
GROUP 52B

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

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GENERAL INFORMATION

M2521000100541

NOTE: In this manual, the part names are changed from the names in owner's manual into the following names.

- Air bag control unit → SRS-ECU
- Side air bag → Side-airbag
- Driver's seat position sensor → Seat slide sensor

The driver's and front passenger's air bags and seat belts with pre-tensioner have been standard equipped on vehicles except for Australia, New Zealand. The driver's and front passenger's air bags, side-airbags, curtain air bags and seat belts with pre-tensioner have been installed as standard equipment for Australia, New Zealand and as optional equipment for other countries.

An inflator that does not contain sodium azide has been adopted for all types of the air bag modules. Driver's and passenger's (front) air bags and seat belt pre-tensioners deploy and operate in head-on collisions that exceed the criteria to activate the SRS system.

Side-airbags and curtain air bags deploy and operate in side collisions that exceed the criteria to activate the SRS system.

The front air bag deploys when a vehicle suffers a severe impact from the front side.

The side-airbag and curtain air bag deploys when a centre of side body suffers a severe impact.

The front air bags and pre-tensioners may not work under the following conditions:

- A head-on collision is less than the criteria.
- The collision is from the rear
- The collision is from the side
- The vehicle rolls over or is in a similar position.

The side-airbags may not work under the following conditions:

- A side-collision is less than the criteria.
- The collision is from the front
- The collision is from the rear
- The vehicle rolls over or is in a similar position.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

The SRS is designed to supplement the front seat belts. It eliminates or reduces injury to the front passenger(s) by deploying air bag(s) in case of a head-on collision.

SRS SIDE-AIRBAG

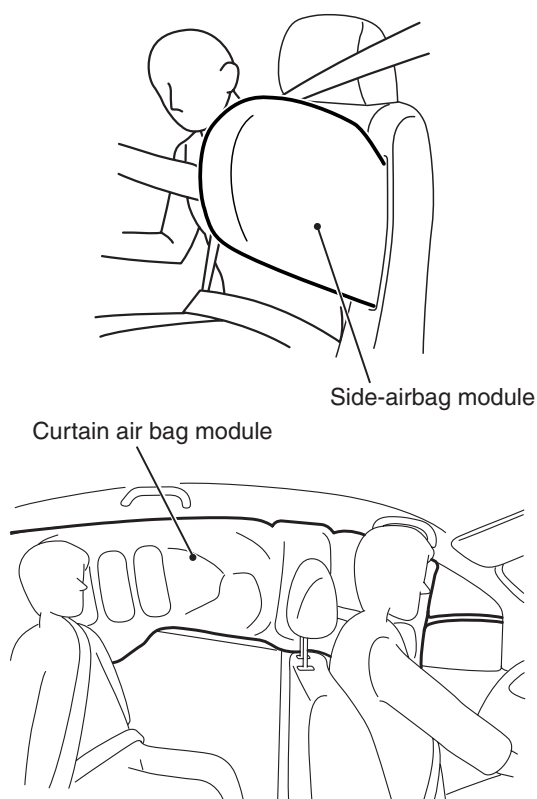
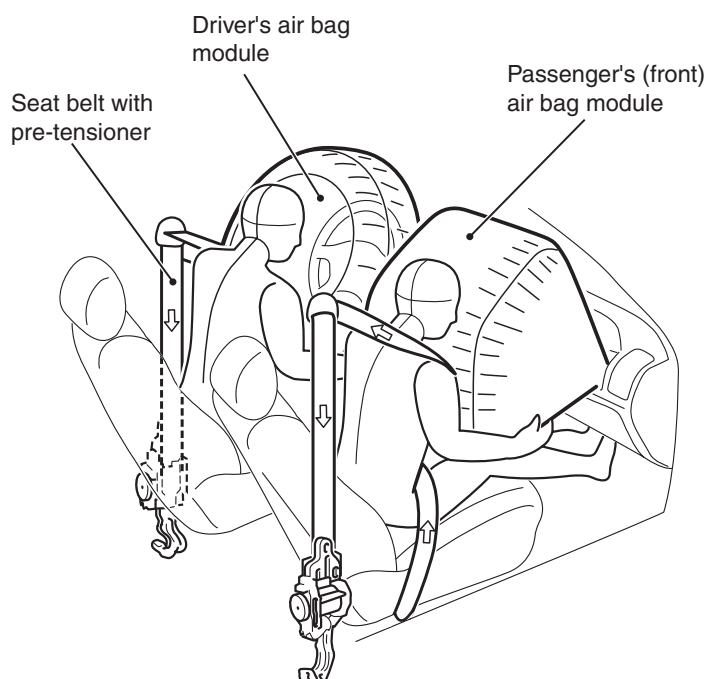
Side-airbag systems in the front seats are activated when sideward impacts applied to the vehicle exceed a threshold to protect the occupants' upper bodies.

SRS CURTAIN AIR BAG

The curtain air bag systems are activated when sideward impacts applied to the vehicle exceed a threshold, to protect the heads of the occupants in the front and rear seats.

SEAT BELT WITH PRE-TENSIONER

The seat belts with pre-tensioner work simultaneously with the SRS. The seat belt incorporating the pre-tensioner automatically winds the seatbelt upon front impact to reduce forward shifting of the driver's and passenger's.



AC311946AB

SYSTEM COMPONENT PARTS

The SRS and seat belt pre-tensioner systems consist of air bag modules, SRS-ECU, two front impact sensors, four side impact sensors, SRS warning lamp, clock spring, seat slide sensor and seat belt pre-tensioner.

- Airbag modules are installed at the centre of the steering wheel, on the globe box, the front seat-back and the roof-side area (from the front pillars of driver- and passenger-side to the rear pillar in rear area of vehicle). Each air bag has a safing folded air bag and an inflator.
- SRS-ECU, installed at the depths of the centre console, monitors the system.
- The front impact sensor is assembled in the radiator support panel to monitor collision upon frontal impact.
- The side impact sensor is assembled in the centre pillar and quarter panel lower to monitor collision upon side impact.
- The warning lamp on the instrument panel indicates the operational status of the SRS.

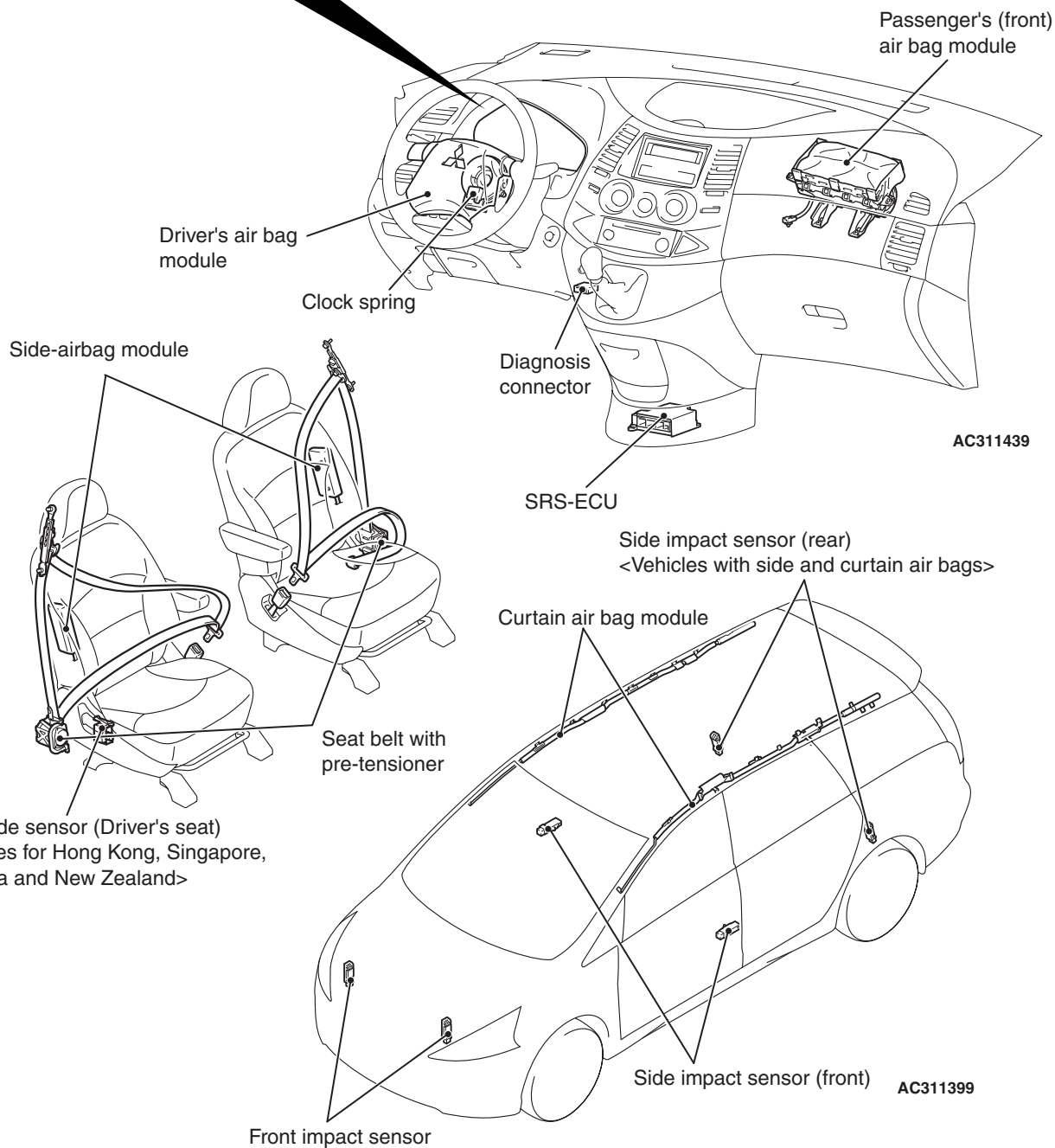
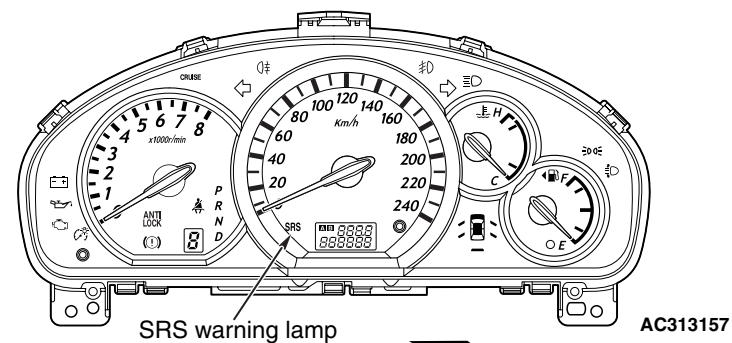
- The clock spring is installed in the steering column.
- The seat slide sensor is attached to the seat rail and provides the air bag control unit with information on the seat position.
- The seat belt pre-tensioner is incorporated in the seat belt retractor.

