



Service Bulletin

Bulletin No.: 17-NA-317

Date: February, 2020

TECHNICAL

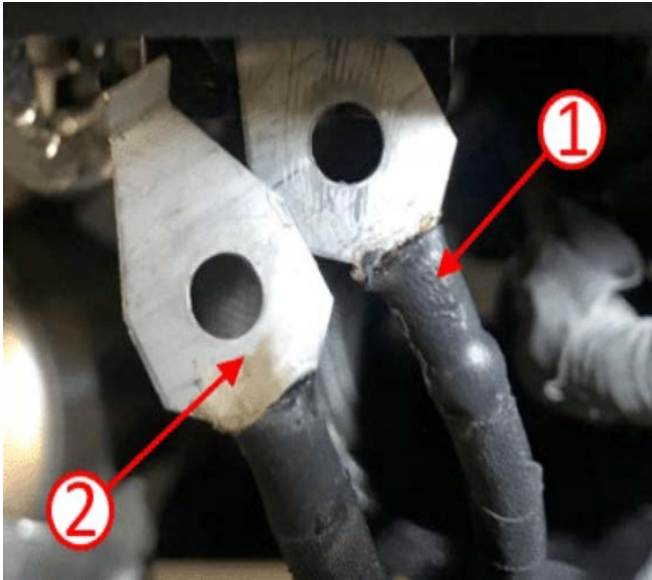
Subject: Transmission Shudder or Fish Bite above 40 MPH (65KPH), Cruise Control Disengages, Low Idle and/or Stalling after Auto Start, Reduced Engine Power or Service Brake Assist System Displayed on Driver Information Center (DIC), Malfunction Indicator Lamp (MIL) Illuminated - DTCs P034B, and/or P0506 Set

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Buick	Enclave	2018	2018			LFY	
Chevrolet	Traverse						

Involved Region or Country	North America, Middle East, Israel, Chile, Colombia, Peru, Russia, Africa
Condition	<p>Some customers may comment on one or more of the following conditions:</p> <ul style="list-style-type: none"> • MIL is illuminated • Cruise Control may disengage by its self with no Codes set • Low idle and/or stall after auto start • Reduced Engine Power displayed on DIC • Service Brake Assist displayed on DIC • While cruising over 40 MPH (65 KPH), transmission slips out of gear and slams back into gear <p>The technician may find one or more of the following DTCs set:</p> <ul style="list-style-type: none"> • P034B: Crankshaft Position Sensor - Crankshaft Direction Incorrect in the Engine Control Module (ECM) • P0506: Idle Speed Low in the ECM <p>Some technicians may also find one and/or more of the following:</p> <ul style="list-style-type: none"> • Low Idle & Stall after auto start may cause DTC P034B & P0506 to set in history.
Cause	This condition may be caused by the Crankshaft Position Sensor (CPS) circuit picking up EMI interference from unrelated control circuit in the same harness.
Correction	Replace the crank sensor portion of engine harness with a twisted pair jumper harness between the crank sensor and ECM connector.

