GROUP 52B

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

CONTENTS

GENERAL INFORMATION

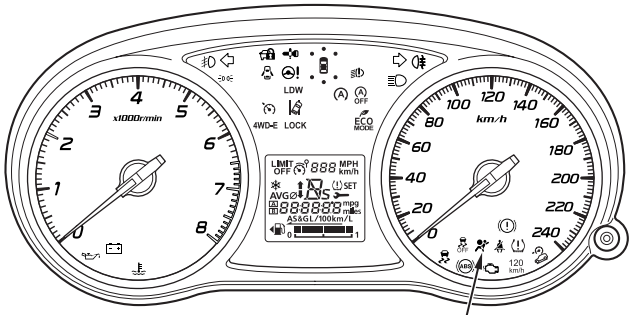
M1524000102639

The Supplemental Restraint System (SRS) and seat belt with pre-tensioner is designed to supplement the driver's and front passenger's seat belts to help reduce the risk or severity of injury to the driver and front passenger by activating and deploying both front air bags in certain frontal collisions. The side-air bag and the curtain air bag are activated when an impact exceeds the threshold upon a side collision, and inflates to protect the heads of the occupants in the front and rear seats.

The SRS consists of air bag modules, SRS air bag control unit (SRS-ECU), two front impact sensors, two side impact sensors, SRS warning lamp, clock spring, passenger’s air bag cut off switch, passenger’s air bag OFF indicator lamp and seat belt pre-tensioner. Front air bags are located in the centre of the steering wheel and above the glove box. Each air bag is made up of a folded air bag and an inflator unit. Side-airbags are located inside the front seat-back assemblies. 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 SRS-ECU under the front floor console monitors the system and has a front air bag analogue G-sensor, front air bag analogue G-sensor and a side (curtain) air bag analogue G-sensor. The front impact sensor is installed on the front end upper bar in the engine room and contains an analogue G-sensor. The side impact sensor is installed in the lower parts of the centre pillars, and contains an analogue G-sensor. The warning lamp on the instrument panel indicates the operational status of the SRS. The clock spring is installed in the steering column. The passenger’s air bag cut off switch is outside the instrument panel side. The passenger’s air bag OFF indicator lamp is installed in centre panel assembly. The seat belt pre-tensioner is built into the driver's and passenger's front seat belt retractor.

Only authorized service personnel should do work on or around the SRS components. Those service personnel should read this manual carefully before starting any such work.

<Standard meter>



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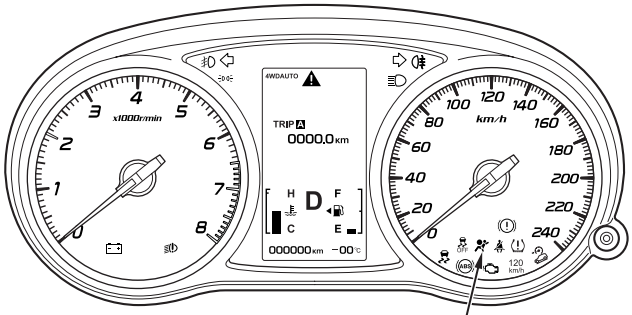

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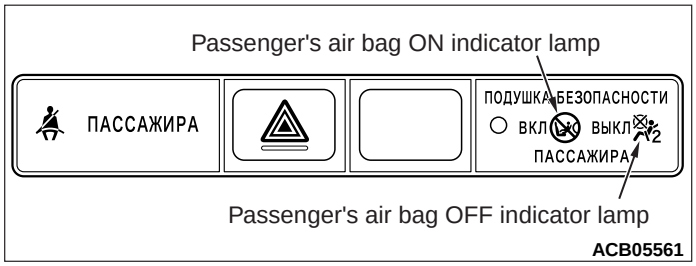

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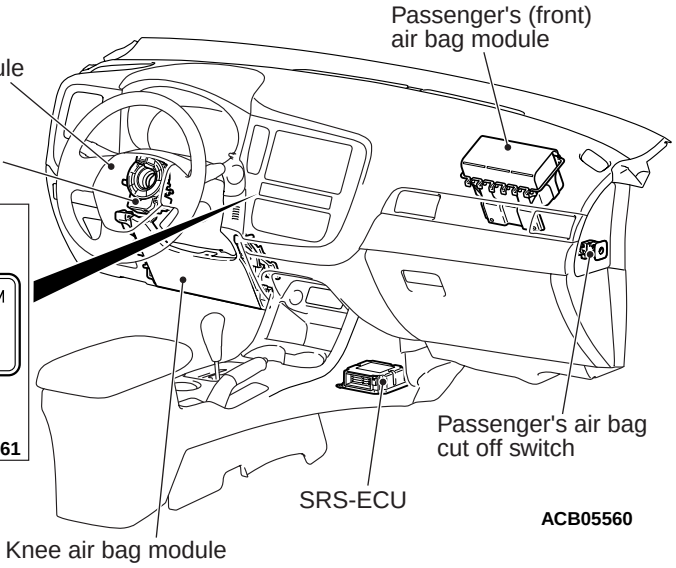

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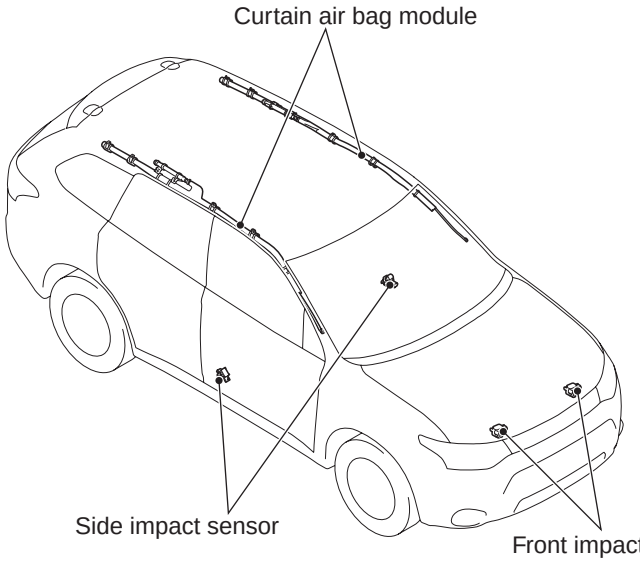

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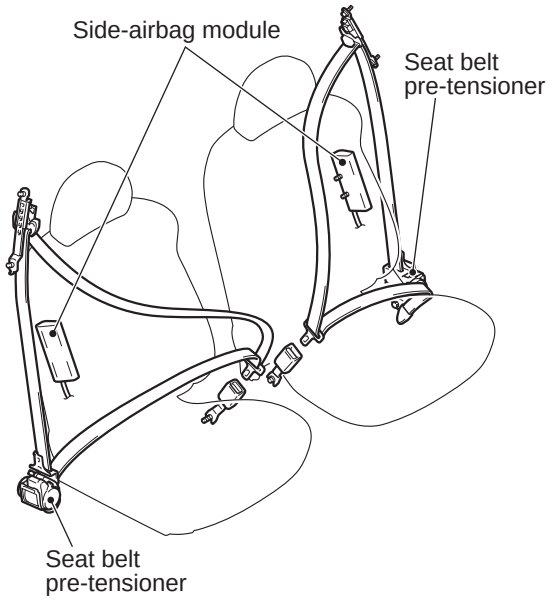

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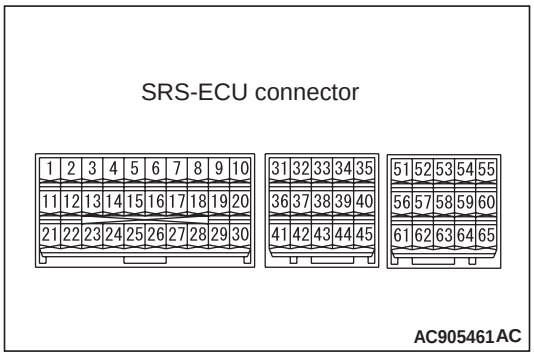
SERVICE PRECAUTIONS

M1524000302031

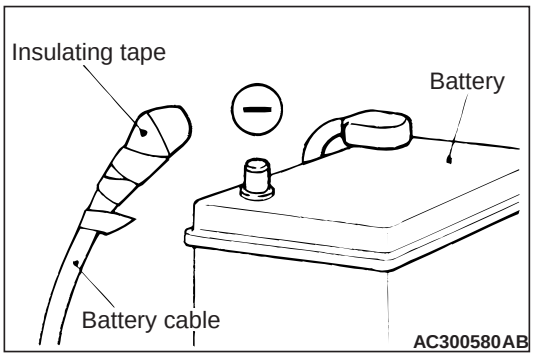
1. **In order to avoid injury to yourself or others from accidental deployment of the SRS air bag during servicing, read and carefully follow all the precautions and procedures described in this manual.**
2. **Be sure to use the tester and special tools specified in this manual (Special tool: refer to P.52B-9, tester: refer to P.52B-12).**
3. **Never attempt to repair the following components:**
   - **SRS-ECU**
   - **Driver's air bag module**
   - **Clock spring**
   - **Passenger's (front) air bag module**
   - **Curtain air bag module**
   - **Knee air bag module**
   - **Front seat assembly incorporating side-air-bag module**
   - **Seat belt with pre-tensioner**
   - **Front impact sensor**
   - **Side impact sensor**



4. **Never attempt to repair the wiring harness connectors of the SRS. If a defective wiring harness is found, repair or replace it by referring to the table follows.**

SRS-ECU terminal No.	Destination of wiring harness	Measures
1, 2	Instrument panel wiring harness → knee air bag module	Repair or replace the instrument panel wiring harness.
5, 6	Instrument panel wiring harness → clock spring → driver's air bag module (squib)	Replace the clock spring, or repair or replace the instrument panel wiring harness.
7, 8	Instrument panel wiring harness → passenger's (front) air bag module (squib)	Repair or replace the instrument panel wiring harness.
13	Instrument panel wiring harness → hazard indicator assembly [air bag OFF indicator lamp (passenger's side)]	Repair or replace the instrument panel wiring harness.
15	Instrument panel wiring harness → hazard indicator assembly [air bag ON indicator lamp (passenger's side)]	Repair or replace the instrument panel wiring harness.
17, 27	Instrument panel wiring harness → front wiring harness → front impact sensor (LH)	Repair or replace the wiring harnesses.
18, 28	Instrument panel wiring harness → front wiring harness → front impact sensor (RH)	
22	Floor wiring harness → ETACS-ECU (fuse No. 16)	Repair or replace the floor wiring harness.
23	Instrument panel wiring harness → diagnosis connector	Repair or replace the instrument panel wiring harness.
24	Instrument panel wiring harness → earth	
25,26	Instrument panel wiring harness → passenger's air bag cut OFF switch	
29, 30	Instrument panel wiring harness → CAN bus line	

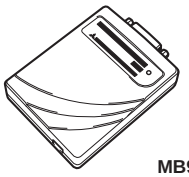
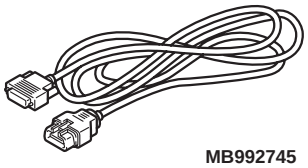
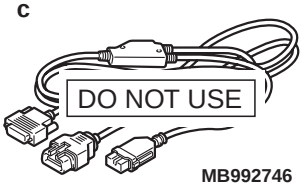
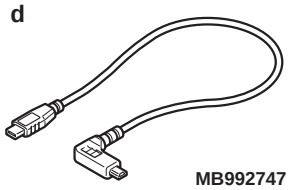
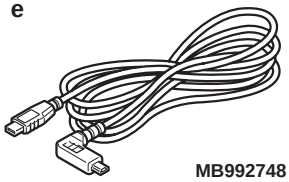
SRS-ECU terminal No.	Destination of wiring harness	Measures
31, 32	Floor wiring harness → front passenger's seat belt pre-tensioner	Repair or replace the floor wiring harness.
36, 37	Floor wiring harness → curtain air bag module (LH)	
39, 40	Floor wiring harness → side-airbag module (LH)	
41, 42	Floor wiring harness → side impact sensor (LH)	
54, 55	Floor wiring harness → driver's seat belt pre-tensioner	
56, 57	Floor wiring harness → side-airbag module (RH)	
59, 60	Floor wiring harness → curtain air bag module (RH)	
64, 65	Floor wiring harness → side impact sensor (RH)	

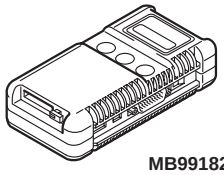
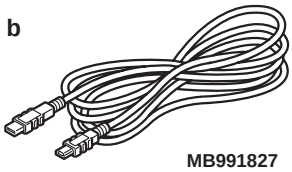
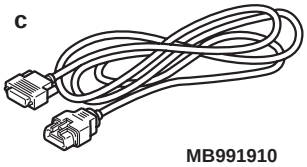
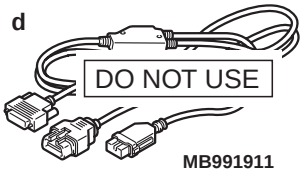
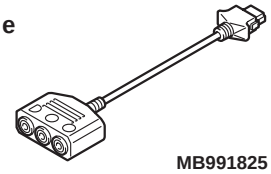
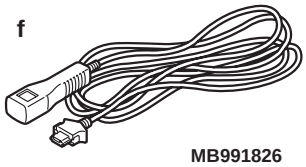
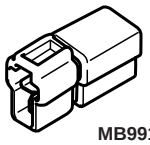
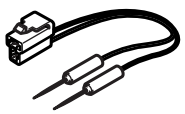
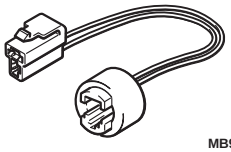


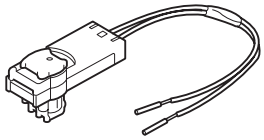
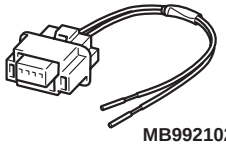
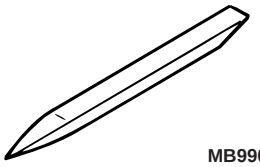
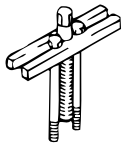
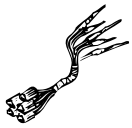
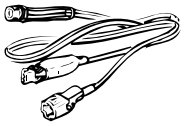
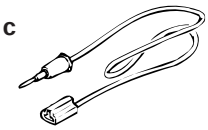
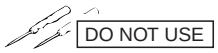
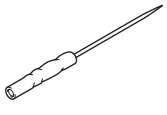
5. **Before maintenance, wait for 60 seconds or more after the disconnection of the battery (–) terminal. Wrap the disconnected (–) terminal with tape for insulation. The condenser inside SRS-ECU keeps a voltage necessary to expand the air bag for a certain period even after the IG power is turned OFF. Therefore, if any operation is performed before the period elapses, it may cause serious damage.**
6. **If the influence of heat is suspected during painting work, remove the following parts:**
   - **93°C or higher SRS-ECU, air bag module, clock spring, front impact sensor, side impact sensor**
   - **90 °C or higher Seat belt with pre-tensioner**
7. **After the maintenance of the SRS air bag and seat belt with pre-tensioner is completed, be sure to delete the diagnosis code and check whether the SRS warning lamp lights up (refer to P.52B-12).**

SPECIAL TOOLS

M1524000701865

Tool	No.	Name	Use
a  MB992744 b  MB992745 c  MB992746 d  MB992747 e  MB992748 ACB05421AB	a. MB992744 b. MB992745 c. MB992746 d. MB992747 e. MB992748	a. Vehicle communication interface-Lite (V.C.I.-Lite) b. V.C.I.-Lite main harness A (for vehicles with CAN communication) c. V.C.I.-Lite main harness B (for vehicles without CAN communication) d. V.C.I.-Lite USB cable short e. V.C.I.-Lite USB cable long	Checking diagnosis code

Tool	No.	Name	Use
a  MB991824 b  MB991827 c  MB991910 d  MB991911 e  MB991825 f  MB991826 MB991955	MB991955 a: MB991824 b: MB991827 c: MB991910 d: MB991911 e: MB991825 f: MB991826	M.U.T.-III sub-assembly a: Vehicle communication interface (V. C. I.) b: M.U.T.-III USB cable c: M.U.T.-III main harness A (applicable to vehicles with CAN communication) d: M.U.T.-III main harness B (applicable to vehicles without CAN communication) e: M.U.T.-III Measure adapter f: M.U.T.-III Trigger harness	⚠ CAUTION **For vehicles with CAN communication, use the M.U.T.-III main harness A to send simulated vehicle speed. If you connect the M.U.T.-III main harness B instead, the CAN communication does not function correctly.** Checking diagnosis code
 MB991865	MB991865	Dummy resistor	Circuit check
 MB991866	MB991866	Resistor harness	Driver's and passenger's (front) air bag and side-airbag circuit check
 MB991884	MB991884	Resistor harness	Seat belt pre-tensioner, lap pre-tensioner and curtain air bag circuit check

Tool	No.	Name	Use
 MB991885	MB991885	Adapter harness	Deployment of seat belt pre-tensioner, lap pre-tensioner and curtain air bag inside or outside the vehicle
 MB992102	MB992102	Adapter harness	Deployment of driver's and passenger's (front) air bag inside or outside the vehicle
 MB990784	MB990784	Ornament remover	Removal of cover.
 MB990803	MB990803	Steering wheel puller	Steering wheel disconnection
a  b  c  d  DO NOT USE MB991223	MB991223 a: MB991219 b: MB991220 c: MB991221 d: MB991222	Harness set a: Check harness b: LED harness c: LED harness adapter d: Probe	Checking the continuity and measuring the voltage at the SRS-ECU harness connector
 MB992006	MB992006	Extra fine probe	Continuity check and voltage measurement at harness wire or connector

TEST EQUIPMENTS

M1524000800591

Tool	Name	Use
 AC000019	Digital multi-meter	Checking SRS electrical circuitry (Use multi-meter for which the maximum test current is 2 mA or less at minimum range of resistance measurement)

TROUBLESHOOTING

DIAGNOSIS TROUBLESHOOTING FLOW

M1524003100881

Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points .

DIAGNOSIS FUNCTION

M1524003200781

HOW TO READ DIAGNOSIS CODE

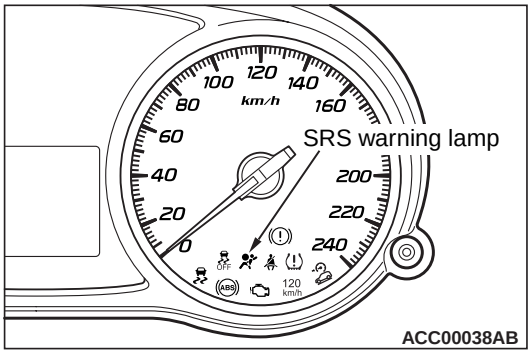
Connect M.U.T.-III to the 16-pin diagnosis connector to read the diagnosis code (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points).

HOW TO ERASE DIAGNOSIS CODE

Connect M.U.T.-III to the 16-pin diagnosis connector to erase the diagnosis code (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points).

SRS WARNING LAMP CHECK

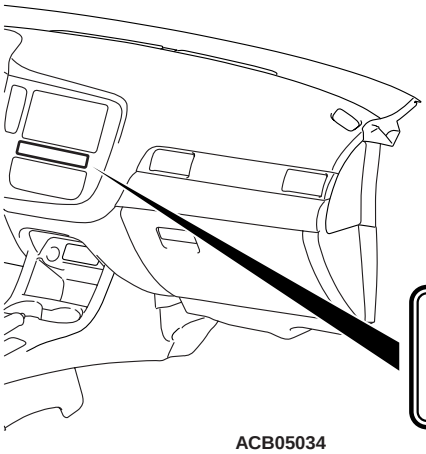
M1524004301397



1. Check that the SRS warning lamp is illuminated when the ignition switch is turned ON.
2. Check that the lamp is extinguished after the approximately 6 to 8 seconds illumination. Check that the warning lamp is extinguished afterward.
3. Except the above, the SRS system is abnormal. Thus, check the diagnosis code (Refer to P.52B-13).

PASSENGER'S AIR BAG ON/OFF INDICATOR LAMP CHECK

M1524026300273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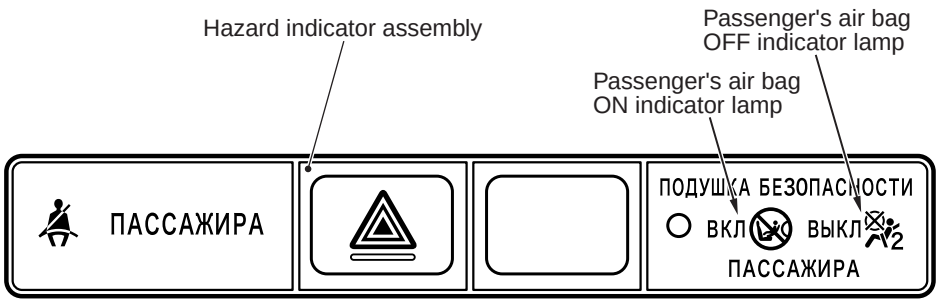


ACB05561

ACC00116AB

1. Check that the "PASSENGER AIR BAG OFF" indicator lamp illuminates when the ignition switch is turned ON.
2. Check that the lamp is extinguished after the approximately 6 to 8 seconds illumination. Check that the warning lamp is extinguished afterward.
3. Except the above, the SRS system is abnormal. Thus, check the diagnosis code (Refer to P.52B-13).

CHECK CHART FOR DIAGNOSIS CODES

M1524003302513

⚠ CAUTION

During diagnosis, a diagnosis code associated with other system may be set when the ignition switch is turned on with connector(s) disconnected. On completion, confirm all systems for diagnosis code(s). If diagnosis code(s) are set, erase them all.

