

2014 ACCESSORIES & EQUIPMENT

Bolted Exterior Body Panels and Closures - LaCrosse

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Front Fender Bolt	10 N.m	89 lb in
Front Side Door Check Link to Body Side Screw	22Y	16 lb ft
Front Side Door Check Link to Door Side Nuts	10Y	89 lb in
Front Side Door Hinge to Body Side Upper/Lower Bolts	32Y	24 lb ft
Front Side Door Hinge to Door Side Upper/Lower Bolts	25Y	18 lb ft
Hood Hinge Bolts	25 N.m	18 lb ft
Hood Hinge Nuts	25 N.m	18 lb ft
Hood Primary and Secondary Latch Bolts	25 N.m	18 lb ft
Rear Compartment Lid Bolts	25 N.m	18 lb ft
Rear Compartment Lid Hinge Fastener	22 N.m	16 lb ft
Rear Side Door Check Link to Body Side Screw	22Y	16 lb ft
Rear Side Door Check Link to Door Side Nuts	10Y	89 lb in
Rear Side Door Hinge to Body Side Upper/Lower Bolts	32Y	24 lb ft
Rear Side Door Hinge to Door Upper/Lower Bolts	25Y	18 lb ft

SCHEMATIC WIRING DIAGRAMS

HOOD LATCH WIRING SCHEMATICS

Hood Ajar Switch

- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC P257D

Engine Hood Switch Performance

DTC P257E

Engine Hood Switch Circuit Low Voltage

DTC P257F

Engine Hood Switch Circuit High Voltage

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal - Terminal B	B3006 02	B3006 04	B3006 01	-
Signal - Terminal A	P257E	P257F	P257F	P257D
Ground	-	B3006 04, P257F	-	-

Circuit/System Description

The Starter/Generator Control Module applies B+ to the hood ajar signal 2 circuit and monitors the voltage to determine the position of the hood. The hood ajar switch contains a multiplexed resistor. This resistor will vary the voltage seen by the Starter/Generator Control Module by pulling down the applied voltage based on the position of the switch.

Conditions for Running the DTC

Propulsion system is active.

Conditions for Setting the DTC

Conditions for Setting the DTC

A supervised periodic message that includes the transmitter device availability has not been received.

Action Taken When the DTC Sets

Specific subsystems will not function.

Conditions for Clearing the DTC

- A current DTC clears when the malfunction is no longer present.
- A history DTC clears when the device ignition cycle counter reaches the reset threshold of 50, without a repeat of the malfunction.

Diagnostic Aids

- Sometimes, while diagnosing a specific customer concern or after a repair, you may notice a history U-code present. However, there is no associated "current" or "active" status. Loss-of-communication U-codes such as these can set for a variety of reasons. Many times, they are transparent to the vehicle operator and technician, and/or have no associated symptoms. Eventually, they will erase themselves automatically after a number of fault-free ignition cycles. This condition would most likely be attributed to one of these scenarios:
 - A device on the data communication circuit was disconnected while the communication circuit is awake.
 - Power to one or more devices was interrupted during diagnosis.
 - A low battery condition was present, so some devices stop communicating when battery voltage drops below a certain threshold.
 - Battery power was restored to the vehicle and devices on the communication circuit did not all re-initialize at the same time.
 - If a loss-of-communication U-code appears in history for no apparent reason, it is most likely associated with one of the scenarios above. These are all temporary conditions and should never be interpreted as an intermittent fault, causing you to replace a part.
- A device may have a U-code stored in history that does not require any repairs. Issues with late or corrupted messages between devices can be temporary with no apparent symptom or complaint; this does not mean the device is faulty. Do not replace a device based only on a history U-code.

