



INSTRUCTION TO SERVICE

ITS: 60830		September 26, 2024
SECTION:	260-Hybrid - incl Batteries/Power cables	
WRITTEN BY:	New Flyer Service Engineering	
SUBJECT:	Repair ECP & MCP pump conncetors to prevent water intrusion	
ISSUE:	Water intrusion through ECP & MCP pump connectors causing pumps to fail	
SUMMARY:	R&R ECP and MCP pump connectors. Add heatshrink to the ECP & MCP pump harness connections and ensure the conections are secured horizontally.	

ITS60830

Ref. NHTSA Recall No.	Ref. Transport Canada Recall No.
Not Applicable	Not Applicable

THIS ITS DOCUMENT SHOULD BE RETAINED AND REFERRED TO FOR FUTURE MAINTENANCE UNTIL THE NEW FLYER PARTS AND/OR SERVICE MANUAL IS UPDATED TO REFLECT WORK DONE AS A RESULT OF THIS DOCUMENT. ENSURE THAT THIS DOCUMENT IS AVAILABLE FOR PARTS AND MAINTENANCE STAFF GOING FORWARD.

PROCEDURE:

1. Set park brake and chock wheels.
2. Turn the main battery disconnect switch to the "OFF" position.

⚠ WARNING

DO NOT perform any maintenance on roof-mounted components unless equipment is in place to prevent fall hazards. Ensure maintenance personnel use approved lift platforms or scaffolding and wear approved safety harness when working on the roof of the vehicle. Please refer to the Preventive Maintenance section of your Service Manual under the Safety heading for more information.

