



Subject: LACK OF POWER WITH MIL ON - DTCs - P2187 / P2177	Bulletin No: 01-009/13
	Last Issued: 02/26/2013

APPLICABLE MODEL(S)/VINS

2007-2009 CX-7 2.3L turbo

DESCRIPTION

Some vehicles may exhibit a lack of power with MIL illumination and DTCs P2187 / P2177 stored in memory.

- P2187: Fuel system too lean at idle
- P2177: Fuel system too lean at off idle

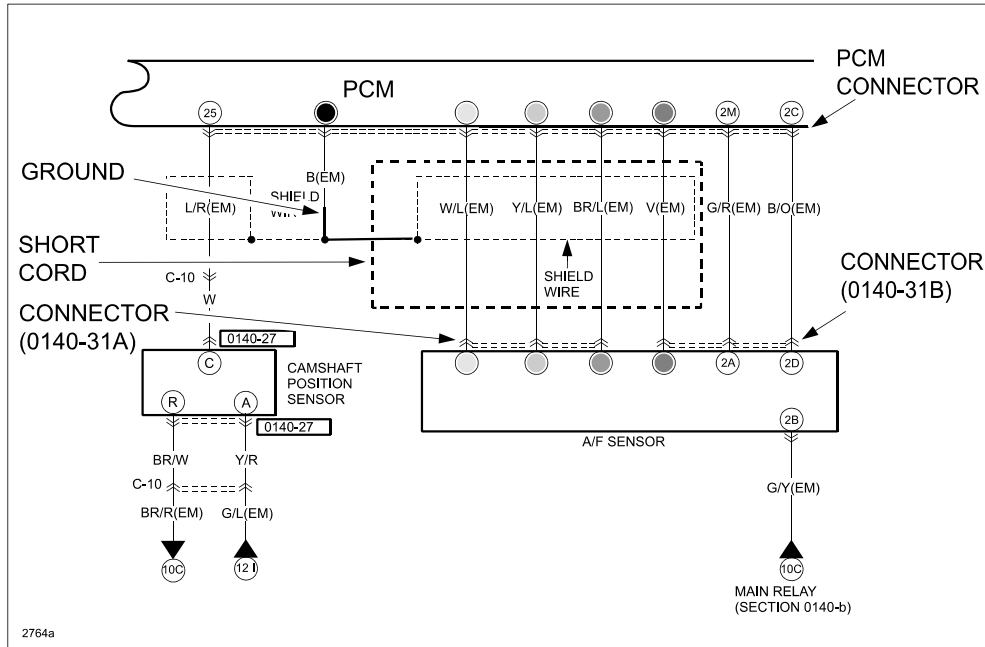
This concern may be caused by A/F sensor wire harness cover damage due to brake fluid spillage during a previous service or repair. The brake fluid damages the wire harness cover and causes a short to the shield wire.

An A/F sensor short cord (with shield wire) has been newly established to repair the harness.

Customers having this concern should have their vehicle repaired using the following repair procedure, **however, this repair cannot be covered under warranty since it was caused by the previous repairer.**

REPAIR PROCEDURE

1. Verify the customer's concern; MIL is illuminated and DTCs P2187 / P2177 are stored in memory.
2. Verify if an A/F wire was shorted to the shield wire according to the "Inspection" steps below.



Inspection:

