



**IMPORTANT SERVICE
INFORMATION FOR:**

- ✓ SERVICE MANAGER
- ✓ SERVICE ADVISOR
- ✓ TECHNICIAN
- ✓ PARTS DEPARTMENT
- ✓ WARRANTY PERSONNEL

BULLETIN NUMBER:
SB18-N-001A

ISSUE DATE:
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GROUP:
ELECTRICAL

DTC U0106 LOST COMMUNICATION WITH GLOW PLUG CONTROL MODULE (GPCM)

AFFECTED VEHICLES

- 2011-2018MY Isuzu N-Series Vehicles
Equipped with 5.2L 4HK1 Diesel Engines

This bulletin supersedes Service Bulletin SB18-N-001. Please discard previous bulletin SB18-N-001.

CONDITION

Some customers may complain of an illuminated Check Engine Malfunction Indicator Light (MIL) associated with Diagnostic Trouble Code (DTC) U0106, Lost Communication with Glow Plug Control Module (GPCM). This condition may be the result of water intrusion into the GPCM connector. Water from rain and other outside sources can pool in the glow plug recessed area on the outside of the cylinder head. If enough water accumulates, it can seep into the glow plug harness through the terminal ends and enter the GPCM connector, causing this DTC to set.

If this DTC is found and evidence of water is present in the GPCM connector, replace the glow plug harness terminals and rear panel cover as outlined in the service procedure in this bulletin. The replacement terminal ends are sealed so that water cannot get into and through the wire.

SERVICE PROCEDURE

1. Disconnect the negative battery terminal, chock the tires, and tilt the cab in accordance with the directions in the applicable Workshop Manual (WSM), make sure the tilt support locks in place and install the safety pin..
2. Remove the Air Inlet Hose from the Intercooler to the Throttle Body shown in Figure 1, for access to the GPCM. (See Figure 2.)



Figure 1



Figure 2

3. Inspect the GPCM harness connectors at the module (E-64 and E-65) for moisture intrusion and damage to the connector or terminals. (See Figure 3.)

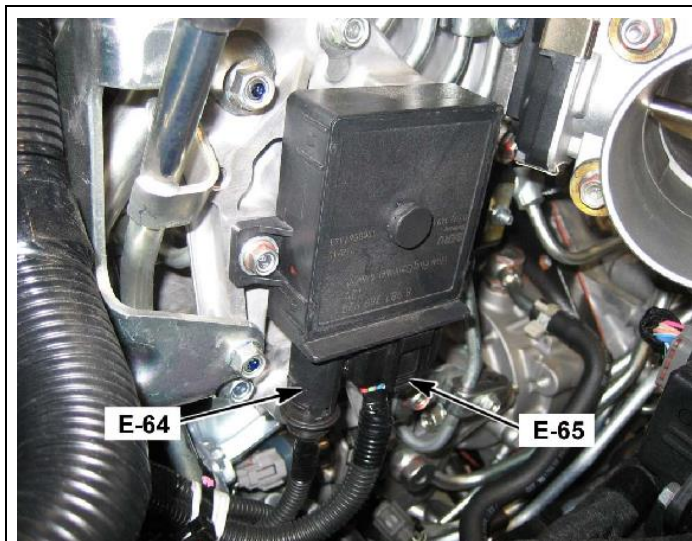


Figure 3

NOTE: Use shop air supply to blow away any moisture and debris found in the connectors before proceeding.

4. Clean the connections with electrical contact cleaner.
5. Put dielectric grease in the GPCM connectors as shown in Figure 4 and reconnect them to GPCM.

