2009 ACCESSORIES & EQUIPMENT

Object Detection - Avalanche, Escalade, Suburban, Tahoe & Yukon

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	Specification	
	Metric	English
Information Center Telltale Nut	2 N.m	18 lb in
Instrument Panel Accessory Switch Screw	2 N.m	18 lb in
Rear Object Alarm Module Nut	10 N.m	88 lb in
Rear Object Camera Screw	2 N.m	18 lb in
Rearview Camera Module Nut	2 N.m	18 lb in

SCHEMATIC AND ROUTING DIAGRAMS

OBJECT DETECTION SCHEMATICS

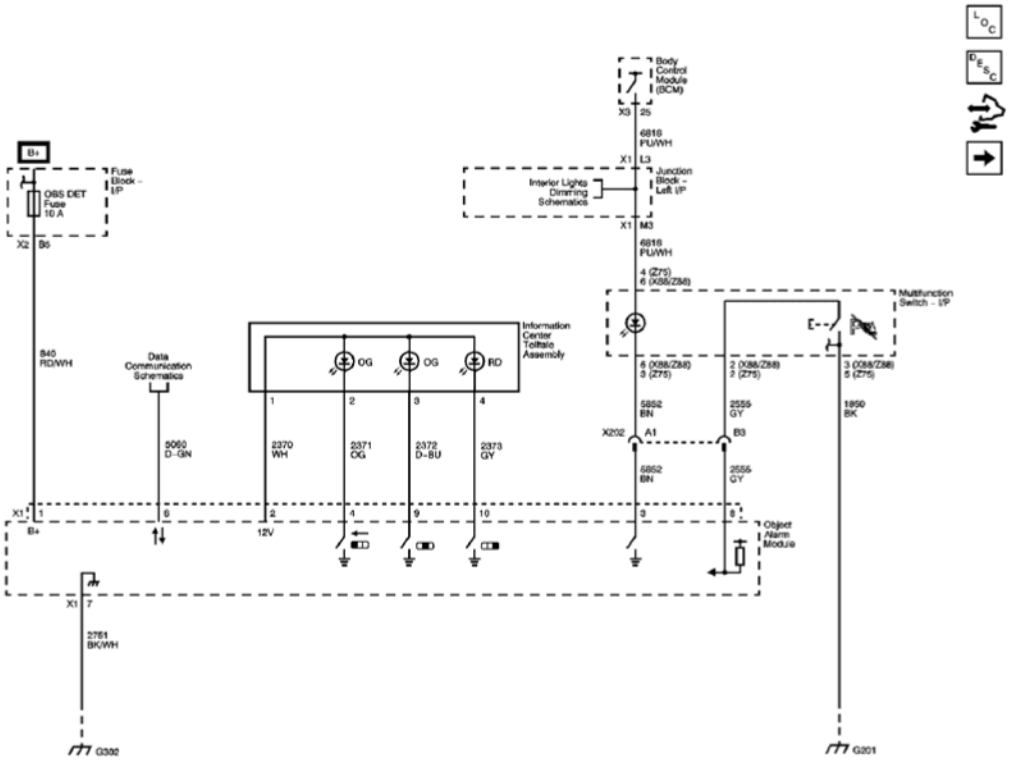

Fig. 1: Rear Object Sensing (UD7)

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

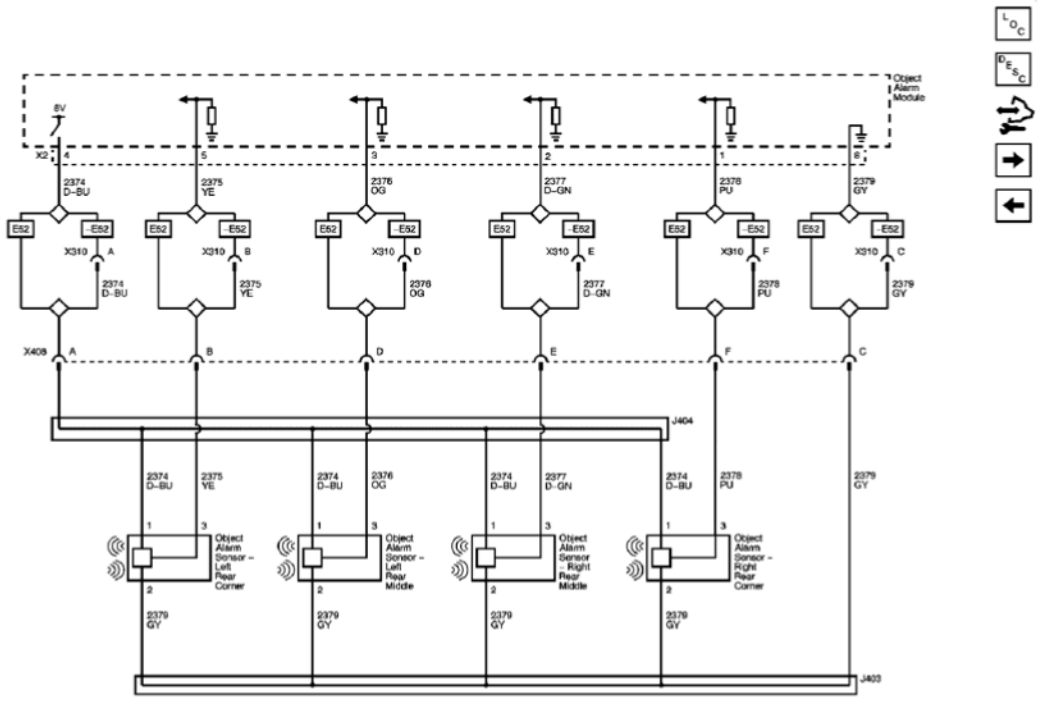

Fig. 2: Rear Object Sensors (UD7)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

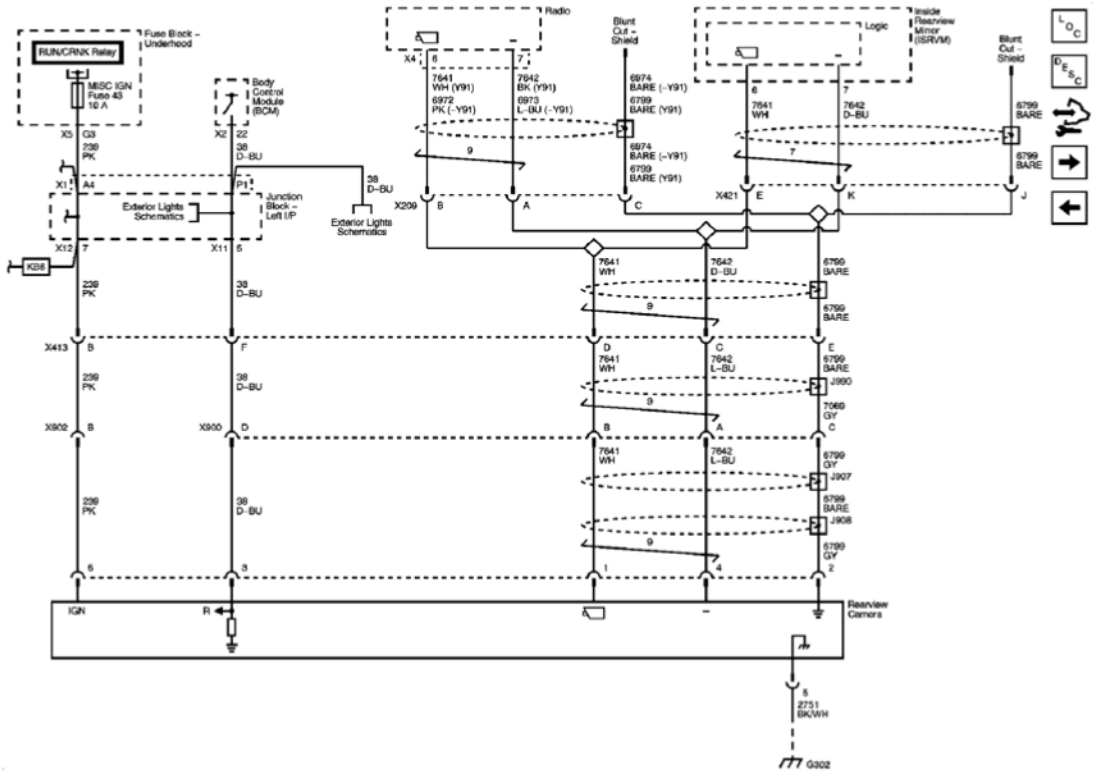

Fig. 3: Rear Video Camera - 1 of 2 (UVC)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

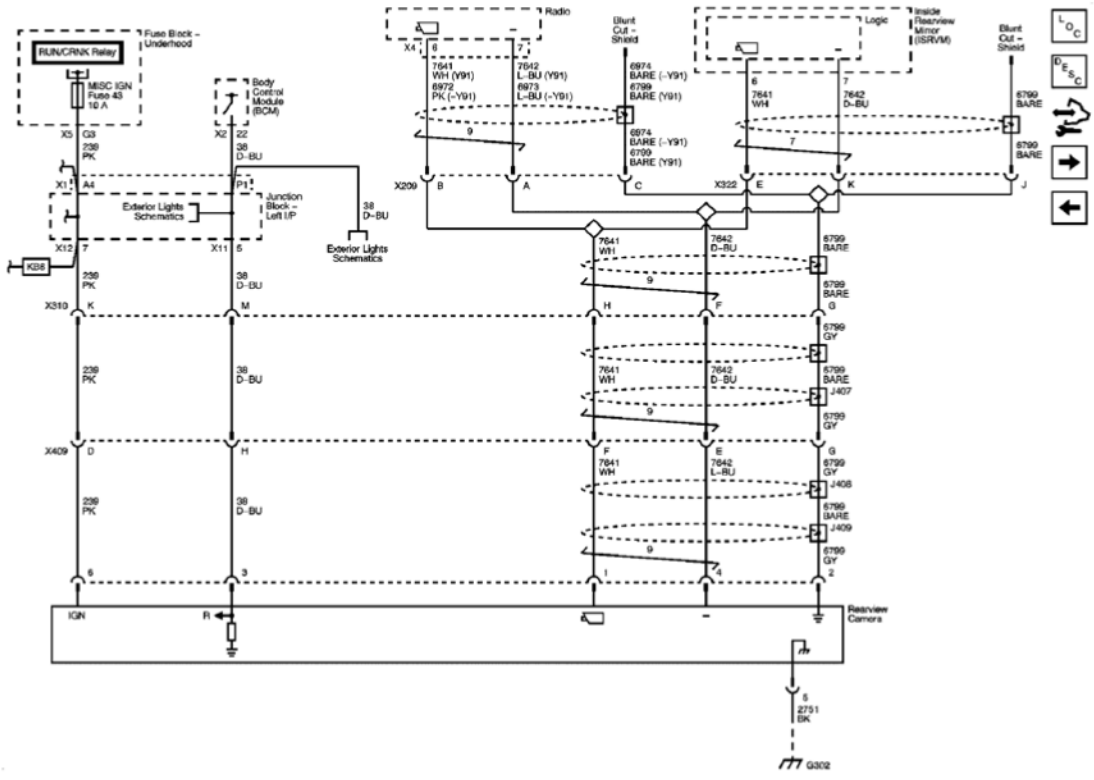

Fig. 4: Rear Video Camera 2 of 2 (UVC)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

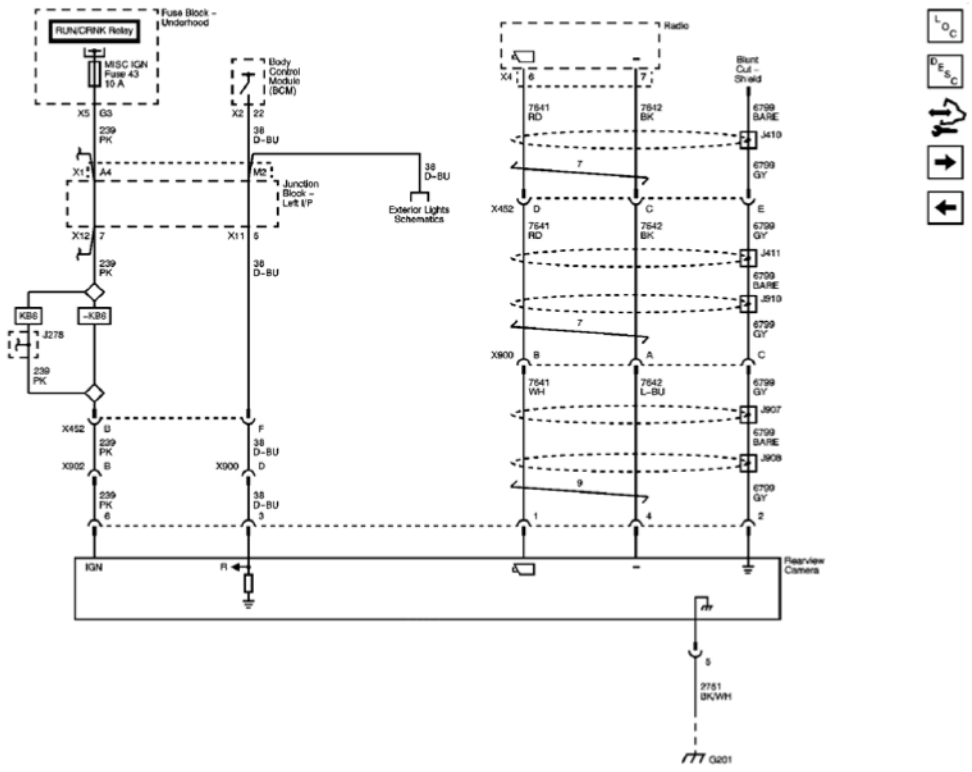

Fig. 5: SPO Accessory Rear Vision Camera
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

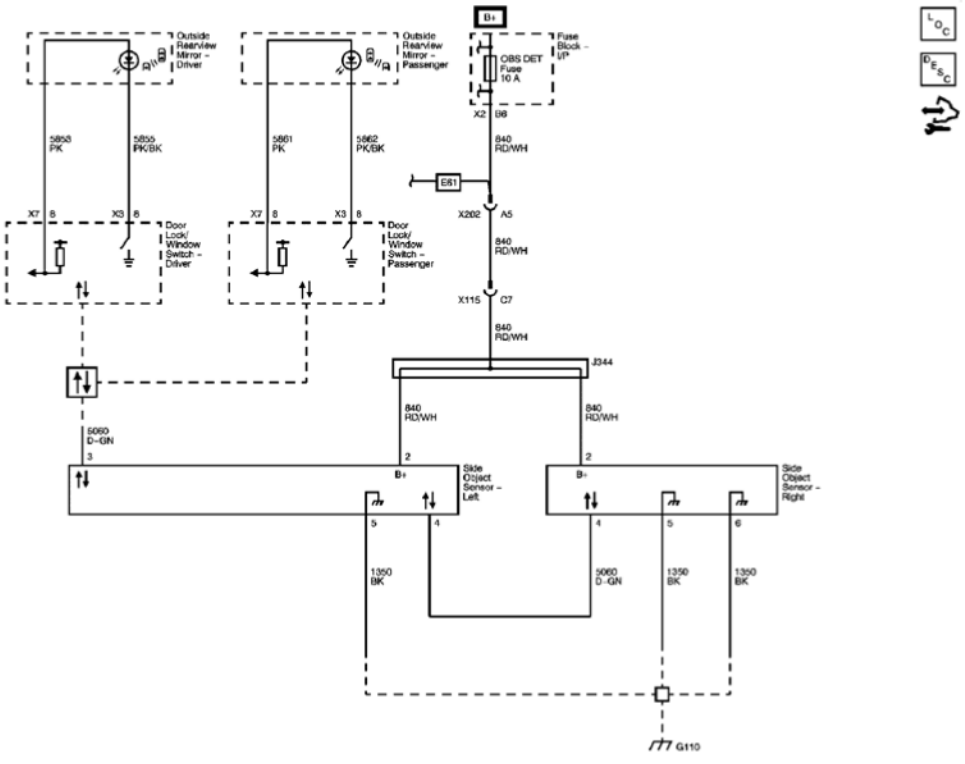

Fig. 6: Side Object Detection - UFT
Courtesy of GENERAL MOTORS CORP.

