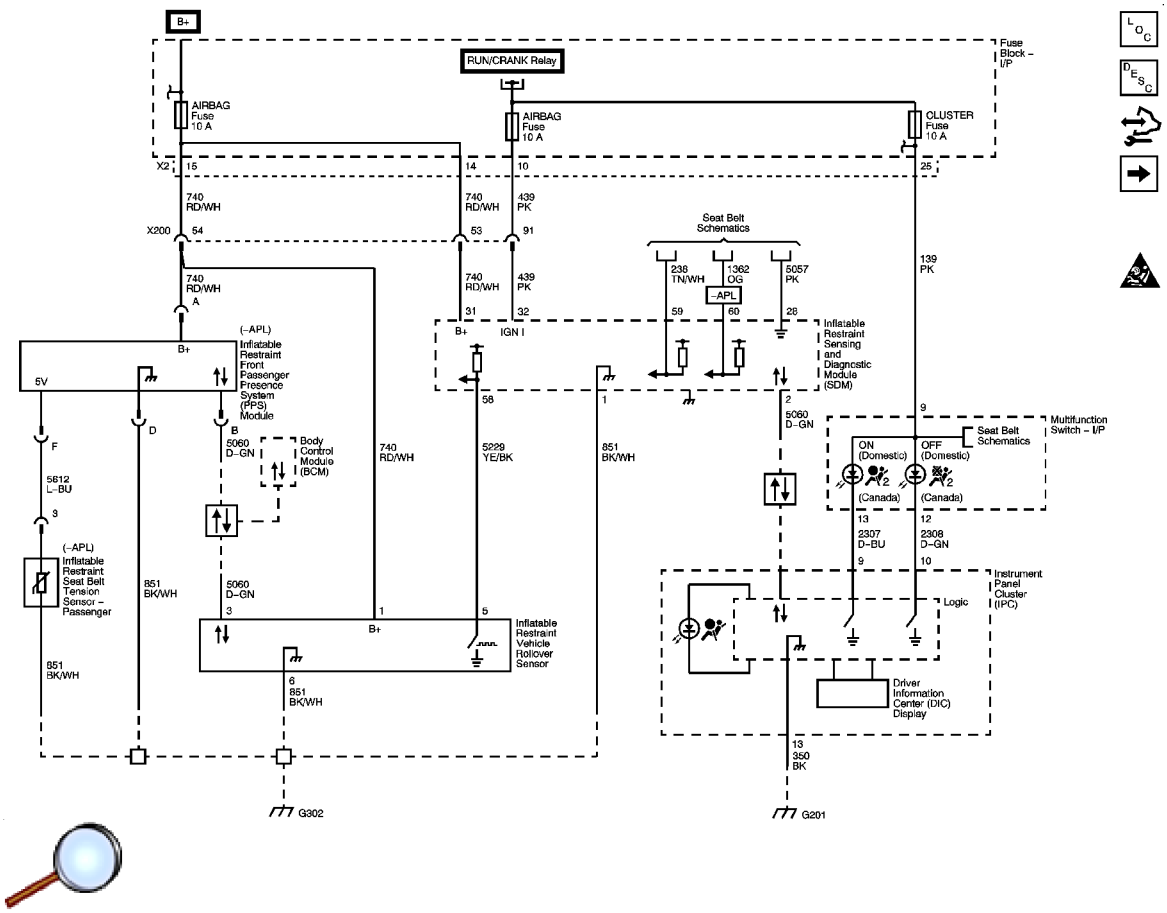
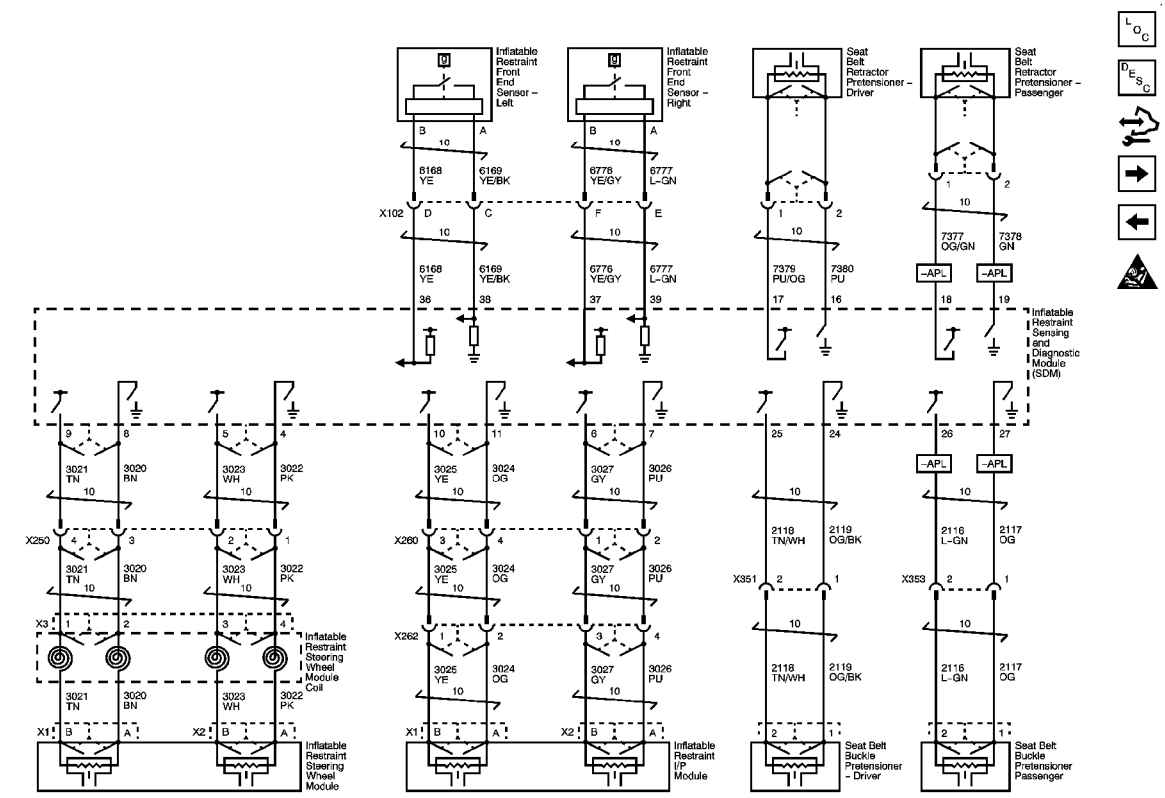
Fastener Tightening Specifications

Application	Specification	
	Metric	English
Instrument Panel Inflator Module-to-I/P Screws	10 N·m	89 lb in
Roof Rail Inflator Module-to-Roof Screws	5 N·m	44 lb in
Sensing and Diagnostic Module-to-Floor Nuts	10 N·m	89 lb in
Side Impact Sensor-to-Lock Pillar Screw	10 N·m	89 lb in

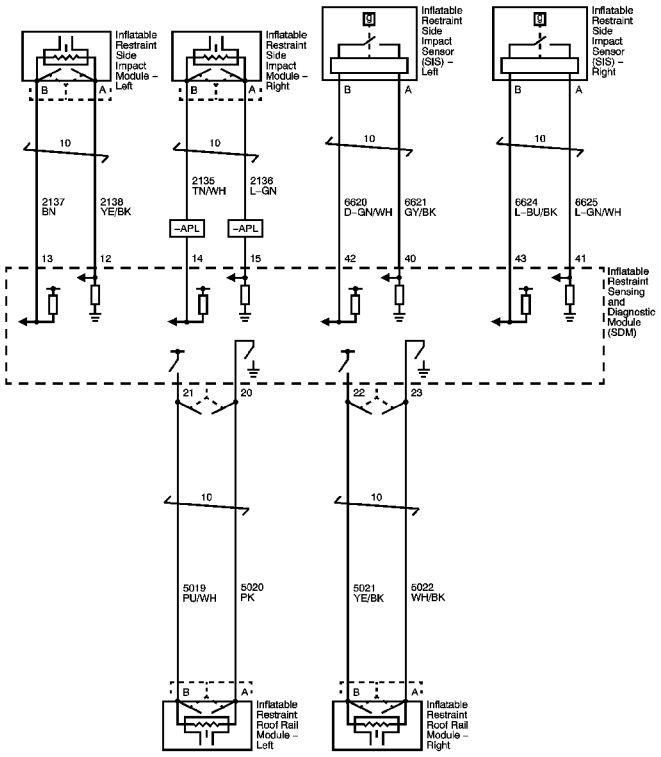
Module Power, Ground and Data Communications



Front Sensors, Seat Belt Pretensioners

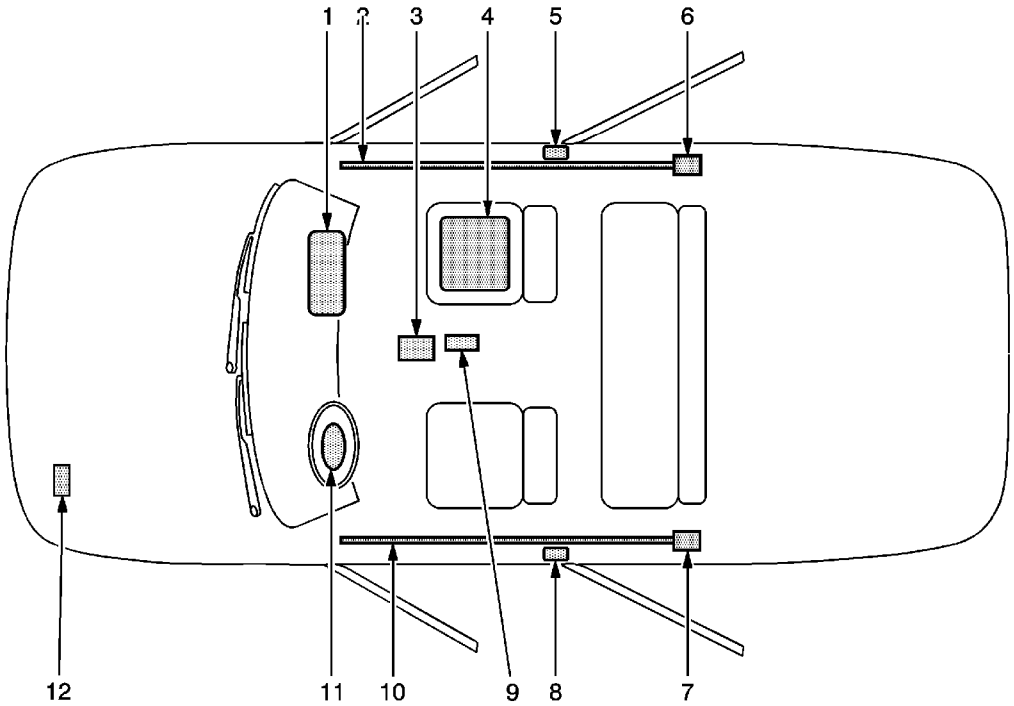


Roof Rail Modules and Side Impact Sensors



SIR Identification Views

The SIR Identification Views shown below illustrate the approximate location of all SIR components available for the vehicle. This will assist in determining the appropriate SIR Disabling and Enabling for a given service procedure, refer to SIR Disabling and Enabling .