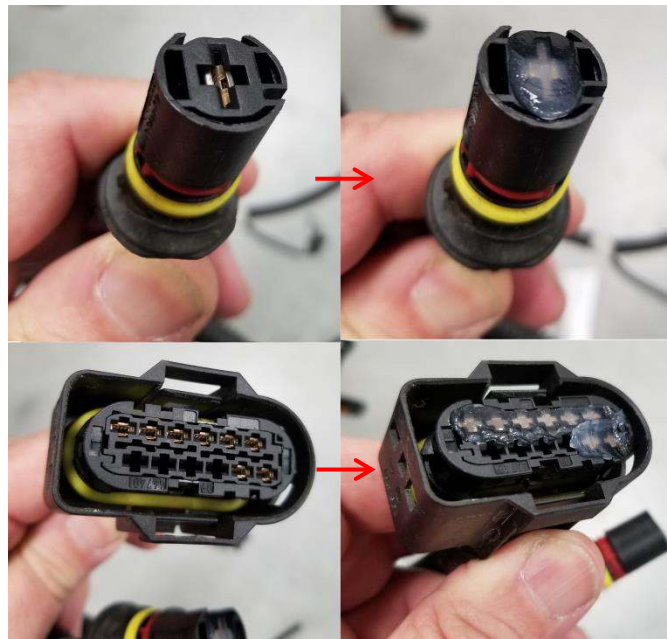


Figure 4

6. Disconnect EGR Gas Temperature Sensor 2 connector and remove the EGR Cooler Duct and EGR Temperature Sensor 2 as an assembly. (See Figure 5.)

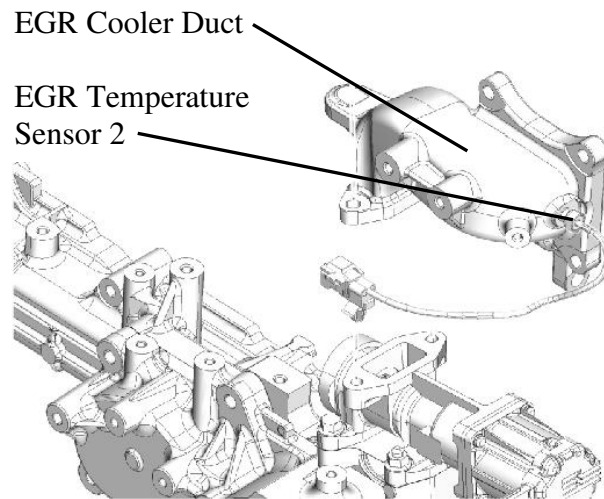
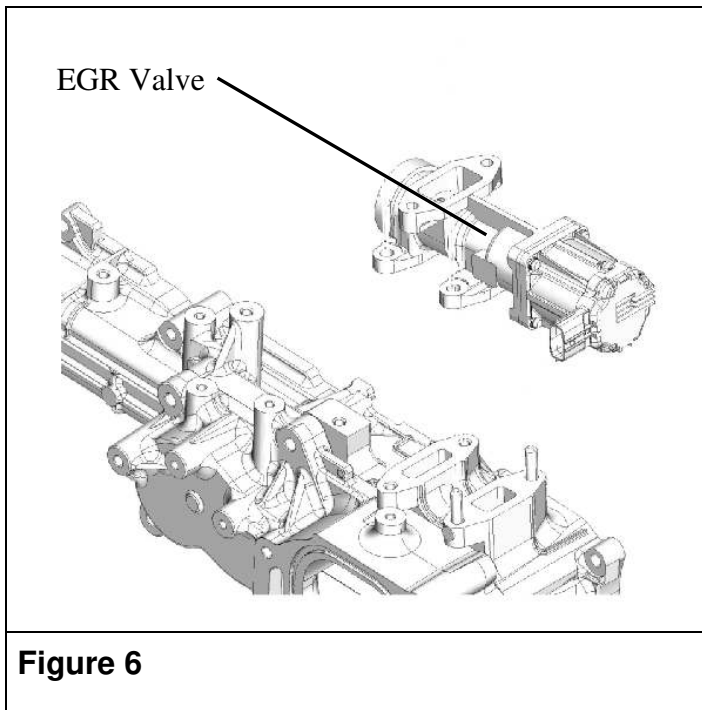
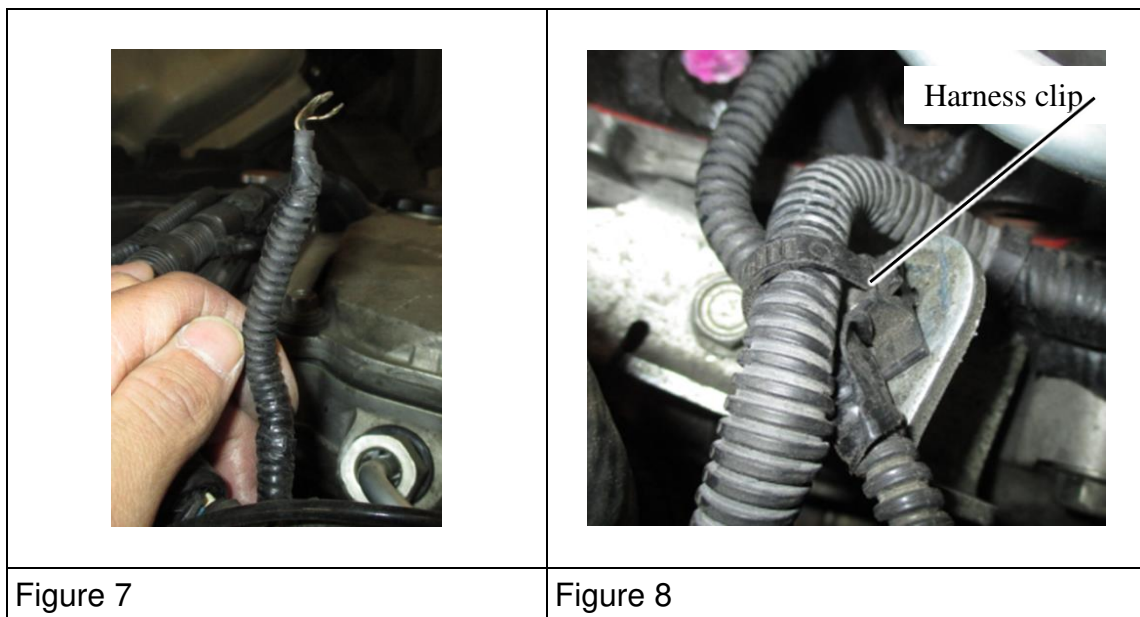