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC CODE INDEX

DIAGNOSTIC CODE INDEX

DTC	Description
DTC B0010	B0010 00: Reverse Gear Signal Circuit
DTC B0958, B0959, B0960, or B0961	B0958 01: Parking Aid Rear Sensor 1 Circuit Short to Battery-Left Corner B0958 06: Parking Aid Rear Sensor 1 Circuit Short to Ground or Open-Left Corner B0958 08: Parking Aid Rear Sensor 1 Circuit Signal Invalid-Left Corner B0958 21: Parking Aid Rear Sensor 1 Circuit Incorrect Period-Left Corner B0959 01: Parking Aid Rear Sensor 2 Circuit Short to Battery-Left Middle B0959 06: Parking Aid Rear Sensor 2 Circuit Short to Ground or Open-Left Middle B0959 08: Parking Aid Rear Sensor 2 Circuit Signal Invalid-Left Middle B0959 21: Parking Aid Rear Sensor 2 Circuit Incorrect Period-Left

cardiagn.com

	Middle B0960 01: Parking Aid Rear Sensor 3 Circuit Short to Battery-Right Middle B0960 06: Parking Aid Rear Sensor 3 Circuit Short to Ground or Open-Right Middle B0960 08: Parking Aid Rear Sensor 3 Circuit Signal Invalid-Right Middle B0960 21: Parking Aid Rear Sensor 3 Circuit Incorrect Period-Right Middle B0961 01: Parking Aid Rear Sensor 4 Circuit Short to Battery-Right Corner B0961 06: Parking Aid Rear Sensor 4 Circuit Short to Ground or Open-Right Corner B0961 08: Parking Aid Rear Sensor 4 Circuit Signal Invalid-Right Corner B0961 21: Parking Aid Rear Sensor 4 Circuit Incorrect Period-Right Corner
DTC B0967	B0967 02: Parking Aid Switch Circuit Short to Ground
DTC B0968	B0968 00: Parking Aid Indicator Circuit
DTC B1008	B1008 42: Calibration Data Not Programmed Calibration Data Set Not Programmed
DTC B1015	B1015 00: Vehicle Identification Number (VIN) Information Error
DTC B1E3A	B1E3A 03: Sensor Power Circuit Voltage Below Threshold B1E3A 07: Sensor Power Circuit Voltage Above Threshold

DIAGNOSTIC STARTING POINT - OBJECT DETECTION

Begin the system diagnosis with the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** . 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.

DTC B0010

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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.

cardiagn.com

DTC Descriptor

DTC B0010 00

Reverse Gear Signal Circuit

Circuit/System Description

The body control module (BCM) supplies B+ to the rearview camera when the transmission is placed into reverse.

Conditions for Running the DTC

Ignition voltage is between 9-16 volts

Conditions for Setting the DTC

The BCM detects there is a short to ground or an open circuit.

Action Taken When the DTC Sets

Rearview camera is disabled.

Conditions for Clearing

- The DTC will transition to history when the fault is no longer present.
- A history DTC will clear after 100 malfunction-free ignition cycles.

Reference Information

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**

cardiagn.com

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

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the rearview camera.
2. Ignition ON, park brake applied, transmission in REVERSE, test for B+ between the B+ circuit terminal 3 and ground.
    - If less than the specified value, test the B+ circuit for a short to ground or an open/high resistance.
3. If all circuits test normal, replace the BCM.

Repair Procedures

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

Control Module References for BCM replacement, setup, and programming

DTC B0958, B0959, B0960, OR B0961

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** prior to using the diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC B0958 01

Parking Aid Rear Sensor 1 Circuit Short to Battery-Left Corner

DTC B0958 06

Parking Aid Rear Sensor 1 Circuit Short to Ground or Open-Left Corner

DTC B0958 08

Parking Aid Rear Sensor 1 Circuit Signal Invalid-Left Corner

DTC B0958 21

Parking Aid Rear Sensor 1 Circuit Incorrect Period-Left Corner

DTC B0959 01

cardiagn.com

Parking Aid Rear Sensor 2 Circuit Short to Battery-Left Middle

DTC B0959 06

Parking Aid Rear Sensor 2 Circuit Short to Ground or Open-Left Middle

DTC B0959 08

Parking Aid Rear Sensor 2 Circuit Signal Invalid-Left Middle

DTC B0959 21

Parking Aid Rear Sensor 2 Circuit Incorrect Period-Left Middle

DTC B0960 01

Parking Aid Rear Sensor 3 Circuit Short to Battery-Right Middle

DTC B0960 06

Parking Aid Rear Sensor 3 Circuit Short to Ground or Open-Right Middle

DTC B0960 08

Parking Aid Rear Sensor 3 Circuit Signal Invalid-Right Middle

DTC B0960 21

Parking Aid Rear Sensor 3 Circuit Incorrect Period-Right Middle

DTC B0961 01

Parking Aid Rear Sensor 4 Circuit Short to Battery-Right Corner

DTC B0961 06

Parking Aid Rear Sensor 4 Circuit Short to Ground or Open-Right Corner

DTC B0961 08

Parking Aid Rear Sensor 4 Circuit Signal Invalid-Right Corner

DTC B0961 21

Parking Aid Rear Sensor 4 Circuit Incorrect Period-Right Corner

Diagnostic Fault Information

cardiagn.com

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
8-Volt Reference	B0958 06, B0959 06, B0960 06, B0961 06, B1E3A 03	B0958 06, B0959 06, B0960 06, B0961 06	B1E3A 07	-
Left Rear Object Sensor Signal	B0958 06	B0958 06	B0958 01	B0958 08, B0958 21
Left Middle Rear Object Sensor Signal	B0959 06	B0959 06	B0959 01	B0959 08, B0959 21
Right Middle Rear Object Sensor Signal	B0960 06	B0960 06	B0960 01	B0960 08, B0960 21
Right Rear Object Sensor Signal	B0961 06	B0961 06	B0961 01	B0961 08, B0961 21
Low Reference	-	B0958 06, B0959 06, B0960 06, B0961 06	-	-

Circuit/System Description

The object sensors are 3-wire sensors that are used to determine the distance between the vehicle and an object of interest. The object alarm module supplies 8 volts to the object sensors via the 8 volt reference circuit and provides ground via the low reference circuit. The object alarm module triggers the sensors in a sequential loop. After each sensor transmits, the object alarm module uses the sensor ring received through the signal circuit to calculate the distance and position of an object.

Conditions for Running the DTC

- DTC B1325 is not set
- Ignition voltage is between 9-16 volts
- The vehicle is in REVERSE

Conditions for Setting the DTC

B0958 01, B0959 01, B0960 01, or B0961 01

Voltage seen on the object sensor signal circuit is greater than 11.5 volts.

B0958 06, B0959 06, B0960 06, or B0961 06

Voltage seen on the object sensor signal circuit is less than 0.5 volts.

B0958 08, B0959 08, B0960 08, or B0961 08

cardiagn.com

An invalid signal is received by the object alarm module.

B0958 21, B0959 21, B0960 21, or B0961 21

The object sensor determines no change in the position of an object while the vehicle is in motion.

Action Taken When the DTC Sets

- Parking assist is disabled.
- The object alarm module commands the red indicator ON.
- The object alarm module sends a serial data message to the instrument panel cluster (IPC) to display SERVICE PARK ASSIST message in the driver information center (DIC) and a chime will sound.

Conditions for Clearing the DTC

- The DTC will transition to history when the fault is no longer present.
- A history DTC will clear after 100 malfunction-free ignition cycles.

Reference Information

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

cardiagn.com

1. Verify that DTC B1E3A is not set.
    - If DTC is set, refer to **DTC B1E3A**.
2. Park brake OFF, transmission in REVERSE, individually place a suitable object behind each sensor. Verify the appropriate scan tool Rear Region parameter is between Zone 1 and Zone 4.

Circuit/System Testing

Single Object Sensor DTC Set

1. Ignition OFF, disconnect the harness connector at the appropriate object sensor.
2. Ignition OFF for 30 seconds, test for less than 20 ohms between the low reference circuit terminal 2 and ground.
    - If greater than the specified range, test the low reference circuit for an open/high resistance. If the circuit tests normal, replace the object alarm module.
3. Ignition ON, transmission in REVERSE, test for 8.0-9.0 volts between the voltage reference circuit terminal 1 and ground.
    - If greater than the specified range, test the voltage reference circuit for a short to voltage. If the circuit tests normal, replace the object alarm module.
    - If less than the specified range, test the voltage reference circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the object alarm module.
4. Ignition OFF, remove the malfunctioning object sensor and swap locations with another properly functioning rear object sensor. Connect the harness connector at both sensors.
5. Ignition ON, verify the DTC is set for the new location in which the malfunctioning sensor is installed.
    - If the DTC does not set for the new location, test the signal circuit terminal 3 for a short to voltage, short to ground, or an open/high resistance. If the circuit tests normal, replace the object alarm module.
6. If the DTC sets for the new location in which the malfunctioning sensor is installed, replace the appropriate rear object sensor.

Multiple Object Sensor DTCs Set

1. Ignition OFF, disconnect the harness connector at each of the object sensors.
2. Ignition OFF for 30 seconds, test for less than 20 ohms between the low reference circuit terminal 2 and ground.
    - If greater than the specified range, test the low reference circuit for an open/high resistance. If the circuit tests normal, replace the object alarm module.
3. Ignition ON, transmission in REVERSE, test for 8.0-9.0 volts between the voltage reference circuit terminal 1 and ground.
    - If greater than the specified range, test the voltage reference circuit for a short to voltage. If the circuit tests normal, replace the object alarm module.
    - If less than the specified range, test the voltage reference circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the object alarm module.

cardiagn.com

Repair Procedures

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

- **Rear Object Sensor Replacement**
- **Control Module References** for object alarm module replacement, setup, and programming

DTC B0967

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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 B0967 02

Parking Aid Switch Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Parking Assist Disable Signal	B9067 02	1	1	-
I/P Multifunction Switch Assembly Ground	-	1	1	-
1. Parking Assist Disable Switch Inoperative				

Circuit/System Description

The parking assist system can be disabled by pressing the parking assist disable switch. When pressed, the parking assist disable signal circuit is pulled to ground. When parking assist is disabled, the object alarm module also ground the parking assist disable indicator control circuit, illuminating the indicator.

Conditions for Running the DTC

- DTC B1325 is not set
- Ignition voltage is between 9-16 volts.

Conditions for Setting the DTC

The object alarm module has detected that the parking assist disable switch signal circuit is shorted to ground.

cardiagn.com

Action Taken When the DTC Sets

- The parking assist system defaults to the enabled state.
- The parking assist disable indicator is not illuminated.

Conditions for Clearing

- The DTC will transition to history when the fault is no longer present.
- A history DTC will clear after 100 malfunction-free ignition cycles.

Reference Information

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

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, observe the scan tool Park Assist Switch parameter while cycling the parking assist disable switch. The should change between Active and Inactive.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the I/P multifunction switch assembly.
2. Test for less than 1.0 ohm between the appropriate ground circuit listed below and ground:

cardiagn.com

- RPO X88/Z88 ground circuit terminal 3
- RPO Z75 ground circuit terminal 5
  - If greater than the specified range, test the ground circuit for an open/high resistance.

3. Ignition ON, verify that the scan tool Park Assist Switch parameter is Inactive.
   - If not the specified value, test the signal circuit terminal 2 for a short to ground. If the circuit tests normal, replace the object alarm module.
4. Ignition OFF, connect a 3A fused jumper wire between signal circuit terminal 2 and ground.
5. Ignition ON, verify that the scan tool Park Assist Switch parameter is Active.
   - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the object alarm module.
6. If all circuits test normal, test or replace the I/P multifunction switch assembly.

Repair Procedures

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

- **Rear Object Alarm Module Switch Replacement (Tahoe/Yukon)** or **Rear Object Alarm Module Switch Replacement (Escalade)**
- **Control Module References** for object alarm module replacement, setup, and programming

DTC B0968

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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 B0968 00

Parking Aid Indicator Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Telltale Assembly Supply Voltage	B0968 00	1, 2, 3	-	-
Amber 1 Indicator Control	B0968 00	1	1	-
Amber 2 Indicator Control	B0968 00	2	2	-
Red Indicator Control	B0968 00	3	3	-

cardiagn.com

1. Amber 1 LED Malfunction
2. Amber 2 LED Malfunction
3. Red LED Malfunction

Circuit/System Description

The object alarm module directly controls the parking assist indicators located in the information center telltale assembly. The information center telltale assembly consists of two amber and one red LED that indicate the distance of an object from the rear bumper. As objects become progressively closer to the bumper, the object alarm module will illuminate the LEDs in a sequence: one amber LED, both amber LEDs, and lastly, both amber LEDs and the red LED. The LEDs are supplied voltage by the object alarm module. Each LED is also discretely controlled by the object alarm module.

Conditions for Running the DTC

- DTC B1325 is not set
- Ignition voltage is between 9-16 volts

Conditions for Setting the DTC

The object alarm module detects that one of the three indicator control circuits or the supply voltage is shorted to ground.

Action Taken When the DTC Sets

- Parking assist is disabled.
- The object alarm module commands the red indicator ON.
- The object alarm module sends a serial data message to the instrument panel cluster (IPC) to display SERVICE PARK ASSIST message in the driver information center (DIC) and a chime will sound.

Conditions for Clearing

- The DTC will transition to history when the fault is no longer present.
- A history DTC will clear after 100 malfunction-free ignition cycles.