Service Procedure

G109 Ground Wire Inspection and Repair



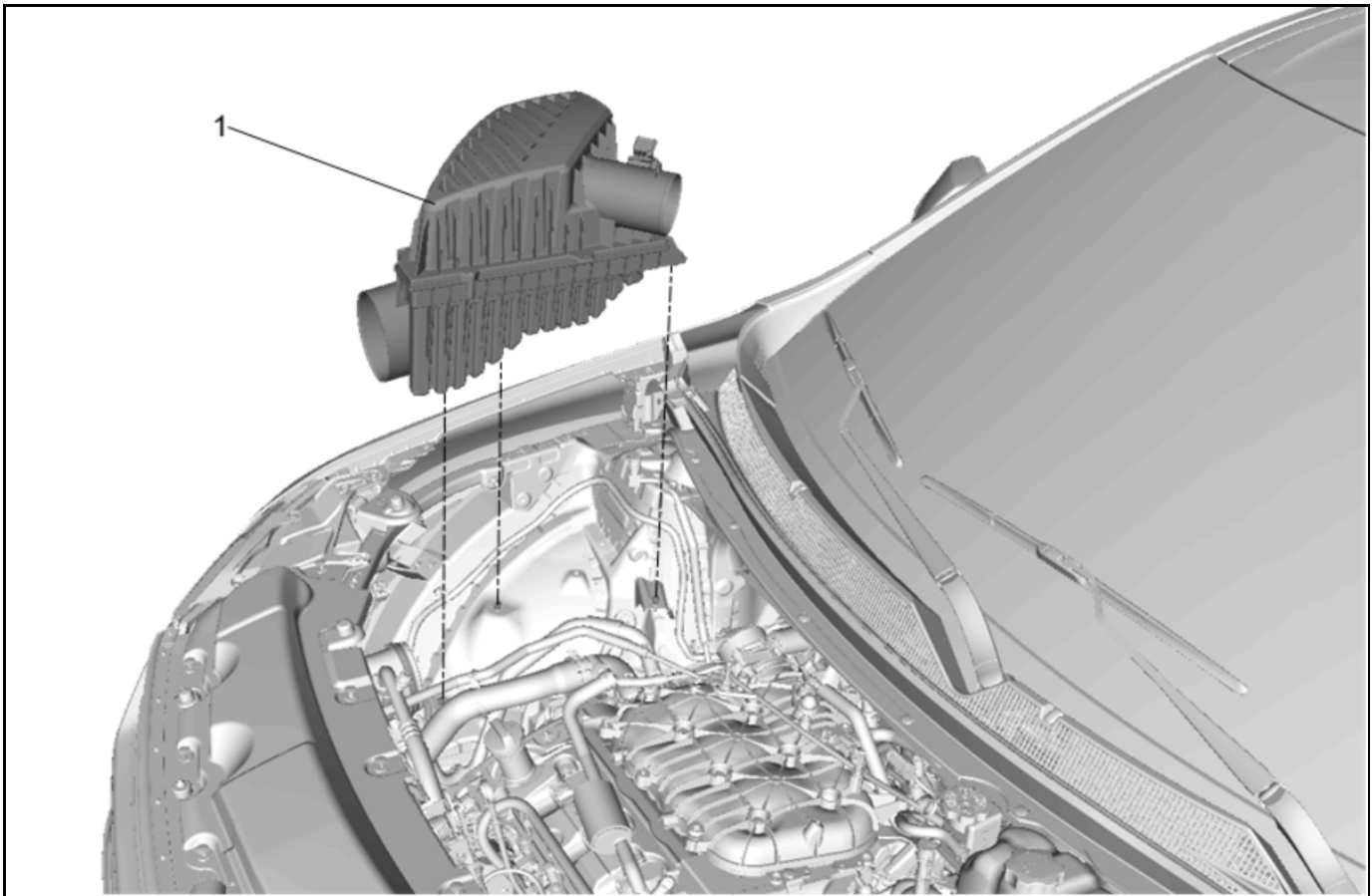
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1. Remove the fastener that secures the G109 ground. refer to Document ID: 4755270 in SI.
2. Inspect the eyelets for either excess heat shrink tubing (1) or glue under the eyelet (2).
 - ⇒ Inspect for adhesive that has seeped out onto the eyelet during the heating of the shrink tube, or the shrink tube itself extending into the eyelet area.
3. Carefully trim the heat shrink tube if needed, clean adhesive from the eyelet (sand off), reinstall and torque.
 - ⇒ Torque fastener to specifications. Refer to Fastener Specifications in SI.

