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2001 Chevrolet K Silverado - 4WD Service and Repair Manual

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Callout	Component Name
	CAUTION **Caution** Fastener Caution **Procedure** Remove wire harness retainer push clip from bracket. Tighten 9N·m(80 lb in)
2	Video Processing Module **Procedure** 1. Disconnect the electrical connectors. 2. Perform the necessary programming and setup procedure: Control Module References

The drive mode switch is a momentary rotary knob with two switches. It is part of the S48E Multifunction Switch – Center Console. At rest, the drive mode switch remains in a neutral position with both switches open. When rotated to the left or right, the corresponding switch is closed. When released, the rotary knob returns to the neutral position and both switch will again be open. The two switches are situated within a resistor ladder. The K20 Engine Control Module applies 5 volts to the resistor ladder, which also receives a constant ground. The K20 Engine Control Module monitors the signal voltage. The signal voltage is measured within the resistor ladder. As each switch is closed, current flows through a different number of resistors, changing the voltage drop across the resistors and changing the voltage monitored by the K20 Engine Control Module.

K20 Engine Control Module

The K20 Engine Control Module monitors the S126 Drive Mode Select Switch as an input. The K20 Engine Control Module applies 5 volts to the switch resistor ladder and monitors the signal voltage from the switch. As the switch is rotated to the left or right, current flows through different resistors and the voltage monitored at the K20 Engine Control Module also changes. The K20 Engine Control Module uses this voltage change to determine if the rotary knob is in the at rest position or has been turned left/right. The K20 Engine Control Module will change the drive mode based on this input.

When a drive mode change is requested by the drive through the S126 Drive Mode Select Switch, the K20 Engine Control Module will broadcast a message to all modules indicating the requested drive mode. Control modules that are involved in changing their operation based on differing drive modes will then change their operating values. The K20 Engine Control Module may also change operating values based on the drive mode, such as a more or less aggressive throttle profile.

YOUR CURRENT VEHICLE

Drive Mode Switch Malfunction

Drive Mode Switch Malfunction

Diagnostic Instructions

- Perform the Diagnostic System Check prior to using this diagnostic procedure: Diagnostic System Check - Vehicle
- Review the description of Strategy Based Diagnosis: Strategy Based Diagnosis
- An overview of each diagnostic category can be found here: Diagnostic Procedure Instructions

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
5 V Reference	P159F	P159F	P15A0	P15A1
Signal	P159F	P159F	P15A0	P15A1
Low Reference	—	P15A0	—	—

Circuit/System Description

For an overview of the component/system, refer to: Drive Mode Description and Operation

Circuit	Description
5 V Reference	Regulated voltage supplied by the control module.
Signal	The control module input circuit has an internal resistance connected to ground.

Verify the following information is correctly displayed:Drive Mode@A5 Driver Information Center

- **If the component does not work as specified**

  Refer to: Circuit/System Testing

- **If the component works as specified**

2. All OK.

Circuit/System Testing

1. **NOTE**

   Note

   It may take up to 2 min for all vehicle systems to power down before an accurate ground or low reference circuit continuity test can be performed.

   Ignition/Vehicle & All vehicle systems » Off

2. Disconnect the electrical connector:S48E Multifunction Switch - Center Console
3. Test for less than 10 Ω between the test points:Low Reference circuit terminal 5&Ground
   - **If 10 Ω or greater**
     1. Disconnect the electrical connector:K20 Engine Control Module
     2. Test for less than 2 Ω between the test points:Low Reference circuit terminal 5@Component harness&The other end of the circuit@Control module harness
        - If 2 Ω or greater » Repair the open/high resistance in the circuit.
        - If less than 2 Ω » Replace the component:K20 Engine Control Module
   - **If less than 10 Ω**
4. Ignition » On / Vehicle » In Service Mode
5. Test for 4.8 to 5.2 V between the test points:5 V Reference circuit terminal 1&Ground
   - **If less than 4.8 V**
     1. Ignition/Vehicle » Off
     2. Disconnect the electrical connector:K20 Engine Control Module