

## 2004 ACCESSORIES &amp; EQUIPMENT

## Cruise Control - C/K SUV

## SCHEMATIC AND ROUTING DIAGRAMS

## CRUISE CONTROL SCHEMATICS

Refer to Cruise Control in System Wiring Diagrams .

## COMPONENT LOCATOR

## CRUISE CONTROL COMPONENT VIEWS

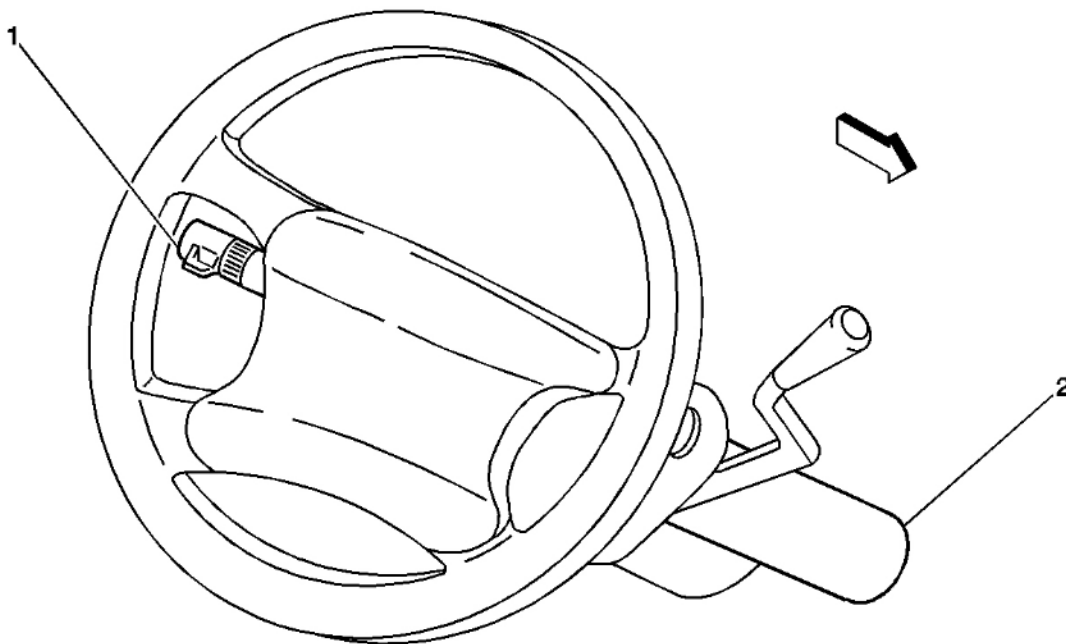


**Fig. 1: Cruise Control Switch (Multifunction Switch) Component View**  
Courtesy of GENERAL MOTORS CORP.

## Callouts For Fig. 1

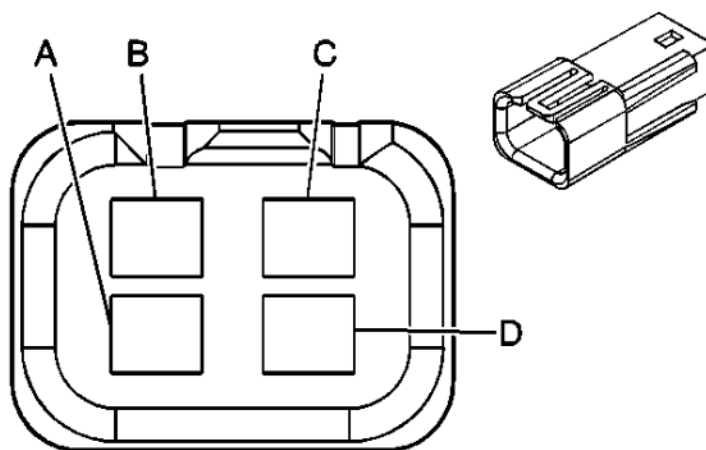
| Callout | Component Name        |
|---------|-----------------------|
| 1       | Cruise Control Switch |
| 2       | Steering Column       |

## CRUISE CONTROL CONNECTOR END VIEWS

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

### Turn Signal/Multifunction Switch - C4 Terminal Identification



| Connector Part Information |            | <ul style="list-style-type: none"><li>• 12047786</li><li>• 4-Way F 150 Series Sealed (BLK)</li></ul> |                                           |
|----------------------------|------------|------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Pin                        | Wire Color | Circuit No.                                                                                          | Function                                  |
| A                          | BRN        | 41                                                                                                   | Ignition 3 Voltage                        |
| B                          | GRY/WHT    | 397                                                                                                  | Cruise Control ON Switch Signal           |
| C                          | GRY/BLK    | 87                                                                                                   | Cruise Control Resume/Accel Switch Signal |
| D                          | DK BLU     | 84                                                                                                   | Cruise Control Set/Coast Switch Signal    |

## DIAGNOSTIC INFORMATION AND PROCEDURES

### DIAGNOSTIC STARTING POINT - CRUISE CONTROL

Begin the system diagnosis with the **Diagnostic System Check - Cruise Control** . The Diagnostic System Check will provide the following information:

- The identification of the control modules which command the system
- The ability of the control modules to communicate through the serial data circuit
- The identification of any stored diagnostic trouble codes (DTCs) and their status

The use of the Diagnostic System Check will identify the correct procedure for diagnosing the system and where the procedure is located.

### DIAGNOSTIC SYSTEM CHECK - CRUISE CONTROL

#### Description

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

The Cruise Control Diagnostic System Check is an organized approach to identifying a condition created by an electronic control system failure. The Diagnostic System Check directs the service technician to the next logical step in diagnosing the concern. Understanding the system, the table, and using it correctly reduces diagnostic time and prevents misdiagnosis. For a review of the cruise control system, refer to **Cruise Control Description and Operation**.

#### Test Description

The numbers below refer to the step numbers on the diagnostic table.

**2:** Lack of communication may be due to a malfunction in the class 2 serial data circuit. The specified procedure will determine the particular condition.

**5:** The presence of DTCs which begin with "U" indicates that some other module is not communicating. The specified procedure will compile all the available information before tests are performed.

#### Diagnostic System Check - Cruise Control

| Step | Action                                                                                                                                                                                                                                                                                                                                                                                                                                           | Yes                 | No                                                                                                 |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------------------|
| 1    | Install a scan tool.<br>Does the scan tool power up?                                                                                                                                                                                                                                                                                                                                                                                             | Go to <b>Step 2</b> | Go to <b><u>Scan Tool Does Not Power Up</u></b> in Data Link Communications                        |
| 2    | 1. Turn the ignition ON, with the engine OFF.<br>2. Attempt to establish communication with the following modules: <ul style="list-style-type: none"><li>• The powertrain control module (PCM)</li><li>• The electronic brake control module (EBCM)</li></ul> Does the scan tool communicate with the modules listed above?                                                                                                                      | Go to <b>Step 3</b> | Go to <b><u>Scan Tool Does Not Communicate with Class 2 Device</u></b> in Data Link Communications |
| 3    | <b>IMPORTANT:</b><br><b>The engine may start during the following step. Turn the engine OFF as soon as you have observed the Crank power mode.</b><br><br>1. With a scan tool, access the Class 2 Power Mode in the Diagnostic Circuit Check.<br>2. Rotate the ignition switch through all positions while observing the System Power Mode parameter.<br><br>Does the System Power Mode parameter reading match the ignition switch position for |                     | Go to <b><u>Power Mode Mismatch</u></b> in Body                                                    |