Reference Information

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

cardiagn.com

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

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, command the Rear Red LED, Rear Yellow LED 1, and Rear Yellow LED 2 ON and OFF with a scan tool. The appropriate indicator should turn on and off as commanded.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the information center telltale assembly.
2. Ignition ON, test for 9.0-12.5 V between the supply voltage circuit terminal A and ground.
    - If less than the specified range, test the supply voltage circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the object alarm module.
    - If greater than the specified range, test the control circuit for a short to voltage. If the circuit tests normal, replace the object alarm module.
3. Command the appropriate LED ON with a scan tool and test for 10.5-12.5 V between the appropriate control circuit listed below and ground:
    - Amber 1 LED - terminal B
    - Amber 2 LED - terminal C
    - Red LED - terminal D
    - If less than the specified range, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the object alarm module.
    - If greater than the specified range, test the control circuit for a short to voltage. If the circuit tests normal, replace the object alarm module.
4. If all circuits test normal, test or replace the information center telltale assembly.

Repair Procedures

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

- **Information Center Telltale Assembly Replacement (Tahoe/Suburban/Yukon/Yukon XL)** or **Information Center Telltale Assembly Replacement (Avalanche/Escalade EXT)**

cardiagn.com

- **Control Module References** for object alarm module replacement, setup, and programming

DTC B1008

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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 B1008 42

Calibration Data Not Programmed Calibration Data Set Not Programmed

Circuit/System Description

When the ignition is turned ON, the object alarm module performs a self-test to verify if any critical malfunction exists within the system. During the power-up mode, the object alarm module checks for a valid calibration data set.

Conditions for Running the DTC

- DTC B1325 is not set
- Ignition voltage is between 9-16 volts

Conditions for Setting the DTC

A valid calibration is not detected upon module power-up.

Action Taken When the DTC Sets

- Parking assist is disabled.
- The object alarm module commands the red indicator ON.
- The object alarm module sends a serial data message to the instrument panel cluster (IPC) to display SERVICE PARK ASSIST message in the driver information center (DIC) and a chime will sound.

Conditions for Clearing

- The DTC will transition to history when the fault is no longer present.
- A history DTC will clear after 100 malfunction-free ignition cycles.

Reference Information

cardiagn.com

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

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

Verify that DTC B1008 is not set.

- If the DTC is set, program the object alarm module. Refer to **Object Alarm Module Programming and Setup** . If the DTC resets, replace the object alarm module.

Repair Procedures

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

Control Module References for object alarm module replacement, setup, and programming

DTC B1015

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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.

cardiagn.com

DTC Descriptor

DTC B1015 00

Vehicle Identification Number (VIN) Information Error

Circuit/System Description

When the ignition is turned ON, the object alarm module receives the vehicle identification number (VIN) from the body control module (BCM). The object alarm module will compare the VIN received to the VIN stored in memory.

Conditions for Running the DTC

- DTC B1325 is not set
- Ignition voltage is between 9-16 volts

Conditions for Setting the DTC

The VIN stored in the object alarm module does not match the received VIN.

Action Taken When the DTC Sets

- Parking assist is disabled.
- The object alarm module commands the red indicator ON.
- The object alarm module sends a serial data message to the instrument panel cluster (IPC) to display SERVICE PARK ASSIST message in the driver information center (DIC) and a chime will sound.

Conditions for Clearing

- The DTC will transition to history when the fault is no longer present.
- A history DTC will clear after 100 malfunction-free ignition cycles.

Reference Information

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation**

cardiagn.com

(UVC) or **Object Detection Description and Operation (UFT)**

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

Verify that DTC B1015 is not set.

- If the DTC is set, program the object alarm module. Refer to **Object Alarm Module Programming and Setup** . If the DTC resets, replace the object alarm module.

Repair Procedures

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

Control Module References for object alarm module replacement, setup, and programming

DTC B1E3A

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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 Descriptors

DTC B1E3A 03

Sensor Power Circuit Voltage Below Threshold

DTC B1E3A 07

Sensor Power Circuit Voltage Above Threshold

Diagnostic Fault Information

cardiagn.com

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
8-Volt Reference	B0958 06, B0959 06, B0960 06, B0961 06, B1E3A 03	B0958 06, B0959 06, B0960 06, B0961 06	B1E3A 07	-
Left Rear Object Sensor Signal	B0958 06	B0958 06	B0958 01	B0958 08, B0958 21
Left Middle Rear Object Sensor Signal	B0959 06	B0959 06	B0959 01	B0959 08, B0959 21
Right Middle Rear Object Sensor Signal	B0960 06	B0960 06	B0960 01	B0960 08, B0960 21
Right Rear Object Sensor Signal	B0961 06	B0961 06	B0961 01	B0960 08, B0960 21
Low Reference	-	B0958 06, B0959 06, B0960 06, B0961 06	-	-

Circuit/System Description

The object sensors are 3-wire sensors that are used to determine the distance between the vehicle and an object of interest. The object alarm module supplies 8 volts to the object sensors via the 8 volt reference circuit and provides ground via the low reference circuit. The object alarm module triggers the sensors in a sequential loop. After each sensor transmits, the object alarm module uses the sensor ring received through the signal circuit to calculate the distance and position of an object.

Conditions for Running the DTC

- DTC B1325 is not set
- Ignition voltage is between 9-16 volts
- The vehicle is in REVERSE

Conditions for Setting the DTC

B1E3A 03

The object alarm module has detected the 8-volt reference circuit is less than 7.2 volts.

B1E3A 07

The object alarm module has detected the 8-volt reference circuit is greater than 9.2 volts.

Action Taken When the DTC Sets

cardiagn.com

- Parking assist is disabled.
- The object alarm module commands the red indicator ON.
- The object alarm module sends a serial data message to the instrument panel cluster (IPC) to display SERVICE PARK ASSIST message in the driver information center (DIC) and a chime will sound.

Conditions for Clearing

- The DTC will transition to history when the fault is no longer present.
- A history DTC will clear after 100 malfunction-free ignition cycles.

Reference Information

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

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, transmission in REVERSE, verify that the scan tool Sensor Voltage Feed Output parameter is 7.2-9.2 volts.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at each of the object sensors.
2. Ignition ON, verify DTC B1E3A is not set as current.

cardiagn.com

- If the DTC is set, test the 8-volt reference circuit terminal 1 for a short to voltage, short to ground, or an open/high resistance. If circuit tests normal, replace the object alarm module.

3. Install each sensor harness connector one at a time, checking DTCs after each sensor is connected. Verify DTC B1E3A is not set as current.
   - If the DTC is set, replace the object sensor that was connected immediately before the DTC set.

Repair Procedures

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

- **Rear Object Sensor Replacement**
- **Control Module References** for object alarm module replacement, setup, and programming.

SYMPTOMS - OBJECT DETECTION

IMPORTANT: Review the system operation in order to familiarize yourself with the system functions. Refer to Object Detection Description and Operation (UD7) or Object Detection Description and Operation (UVC) or Object Detection Description and Operation (UFT).

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the system. Refer to **Checking Aftermarket Accessories** .
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.
- Make sure the rear parking assist sensors located on the vehicle rear bumper are clear. Remove any snow, mud or ice that is blocking the sensors.

Intermittent

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

Symptom List

- **Parking Assist System Malfunction**
- **Parking Assist Indicator Malfunction**
- **Rear Vision Camera System Malfunction (without UVB)** or **Rear Vision Camera System Malfunction (with UVB)**
- **Side Object Sensor Malfunction**

PARKING ASSIST SYSTEM MALFUNCTION

Diagnostic Instructions

cardiagn.com

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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 parking assist system is designed to identify and notify the driver of an object in the vehicle's path when reversing at speeds of less than 8 km/h (5 mph). The distance and location of the object is determined by four object sensors located in the rear bumper. The parking assist system will notify the driver using the parking assist indicators and an audible signal through the radio.

Diagnostic Aids

The scan tool Park Assist Disable History parameters are a list of the seven previous reasons the park assist system was disabled. These parameters may help in the diagnosis of an intermittent concern or a customer concern which is the result of normal system operation. The following is a brief description of potential causes which may aid in diagnosis:

- Manual Disable - The park assist system has been disabled by the vehicle operator through the DIC.
- Park Brake - The vehicle parking brake is applied or a malfunction exists within the parking brake system.
- Hitch/Object Attached - The object alarm module is detecting an object that is attached to the vehicle. Common items such as a hitch receiver, trailer, or a bicycle rack may cause this concern. Additionally, damage to the rear of the vehicle or a misaligned sensor may cause this concern. If the vehicle is damaged in a manner that causes the sensor to detect the bumper itself, the object alarm module will interpret this as an attached object and disable the system. Carefully inspect the bumper, bumper mounting surface, and sensor retainers before continuing with normal diagnosis.
- Reverse Overspeed - The vehicle is traveling too fast in reverse at speeds of greater than 8 km/h (5 mph).
- Sensor Disturbance - An outside interference is causing sensor movement. Such interference may be caused a heavy pounding, like that of a nearby jackhammer, or large changes in pressure, such as a large truck's air brakes.
- Snow/Ice/Mud - One or more of the sensors is being blocked by snow, mud, ice, or other debris.
- Sensor Ring Time - Each of the sensors emits an ultrasonic frequency. This frequency is reflected off of nearby objects, bouncing it back towards the vehicle bumper where it is received by the sensor. The time between the sensor emitting the frequency and the sensor receiving the reflection, known as sensor ring time, is used to determine the distance of nearby objects. Excessive paint thickness on a sensor may cause an excessive sensor ring time. When replacing or refinishing a sensor, do not apply an excessive amount of paint or clear coat.

Reference Information

Schematic Reference

Object Detection Schematics

cardiagn.com

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

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. Ignition ON, verify the park assist system is enabled through the DIC.
   - If the park assist system is manually disabled, enable the system. Refer to the vehicle owners manual for instructions on enabling the system.
2. Observe the scan tool Park Assist Switch parameter while pressing and releasing the park assist disable switch. The parameter should change between Active and Inactive.
   - If the parameter does not cycle between the specified values, refer to Park Assist Disable Switch Circuit Malfunction below.
3. Observe the scan tool Park Assist Switch LED parameter while pressing and releasing the park assist disable switch. The parameter should change between On and Off.
   - If the parameter does not cycle between the specified values, refer to Park Assist Disable LED Circuit Malfunction below.
4. Command each of the park assist indicator LEDs ON and OFF with a scan tool. Each of the LEDs should turn ON and OFF as commanded.
   - If any of the LEDs do not turn ON and OFF, refer to **Parking Assist Indicator Malfunction**.
5. Ignition ON, vehicle in reverse, verify the scan tool Park Assist System Status parameter is Enable.
   - If not the specified value, refer to Diagnostic Aids under this test procedure and the scan tool Park Assist Disable History parameters to determine the cause of the inhibit.

Circuit/System Testing

Park Assist Disable Switch Circuit Malfunction

cardiagn.com

1. Ignition OFF, disconnect the harness connector I/P multifunction switch assembly.
2. Test for less than 10 ohms between the appropriate ground circuit terminal listed below and ground:
   - X88/Z88 - Terminal 3
   - Z75 - Terminal 5
   - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify the scan tool Park Assist Switch parameter is Inactive.
   - If not the specified value, test the signal circuit terminal 2 for a short to ground. If the circuit tests normal, replace the object alarm module.
4. Install a 3A fused jumper wire between the signal circuit terminal 2 and ground. Verify the scan tool Park Assist Switch parameter is Active.
   - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the object alarm module.
5. If all circuits test normal, test or replace the I/P multifunction switch assembly.

Park Assist Disable LED Circuit Malfunction

1. Ignition OFF, disconnect the harness connector I/P multifunction switch assembly.
2. Ignition ON, verify a test lamp illuminates between the appropriate ignition circuit terminal listed below and ground:
   - X88/Z88 - Terminal 6
   - Z75 - Terminal 4
   - If the test lamp does not illuminate, test the ignition circuit for a short to ground or an open/high resistance.
3. Ignition OFF, connect the harness connector at the I/P multifunction switch assembly. Disconnect the X1 harness connector at the object alarm module.
4. Ignition ON, verify the park assist disable LED is not illuminate.
   - If the LED is illuminated, test the control circuit for a short to ground. If the circuit tests normal, test or replace the I/P multifunction switch assembly.
5. Install a 10A fused jumper wire between the control circuit terminal 3 and ground. Verify the park assist disable LED is illuminated.
   - If the LED is not illuminated, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, test or replace the I/P multifunction switch assembly.
6. If all circuits test normal, replace the object alarm module.

Repair Procedures

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

- **Rear Object Alarm Module Switch Replacement (Tahoe/Yukon)** or **Rear Object Alarm Module Switch Replacement (Escalade)**
- **Control Module References** for object alarm module replacement, setup, and programming

cardiagn.com

PARKING ASSIST INDICATOR MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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 parking assist indicator is located in the interior rear of the vehicle as part of the information center telltale assembly. The indicator contains three LEDs: two amber and one red. The object alarm module controls these three LEDs as a visual indicator of how close the vehicle bumper is to an object. The object alarm module supplies voltage to each of the LEDs and commands each LED on by supplying an individual ground.

Reference Information

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

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, perform the scan tool LED Test. Each of the three LEDs should illuminate during the test cycle.

cardiagn.com

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the information center telltale assembly.
2. Ignition ON, test for B+ between the supply voltage circuit terminal A and ground.
    - If less than the specified range, test the supply voltage circuit terminal for a short to ground or an open/high resistance. If the circuit tests normal, replace the object alarm module.
    - If greater than the specified range, test the control circuit terminal for a short to voltage. If the circuit tests normal, replace the object alarm module.
3. Command the appropriate LED ON with a scan tool and test for B+ between the appropriate control circuit listed below and ground:
    - Amber 1 LED - terminal B
    - Amber 2 LED - terminal C
    - Red LED - terminal D
    - If less than the specified range, test the control circuit terminal for a short to ground or an open/high resistance. If the circuit tests normal, replace the object alarm module.
    - If greater than the specified range, test the control circuit terminal for a short to voltage. If the circuit tests normal, replace the object alarm module.
4. If all circuits test normal, test or replace the information center telltale assembly.

Repair Procedures

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

- **Information Center Telltale Assembly Replacement (Tahoe/Suburban/Yukon/Yukon XL)** or **Information Center Telltale Assembly Replacement (Avalanche/Escalade EXT)**
- **Control Module References** for the object alarm module replacement, setup, and programming

REAR VISION CAMERA SYSTEM MALFUNCTION (WITHOUT UVB)

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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 transmission is placed into REVERSE, a 12 V signal is sent to the inside rearview mirror and rearview camera indicating that camera operation is requested. Ignition voltage and ground are supplied to the rearview camera; the inside rearview mirror is supplied a common ignition voltage and ground source that is shared with other mirror operations. The rearview camera sends video information to the inside rearview mirror through a video signal + and a video signal - circuit. A grounded shielding also wraps the video signal circuits to reduce electronic interference which may degrade the video signal and cause a distorted or otherwise

cardiagn.com

degraded image.

