

Supplementary restraints system

PRINCIPLE OF OPERATION

Introduction

In the event of a collision the airbag control unit monitors the rate of deceleration caused by the collision. This information is then used to determine whether airbags should be deployed.

Airbag deployment is dependent on the rate at which the passenger compartment changes speed following the collision. The circumstances affecting different collisions (vehicle speed, angle of impact, type and size of object hit, etc.) vary considerably, and will affect the rate of deceleration accordingly.

The Supplementary Restraint System (SRS) components include:-

- SRS warning indicator.
- Rotary coupler.
- Airbag modules.
- Seat belt pre-tensioners.
- Airbag diagnostic control unit.
- Crash sensors.
- Airbag wiring harnesses.
- Seat occupancy sensor.

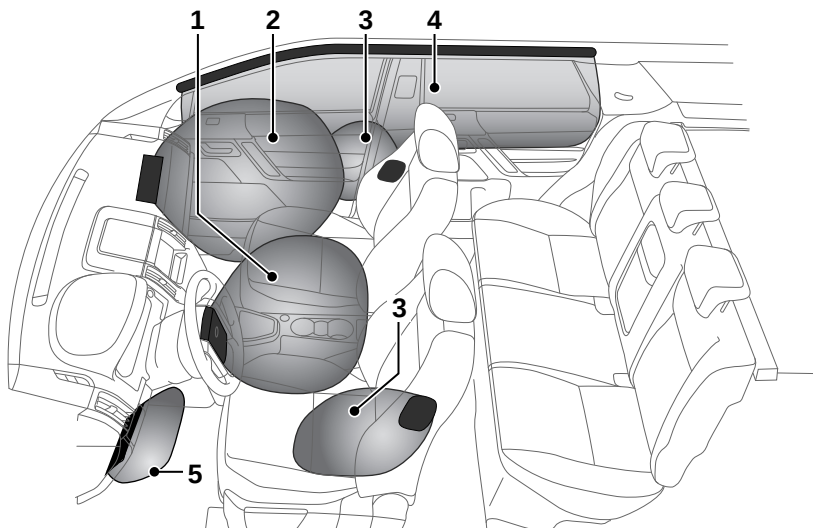
Note: The SRS is not designed to operate as a result of:

- Rear impacts.
- Minor front impacts.
- Minor side impacts.
- Heavy braking.
- Driving over bumps and pot holes.

Therefore, it follows that considerable superficial damage to the vehicle can occur without causing the airbags to deploy.

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Airbags



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1. Driver's airbag.
2. Front passenger airbag.
3. Seat mounted side airbags.
4. Curtain airbags (not fitted to commercial variants).
5. Knee-bolster airbag.

WARNINGS



High speed impacts may cause serious injury or death irrespective of safety features fitted to a vehicle.

Always drive with caution and consideration for the vehicle's characteristics, road and weather conditions, and do not exceed any speed limits in force.

WARNINGS



Seat belts should be worn at all times, by the driver and passengers in all seating positions. The airbag SRS cannot provide protection in some types of impact. Under these circumstances the only protection will be provided by a correctly worn seat belt.



Airbags inflate at high speeds, and can cause injuries. To minimise the risk of injury, ensure that all vehicle occupants wear correctly positioned seat belts, sit correctly in the seats, and position the seats as far back as practical.



Ensure that a gap is maintained between the side of the vehicle, and the head and torso. This will enable unobstructed inflation of the curtain, and seat mounted side airbags.

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WARNINGS



Airbag inflation takes place instantaneously, and cannot protect against the effects of secondary impacts. Under these circumstances the only protection will be provided by a correctly worn seat belt.



Phone systems should only be installed by qualified persons familiar with the operation of, and requirements for, vehicles fitted with SRS. If you are in any doubt, seek advice from your Land Rover Dealer/Authorised repairer.

Note: The location points of airbags fitted to the vehicle are marked by the word AIRBAG embossed into the trim.

Always contact your Land Rover Dealer/Authorised repairer if:-

- An airbag inflates.
- The front or sides of the vehicle are damaged.
- Any part of the SRS shows signs of cracking or damage, including trim covering airbags.

Airbag operation

WARNINGS



For the airbags to operate correctly the roof lining and door post trims must be in good condition, correctly fitted, and free from obstruction. Any damage, wear, or incorrect fitment should be referred to your Land Rover Dealer/Authorised repairer as soon as possible for examination and repair.

WARNINGS



Do not allow passengers to obstruct the operation of the airbags by placing any part of their person, or any objects, in contact with, or close to, an airbag module. Airbags deploy at very high speeds, and can cause serious injury or death if objects or occupants are within the area of deployment.

Airbags cannot deploy correctly if they are obstructed. Examples of obstructions are:-

- Any part of an occupants body in contact with, or close to, an airbag cover.
- Objects placed on, or close to, an airbag cover.
- Clothing, sun screens, or other material hanging from grab handles.
- Clothing, cushions, or other material, covering seat mounted airbags.
- Seat covers which are not approved by Land Rover, or specifically designed for use with seat mounted airbags.

This list is not exhaustive, and it remains the responsibility of the driver and passengers to ensure that the airbags are not obstructed in any way.