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

|   |                                                                                                                                                                                                                                                         |                                                                                                    |                                                        |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------|
|   | all switch positions?                                                                                                                                                                                                                                   | Go to <b>Step 4</b>                                                                                | Control System                                         |
| 4 | Select the DTCs function on the scan tool for the following modules: <ul style="list-style-type: none"> <li>• The powertrain control module (PCM)</li> <li>• The electronic brake control module (EBCM)</li> </ul> Does the scan tool display any DTCs? | Go to <b>Step 5</b>                                                                                | Go to <b><u>Symptoms - Cruise Control</u></b>          |
| 5 | Does the scan tool display any DTCs which begin with a "U"?                                                                                                                                                                                             | Go to <b><u>Scan Tool Does Not Communicate with Class 2 Device</u></b> in Data Link Communications | Go to <b>Step 6</b>                                    |
| 6 | Does the scan tool display DTC P0562, P0563, P0615, P1637, or P01638?                                                                                                                                                                                   | Go to <b><u>Diagnostic Trouble Code (DTC) List</u></b> in Engine Electrical                        | Go to <b><u>Diagnostic Trouble Code (DTC) List</u></b> |

### SCAN TOOL DATA LIST

#### Powertrain Control Module (PCM) Scan Tool Data List

| Scan Tool Parameter                                                                                                               | Data List           | Units Displayed                              | Typical Data Value |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------|--------------------|
| <b>Ignition ON/Engine Idling at Normal Operating Temperature/Vehicle is in Park or Neutral/Cruise On/Off Switch is Turned Off</b> |                     |                                              |                    |
| Cruise Control Active                                                                                                             | Cruise Control Data | Yes/No                                       | No                 |
| Cruise Disengage (1 - 8) History                                                                                                  | Cruise Control Data | Last reason for cruise control disengagement | Varies             |
| Cruise On/Off Switch                                                                                                              | Cruise Control Data | On/Off                                       | Off                |
| Cruise Release Brake Pedal Switch                                                                                                 | Cruise Control Data | Applied/Released                             | Released           |
| Cruise Resume/Accel. Switch                                                                                                       | Cruise Control Data | On/Off                                       | Off                |
| Cruise Set/Coast Switch                                                                                                           | Cruise Control Data | On/Off                                       | Off                |
| Engine Speed                                                                                                                      | Cruise Control Data | RPM                                          | Varies             |
| Ignition 1 Signal                                                                                                                 | Cruise Control Data | Volts                                        | 9 to 18            |
| Reduced Engine Power                                                                                                              | Cruise Control Data | Active/Inactive                              | Inactive           |
| Stop Lamp Pedal Switch                                                                                                            | Cruise Control Data | Applied/Released                             | Released           |
| TAC/PCM Communication Signal                                                                                                      | Cruise Control Data | OK/Fault                                     | OK                 |
| Traction Control Signal                                                                                                           | Cruise Control Data | Active/Inactive                              | Inactive           |
| Vehicle Speed Sensor                                                                                                              | Cruise Control Data | km/h (mph)                                   | 0 km/h (0 mph)     |

### SCAN TOOL DATA DEFINITIONS (CRUISE CONTROL)

The Scan Tool Data Definitions contains a brief description of all cruise control related parameters available on

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

the scan tool.

#### **Cruise Control Active**

The scan tool displays Yes or No. The PCM determines the current status of cruise control operation. An active cruise control system is displayed as Yes.

#### **Cruise Disengage (1 - 8) History**

The scan tool displays the last 8 reasons why the cruise control system was disengaged. Refer to the Scan Tool Data Definitions (Disengaged History) for descriptions.

#### **Cruise On/Off Switch**

The scan tool displays On or Off. The TAC module monitors the signal circuit of the On/Off switch of the cruise control system. A closed switch is displayed as On.

#### **Cruise Release Brake Pedal Switch**

The scan tool displays Applied or Released. The PCM monitors the TCC brake switch/Cruise control release signal circuit. An open switch is displayed as Applied.

#### **Cruise Resume/Accel. Switch**

The scan tool displays On or Off. The TAC Module monitors the signal circuit of the Resume/Accel. switch of the cruise control system. A closed switch is displayed as On.

#### **Cruise Set/Coast Switch**

The scan tool displays On or Off. The TAC module monitors the signal circuit of the Set/Coast switch of the cruise control system. A closed switch is displayed as On. The cruise On/Off switch must be switched On in order to correctly view the Cruise Set/Coast Switch parameter.

#### **Engine Speed**

The scan tool displays 0 to 9,999 RPM. The PCM monitors the CKP signal circuit in order to determine the engine RPM.

#### **Ignition 1 Signal**

The scan tool displays 6 Volts to 18 Volts. The PCM monitors the Ignition 1 signal circuit in order to determine the system voltage.

#### **Reduced Engine Power**

The scan tool displays Active or Inactive. When the PCM determines that a throttle actuator control system malfunction exists, the scan tool displays Active.

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

#### Stoplamp Pedal Switch

The scan tool displays Applied or Released. The PCM monitors the stop lamp switch signal circuit. An open switch is displayed as Applied.

#### TAC/PCM Communication Signal

The scan tool displays OK or Fault. The PCM uses the UART serial data circuit in order to communicate with the TAC module. If the communication between the PCM and the TAC module is interrupted, the scan tool displays Fault.

#### Traction Control Signal

The scan tool displays Active or Inactive. When the PCM receives a class 2 signal from the Electronic Brake Control Module requesting a traction control related function, the scan tool displays Active.

#### Vehicle Speed Sensor

The scan tool displays 0 to 150 km/h (93.2 mph). The PCM monitors the vehicle speed sensor signal circuit in order to calculate the vehicle speed for display.

#### SCAN TOOL DATA DEFINITIONS (DISENGAGED HISTORY)

The Cruise Control Scan Tool Definitions - Disengage History is a common list for all of the available cruise control disengagement definitions available on the scan tool. The cruise control system equipped on the vehicle determines which cruise control disengagement parameters are available on the scan tool.

One of the following conditions must be present in order for a disengagement parameter to appear:

- The cruise control system is active and disengagement is requested.
- The engagement of the cruise control system is requested while a fault is present.

#### Accel Rate

The PCM/ECM detects that the vehicle acceleration is greater than the calibrated cruise control threshold.

#### Bad Sequence

The PCM/ECM detects that a cruise control software execution error is present.

#### Brake

The PCM/ECM detects that the stop lamps have been activated or the PCM/ECM detects that a stop lamp pedal activation had not occurred before the cruise control system was requested.

#### Cancel

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

The PCM/ECM detects that the cruise control cancel switch has been activated.

#### **CC Sw. Position**

The PCM/ECM detects that the acceleration mode is active without the activation of the Accel. switch.

#### **Clutch**

The PCM/ECM detects that the clutch pedal switch has been activated.

#### **Clutch Switch**

The PCM/ECM detects that the clutch pedal switch has been activated.

#### **Cruise Off**

The PCM/ECM detects that the cruise On/Off switch was turned to Off when the cruise control system was enabled.

