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Revision B
Sept 11, 2015

This revision replaces all previous versions.
Changed application box to reflect SAP notifications

HOT GAS BYPASS IMPROVEMENT, SMALL AC [H3 VIP] Prevost vehicles

APPLICATION

NOTICE TO SERVICE CENTERS	
Verify vehicle eligibility by checking warranty bulletin status with SAP or Vehicle Warranty Information tool found on Prevost-Systems tab of the Volvo Trucks Dealer Portal	
Model	VIN
H3-45 VIP Shells with small A/C system Model Year : 2011 - 2015	From 2PCV33491 <u>B</u> C71 <u>1712</u> up to 2PCVS3496 <u>E</u> C71 <u>2864</u> incl.
This bulletin does not necessarily apply to all the above-mentioned vehicles, some vehicles may have been modified before delivery. The owners of the vehicles affected by this bulletin will be advised by a letter indicating the Vehicle Identification Number (VIN) of each vehicle concerned.	

DESCRIPTION

Following **WB13-04**, update the hot gas pickup tube circuit for an improved version with a better resistance to vibrations.

This bulletin resolves A/C Low Pressure messages in the dashboard when the auxiliary fan is not running.

The valve will open at a set low pressure to return hot gas in the low pressure circuit until the required pressure is reached, thus preventing the occurrence of low pressure events in the above conditions.

SPECIAL TOOLS

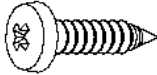
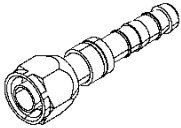
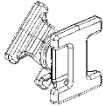
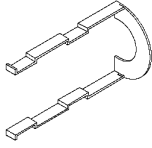
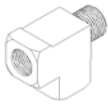
504767 Eaton E-Z Clip System™ Pliers



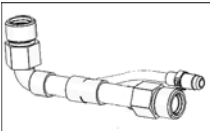
504767

MATERIAL

Order kit #450855 which includes the following parts:

Reference drawing Item No.	Part No.		Description	Qty
-	500957		SCR TP BDG PH N500 #10X3/4	1
-	5011319		FH ST #8C X #8 OF	1
-	504751		DUAL SWIVEL SADDLE SPACER (100 POUNDS)	3
-	504761		CLAMP HOSE GH134 #8	2
-	504765		CAGE/HOSE ATTACHMENT, GH134 #8	1
-	507343	-	O'RING PILOT -8	1
-	509491	-	CABLE TIE, WIDE HEAVY DUTY (250 POUNDS)	6
-	952629		CLAMP ZP 15.9X12.7	1
-	450770	-	REFERENCE DRAWING, VALVE, SUCTION ASSY	1
8	501338		TEE 1/4PM x 1/4PF x 1/4PF	1
11	5011080		A ST 1/4PMX#6OM	1

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12	5011082		A ST #6OM	1
13 to 16	457752	-	BYPASS VALVE ASSEMBLY	1
17	952637		CLAMP ZP 28.6X12.7	1
18	060840		SUPPORT, FOR HARNESS	1
19	500574		SCR MA TR PH SS 10-24X1 1/4	1
20	502882	-	NUT HEX N500 10-24	1
21	500914	-	LOCK WASHER SPLIT N500 .193X.334X.047	1
22	5001745		SCR CAP HEX N500 M8-1.25X25 G8.8	1
23	500321	-	WASHER BELLEVILLE N500 .331X.827X.098	2
24	502851	-	NUT HEX N500 M8-1.25	1
25 to 29 & 16	*457749		HOT GAS PICKUP TUBE WELDED ASSEMBLY	1
30	450747	-	HOSE (#8) X 800 MM LG ASSY	1
31	450833	-	HOSE (#4) X 210 MM LG ASSY	1

*Service part number

Other parts that may be required

Part No.	Description	Qty
459203P	Low pressure tube assembly	1
450727	High pressure hose, downstream from pickup tube	1

PROCEDURE



DANGER

Park vehicle safely, apply parking brake, stop engine and set battery master switch(es) to the OFF position prior to working on the vehicle.



WARNING

Protect your eyes and hands when handling refrigerant. Any liquid refrigerant which may accidentally escape is approximately -40°F (-40°C). If refrigerant comes in contact with the eyes or hands, serious injury could result. Always wear goggles and gloves when opening refrigerant connections.