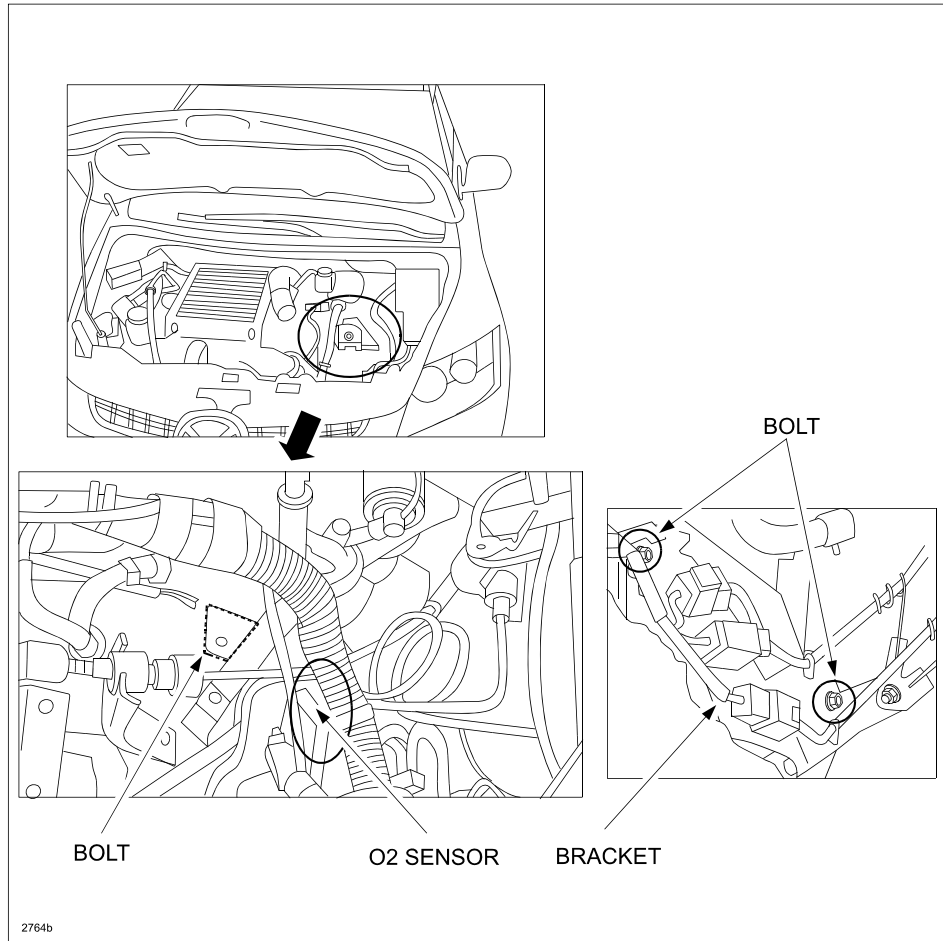
1. Disconnect the A/F sensor connector (0140-31A and 0140-31B) and PCM connector (0140-01B).
2. Measure the resistance between the following A/F sensor connector terminals and the shield wire.
 - a. Between 1A (BR/L) and shield wire.
 - b. Between 1B (Y/L) and shield wire.
 - c. Between 1C (W/L) and shield wire.
 - d. Between 2C (V) and shield wire.

NOTE: Shield wires = Emission Harness and two (2) PCM connector terminals.

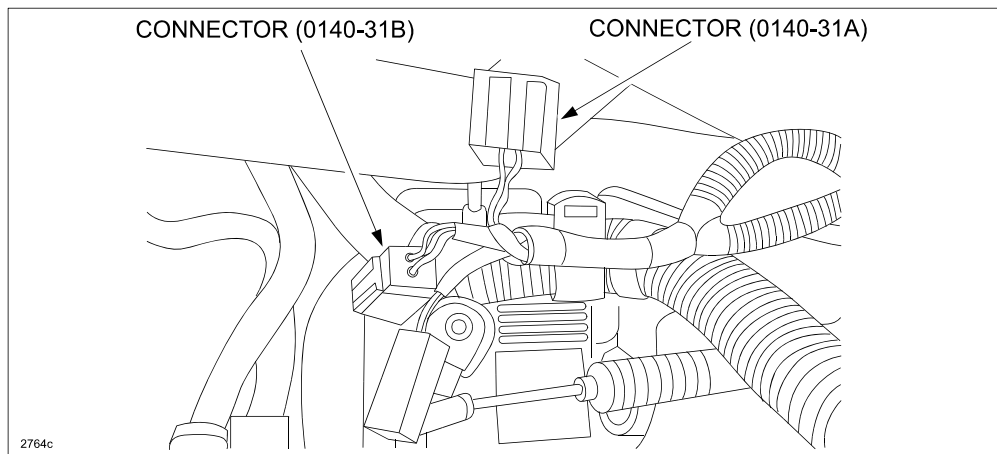
3. Measure the resistance between the following A/F sensor connector terminals.
 - a. Between 1A (BR/L) and 1B (Y/L).
 - b. Between 1A (BR/L) and 1C (W/L).
 - c. Between 1A (BR/L) and 2C (V).
 - d. Between 1B (Y/L) and 1A (BR/L).
 - e. Between 1B (Y/L) and 2C (V).
 - f. Between 1C (W/L) and 2C (V).
4. Were any shorts found during Inspection Steps 2a-d or Steps 3a-f?
 - If Yes: Proceed to "Short Cord Installation" and repair the harness.
 - If No: This repair procedure does not apply to this type of failure. Inspect the A/F sensor according to the MS3 online instructions or the Workshop Manual (section 01-40 AIR FUEL RATIO (A/F) SENSOR, HEATED OXYGEN SENSOR (HO2S) INSPECTION [L3 WITH TC]).

