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2020 Chevrolet Bolt EV Service and Repair Manual

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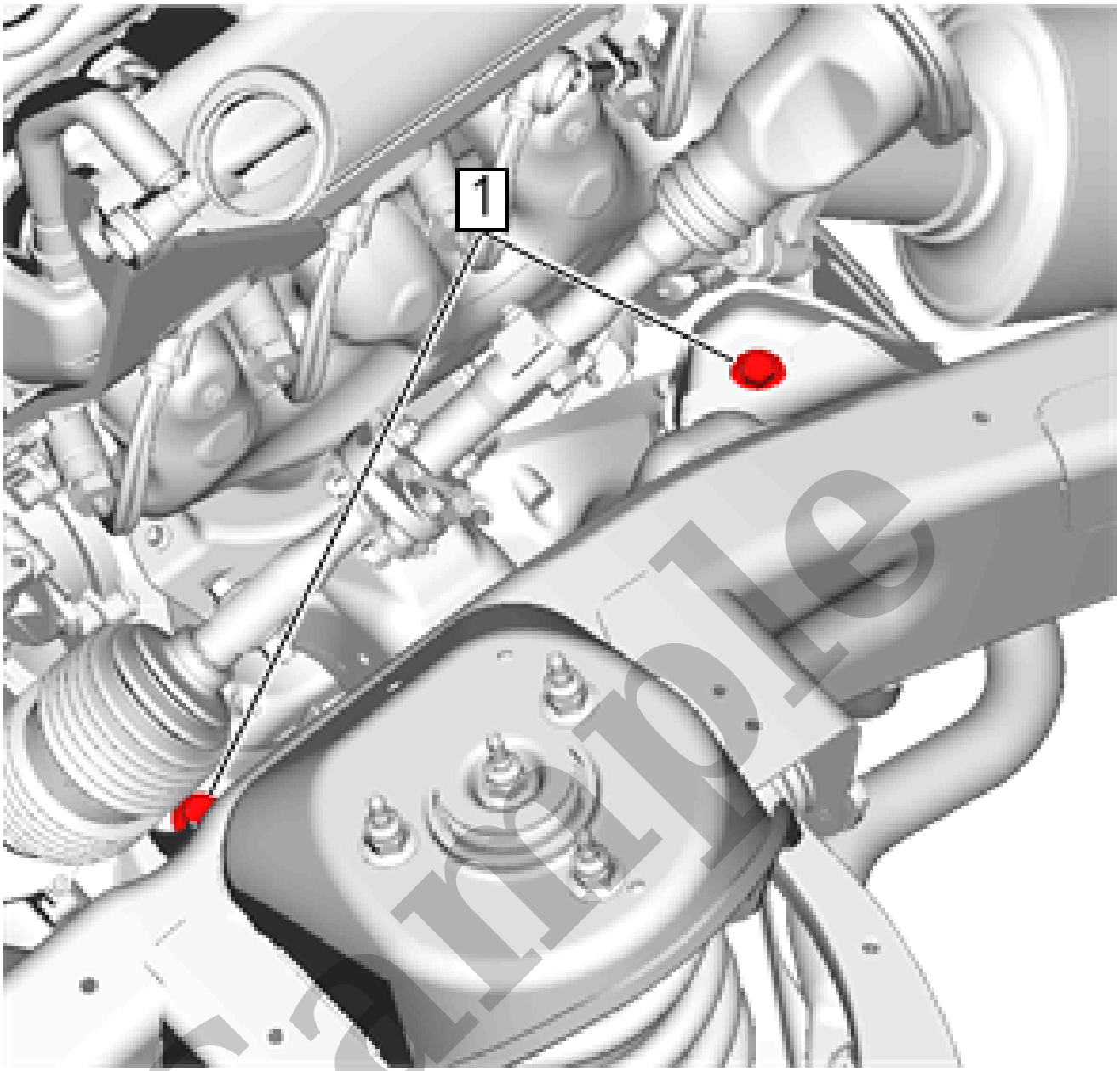
- Clearing powertrain DTCs will set the Inspection/Maintenance (I/M) system status indicators to NO.

Ensure the following conditions are met before programming a control module:

1. Vehicle system voltage:
    - There is not a charging system concern. All charging system concerns must be repaired before programming a control module.
    - Battery voltage is greater than 12 volts but less than 16 volts. The battery must be fully charged before programming the control module.
    - Turn OFF or disable any system that may put a load on the vehicles battery, such as the following components:
        - Interior lights
        - Exterior lights including daytime running lights (DRL)—Applying the parking brake, on most vehicles, disables the DRL system
        - Heating, ventilation, and air conditioning (HVAC) systems
        - Engine cooling fans
        - Radio, etc.
2. The ignition switch must be in the proper position. SPS prompts you to turn ON the ignition, with the engine OFF. DO NOT change the position of the ignition switch during the programming procedure, unless instructed to do so.
3. Make certain all tool connections are secure, including the following components and circuits:
    - Scan Tool
        - The RS-232 communication cable port
        - The connection at the data link connector (DLC)
        - The voltage supply circuits
    - MDI/MDI2
        - The USB, Ethernet or Wireless communication port
        - The connection at the data link connector (DLC)