CAUTION

State / Province / Federal regulations and laws take precedence over guidelines and instructions supplied in this document. Perform work according to best practices and with safety in mind.

1. Locate small A/C compressor in engine compartment, curb side.

Note that some vehicles before B-1721 may show a different low pressure piping arrangement. If this is the case, order 459203P and corresponding low-pressure hose to have a compatible piping arrangement.

2. Recover refrigerant from A/C system using the service valves.

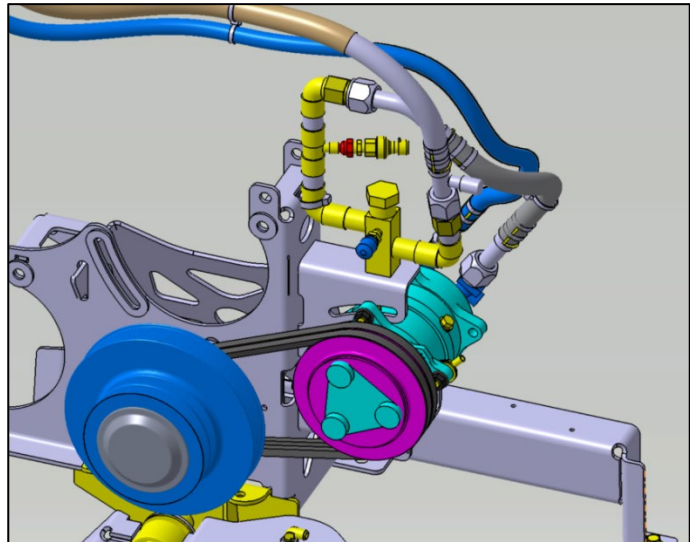


Figure 1

3. Disconnect compressor side only of high pressure hose (Fig.3) and remove WB13-04 bypass piping, if installed (Fig. 2).

The high pressure hose will be used downstream from the bypass kit.

If hose is damaged, order #450727.

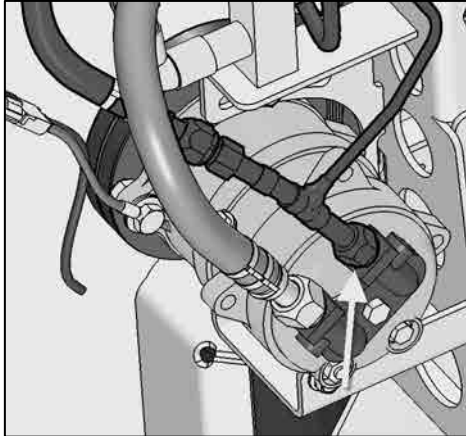


Figure 2 : Remove WB13-04 bypass if installed on vehicle.

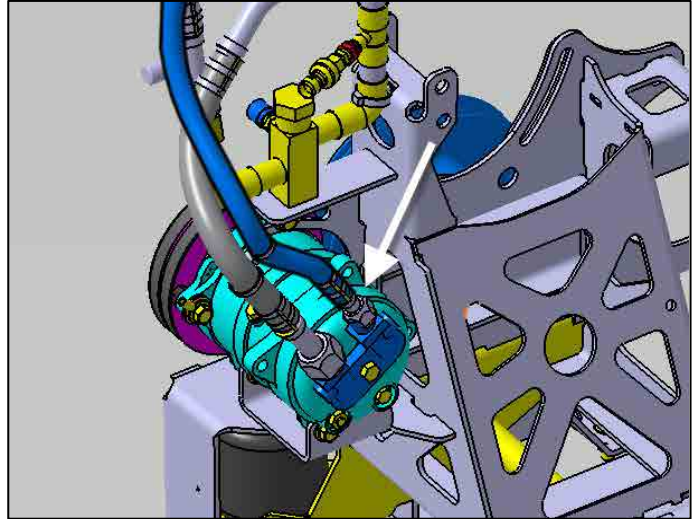


Figure 3

- On vehicles without bypass, disassemble low pressure sensor and fittings. Keep components for re-assembly.

