

721 Airbag System (SRS)

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GENERAL

This repair group covers only removal and installation of airbag components. Airbag system repair and fault diagnosis is not covered here. Diagnostics, component testing, and repair should be carried out by properly trained BMW service technicians using specialized test equipment.

NOTE—

Special test equipment is required to retrieve SRS fault codes, diagnose system faults, and reset/turn off the SRS indicator light. The SRS indicator light will remain on until any problem has been corrected and the fault memory has been cleared.

When working on or servicing cars equipped with SRS, the precautions on this page must be observed to prevent injury.

SRS Warning Light and Fault Display

The airbag system utilizes a self-diagnostic control module to detect and store system faults. If a fault is detected, the SRS indicator in the instrument cluster comes on and stays on.

When the ignition key is turned on, the indicator light will illuminate for approximately 4-6 seconds. The light indicates the self-test of the electronic control/monitoring module, the ignitors and sensor circuits, and the system wiring. The airbag system should be inspected by an authorized BMW dealer if the indicator light does not come on, if it does not go out in approximately 4-6 seconds after switching on the ignition, or if the light comes on during driving. If the system has detected a fault, the light will come on and stay on.

AIRBAGS

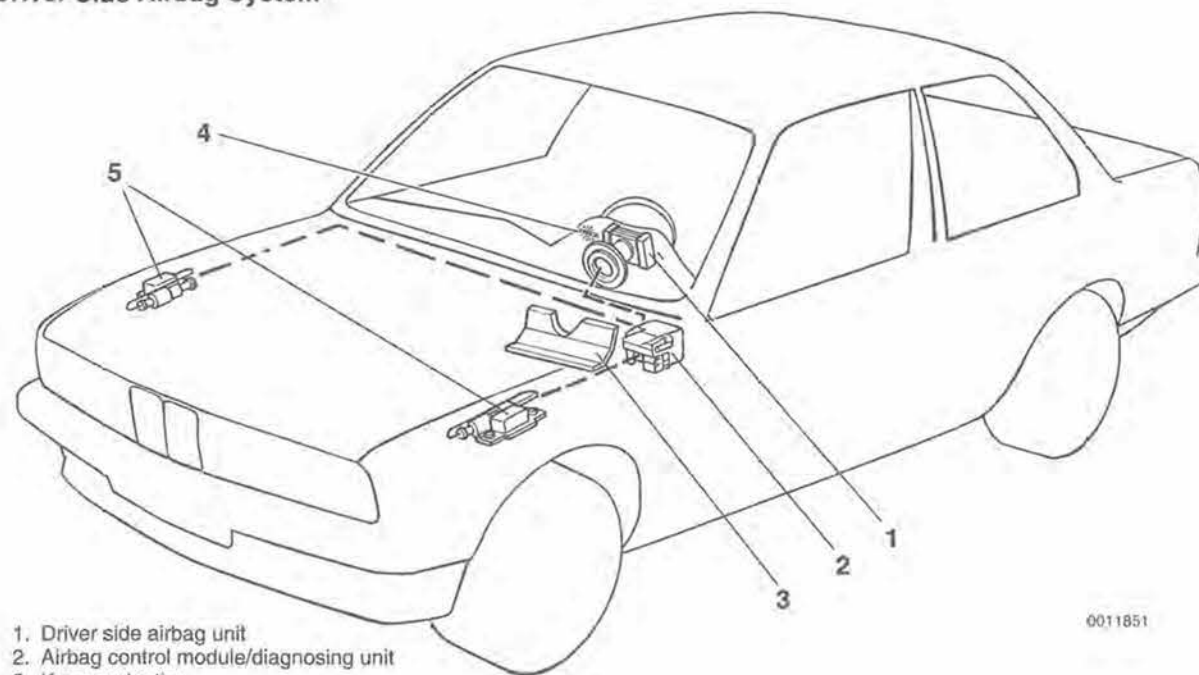
Airbag system components include an electronic control/monitoring module, an indicator light in the instrument cluster and an inflatable airbag equipped with a gas generator in the steering wheel, and where applicable, an inflatable airbag equipped with a gas generator in the passenger side of the dashboard. In addition to the airbags, the vehicle is equipped with a knee bolster(s) for extra protection.

