

ACCESSORIES & EQUIPMENT

Theft Deterrent - Coupe & Wagon

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Theft Deterrent Alarm Nut	9 N.m	80 lb in

SCHEMATIC WIRING DIAGRAMS

THEFT DETERRENT SYSTEM WIRING SCHEMATICS

Except Export

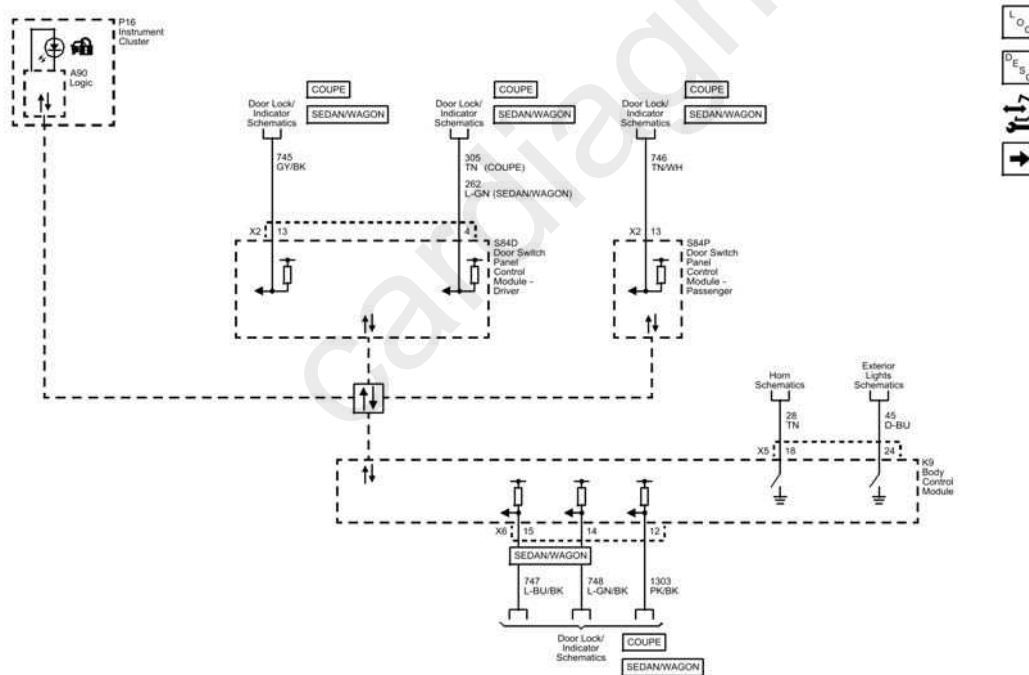


Fig. 1: Except Export
Courtesy of GENERAL MOTORS COMPANY

Content Theft (Export)

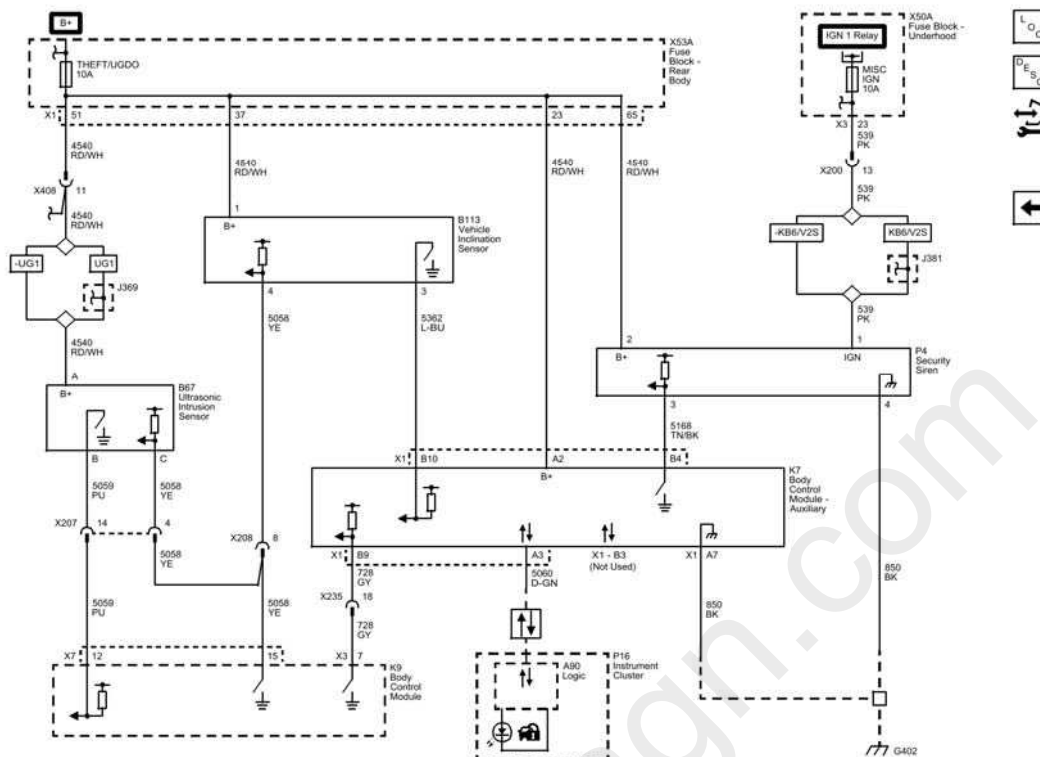


Fig. 2: Content Theft (Export)

