

# Component Procedures: Air Bag

## Table of Contents

1. Parts and Labor (itype\_189)
2. Inflatable Restraint Module Handling and Scrapping (Europe) (Article 13317)
3. Inflatable Restraint Module Handling and Scrapping (Except Europe) (Article 13318)
4. Steering Wheel Airbag Replacement (Article 13330)
5. Instrument Panel Airbag Replacement (Article 13320)
6. Front Seat Outboard Seat Back Airbag Replacement (Article 13316)
7. Roof Side Rail Airbag Replacement (Article 13326)
8. All New Technical Service Bulletins (itype\_432)
9. All Technical Service Bulletins (itype\_100)
10. Safety (itype\_107)

# Component Procedures: Air Bag

## Parts and Labor (itype\_189)

### Parts

Qualifier	Part #	Name	Price	Note
Driver Inflator Module	23170890	Driver Inflator Module	0.00	
Passenger Inflator Module	22812719	Passenger Inflator Mod?	750.00	
Inflator Curtain > Right	23149294	Inflator Curtain	0.00	
Inflator Curtain > Left	23149293	Inflator Curtain	0.00	

### Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Replace	Supplemental Restraint System > Driver Inflat?	B	0.4	0.3
Remove & Replace	Supplemental Restraint System > Inflator Curt?	B	1.1	0.8
Remove & Replace	Supplemental Restraint System > Passenger Inf?	B	3.5	2.4
Remove & Replace	Supplemental Restraint System > Side Impact I?	B	1.0	0.7

## Inflatable Restraint Module Handling and Scrapping (Europe) (Article 13317)

### Special Tools

EL-38826 - SIR Deployment Harness

For equivalent regional tools, refer to Special Tools .

### Live and Undeployed Air Bag

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

### Dual Stage Air Bags

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

### Scrapping Procedure

At the end of a vehicle's useful life, certain situations may arise which will require the disposal of a live and undeployed air bag. Do NOT dispose a live and undeployed air bag through normal disposal channels until the air bag has been deployed.

Do not deploy the air bag in the following situations:

- After replacement of an air bag under warranty—the air bag 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 air bags — follow the instructions in the campaign service bulletin for proper SIR handling procedures.

### Deployment Procedures

You can only deploy the air bag inside of the vehicle.

### Deployment Inside Vehicle – Vehicle Scrapping Procedure

Deploy the air bags 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.
- Lower the driver and passenger windows.
- Turn the ignition switch to the OFF position and remove the ignition key.
- Check that all air bags which will be deployed are mounted securely.
- Remove all loose objects from the front seats.
- Disconnect the steering wheel air bag yellow connector (1) from vehicle harness yellow connector (3). [Click for full-size image](#)
- Cut the yellow harness connector out of the vehicle, leaving at least 16 cm (6 in) of wire at the connector.

Click for full-size image

- Strip 13 mm (0.5 in) of insulation from each of the connector wire leads.
- Cut two 6.1 m (20 ft) deployment wires from a 0.8 mm (18 gauge) or thicker multi-strand wire. Use these wires to fabricate the driver deployment harness. Click for full-size image
- Strip 13 mm (0.5 in) of insulation from both ends of the wires.
- 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 air bag.
- Twist together the 2 connector wire leads from the high circuits from both stages of the steering wheel air bag, to one set of deployment wires. Refer to Master Electrical Component List in order to determine the correct circuits. Click for full-size image
- Inspect that the 3-wire connection is secure.
- Secure and insulate the 3-wire connection to the deployment harness using electrical tape.
- Twist together the 2 connector wire leads from the low circuits from both stages of the steering wheel air bag, to one set of deployment wires. Refer to Master Electrical Component List in order to determine the correct circuits. Click for full-size image
- Connect the deployment harness to the connector on the steering wheel air bag.
- Route the deployment harness out of the driver side of the vehicle.
- Disconnect the yellow left roof rail harness connector from the vehicle harness connector.
- Cut the harness connector out of the vehicle, leaving at least 16 cm (6 in) of wire at the connector.
- Cut two 6.1 m (20 ft) deployment wires from a 0.8 mm (18 gauge) or thicker multi-strand wire. These wires will be used to fabricate the roof rail air bag deployment harness.
- Twist together one end from each of the wires in order to short the wires.
- Twist together one connector wire lead to one deployment wire.
- Secure and insulate the connection using electrical tape.
- Twist together and tape the remaining connector wire lead to the remaining deployment wire.
- Connect the deployment harness to the yellow connector of the roof rail air bag.
- Disconnect the instrument panel air bag yellow harness connector (1) from the vehicle harness connector (2).