Diagnostic Aids

A poor video image can be caused by ice, snow, and mud buildup on the lens of the rearview camera. Also, extreme lighting conditions can affect performance, such as operating in the dark or with bright sunlight shining on the camera. Extreme high or low temperatures can also affect the image quality.

Reference Information

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

Electrical Information Reference

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

Circuit/System Verification

1. Inspect the rearview camera and verify there are no debris on the lens and that the bezel or bezel seal is not damaged.
    - If debris are found on the lens, clean the lens. If the lens, bezel, or bezel seal are damaged, replace as necessary.
2. Ignition ON, vehicle in PARK, verify the backup lamps are off.
    - If the backup lamps are illuminated, refer to Rearview Camera System Always On below.
3. Vehicle in REVERSE, verify a clear rear vision image is displayed on the inside rearview mirror.
    - If a clear image is not displayed, refer to Rearview Camera System Does Not Display below.

Circuit/System Testing

Rearview Camera System Always On

cardiagn.com

1. Ignition OFF, disconnect the harness connector at the rearview camera.
2. Ignition ON, transmission in PARK, verify a test lamp does not illuminate between the control circuit terminal 3 and ground.
    - If the test lamp illuminates, test the control circuit for a short to voltage. If the circuit tests normal, refer to **Backup Lamps Malfunction** .
3. If all circuits test normal, test or replace the rearview camera.

Rearview Camera System Does Not Display

1. Ignition OFF, disconnect the harness connector at the rearview camera.
2. Test for less than 10 ohms between the ground circuit terminal 5 and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify a test lamp illuminates between the ignition circuit terminal 6 and ground.
    - If the test lamp does not illuminate, test the ignition circuit for a short to ground or an open/high resistance.
4. Park brake applied, transmission in REVERSE, test for B+ between the B+ circuit terminal 3 and ground.
    - If less than the specified value, test the B+ circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
5. Ignition OFF, disconnect the harness connector at the inside rearview mirror.
6. Ignition ON, test for less than 1 V between the following signal circuit terminals at the rearview camera harness connector and ground:
    - Signal (+) circuit terminal 1
    - Signal (-) circuit terminal 4
    - If greater than the specified range, test the signal circuit for a short to voltage.
7. Test for infinite resistance between the following circuit terminals at the rearview camera harness connector and ground:
    - Signal (+) circuit terminal 1
    - Signal (-) circuit terminal 4
    - If not the specified value, test the circuit for a short to ground.
8. Test for less than 2 ohms between the signal (+) circuit terminal 1 at the rearview camera harness connector and the signal (+) circuit terminal 6 at the inside rearview mirror harness connector.
    - If greater than the specified range, test the signal circuit for an open/high resistance.
9. Test for less than 2 ohms between the signal (-) circuit terminal 4 at the rearview camera harness connector and the signal (-) circuit terminal 7 at the inside rearview mirror harness connector.
    - If greater than the specified range, test the signal circuit for an open/high resistance.
10. If all circuits test normal, test or replace the rearview camera.
11. Ignition ON, transmission in REVERSE, verify a clear rear vision image is displayed on the inside rearview mirror.
    - If a clear rear vision image is not displayed, replace the inside rearview mirror.

cardiagn.com

Repair Procedures

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

- **Rearview Camera Replacement (Endgate)** or **Rearview Camera Replacement (Liftgate)**
- **Control Module References** for inside rearview mirror replacement, setup, and programming

REAR VISION CAMERA SYSTEM MALFUNCTION (WITH UVB)

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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 transmission is placed into REVERSE, a 12 V signal is sent to the rearview camera indicating that camera operation is requested. Ignition voltage and ground are supplied to the rearview camera. The rearview camera sends video information to the radio through a video signal + and a video signal - circuit. A grounded shielding also wraps the video signal circuits to reduce electronic interference which may degrade the video signal and cause a distorted or otherwise degraded image.

Diagnostic Aids

A poor video image can be caused by ice, snow, and mud buildup on the lens of the rearview camera. Also, extreme lighting conditions can affect performance, such as operating in the dark or with bright sunlight shining on the camera. Extreme high or low temperatures can also affect the image quality.

Reference Information

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

Electrical Information Reference

cardiagn.com

- **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. Inspect the rearview camera and verify there are no debris on the lens and that the bezel or bezel seal is not damaged.
    - If debris are found on the lens, clean the lens. If the lens, bezel, or bezel seal are damaged, replace as necessary.
2. Ignition ON, vehicle in PARK, verify the backup lamps are off.
    - If the backup lamps are illuminated, refer to Rearview Camera System Always On below.
3. Vehicle in REVERSE, verify a clear rear vision image is displayed on the radio.
    - If a clear image is not displayed, refer to Rearview Camera System Does Not Display below.

Circuit/System Testing

Rearview Camera System Always On

1. Ignition OFF, disconnect the harness connector at the rearview camera.
2. Ignition ON, vehicle in PARK, verify a test lamp does not illuminate between the control circuit terminal 3 and ground.
    - If the test lamp illuminates, test the control circuit for a short to voltage. If the circuit tests normal, refer to **Backup Lamps Malfunction** .
3. If all circuits test normal, test or replace the rearview camera.

Rearview Camera System Does Not Display

1. Ignition OFF, disconnect the harness connector at the rearview camera.
2. Test for less than 10 ohms between the ground circuit terminal 5 and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify a test lamp illuminates between the ignition circuit terminal 6 and ground.
    - If the test lamp does not illuminate, test the ignition circuit for a short to ground or an open/high resistance.
4. Park brake applied, transmission in REVERSE, test for B+ between the B+ circuit terminal 3 and ground.
    - If less than the specified value, test the B+ circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.

cardiagn.com

5. Ignition OFF, disconnect the X4 harness connector at the radio.
6. Ignition ON, test for less than 1 V between the following signal circuit terminals at the rearview camera harness connector and ground:
    - Signal (+) circuit terminal 1
    - Signal (-) circuit terminal 4
    - If greater than the specified range, test the signal circuit for a short to voltage.
7. Test for infinite resistance between the following circuit terminals at the rearview camera harness connector and ground:
    - Signal (+) circuit terminal 1
    - Signal (-) circuit terminal 4
    - If not the specified value, test the circuit for a short to ground.
8. Test for less than 2 ohms between the signal (+) circuit terminal 1 at the rearview camera harness connector and the signal (+) circuit terminal 6 at the radio harness connector
    - If greater than the specified range, test the signal circuit for an open/high resistance.
9. Test for less than 2 ohms between the signal (-) circuit terminal 4 at the rearview camera harness connector and the signal (-) circuit terminal 7 at the radio harness connector.
    - If greater than the specified range, test the signal circuit for an open/high resistance.
10. If all circuits test normal, test or replace the rearview camera.
11. Ignition ON, transmission in REVERSE, verify a clear rear vision image is displayed on the radio.
    - If a clear rear vision image is not displayed, replace the radio.

Repair Procedures

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

- **Rearview Camera Replacement (Endgate)** or **Rearview Camera Replacement (Liftgate)**
- **Control Module References** for radio replacement, setup, and programming

SIDE OBJECT SENSOR MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle (with HP2)** or **Diagnostic System Check - Vehicle (without HP2)** 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 Side Blind Zone Alert (SBZA) system uses side object sensors located behind the fascia at each of the vehicle's rear corners. Visual indicators located in the right and left outside rearview mirrors alert the driver to the presence of objects of interest within the corresponding blind spots, or zones, on each side of the vehicle.

cardiagn.com

The system is controlled by the driver information center (DIC) which can also communicate its status.

Each sensor receives battery power, ground, as well as serial data communications. The left and right sensors are identical, however an additional ground circuit is required to configure the sensor for operation on the right side. Communication is via a serial data and each sensor shares the serial data circuit in parallel, allowing continuation of communication between the sensors. The scan tool is able to communicate with each sensor independently. The side object sensors control corresponding mirror icons by sending messages to the door modules which in turn switch power to the LED indicators.

Diagnostic Aids

- The side object sensors are capable of detecting when they are blocked by mud, snow, or ice build up on the fascia. When a sensor is blocked, the driver information center (DIC) will display SIDE BLIND ZONE SYSTEM UNAVAILABLE. The SBZA system transitions back to the normal operating state when the blockage is removed. Bumper sticks, labels, and heavy rain storms may also cause this condition.
- The SBZA system is designed to ignore stationary objects; however, the system may occasionally detect guard rails, signs, trees, shrubs, or other stationary objects as an object in the blind zone. This is normal system operation and does not require service.
- The SBZA system may indicate an object in the blind zone if a trailer is attached to the vehicle, or a bicycle or object is extending out to either side of the vehicle.
- The SBZA system is disabled if any of the following occurs:
  - The door modules determine that a malfunction exists in the side object indicator.
  - There is a loss of serial data communication or a SBZA system DTC is set.
  - The SBZA system is manually disabled by the driver through the DIC.
- Each side object sensor maintains a history buffer of the previous 16 SBZA events which can be accessed using the scan tool. These parameters may be used to help diagnose a system malfunction or an intermittent concern.
- Because the sensors are identical, they may be swapped from one side of the vehicle to the other in an attempt to isolate a concern. Sensors should NOT be swapped from one vehicle to another.

Reference Information

Schematic Reference

Object Detection Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Object Detection Description and Operation (UD7) or **Object Detection Description and Operation (UVC)** or **Object Detection Description and Operation (UFT)**

cardiagn.com

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. Ignition ON, verify the scan tool can communicate with right side object sensor.
   - If the scan tool can not communicate with the right side object sensor, refer to Right Side Object Sensor Malfunction below
2. Verify the scan tool can communicate with left side object sensor.
   - If the scan tool can not communicate with the left side object sensor, refer to Left Side Object Sensor Malfunction below
3. Ignition ON, verify that the side blind zone alert system indicators located in the outside rearview mirrors briefly turn ON and then turn OFF during the system self test.
   - If both indicators do not briefly illuminate during the system self test, the side blind zone alert system has been disabled. Refer to Diagnostic Aids under this test procedure.
   - If only one indicator does not briefly illuminate during the self test, refer to Side Object Indicator Malfunction below.

Circuit/System Testing

Right Side Object Sensor Malfunction

1. Ignition OFF, disconnect the harness connector at the right side object sensor.
2. Test for less than 5 ohms between the ground circuit terminals listed below and ground:
   - Terminal 5
   - Terminal 6
   - If greater than the specified range, test the appropriate ground circuit for an open/high resistance.
3. Ignition ON, verify that a test lamp illuminates between the B+ circuit terminal 2 and ground.
   - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
4. If all circuits test normal, replace the right side object sensor.

Left Side Object Sensor Malfunction

1. Ignition OFF, disconnect the harness connector at the left side object sensor.

cardiagn.com

2. Test for less than 5 ohms between the ground circuit terminal 5 and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify that a test lamp illuminates between the B+ circuit terminal 2 and ground.
    - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
4. Ignition OFF, disconnect the harness connector at the right side object sensor.
5. Ignition ON, test for less than 1 V between the serial data circuit terminal 4 and ground.
    - If greater than the specified range, test the serial data circuit for a short to ground.
6. Test for infinite resistance between the serial data circuit terminal 4 and ground.
    - If not the specified value, test the serial data circuit for a short to ground.
7. Test for less than 2 ohms between the serial data circuit terminal 4 at the left side object sensor harness connector and the serial data circuit terminal 4 at the right side object sensor harness connector.
    - If greater than the specified range, test the serial data circuit for an open/high resistance.
8. If all circuits test normal, replace the left side object sensor.

Side Object Indicator Malfunction

1. Ignition OFF, disconnect the X2 harness connector at the outside rearview mirror.
2. Connect a test lamp between the control circuit terminal 4 and the low reference circuit terminal 1.
3. Ignition ON, verify the test lamp briefly illuminates during the system self test.
    - If the test lamp does not illuminate or remains illuminated at all time, test the control circuit and the low reference circuit for a short to voltage, short to ground, or an open/high resistance. If the circuits test normal, replace the appropriate door module.
4. If all circuits test normal, test or replace the appropriate outside rearview mirror.

Repair Procedures

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

- **Power Mirror Replacement**
- **Control Module References** for the driver door module, front passenger door module, side object sensor replacement, setup, and programming

REPAIR INSTRUCTIONS

REAR OBJECT ALARM MODULE SWITCH REPLACEMENT (TAHOE/YUKON)

cardiagn.com

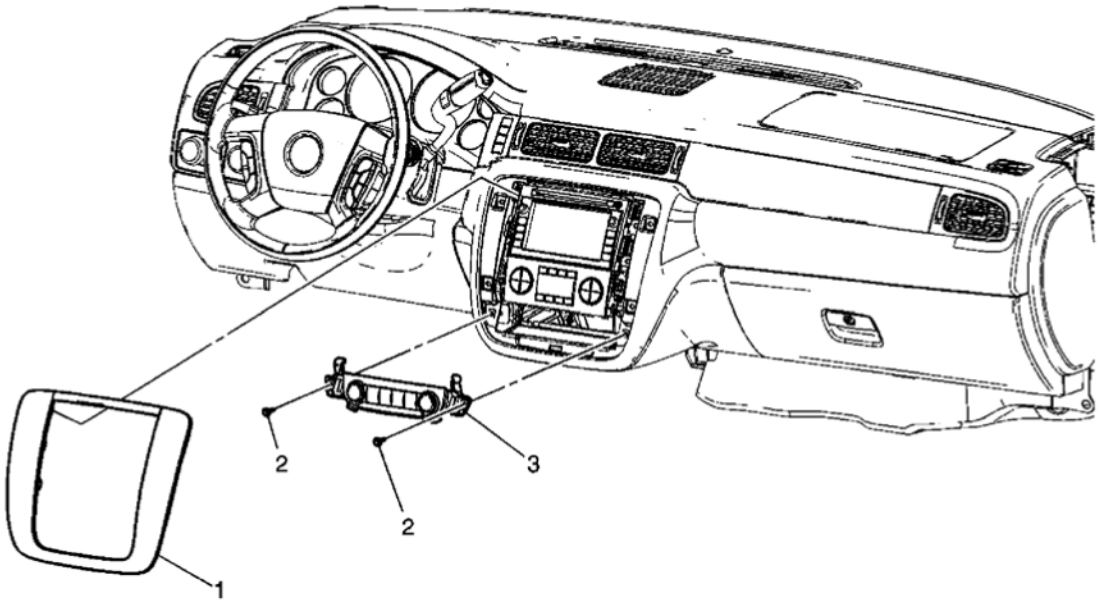

Fig. 7: View Of Instrument Panel Accessory Switch Assembly & Components (Tahoe/Yukon)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Instrument Panel Accessory Trim Plate Refer to **Instrument Panel Accessory Trim Plate Replacement (Cadillac)** or **Instrument Panel Accessory Trim Plate Replacement (Except Cadillac)** .
2	Instrument Panel Accessory Switch Screws (Qty: 2) **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 2 N.m (18 lb in)
3	Instrument Panel Accessory Switch Assembly **Tip:** Disconnect the electrical connector.