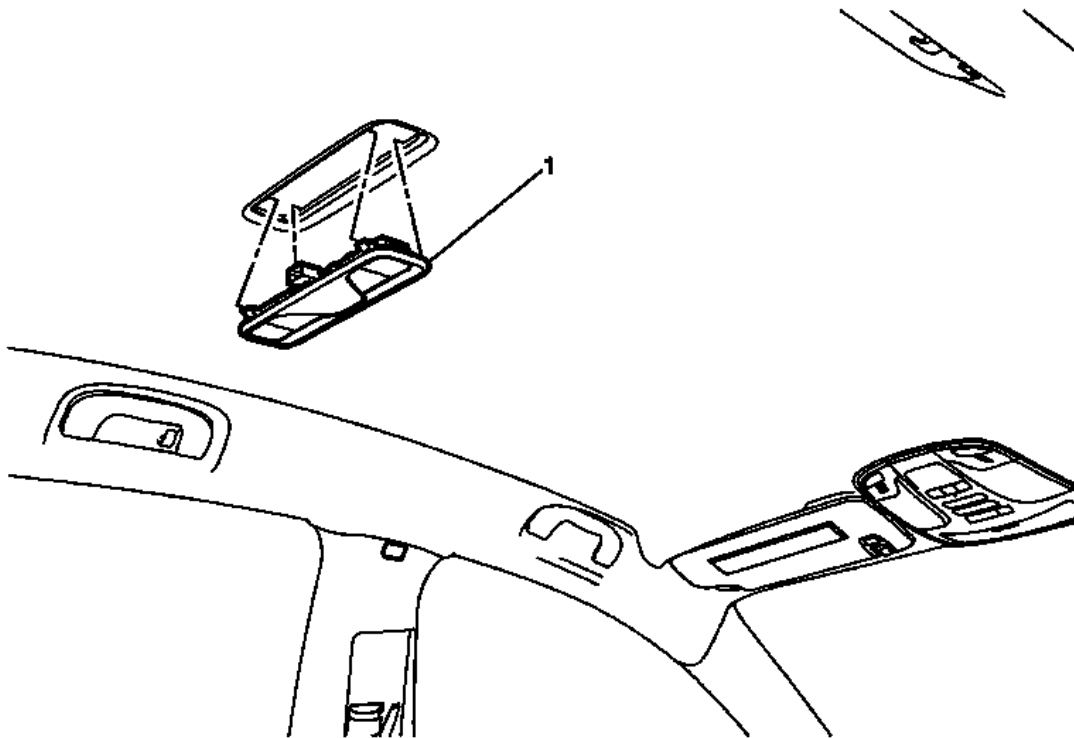


Fig. 4: Dome and Reading Lamp
Courtesy of GENERAL MOTORS COMPANY

Dome and Reading Lamp Replacement

Callout	Component Name
1	Dome and Reading Lamp Procedures 1. Use a plastic flat bladed tool to remove the dome and reading lamp assembly. 2. Disconnect the electrical connector.

FRONT FLOOR COURTESY LAMP REPLACEMENT

8. Verify the appropriate scan tool Deployment Loop Resistance parameter is less than 2 ohms.
 - **If 2 ohms or greater**
 1. Ignition OFF, disconnect the X2 harness connector at the K36 Inflatable Restraint Sensing and Diagnostic Module.
 2. Test for less than 2 ohms in each control circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K36 Inflatable Restraint Sensing and Diagnostic Module.
 - **If less than 2 ohms**
9. Ignition OFF, connect the harness connector at the F106 Seat Side Air Bag, press in the CPA (if equipped) until an audible and/or tactile click is heard.
10. Ignition ON, clear DTCs. Operate the vehicle within the Conditions for Running the DTC.
11. Verify DTC B0014, B0021, B0031, or B0038 is not set.
 - **If DTC B0014, B0021, B0031, or B0038 is set**

Test or replace the F106 Seat Side Air Bag.
 - **If DTC B0014, B0021, B0031, or B0038 is not set**
12. All OK.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the repair.

