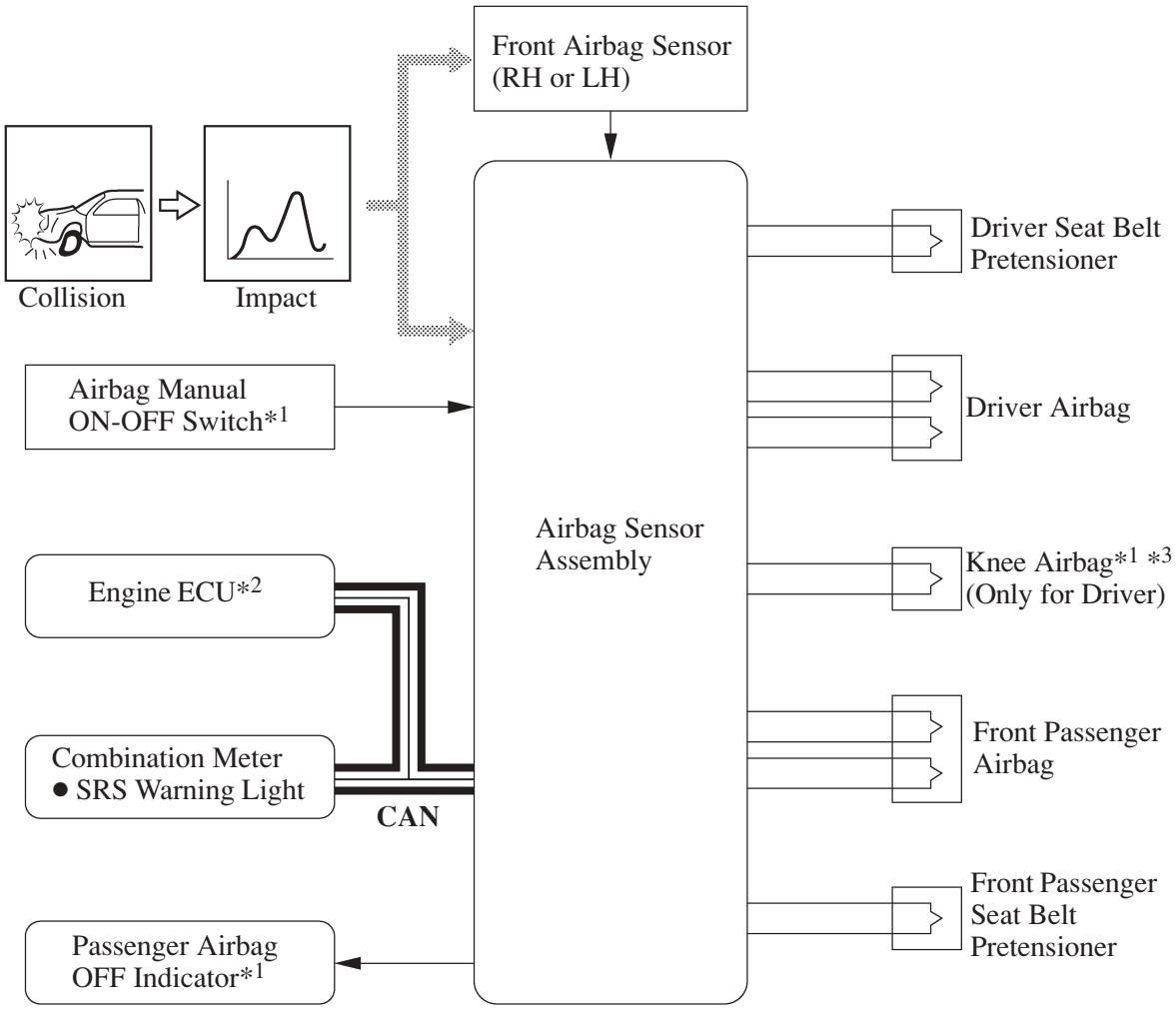
■ AIRBAG FOR FRONTAL COLLISION

1. General

In conjunction with impact absorbing structure for front collision, the driver and front passenger dual-stage SRS airbags and the driver knee airbag have been designed to help reduce injury to the head, chest and leg in the event of a front collision. These airbags all deploy with the same timing, and are supplements to the seat belts.