Short Cord Installation:

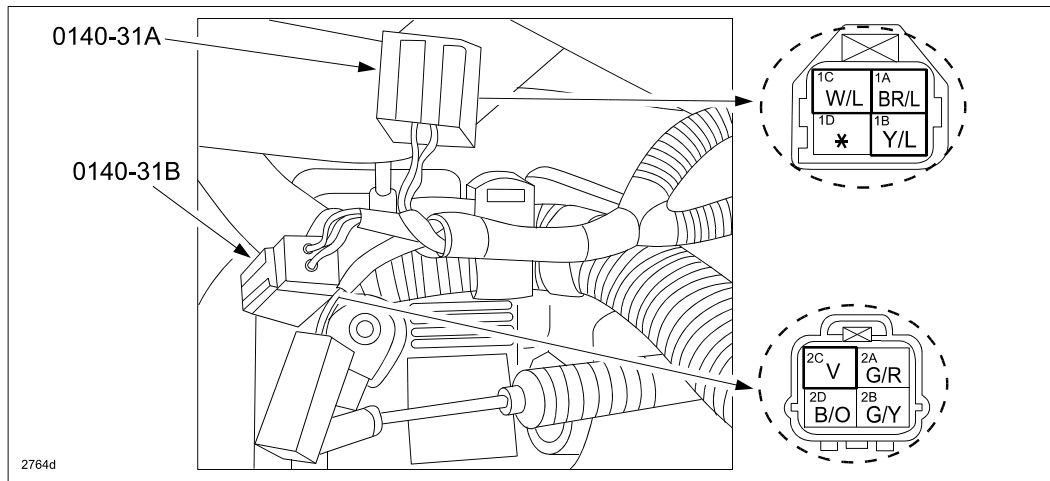
1. Record the customer's pre-set radio stations.
2. Disconnect the battery terminals.
3. Remove the battery, air cleaner, intake hose, and bracket.