Courtesy of GENERAL MOTORS COMPANY

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC CODE INDEX

DIAGNOSTIC CODE INDEX

DTC	Description
DTC B2924	DTC B2924 00 Content Theft System Sensor 3 Signal Circuit
DTC B3089	DTC B3089 00 Intrusion Sensor Armed Signal Circuit
DTC B3812	DTC B3812 00 Content Theft System Sensor Ground Circuit

DTC B2924: CONTENT THEFT SYSTEM SENSOR 3 SIGNAL CIRCUIT

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC B2924 00

Content Theft System Sensor 3 Signal Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Inclination Sensor B+	B2924 00,	B2924 00,	-	-
Inclination/Intrusion Sensor Alarm Signal	B3812 00	B3812 00	B3812 00	-
Inclination Sensor Signal	B2924 00	B2924 00	B2924 00	-

Circuit/System Description

The inclination sensor detects changes in the angle of the vehicle while parked. B+ is supplied to the inclination sensor at all times and the body control module (BCM) arms the sensor using the armed signal circuit. If a change greater than 3 degrees for a 7 second period is detected, auxiliary body control module (XBCM) is informed via the inclination sensor signal circuit and the content theft alarm is sounded. The sensor recalibrates itself each time the vehicle is parked, which allows it to account for parking on steep grades without unintentional activation.

Conditions for Running the DTC

- CTD System is armed
- Inclination sensor is enabled

Conditions for Setting the DTC

The XBCM does not receive the power-up acknowledgement from the intrusion sensor

Action Taken When the DTC Sets

The XBCM will ignore all inputs from the intrusion sensor for the remainder of the CTD system arming cycle

Conditions for Clearing the DTC

A current DTC will clear when the RIM receives a power-up acknowledgement from the intrusion sensor during the next CTD system arming cycle

Reference Information

Schematic Reference

Theft Deterrent System Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Theft Systems Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the inclination sensor.
2. Ignition ON, verify a test lamp illuminates between the B+ circuit terminal 1 and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
3. Ignition OFF, disconnect the X7 harness connector at the BCM.
4. Ignition ON, test for less than 1 volt between the signal circuit terminal 15 and ground.
 - If greater than the specified range, test the signal circuit for a short to ground.
5. Test for infinite resistance between the signal circuit terminal 15 and ground.
 - If less than the specified value, test the signal circuit for a short to ground.
6. Test for less than 2 ohms of resistance between the signal circuit terminal 15 at the BCM and the signal circuit terminal 4 at the inclination sensor.
 - If greater than the specified range, test the signal circuit for an open/high resistance.
7. Ignition OFF, disconnect the X1 harness connector at the XBCM.
8. Ignition ON, test for less than 1 volt between the signal circuit terminal B10 and ground.
 - If greater than the specified range, test the signal circuit for a short to ground.
9. Test for infinite resistance between the signal circuit terminal B10 and ground.
 - If less than the specified value, test the signal circuit for a short to ground.
10. Test for less than 2 ohms of resistance between the signal circuit terminal B at the RBCM and the signal circuit terminal 3 at the inclination sensor.
 - If greater than the specified range, test the signal circuit for an open/high resistance.
11. If all circuits test normal, test or replace the inclination sensor. If the DTC resets, replace the XBCM.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Theft Deterrent Vehicle Inclination Sensor Replacement**
- **Control Module References** for BCM and XBCM replacement, setup, and programming

DTC B3089: INTRUSION SENSOR ARMED SIGNAL CIRCUIT

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category

DTC Descriptor

DTC B3089 00

Intrusion Sensor Armed Signal Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Intrusion Sensor B+	B3089 00	B3089 00	-	-
Inclination/Intrusion Sensor Alarm Signal	B3812 00	B3812 00	B3812 00	-
Intrusion Sensor Signal	B3089 00	B3089 00	B3089 00	-

Circuit/System Description

When the Content Theft Deterrent (CTD) system arms and enables the intrusion sensor, the body control module (BCM) receives a power-up acknowledgement from the intrusion sensor via the intrusion sensor armed signal circuit.