REAR OBJECT ALARM MODULE SWITCH REPLACEMENT (ESCALADE)

cardiagn.com

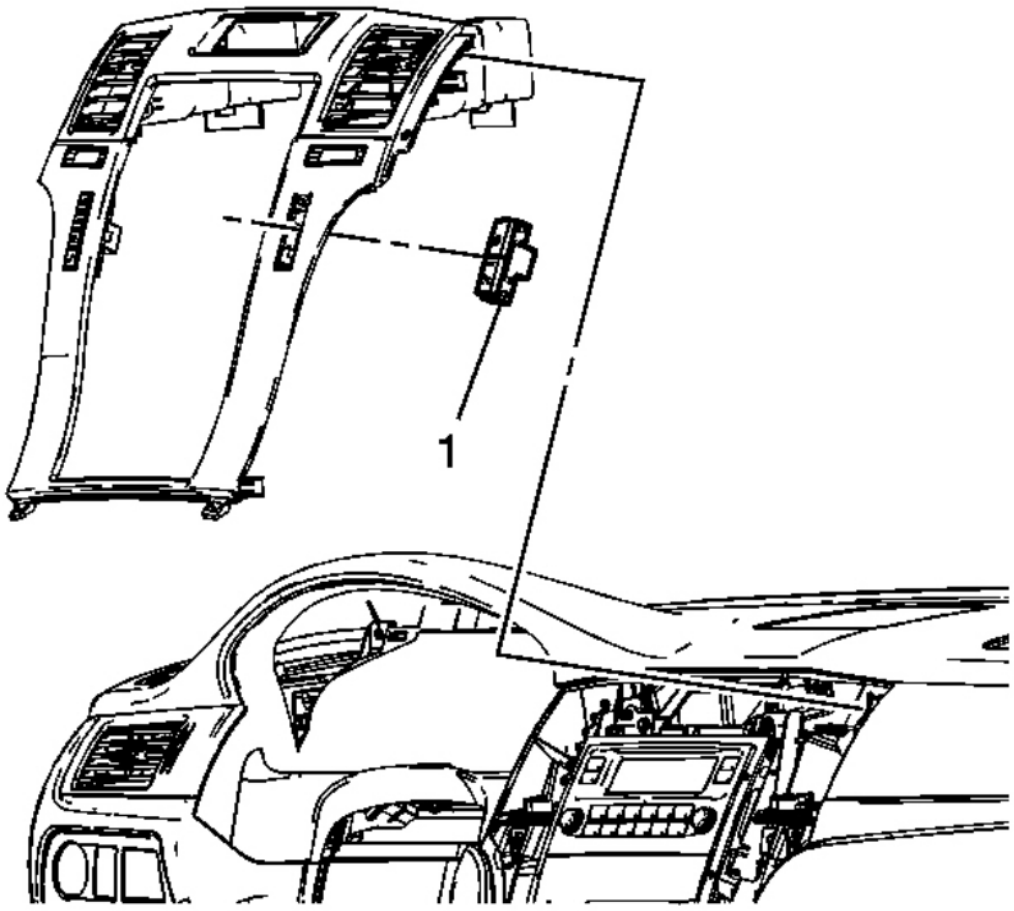

Fig. 8: View Of Rear Object Alarm Module Switch Assembly (Escalade)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Remove the instrument panel accessory trim panel. Refer to **Instrument Panel Accessory Trim Plate Replacement (Cadillac)** or **Instrument Panel Accessory Trim Plate Replacement (Except Cadillac)** .	
1	Rear Object Alarm Module Switch Assembly **Tip:** 1. Disconnect the electrical connector. 2. Use a small flat-bladed tool to release the locking tabs on the switch.

REAR OBJECT ALARM MODULE REPLACEMENT

cardiagn.com

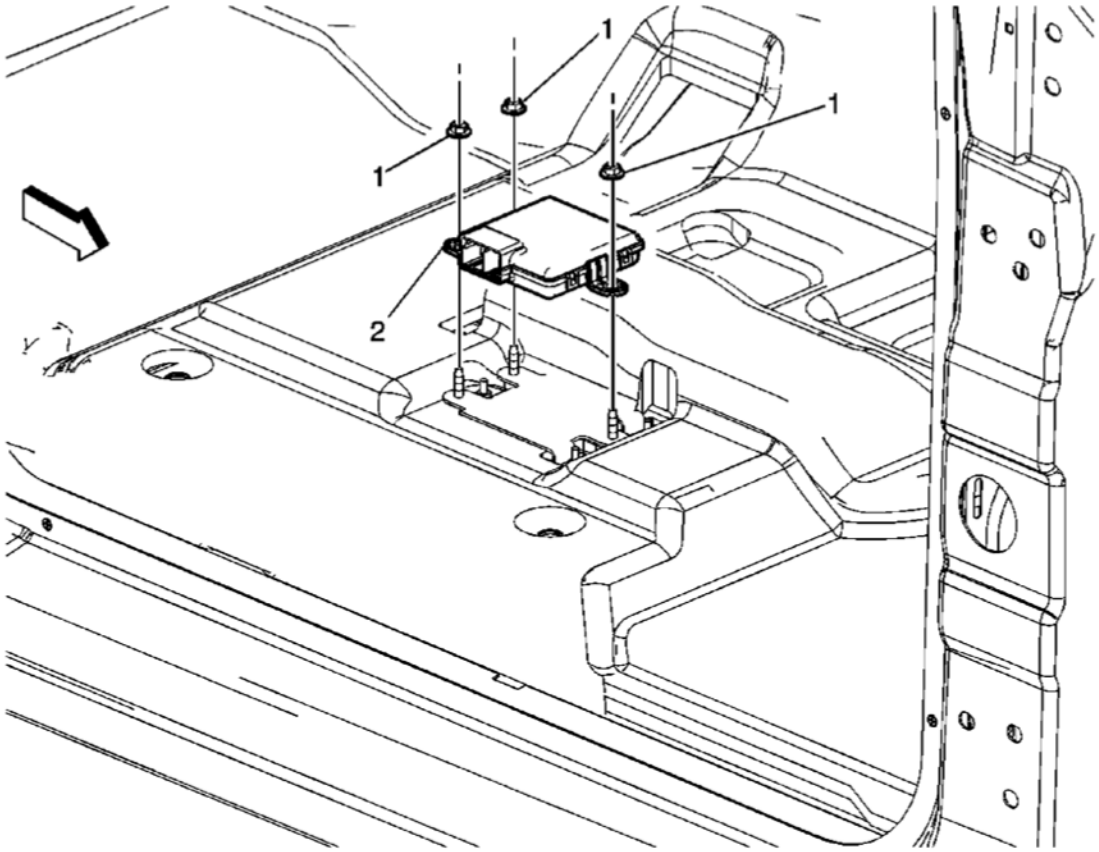

Fig. 9: Rear Object Alarm Module & Nuts
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Remove the front passenger bucket seat. Refer to **Front Seat Replacement - Bucket (Tahoe with HP2)** or **Front Seat Replacement - Bucket (without HP2)** .	
1	Rear Object Alarm Module Nut (Qty: 3) **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 2 N.m (18 lb in)
2	Rear Object Alarm Module **Procedure** 1. Position carpet in order to access module. 2. Disconnect electrical connector.

cardiagn.com

	3. Reprogram the rear object alarm module after replacement. Refer to **Control Module References**

INFORMATION CENTER TELLTALE ASSEMBLY REPLACEMENT (TAHOE/SUBURBAN/YUKON/YUKON XL)

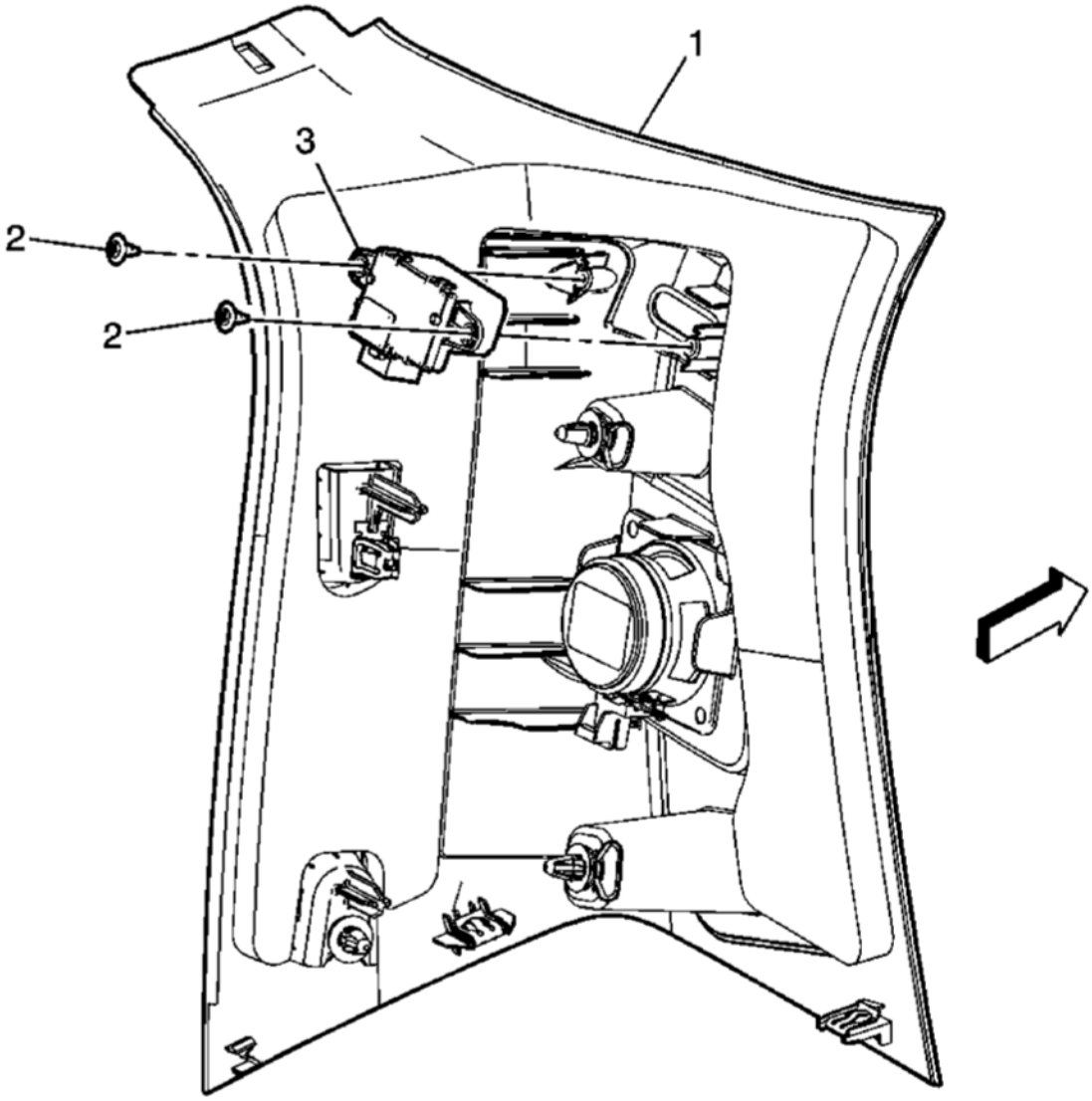

Fig. 10: View Of Information Center Telltale Assembly, Screws & Molding (Tahoe/Suburban/Yukon/Yukon XL)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Rear Corner Garnish Molding Assembly Refer to **Body Rear Corner Garnish Molding Replacement - Right Side** .

cardiagn.com

2	Information Center Telltale Screw (Qty: 2) **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 2 N.m (18 lb in)
3	Information Center Telltale Assembly **Tip:** Disconnect the electrical connector.

INFORMATION CENTER TELLTALE ASSEMBLY REPLACEMENT (AVALANCHE/ESCALADE EXT)

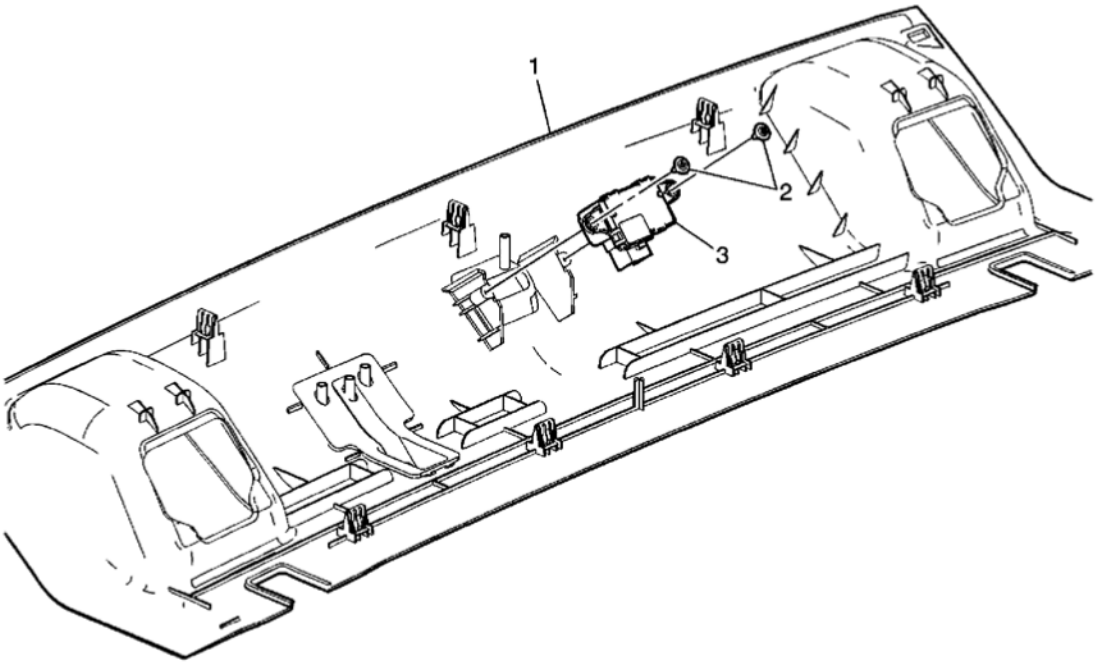

Fig. 11: View Of Information Center Telltale Assembly, Screws & Molding (Avalanche/Escalade EXT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Rear Upper Garnish Molding Assembly Refer to **Rear Upper Garnish Molding Replacement (Avalanche/Escalade EXT)** .
2	Information Center Telltale Screw (Qty: 2) **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 2 N.m (18 lb ft)