Code No.	Diagnostic item	Reference page
B1400*2	Driver's air bag module (squib) system (short circuit between squib circuit terminals)	P.52B-17
B1401*2	Driver's air bag module (squib) system (open circuit of squib circuit)	P.52B-19
B1402*2	Driver's air bag module (squib) system (shorted to squib circuit earth)	P.52B-21
B1403*2	Driver's air bag module (squib) system (shorted to squib circuit power supply)	P.52B-23
B1404*4	Driver's air bag module (squib) activating circuit short-circuited	P.52B-26
B1405*4	Driver's air bag module (squib) activating circuit open-circuited	P.52B-26
B1406*4	Malfunction of G-sensor inside right front impact sensor	P.52B-28
B1407*2	Front impact sensor (RH) voltage error	P.52B-28
B1408*2	Front impact sensor (RH) communication error	P.52B-29
B1409*2	Front impact sensor (RH) communication impossible	P.52B-29
B1410*2	Passenger's (front) air bag module (squib) system (short circuit between squib circuit terminals)	P.52B-30
B1411*2	Passenger's (front) air bag module (squib) system (open circuit of squib circuit)	P.52B-33
B1412*2	Passenger's (front) air bag module (squib) system (shorted to squib circuit earth)	P.52B-35
B1413*2	Passenger's (front) air bag module (squib) system (shorted to squib circuit power supply)	P.52B-36
B1414*4	Passenger's (front) air bag module (squib) activating circuit short-circuited	P.52B-26
B1415*4	Passenger's (front) air bag module (squib) activating circuit open-circuited	P.52B-26
B1416*4	Malfunction of G-sensor inside left front impact sensor	P.52B-28
B1417*2	Front impact sensor (LH) voltage error	P.52B-38
B1418*2	Front impact sensor (LH) communication error	P.52B-39
B1419*2	Front impact sensor (LH) communication impossible	P.52B-39
B1420*2	Right side-airbag module (squib) system (short circuit between squib terminals)	P.52B-40

Code No.	Diagnostic item	Reference page
B1421*2	Right side-airbag module (squib) system (open circuit of squib circuit)	P.52B-43
B1422*2	Right side-airbag module (squib) system (shorted to squib circuit earth)	P.52B-45
B1423*2	Right side-airbag module (squib) system (shorted to squib circuit power supply)	P.52B-46
B1424*4	Right side-airbag module (squib) activating circuit short-circuited	P.52B-26
B1425*4	Right side-airbag module (squib) activating circuit open-circuited	P.52B-26
B1426*4	Malfunction of G-sensor inside right side impact sensor	P.52B-48
B1427*2	Side impact sensor (RH) voltage error	P.52B-49
B1428*2	Side impact sensor (RH) communication error	P.52B-50
B1429*2	Side impact sensor (RH) communication impossible	P.52B-50
B1430*2	Left side-airbag module (squib) system (short circuit between squib terminals)	P.52B-51
B1431*2	Left side-airbag module (squib) system (open circuit of squib circuit)	P.52B-53
B1432*2	Left side-airbag module (squib) system (shorted to squib circuit earth)	P.52B-55
B1433*2	Left side-airbag module (squib) system (shorted to squib circuit power supply)	P.52B-57
B1434*4	Left side-airbag module (squib) activating circuit short-circuited	P.52B-26
B1435*4	Left side-airbag module (squib) activating circuit open-circuited	P.52B-26
B1436*4	Malfunction of G-sensor inside left side impact sensor	P.52B-48
B1437*2	Side impact sensor (LH) voltage error	P.52B-59
B1438*2	Side impact sensor (LH) communication error	P.52B-60
B1439*2	Side impact sensor (LH) communication impossible	P.52B-60
B1440*2	Right curtain air bag module (squib) system (short circuit between squib terminals)	P.52B-61
B1441*2	Right curtain air bag module (squib) system (open circuit of squib circuit)	P.52B-63
B1442*2	Right curtain air bag module (squib) system (shorted to squib circuit earth)	P.52B-66
B1443*2	Right curtain air bag module (squib) system (shorted to squib circuit power supply)	P.52B-67
B1444*4	Right curtain air bag module (squib) activating circuit short-circuited	P.52B-26
B1445*4	Right curtain air bag module (squib) activating circuit open-circuited	P.52B-26
B1450*2	Left curtain air bag module (squib) system (short circuit between squib terminals)	P.52B-69
B1451*2	Left curtain air bag module (squib) system (open circuit of squib circuit)	P.52B-72
B1452*2	Left curtain air bag module (squib) system (shorted to squib circuit earth)	P.52B-74

Code No.	Diagnostic item	Reference page
B1453*2	Left curtain air bag module (squib) system (shorted to squib circuit power supply)	P.52B-76
B1454*4	Left curtain air bag module (squib) activating circuit short-circuited	P.52B-26
B1455*4	Left curtain air bag module (squib) activating circuit open-circuited	P.52B-26
B1466*4	Analog G-sensor Malfunction	P.52B-26
B1476*3	IG1 power supply open circuit (Fuse No. 16 circuit)	P.52B-26
B1478*4	SRS-ECU Backup capacitor circuit voltage too High	P.52B-26
B1479*4	SRS-ECU Backup capacitor circuit voltage too Low	P.52B-26
B1488*4	Passenger's air bag OFF indicator lamp (short circuit)	P.52B-79
B1489*2	Passenger's air bag OFF indicator lamp (open circuit)	P.52B-81
B1496*4	SRS-ECU non-volatile memory (EEPROM*1)	P.52B-26
B1498*4	SRS-ECU abnormal condition in ROM or RAM	P.52B-26
B1499*4	Air bag deployment determined by SRS-ECU	P.52B-82
B1547*4	Passenger’s air bag cut off activating Circuit	P.52B-26
B1557*4	SRS-ECU application specific integrated circuit	P.52B-26
B1570*2	Passenger’s air bag cut off switch malfunction	P.52B-82
B1573*2	Passenger’s air bag cut off switch circuit (power supply side) shorted	P.52B-82
B1574*2	Passenger’s air bag cut off switch circuit open	P.52B-82
B1575*2	Passenger’s air bag cut off switch circuit (earth side) shorted	P.52B-82
B1588*4	SRS-ECU backup capacitor system (Up converter unit)	P.52B-26
B1589*4	SRS-ECU backup capacitor system (Down converter unit)	P.52B-26
B1590*4	SRS-ECU backup capacitor system (capacitance big)	P.52B-26
B1591*4	SRS-ECU backup capacitor system (capacitance small)	P.52B-26
B1603*2	Seat belt pre-tensioner (driver’s side) (squib) system (short circuit between squib circuit terminals)	P.52B-84
B1604*2	Seat belt pre-tensioner (driver’s side) (squib) system (open circuit of squib circuit)	P.52B-87
B1605*2	Seat belt pre-tensioner (driver’s side) (squib) system (shorted to squib circuit earth)	P.52B-89
B1606*2	Seat belt pre-tensioner (driver’s side) (squib) system (shorted to squib circuit power supply)	P.52B-91
B1607*4	Seat belt pre-tensioner (driver’s side) activating circuit short-circuited	P.52B-26
B1608*4	Seat belt pre-tensioner (driver’s side) activating circuit open-circuited	P.52B-26
B1609*2	Seat belt pre-tensioner (passenger’s side) (squib) system (short circuit between squib circuit terminals)	P.52B-93
B1C49*2	Seat belt pre-tensioner (passenger’s side) (squib) system (open circuit of squib circuit)	P.52B-95

Code No.	Diagnostic item	Reference page
B1C47*2	Seat belt pre-tensioner (passenger's side) (squib) system (shorted to squib circuit earth)	P.52B-97
B1612*2	Seat belt pre-tensioner (passenger's side) (squib) system (shorted to squib circuit power supply)	P.52B-99
B1613*4	Seat belt pre-tensioner (passenger's side) (squib) activating circuit short-circuited	P.52B-26
B1614*4	Seat belt pre-tensioner (passenger's side) (squib) activating circuit open-circuited	P.52B-26
B1631*2	Driver's knee air bag module (squib) system (short circuit between squib circuit terminals)	P.52B-101
B1632*2	Driver's knee air bag module (squib) system (open circuit between squib circuit terminals)	P.52B-103
B1633*2	Driver's knee air bag module (squib) system (shorted to squib circuit earth)	P.52B-101
B1634*2	Driver's knee air bag module (squib) system (shorted to squib circuit power supply)	P.52B-107
B1635*4	Driver's knee air bag (squib) activating circuit short-circuited	P.52B-26
B1636*4	Driver's knee air bag module (squib) activating circuit open-circuited	P.52B-26
B1646	Coding data mismatch	P.52B-109
B1647*4	Passenger's air bag ON indicator lamp (short circuit)	P.52B-110
B1648*2	Passenger's air bag ON indicator lamp (open circuit)	P.52B-111
B1699*4	SRS-ECU collective deployment	P.52B-112
U0100	Engine CAN timeout	P.52B-113
U0141	ETACS CAN timeout	P.52B-114
U1190*3	No receive fault detect signal	P.52B-114
U1195*3	Coding not completed	P.52B-115
U1199	Chassis No. not programmed	P.52B-115
U119A	Chassis No. mismatch	P.52B-115

NOTE:

- **1: Electrically Erasable Programmable ROM*
- **2: This diagnosis code will remain in memory and the SRS warning lamp will be switched on even if the system returns to normal condition.*
- **3: This diagnosis code will remain in memory and the SRS warning lamp will be switched off when the system returns to normal condition.*
- **4: This diagnosis code cannot be erased by "Erase diagnosis codes" function.*

DIAGNOSIS CODE PROCEDURES

Code No.B1400 Driver's air bag module (squib) system (short circuit between squib circuit terminals)

⚠ CAUTION

- **If the diagnosis code No. B1400 (squib) is set to SRS-ECU, be sure to diagnose the CAN bus line.**

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the driver's air bag module (squib).

TROUBLE JUDGEMENT

The code is set when the short circuit occurs to between the terminals of SRS-ECU driver's air bag module (squib) circuit.

PROBABLE CAUSES

- Damaged short spring *
- Short circuit in the clock spring
- Short circuit between terminals of driver's air bag module (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU

*NOTE: *: The squib circuit connectors integrate a short spring (which prevents the air bags from being unintentionally deployed because of static electricity by shorting the positive wire to the earth wire in the squib circuit when the connectors are disconnected). Therefore, when the above codes are set, the short spring may not be released due to the damaged connector even when the connectors are connected.*

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

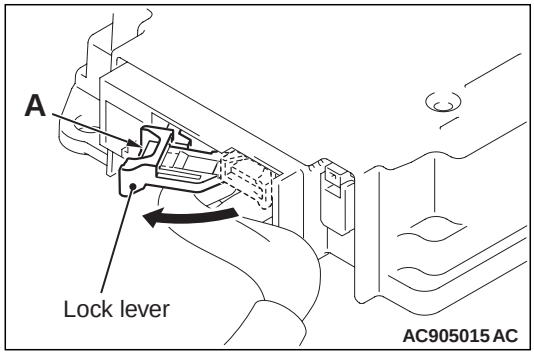
Q: Is the diagnosis code No. B1400 set?

YES : Go to Step 3.

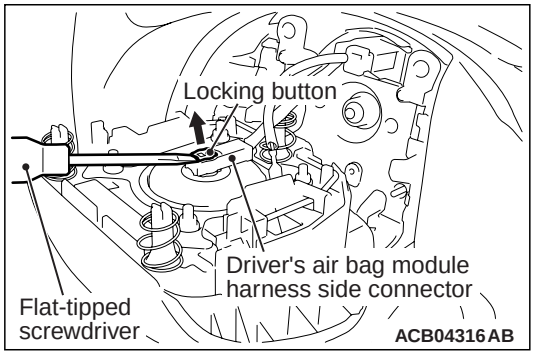
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Connector check: SRS-ECU, clock spring, driver's air bag module.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever. After disconnecting the SRS-ECU connector, connect it again.
(3) After disconnecting clock spring, connect it again.



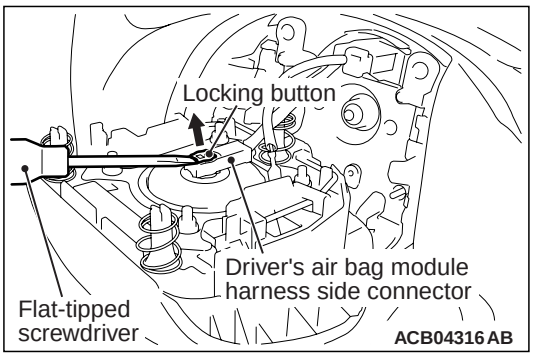
(4) Disconnect the driver's air bag module connector using the slotted (-) screwdriver to pull out the locking button to the direction of the arrow, and connect it again.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.

(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1400 set?
YES : Go to Step 4.
NO : Replace the connector concerned.

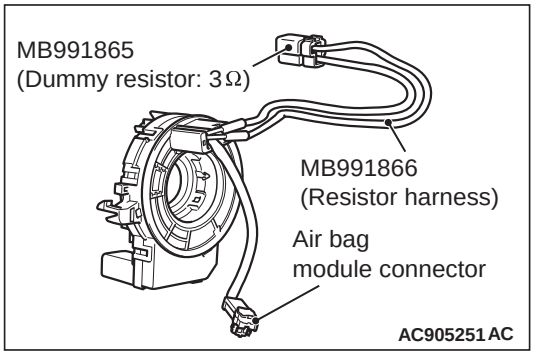
STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.
(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

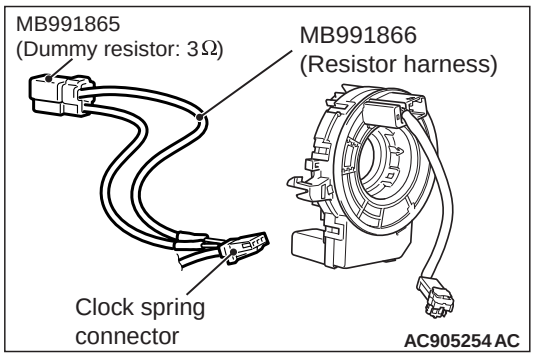


(4) Insert the resistor harness probe (special tool) as shown.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1400 set?
YES : Go to Step 5.
NO : Replace the driver's air bag module (Refer to P.52B-131)

STEP 5. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) Disconnect the clock spring connector.



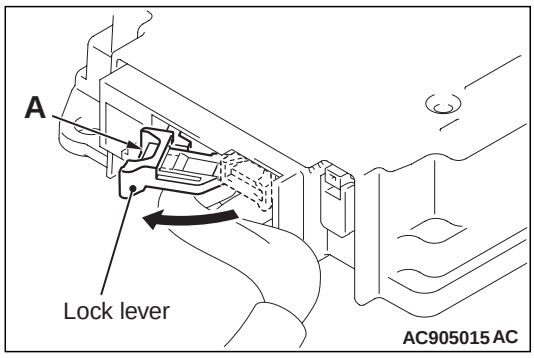
(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.
(4) Insert the resistor harness probe from the back of harness side connector DQ1-, DQ1+ line.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1400 set?
YES : Go to Step 6.
NO : Replace the clock spring (Refer to P.52B-131).

STEP 6. Resistance measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

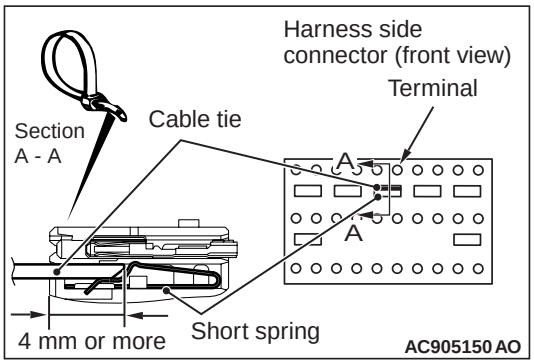
lever, and disconnect the SRS-ECU connector.

⚠ CAUTION

To release SRS-ECU connector short spring in the following operations, disconnect this clock spring connector, and keep the squib circuit shorted.

(3) Disconnect the clock spring connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert the insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the DQ1-, DQ1+ line, and then release the short spring.

(5) Take the measurements below at the harness side connector.
Continuity between DQ1-, DQ1+ line

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 7.
NO : Repair the wiring harnesses between DQ1-, DQ1+ line the clock spring connector and the SRS-ECU connector.

STEP 7. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1400 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1401 Driver's air bag module (squib) system (open circuit of squib circuit)

⚠ CAUTION

If the diagnosis code B1401 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the driver's air bag module (squib).

TROUBLE JUDGEMENT

The code is set when the open circuit occurs to the SRS-ECU driver's air bag module (squib) circuit.

PROBABLE CAUSES

- Open circuit in the clock spring
- Open circuit due to improper neutral position of the clock spring
- Open circuit to driver's air bag module (squib) circuit
- Disengaged driver's air bag module (squib) connector
- Poor contact of connector
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

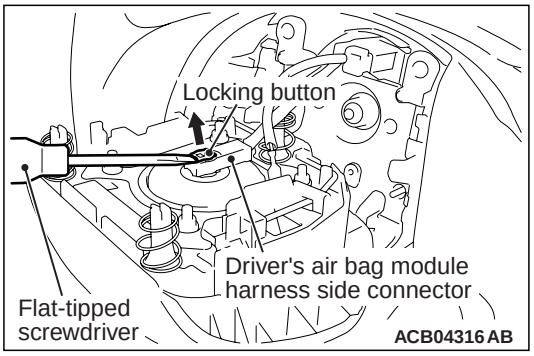
STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1401 set?
YES : Go to Step 3
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

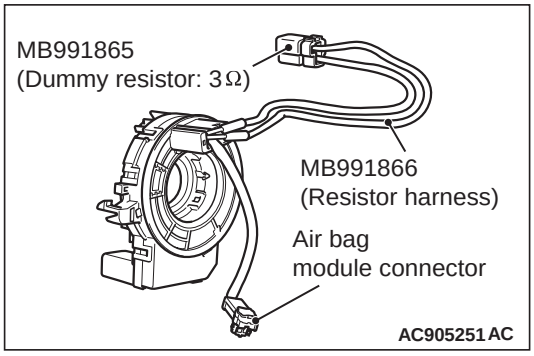


(2) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.

(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION

Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.



(4) Insert the resistor harness probe (special tool) as shown.

(5) Connect the negative battery terminal.

(6) After erasing the diagnosis code memory, check the diagnosis code again.

(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1401 set?

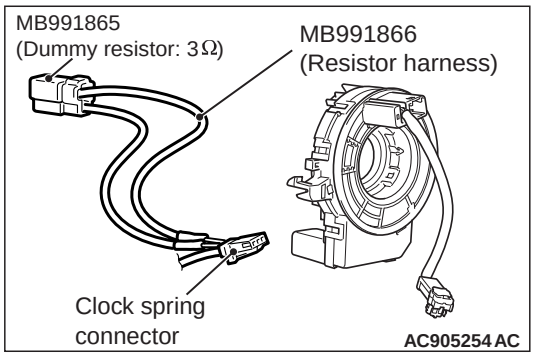
YES : Go to Step 4

NO : Replace the driver's air bag module (Refer to P.52B-131).

STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

(2) Disconnect the clock spring connector.



(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION

Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(4) Insert the resistor harness probe from the back of harness side connector DQ1-, DQ1+ line.

(5) Connect the negative battery terminal.

(6) After erasing the diagnosis code memory, check the diagnosis code again.

(7) Disconnect the negative battery terminal.

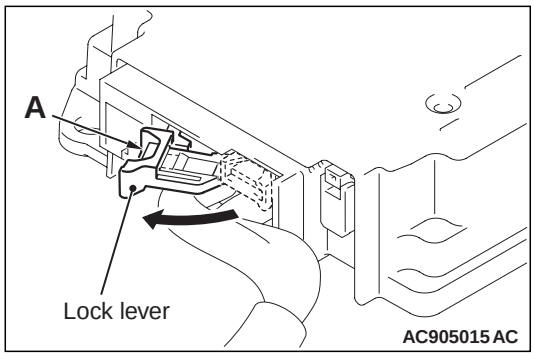
Q: Is the diagnosis code No. B1401 set?

YES : Go to Step 5

NO : Replace the clock spring (Refer to P.52B-131).

STEP 5. Resistance measurement at the SRS-ECU and the clock spring connectors

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

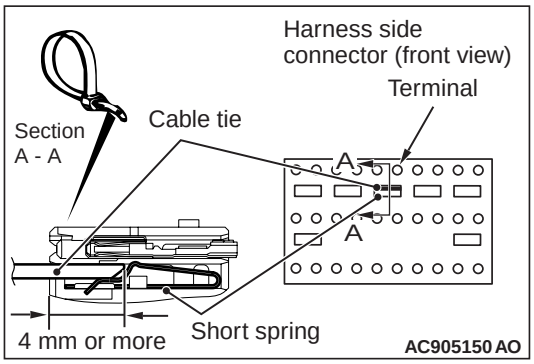
lever, and disconnect the SRS-ECU connector.

⚠ CAUTION

To release SRS-ECU connector short spring in the following operations, disconnect this clock spring connector, and keep the squib circuit shorted.

(3) Disconnect the clock spring connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert the insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the DQ1-, DQ1+ line, and then release the short spring.

⚠ CAUTION

Do not insert a probe directly into the terminal of clock spring harness side connector from the connector front side as the connector contact pressure may be weakened.

(5) Take the measurements below at the SRS-ECU connector and clock spring connector harness side connectors.
- Continuity DQ1- line between SRS-ECU connector and clock spring connector
- Continuity DQ1+ line between SRS-ECU connector and clock spring connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Go to Step 6
NO : Repair the wiring harnesses between DQ1-, DQ1+ line the clock spring connector and the SRS-ECU connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1401 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1402 Driver's air bag module (squib) system (shorted to squib circuit earth)

⚠ CAUTION

If the diagnosis code B1402 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the driver's air bag module (squib).

TROUBLE JUDGEMENT

The code is set when the input terminal of SRS-ECU driver's air bag module (squib) shorted to earth.

PROBABLE CAUSES

- Damaged clock spring
- Damaged wiring harness and connectors
- Driver's air bag module (squib) harness shorted to earth
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

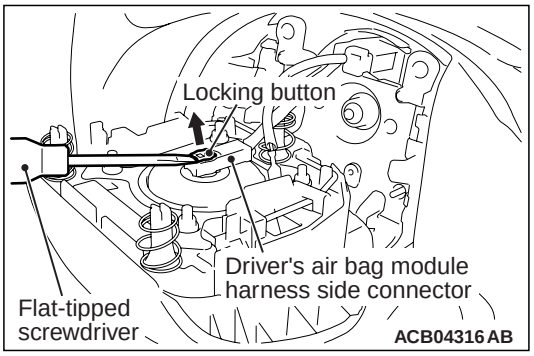
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.

(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1402 set?
YES : Go to Step 3
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

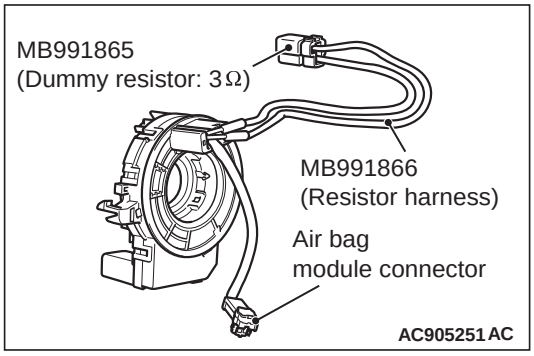
STEP 3. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.
(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

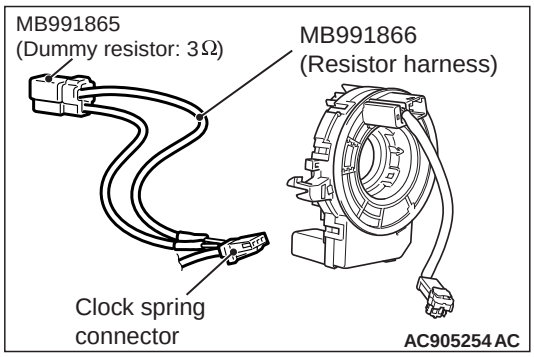


(4) Insert the resistor harness probe (special tool) as shown.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.

Q: Is the diagnosis code No. B1402 set?
YES : Go to Step 4
NO : Replace the driver's air bag module (Refer to P.52B-131).

STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) Disconnect the clock spring connector.



(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

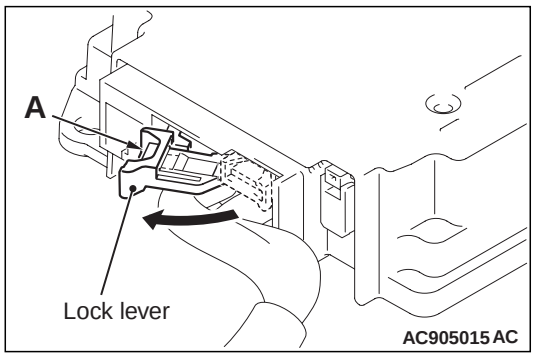
⚠ CAUTION
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(4) Insert the resistor harness probe from the back of clock spring harness side connector DQ1-, DQ1+ line.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.

Q: Is the diagnosis code No. B1402 set?
YES : Go to Step 5
NO : Replace the clock spring (Refer to P.52B-131).