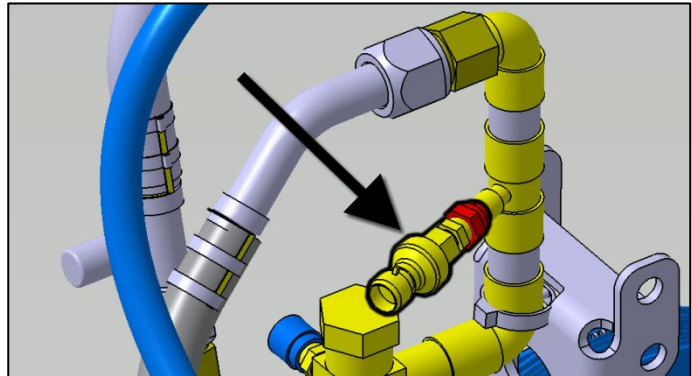


Figure 4

- Add tee 501338 at arrow location between existing components.
- Apply Loctite 567 thread sealant #680098 on all fitting connections

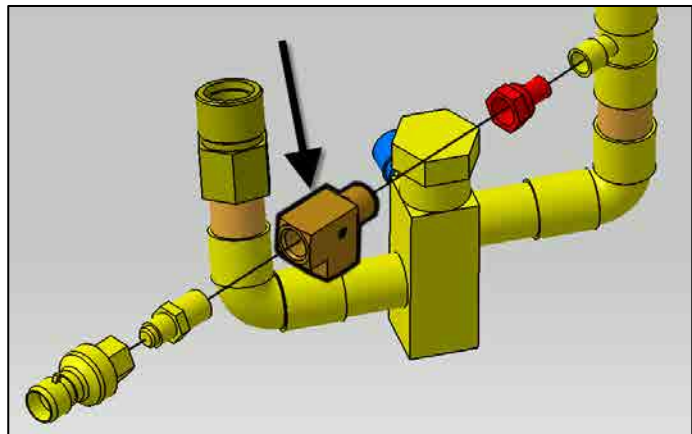


Figure 5

Installing the bypass valve assembly.

- Install #5011082 compression fitting on the bare end of the bypass tube welded assembly. (Fig 6) Make sure the end is extra clean and free of burrs. In doubt, use a fine "Scotch Brite" type scouring pad.
- Install #5011080 ORS adapter between the compression fitting and the female Tee. (Fig. 6)

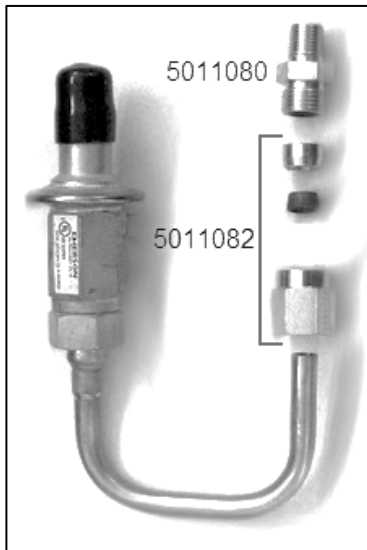


Figure 6

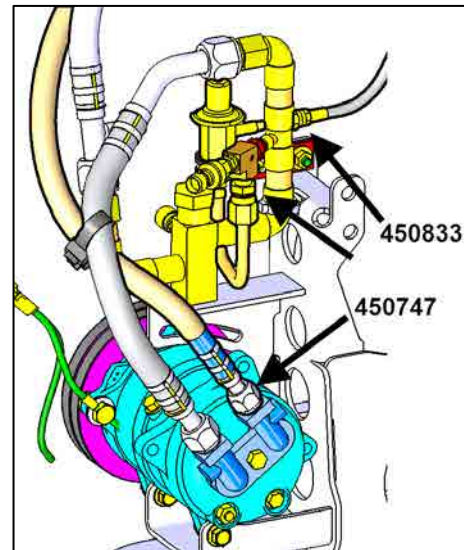


Figure 7

9. Connect #8 size hose #450747 to compressor high pressure outlet. (Fig. 7 & 8).
Connect #4 size hose #450833 to bypass valve. (Fig.7 & 8)