721-2 AIRBAG SYSTEM (SRS)

WARNING—

- Airbag(s) are inflated by an explosive device. Handled improperly or without adequate safeguards, the system can be very dangerous. Special precautions must be observed prior to any work at or near the driver side airbag or the passenger side airbag (where applicable).
- The airbag is a vehicle safety system. Serious injury may result if system service is attempted by persons unfamiliar with the BMW SRS and its approved service procedures. BMW advises that all inspection and service be performed by an authorized BMW dealer.
- Always disconnect the battery and cover the negative (–) battery terminal with an insulator before starting diagnostic, troubleshooting or service work not associated with SRS, and before doing any welding on the car.
- If an airbag has been activated due to an accident, BMW specifies that SRS components be replaced. For more information on post-collision SRS service, see an authorized BMW dealer.
- Do not allow the airbag unit to come in contact with cleaning solutions or grease. Never subject an airbag unit to temperatures above 212°F (100°C). When reconnecting the battery, no person should be inside the vehicle.
- Always place an airbag unit that has been removed from its packaging with the padded side facing upward. Do not leave an airbag unit unattended.
- If the airbag unit or airbag control module has been dropped from a height of 1/2 meter (1 1/2 ft.) or more, the airbag unit should not be installed.

Driver Side Airbag System



1. Driver side airbag unit
2. Airbag control module/diagnosing unit
3. Knee protection
4. SRS indicator in instrument cluster
5. Crash sensors

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AIRBAG SYSTEM (SRS) 721-3

Driver side airbag, removing and installing

- Disconnect negative (–) battery cable. See **020 Maintenance**.

CAUTION—

Prior to disconnecting the battery, read the battery disconnection cautions given at the front of this manual on page viii.



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- Working behind steering wheel, remove Torx screws (arrows, T30 or T27) while holding airbag in place. Support airbag unit to prevent it from falling out.



0011892

- Carefully lift airbag unit off steering wheel and disconnect orange harness connector (arrow) from rear of airbag unit. Store airbag in safe place.

WARNING—

- Store the removed airbag unit with the horn pad facing up. If stored facing down, accidental deployment could propel it violently into the air, causing injury.
- Once an airbag is removed, the car must not be driven. The airbag unit should be stored in a safe place with the horn pad facing up.
- Do not connect the battery with the airbag disconnected. A fault code will be stored in the control module, causing the SRS light to illuminate. Special tools are needed to reset the fault memory.

- Installation is reverse of removal.
- Place airbag unit into position and connect harness connector to rear of airbag unit.
- Tighten right side screw on airbag first (as viewed from the driver's seat), then left side screw.
- Reconnect battery last.