STEP 5. Resistance measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

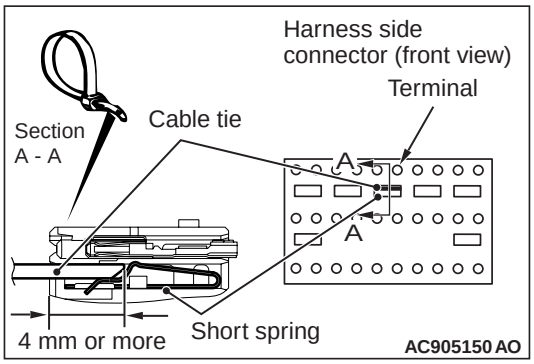
lever, and disconnect the SRS-ECU connector.

⚠ CAUTION

To release SRS-ECU connector short spring in the following operations, disconnect this clock spring connector, and keep the squib circuit shorted.

(3) Disconnect the clock spring connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert the insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the DQ1-, DQ1+ line, and then release the short spring.

(5) Take the measurements below at the SRS-ECU harness side connector.
Continuity between DQ1-, DQ1+ line and body earth

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 6
NO : Repair the wiring harnesses DQ1-, DQ1+ line between the clock spring connector and the SRS-ECU connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1402 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1403 Driver's air bag module (squib) system (shorted to squib circuit power supply)

⚠ CAUTION

If the diagnosis code B1403 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor and safing G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the driver's air bag module (squib).

TROUBLE JUDGEMENT

The code is set when the input terminal of SRS-ECU driver's air bag module (squib) shorted to power supply.

PROBABLE CAUSES

- Damaged clock spring
- Damaged wiring harness and connectors
- Driver's air bag module (squib) harness shorted to power supply
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

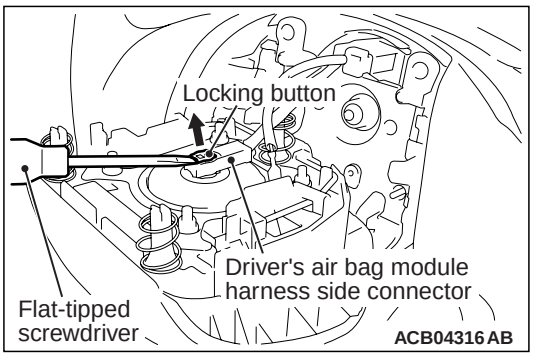
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1403 set?
YES : Go to Step 3
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.

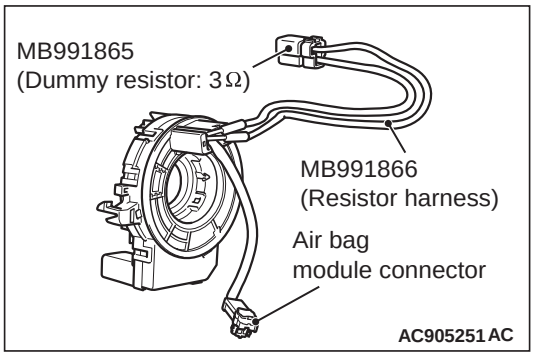
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is

connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.
(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

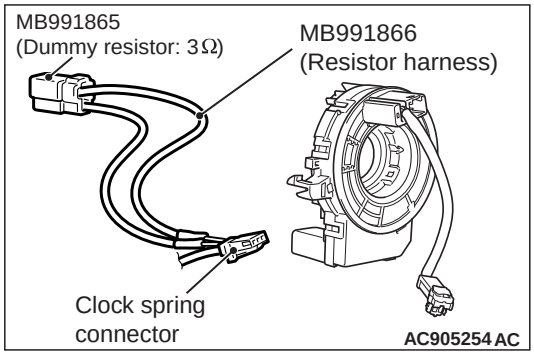


(4) Insert the resistor harness probe (special tool) as shown.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1403 set?
YES : Go to Step 4
NO : Replace the driver's air bag module (Refer to P.52B-131).

STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) Disconnect the clock spring connector.



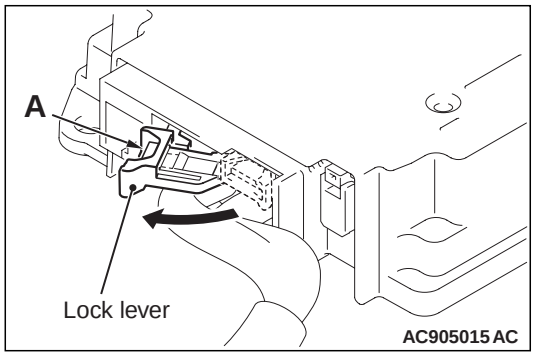
(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.
(4) Insert the resistor harness probe from the back of clock spring harness side connector DQ1-, DQ1+ line.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1403 set?
YES : Go to Step 5
NO : Replace the clock spring (Refer to P.52B-131).

STEP 5. Voltage measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

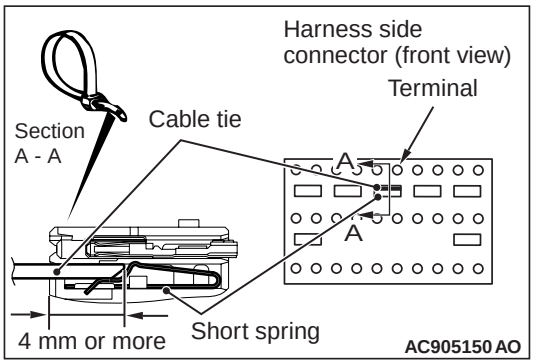
lever, and disconnect the SRS-ECU connector.

⚠ CAUTION

To release SRS-ECU connector short spring in the following operations, disconnect this clock spring connector, and keep the squib circuit shorted.

(3) Disconnect the clock spring connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert the insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the DQ1-, DQ1+ line, and then release the short spring.
(5) Connect the negative battery terminal.
(6) Ignition switch: ON
(7) Take the measurements below at the SRS-ECU harness side connector.
- Voltage between DQ1-, DQ1+ line and body earth

OK: 1 V or less

(8) Disconnect the negative battery terminal.

Q: Is the check result normal?
YES : Go to Step 6
NO : Repair the wiring harnesses DQ1-, DQ1+ line between the clock spring connector and the SRS-ECU connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1403 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1404: Driver's air bag module (squib) activating circuit short-circuited
Code No.B1405: Driver's air bag module (squib) activating circuit open-circuited
Code No.B1414: Passenger's (front) air bag module (1st squib) activating circuit short-circuited
Code No.B1415: Passenger's (front) air bag module (1st squib) activating circuit open-circuited
Code No.B1424: Right side-airbag module (squib) activating circuit short-circuited
Code No.B1425: Right side-airbag module (squib) activating circuit open-circuited
Code No.B1434: Left side-airbag module (squib) activating circuit short-circuited
Code No.B1435: Left side-airbag module (squib) activating circuit open-circuited
Code No.B1444: Right curtain air bag module (squib) activating circuit short-circuited
Code No.B1445: Right curtain air bag module (squib) activating circuit open-circuited
Code No.B1454: Left curtain air bag module (squib) activating circuit short-circuited
Code No.B1455: Left curtain air bag module (squib) activating circuit open-circuited
Code No.B1466: Analog G-sensor malfunction
Code No.B1478: SRS-ECU backup capacitor circuit voltage too High
Code No.B1479: SRS-ECU backup capacitor circuit voltage too Low
Code No.B1494: Passenger's (front) air bag (2nd squib) activating circuit short-circuited
Code No.B1495: Passenger's (front) air bag (2nd squib) activating circuit open-circuited
Code No.B1496: SRS-ECU non-volatile memory (EEPROM)
Code No.B1497: SRS-ECU application specific integrated circuit (for frontal activation)
Code No.B1498: SRS-ECU abnormal condition in ROM or RAM
Code No.B1547: Passenger's air bag cut off activating circuit
Code No.B1557: SRS-ECU application specific integrated circuit
Code No.B1588: SRS-ECU backup capacitor system (Up converter unit)
Code No.B1589: SRS-ECU backup capacitor system (Down converter unit)
Code No.B1590: SRS-ECU backup capacitor system (capacitance big)
Code No.B1591: SRS-ECU backup capacitor system (capacitance small)
Code No.B1607: Seat belt pre-tensioner (driver's side) activating circuit short-circuited
Code No.B1608: Seat belt pre-tensioner (driver's side) activating circuit open-circuited
Code No.B1613: Seat belt pre-tensioner (passenger's side) (squib) activating circuit short-circuited
Code No.B1614: Seat belt pre-tensioner (passenger's side) (squib) activating circuit open-circuited
Code No.B1635: Driver's knee air bag (squib) activating circuit short-circuited
Code No.B1636: Driver's knee air bag module (squib) activating circuit open-circuited

⚠ CAUTION
If diagnosis codes is set in the SRS-ECU, always diagnose the CAN main bus line.

DIAGNOSIS CODE SET CONDITIONS
- These diagnosis code are set when a fault is detected in the SRS-ECU. The most likely causes for this code to be set are shown in the table below:

PROBABLE CAUSE
- Malfunction of the SRS-ECU

Code No.	Part/Circuit integral to SRS-ECU	Trouble causes
B1404	Driver's air bag module (squib ignition drive circuit)	• Short circuit in the squib ignition drive circuit
B1405		• Open circuit in the squib ignition drive circuit
B1414	Passenger's (front) air bag module (1st squib ignition drive circuit)	• Short circuit in the squib ignition drive circuit
B1415		• Open circuit in the squib ignition drive circuit
B1424	Side-airbag module (RH) (squib ignition drive circuit)	• Short circuit in the squib ignition drive circuit
B1425		• Open circuit in the squib ignition drive circuit
B1434	Side-airbag module (LH) (squib ignition drive circuit)	• Short circuit in the squib ignition drive circuit
B1435		• Open circuit in the squib ignition drive circuit

Code No.	Part/Circuit integral to SRS-ECU	Trouble causes
B1444	Curtain air bag module (RH) (squib ignition drive circuit)	• Short circuit in the squib ignition drive circuit
B1445		• Open circuit in the squib ignition drive circuit
B1454	Curtain air bag module (LH) (squib ignition drive circuit)	• Short circuit in the squib ignition drive circuit
B1455		• Open circuit in the squib ignition drive circuit
B1466	Analog G-sensor (front air bag)	• When the analog G-sensor is not operating • When the characteristics of the analog G-sensor are abnormal • When the output from the analog G-sensor is abnormal
B1478	Capacitor	• Voltage at the capacitor terminal is higher than the specified value for five seconds or more
B1479		• Voltage at the capacitor terminal is lower than the specified value for five seconds or more (This is not detected if diagnosis code B1476 or B1477 indicating battery positive voltage drop has been set).
B1494	Passenger's (front) air bag module (2nd squib ignition drive circuit)	• Short circuit in the squib ignition drive circuit
B1495		• Open circuit in the squib ignition drive circuit
B1496	Non-volatile memory (EEPROM)	• When EEPROM communication error occurs
B1497	Application specific integrated circuit (for frontal activation)	• When the application specific integrated circuit (frontal activation) are abnormal
B1498	ROM or RAM	• When the ROM or RAM are abnormal
B1547	Passenger’s air bag cut off activating circuit (squib ignition drive circuit)	• Cut OFF (squib ignition drive circuit)
B1557	Application specific integrated circuit	• When the application specific integrated circuit are abnormal
B1588	Backup capacitor system	Backup capacitor up converter
B1589		Backup capacitor down converter
B1590		Backup capacitor capacitance big
B1591		Backup capacitor capacitance small
B1607	Seat belt pre-tensioner (driver side) (squib ignition drive circuit)	• Short circuit in the squib ignition drive circuit
B1608		• Open circuit in the squib ignition drive circuit
B1613	Seat belt pre-tensioner (passenger side) (squib ignition drive circuit)	• Short circuit in the squib ignition drive circuit
B1614		• Open circuit in the squib ignition drive circuit
B1635	Driver's knee air bag module (squib ignition drive circuit)	• Short circuit in the squib ignition drive circuit
B1636		• Open circuit in the squib ignition drive circuit

DIAGNOSIS PROCEDURE

Replace the SRS-ECU.

Code No.B1406 Malfunction of G-sensor inside right front impact sensor
Code No.B1416 Malfunction of G-sensor inside left front impact sensor

⚠ CAUTION
If the diagnosis code B1406 or B1416 is set to SRS-ECU, be sure to diagnose the CAN bus line.

TROUBLE JUDGEMENT
- Analogue G-sensor in front impact sensor does not operate.
- Characteristics of analogue G-sensor in front impact sensor are abnormal.
- Output of analogue G-sensor in front impact sensor is abnormal.

PROBABLE CAUSES
- Malfunction of CAN bus line
- Malfunction of right front impact sensor (with code No. B1406)
- Malfunction of left front impact sensor (with code No. B1416)

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Front impact sensor check.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) A front impact sensor is checked in the following way.
- Replace the front impact sensor with new part.

(3) Connect the negative battery terminal.
(4) After erasing the diagnosis code memory, check the diagnosis code again.
(5) Disconnect the negative battery terminal.

Q: Is the diagnosis code set?
YES : Go to Step 3
NO : The procedure is complete.

STEP 3. SRS-ECU check.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) Replace the SRS-ECU with a new one (Refer to P.52B-129).
(3) Connect the negative battery terminal.
(4) After erasing the diagnosis code memory, check the diagnosis code again.
(5) Disconnect the negative battery terminal.

Q: Is the diagnosis code set?
YES : Return to Step 1.
NO : The procedure is complete.

Code No.B1407: Front impact sensor (RH) voltage error

⚠ CAUTION
If diagnosis code B1407 is set in the SRS-ECU, always diagnose the CAN main bus line.

OPERATION
The front impact sensor transmits acceleration data to the SRS-ECU. The SRS-ECU then determines whether to operate the front air bags, 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 malfunction occurs.

DIAGNOSIS CODE SET CONDITIONS
This diagnosis code will set when the power supply voltage to the front impact sensor (RH) remains less than a predetermined value for one second.

PROBABLE CAUSES
- Damaged wiring harness or connectors
- Malfunction of the front impact sensor (RH)
- Malfunction of the SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics
Use the M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis).

STEP 2. Check whether the diagnosis code is reset.
Check again if the diagnosis code is set.
(1) Erase the diagnosis code.
(2) Ignition: "LOCK" (OFF) position to "ON"
(3) On completion, check that the diagnosis code is not reset.

Q: Is the diagnosis code set?
YES : Go to Step 3.
NO : There is an intermittent malfunction such as poor engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

STEP 3. Check of short to power supply, short to earth, and open circuit in FRH-, FRH+ line between SRS-ECU connector and front impact sensor (RH) connector.

NOTE: After inspecting intermediate connector inspect the wiring harness. If the intermediate connector is damaged, repair or replace it.

Q: Is the check result normal?
YES : Go to Step 4.
NO : Repair the wiring harness.

STEP 4. Check the front impact sensor (RH).
(1) Disconnect the negative battery terminal.
(2) Alternate the front impact sensor (RH) and the front impact sensor (LH), and then install the alternated sensor.
(3) Connect the negative battery terminal.
(4) Erase diagnosis code from memory, and check the diagnosis code.

Q: Is diagnosis code B1417 set?
YES : Replace the front impact sensor (RH) with a new one (Refer to P.52B-125).
NO : Go to Step 5.

STEP 5. Check whether the diagnosis code is reset.

Q: Is diagnosis code B1407 set?
YES : Replace the SRS-ECU (Refer to P.52B-129).
NO : An intermittent malfunction is suspected (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

Code No.B1408: Front impact sensor (RH) communication error
Code No.B1409: Front impact sensor (RH) communication impossible

⚠ CAUTION
If diagnosis code No. B1408 or B1409 is set in the SRS-ECU, always diagnose the CAN main bus line.

OPERATION
The front impact sensor transmits acceleration data to the SRS-ECU. The SRS-ECU then determines whether to operate the front air bags, 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 malfunction occurs

DIAGNOSIS CODE SET CONDITIONS
The diagnosis code is set if the communication between the right front impact sensor and SRS-ECU is abnormal (No. B1408), or impossible (No. B1409).

PROBABLE CAUSES
- Damaged wiring harnesses or connectors
- Malfunction of the front impact sensor (RH)
- Malfunction of the SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1408 or B1409 set?
YES : Go to Step 3
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Check the front impact sensor (RH) .
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) Alternate the front impact sensor (RH) and front impact sensor (LH), and then install the alternated sensors.
(3) Connect the negative battery terminal.
(4) After erasing the diagnosis code memory, check the diagnosis code again.
(5) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1408 or B1409 set?
YES : Replace the front impact sensor (RH) (Refer to P.52B-125).
NO : Go to Step 4

STEP 4.Check of short to power supply, short to earth, and open circuit in FRH-, FRH+ line between SRS-ECU connector and front impact sensor (RH) connector.

NOTE: After inspecting intermediate connector inspect the wiring harness. If the intermediate connector is damaged, repair or replace it.

Q: Is the check result normal?
YES : Go to Step 5
NO : Repair the wiring harness.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1408 or B1409 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1410 Passenger's (front) air bag module (squib) system (short circuit between squib circuit terminals)

⚠ CAUTION
- **If the diagnosis code B1410 is set to SRS-ECU, be sure to diagnose the CAN bus line.**
- **Follow the diagnosis procedure below. If diagnosis code B1410 is set, check squib side circuit.**

OPERATION
Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the passenger's (front) air bag module (squib).

TROUBLE JUDGEMENT
The code is set when the short circuit occurs to between the terminals of SRS-ECU passenger's (front) air bag module (squib) circuit.

PROBABLE CAUSES
- Damaged short spring *
- Short circuit between terminals of passenger's (front) air bag module (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU

*NOTE: *: The squib circuit connectors integrate a short spring (which prevents the air bags from being unintentionally deployed because of static electricity by shorting the positive wire to the earth wire in the squib circuit when the connectors are disconnected). Therefore, when the above codes are set, the short spring may not be released due to the damaged connector even when the connectors are connected.*

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

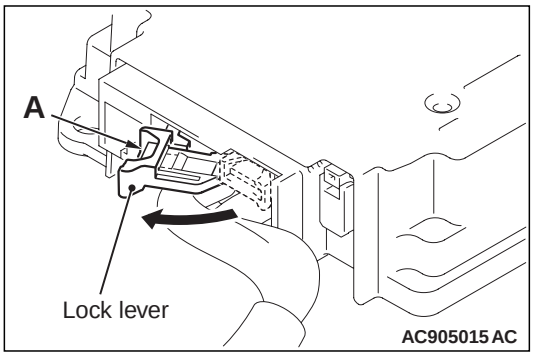
Q: Is the diagnosis code No. B1410 set?

YES : Go to Step 3.

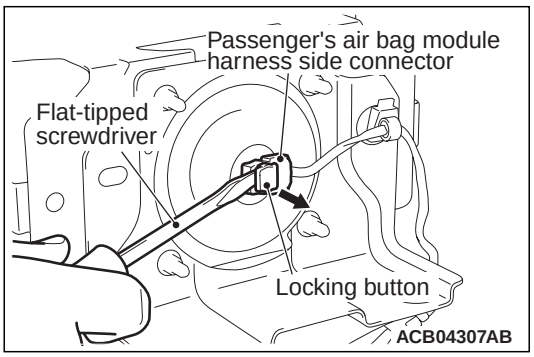
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Connector check: passenger's (front) air bag module, SRS-ECU.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever. After disconnecting the SRS-ECU connector, connect it again.



(3) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock, connect the connector again.
(4) Connect the negative battery terminal.
(5) After erasing the diagnosis code memory, check the diagnosis code again.
(6) Disconnect the negative battery terminal.

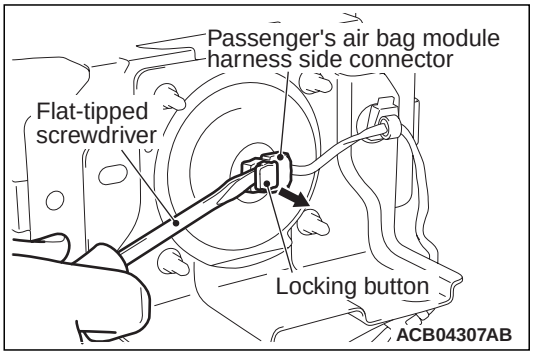
Q: Is the diagnosis code No. B1410 set?

YES : Go to Step 4.

NO : Replace the connector concerned.

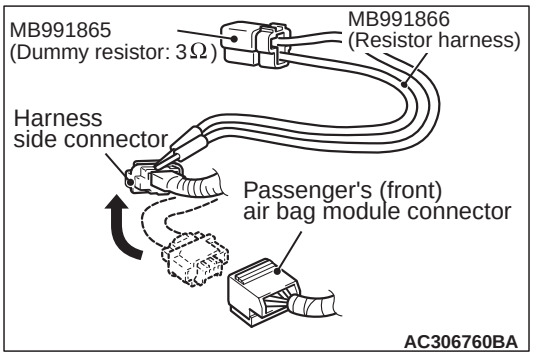
STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector,

and release the lock.



(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION

Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(4) Insert the resistor harness probe from the back of passenger's (front) air bag module harness side connector ASQ+, ASQ- line.

(5) Connect the negative battery terminal.

⚠ CAUTION

Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(6) After erasing the diagnosis code memory, check the diagnosis code again.

(7) Disconnect the negative battery terminal.

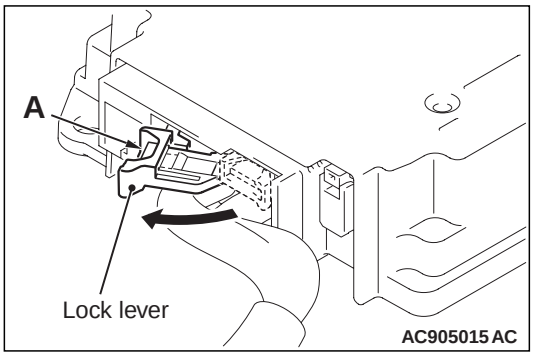
Q: Is the diagnosis code No. B1410 set?

YES : Go to Step 5.

NO : Replace the passenger's (front) air bag module (Refer to P.52B-136).

STEP 5. Resistance measurement at the SRS-ECU connector.

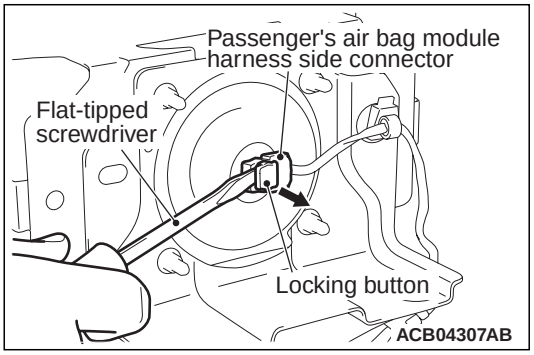
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

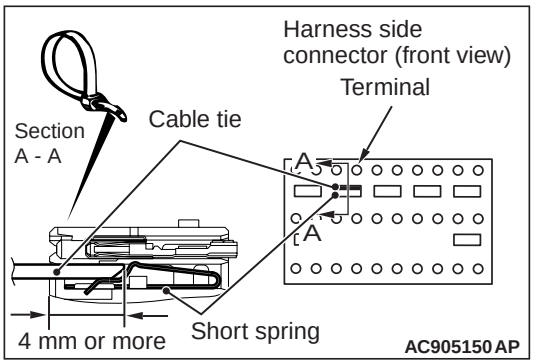
⚠ DANGER

To release the connector short spring in the following operations, disconnect this harness side connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the ASQ+, ASQ- line, and then release the short spring.

(5) Take the measurements below at the harness side connector.

- Continuity between the ASQ+, ASQ- line

  OK: No continuity

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the wiring harnesses ASQ+, ASQ- line between the passenger's (front) air bag module connector and the SRS-ECU connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1410 set?

YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1411 Passenger's (front) air bag module (squib) system (open circuit of squib circuit)

⚠ CAUTION
- **If the diagnosis code B1411 (squib) is set to SRS-ECU, be sure to diagnose the CAN bus line.**
- **Follow the diagnosis procedure below. If diagnosis code B1411 is set, check squib side circuit.**

OPERATION
Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the passenger's (front) air bag module (squib).

TROUBLE JUDGEMENT
The code is set when the open circuit occurs to the SRS-ECU passenger's (front) air bag module (squib) circuit.

PROBABLE CAUSES
- Open circuit in the passenger's (front) air bag module (squib) circuit
- Poor contact of connector
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

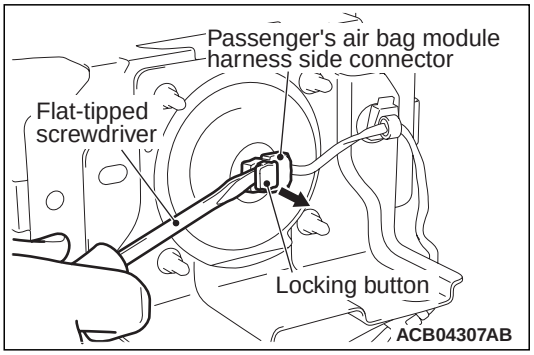
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

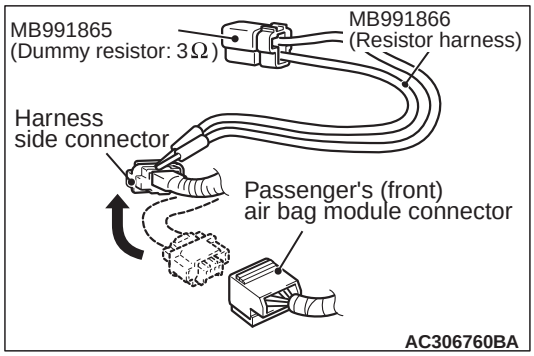
STEP 2. M.U.T.-III diagnosis code.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1411 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock, connect the connector again.



(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

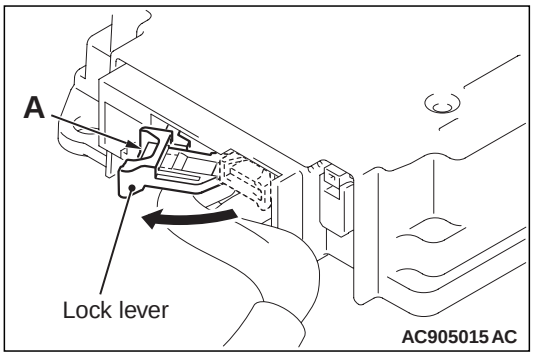
⚠ CAUTION
Do not insert a probe directly into the passenger's (front) air bag module terminal from the connector front side as the connector contact pressure may be weakened.
(4) Insert the resistor harness probe from the back of

passenger's (front) air bag module harness side connector ASQ+, ASQ- line.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1411 set?
YES : Go to Step 4.
NO : Replace the passenger's (front) air bag module (Refer to P.52B-136).

STEP 4. Resistance measurement at the SRS-ECU connector and the passenger's (front) air bag module connector.

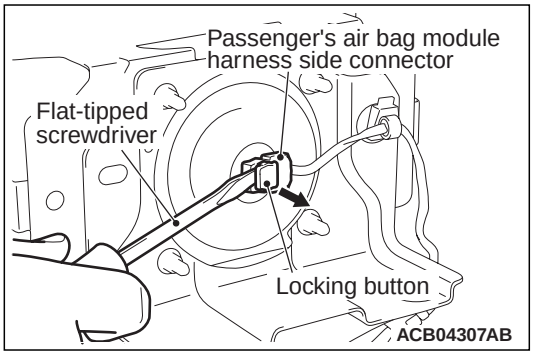
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

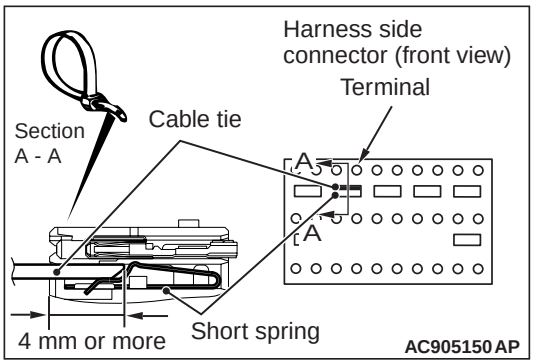
⚠ *DANGER*

To release the connector short spring in the following operations, disconnect this harness side connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the ASQ+, ASQ- line, and then release the short spring.

⚠ CAUTION

Do not insert a probe directly into the terminal of passenger's (front) air bag module harness side connector from the connector front side as the connector contact pressure may be weakened.

(5) Take the measurements below at the SRS-ECU connector and passenger's (front) air bag module connector harness side connectors.
- Continuity ASQ- line between the SRS-ECU connector and the passenger's (front) air bag module connector.
- Continuity ASQ+ line between the SRS-ECU connector and the passenger's (front) air bag module connector.

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harnesses ASQ+, ASQ- line between the passenger's (front) air bag module connector and the SRS-ECU connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1411 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1412 Passenger's (front) air bag module (squib) system (shorted to squib circuit earth)

⚠ CAUTION

- **If the diagnosis code B1412 (squib) is set to SRS-ECU, be sure to diagnose the CAN bus line.**
- **Follow the diagnosis procedure below. If diagnosis code B1412 is set, check squib side circuit..**

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the passenger's (front) air bag module (squib).

TROUBLE JUDGEMENT

The code is set when the SRS-ECU passenger's (front) air bag module (squib) circuit is shorted to earth.

PROBABLE CAUSES

- Damaged wiring harness and connectors
- Passenger's (front) air bag module (squib) harness shorted to earth
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

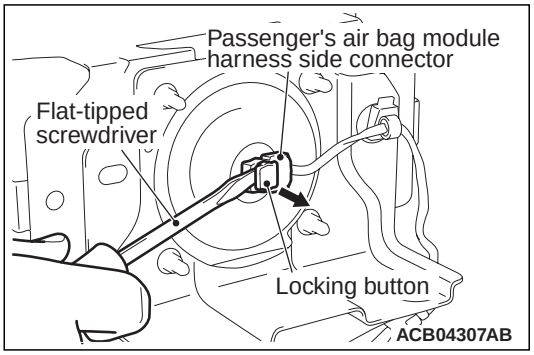
Q: Are diagnosis codes No. B1412 set?

YES : Go to Step 3.

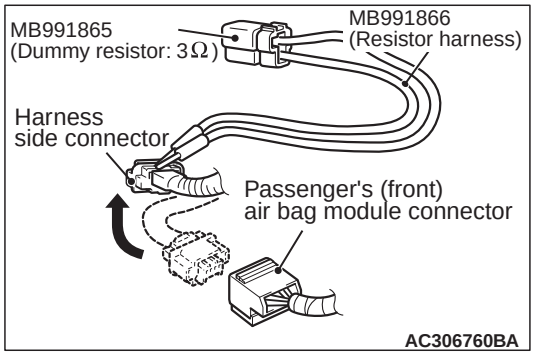
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.



(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION

Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(4) Insert the resistor harness probe from the back of harness side connector ASQ+, ASQ- line.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1412?

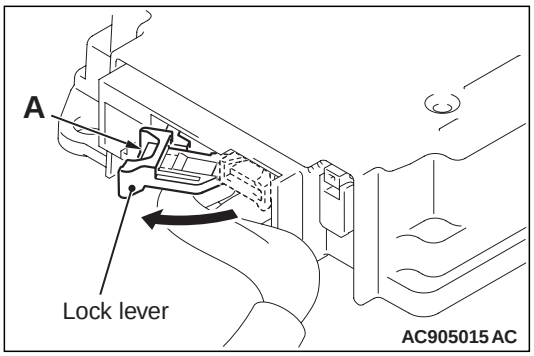
YES : Go to Step 4.

NO : Replace the passenger's (front) air bag module (Refer to P.52B-136).

STEP 4. Resistance measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is

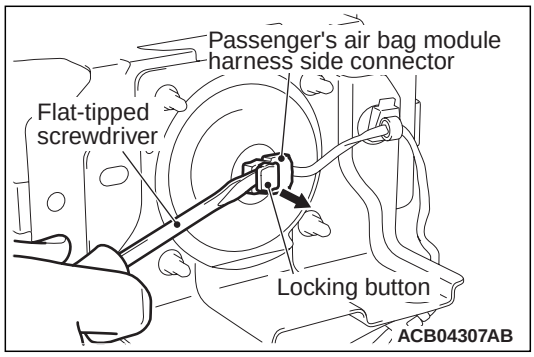
connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

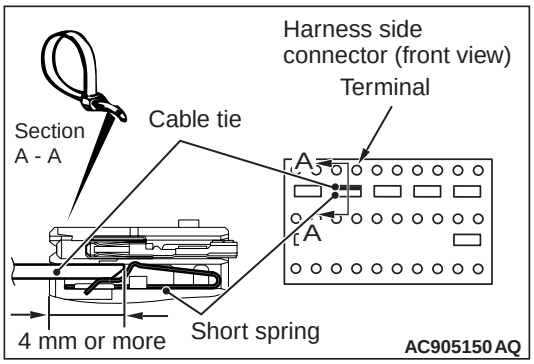
⚠ ***DANGER***

To release the connector short spring in the following operations, disconnect this harness side connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the ASQ+, ASQ- line, and then release the short spring.

(5) Take the measurements below at the passenger's (front) air bag module harness side connector.
- Continuity between ASQ+, ASQ- line and body earth

OK: No continuity

Q: Is the check result normal?

YES : Go to Step 5.

NO : Repair ASQ+, ASQ- line between the SRS-ECU connector and the passenger's (front) air bag module connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1412 set?

YES : Replace SRS-ECU (Refer to P.52B-129).

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1413 Passenger's (front) air bag module (squib) system (shorted to squib circuit power supply)

⚠ **CAUTION**

- **If the diagnosis code B1413 is set to SRS-ECU, be sure to diagnose the CAN bus line.**
- **Follow the diagnosis procedure below. If diagnosis code B1413 is set, check squib side circuit**

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the passenger's (front) air bag module (squib).

TROUBLE JUDGEMENT

The code is set when the input terminal of SRS-ECU passenger's (front) air bag module (squib) shorted to power supply.

PROBABLE CAUSES

- Damaged wiring harness and connectors
- Passenger's (front) air bag module (squib) harness shorted to power supply
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

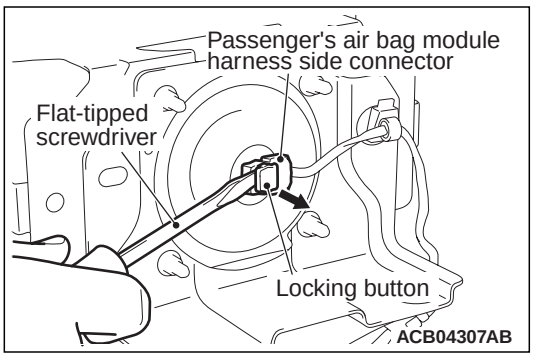
Q: Is the diagnosis code No. B1413 set?

YES : Go to Step 3.

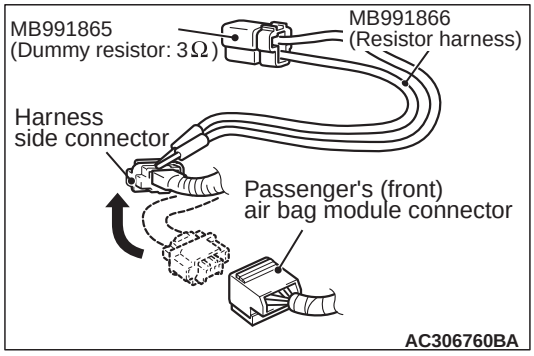
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.



(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION

Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(4) Insert the resistor harness probe from the back of harness side connector ASQ+, ASQ- line.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

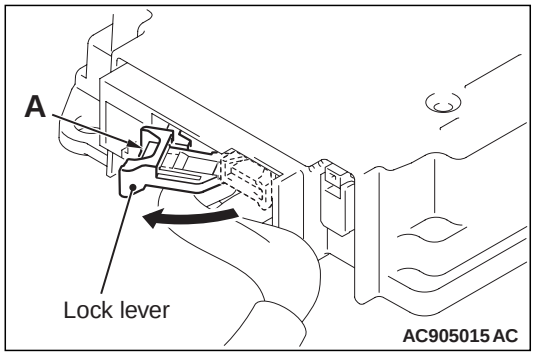
Q: Is the diagnosis code No. B1413 set?

YES : Go to Step 4.

NO : Replace the passenger's (front) air bag module (Refer to P.52B-136).

STEP 4. Voltage measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

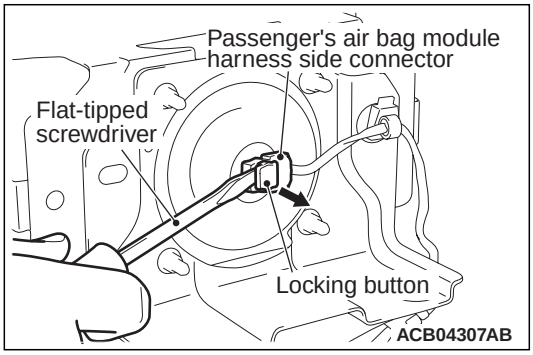


(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

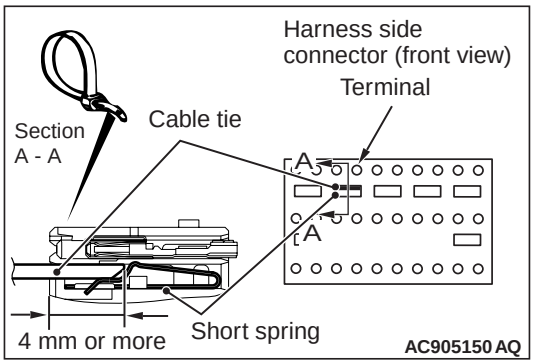
⚠ ***DANGER***

To release the connector short spring in the following operations, disconnect this harness side connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the ASQ+, ASQ- line, and then release the short spring.
(5) Connect the negative battery terminal.
(6) Ignition switch: ON
(7) Take the measurements below at the SRS-ECU harness side connector.
- Continuity between ASQ+, ASQ- line and body earth

OK: 1 V or less

(8) Disconnect the negative battery terminal.

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair ASQ+, ASQ- line between the SRS-ECU connector and the passenger's (front) air bag module connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1413 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1417: Front impact sensor (LH) voltage error

⚠ **CAUTION**

If diagnosis code B1417 is set in the SRS-ECU, always diagnose the CAN main bus line.

OPERATION

The front impact sensor (LH) transmits acceleration data to the SRS-ECU. The SRS-ECU then determines whether to operate the front air bags, and then outputs an ignition signal when necessary. The front impact sensor (LH) also diagnoses itself, and sends a diagnosis code to the SRS-ECU if a malfunction occurs.

DIAGNOSIS CODE SET CONDITIONS

This diagnosis code will set when the power supply voltage to the front impact sensor (LH) remains less than a predetermined value for one second.

PROBABLE CAUSES

- Damaged wiring harness or connectors
- Malfunction of the front impact sensor (LH)
- Malfunction of the SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics
Use the M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis).

STEP 2. Check whether the diagnosis code is reset.
Check again if the diagnosis code is set.
(1) Erase the diagnosis code.
(2) Ignition: "LOCK" (OFF) position to "ON"
(3) On completion, check that the diagnosis code is not reset.

Q: Is the diagnosis code set?
YES : Go to Step 3.
NO : There is an intermittent malfunction such as poor engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

STEP 3. Check of short to power supply, short to earth, and open circuit in FLH-, FLH+ line between SRS-ECU connector and front impact sensor (LH) connector.

NOTE: After inspecting intermediate connector inspect the wiring harness. If the intermediate connector is damaged, repair or replace it.

Q: Is the check result normal?
YES : Go to Step 4.
NO : Repair the wiring harness.

STEP 4. Check the front impact sensor (LH).
(1) Disconnect the negative battery terminal.
(2) Alternate the front impact sensor (LH) and the front impact sensor (RH), and then install the alternated sensor.
(3) Connect the negative battery terminal.
(4) Erase the diagnosis code from memory, and check the diagnosis code.

Q: Is diagnosis code B1417 set?
YES : Replace the front impact sensor (LH) with a new one (Refer to P.52B-125).
NO : Go to Step 5.

STEP 5. Check whether the diagnosis code is reset.

Q: Is diagnosis code B1417 set?
YES : Replace the SRS-ECU (Refer to P.52B-129).
NO : An intermittent malfunction is suspected (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

Code No.B1418: Front impact sensor (LH) communication error
Code No.B1419: Front impact sensor (LH) communication impossible

⚠ CAUTION
If diagnosis code B1418 or B1419 is set in the SRS-ECU, always diagnose the CAN main bus line.

OPERATION

The front impact sensor (LH) transmits acceleration data to the SRS-ECU. The SRS-ECU then determines whether to operate the front air bags, and then outputs an ignition signal when necessary. The front impact sensor (LH) also diagnoses itself, and sends a diagnosis code to the SRS-ECU if a malfunction occurs

DIAGNOSIS CODE SET CONDITIONS

The diagnosis code is set if the communication between the left front impact sensor (LH) and SRS-ECU is abnormal (No. B1418), or impossible (No. B1419).

PROBABLE CAUSES

- Damaged wiring harnesses or connectors
- Malfunction of the front impact sensor (LH)
- Malfunction of the SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1418 or B1419 set?
YES : Go to Step 3
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Check the front impact sensor (LH).
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) Alternate the front impact sensor (LH) and the front impact sensor (RH), and then install the alternated sensor.
(3) Connect the negative battery terminal.
(4) After erasing the diagnosis code memory, check the diagnosis code again.
(5) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1418 or B1419 set?
YES : Replace the front impact sensor (LH) (Refer to P.52B-125).
NO : Go to Step 4

STEP 4. Check of short to power supply, short to earth, and open circuit in FLH-, FLH+ line between SRS-ECU connector and front impact sensor (LH) connector.
NOTE: After inspecting intermediate connector inspect the wiring harness. If the intermediate connector is damaged, repair or replace it.

Q: Is the check result normal?
YES : Go to Step 5
NO : Repair the wiring harness.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1418 or B1419 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1420 Right side-airbag module (squib) system (short circuit between squib terminals)

⚠ CAUTION
If the diagnosis code B1420 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the side-airbag module (squib) of impacted side.

TROUBLE JUDGEMENT
The code is set when the short circuit occurs to between the terminals of SRS-ECU side-airbag module (squib) circuit.

PROBABLE CAUSES
- Damaged short spring *
- Short circuit between terminals of side-airbag module (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU

*NOTE: *: The squib circuit connectors integrate a short spring (which prevents the air bags from being unintentionally deployed because of static electricity by shorting the positive wire to the earth wire in the squib circuit when the connectors are disconnected). Therefore, when the above codes are set, the short spring may not be released due to the damaged connector even when the connectors are connected.*

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

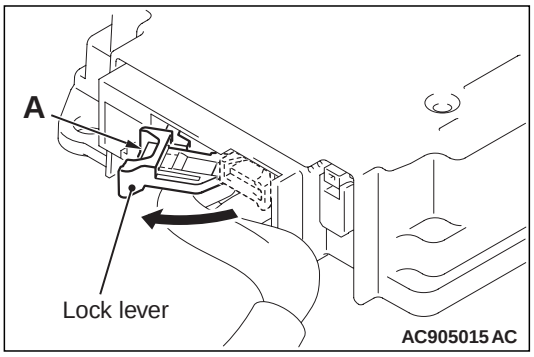
Q: Is the diagnosis code No. B1420 set?

YES : Go to Step 3.

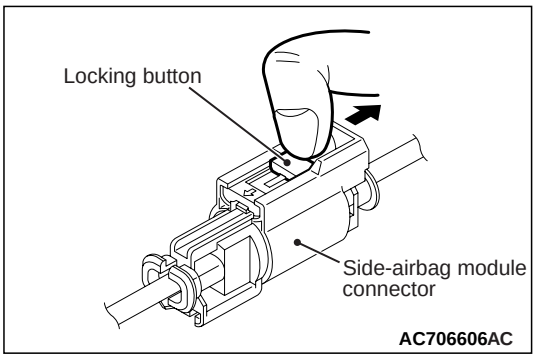
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Connector check: SRS-ECU, right side-airbag module.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever. After disconnecting the SRS-ECU connector, connect it again.



(3) After disconnecting the right side-airbag module connector, connect the connector again. For the right side-airbag module connector disconnection, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.
(4) Connect the negative battery terminal.
(5) After erasing the diagnosis code memory, check the diagnosis code again.
(6) Disconnect the negative battery terminal.

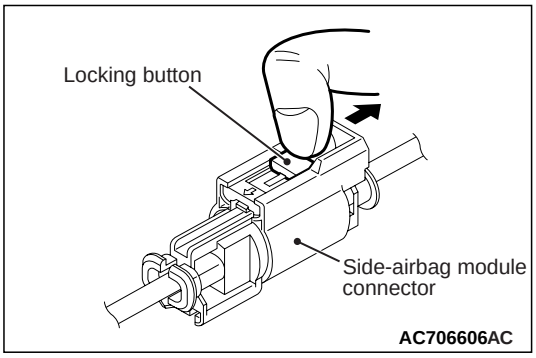
Q: Is the diagnosis code No. B1420 set?

YES : Go to Step 4.

NO : Replace the connector concerned.

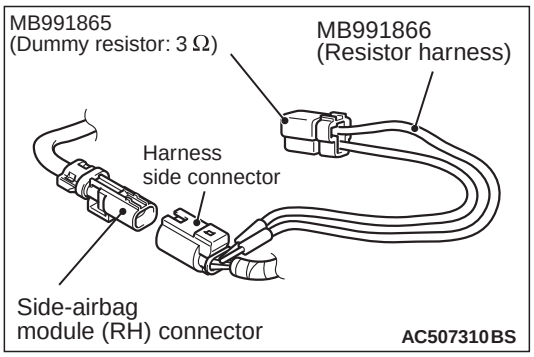
STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Disconnect the right side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the

connector.



(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION

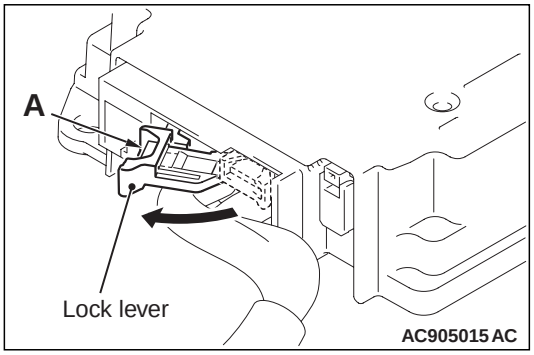
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(4) Insert the resistor harness probe from the back of right side-airbag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1420 set?
YES : Go to Step 5.
NO : Replace the front seatback pad and frame assembly (Refer to P.52B-142).

STEP 5. Resistance measurement at the SRS-ECU connector.

