

# 6 INTERIOR

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## SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

The side-airbag and curtain air bag are installed to all models as optional equipment to enhance impact safety.

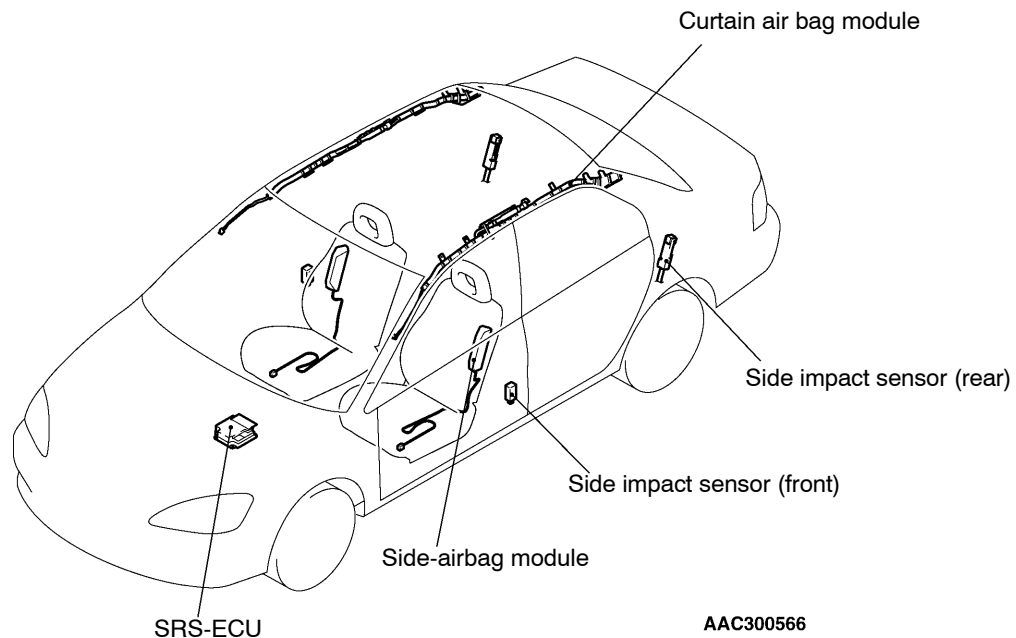
### SIDE-AIRBAG, CURTAIN AIR BAG

- The side-airbag provides protection for the upper torso of a passenger by inflating the air bag instantaneously to reduce the impact that exceeds a certain level at the time of side collision.
  - The curtain air bag provides protection for the head of a front/rear passenger by deploying simultaneously with the side-airbag at the time of side collision.
- The side impact sensors to detect impact at the time of side collision are installed at two locations in the front and the rear.

#### Caution

**Never disassemble the side-airbag module or curtain air bag module. And never subject it to impact.**

### CONSTRUCTION DIAGRAM

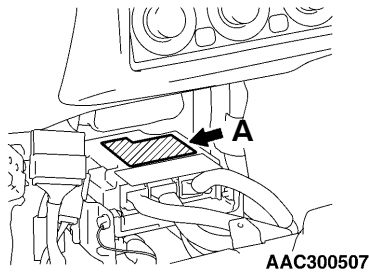


AAC300566

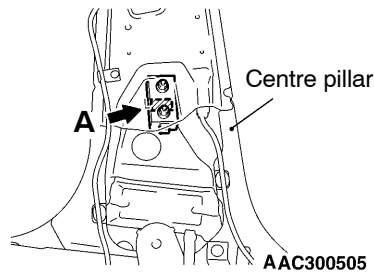
## CAUTION LABELS

Labels to indicate cautions regarding the handling and the services of SRS air bag are attached on the position shown in the following illustration.

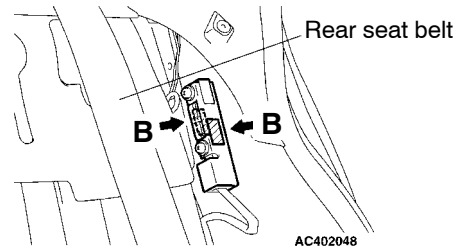
SRS-ECU



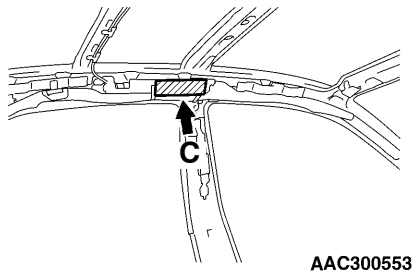
(Front)