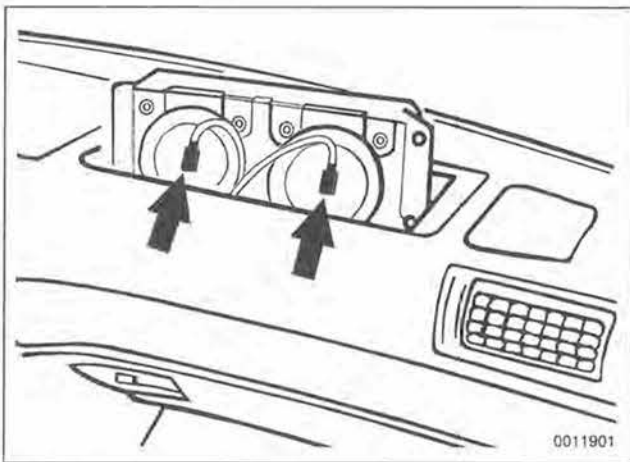
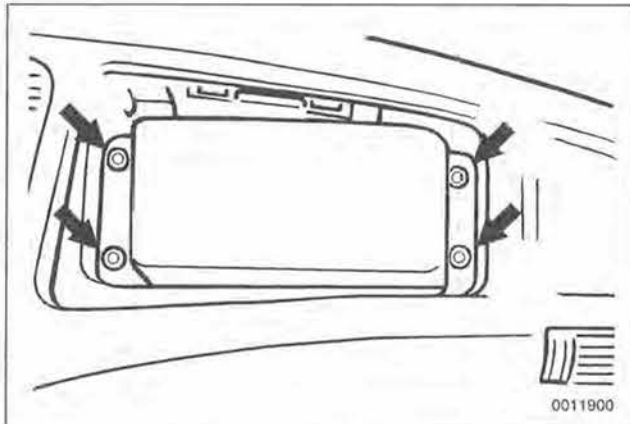
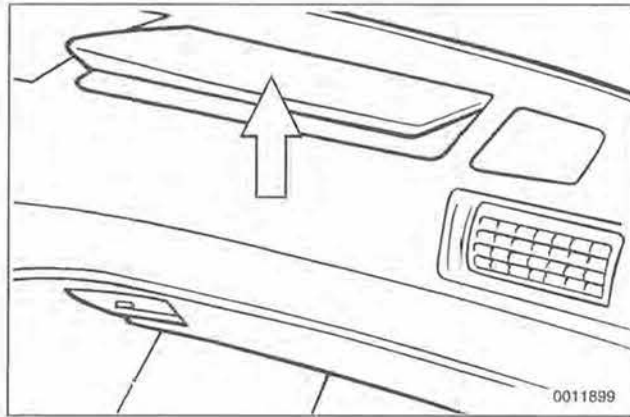
Tightening Torque

- Airbag unit to steering wheel 8 Nm (71 in-lb)

WARNING—

Once the airbag unit is installed and all other service procedures have been completed, start the engine and check that the SRS warning light goes out. If the warning light stays on, the SRS system will not function as designed. Have the system diagnosed and repaired by an authorized BMW dealer.

721-4 AIRBAG SYSTEM (SRS)



Passenger side airbag, removing and installing

- Disconnect negative (–) battery cable. See 020 Maintenance.

CAUTION—

Prior to disconnecting the battery, read the battery disconnection cautions given at the front of this manual on page viii.

- Carefully lift out cover from top of passenger side airbag on dashboard.

- Remove passenger side airbag mounting bolts (arrows).

- Disconnect electrical connectors (arrows) from rear of air bag unit and remove airbag.

WARNING—

• Store the removed airbag unit with the horn pad facing up. If stored facing down, accidental deployment could propel it violently into the air, causing injury.

• Once the airbag unit is installed and all other service procedures have been completed, start the engine and check that the SRS warning light goes out. If the light stays on, the SRS system will not function as designed. Have the system diagnosed and repaired by an authorized BMW dealer.

- Installation is reverse of removal. Make sure wiring harness is not pinched when installing airbag unit in dashboard.

Airbag contact ring, replacing

The airbag contact ring is mounted to the rear of the steering wheel and is made up of a wire ribbon that coils and uncoils as the steering wheel is turned. The contact ring assures continuous electrical contact to the driver side airbag unit.

- Disconnect negative (–) battery cable. See **020 Maintenance**.

CAUTION—

Prior to disconnecting the battery, read the battery disconnection cautions given at the front of this manual on page viii.

- Remove driver side airbag from steering wheel. See **Driver side airbag, removing and installing**.
- Remove steering wheel. See **320 Steering and Wheel Alignment**.
- Remove contact ring cover (flat plastic ring containing warning text) from steering wheel, if applicable.

- Pry out airbag contact ring lock (**arrow**) and remove spring from behind lock.

WARNING—

• The contact ring lock holds the contact ring in the centered position. Once the lock is removed from the steering wheel, the contact ring is free to rotate. Do not allow the contact ring to rotate once the lock is removed.

• If the contact ring is accidentally rotated out of its center position, turn the ring either fully clockwise or counterclockwise, then turn it in the opposite direction 3 complete revolutions until the alignment arrow can be seen through the lock opening.