(1) I/P Air Bag--Located at the top right under the instrument panel

(2) Right Roof Rail Air Bag--Located under the headliner, extending from the passenger front windshield pillar to the passenger rear windshield pillar

(3) Sensing and Diagnostic Module (SDM)--Located underneath the vehicle carpet under the center console

(4) Passenger Presence System (PPS)--Located in passenger seat

(5) Passenger/Right Side Impact Sensor (SIS) and Seat Belt Pretensioner--Located under the trim near the bottom of the center pillar

(6) Inflator Module for Right Roof Rail Module--Located behind the garnish molding on the upper rear pillar

(7) Inflator Module for Left Roof Rail Module--Located behind garnish molding on the upper rear pillar

(8) Driver/Left Side Impact Sensor (SIS) and Seat Belt Pretensioner-Located under the trim near the bottom of the center pillar

(9) Vehicle Rollover Sensor--Located under center console

(10) Left Roof Rail Air Bag--Located under the headliner, extending from the driver front

windshield pillar to the driver rear windshield pillar

(11) Steering Wheel Air Bag--Located on the steering wheel

(12) Vehicle Battery--Located at the front left of the engine compartment.

SIR Service Precautions

Warning: When performing service on or near the SIR components or the SIR wiring, the SIR system must be disabled. Refer to SIR Disabling and Enabling . Failure to observe the correct procedure could cause deployment of the SIR components, personal injury, or unnecessary SIR system repairs.

The inflatable restraint sensing and diagnostic module (SDM) maintains a reserved energy supply. The reserved energy supply provides deployment power for the air bags. Deployment power is available for as much as 1 minute after disconnecting the vehicle power. Disabling the SIR system prevents deployment of the air bags from the reserved energy supply.

General Service Instructions

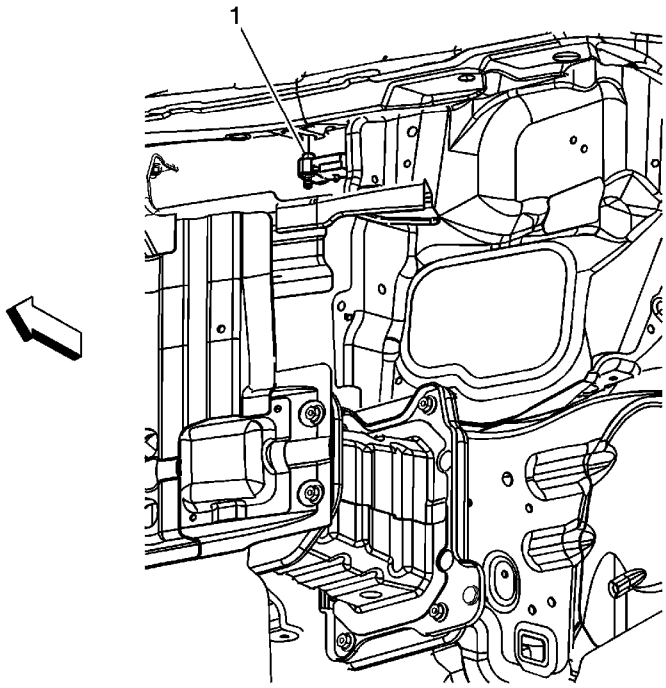
The following are general service instructions which must be followed in order to properly repair the vehicle and return it to its original integrity:

- Do not expose inflator modules to temperatures above 65°C (150°F).
- Verify the correct replacement part number. Do not substitute a component from a different vehicle.
- Use only original GM replacement parts available from your authorized GM dealer. Do not use salvaged parts for repairs to the SIR system.

Discard any of the following components if it has been dropped from a height of 91 cm (3 ft) or greater:

- Inflatable restraint sensing and diagnostic module (SDM)
- Inflatable restraint I/P module
- Inflatable restraint steering wheel module
- Inflatable restraint steering wheel module coil
- Inflatable restraint roof side rail modules
- Inflatable restraint side impact sensors (SIS)
- Inflatable restraint seat belt retractor pretensioners
- Inflatable restraint front end sensors

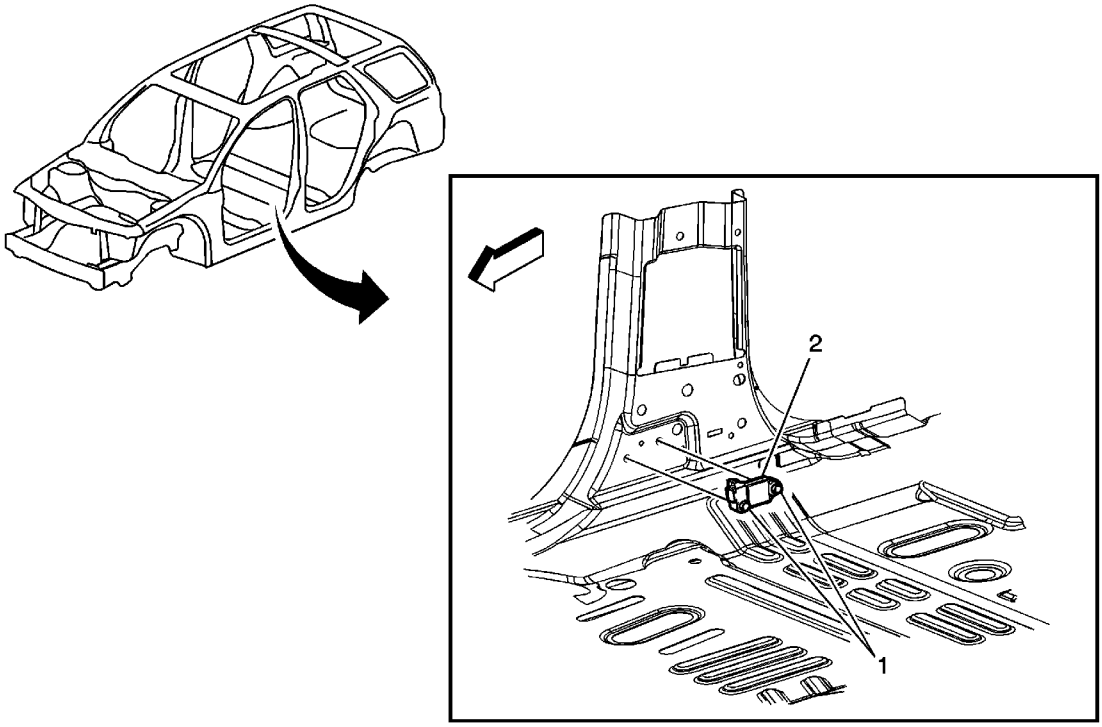
Inflatable Restraint Front End Sensor Replacement



Callout	Component Name
Warning: Do not strike or jolt the inflatable restraint front end sensor. Before applying power to the front end sensor make sure that it is securely fastened. Failure to observe the correct installation procedure could cause SIR deployment, personal injury, or unnecessary SIR system repairs. **Preliminary Procedure** Disable the supplemental inflatable restraint (SIR) system. Refer to SIR Disabling and Enabling.	
1	SIR Front End Discriminating Sensor Assembly (Qty: 2) **Caution:** Refer to Fastener Caution in the Preface section. **Procedure** 1. Remove ECM/TCM bracket ,if equipped. 2. Loosen the bolt enough to slide out of the slot. 3. Remove the connector position assurance (CPA) retainer. 4. Disconnect the electrical connector.

	Tighten 8 N·m (71 lb in)

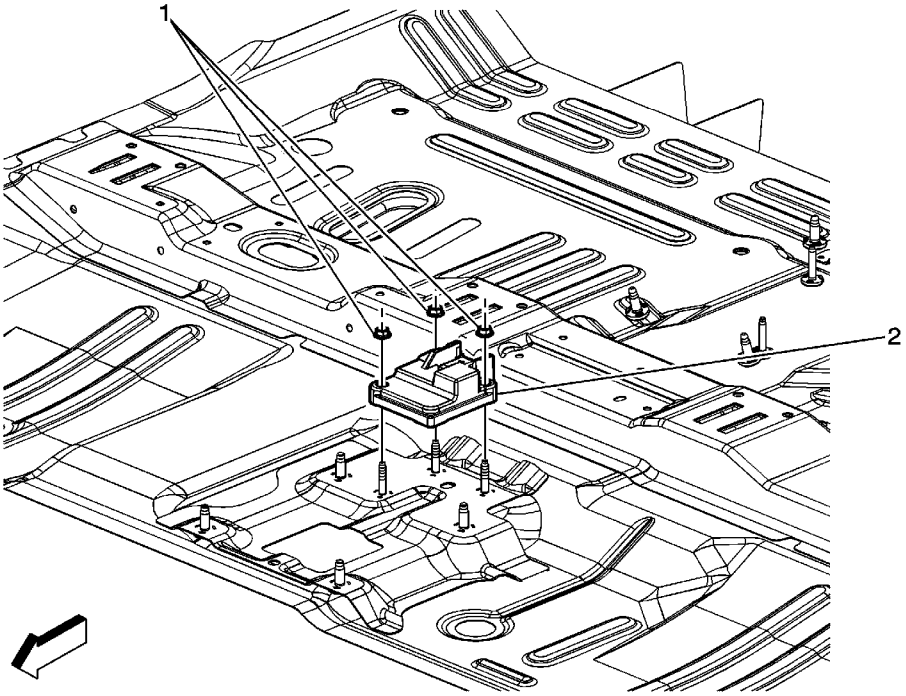
Inflatable Restraint Side Impact Sensor Replacement



Callout	Component Name
	Warning: When performing service on or near the SIR components or the SIR wiring, the SIR system must be disabled. Refer to SIR Disabling and Enabling . Failure to observe the correct procedure could cause deployment of the SIR components, personal injury, or unnecessary SIR system repairs. **Warning:** Do not strike or jolt the inflatable restraint side impact sensor (SIS). Before applying power to the SIS make sure that it is securely fastened. Failure to observe the correct installation procedures could cause SIR deployment, personal injury, or unnecessary SIR system repairs. **Preliminary Procedures** 1. Disable the supplemental inflatable restraint (SIR) system. Refer to SIR Disabling and Enabling. 2. Remove the center pillar lower trim panel. Refer to Center Pillar Lower Garnish Molding Replacement.
	Inflatable Restraint Side Impact Sensor Module Bolt (Qty: 2) **Caution:** Refer to Fastener Caution in the Preface section.

