

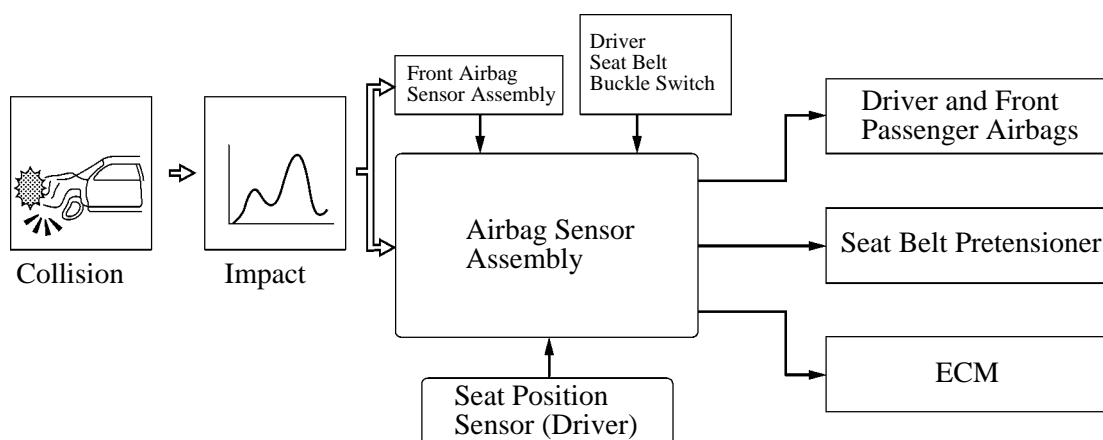
## ■ SRS AIRBAG SYSTEM

### 1. General

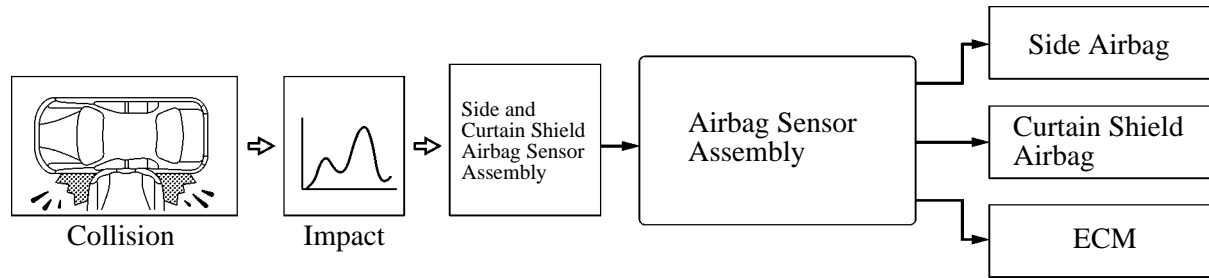
- Dual-stage SRS airbags system, that controls the airbag inflating output optimum by judging the extent of impact, seat position and whether or not the seat belt is fasten, has been adopted for the driver and front passenger airbags.
- In accordance with the adoption of the dual-stage SRS airbags system, a seat position sensor has been established for the driver seat.
- On the '03 4Runner, the previous mechanical type front airbag sensor assembly (consisting of movable and stationary contact points) has been changed to an electrical (deceleration sensor) type front airbag sensor assembly.
- The SRS side airbags help to reduce injuries mainly to the driver's or front passenger's chest in the event of a side collision.  
The SRS side airbags are optional equipment for the driver and front passenger.
- A curtain shield airbag system that helps reduce the impact applied to the front and rear seat occupants with a single curtain shield airbag has been adopted as optional equipment.  
In conjunction with this system, a side and curtain shield airbag sensor assembly has been provided at the bottom of the center pillar and a curtain shield airbag sensor assembly at the bottom of the rear pillar.
- In this system, a front side collision is detected by the side and curtain shield airbag sensor assembly in order to simultaneously deploy the side and curtain shield airbags. A rear side collision is detected by the curtain shield airbag sensor assembly and the airbag sensor assembly in order to deploy only the curtain shield airbag.
- The function of the airbag sensor assembly to memorize the driver and front passenger's seat belt wearing condition while inflating the airbag is added.
- This system has adopted a fuel cut control that stops the fuel pump when the airbag is deployed.

