-5870-511	(C)(S1)
R 01005	740-5870-9013	REF	.Harness, EEC and Ignition Supply	740-5870-513	(C)(S1)
R 01005	745-5870-503	1	.Harness, EEC and Ignition Supply	740-5870-513	(B)(S1)
01158	4W0106	1	.Bolt CP0817	4W0103	(B)(S1)
01162	ST1698D47	1	.Spacer CP0817	-	(B)(S1)
01163	TA025074-02	1	.'P' Clip	-	(B)(S1)
01166	AS21415	1	.Bolt CP0818	4W0104	(B)(S1)
01170	ST1698D48	1	.Spacer CP0818	-	(B)(S1)
01171	TA025074-02	1	.'P' Clip CP0818	-	(B)(S1)
01246	AS21416	1	.Bolt CP0862	AS21414	(B)(S1)
01251	TA025074-02	1	.'P' Clip CP0862	-	(B)(S1)
01253	4W0001	1	.Nut, Option CP0862	AS41104	(B)(S1)
01440	AS21418	1	.Bolt CP1207	-	(B)(S1)
01443	TA025074-02	1	.'P' Clip CP1207	-	(B)(S1)



FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
01445	ST1698D49	1	.Spacer CP1207	-	(B)(S1)
01448	SP154D	1	.Washer CP1207	-	(B)(S1)
01449	4W0001	1	.Nut, Option CP1207	-	(B)(S1)
01450	4W0106	1	.Bolt CP1208	4W0103	(B)(S1)
01454	TA025074-02	1	.'P' Clip CP1208	-	(B)(S1)
01455	ST1698D47	1	.Spacer CP1208	-	(B)(S1)
01458	SP154D	1	.Washer CP1208	-	(B)(S1)
01459	4W0001	1	.Nut, Option CP1208	-	(B)(S1)
01460	4W0103	1	.Bolt CP1209	-	(B)(S1)
01463	TA025074-02	1	.'P' Clip CP1209	-	(B)(S1)
01465	SP154D	1	.Washer CP1209	-	(B)(S1)
01467	4W0001	1	.Nut, Option CP1209	-	(B)(S1)
01468	4W0103	1	.Bolt CP1210	-	(B)(S1)
01471	TA025074-02	1	.'P' Clip CP1210	-	(B)(S1)
01473	SP154D	1	.Washer CP1210	-	(B)(S1)
01475	4W0104	1	.Bolt CP1211	-	(B)(S1)
01478	TA025074-02	1	.'P' Clip CP1211	-	(B)(S1)
01480	TA025074-11	1	.'P' Clip CP1211	-	(B)(S1)
01483	SP154D	1	.Washer CP1211	-	(B)(S1)
01484	4W0001	1	.Nut, Option CP1211	-	(B)(S1)
01485	4W0106	1	.Bolt CP1212	4W0103	(B)(S1)
01488	TA025074-02	1	.'P' Clip CP1212	TA025074-12	(B)(S1)
01489	ST1698D47	1	.Spacer CP1212	-	(B)(S1)
01491	SP154D	1	.Washer CP1212	-	(B)(S1)
01495	TA025074-02	1	.'P' Clip CP1213	-	(B)(S1)
01500	TA025074-02	1	.'P' Clip CP1214	-	(B)(S1)
01505	TA025074-02	1	.'P' Clip CP0877	-	(B)(S1)
01510	TA025074-02	1	.'P' Clip CP0879	-	(B)(S1)
05600	745-5496-501	1	.Raceway	-	(B)(S1)
05602	4W0103	2	.Bolt	-	(B)(S1)
05607	4W0001	2	.Nut, Option	-	(B)(S1)
05610	745-5494-501	1	.Raft CP1209, CP1210	-	(B)(S1)
05612	4W0103	1	.Bolt CP1209	-	(B)(S1)
05615	4W0001	1	.Nut, Option	-	(B)(S1)
05616	4W0164	1	.Bolt	-	(B)(S1)
05618	4W0002	1	.Nut, Option	-	(B)(S1)
05620	740-5429-501	1	.Bracket	-	(B)(S1)
05624	4W0002	2	.Nut, Option	-	(B)(S1)
05628	4W0164	2	.Bolt	-	(B)(S1)
05630	745-5495-501	1	.Bracket	-	(B)(S1)
05634	4W0002	2	.Nut, Option	-	(B)(S1)
05638	4W0164	2	.Bolt	-	(B)(S1)
05640	740-5426-501	1	.Bracket, Raceway Support	-	(B)(S1)
05644	4W0002	2	.Nut, Option	-	(B)(S1)
05648	4W0164	2	.Bolt	-	(B)(S1)



FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
05650	740-5426-501	1	.Bracket, Raceway Support	-	(B)(S1)
05900	740-5439-507	1	.Bracket, Raft	740-5439-505	(B)(S1)
05914	4W0103	2	.Bolt CP1213, CP1214	4W0104	(B)(S1)

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FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
01118	4W0104	1	.Bolt CP0877	4W0105	(B)(S1)
01119	SP154D	2	.Washer CP0877	SP154D	(B)(S1)
02127	SP154D	2	.Washer CP0879	-	(B)(S1)
05064	4W0165	2	.Bolt CP0891	-	(B)(S1)

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71-51-42

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R 01005	740-5870-9011	REF	.Harness, EEC and Ignition Supply	740-5870-511	(C)(S1)
R 01005	740-5870-9013	REF	.Harness, EEC and Ignition Supply	740-5870-513	(C)(S1)
01005	745-5870-503	1	.Harness, EEC and Ignition Supply	745-5870-501	(B)(S1)
01158	4W0106	1	.Bolt CP0817	4W0103	(B)(S1)
01162	ST1698D47	1	.Spacer CP0817	-	(B)(S1)
01163	TA025074-02	1	. 'P' Clip	-	(B)(S1)
01166	AS21415	1	.Bolt CP0818	4W0104	(B)(S1)
01170	ST1698D48	1	.Spacer CP0818	-	(B)(S1)
01171	TA025074-02	1	. 'P' Clip CP0818	-	(B)(S1)
01246	AS21416	1	.Bolt CP0862	AS21414	(B)(S1)
01251	TA025074-02	1	. 'P' Clip CP0862	-	(B)(S1)
01253	4W0001	1	.Nut, Option CP0862	AS41104	(B)(S1)
01440	AS21418	1	.Bolt CP1207	-	(B)(S1)
01443	TA025074-02	1	. 'P' Clip CP1207	-	(B)(S1)
01445	ST1698D49	1	.Spacer CP1207	-	(B)(S1)
01448	SP154D	1	.Washer CP1207	-	(B)(S1)
01449	4W0001	1	.Nut, Option CP1207	-	(B)(S1)
01450	4W0106	1	.Bolt CP1208	4W0103	(B)(S1)
01454	TA025074-02	1	. 'P' Clip CP1208	-	(B)(S1)
01455	ST1698D47	1	.Spacer CP1208	-	(B)(S1)



FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
01458	SP154D	1	.Washer CP1208	-	(B)(S1)
01459	4W0001	1	.Nut, Option CP1208	-	(B)(S1)
01460	4W0103	1	.Bolt CP1209	-	(B)(S1)
01463	TA025074-02	1	.'P' Clip CP1209	-	(B)(S1)
01465	SP154D	1	.Washer CP1209	-	(B)(S1)
01467	4W0001	1	.Nut, Option CP1209	-	(B)(S1)
01468	4W0103	1	.Bolt CP1210	-	(B)(S1)
01471	TA025074-02	1	.'P' Clip CP1210	-	(B)(S1)
01473	SP154D	1	.Washer CP1210	-	(B)(S1)
01475	4W0104	1	.Bolt CP1211	-	(B)(S1)
01478	TA025074-02	1	.'P' Clip CP1211	-	(B)(S1)
01480	TA025074-11	1	.'P' Clip CP1211	-	(B)(S1)
01483	SP154D	1	.Washer CP1211	-	(B)(S1)
01484	4W0001	1	.Nut, Option CP1211	-	(B)(S1)
01485	4W0106	1	.Bolt CP1212	4W0103	(B)(S1)
01488	TA025074-02	1	.'P' Clip CP1212	TA025074-12	(B)(S1)
01489	ST1698D47	1	.Spacer CP1212	-	(B)(S1)
01491	SP154D	1	.Washer CP1212	-	(B)(S1)
01495	TA025074-02	1	.'P' Clip CP1213	-	(B)(S1)
01500	TA025074-02	1	.'P' Clip CP1214	-	(B)(S1)
01505	TA025074-02	1	.'P' Clip CP0877	-	(B)(S1)
01510	TA025074-02	1	.'P' Clip CP0879	-	(B)(S1)
05600	745-5496-501	1	.Raceway	-	(B)(S1)
05602	4W0103	2	.Bolt	-	(B)(S1)
05607	4W0001	2	.Nut, Option	-	(B)(S1)
05610	745-5494-501	1	.Raft CP1209, CP1210	-	(B)(S1)
05612	4W0103	1	.Bolt CP1209	-	(B)(S1)
05615	4W0001	1	.Nut, Option	-	(B)(S1)
05616	4W0164	1	.Bolt	-	(B)(S1)
05618	4W0002	1	.Nut, Option	-	(B)(S1)
05620	740-5429-501	1	.Bracket	-	(B)(S1)
05624	4W0002	2	.Nut, Option	-	(B)(S1)
05628	4W0164	2	.Bolt	-	(B)(S1)
05630	745-5495-501	1	.Bracket	-	(B)(S1)
05634	4W0002	2	.Nut, Option	-	(B)(S1)
05638	4W0164	2	.Bolt	-	(B)(S1)
05640	740-5426-501	1	.Bracket, Raceway Support	-	(B)(S1)
05644	4W0002	2	.Nut, Option	-	(B)(S1)
05648	4W0164	2	.Bolt	-	(B)(S1)
05650	740-5426-501	1	.Bracket, Raceway Support	-	(B)(S1)
05900	740-5439-507	1	.Bracket, Raft	740-5439-505	(B)(S1)
05914	4W0103	2	.Bolt CP1213, CP1214	4W0104	(B)(S1)

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FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
01118	4W0104	1	.Bolt CP0877	4W0105	(B)(S1)
01119	SP154D	2	.Washer CP0877	SP154D	(B)(S1)
02127	SP154D	2	.Washer CP0879	-	(B)(S1)
05064	4W0165	2	.Bolt CP0891	-	(B)(S1)

C. Instructions/Disposition Codes Statements:

(A) Kit is available.

(B) New part is available.

R (C) Old part can be reworked to new part as instructed by this Service
R Bulletin.

(S1) New parts coded (S1) must replace old parts coded (S1) as a complete set.

R NOTE: The estimated 2006 Unit Price shown is provided for planning purposes
only and does not constitute a firm quotation. Consult the Goodrich
Price Catalog or contact the Goodrich Spare Parts Sales Department for
information concerning firm prices.

D. Materials required to incorporate this Service Bulletin:

CoMat 02-146 - Lockwire

CoMat 02-148 - Tape Adhesive

CoMat 02-159 - Lacing Tape

CoMat 06-131 - Marking Pen

CoMat 07-084 - Silicone Varnish

NOTE: To identify the consumable materials, refer to the Overhaul Processes
and Consumables Index PCI-V2500-1IA.