Click for full-size image

- Cut the yellow harness connector out of the vehicle, leaving at least 16 cm (6 in) of wire at the connector.
- Cut two 6.1 m (20 ft) deployment wires from a 0.8 mm (18 gauge) or thicker multi-strand wire. These wires will be used to fabricate the passenger deployment harness.
- Twist together the 2 connector wire leads from the high circuits from both stages of the instrument panel air bag to one set of deployment wires. Refer to Master Electrical Component List in order to determine the correct circuits.
- Twist together the 2 connector wire leads from the low circuits from both stages of the instrument panel air bag to one set of deployment wires. Refer to Master Electrical Component List in order to determine the correct circuits.
- Connect the deployment harness to the instrument panel air bag in-line connector.
- Route the deployment harness out of the passenger side of the vehicle.
- Disconnect the yellow harness connector to the right roof rail air bag from the vehicle harness connector.
- Connect the deployment harness to the roof rail air bag yellow connector.
- Completely cover the windshield and the front door window openings with a drop cloth.
- Stretch to the full length all of the deployment harness wires on the right side of the vehicle.
- Deploy each deployment loop one at a time.
- Place a power source, 12 V minimum/2A minimum, such as a vehicle battery, near the shorted end of the harnesses.
- Separate one set of wires and touch the wire ends to the power source in order to deploy the selected air bag.
- Disconnect the deployment harness from the power source and twist the wire ends together.
- Continue the same process with the remaining deployment harnesses.
- Disconnect all harnesses from the vehicle.
- Discard the harnesses.
- Scrap the vehicle in the same manner as a non-SIR equipped vehicle.
- If one or all of the air bags did not deploy, remove the undeployed air bags from the vehicle.

## **Inflatable Restraint Module Handling and Scrapping (Except Europe) (Article 13318)**

Special Tools

- EL-38826 - SIR Deployment Harness
- EL-39401-B - SIR Deployment Fixture

For equivalent regional tools, refer to Special Tools .

## Live and Undeployed Air Bag

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

## Dual Stage Air Bags

Dual stage air bags have two deployment stages. If stage 1 was used to deploy a dual stage air bag, stage 2 may still be active. Therefore, a deployed dual stage air bag must be treated as an active air bag. If disposal of a dual stage air bag 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 air bag. Do NOT dispose a live and undeployed air bag through normal disposal channels until the air bag has been deployed.

Do not deploy the air bag in the following situations:

- After replacement of an air bag under warranty—the air bag 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 air bags — follow the instructions in the campaign service bulletin for proper SIR handling procedures.

## Deployment Procedures

You can deploy the air bag 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 Air Bag, Instrument Panel Air Bag, and Roof Rail Air Bag

Deploy the air bag 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 air bag is malfunctioning.
- The air bag is cosmetically damaged, scratched, or ripped.
- The air bag pigtail is damaged.
- The air bag connector is damaged.
- The air bag connector terminals are damaged.

Deployment and disposal of a malfunctioning air bag is subject to any required retention period.