3. On the roof of the bus, locate the ECP coolant pump. See Figure 1.

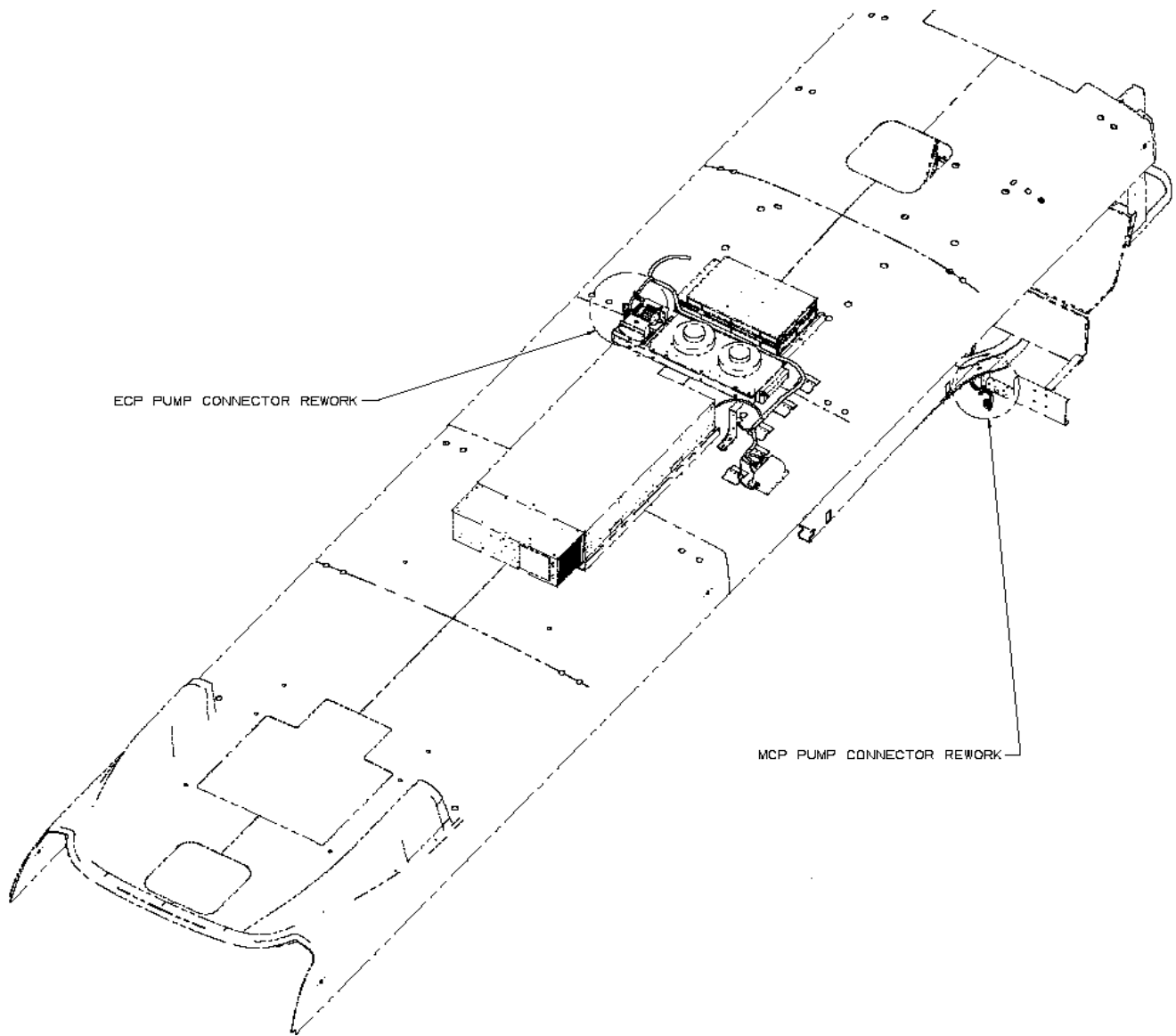
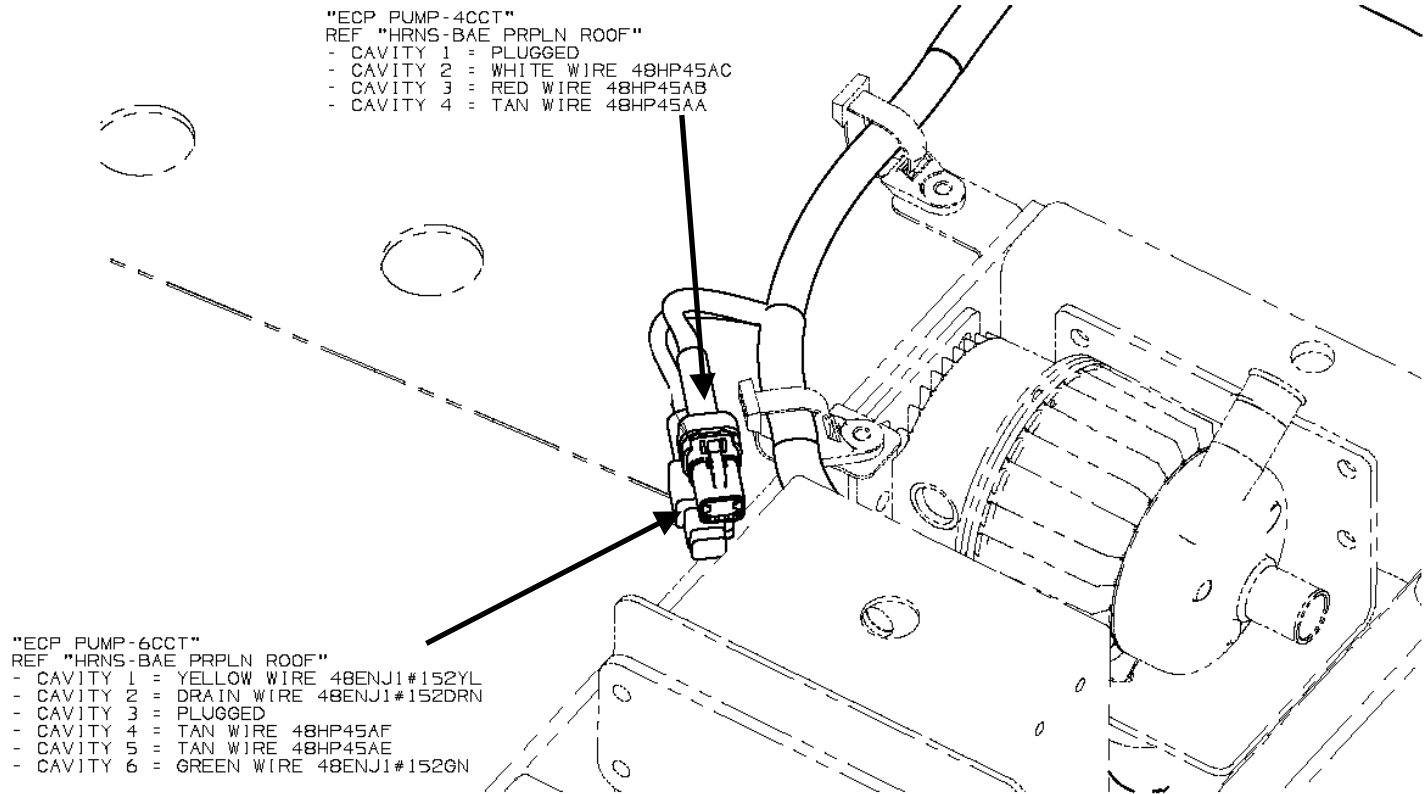


