Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

2019 Chevrolet Trax Service and Repair Manual

Go to manual page

YOUR CURRENT VEHICLE

Q77 Transmission Control Solenoid Valve Characterization Programming

Q77 Transmission Control Solenoid Valve Characterization Programming (8Lxx)

The solenoids in this transmission require unique performance characteristic data in order to function at maximum efficiency. This data is programmed and stored in the vehicle's transmission control module (TCM). When a transmission assembly, TCM, or solenoids are replaced during service, the performance characteristic data for the solenoids must be retrieved from a web server "cloud" repository and reprogrammed into the TCM.

Reprogramming also ensures that the characteristic data relationship is properly matched between the solenoids, valve body, and transmission.

Solenoid characterization reprogramming is performed using the TIS2Web Service Programming System (SPS).

Solenoid Reprogramming Procedure

Perform solenoid characterization reprogramming after one of the following service procedures:

- **NOTE**

  Note

  Select "Replace Transmission" at the MCVM Characterization selection screen.

  Replace transmission assembly

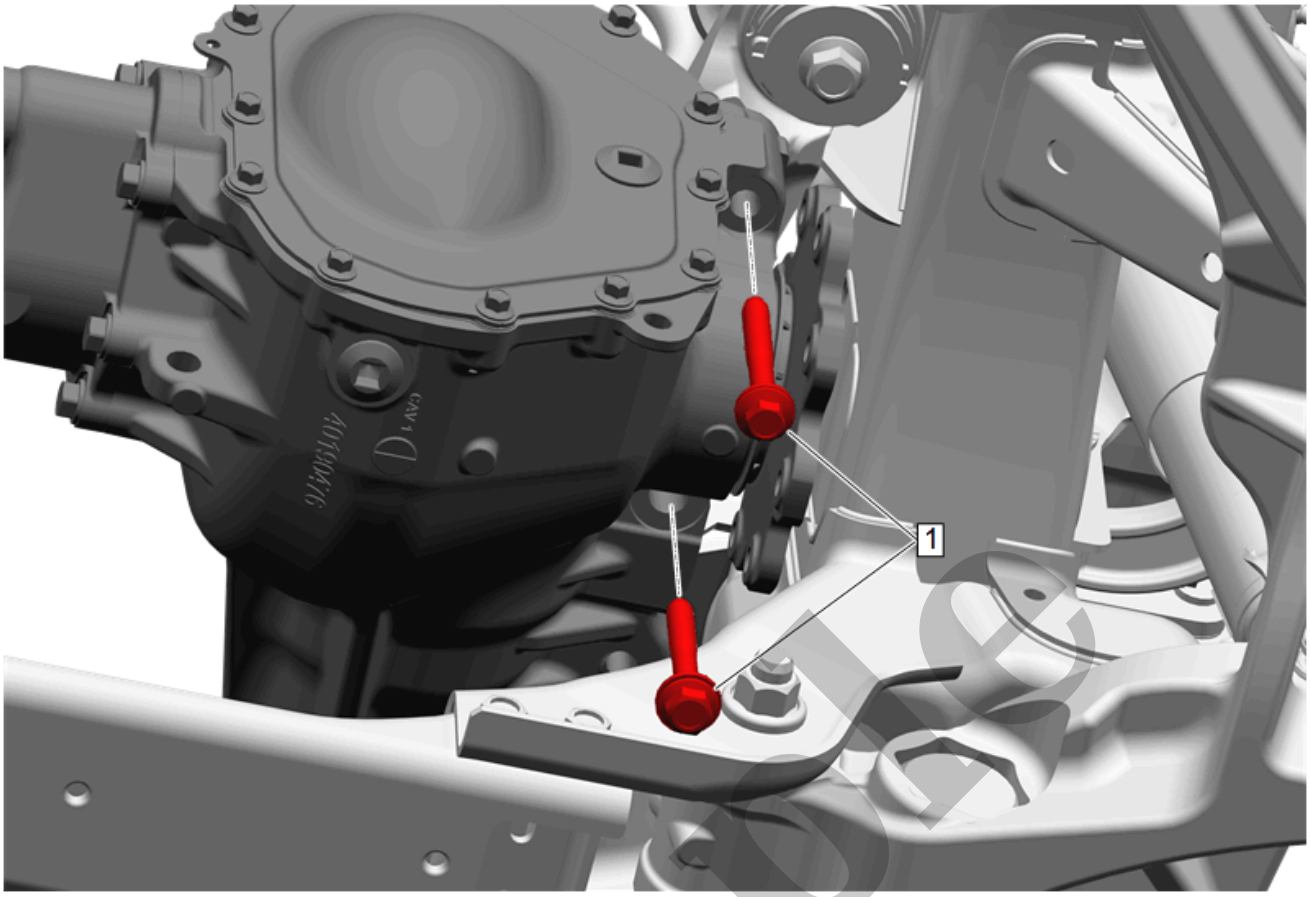
- **NOTE**

  Note

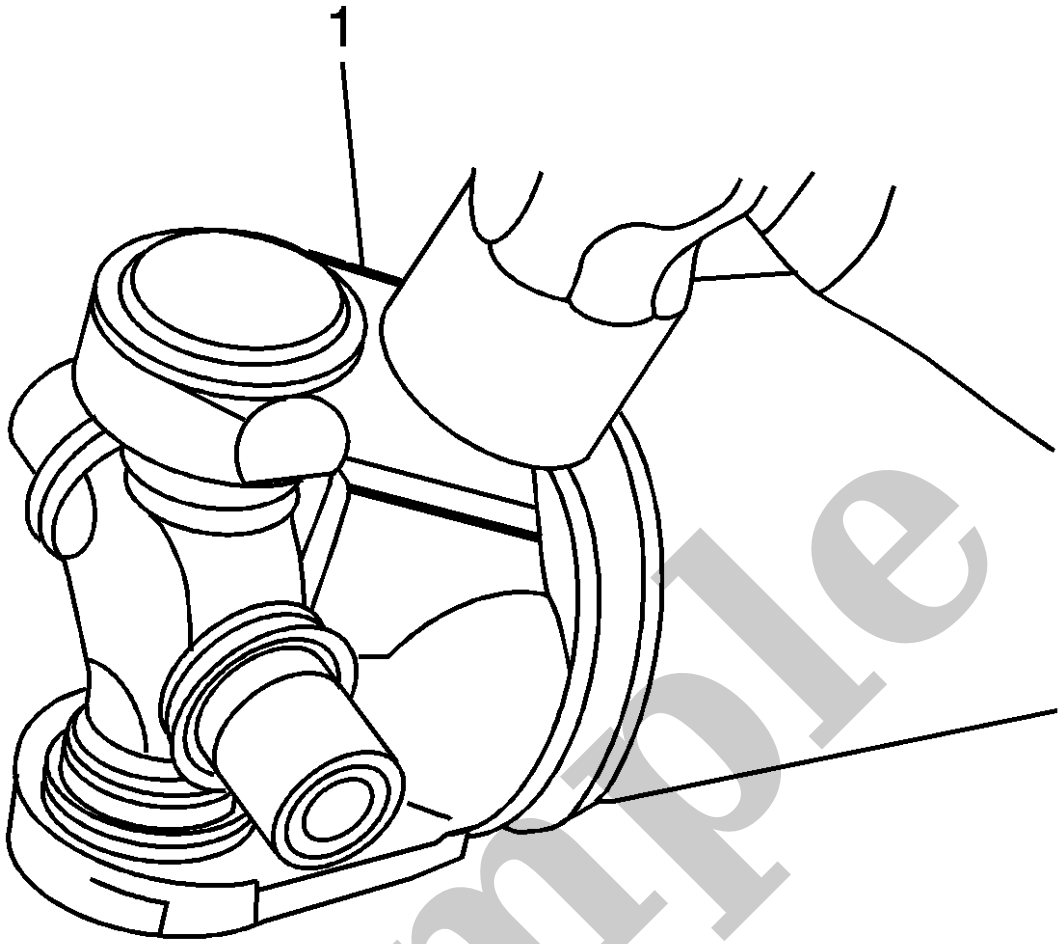
  Select "Replace Control Valve Solenoid Body" at the MCVM Characterization selection screen.