1	**Procedure** 1. Loosen the bolts and slide sensor out of key hole slots. 2. Disconnect the electrical connector. **Tighten** 9 N·m (80 lb in)
2	Inflatable Restraint Side Impact Sensor Module

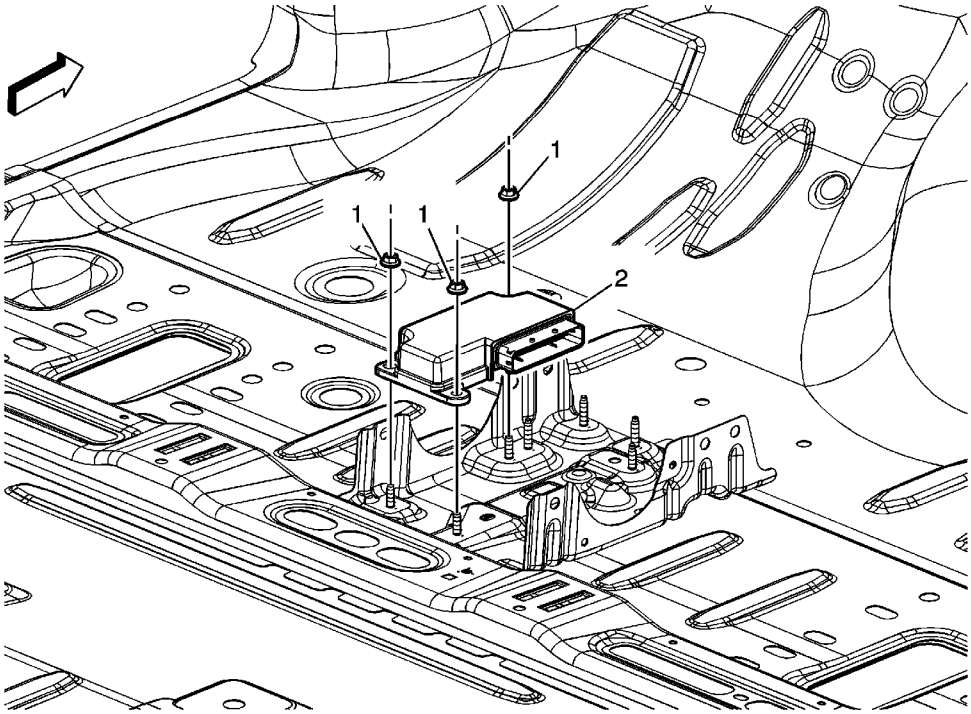
Inflatable Restraint Vehicle Rollover Sensor Replacement



Callout	Component Name
Warning: Refer to SIR Warning in the Preface section. **Preliminary Procedures** 1. Disable the SIR system. Refer to SIR Disabling and Enabling. 2. Remove the front floor console. Refer to Front Floor Console Replacement.	
1	Inflatable Restraint Vehicle Rollover Sensor Nut (Qty: 3) **Caution:** Refer to Fastener Caution in the Preface section. **Tighten** 10 N·m (88 lb ft)
2	Inflatable Restraint Vehicle Rollover Sensor Assembly **Procedure** 1. Position the carpet in order to access the sensor.

	2. Disconnect the electrical connectors.

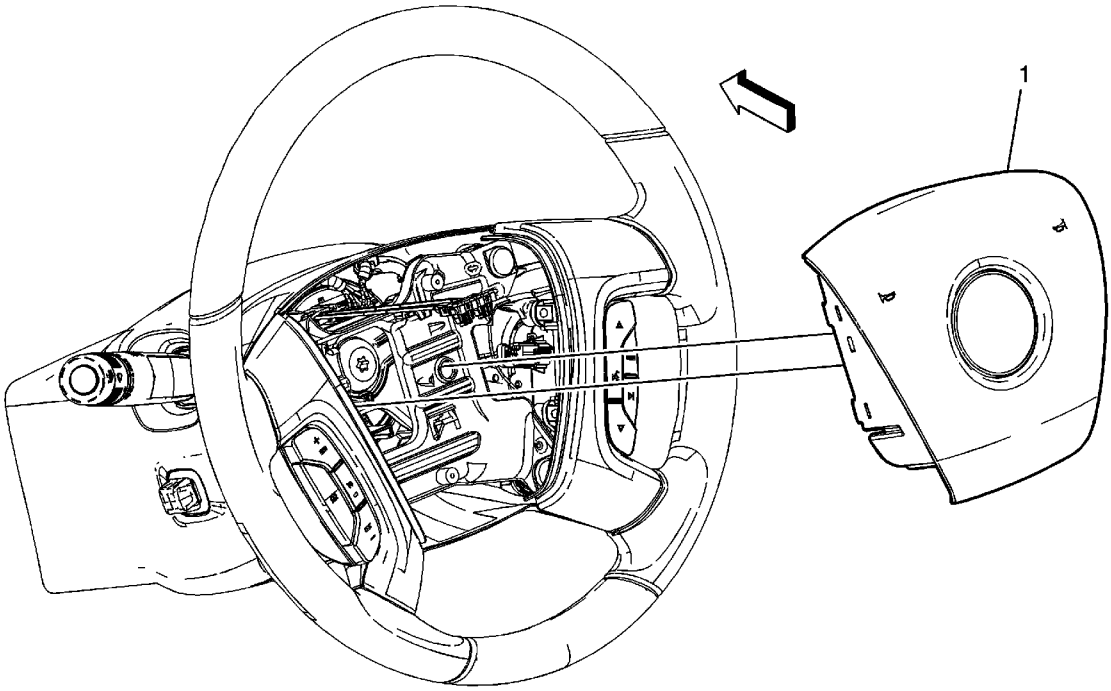
Inflatable Restraint Sensing and Diagnostic Module Replacement



Callout	Component Name
Warning: Do not strike or jolt the inflatable restraint sensing and diagnostic module (SDM). Before applying power to the SDM, make sure that it is securely fastened with the arrow facing toward the front of the vehicle. Failure to observe the correct installation procedure could cause SIR deployment, personal injury, or unnecessary SIR system repairs. **Warning:** Refer to SIR Warning in the Preface section. **Preliminary Procedures** 1. Disable the SIR system. Refer to SIR Disabling and Enabling. 2. Remove the front floor console. Refer to Front Floor Console Replacement.	
1	Inflatable Restraint Sensor and Diagnostic Module Nut (Qty: 3) **Caution:** Refer to Fastener Caution in the Preface section. **Tighten** 10 N·m (89 lb in)
	Inflatable Restraint Sensor and Diagnostic Module Assembly

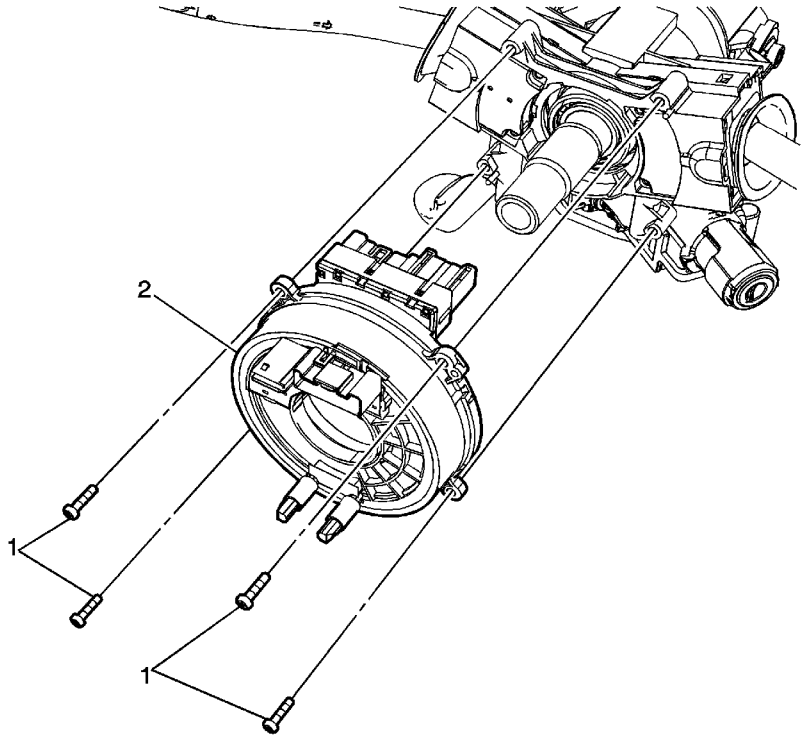
2	**Procedure** 1. Position the carpet in order to access the sensor. 2. Disconnect the electrical connectors.

Steering Wheel Inflatable Restraint Module Replacement



Callout	Component Name
	Warning: Refer to SIR Warning in the Preface section. **Preliminary Procedures** 1. Disable the SIR. Refer to SIR Disabling and Enabling. 2. On back side of the steering wheel are 2 openings, place the wheel so that one opening is on top. 3. Using a blunt-ended tool, push the spring fastener inward through the access hole. Repeat the step for the other opening.
1	Steering Wheel Inflatable Restraint Module Assembly **Procedure** 1. Release the connector position assurance (CPA) retainer. 2. Disconnect the electrical connectors. 3. Fully deploy the module before disposal. If the module was replaced under warranty, fully deploy and dispose of the module after the required retention period. Refer to Inflator Module Handling and Scrapping.