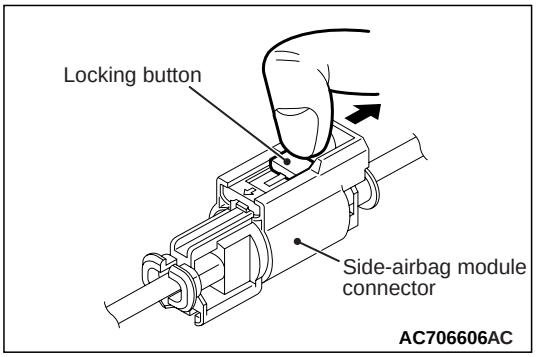
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

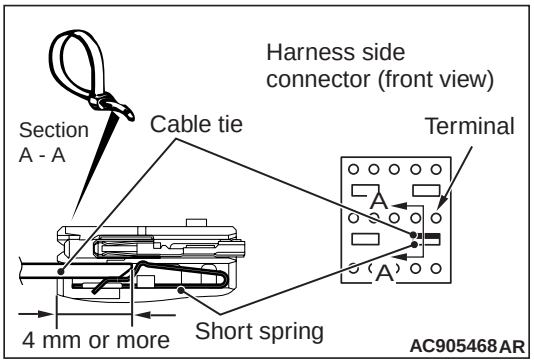
⚠ DANGER

To release the connector short spring in the following operations, disconnect this side-airbag module connector, and keep the squib circuit shorted.



(3) Disconnect the right side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion, thus insert for 4 mm or more.

(4) Insert a cable tie (width: 3 mm, thickness: 0.5 mm) between the SRS+, SRS- line and the short spring, and then release the short spring.
(5) Take the measurements below at the right side-airbag module harness side connector.
- Continuity between SRS+, SRS- line

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 6.
NO : Repair the wiring harness SRS+, SRS- line between the right side-airbag module connector and the SRS-ECU connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1420 set?

YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1421 Right side-airbag module (squib) system (open circuit of squib circuit)

⚠ CAUTION
If the diagnosis code B1421 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the side-airbag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the open circuit occurs to the SRS-ECU side-airbag module (squib) circuit.

PROBABLE CAUSES

- Open circuit to side-airbag module (squib) circuit
- Poor contact of connector
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

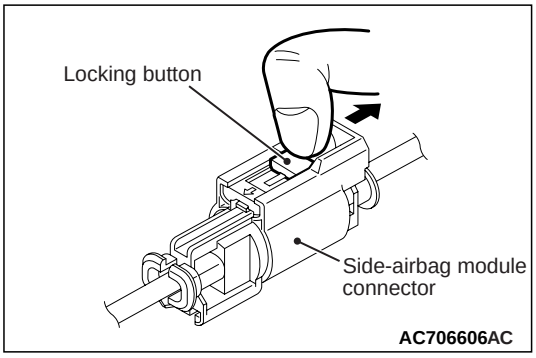
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

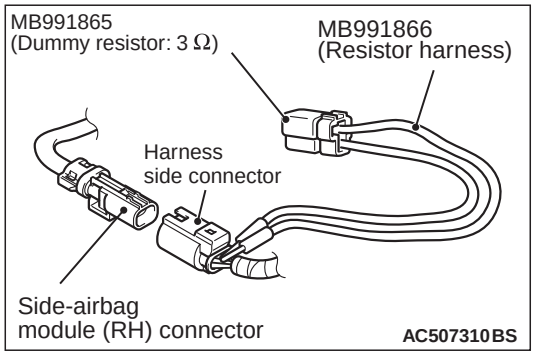
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1421 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Disconnect the right side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.



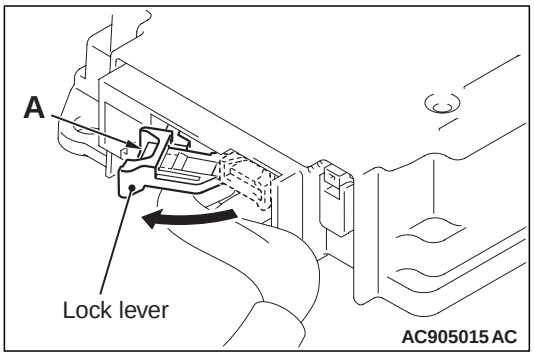
(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.
(4) Insert the resistor harness probe from the back of right side-airbag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1421 set?
YES : Go to Step 4.
NO : Replace the front seatback pad and frame assembly (Refer to P.52B-142).

STEP 4. Resistance measurement at the SRS-ECU connector and the right side-airbag module connector.

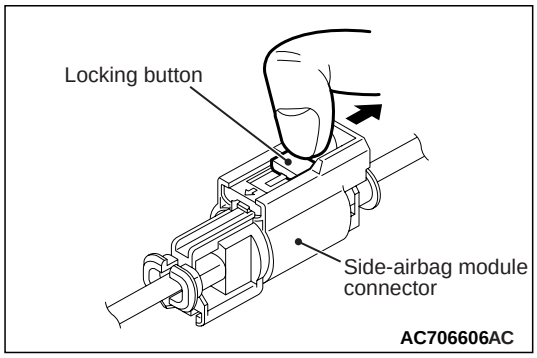
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

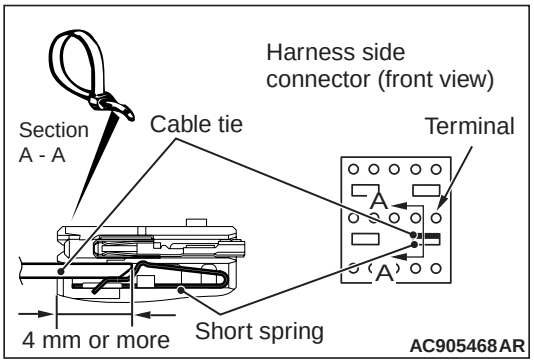
⚠ DANGER

To release the connector short spring in the following operations, disconnect this side-airbag module connector, and keep the squib circuit shorted.



(3) Disconnect the right side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion, thus insert for 4 mm or more.

(4) Insert a cable tie (width: 3 mm, thickness: 0.5 mm) between the SRS+, SRS- line and the short spring, and then release the short spring.

⚠ CAUTION

Do not insert a test probe directly into the terminal of right side-airbag module harness side connector from the connector front side as the connector contact pressure may be weakened.

(5) Take the measurements below at the SRS-ECU and right side-airbag module harness side connectors.
- Continuity SRS+ line between SRS-ECU connector and right side-airbag module connector
- Continuity SRS- line between SRS-ECU connector and right side-airbag module connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness SRS+, SRS- line between the right side-airbag module connector and the SRS-ECU connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1421 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1422 Right side-airbag module (squib) system (shorted to squib circuit earth)

⚠ CAUTION
If the diagnosis code B1422 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the side-airbag module (squib) of impacted side.

TROUBLE JUDGEMENT
The code is set when the input terminal of SRS-ECU side-airbag module (squib) is shorted to earth.

PROBABLE CAUSES
- Damaged wiring harness and connectors
- side-airbag module (squib) harness shorted to earth
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

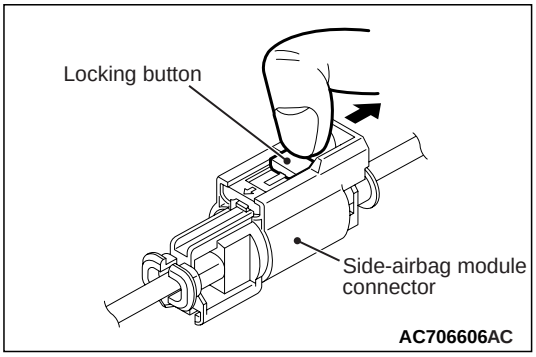
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

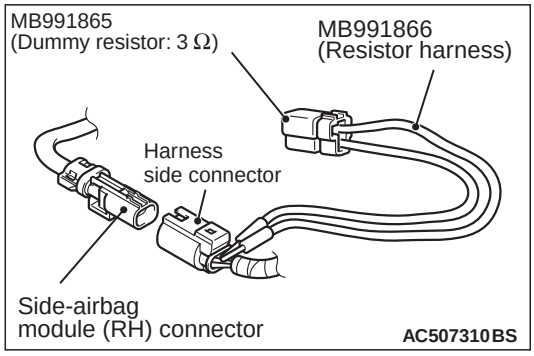
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1422 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Disconnect the right side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.



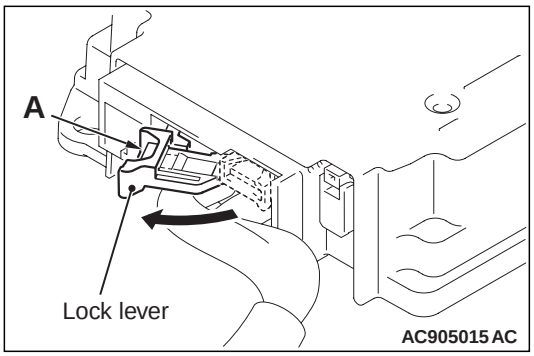
(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.
(4) Insert the resistor harness probe from the back of right harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1422 set?
YES : Go to Step 4.
NO : Replace the front seatback pad and frame assembly (Refer to P.52B-142).

STEP 4. Resistance measurement at the SRS-ECU connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is

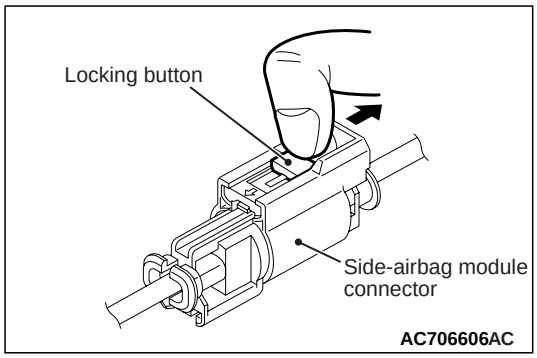
connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

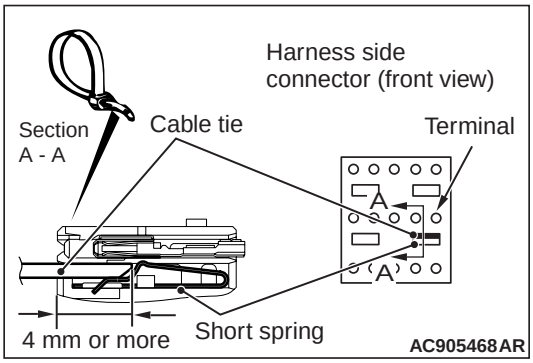
⚠ ***DANGER***

To release the connector short spring in the following operations, disconnect this side-airbag module connector, and keep the squib circuit shorted.



(3) Disconnect the right side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion, thus insert for 4 mm or more.

(4) Insert a cable tie (width: 3 mm, thickness: 0.5 mm) between the SRS+, SRS- line and the short spring, and then release the short spring.

(5) Take the measurements below at the SRS-ECU harness side connector.

- Continuity between SRS+, SRS- line and body earth

OK: No continuity

Q: Is the check result normal?

YES : Go to Step 5.

NO : Repair the wiring harness SRS+, SRS- line between the SRS-ECU connector and the right side-airboat module connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1422 set?

YES : Replace SRS-ECU (Refer to P.52B-129).

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1423 Right side-airbag module (squib) system (shorted to squib circuit power supply)

⚠ **CAUTION**

If the diagnosis code B1423 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the side-airbag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the input terminal of SRS-ECU side-airbag module (squib) is shorted to power supply.

PROBABLE CAUSES

- Damaged wiring harness and connectors

- side-airbag module (squib) harness shorted to power supply
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

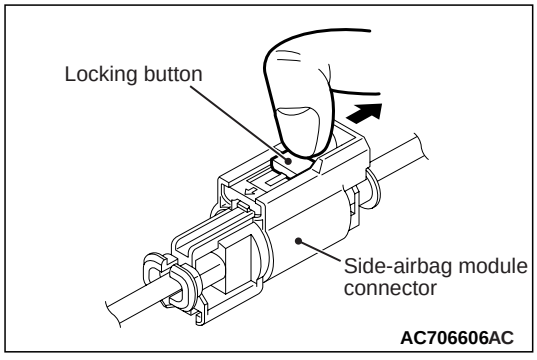
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

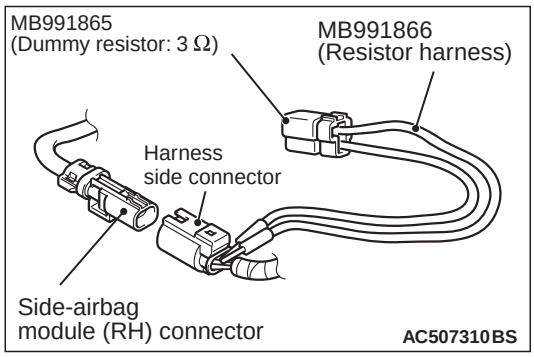
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1423 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Disconnect the right side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.

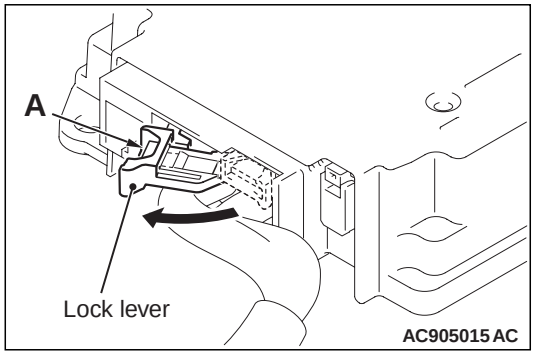


(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.
(4) Insert the resistor harness probe from the back of right side-airbag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1423 set?
YES : Go to Step 4.
NO : Replace the front seatback pad and frame assembly (Refer to P.52B-142).

STEP 4. Voltage measurement at the SRS-ECU connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

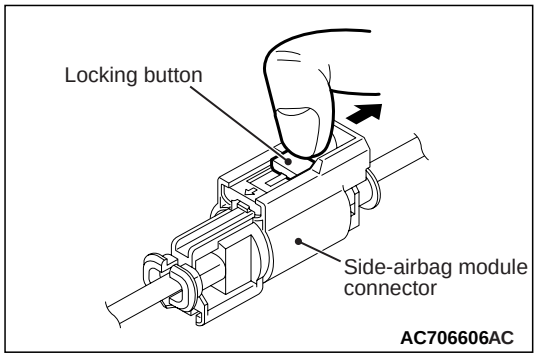


(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

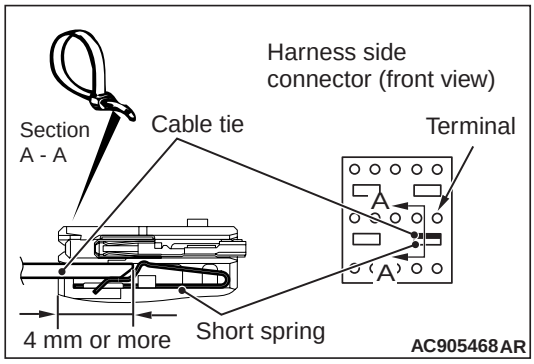
⚠ ***DANGER***

To release the connector short spring in the following operations, disconnect this side-airbag module connector, and keep the squib circuit shorted.



(3) Disconnect the right side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion, thus insert for 4 mm or more.

(4) Insert a cable tie (width: 3 mm, thickness: 0.5 mm) between the SRS+, SRS- line and the short spring, and then release the short spring.
(5) Connect the negative battery terminal.
(6) Ignition switch: ON
(7) Take the measurements below at the SRS-ECU harness side connector.
- Voltage between SRS+, SRS- line and body earth

OK: 1 V or less

(8) Disconnect the negative battery terminal.

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness SRS+, SRS- line between the SRS-ECU connector and the right side-airbag module connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1423 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1426 Malfunction of G-sensor inside right side impact sensor
Code No.B1436 Malfunction of G-sensor inside left side impact sensor

⚠ **CAUTION**

If the diagnosis code B1426 or B1436 is set to SRS-ECU, be sure to diagnose the CAN bus line.

TROUBLE JUDGEMENT

- Analogue G-sensor for side impact does not operate.
- Characteristics of analogue G-sensor for side impact are abnormal.
- Output of analogue G-sensor for side impact is abnormal.

PROBABLE CAUSES

- Malfunction of right side impact sensor (with code No. B1426)
- Malfunction of left side impact sensor (with code No. B1436)

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Side impact sensor check.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) A side impact sensor is checked in the following way.
- Replace the right side impact sensor {In case of code B1426 (Regardless of "Active" or "Stored" faults)} with the new part.
- Replace the left side impact sensor {In case of code B1436 (Regardless of "Active" or "Stored" faults)} with the new part.

(3) Connect the negative battery terminal.
(4) After erasing the diagnosis code memory, check the diagnosis code again.
(5) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1426 or B1436 set?
YES : Go to Step 3.
NO : The procedure is complete.

STEP 3. SRS-ECU check.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) Replace the SRS-ECU with a new one (Refer to P.52B-129).
(3) Connect the negative battery terminal.
(4) After erasing the diagnosis code memory, check the diagnosis code again.
(5) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1426 or B1436 set?
YES : Return to Step 1.
NO : The procedure is complete.

Code No.B1427: Side impact sensor (RH) voltage error

⚠ CAUTION
If diagnosis code B1427 is set in the SRS-ECU, always diagnose the CAN main bus line.

OPERATION

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 then sends an ignition signal. The side impact sensor also diagnoses itself, and sends a diagnosis code to the SRS-ECU if a problem occurs.

DIAGNOSIS CODE SET CONDITIONS

This diagnosis code will set when the power supply voltage to the side impact sensor (RH) remains less than a predetermined value for one second.

PROBABLE CAUSES

- Damaged wiring harness or connectors
- Malfunction of the side impact sensor (RH)
- Malfunction of the SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics
Use the M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis).

STEP 2. Check whether the diagnosis code is reset.
Check again if the diagnosis code is set.
(1) Erase the diagnosis code.
(2) Ignition: "LOCK" (OFF) position to "ON"
(3) On completion, check that the diagnosis code is not reset.

Q: Is the diagnosis code B1427 set?
YES : Go to Step 3.
NO : There is an intermittent malfunction such as poor engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

STEP 3. Check of short to power supply, short to earth, and open circuit in SSR-, SSR+ line in between SRS-ECU connector and side impact sensor (RH) connector.

Q: Is the check result normal?
YES : Go to Step 4.
NO : Repair the connectors or harness wires.

STEP 4. Check the side impact sensor (RH).
(1) Disconnect the negative battery terminal.
(2) Alternate the side impact sensor (RH) and the side impact sensor (LH), and then install the alternated sensor.
(3) Connect the negative battery terminal.
(4) Erase the diagnosis code from memory, and check the diagnosis code.

Q: Is diagnosis code B1427 set?
YES : Replace the side impact sensor (RH) with a new one (Refer to P.52B-127).
NO : Go to Step 5.

STEP 5. Check whether the diagnosis code is reset.

Q: Is diagnosis code B1427 set?
YES : Replace the SRS-ECU (Refer to P.52B-129).
NO : An intermittent malfunction is suspected (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

Code No.B1428: Side impact sensor (RH) communication error
Code No.B1429: Side impact sensor (RH) communication impossible

⚠ CAUTION
If diagnosis code B1428 or B1429 is set in the SRS-ECU, always diagnose the CAN main bus line.

OPERATION
If an impact of set value or more is detected, the side impact sensor sends the coded acceleration data to SRS-ECU. Based on the acceleration data, SRS-ECU determines the necessity of side-airbag and curtain air bag deployment, and then turns ON the power supply circuit to the inflator.

TROUBLE JUDGEMENT
The diagnosis code is set if the communication between the right side impact sensor and SRS-ECU is abnormal (No. B1428), or impossible (No. B1429).

PROBABLE CAUSES
- Malfunction of right side impact sensor
- Damaged wiring harness and connectors
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code B1428 or B1429 set?
YES : Go to Step 3
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Right side impact sensor check.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) Alternate the right side impact sensor and left side impact sensor, and then install the alternated sensors.
(3) Connect the negative battery terminal.
(4) After erasing the diagnosis code memory, check the diagnosis code again.
(5) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1428 or B1429 set?
YES : Replace the right side impact sensor (Refer to P.52B-127).
NO : Go to Step 4

STEP 4. Check of short to power supply, short to earth, and open circuit in SSR-, SSR+ line in between SRS-ECU connector and side impact sensor (RH) connector.

Q: Is the check result normal?
YES : Go to Step 5
NO : Repair the connectors or harness wires.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code B1428 or B1429 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1430 Left side-airbag module (squib) system (short circuit between squib terminals)

⚠ CAUTION
If the diagnosis code B1430 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the side-airbag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the short circuit occurs to between the terminals of SRS-ECU side-airbag module (squib) circuit.

PROBABLE CAUSES

- Damaged short spring *
- Short circuit between terminals of side-airbag module (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU

*NOTE: *: The squib circuit connectors integrate a short spring (which prevents the air bags from being unintentionally deployed because of static electricity by shorting the positive wire to the earth wire in the squib circuit when the connectors are disconnected). Therefore, when the above codes are set, the short spring may not be released due to the damaged connector even when the connectors are connected.*

DIAGNOSIS PROCEDURE

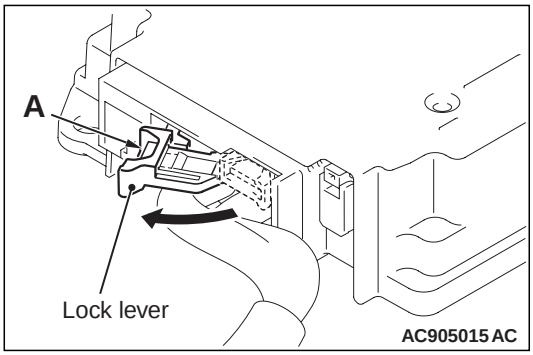
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

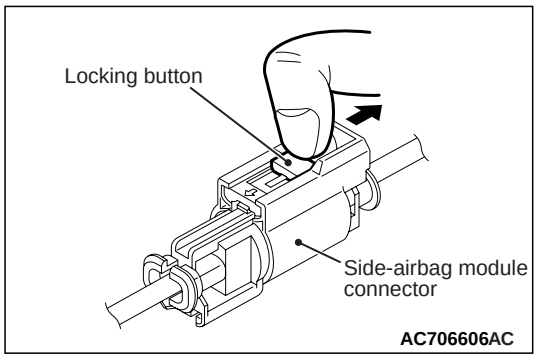
Q: Is the diagnosis code No. B1430 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Connector check: SRS-ECU, left side-airbag module.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever. After disconnecting the SRS-ECU

connector, connect it again.

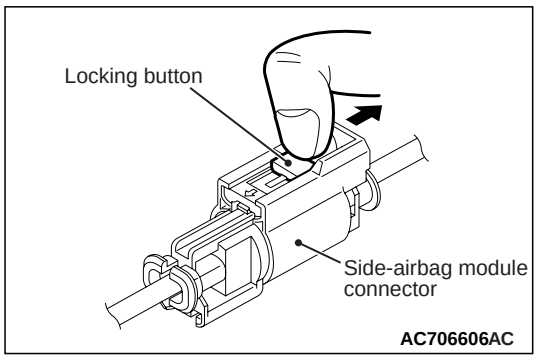


(3) After disconnecting the left side-airbag module connector, connect the connector again. For the left side-airbag module connector disconnection, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.
(4) Connect the negative battery terminal.
(5) After erasing the diagnosis code memory, check the diagnosis code again.
(6) Disconnect the negative battery terminal.

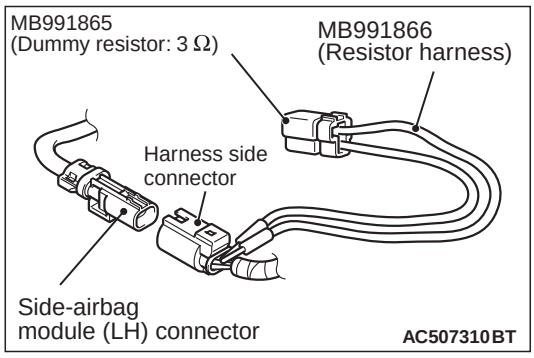
Q: Is the diagnosis code No. B1430 set?
YES : Go to Step 4.
NO : Replace the connector concerned.

STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Disconnect the left side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.



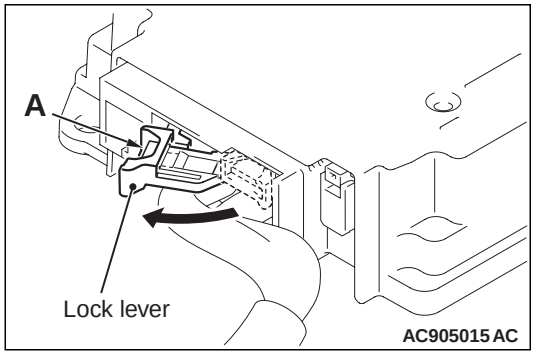
(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION
Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(4) Insert the resistor harness probe from the back of left side-airbag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1430 set?
YES : Go to Step 5.
NO : Replace the front seatback pad and frame assembly (Refer to P.52B-142).

STEP 5. Resistance measurement at the SRS-ECU connector.

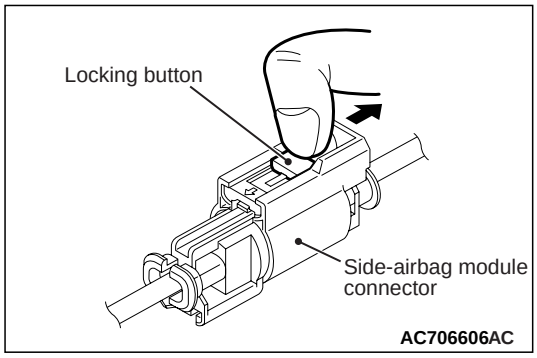


(1) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

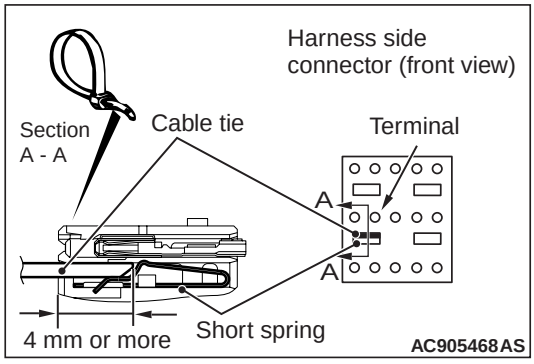
⚠ ***DANGER***

To release the connector short spring in the following operations, disconnect this side-airbag module connector, and keep the squib circuit shorted.



(2) Disconnect the left side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(3) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the SLS-, SLS+ line and the short spring, and then release the short spring.

(4) Take the measurements below at the SRS-ECU harness side connector.

- Continuity between SLS-, SLS+ line

OK: No continuity

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the wiring harness SLS-, SLS+ line between the left side-airbag module connector and the SRS-ECU connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1430 set?

YES : Replace SRS-ECU (Refer to P.52B-129).

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1431 Left side-airbag module (squib) system (open circuit of squib circuit)

⚠ **CAUTION**

If the diagnosis code B1431 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the side-airbag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the open circuit occurs to the SRS-ECU side-airbag module (squib) circuit.

PROBABLE CAUSES

- Open circuit to side-airbag module (squib) circuit
- Poor contact of connector
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

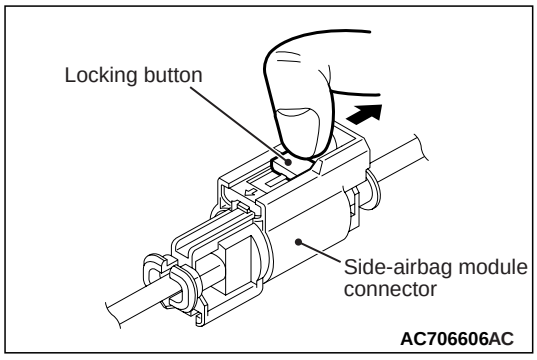
Q: Is the diagnosis code No. B1431 set?

YES : Go to Step 3.

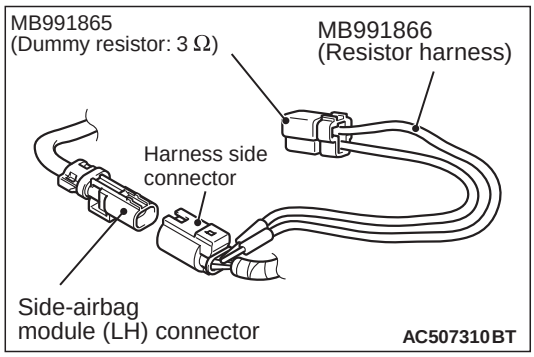
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Disconnect the left side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.



(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION

Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(4) Insert the resistor harness probe from the back of left side-airbag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

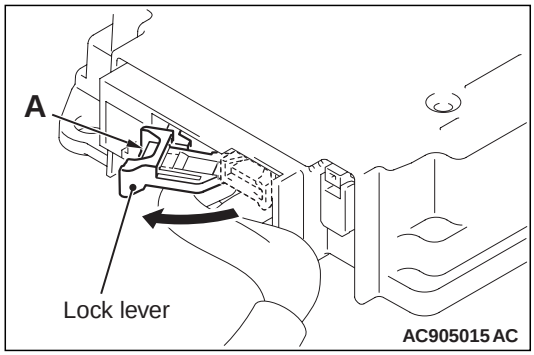
Q: Is the diagnosis code No. B1431 set?

YES : Go to Step 4.

NO : Replace the front seatback pad and frame assembly (Refer to P.52B-142).

STEP 4. Resistance measurement at the SRS-ECU connector and the left side-airbag module connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

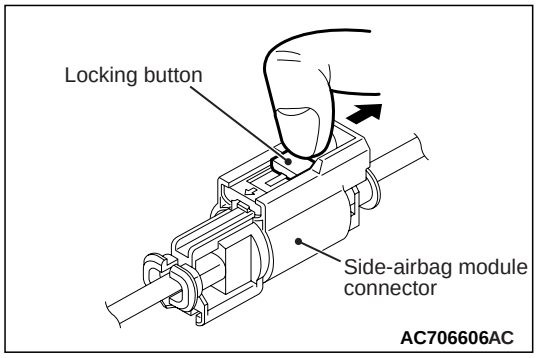


(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

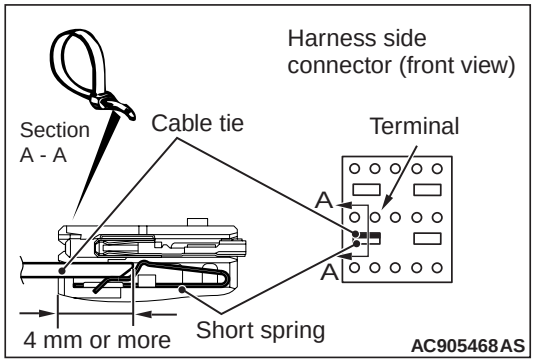
⚠ ***DANGER***

To release the connector short spring in the following operations, disconnect this side-airbag module connector, and keep the squib circuit shorted.



(3) Disconnect the left side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the SLS-, SLS+ line and the short spring, and then release the short spring.

⚠ **CAUTION**

Do not insert a test probe directly into the terminal of left side-airbag module harness side connector from the connector front side as the connector contact pressure may be weakened.

(5) Take the measurements below at the SRS-ECU and left impact sensor harness side connectors.
- Continuity SLS- line between SRS-ECU connector and left side-airbag module connector
- Continuity SLS+ line between SRS-ECU connector and left side-airbag module connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness SLS-, SLS+ line between the left side-airbag module connector and the SRS-ECU connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1431 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1432 Left side-airbag module (squib) system (shorted to squib circuit earth)

⚠ **CAUTION**

If the diagnosis code B1432 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the side-airbag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the input terminal of SRS-ECU side-airbag module (squib) is shorted to earth.

PROBABLE CAUSES

- Damaged wiring harness and connectors
- Side-airbag module (squib) harness shorted to earth
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

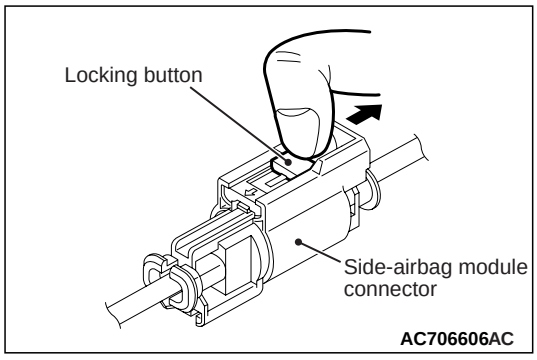
Q: Is the diagnosis code No. B1432 set?

YES : Go to Step 3.

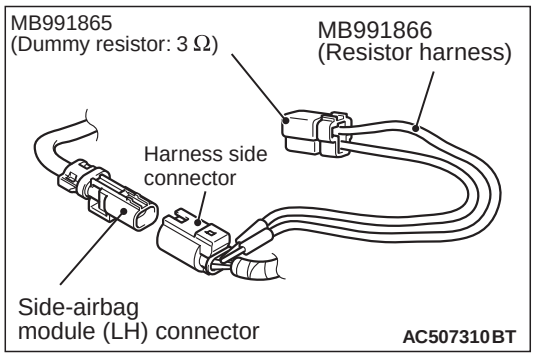
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Disconnect the left side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.



(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION

Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(4) Insert the resistor harness probe from the back of left side-airbag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

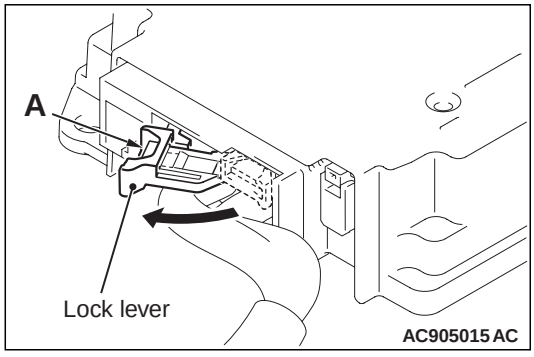
Q: Is the diagnosis code No. B1432 set?

YES : Go to Step 4.

NO : Replace the front seatback pad and frame assembly (Refer to P.52B-142).

STEP 4. Resistance measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

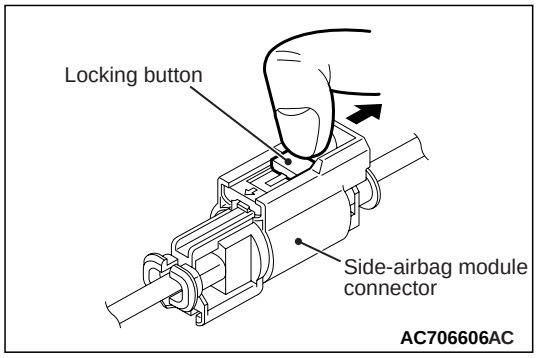


(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

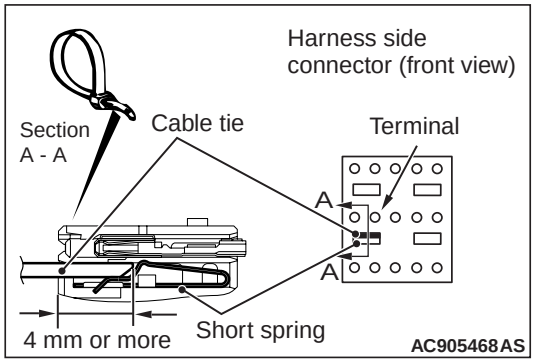
⚠ DANGER

To release the connector short spring in the following operations, disconnect this side-airbag module connector, and keep the squib circuit shorted.



(3) Disconnect the left side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the SLS-, SLS+ line and the short spring, and then release the short spring.

(5) Take the measurements below at the SRS-ECU harness side connector.

- Continuity between SLS-, SLS+ line and body earth

OK: No continuity

Q: Is the check result normal?

YES : Go to Step 5.

NO : Repair the wiring harness SLS-, SLS+ line between the SRS-ECU connector and the left side-airbag module connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1432 set?

YES : Replace SRS-ECU (Refer to P.52B-129).

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1433 Left side-airbag module (squib) system (shorted to squib circuit power supply)

⚠ CAUTION

If the diagnosis code B1433 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the side-airbag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the input terminal of SRS-ECU side-airbag module (squib) is shorted to power supply.

PROBABLE CAUSES

- Damaged wiring harness and connectors
- Side-airbag module (squib) harness shorted to power supply
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

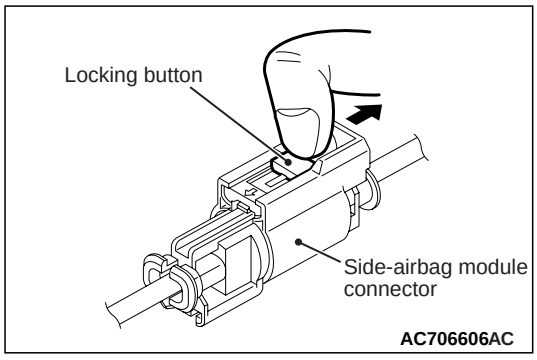
Q: Is the diagnosis code No. B1433 set?

YES : Go to Step 3.

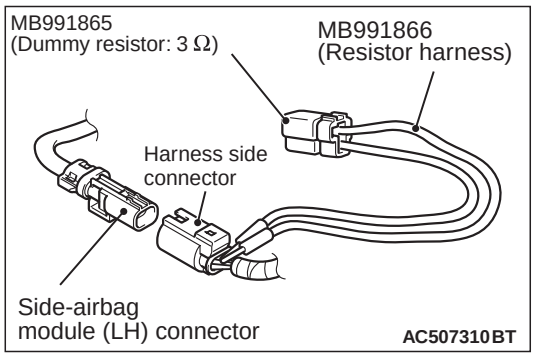
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Disconnect the left side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.



(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991866).

⚠ CAUTION

Do not insert a probe directly into the terminal from the connector front side as the connector contact pressure may be weakened.

(4) Insert the resistor harness probe from the back of left side-airbag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

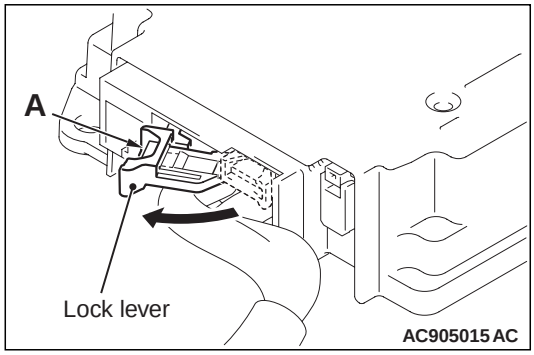
Q: Is the diagnosis code No. B1433 set?

YES : Go to Step 4.

NO : Replace the front seatback pad and frame assembly (Refer to P.52B-142).

STEP 4. Voltage measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

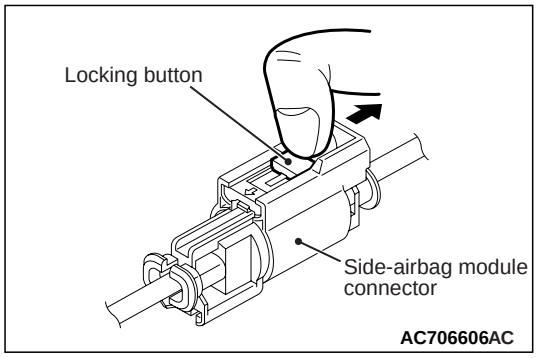


(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

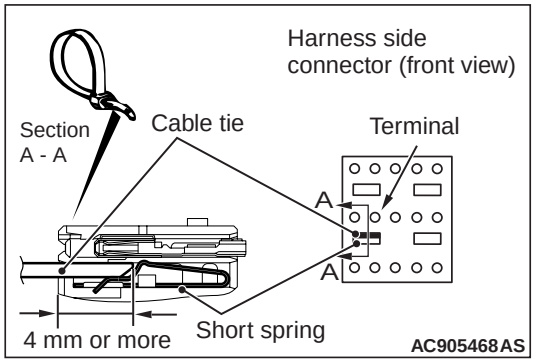
⚠ DANGER

To release the connector short spring in the following operations, disconnect this side-airbag module connector, and keep the squib circuit shorted.



(3) Disconnect the left side-airbag module connector, unlock the connector by sliding the locking button to the direction of the arrow as shown in the figure, and then disconnect the connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the SLS-, SLS+ line and the short spring, and then release the short spring.
(5) Connect the negative battery terminal.
(6) Ignition switch: ON
(7) Take the measurements below at the SRS-ECU harness side connector.
- Voltage between SLS-, SLS+ line and body earth

OK: 1 V or less

(8) Disconnect the negative battery terminal.

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness SLS-, SLS+ line between the SRS-ECU connector and the left side-airbag module connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1433 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1437: Side impact sensor (LH) voltage error

⚠ CAUTION

If diagnosis code B1437 is set in the SRS-ECU, always diagnose the CAN main bus line.

OPERATION

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 then sends an ignition signal. The side impact sensor also diagnoses itself, and sends a diagnosis code to the SRS-ECU if a problem occurs.

DIAGNOSIS CODE SET CONDITIONS

This diagnosis code will set when the power supply voltage to the side impact sensor (LH) remains less than a predetermined value for one second.

PROBABLE CAUSES

- Damaged wiring harness or connectors
- Malfunction of the side impact sensor (LH)
- Malfunction of the SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics
Use the M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis).

STEP 2. Check whether the diagnosis code is reset.
Check again if the diagnosis code is set.
(1) Erase the diagnosis code.
(2) Ignition: "LOCK" (OFF) position to "ON"
(3) On completion, check that the diagnosis code is not reset.

Q: Is the diagnosis code set?
YES : Go to Step 3.
NO : There is an intermittent malfunction such as poor engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

STEP 3. Check of short to power supply, short to earth, and open circuit in SSL+, SSL- line in between SRS-ECU connector and side impact sensor (LH) connector.

Q: Is the check result normal?
YES : Go to Step 4.
NO : Repair the connectors or harness wires.

STEP 4. Check the side impact sensor (LH).
(1) Disconnect the negative battery terminal.
(2) Alternate the side impact sensor (LH) and the side impact sensor (RH), and then install the alternated sensor.
(3) Connect the negative battery terminal.
(4) Erase the diagnosis code from memory, and check the diagnosis code.

Q: Is diagnosis code B1427 set?
YES : Replace the side impact sensor (LH) with a new one (Refer to P.52B-127).
NO : Go to Step 5.

STEP 5. Check whether the diagnosis code is reset.

Q: Is diagnosis code B1437 set?
YES : Replace the SRS-ECU (Refer to P.52B-129).
NO : An intermittent malfunction is suspected (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

Code No.B1438 Side impact sensor (LH) communication error
Code No.B1439 Side impact sensor (LH) communication impossible

⚠ CAUTION
If the diagnosis code B1438 or B1439 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
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 then sends an ignition signal. The side impact sensor also diagnoses itself, and sends a diagnosis code to the SRS-ECU if a problem occurs.

DIAGNOSIS CODE SET CONDITIONS
The diagnosis code is set if the communication between the left side impact sensor and SRS-ECU is abnormal (No. B1438), or impossible (No. B1439).

PROBABLE CAUSES
- Damaged wiring harnesses or connectors
- Malfunction of the side impact sensor (LH)
- Malfunction of the SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics
Use the M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2
NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis).

STEP 2. Check whether the diagnosis code is reset.

Check again if the diagnosis code is set.
(1) Erase the diagnosis code.
(2) Ignition: "LOCK" (OFF) position to "ON"
(3) On completion, check that the diagnosis code is not reset.

Q: Is the diagnosis code set?
YES : Go to Step 3
NO : There is an intermittent malfunction such as poor engaged connector(s) or open circuit (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

STEP 3. Check the side impact sensor (LH).

(1) Disconnect the negative battery terminal.
(2) Alternate the side impact sensor (LH) and the side impact sensor (RH), and then install the alternated sensor.
(3) Connect the negative battery terminal.
(4) Erase diagnosis code from memory, and check the diagnosis code.

Q: Is diagnosis code B1438 or B1439 set?
YES : Replace the side impact sensor (LH) with a new one (Refer to P.52B-127). Go to Step 5.
NO : Go to Step 4

STEP 4. Check of short to power supply, short to earth, and open circuit in SSL+, SSL- line in between SRS-ECU connector and side impact sensor (LH) connector..

Q: Is the check result normal?
YES : Go to Step 5
NO : Repair the connectors or harness wires.

STEP 5. Check whether the diagnosis code is reset.

Q: Is diagnosis code B1438 or B1439 set?
YES : Replace the SRS-ECU (Refer to P.52B-129).
NO : An intermittent malfunction is suspected (Refer to GROUP 00, How to Cope with Intermittent Malfunction).

Code No.B1440 Right curtain air bag module (squib) system (short circuit between squib circuit terminals)

⚠ CAUTION
If the diagnosis code B1440 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the ignition signal is sent from SRS-ECU to the curtain air bag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the short circuit occurs between the terminals of SRS-ECU curtain air bag module (squib) circuit.

PROBABLE CAUSES

- Damaged short spring *
- Short circuit between terminals of curtain air bag module (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU

*NOTE: *: The squib circuit connectors integrate a short spring (which prevents the air bags from being unintentionally deployed because of static electricity by shorting the positive wire to the earth wire in the squib circuit when the connectors are disconnected). Therefore, when the above codes are set, the short spring may not be released due to the damaged connector even when the connectors are connected.*

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

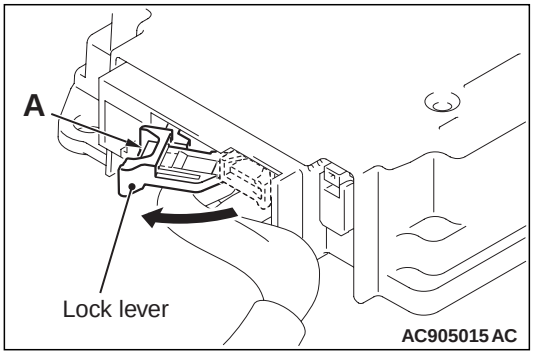
STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

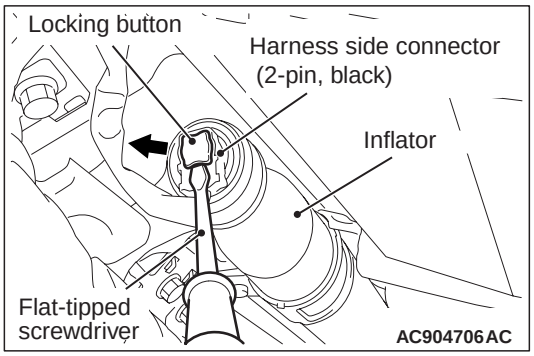
Q: Is the diagnosis code No. B1440 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Connector check: SRS-ECU, right curtain air bag module.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever. After disconnecting the SRS-ECU connector, connect it again.