- **Front Seat Outboard Seat Back Airbag Replacement**
- **Rear Seat Outboard Seat Back Airbag Replacement**
- **Control Module References** for inflatable restraint sensing and diagnostic module replacement, programming, and setup

DTC B0015, B001A, B001B, OR B0022: SEAT BELT PRETENSIONER DEPLOYMENT LOOP**Diagnostic Instructions**

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

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 C0574 02

Printed Circuit Board Temperature Sensor Short to Ground

DTC C0574 04

Printed Circuit Board Temperature Sensor Open

DTC C0574 13

Printed Circuit Board Temperature Sensor Low Voltage/High Temperature

DTC C0574 14

Printed Circuit Board Temperature Sensor High Voltage/Low Temperature

Circuit/System Description

A temperature sensor is installed on the circuit board of the Rear Differential Clutch Control Module. The sensor is used for calculating the module circuit board and differential clutch fluid temperature.

Conditions for Running the DTC

- The ignition is ON.
- The test runs with a frequency of 50 Hz.

Conditions for Setting the DTC

C0574 02

The analog-digital converter circuit is shorted to ground for more than 3 seconds.

C0574 04

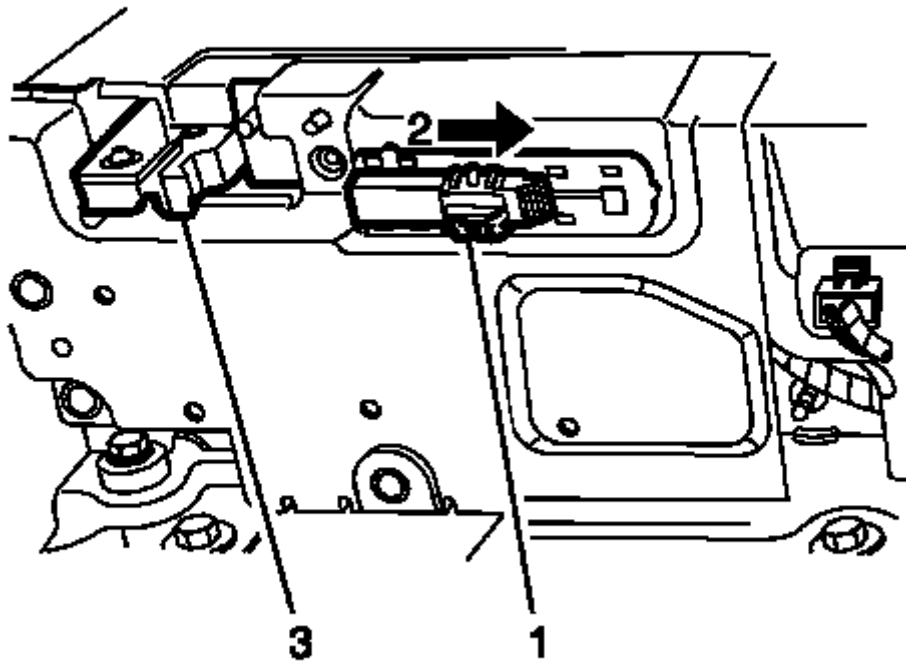


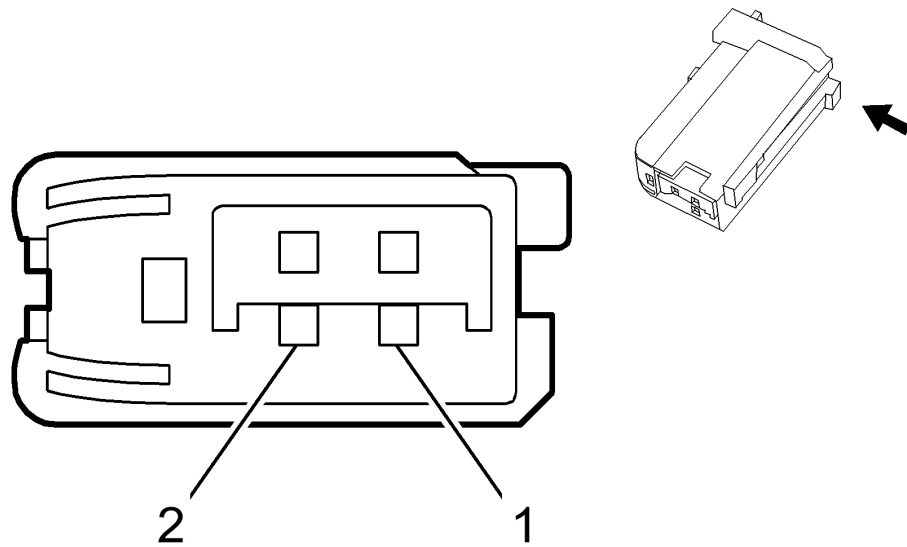
Fig. 7: Blue Connector Position Assurance
Courtesy of GENERAL MOTORS COMPANY