Deployment and deflation

In the event of a collision the airbag control system monitors the rate, and direction of deceleration. If required to supplement the seat belts, airbags will be deployed as appropriate.

Front airbags

The front passenger's, and driver's airbags are able to deploy in two stages depending on the severity of the frontal impact. In a severe impact the airbags inflate fully to offer maximum protection. In a lesser impact full deployment is not required, so the airbags are partially inflated.

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Side and curtain airbags

Note: *Curtain airbags are not fitted to the commercial variant.*

Side and curtain airbags are designed to offer increased protection for the torso and head in a side impact. The curtain airbags deflate at a slower rate than the front, or side airbags to afford greater protection from serious head injuries.

Airbag deployment effects

WARNINGS



When an airbag inflates a fine powder is released. This is normal, and not an indication of a malfunction. However, the powder may cause irritation to the skin, and should be thoroughly flushed from eyes, and any cuts or abrasions.



After inflation some airbag components are at high temperatures. To prevent injury, do not touch the airbag components until they have cooled.



In order to react with sufficient speed, airbags are deployed by an explosive charge. Consequently airbag deployment is accompanied by a very loud noise which may cause discomfort and temporary loss of hearing.

AIRBAG WARNING LAMP



The airbag warning indicator is mounted in the instrument pack, and will illuminate as a bulb check when the ignition is turned on.

If any of the following warning indicator conditions occur, the vehicle should be checked by your Land Rover Dealer/Authorised repairer immediately.

- The warning indicator fails to illuminate when the ignition is turned on.
- The warning indicator fails to extinguish within six seconds of the ignition being turned on.
- The warning indicator illuminates at any time other than the bulb check, when the ignition is turned on.

WARNING

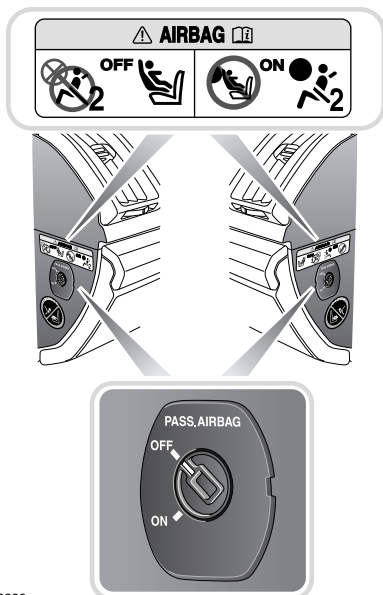


If the warning indicator signals that a fault is present in the system, do not use a child restraint on the front passenger seat. Doing so will increase the risk of death or serious injury to the child.

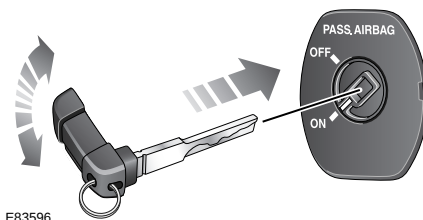
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DISABLING THE PASSENGER AIRBAG

Note: The passenger airbag should be disabled only when a rearward facing child restraint is fitted to the front passenger seat.



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To disable the passenger airbag:-

1. Remove the emergency key from the remote control. See **USING THE KEY** (page 40).
2. Insert the end of the key blade into the slot in the switch and rotate the switch to the off position.

WARNING



As soon as the child seat is removed from the front passenger seat the airbag must be turned on. Failure to do so will put any front seat passengers at greater risk of death or serious injury in the event of a frontal impact.

WARNINGS



Crash test data and statistics show that the safest place for a child to be restrained is in a child seat correctly fitted to the vehicle's rear seat.



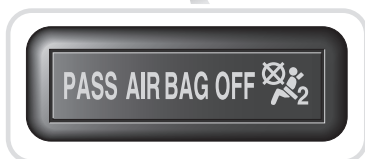
Do not use a child restraint on a seat protected by an operational airbag in front of it. Doing so presents a high risk of death or serious injury to the child in the event of an accident.



Do not fit a child restraint to the front passenger seat if the SRS warning light illuminates continuously with the ignition on.

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Operational status indicator



LAN1685

WARNING



When checking the operational status of the front passenger airbag, ensure that the ignition is switched on.

The passenger airbag operational status indicator illuminates yellow when the airbag has been disabled.

Note: The indicator will only illuminate when the ignition is turned on or the engine is running.

AIRBAG SERVICE INFORMATION

WARNINGS



Do not attempt to service, repair, replace, modify, or tamper with, any part of the SRS. This includes wiring or components in the vicinity of SRS components. Doing so may cause the system to trigger, or render the system inoperative, either of which may result in death or serious injuries.



Do not use any electrical test equipment, or devices in the vicinity of SRS components or wiring. Doing so may cause the system to trigger, or render the system inoperative, either of which may result in death or serious injuries.

All of the following operations should only be carried out by a Land Rover Dealer/Authorised Repairer, or suitably qualified person:-

- Removal or repair of any wiring or component in the vicinity of any SRS components.
- Installation of electrical, or electronic, equipment and accessories.
- Modification to the front or sides of the vehicle exterior.
- Attachment of accessories to the front or sides of the vehicle.