Parameter	System State	Expected Value	Description
Voltage Test Status			display OK if the circuit is operating correctly or Not Run if a diagnosis has not been made. The scan tool will display Malfunction if there is a short to voltage in the circuit.
Intake Air Flow Valve Control Circuit 1 Low Voltage Test Status	—	OK	This parameter displays the status of the Intake Air Flow Valve Control Circuit 1 output driver. The scan tool will display OK if the circuit is operating correctly or Not Run if a diagnosis has not been made. The scan tool will display Malfunction if there is a short to ground in the circuit.
Intake Air Flow Valve Control Circuit 2 High Voltage Test Status	—	OK	This parameter displays the status of the Intake Air Flow Valve Control Circuit 2 output driver. The scan tool will display OK if the circuit is operating correctly or Not Run if a diagnosis has not been made. The scan tool will display Malfunction if there is a short to voltage in the circuit.
Intake Air Flow Valve Control Circuit 2 Low Voltage Test Status	—	OK	This parameter displays the status of the Intake Air Flow Valve Control Circuit 2 output driver. The scan tool will display OK if the circuit is operating correctly or Not Run if a diagnosis has not been made. The scan tool will display Malfunction if there is a short to ground in the circuit.
Intake Air Flow Valve Control Circuit Open Test Status	—	OK	This parameter displays the status of the Intake Air Flow Valve Control Circuit. The scan tool will display OK if the circuit is operating correctly or Not Run if a diagnosis has not been made. The scan tool will display Malfunction if there is an open in the circuit.
Intake Air Flow Valve Control Circuit Shorted Test Status	—	OK	This parameter displays the status of the Intake Air Flow Valve Control Circuit. The scan tool will display OK if the circuit is operating correctly or Not Run if a diagnosis has not been made. The scan tool will display Malfunction if there is a short in the circuit.
Intake Air Flow Valve Control Driver Overcurrent	—	No	This parameter displays the status of the Intake Air Flow Valve Control driver. The scan tool will display Yes when an overcurrent is detected.
Intake Air Flow Valve Control Driver Overtemperature	—	No	This parameter displays the status of the Intake Air Flow Valve Control driver. The scan tool will display Yes when overtemperature is detected.

Parameter	System State	Expected Value	Definition
Brake Pedal Position Sensor Move During Learn	—	No	The scan tool displays No or Yes. This parameter displays the brake pedal sensor learn status.
Brake Pedal Position Sensor Pulled Up from Home Position	—	No	The scan tool displays No or Yes.
Brake Pedal Position Sensor Reference	—	Varies	The scan tool displays the brake pedal position as voltage value. This parameter displays the current brake pedal position sensor reference.
Brake Pedal Pulled Up from Home Position	—	No	The scan tool displays No or Yes.
Brake Pedal Pulled Up from Released Position	—	No	The scan tool displays No or Yes.
Brake Transmission Shift Interlock Solenoid Actuator	—	Inactive	The scan tool displays Active or Inactive. This parameter displays the remote start diagnostic status history.
Brake Transmission Shift Interlock Solenoid Actuator Command	—	Inactive	The scan tool displays Active or Inactive. This parameter displays the last remote start diagnostic status history.
Calculated Brake Pedal Position	—	Varies	The scan tool displays volts.
Calculated Brake Pedal Position	—	Varies	The scan tool displays percentage.
Calibration Part Number 1-20	—	Varies	The scan tool displays the software module calibration part number.
Center Brake Lamp Command	—	Inactive	The scan tool displays Active or Inactive. This parameter displays the center brake lamp status.

5. 

Install the front differential bracket upper bolts (1).

5. **NOTE**

   Note

   Avoid rotating the ring gear excessively, this could give a false contact pattern.

