

■ AIRBAG FOR FRONTAL COLLISION

1. General

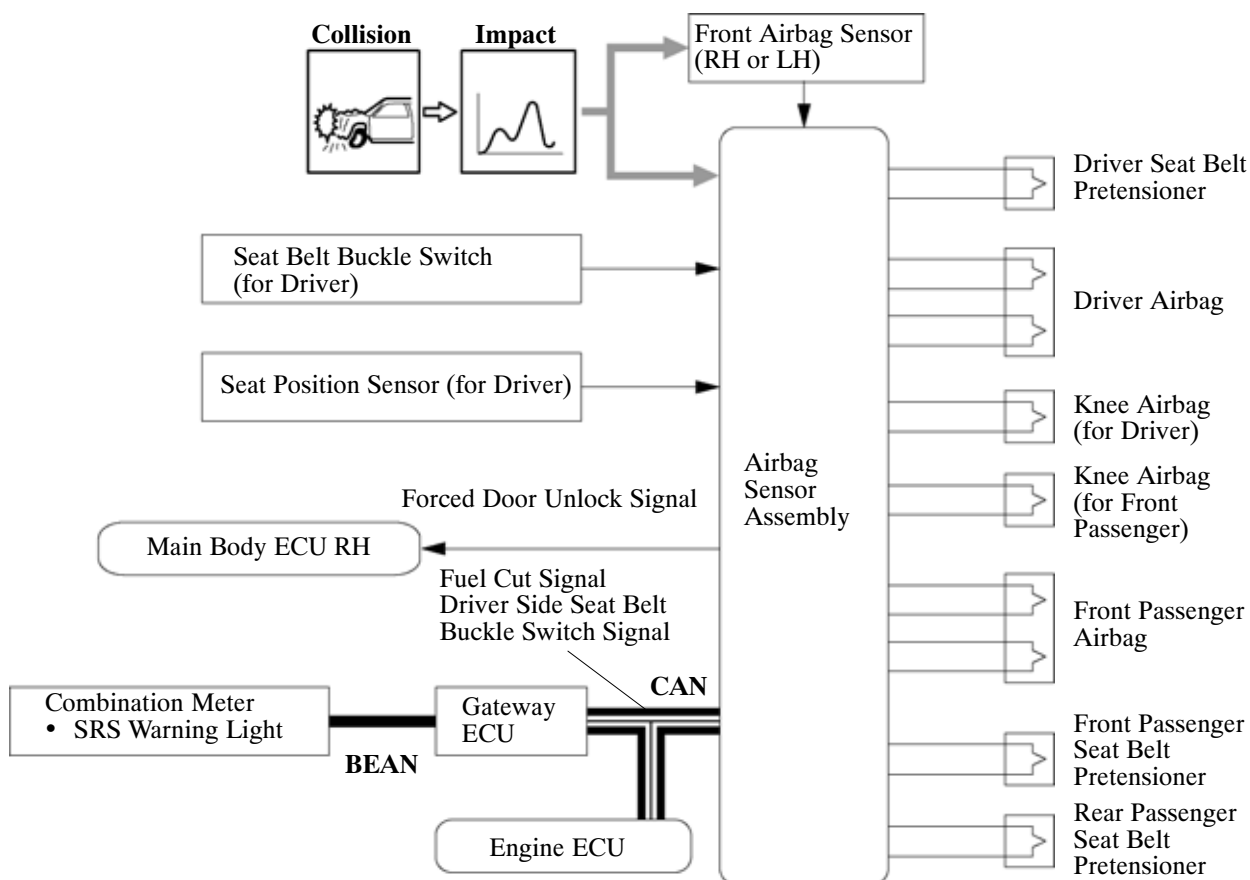
There are four airbags that can deploy in frontal collisions: driver, front passenger, and knee airbags (driver and front passenger).

These airbags deploy simultaneously. The SRS driver and front passenger airbags use a dual-stage control.

- The Airbag Sensor Assembly detects the information indicated below from various sources in order to activate the dual-stage control.