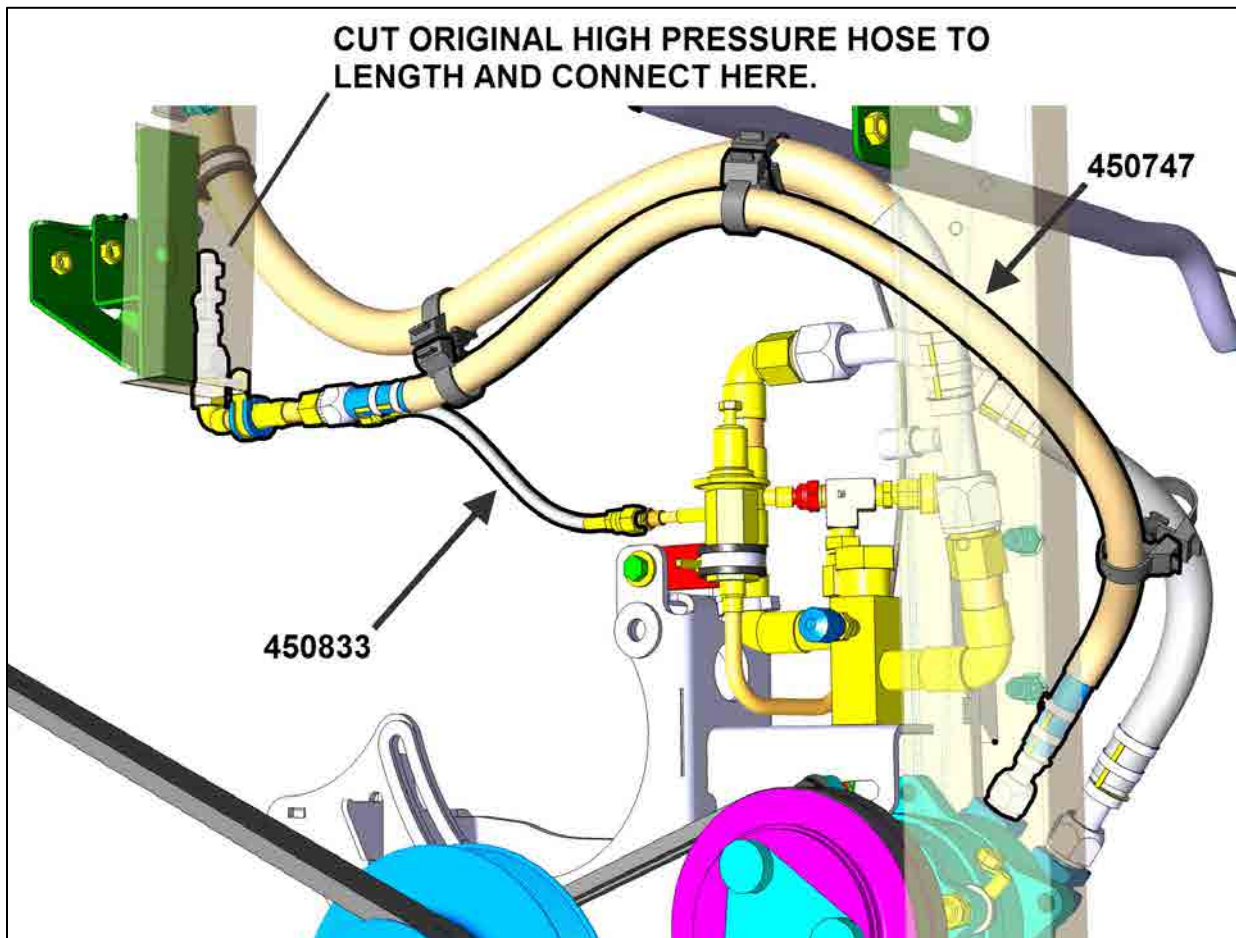


Figure 8 : Hose installation

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10. Connect hoses #450747 and #4 size hose #450833 to hot gas pickup tube (Fig. 8, 9 & 10).

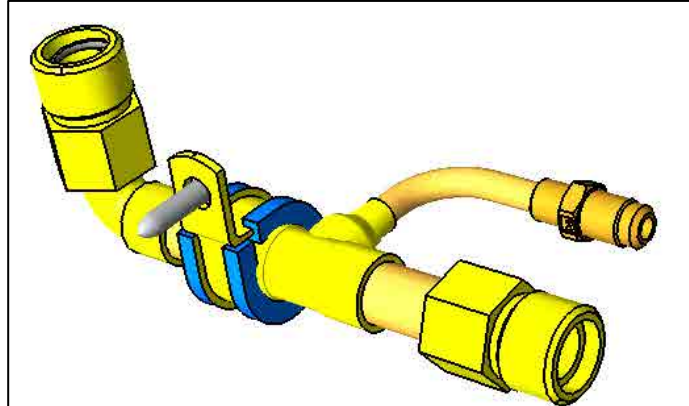


Figure 9 : Hot gas pickup tube

11. Install hot gas pickup tube on vertical tube next to engine door springs with clamp #952629 and binding screw 500957. (Fig. 10)