9. Flip the S15 Hybrid/EV Battery Pack High Voltage Manual Disconnect Lever, located on the A4 Hybrid/EV Battery Pack, toward the right side of the vehicle and secure in the open position with a zip tie (3).

WARNING: Wear high voltage insulation gloves with leather protectors until it has been determined that a high voltage exposure risk is no longer present. Failure to follow the procedures exactly as written may result in serious injury or death.

10. Remove the F102 Hybrid/EV Battery Pack Cable Cover from the A4 Hybrid/EV Battery Pack.

NOTE: A 9 V DC battery can be used to test the DMM.



Connector Part Information

- Harness Type: Body
- OEM Connector: 13726493
- Service Connector: 13314093
- Description: 2-Way F0.64
Kaizen Series (NA)

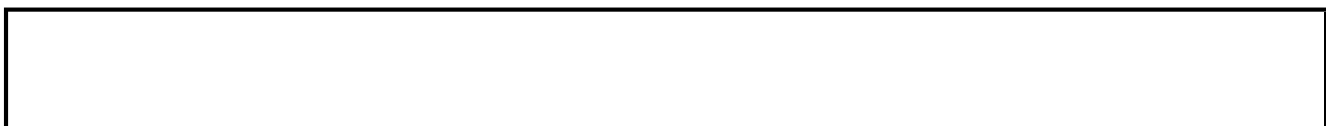
Terminal Part Information

- Terminated Lead: 13575867
- Release Tool: J-38125-215A
- Diagnostic Test Probe: J-35616-64B (L-BU)
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P

P19V Speaker Connector End View - Right Front Tweeter (UQA)

Pin	Size	Color	Circuit	Function	Option
1	0.35	YE/BK	117	Right Front Speaker Signal (-) (1)	-
2	0.35	YE	200	Right Front Speaker (+) (1)	-

P22E VIDEO DISPLAY CONNECTOR END VIEW - DRIVER SEATBACK (UWG)



1. Ignition ON.
2. Verify the green LED turns ON and OFF when commanding the Run/Start Power Mode Indicator On and Off with the scan tool.
 - **If the green LED does not turn ON and OFF**
Refer to Circuit/System Testing (below).
 - **If the green LED turns ON and OFF**
3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S38 Ignition Mode Switch. It may take up to 2 min for all vehicle systems to power down.
2. Test for less than 10 ohms between the ground circuit terminal 4 and ground.
 - **If 10 ohms or greater**
 1. Ignition OFF.
 2. Test for less than 2 ohms in the ground circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, repair the open/high resistance in the ground connections.
 - **If less than 10 ohms**
3. Connect the harness connector at the S38 Ignition Mode Switch.
4. Ignition ON, disconnect the harness connector at the S38 Ignition Mode Switch.
5. Test for less than 1 V between control circuit terminal 5 and ground while commanding Run/Start Power Mode Indicator Off with the scan tool.
 - **If 1 V or greater**
 1. Disconnect the harness connector at the K9 Body Control Module.
 2. Test for less than 1 V between the control circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K9 Body Control Module.
 - **If less than 1 V**