4. Disconnect the connectors (3 pcs.), then pull them out.

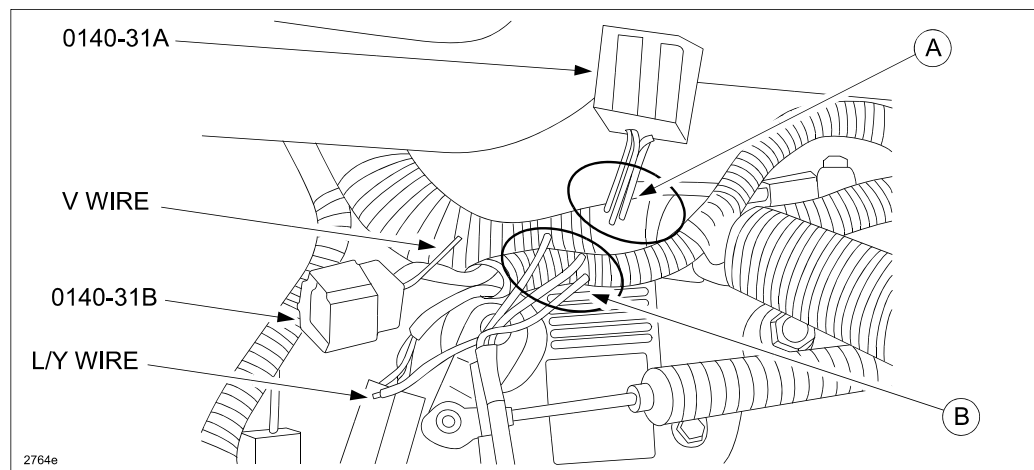


5. Cut the W/L (White/Blue), BR/L (Brown/Blue) and Y/L (Yellow/ Blue) wires 20mm from connector 0140-31A.
6. Cut the V (Violet) wire 20mm from connector 0140-31B.



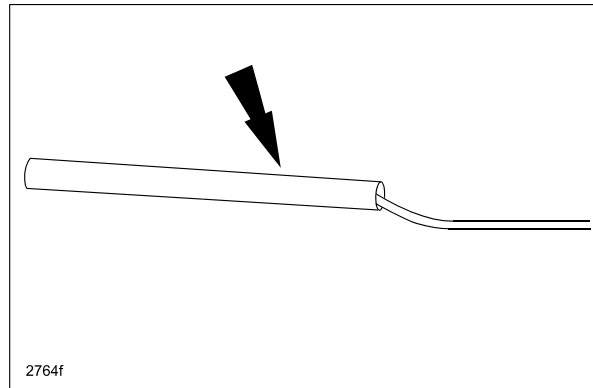
7. Strip 10mm of insulation from the four (4) cut connector wires.
8. Solder the following cut connector wires (A) to the corresponding short cord wires (B) referring to the table, illustration and Soldering Procedure shown below.

Connector	Connector Wire Color	action:	Short Cord Wire Color
0140-31A	W/L: White/Blue	solder to	W/L: White/Blue
	BR/L: Brown/Blue	solder to	L/G: Blue/Green
	Y/L: Yellow/ Blue	solder to	O/L: Orange/Blue
0140-31B	V: Violet	solder to	L/Y: Blue/Yellow

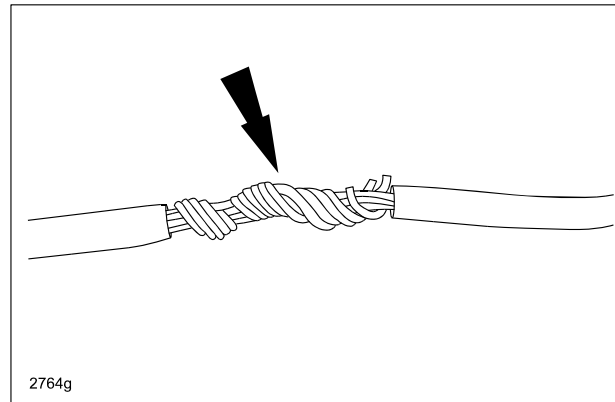


Soldering Procedure:

1. Insert the wire to be soldered through the heat shrink tube.



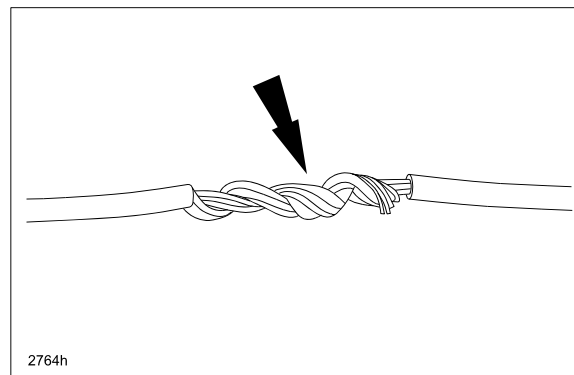
2. Connect the wires by twisting them together.