Parameter	System State	Expected Value	Description
Low Voltage Test Status			Malfunction if the Fuel Pressure Regulator 1 High Control Circuit is shorted to ground.
Fuel Pressure Regulator 1 High Control Driver Overtemperature	—	No	This parameter displays the state of the Fuel Pressure Regulator 1 High Control Driver circuit. The parameter displays Yes if the Fuel Pressure Regulator 1 High Control Driver Overtemperature is detected.
Fuel Pressure Regulator 2 Command	—	%	This parameter displays the Fuel Rail Pressure Regulator 2 duty cycle.
Fuel Pressure Regulator 2 Control Circuit Command	—	On	This parameter displays the current command of the fuel pressure regulator 2.
Fuel Pressure Regulator 2 Control Circuit High Voltage Test Status	—	OK	This parameter displays the state of the Fuel Pressure Regulator 2 Control Circuit. The parameter displays Malfunction if the Fuel Pressure Regulator 2 Control Circuit is shorted to voltage.
Fuel Pressure Regulator 2 Control Circuit Low Voltage Test Status	—	OK	This parameter displays the state of the Fuel Pressure Regulator 2 Control Circuit. The parameter displays Malfunction if the Fuel Pressure Regulator 2 Control Circuit is shorted to ground.
Fuel Pressure Regulator 2 Control Circuit Open Test Status	—	OK	This parameter displays the state of the Fuel Pressure Regulator 2 Control Circuit. The parameter displays Malfunction if the Fuel Pressure Regulator 2 Control Circuit is open.
Fuel Pressure Regulator 2 Control Circuit Shorted Test Status	—	OK	This parameter displays the state of the Fuel Pressure Regulator 2 Control Circuit. The parameter displays Malfunction if the Fuel Pressure Regulator 2 Control Circuit is shorted.
Fuel Pressure Regulator 2 Control Driver Overtemperature	—	No	This parameter displays the state of the Fuel Pressure Regulator 2 High Control Driver circuit. The parameter displays Yes if the Fuel Pressure Regulator 2 High Control Driver Overtemperature is detected.
Fuel Pressure Regulator 2 High Control Circuit	—	On/Off	This parameter displays the status of the Fuel Pressure Regulator 2 High Control Circuit Command. The parameter

Scan Tool Output Control	Description
Info Display Test	This output control will command the test of the Info Display.
Speech Recognition	This output control will command the various Speech Recognition prompts.
Cooling Fan	This output control will command the speed of the Cooling Fan.
Control Module Reset	This output control will command the reset of the Control Module.

10. 

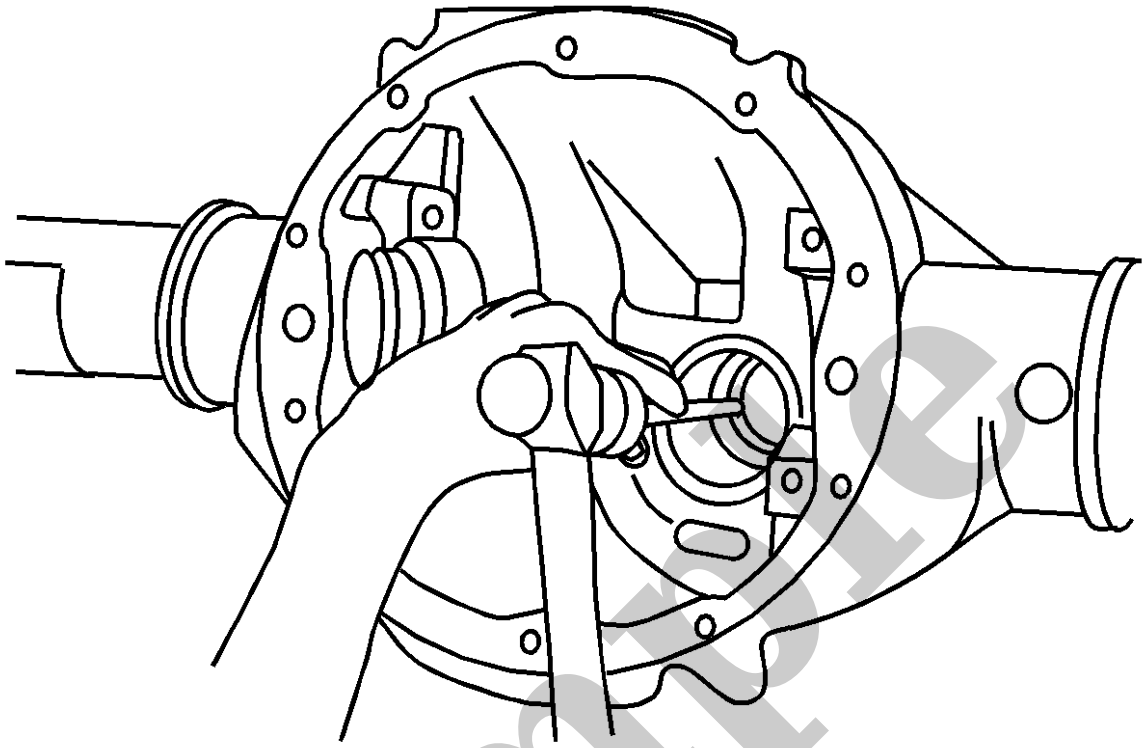
Front Differential Carrier Bolt(1) »Remove[2x]