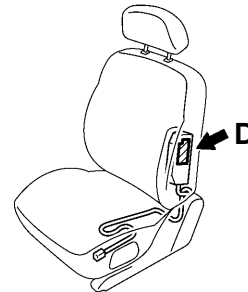
Side impact sensor  
(Rear)



Curtain air bag module



Side-airbag module



A. CAUTION:  
DO NOT DISASSEMBLE OR DROP. IF DEFECT, REFER TO SERVICE MANUAL.

B. CAUTION:  
DO NOT DISASSEMBLE OR DROP.

C. WARNING: FLAMMABLE/EXPLOSIVE  
SRS AIR BAG MODULE  
TO AVOID SERIOUS INJURY:

- DO NOT REPAIR, DISASSEMBLE OR TAMPER.
- AVOID CONTACT WITH FLAME OR ELECTRICITY.
- DO NO DIAGNOSIS/USE NO TEST EQPT OR PROBES.
- STORE BELOW 200°F (93°C).
- BEFORE DOING ANY WORK INVOLVING MODULE, READ SERVICE MANUAL FOR IMPORTANT FURTHER DATA.

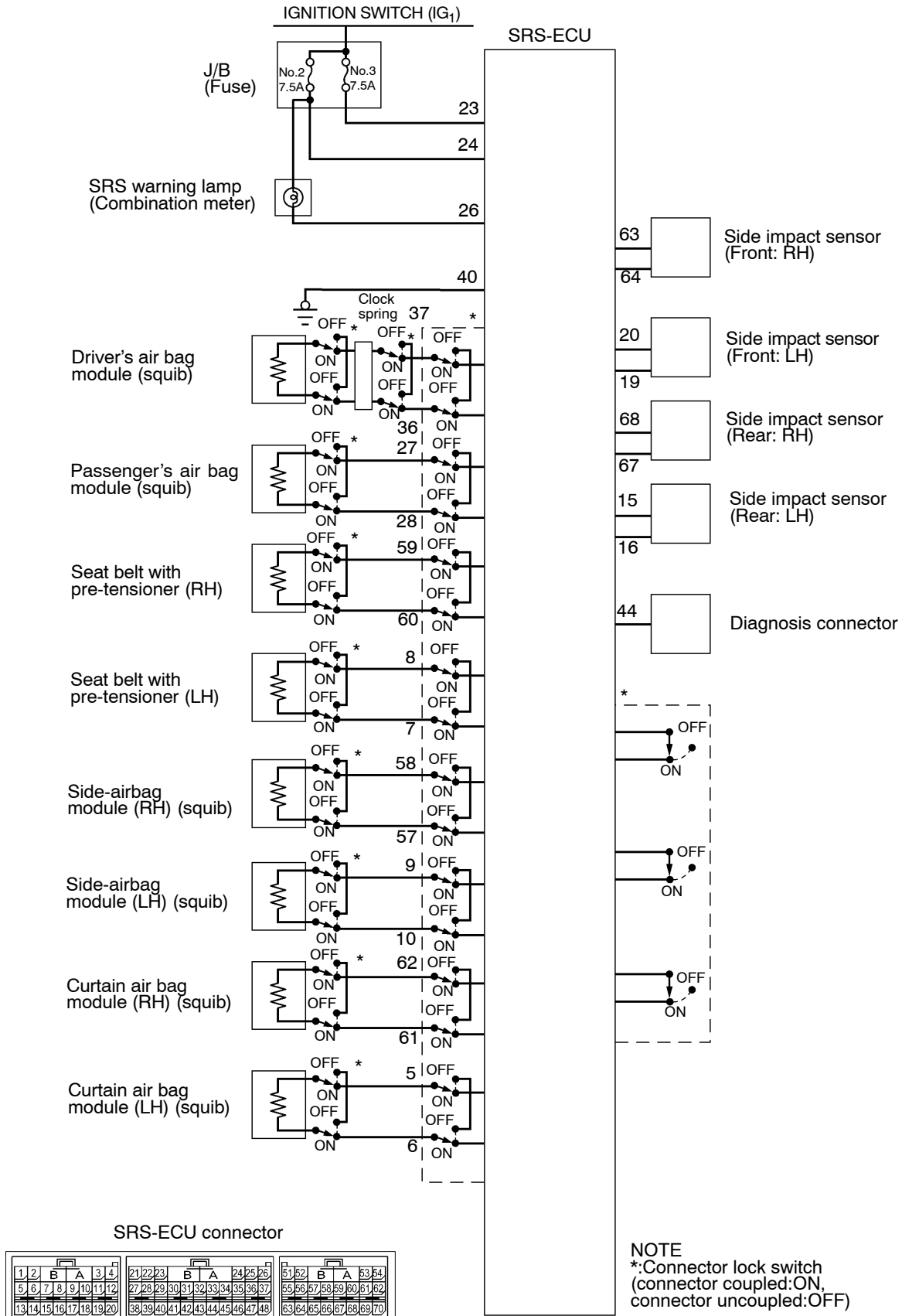
D. WARNING: FLAMMABLE/EXPLOSIVE  
TO AVOID SERIOUS INJURY:

- DO NOT REPAIR, DISASSEMBLE OR TAMPER.
- AVOID CONTACT WITH FLAME OR ELECTRICITY.
- DO NO DIAGNOSIS/USE NO TEST EQPT OR PROBES.
- STORE BELOW 200°F (93°C).
- BEFORE DOING ANY WORK INVOLVING MODULE, READ SERVICE MANUAL FOR IMPORTANT FURTHER DATA.

SRS SYSTEM CIRCUIT DIAGRAM

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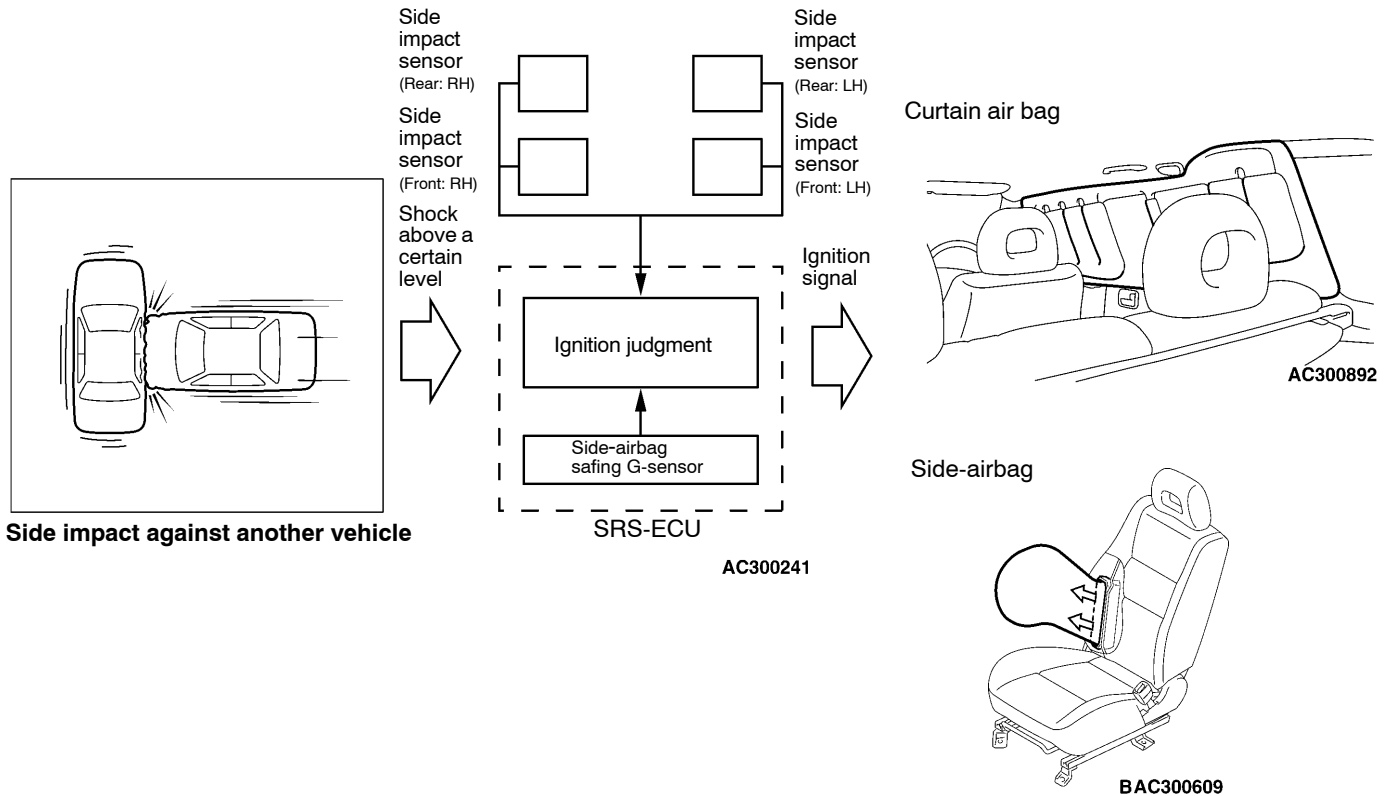
## CONSTRUCTION AND OPERATION