#### **Coast Low Speed**

The PCM/ECM detects that the Set/Coast switch is activated until the vehicle speed is below 37 km/h (23 mph).

#### **Coast Disengage**

When the PCM/ECM detects that the cruise set/coast signal is active and the throttle blade fully closes the cruise control system will disengage until the PCM/ECM detects that the set/coast signal is inactive. The cruise control system will then engage and set with the new vehicle speed.

#### **Decel Rate**

The PCM/ECM detects that the vehicle deceleration is greater than the calibrated cruise control threshold.

#### **DTC Set**

The PCM/ECM detects that a DTC has been set which affects the cruise control operation.

#### **Engine Run Time**

The PCM/ECM detects that the cruise control system has been requested and the engine run time counter is not active.

#### **Engine Speed**

The PCM/ECM detects that the engine speed is less than or greater than a calibrated RPM.

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

#### **ETC**

The PCM/ECM detects a fault within the TAC system.

#### **First Gear**

While the cruise control system is active, the PCM/ECM detects that the transmission is in Drive 1.

#### **High Accel.**

The PCM/ECM detects that the vehicle acceleration is greater than the calibrated cruise control threshold.

#### **High Decel.**

The PCM/ECM detects that the vehicle deceleration is greater than the calibrated cruise control threshold.

#### **High Speed**

The PCM/ECM detects that the vehicle speed is greater than the calibrated amount.

#### **Illegal Mode**

The PCM/ECM detects that the acceleration mode is active without the activation of the Accel. switch.

#### **Injector Disable**

The PCM/ECM detects that the engine is overspeed and that the fuel shutoff has been activated.

#### **Low Speed**

The PCM/ECM detects that the vehicle speed is less than 37 km/h (23 mph) while the cruise control system was enabled.

#### **Low Voltage**

The PCM/ECM detects that the ignition voltage is below 9 volts.

#### **Manual / Neutral**

The PCM/ECM detects that transmission is in Neutral, Reverse or Park.

#### **Memory Corrupt**

An internal PCM/ECM memory fault is detected.

#### **MPH Limit**

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

The PCM/ECM detects a that the vehicle is overspeed and that the fuel shutoff has been activated.

#### **No History**

This parameter is displayed when a new PCM/ECM has been installed.

#### **None**

This parameter is displayed when a new PCM/ECM has been installed.

#### **Off**

The PCM/ECM detects that the cruise On/Off switch was turned to Off when the cruise control system was enabled.

#### **Over Set Speed**

This parameter is displayed when the current vehicle speed is greater than the set vehicle speed by more than a calibrated amount.

#### **Over Speed**

This parameter is displayed when the current vehicle speed is greater than the set vehicle speed by more than a calibrated amount.

#### **Over Speed Tap**

This parameter is displayed when the Set/Coast switch is briefly applied while the current vehicle speed is greater than the set vehicle speed by more than a calibrated amount.

#### **Pedal Initialize**

The PCM/ECM detects that a stop lamp pedal activation had not occurred before the cruise control system was requested.

#### **PCM Error**

The PCM/ECM detects that a cruise control software execution error is present.

#### **PCM Inhibit**

The PCM/ECM detects a RAM corruption associated to the cruise control system.

#### **Pedal > Cruise**

The PCM/ECM detects that the accelerator pedal overrides the set vehicle speed for approximately 60 seconds.

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

#### Serial Data

A fault in the serial data circuit from the cruise control switch to the platform module is detected.

#### S/C On, CC Off

When the PCM/ECM detects that the cruise set/coast signal is active and the throttle blade fully closes the cruise control system will disengage until the PCM/ECM detects that the set/coast signal is inactive. The cruise control system will then engage and set with the new vehicle speed.

#### S/C On - Speed High

This parameter is displayed when the Set/Coast switch is briefly applied while the current vehicle speed is greater than the set vehicle speed by more than a calibrated amount.

#### Stop Lamp Switch

The PCM/ECM detects that the stop lamps have been activated.

#### TAC Inhibit

The PCM/ECM detects a fault within the TAC system.

#### Traction

The PCM/ECM detects that the traction control system had been activated. It is also possible that a tire with low air pressure can also set this disengagement reason.

#### Traction Loss

The PCM/ECM detects that the traction control system had been activated. It is also possible that a tire with low air pressure can also set this disengagement reason.

#### Two Commands

The PCM/ECM detects that the Set/Coast switch and the Resume/Accel switch are active at the same time.

#### Two CC Commands

The PCM/ECM detects that the Set/Coast switch and the Resume/Accel switch are active at the same time.

#### Under Speed

The PCM/ECM detects that the vehicle speed is less than the cruise memory speed by more than a calibrated amount.

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

### Under Set Speed

The PCM/ECM detects that the vehicle speed is less than the cruise memory speed by more than a calibrated amount.

### DIAGNOSTIC TROUBLE CODE (DTC) LIST

#### Diagnostic Trouble Code (DTC) List

| DTC   | Diagnostic Procedure                                                                                                                                    | Module(s)                              |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| CXXXX | <b>Diagnostic Trouble Code (DTC) List</b> in Antilock Brake System                                                                                      | Electronic Brake Control Module (EBCM) |
| P0502 | <b>DTC P0502</b> in Automatic Transmission-4L60-E<br><b>DTC P0502</b> in Automatic Transmission-4L80-E                                                  | Powertrain Control Module (PCM)        |
| P0503 | <b>DTC P0503</b> in Automatic Transmission-4L60-E<br><b>DTC P0503</b> in Automatic Transmission-4L80-E                                                  | Powertrain Control Module (PCM)        |
| P0567 | <b>DTC P0567</b>                                                                                                                                        | Powertrain Control Module (PCM)        |
| P0568 | <b>DTC P0568</b>                                                                                                                                        | Powertrain Control Module (PCM)        |
| P1574 | <b>DTC P1574</b>                                                                                                                                        | Powertrain Control Module (PCM)        |
| PXXXX | <b>Diagnostic Trouble Code (DTC) List</b> in Engine Controls-4.8L, 5.3L, and 6.0L,<br><b>Diagnostic Trouble Code (DTC) List</b> in Engine Controls-8.1L | Powertrain Control Module (PCM)        |

### DTC P0567

#### Circuit Description

The cruise control resume/accel switch is an input to the throttle actuator control (TAC) module. The TAC module uses the cruise control resume/accel switch signal circuit in order to detect when the driver has requested to accelerate the set vehicle speed or to resume the cruise control system. The TAC module detects a voltage signal on the cruise control resume/accel switch signal circuit when the switch is applied. The TAC module sends a serial data signal to the powertrain control module (PCM) via the UART serial data circuit. This DTC sets if the PCM receives a serial data signal from the TAC module indicating that voltage is present on the cruise control resume/accel switch signal circuit for longer than 90 seconds.

#### Conditions for Running the DTC

- The ignition is ON.
- The cruise control switch is ON.

#### Conditions for Setting the DTC

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

The PCM receives a serial data signal from the TAC module indicating that the resume/accel switch is applied for longer than 90 seconds.

#### Action Taken When the DTC Sets

- The PCM stores the DTC information into memory when the diagnostic runs and fails.
- The malfunction indicator lamp (MIL) will not illuminate.
- The PCM records the operating conditions at the time the diagnostic fails. The PCM stores this information in the Failure Records.
- The cruise control system is disabled.