Figure 5

7. Disconnect the EGR valve connector and remove the EGR valve as shown in Figure 6.



8. At each individual glow plug wire, remove the nut that holds the terminal onto the glow plug. Gently pull the wire with terminal end upwards. (See Figure 7.) Remove the original harness clips as necessary to gain greater access. (See Figure 8.)



9. Remove the original glow plug wire from the corrugated tubing.
- Note:** The corrugated tubing will be reused.
10. Cut off the original glow plug wire at approximately 60mm up from the glow plug connection eyelet. (See Figure 9.) Discard the removed wire with eyelet.



Figure 9

11. Cut one of the **new** pigtail harness wires to the same length as the **original** wire that was removed in Step 10 (approximately 60mm).
12. Strip 15mm of insulation off of the glow plug wire that remained on the engine harness **and** 15mm of insulation off of the **new** pigtail wire that was cut in Step 11. (See Figure 10.) Slip a piece of shrink wrap at least 40mm long onto the pigtail wire.

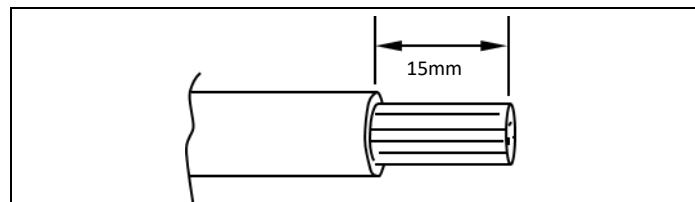


Figure 10

SPLICING WIRE

There are two types of splices that can be used: a solder or crimp type splice. Perform only one type of splice per vehicle. The procedure for a Solder splice starts at Step 13 and for a Crimp splice starts at Step 17.

SOLDER TYPE SPLICE

13. Divide each of the stripped wire portions in two, join and then twist them together. (See Figure 11.)

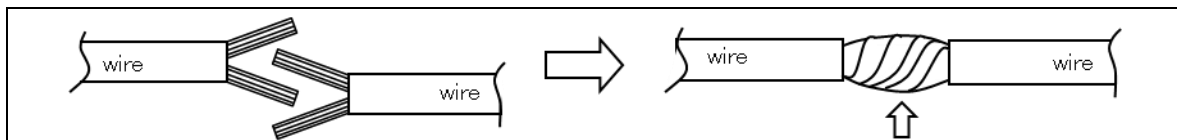


Figure 11

14. Solder the twisted wire joint together. Make sure that the soldered joint goes completely around the wires and is at least 10mm in length. (See Figure 12.)

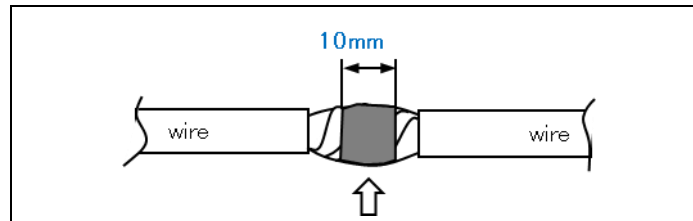


Figure 12

15. Slide the heat shrink tubing that was put on in Step 12 down over the soldered joint and center it. Use a heat gun to heat and shrink the heat shrink tubing in place. (See Figure 13.)