Conditions for Running the DTC

- CTD System is armed
- Intrusion sensor is enabled

Conditions for Setting the DTC

The BCM does not receive the power-up acknowledgement from the intrusion sensor

Action Taken When the DTC Sets

The BCM will ignore all inputs from the intrusion sensor for the remainder of the CTD System arming cycle

Conditions for Clearing the DTC

A current DTC will clear when the RIM receives a power-up acknowledgement from the intrusion sensor during the next CTD system arming cycle

Reference Information

Schematic Reference

Theft Deterrent System Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Theft Systems Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Refer to **Control Module References** for Scan Tool Information

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the intrusion sensor.
2. Ignition ON, verify a test lamp illuminates between the B+ circuit terminal A and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
3. Ignition OFF, disconnect the X7 harness connector at the BCM.
4. Ignition ON, test for less than 1 volt between the following signal circuit terminals and ground:
 - Terminal 12
 - Terminal 15
 - If greater than the specified range, test the signal circuit for a short to ground.
5. Test for infinite resistance between the following signal circuit terminals and ground:

- Terminal 12
 - Terminal 15
 - If less than the specified value, test the signal circuit for a short to ground.
6. Test for less than 2 ohms of resistance between the following signal circuit terminals:
- Terminal 12 at the BCM and terminal B at the intrusion sensor
 - Terminal 15 at the BCM and terminal C at the intrusion sensor
 - If greater than the specified range, test the signal circuit for an open/high resistance.
7. If all circuits test normal, test or replace the intrusion sensor. If the DTC resets, replace the BCM.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Theft Deterrent Sensor Replacement**
- **Control Module References** for BCM replacement, setup, and programming

DTC B3812: CONTENT THEFT SYSTEM SENSOR GROUND CIRCUIT

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category

DTC Descriptor

DTC B3812 00

Content Theft System Sensor Ground Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Inclination/Intrusion Sensor Alarm Signal	B3812 00	B3812 00	B3812 00	-

Circuit/System Description

When the content theft deterrent (CTD) system arms and the inclination and intrusion sensors are enabled, the body control module (BCM) receives a power-up acknowledgement from the sensors via the sensor signal circuit.

Conditions for Running the DTC

- The inclination and intrusion sensors are enabled
- The CTD system has armed

Conditions for Setting the DTC

The BCM does not receive the power-up acknowledgement from the inclination and intrusion sensors

Action Taken When the DTC Sets

The BCM will ignore all inputs from the inclination and intrusion sensors for the remainder of the CTD system arming cycle

Conditions for Clearing the DTC

A current DTC will clear when the BCM receives a power-up acknowledgement during the next CTD system arming cycle

Reference Information

Schematic Reference

Theft Deterrent System Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Theft Systems Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Refer to **Control Module References** for scan tool information

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the inclination sensor.
2. Verify a test lamp illuminates between the B+ circuit terminal 1 and ground.

- If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
- 3. Disconnect the harness connector at the intrusion sensor.
- 4. Verify a test lamp illuminates between the B+ circuit terminal A and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
- 5. Ignition OFF, disconnect the harness connector at the intrusion sensor.
- 6. Ignition ON, verify a test lamp illuminates between the B+ circuit terminal A and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
- 7. Ignition OFF, disconnect the X7 harness connector at the BCM.
- 8. Ignition ON, test for less than 1 volt between the following signal circuit terminals and ground:
 - Terminal 12
 - Terminal 15
 - If greater than the specified range, test the signal circuit for a short to ground.
- 9. Test for infinite resistance between the following signal circuit terminals and ground:
 - Terminal 12
 - Terminal 15
 - If less than the specified value, test the signal circuit for a short to ground.
- 10. Test for less than 2 ohms of resistance between the following signal circuit terminals:
 - Terminal 12 at the BCM and terminal B at the intrusion sensor
 - Terminal 15 at the BCM and terminal C at the intrusion sensor
 - If greater than the specified range, test the signal circuit for an open/high resistance.
- 11. If all circuits test normal, test or replace the intrusion sensor. If the DTC resets, replace the BCM.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure

Control Module References for BCM replacement, setup, and programming

SYMPTOMS - THEFT DETERRENT

NOTE: **The following steps must be completed before using the symptom tables.**

1. Perform **Diagnostic System Check - Vehicle** 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 the following **Theft Systems Description and Operation**.

Visual/Physical Inspection

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

Intermittent

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

Symptom List

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

- **Content Theft Deterrent Malfunction**
- **Inclination Sensor Malfunction**
- **Intrusion Sensor Malfunction**
- **Security Indicator Malfunction**
- **Theft Deterrent Alarm Malfunction**

CONTENT THEFT DETERRENT MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Circuit/System Description

The content theft deterrent system is a software based system in which the body control module (BCM) actively monitors certain inputs to determine if unauthorized vehicle access is being attempted. Based on inputs such as the door ajar switches, the rear compartment ajar switch, and the hood ajar switch, the BCM determines whether a content theft deterrent alarm is warranted. If unauthorized access is being detected, the BCM will activate the theft alarm/power sounder and flash the turn signals as a means of theft deterrence.