#### Conditions for Clearing the MIL/DTC

- A last test failed, or the current DTC, clears when the diagnostic runs and does not fail.
- A history DTC clears after 40 consecutive warm-up cycles, if failures are not reported by this or any other emission related diagnostic.
- Use a scan tool in order to clear the MIL/DTC.

#### Diagnostic Aids

Ensure that the resume/accel switch is not stuck or sticking in the engaged position.

For an intermittent condition, refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

#### Test Description

The number below refers to the step number on the diagnostic table.

**2:** This step determines if condition is present.

#### DTC P0567

| Step                                                                                                                                                                                                                                                                                                                                            | Action                                                                                                                                                                             | Yes                 | No                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------|
| <b>Schematic Reference :</b> <u>Cruise Control Schematics</u><br><b>Connector End View Reference:</b> <u>Cruise Control Connector End Views</u> , <u>Powertrain Control Module (PCM) Connector End Views</u> in Engine Controls - 4.8L, 5.3L, and 6.0L, or <u>Powertrain Control Module (PCM) Connector End Views</u> in Engine Controls - 8.1L |                                                                                                                                                                                    |                     |                                                              |
| 1                                                                                                                                                                                                                                                                                                                                               | Did you perform the Cruise Control Diagnostic System Check?                                                                                                                        | Go to <b>Step 2</b> | Go to <b><u>Diagnostic System Check - Cruise Control</u></b> |
|                                                                                                                                                                                                                                                                                                                                                 | <ol style="list-style-type: none"><li>1. Install a scan tool.</li><li>2. Turn the ignition ON, with the engine OFF.</li><li>3. Turn the cruise On/Off control switch ON.</li></ol> |                     |                                                              |

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

|   |                                                                                                                                                                                                                                                                                                                                                                                  |                     |                       |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------|
| 2 | <p>4. With the scan tool, observe the Cruise Resume/Accel. Switch parameter in the PCM data list.</p> <p>Does the Cruise Resume/Accel. Switch parameter display On?</p>                                                                                                                                                                                                          | Go to <b>Step 3</b> | Go to Diagnostic Aids |
| 3 | <p>1. Turn the ignition OFF.</p> <p>2. Disconnect the cruise control switch.</p> <p>3. Turn the ignition ON, with the engine OFF.</p> <p>4. With the scan tool, observe the Cruise Resume/Accel. Switch parameter.</p> <p>Does the Cruise Resume/Accel. Switch parameter display On?</p>                                                                                         | Go to <b>Step 4</b> | Go to <b>Step 5</b>   |
| 4 | <p>Test the cruise control resume/accel switch signal circuit for a short to voltage. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                                                                                                                                           | Go to <b>Step 9</b> | Go to <b>Step 6</b>   |
| 5 | <p>Inspect for poor connections at the harness connector of the cruise control switch. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and to <b><u>Connector Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                                                                                              | Go to <b>Step 9</b> | Go to <b>Step 8</b>   |
| 6 | <p>Inspect for poor connections at the harness connector of the throttle actuator control (TAC) module. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and to <b><u>Connector Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                                                                             | Go to <b>Step 9</b> | Go to <b>Step 7</b>   |
| 7 | <p>Replace the TAC module. Refer to the appropriate procedure:</p> <ul style="list-style-type: none"> <li>• <b><u>Throttle Actuator Control (TAC) Module Replacement</u></b> in Engine Controls - 4.8L, 5.3L, and 6.0L</li> <li>• <b><u>Throttle Actuator Control (TAC) Module Replacement</u></b> in Engine Controls - 8.1L</li> </ul> <p>Did you complete the replacement?</p> | Go to <b>Step 9</b> | -                     |

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

|   |                                                                                                                                                                                                |                     |           |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------|
| 8 | Replace the cruise control switch. Refer to <b><u>Multifunction, Turn Signal Switch Replacement</u></b> in Steering Wheel and Column. Did you complete the replacement?                        | Go to <b>Step 9</b> | -         |
| 9 | <ol style="list-style-type: none"><li>1. Use the scan tool in order to clear the DTCs.</li><li>2. Operate the vehicle within the Conditions for Running the DTC.</li></ol> Does the DTC reset? | Go to <b>Step 2</b> | System OK |

## DTC P0568

### Circuit Description

The cruise control set/coast switch is an input to the throttle actuator control (TAC) module. The TAC module uses the cruise control set/coast switch signal circuit in order to detect when the driver has requested to set the vehicle speed or to decelerate the vehicle speed. The TAC module detects a voltage signal on the cruise control set/coast switch signal circuit when the switch is applied. The TAC module sends a serial data signal to the powertrain control module (PCM) via the UART serial data circuit. This DTC sets if the PCM receives a serial data signal from the TAC module indicating that voltage is present on the cruise control set/coast switch signal circuit for longer than 90 seconds.

### Conditions for Running the DTC

- The ignition is ON.
- The cruise control switch is ON.

### Conditions for Setting the DTC

The PCM receives a serial data signal from the TAC module indicating that the set/coast switch is ON for longer than 90 seconds.

### Action Taken When the DTC Sets

- The PCM stores the DTC information into memory when the diagnostic runs and fails.
- The malfunction indicator lamp (MIL) will not illuminate.
- The PCM records the operating conditions at the time the diagnostic fails. The PCM stores this information in the Failure Records.
- The cruise control system is disabled.

### Conditions for Clearing the MIL/DTC

- A last test failed, or the current DTC, clears when the diagnostic runs and does not fail.
- A history DTC clears after 40 consecutive warm-up cycles, if failures are not reported by this or any other

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

emission related diagnostic.

- Use a scan tool in order to clear the MIL/DTC.

#### Diagnostic Aids

Ensure that the set/coast switch is not stuck or sticking in the engaged position.

For an intermittent condition, refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

#### Test Description

The number below refers to the step number on the diagnostic table.

**2:** This step determines if condition is present.

#### DTC P0568

| Step                                                                                                                                                                                                                                                                                                                                            | Action                                                                                                                                                                                                                                                                                                                                          | Yes                 | No                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------|
| <b>Schematic Reference :</b> <u>Cruise Control Schematics</u><br><b>Connector End View Reference:</b> <u>Cruise Control Connector End Views</u> , <u>Powertrain Control Module (PCM) Connector End Views</u> in Engine Controls - 4.8L, 5.3L, and 6.0L, or <u>Powertrain Control Module (PCM) Connector End Views</u> in Engine Controls - 8.1L |                                                                                                                                                                                                                                                                                                                                                 |                     |                                                              |
| 1                                                                                                                                                                                                                                                                                                                                               | Did you perform the Cruise Control Diagnostic System Check?                                                                                                                                                                                                                                                                                     | Go to <b>Step 2</b> | Go to <b><u>Diagnostic System Check - Cruise Control</u></b> |
| 2                                                                                                                                                                                                                                                                                                                                               | <ol style="list-style-type: none"><li>1. Install a scan tool.</li><li>2. Turn the ignition ON, with the engine OFF.</li><li>3. Turn the cruise On/Off control switch ON.</li><li>4. With the scan tool, observe the Cruise Set/Coast Switch parameter in the PCM data list.</li></ol><br>Does the Cruise Set/Coast Switch parameter display On? | Go to <b>Step 3</b> | Go to Diagnostic Aids                                        |
| 3                                                                                                                                                                                                                                                                                                                                               | <ol style="list-style-type: none"><li>1. Turn the ignition OFF.</li><li>2. Disconnect the cruise control switch.</li><li>3. Turn the ignition ON, with the engine OFF.</li><li>4. With the scan tool, observe the Cruise Set/Coast Switch parameter in the PCM data list.</li></ol>                                                             |                     |                                                              |