Airbag	Information	Source
Driver	Extent of Impact	• Front Airbag Sensor (RH or LH) • Airbag Sensor Assembly
	Driver Seat Position	Seat Position Sensor
	Seat Belt Condition	Seat Belt Buckle Switch (Non-contact Type)
Front Passenger	Extent of Impact	• Front Airbag Sensor (RH or LH) • Airbag Sensor Assembly

► System Diagram ◀



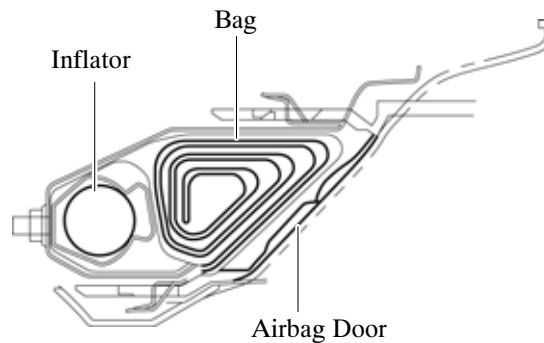
BE

2. SRS Driver and Front Passenger Airbags

An SRS driver or front passenger airbag contains two sets of initiators and propellants. The Airbag Sensor Assembly helps optimize the airbag inflation speed by controlling the inflation timing of these initiators.

3. SRS Knee Airbag

SRS knee airbag consists of an airbag door, inflator, and a bag.



0140BE162C

4. Front Airbag Sensor

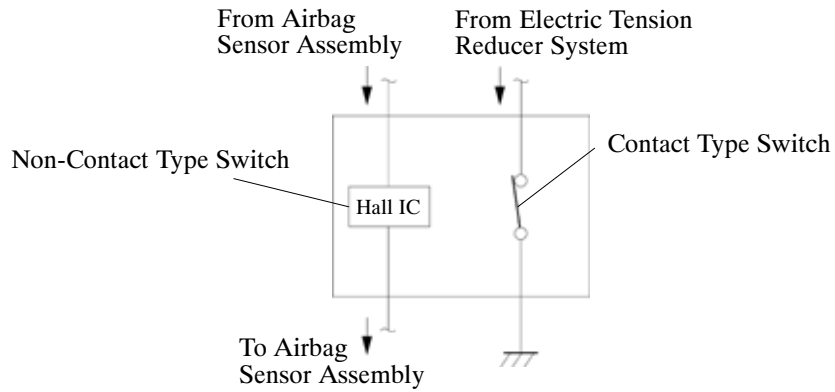
The Front airbag sensor uses an electrical type deceleration sensor. Based on the deceleration of the vehicle during a front collision, a distortion is created in the sensor and converted into an electrical signal. Accordingly, the extent of the initial collision can be detected in detail.

5. Seat Belt Buckle Switch (Driver)

The seat belt buckle switch detects whether or not the seat belt is fastened.

- A contact type and non-contact type is built in to the seat belt buckle switch. The contact type is for the electric tension reducer system and the non-contact type is for the SRS airbag system.
- The non-contact type switch is comprised of a Hall IC and two magnets, installed into the front seat inner belt assembly.

