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Chevrolet Equinox 2018 Manual – Service & Repair Workshop Guide

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YOUR CURRENT VEHICLE

K39 Liftgate Control Module: Programming and Setup

K39 Liftgate Control Module: Programming and Setup

NOTE

Note

- DO NOT program a control module unless directed to by a service procedure or a service bulletin. If the control module is not properly configured with the correct calibration software, the control module will not control all of the vehicle features properly.
- Ensure the programming tool is equipped with the latest software and is securely connected to the data link connector. If there is an interruption during programming, programming failure or control module damage may occur.
- Stable battery voltage is critical during programming. Any fluctuation, spiking, over voltage or loss of voltage will interrupt programming. When required, install a battery maintainer or power supply that provides a steady and stable voltage. Do not use a battery charger, as charging voltage will often fluctuate when connected to the vehicle. This may interrupt programing. If a battery maintainer is not available, connect a fully charged 12 V jumper or booster pack disconnected from the AC voltage supply.
- Turn OFF or disable systems that may put a load on the vehicles battery such as; interior lights, exterior lights (including daytime running lights), HVAC, radio, etc.
- During the programming procedure, follow the SPS prompts for the correct ignition switch position.
- Clear DTCs after programming is complete. Clearing powertrain DTCs will set the Inspection/Maintenance (I/M) system status indicators to NO.

