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2021 Chevrolet Colorado Service and Repair Manual

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Symptoms - Roof

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Parameter	System State	Expected Value	Description
			• Engine Overspeed Protection Active • A/C Compressor Clutch On • HO2S 2 Test • 4WD Low Engaged • Vehicle Speed Too Low • Acceleration Request • Catalyst Temperature Low • Cylinder Deactivation System DTC • Calculated Torque • 4WD Low State Invalid • Minimum Time After TAC DTC • Hybrid/EV Powertrain Control Module Request • Fuel Alcohol Content Learn In Progress • Fuel Alcohol Content Too High • Maximum Throttle Exceeded
Cylinder Deactivation Performance Test	—	OK	This parameter displays OK if all the Active Fuel Management enabling conditions are met. The parameter displays Fault if one or more enabling conditions are out of range.
Cylinder Deactivation System Command	—	All Cylinder	This parameter displays several signals associated with the status of the Active Fuel Management system.
Cylinder Deactivation Cycles	—	Counts	This parameter displays the number of times the engine switches between V8 mode, and V4 mode during each ignition cycle. The counter will reset to zero and increment again, if the count reaches 255 during the current ignition cycle.
Cylinder 1, 4, 6, 7 Current Misfire Counter	—	Counts	This parameter displays the number of misfires detected for cylinder's 1–8 within the current 100 engine cycle test interval. The set of misfire counters for the individual cylinders are maintained such that if a single misfire is detected over an engine cycle.
Cylinder 1, 4, 6, 7 Deactivation Solenoid Valve Control Circuit High Voltage Test Status	—	OK	This parameter displays the state of the deactivation solenoid valve control circuit. The parameter displays Malfunction if the deactivation solenoid valve control circuit is shorted to voltage.

YOUR CURRENT VEHICLE

Front Drive Axle Description and Operation

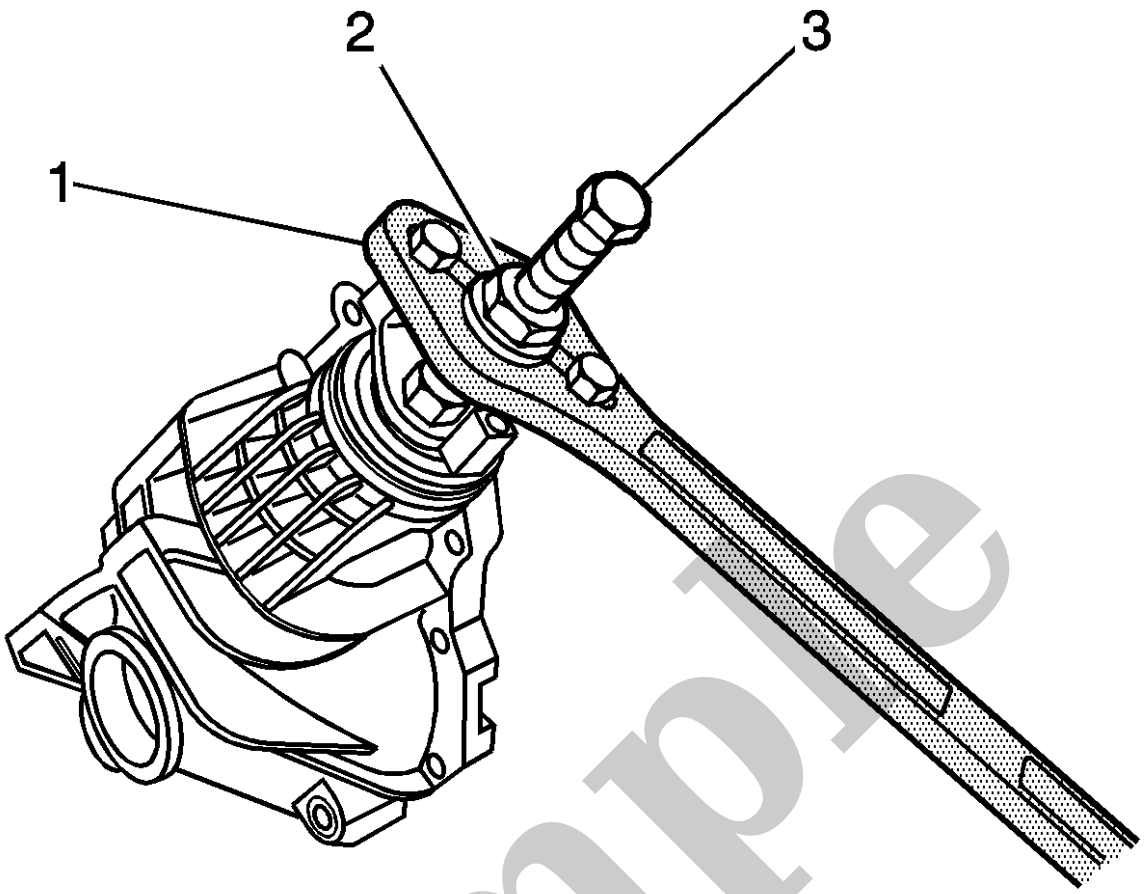
Front Drive Axle Description and Operation