Reference Information

Schematic Reference

Theft Deterrent System Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Theft Systems Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Individually open and close each vehicle door while observing the door ajar indicator/message. The indicator/message should accurately transition between the door ajar and door closed state when each door is opened and closed.
 - If the door ajar indicator/message does not properly transition when each door is opened and closed, refer to **Door Ajar Indicator Malfunction** .
2. Open and close the rear compartment while observing the rear compartment open indicator/message. The indicator/message should accurately transition between the rear compartment open and rear compartment closed state when the rear compartment is opened and closed.
 - If the rear compartment open indicator/message does not properly transition when the rear compartment is opened and closed, refer to **Trunk Ajar Indicator Malfunction** .
3. Open and close the hood while observing the hood ajar indicator/message. The indicator/message should accurately transition between the hood ajar and hood closed state when the hood is opened and closed.
 - If the hood ajar indicator/message does not properly transition when the hood is opened and closed, refer to **Hood Ajar Indicator/Message Malfunction** .
4. Completely lower the driver door window and close all vehicle doors.
5. Ignition OFF, arm the content theft deterrent system using the keyless entry system. Verify the content theft deterrent system arms.
 - If the system does not arm, refer to **Remote Control Door Lock Transmitter Learn (without ATH)** , (without ATH) or **Remote Control Door Lock and Theft Deterrent Transmitter Programming (with ATH - N America and Asia)** , **Remote Control Door Lock and Theft Deterrent Transmitter Programming (with ATH - Canada and Europe)** (with ATH).
6. Without disarming the system, reach in through the open driver window, unlock and open the driver door. Verify the theft alarm/power sounder is activated and the exterior lamps are flashing.
 - If the theft alarm/power sounder is not activated, refer to **Theft Deterrent Alarm Malfunction**.
 - If the exterior lights are not flashing, refer to **Headlamps Malfunction** .

INCLINATION SENSOR MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Circuit/System Description

The inclination sensor detects changes in the angle of the vehicle while parked. B+ is supplied to the inclination sensor at all times and the body control module (BCM) arms the sensor using the armed signal circuit. If a change greater than 3 degrees for a 7 second period is detected, auxiliary body control module (XBCM) is informed via the inclination sensor signal circuit and the content theft alarm is sounded. The sensor recalibrates itself each time the vehicle is parked, which allows it to account for parking on steep grades without unintentional activation.

Reference Information

Schematic Reference

Theft Deterrent System Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Theft Systems Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the inclination sensor.
2. Ignition ON, verify a test lamp illuminates between the B+ circuit terminal 1 and ground.

- If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
- 3. Ignition OFF, disconnect the X7 harness connector at the BCM.
- 4. Ignition ON, test for less than 1 volt between the signal circuit terminal 15 and ground.
 - If greater than the specified range, test the signal circuit for a short to ground.
- 5. Test for infinite resistance between the signal circuit terminal 15 and ground.
 - If less than the specified value, test the signal circuit for a short to ground.
- 6. Test for less than 2 ohms of resistance between the signal circuit terminal 15 at the BCM and the signal circuit terminal 4 at the inclination sensor.
 - If greater than the specified range, test the signal circuit for an open/high resistance.
- 7. Ignition OFF, disconnect the X1 harness connector at the XBCM.
- 8. Ignition ON, test for less than 1 volt between the signal circuit terminal B10 and ground.
 - If greater than the specified range, test the signal circuit for a short to ground.
- 9. Test for infinite resistance between the signal circuit terminal B10 and ground.
 - If less than the specified value, test the signal circuit for a short to ground.
- 10. Test for less than 2 ohms of resistance between the signal circuit terminal B at the RBCM and the signal circuit terminal 3 at the inclination sensor.
 - If greater than the specified range, test the signal circuit for an open/high resistance.
- 11. Disconnect the X3 harness connector at the BCM.
- 12. Ignition ON, test for less than 1 volt between the signal circuit terminal 7 and ground.
 - If greater than the specified range, test the signal circuit for a short to ground.
- 13. Test for infinite resistance between the signal circuit terminal 7 and ground.
 - If less than the specified value, test the signal circuit for a short to ground.
- 14. Test for less than 2 ohms of resistance between the signal circuit terminal B9 at the RBCM and the signal circuit terminal 7 at the BCM.
 - If greater than the specified range, test the signal circuit for an open/high resistance.
- 15. If all circuits test normal, test or replace the inclination sensor. If the DTC resets, replace the XBCM.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Theft Deterrent Vehicle Inclination Sensor Replacement**
- **Control Module References** for BCM and XBCM replacement, setup, and programming

INTRUSION SENSOR MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach

- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category

Circuit/System Description

When the Content Theft Deterrent (CTD) system arms and enables the intrusion sensor, the body control module (BCM) receives a power-up acknowledgement from the intrusion sensor via the intrusion sensor armed signal circuit.

Reference Information

Schematic Reference

Theft Deterrent System Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Theft Systems Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Refer to **Control Module References** for Scan Tool Information

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the intrusion sensor.
2. Ignition ON, verify a test lamp illuminates between the B+ circuit terminal A and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
3. Ignition OFF, disconnect the X7 harness connector at the BCM.
4. Ignition ON, test for less than 1 volt between the following signal circuit terminals and ground:
 - Terminal 12
 - Terminal 15
 - If greater than the specified range, test the signal circuit for a short to ground.