Figure 1: ECP & MCP Coolant Pump Locations

4. Locate the existing connectors on the ECP coolant pump. See Figure 2.



ECP PUMP CONNECTOR REWORK

Figure 2: ECP Pump Connectors

5. Disconnect the two connectors from the ECP coolant pump to the bus side harness. Inspect the connector pins for corrosion. If corrosion is found replace the connector pins as required, and follow the Figure 3 for the Pins P/Ns. Please use the Inspection sheet in Appendix A to record any buses that showed signs of corrosion in the connectors. (NOTE: Please reuse the pin locks)

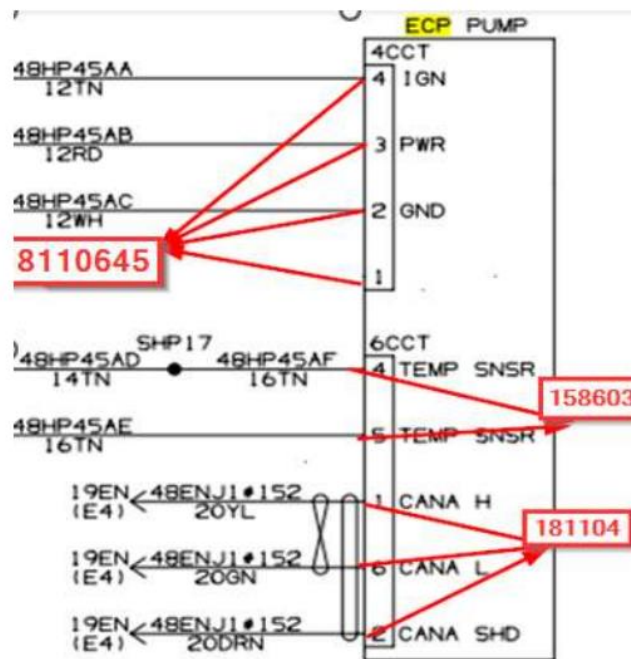


Figure 3: ECP Pump Connector Pins Part Numbers

6. Carefully de-pin connector “ECP PUMP – 4CCT” (Power Connector) in Figure 2, discard connector along with the rubber boot. Retain the cavity plug from the unused cavity.
7. Slide a 2” piece of adhesive heatshrink (NF PN 136366) over the back of the connector and wires then re-pin the wires into the new connector kit (NF PN 1048120). Plug the unused cavity with the exiting cavity plug retained from the original connector.
8. Shrink the heatshrink, extending over the back of the connector and wire bundle. Use sealant (NF PN 5959336) or equivalent to fill gaps in wire bundle to ensure complete seal. See Figure 4.

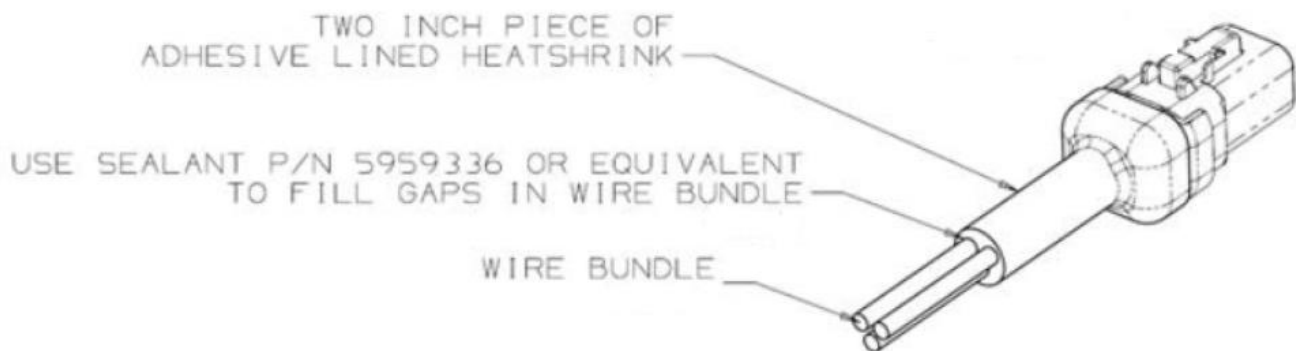


Figure 4: Apply Heatshrink and Sealant

9. Carefully depin connector “ECP PUMP – 6CCT” (CAN Connector) in Figure 2, discard connector along with the rubber boot. Retain the cavity plug from the unused cavity.