Steering Wheel Inflatable Restraint Module Coil Replacement

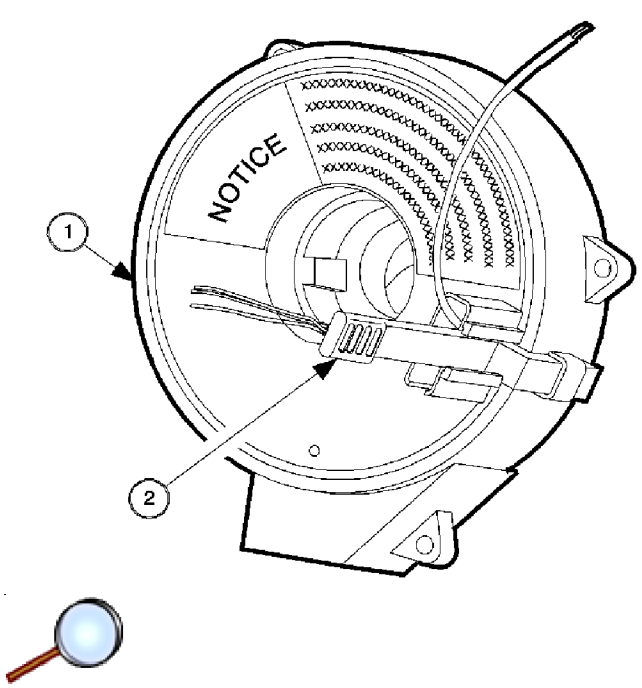


Callout	Component Name
Caution: The new SIR coil assembly will be centered. Improper alignment of the SIR coil assembly may damage the unit, causing an inflatable restraint malfunction. **Preliminary Procedure** Remove the steering column upper trim cover. Refer to Steering Column Upper Trim Cover Replacement.	
1	Inflatable Restraint Steering Wheel Module Coil Bolt (Qty: 4) **Caution:** Refer to Fastener Caution in the Preface section. **Tighten** 1.5 N·m (13 lb in).
2	Inflatable Restraint Steering Wheel Module Coil **Procedure**

	1. Disconnect any electrical connectors as needed. 2. A new inflatable restraint steering wheel module coil is equipped with a yellow tab that is removed after the steering wheel is installed. This tab passes through the steering wheel unobstructed.

Inflatable Restraint Steering Wheel Module Coil Centering

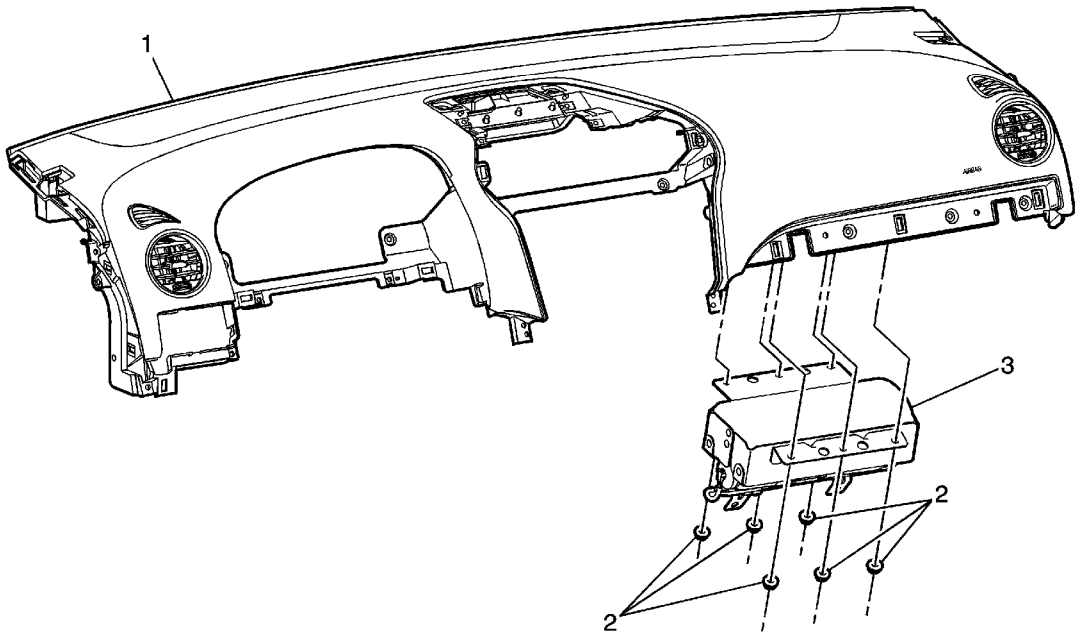
Alignment Procedure



Caution: The new SIR coil assembly will be centered. Improper alignment of the SIR coil assembly may damage the unit, causing an inflatable restraint malfunction.

1. If available remove the yellow tab (2) and save for reassembly.
2. Gently rotate the coil hub (1) clockwise until a slight tension is present.
3. Count the number of revolutions, while gently rotating the coil hub (1) counterclockwise until a slight tension is present.
4. Gently rotate the coil hub (1) clockwise one half of the previously counted revolutions.
5. Rotate the coil hub as required to align the yellow tab (2).
6. Install the yellow tab (2) into the coil hub. Use tape if the tab is unavailable.

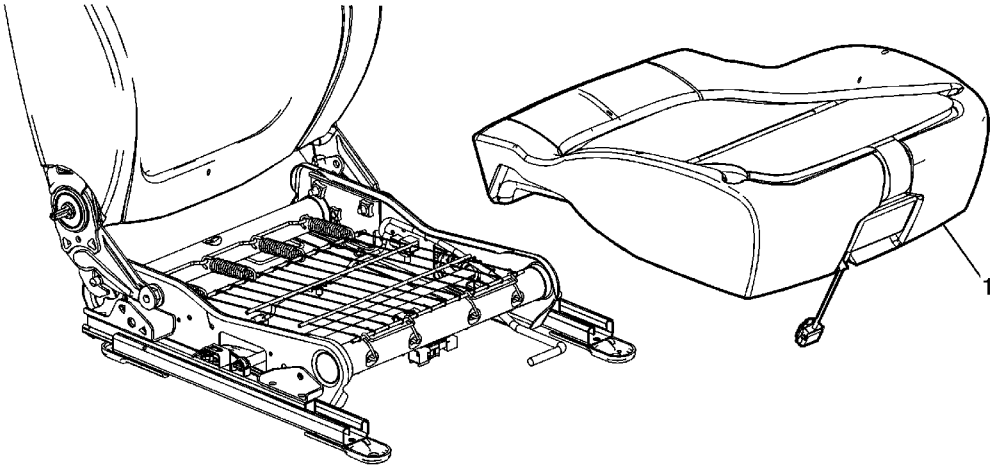
Instrument Panel Inflatable Restraint Module Replacement



Callout	Component Name
1	Instrument Panel (I/P) Trim Pad **Procedure** Remove the I/P trim pad. Refer to Instrument Panel Trim Panel Replacement.
2	I/P Inflatable Restraint Module Nut (Qty: 6) **Caution:** Refer to Fastener Caution in the Preface section. **Tighten** 10 N·m (89 lb in)
3	I/P Inflatable Restraint Module **Procedure** Fully deploy the module before disposal. If the module was replaced under warranty, fully deploy and dispose of the module after the required retention

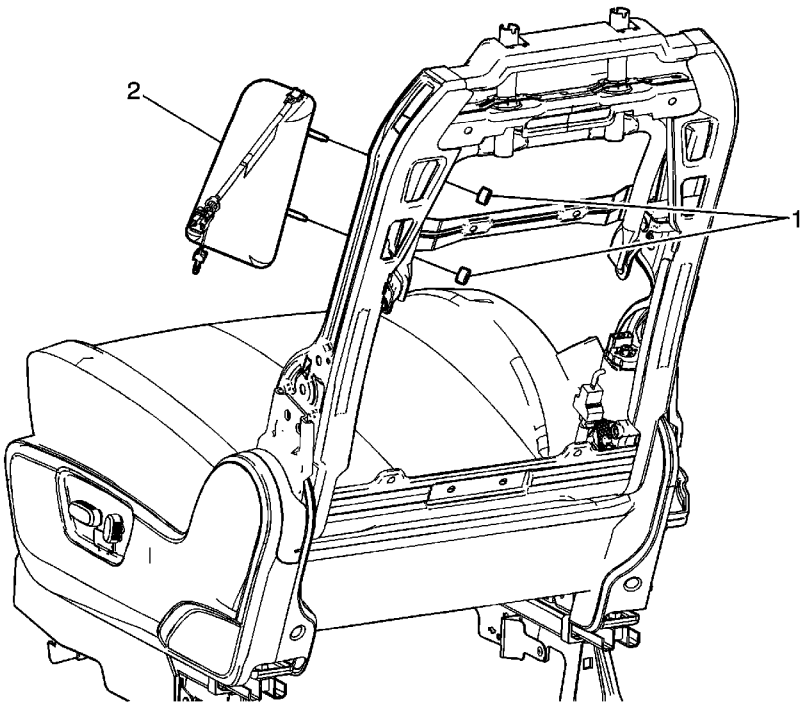
period. Refer to Inflator Module Handling and Scrapping.

Inflatable Restraint Passenger Presence System Replacement - Front



Callout	Component Name
Preliminary Procedure 1. Remove the front seat. Refer to Front Seat Replacement - Bucket. 2. Remove the seat cushion cover. Refer to Front Seat Cushion Cover and Pad Replacement.	
1	Inflatable Restraint Front Passenger Presence System Assembly **Warning:** Replace the passenger presence system as a complete assembly to prevent possible injury to the occupant. All the components in the service kit are assembled and calibrated as a unit. Using only some of the components in the service kit will cause the passenger presence system to operate improperly. **Warning:** To avoid personal injury, perform a preload test on the passenger presence system whenever you remove or replace the seat cushion trim. Failure to do so may cause the system to malfunction. **Procedures** 1. Re-zero the inflatable restraint passenger presence system whenever the seat cushion or any component of the passenger presence system is removed. 2. Program the inflatable restraint passenger presence system after replacement. Refer to Control Module References.