The SRS-ECU will start a squib ignition current to the driver's air bag module, passenger's (front) air bag module and seat belt pre-tensioner when simultaneously detecting frontal impact with the front impact sensor and the SRS-ECU. It will also supply a squib ignition current to the side-airbag module and curtain air bag module when simultaneously detecting side impact with the side impact sensor and the SRS-ECU.

The SRS-ECU has the following functions:

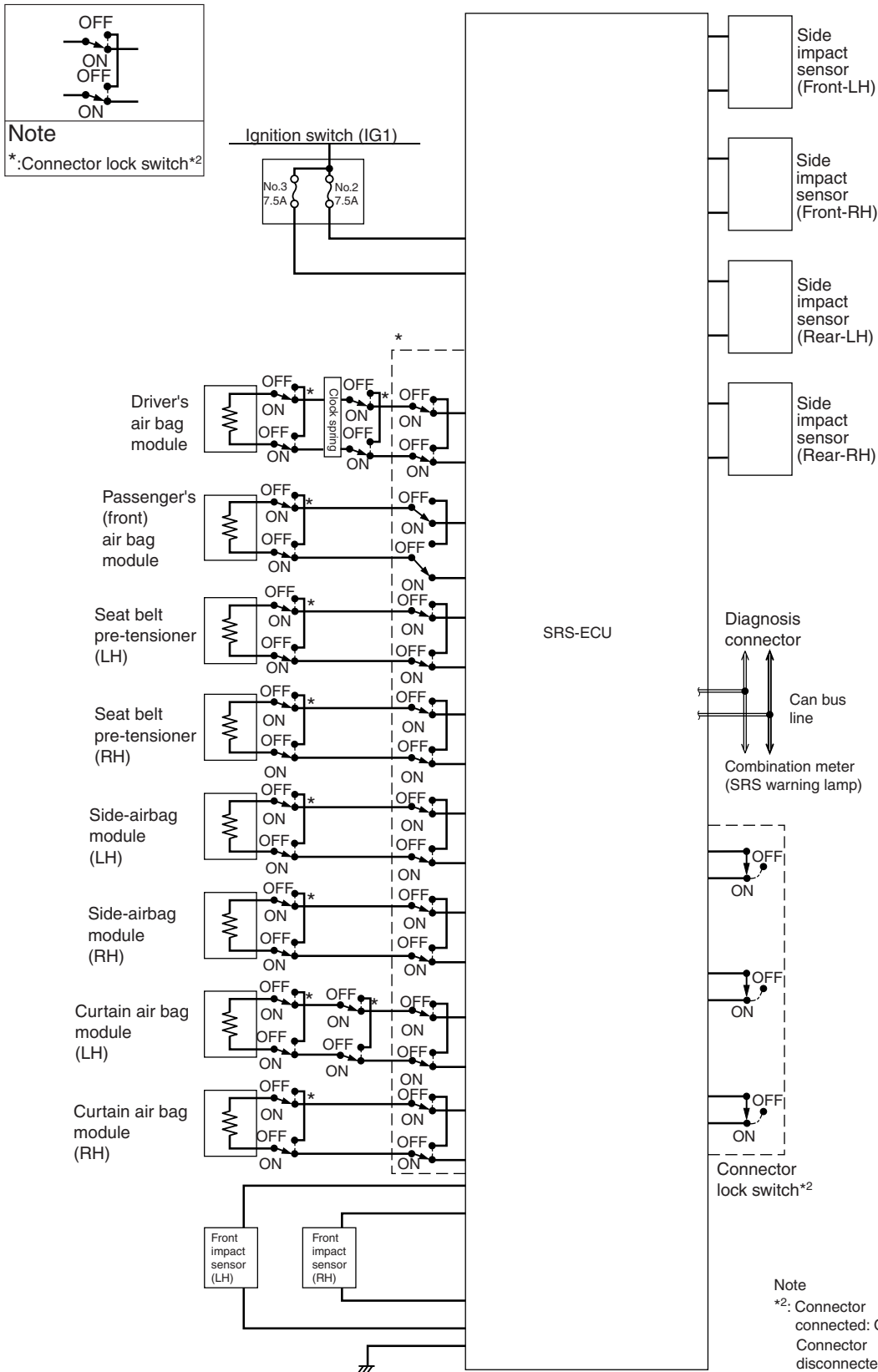
- Power supply backup function that deploys or operates the air bag module and seat belt pre-tensioner within specific period, in case of power failure upon impact.
- Diagnostic test mode to improve safety and reliability.

CONSTRUCTION DIAGRAM

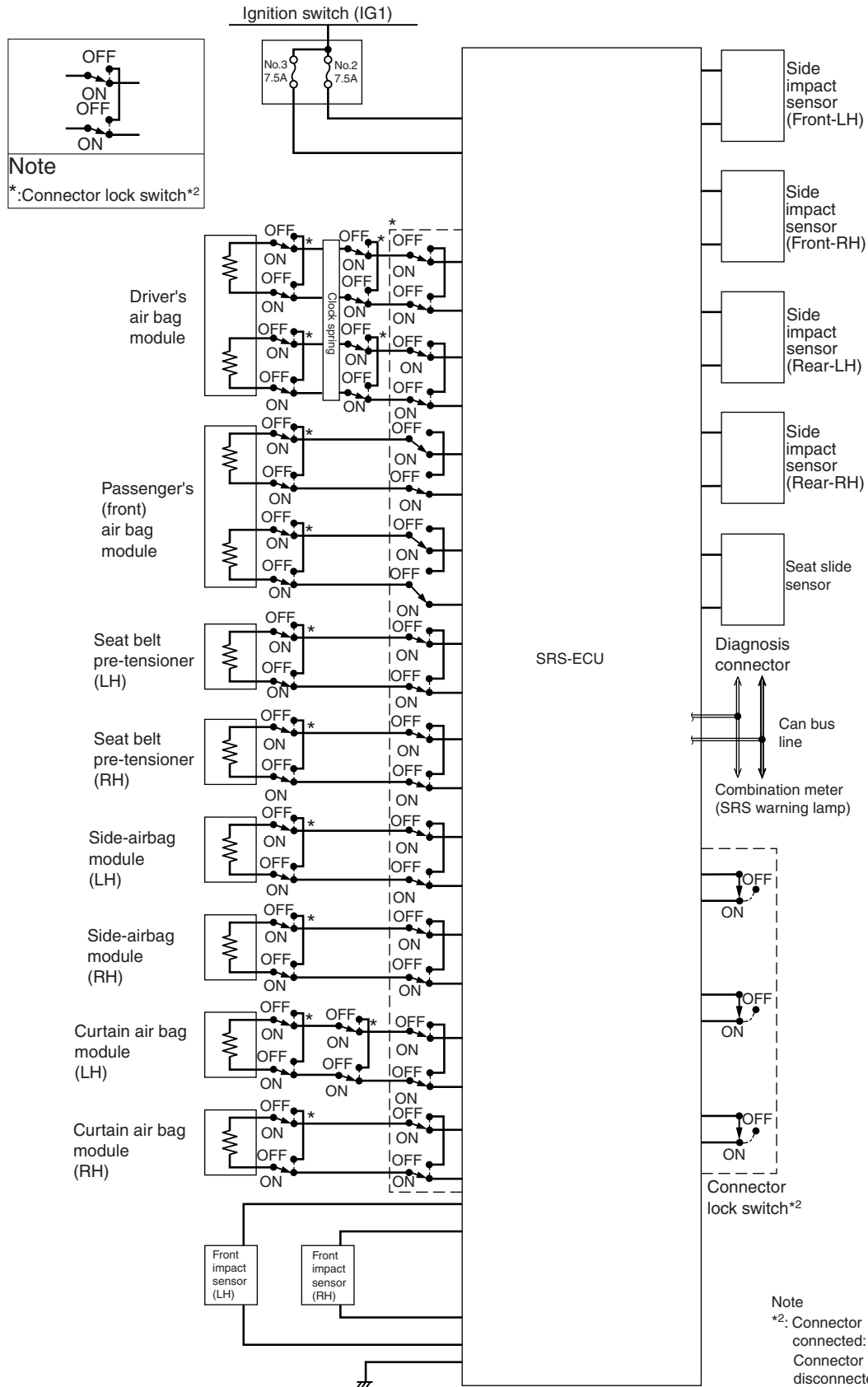


SRS SYSTEM CIRCUIT DIAGRAM

<Vehicles for General Export (except Hong Kong and Singapore) and GCC>



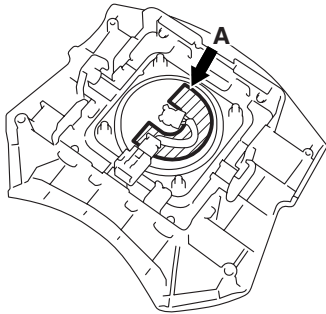
<Vehicles for Hong Kong, Singapore, Australia and New Zealand>