3. Accomplishment Instructions

A. Rework Instructions

WARNING:

PUT ON PROTECTIVE GOGGLES WHEN YOU CUT THE LOCKWIRE. PIECES OF THE LOCKWIRE CAN CAUSE DAMAGE TO YOUR EYES.

- (1) Cut and remove the lockwire from the screws, coupling nut and shell on the 4101KS-A connector as shown. (Refer to Figure 1 Sheets 1, 2 and 3).
- (2) Remove the screws and the strain relief clamp from the coupling nut as shown.
- (3) Remove the coupling nut from the shell and the shell from the connector as shown. Use a PN BT-BS-611 or BT-70 Strap Wrench or equivalent. This will give access to the cables and contacts in the connector.
- (4) Remove contacts number 4 and 5 (cables 8T044W20 and 8T043W20) from the 4101KS-A connector as shown with the M81969/14-03 insertion/extraction tool (white end). (Refer to Figure 1 Sheet 4).
- (5) Cut off the contacts and cap the cables with heat shrink sleeving as shown. (Refer to Figure 1 Sheet 5).
- (6) Do steps 3.A. (1) thru (3) for the 402VC-A connector.
- (7) Remove contact number 8 (cable 8T044W20) from the 402VC-A connector as shown with the M81969/14-03 insertion/extraction tool (white end).
- (8) Cut off the contact and cap the cable with heat shrink sleeving as shown.
- (9) Do steps 3.A. (1) thru (3) for the 4000VC-A connector.
- (10) Remove contact number 28 (cable 8T043W20) from the 4000VC-A connector as shown with the M81969/14-03 insertion/extraction tool (white end).
- (11) Cut off the contact and cap the cable with heat shrink sleeving as shown.
- (12) Do steps 3.A. (1) thru (3) for the 4101KS-B connector.
- (13) Remove contact 4 and 5 (cables 8T092W20 and 8T091W20) from the 4101KS-B connector as shown with the M81969/14-03 insertion/extraction tool (white end).
- (14) Cut off the contacts and cap the cables with heat shrink sleeving as shown.
- (15) Do steps 3.A. (1) thru (3) for the 403VC-A connector.

- (16) Remove contact number 8 (cable 8T092W20) from the 403VC-A connector as shown with the M81969/14-03 insertion/extraction tool (white end).
- (17) Cut off the contact and cap the cable with heat shrink sleeving as shown.
- (18) Do steps 3.A. (1) thru (3) for the 4001VC-A connector.
- (19) Remove contact number 28 (cable 8T091W20) from the 4001VC-A connector as shown with the M81969/14-03 insertion/extraction tool (white end).
- (20) Cut off the contact and cap the cable with heat shrink sleeving as shown.

NOTE: Do not remove the disconnected cables from the main harness or undo any of the cable ties as this may damage the harness.

- (21) Locate and remove the old cable identification sleeves. Make sure you do not damage any of the cables in the harness.
- (22) Cut the new EJS26012-20F1 cable to the correct lengths as shown. (Refer to Figure 1 Sheet 5).
- (23) Cut two 28in. (700 mm.) lengths of superpole 3 sleeving as shown.
- (24) Put the superpole 3 sleeving on the new 8T092W20 and 8T091W20 cables as shown.
- (25) Tie the 8T091W20 and 8T092W20 cables together with white lacing tape (CoMat 02-159).
- (26) Install the new cable identification sleeves on the new cables as shown with a hot air gun to deliver air between 480 and 570 Degrees F. (250 and 300 Degrees C.).
- (27) Write the cable identification numbers on the new sleeves as shown with a marking pen (CoMat 06-131).

CAUTION:

MAKE SURE THAT YOU USE THE CORRECT LOCATOR AND THAT THE CRIMP TOOL IS SET CORRECTLY. IF NOT, THE CABLE OR THE CONTACT CAN BE DAMAGED OR THE CONTACT INCORRECTLY ATTACHED TO THE CABLE.

- (28) Install the new contact identification sleeves on the new cables as shown. (Refer to Figure 1 Sheet 5).
- (29) Remove the insulation from both ends of the new 8T092W20 cables as shown with an approved stripping tool so that the remaining insulation is against the aft end of the contact. Make sure that you can see the bare wire through the inspection hole in the contact. Do not cut or nick the wire. (Refer to Figure 1 Sheet 6).

- (30) Insert a new ESC30S16BC contact into the (M22520/1-01) crimping tool and M22520/1-02 locator as shown and put one end of the bare 8T092W20 wire into the contact and crimp.
- (31) Do steps 3.A.(29) thru (30) for the new 8T091W20 cable.
- (32) Install the new 8T092W20 cable and contact into hole number 4 on the 4101KS-B connector with the (M81969/14-03) insertion/extraction tool (coloured end).
- (33) Install the new 8T091W20 cable and contact into hole number 5 on the 4101KS-B connector with the (M81969/14-03) insertion/extraction tool (coloured end).
- (34) Insert a new 8533-1002 contact into the (M22520/1-01) crimping tool and M22520/1-02 locator as shown and put the other end of the 8T092W20 wire into the contact and crimp.
- (35) Install the new 8T092W20 cable and contact into hole number 8 on the 403VC-A connector as shown with the (M81969/14-03) insertion/extraction tool (coloured end).
- (36) Insert a new ESC30S16BC contact into the (M22520/1-01) crimping tool and M22520/1-02 locator as shown and put the other end of the 8T091W20 wire into the contact and crimp.
- (37) Install the new 8T091W20 cable and contact into hole number 28 on the 4001VC-A connector as shown with the (M81969/14-03) insertion/extraction tool (coloured end).
- (38) Tie the 8T043W20 and 8T044W20 cables together with white lacing tape (CoMat 02-159).
- (39) Do step 3.A.(29) for the new 8T043W20 and 8T044W20 cables.
- (40) Insert a new ESC30S16BC contact into the (M22520/1-01) crimping tool and M22520/1-02 locator as shown and put one end of the bare 8T043W20 wire into the contact and crimp.
- (41) Install the new 8T043W20 cable and contact into hole number 5 on the 4101KS-A connector as shown with the (M81969/14-03) insertion/extraction tool (coloured end).
- (42) Insert a new ESC30S16BC contact into the (M22520/1-01) crimping tool and M22520/1-02 locator as shown and put the other end of the 8T043W20 wire into the contact and crimp.
- (43) Install the new 8T043W20 cable and contact into hole number 28 on the 4000VC-A connector as shown with the (M81969/14-03) insertion/extraction tool (coloured end).

- (44) Do Step 3.A.(40) for the new 8T044W20 cable.
- (45) Install the new 8T044W20 cable and contact into hole number 4 on the 4101KS-A connector with the (M81969/14-03) insertion/extraction tool (coloured end).
- (46) Insert a new 8533-1002 contact into the (M22520/1-01) crimping tool and M22520/1-02 locator as shown and put the other end of the 8T044W20 wire into the contact and crimp.
- (47) Install the new 8T044W20 cable and contact into hole number 8 on the 402VC-A connector as shown with the (M81969/14-03) insertion/extraction tool (coloured end).
- (48) Install the 4000VC-A connector shell to the connector as shown with a BT-BS-611 or TG-70 strap wrench. Make sure the ground shields are an equal distance apart around the shell. (Refer to Figure 1 Sheet 4).
- (49) Install the grounding ferrule along the harness as shown until it touches the ground shields. Put the ground shields through the coupling nut.
- (50) Put two drops of thread locking compound (CoMat 08-026) opposite to each other on the threads of the shell as shown and install the coupling nut.
- R (51) Torque the coupling nut and shell to 10 lbfin. (1,13 Nm)(Ref Engine Manual, TASK 70-23-11-911-010).
- (52) Wrap a few layers of tape (CoMat 02-148) over the harness and ends of the braided ground shields so that the strain relief clamping bars fit tight on the harness.
- (53) Install the strain relief clamp to the coupling nut as shown. Apply one drop of thread locking compound (CoMat 08-026) to each of the clamp screws.
- R (54) Torque the screws to between 10 and 20 lbfin. (1,13 to 2,26 Nm)(Ref Engine Manual, TASK 70-23-11-911-010).
- (55) Mark the backshells with a red marking pen (CoMat 06-131).
- (56) Do steps 3.A.(48) thru (55) for the 4101KS-A, 4101KS-B, 402VC-A, 4001VC-A and 403VC-A connectors.
- (57) Wirelock the 4101KS-A, 4101KS-B, 4000VC-A, 4001VC-A, 402VC-A and the 403VC-A connectors as shown with Lockwire (CoMat 02-146)(Ref SPP-V2500-1IA, TASK 70-42-05-400-501). Make sure that the connectors, the shells, the coupling nuts and screws are all locked. (Refer to Figure 1 Sheet 3).

- (58) Route the new cables along the main harness as shown and tie with white lacing tape (CoMat 02-159). Refer to the Standard Practices and Processes Manual (SPP-V2500-1IA) Chapter 70-43-02 for details on harness lacing. (Refer to Figure 1 Sheet 2).
- (59) Remove the main harness ident sleeve and install the new TMS CM20 ident sleeve with two cable ties or lacing tape (CoMat 02-159).
- (60) Write the harness identification number on the new sleeve with a marking pen (CoMat 06-131).

WARNING:

DO NOT GET THE SILICONE VARNISH ON YOUR SKIN OR IN YOUR EYES. PUT ON PROTECTIVE CLOTHING, GLOVES, GOGGLES AND A MASK. USE THE VARNISH IN A WELL-VENTILATED AREA. DO NOT BREATHE THE FUMES. IF YOU GET THE VARNISH ON YOUR SKIN OR IN YOUR EYES, GET MEDICAL HELP IMMEDIATELY.

- (61) Apply silicone varnish (CoMat 07-084) to the knot of each of the ties with a brush (CoMat 02-018). Refer to the Standard Practices and Processes Manual (SPP-V2500-1IA) Chapter 70-43-02 for details.
- R (62) When the silicone varnish is dry cut off the two ends of the ties approximately 0.35 in. (8 - 9 mm) from the knot.
- (63) Do a continuity and insulation test (Ref CMM-EHC-V2500-1IA TASK 71-51-42-700-301).