Selectable Four Wheel Drive (S4WD) Front Axle Description and Operation

The Selectable Four Wheel Drive (S4WD) Front Axle consist of the following components:

- Differential Carrier Housing
- Differential Assembly
- Output Shafts (Left and Right Side)
- Inner Axle Shaft Housing
- Inner Axle Shaft (Right Side)
- Clutch Fork
- Clutch Fork Sleeve
- Electric Motor Actuator

The front axle on Selectable Four Wheel Drive model vehicles uses a central disconnect feature in order to engage and disengage the front axle. When the driver engages the 4WD system, the Transfer Case Control Module sends a signal to the electric motor actuator to energize and extend the plunger inside. The extended plunger moves the clutch fork and clutch fork sleeve across the inner axle shaft and the clutch fork shaft and locks the two shafts together. The locking of the two shafts allows the axle to operate in the same manner as a semi-floating rear axle. A propeller shaft connects the transfer case to the front axle. The differential carrier assembly uses a conventional ring and pinion gear set to transmit the driving force of the engine to the wheels. The open differential allows the wheels to turn at different rates of speed while the axle continues to transmit the driving force. This prevents tire scuffing when going around corners and premature wear on internal axle parts. The ring and pinion set and the differential are contained within the carrier. The axle identification number is located on top of the differential carrier assembly or on a label on the bottom of the



15. Install the J 8614-2 (2) and the J 8614-3 (3) into the **J-8614-01** ***flange and pulley holding tool*** (1) as shown.
16. Remove the pinion yoke by turning the J 8614-3 (3) clockwise while holding the **J-8614-01** ***flange and pulley holding tool*** (1).
17. The steps below explain how to remove the drive pinion and pinion bearing cups using the **J-36598** ***holding fixture*** or the **J-45765** ***pinion remover*** and the **J-45858** ***front axle bearing race remover/installer*** or **J-45858-B** ***front axle bearing race remover/installer*** . Follow the appropriate steps depending on what tool is available.
18. Install the **J-36598** ***holding fixture*** into a vise.

19. Recheck the backlash and adjust, if necessary.

20. Once backlash is correct, perform a gear tooth contact pattern check in order to ensure proper alignment between the ring and pinion gears. Refer to Gear Tooth Contact Pattern Inspection.

21. **NOTE**

    Note

    Recheck the backlash following the steps above to verify that the backlash is within specifications.

    Tighten the differential bearing cap bolts to:

    1. First pass at ***60 N·m (44 lb ft)***
    2. Final pass an additional ***30 degrees***

22. Measure the drive pinion and differential case side bearing preload and adjust, if necessary following the steps above.

23. Once the backlash and bearing preload is correct, perform a gear tooth contact pattern check in order to ensure proper alignment between the ring and pinion gears. Refer to Gear Tooth Contact Pattern Inspection.

9. **NOTE**

   Note

   - Recheck the rotating torque and adjust if necessary.
   - Take care to not split the nut lip which could affect nut torque retention. If nut lip is split, use new nut.

   Once the specified torque is obtained, rotate the pinion several times to seat the bearings.

10. **NOTE**

    Note

    Realign the reference marks on the rear propeller shaft and the rear axle pinion yoke.

    Install the propeller shaft. Refer to: Rear Propeller Shaft Replacement.

11. Install the rear disc brake rotor, if equipped. Refer to Rear Brake Rotor Replacement.
12. Install the rear tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.
13. Inspect and add axle lubricant to the axle housing, if necessary. Refer to Rear Axle Lubricant Level Inspection.
14. Remove the support and lower the vehicle.

- Refer to the owners manual for compatible disc and format types.
- Disc player power, ground and MOST communication circuit issues will create DTCs stored in other modules and will affect the entire infotainment system. The purpose of this diagnostic is to address disc player only concerns where the remaining system functions normally.
- If the disc player wakes on GMLAN but does not receive a wake signal on the MOST communication enable circuit, the disc player will operate in MOST bypass mode. The disc player will allow MOST data communications to pass through, but will not actively communicate on the MOST bus. The infotainment system will operate, but audio disc playback and the rear seat entertainment system will not function. No DTCs will be set if this occurs. A short to ground or short to voltage on the MOST communication enable circuit will create DTCs stored in other modules and will affect the entire infotainment system.
- If the disc player cannot communicate on low speed GMLAN, but is awake and communicating on MOST, the infotainment system will operate normally, including all disc player and rear seat entertainment functions. If this occurs, no DTCs will be set but the scan tool will be unable to communicate with the disc player.

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

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

Scan Tool Reference

Control Module References for scan tool information

Special Tools

EL-50334-50 USB Cable and Adapter Kit

DTC B1025-B1135

DTC B1025-B1135 (UQH)

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.

DTC Descriptors

DTC B1025	Audio Output 1 Circuit
DTC B1035	Audio Output 2 Circuit
DTC B1045	Audio Output 3 Circuit
DTC B1065	Audio Output 5 Circuit
DTC B1075	Audio Output 6 Circuit
DTC B1085	Audio Output 7 Circuit
DTC B1095	Audio Output 8 Circuit
DTC B1105	Audio Output 9 Circuit
DTC B1115	Audio Output 10 Circuit
DTC B1125	Audio Output 11 Circuit