CAUTION LABELS

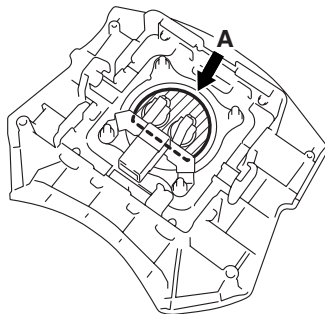
Labels to indicate cautions regarding the handling and the services of SRS air bag are attached on the position shown in the following illustration.

Driver's air bag module *1



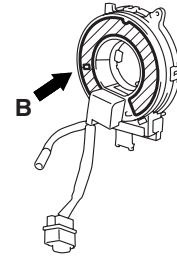
AC302074

Driver's air bag module *2

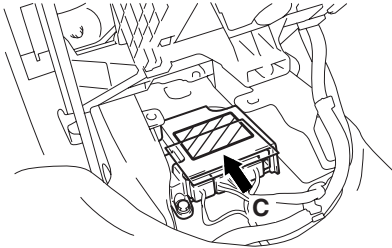


AC311881

Clock spring

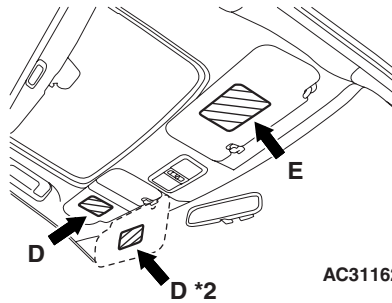


SRS-ECU



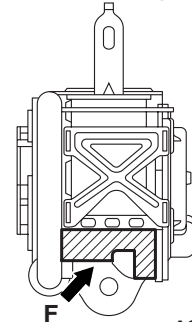
AC311626

Sun visor *3



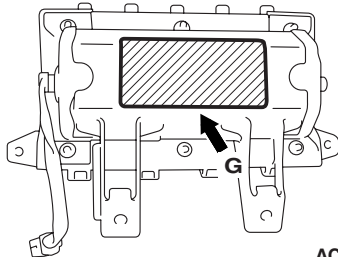
AC311623

**Seat belt with pre-tensioner
(driver's and passenger's seat)**



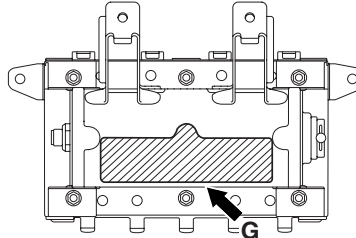
AC302187

**Passenger's (front)
air bag module *1**



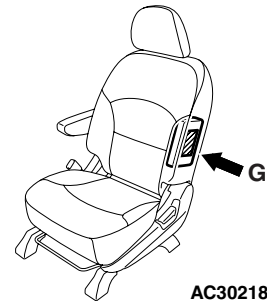
AC302071

**Passenger's (front)
air bag module *2**



AC311401

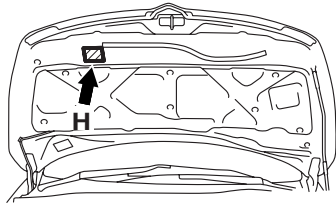
Side-airbag module



AC302189

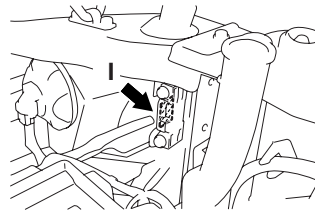
AC503651AB

Hood



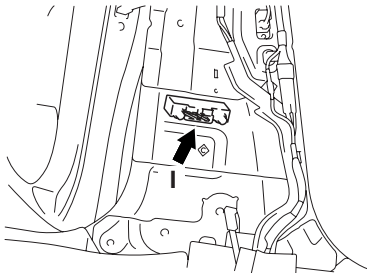
AC302072

Front impact sensor



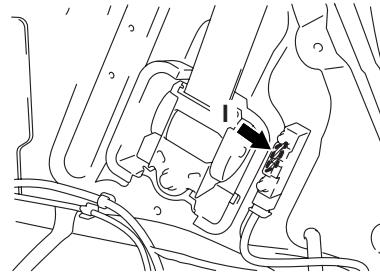
AC311408

Side impact sensor (front)



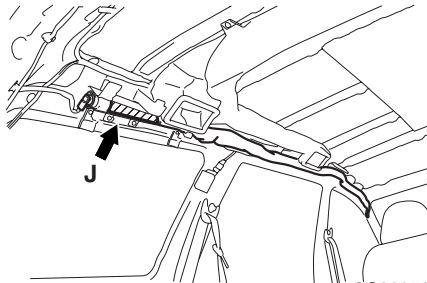
AC312011

Side impact sensor (rear)



AC311616

Curtain air bag module




AC302535

AC503652AB

NOTE:

- *1: Except vehicles for Hong Kong, Singapore, Australia and New Zealand
- *2: Vehicles for Hong Kong, Singapore, Australia and New Zealand
- *3: indicates RHD vehicles. For LHD vehicles, the specified application position of label is reversed left to right.

Label contents	
A	<p>DANGER: FLAMMABLE MATERIAL TO PREVENT PERSONAL INJURY. DO NOT DISMANTLE, INCINERATE, OR BRING INTO CONTACT WITH ELECTRICITY STORE BELOW 200° F (93° C). READ SERVICE MANUAL FOR DETAIL.</p>
B	<p>CAUTION: SRS CLOCK SPRING THIS IS NOT A REPAIRABLE PART. IF DEFECTIVE REPLACE ENTIRE UNIT ACCORDING TO THE SERVICE MANUAL INSTRUCTIONS. TO RE-CENTRE: ROTATE CLOCKWISE UNTIL TIGHT. THEN ROTATE IN OPPOSITE DIRECTION ROUGHLY 3 3/4 TURNS AND ALIGN ARROWS >><<.</p>
C	<p>CAUTION: DO NOT DISASSEMBLE OR DROP. IF DEFECT REFER TO SERVICE MANUAL.</p>
D	<div>  <p>AC300151</p> </div> <p>WARNING</p> <ul style="list-style-type: none"> • DEATH OR SERIOUS INJURY can occur. • DO NOT place rear-facing child seat on this seat with airbag.
E	<p>WARNING</p> <ul style="list-style-type: none"> • DEATH OR SERIOUS INJURY can occur. • ALWAYS use SEAT BELT and CHILD SEAT. • DO NOT sit or lean unnecessarily close to the air bag. • DO NOT place or install any objects over the air bag or between the air bag and yourself.
F	<p>DANGER SEAT BELT PRE-TENSIONER CAUTION THIS ASSEMBLY CONTAINS AN EXPLOSIVE INITIATOR FLAMMABLE MATERIAL TO PREVENT PERSONAL INJURY</p> <ul style="list-style-type: none"> • DO NOT IMPACT, DISMANTLE OR INSTALL IT INTO ANOTHER VEHICLE. • SERVICE OR DISPOSE OF IT AS DIRECTED IN THE REPAIR MANUAL.
G	<p>WARNING FLAMMABLE/EXPLOSIVE SRS AIR BAG MODULE TO AVOID SERIOUS INJURY:</p> <ul style="list-style-type: none"> • 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.

