V2500 International Aero Engines

V2500 Propulsion System — Engine

SERVICE BULLETIN

NACELLE – POWERPLANT – TUBES, PRESSURE INDICATING – INSTALLATION OF A NEW IMPROVED ECS SENSE LINE TUBE

MODEL APPLICATION

V2522-A5
V2524-A5
V2527-A5
V2527E-A5
V2527M-A5
V2530-A5
V2533-A5

BULLETIN INDEX LOCATOR

36-00-00

COMPLIANCE CATEGORY CODE
4

INTERNAL REFERENCE No
HM/OM 00VN765

November 5, 2001

V2500-ENG-36-0007

1. Planning Information

A. Effectivity

(1) Aircraft:
(a) Airbus A320
(b) Airbus A321
(c) Airbus A319

(2) Engine:
(a) V2500-A5 Engine build-up units before serial number 894001.
(b) V2522-A5 Engine build-up units before serial number 894001.
(c) V2524-A5 Engine build-up units before serial number 894001.
(d) V2527-A5 Engine build-up units before serial number 894001.
(e) V2527E-A5 Engine build-up units before serial number 894001.
(f) V2527M-A5 Engine build-up units before serial number 894001.
(g) V2530-A5 Engine build-up units before serial number 894001.
(h) V2533-A5 Engine build-up units before serial number 894001.

B. Reason

(1) Condition

Several Operators have reported difficulties with the removal and installation of the ECS Pressure indicating tubes. Investigation results have revealed the current installation does not allow for easy access for maintenance.

(2) Background

See above.

(3) Objective

To introduce a new ECS Sense Line Tube that allows easier access for maintenance.

(4) Substantiation

Trial installation of the new ECS Pressure indicating tube has been shown to be satisfactory.

(5) Effect of Bulletin on:

(a)	Removal/Installation	Affected
(b)	Disassembly/Assembly	Affected
(c)	Cleaning	Not affected
(d)	Inspection/Check	Not affected

(e)	Repair	Not affected
(f)	Testing	Not affected

(6) Supplemental Information

The assembly of the Post-Service Bulletin configuration requires instructions for installing the new one- piece tube assembly in place of the three- piece design.

C. Description

The changes introduced by this Service Bulletin are as follows:

The three existing ECS Sense Line tubes that connect the pressure relief valve to the cabin air duct are removed and replaced with a new one- piece tube assembly. The new routing has resulted in five clipping points being deleted. The new pipe is clipped to three existing clipping points with the addition of spacers and longer bolts.

D. Approval

The part number changes and/or part modification described in Section 2 and 3 of this Modification Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Models listed.

E. Compliance

Category 4.

Accomplish at the first visit of the Nacelle or Nacelle component to a maintenance base capable of compliance with the Accomplishment Instructions regardless of the planned maintenance action for the Nacelle or Nacelle component.

F. Manpower

Estimated manhours to incorporate the intent of this Service Bulletin on each engine:

VENUE	ESTIMATED MANHOURS
(1) In Service	
(a)To gain access……	0.25 M/Hr
(b)To embody……	3.50 M/Hr
	Total 3.75 M/Hrs

NOTE: Man-hours provided for planning purposes only. No labor reimbursement is provided under the terms of this service bulletin offering.

G. Material Cost and Availability

The parts to accomplish this Service Bulletin are available from the manufacturer as Kit No V2536007-551

Operators with units listed in Paragraph 1.A should submit a purchase order for the applicable quantity of kits. The purchase order must specify this Service Bulletin number and the parts listed herein. 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
850 Lagoon Drive
Chula Vista, CA 91910-2098 USA

Attn: Airline Account Manager – MZ 107A
(Service Bulletin No. V2500-NAC-36-0007)

NOTE: Please do not submit orders for kits via the Spec 2000 ordering system.

H. Tooling - Cost and Availability

None required.

I. Weight and Balance

(1)	Weight change.....	Minus 0.885 lb (0.4kg).
(2)	Moment arm.....	No effect
(3)	Datum.....	Engine Front Mount Centerline (Powerplant Station PPS 100.00)

J. Electrical Load Data

Not affected.

K. References

Publication	Chapter/Section
A320/V2500-A1 A319/A320/A321/V2500-A5 Aircraft Maintenance Manual (E-V2500-1IA). Airbus Modification No. 24259 Airbus Service Bulletin No. A320-36-1040	72-00-32

L. Other Publications Affected

Publication	Chapter/Section
A320/V2500-A5 Engine Illustrated Parts Catalog (S-V2500-2IA).	36-21-49 72-41-00 73-22-49 79-21-49
A320/A321/V2500-A5 Powerplant Illustrated Parts Catalog (PIP-V2500-2IA).	36-21-49 72-41-00 73-22-49 79-21-49

2. Material Information

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

A. Kits associated with this Bulletin

NEW PART No (ATA No)	QTY	EST'D UNIT PRICE ($)	KEYWORD	OLD PART No (IPC No)	INSTR/ DISPOS
V2536007-551 Consisting of:	1	$14,189.00	Kit, new ECS sense line.		(A)
745-5166-501	1		Tube		
C10 GT3-04	3		Clamp		
ST1689D50	2		Spacer		