Throttle Closed Position Performance

DTC P2176

Minimum Throttle Position Not Learned

Diagnostic Fault Information

Circuit	Short to Ground	High Resistance	Open	Short to Voltage	Signal Performance
TAC Motor Control Closed	P1516, P2101, P2176	P1516, P2101, P2176	P1516, P2101, P2176	P0690, P1516, P2101, P2176	P1516, P2101, P2176
TAC Motor Control Open	P1516, P2101, P2119, P2176	P1516, P2101, P2176	P1516, P2101, P2176	P0690, P1516, P2101, P2176	P1516, P2101, P2176

Circuit/System Description

The throttle body assembly contains a contact-less inductive throttle position sensing element that is managed by a customized integrated circuit. The throttle position sensor is mounted within the throttle body assembly and is not serviceable. The engine control module (ECM) supplies the throttle body with a 5 V reference circuit, a low reference circuit, an H-bridge motor directional control circuit, and an asynchronous signal/serial data circuit. The asynchronous signal means communication is only going from the throttle body to the ECM. The throttle body cannot receive data from the ECM over the signal/serial data circuit. The throttle position sensor provides a signal voltage that changes relative to throttle blade angle. The customized integrated circuit translates the voltage based position information into serial data using the Society of Automotive Engineers (SAE) J2716 Single Edge Nibble Transmission (SENT) protocol. The throttle position sensor information is transmitted between the throttle body and the ECM on the signal/serial data circuit. The ECM decodes the serial data signal into separate voltages which are displayed on a scan tool as the voltage inputs from TP sensors 1 and 2.

The ECM controls the throttle valve by applying a varying voltage to the control circuits of the throttle actuator control (TAC) motor. The ECM monitors the duty

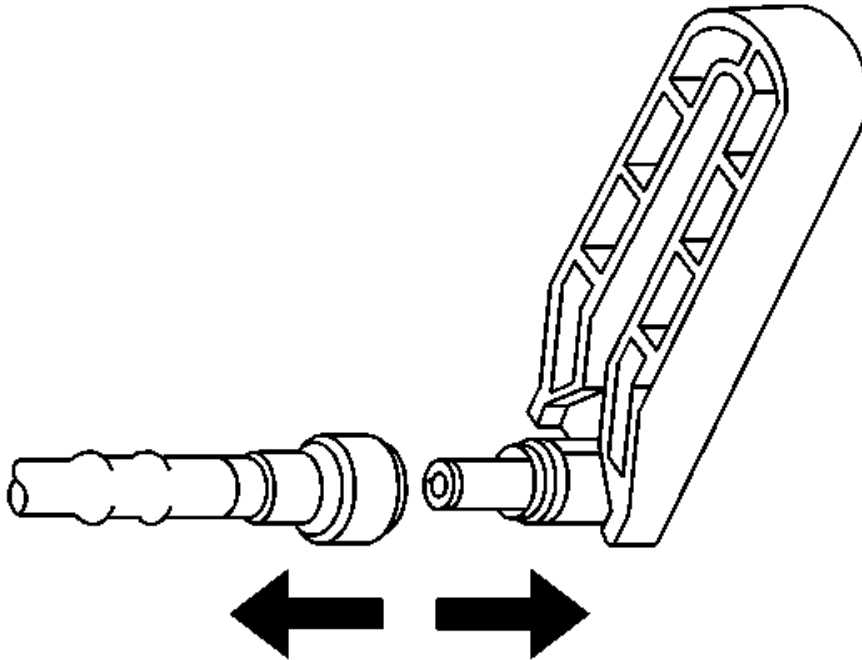


Fig. 16: View Of Quick Connect Locking Tabs (Metal Collar)
Courtesy of GENERAL MOTORS COMPANY

5. Pull the connection apart.

CAUTION: If necessary, remove rust or burrs from the fuel pipes with an emery cloth. Use a radial motion with the fuel pipe end in order to prevent damage to the O-ring sealing surface. Use a clean shop towel in order to wipe off the male tube ends. Inspect all the connections for dirt and burrs. Clean or replace the components and assemblies as required.