Replace and Program Control Module

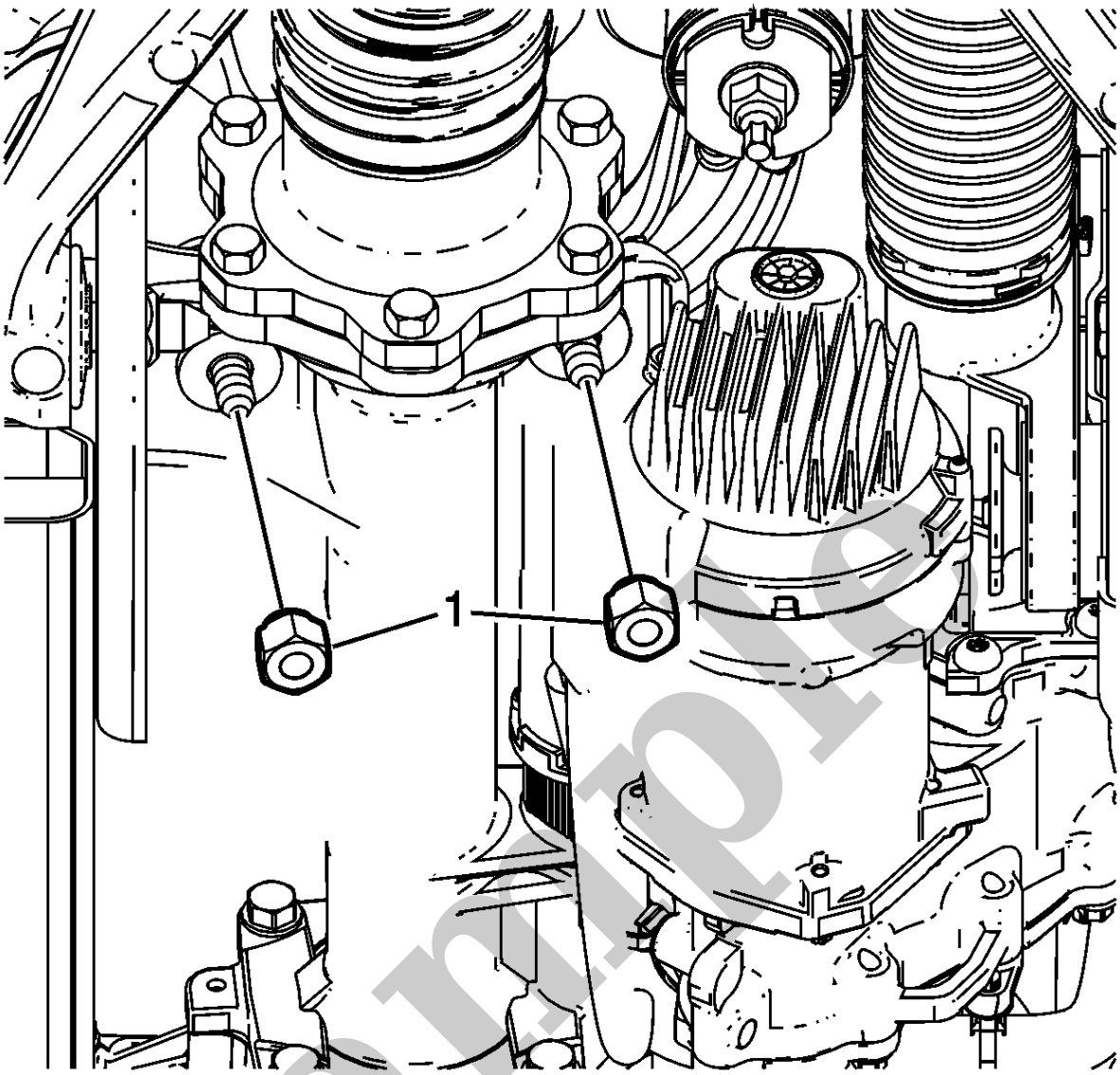
NOTE

Parameter	System State	Expected Value	Description
Left Rear Shock Absorber Actuator Command	—	varies	The scan tool displays mA. This is the current from the left rear shock absorber actuator.
Left Rear Suspension Position Sensor	—	.25–4.75 V	The scan tool displays V. This is the signal from the left rear suspension position sensor.
Right Rear Shock Absorber Actuator Command	—	varies	The scan tool displays mA. This is the current from the right rear shock absorber actuator.
Right Rear Suspension Position Sensor	—	.25–4.75 V	The scan tool displays V. This is the signal from the right rear suspension position sensor.
Suspension Position Sensor 5 V Reference	V	4.8–5.2 V	The scan tool displays V. This is the suspension position sensor supply voltage.

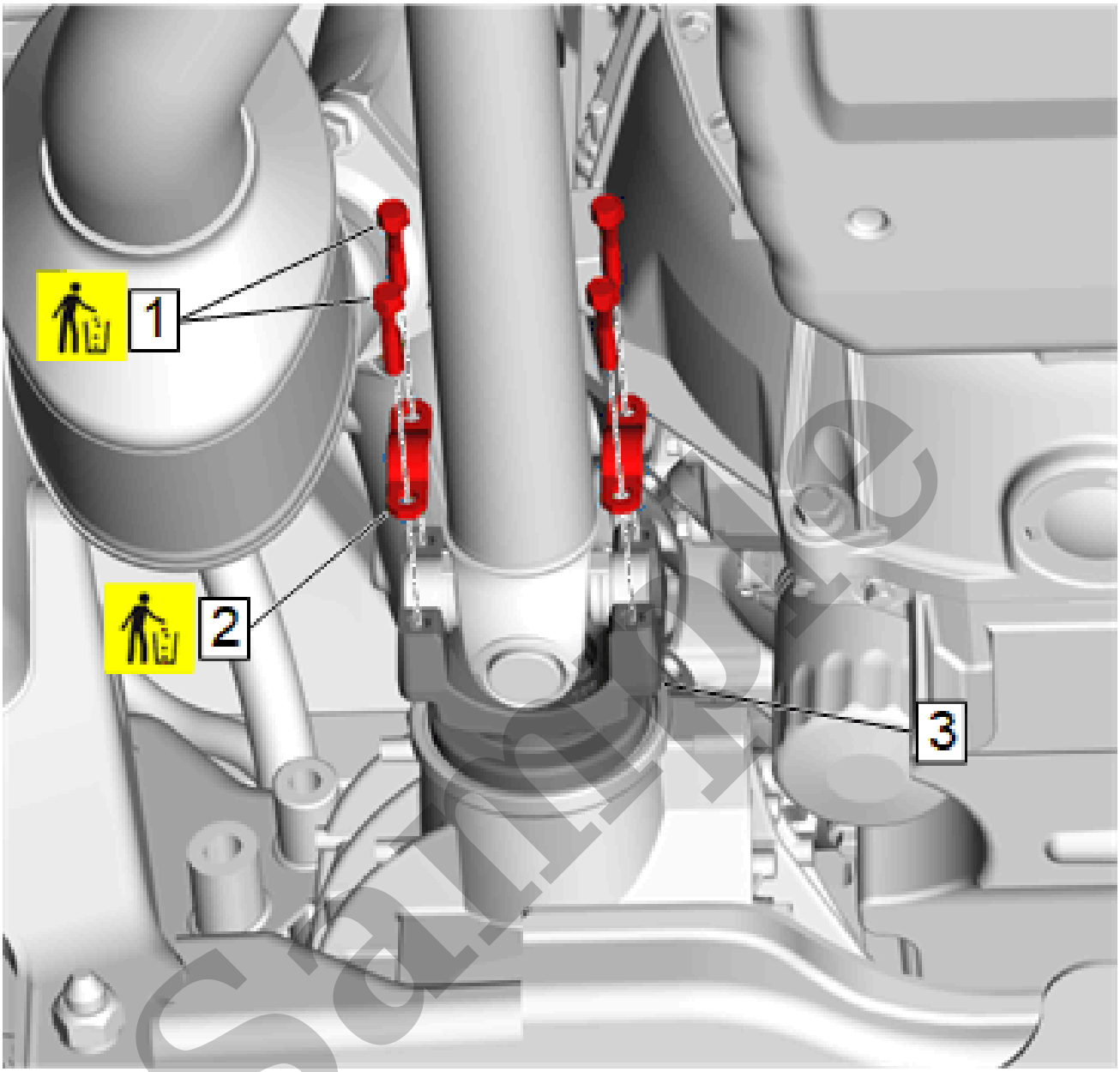
Suspension Control Module Scan Tool Output Controls