cardiagn.com

3	Information Center Telltale Assembly **Tip:** Disconnect electrical connector.

SIDE OBJECT SENSOR REPLACEMENT

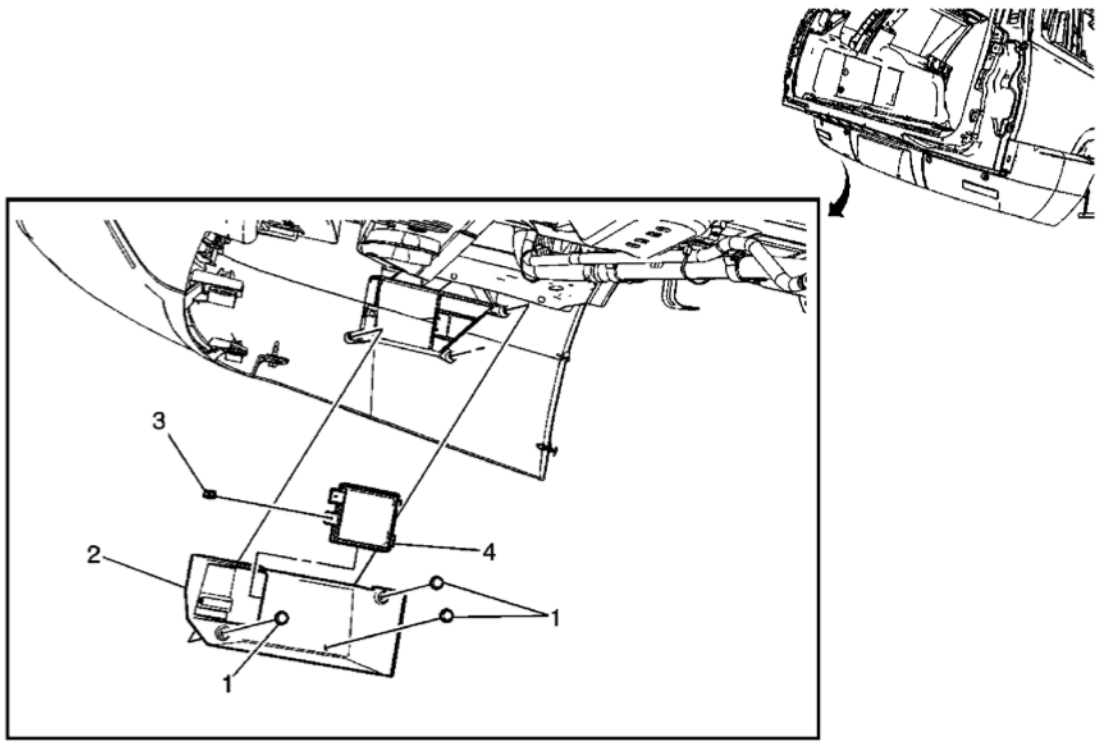

Fig. 12: Side Object Sensor Replacement
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Raise the vehicle. Refer to **Lifting and Jacking the Vehicle** .	
1	Side Object Sensor Push Pins (Qty:3) **Procedure** 1. Disconnect electrical connector. 2. Use a flat tool to pry out push pins.
2	Side Object Sensor Shield
3	Side Object Sensor Bolt **CAUTION:** **Refer to Fastener Caution .**

cardiagn.com

	Tighten: 9 N.m 80 lb in
4	Side Object Sensor **Procedure:** Unsnap side sensor out of the side sensor bracket.

REAR OBJECT SENSOR REPLACEMENT

Removal Procedure

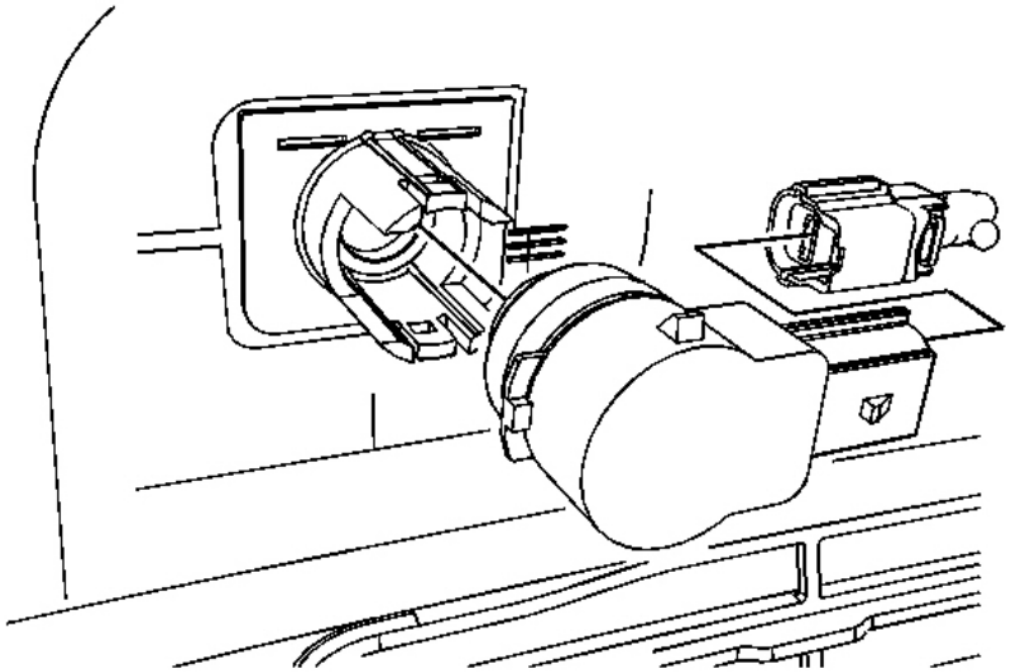

Fig. 13: View Of Rear Object Sensor
Courtesy of GENERAL MOTORS CORP.

1. Remove rear bumper fascia. Refer to **Rear Bumper Fascia Replacement (Avalanche, Cadillac EXT)** or **Rear Bumper Fascia Replacement (All Utility, Cadillac ESV)** .
2. Disconnect electrical from the rear object sensor.
3. Lift the locking tabs on the housing and remove the rear object sensor.

Installation Procedure

IMPORTANT: Do not refinish previously painted sensors. Excess paint build up will

cardiagn.com

cause the sensor to be inoperative.

1. Paint the rear object sensor. Refer to **Basecoat/Clearcoat Paint Systems** .
2. Ensure the paint does not exceed 6 mils. Use a paint thickness gauge suitable for non-ferrous metals. Refer to **Paint Gages** .

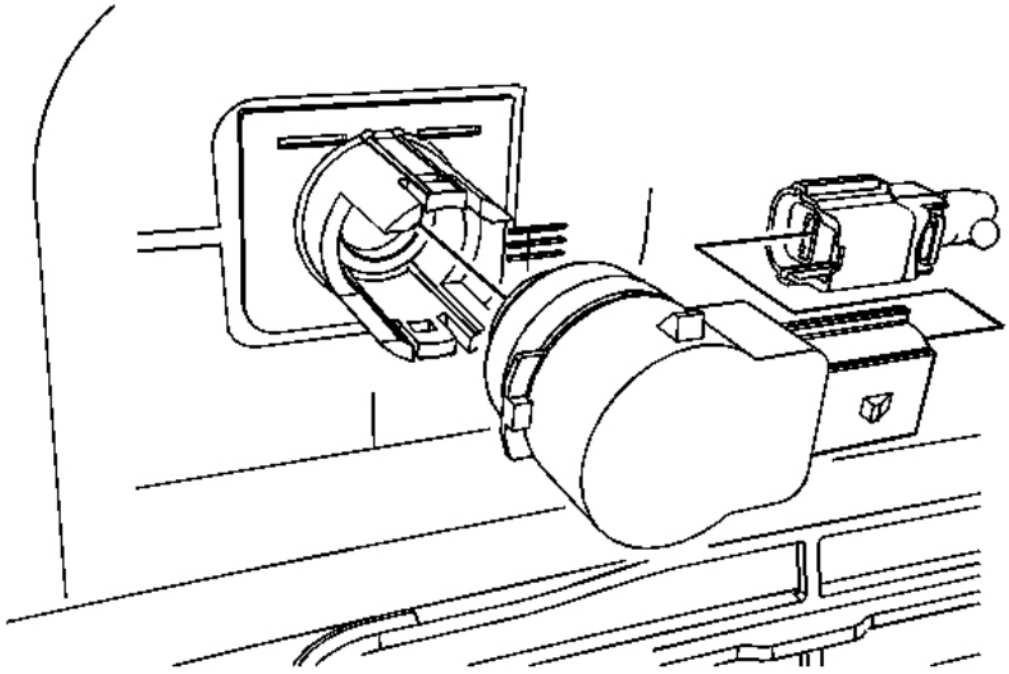

Fig. 14: View Of Rear Object Sensor
Courtesy of GENERAL MOTORS CORP.

3. Insert the sensor into the housing.
4. Connect the electrical connector to the rear object sensor.
5. Install the rear bumper fascia. Refer to **Rear Bumper Fascia Replacement (Avalanche, Cadillac EXT)** or **Rear Bumper Fascia Replacement (All Utility, Cadillac ESV)** .

REAR OBJECT SENSOR HOUSING REPLACEMENT

1. Remove the rear fascia. Refer to **Rear Bumper Fascia Replacement (Avalanche, Cadillac EXT)** or **Rear Bumper Fascia Replacement (All Utility, Cadillac ESV)** .

cardiagn.com

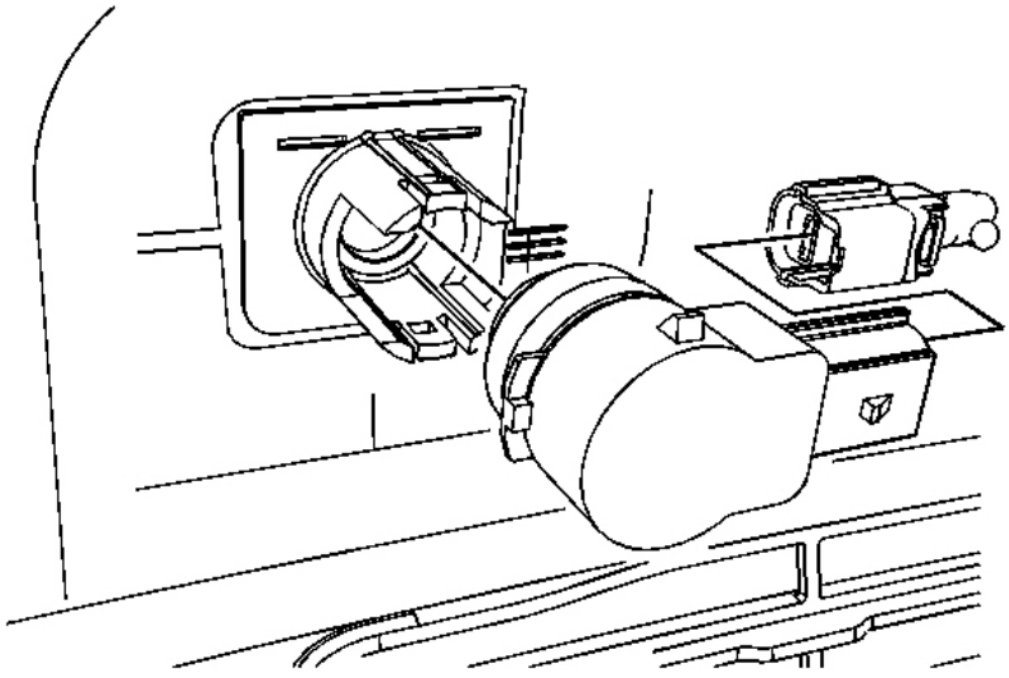

Fig. 15: View Of Rear Object Sensor
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the sensor harness.
3. Remove the sensor from the sensor housing.

The sensor housing must be painted if replaced. If reinstalled, painting will not be necessary.

cardiagn.com

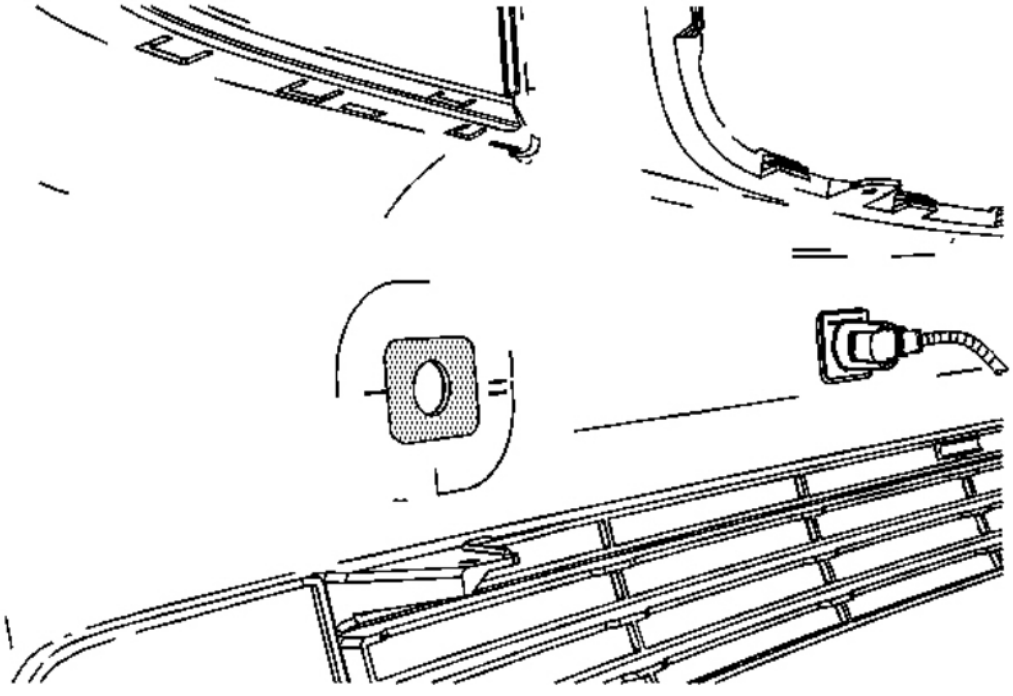

Fig. 16: Sanding/Grinding Sonic Weld Plastic Residue From Fascia
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Do Not grind off alignment tabs.