### SYSTEM OPERATION

#### SIDE-AIRBAG, CURTAIN AIR BAG

In case of a side collision, if an impact that exceeds a certain threshold is simultaneously detected by the front and rear side impact sensors installed in a centre pillar and an inner quarter panel respectively and by the side-airbag safing G-sensor (the sensors turn ON),

the SRS-ECU sends an ignition signal to the side-airbag module and curtain air bag module on the relevant side to inflate them. However, if the rear side impact sensor and SRS-ECU detect the impact but the front side impact sensor does not, only the curtain air bag inflates.

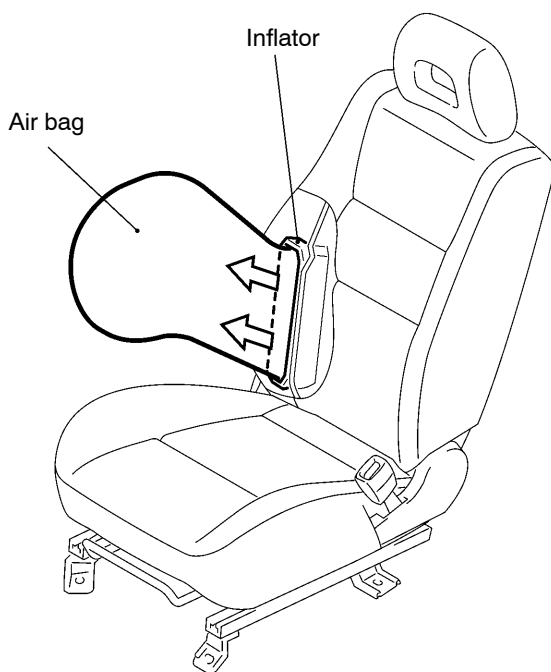


## SIDE-airbag module

The side-airbag module consist of an air bag, an inflator, and the fixing gear relating to those parts, and is installed in the side supports outside the body on both the driver and passenger sides. Installation of an air bag in a seatback provides a stable protection capability regardless of the seat position and reclining angle.

