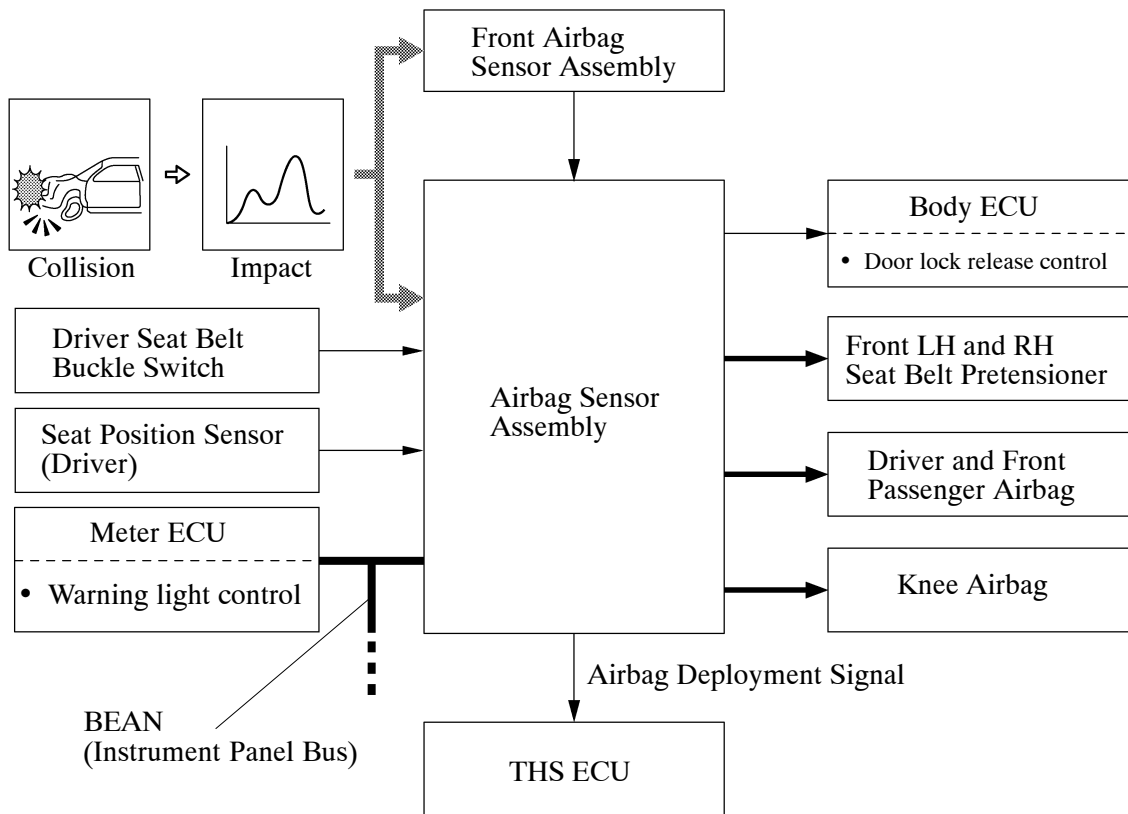


■ AIRBAGS FOR FRONT COLLISION

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.
- The deceleration 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.

► Front Airbag Operation ◀



2. Dual-stage SRS Airbags System

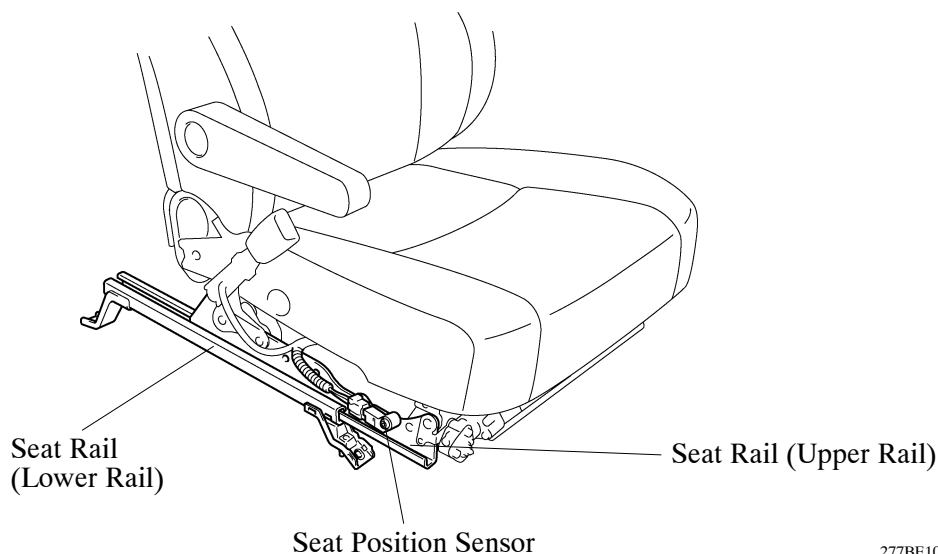
General

In this system, when the front airbag sensors and airbag sensor assembly detect the front collision, the airbag sensor assembly judges the extent of impact, seat position and whether or not the seat belt is fasten, thus making the airbag inflating output optimum by delaying the inflating timing of the 2nd initiator and the 1st initiator.