► Electrical Circuit ◀

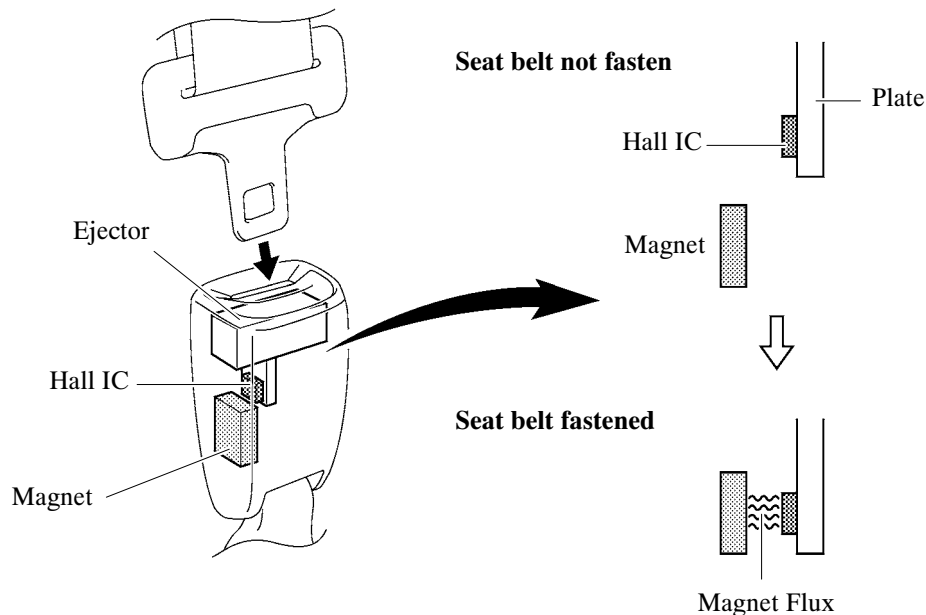


0140BE163C

► Application ◀

Seat	Buckle Switch Type	
	Contact Type Switch	Non-Contact Type Switch
Driver Side Buckle Switch	Electric Tension Reducer System	SRS Airbag System Seat Belt Reminder System Pre-Crash Safety System

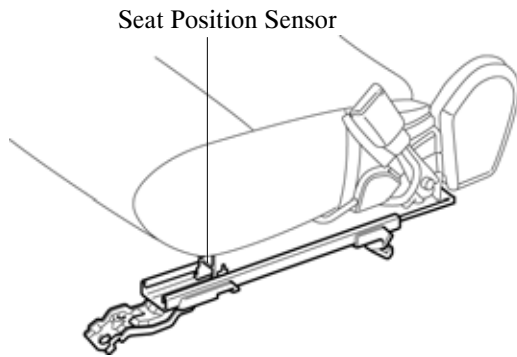
- The ejector inside the front seat inner belt assembly and the plate installed to the ejector move when the seat belt is removed or inserted. The movement of the plate changes the magnetic flux density of the magnet.
- The Hall IC detects the changes in the magnetic flux density as seat belt removal or insertion, and outputs a signal to Airbag Sensor Assembly.



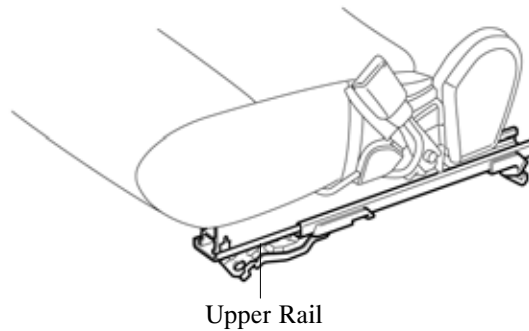
285BE143

6. Seat Position Sensor

The seat position sensor detects the slide position of the driver seat. This sensor, which uses a Hall IC, detects changes in the magnetic flux that occur due to the movement of the upper rail.



Seat position is rearward



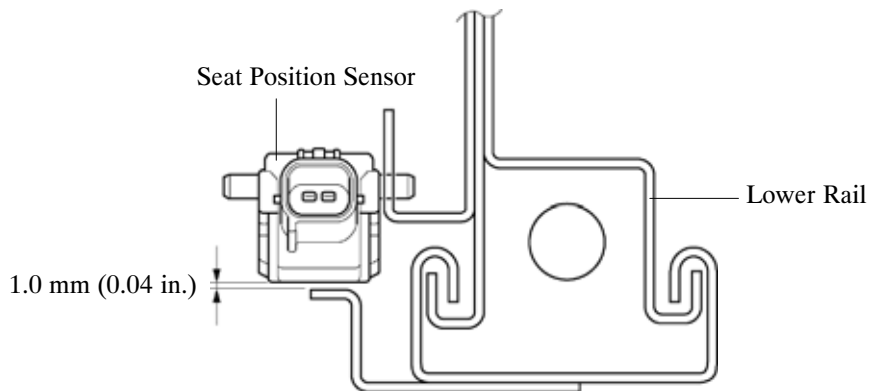
Seat position is frontward

0140BE164C

Service Tip

Follow the procedure indicated below to install the seat position sensor.

- 1) Insert a 1 mm (0.04 in.) feeler gauge between the seat position sensor and the lower rail portion.
 - 2) Tighten the mounting bolt to the specified torque with the seat position sensor pushed down.
- For details, see the LEXUS IS250 Repair Manual (Pub. No. RM0150E).



0140BE244C