Wiring Circuits Removal

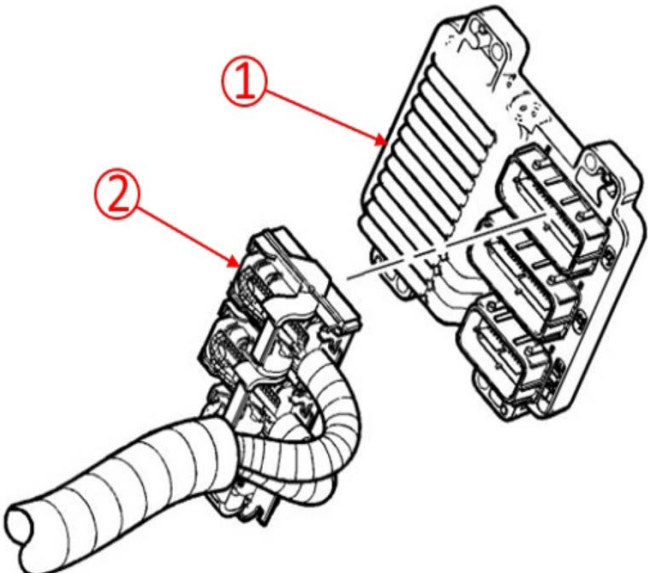
Note: The heat wrapped section of the wiring harness is routed to the CPS electrical connector.

Important: **Do Not** overlap or twist together any excessive wiring harness. The wiring harness has been measured to be secured alongside the engine harness without any extra length.



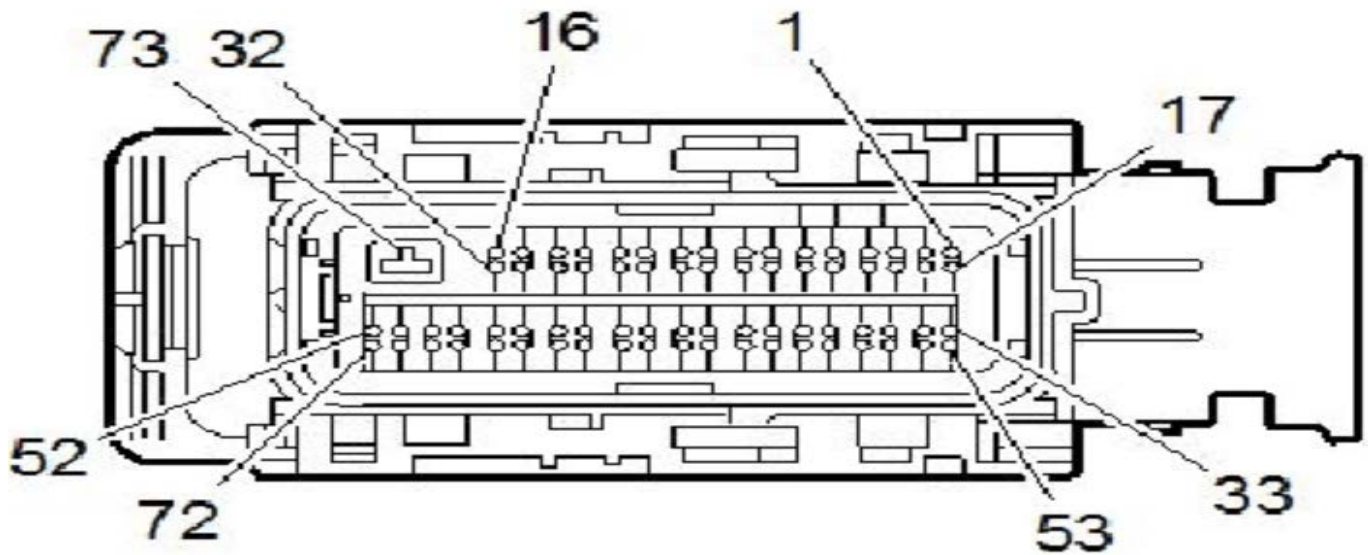
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1. Remove the air cleaner housing (1) with the air cleaner outlet duct as an assembly.



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2. Locate the engine control module (1) X3 electrical connector (P/N 12582678).
3. Disconnect the electrical connector (2).
4. Using care, remove the tape covering the wiring harness.