Seat Position Sensor

1) General

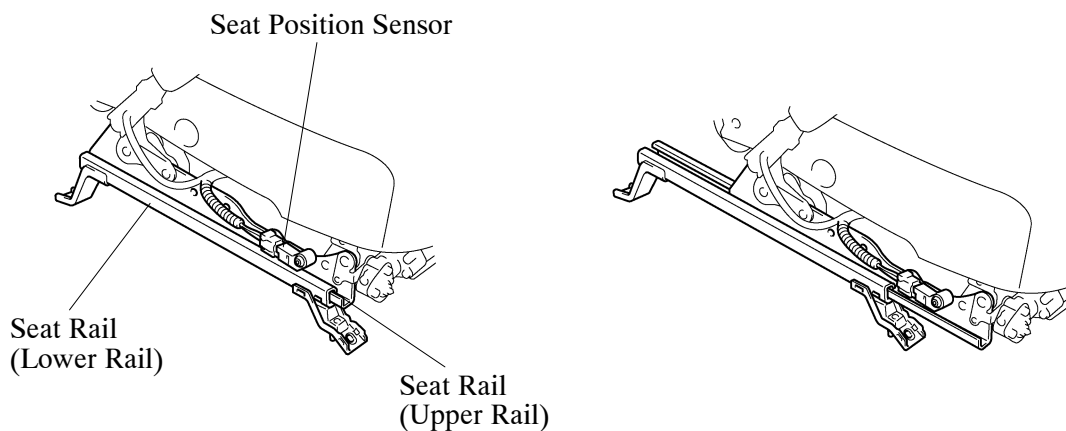
The seat position sensor is mounted on the upper rail portion of the driver seat rail, and includes a Hall IC and a magnet. This sensor is used to detect a sliding position of the driver seat.



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2) Operation

When a seat is in rearward position, the lower rail portion of the seat rail is close to the seat position sensor. When it is in the forward position, distance between the lower rail portion and the sensor becomes longer. Thus, magnetic flux of the magnet inside the seat position sensor will vary depending on the seat position. The Hall IC detects this variation of the magnetic flux and outputs signals to the airbag sensor assembly.



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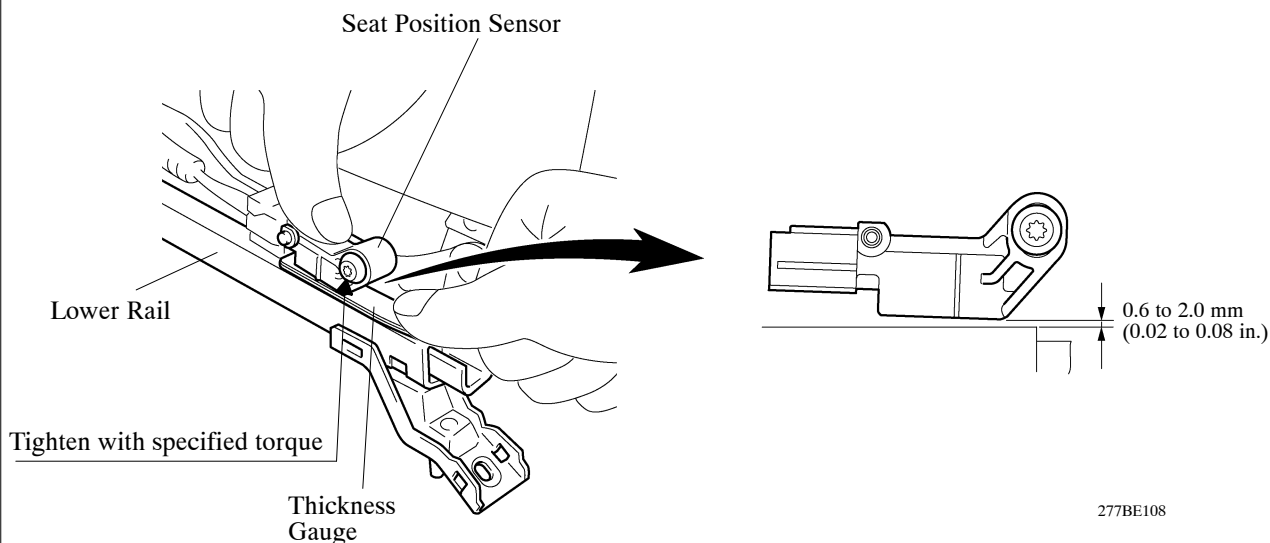
Seat position is rearward