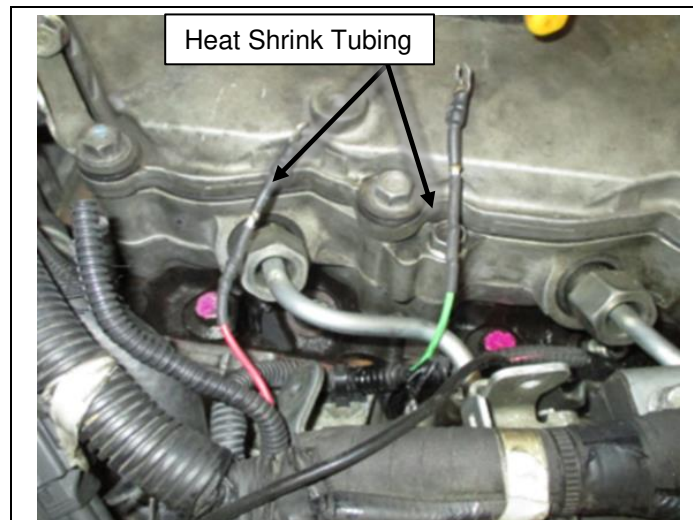


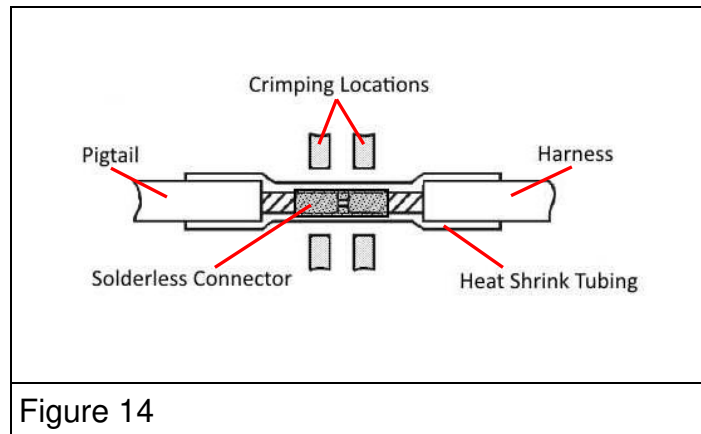
Figure 13

16. Repeat Steps 13 through 15 for each of the remaining three (3) glow plug terminals. Once all terminals have been replaced, proceed to Step 21.

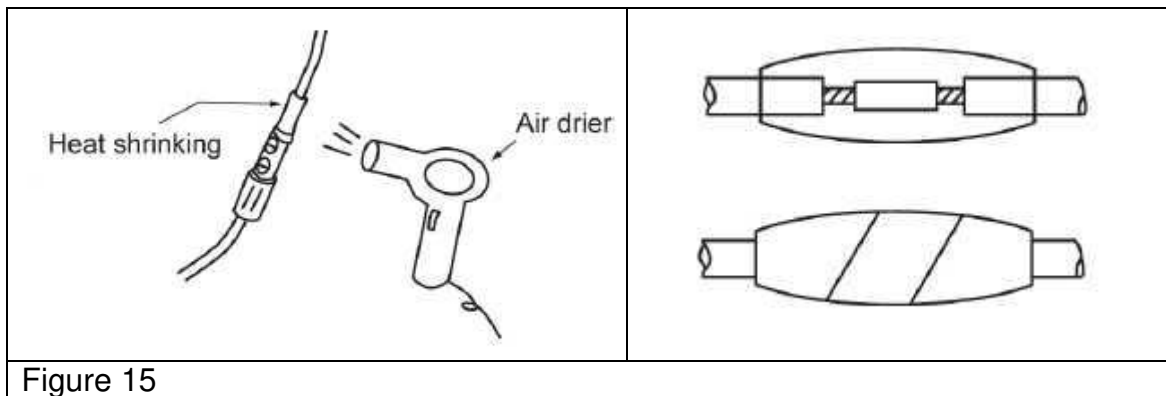
CRIMP TYPE SPLICE

NOTE: Use weatherproof type butt connectors that have adhesive on the inside of the shrink tubing. Recommended connector size is 16-14 gauge, which is normally blue in color.