B. Assembly Instructions

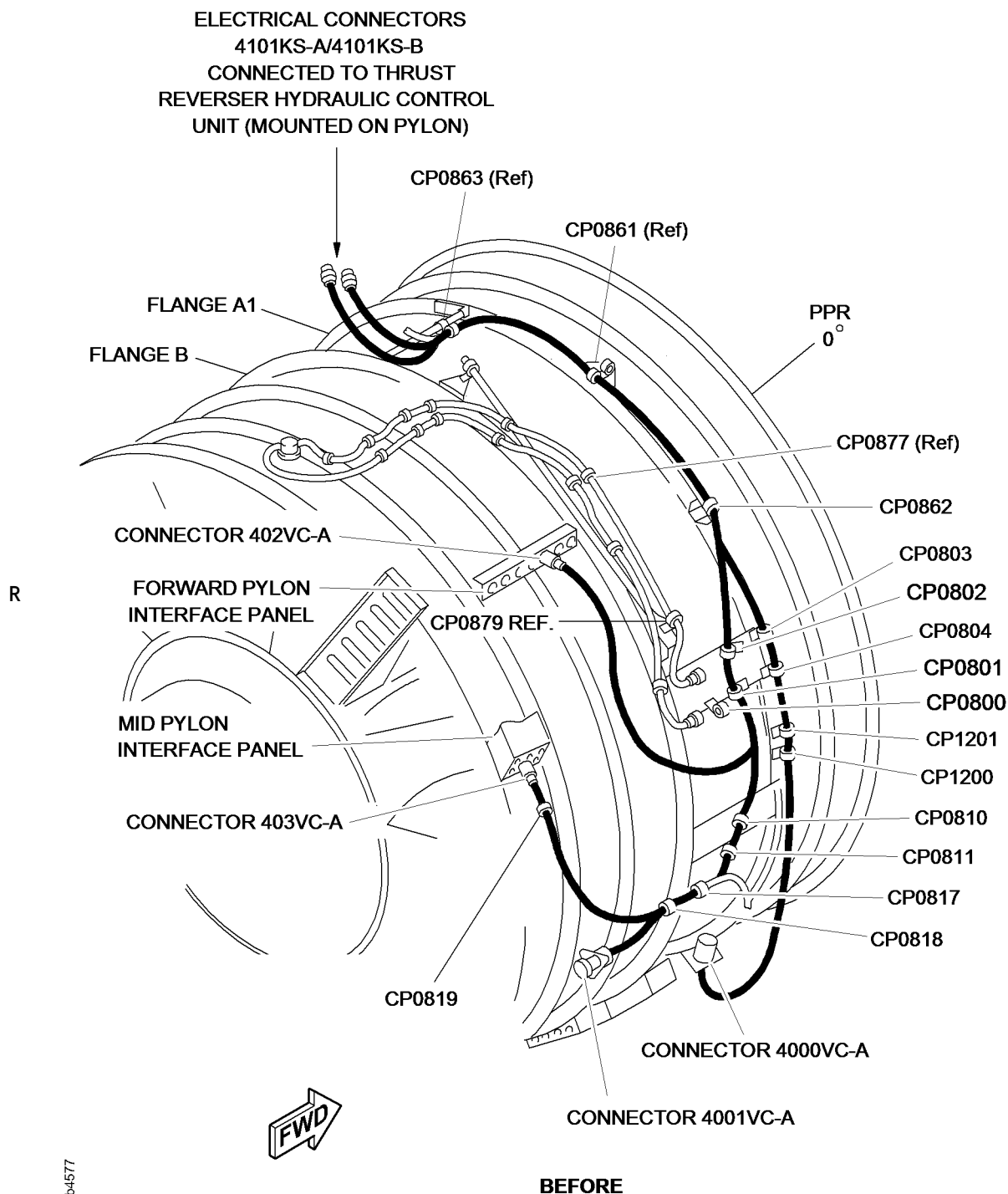
- R (1) Install the new 740-5426-501 Support Bracket on Flange 'B' as shown with two AS21510 Bolts and two AS20625 Nuts. (Refer to Figure 2 Sheet 1). Torque the bolts to 85 to 105 lbfin. (10 to 12 Nm).
- R (2) Install the new 740-5426-501 Support Bracket on Flange 'A1' as shown with two new 4W0164 Bolts and two new 4W0002 Nuts. Torque the bolts to 85 to 105 lbfin. (10 to 12 Nm).
- R (3) Install the new 745-5496-501 Raceway as shown with two new 4W0103 Bolts and two new 4W0001 Nuts. Torque the bolts to 36 to 45 lbfin. (4 to 5 Nm).
- R (4) Install the new 745-5495-501 Raft Support Bracket on Flange 'A1' as shown with two new 4W0164 Bolts and two new 4W0002 Nuts. (Refer to Figure 2 Sheet 2). Torque the bolts to 85 to 105 lbfin. (10 to 12 Nm).
- R (5) Install the new 745-5494-501 Raft Assembly to the new 745-5495-501 Support Bracket as shown with a new 4W0103 Bolt and a new 4W0002 Nut. Torque the bolt to 36 to 45 lbfin. (4 to 5 Nm)(Refer to Figure 2 Sheet 2).

- R (6) Install the other end of the new 745-5494-501 Raft Assembly to Flange 'B' as shown with two new 4W0103 Bolts and two new 4W0001 Nuts. Torque the bolts to 36 to 45 lbfin. (4 to 5 Nm).
- R (7) Install the new 740-5429-501 clipping point support bracket on Flange 'A1' as shown with two new 4W0164 Bolts and two new 4W0002 Nuts. Torque the bolts to 85 to 105 lbfin. (10 to 12 Nm).
- R (8) Install the new 740-5439-507 Bracket to the Support Bracket as shown with the two 4W0103 Bolts and the two SP155D Washers. Torque the bolts to 36 to 45 lbfin. (4 to 5 Nm). (Refer to Figure 1 Sheet 2 and Figure 2 Sheet 3).
- R (9) Install the new 740-5439-507 Bracket to Flange 'B' as shown with two 4W0164 Bolts and the two 4W0001 Nuts. Torque the bolts to 85 to 105 lbfin. (10 to 12 Nm).
- (10) Install the EEC and Ignition Supply Harness on the engine fan case (Ref Engine Manual (E-V2500-1IA) TASK 72-00-32-420-004-B00) but follow the subsequent instructions in steps 2.B.(9) thru 2.B.(28).
- (11) Connect the 4101KS-A and 4101KS-B connectors to the Thrust Reverser control valve as shown. Hand tighten the couplings only. (Refer to Figure 1 Sheet 2).
- (12) Connect the 4000VC-A connector to the Plugbreak as shown. Hand tighten the coupling only.
- (13) Connect the 4001VC-A connector to the Plugbreak as shown. Hand tighten the coupling only.
- (14) Connect the 402VC-A connector to the Forward Pylon Interface Panel as shown. Hand tighten the coupling only.
- (15) Connect the 403VC-A connector to the Mid Pylon Interface Panel as shown. Hand tighten the coupling only.
- (16) Install new clipping point CP1207 as shown with a new AS20624 Nut, AS21418 Bolt, SP154D Washer, ST1698D49 Spacer and a TA025074-02 'P' Clip. (Refer to Figure 2 Sheet 4).
- (17) Install new clipping point CP1208 as shown with a new AS20624 Nut, AS21411 Bolt, SP154D Washer, ST1698D47 Spacer and a TA025074-02 'P' Clip.
- (18) Install new clipping point CP1209 as shown with a new 4W0103 Bolt, SP154D Washer, and a TA025074-02 'P' Clip. (Refer to Figure 2 Sheet 5).
- (19) Install new clipping point CP1210 as shown with a new 4W0103 Bolt, SP154D Washer and a TA025074-02 'P' Clip.
- (20) Install clipping point CP0877 as shown with a new TA025074-02 'P' Clip. (Refer to Figure 2 Sheet 6).

- (21) Install clipping point CP0862 as shown with a new 4W0001 Nut, new AS21416 Bolt, SP154D Washer, ST1698D48 Spacer, TA025074-04 'P' Clip and a TA025074-11 'P' Clip. (Refer to Figure 2 Sheet 7).
- (22) Install new clipping point CP1211 as shown with a new 4W0001 Nut, 4W0104 Bolt, SP154D Washer, TA025074-11 'P' Clip and a TA025074-02 'P' Clip. (Refer to Figure 2 Sheet 8).
- (23) Install clipping point CP0879 as shown with a new TA025074-02 'P' Clip. (Refer to Figure 2 Sheet 9).
- (24) Install new clipping point CP1212 as shown with a new 4W0106 Bolt, SP154D Washer, ST1698D47 Spacer and a TA025074-02 'P' Clip. (Refer to Figure 2 Sheet 10).
- (25) Install new clipping point CP1213 as shown with a new TA025074-02 'P' Clip.
- (26) Install new clipping point CP1214 as shown with a new TA025074-02 'P' Clip.
- (27) Install clipping point CP0817 as shown with an AS41104 Clip nut, new 4W0106 Bolt, SP154D Washer, new ST1698D47 Spacer, TA025074-12 'P' Clip and a new TA025074-02 'P' Clip. (Refer to Figure 2 Sheet 11).
- (28) Install clipping point CP0818 as shown with an AS41104 Clip nut, new AS21415 Bolt, SP154D Washer, new ST1698D48 Spacer, TA025074-11 'P' Clip and a new TA025074-02 'P' Clip.
- R (29) Make sure all cables are free from pre-load and that a minimum clearance of 0.250 in. (6,35 mm) is maintained between the cables and adjacent structure/hardware. Refer to the A320/V2500-A1, A320/A321/V2500-A5 Engine Manual (E-V2500-1IA) for details on harness clearances.
- R (30) Torque the bolts at the following clipping points: CP1207, CP1208, CP1209, CP1210, CP0877, CP0862, CP1211, CP0879, CP1212, CP1213, CP1214, CP0817, CP0818 to 20 to 25 lbfin. (2 to 3 Nm).