B. Parts affected by this Bulletin

745-5166-501 (36-21-49)	1	.Tube	(01-600)	(S1)
C10GT3-04 (36-21-49)	1	.Clamp	(01-620)	(S1)
C10GT3-04 (36-21-49)	1	.Clamp	(01-630)	(S1)
C10GT3-04 (36-21-49)	1	.Clamp	(01-630)	(S1)
ST1698D50 (36-21-49)	2	.Spacer	(01-563)	(S1)
ST1698D50 (36-21-49)	2	.Spacer	(01-946)	(S1)
(36-21-49)	1	.Tube, Assembly	740-5089-507 (01-100)	(2D) (S1) (C)
(36-21-49)	1	.Bolt,	4W0102 (01-133)	(1D (S1) (C)
(36-21-49)	1	.Clamp	C10GT3-04 (01-137)	(1D) (S1) (C)
(36-21-49)	1	.Bolt,	4W0101 (01-150)	(1D) (S1) (C)
(36-21-49)	1	.Clamp	C10GT3-04 (01-154)	(1D) (S1) (C)
(36-21-49)	1	.Nut, Self Locking	4W0043 (01-158)	(1D) (S1) (C)

(36-21-49)	1	.Tube, Assembly	745-5644-507 (01-500)	(2D) (S1) (C)
(36-21-49)	1	.Tube, Assembly	745-5645-507 (01-510)	(2D) (S1) (C)
(36-21-49)	1	.Bolt	4W0103 OR 4W0104 (01-525)	(1D) (S1) (C)
(36-21-49)	1	.Clip	AS62403 (01-528)	(1D) (S1) (C)
(36-21-49)	1	.Clamp	C10GT3-04 (01-529)	(1D) (S1) (C)
(36-21-49)	1	.Washer	SP154D (01-531)	(1D) (S1) (C)
(36-21-49)	1	.Nut	4W0001 (01-532)	(1D) (S1) (C)
(36-21-49)	1	.Bolt	4W0106 (01-533)	(1D) (S1) (C)
(36-21-49)	1	.Spacer	ST1698D47 (01-534)	(1D) (S1) (C)
(36-21-49)	1	.Clamp	C10GT3-04 (01-535)	(1D) (S1) (C)
(36-21-49)	1	.Nut	AS41104 (01-540)	(1D) (S1) (C)
(36-21-49)	1	.Clamp	C10GT3-04 (01-555)	(1D) (S1) (C)
(36-21-49)	1	.Clamp	C10GT3-04 (01-562)	(1D) (S1) (C)
(36-21-49)	1	.Bolt,	4W0101 (01-565)	(1D) (S1) (C)
(36-21-49)	1	.Clamp	C10GT3-04 (01-570)	(1D) (S1) (C)
(36-21-49)	1	.Nut, Self Locking	AS41104 (01-575)	(1D) (S1) (C)
745-5166-501 (36-21-49)	1	.Tube, Assembly	--- (01-600)	(B) (S1)

C10 GT3-04 (36-21-49)	1	.Clamp	--- (01-620)	(B) (S1)
C10GT3-04 (36-21-49)	1	.Clamp	--- (01-630)	(B) (S1)
C10GT3-04 (36-21-49)	1	.Clamp	--- (01-640)	(B) (S1)
ST1698D50 (73-22-49)	1	.Spacer	--- (05-563)	(B) (S1)
ST1698D50 (73-22-49)	1	.Spacer	--- (05-946)	(B) (S1)

C. Instructions/Disposition Code Statements

(A) Kit is currently available.
(B) New part is currently available.
(C) Redundant.
(1D) Old part, if serviceable can be used up on other applications.
(2D) Old part available as a spare for replenishment purposes.
(S1) New parts coded (S1) must replace old parts coded (S1) as a complete Engine set.

NOTE: The estimated 2001 unit price shown is provided for planning purposes only and does not constitute a firm quotation. Consult the Goodrich Aerospace Price Catalog or contact BF Goodrich Aerospace's Spares Parts Sales Department for information concerning firm prices in this Service Bulletin.

3. Accomplishment Instructions

A. Pre-requisite Instructions

(1) Open the left and right fan cowl doors as instructed in the Aircraft Maintenance Manual, Task 71-13-00-010-010.

B. Rework Instructions

(1) At Clipping Point 5103 (View on arrow B), remove the TA000210046FT04 or TA025022FT04 P-Clip around the Pipe 745-5645-503/5/7, Nut (Ref.), Bolt (Ref.) and Spacer (Ref.). (Refer to figure 1 shts 1 & 2 of 4).

(2) At Clipping Point 5103, re-assemble the Nut (Ref.), Bolt (Ref.) and Spacer (Ref.).

(3) Torque tighten the Bolt (Ref.) to 20-25 lbf in (2.3-2.8 Nm).

(4) At Clipping Point 5996 (View on arrow C), remove the AS21406 Bolt. Remove the TA000210046FT04 or TA025022FT04 P-Clip from around the Pipe 745-5645-503/5/7.

(5) At Clipping Point 5865 (View on arrow D), remove the AS21408 Bolt, AS20624 Nut, and SP154D Washer. Remove the TA000210046FT04 or TA025022FT04 P-Clip from around the Pipe 745-5644-503/5/7.

(6) At Clipping Point 5997 (View on arrow E), remove Nut (Ref.), Bolt (Ref.), and the TA000210046FT04 or TA025022FT04 P-Clip from around the Pipe 745-5644-503/5/7. (Refer to figure 1 shts 1 & 3 of 4).