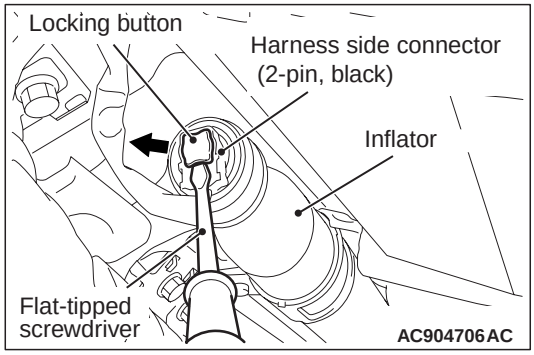


(3) After disconnecting the right curtain air bag module harness side connector, connect the connector again. For the right curtain air bag module connector disconnection, use the flat-tipped screwdriver to pull out the harness side connector locking button. After releasing the lock, disconnect the connector.
(4) Connect the negative battery terminal.
(5) After erasing the diagnosis code memory, check the diagnosis code again.
(6) Disconnect the negative battery terminal.

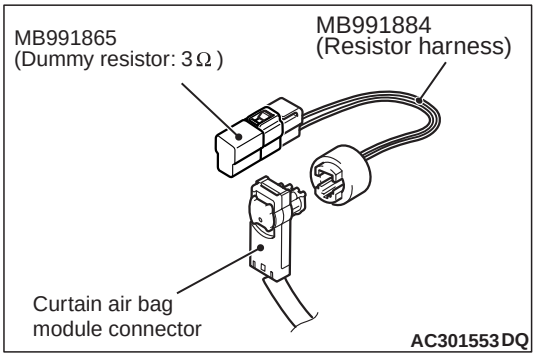
Q: Is the diagnosis code No. B1440 set?
YES : Go to Step 4.
NO : Replace the connector concerned.

STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the right curtain air bag module harness side connector.



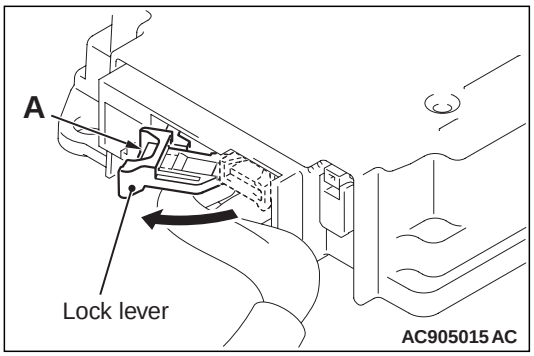
(3) Connect the dummy resistor (Special tool: MB991865) to the resistor harness (Special tool: MB991884).
(4) Connect the resistor harness (special tool) to right curtain air bag module connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.

Q: Is the diagnosis code No. B1440 set?
YES : Go to Step 5.
NO : Replace the right curtain air bag module (Refer to P.52B-144.)

STEP 5. Resistance measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is

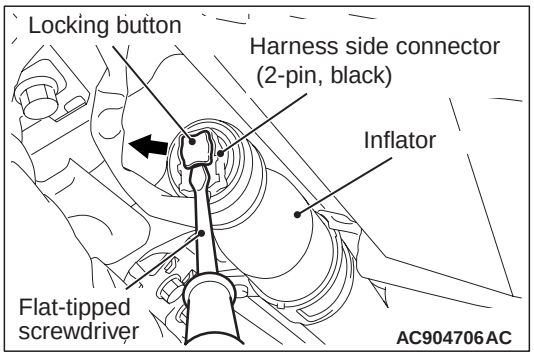
connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

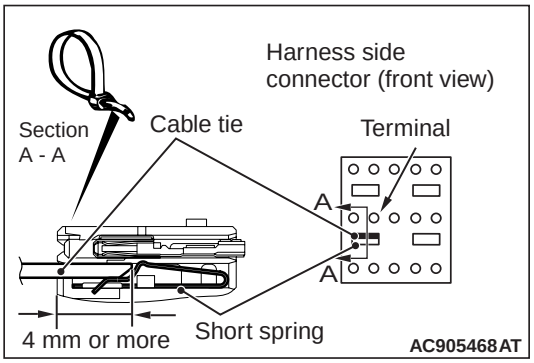
⚠ ***DANGER***

To release SRS-ECU wiring harness side connector short spring in the following operations, disconnect curtain air bag module connector in advance, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the right curtain air bag module harness side connector

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the CRS-, CRS+ line and the short spring, and release the short spring.

(5) Check the continuity between the SRS-ECU wiring harness side connector CRS-, CRS+ line.

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 6.
NO : Repair the wiring harness.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1440 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent Malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1441 Right curtain air bag module (squib) system (open circuit of squib circuit)

⚠ **CAUTION**

If the diagnosis code B1441 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the curtain air bag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the open circuit occurs to the SRS-ECU curtain air bag module (squib) circuit.

PROBABLE CAUSES

- Open circuit to the curtain air bag module (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

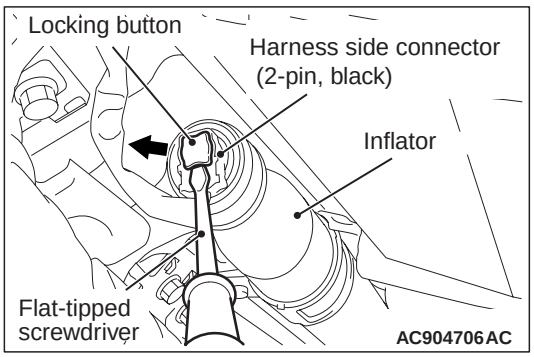
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

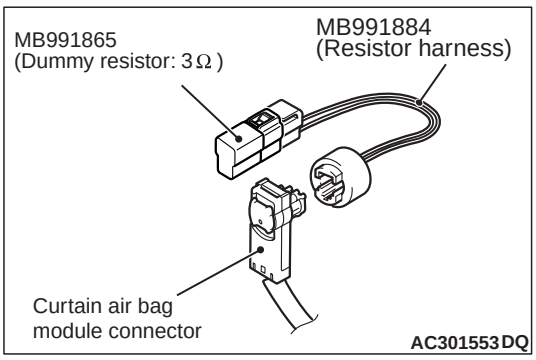
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1441 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



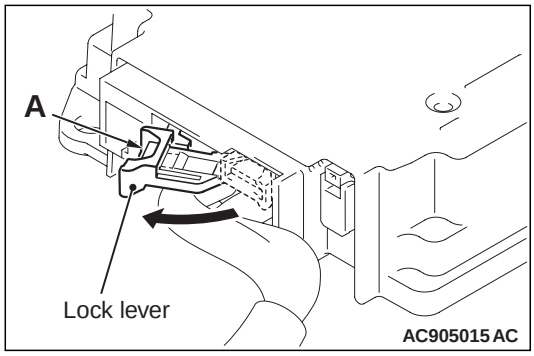
(2) Use the flat-tipped screwdriver to pull out the locking button of right curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.



(3) Connect the dummy resistor (Special tool: MB991865) to the resistor harness (Special tool: MB991884).
(4) Connect the resistor harness (special tool) to right curtain air bag module connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1441 set?
YES : Go to Step 4.
NO : Replace the right curtain air bag module.(Refer to P.52B-144.)

STEP 4. Resistance measurement at the SRS-ECU connector and the right curtain air bag module connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

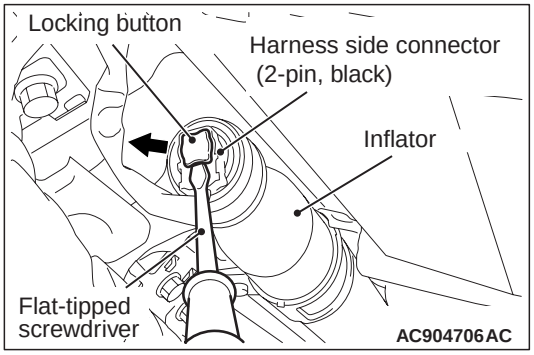


(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

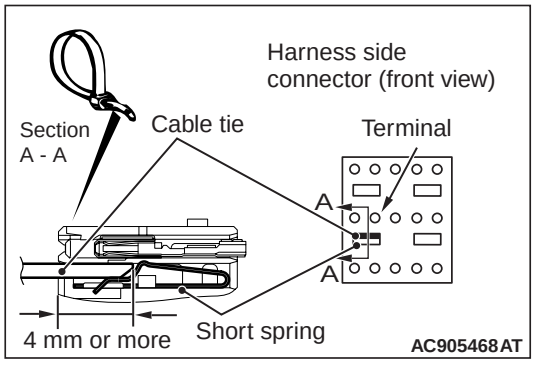
⚠ DANGER

To release SRS-ECU wiring harness side connector short spring in the following operations, disconnect curtain air bag module connector in advance, and keep the squib circuit shorted.



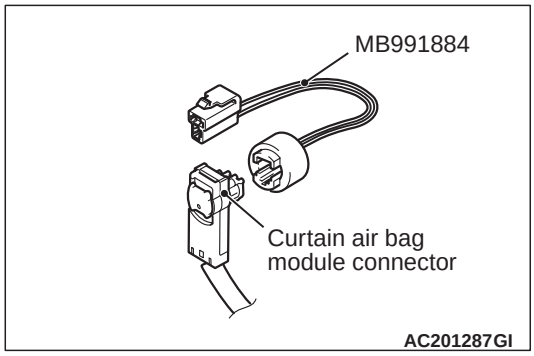
(3) Use the flat-tipped screwdriver to pull out the locking button of right curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.

⚠ CAUTION



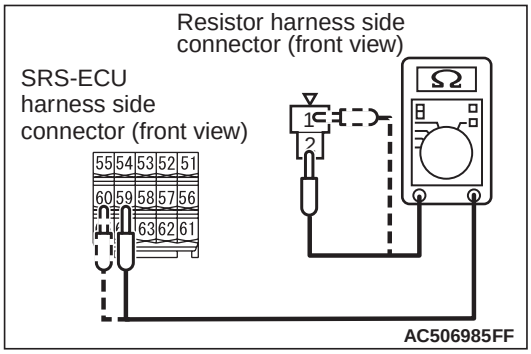
The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the CRS-, CRS+ line and the short spring, and release the short spring.



(5) Connect the resistor harness (Special tool: MB991884) to the removed right curtain air bag module connector.

NOTE: When the resistor harness is connected, the terminal No. of connected side and the CRS-, CRS+ line of resistor harness connector will become inverted.



(6) Take the following measurements.

- Continuity CRS- line between SRS-ECU wiring harness side connector and the resistor harness connector
- Continuity CRS+ line between SRS-ECU wiring harness side connector and the resistor harness connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?

YES : Go to Step 5.

NO : Repair the wiring harness CRS-, CRS+ line between the SRS-ECU harness side connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1441 set?

YES : Replace SRS-ECU (Refer to P.52B-129).

NO : Intermittent Malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

.Code No.B1442 Right curtain air bag module (squib) system (shorted to squib circuit earth)

⚠ CAUTION
If the diagnosis code B1442 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the curtain air bag module (squib) of impacted side.

TROUBLE JUDGEMENT
The code is set when the SRS-ECU curtain air bag module (squib) circuit is shorted to earth.

PROBABLE CAUSES
- Damaged wiring harness and connector
- Curtain air bag module (squib) harness shorted to earth
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

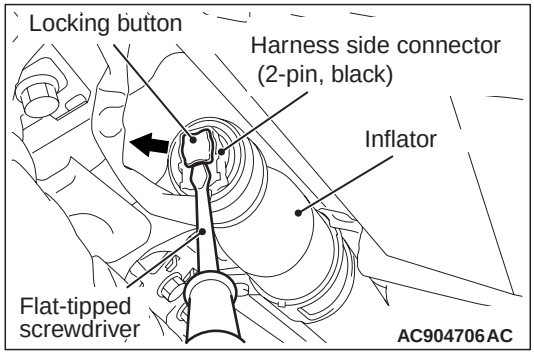
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

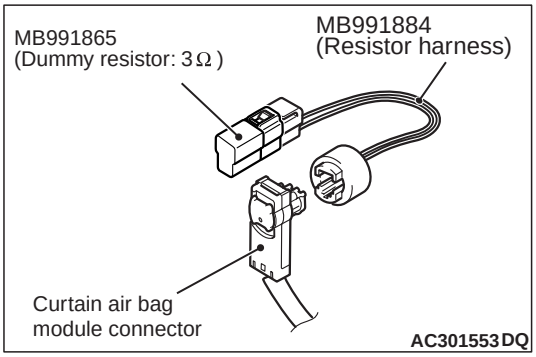
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1442 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection
(1) Check that the negative battery terminal is disconnected. If connected, disconnect the connected, disconnect it.
negative battery terminal.



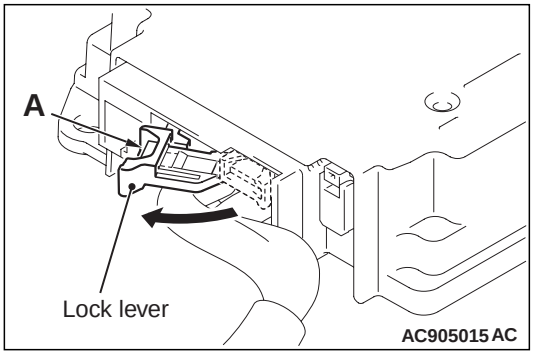
(2) Use the flat-tipped screwdriver to pull out the locking button of right curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.



(3) Connect the dummy resistor (Special tool: MB991865) to the resistor harness (Special tool: MB991884).
(4) Connect the resistor harness (special tool) to right curtain air bag module connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is diagnosis code No. B1442 set?
YES : Go to Step 4.
NO : Replace the right curtain air bag module (Refer to P.52B-144.)

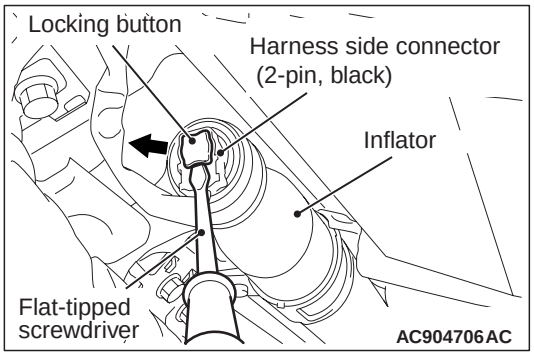
STEP 4. Resistance measurement at the SRS-ECU connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

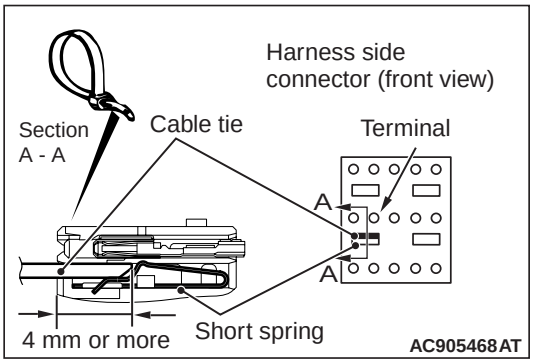
⚠ ***DANGER***

To release SRS-ECU wiring harness side connector short spring in the following operations, disconnect curtain air bag module connector in advance, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of right curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the CRS-, CRS+ line and the short spring, and release the short spring.

(5) Check the continuity between SRS-ECU wiring harness side connector CRS-, CRS+ line and body earth.

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1442 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent Malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1443 Right curtain air bag module (squib) system (shorted to squib circuit power supply)

⚠ **CAUTION**

If the diagnosis code B1443 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the curtain air bag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the SRS-ECU curtain air bag module (squib) is shorted to power supply.

PROBABLE CAUSES

- Damaged wiring harness and connector
- Curtain air bag module (squib) harness shorted to power supply
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostic.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

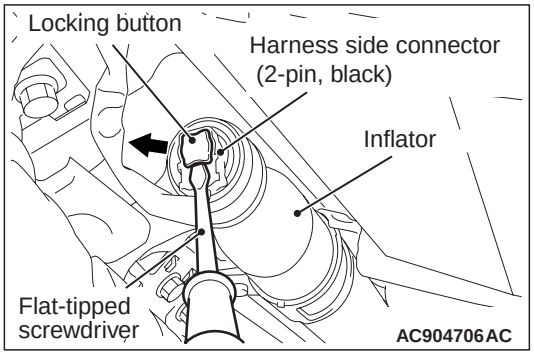
Q: Is the diagnosis code No. B1443 set?

YES : Go to Step 3.

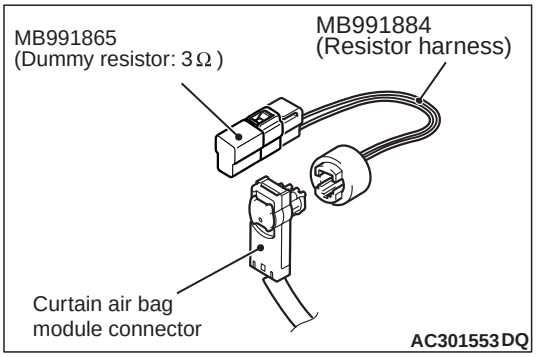
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection

(1) Check that the negative battery terminal is disconnected. If connected, disconnect the negative battery terminal.



(2) Use the flat-tipped screwdriver to pull out the locking button of right curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.



(3) Connect the dummy resistor (Special tool: MB991865) to the resistor harness (Special tool: MB991884).
(4) Connect the resistor harness (special tool) to right curtain air bag module (front) connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

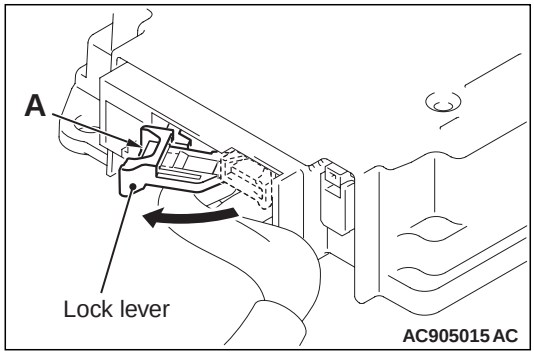
Q: Is diagnosis code No. B1443 set?

YES : Go to step 4.

NO : Replace the right curtain air bag module (Refer to P.52B-144.)

STEP 4. Voltage measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

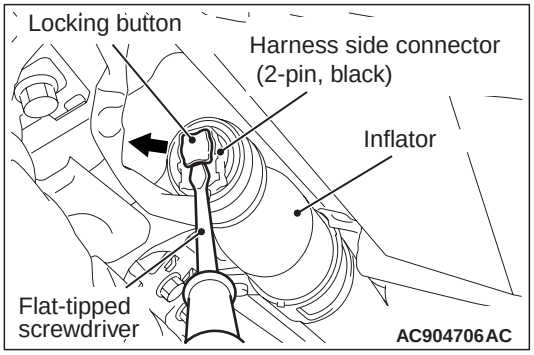


(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

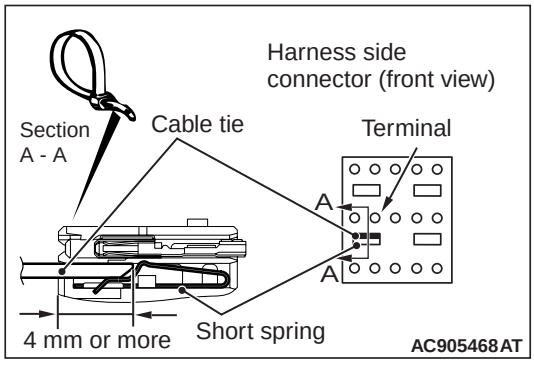
⚠ ***DANGER***

To release SRS-ECU wiring harness side connector short spring in the following operations, disconnect curtain air bag module connector in advance, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of right curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the CRS-, CRS+ line and the short spring, and release the short spring.
(5) Connect the negative battery terminal.
(6) Ignition switch: ON
(7) Measure the voltage between the SRS-ECU wiring harness side connector CRS-, CRS+ line and the body earth.

OK: 1 V or less

(8) Disconnect the negative battery terminal.

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1443 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent Malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1450 Left curtain air bag module (squib) system (short circuit between squib circuit terminals)

⚠ **CAUTION**

If the diagnosis code B1450 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the ignition signal is sent from SRS-ECU to the curtain air bag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the short circuit occurs between the terminals of SRS-ECU curtain air bag module (squib) circuit.

PROBABLE CAUSES

- Damaged short spring *

- Short circuit between terminals of curtain air bag module (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU

*NOTE: *: The squib circuit connectors integrate a short spring (which prevents the air bags from being unintentionally deployed because of static electricity by shorting the positive wire to the earth wire in the squib circuit when the connectors are disconnected). Therefore, when the above codes are set, the short spring may not be released due to the damaged connector even when the connectors are connected.*

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

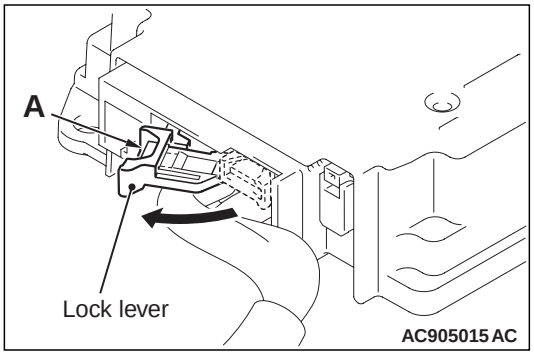
Q: Is the diagnosis code No. B1450 set?

YES : Go to Step 3.

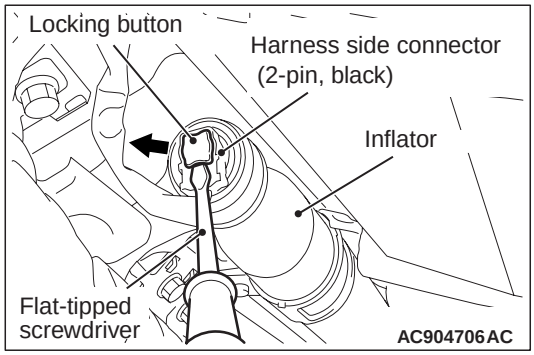
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Connector check: SRS-ECU, left curtain air bag module connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever. After disconnecting the SRS-ECU connector, connect it again.



(3) After disconnecting the left curtain air bag module harness side connector, connect the connector again. For the left curtain air bag module connector disconnection, use the flat-tipped screwdriver to pull out the harness side connector locking button. After releasing the lock, disconnect the connector.
(4) Connect the negative battery terminal.
(5) After erasing the diagnosis code memory, check the diagnosis code again.
(6) Disconnect the negative battery terminal.

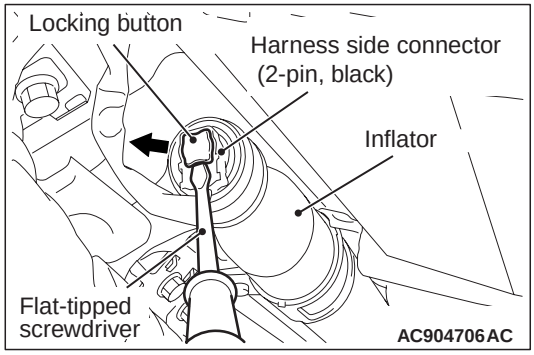
Q: Is the diagnosis code No. B1450 set?

YES : Go to Step 4.

NO : Replace the connector concerned.

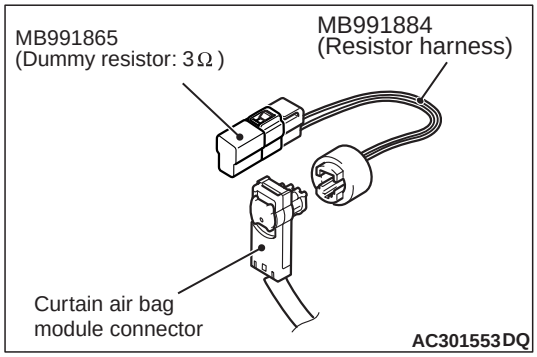
STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the left curtain air

bag module harness side connector.