11.

If the retainer is difficult to seat, the yoke can be sprung slightly with a firm blow from a dead blow hammer.

12. It may be necessary to lubricate the snap ring with a slight amount of chassis grease so that the snap ring seats in the bearing cup groove.



6.

NOTE

Note

Move the drift back and forth between one side of the cup and the other in order to work the cups out of the housing evenly.

Using a hammer and a brass drift in the slots provided, remove the outer pinion bearing cup from the axle housing.

1. Verify the USB cable is properly connected at all components and in-line connections, and there is no damage to the cable or connections.
    - **If connection problems or cable damage is noted.**

      Perform the appropriate repair or replacement to correct any issues.
    - **If no connection problems or cable damage is noted.**
2. Disconnect the vehicle USB cable X3 harness connector at the X92 USB Receptacle.
3. Connect the EL-50334–2 Type-A Female to Mini-B Male Cable to the X92 USB Receptacle.
4. Ignition ON, infotainment system ON.
5. Connect the EL-50334-20 Multi-Media Interface Tester (MIT) to the EL-50334–2 Type-A Female to Mini-B Male Cable and select the USB test mode.
6. Verify the audio from the EL-50334-20 Multi-Media Interface Tester (MIT) is heard through the infotainment system while operating the system to play audio from the test tool.
    - **If audio is not heard from the test tool**

      Replace the X92 USB Receptacle.
    - **If audio is heard from the test tool**
7. Disconnect the console to I/P USB in-line connector.
8. Connect the EL-50034–14 Infotainment Test Cable and the EL-50334–2 Type-A Female to Mini-B Male Cable together. Connect the assembled test cable to the I/P side of the in-line USB cable connector and the X92 USB Receptacle.
9. Ignition ON, infotainment system ON.
10. Connect the EL-50334-20 Multi-Media Interface Tester (MIT) to the X92A USB Receptacle– Instrument Panel Compartment and select the USB test mode.
11. Verify the audio from the EL-50334-20 Multi-Media Interface Tester (MIT) is heard through the infotainment system while operating the system to play audio from the test tool.
    - **If audio is not heard from the test tool**

      Replace the X92A USB Receptacle– Instrument Panel Compartment.
    - **If audio is heard from the test tool**
12. Replace the USB cable assembly between the X92A USB Receptacle– Instrument Panel Compartment and the X92 USB Receptacle .

Voice Recognition Malfunction

Voice Recognition Malfunction (with UE1)

Diagnostic Instructions

- Perform the Diagnostic System Check - Vehicle prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provide an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Voice Recognition Audio Signal	1	1	1	—
Voice Recognition Audio Low Reference	—	1	—	—
1. infotainment system voice recognition inoperative				

Circuit/System Description

When voice recognition for the infotainment system is started, voice signals from the cellular phone microphone are passed through the telematics communication interface control module to the Human Machine Interface Control Module via the voice recognition audio circuits.

Diagnostic Aids