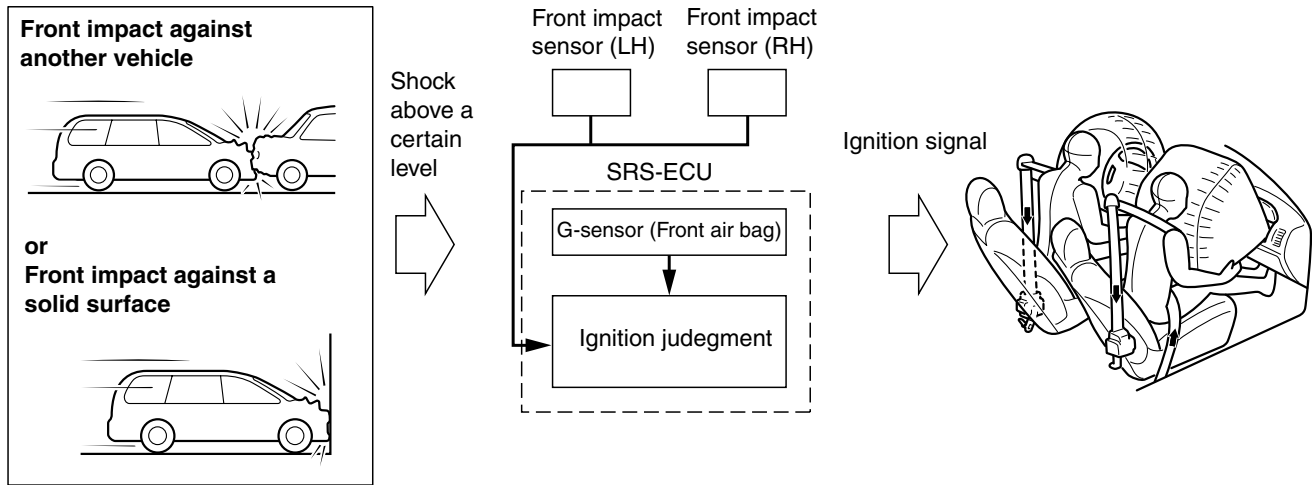
Label contents	
H	<p>WARNING</p> <p>THIS VEHICLE HAS AN AIR BAG SYSTEM.</p> <p>REFER TO SERVICE MANUAL BEFORE SERVICING OR DISASSEMBLING UNDER HOOD COMPONENTS.</p> <p>READ THE "SRS" SECTION OF MANUAL FOR IMPORTANT INSTRUCTIONS.</p> <p>IMPROPER SERVICE PROCEDURES CAN RESULT IN THE AIR BAG FIRING OR BECOMING INOPERATIVE, POSSIBLY LEADING TO INJURY.</p>
I	<p>CAUTION:</p> <p>DO NOT DISASSEMBLE OR DROP.</p>
J	<p>WARNING</p> <p>SRS AIRBAG</p> <ul style="list-style-type: none">• THIS AIRBAG MODULE CAN NOT BE REPAIRED. SEE SERVICE MANUAL FOR INSTRUCTIONS (ON DIAGNOSIS AND REPLACEMENT)• DO NOT DIAGNOSIE USING ELECRICALLY POWERED TEST EQUIPMENT OR PROBING DEVICES.• TAMPERING OR MISHANDLING CAN RESULT IN PERSONAL INJURY.• STORE THE REMOVED AIRBAG MODULE WITH THE PAD OR COVER SURFACE UP. (REFER TO SERVICE MANUAL FOR SPECIAL HANDLING OR STORAGE)• DO NOTSTORE BELOW 200° F (93° C).

CONSTRUCTION AND OPERATION

SYSTEM OPERATION

M2521001000406

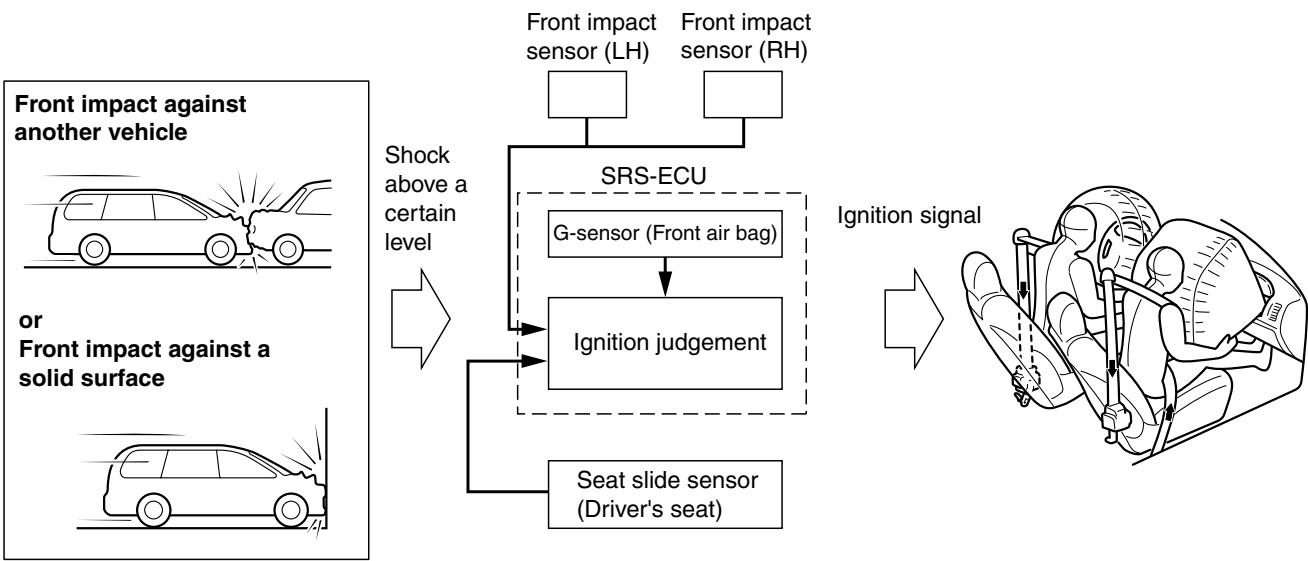
FRONT AIR BAG AND SEAT BELT WITH PRE-TENSIONER <Except vehicles for Hong Kong, Singapore, Australia and New Zealand>



AC313306 AD

SRS-ECU uses data of the front impact sensor (in engine compartment) and G-sensor (in SRS-ECU) to calculate collision severity during frontal collision. SRS-ECU judges necessity of front air bag and seat belt pre-tensioner based on the calculated collision severity.

FRONT AIR BAG AND SEAT BELT WITH
PRE-TENSIONER <Vehicles for Hong
Kong, Singapore, Australia and New
Zealand>



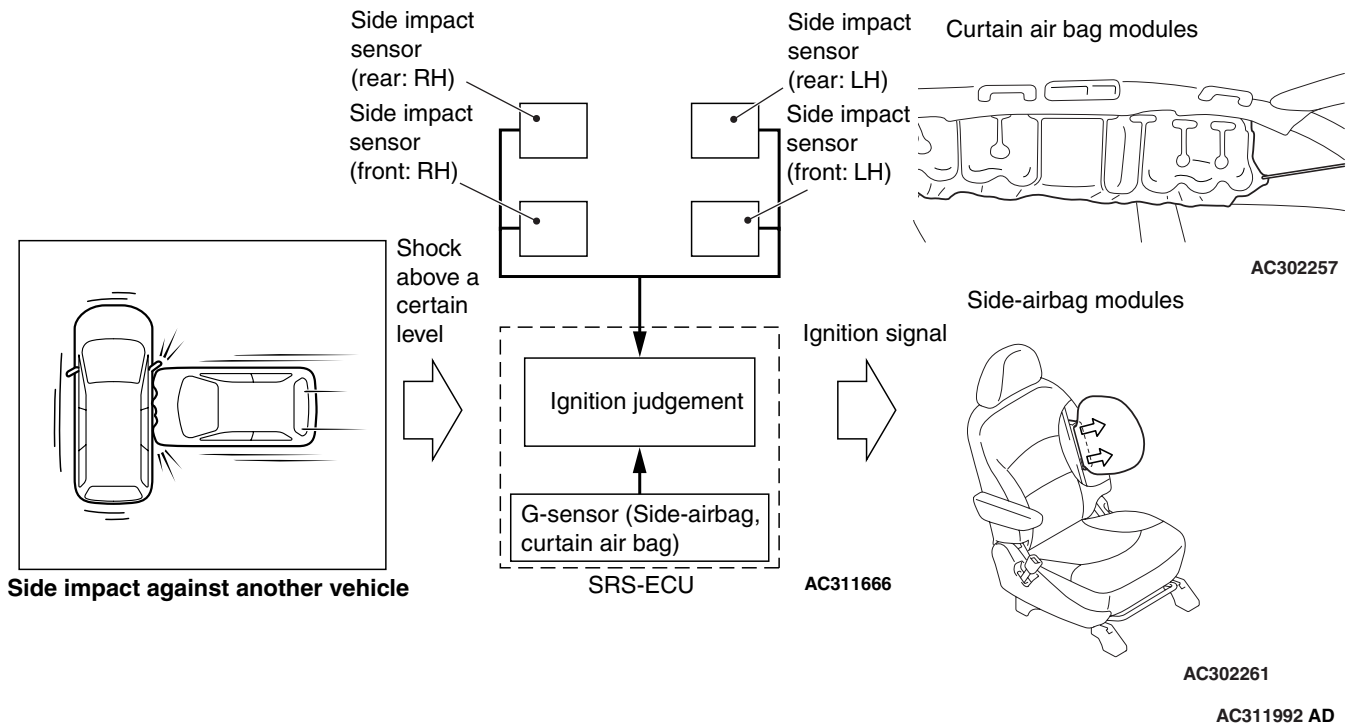
AC313307AD

SRS-ECU uses data of the front impact sensor (in engine compartment) and G-sensor (in SRS-ECU) to calculate collision severity during frontal collision. SRS-ECU judges necessity of the front air bag* and seat belt pre-tensioner based on the calculated collision severity and the position of the seat slide sensor.