3. Solder the twisted wires together.

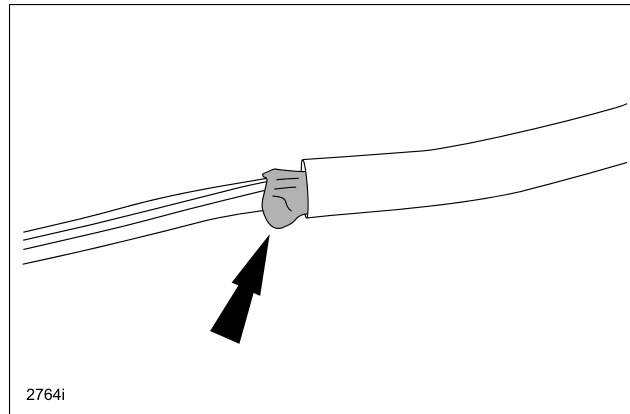
NOTE:

- Before soldering, ensure the soldering iron is fully warmed up and its edge is cleaned with a sponge or wet rag.
- Warm up the wire with the soldering iron and put the wire solder to the heated wire, then spread the solder out across the twisted wires.

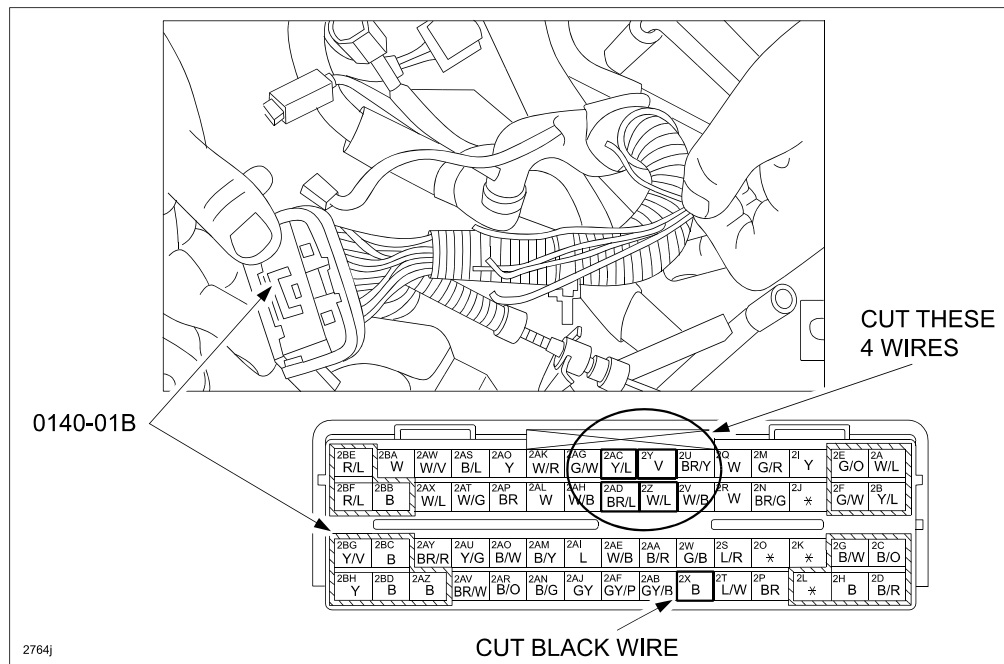


4. Move the heat shrink tube that has been kept away from the heat, over the center of the soldered area.
5. Using a heater-drier or soldering iron, apply heated air until the tubing shrinks securely over the soldered area.
6. After shrink tube shrinkage, make sure they are securely stuck to the wires.
7. Warm the wire up until plastic comes out from the edge.