### 2. System Diagram

#### ► Front Airbag Operation ◀

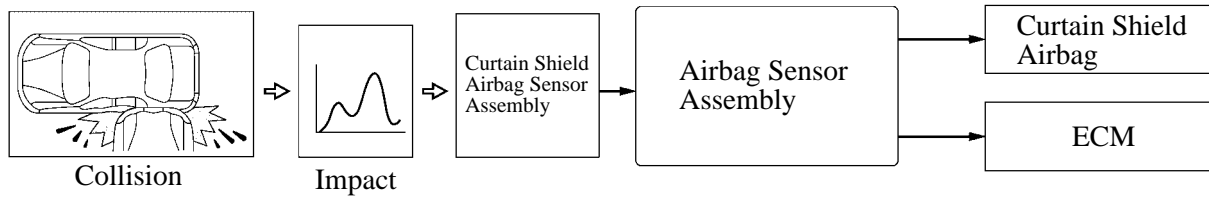


► Side and Curtain Shield Airbag Operation ◀



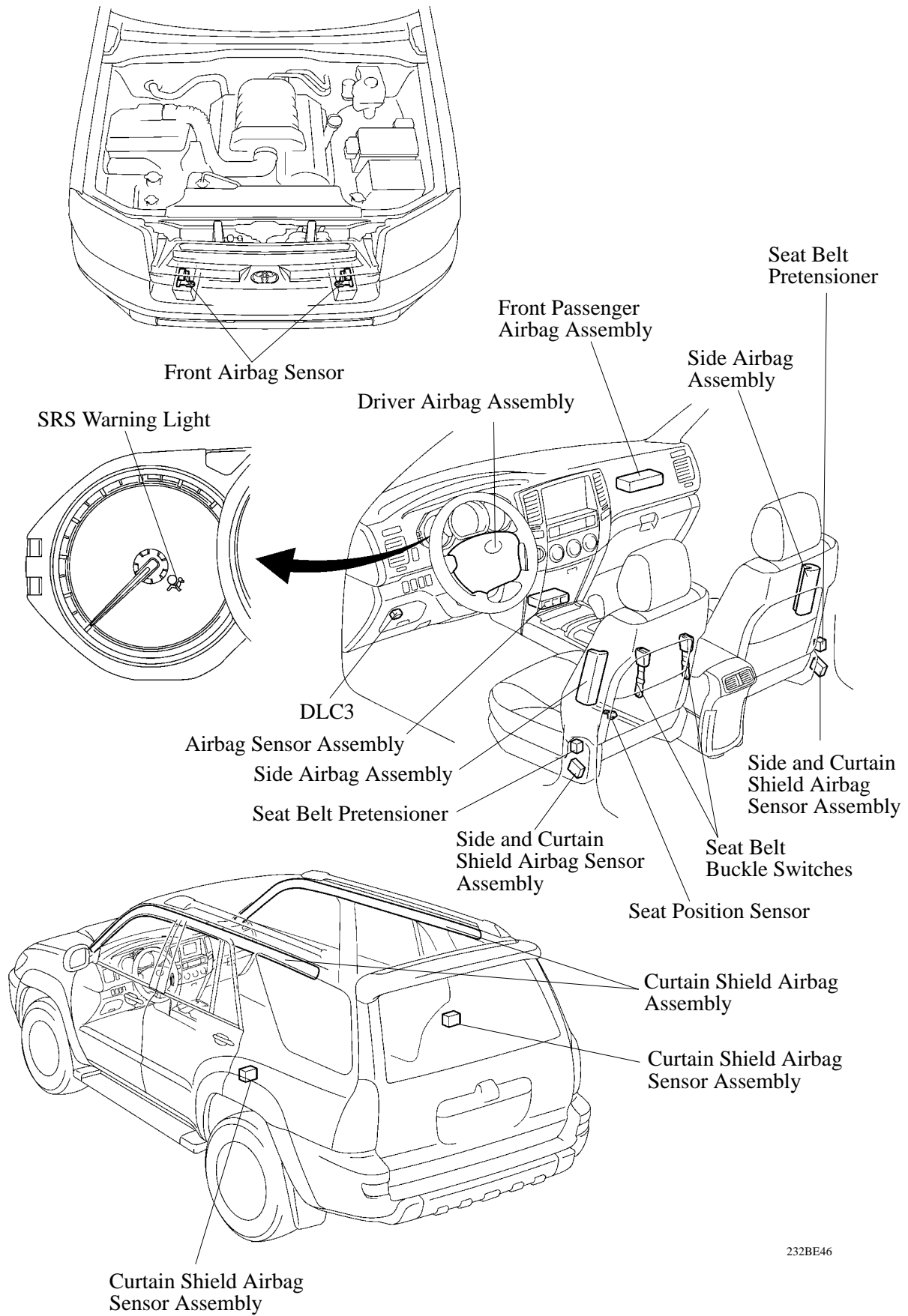
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► Curtain Shield Airbag Operation ◀