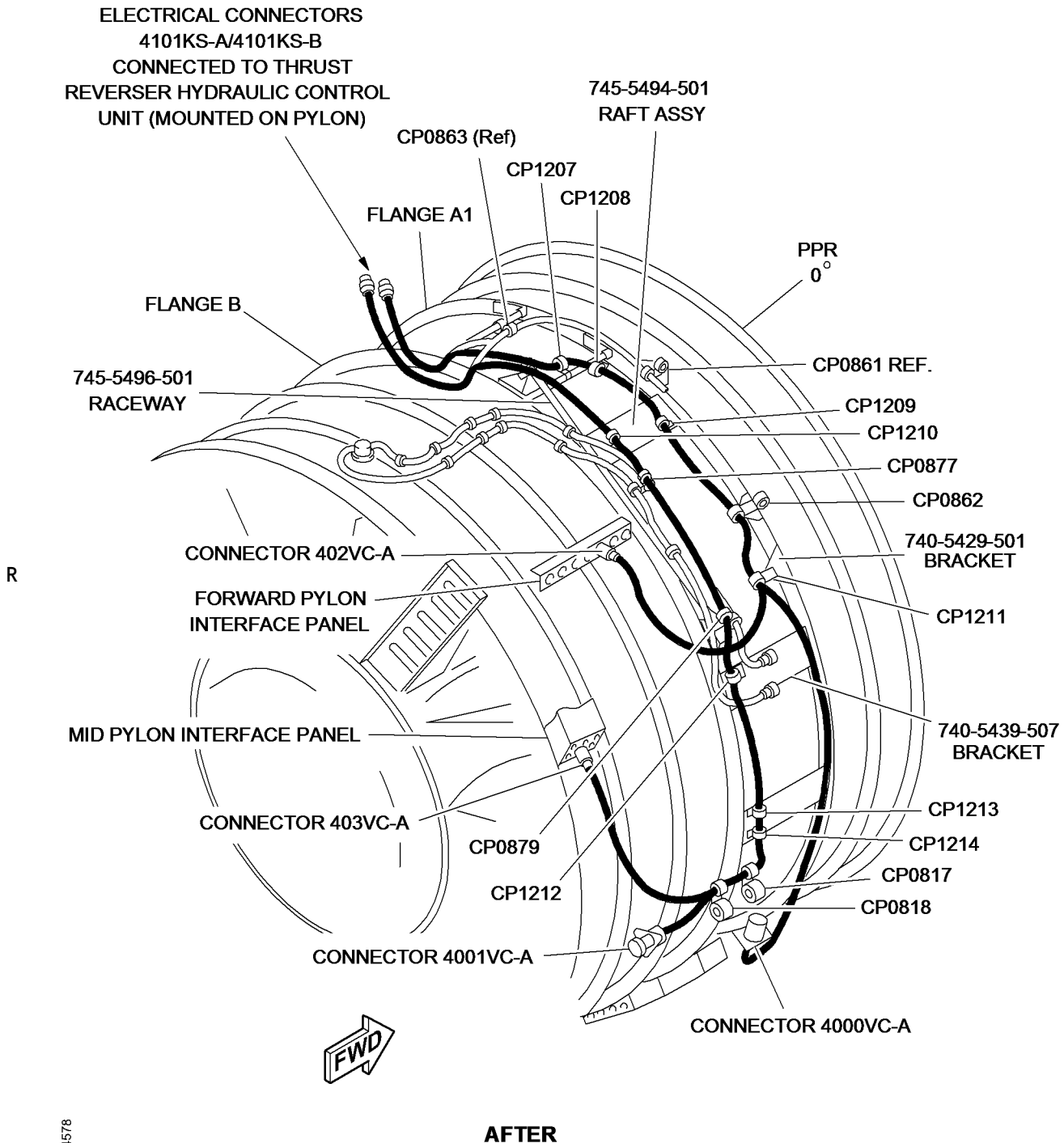
C. Recording Instructions

A record of accomplishment is necessary. Write in the aircraft log that Service Bulletin V2500-ENG-71-0177 has been incorporated.

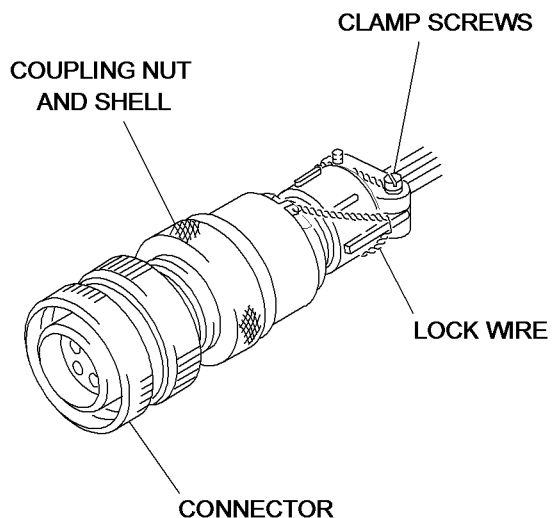


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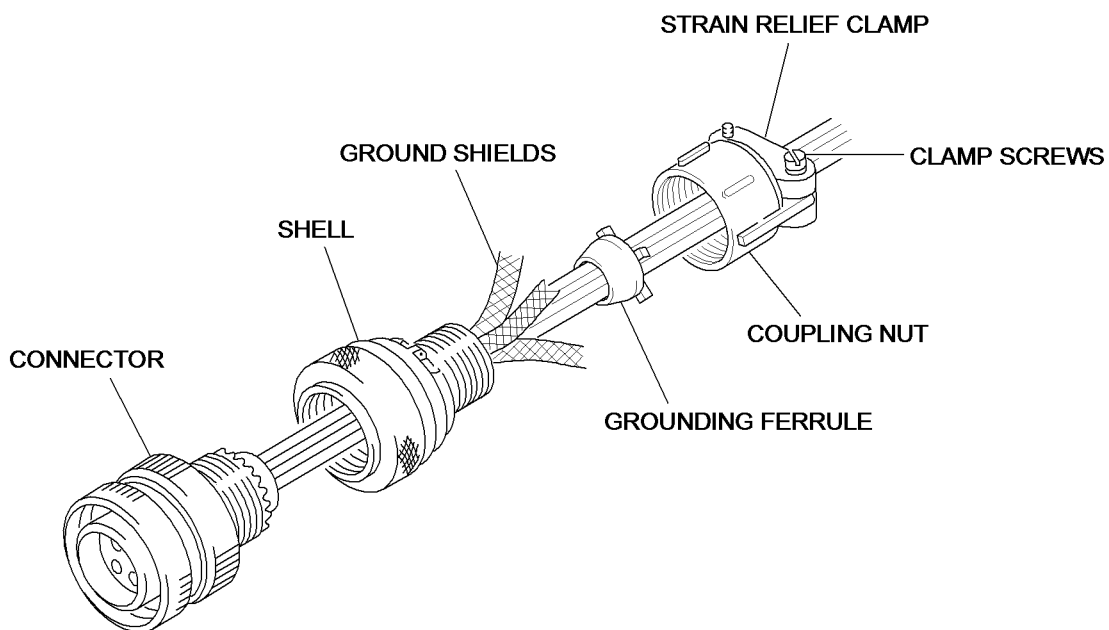
Installation of cables and attaching hardware
Figure 1 Sheet 1 of 6



Installation of cables and attaching hardware
Figure 1 Sheet 2 of 6



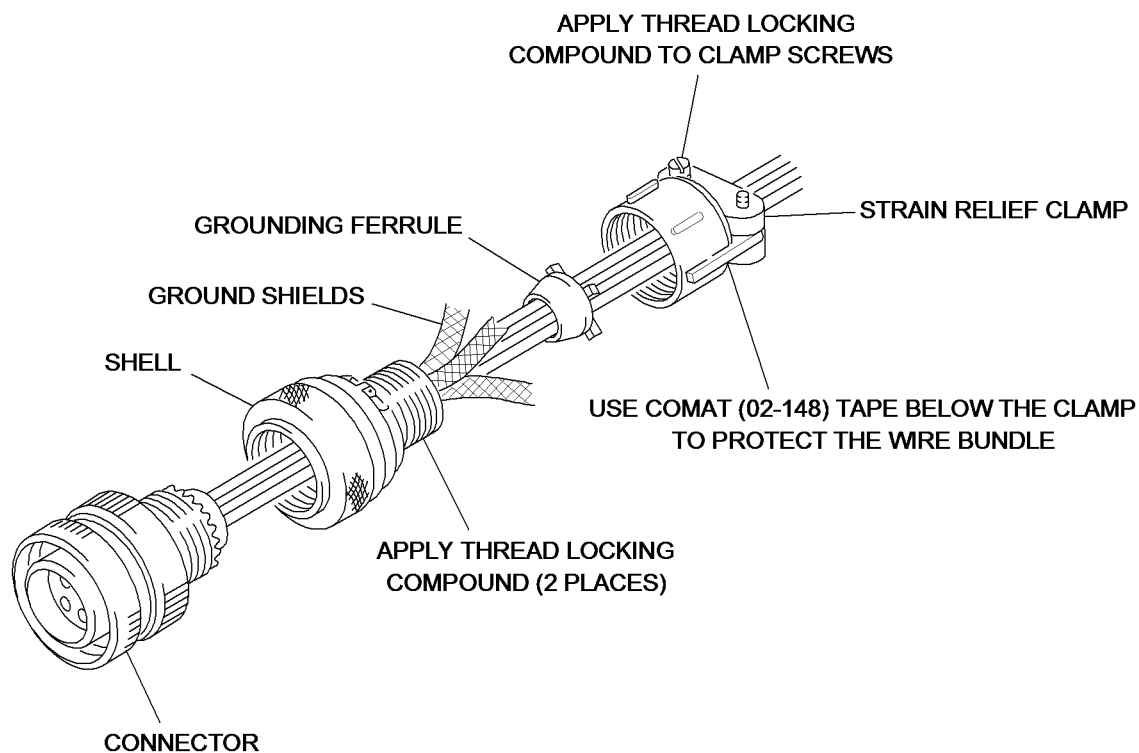
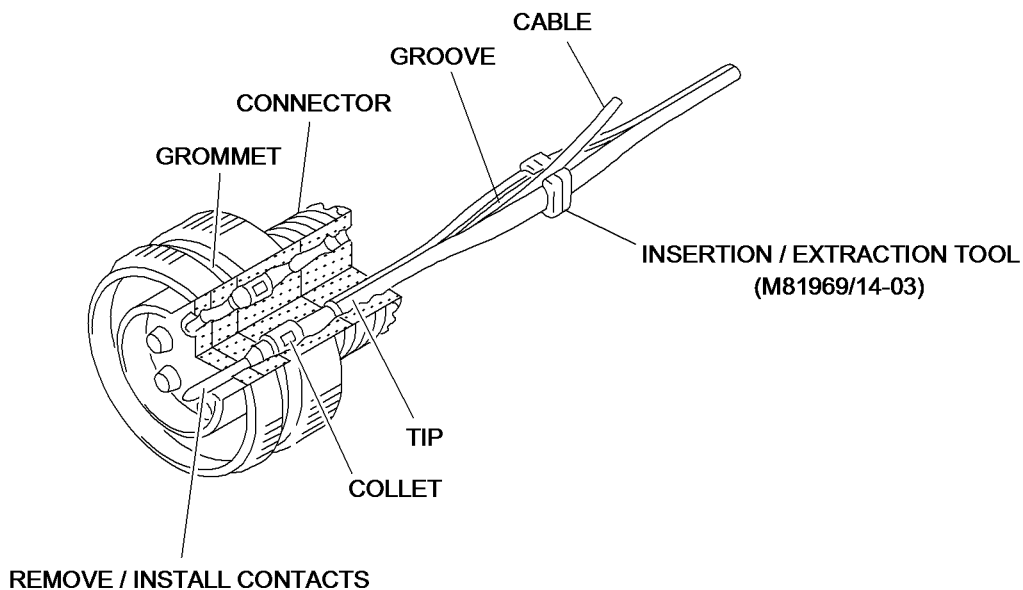
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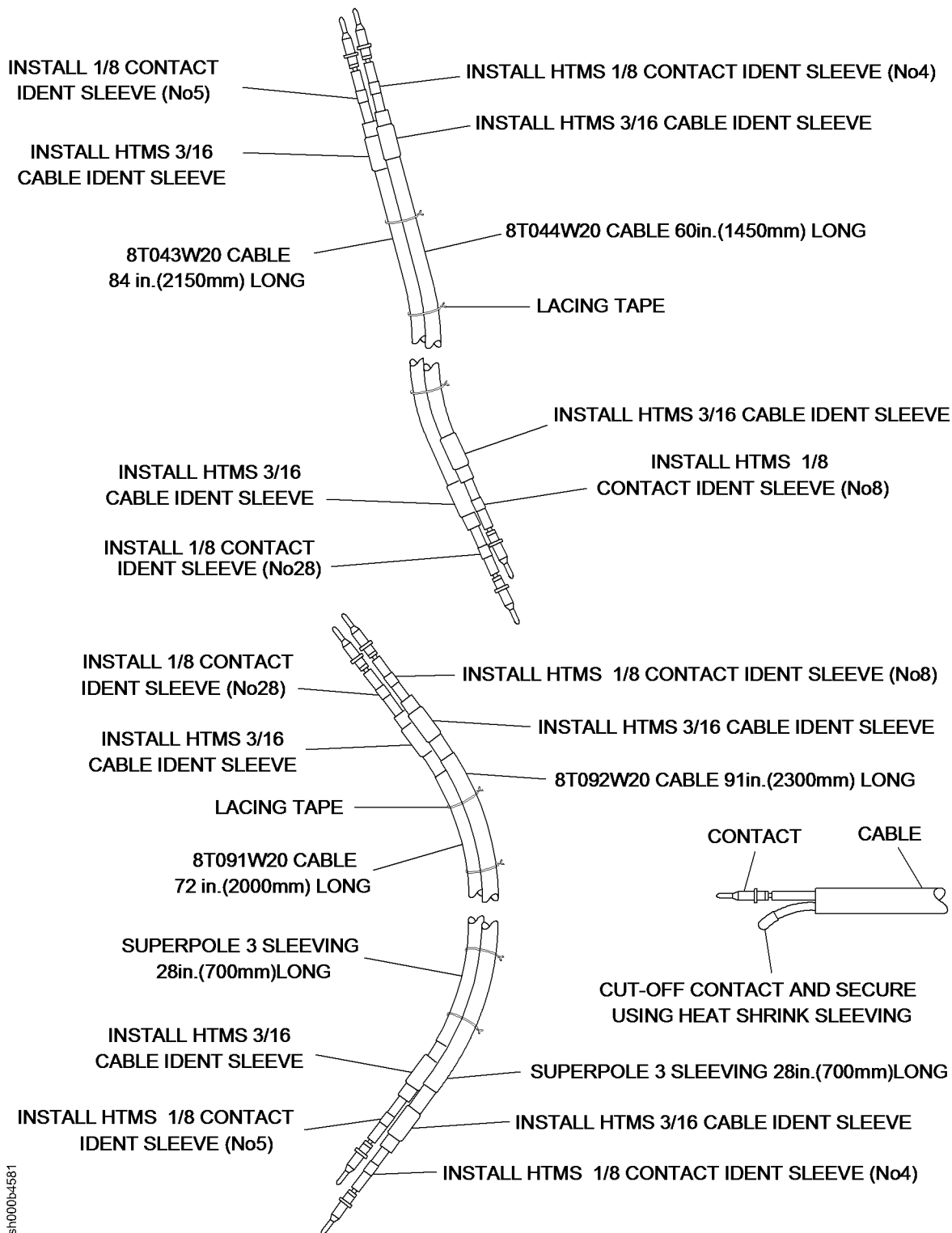
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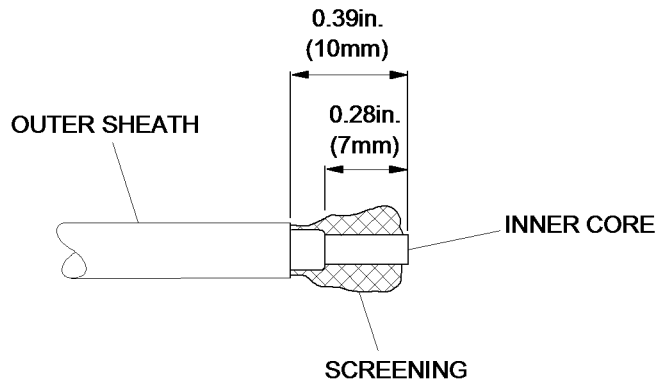
Installation of cables and attaching hardware
Figure 1 Sheet 3 of 6