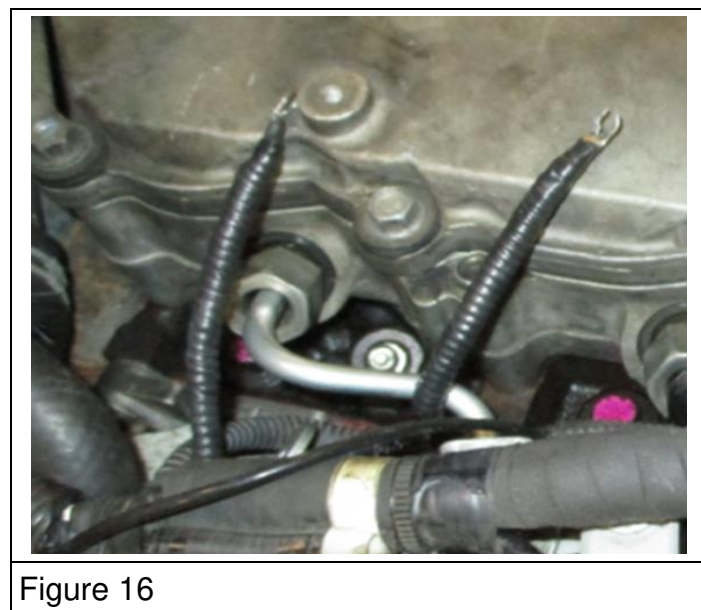
17. Insert stripped wire from the new glow plug pig tail into solderless connector until it reaches the center stop. Crimp the connector onto the pig tail harness.
18. Insert the pig tail with solderless connector onto the stripped wire from the glow plug harness until it reaches the center stop. Crimp the connector onto the glow plug harness. (See Figure 14.)



19. Apply heat to the connector to shrink the adhesive-lined shrink tubing. Wrap the splice connection with electrical tape. (See Figure 15.)



20. Repeat Steps 17 through 19 for each of the remaining three (3) glow plug terminals. Once all terminals have been replaced, proceed to Step 21.
21. Insert the glow plug wire back into the corrugated tubing removed in Step 9. Tape the tubing in place using vinyl electrical tape. (See Figure 16.)



22. Install the new glow plug terminal onto the glow plug and torque the nut to 1.2 Nm (10.5 lb-in). (See Figure 17.) Replace any harness clips that were removed to gain access.

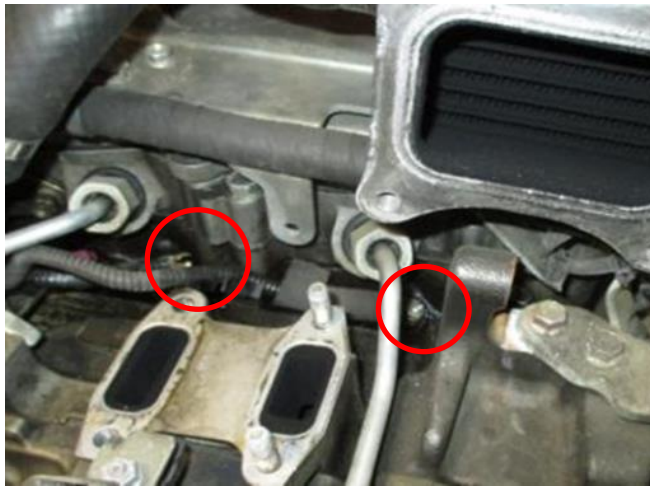


Figure 17

23. Install the EGR valve and plug in the EGR valve connector. Torque bolts and nuts to 23.5 Nm (17.3 lb-ft). (Figure 18.)