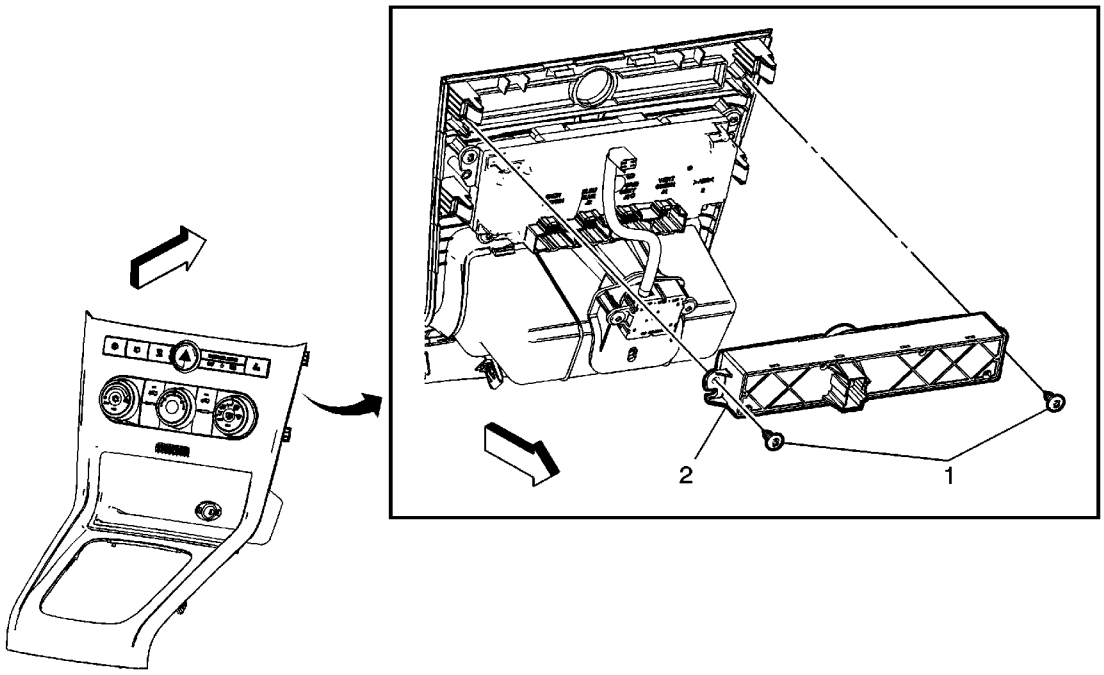
Driver or Passenger Seat Side Inflatable Restraint Module Replacement



Callout	Component Name
Warning: Following the deployment of a side impact air bag, inspect the following parts for damage. Replace these parts if necessary: • The seat cushion frame • The seat recliner, if equipped • The seat adjuster • The seat back frame Failure to do so may cause future personal injury. **Preliminary Procedure** 1. Disable the SIR system. Refer to SIR Disabling and Enabling. 2. Remove the seat back cushion cover and pad. Refer to Front Seat Back Cushion Cover and Cushion Pad Replacement.	
1	Side Impact Inflatable Restraint Nut (Qty: 2) **Caution:** Refer to Fastener Caution in the Preface section.

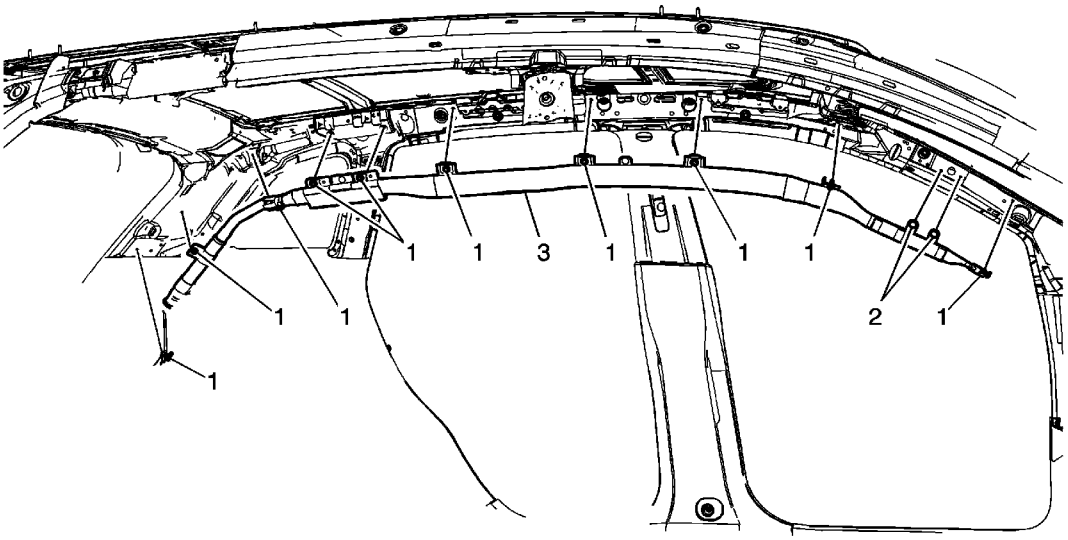
	Tighten 5 N·m (44 lb in)
2	Inflatable Restraint Module Assembly **Procedure** 1. Disconnect the electrical connector. 2. Fully deploy the module before disposal. If the module was replaced under warranty, fully deploy and dispose of the module after the required retention period. Refer to Inflator Module Handling and Scrapping.

Inflatable Restraint Instrument Panel Module Indicator Replacement



Callout	Component Name
Preliminary Procedure Remove the front floor console trim plate. Refer to Front Floor Console Accessory Trim Plate Replacement.	
1	Front Floor Console Trim Plate Screw (Qty 2) **Caution:** Refer to Fastener Caution in the Preface section. **Tighten** 2.5 N·m (22 lb in)
2	Driver Information Display Assembly

Roof Side Rail Inflatable Restraint Module Replacement



Callout	Component Name
Preliminary Procedure 1. Disable the SIR system. Refer to SIR Disabling and Enabling. 2. Remove the headliner assembly. Refer to Headlining Trim Panel Replacement.	
1	Inflatable Restraint Roof Side Rail Bolt (Qty: 10) **Caution:** Refer to Fastener Caution in the Preface section. **Tighten** 9 N·m (80 lb in)
2	Inflatable Restraint Roof Side Rail Retainer (Qty: 2)
3	Inflatable Restraint Roof Side Rail Module Assembly **Warning:** In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS. **Warning:** Refer to SIR Warning in the Preface section.

Warning: Refer to SIR Inflator Module Handling and Storage Warning in the Preface section.

Procedure

Disconnect the electrical connector.

Repairs and Inspections Required After a Collision

Accident With or Without Air Bag Deployment - Component Inspections

Warning: Proper operation of the SIR sensing system requires that any repairs to the vehicle structure return the vehicle structure to the original production configuration. Not properly repairing the vehicle structure could cause non-deployment in a collision or deployment for conditions less severe than intended.

After a collision, inspect the following components as indicated. If any damage is detected, replace the component. If damage to the mounting points or mounting hardware is detected, repair the component or replace the hardware as needed.

- Steering column--Perform the steering column accident damage checking procedures. Refer to Steering Column Accident Damage Inspection.
- Instrument panel (I/P) knee bolsters and mounting points--Inspect the knee bolsters for bending, twisting, buckling, or any other type of damage.
- I/P brackets, braces, etc.--Inspect for bending, twisting, buckling, or any other type of damage.
- Seat belts--Perform the seat belt operational and functional checks. Refer to Operational and Functional Checks.
- Seats and seat mounting points--Inspect for bending, twisting, buckling, or any other type of damage.
- Passenger seat bottom with passenger presence system (PPS)--Check for any dtcs or problems that may cause the PPS not to function properly.
- The roof and headliner mounting points.

Frontal Inflator Module Deployment

After a collision involving air bag deployment, replace the following components.

Note: The front passenger seat is equipped with a PPS, which detects an occupant. If the requirements for disabling the I/P air bag are met then the PPS will communicate with the sensing and diagnostic module (SDM) to disable/turn OFF the I/P air bag, even in a accident. For more information on the PPS refer to SIR System Description and Operation.

- Inflatable restraint I/P module, if deployed and after performing the necessary inspections listed above
- Inflatable restraint steering wheel module
- Inflatable restraint SDM
- Inflatable restraint front end sensor, left/right
- Inflatable restraint seat belt pretensioners

Perform additional inspections on the following components.

- Steering wheel module coil and the coil wiring pigtail--Inspect for melting, scorching, or other damage due to excessive heat.
- Mounting points or mounting hardware for the I/P, steering wheel module, SDM, and pretensioners--Inspect for any damage and repair or replace each component as needed.

Accident With Side Air Bag Deployment - Component Replacement and Inspections

After a collision involving side air bag deployment, replace the following components.

- Inflatable restraint side impact sensors (SIS), left/right, on the side of the impact
- Inflatable restraint roof rail module, left/right, on the side of the impact
- Inflatable restraint SDM
- Inflatable restraint seat belt pretensioner

Perform additional inspections on the following components.

- Mounting points or mounting hardware for the SIS--Inspect for any damage and repair or replace each component as needed.
- Mounting points or mounting hardware for the roof rail module (left/right) on the side of impact--Inspect for any damage and repair or replace each component as needed.
- Mounting points or mounting hardware for the SDM and seat belt pretensioners--Inspect for any damage and repair or replace each component as needed.

Inflator Module Handling and Scrapping

Special Tools

- SA9207Z-A or J 38826 SIR Deployment Harness
- SA9413NE or J 39401-B SIR Deployment Fixture

Live and Undeployed Inflator Module

Warning: Refer to SIR Inflator Module Handling and Storage Warning in the Preface section.

Take special care when handling or storing an undeployed inflator module. An inflator module deployment produces a rapid generation of gas. This may cause the inflator module, or an object in front of the inflator module, to project through the air in the event of an unlikely deployment.

Dual Stage Inflator Module

Dual stage inflator modules have two deployment stages. If stage 1 was used to deploy a dual stage inflator module, stage 2 may still be active. Therefore, a deployed dual stage inflator module must be treated as an active module. If disposal of a dual stage module is required, both deployment loops must be energized to deploy the air bag.

Scrapping Procedure

During the course of a vehicle's useful life, certain situations may arise which will require the disposal of a live and undeployed inflator module. Do NOT dispose a live and undeployed inflator module through normal disposal channels until the inflator module has been deployed.

Do not deploy the inflator module in the following situations:

- After replacement of an inflator module under warranty - the inflator module may need to be returned undeployed to the manufacturer.
- If the vehicle is the subject of a product liability claim, related to the SIR system and is subject to a preliminary investigation - do NOT alter the SIR system in any manner.
- If the vehicle is involved in a campaign affecting the inflator modules - follow the instructions in the Campaign Service Bulletin for proper SIR handling procedures.

Deployment Procedures

You can deploy the inflator module either inside or outside of the vehicle. The method used depends upon the final disposition of the vehicle. Review the following procedures in order to determine which will work best in a given situation:

Deployment Outside Vehicle - Steering Wheel Module, I/P Module, and Roof Rail Module

Deploy the inflator module outside of the vehicle when the vehicle will be returned to service. Situations that require deployment outside of the vehicle include the following:

- Using the SIR diagnostics, you determine that the inflator module is malfunctioning.
- The inflator module is cosmetically damaged, scratched, or ripped.
- The inflator module pigtail is damaged.
- The inflator module connector is damaged.
- The inflator module connector terminals are damaged.