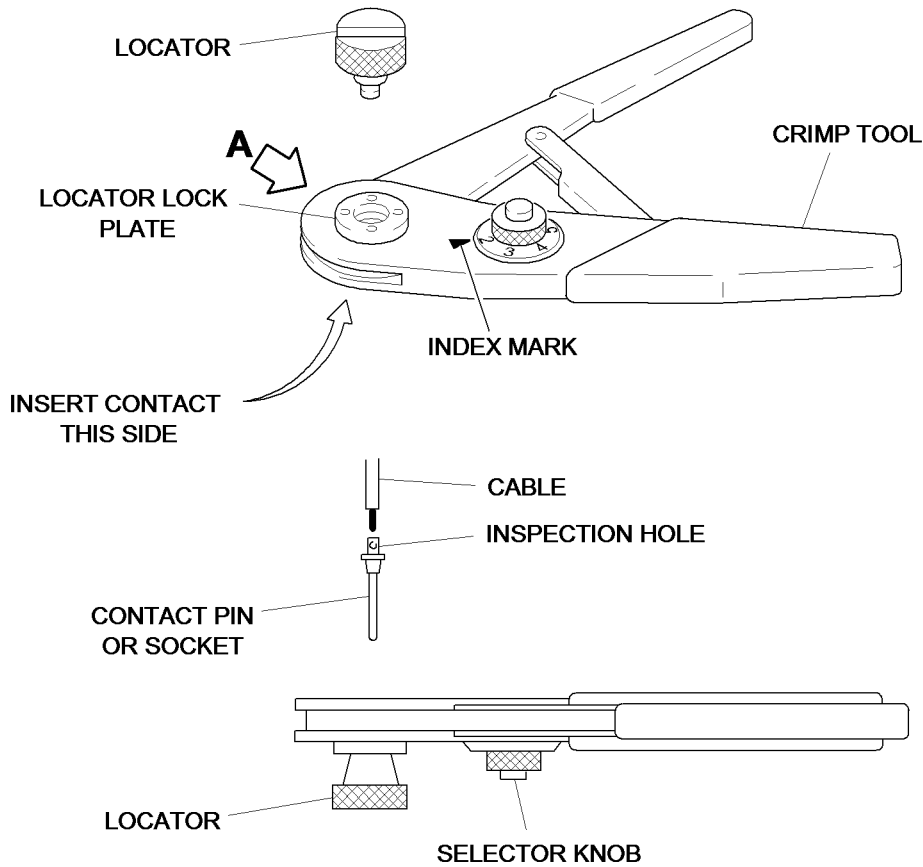
Installation of cables and attaching hardware
Figure 1 Sheet 4 of 6



Installation of cables and attaching hardware
Figure 1 Sheet 5 of 6



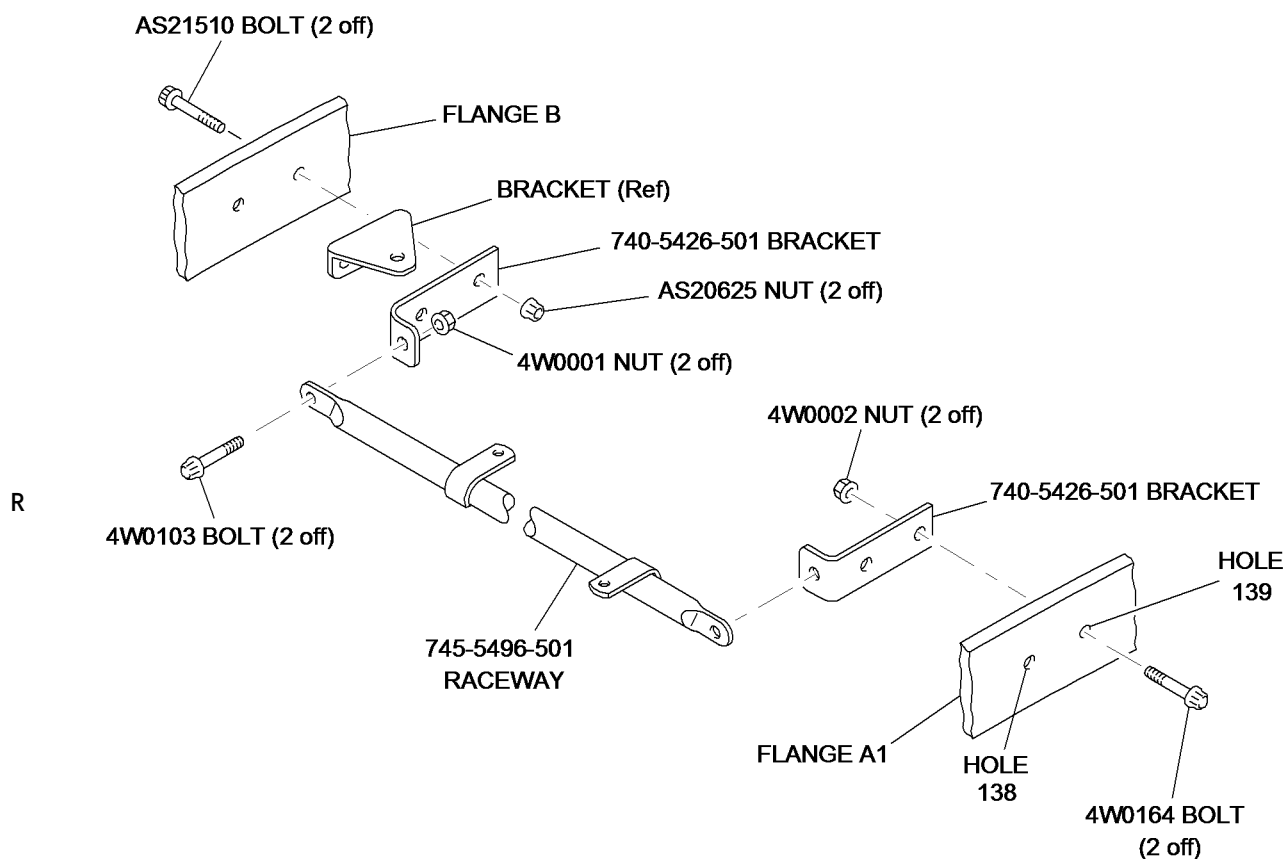
NOTE: The locator must be the correct size for the contact pin or socket.