10. Slide a 2" piece of heatshrink (NF PN 136365) over top of the wires and then re-pin the wires into the new connector kit (NF PN 484006). Plug the unused cavity with the exiting cavity plug retained from the original connector.
11. Shrink the heatshrink, extending over the back of the connector and wire bundle. Use sealant (NF PN 5959336) or equivalent to fill gaps in wire bundle to ensure complete seal. See Figure 4.
12. Secure the connectors horizontally using clamps (NF 731400) & (NF 608614). See Figure 5.

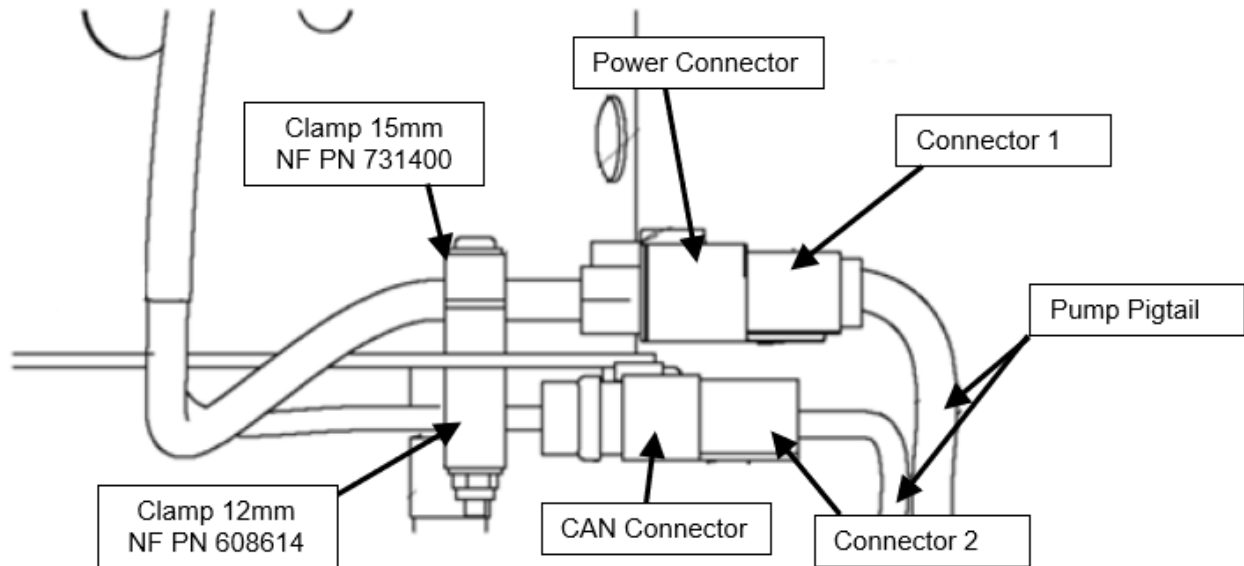


Figure 5: Connector Locations for Heat Shrink Application

13. At the rear of the bus, locate the MCP coolant pump. See Figure 1.
14. Locate the existing connectors on the MCP coolant pump. See Figure 6.