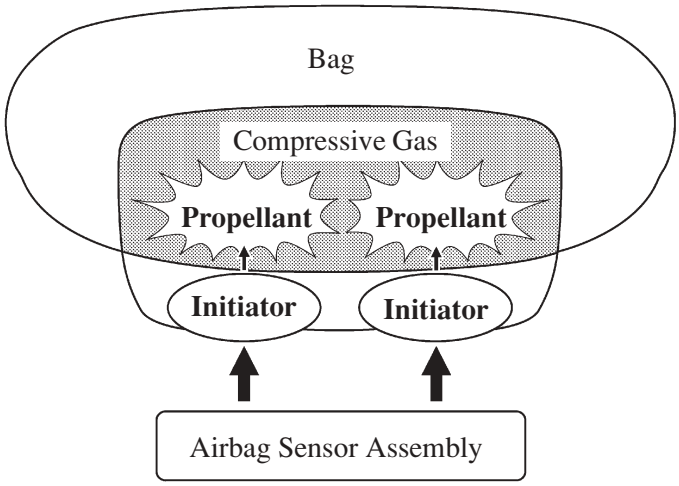
▶ System Operation ◀



*1: Only for Europe Models
*2: Only for Gasoline Engine Models
*3: Only for Models with Driver, Front Passenger, Side, Curtain Shield and Knee Airbags

2. Dual-stage SRS Airbags

To support the dual-stage control, these airbag assemblies contain 2 sets of initiators and propellants. The airbag sensor assembly helps optimize the airbag inflation output by delaying the inflation timing of these initiators.

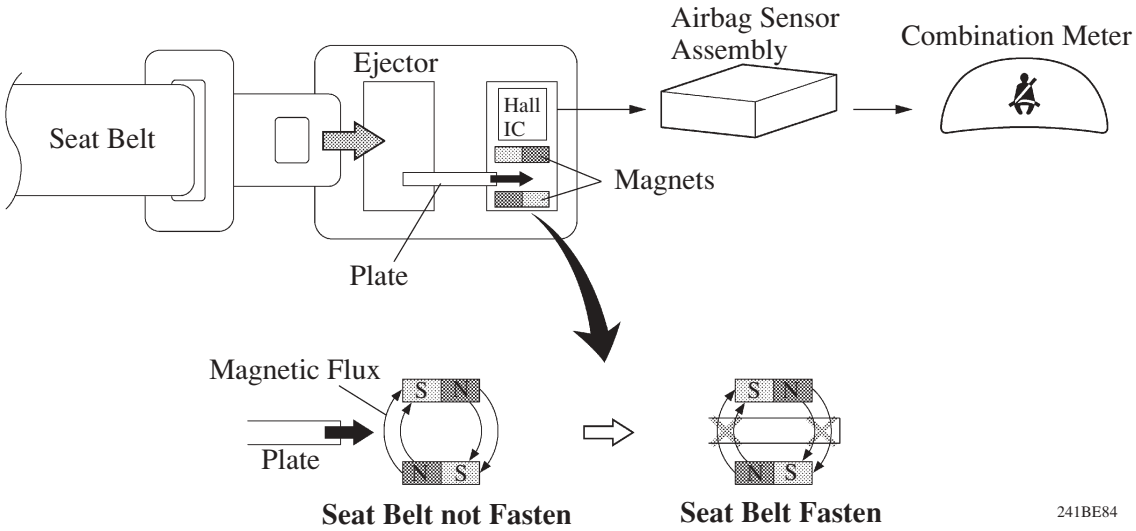


3. Front Airbag Sensor

- The electrical (acceleration sensor) type airbag sensor is used for front airbag sensor.
- The acceleration sensor is enclosed in the front airbag sensor. Based on the deceleration of the vehicle during a front collision, a distortion is created in the sensor and converted into an electrical signal. Accordingly, the extent of the initial collision can be detected in detail.