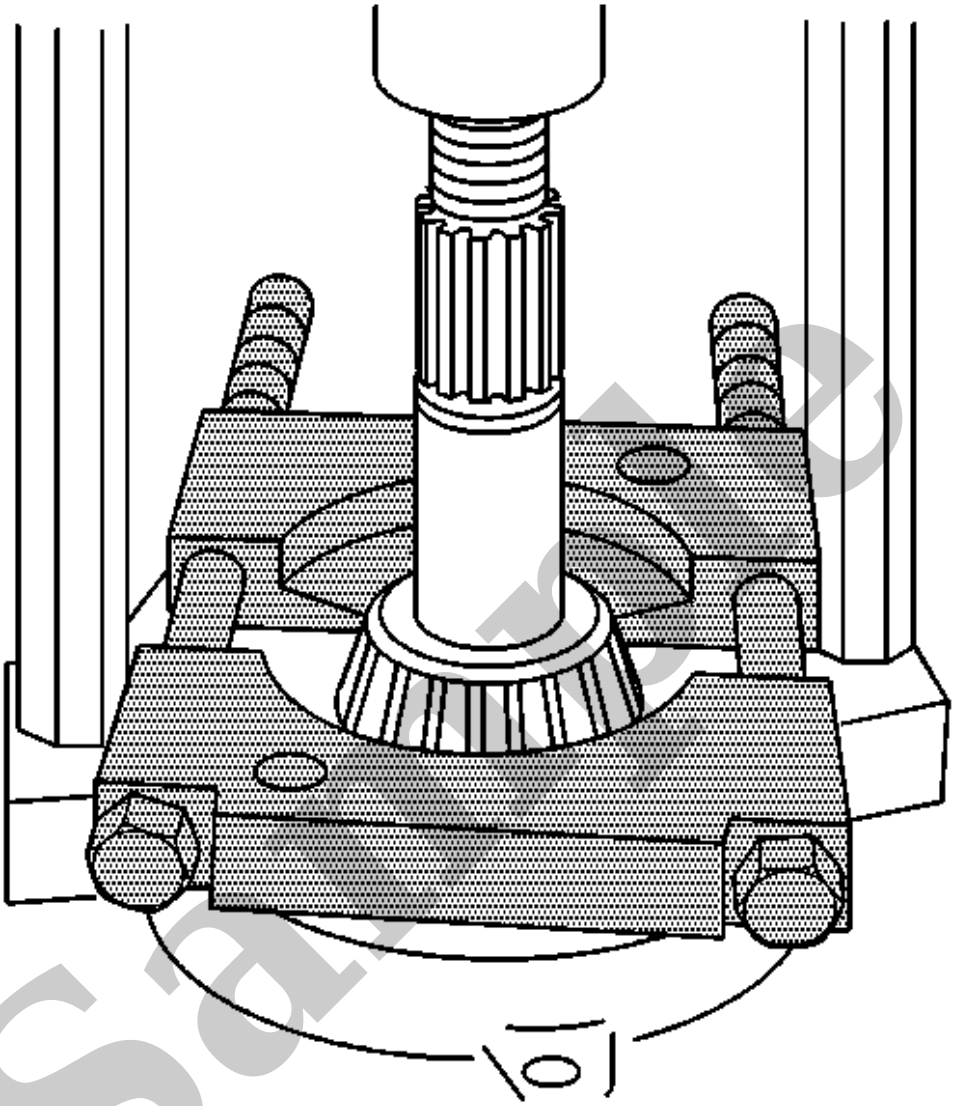
   Using the appropriate size wrench, slowly rotate the drive pinion flange/yoke 3 complete revolutions clockwise .

6. Slowly rotate the drive pinion flange/yoke 3 complete revolutions counter-clockwise .

7. Observe the contact pattern on the teeth. Refer to Gear Tooth Contact Pattern Inspection.

2. Remove the differential assembly. Refer to Differential Replacement.

3. Remove the drive pinion from the axle. Refer to Drive Pinion and Ring Gear Replacement.



4. Using the **J 22912** ***remover*** and a press, remove the differential pinion bearing.

Auxiliary Audio Input/USB/SD Card Reader

The infotainment system has a auxiliary jack, USB, and memory card receptacle assembly located in the console storage compartment. The two USB ports and the card reader slot interface with a hub device, internal to the assembly. The assembly receives fused battery voltage and ground from the harness to power the internal hub device as well as providing additional amperage to power USB devices.

The internal hub device interfaces directly with the human machine interface control module via a standard USB cable. A Mini type USB connector is used to connect the cable at the USB port and at the human machine interface control module and at the auxiliary jack, USB, and memory card receptacle. Standard USB male to female connections are typically used for connecting USB cables together where an in-line connection is required. An in-line cable connection is typically found between the console and I/P harness.

Front Console USB Ports

The infotainment system has a USB receptacle assembly located in the front of the console. The USB ports interface with a hub device, internal to the assembly. The assembly receives fused battery voltage and ground from the harness to power the internal hub device as well as providing additional amperage to power USB devices.

The internal hub device interfaces directly with the human machine interface control module via a standard USB cable. A Mini type USB connector is used to connect the cable at the USB port and at the human machine interface control module and at the auxiliary jack, USB, and memory card receptacle. Standard USB male to female connections are typically used for connecting USB cables together where an in-line connection is required. An in-line cable connection is typically found between the console and I/P harness.

Diagnostic Aids

When the vehicle is equipped with a Human Machine Interface Module (HMI) 2.5 and beyond the aux jack audio signal switches from an analog signal to a digital signal. With the digital signal the aux jack audio utilizes the USB cable instead of dedicated audio circuits. Be aware the dedicated audio circuits may still be built into the harness but are not used.

Reference Information

Schematic Reference

Radio/Navigation System Schematics

Connector End View Reference

Master Electrical Component List

Description and Operation

Radio/Audio System Description and Operation

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