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

|   |                                                                                                                                                                                                                                                                                                                                                                              |                     |                     |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|
|   | Does the Cruise Set/Coast Switch parameter display On?                                                                                                                                                                                                                                                                                                                       | Go to <b>Step 4</b> | Go to <b>Step 5</b> |
| 4 | Test the cruise control set/coast switch signal circuit for a short to voltage. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.<br>Did you find and correct the condition?                                                                                                                                                     | Go to <b>Step 9</b> | Go to <b>Step 6</b> |
| 5 | Inspect for poor connections at the harness connector of the cruise control switch. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and to <b><u>Connector Repairs</u></b> in Wiring Systems.<br>Did you find and correct the condition?                                                                                                     | Go to <b>Step 9</b> | Go to <b>Step 8</b> |
| 6 | Inspect for poor connections at the harness connector of the throttle actuator control (TAC) module. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and to <b><u>Connector Repairs</u></b> in Wiring Systems.<br>Did you find and correct the condition?                                                                                    | Go to <b>Step 9</b> | Go to <b>Step 7</b> |
| 7 | Replace the TAC module. Refer to the appropriate procedure:<br><br><ul style="list-style-type: none"> <li>• <b><u>Throttle Actuator Control (TAC) Module Replacement</u></b> in Engine Controls - 4.8L, 5.3L, and 6.0L</li> <li>• <b><u>Throttle Actuator Control (TAC) Module Replacement</u></b> in Engine Controls - 8.1L</li> </ul><br>Did you complete the replacement? | Go to <b>Step 9</b> | -                   |
| 8 | Replace the cruise control switch. Refer to <b><u>Multifunction, Turn Signal Switch Replacement</u></b> in Steering Wheel and Column.<br>Did you complete the replacement?                                                                                                                                                                                                   | Go to <b>Step 9</b> | -                   |
| 9 | <ol style="list-style-type: none"> <li>1. Use the scan tool in order to clear the DTCs.</li> <li>2. Operate the vehicle within the Conditions for Running the DTC.</li> </ol><br>Does the DTC reset?                                                                                                                                                                         | Go to <b>Step 2</b> | System OK           |

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

#### DTC P1574

##### Circuit Description

This diagnostic test functions on the assumption that a sudden decrease in vehicle speed is caused by a brake pedal application. When the powertrain control module (PCM) detects that there is a 4.2 km/h (2.6 mph) or greater decrease in vehicle speed within 0.25 seconds and a transition of the torque converter clutch (TCC) brake switch without a transition of the stop lamp switch, the PCM sets DTC P1574.

##### Conditions for Running the DTC

- DTCs P0502, P0503, P0719, and P0724 are not set.
- The engine speed is greater than 700 RPM.
- The traction control system or the antilock brake system are not active and have not failed.
- The vehicle speed is greater than 48 km/h (30 mph) in order to enable the diagnostic.

The diagnostic will disable when the wheel speed is less than 16 km/h (10 mph).

##### Conditions for Setting the DTC

- The vehicle speed decreases by at least 4.2 km/h (2.6 mph) within 0.25 seconds.
- The PCM detects a TCC brake transition.
- The PCM does not detect a stop lamp switch transition.

##### Action Taken When the DTC Sets

- The PCM sets the stop lamp switch status to released.
- The PCM disables the operation of the cruise control system.

##### Conditions for Clearing the DTC

- A history DTC will clear after 40 malfunction free warm-up cycles.
- The PCM receives a clear code command from the scan tool.

##### Diagnostic Aids

Refer to **Exterior Lighting Systems Description and Operation** in Lighting systems In order to avoid a misdiagnosis.

For an intermittent condition, refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

#### DTC P1574

| Step                                            | Action | Yes | No |
|-------------------------------------------------|--------|-----|----|
| Schematic Reference : Cruise Control Schematics |        |     |    |

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

### Connector End View Reference: Cruise Control Connector End Views

|   |                                                                                                                                                                                                                                                                                                                                                        |                     |                                                                |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------|
| 1 | Did you perform the Cruise Control Diagnostic System Check?                                                                                                                                                                                                                                                                                            | Go to <b>Step 2</b> | Go to <b><u>Diagnostic System Check - Cruise Control</u></b>   |
| 2 | <ol style="list-style-type: none"><li>1. Install a scan tool.</li><li>2. Turn the ignition ON, with the engine OFF.</li><li>3. Depress the brake pedal.</li><li>4. With the scan tool, observe the Stop lamp Pedal Switch parameter in the PCM Cruise Control Data data list.</li></ol><br>Does the Stop lamp Pedal Switch parameter display Released? | Go to <b>Step 3</b> | Go to Diagnostic Aids                                          |
| 3 | Do the stop lamps operate properly?                                                                                                                                                                                                                                                                                                                    | Go to <b>Step 4</b> | Go to <b><u>Stop Lamps Inoperative</u></b> in Lighting Systems |
| 4 | Repair the open or the high resistance in the stop lamp switch signal circuit. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.<br>Did you complete the repair?                                                                                                                                           | Go to <b>Step 5</b> | -                                                              |
| 5 | <ol style="list-style-type: none"><li>1. Use the scan tool in order to clear the DTCs.</li><li>2. Operate the vehicle within the conditions for running the DTC.</li></ol><br>Does the DTC reset?                                                                                                                                                      | Go to <b>Step 2</b> | System OK                                                      |

### SYMPTOMS - CRUISE CONTROL

**IMPORTANT:** The following steps must be completed before using the symptoms table.

1. Perform the **Diagnostic System Check - Cruise Control** before using the Symptom Tables in order to verify that all of the following are true:
  - There are no DTCs set.
  - The control modules can communicate via the serial data link.
2. Review the system operation in order to familiarize yourself with the system functions. Refer to **Cruise Control Description and Operation** .

#### Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the Cruise Control System. Refer to **Checking Aftermarket Accessories** in Wiring Systems.
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

### Intermittent

Faulty electrical connections or wiring may be the cause of intermittent conditions. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

### Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose the symptom:

- **Cruise Control Indicator Always On**
- **Cruise Control Indicator Inoperative**
- **Cruise Control Inoperative/Malfunctioning**

### CRUISE CONTROL INDICATOR ALWAYS ON

#### Cruise Control Indicator Always On

| Step                                                                                                                                                     | Action                                                                                                                                                                                                                                                                                                                                                            | Yes                 | No                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------|
| <b>Schematic Reference:</b> <b><u>Cruise Control Schematics</u></b><br><b>Connector End View Reference:</b> <b><u>Cruise Control Component Views</u></b> |                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                                                |
| 1                                                                                                                                                        | Did you perform the Cruise Control Diagnostic System Check?                                                                                                                                                                                                                                                                                                       | Go to <b>Step 2</b> | Go to <b><u>Diagnostic System Check - Cruise Control</u></b>                                   |
| 2                                                                                                                                                        | Turn the ignition ON, with the engine OFF.<br>Does the Cruise indicator illuminate after the IPC displays test?                                                                                                                                                                                                                                                   | Go to <b>Step 3</b> | Go to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> in Wiring Systems |
| 3                                                                                                                                                        | 1. Turn the ignition OFF.<br>2. Install a scan tool.<br>3. Turn the ignition ON, with the engine OFF.<br>4. With the scan tool, observe the Cruise Control parameter in the IPC data list.<br><br>Does the Cruise Lamp parameter display On?                                                                                                                      | Go to <b>Step 4</b> | Go to <b>Step 5</b>                                                                            |
| 4                                                                                                                                                        | <b>IMPORTANT:</b><br><b>Program the replacement PCM.</b><br><br>Replace the PCM. Refer to the appropriate procedure: <ul style="list-style-type: none"><li>• <b><u>Powertrain Control Module (PCM) Replacement</u></b> in Engine Controls-4.8L, 5.3L, 6.0L</li><li>• <b><u>Powertrain Control Module (PCM) Replacement</u></b> in Engine Controls-8.1 L</li></ul> |                     |                                                                                                |

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

|   |                                                                                                                                                                                             |                     |                     |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|
|   | Did you complete the replacement?                                                                                                                                                           | Go to <b>Step 6</b> | -                   |
| 5 | Replace the Instrument Panel Cluster (IPC). Refer to <b><u>Instrument Panel Cluster (IPC) Replacement</u></b> in Instrument Panel, Gages, and Console.<br>Did you complete the replacement? | Go to <b>Step 6</b> | -                   |
| 6 | Operate the system in order to verify the repair.<br>Does the system operate properly?                                                                                                      | System OK           | Go to <b>Step 2</b> |

### CRUISE CONTROL INDICATOR INOPERATIVE

#### Cruise Control Indicator Inoperative

| Step                                                                                                                                                         | Action                                                                                                                                                                                                                                                                                                                                                                                                   | Yes                 | No                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------|
| <b>Schematic Reference:</b> <b><u>Cruise Control Schematics</u></b><br><b>Connector End View Reference:</b> <b><u>Cruise Control Connector End Views</u></b> |                                                                                                                                                                                                                                                                                                                                                                                                          |                     |                                                              |
| 1                                                                                                                                                            | Did you perform the Cruise Control Diagnostic System Check?                                                                                                                                                                                                                                                                                                                                              | Go to <b>Step 2</b> | Go to <b><u>Diagnostic System Check - Cruise Control</u></b> |
| 2                                                                                                                                                            | <ol style="list-style-type: none"> <li>1. Turn the ignition OFF.</li> <li>2. Install a scan tool.</li> <li>3. Turn the ignition ON, with the engine OFF.</li> <li>4. With the scan tool, Command the Cruise Control Lamp Test parameter ON, in the IPC Output Controls.</li> </ol><br>Does the Cruise indicator illuminate in the IPC?                                                                   | Go to <b>Step 4</b> | Go to <b>Step 3</b>                                          |
| 3                                                                                                                                                            | Replace the instrument panel cluster (IPC). Refer to <b><u>Instrument Panel Cluster (IPC) Replacement</u></b> in Instrument Panel, Gages, and Console.<br>Did you complete the replacement?                                                                                                                                                                                                              | Go to <b>Step 5</b> | -                                                            |
| 4                                                                                                                                                            | <b>IMPORTANT:</b><br><b>Program the replacement PCM.</b><br><br>Replace the PCM. Refer to the appropriate procedure: <ul style="list-style-type: none"> <li>• <b><u>Powertrain Control Module (PCM) Replacement</u></b> in Engine Controls-4.8L, 5.3L, 6.0L</li> <li>• <b><u>Powertrain Control Module (PCM) Replacement</u></b> in Engine Controls-8.1L</li> </ul><br>Did you complete the replacement? | Go to <b>Step 5</b> | -                                                            |
| 5                                                                                                                                                            | Operate the system in order to verify the repair.<br>Does the system operate properly?                                                                                                                                                                                                                                                                                                                   | System OK           | Go to <b>Step 2</b>                                          |

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

### CRUISE CONTROL INOPERATIVE/MALFUNCTIONING

#### Diagnostic Aids

Perform the following in order to avoid a misdiagnosis:

- Inspect for proper operation of the brake lamps. Refer to **Exterior Lighting Systems Description and Operation** in Lighting Systems.
- EMI on the vehicle speed sensor signal circuit may cause erratic cruise control operation.

For an intermittent condition, refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

#### Conditions for Enabling Cruise Control

- The vehicle speed is greater than 40 km/h (25 mph).
- The vehicle is not in PARK, REVERSE, NEUTRAL, or 1st gear.
- The system voltage is within 12 volts and 16 volts.

#### Test description

The numbers below refer to the step numbers on the diagnostic table.

**8:** This step tests the CHMSL supply voltage/stop lamp supply voltage circuit for an open or for a high resistance between the stop lamp switch and the throttle actuator control (TAC) module.

**9:** This step tests the cruise control set/coast switch signal circuit for an open or for a high resistance.

**10:** This step tests the cruise control resume/accel switch signal circuit for an open or for a high resistance.

**11:** This step tests the ignition 3 voltage circuit for an open, for a short to ground, or for a high resistance.

**29:** DTCs will set in the powertrain control module (PCM) when you perform this table.

#### Cruise Control Inoperative/Malfunctioning

| Step                                                                                                                                                                                                                                                                          | Action                                                                                                                                                                                                                   | Yes                 | No                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------|
| <b>Schematic Reference :</b> <b><u>Cruise Control Schematics</u></b><br><b>Connector End View Reference:</b> <b><u>Cruise Control Connector End Views</u></b> and <b><u>Powertrain Control Module (PCM) Connector End Views</u></b> in Engine Controls - 4.8L, 5.3L, and 6.0L |                                                                                                                                                                                                                          |                     |                                                              |
| 1                                                                                                                                                                                                                                                                             | Did you perform the Diagnostic System Check - Cruise Control?                                                                                                                                                            | Go to <b>Step 2</b> | Go to <b><u>Diagnostic System Check - Cruise Control</u></b> |
| 2                                                                                                                                                                                                                                                                             | 1. Install a scan tool.<br>2. Turn the ignition ON, with the engine OFF.<br>3. Turn the cruise control On/Off switch OFF.<br>4. With the scan tool, observe the Cruise On/Off Switch parameter in the powertrain control |                     |                                                              |