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3. Layout of Main Component



## 4. Dual-stage SRS Airbag System

### General

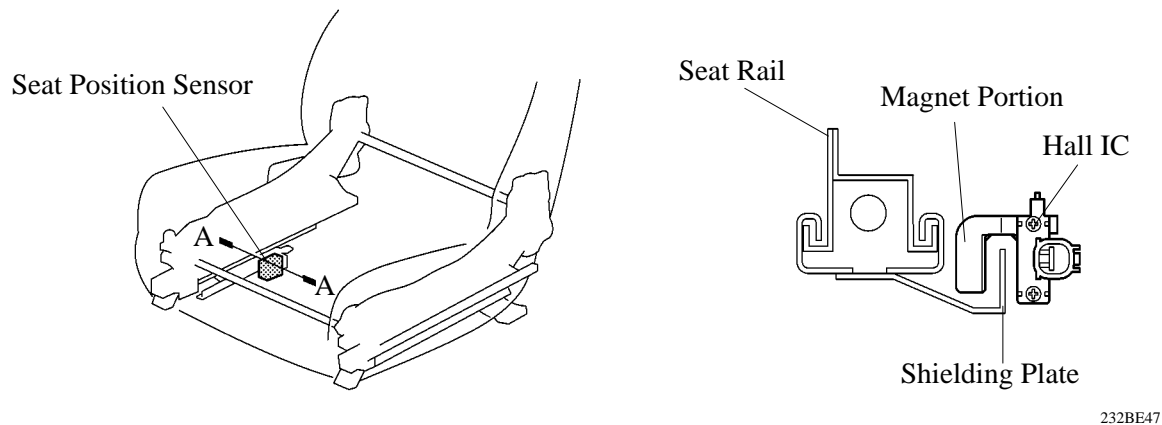
In this system, when the front airbag sensors and airbag sensor assembly detect the front collision, the airbag sensor assembly judges the extent of impact, seat position and whether or not the seat belt is fastened. Thus making the airbag inflating output optimum by delaying the inflating timing of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

### Service Tip

In accordance with the structure change of the driver and front passenger inflators on '03 4Runner, a SST (09082-00801) used for scrapping driver and front passenger airbag assemblies of the vehicle has been newly established.

### Seat Position Sensor

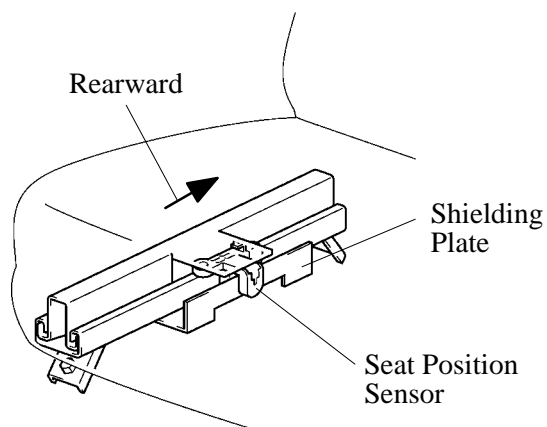
- The seat position sensor, which is attached to the seat rail of the driver seat, detects the sliding position of the seat. In addition, the shielding plate to make the seat position sensor judge the seat position is installed on this seat rail.
- The seat position sensor uses a Hall IC for its sensor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