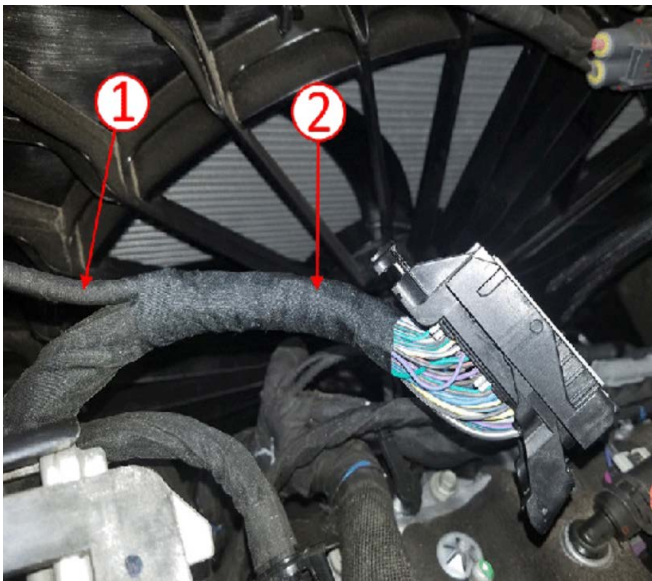


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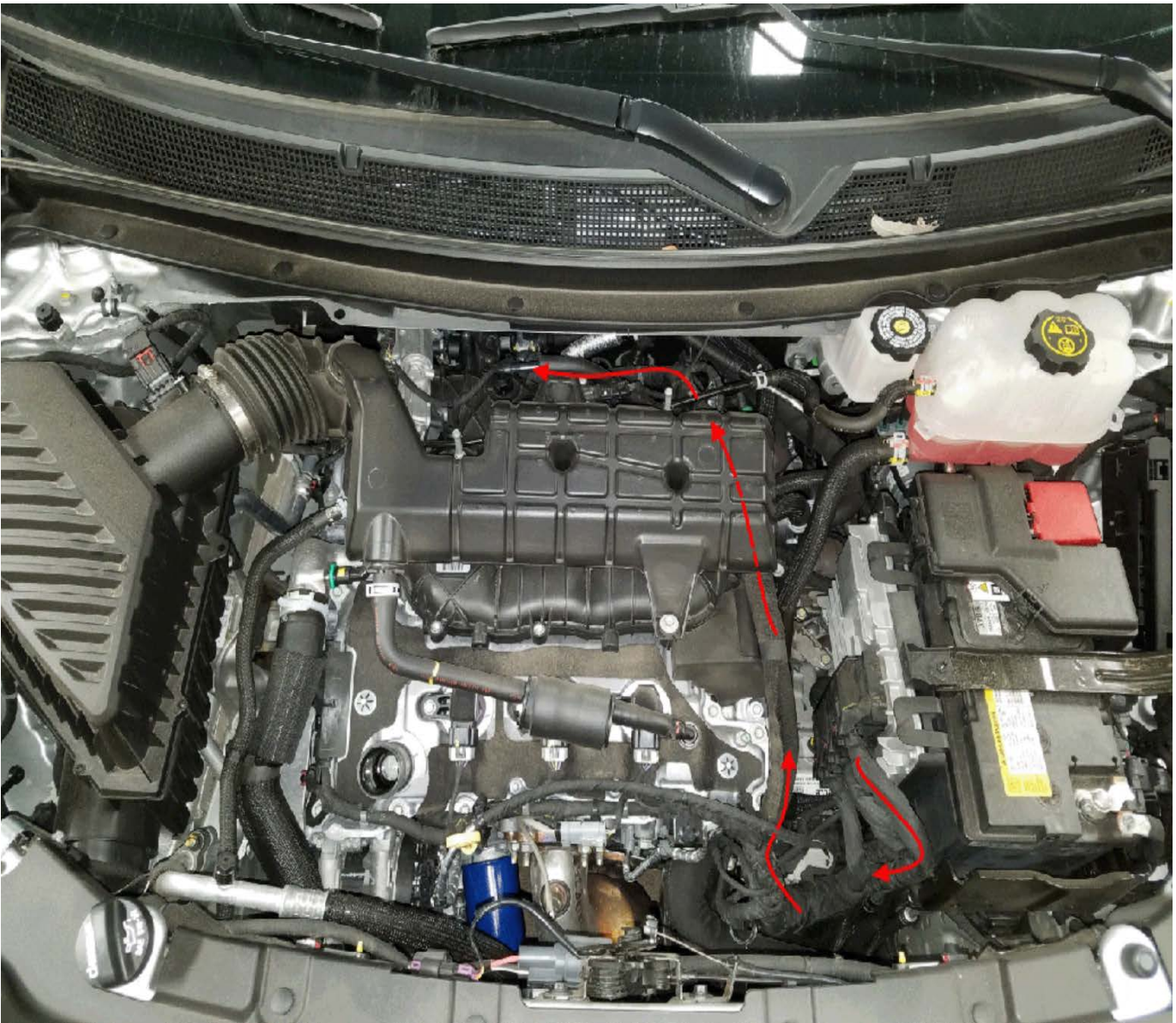
Note: It is recommended not to remove the terminals at the same time, but to replace one terminal at a time.