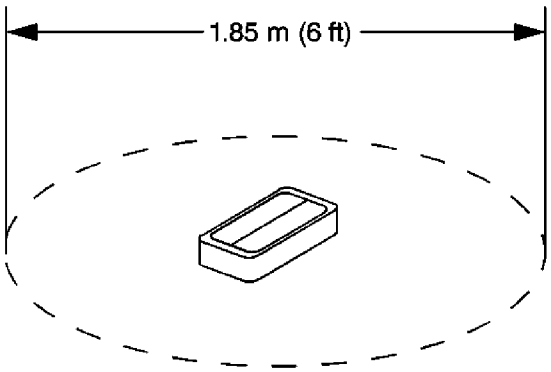
Deployment and disposal of a malfunctioning inflator module is subject to any required retention period.

Warning: Refer to SIR Inflator Module Disposal Warning in the Preface section.

1. Turn OFF the ignition.

   Warning: Refer to SIR Inflator Module Handling and Storage Warning in the Preface section.

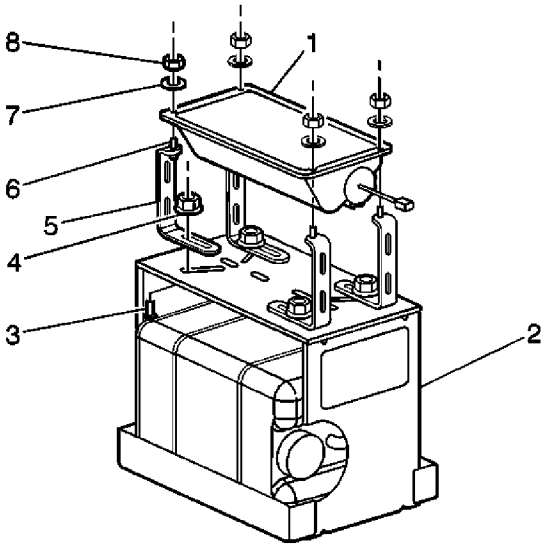
2. Remove the inflator module.



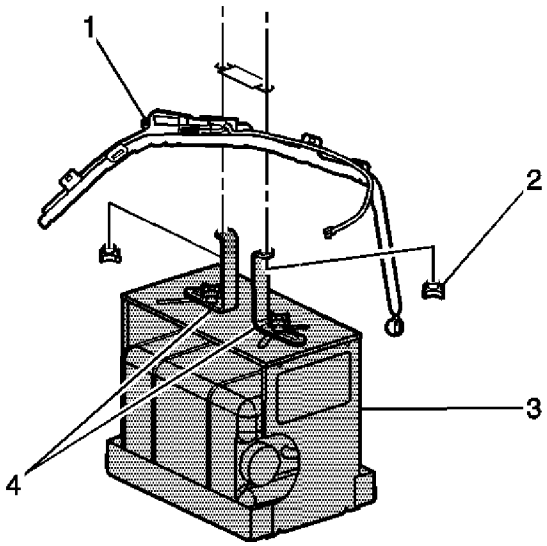
3. Clear a space on the ground about 1.85 m (6 ft) in diameter for deployment of the inflator module or deployment fixture. If possible, use a paved, outdoor location free of activity. Otherwise, use a space free of activity on the shop floor. Ensure you have sufficient ventilation.
4. Clear the area of loose or flammable objects.

   Note: Dual stage deployments are only used in steering wheel and I/P inflator modules. If stage 1 was used to deploy a dual stage inflator module, stage 2 may still be active. If disposal of a dual stage module is required, both deployment loops must be energized to deploy the air bag.

5. If you are deploying a steering wheel inflator module, place the inflator module in the center of the space with the vinyl trim cover facing up and away from the surface.



6. When deploying an I/P inflator module, perform the following instructions:
   6.1. Place the J 39401-B or SA9413NE in the center of the cleared area.
   6.2. Fill the deployment fixture with water or sand.
   6.3. Using the proper nuts and bolts, mount the I/P module (1) to the deployment fixture (2), with the vinyl trim facing up.
   6.4. Securely tighten all fasteners that hold the I/P module (1) to the deployment fixture (2).

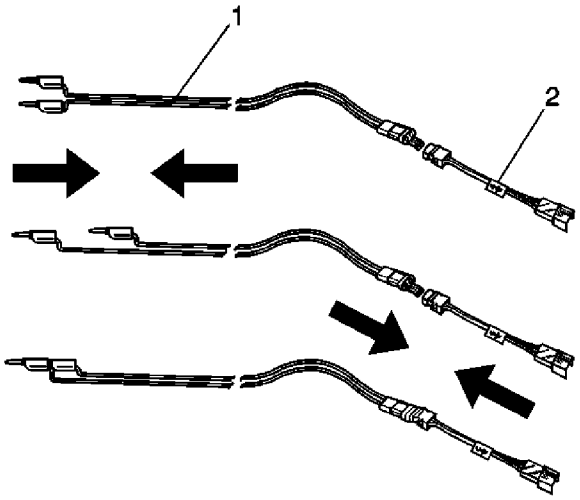


7. When deploying a roof rail module, perform the following instructions:
   7.1. Place the J 39401-B or SA9413NE (3) in the center of the cleared area.
   7.2. Fill the deployment fixture with water or sand to provide sufficient stabilization of

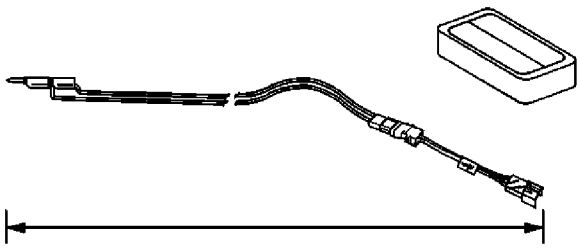
fixture during deployment.

7.3. Adjust and secure the fixture arms (4) to the deployment fixture (3), using the proper nuts and bolts.

7.4. Attach the roof rail module in the deployment fixture and securely tighten all fasteners.

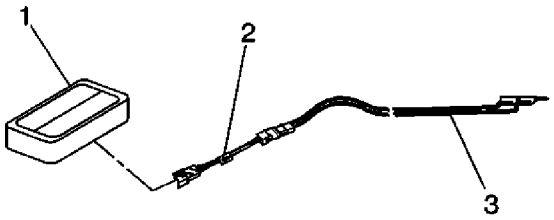


8. Inspect the J 38826 or SA9207Z-A and the appropriate pigtail adapter (2) for damage. Replace as needed.
9. Short the 2 SIR deployment harness leads (1) together using one banana plug seated into the other.
10. Connect the appropriate pigtail adapter (2) to the SIR deployment harness (1).



11. Extend the SIR deployment harness and adapter to the full length from the deployment fixture or area.

Note: On a dual stage inflator module, both connectors must be attached to the deployment harness adapter. This will ensure that both stage 1 and stage 2 of the deployment loops are energized, regardless of the deployment state.

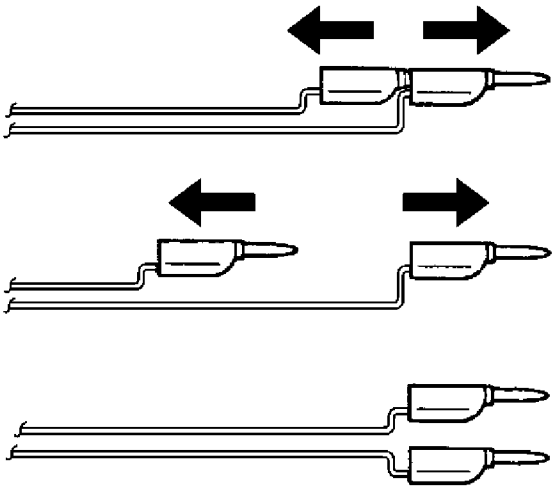


12. Connect the inflator module (1) to the adapter (2) on the SIR deployment harness (3).

Note:

- The rapid expansion of gas involved with deploying an inflator module is very loud. Notify all the people in the immediate area that you intend to deploy the inflator module.
- When the inflator module deploys, the deployment fixture may jump about 30 cm (1 ft) vertically. This is a normal reaction of the inflator module due to the force of the rapid expansion of gas inside the inflator module.
- If you are deploying a dual stage inflator module with stage 1 already deployed, the fixture may not move and the noise may have been reduced.

13. Clear the area of people.



14. Separate the 2 banana plugs on the SIR deployment harness that were shorted together earlier in the procedure.

Object Number: 39388 Size: SH

15. Place a 12V minimum/2A minimum power source, such as a vehicle battery, near the shorted end of the harness.
16. Connect the SIR deployment harness wires to the power source. Deployment of the Inflator module will occur when contact is made.

Object Number: 9581 Size: SH

17. Disconnect the SIR deployment harness from the power source after the inflator module deploys.
18. If the inflator module did not deploy, disconnect the adapter and discontinue the procedure and contact the Technical Assistance Group.

    If deployment was successful, proceed to the following steps.

    Warning: Refer to SIR Deployed Inflator Modules Are Hot Warning in the Preface section.

19. Seat one banana plug into the other in order to short the deployment harness leads.
20. Put on a pair of shop gloves.
21. Disconnect the pigtail adapter from the inflator module as soon as possible.
22. Inspect the pigtail adapter and the SIR deployment harness. Replace as needed.
23. Dispose of the deployed inflator module through normal refuse channels.
24. Wash your hands with a mild soap.

Deployment Inside Vehicle - Vehicle Scrapping Procedure

Deploy the inflator modules inside of the vehicle when destroying the vehicle or when salvaging the vehicle for parts. This includes, but is not limited to, the following situations:

- The vehicle has completed all useful life.
- Irreparable damage occurred to the vehicle in a non-deployment type accident.
- Irreparable damage occurred to the vehicle during a theft.
- The vehicle is being salvaged for parts to be used on a vehicle with a different VIN, as opposed to rebuilding as the same VIN.

Warning: Refer to SIR Inflatable Module Deployment Outside Vehicle Warning in the Preface section.

1. Lower the driver and passenger windows.
2. Turn the ignition switch to the OFF position and remove the ignition key.
3. Check that all inflator modules which will be deployed are mounted securely.
4. Remove all loose objects from the front seats.

Warning: A deployed dual stage inflator module will look the same whether one or both stages were used. Always assume a deployed dual stage inflator module has an active stage 2. Improper handling or servicing can activate the inflator module and cause personal injury.