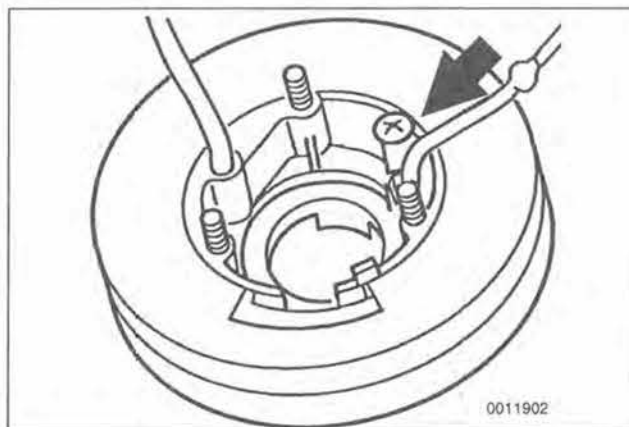
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- Remove contact ring mounting nuts (**arrows**) nuts or screws. Disconnect wire lead(s) and remove contact ring from rear of steering wheel.
- Installation is reverse of removal, noting the following:
 - Coat horn slip ring (electrical contact ring) with CRC® copper paste before installing steering wheel.
 - When installing contact ring lock, make sure lock spring engages pins on lock and lock cover.
 - Special instructions apply when installing airbag equipped steering wheel. See **320 Steering and Wheel Alignment**.
 - Route wiring lead for horn through square opening in steering wheel.

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➤ Airbag contact ring locking screw (**arrow**), as installed on new replacement part from BMW.

- When installing a new contact ring from BMW, remove locking screw after installing the contact ring to steering wheel.
- Lock contact ring mounting nuts in place using lacquer paint or varnish.

Airbag crash sensor, replacing

The airbag system uses two crash sensors mounted in the engine compartment on the left and right wheel arches. The sensors are identified by their orange color.

- Disconnect negative (–) battery cable. See **020 Maintenance**.

CAUTION—

Prior to disconnecting the battery, read the battery disconnection cautions given at the front of this manual on page viii.

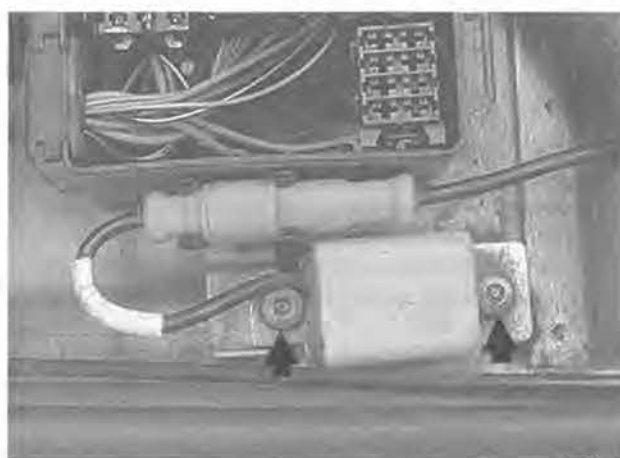
- Remove lower left dash panel as described in **513 Interior Trim**.
- Remove lower steering column trim. Remove orange SRS connector from its holder and carefully separate connector.
- Remove passenger side airbag harness connectors as described in **Passenger side airbag, removing and installing** earlier in this section.

➤ Working in engine compartment, remove anti-tamper Torx screws (**arrows**) from crash sensor. Remove sensor and disconnect harness connector.

- Installation is reverse of removal. Make sure arrow on sensor faces forward when installing sensor.

WARNING—

Once the airbag unit is installed and all other service procedures have been completed, start the engine and check that the SRS warning light goes out. If the warning light stays on, the SRS system will not function as designed. Have the system diagnosed and repaired by an authorized BMW dealer.



Tightening Torques

- Airbag crash sensor to sensor mounting 10 Nm (89 in-lb)