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

|   |                                                                                                                                                                                                                                                                                        |                       |                                                         |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------|
|   | module (PCM) Cruise Control Data data list.                                                                                                                                                                                                                                            |                       |                                                         |
|   | Does the Cruise On/Off Switch parameter display Off?                                                                                                                                                                                                                                   | Go to <b>Step 4</b>   | Go to <b>Step 3</b>                                     |
| 3 | <ol style="list-style-type: none"> <li>1. Turn the ignition OFF.</li> <li>2. Disconnect C4 of the multifunction switch.</li> <li>3. Turn the ignition ON, with the engine OFF.</li> <li>4. With the scan tool, observe the Cruise On/Off Switch parameter.</li> </ol>                  |                       |                                                         |
|   | Does the Cruise On/Off Switch parameter display Off?                                                                                                                                                                                                                                   | Go to <b>Step 22</b>  | Go to <b>Step 13</b>                                    |
| 4 | <ol style="list-style-type: none"> <li>1. Turn the cruise control On/Off switch ON.</li> <li>2. With the scan tool, observe the Cruise On/Off Switch parameter.</li> </ol>                                                                                                             |                       |                                                         |
|   | Does the Cruise On/Off Switch parameter display On?                                                                                                                                                                                                                                    | Go to <b>Step 5</b>   | Go to <b>Step 11</b>                                    |
| 5 | <ol style="list-style-type: none"> <li>1. With the scan tool, observe the Cruise Set/Coast Switch parameter in the PCM Cruise Control Data data list.</li> <li>2. Turn the cruise control On/Off switch ON.</li> <li>3. Press and hold the cruise control Set/Coast button.</li> </ol> |                       |                                                         |
|   | Does the Cruise Set/Coast Switch parameter Display On?                                                                                                                                                                                                                                 | Go to <b>Step 6</b>   | Go to <b>Step 9</b>                                     |
| 6 | <ol style="list-style-type: none"> <li>1. With the scan tool, observe the Cruise Resume/Accel. Switch parameter in the PCM Cruise Control Data data list.</li> <li>2. Press and hold the Resume/Accel switch.</li> </ol>                                                               |                       |                                                         |
|   | Does the Cruise Resume/Accel. Switch parameter Display On?                                                                                                                                                                                                                             | Go to <b>Step 7</b>   | Go to <b>Step 10</b>                                    |
| 7 | Do the stop lamps operate properly?                                                                                                                                                                                                                                                    | Go to <b>Step 8</b>   | Go to <b>Stop Lamps Inoperative</b> in Lighting Systems |
| 8 | <ol style="list-style-type: none"> <li>1. With the scan tool, observe the Stoplamp Pedal Switch parameter in the PCM Cruise Control Data data list.</li> <li>2. Depress and hold the brake pedal.</li> </ol>                                                                           |                       |                                                         |
|   | Does the Stoplamp Pedal Switch parameter Display Applied?                                                                                                                                                                                                                              | Go to Diagnostic Aids | Go to <b>Step 21</b>                                    |
|   | <ol style="list-style-type: none"> <li>1. Turn the ignition OFF.</li> </ol>                                                                                                                                                                                                            |                       |                                                         |

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                      |                      |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|
| 9  | <ol style="list-style-type: none"> <li>2. Disconnect C4 of the multifunction switch.</li> <li>3. Turn the ignition ON, with the engine OFF.</li> <li>4. Connect a 3-ampere fused jumper between the cruise control set/coast switch signal circuit and the ignition 3 voltage circuit.</li> <li>5. With the scan tool, observe the Cruise Set/Coast Switch parameter.</li> </ol> <p>Does the Cruise Set/Coast Switch parameter Display On?</p>                                               | Go to <b>Step 22</b> | Go to <b>Step 19</b> |
| 10 | <ol style="list-style-type: none"> <li>1. Turn the ignition OFF.</li> <li>2. Disconnect C4 of the multifunction switch.</li> <li>3. Turn the ignition ON, with the engine OFF.</li> <li>4. Connect a 3-ampere fused jumper between the cruise control resume/accel switch signal circuit and the ignition 3 voltage circuit.</li> <li>5. With the scan tool, observe the Cruise Resume/Accel. Switch parameter.</li> </ol> <p>Does the Cruise Resume/Accel. Switch parameter Display On?</p> | Go to <b>Step 22</b> | Go to <b>Step 20</b> |
| 11 | <ol style="list-style-type: none"> <li>1. Turn the ignition OFF.</li> <li>2. Disconnect C4 of the multifunction switch.</li> <li>3. Turn the ignition ON, with the engine OFF.</li> <li>4. Connect a test lamp between the ignition 3 voltage circuit and a good ground.</li> </ol> <p>Does the test lamp illuminate?</p>                                                                                                                                                                    | Go to <b>Step 12</b> | Go to <b>Step 15</b> |
| 12 | <ol style="list-style-type: none"> <li>1. Connect a 3-ampere fused jumper between the ignition 3 voltage circuit and the cruise control on switch signal circuit.</li> <li>2. With the scan tool, observe the Cruise On/Off Switch parameter.</li> </ol> <p>Does the Cruise On/Off Switch parameter display On?</p>                                                                                                                                                                          | Go to <b>Step 22</b> | Go to <b>Step 18</b> |
| 13 | <p>Test the cruise control on switch signal circuit for a short to voltage. Refer to <b>Circuit Testing</b> and to <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                                                                                                                                                                                                                                                                               | Go to <b>Step 29</b> | Go to <b>Step 14</b> |
|    | <ol style="list-style-type: none"> <li>1. Turn the ignition OFF.</li> <li>2. Disconnect C1 of the throttle actuator control (TAC) module.</li> </ol>                                                                                                                                                                                                                                                                                                                                         |                      |                      |

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

|    |                                                                                                                                                                                                                                                                                                          |                      |                      |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|
| 14 | <p>3. Turn the ignition ON, with the engine OFF.</p> <p>4. With the scan tool, observe the Cruise On/Off Switch parameter.</p> <p>Does the Cruise On/Off Switch parameter display On?</p>                                                                                                                | Go to <b>Step 24</b> | Go to <b>Step 23</b> |
| 15 | <p>Test the cruise control set/coast switch signal circuit for a short to ground. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                                                                       | Go to <b>Step 29</b> | Go to <b>Step 16</b> |
| 16 | <p>Test the cruise control resume/accel switch signal circuit for a short to ground. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                                                                    | Go to <b>Step 29</b> | Go to <b>Step 17</b> |
| 17 | <p>Test the cruise control on switch signal circuit for a short to ground. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                                                                              | Go to <b>Step 29</b> | Go to <b>Step 25</b> |
| 18 | <p>Test the cruise control on switch signal circuit for an open or for a high resistance. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                                                               | Go to <b>Step 29</b> | Go to <b>Step 23</b> |
| 19 | <p>Test the cruise control set/coast switch signal circuit for an open or for a high resistance. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                                                        | Go to <b>Step 29</b> | Go to <b>Step 23</b> |
| 20 | <p>Test the cruise control resume/accel switch signal circuit for an open or for a high resistance. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                                                     | Go to <b>Step 29</b> | Go to <b>Step 23</b> |
| 21 | <p>Test the CHMSL supply voltage/stop lamp supply voltage circuit for an open or for a high resistance between the stop lamp switch and the TAC module. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p> | Go to <b>Step 29</b> | Go to <b>Step 23</b> |
| 22 | <p>Inspect for poor connections at the harness connector of the cruise control switch. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and to <b><u>Connector Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>                      | Go to <b>Step 29</b> | Go to <b>Step 26</b> |
| 23 | <p>Inspect for poor connections at the harness connector of the TAC module. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and to <b><u>Connector Repairs</u></b> in Wiring Systems.</p>                                                                                |                      |                      |