4. Sand/grind sonic weld plastic residue from the fascia.

cardiagn.com

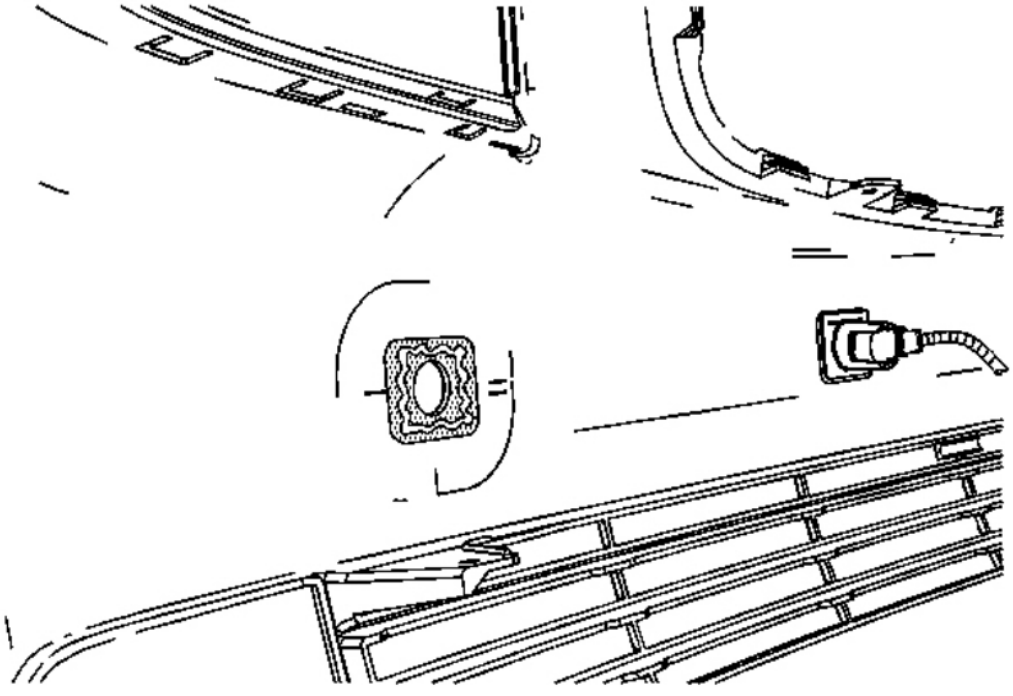

Fig. 17: Applying Structural Adhesive Epoxy To Fascia
Courtesy of GENERAL MOTORS CORP.

5. Apply structural adhesive epoxy, Lord Fusor™ 127EZ or equivalent, to fascia at mating surface.

cardiagn.com

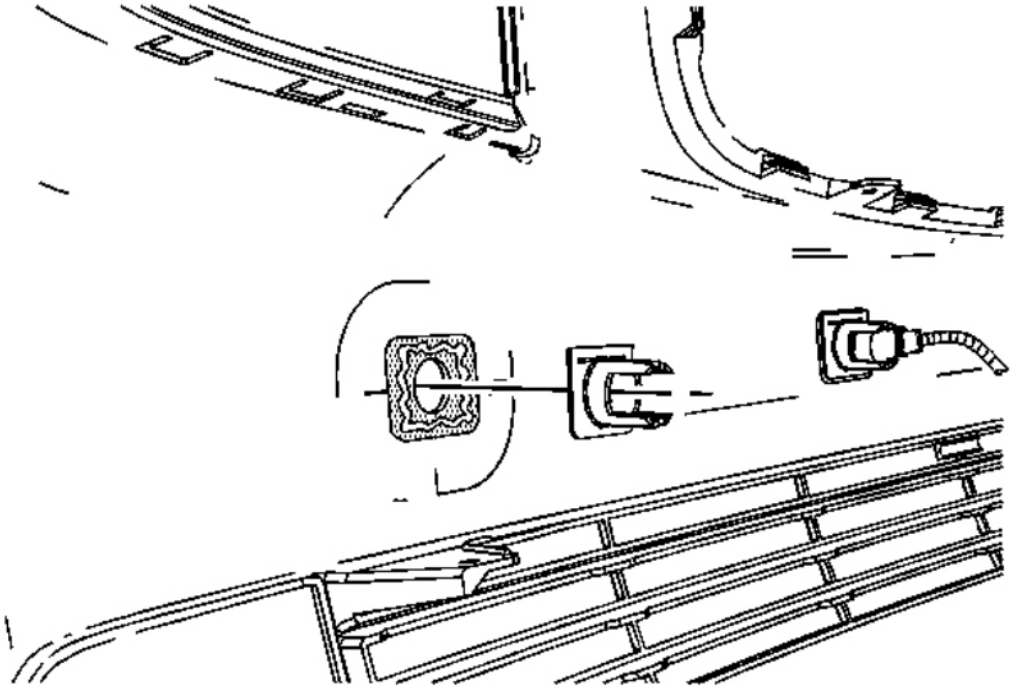

Fig. 18: Identifying Sensor Housing & Tabs
Courtesy of GENERAL MOTORS CORP.

6. Using the alignment tabs, install the sensor housing to the fascia.
7. Allow adhesive to cure according to manufacturer's directions.

cardiagn.com

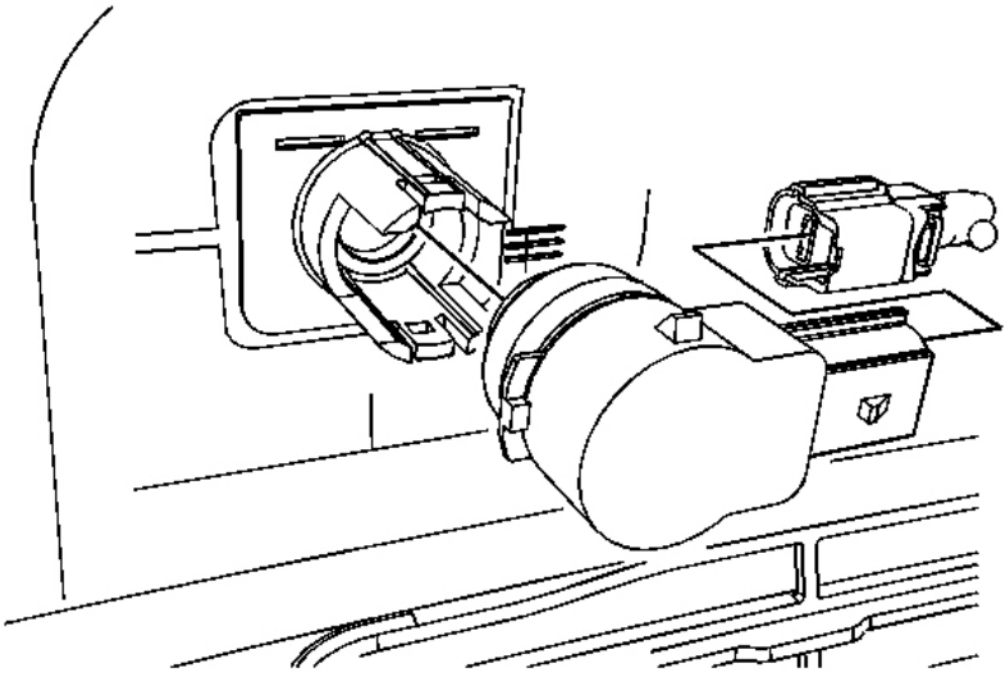

Fig. 19: View Of Rear Object Sensor
Courtesy of GENERAL MOTORS CORP.

8. Install the sensor to the sensor housing.
9. Connect the electrical harness.
10. Install the rear fascia. Refer to **Rear Bumper Fascia Replacement (Avalanche, Cadillac EXT)** or **Rear Bumper Fascia Replacement (All Utility, Cadillac ESV)** .

SIDE OBJECT SENSOR BRACKET REPLACEMENT

cardiagn.com

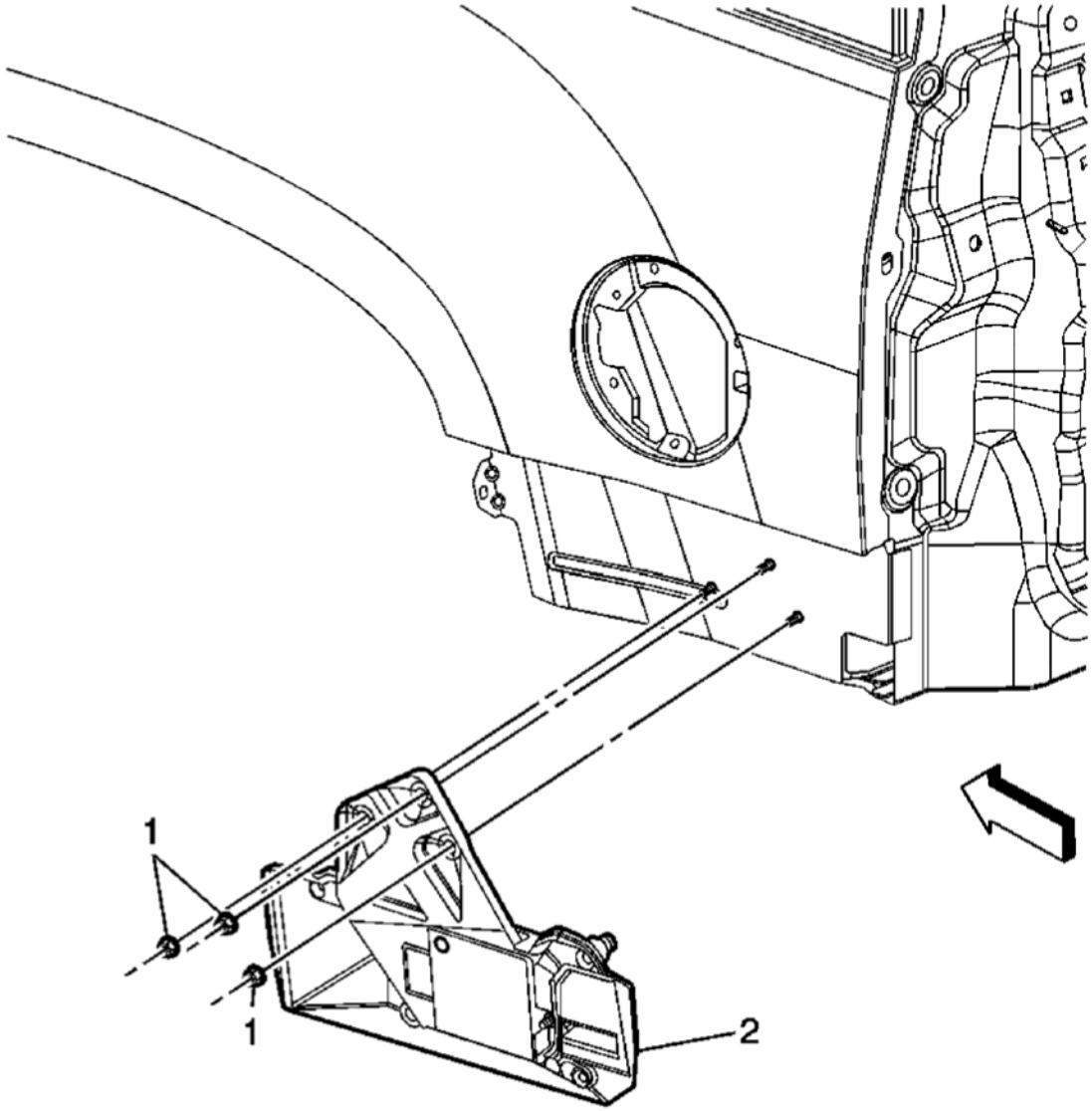

Fig. 20: Side Object Sensor Bracket
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure 1. Raise the Vehicle. Refer to **Lifting and Jacking the Vehicle** 2. Remove the bumper fascia. Refer to **Rear Bumper Fascia Replacement (Avalanche, Cadillac EXT)** or **Rear Bumper Fascia Replacement (All Utility, Cadillac ESV)** .	
1	Side Object Sensor Bracket Nuts (Qty: 3) **CAUTION:**

	Refer to Fastener Caution . **Tighten::** 6 N.m(53 lb in)
2	Side Object Sensor Bracket **Procedure:** Disconnect the electrical connectors.

REARVIEW CAMERA REPLACEMENT (ENDGATE)

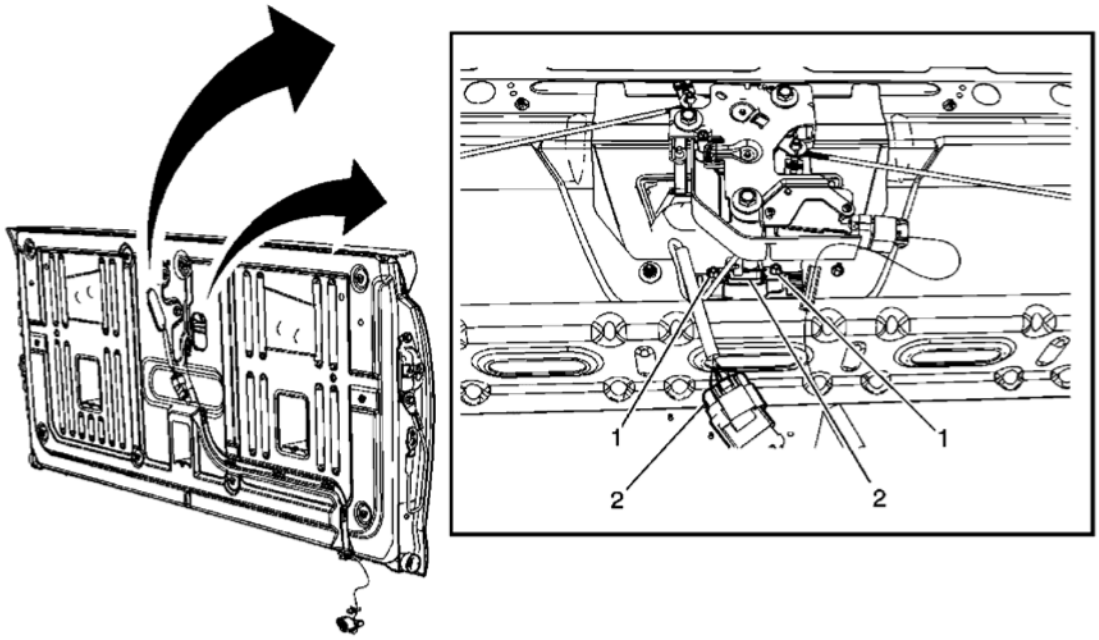

Fig. 21: View Of Rear Object Camera & Nuts
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Remove the endgate trim panel. Refer to **Endgate Trim Panel Replacement** .	
1	Rear Object Camera Nuts **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 2 N.m (18 lb in)
2	Rear Object Camera **Tip:** Disconnect the electrical connector.

REARVIEW CAMERA REPLACEMENT (LIFTGATE)

cardiagn.com

The rearview camera is not serviced separately from the rear liftgate applique. Refer to **Liftgate Center Applique Replacement (Escalade)** or **Liftgate Center Applique Replacement (Tahoe, Yukon)** or **Liftgate Center Applique Replacement (GMC Yukon Hybrid 2 Mode)** .