*NOTE: *: Air bag module has 1st and 2nd squibs. SRS-ECU controls 2nd deployment to adjust air bag operation.*

Driver's air bag module	Low-speed crash	High-speed crash
Driver's seat located in front area	Only 1st stage	Only 1st stage
Driver's seat located in rear area	Only 1st stage	1st and 2nd stage at the same time
Passenger's (front) air bag module	Low-speed crash	High-speed crash
No relation with seat position	Only 1st stage	1st and 2nd stage at the same time

SIDE AND CURTAIN AIR BAGS

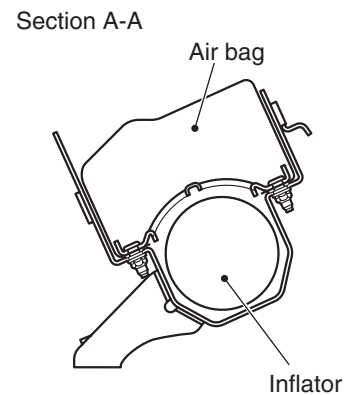
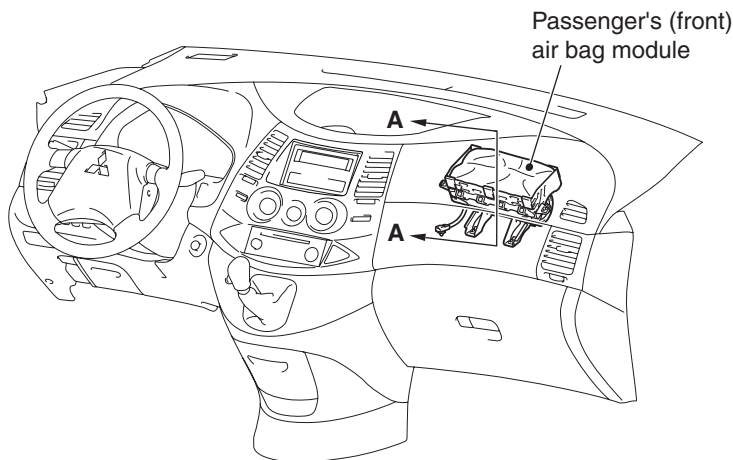


SRS-ECU uses data of the side impact sensor (front [centre pillar area]), side impact sensor (rear [rear quarter panel area]), and G-sensor (in SRS-ECU) to calculate collision severity, during side collision. SRS-ECU judges necessity of side-airbag and curtain air bag based on the calculated collision severity.

DRIVER'S SIDE AIR BAG MODULE

Refer to GROUP 37, Steering wheel [P.37-4](#).

PASSENGER'S (FRONT) SIDE AIR BAG MODULE



AC311945AB

⚠ CAUTION

Improper services cause the sudden operation of passenger's (front) air bag module or the system to be inoperative. Do not disassemble or tamper with the air bag module to prevent the serious injury.

The passenger's (front) air bag module consists of an air bag, inflator, module cover (incorporating the instrument panel pad), and their fasteners.

The air bag is made from nylon and inflates by the gas from the inflator. As a passenger is being pressed to the air bag, it deflates, discharging gas from two vent holes at the side of the air bag to reduce the shock from the impact.

For vehicles for Hong Kong, Singapore, Australia and New Zealand, the inflator has two squib connectors to deploy the air bag in two steps.

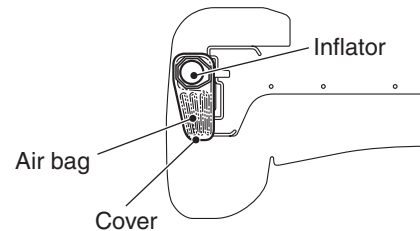
SIDE-AIRBAG MODULE

M2521001800026

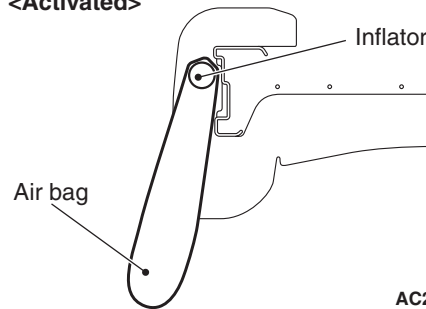


AC302261

<Not activated>



<Activated>



AC208468

AC302729AC

⚠ CAUTION

Improper services cause the sudden operation of side-air bag module or the system to be inoperative. Do not disassemble or tamper with the air bag module to prevent the serious injury.

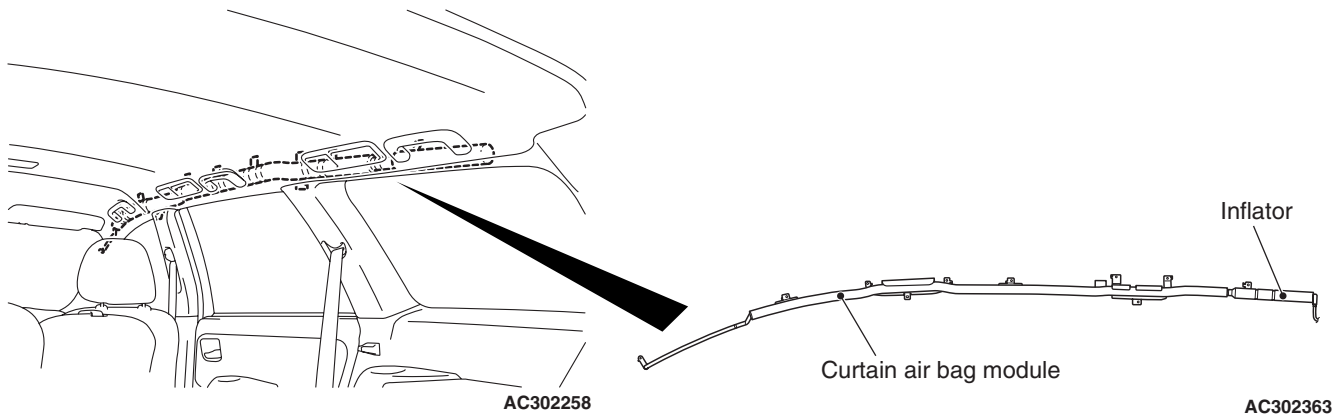
The side-air bag module consist of an air bag, an inflator, and the fixing gear relating to those parts, and is installed in the side supports outside the body on both the driver and passenger sides. Installation of an air bag in a seatback provides a stable protection capability regardless of the seat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

Like the front air bags, the side air bags are made of rubber-coated nylon, and is folded up and housed in a cover. Gas exhaust openings are provided at the sewed sections of the air bags to reduce the impacts on the occupants at inflation.

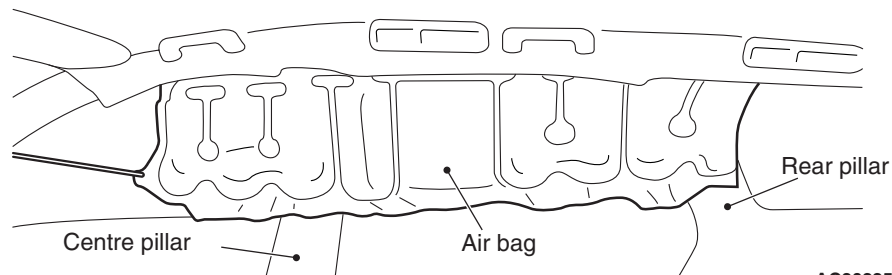
The covers are made from polyester bags and perforated. When a side air bag inflates, its cover breaks along the perforated line to allow the inside bag to spring out for inflation.

CURTAIN AIR BAG MODULE

M2521000500130



<Activated>



AC302727AC

CAUTION

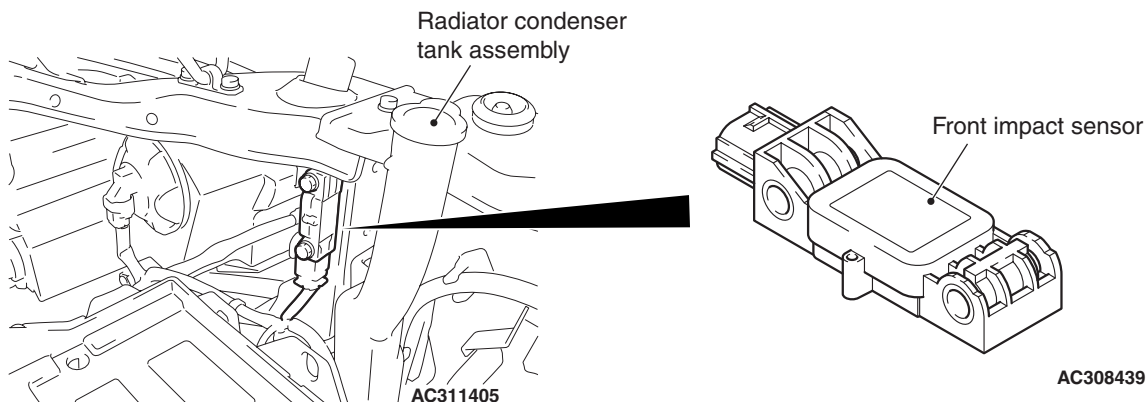
Improper services cause the sudden operation of curtain air bag module or the system to be inoperative. Do not disassemble or tamper with the air bag module to prevent the serious injury.

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).

The air bag is made from nylon with the inside coated with silicon, and housed in the roof side sections, folded up compactly.