6. Using a clean shop towel, wipe off the male pipe end.
7. Inspect both ends of the fitting for dirt and burrs.

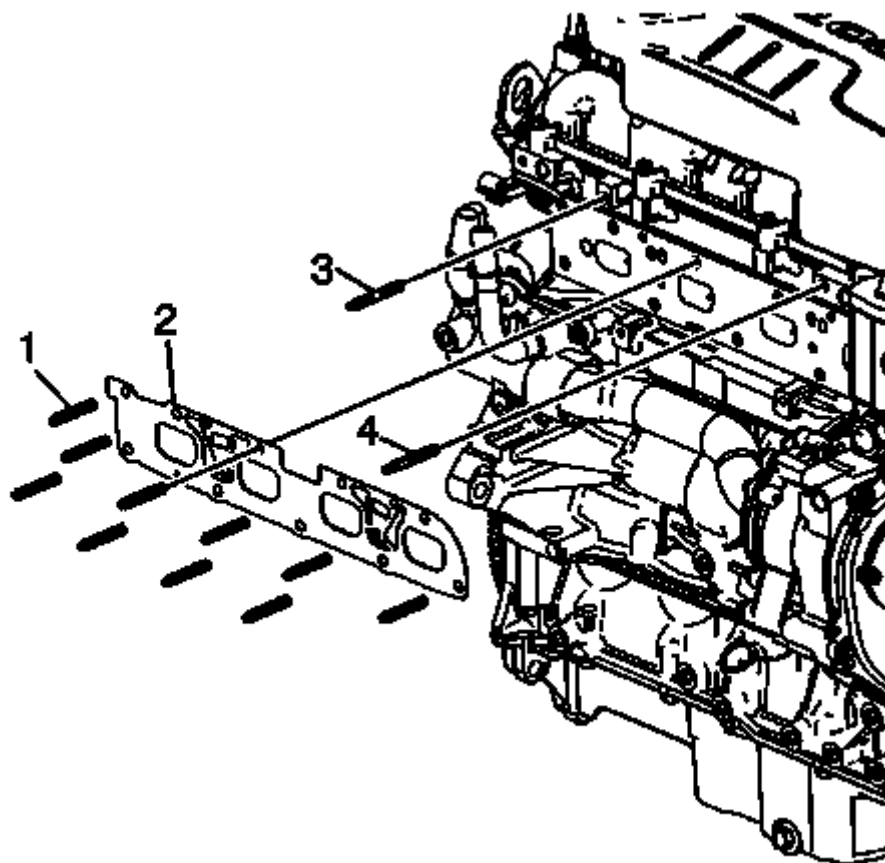


Fig. 283: Upper Secondary Air Injection Assembly Studs, Exhaust Manifold Gasket & Studs

Courtesy of GENERAL MOTORS COMPANY

11. Remove and discard the exhaust manifold studs (1).
12. Remove and discard the upper secondary air injection assembly studs (3, 4), if necessary.
13. Remove and discard the exhaust manifold gasket (2).
14. Clean all of the sealing surfaces.