- Turn OFF the ignition.
- Remove the air bag.
- Clear a space on the ground about 1.85 m (6 ft) in diameter for deployment of the air bag 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. [Click for full-size image](#)
- Clear the area of loose or flammable objects.
- If you are deploying a steering wheel air bag, place the air bag in the center of the space with the vinyl trim cover facing up and away from the surface.
- When deploying an instrument panel air bag, perform the following instructions: [Click for full-size image](#)
- Place the EL-39401-B - fixture in the center of the cleared area.
- Fill the deployment fixture with water or sand.
- Using the proper nuts and bolts, mount the instrument panel air bag (1) to the deployment fixture (2), with the vinyl trim facing up.
- Securely tighten all fasteners that hold the instrument panel air bag (1) to the deployment fixture (2).
- When deploying a roof rail air bag, perform the following instructions: [Click for full-size image](#)
- Place the EL-39401-B - fixture (3) in the center of the cleared area.
- Fill the deployment fixture with water or sand to provide sufficient stabilization of fixture during deployment.
- Adjust and secure the fixture arms (4) to the deployment fixture (3), using the proper nuts and bolts.
- Attach the roof rail air bag in the deployment fixture and securely tighten all fasteners.
- Inspect the EL-38826 - harness and the appropriate pigtail adapter (2) for damage. Replace as needed. [Click for full-size image](#)
- Short the 2 SIR deployment harness leads (1) together using one banana plug seated into the other.
- Connect the appropriate pigtail adapter (2) to the SIR deployment harness (1).
- Extend the SIR deployment harness and adapter to the full length from the deployment fixture or area. [Click for full-size image](#)
- Connect the air bag (1) to the adapter (2) on the SIR deployment harness (3). [Click for full-size image](#)
- The rapid expansion of gas involved with deploying an air bag is very loud. Notify all the people in the

immediate area that you intend to deploy the air bag.

- When the air bag deploys, the deployment fixture may jump about 30 cm (1 ft) vertically. This is a normal reaction of the air bag due to the force of the rapid expansion of gas inside the air bag.
- If you are deploying a dual stage air bag with stage 1 already deployed, the fixture may not move and the noise may have been reduced.
- Clear the area of people.
- Separate the 2 banana plugs on the SIR deployment harness that were shorted together earlier in the procedure. [Click for full-size image](#)
- Place a 12 V minimum/2A minimum power source, such as a vehicle battery, near the shorted end of the harness. [Click for full-size image](#)
- Connect the SIR deployment harness wires to the power source. Deployment of the air bag will occur when contact is made.
- Disconnect the SIR deployment harness from the power source after the air bag deploys. [Click for full-size image](#)
- If the air bag 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.
- Seat one banana plug into the other in order to short the deployment harness leads.
- Put on a pair of shop gloves.
- Disconnect the pigtail adapter from the air bag as soon as possible.
- Inspect the pigtail adapter and the SIR deployment harness. Replace as needed.
- Dispose of the deployed air bag through normal refuse channels.
- Wash your hands with a mild soap.

#### Deployment Inside Vehicle – Vehicle Scrapping Procedure

Deploy the air bags 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.
- Lower the driver and passenger windows.
- Turn the ignition switch to the OFF position and remove the ignition key.
- Check that all air bags which will be deployed are mounted securely.
- Remove all loose objects from the front seats.
- Disconnect the steering wheel air bag yellow connector (1) from vehicle harness yellow connector (3). [Click for full-size image](#)
- Cut the yellow harness connector out of the vehicle, leaving at least 16 cm (6 in) of wire at the connector. [Click for full-size image](#)
- Strip 13 mm (0.5 in) of insulation from each of the connector wire leads.
- Cut two 6.1 m (20 ft) deployment wires from a 0.8 mm (18 gauge) or thicker multi-strand wire. Use these wires to fabricate the driver deployment harness. [Click for full-size image](#)
- Strip 13 mm (0.5 in) of insulation from both ends of the wires.
- 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 air bag.
- Twist together the 2 connector wire leads from the high circuits from both stages of the steering wheel air bag, to one set of deployment wires. Refer to Master Electrical Component List in order to determine the correct circuits. [Click for full-size image](#)
- Inspect that the 3-wire connection is secure.
- Secure and insulate the 3-wire connection to the deployment harness using electrical tape.
- Twist together the 2 connector wire leads from the low circuits from both stages of the steering wheel air bag, to one set of deployment wires. Refer to Master Electrical Component List in order to determine the correct circuits. [Click for full-size image](#)
- Connect the deployment harness to the connector on the steering wheel air bag.
- Route the deployment harness out of the driver side of the vehicle.
- Disconnect the yellow left roof rail harness connector from the vehicle harness connector.
- Cut the harness connector out of the vehicle, leaving at least 16 cm (6 in) of wire at the connector.
- Cut two 6.1 m (20 ft) deployment wires from a 0.8 mm (18 gauge) or thicker multi-strand wire. These wires will be used to fabricate the roof rail air bag deployment harness.
- Twist together one end from each of the wires in order to short the wires.
- Twist together one connector wire lead to one deployment wire.