(7) At Clipping Point 5997 (View on arrow E), re-assemble the Nut (Ref.), Bolt (Ref.) and Spacer (Ref.).

(8) Torque tighten the Bolt (Ref.) to 20-25 lbf in (2.3-2.8 Nm).

(9) At Clipping Point 5495 (View on arrow F), remove the AS21411 Bolt, ST1698D47 Spacer, and the TA000210046FT04 or TA025022FT04 P-Clip from around the Pipe 745-5645-503/5/7.

(10) At Clipping Point 5862 (View on arrow G), remove the AS21406/7 Bolt, and the TA000210046FT04 or TA025022FT04 P-Clip from around the Pipe 740-5089-501/5/7.

(11) At Clipping Point 5931 (View on arrow H), remove the AS21406 Bolt and the TA000210046FT04 or TA025022FT04 P-Clip from around the Pipe 740-5089-505/7. Remove 4W0651 Bolts (2-off). Remove 745-5069 501 Bracket, and re-install 4W0651 Bolts (2-off), and torque tighten to 60.0 –80.0 lb/in (6.78-9.60 Nm).

(12) Remove Pipe 745-5645-503/5/7.from the back of the P.R.V. Valve (View on arrow J) and Pipe 745-5644-503/5/7. (Refer to figure 1 shts 1 & 4 of 4).

(13) Remove Pipe 745-5644-503/5/7 from between Pipe 745-5645-503/5/7 and Pipe 740-5089-501/5/7.

(14) Disconnect the (Ref. only-RR) 6J3084N Pipe from the Pipe 740-5089-501/5/7.

(15) Remove Pipe 740-5089-501/5/7 from between Pipe 745-5644-503/5/7 and the H.P. Valve.

(16) Remove the Blanking Plug from the front of the PRV Valve (View on arrow K). (Refer to figure 1 shts 1 & 4 of 4). Install the Blanking Plug on the unused Sense Line Port at the rear of the PRV Valve. (View on arrow L). (Refer to figure 2 shts 1 & 3 of 3).

(17) Torque tighten the Blanking Plug to 135 lbf in (16 Nm).

(18) Install the 745-5166-501 Pipe onto the front of the PRV Valve. (View on arrow M). (Refer to figure 2 shts 1 & 3 of 3).

(19) Install the other end of the 745-5166-501 Pipe onto the H.P. Valve.

(20) Torque tighten both the 745-5166-501 Pipe End Fittings to 135 lbf in (16 Nm).

(21) Install the (Ref. only-RR) 6J3084N Pipe onto the T-Piece of the 745-5166-501 Pipe. (Refer to figure 2 sht. 1 of 3).

(22) Torque tighten the (Ref. only-RR) 6J3084N Pipe End Fitting to 240-290 lbf in (27.1-32.7 Nm).

(23) At Clipping Point 5657 (View on arrow N), remove the AS21408 Bolt from the (RR) 5W1995 Bracket. Install the C10 GT3-04 P-Clip around the Pipe 745-5166-501. (Refer to figure 2 shts 1 & 2 of 3)

(24) Assemble Clipping Point 5657. Install the AS21421 Bolt, C10 GT3-04 P-Clip, ST1698D-50 Spacer and 4W0043 Clip-Nut onto the (RR) 5W1996 Bracket.

(25) Torque tighten the AS21421 Bolt to 20-25 lbf in (2.3-2.8 Nm).

(26) At Clipping Point 5647 (View on arrow P), remove the AS21408 Bolt from the (RR) 5W1999 Bracket. Install the C10 GT3-04 P-Clip around the Pipe 745-5166-501.

(27) Assemble Clipping Point 5647. Install the AS21422 Bolt, C10 GT3-04 P-Clip, and ST1698D-50 Spacer and 4W0043 Clip-Nut onto the (RR) 5W1999 Bracket.

(28) Torque tighten the AS21422 Bolt to 20-25 lbf in (2.3-2.8 Nm).

(29) At Clipping Point 5591 (View on arrow R), remove the AS21422 Bolt, and UP10481 Spacer from the (RR) 5W1969 Bracket. Install the C10 GT3-04 P-Clip around the Pipe 745-5166-501.

(30) Assemble Clipping Point 5591. Install the AS21422 Bolt, C10 GT3-04 P-Clip and ST1698D-50 Spacer and 4W0043 Clip-Nut onto the (RR) 5W1969 Bracket. (Refer to Figure 10)

(31) Torque tighten the AS21422 Bolt to 20-25 lbf in (2.3-2.8 Nm).