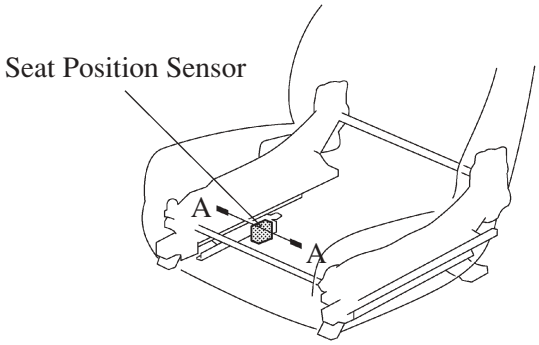
4. Seat Belt Buckle Switch (for Driver)

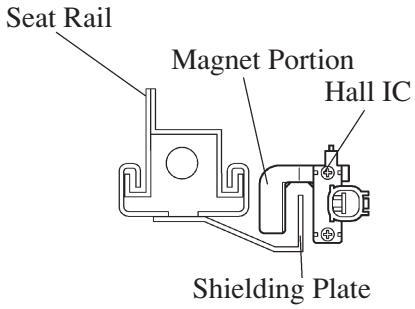
- The seat belt buckle switch which consists of an ejector with a plate, a Hall IC, and two magnets is integrated in the front seat inner belt assembly.
- The ejector with plate blocks the magnetic flux density between the two magnets. The Hall IC outputs this change to the airbag sensor assembly.



5. Seat Position Sensor (for Driver)

- The seat position sensor which is attached to the seat rail of the driver seat detects the sliding position of the seat. In addition, the shielding plate is installed on this seat rail to make the seat position sensor judge the seat position.
- The seat position sensor uses a Hall IC for its sensor and has a magnet portion on its opposite side.

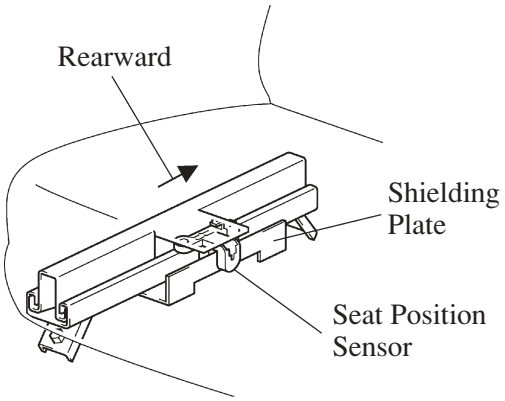




A – A Cross Section

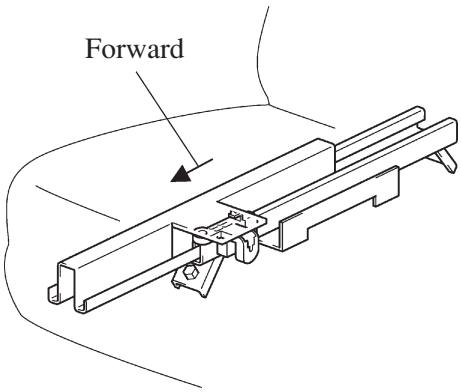
232BE47

- The seat position sensor determines that the seat position is rearward if the shielding plate is located over the sensor, and the seat position is forward if the shielding plate is not located over the sensor.