Output Control	Description
Left Front Shock Absorber Actuator	Commands the current applied to the left front shock absorber actuator Increase or Decrease.
Left Rear Shock Absorber Actuator	Commands the current applied to the left rear shock absorber actuator Increase or Decrease.
Right Front Shock Absorber Actuator	Commands the current applied to the right front shock absorber actuator Increase or Decrease.
Right Rear Shock	Commands the current applied to the right rear shock absorber actuator

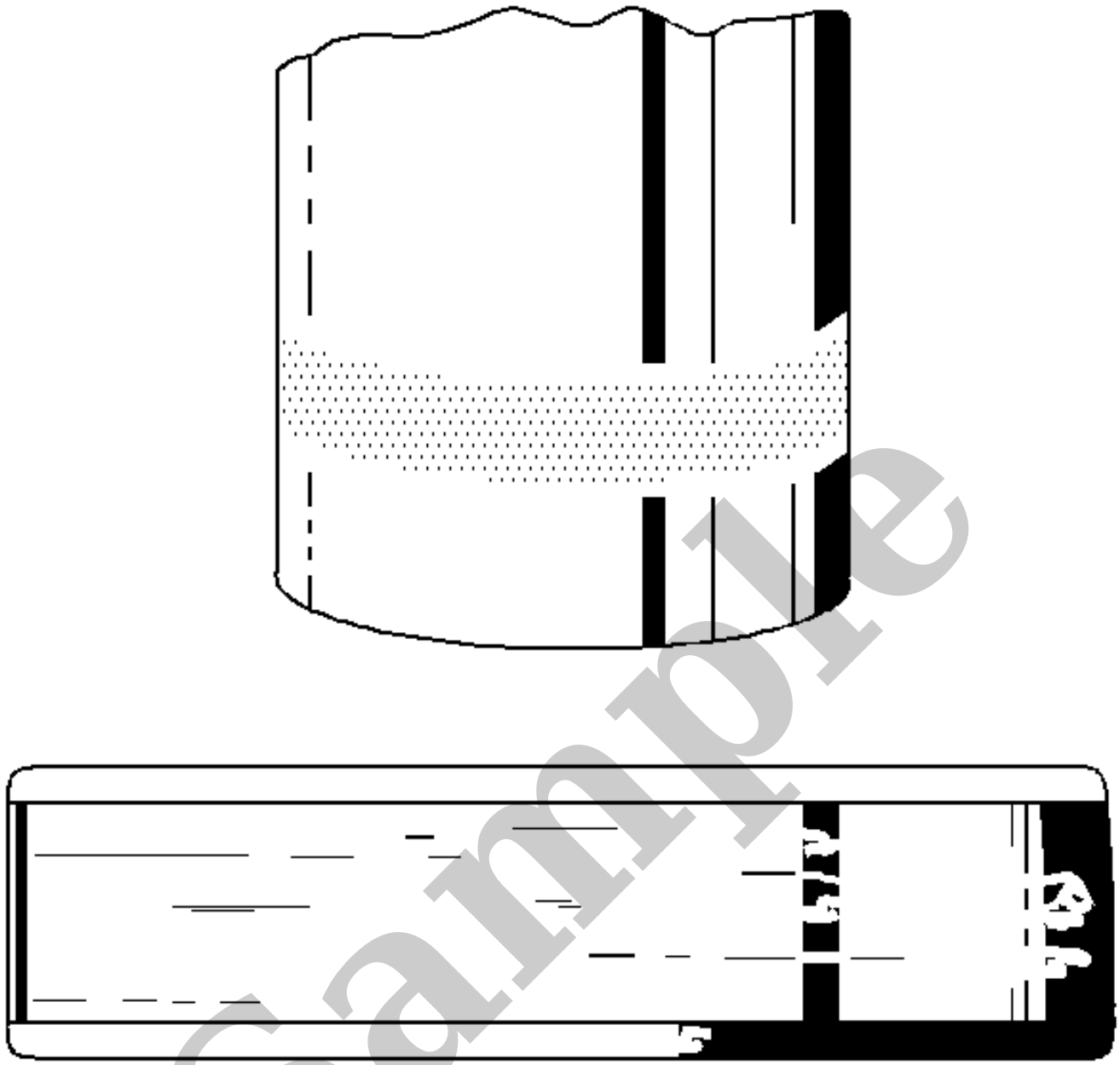
Parameter	Expected Value	Description
Battery Voltage	Battery Voltage	This parameter displays the voltage measured by the transfer case shift control module at the transfer case shift control module battery feed. The scan tool displays a range of 0–25.5 volts.
Clutch Calibration Status	Normal Learn	This parameter displays not learned, initial learn, and normal learn.
Clutch Coupling	Varies	This parameter displays the amount of clutch activation shown in percentage.
Front Axle Actuator	Battery Voltage	This parameter displays the voltage input to the front axle actuator from 0–25 volts.
Front Axle Actuator Status	Disengaged	This parameter displays either disengaged or engaged, engaged when the system is in Auto 4WD, 4WD, or 4WD Low modes, and disengaged when the mode is in neutral, or 2WD mode.
Front Axle Switch	Unlocked	This parameter displays either locked or unlocked depending on the feedback from the front axle actuator switch, which will be battery voltage when the vehicle is in a 4WD or Auto 4WD mode.
Incremental Impulse Sensor	Varies	This parameter displays the direction the incremental sensor is moving as clockwise or counter clockwise.
Incremental Position Sensor Direction	Varies	This parameter displays the pulse width modulated voltage signal being supplied to the incremental sensor via the transfer case control module.
Incremental Position Sensor	Varies	This parameter displays the position of the incremental sensor in degrees.
Incremental Position Sensor	Varies	This parameter displays the position of the incremental sensor in incremental sensor return voltage.