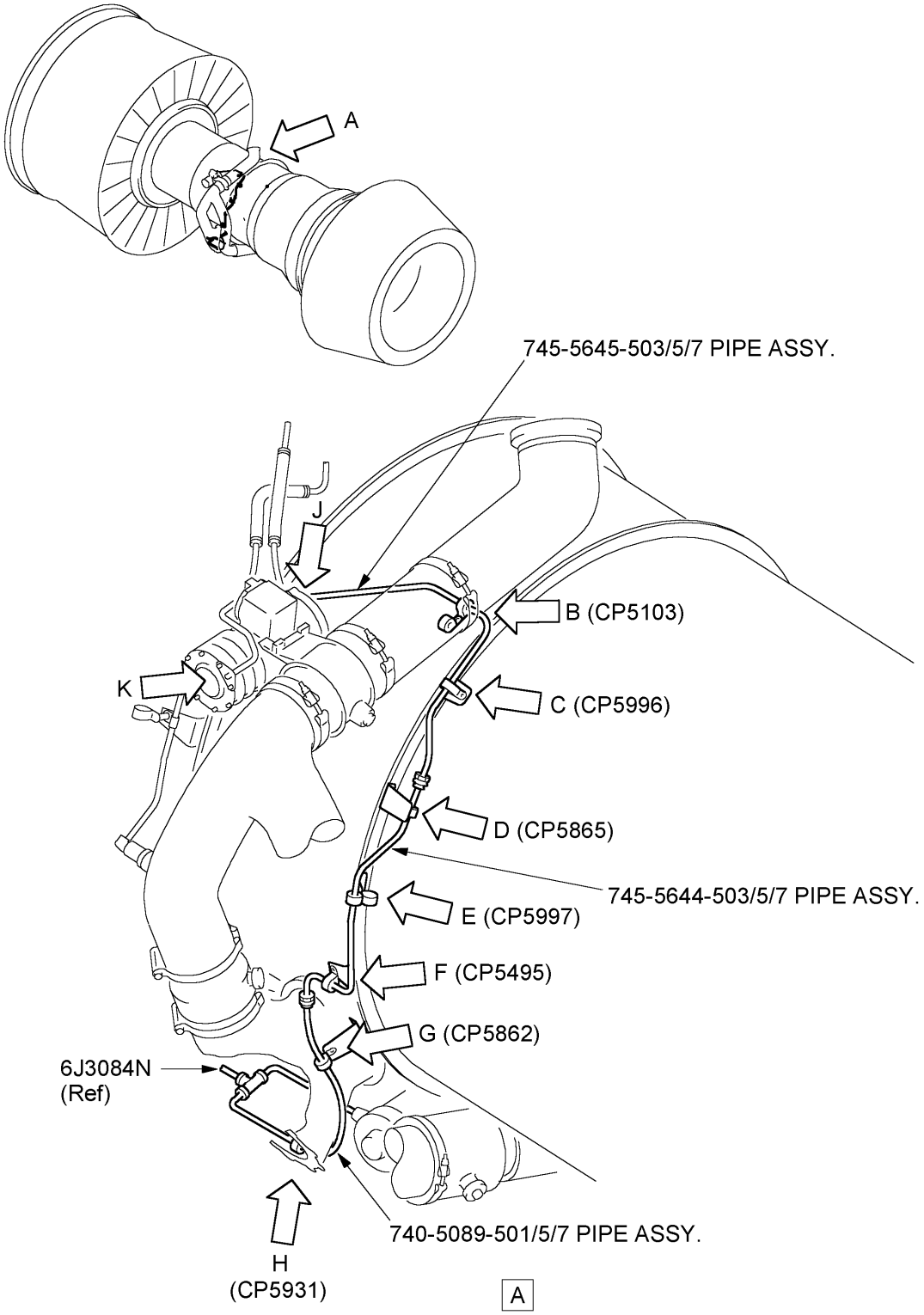
(32) Make sure that all tubes are free from pre-load and that a minimum clearance of 0.25 in (6.0 mm) is maintained between the tubes and adjacent structure/hardware.

C. Post-requisite Instructions.

(1) Close the left and right fan cowl doors as instructed Reference (1), Task 71-13-00-010-010.

D. Recording Instructions

(1) Record in the aircraft log and/or other records that Service Bulletin V2500-NAC-36-0007 has been incorporated.