5. Test for infinite resistance between the following signal circuit terminals and ground:
 - Terminal 12
 - Terminal 15
 - If less than the specified value, test the signal circuit for a short to ground.
6. Test for less than 2 ohms of resistance between the following signal circuit terminals:
 - Terminal 12 at the BCM and terminal B at the intrusion sensor
 - Terminal 15 at the BCM and terminal C at the intrusion sensor
 - If greater than the specified range, test the signal circuit for an open/high resistance.
7. If all circuits test normal, test or replace the intrusion sensor. If the DTC resets, replace the BCM.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Theft Deterrent Sensor Replacement**
- **Control Module References** for BCM replacement, setup, and programming

SECURITY INDICATOR MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provide an overview of each diagnostic category.

Circuit/System Description

The security indicator acts as a status indicator for the content theft deterrent (CTD) system when the ignition is OFF and as a fault indicator for the immobilizer system when the ignition is ON. When either the body control module (BCM) or theft deterrent module (TDM) requires the security indicator to be illuminated, a serial data message is sent to the instrument panel cluster (IPC), which will illuminate the indicator.

Reference Information

Schematic Reference

Theft Deterrent System Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Theft Systems Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Ignition ON, verify the security indicator illuminates when performing the scan tool IPC Display Test.

- If the security indicator does not illuminate, replace the IPC.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

Control Module References for IPC replacement, setup, and programming

THEFT DETERRENT ALARM MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	1	1	-	-
Ignition	1	1	-	-
Theft Deterrent Alarm Signal	1	1	1	-
Ground	-	1	-	-
1. Theft Deterrent Alarm Malfunction				

Circuit/System Description

The alarm siren monitors the alarm enable signal circuit and will sound an audible alarm when the auxiliary body control module (XBCM) indicates a event has occurred that requires an alarm. The alarm siren also

monitors its own voltage circuits independent of the XBCM. In the event of the interruption of voltage to the alarm siren, the alarm will sound.

Reference Information

Schematic Reference

Theft Deterrent System Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Theft Systems Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the theft deterrent alarm siren.
2. Ignition OFF, test for less than 10 ohms between the low reference circuit terminal 4 and ground.
 - If not within the specified range, test the low reference circuit for an open/high resistance. If the circuit tests normal, replace the RBCM.
3. Ignition ON, verify a test lamp illuminates between the B+ circuit terminal 2 and ground.
 - If not the specified range, test the circuit for a short to ground or an open/high resistance.
4. Verify a test lamp illuminates between the ignition circuit terminal 1 and ground.
 - If not the specified range, test the circuit for a short to ground or an open/high resistance.
5. Connect a test lamp between the control circuit terminal 3 and the B+ circuit terminal 2.
6. Command the theft deterrent alarm ON and OFF with a scan tool. The test lamp should turn ON and OFF when changing between the commanded states.
 - If the test lamp is always ON, test the circuit for a short to ground. If the circuit tests normal, replace the RBCM.
 - If the test lamp is always OFF, test the circuit for a short to voltage, or an open/high resistance. If

the circuit tests normal, replace the RBCM.

7. If all circuits test normal, replace the theft deterrent alarm siren.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Theft Deterrent Alarm Replacement**
- **Control Module References** for XBCM replacement, setup, and programming