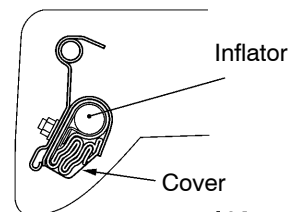
### Caution

**Never disassemble the air bag module. And never subject it to impact.**



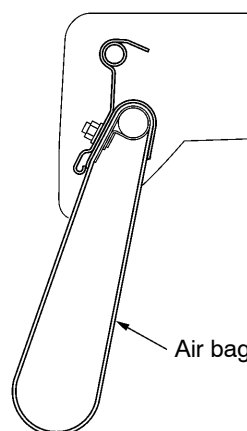
AAC300609

<When folded>



AAC300870

<When deployed>



AAC300871

## CURTAIN AIR BAG MODULE

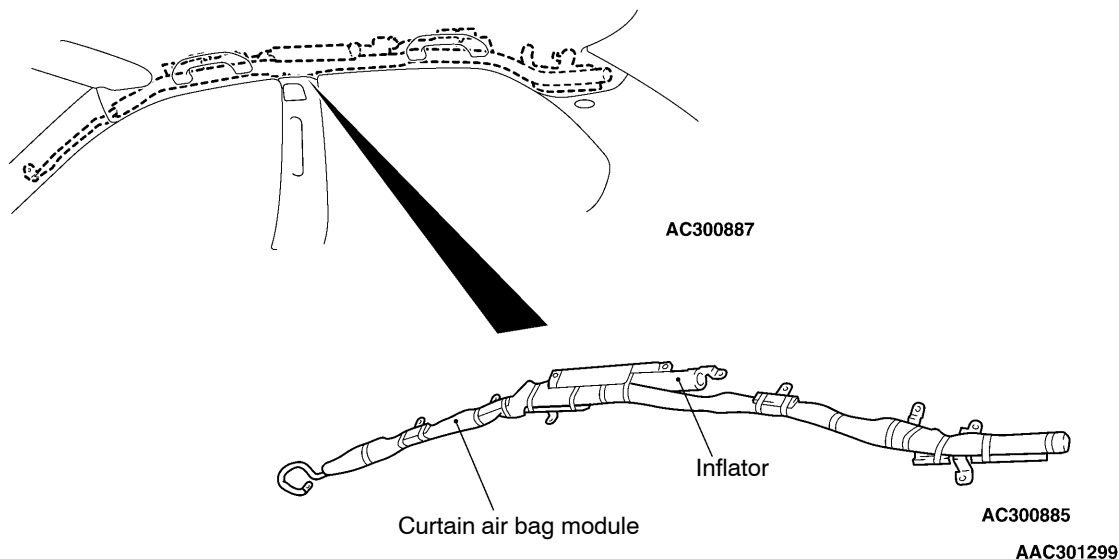
The curtain air bag module consists of an air bag, an inflator, and the fixing gear relating to those parts, and is installed in the roof side sections (from the driver's and the passenger's front pillars to the rear pillars).

### NOTE

The construction and operation are the same as that of 2004 COLT.

### Caution

**Never disassemble the seat belt with pretensioner. And never subject it to impact.**



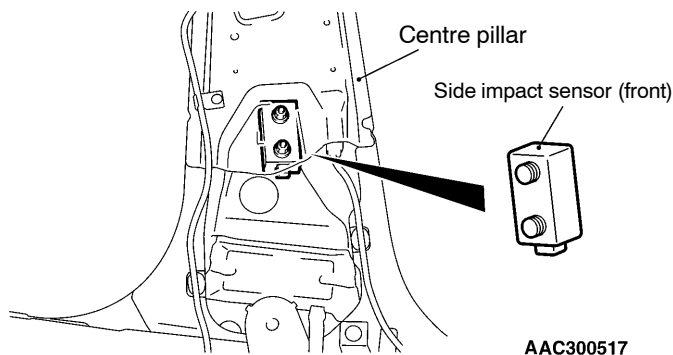
## SIDE IMPACT SENSOR

The side impact sensor is installed in the lower parts of the centre pillars and the inner rear quarter panels, and contains an analogue G-sensor and a microcomputer.

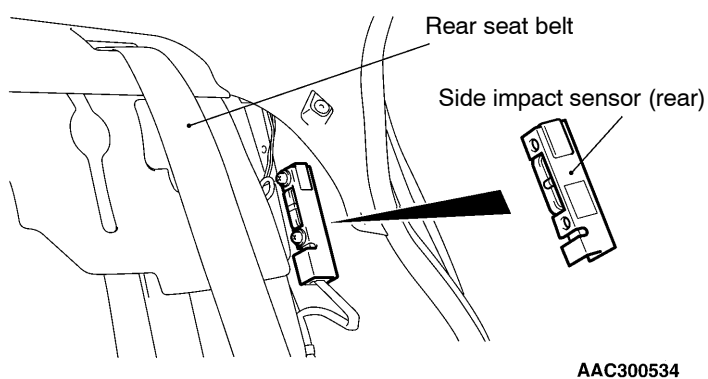
### NOTE

The construction and operation are the same as that of 2004 COLT.

<Front>



<Rear>



## SRS-ECU

The SRS-ECU incorporates an analogue G-sensor and safing G-sensor for frontal collisions and a safing G-sensor for side collisions.

In frontal collisions, the driver's and front passenger's air bags deploy only when both the analogue and safing G-sensors detect simultaneously a collision-induced G of a level exceeding the threshold as in the case with the conventional system.

In side collisions, the side and curtain air bags on the side subjected to an impact deploys if the side impact sensors (front and rear) and the SRS-ECU safing G-sensor detect simultaneously lateral G forces above the predetermined level.

The SRS-ECU incorporates the crash detection door unlock signal process circuit.

The SRS-ECU is provided with the following capabilities:

- Backup power supply in case of power failure in collisions: Backup capacitor
- Boosting function in case of battery voltage drop: DC-DC converter
- Self-diagnosis function to avoid system's operation errors and improve its reliability

### Caution

**Never disassemble the SRS-ECU. And never subject it to impact.**

## DIAGNOSIS FUNCTION

The SRS-ECU has the following functions to make system checking using MUT-II easy.