INVERTED VIEW

Installation of cables and attaching hardware
Figure 1 Sheet 6 of 6

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Installation of brackets and clipping points
Figure 2 Sheet 1 of 11

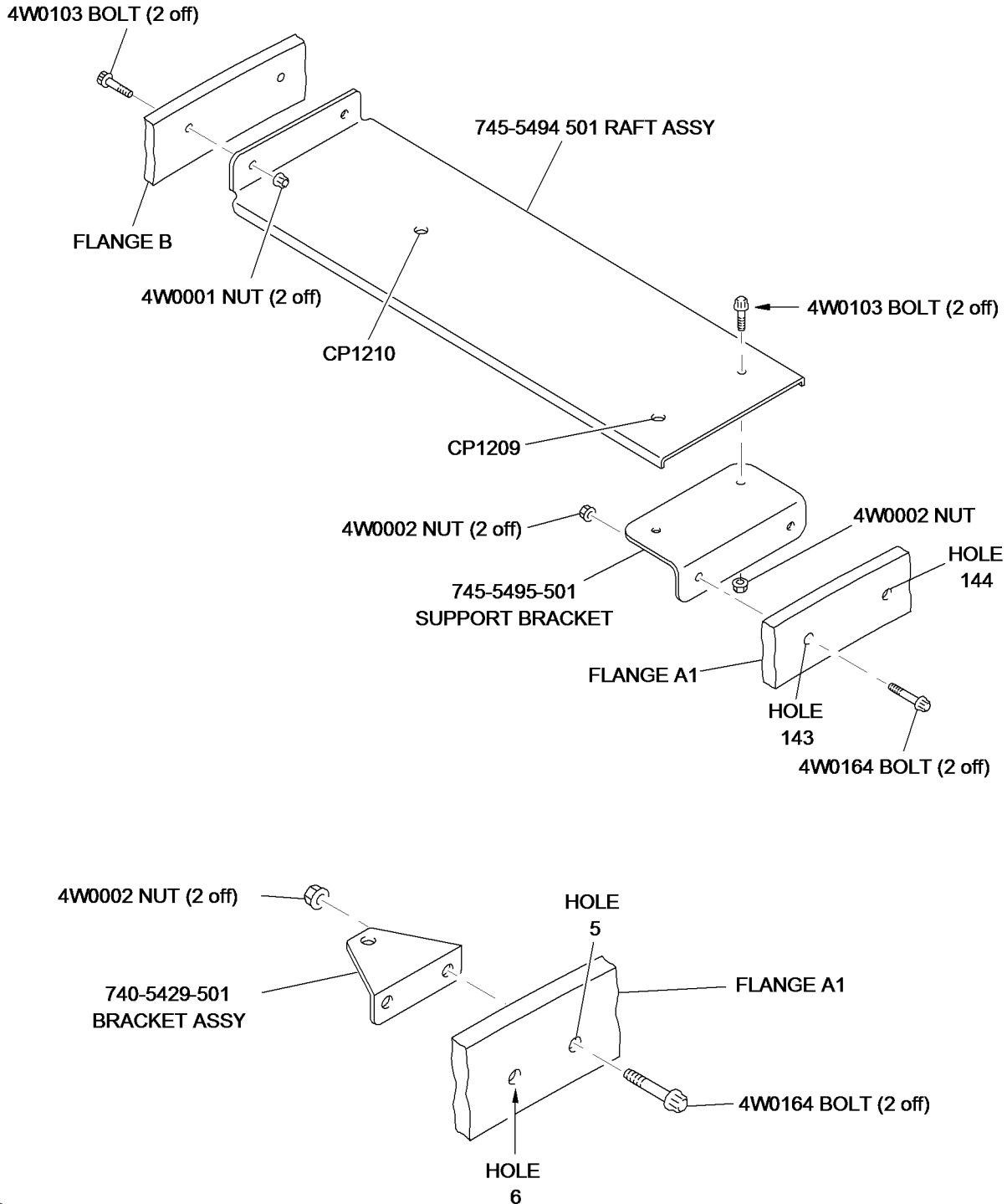
Jun.30/03
Apr.23/09 Revision 5

V2500-ENG-71-0177

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



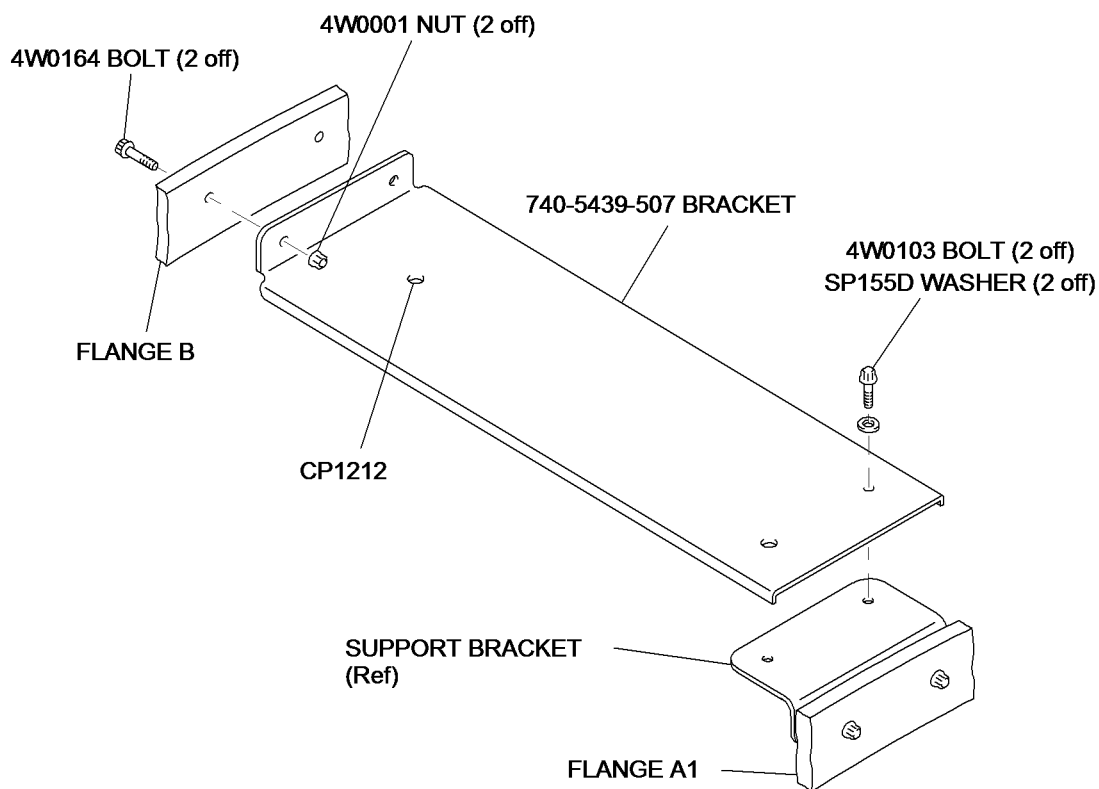
Installation of brackets and clipping points
Figure 2 Sheet 2 of 11

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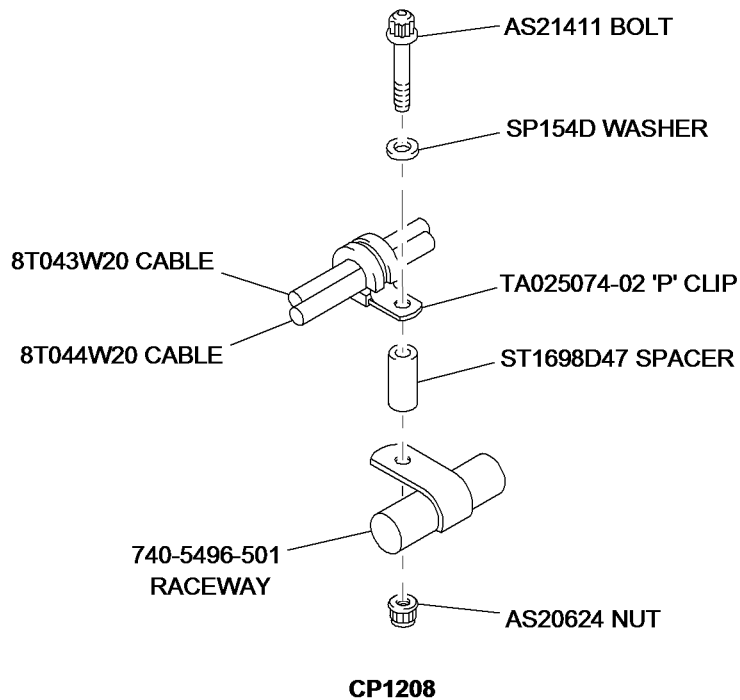
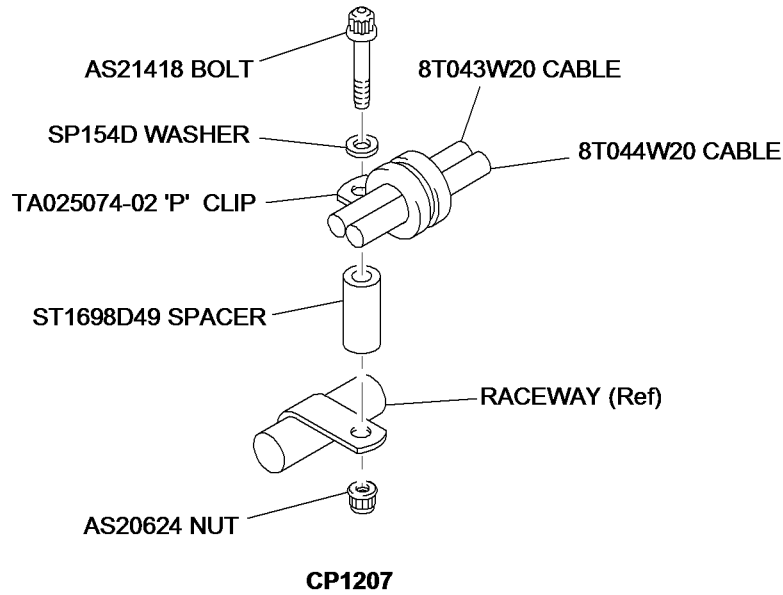
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Installation of brackets and clipping points
Figure 2 Sheet 3 of 11