230LX91

Seat position is rearward

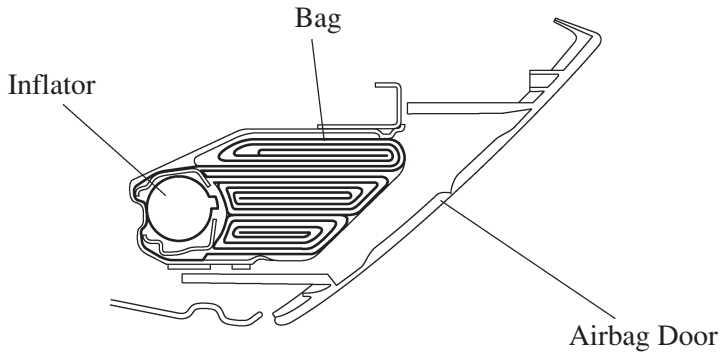


230LX92

Seat position is forward

6. SRS Knee Airbag

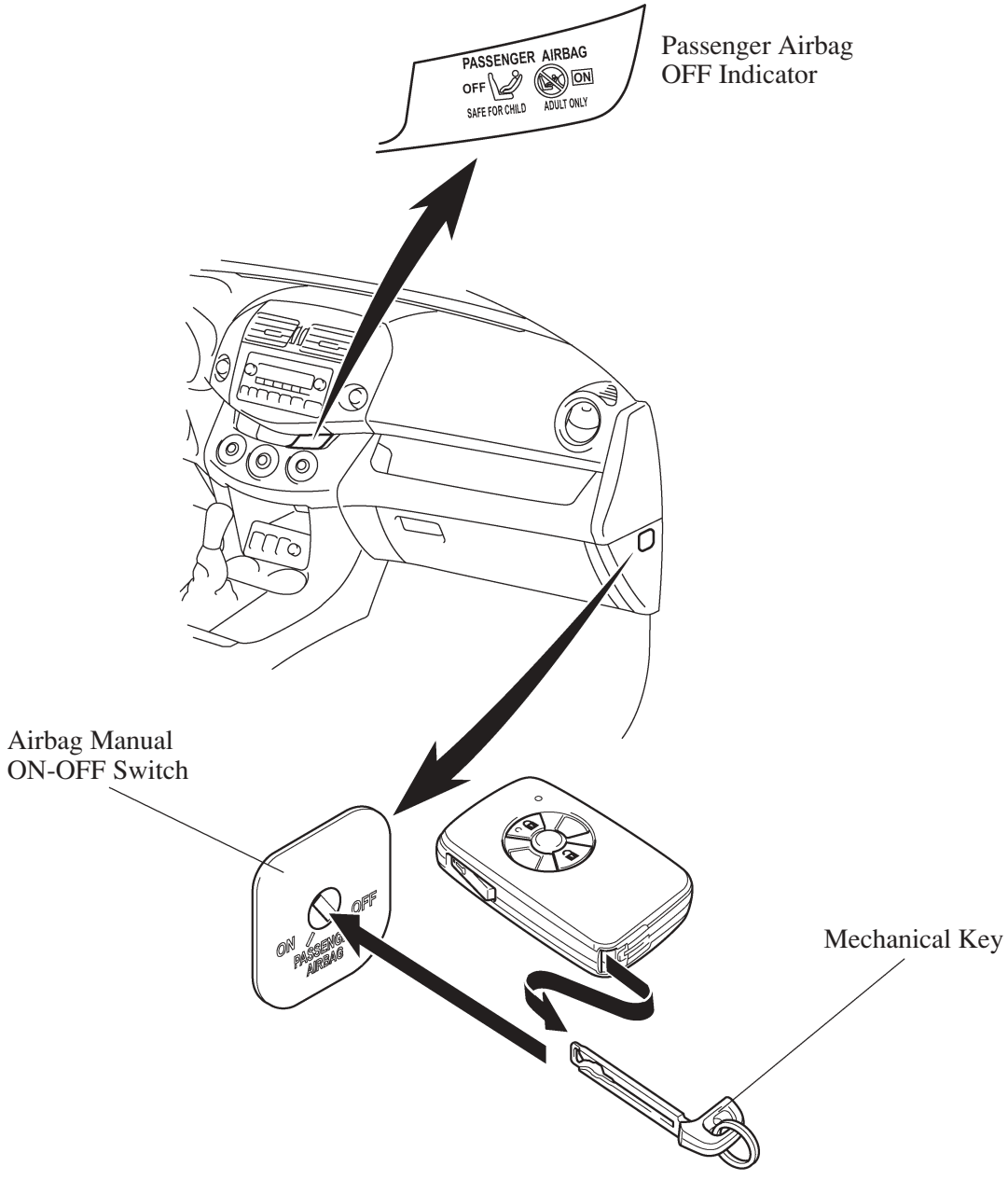
- The knee airbag deploys simultaneously with the front airbag in a front collision. With the deployment of the knee airbag, the driver's lower part of the body is restricted, thus helping provide the excellent efficiency of the passenger protection by the seat belt and front airbag.
- The knee airbag is installed below the driver seat instrument panel, and comprises the airbag door, inflator and bag.



01NBE21Y

7. Airbag Manual ON-OFF Switch (Only for Europe Models)

- A switch to disable the deployment of the front passenger airbag and the front passenger seat side airbag has been provided as standard equipment. This switch can be used if the deployment of those airbags is inconvenient, such as when the passenger is wearing a CRS seat belt.
- This switch is located on the side surface of the front passenger side of the instrument panel. It is operated ON/OFF by a mechanical key, which is supplied with the wireless key. Once the airbag manual ON-OFF switch is turned to OFF, the front passenger airbag and the passenger seat side airbag will be disabled, regardless of the collision conditions.
- If the deployment of the front passenger airbag has been disabled, the passenger airbag OFF indicator light in the center cluster illuminates to inform the occupant.



01NBE10Y