- Secure and insulate the connection using electrical tape.
- Twist together and tape the remaining connector wire lead to the remaining deployment wire.
- Connect the deployment harness to the yellow connector of the roof rail air bag.
- Disconnect the instrument panel air bag yellow harness connector (1) from the vehicle harness connector (2).  
Click for full-size image
- Cut the yellow harness connector out of the vehicle, leaving at least 16 cm (6 in) of wire at the connector.
- Cut two 6.1 m (20 ft) deployment wires from a 0.8 mm (18 gauge) or thicker multi-strand wire. These wires will be used to fabricate the passenger deployment harness.
- Twist together the 2 connector wire leads from the high circuits from both stages of the instrument panel air bag to one set of deployment wires. Refer to Master Electrical Component List in order to determine the correct circuits.
- Twist together the 2 connector wire leads from the low circuits from both stages of the instrument panel air bag to one set of deployment wires. Refer to Master Electrical Component List in order to determine the correct circuits.
- Connect the deployment harness to the instrument panel air bag in-line connector.
- Route the deployment harness out of the passenger side of the vehicle.
- Disconnect the yellow harness connector to the right roof rail air bag from the vehicle harness connector.
- Connect the deployment harness to the roof rail air bag yellow connector.
- Completely cover the windshield and the front door window openings with a drop cloth.
- Stretch to the full length all of the deployment harness wires on the right side of the vehicle.
- Deploy each deployment loop one at a time.
- Place a power source, 12 V minimum/2A minimum, such as a vehicle battery, near the shorted end of the harnesses.
- Separate one set of wires and touch the wire ends to the power source in order to deploy the selected air bag.
- Disconnect the deployment harness from the power source and twist the wire ends together.
- Continue the same process with the remaining deployment harnesses.
- Disconnect all harnesses from the vehicle.
- Discard the harnesses.
- Scrap the vehicle in the same manner as a non-SIR equipped vehicle.
- If one or all of the air bags did not deploy, remove the undeployed air bags from the vehicle.

## Steering Wheel Airbag Replacement (Article 13330)

### Removal Procedure

- Disable the supplemental inflatable restraint ( SIR ) system. Refer to SIR Disabling and Enabling .
- Turn steering wheel 180 degrees to access holes (2).
- Insert suitable tools to the openings (2) on both sides of the steering wheel (1).
- Release the springs in direction of the arrows.
- Release the connector position assurance (CPA) retainer.
- Disconnect the electrical connectors.

### Installation Procedure

- Connect the electrical connectors (1). Click for full-size image
- Align the steering wheel module fasteners to the steering column fastener holes. Click for full-size image
- Push the steering wheel module (1) firmly into the steering column in order the engage the fasteners.
- Enable the SIR system. Refer to SIR Disabling and Enabling .
- Refer to Inflatable Restraint Module Handling and Scrapping .

## Instrument Panel Airbag Replacement (Article 13320)

### Callout Component Name

Warning: Refer to SIR Inflator Module Handling and Storage Warning . Warning: Refer to SIR Warning .

Preliminary Procedures Disable the SIR system. SIR Disabling and Enabling Remove the instrument panel trim pad. Refer to Instrument Panel Trim Pad Replacement .

### Preliminary Procedures

- Disable the SIR system. SIR Disabling and Enabling
- Remove the instrument panel trim pad. Refer to Instrument Panel Trim Pad Replacement .

1 Instrument Panel Airbag Procedure Inflatable Restraint Module Handling and Scrapping Insert a wood straight edge, one per side behind all locking tabs, to simultaneously release the instrument panel airbag housing from the instrument panel chute without overextending the airbag locking tabs. Use a wood straight edge that is approximately 50.8 cm (20 in) long and 5 mm (0.20 in) thick with a rounded edge. Enable the SIR System. SIR

## Disabling and Enabling

### Procedure

- Inflatable Restraint Module Handling and Scrapping
- Insert a wood straight edge, one per side behind all locking tabs, to simultaneously release the instrument panel airbag housing from the instrument panel chute without overextending the airbag locking tabs. Use a wood straight edge that is approximately 50.8 cm (20 in) long and 5 mm (0.20 in) thick with a rounded edge.
- Enable the SIR System. SIR Disabling and Enabling