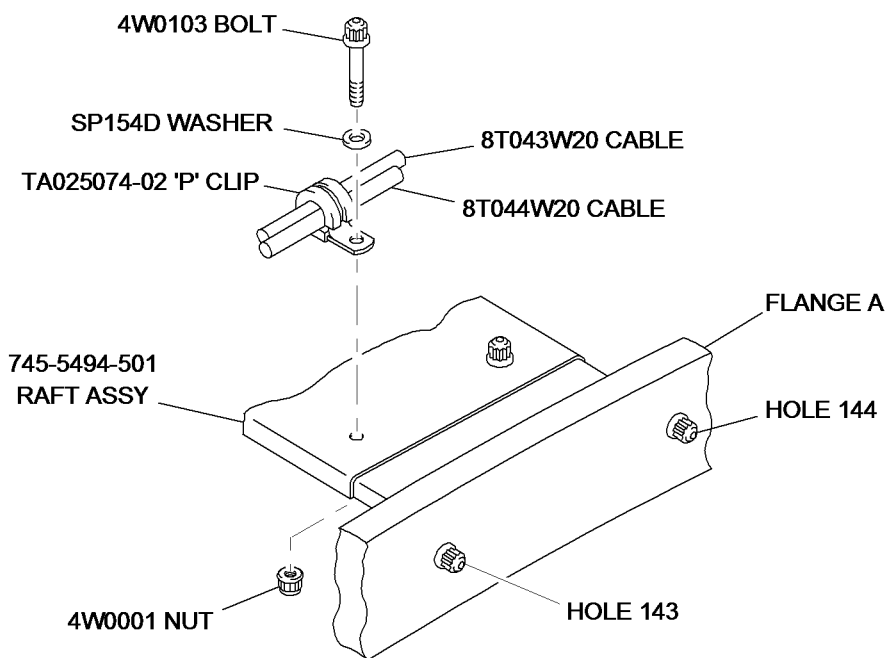


Installation of brackets and clipping points
Figure 2 Sheet 4 of 11

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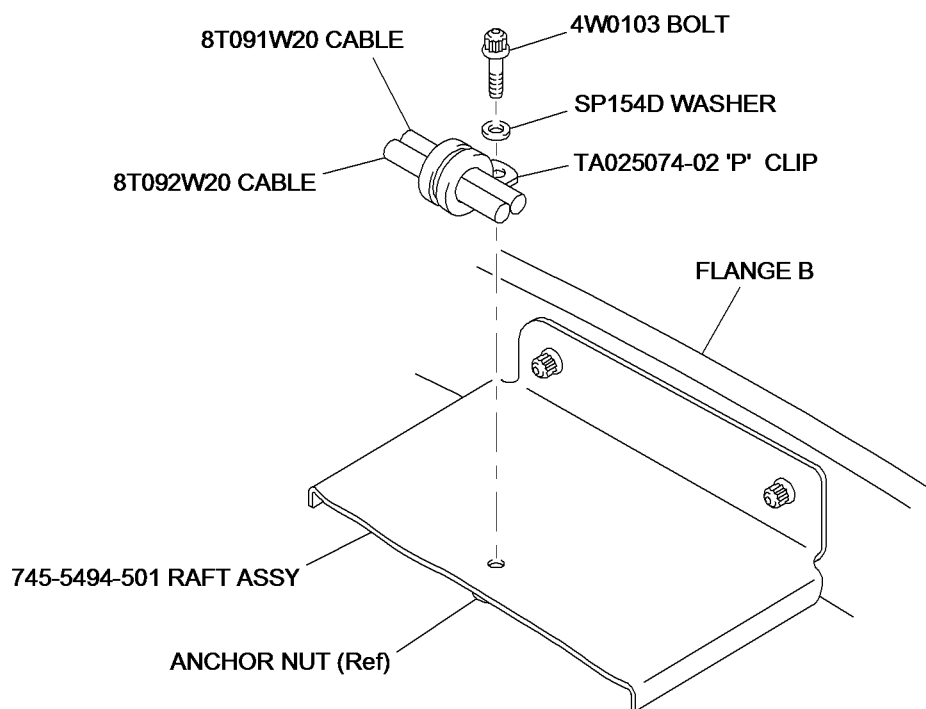
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CP1209

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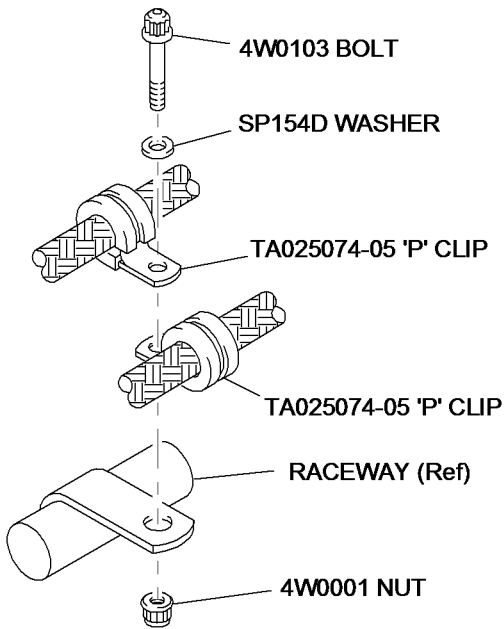


CP1210

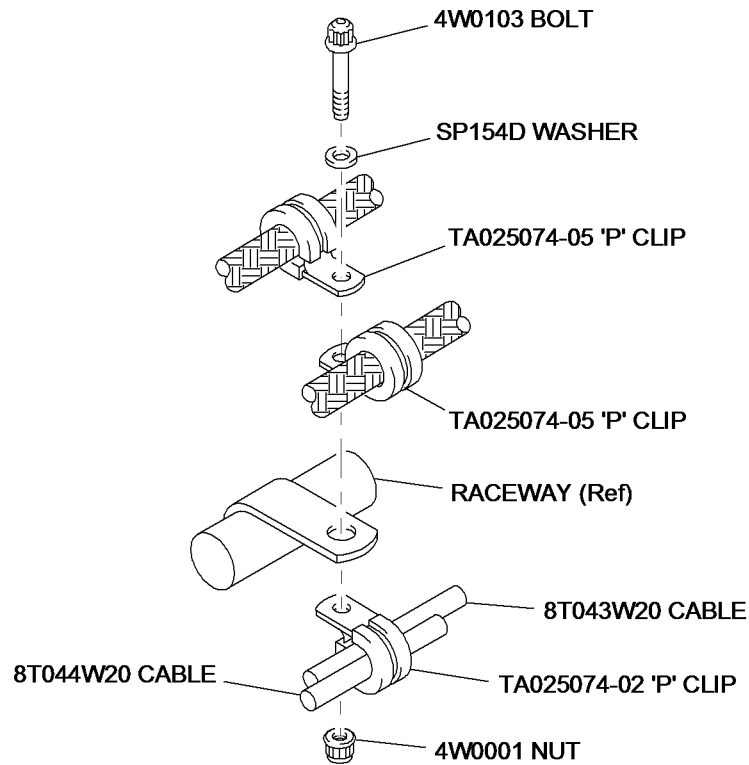
Installation of brackets and clipping points
Figure 2 Sheet 5 of 11

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CP0877 BEFORE



CP0877 AFTER

Installation of brackets and clipping points
Figure 2 Sheet 6 of 11

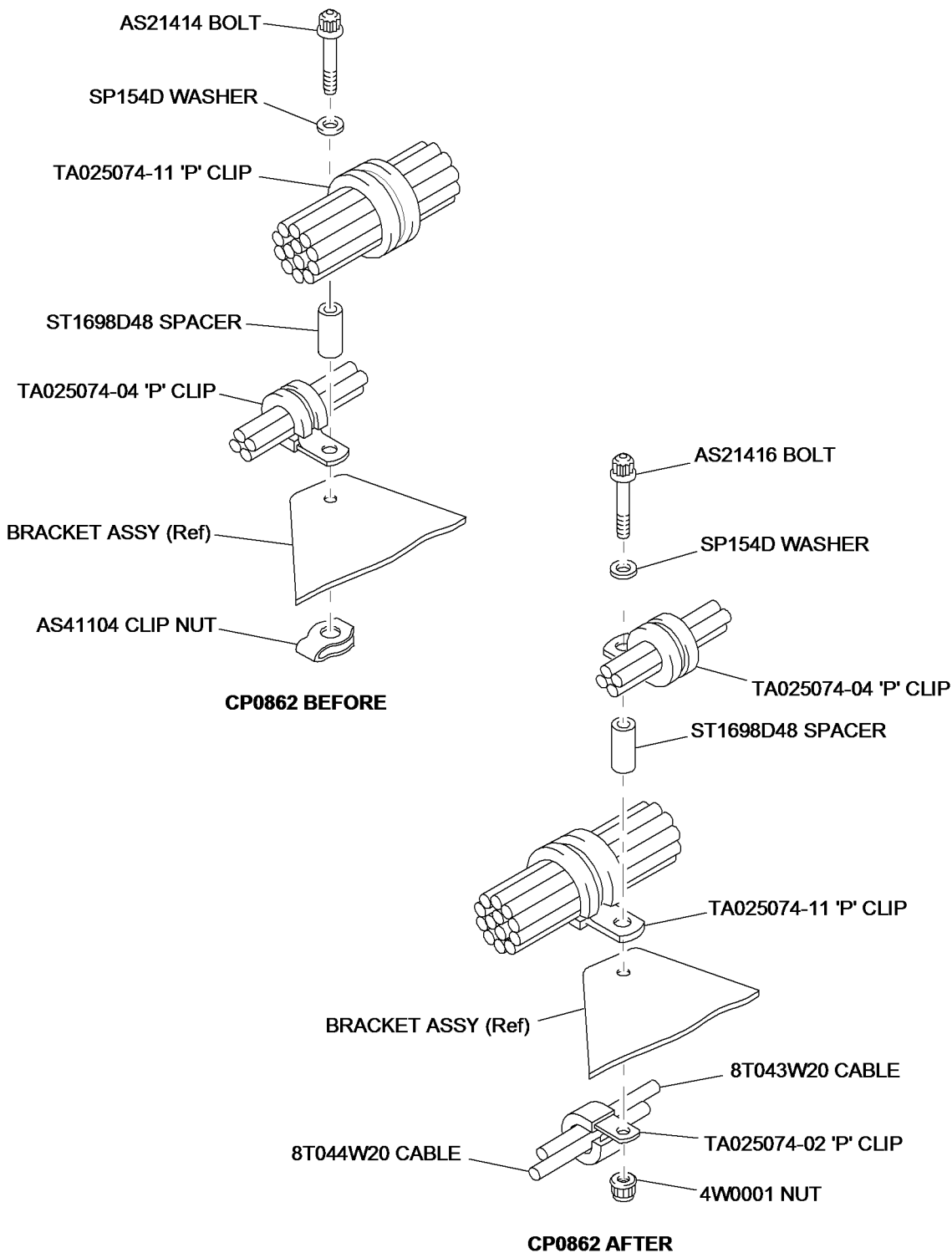
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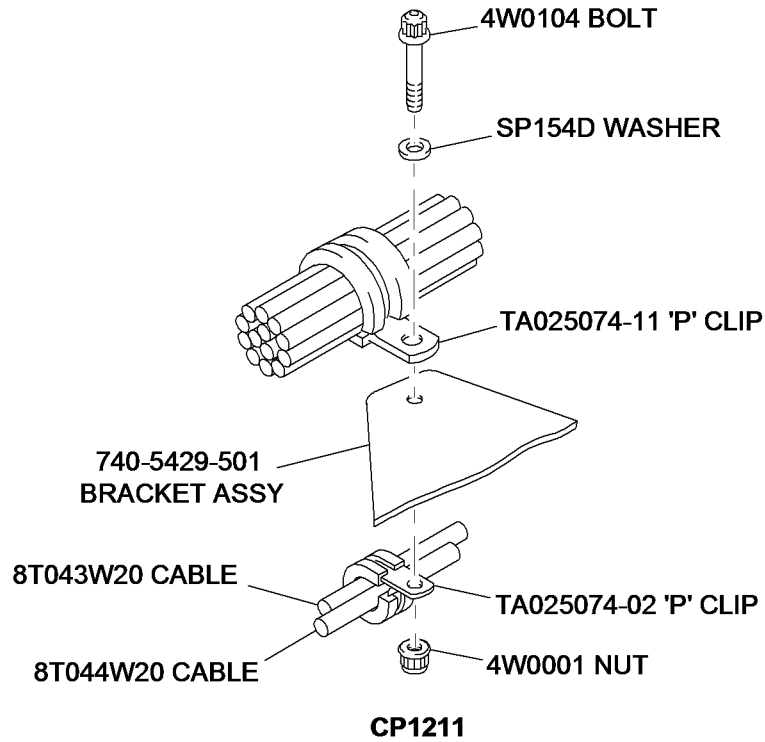
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Installation of brackets and clipping points
Figure 2 Sheet 7 of 11