5. Using a terminal extractor, identify the following circuits and remove the wire terminals from the electrical connector:
 - Circuit 6270 (cavity 6, wire color VT/BU)
 - Circuit 6271 (cavity 7, wire color GN)
 - Circuit 6272 (cavity 22, wire color BL/VT)
6. Cut the wire terminals away from the connector.
7. Install the CPS wire harness terminals into their respective cavities into the connector.

8. Using Woven Polyester Electrical Tape (PET), tape the CPS harness (1) to the engine harness (2) ensuring that the tape is applied in a double layer extending along the harness past the contact points.
9. Connect the engine harness electrical connector to the ECM.



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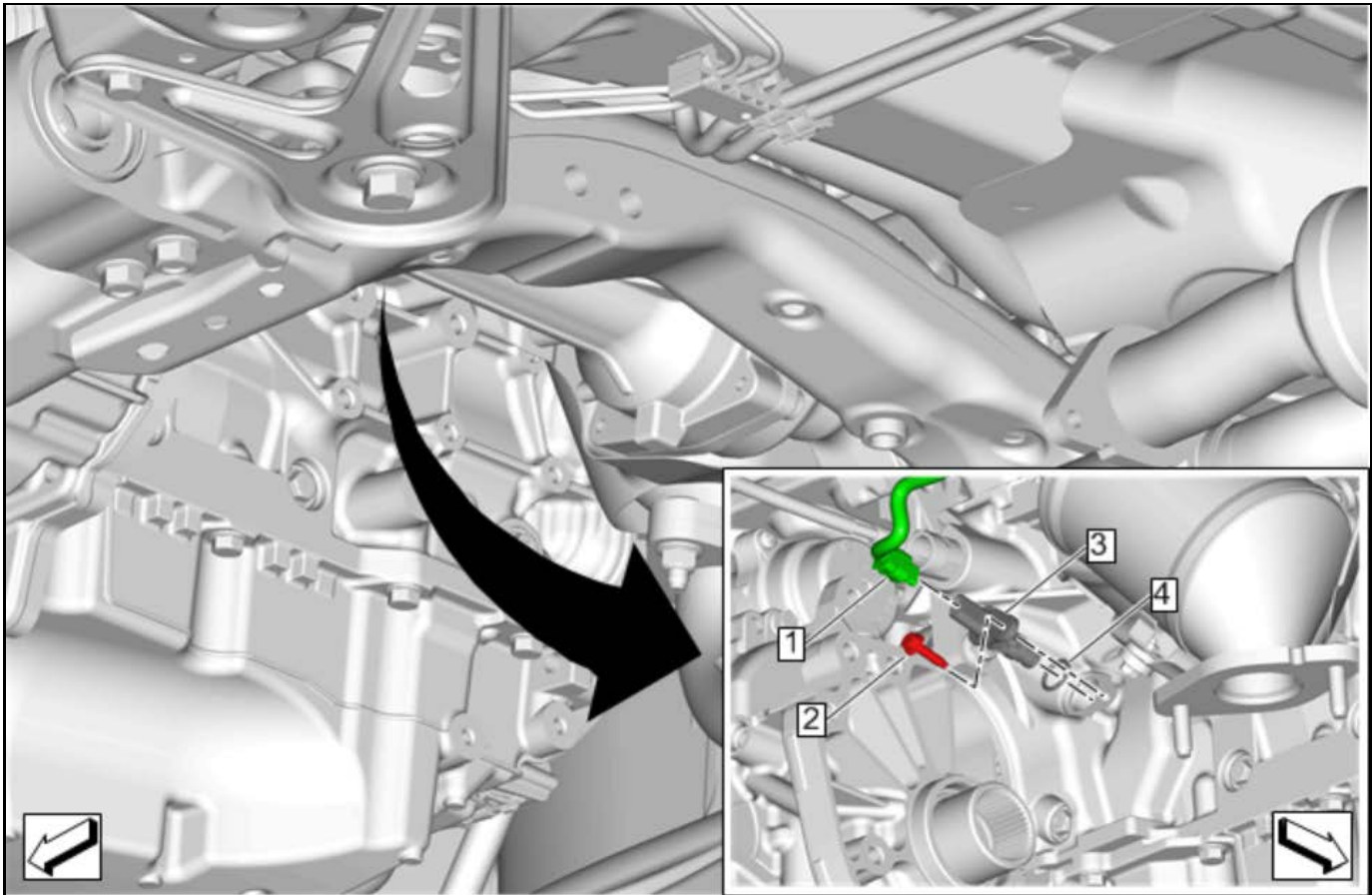
Important: Do Not secure the crank sensor harness to the engine harness at this time.