FRONT IMPACT SENSOR

M2521005000271



AC313032AB

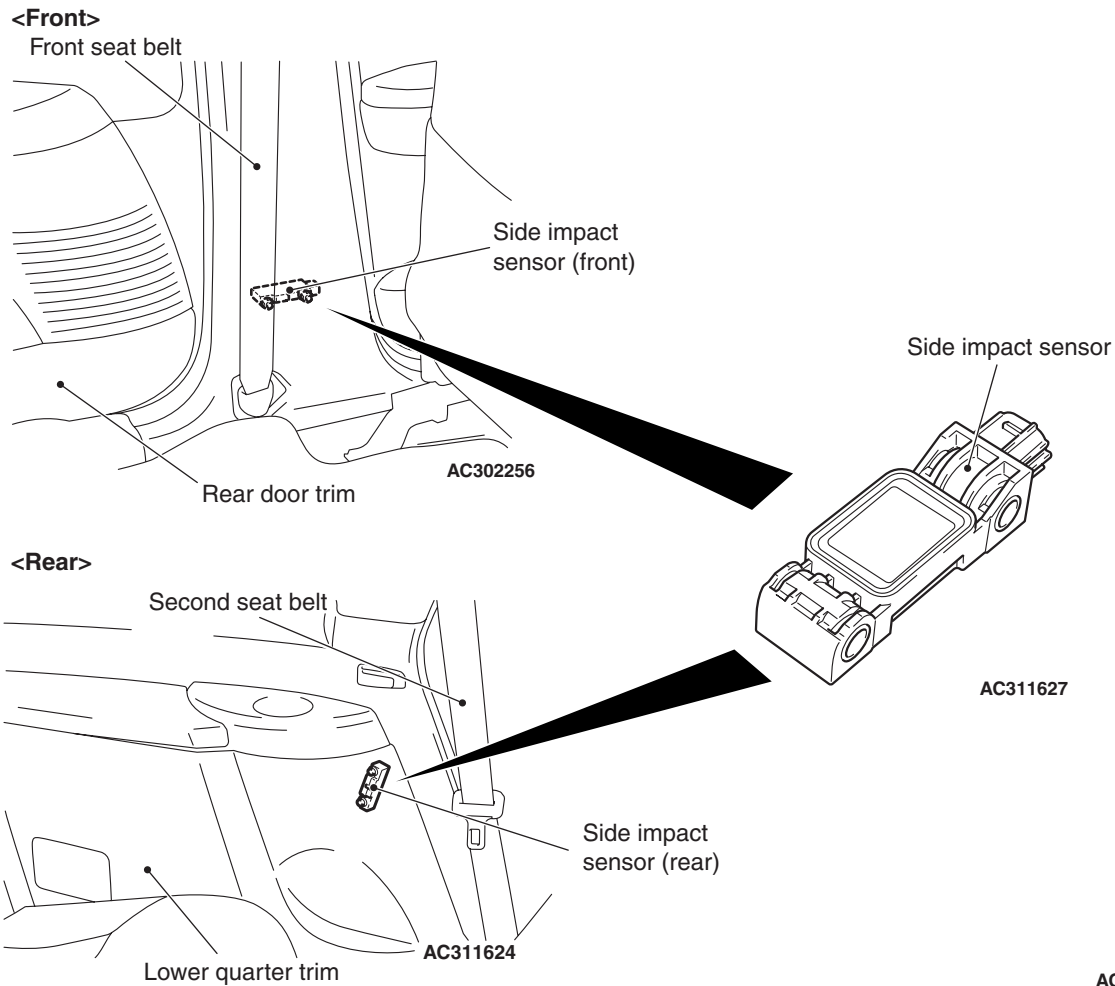
⚠ CAUTION

Improper services cause the sudden operation of SRS (air bag) or the system to be inoperative. Do not disassemble or tamper with the front impact sensor to prevent the serious injury.

The front impact sensors are installed on both radiator support panels. The front impact sensors transmit acceleration data to SRS-ECU. The SRS-ECU then determines whether to operate the driver's air bag, front passenger's air bag and seat belt pretensioners, and then outputs an ignition signal when necessary. The front impact sensor also diagnoses itself, and sends a diagnosis code to the SRS-ECU if a problem occurs.

SIDE IMPACT SENSOR

M2521006000230



CAUTION

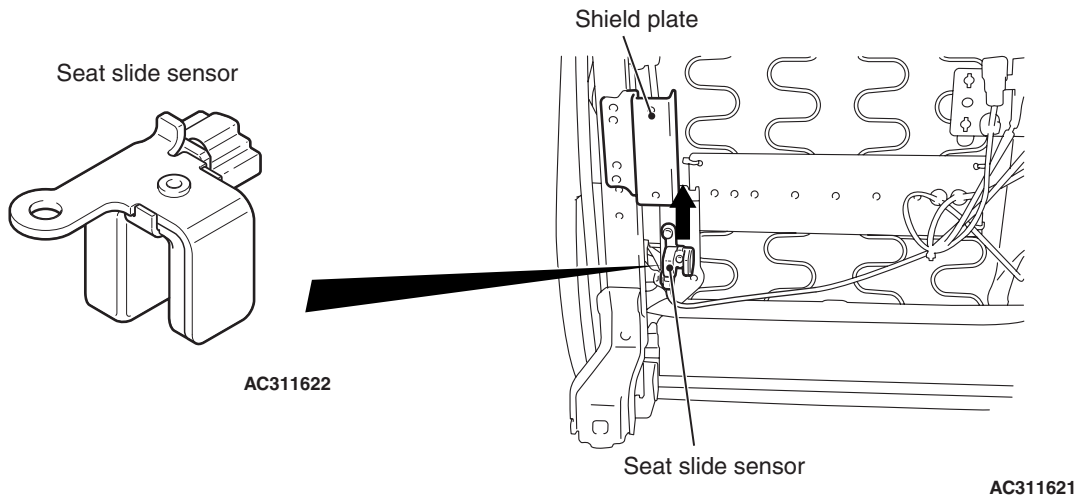
Improper services cause the sudden operation of SRS (air bag) or the system to be inoperative. Do not disassemble or tamper with the side impact sensor to prevent the serious injury.

The side impact sensor is installed in the lower parts of the centre pillars and the inner rear quarter panels.

The side impact sensor transmits acceleration data to the SRS-ECU. The SRS-ECU then determines if the side and/or curtain air bags should be inflated, and sends an ignition signal. The side impact sensor also diagnoses itself, and sends a diagnosis code to the SRS-ECU if a problem occurs.

**SEAT SLIDE SENSOR <VEHICLES FOR
HONG KONG, SINGAPORE, AUSTRALIA
AND NEW ZEALAND>**

M2521001400073



AC313315AB

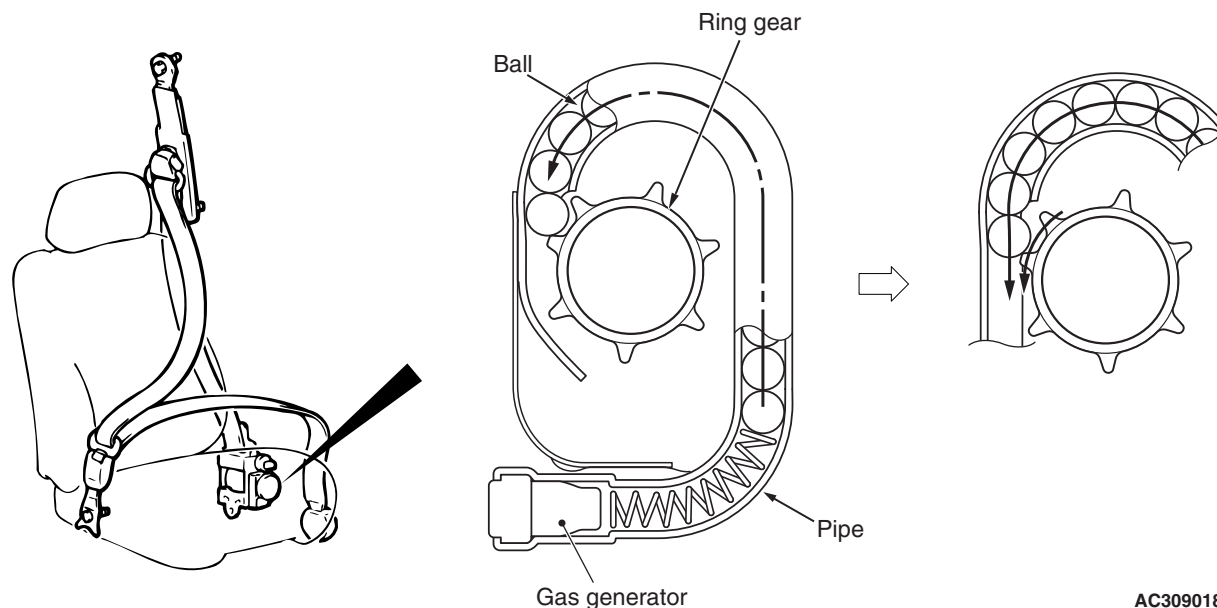
⚠ CAUTION

Improper services cause the system to be inoperative. Do not disassemble or tamper with the seat slide sensor to prevent the serious injury.
The seat slide sensor is attached to the driver's seat rail and provides the air bag control unit with information on the seat position.

The air bag control unit controls deployment output of the driver's air bag in accordance with the information from the sensor.

SEAT BELT WITH PRE-TENSIONER

M2521008000151



AC309018AC

⚠ CAUTION

Improper services cause the sudden operation of the seat belt with pre-tensioner or the system to be inoperative. Do not disassemble or tamper with the seat belt to prevent the serious injury.