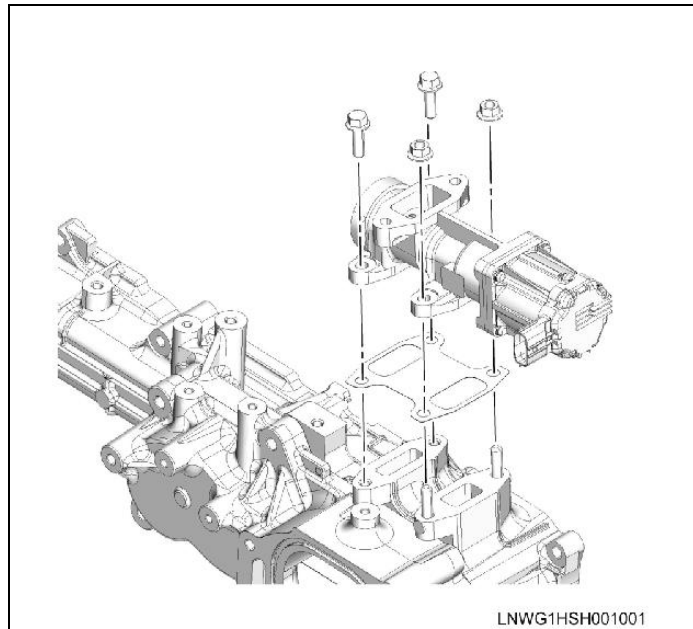
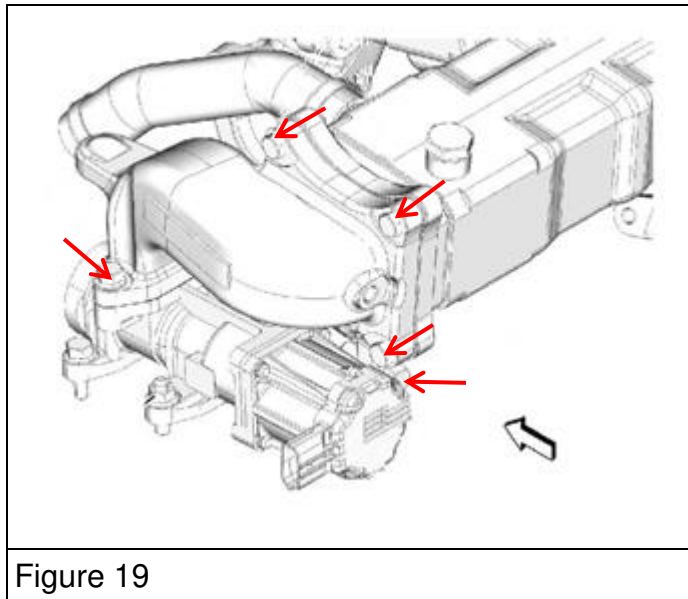
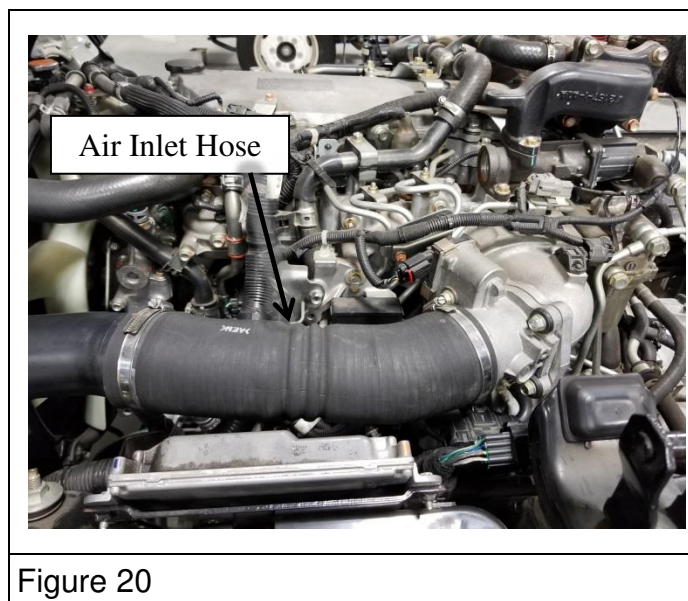


Figure 18

24. Install the EGR Cooler Duct and EGR Temperature Sensor 2 assembly. Plug in the EGR Gas Temperature Sensor 2 connector to the harness. Torque the bolts holding the EGR Cooler Duct to the EGR Valve to 23.5 Nm (17.3 lb-ft). Torque the bolts holding the EGR Cooler Duct to the EGR Cooler to 28.4 Nm (21 lb-ft). Torque the bolt holding the EGR Cooler Duct to the Cylinder Head to 48 Nm (35 lb-ft). (Figure 19.)