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

|    |                                                                                                                                                                                                                                                        |                      |                      |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|
|    | Did you find and correct the condition?                                                                                                                                                                                                                | Go to <b>Step 29</b> | Go to <b>Step 27</b> |
| 24 | Inspect for poor connections at the harness connector of the PCM. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and to <b><u>Connector Repairs</u></b> in Wiring Systems.<br>Did you find and correct the condition? | Go to <b>Step 29</b> | Go to <b>Step 28</b> |
| 25 | Repair the open, the high resistance, or the short to ground in the Ignition 3 voltage circuit. Refer to <b><u>Circuit Testing</u></b> and to <b><u>Wiring Repairs</u></b> in Wiring Systems.<br>Did you complete the repair?                          | Go to <b>Step 29</b> | -                    |
| 26 | Replace the cruise control switch. Refer to <b><u>Multifunction, Turn Signal Switch Replacement</u></b> in Steering Wheel and Column.<br>Did you complete the replacement?                                                                             | Go to <b>Step 29</b> | -                    |
| 27 | Replace the TAC module. Refer to <b><u>Throttle Actuator Control (TAC) Module Replacement</u></b> in Engine Controls - 4.8L, 5.3L, and 6.0L.<br>Did you complete the replacement?                                                                      | Go to <b>Step 29</b> | -                    |
| 28 | <b>IMPORTANT:</b><br><b>Program the replacement PCM.</b><br><br>Replace the PCM. Refer to <b><u>Powertrain Control Module (PCM) Replacement</u></b> in Engine Controls - 4.8L, 5.3L, and 6.0L. Did you complete the replacement?                       | Go to <b>Step 29</b> | -                    |
| 29 | 1. Use the scan tool in order to clear the PCM DTCs.<br>2. Operate the vehicle within the conditions for cruise control operation.<br><br>Does the cruise control system operate properly?                                                             | System OK            | Go to <b>Step 2</b>  |

## DESCRIPTION AND OPERATION

### CRUISE CONTROL DESCRIPTION AND OPERATION

Cruise control is a speed control system that maintains a desired vehicle speed under normal driving conditions at vehicle speeds above 40 km/h (25 mph). Steep grades may cause variations in the selected vehicle speeds.

The following are the main components of the cruise control system:

- The powertrain control module (PCM)
- The On/Off switch

## 2004 Cadillac Escalade

### 2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

- The Resume/Accel switch
- The Set/Coast switch
- The torque converter clutch (TCC)/brake switch
- The stop lamp switch
- The throttle actuator control (TAC) module
- The vehicle speed sensor (VSS)

#### Cruise Control Engaged

The throttle actuator control (TAC) module monitors the signal circuits of the following cruise control switches:

- On/Off
- Resume/Accel
- Set/Coast

The powertrain control module (PCM) will engage and adjust vehicle speed based on the information received from the TAC module via the UART serial data link. For further information on the TAC System, refer to **Throttle Actuator Control (TAC) System Description** in Engine Controls - 4.8L, 5.3L, and 6.0L or to **Throttle Actuator Control (TAC) System Description** in Engine Controls - 8.1L.

The cruise control switches are located on the multifunction/turn signal lever.

Ignition positive voltage is supplied from the 10-ampere CRUISE fuse to the cruise control switch via the ignition 3 voltage circuit. When the normally open cruise control On/Off switch is turned ON, the switch closes and the TAC module detects a high signal voltage on the cruise control On switch signal circuit. When the normally open set/coast switch is pressed, the switch closes and the TAC module detects a high signal voltage on the cruise control set/coast switch signal circuit. To engage the cruise control system, turn the On/Off switch ON and momentarily press the Set/Coast switch. The TAC module sends a UART message to the PCM, in order to confirm that the cruise control enable criteria has been met. The PCM will engage the cruise control system and record the selected vehicle speed.

The PCM sends a class 2 message to the instrument panel cluster (IPC) in order to illuminate the cruise control indicator. Pressing the accelerator pedal, while the cruise control system is engaged, will allow the driver to override the cruise control system in order to accelerate the vehicle beyond the current set vehicle speed. When the accelerator pedal is released, the vehicle will decelerate and resume the current set vehicle speed. The driver can also override the current set vehicle speed via the set/coast switch and the resume/accel switch. When the cruise control system is engaged, pressing and holding the set/coast switch will allow the vehicle to decelerate from the current set vehicle speed without deactivating the cruise control system. When the set/coast switch is released, the PCM will record the vehicle speed and maintain the vehicle speed as the new set vehicle speed.

When the cruise control system is engaged, momentarily pressing the set/coast switch will allow the vehicle to decelerate at 1.6 km/h (1 mph) increments for each time that the set/coast is momentarily pressed, with a minimum vehicle speed of 37 km/h (23 mph). When the normally open resume/accel switch is activated, the switch closes and the TAC module detects a high signal voltage on the cruise control resume/accel switch signal circuit. Activating and holding the resume/accel switch, when the cruise control system is engaged, will allow

the vehicle to accelerate to a greater vehicle speed than the current set vehicle speed. When the resume/accel switch is released, the PCM will record the vehicle speed and maintain the vehicle speed as the new set vehicle speed. When the Cruise Control System is engaged, momentarily activating the resume/accel switch will allow the vehicle to accelerate at 1.6 km/h (1 mph) increments for each time that the resume/accel switch is momentarily activated, with the maximum acceleration total of 16 km/h (10 mph) over the current set vehicle speed. Momentarily activating the resume/accel switch, after the cruise control system has been disengaged by pressing the brake pedal, will recall the previous set vehicle speed that is recorded in the PCM.

### **Cruise Control Disengaged**

The powertrain control module (PCM) disengages the cruise control operation based on the information received from the throttle actuator control (TAC) module. The TAC module monitors the signal circuits of the following switches:

- The On/Off switch
- The TCC/brake switch
- The stop lamp switch

The TCC brake switch and the stop lamp switch are incorporated into an assembly and are mounted to the brake pedal bracket. Pressing the brake pedal while the cruise control is engaged will disengage the cruise control system. The TAC module monitors the stop lamp switch signal circuit and the PCM monitors the TCC brake switch/cruise control release signal circuit. When the brake pedal is pressed, the normally closed TCC brake switch opens and the normally open stoplamp switch closes. The TAC module detects a high signal voltage on the stop lamp switch signal circuit and the PCM detects a low signal voltage on the TCC brake switch/cruise control release signal circuit. The TAC module sends a universal asynchronous receiver transmitter (UART) message to the PCM indicating the status of the stop lamp switch. The cruise control system will disengage when the cruise control On/Off switch is turned OFF. The vehicle speed stored in the memory of the PCM will be erased when the cruise control On/Off switch is turned OFF, or the ignition switch is turned OFF.

The cruise control system will disengage when the PCM detects that the driver has the accelerator pedal override active for approximately 60 seconds.

When the cruise control system is disengaged, the PCM sends a class 2 message to the IPC in order to deactivate the cruise control indicator.

### **Cruise Control Inhibited**

The powertrain control module (PCM) inhibits the cruise control operation when any of the following conditions exist:

- A Cruise Control System related DTC has been set.
- The vehicle speed is less than 40 km/h (25 mph).
- The vehicle is in PARK, REVERSE, NEUTRAL, or 1st gear.
- The engine RPM low.
- The engine RPM is high.
- The vehicle speed is too high

## 2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Cruise Control - C/K SUV

- The system voltage is not between 6 volts and 16 volts.
- The Antilock Brake System (ABS)/Traction Control System (TCS) is active for more than 2 seconds.