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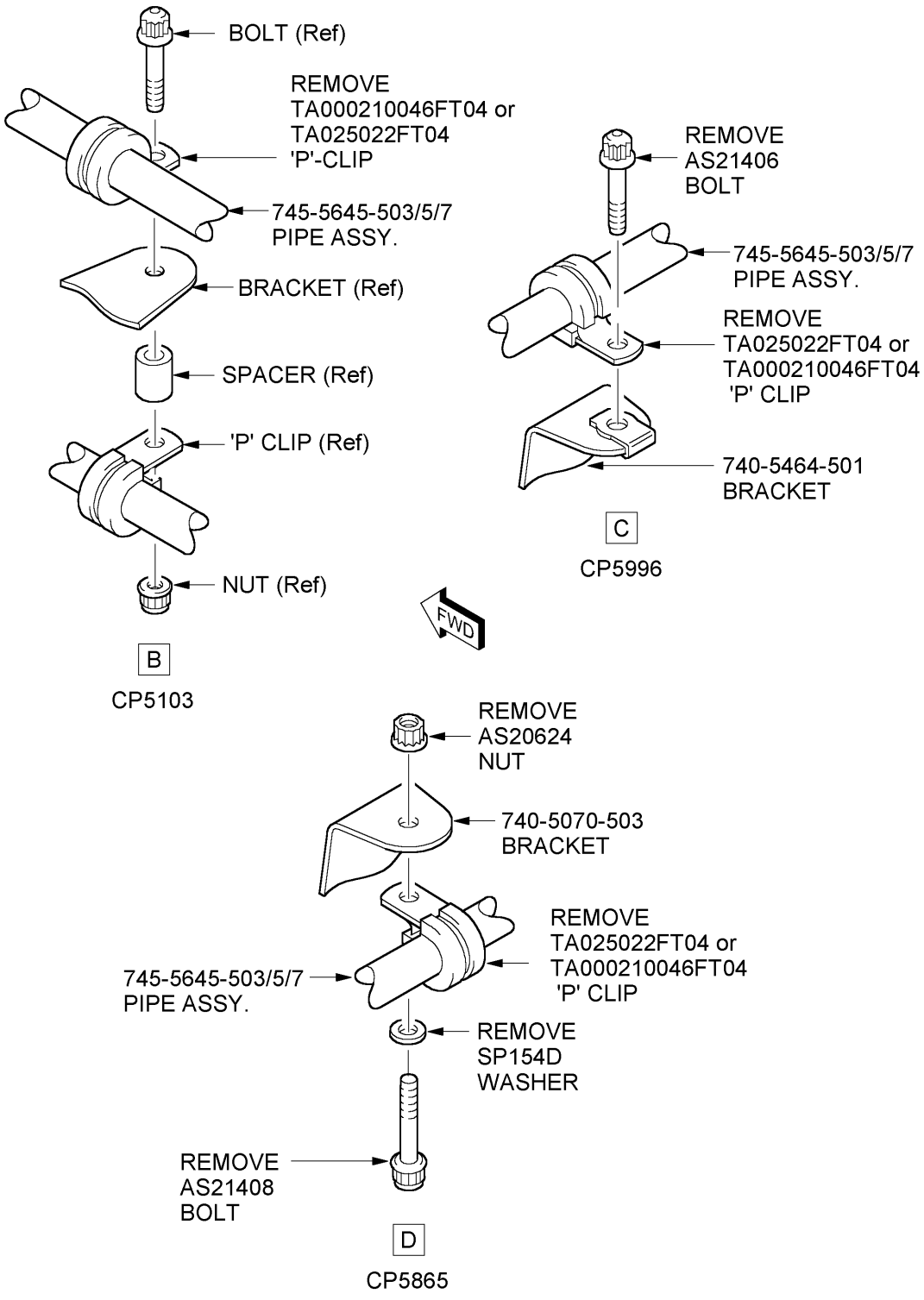
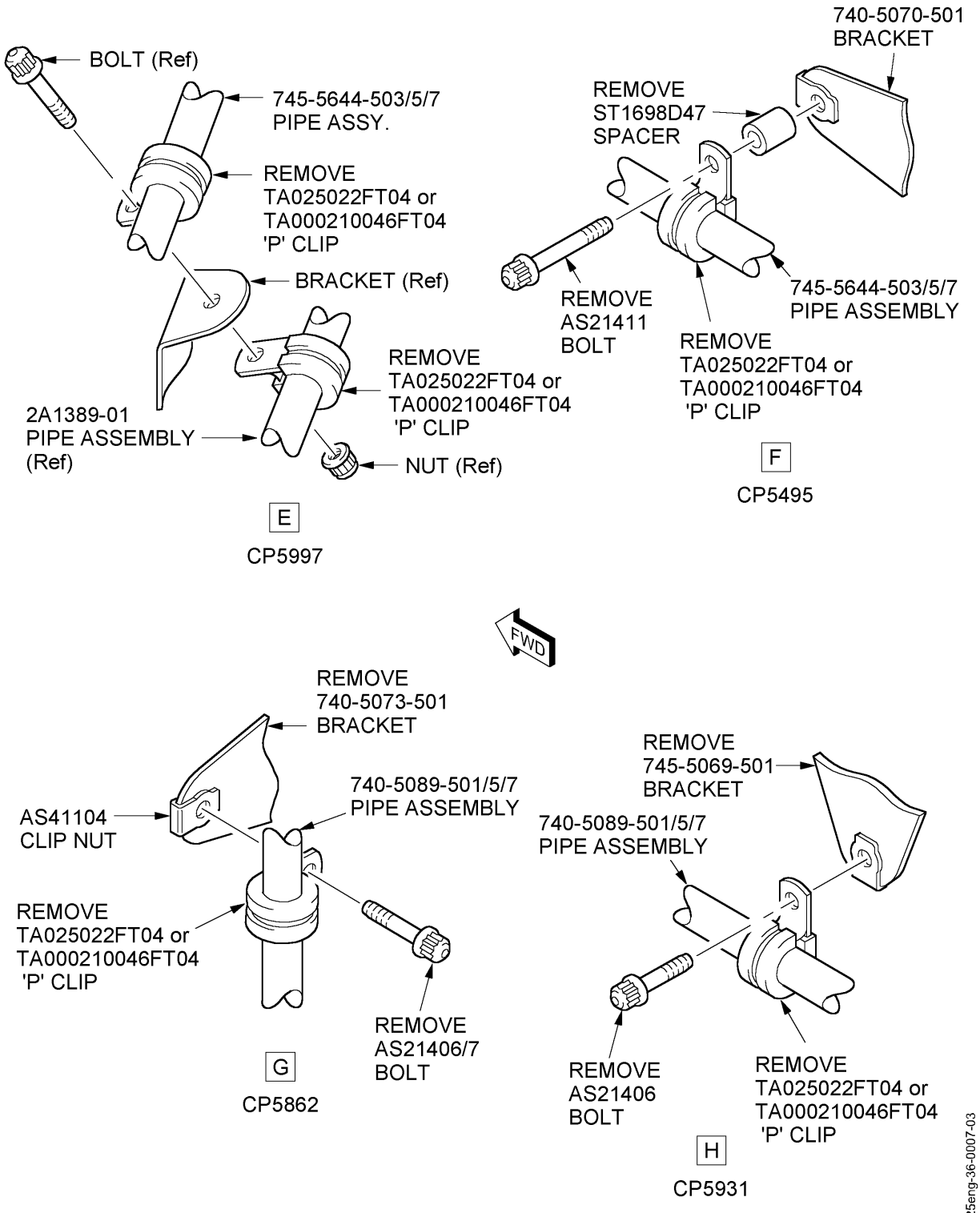
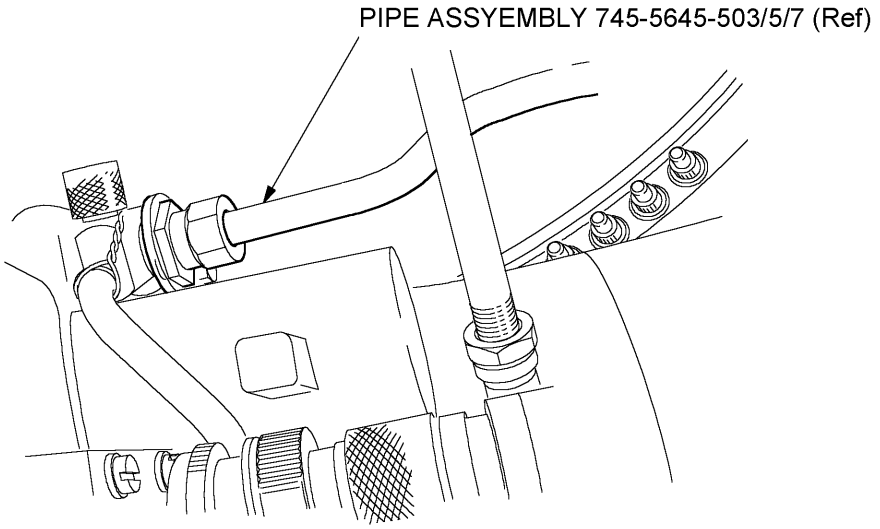
REMOVAL/INSTALLATION OF THE ECS SENSE LINE TUBES
Figure 1, Sheet 1 of 4