REPAIR INSTRUCTIONS

THEFT DETERRENT ALARM REPLACEMENT

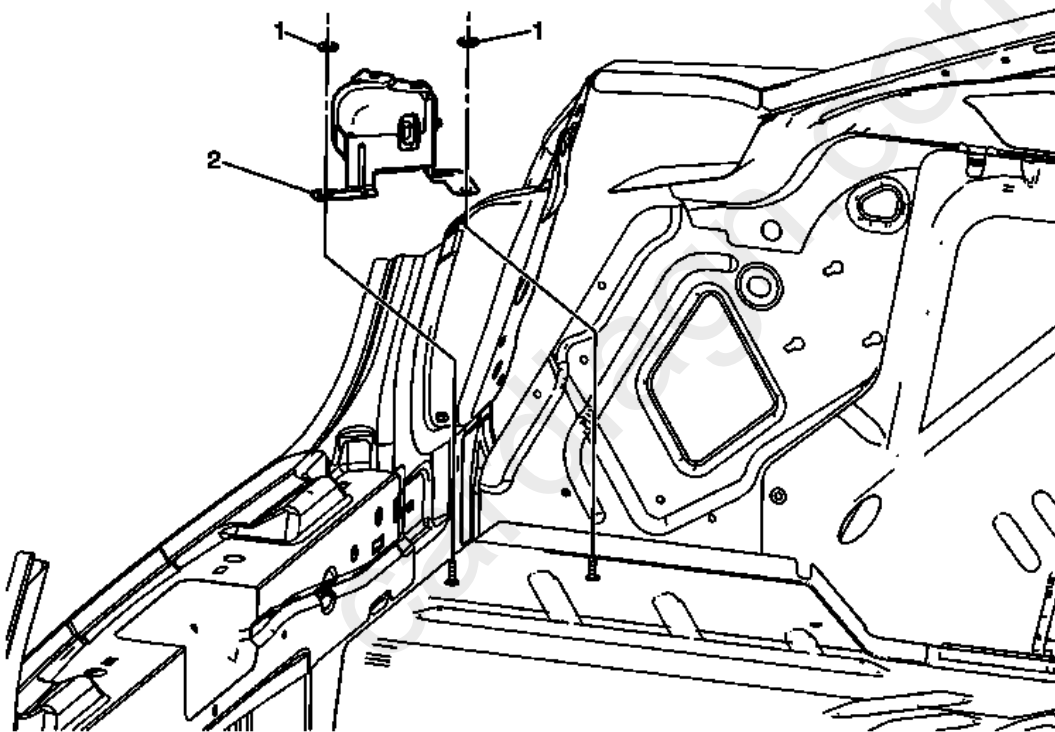


Fig. 3: Theft Deterrent Alarm Assembly
Courtesy of GENERAL MOTORS COMPANY

Theft Deterrent Alarm Replacement

Callout	Component Name
Preliminary Procedure Remove the rear compartment floor panel trim. Refer to <u>Rear Compartment Floor Panel Trim Replacement (Sedan, Coupe)</u> .	
	Theft Deterrent Alarm Nut (Qty: 2)

1	CAUTION: Refer to <u>Fastener Caution</u> . Tighten 9 N.m (80 lb in)
2	Theft Deterrent Alarm Procedure 1. Disconnect the electrical connector. 2. Refer to <u>Control Module References</u> for programming and set up procedures.

THEFT DETERRENT VEHICLE INCLINATION SENSOR REPLACEMENT

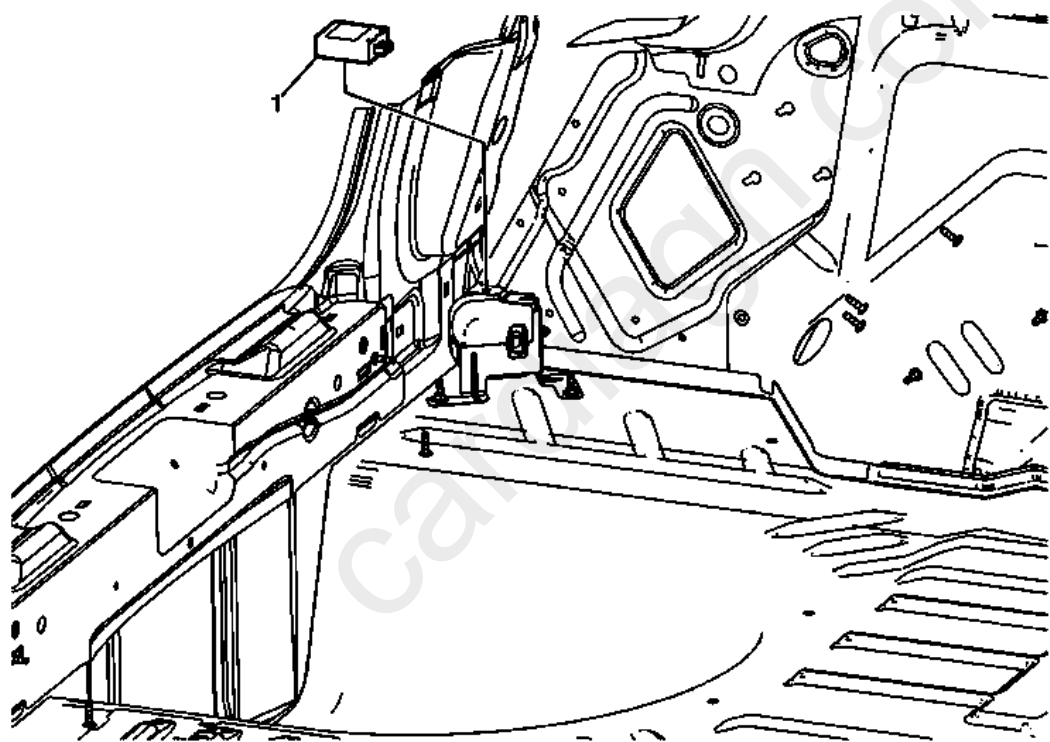


Fig. 4: Identify Theft Deterrent Vehicle Inclination Sensor Assembly
Courtesy of GENERAL MOTORS COMPANY

Theft Deterrent Vehicle Inclination Sensor Replacement

Callout	Component Name
Preliminary Procedure Remove the rear compartment floor panel trim. Refer to <u>Rear Compartment Floor Panel Trim Replacement (Sedan, Coupe)</u> .	
	Theft Deterrent Vehicle Inclination Sensor