Seat position is forward

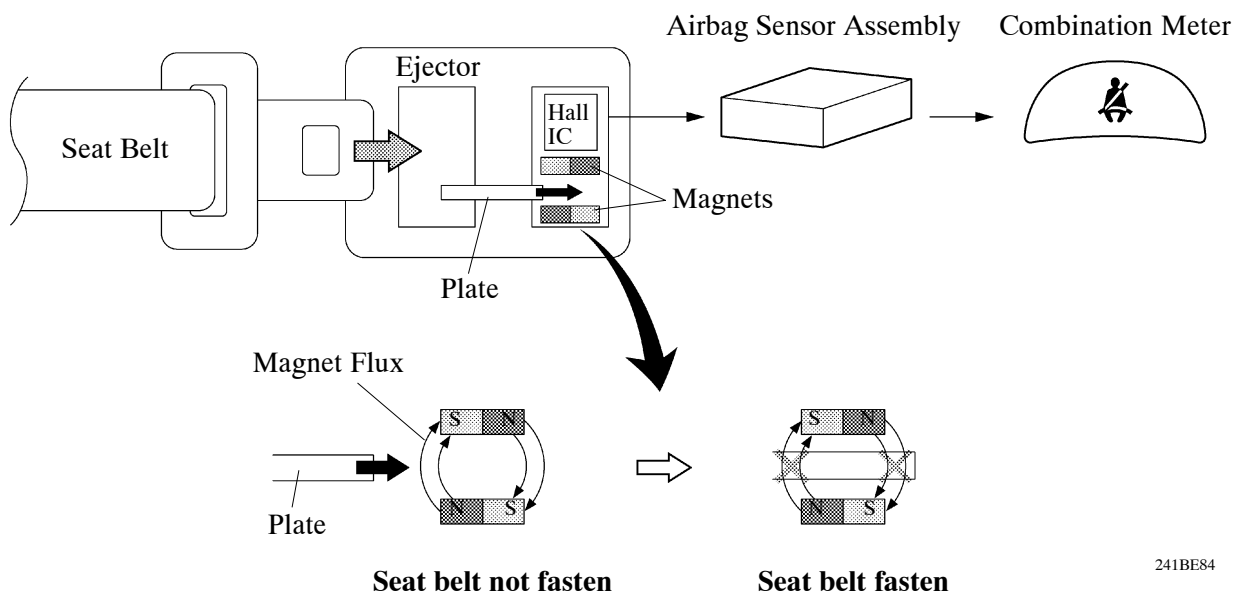
Service Tip

When installing the seat position sensor, first insert a 1 mm (0.04 in.) thickness gauge between the seat position sensor and the lower rail portion. And then, tighten the mounting bolt to the specified torque with the seat position sensor pushed down as shown.

For details, see the LEXUS RX400h Repair Manual (Pub. No. RM1139E).

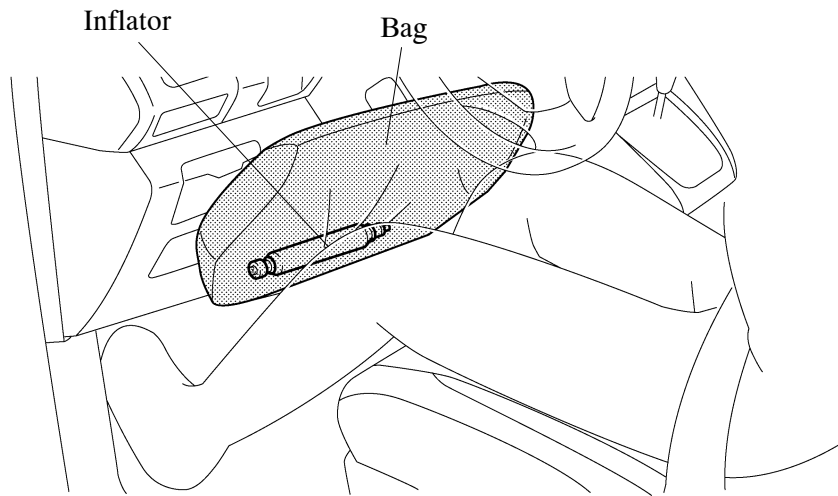
**Seat Belt Buckle Switch**

- On the new RX400h, the no-contact contact type seat belt buckle switch is used.
- The seat belt buckle switch comprises a Hall IC and 2 magnets, installed into the front seat inner belt assembly.
- The ejector inside the front seat inner belt assembly and the plate installed to the ejector move when the seat belt is removed or applied. The movement of the plate cuts off the magnetic flux density of the seat belt buckle switch magnet. The Hall IC detects the changes in the magnetic flux density as seat belt removal or application, and outputs the signal to the airbag sensor assembly.



3. 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 providing 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.



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