INTAKE MANIFOLD REMOVAL

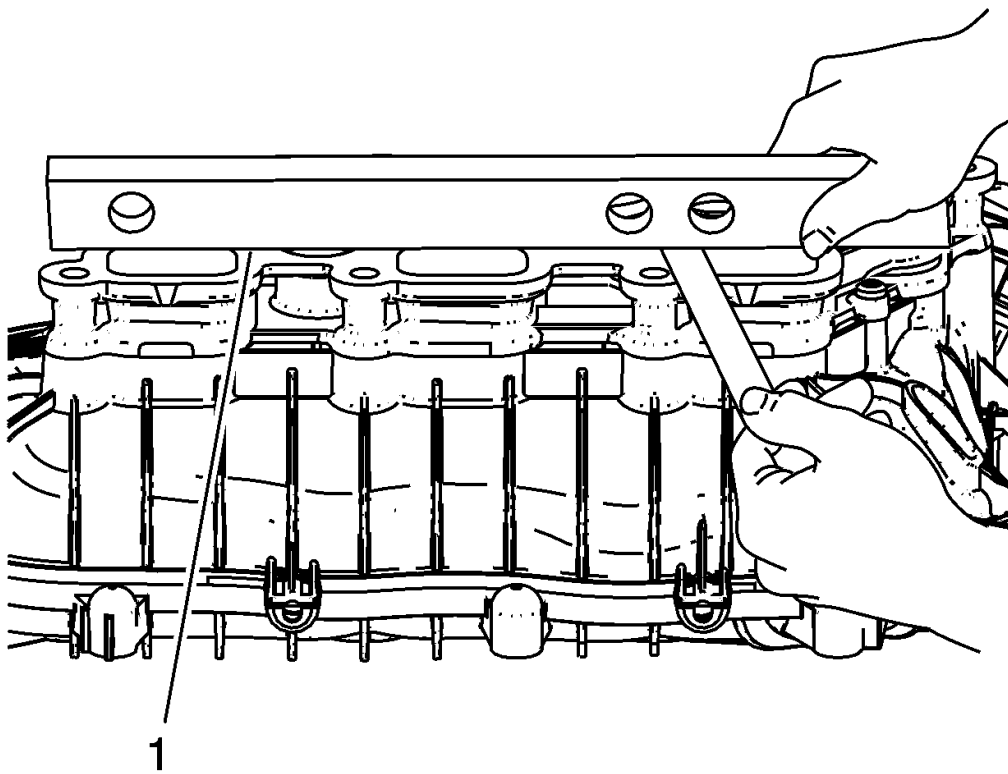


Fig. 329: Inspecting Intake Manifold Sealing Surface
Courtesy of GENERAL MOTORS COMPANY

3. Inspect the intake manifold sealing surface (1) for warpage.
 1. Locate a straight edge across the intake manifold sealing surface.
 2. Insert a feeler gauge between the intake manifold and the straight edge. An intake manifold with warpage in excess of 0.50 mm (0.020 in) must be replaced.
4. Repair or replace the intake manifold as necessary.

INTAKE MANIFOLD ASSEMBLE

2014 Buick LaCrosse

2014 GENERAL INFORMATION Vehicle Diagnostic Information - Specifications - LaCrosse

Engine Controls Ignition Relay Controls Circuit Open Test Status	Ignition ON	OK	This parameter displays the state of the Engine Controls Ignition Relay control circuit. The parameter displays Malfunction if the Engine Controls Ignition Relay control circuit is open.
Engine Controls Ignition Relay Feedback Signal	Ignition ON	12.0-14.9 Volts	This parameter displays the voltage available at the engine controls ignition relay terminal of the engine control module.
Engine Coolant Thermostat Heater Command	Ignition ON	%	This parameter displays the commanded duty cycle for the engine coolant thermostat.
Engine Coolant Thermostat Heater Control Circuit High Voltage Test Status	Ignition ON	OK	This parameter displays the state of the engine coolant thermostat heater control circuit. The parameter displays Malfunction if the engine coolant thermostat heater control circuit is shorted to voltage.
Engine Coolant Thermostat Heater Control Circuit Low Voltage Test Status	Ignition ON	OK	This parameter displays the state of the engine coolant thermostat heater control circuit. The parameter displays Malfunction if the engine coolant thermostat heater control circuit is

Tighten 100 N.m (74 lb ft) Special Tools CH-6321 Tie Rod Wrench For equivalent regional tools, refer to Special Tools .