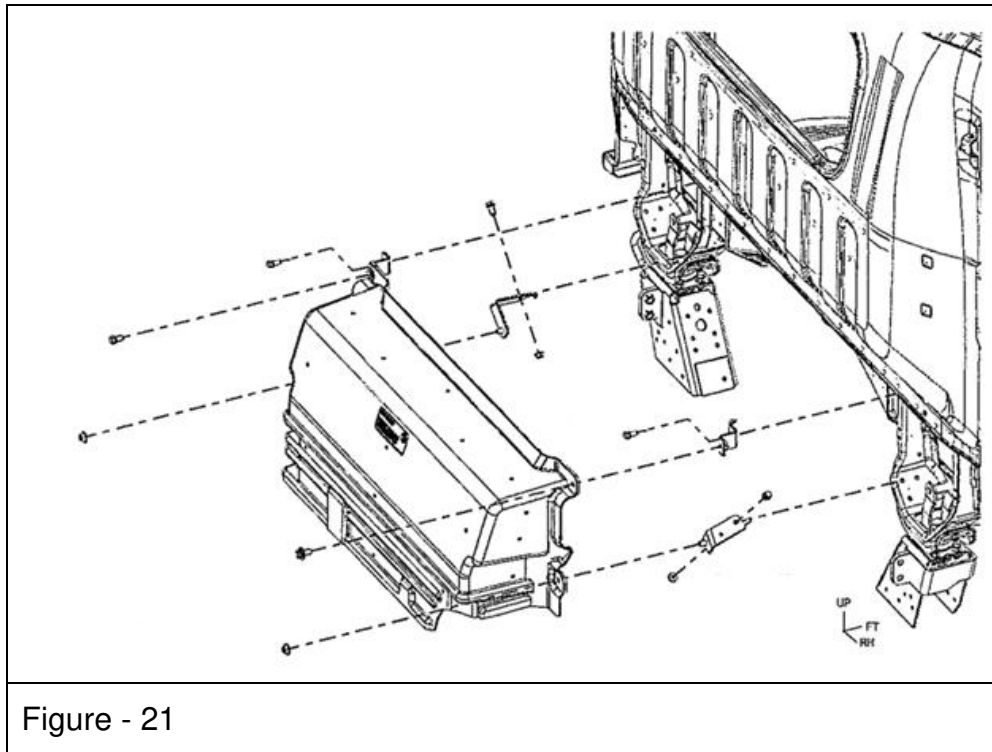
25. Install the Air Inlet Hose from the Intercooler to the Throttle Body. Tighten the Air Inlet Hose clamps to 5 Nm (44 lb-in). (Figure 20.)



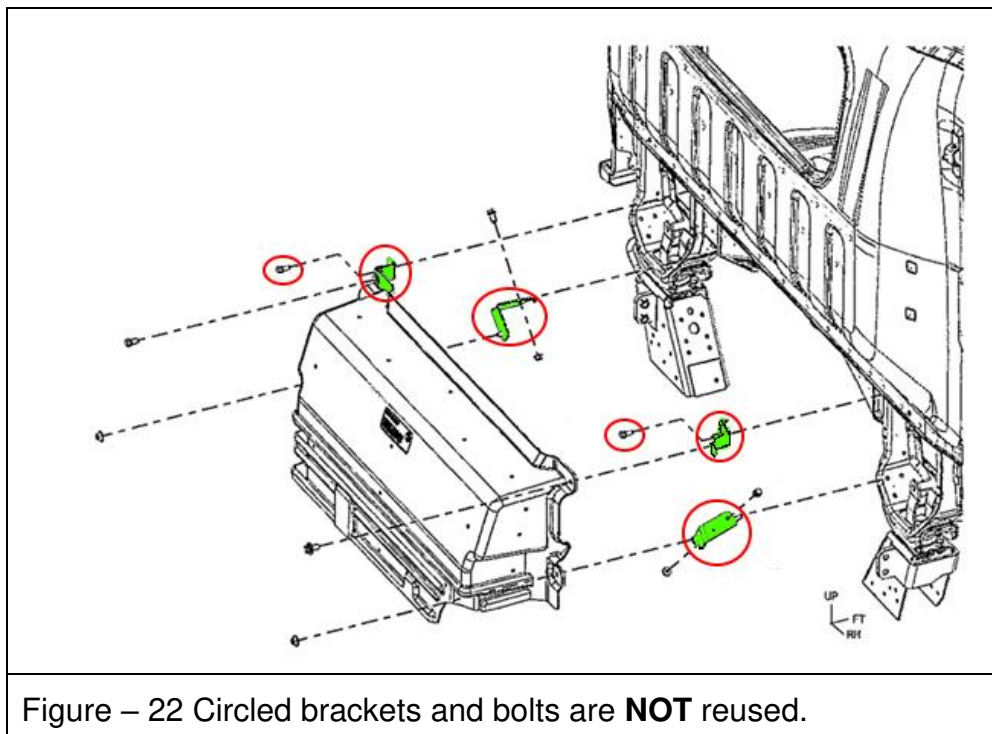
- 26. Connect the negative battery terminal.
- 27. Lower and lock the cab in place in accordance with the applicable WSM.
- 28. Start vehicle.
- 29. Clear DTC's.
- 30. Cycle switch to "Key On" and check for proper glow plug operation.
- 31. Confirm no DTC's are stored.
- 32. Cycle switch to "Off" position.