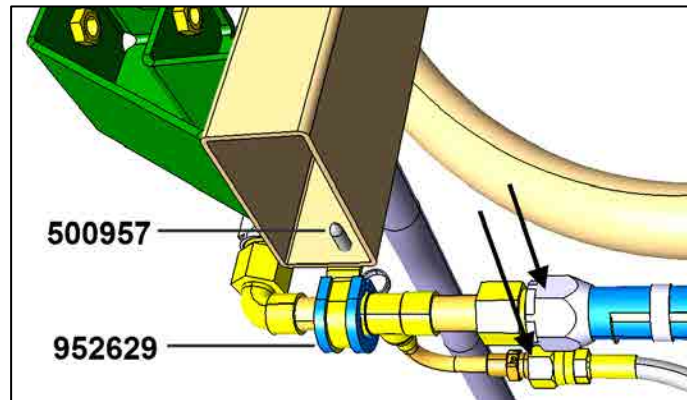


Figure 10

12. Support hose #450747 at required locations to prevent abrasion with #504751 dual swivel cable tie base. (Fig. 8 & 11)

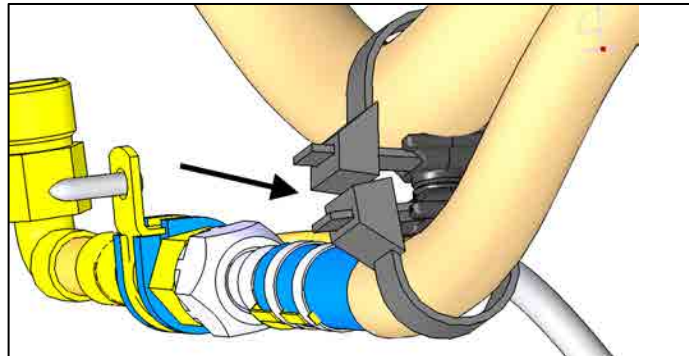


Figure 11

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High pressure hose connection.

13. Using a suitable cutter, cut the original high pressure hose (From step 3) to required length to install hose fitting. (Fig. 11)

If hose condition does not allow re-use, order hose #450727, not part of kit.

14. (Fig. 12, **A**) Slip the two clamp rings #504761 on the hose.
15. (Fig. 12, **B**) Oil the nipple on fitting #5011319 with oil compatible with A/C systems. This must be done to ease the insertion of the nipple in the hose.
16. Insert nipple in hose up to fitting shoulder. Wipe excess oil.
17. Slip O-ring #507343 in fitting cavity.
18. (Fig. 12, **C**) Snap cage # 504765 in fitting groove over hose. The cage must be able to rotate in the groove.
19. Slip clamp rings over the cage arms and into the channels on each arm. (Fig. 13) Rotate the clamp rings to have the clasp neatly placed between cage arms, not over.
20. (Fig. 13) Close the clips with crimping pliers #504767. The pliers should be placed squarely on the camp ring connection points and remain square during the closing of the clamp.

For easiest assembly, the clasp should be closed *between the cage arms*. (Fig. 13)

If the pliers are not kept square during closing of the clip, the clasp may have an offset. Use the pliers to correct the clasp alignment. (Fig. 13)