STEERING LINKAGE INNER TIE ROD REPLACEMENT (NJ1, NV7)

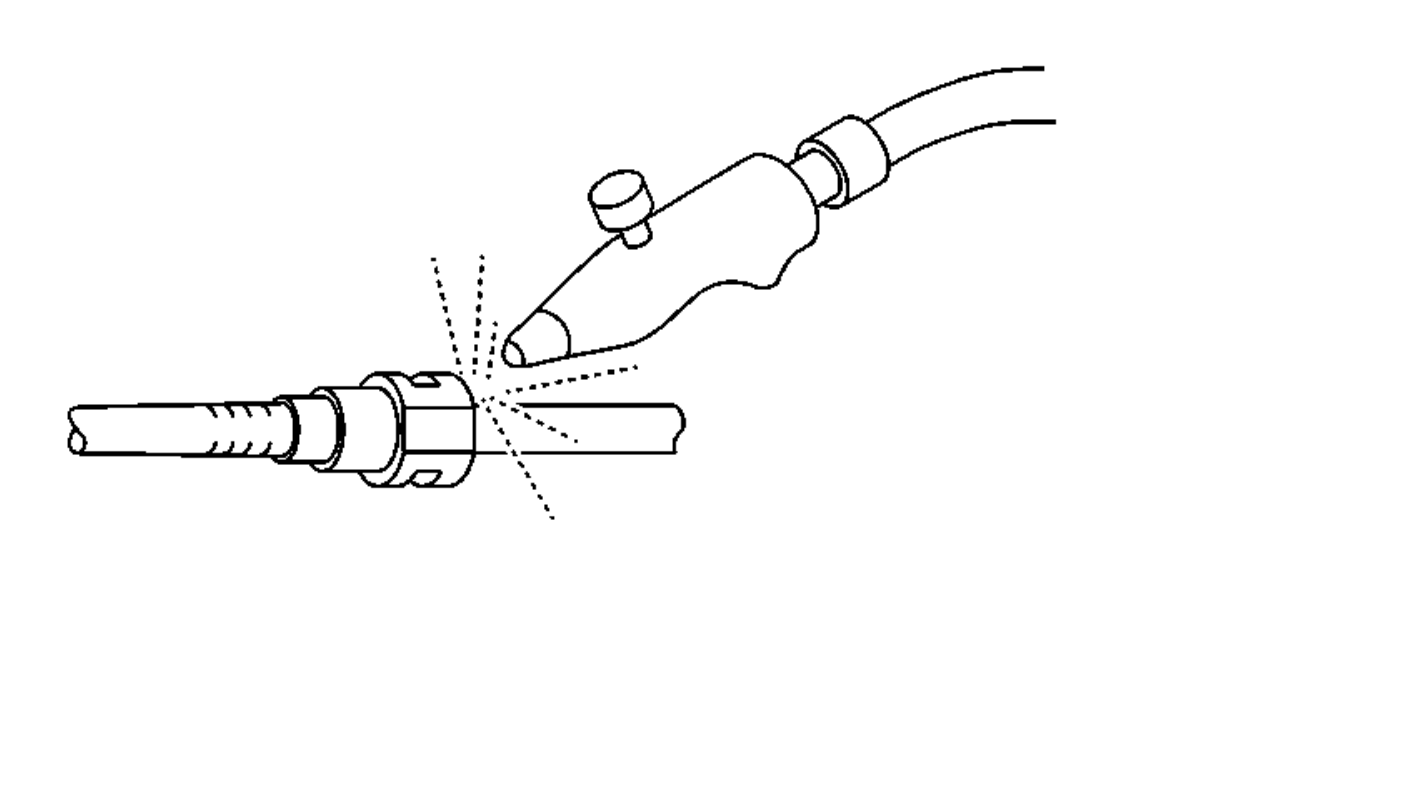


Fig. 79: Steering Linkage Inner Tie Rod
Courtesy of GENERAL MOTORS COMPANY

Steering Linkage Inner Tie Rod Replacement (NJ1, NV7)

Callout	Component Name
Preliminary Procedures 1. Raise and support the vehicle. Refer to Lifting and Jacking the	