ENGINE COVER REPLACEMENT

33. Remove cab cover panel from the back of cab and set fasteners to the side for re-use during installation. (See Figure 21.)

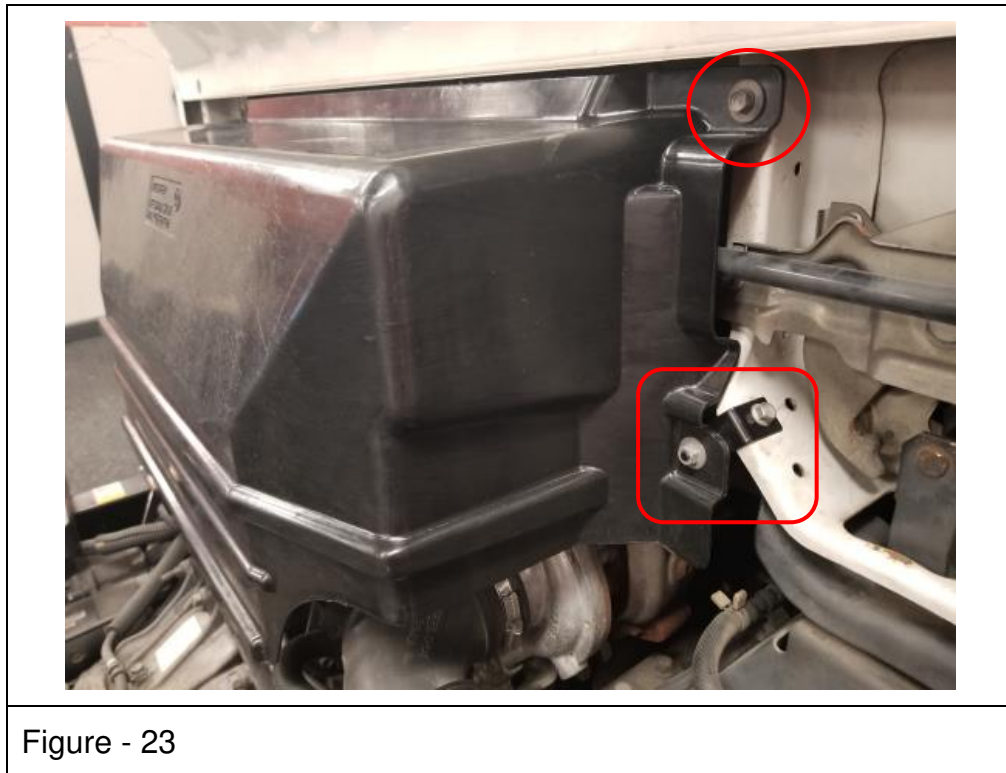


34. Remove any fasteners remaining on removed cab cover and set them to the side for re-use during installation. Figure 22 shows which fasteners are used for installation of new cab cover.



35. Install new lower brackets to the back of the cab.

36. Install new cab cover panel using fasteners set aside in Step 32. Upper mounting bolts for the new cab cover panel will bolt directly into cab and the lower two mounting points will mount to the new lower brackets. (See Figure 23.)



PARTS INFORMATION

Part Number	Description	Qty
8-98386-783-0	Glow Plug Harness Pigtail	4
8-98106-027-1	EGR Valve Gasket	1
8-98106-025-1	EGR Valve Gasket	1
9-98200-753-0	Cooler Gasket	2
8-97508-934-0	Cab Cover Panel	1
8-97508-935-0	Back Panel Bracket	2

WARRANTY INFORMATION

For vehicles repaired under warranty, use:

Labor Operation Code	Description	Labor Time
N1732	Glow Plug Terminal Replacement	1.1

	Add Time: Replace Cab Cover Panel	0.2
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