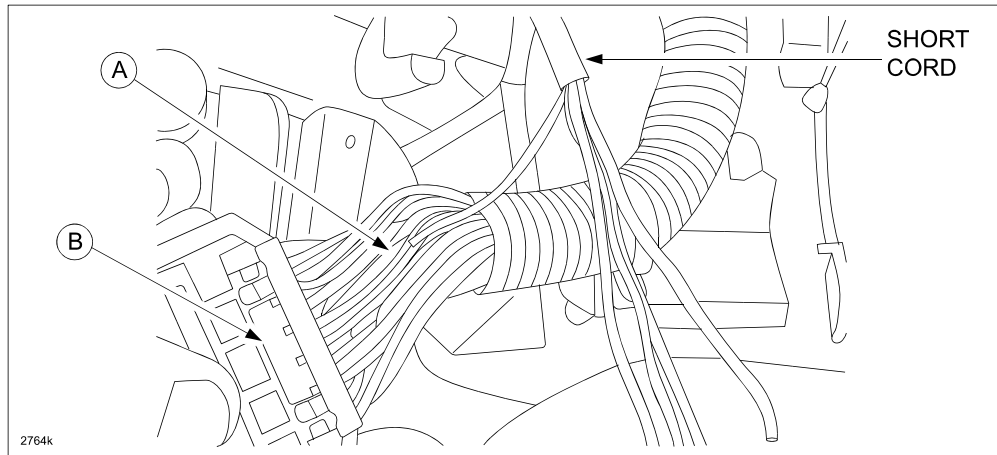
WARNING: Do not touch the hot plastic right after shrinkage, when it is soft. It is very hot and you could get burned.



8. Cut the W/L (White/Blue), BR/L (Brown/Blue), Y/L (Yellow/Blue), V (Violet) and B (Black) wires from PCM connector 0140-01B.

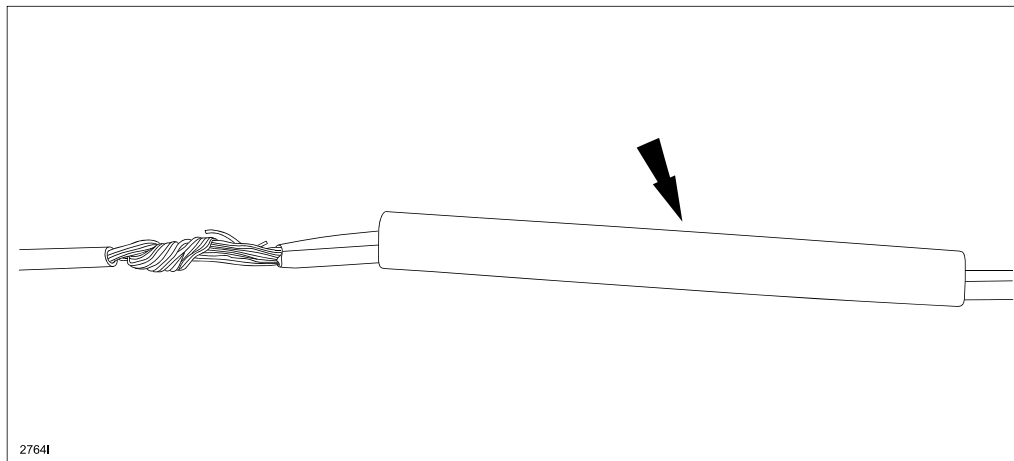


9. Strip 10mm of insulation from the cut wire (A) of the PCM connector (B).



Black Color Wires:

- Strip 10mm of the insulation from the cut black wire of the PCM connector (both sides).
- Insert a heat shrink tube over the wire.
- Combine the three (3) black wires (include short cord).

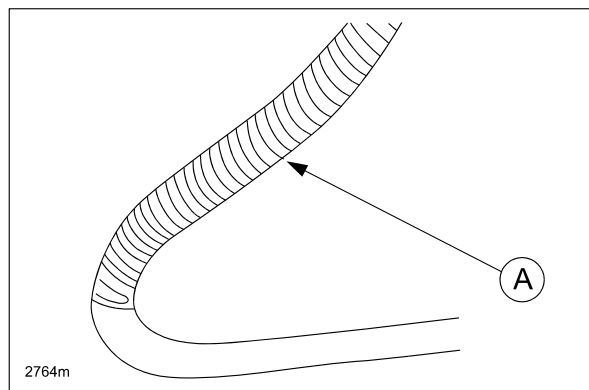


- Solder the cut wires to the short cord wires referring back to the Solder Procedure as necessary.