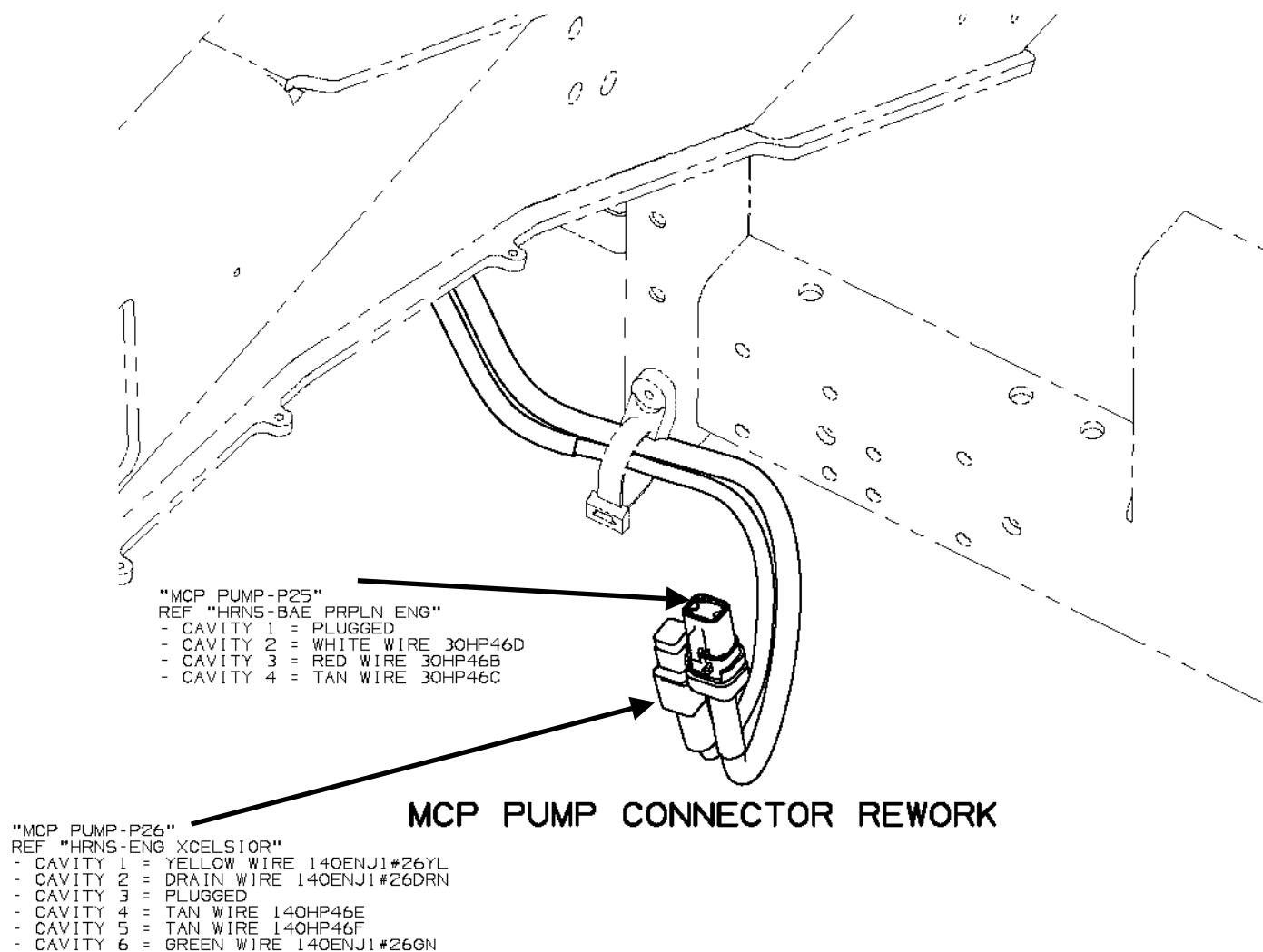


Figure 6: MCP Pump Connectors

15. Disconnect the two connectors from the MCP coolant pump to the bus side harness. Inspect the connector pins for corrosion. If corrosion is found replace the connector pins as required and follow the Figure 7 for the Pins P/N. Please use the Inspection sheet in Appendix A to record any buses that showed signs of corrosion in the connectors. (NOTE: Please reuse the pin locks)