REMOVAL/INSTALLATION OF THE ECS SENSE LINE TUBES
Figure 1, Sheet 2 of 4



REMOVAL/INSTALLATION OF THE ECS SENSE LINE TUBES
Figure 1, Sheet 3 of 4



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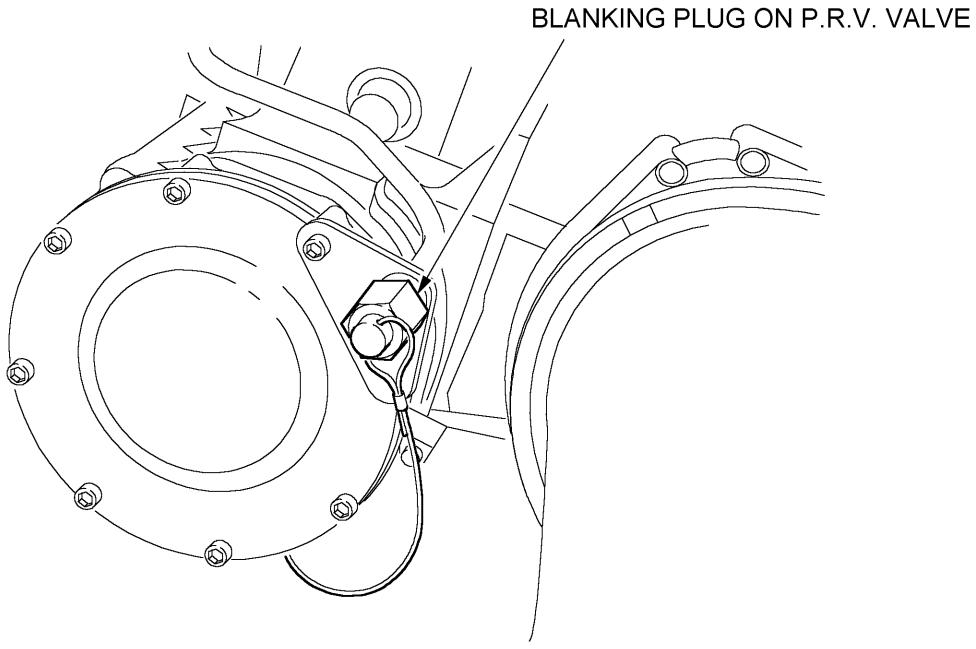