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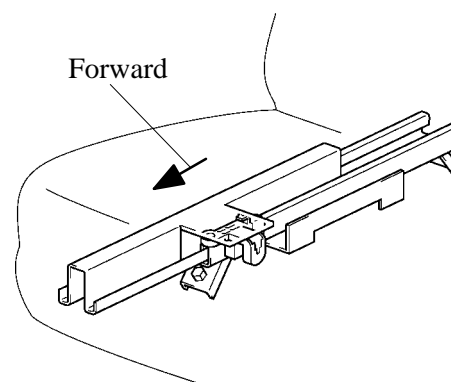
- The seat position detection by the seat position sensor judges that the seat position is rearward if the shielding plate is between the sensor and the seat position is forward if the shielding plate is not between the sensor.

### ► Seat position is rearward ◀



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### ► Seat position is forward ◀



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### 5. Self-Diagnosis Function

- If the airbag sensor assembly detects a malfunction in the SRS airbag system, the airbag sensor assembly stores the malfunction data in memory, in addition to illuminating the SRS warning light. Then, the DTCs (Diagnostic Trouble Codes) can be accessed by connecting a hand-held tester to the DLC3 terminal or the SST (09843-18040) to the Tc and CG terminals of the DLC3 and reading the blinking of the SRS warning light. For further details, see the 2003 4Runner Repair Manual (Pub. No. RM1001U).
- The DTCs listed below have been added or discontinued.

► **Added DTCs** ◀

DTC No.	Detection Item	DTC No.	Detection Item
B1180 / 17	Short in D squib (2nd step) circuit	B0115 / 47	Short in side squib (LH) circuit
B1181 / 18	Open in D squib (2nd step) circuit	B0116 / 48	Open in side squib (LH) circuit
B1182 / 19	Short in D squib (2nd step) circuit (to ground)	B0107 / 51	Short in P squib circuit (to ground)
B1183 / 22	Short in D squib (2nd step) circuit (to B+)	B0108 / 52	Short in P squib circuit (to +B)
B1153 / 25	Seat position sensor assembly malfunction	B1187 / 55	Short in P squib (2nd step) circuit (to ground)
B0126 / 27	Seat belt buckle switch (LH) malfunction	B1188 / 56	Short in P squib (2nd step) circuit (to B+)
B0127 / 27	Seat belt buckle switch (LH) malfunction	B1185 / 57	Short in P squib (2nd step) circuit
B1140 / 32	Side airbag sensor assy (RH) malfunction	B1186 / 58	Open in P squib (2nd step) circuit
B1141 / 33	Side airbag sensor assy (LH) malfunction	B0137 / 71	Short in P/T squib (LH) circuit (to ground)
B1148 / 36	Front airbag sensor (RH) malfunction	B0138 / 72	Short in P/T squib (LH) circuit (to +B)
B1149 / 37	Front airbag sensor (LH) malfunction	B1162 / 81	Short in curtain shield airbag (RH) circuit (to ground)
B1154 / 38	Curtain shield airbag sensor assembly (RH) malfunction	B1163 / 82	Short in curtain shield airbag (RH) circuit (to +B)
B1155 / 39	Curtain shield airbag sensor assembly (LH) malfunction	B1160 / 83	Short in curtain shield airbag (RH) squib circuit
B0112 / 41	Short in side squib (RH) circuit (to ground)	B1161 / 84	Open in curtain shield airbag (RH) squib circuit
B0113 / 42	Short in side squib (RH) circuit (to B+)	B1167 / 85	Short in curtain shield airbag (LH) circuit (to ground)
B0110 / 43	Short in side squib (RH) circuit	B1168 / 86	Short in curtain shield airbag (LH) circuit (to +B)
B0111 / 44	Open in side squib (RH) circuit	B1165 / 87	Short in curtain shield airbag (LH) squib circuit
B0117 / 45	Short in side squib (LH) circuit (to ground)	B1166 / 88	Open in curtain shield airbag (LH) squib circuit
B0118 / 46	Short in side squib (LH) circuit (to B+)	—	—

► **Discontinued DTCs** ◀

DTC No.	Detection Item	DTC No.	Detection Item
B1156 / 15	Front airbag sensor assembly (RH) malfunction	B1158 / 16	Front airbag sensor assembly (LH) malfunction
B1157 / 15		B1159 / 16	