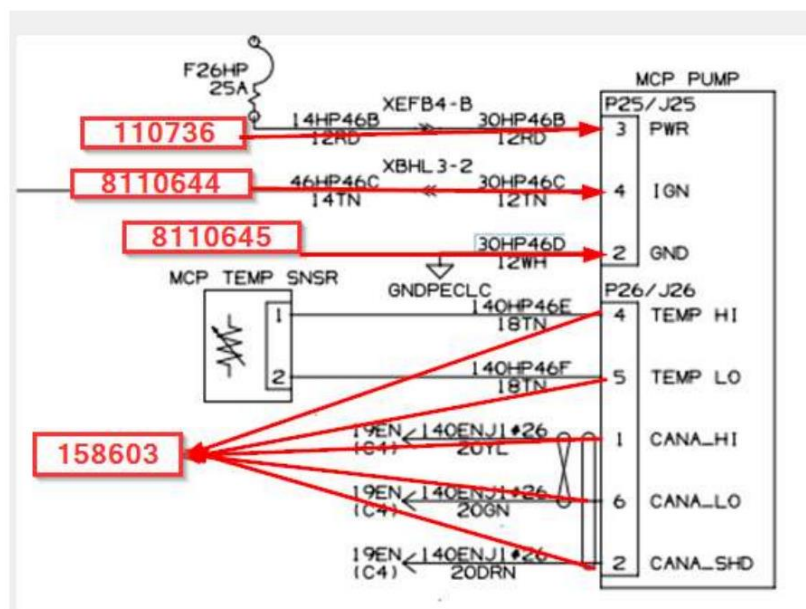


Figure 7: MCP Pump Connector Pins Part Numbers

16. Carefully de-pin connector "MCP PUMP – P25" (Power Connector) in Figure 5, discard connector along with the rubber boot. Retain the cavity plug from the unused cavity.
17. Slide a 2" piece of adhesive heatshrink (NF PN 136366) over the back of the connector and wires then re-pin the wires into the new connector kit (NF PN 1048120). Plug the unused cavity with the exiting cavity plug retained from the original connector.
18. Shrink the heatshrink, extending over the back of the connector and wire bundle. Use sealant (NF PN 5959336) or equivalent to fill gaps in wire bundle to ensure complete seal. See Figure 4.
19. Carefully depin connector "MCP PUMP – P26" (CAN Connector) in Figure 5, discard connector along with the rubber boot. Retain the cavity plug from the unused cavity.
20. Slide a 2" piece of heatshrink (NF PN 136365) over top of the wires and then re-pin the wires into the new connector kit (NF PN 484006). Plug the unused cavity with the exiting cavity plug retained from the original connector.
21. Shrink the heatshrink, extending over the back of the connector and wire bundle. Use sealant (NF PN 5959336) or equivalent to fill gaps in wire bundle to ensure complete seal. See Figure 4.
22. Secure the connectors horizontally using clamps (NF 731400) & (NF 608614). See Figure 5.
23. Clean up all tools and debris and return the bus to service condition.
24. Turn the main battery switch to the "ON" position.
25. Verify proper function of the ECP & MCP coolant pumps.

NOTE: If ECP or MCP Pump is compromised it should be replaced under warranty (Separate Work Order).

LABOUR ESTIMATE				
	Operation	Number of Technician(s)	Hours	Labor Time T X HR
1	Repair ECP & MCP pump connctetors to prevent water intrusion	1	3.0	3.0

PARTS REQUIRED					
Item	Part Number	Description	Qty. per Coach	Units	Notes
1	136366	TUBE-HEATSHRINK .75 SS	1	FT	
2	136365	TUBE-HEATSHRINK 1.0 SS	1	FT	
3	1048120	KIT-4CCT TWR DTP BK W/BOOT ADPTR	2	EA	
4	5959336	GE SCS1203 BLACK 1200 CONSTRUCTION SILICONE SEALANT	0.01	EA	
5	484006	KIT-CONN 6CCT TWR DTM	2	EA	

CONNECTOR PINS P/N					
Item	Part Number	Description	Qty. per Coach	Units	Notes
1	8110645	SOCKET 14-12 GA	7	EA	
2	158603	SOCKET-20- 18 GA DEUTSCH	9	EA	
3	181104	TERM-SOCKET 16-22 AWG DCH20	5	EA	
4	110736	SOCKET-12AWG W/PACK	3	EA	
5	8110644	PIN 14—12 GA	3	EA	

SPECIAL TOOLS REQUIRED					
Item	Vendor's Part Number	Description	Qty .	Units	Notes
1	12014012	Insertion and extraction Tool	1		12014012 Aptiv (formerly Delphi) Mouser Canada
2	0411-240-2005	Insertion and Extraction Tool	1		0411-240-2005 : DEUTSCH Insertion & Extraction Tools TE Connectivity
3	DT-RT1	Insertion and Extraction Tool	1		DT-RT1 : DEUTSCH Insertion & Extraction Tools TE Connectivity

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