10. Following the wire color chart below, solder the PCM connector wires to the short cord wires.

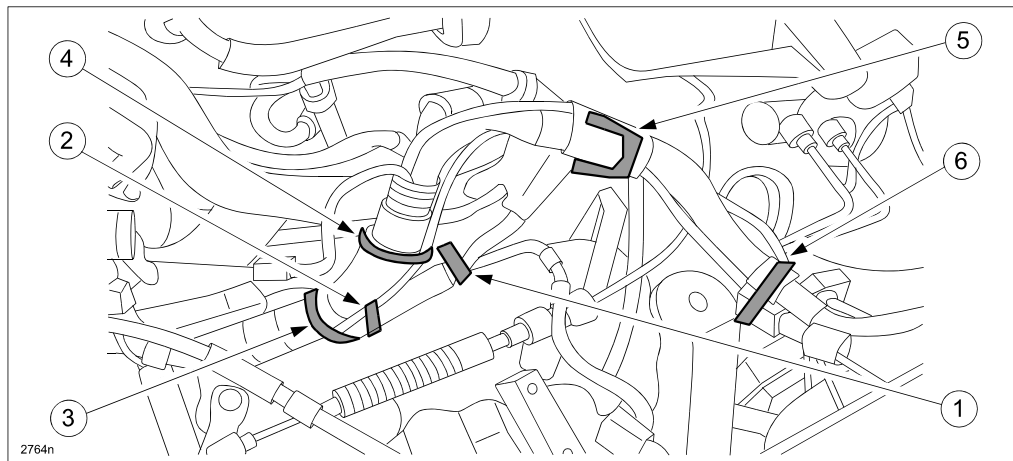
PCM Connector Wire Color	action:	Short Cord Wire Color
W/L: White/Blue	solder to	W/L: White/Blue
BR/L: Brown/Blue	solder to	L/G: Blue/Green
Y/L: Yellow/ Blue	solder to	O/L: Orange/Blue
V: Violet	solder to	L/Y: Blue/Yellow

11. Install the convolute tube (A) over the shield wire of the short cord.

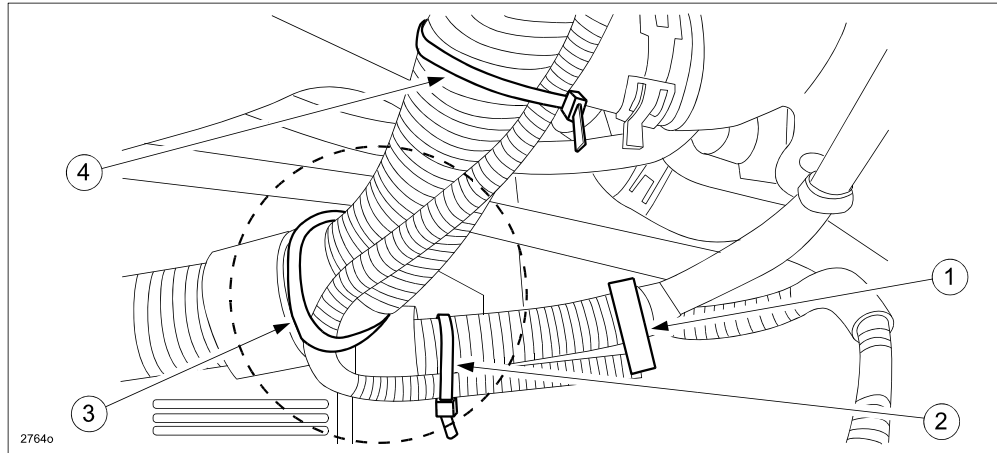


12. Affix the short cord to the main harness with the six (6) bands shown below.

NOTE: Place new bands close to the original band locations.



NOTE: Route the short cord with a large arc following the main harness area as shown below.



13. Reinstall the bracket, intake hose, air cleaner and battery.
14. Re-connect the battery terminals.
15. Reset the customer's pre-set radio stations.
16. Clear all DTCs.
17. Verify the repair.

PART(S) INFORMATION

Part Number	Description	Qty.
EGY1-67-SH0	Short Cord Set	1

WARRANTY INFORMATION

NOTE: This repair cannot be covered under warranty since it was caused by brake fluid spillage damage by the previous repairer.