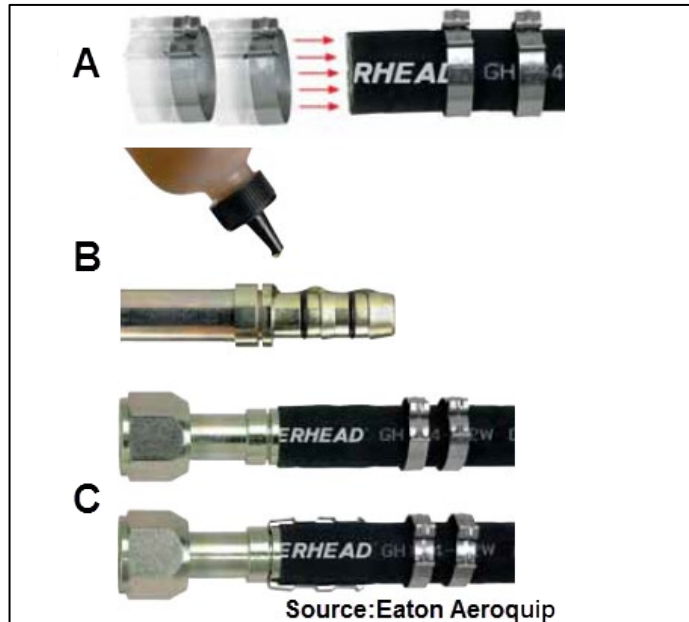


Figure 12 : Eaton E-Z Clip System™



Figure 13 : Clamp ring clasp recommendations

21. Support by-pass valve to alternator bracket with support #060840, P-Clamp #952637 and provided hardware.

Assemble clamp and support as shown.

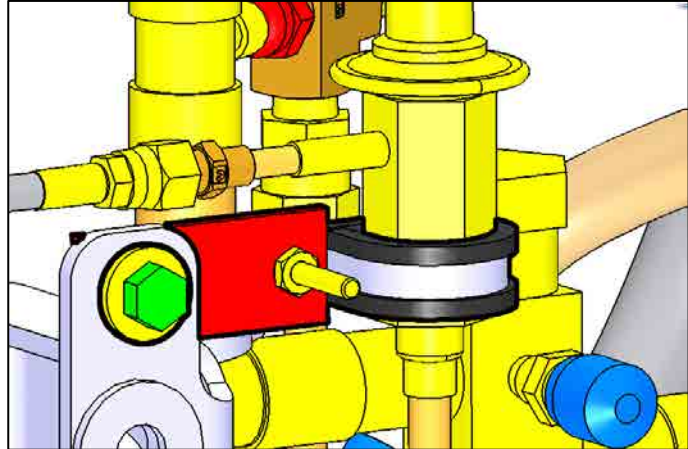
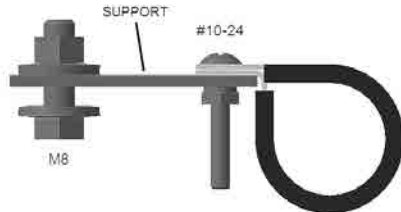


Figure 14

22. Vehicles between **B-1721** and **D-2282**:

The low pressure piping arrangement may be slightly different on these vehicles resulting in a different position of the bypass valve body.

Install support #060840 on the face of the alternator support (Fig. 13)

23. If required, the clamp may also be moved on the face of the support to compensate further.
24. Perform dry nitrogen cleanout and leak tests according to best practices and regulations.
25. Pump refrigerant back in the system. Ensure appropriate charge is pumped back.
Test A/C system for proper operation.

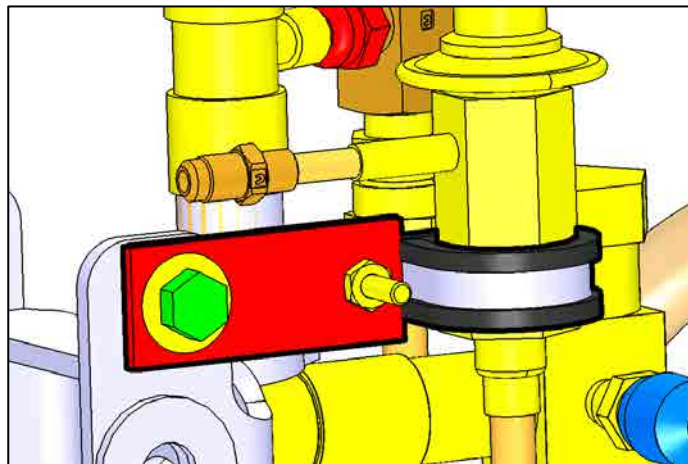


Figure 15

PARTS / WASTE DISPOSAL

Discard waste according to applicable environmental regulations (Municipal/State[Prov.]/ Federal)

WARRANTY

This modification is covered by Prevo's normal warranty. We will reimburse you three hours (3.0h) of labor upon receipt of a completed A.F.A. form on which you must specify "Warranty Bulletin SP15-07".

OTHER

VBC Bulletin	N/A
Fail Code	22.00
Defect Code	09
System Condition	B
Causal Part	459203

REFERENCE DRAWING