The seatbelt incorporating the pre-tensioner automatically winds the seatbelt upon front impact to reduce forward shifting of the driver's and passenger's.

The seat belt pre-tensioner is built into the driver's and passenger's front seat belt retractor.

Upon front impact, the seat belt pre-tensioner ignites the gas generator and emits gas with the SRS-ECU signal when the front impact sensor and the SRS-ECU detects a gravitational impact at the same time. The gas pressure shifts the ball in the pipe and the balls comes in contact with the protrusion of the ring gear, is inserted in the ring gear. The ring gear rotates to wind the webbing.

SRS-ECU

M2521007000396

⚠ CAUTION

Improper services cause the sudden operation of SRS (air bag) or the system to be inoperative. Do not disassemble or tamper with the SRS-ECU to prevent the serious injury.

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

Upon front impact, the SRS-ECU set the ignition signal to the driver's air bag module, the front passenger's air bag module and the seat belt pre-tensioner when the front impact sensor and the SRS-ECU detect a gravitational impact at the same time.

Upon side impact, the SRS-ECU set the ignition signal to the side air bag module and the curtain air bag module suffered a impact, when the side impact sensors (front and rear) and the SRS-ECU detects a gravitational impact at the same time.

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

DIAGNOSTIC FUNCTION

The SRS-ECU has the following functions to make system checking easily using the M.U.T.-III.

- Diagnosis code output
- Service data output
- Actuator test

CAN COMMUNICATION

SRS-ECU, through CAN communication, outputs a signal that requests SRS warning lamp illumination to the meter ECU.

DIAGNOSIS CODE SET

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 M.U.T.-III).

Code No.	Major contents of diagnostics
B1400*3	Driver's air bag (1st squib) short-circuited
B1401*3	Driver's air bag (1st squib) open-circuited
B1402*3	Driver's air bag (1st squib) drive circuit (earth side) short-circuited
B1403*3	Driver's air bag (1st squib) drive circuit (power supply side) short-circuited
B1404*4	Driver's air bag (1st squib) activating circuit short-circuited
B1405*4	Driver's air bag (1st squib) activating circuit open-circuited
B1406*4	G-sensor of front impact sensor (RH) failure
B1407*3	Front impact sensor (RH) voltage error
B1408*3	Front impact sensor (RH) communication error
B1409*3	Front impact sensor (RH) communication impossible
B1410*3	Passenger's (front) air bag (1st squib) short-circuited
B1411*3	Passenger's (front) air bag (1st squib) open-circuited
B1412*3	Passenger's (front) air bag (1st squib) drive circuit (earth side) short-circuited
B1413*3	Passenger's (front) air bag (1st squib) drive circuit (power supply side) short-circuited
B1414*4	Passenger's (front) air bag (1st squib) activating circuit short-circuited
B1415*4	Passenger's (front) air bag (1st squib) activating circuit open-circuited
B1416*4	G-sensor of front impact sensor (LH) failure
B1417*3	Front impact sensor (LH) voltage error
B1418*3	Front impact sensor (LH) communication error
B1419*3	Front impact sensor (LH) communication impossible
B1420*3	Side-airbag squib (RH) short-circuited
B1421*3	Side-airbag squib (RH) open-circuited
B1422*3	Side-airbag squib (RH) drive circuit (earth side) shorted
B1423*3	Side-airbag squib (RH) drive circuit (power supply side) shorted
B1424*4	Side-airbag squib (RH) drive circuit shorted
B1425*4	Side-airbag squib (RH) drive circuit open
B1426*4	G-sensor of side impact sensor (RH) failure
B1427*3	Side impact sensor (RH) voltage error
B1428*3	Side impact sensor (RH) communication error

Code No.	Major contents of diagnostics
B1429 ^{*3}	Side impact sensor (RH) communication impossible
B1430 ^{*3}	Side-airbag squib (LH) short-circuited
B1431 ^{*3}	Side-airbag squib (LH) open-circuited
B1432 ^{*3}	Side-airbag squib (LH) drive circuit (earth side) shorted
B1433 ^{*3}	Side-airbag squib (LH) drive circuit (power supply side) shorted
B1434 ^{*4}	Side-airbag squib (LH) drive circuit shorted
B1435 ^{*4}	Side-airbag squib (LH) drive circuit open
B1436 ^{*4}	G-sensor of side impact sensor (LH) failure
B1437 ^{*3}	Side impact sensor (LH) voltage error
B1438 ^{*3}	Side impact sensor (LH) communication error
B1439 ^{*3}	Side impact sensor (LH) communication impossible
B1440 ^{*3}	Curtain air bag squib (RH) short-circuited
B1441 ^{*3}	Curtain air bag squib (RH) open-circuited
B1442 ^{*3}	Curtain air bag squib (RH) drive circuit (earth side) shorted
B1443 ^{*3}	Curtain air bag squib (RH) drive circuit (power supply side) shorted
B1444 ^{*4}	Curtain air bag squib (RH) drive circuit shorted
B1445 ^{*4}	Curtain air bag squib (RH) drive circuit open
B1446 ^{*4}	G-sensor of rear side impact sensor (RH) failure
B1447 ^{*3}	Rear side impact sensor (RH) voltage error
B1448 ^{*3}	Rear side impact sensor (RH) communication error
B1449 ^{*3}	Rear side impact sensor (RH) communication impossible
B1450 ^{*3}	Curtain air bag squib (LH) short-circuited
B1451 ^{*3}	Curtain air bag squib (LH) open-circuited
B1452 ^{*3}	Curtain air bag squib (LH) drive circuit (earth side) shorted
B1453 ^{*3}	Curtain air bag squib (LH) drive circuit (power supply side) shorted
B1454 ^{*4}	Curtain air bag squib (LH) drive circuit shorted
B1455 ^{*4}	Curtain air bag squib (LH) drive circuit open
B1456 ^{*4}	G-sensor of rear side impact sensor (LH) failure
B1457 ^{*3}	Rear side impact sensor (LH) voltage error
B1458 ^{*3}	Rear side impact sensor (LH) communication error
B1459 ^{*3}	Rear side impact sensor (LH) communication impossible
B1460 ^{*3}	Seat belt pre-tensioner (RH) squib short-circuited
B1461 ^{*3}	Seat belt pre-tensioner (RH) squib open-circuited
B1462 ^{*3}	Seat belt pre-tensioner (RH) squib (earth side) short-circuited

Code No.	Major contents of diagnostics
B1463 ^{*3}	Seat belt pre-tensioner (RH) squib (power supply side) short-circuited
B1464 ^{*4}	Seat belt pre-tensioner (RH) (squib ignition drive circuit) system detected short
B1465 ^{*4}	Seat belt pre-tensioner (RH) (squib ignition drive circuit) system detected open
B1466 ^{*4}	Analog G-sensor malfunction
B1467 ^{*4}	Safing G-sensor open-circuited (for frontal collision)
B1468 ^{*4}	Safing G-sensor short-circuited (for frontal collision)
B1469 ^{*4}	Safing G-sensor malfunction (for side collision)
B1470 ^{*3}	Seat belt pre-tensioner (LH) squib short-circuited
B1471 ^{*3}	Seat belt pre-tensioner (LH) squib open-circuited
B1472 ^{*3}	Seat belt pre-tensioner (LH) squib drive circuit (earth side) short-circuited
B1473 ^{*3}	Seat belt pre-tensioner (LH) squib drive circuit (power supply side) short-circuited
B1474 ^{*4}	Seat belt pre-tensioner (LH) (squib ignition drive circuit) system detected short
B1475 ^{*4}	Seat belt pre-tensioner (LH) (squib ignition drive circuit) system detected open
B1476 ^{*2}	Power supply voltage (IG1 (A) voltage) drops abnormally.
B1477 ^{*2}	Power supply voltage (IG1 (B) voltage) drops abnormally.
B1478 ^{*4}	SRS-ECU capacitor circuit voltage too high
B1479 ^{*4}	SRS-ECU capacitor circuit voltage too low
B1480 ^{*3, *5}	Driver's air bag (2nd squib) short-circuited
B1481 ^{*3, *5}	Driver's air bag (2nd squib) open-circuited
B1482 ^{*3, *5}	Driver's air bag (2nd squib) drive circuit (earth side) short-circuited
B1483 ^{*3, *5}	Driver's air bag (2nd squib) drive circuit (power supply side) short-circuited
B1484 ^{*4, *5}	Driver's air bag (2nd squib) activating circuit short-circuited
B1485 ^{*4, *5}	Driver's air bag (2nd squib) activating circuit open-circuited
B1490 ^{*3, *5}	Passenger's (front) air bag (2nd squib) short-circuited
B1491 ^{*4, *5}	Passenger's (front) air bag (2nd squib) open-circuited
B1492 ^{*4, *5}	Passenger's (front) air bag (2nd squib) drive circuit (earth side) short-circuited
B1493 ^{*4, *5}	Passenger's (front) air bag (2nd squib) drive circuit (power supply side) short-circuited
B1494 ^{*4, *5}	Passenger's (front) air bag (2nd squib) activating circuit short-circuited
B1495 ^{*4, *5}	Passenger's (front) air bag (2nd squib) activating circuit open-circuited
B1496 ^{*4}	SRS-ECU non-volatile memory (EEPROM)
B1497 ^{*4}	SRS-ECU application specific integrated circuit (for frontal activation)
B1498 ^{*4}	SRS-ECU ROM or RAM
B1499 ^{*4}	Collision Decision
B1506 ^{*3}	Seat slide sensor circuit open

Code No.	Major contents of diagnostics
B1507 ^{*3}	Seat slide sensor circuit (earth side) shorted
B1508 ^{*3}	Seat slide sensor circuit (power supply side) shorted
B1509 ^{*2}	Incorrect SRS-ECU
B1519 ^{*3}	SRS-ECU connector lock out of order
B1548 ^{*3}	CAN communication impossible
B1549 ^{*3}	CAN communication error
B1552 ^{*4}	Changing circuit shorted
B1553 ^{*4}	Changing circuit open
B1554 ^{*4}	SG BY-PASS circuit malfunction
B1555 ^{*4}	SG BY-PASS circuit (field effect transistor) open
B1556 ^{*3}	Seat slide sensor malfunction
B1557 ^{*4}	SRS-ECU application specific integrated circuit
U1073 ^{*2}	Bus-off

NOTE: ^{*1}: Electrically Erasable Programmable ROM

^{*2}: This diagnosis code will remain in memory and the SRS warning lamp will be switched off when the system returns to normal condition.