## Front Seat Outboard Seat Back Airbag Replacement (Article 13316)

### 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. Warning: Do not repair or replace the seat stitching or seams in the seat back trim cover with an internal mounted seat side airbag module. Replace the complete seat back trim cover from the OEM. Non-OEM seat stitching may cause improper airbag deployment which could result in personal injury. Preliminary Procedure Disable the SIR system. Refer to SIR Disabling and Enabling . Remove the front seat. Refer to Front Seat Removal and Installation . Remove the front seat back cushion cover and pad. Refer to Front Seat Back Cover and Pad Replacement .

- The seat cushion frame
- The seat recliner, if equipped
- The seat adjuster
- The seat back frame

### Preliminary Procedure

- Disable the SIR system. Refer to SIR Disabling and Enabling .
  - Remove the front seat. Refer to Front Seat Removal and Installation .
  - Remove the front seat back cushion cover and pad. Refer to Front Seat Back Cover and Pad Replacement .
- 1 Inflatable Restraint Front Seat Side Module Procedure Remove the module out of the chute by removing it through the bottom opening of the chute. When installing the airbag module into the seat trim cover chute, ensure there is no twisting of the chute by fitting the module studs through the chute holes for proper alignment and also make sure that the top of the module protrudes through the correct access hole. Refer to Inflatable Restraint Module Handling and Scrapping .

### Procedure

- Remove the module out of the chute by removing it through the bottom opening of the chute.
- When installing the airbag module into the seat trim cover chute, ensure there is no twisting of the chute by fitting the module studs through the chute holes for proper alignment and also make sure that the top of the module protrudes through the correct access hole.
- Refer to Inflatable Restraint Module Handling and Scrapping .

## Roof Side Rail Airbag Replacement (Article 13326)

### Callout Component Name

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: When installing the roof rail airbag , do not twist or turn the airbag 360 degrees. Securing the roof rail airbag with an airbag twisted or turned 360 degrees may cause the airbag not to deploy correctly and could cause personal injury. Warning: Refer to SIR Warning . Warning: Refer to SIR Inflator Module Handling and Storage Warning . Preliminary Procedures Disable the SIR system. Refer to SIR Disabling and Enabling . Lower the side of the headliner. Refer to Headlining Trim Panel Replacement . Lower the side of the headliner, if equipped. Refer to Sunroof Panel Trim Panel Replacement .

### Preliminary Procedures

- Disable the SIR system. Refer to SIR Disabling and Enabling .
- Lower the side of the headliner. Refer to Headlining Trim Panel Replacement .
- Lower the side of the headliner, if equipped. Refer to Sunroof Panel Trim Panel Replacement .

1 Roof Side Rail Inflatable Restraint Module Fastener (Qty: 8) Caution: Refer to Fastener Caution . Tighten 9 Nm (80 lb in)

9 Nm (80 lb in)

2 Inflatable Restraint Roof Side Rail Module Assembly Procedure Disconnect the electrical connector. Release the integral clips. Remove the roof side rail inflatable restraint module from the vehicle. Refer to Inflatable Restraint Module Handling and Scrapping .

#### Procedure

- Disconnect the electrical connector.
- Release the integral clips.
- Remove the roof side rail inflatable restraint module from the vehicle.
- Refer to Inflatable Restraint Module Handling and Scrapping .

### **All New Technical Service Bulletins (itype\_432)**

#### Tsbs

- N232413120 — Driver Front Airbag Inflator May Rupture (N232413120-02, 2024/05/09)

### **All Technical Service Bulletins (itype\_100)**

#### Tsbs

- Recall 13V463000: Air Bag Label Non-Compliance (NHTSA13V463000, 2013/09/26)
- N232413120 — Driver Front Airbag Inflator May Rupture (N232413120-02, 2024/05/09)

### **Safety (itype\_107)**

#### Tsbs

- Recall 13V463000: Air Bag Label Non-Compliance (NHTSA13V463000, 2013/09/26)
- N232413120 — Driver Front Airbag Inflator May Rupture (N232413120-02, 2024/05/09)