10. Route the jumper following the route of the main engine harness around the side of the intake manifold, over the transmission, across the back of the engine as shown in the graphic above.
11. Raise the vehicle.



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12. For AWD, remove the exhaust front pipe (1). Refer to *Exhaust Front Pipe Replacement* in SI.



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Note: Due to the location of the crankshaft sensor electrical connector, removal of the sensor will allow for easy electrical connector separation.

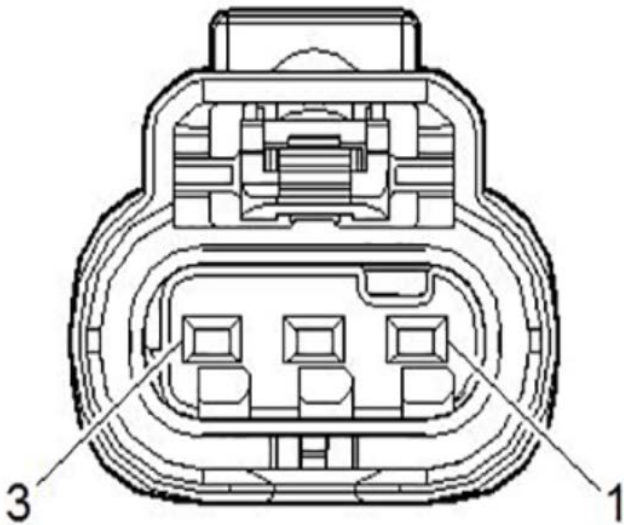
13. Remove the crankshaft sensor (3).
14. Disconnect the electrical connector (1).
15. If required, install new sensor O-ring (4).