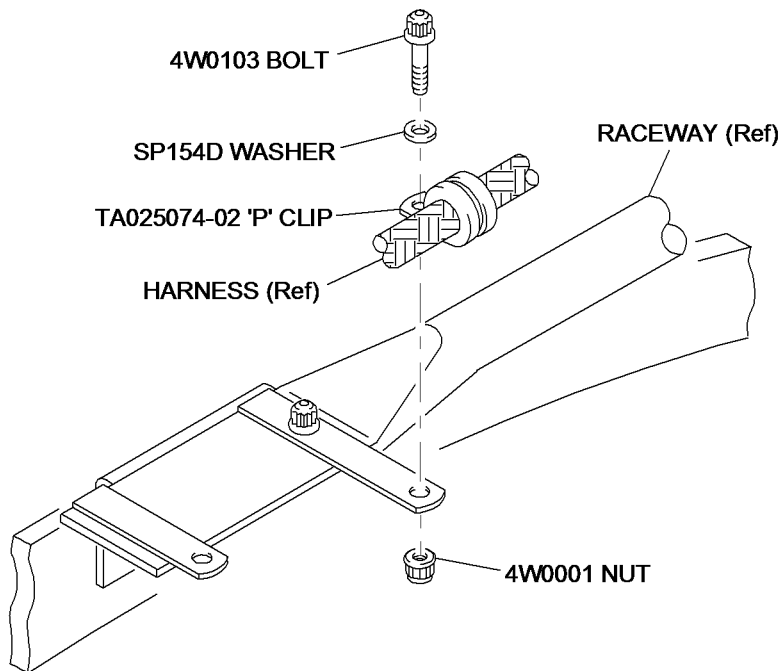


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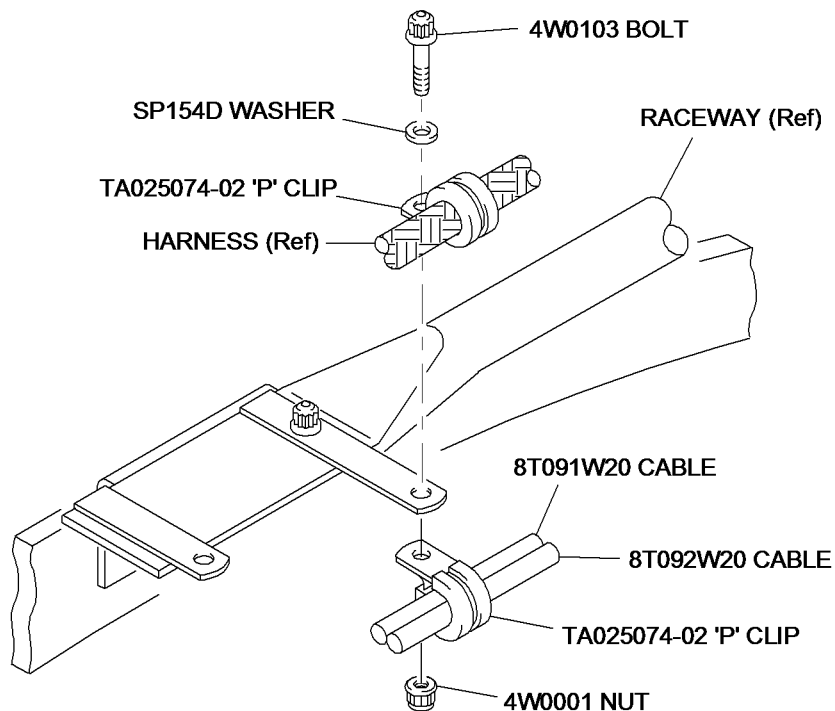
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Installation of brackets and clipping points
Figure 2 Sheet 8 of 11



CP0879 BEFORE

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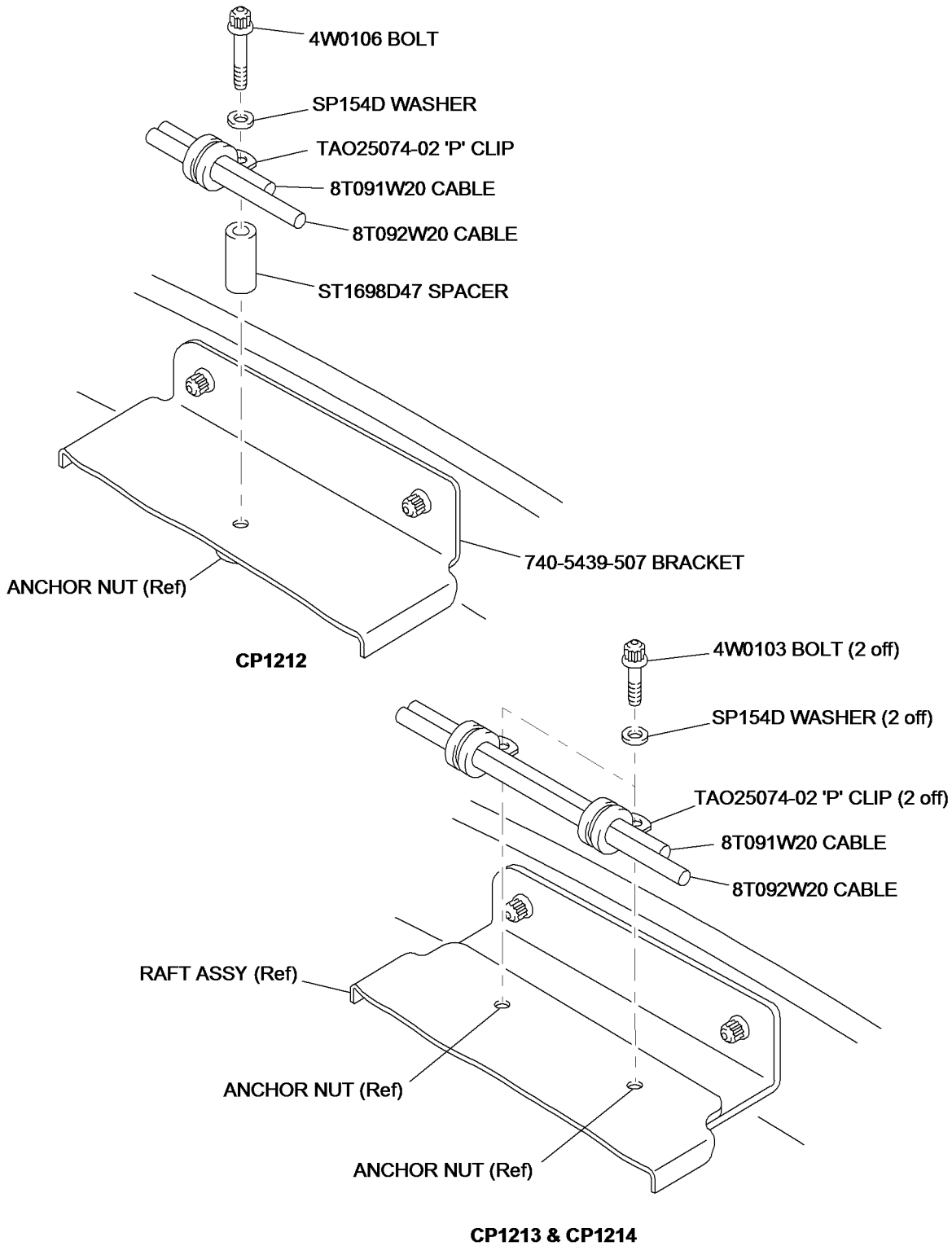


CP0879 AFTER

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Installation of brackets and clipping points
Figure 2 Sheet 9 of 11



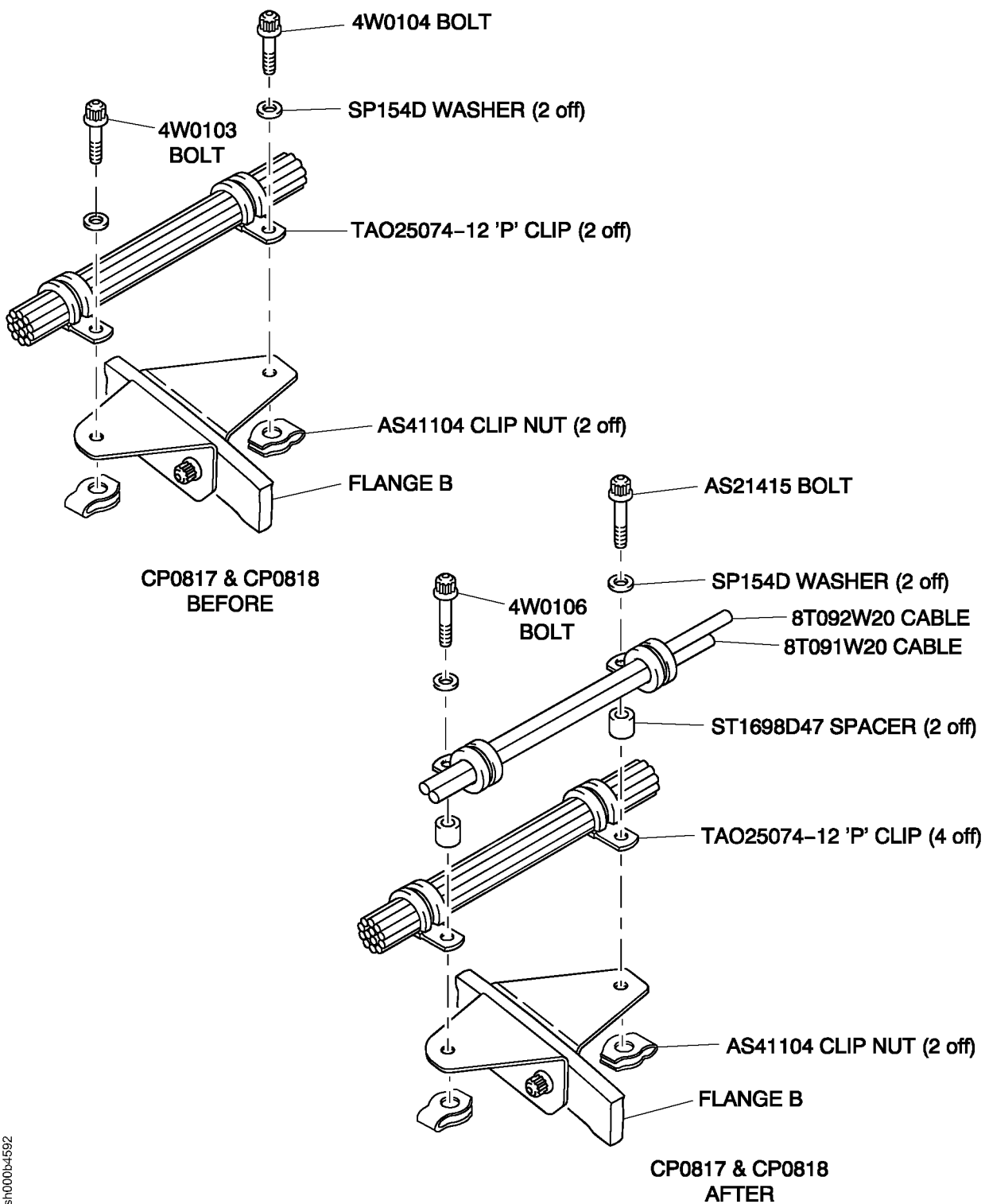
Installation of brackets and clipping points
Figure 2 Sheet 10 of 11

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Installation of brackets and clipping points
Figure 2 Sheet 11 of 11