9. 

Remove the inner axle housing mounting nuts (1).



8. Front Axle Propeller Shaft Retainer(2)@Front Differential Drive Pinion Gear Yoke (3) »Install[2x]
9. If NEW threaded components are being installed, loosen the adhesive using a metal pick or similar tool before proceeding. If threaded components are reused, prepare the threaded components using the following steps:
    1. Remove any loose cured adhesive from the external threads of the components using a lint free cloth.
    2. Thread the cleaned components into the internal mating threads and remove to loosen trapped cured adhesive.



Corrosion set up by a small relative movement of parts with no lubrication. Replace the bearing. Clean all the relative parts. Check the seals. Check for proper fit and lubrication. Replace the shaft if damaged.

Smears

OnStar Description and Operation

OnStar Description and Operation (UE1)

This OnStar® system consists of the following components:

- Telematics communication interface control module
- OnStar® three button assembly
- Microphone
- Cellular antenna
- Navigation antenna
- Bluetooth® antenna (If equipped)
- Back up battery (If equipped)
- WiFi Hotspot (If equipped)
- TTY (Teletypewriter)
- FOTA (Firmware Over The Air)

This system also interfaces with the factory installed vehicle audio system.

Onstar Block Diagram

- **If less than 10 Ω.**

4. Verify that a test lamp illuminates between the B+ circuit terminal 10 and ground.
   - **If the test lamp does not illuminate and the circuit fuse is good**
     1. Ignition OFF, remove the test lamp.
     2. Test for less than 2 Ω in the B+ circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, verify the fuse is not open and there is voltage at the fuse.
   - **If the test lamp does not illuminate and the circuit fuse is open**
     1. Ignition OFF, remove the test lamp.
     2. Test for infinite resistance between the B+ circuit and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance
     3. Test for infinite resistance between the signal circuit and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance, replace the P22A Video Display– 2nd Row.
   - **If the test lamp illuminates**
5. Ignition ON, rear seat entertainment system ON.
6. Test for 5 V or greater between the control circuit terminal 9 and ground.
   - **If less than 5 V.**
     1. Ignition OFF, disconnect the X1 harness connector at the A33 Media Disc Player.
     2. Test for infinite resistance between the control circuit and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance
     3. Test for less than 2 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the A33 Media Disc Player.
   - **If 5 V or greater.**