1	Procedure 1. Disconnect the electrical connector. 2. Unsnap the theft deterrent vehicle inclination sensor from the theft deterrent alarm.
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THEFT DETERRENT SENSOR REPLACEMENT

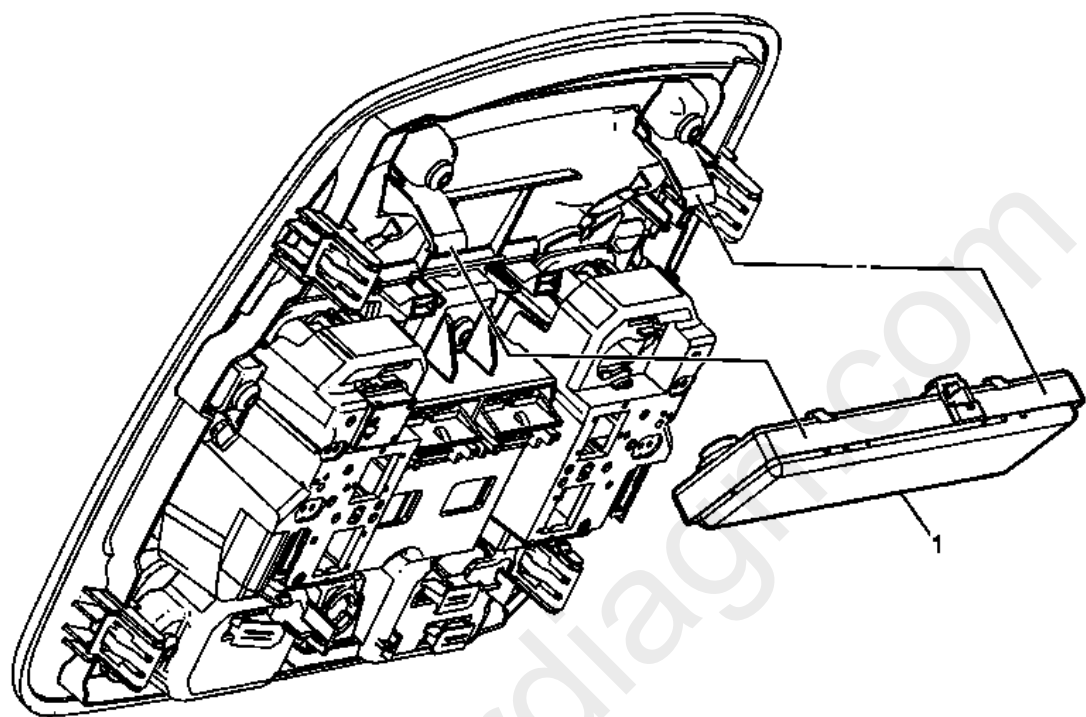


Fig. 5: View of Theft Deterrent Sensor Assembly
 Courtesy of GENERAL MOTORS COMPANY

Theft Deterrent Sensor Replacement

Callout	Component Name
Preliminary Procedure Remove the roof console. Refer to Roof Console Replacement .	
1	Theft Deterrent Sensor Procedure 1. Disconnect the electrical connector. 2. Unsnap the sensor from the roof console. 3. Refer to Control Module References for programming and set up procedures.

DESCRIPTION AND OPERATION

THEFT SYSTEMS DESCRIPTION AND OPERATION

When armed, the content theft deterrent (CTD) system is designed to deter vehicle content theft by pulsing the horns and exterior lamps for approximately 30 seconds when an unauthorized vehicle entry is detected. However, the CTD system does not affect engine starting.

An unauthorized entry can be any of the following with the CTD system armed:

- Unauthorized entry into the underhood area, if equipped with remote vehicle start
- Unauthorized entry into the rear compartment
- When any door is opened without first being unlocked using the vehicle key or using the UNLOCK command from a keyless entry transmitter
- After a battery reconnect, if the battery was disconnected with the CTD system armed

The components of the CTD system are:

- Body Control Module (BCM)
- Remote Control Door Lock Receiver (RCDLR)
- Security indicator
- Door ajar switches
- Driver door key cylinder switch
- Rear compartment lid ajar switch
- Hood ajar switch (if equipped)

Arming the CTD System

Use the following procedure in order to arm the system:

1. Place the shift lever in P (park).
2. Turn OFF the ignition.
3. Open any door.

IMPORTANT: The system is not armed if the doors are locked manually; the power door lock switch or remote keyless entry transmitter must be used to arm the content theft deterrent (CTD) system.

4. Lock the doors with the power door lock switch or the LOCK button on the transmitter. The system is in standby mode and will not start the arming timer until all doors are closed.
5. The system will begin the arm sequence immediately after the last door is closed. If the keyless entry transmitter is used to arm the system after the vehicle doors are closed, the arm sequence will begin as soon as the LOCK command is received from the transmitter.

Locking the Vehicle Without Arming the CTD System

Locking the vehicle may be accomplished without arming the content theft deterrent (CTD) system. Use of the manual door locks or using the key to lock the doors will lock the vehicle, but will not arm the CTD system.