16. Install the crankshaft sensor.
 - Torque the bolt (2) to specifications. Refer to *Fastener Specifications* in SI.



17. Cut the crankshaft sensor electrical connector from the harness.

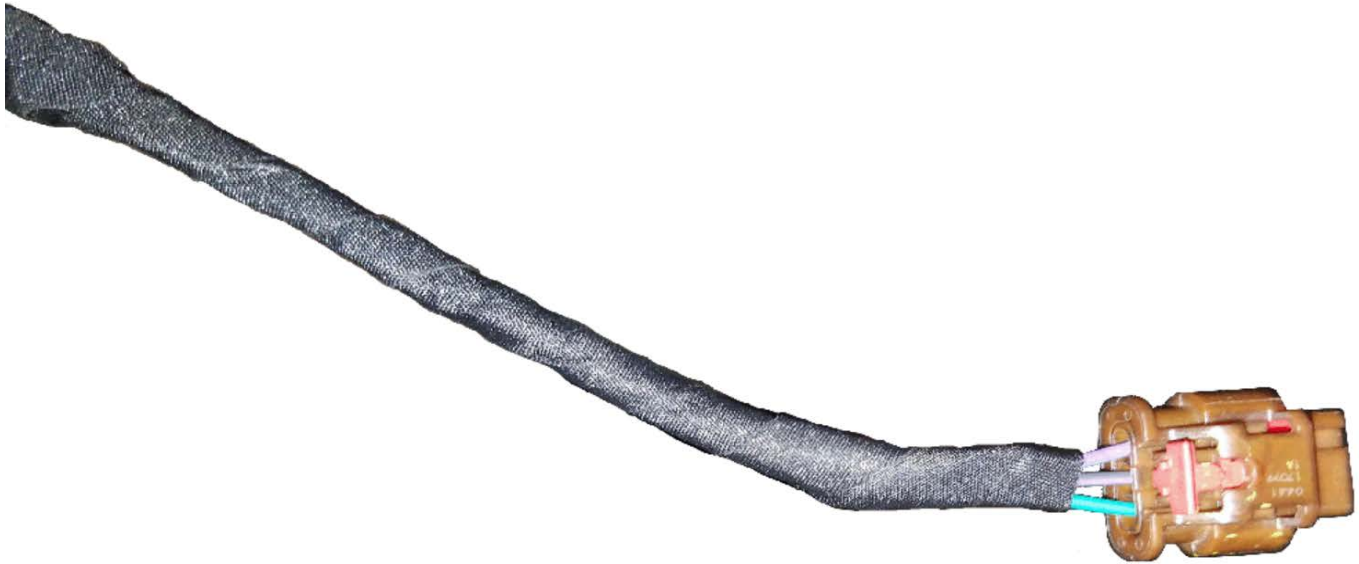
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Note: It is recommended not to remove the terminals at the same time, but to replace one terminal at a time.

18. Using a terminal extractor, identify the following circuits and remove the wire terminals from the connector:
- Circuit 6270 (cavity 1, wire color VT/BU)
 - Circuit 6272 (cavity 2, wire color BL/VT)
 - Circuit 6271 (cavity 3, wire color GN)



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19. Install the crankshaft sensor wire harness terminals into their respective cavities in the connector.
20. Using Woven Polyester Electrical Tape (PET), tape the CPS harness ensuring that the tape is applied in a double layer extending along the harness past the contact points.
21. Using tie straps, route and secure the harness:
 - Using tie straps, add one each 120 mm (estimated 25 pcs per harness) if there is a clip where the tie strap should be installed then move 10 mm to the right or left of that existing clip.
 - Route and secure the CPS harness at the engine harness along the back of the engine.
22. Connect the CPS electrical connector.
23. For AWD, install the exhaust front pipe.
24. Lower the vehicle.
25. Using tie straps, secure the CPS harness:
 - Using tie straps, add one each 120 mm (estimated 25 pcs per harness) if there is a clip where the tie strap should be installed then move 10 mm to the right or left of that existing clip.
 - Secure the CPS wiring harness to the engine wiring harness starting from the rear side of the engine.
 - Secure any access CPS wiring harness.
26. Install the air cleaner housing with the air cleaner outlet duct as an assembly.

Parts Information

Causal Part	Description	Part Number	Qty
X	Harness, CRK Wiring	84441605	1
N/A	GASKET, EXH SYS INTER	23161602	1
N/A	GASKET, CTLTC CONV	84135650	2

Warranty Information

For vehicles repaired under the Powertrain coverage, use the following labor operation. Reference the Applicable Warranties section of Investigate Vehicle History (IVH) for coverage information.

Labor Operation	Description	Labor Time
5480518*	Crankshaft Positioning Sensor Wiring Harness Installation	1.2 hr (FWD)
		1.8 hr (AWD — F48)
Add	G109 Ground Wire Inspection and Repair	0.2 hr

*This is a unique Labor Operation for Bulletin use only.

Version	9
Modified	Released October 4, 2017 Revised Oct. 25, 2017 - Update part description. Revised Dec. 4, 2017 - Update VIN breakpoint date. Revised Jan. 10, 2018 - Remove WPC information and update part number. Revised Jan. 29, 2018 - Update Conditions section. Revised March 13, 2018 - Removed VIN breakpoint date and revised labor times. Revised April 06, 2018 - Add G109 information to Service Procedure and Warranty Information sections. Revised June 25, 2018 - Remove DTC's in Subject and Condition section. Revised February 13, 2020 — Removed DTC P0557.