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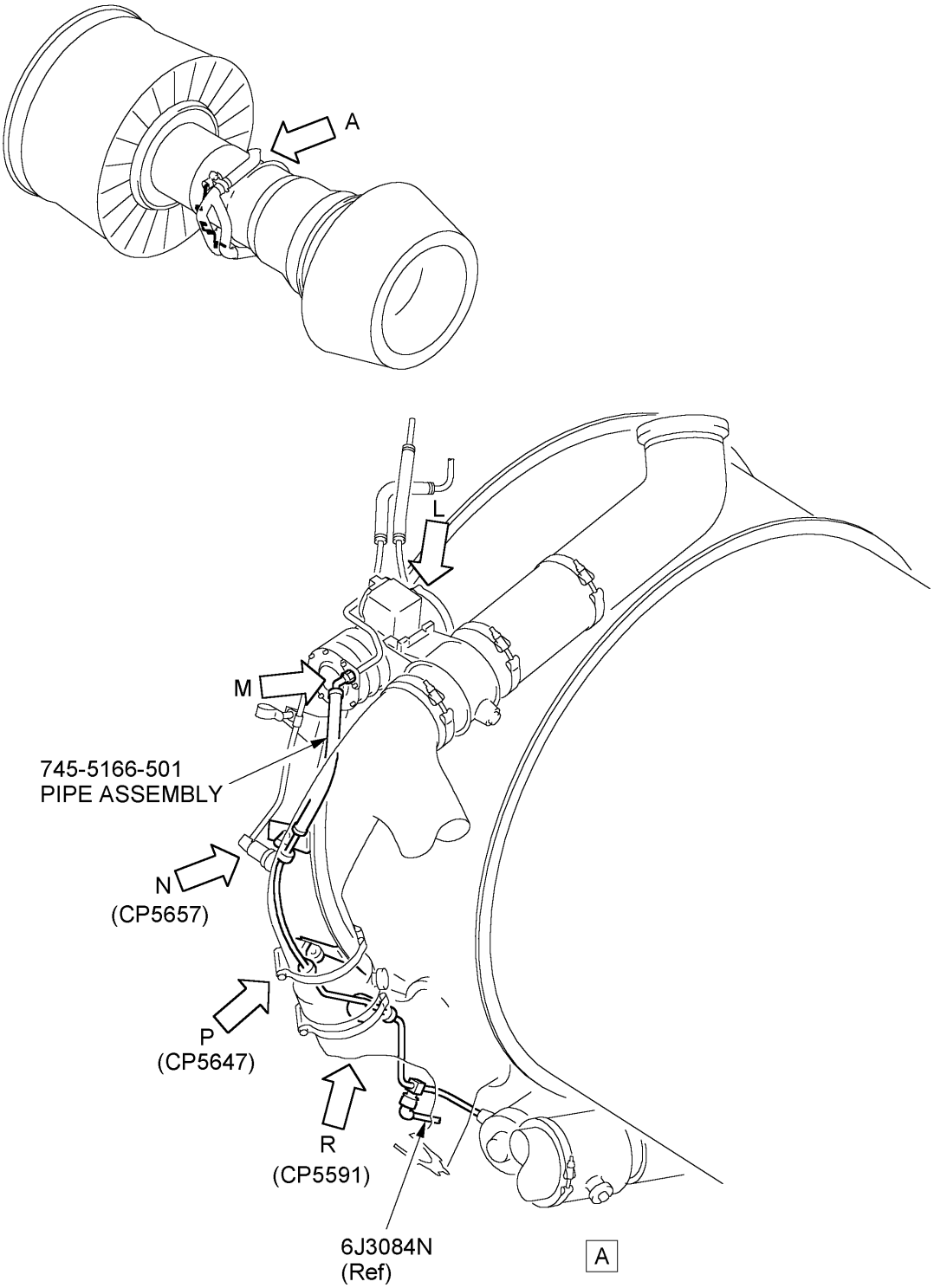
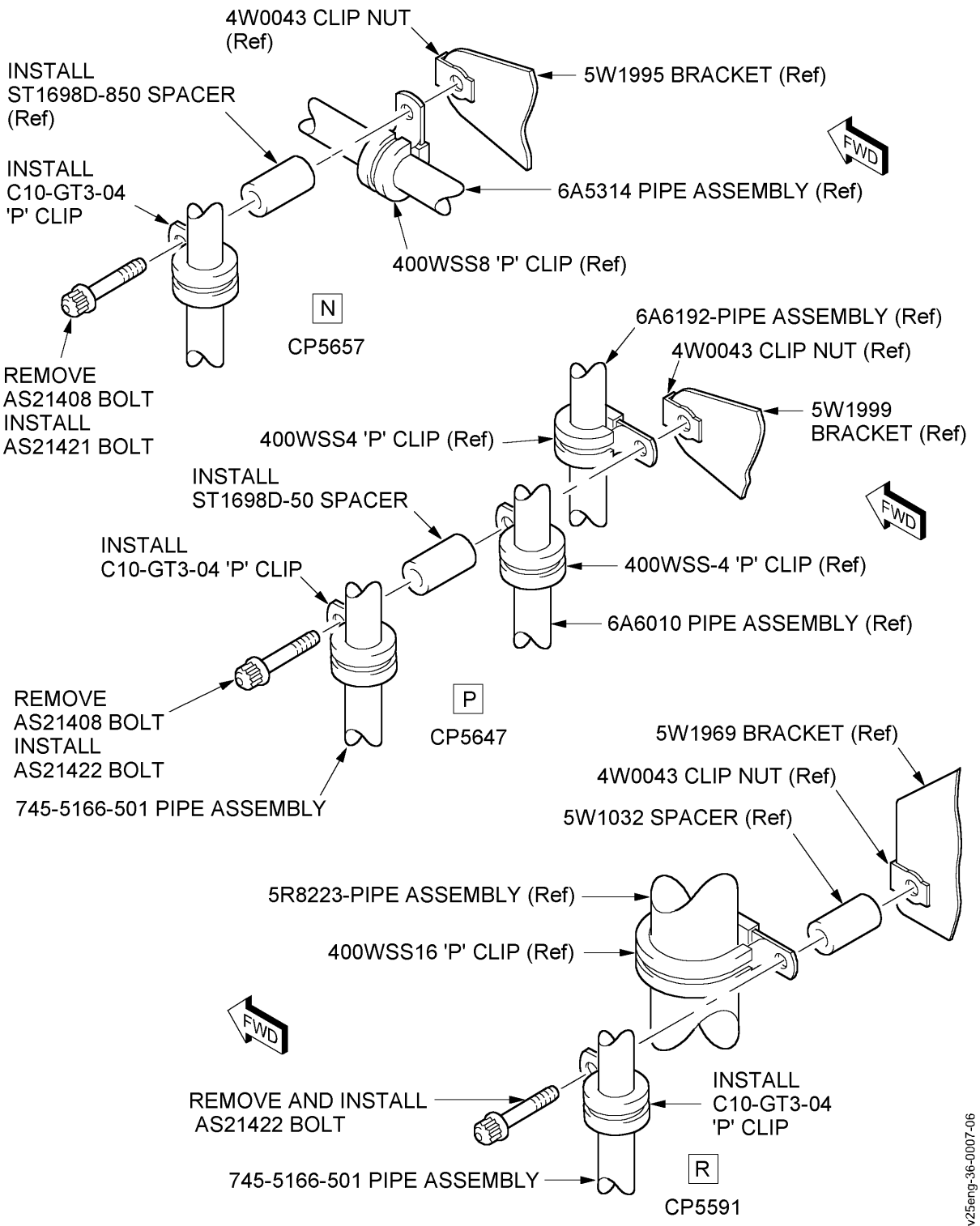
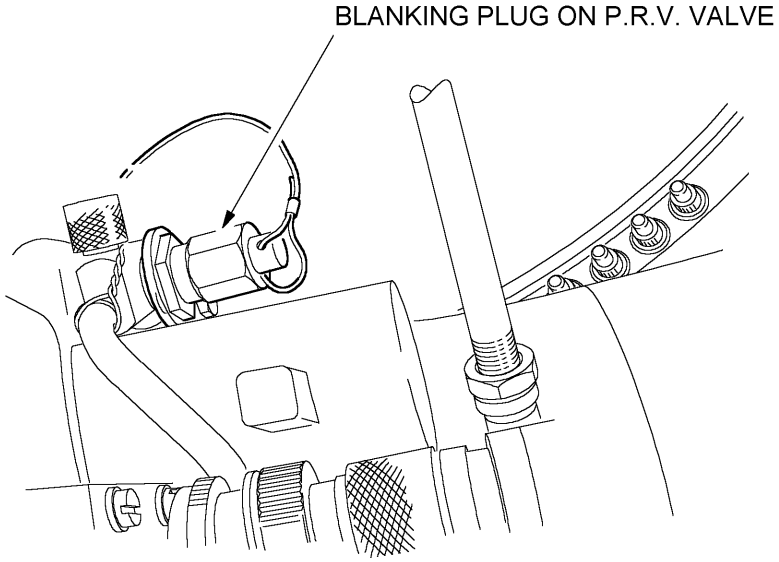
REMOVAL/INSTALLATION OF THE ECS SENSE LINE TUBES
Figure 1, Sheet 4 of 4