Object Number: 812533 Size: SH

5. Disconnect the steering wheel module yellow connector (1) from vehicle harness yellow connector (3).

Object Number: 566915 Size: MH

Note: If the vehicle is equipped with dual stage air bags the steering wheel module and I/P module will each have 4 wires. Refer to Component Connector End Views for determining high and low circuits.

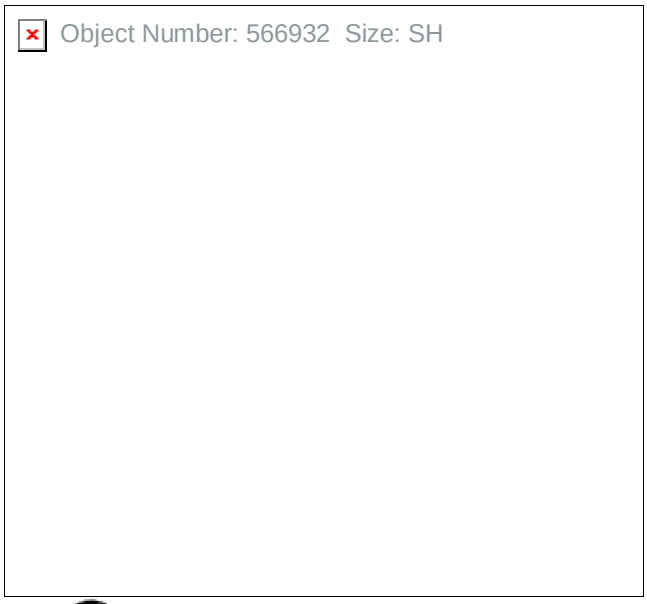
6. Cut the yellow harness connector out of the vehicle, leaving at least 16 cm (6 in) of wire at the connector.
7. Strip 13 mm (0.5 in) of insulation from each of the connector wire leads.

Object Number: 68651 Size: SH

8. Cut two 6.1 m (20 ft) deployment wires from a 0.8 mm (18 gage) or thicker multi-strand wire. Use these wires to fabricate the driver deployment harness.
9. Strip 13 mm (0.5 in) of insulation from both ends of the wires.
10. Twist together one end from each of the wires in order to short the wires. Deployment wires shall remain shorted, and not connected to a power source until you are ready to deploy the inflator module.

Object Number: 566918 Size: SH

11. Twist together the 2 connector wire leads from the high circuits from both stages of the steering wheel module, to one set of deployment wires. Refer to Component Connector End Views in order to determine the correct circuits.
12. Inspect that the 3-wire connection is secure.
13. Secure and insulate the 3-wire connection to the deployment harness using electrical tape.



14. Twist together the 2 connector wire leads from the low circuits from both stages of the steering wheel module, to one set of deployment wires. Refer to Component Connector End Views in order to determine the correct circuits.
15. Inspect that the 3-wire connection is secure.
16. Secure and insulate the 3-wire connection to the deployment harness using electrical tape.
17. Connect the deployment harness to the connector on the steering wheel module.
18. Route the deployment harness out of the driver side of the vehicle.
19. Disconnect the yellow left roof rail harness connector from the vehicle harness connector.
20. Cut the harness connector out of the vehicle, leaving at least 16 cm (6 in) of wire at the connector.
21. Strip 13 mm (0.5 in) of insulation from each of the connector wire leads.
22. Cut two 6.1 m (20 ft) deployment wires from a 0.8 mm (18 gage) or thicker multi-strand wire. These wires will be used to fabricate the roof rail air bag deployment harness.
23. Strip 13 mm (0.5 in) of insulation from both ends of the wires.
24. Twist together one end from each of the wires in order to short the wires.
25. Twist together one connector wire lead to one deployment wire.
26. Secure and insulate the connection using electrical tape.
27. Twist together and tape the remaining connector wire lead to the remaining deployment wire.
28. Connect the deployment harness to the yellow connector of the roof rail module.
29. Route the deployment harness out of the driver side of the vehicle.

Object Number: 816857 Size: SH

30. Disconnect the I/P module yellow harness connector (1) from the vehicle harness connector (2).

Note: If the vehicle is equipped with dual stage air bags the steering wheel module and I/P module will each have 4 wires. Refer to Component Connector End Views for determining high and low circuits.

31. Cut the yellow harness connector out of the vehicle, leaving at least 16 cm (6 in) of wire at the connector.
32. Strip 13 mm (0.5 in) of insulation from each of the connector wire leads.
33. Cut two 6.1 m (20 ft) deployment wires from a 0.8 mm (18 gage) or thicker multi-strand wire. These wires will be used to fabricate the passenger deployment harness.
34. Strip 13 mm (0.5 in) of insulation from both ends of the wires.
35. Twist together one end from each of the wires in order to short the wires.
36. Twist together the 2 connector wire leads from the high circuits from both stages of the I/P module to one set of deployment wires. Refer to Component Connector End Views in order to determine the correct circuits.
37. Inspect that the 3-wire connection is secure.
38. Secure and insulate the 3-wire connection to the deployment harness using electrical tape.
39. Twist together the 2 connector wire leads from the low circuits from both stages of the I/P module to one set of deployment wires. Refer to Component Connector End Views in order to determine the correct circuits.
40. Inspect that the 3-wire connection is secure.
41. Secure and insulate the 3-wire connection to the deployment harness using electrical tape.
42. Connect the deployment harness to the I/P module in-line connector.
43. Route the deployment harness out of the passenger side of the vehicle.
44. Disconnect the yellow harness connector to the right roof rail air bag from the vehicle harness connector.
45. Cut the harness connector out of the vehicle, leaving at least 16 cm (6 in) of wire at the connector.
46. Strip 13 mm (0.5 in) of insulation from each of the connector wire leads.
47. Cut two 6.1 m (20 ft) deployment wires from a 0.8 mm (18 gage) or thicker multi-strand wire. These wires will be used to fabricate the roof rail air bag deployment harness.
48. Strip 13 mm (0.5 in) of insulation from both ends of the wires.

49. Twist together one end from each of the wires in order to short the wires.
50. Twist together one connector wire lead to one deployment wire.
51. Secure and insulate the connection using electrical tape.
52. Twist together and tape the remaining connector wire lead to the remaining deployment wire.
53. Connect the deployment harness to the roof rail module yellow connector.
54. Route the deployment harness out of the passenger side of the vehicle.
55. Completely cover the windshield and the front door window openings with a drop cloth.
56. Stretch to the full length all of the deployment harness wires on the right side of the vehicle.
57. Deploy each deployment loop one at a time.
58. Place a power source, 12V minimum/2A minimum, such as a vehicle battery, near the shorted end of the harnesses.
59. Separate one set of wires and touch the wire ends to the power source in order to deploy the selected inflator module.
60. Disconnect the deployment harness from the power source and twist the wire ends together.
61. Continue the same process with the remaining deployment harnesses.
62. Disconnect all harnesses from the vehicle.
63. Discard the harnesses.
64. Scrap the vehicle in the same manner as a non-SIR equipped vehicle.
65. If one or all of the inflator modules did not deploy, remove the undeployed modules from the vehicle.

Pretensioner Handling and Scrapping

Special Tools

- J 38826 or SA9207Z-A SIR Deployment Harness
- J 39401-B or SA9413NE SIR Deployment Fixture

Warning: When you are carrying an undeployed seat belt pretensioner:

- Do not carry the seat belt pretensioner by the wires or connector on the pretensioner.
- Do not touch the seat belt pretensioner in the area of the cable (1).
- Do not cover the tube opening with your hand.
- Keep the open end of the tube pointed away from you. Do not point the open end of the tube at another person.
- When the pretensioner deploys the cable retracts. This shortens the pretensioner between the buckle and the mounting bolt. Grasp the pretensioner by the piston tube (2).

Disregarding these precautions may result in personal injury or unnecessary SIR system repairs.

Scrapping Procedure

During the course of a vehicle's useful life, certain situations may arise which will necessitate the disposal of a live (undeployed) pretensioner. The following information covers the proper procedures for the disposing of a live (undeployed) pretensioner. Deploy the pretensioner before disposal. Do not dispose of a live (undeployed) pretensioner through normal disposal channels until the pretensioner has been deployed. The following information covers the proper procedures for the disposing of a live (undeployed) pretensioner.

- After replacement of a pretensioner under warranty. The pretensioner may need to be returned undeployed to the original manufacturer of pretensioner.
- If the vehicle is the subject of a Product Liability report related to the SIR system and is subject to a Preliminary Investigation (GM-1241). Do not alter the SIR system in any manner.
- If the vehicle is involved in a campaign affecting the pretensioners. Follow the instructions in the Campaign Service Bulletin for proper SIR handling procedures.

Deployment Procedures

The pretensioner can be deployed inside or outside of the vehicle. The method used depends upon the final disposition of the vehicle. Review the following procedures in order to determine which will work best in a given situation.

Deployment Inside the Vehicle

Refer to Inflator Module Handling and Scrapping for deploying the pretensioner inside vehicle under Vehicle Scrapping Procedure.

Deployment Outside Vehicle for Seat Belt Pretensioners

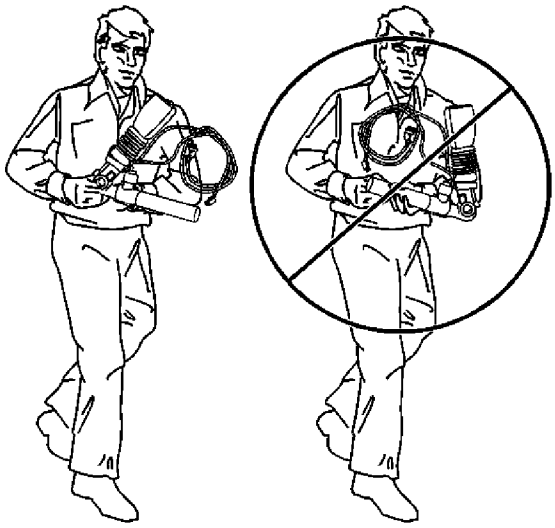
Deploy the seat belt pretensioners outside of the vehicle when the vehicle will be returned to service. Situations that require deployment outside of the vehicle include the following:

- Using the SIR diagnostics, you determine that the seat belt pretensioner is malfunctioning.
- The pretensioner pigtail (if equipped) is damaged.
- The pretensioner connector is damaged.
- The pretensioner connector terminal is damaged.