^{*3}: This diagnosis code will remain in memory and the SRS warning lamp will remain on, even if the system returns to normal condition.

^{*4}: This diagnosis code cannot be erased by "Erase diagnosis codes" function.

^{*5}: Vehicles for Hong Kong, Singapore, Australia and New Zealand

DATA LIST OUTPUT

The data input from all sensors and switches can be read using the M.U.T.-III.

No.	Data list item	Check conditions	Normal conditions
01	Failure continuation time 1	Always	Maximum time to be stored: 9,999 minutes (approximately seven days)
02	Failure continuation time 2	Always	
03 [*]	Seat position	Slide the seat from the back-end position to the front-end position.	Rear/Front
10	Elimination times	Always	Maximum time to be stored: 255 times

NOTE: ^{*}: Vehicles for Hong Kong, Singapore, Australia and New Zealand

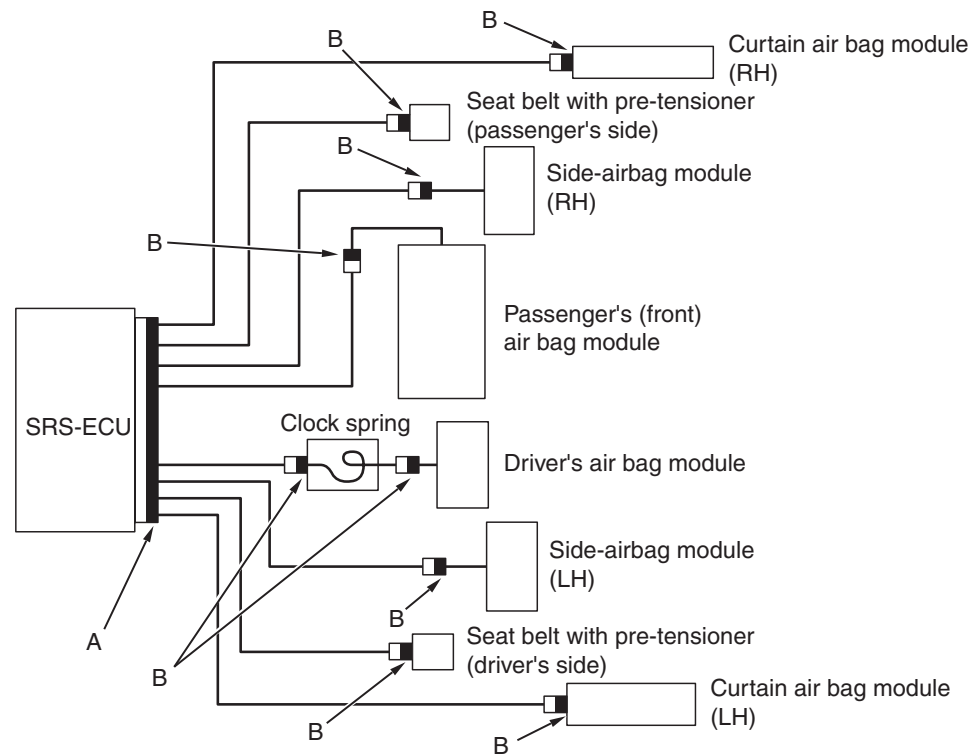
ACTUATOR TEST

The M.U.T.-III can be used to forcibly operate the next actuator.

M.U.T.-III display	Item NO.	Item	PARTS TO BE ACTIVATED
SRS Warning Lamp	01	The SRS warning light illuminates.	CAN output

SRS AIR BAG SPECIAL CONNECTOR

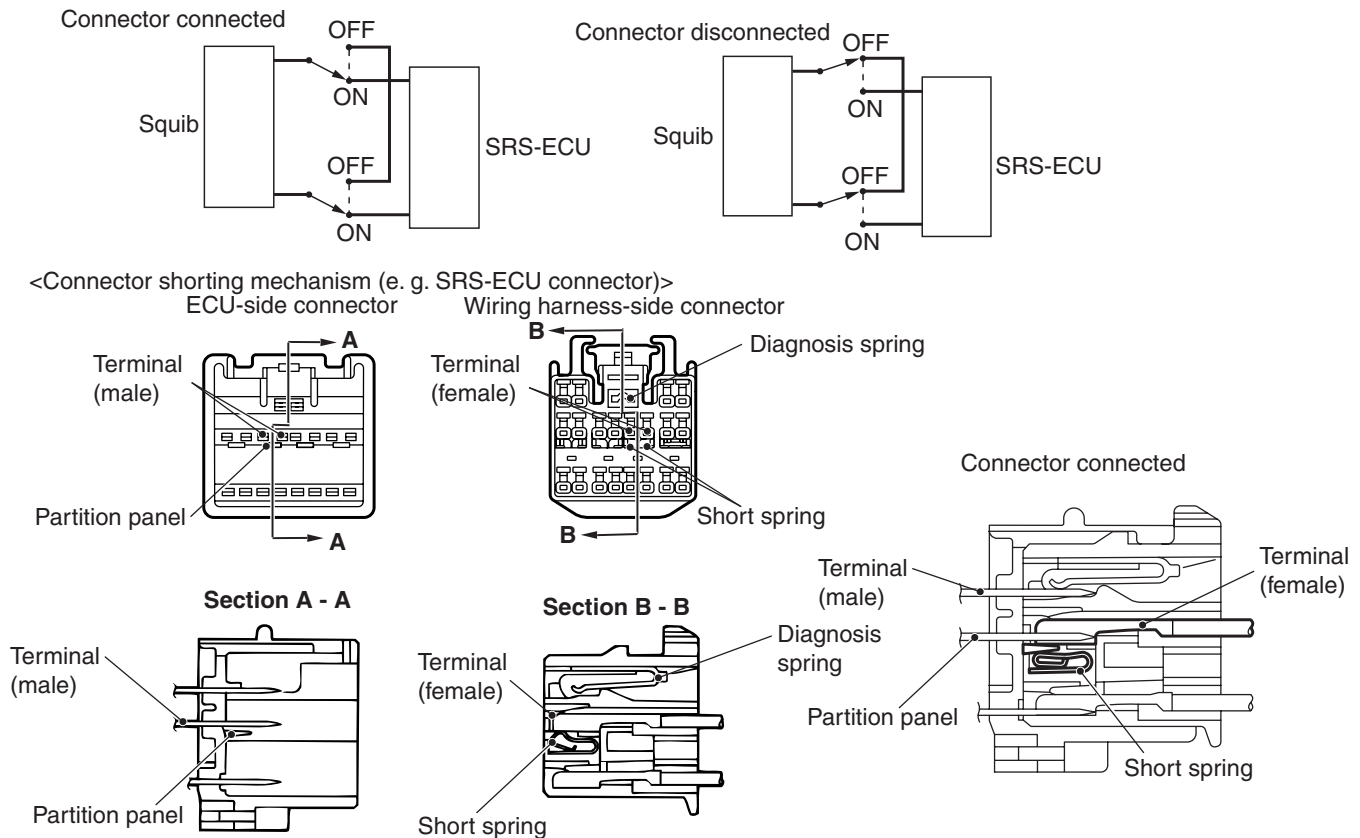
M2521009000284



AC404640AC

On the connectors of SRS airbag system, engagement confirmation mechanism for SRS-ECU connector (A connector<black> shown above), and connector shorting mechanism for SRS-ECU connector (A connector <black> shown above), each air-bag module connector, clock spring connector, and pre-tensioner connector have been adopted.

SQUIB CIRCUIT CONNECTOR LOCK SWITCH



AC300257AC

CAUTION

When the connector is disconnected, it is normal for short-circuiting to occur between the connector terminals.

- The diagnosis spring is assembled on the SRS-ECU wiring harness-side connector. When the ECU-side connector is connected to the SRS-ECU wiring harness-side connector, the diagnosis spring is disengaged from the terminal to short the circuit between the ECU-side connector terminals. The connector engagement is detected electrically by flowing the monitor current to this circuit.

- This mechanism automatically short-circuits the power supply side terminal and earth side terminal of the air bag when the connector is disconnected. A short spring is incorporated in the connector to short-circuit the power supply side terminal and earth side terminal of the air bag (no potential difference between the two terminals) and prevent flow of current by static electricity to the squib.

NOTES