REMOVAL/INSTALLATION OF THE ECS SENSE LINE TUBES
Figure 2, Sheet 1 of 3



REMOVAL/INSTALLATION OF THE ECS SENSE LINE TUBES
Figure 2, Sheet 2 of 3



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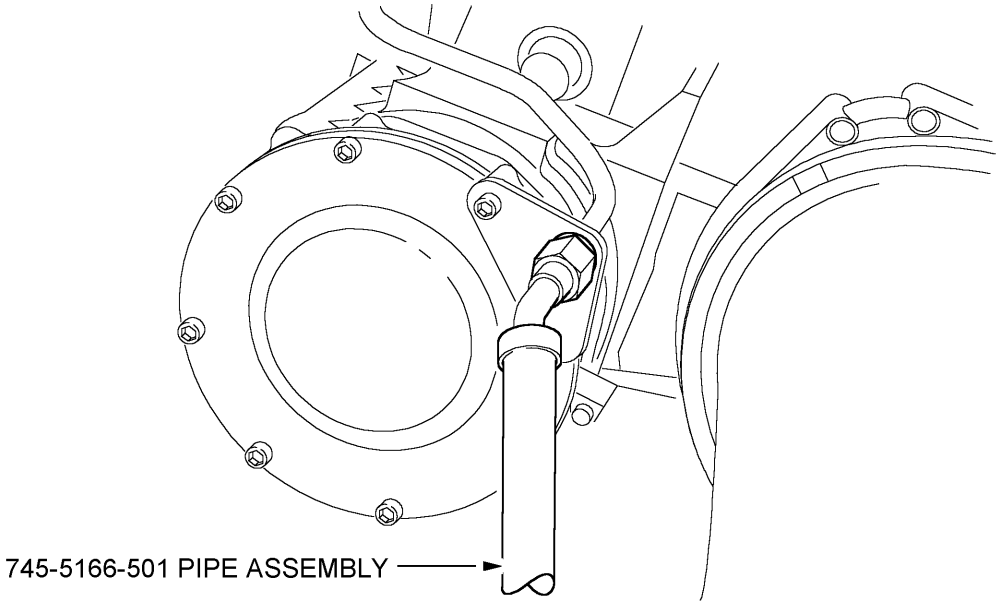

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REMOVAL/INSTALLATION OF THE ECS SENSE LINE TUBES
Figure 2, Sheet 3 of 3