- Diagnosis code output

- Service data output

## DIAGNOSIS CODE OUTPUT

The SRS-ECU diagnoses the following items and stores a diagnosis code in the non-volatile memory (EEPROM\*1) when a problem is detected.

Therefore, the memory is not deleted after a battery terminal is disconnected. (The diagnosis code memory can be deleted by the MUT-II.)

Code No.	Major Contents of Diagnosis
3A*3	Curtain air bag squib (RH) short-circuited
3B*3	Curtain air bag squib (RH) open-circuited
3C	Curtain air bag squib (RH) activating circuit short-circuited
3D	Curtain air bag squib (RH) activating circuit open-circuited
3E	Curtain air bag squib (RH) drive circuit (power supply side) short-circuited
3F	Curtain air bag squib (RH) drive circuit (earth side) short-circuited
4A*3	Curtain air bag squib (LH) short-circuited
4B*3	Curtain air bag squib (LH) open-circuited
4C	Curtain air bag squib (LH) activating circuit short-circuited
4D	Curtain air bag squib (LH) activating circuit open-circuited
4E	Curtain air bag squib (LH) drive circuit (power supply side) short-circuited
4F	Curtain air bag squib (LH) drive circuit (earth side) short-circuited
5A*2	Rear side impact sensor (LH) voltage error
5B	G-sensor of rear side impact sensor (LH) failure
5C	Rear side impact sensor (LH) communication error
5D	Rear side impact sensor (LH) communication impossible
6A*2	Rear side impact sensor (RH) voltage error
6B	G-sensor of rear side impact sensor (RH) failure
6C	Rear side impact sensor (RH) communication error



Code No.	Major Contents of Diagnosis
6D	Rear side impact sensor (RH) communication impossible
14	Frontal collision analog G-sensor failure
15	Frontal collision safing G-sensor short-circuited
16	Frontal collision safing G-sensor open-circuited
17	Side collision safing G-sensor failure
21*3	Driver's side front air bag squib short-circuited
22*3	Driver's side front air bag squib open-circuited
24*3	Front passenger's side front air bag squib short-circuited
25*3	Front passenger's side front air bag squib open-circuited
26*3	Driver's side front seat belt pretensioner short-circuited
27*3	Driver's side front seat belt pretensioner open-circuited
28*3	Front passenger's side front seat belt pretensioner short-circuited
29*3	Front passenger's side front seat belt pretensioner open-circuited
31	Capacitor voltage rises
32	Capacitor voltage drops
34*2	Connector locking mechanism malfunction
35	Ignition of the air bag completed
39	Simultaneous deployed
41*2	Power supply voltage (IG1 voltage) drops abnormally.
42*2	Power supply voltage (IG1 voltage) drops abnormally.
43*2	SRS warning lamp circuit open-circuited
44*2	Defective SRS warning lamp circuit
45	Defective SRS-ECU
46	Assembly error
51	Driver's side front air bag squib activating circuit short-circuited
52	Driver's side front air bag squib activating circuit open-circuited
54	Front passenger's side front air bag squib activating circuit short-circuited
55	Front passenger's side front air bag squib activating circuit open-circuited
56	Driver's side front seat belt pretensioner activating circuit short-circuited
57	Driver's side front seat belt pretensioner activating circuit open-circuited
58	Front passenger's side front seat belt pretensioner activating circuit short-circuited
59	Front passenger's side front seat belt pretensioner activating circuit open-circuited
61	Driver's side front air bag squib drive circuit (power supply side) short-circuited
62	Driver's side front air bag squib drive circuit (earth side) short-circuited
64	Front passenger's side front air bag squib drive circuit (power supply side) short-circuited
65	Front passenger's side front air bag squib drive circuit (earth side) short-circuited
66	Driver's side front seat belt pretensioner drive circuit (power supply side) short-circuited