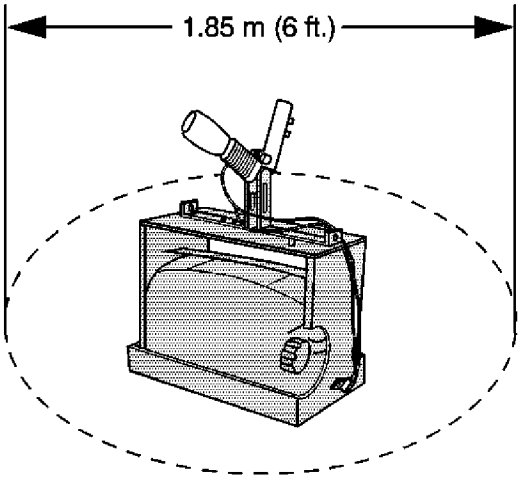
Deployment and disposal of a malfunctioning seat belt pretensioner is subject to any required retention period.

Warning: In order to prevent accidental deployment of the pretensioner which could cause personal injury, do not dispose of an undeployed pretensioner as normal shop waste. The undeployed pretensioner contains substances that could cause severe illness or personal injury if the sealed container is damaged during disposal. Use the following deployment procedures to safely dispose of an undeployed pretensioner. Failure to dispose of a pretensioner as instructed may be a violation of federal, state, or local laws.

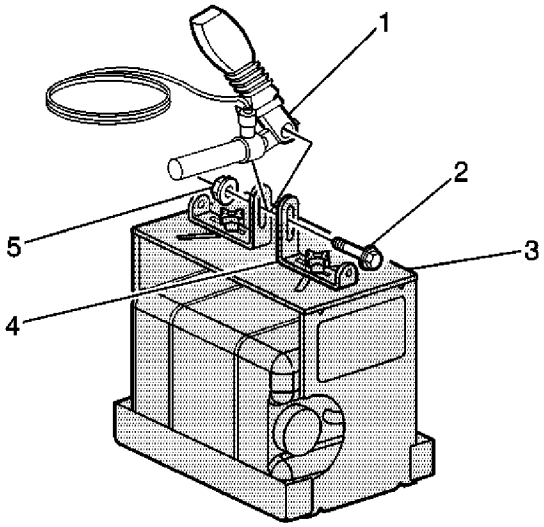
Warning: When you are deploying a pretensioner for disposal, perform the deployment procedures in the order listed. Failure to follow the procedures in the order listed may result in personal injury.



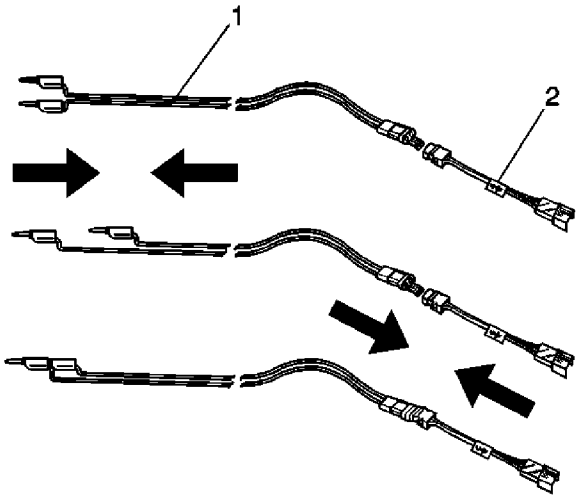
1. Turn the ignition switch to the OFF position.
2. Remove the seat belt pretensioner from the vehicle.
3. When carrying a pretensioner to the deployment area keep the open end of pretensioner pointed away from the body.



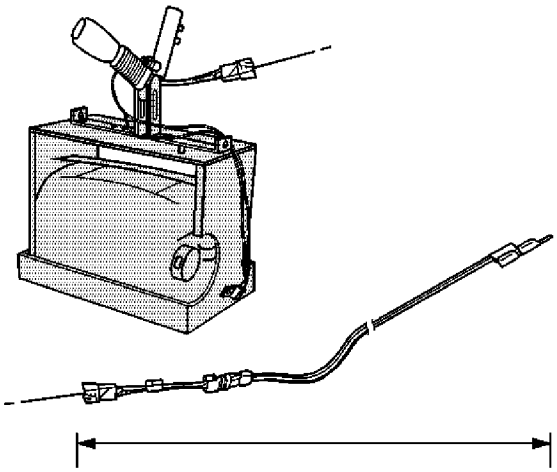
4. Clear a space on the ground about 1.85 M (6 ft) in diameter for deployment of the pretensioner. If possible, use a paved, outdoor location free of activity. Otherwise, use a space free of activity on the shop floor. Make sure you have sufficient ventilation.
5. Make sure no loose or flammable objects are in the area.
6. Place the J 39401-B or SA9413NE in the center of the cleared area.
7. Fill the fixture plastic reservoir with water or sand.



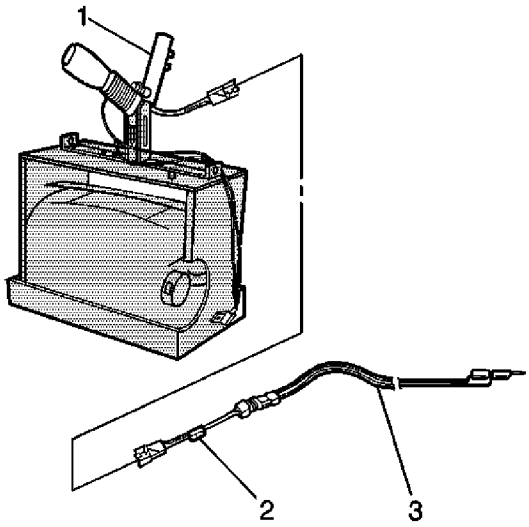
8. Mount the module (1) in the SIR deployment fixture (3) with the open end facing up using the following mounting method.
   - Adjust and secure the J 39401-B or SA9413NE arms (4) to the deployment fixture (3).
   - To mount, use the proper size bolt (2) and nut (5) with washers in order to secure the pretensioner (1) to the deployment fixture brackets (4).
   - Securely tighten all fasteners prior to deployment.



9. Inspect the J 38826 or SA9207Z-A and the appropriate pigtail adapter for damage. Replace as needed.
10. Short the 2 SIR deployment harness (1) leads together using one banana plug seated into the other.
11. Connect the appropriate pigtail adapter (2) to the SIR deployment harness (1).



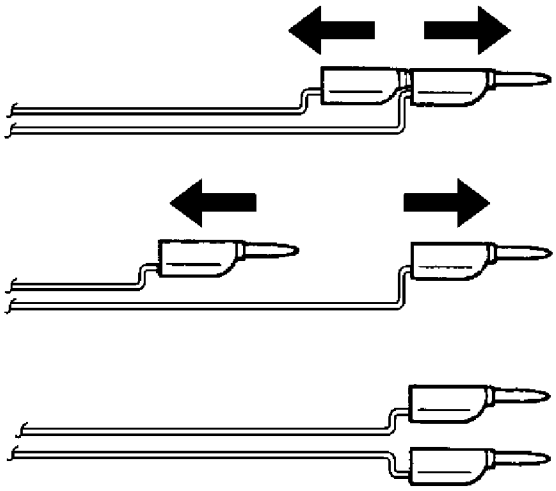
12. Extend the SIR deployment harness and adapter to full length from the deployment fixture.



13. Connect the pretensioner (1) to the adapter (2) on the deployment harness (3).

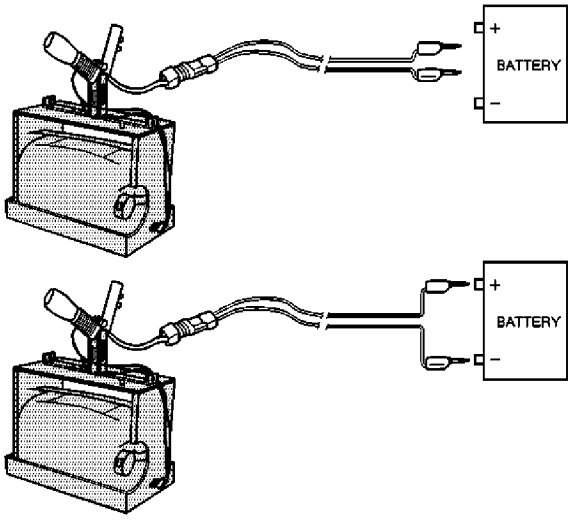
Note: The rapid gas expansion involved with deploying a pretensioner is very loud. Notify all the people in the immediate area that you intend to deploy the seat belt pretensioner.

14. Clear the area of people.



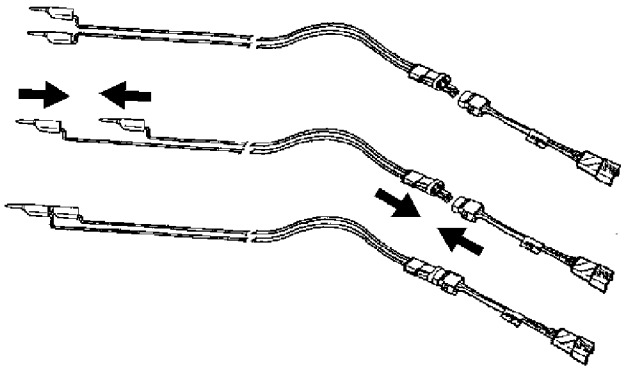
Warning: When you are deploying a pretensioner for disposal, perform the deployment procedures in the order listed. Failure to follow the procedures in the order listed may result in personal injury.

15. Separate the 2 banana plugs on the SIR deployment harness.



Note: When the seat belt pretensioner deploys, the deployment fixture may jump about 30 cm (1 ft) vertically. This is a normal reaction of the seat belt pretensioner due to the force of the rapid expansion of gas inside the pretensioner.

16. Place a 12V minimum/2A minimum power source (i.e., vehicle battery) near the shorted end of the harness.
17. Connect the SIR deployment harness wires to the power source. Pretensioner deployment will occur when contact is made.
18. Disconnect the SIR deployment harness from the power source after the pretensioner deploys.



19. Seat one banana plug into the other in order to short the deployment harness leads.
20. If the pretensioner did not deploy, disconnect the adapter and discontinue the procedure.

Contact the Technical Assistance Group. Otherwise, proceed to the following steps.

21. Put on a pair of shop gloves.
22. Disconnect the pigtail adapter from the pretensioner as soon as possible.
23. Inspect the pigtail adapter and the SIR deployment harness. Replace as needed.
24. Dispose of the deployed pretensioner through normal refuse channels.
25. Wash hands with a mild soap.