REARVIEW CAMERA IMAGE DISPLAY MODULE REPLACEMENT

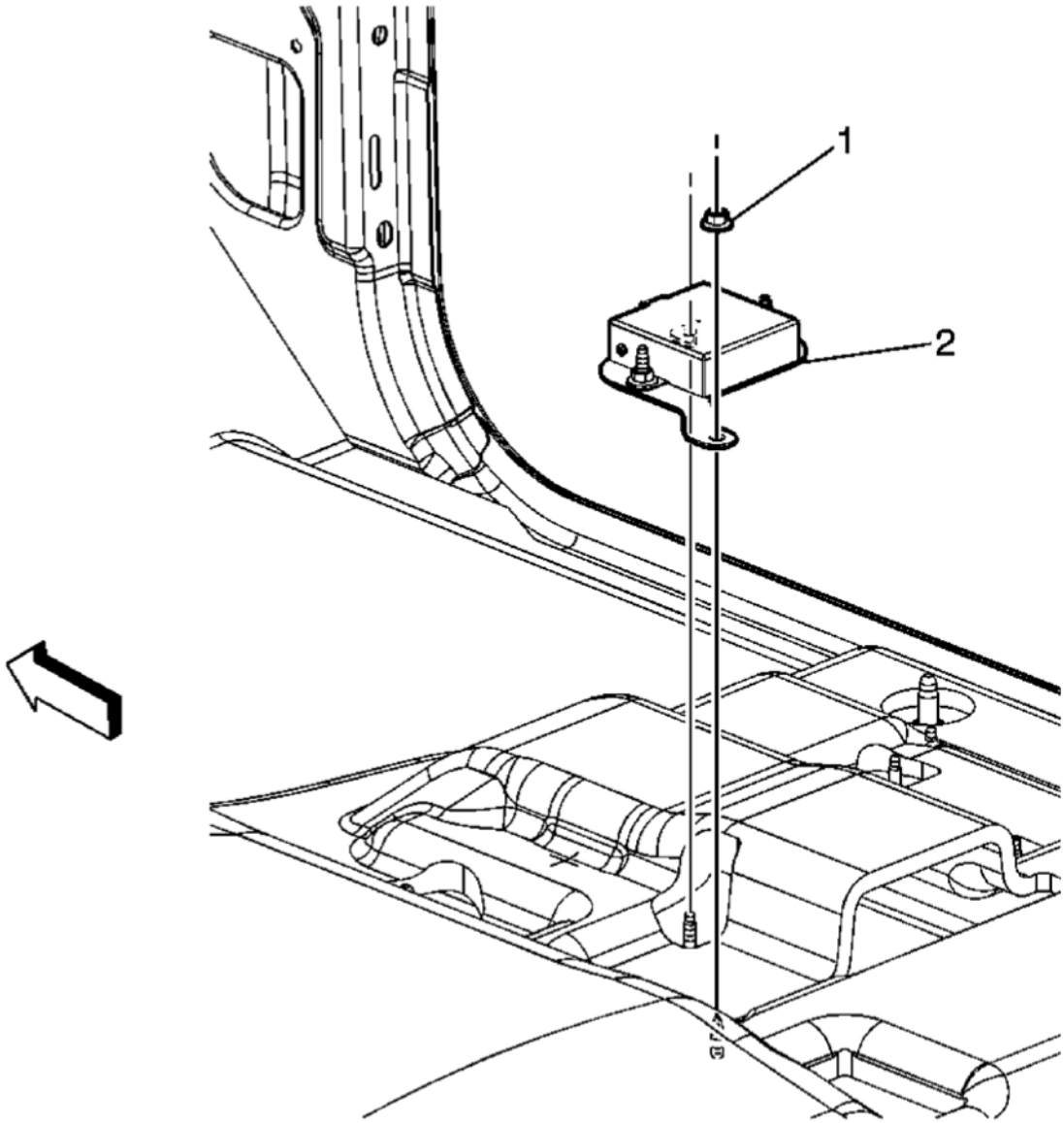

Fig. 22: View Of Rear View Camera Module & Nuts
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Remove the right front seat. Refer to **Front Seat Replacement - Bucket (Tahoe with HP2)** or **Front**	

cardiagn.com

Seat Replacement - Bucket (without HP2) .	
1	Rear View Camera Module Nut (Qty: 2) **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 2 N.m (18 lb in)
2	Rear View Camera Module **Tip:** Disconnect the electrical connector.

DESCRIPTION AND OPERATION

OBJECT DETECTION DESCRIPTION AND OPERATION (UD7)

The ultrasonic rear parking assist system is designed to identify and notify the driver of an object in the vehicle's path when reversing at speeds of less than 8 km/h (5 mph). The distance and location of the object is determined by 4 object sensors located in the rear bumper. The parking assist system will notify the driver using the parking assist indicators and an audible signal through the radio.

The rear parking assist system is made up of the following components:

- Object alarm module
- Rear parking assist sensors
- Parking assist indicator
- Parking assist disable switch

Object Alarm Module

The object alarm module provides an 8-volt reference and a low reference to the four rear parking assist sensors. The object alarm module receives individual signals from each of the four sensors and determines the location and distance of an object based on these inputs. When an object is detected, the object alarm module will illuminate the appropriate LED on the parking assist indicator and send a serial data message to the radio requesting an audible alert.

Rear Parking Assist Sensor

The parking assist sensors are located the in rear bumper of the vehicle. The sensors are used to determine the distance between an object and the rear bumpers. Each sensor emits an ultrasonic frequency which is reflected off object located behind the vehicle. These reflections are received by the sensors. The time difference between when the frequency was emitted and when the reflection is received, known as sensor ring time, is used to determine the distance to the object. The sensors report this information to the object alarm module.

Parking Assist Indicator

The parking assist indicator is located in the interior rear of the vehicle and is visible through the inside

cardiagn.com

rearview mirror. The indicator contains three LEDs: two amber and one red. The object alarm module controls these three LEDs as a visual indicator of how close the vehicle bumper is to an object. The object alarm module supplies voltage to each of the LEDs and commands each LED on by supplying an individual ground.

Parking Assist Disable Switch

The parking assist disable switch is used as a means to manually disable the system, if desired. Pressing the switch will ground the park assist disable switch signal circuit, indicating to the object alarm module that a system disable is requested. The object alarm module will respond by grounding the indicator control circuit, illuminating the indicator on the switch.

Rear Parking Assist Operation

When the vehicle is first placed into reverse, the rear parking assist system performs a bulb check. During the bulb check, the all three LED located in the parking assist indicator will illuminate for approximately 2 seconds to indicate that the system is working.

When backing up at speed of less than 8 km/h (5 mph), the system is constantly monitoring for object of interest located behind the vehicle. The rear parking assist system can detect objects greater than 7.6 cm (3 in) wide and 25.4 cm (10 in) tall. The system cannot detect objects below the bumper, underneath the vehicle,. If an object is detected, one of the following will occur:

- If the object is 1-2.5 m (40-96 in) away from the vehicle, the amber outside indicator will illuminate and a single chime will sound when the object is first detected.
- If the object is 0.6-1.0 m (23-40 in) away from the vehicle, the amber outside and the amber middle indicators will illuminate.
- If the object is 0.3-0.6 m (11-23 in) away from the vehicle, the amber outside, amber middle, and red outside indicators will illuminate.
- If the object is less than 0.3 m (12 in) away from the vehicle, the amber outside, amber middle, and red outside indicators will flash and the chime sounds continuously.

If the rear parking assist system detects a malfunction, a DTC will be stored and the object alarm module will send a serial data message to the instrument panel cluster (IPC) to display the SERVICE PARK ASSIST message on the driver information center (DIC). A chime will sound and the red LED on the parking assist indicator will be illuminated. as a notification to the driver that a malfunction exists and the system is disabled.

Rear Parking Assist System DIC Messages

SERVICE PARK ASSIST

The driver information center (DIC) displays SERVICE PARK ASSIST when the object alarm module detects a malfunction in the rear parking assist system and the system is disabled. The DIC also displays SERVICE PARK ASSIST when a loss of communication occurs with the object alarm module.

PARK ASSIST OFF

The PARK ASSIST OFF message is displayed in the DIC when the object alarm system is disabled due to

cardiagn.com

conditions that disable or inhibit the system. The red LED in the park assist indicator will be illuminates, as will the disable indicator on the park assist disable switch. The object alarm module requests the DIC display PARK ASSIST OFF when it detects that one of the following conditions:

- The rear parking assist system is manually disabled using the parking assist disable switch.
- The park brake is applied or not fully released.
- An object is attached to the rear of the vehicle, such as a trailer, bicycle rack, trailer hitch receiver, or tow bar. Also, an object extending beyond a lowered tailgate will disable the system.
- The parking assist sensors are covered by snow, mud, dirt, slush, or ice.
- The vehicle bumper is damaged.
- Excessive paint thickness on a replacement parking assist sensor.
- The parking assist sensors are disrupted by vibrations, like those caused by a large nearby vehicle or from heavy equipment such as a jackhammer.

OBJECT DETECTION DESCRIPTION AND OPERATION (UVC)

Rear Vision Camera System Operation (without UVB)

The components used in the rear vision camera system are the camera, located at the rear of the vehicle, and the inside rearview mirror, which houses the LCD display.

When the vehicle is placed in REVERSE, the body control module (BCM) sends a 12 volt signal to the inside rearview mirror and the rearview camera. This signal indicates that rear vision camera operation is required. Upon receipt of this signal, the mirror will begin the power up cycle for the LCD display and the camera will also power up. The rear vision camera transmits the video signal to the inside rearview mirror through discrete + and - signal circuits. A metallic foil encases the video signal circuits and is tied to a shield ground circuit. This shield is designed to reduce electronic interference which may degrade the video signal and cause a distorted or otherwise degraded image.

If desired, the rear vision camera may be manually disabled. Refer to the navigation system owners manual for instructions on manually disabling and enabling the rear vision camera system. The following conditions may cause a degraded rear vision camera image:

- Ice, snow, or mud has built up on the rear vision camera
- Dark conditions
- Extreme light conditions, such as glare from the sun or the headlights of another vehicle
- Damage to the rear of the vehicle
- Extreme high or low temperatures or extreme temperature changes

Rear Vision Camera System Operation (with UVB)

The components used in the rear vision camera system are the camera, located at the rear of the vehicle, and the navigation radio.

When the vehicle is placed in REVERSE, the body control module (BCM) sends a 12 volt signal to the

cardiagn.com

rearview camera. This signal indicates that rear vision camera operation is required. Upon receipt of this signal, the camera will begin the power up cycle. A serial data message is also received by the navigation radio indicating the vehicle is in REVERSE. Upon receipt of this message, the navigation radio will also begin a power up cycle for the display. The rear vision camera transmits the video signal to the navigation radio through discrete + and - signal circuits. A metallic foil encases the video signal circuits and is tied to a shield ground circuit. This shield is designed to reduce electronic interference which may degrade the video signal and cause a distorted or otherwise degraded image.

If desired, the rear vision camera may be manually disabled through the navigation system menu. Refer to the navigation system owners manual for instructions on manually disabling and enabling the rear vision camera system. The following conditions may cause a degraded rear vision camera image:

- Ice, snow, or mud has built up on the rear vision camera
- Dark conditions
- Extreme light conditions, such as glare from the sun or the headlights of another vehicle
- Damage to the rear of the vehicle
- Extreme high or low temperatures or extreme temperature changes

If a malfunction is detected in the system, Service Rear Vision Camera may be displayed on the navigation radio as an indicator to the customer that a problem exists that requires service.

OBJECT DETECTION DESCRIPTION AND OPERATION (UFT)

The side blind zone alert (SBZA) system is designed to detect vehicles or other objects that may be located in the vehicles blind spots. This detection is performed by two side object sensors, located behind the rear fascia on each side of the vehicle. When an object is detected in a blind spot, an indicator in the outside rearview mirror will illuminate, notifying the driver that it is unsafe to change lanes.

The SBZA system is made up of the following components:

- Left side object sensor
- Right side object sensor
- Driver door module
- Passenger door module
- Driver outside rearview mirror
- Passenger outside rearview mirror

Side Object Sensors

The side object sensors are each located behind the rear fascia, positioned so that the sensor is pointing out toward the opposite lane. Each sensor is supplied B+ and ground. The right sensor receives an additional ground. Both sensors communicate independently on the serial data line. The serial data enters the right sensor in a pass-thru configuration, the connects to the left sensor. The scan tool is able to individually communicate with each sensor.

cardiagn.com

When a vehicle or object is detected by a side object sensor, a serial data message is sent to the appropriate door module to illuminate the indicator located in the outside rearview mirror.

Door Modules

The driver and passenger receive serial data messages from the side object sensors. When a message is received indicating that a vehicle or object is in the blind spot, the appropriate door module will apply voltage to the indicator located in the outside rearview mirror, illuminating the indicator. The door module provides a continuous low reference circuit for the indicator.

Outside Rearview Mirror

The outside rearview mirrors each contain an indicator that is controlled by the appropriate door module. This indicator is illuminated when a vehicle or object is position in the vehicle's blind spot.

Side Blind Zone Alert Operation

When the vehicle is started, the indicators located in the outside rearview mirror will briefly illuminate to indicate that the system is operating. The side object sensors cover a zone of approximately one lane over from both sides of the vehicle, 11 ft. or 3.5 m. This zone starts at each side mirror and goes back approximately 16 ft. (5.0 m). The height of the zone is approximately between 1.5 ft. (0.5 m) and 6 ft. (2.0 m) off the ground. When a vehicle or object is detected in this area, the appropriate indicator will be illuminated, indicating to the driver that it is unsafe to change lanes. If a turn signal is activated while the indicator is illuminated, the indicator will flash as a more urgent warning that a lane change may be unsafe.

Foul weather may affect the operation of the SBZA system. Occasional missed alerts can occur under normal circumstances and will increase in wet conditions. The number of missed alerts will increase with increased rainfall or road spray. Heavy rainfall, as well as mud, dirt, snow, ice, or slush build-up on the rear fascia, will completely disable the system.

If the vehicle is towing a trailer or has an object, such as a bicycle rack, attached to the rear of the vehicle, the SBZA system may not function properly and the indicators will remain illuminated at all time.

Side Blind Zone Alert DIC Messages

SIDE BLIND ZONE ALERT SYSTEM OFF

This message indicates that the system has been disabled through the DIC. Refer to the vehicle owners manual for instructions on how to set personalization options on the DIC.

SIDE BLIND ZONE SYSTEM UNAVAILABLE

This message indicates that the system has been disabled because the sensor is blocked or can otherwise not accurately detect vehicles or objects. Such instances may be mud, dirt, snow, ice, or slush build-up on the rear fascia, heavy rainfall, or excessive road spray.

SERVICE SIDE BLIND ZONE ALERT SYSTEM

cardiagn.com

This message indicates that the system requires service. When the message is displayed, the indicators will remain illuminated at all times, notifying the driver that the SBZA system should not be relied upon when changing lanes.

cardiagn.com