Code No.	Major Contents of Diagnosis
67	Driver's side front seat belt pretensioner drive circuit (earth side) short-circuited
68	Front passenger's side front seat belt pretensioner drive circuit (power supply side) short-circuited
69	Front passenger's side front seat belt pretensioner drive circuit (earth side) short-circuited
71* <sup>3</sup>	Side-airbag squib (RH) short-circuited
72* <sup>3</sup>	Side-airbag squib (RH) open-circuited
73	Side-airbag squib (RH) drive circuit shorted
74	Side-airbag squib (RH) drive circuit open
75	Side-airbag squib (RH) drive circuit (power supply side) shorted
76	Side-airbag squib (RH) drive circuit (earth side) shorted
79	Side impact sensor (LH) communication error
81* <sup>3</sup>	Side-airbag squib (LH) short-circuited
82* <sup>3</sup>	Side-airbag squib (LH) open-circuited
83	Side-airbag squib (LH) drive circuit shorted
84	Side-airbag squib (LH) drive circuit open
85	Side-airbag squib (LH) drive circuit (power supply side) shorted
86	Side-airbag squib (LH) drive circuit (earth side) shorted
89	Side impact sensor (RH) communication error
91* <sup>2</sup>	Side impact sensor (LH) voltage error
92	G-sensor of side impact sensor (LH) failure
93	Side impact sensor (LH) communication impossible
94* <sup>2</sup>	Side impact sensor (RH) voltage error
95	G-sensor of side impact sensor (RH) failure
96	Side impact sensor (RH) communication impossible

**NOTE**

\*1: Electrically Erasable Programmable ROM

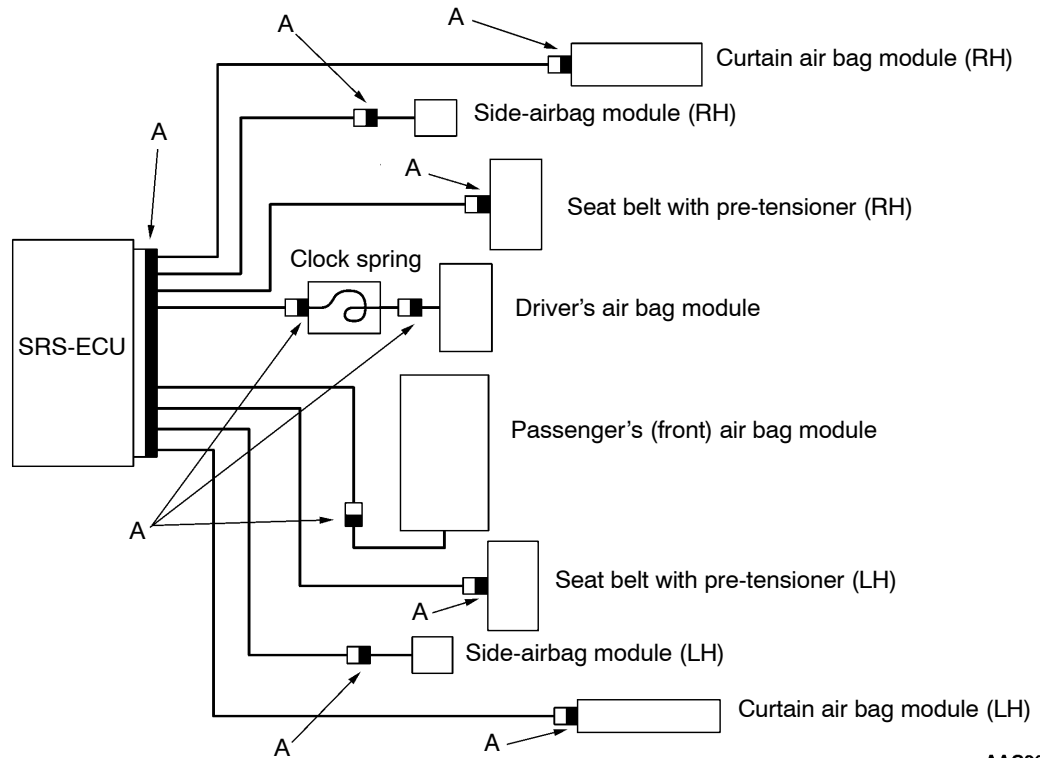
\*2: This diagnosis code memory will be automatically cleared from the memory and the SRS warning lamp will be switched off when the system returns to normal condition.

\*3: The diagnosis codes will remain in memory and the SRS warning lamp will be switched off if the system returns to normal.

### SRS AIR BAG SPECIAL CONNECTOR

To enhance the system reliability, the connector engagement check mechanism is used. And a connector lock switch is integrated in the SRS-ECU connector, the air bag module connectors, the clock

spring connector, the seat belt pre-tensioner connectors (black connector “A” shown in the illustration above)



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