Disarming an Armed System/Silencing an Alarm

If system arming has been requested by the power door lock switch or the keyless entry transmitter, it must be disarmed.

IMPORTANT: Using the power door unlock switch or manually unlocking the doors does not disable the content theft deterrent (CTD) arm mode. Also, disconnecting the battery or pulling fuses does not disable the arm mode, since the BCM stores the CTD mode status in memory.

- To disarm the CTD system in standby mode, perform one of the following:
 - Press either power door unlock switch.
 - Use the vehicle key to unlock the driver door.
 - Press the UNLOCK button on the keyless entry transmitter.
 - Insert a valid key into the ignition and switch to the ON position.
- To disarm the CTD system in the armed mode (non-event) or when activated (during an alarm event):
 - Use the vehicle key to unlock the driver door.
 - Press the UNLOCK button on the keyless entry transmitter.
 - Insert a valid key into the ignition and switch to the ON position

CTD Circuit Description

The following is a description of each component used in the content theft deterrent (CTD) system:

Body Control Module (BCM)

The CTD system is an internal function of the BCM which utilizes serial data and various switch inputs information to perform CTD functions. When the BCM detects an unauthorized entry, it activates the horns and exterior lamps. The BCM has 4 basic modes (disarmed, standby, armed, and alarm) for operating the CTD system. The different modes are described below.

1. The BCM has the CTD system in a disarmed mode until the following conditions are detected:
 - Ignition key turned to the OFF position.
 - Doors locked by either the power door lock switch or the LOCK button on the transmitter.
2. The BCM enters the standby mode when the above conditions are detected. If a door was already opened when the arm mode was requested, the standby mode does not start the timer until the last door is closed.
3. When the last door is closed, a 15 second timer is activated. Once the timer has expired, the BCM enters the armed mode. After this delay, any forced entry activates the alarm mode.
4. When the BCM detects a forced entry, the BCM enters the alarm mode. The BCM activates the horns and exterior lamps for 30 seconds. This is followed by a three minute time-out with the horn no longer active. If no new intrusions are detected after the time-out, the horn is not active. The system must be disarmed

or the intrusion condition removed after the time-out for the system to exit alarm mode.

Remote Control Door Lock Receiver (RCDLR)

The keyless entry system can arm and disarm the CTD system. When the keyless entry module receives a door lock or unlock signal from the transmitter, the keyless entry module sends a message to the BCM via serial data to perform the appropriate arm/disarm functions.

Security Indicator

The security indicator is illuminated by the instrument panel cluster (IPC) based on information (via serial data) from the BCM for CTD, or theft deterrent module (TDM) for immobilizer. The CTD system uses the security indicator to inform the driver of system status prior to arming. The security indicator on the instrument cluster is controlled by both the CTD system and the immobilizer system.

- The CTD system, integral to the BCM, commands the IPC to control the security indicator only when the ignition switch is OFF. The CTD system uses the indicator to identify system status.
- The immobilizer system, integral to the theft deterrent module (TDM) or the RCDLR when the vehicle has keyless entry, commands the IPC to control the security indicator only when the ignition switch is ON as a malfunction indicator. The immobilizer system is to deter vehicle theft. Refer to **Immobilizer Description and Operation (with ATH)** , **Immobilizer Description and Operation (without ATH)** for more information on the immobilizer system.

Door Ajar Switches

The CTD system uses the door ajar switches as a status indicator to activate the alarm. The door ajar switches are monitored by the BCM via a discrete input from each door ajar switch. If the BCM receives a signal indicating a door is opened when the CTD system is armed, the BCM activates the alarm.

Driver Door Key Cylinder Switch

The CTD system uses the driver door cylinder switch as a means to disarm the CTD system. The BCM receives the status of the driver door cylinder switch based on a discrete input from the switch. When the driver door key cylinder is rotated the CTD system will immediately disarm.

Hood Ajar Switch

The CTD system uses the hood ajar switch as a status indicator to activate the alarm. The BCM monitors the hood ajar switch via a discrete input from the switch. If the BCM receives a signal indicating the hood has been opened when the CTD system is armed, the BCM activates the alarm.

Rear Compartment Lid Ajar Switch

The CTD system uses the rear compartment ajar switch as a status indicator to activate the alarm. The BCM monitors the rear compartment ajar switch via a discrete input from the switch. If the BCM receives a signal indicating the rear compartment has been opened when CTD system is armed, the BCM activates the alarm.

Inputs

The BCM monitors the following inputs for CTD:

- The door ajar switches
- Driver door cylinder switch
- The keyless entry transmitter LOCK/UNLOCK buttons; a serial data message from the RCDLR
- The immobilizer status-The BCM uses the immobilizer status for disarming the system or silencing an alarm when the correct vehicle key is used to start the vehicle
- The rear compartment ajar switch
- The hood ajar switch

Outputs

The BCM controls the following for CTD:

- The horn relay
- The exterior lamps