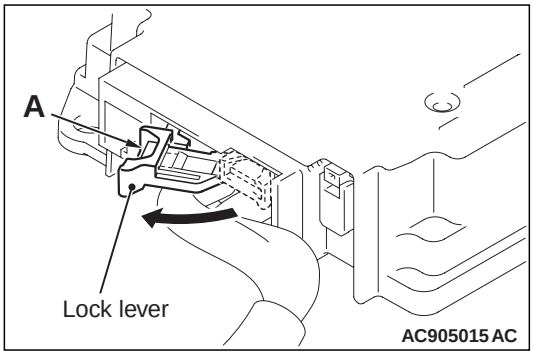


(3) Connect the dummy resistor (Special tool: MB991865) to the resistor harness (Special tool: MB991884).
(4) Connect the resistor harness (special tool) to left curtain air bag module connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.

Q: Is the diagnosis code No. B1450 set?
YES : Go to Step 5.
NO : Replace the left curtain air bag module (Refer to P.52B-144.)

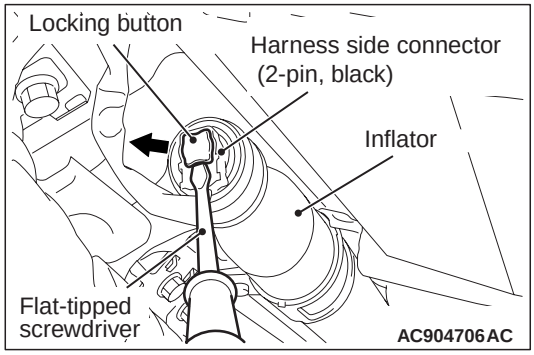
STEP 5. Resistance measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



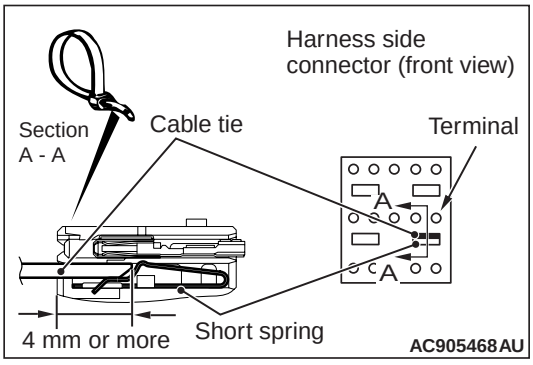
(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

⚠ DANGER
To release SRS-ECU wiring harness side connector short spring in the following operations, disconnect curtain air bag module connector in advance, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the left curtain air bag module harness side connector

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the CLS+, CLS- line and the short spring, and release the short spring.
(5) Check the continuity between the SRS-ECU wiring harness side connector CLS+, CLS- line.

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 6.
NO : Repair the wiring harness.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1450 set?

YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent Malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1451 Left curtain air bag module (squib) system (open circuit of squib circuit)

⚠ CAUTION
If the diagnosis code B1451is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the curtain air bag module (squib) of impacted side.

TROUBLE JUDGEMENT
The code is set when the open circuit occurs to the SRS-ECU curtain air bag module (squib) circuit.

PROBABLE CAUSES
- Open circuit to the curtain air bag module (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

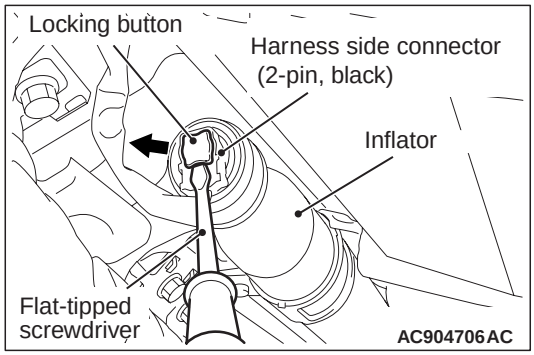
STEP 1. M.U.T.-III CAN bus diagnostics
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

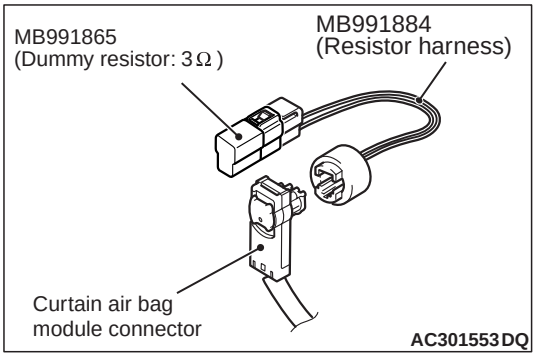
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1451set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of D-17 curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.



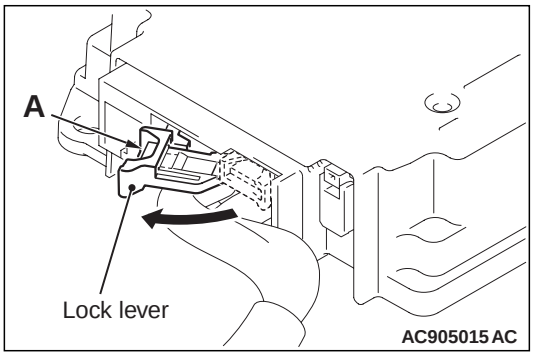
(3) Connect the dummy resistor (Special tool: MB991865) to the resistor harness (Special tool: MB991884).
(4) Connect the resistor harness (special tool) to left curtain air bag module connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.

(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1451 set?
YES : Go to Step 4.
NO : Replace the left curtain air bag module (Refer to P.52B-144).

STEP 4. Resistance measurement at the SRS-ECU connector and the left curtain air bag module connector.

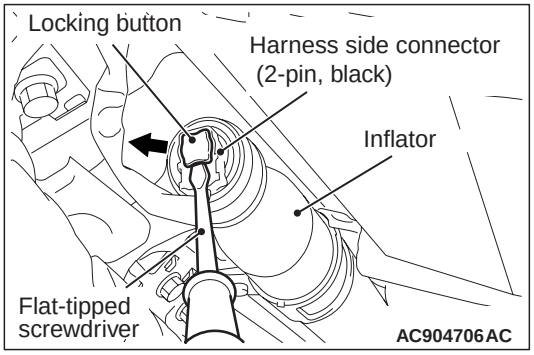
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

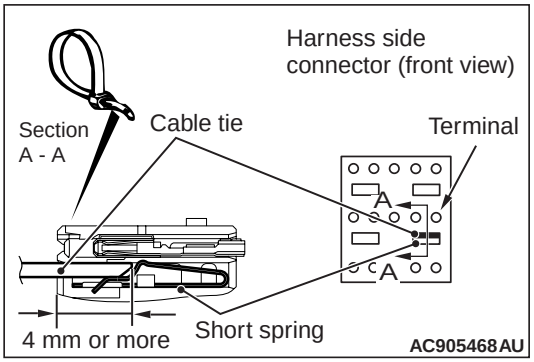
⚠ ***DANGER***

To release SRS-ECU wiring harness side connector short spring in the following operations, disconnect curtain air bag module connector in advance, and keep the squib circuit shorted.



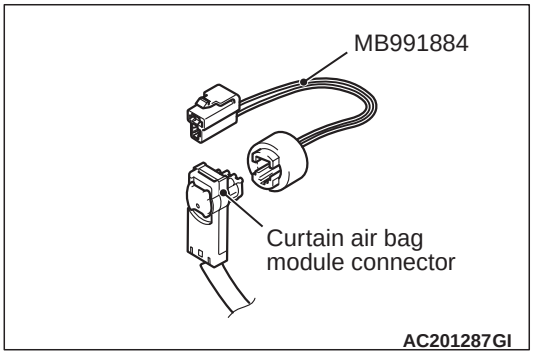
(3) Use the flat-tipped screwdriver to pull out the locking button of left curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.

⚠ **CAUTION**



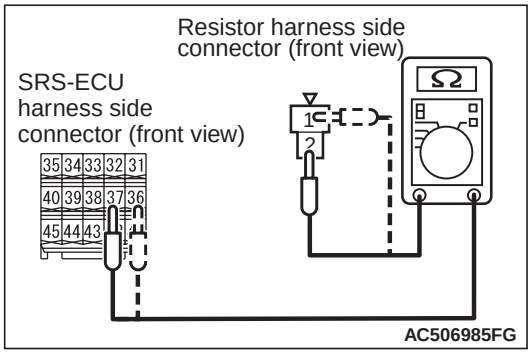
The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the CLS+, CLS- line and the short spring, and release the short spring.



(5) Connect the resistor harness (Special tool: MB991884) to the removed left curtain air bag module connector.

NOTE: When the resistor harness is connected, the terminal No. of connected side and the CLS+, CLS- line of resistor harness connector will become inverted.



(6) Take the following measurements.
- Continuity CLS+ line between SRS-ECU wiring harness side connector and the resistor harness connector
- Continuity CLS- line between SRS-ECU wiring harness side connector and the resistor harness connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?

YES : Go to Step 5.
NO : Repair the wiring harness.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1451 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent Malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1452 Left curtain air bag module (squib) system (shorted to squib circuit earth)

⚠ CAUTION
If the diagnosis code B1452is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the curtain air bag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the input terminal of SRS-ECU curtain air bag module (squib) is shorted to earth.

PROBABLE CAUSES

- Damaged wiring harness and connector
- Curtain air bag module (squib) harness shorted to earth
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

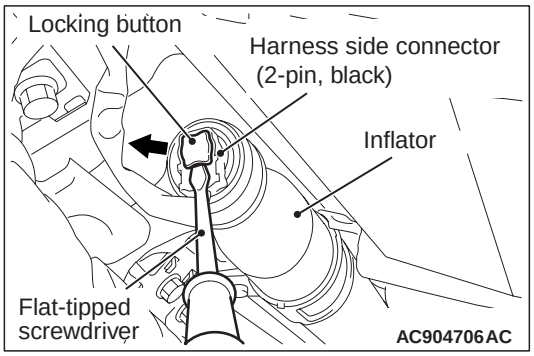
Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

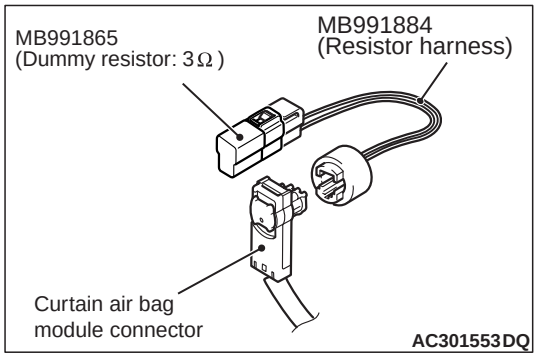
Q: Is the diagnosis code No. B1452set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection
(1) Check that the negative battery terminal is

disconnected. If connected, disconnect the negative battery terminal.



(2) Use the flat-tipped screwdriver to pull out the locking button of left curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.

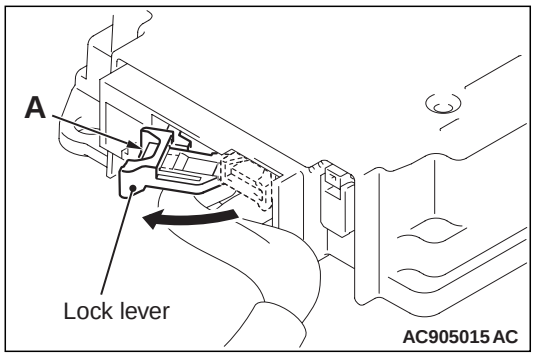


(3) Connect the dummy resistor (Special tool: MB991865) to the resistor harness (Special tool: MB991884).
(4) Connect the resistor harness (special tool) to left curtain air bag module connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is diagnosis code No. B1452 set?
YES : Go to Step 4.
NO : Replace the left curtain air bag module (Refer to P.52B-144.)

STEP 4. Resistance measurement at the SRS-ECU connector.

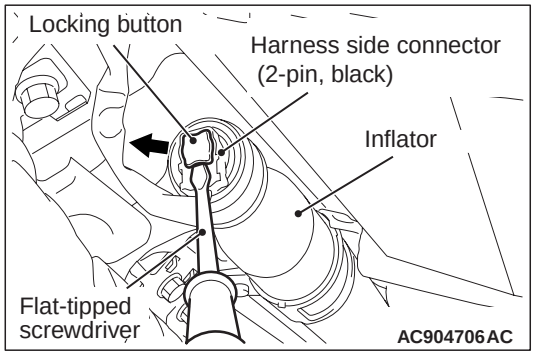
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

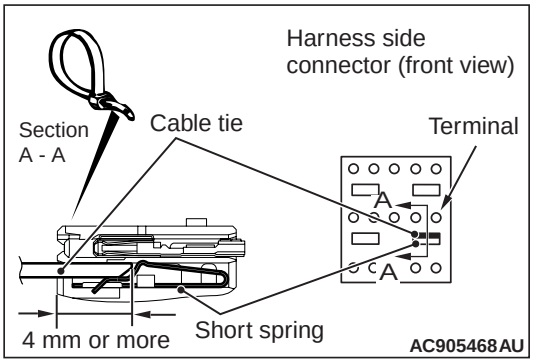
⚠ ***DANGER***

To release SRS-ECU wiring harness side connector short spring in the following operations, disconnect curtain air bag module connector in advance, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of left curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the CLS+, CLS-

line and the short spring, and release the short spring.
(5) Check the continuity between the SRS-ECU harness side connector CLS+, CLS- line and the body earth.

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1452 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent Malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1453 Left curtain air bag module (squib) system (shorted to squib circuit power supply)

⚠ CAUTION
If the diagnosis code B1453is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

In case of side collision, when the impact exceeding the threshold is applied to the vehicle, and when the impact is simultaneously detected (turned ON) by the side impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the curtain air bag module (squib) of impacted side.

TROUBLE JUDGEMENT

The code is set when the SRS-ECU curtain air bag module (squib) is shorted to power supply.

PROBABLE CAUSES

- Damaged wiring harness and connector
- Curtain air bag module (squib) harness shorted to power supply
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

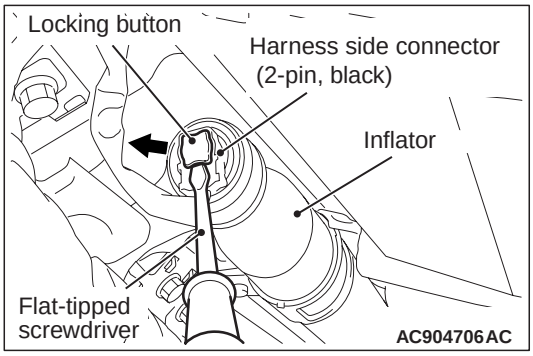
STEP 1. M.U.T.-III CAN bus diagnostics
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

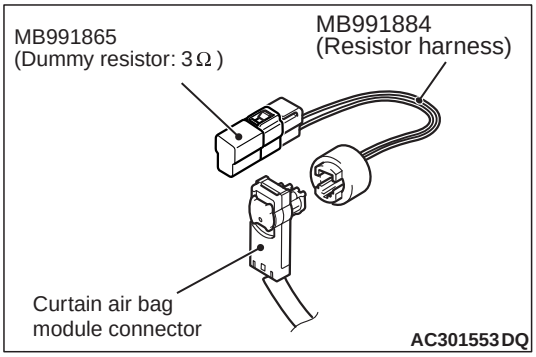
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1453 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection
(1) Check that the negative battery terminal is disconnected. If connected, disconnect the negative battery terminal.



(2) Use the flat-tipped screwdriver to pull out the locking button of left curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.



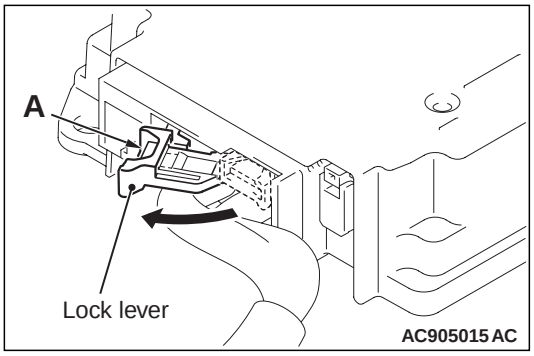
(3) Connect the dummy resistor (Special tool: MB991865) to the resistor harness (Special tool: MB991884).

(4) Connect the resistor harness (special tool) to left curtain air bag module (front) connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is diagnosis code No. B1453 set?
YES : Go to Step 4.
NO : Replace the left curtain air bag module (Refer to P.52B-144.)

STEP 4. Voltage measurement at the SRS-ECU connector.

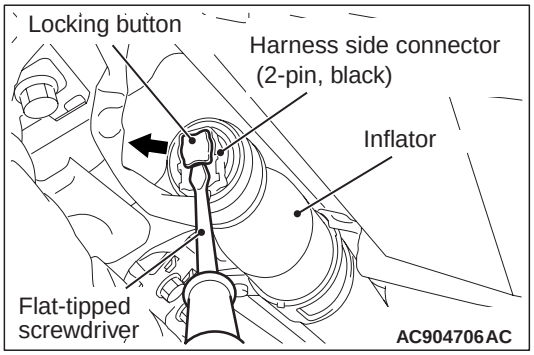
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

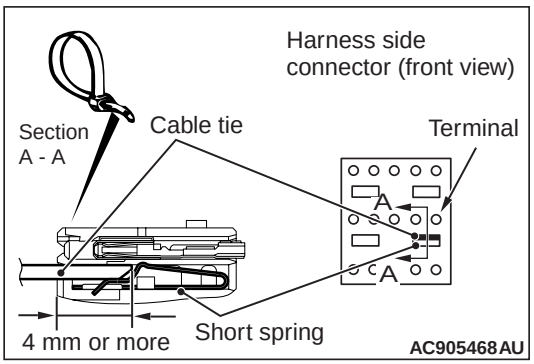
⚠ ***DANGER***

To release SRS-ECU wiring harness side connector short spring in the following operations, disconnect curtain air bag module connector in advance, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of left curtain air bag module connector to the direction of the arrow. After releasing the lock, disconnect the connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the CLS+, CLS- line and the short spring, and release the short spring.
(5) Connect the negative battery terminal.
(6) Ignition switch: ON
(7) Measure the voltage between the SRS-ECU harness side connector CLS+, CLS- line and the body earth.

OK: 1 V or less

(8) Disconnect the negative battery terminal.

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1453 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent Malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No. B1476 IG1 power supply open circuit (Fuse No. 16 circuit)

⚠ CAUTION
If the diagnosis code B1476 (fuse No. 12) or B1477 (fuse No. 18) is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
The battery power supply is supplied from the fusible link (2) to SRS-ECU.
SRS-ECU has two independent battery power supplies circuit (fuse No. 16) having fuses.

TROUBLE JUDGEMENT
The code is set when the voltage between the IG1 terminal (SRS-ECU IG1A line) and the earth drops below the specified value for 5 seconds continuously. Also, if the code No. B1476 is set at the same time, the battery voltage may have dropped. Therefore, check the battery first.

PROBABLE CAUSES
- Open circuit to power supply circuit
- Damaged wiring harness and connectors
- Malfunction of SRS-ECU
- Malfunction of ETACS-ECU

DIAGNOSIS PROCEDURE

STEP 1. Power supply fuse check.

Q: Is the fuse in good condition?
YES : Go to Step 3.
NO : Go to Step 2

STEP 2. Fuse open circuit check
(1) Replace the fuse.
(2) Turn the ignition switch to the "ON" position, wait for at least one minute, and then turn the switch OFF.
(3) Check the fuse.

Q: Is the fuse in good condition?
YES : Go to Step 3.
NO : Repair the wiring harness IG1A line between the ETACS-ECU connector and the SRS-ECU connector, and replace the power supply fuse.

STEP 3. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 4.
NO : Repair the CAN bus lines (refer to GROUP 54C – Troubleshooting). Then go to Step 4.

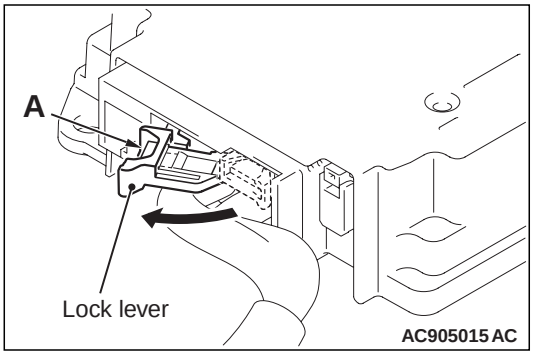
STEP 4. M.U.T.-III other system diagnosis code.
Check if the ETACS diagnosis code is set.

Q: Is the diagnosis code set?
YES : Diagnose the ETACS (Refer to GROUP 54A – ETACS – Troubleshooting).
NO : Check the input signal of ETACS-ECU ignition switch (IG1) (Refer to GROUP 54A – Symptom Procedures). Then go to Step 5.

STEP 5. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is diagnosis code No. B1476 set?
YES : Go to Step 6.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 6. Resistance measurement at the SRS-ECU connector.



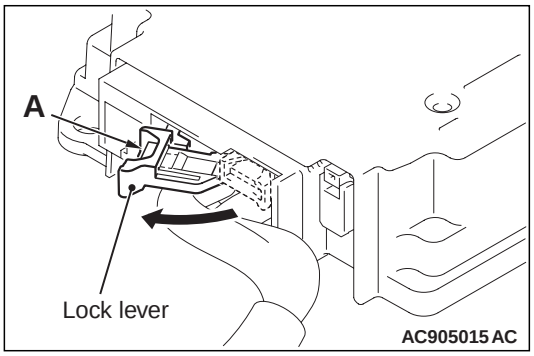
(1) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connectors.
(2) Take the measurements below at the SRS-ECU

wiring harness side connectors.
- Continuity GND2 line between SRS-ECU wiring harness side connector and body earth

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Go to Step 7.
NO : Repair the wiring harness GND2 line between the SRS-ECU connector and the earth.

STEP 7. Voltage measurement at the SRS-ECU connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



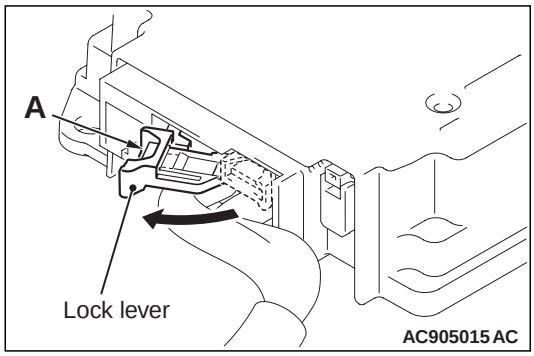
(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
(3) Connect the negative battery terminal.
(4) Ignition switch: ON
(5) Take the measurements below at the SRS-ECU harness side connector.
- Voltage between terminal IG1A line and body earth

OK: 9 V or more

(6) Disconnect the negative battery terminal.

Q: Is the check result normal?
YES : Go to Step 9.
NO : Go to Step 8.

STEP 8. Resistance measurement at the SRS-ECU connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) Disconnect the ETACS-ECU connector.



(3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
- Continuity IG1A line between ETACS-ECU connector and SRS-ECU connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Replace the ETACS-ECU (Refer to GROUP 54A – ETACS-ECU).
NO : Repair the wiring harness IG1A line between the ETACS-ECU connector and the SRS-ECU connector.

STEP 9. Check whether the diagnosis code is reset.

Q: Is diagnosis code No. B1476 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No. B1488 Passenger's air bag OFF indicator lamp (short circuited)

⚠ CAUTION
If the diagnosis code B1488 is set in the SRS-ECU, be sure to diagnose the CAN bus line

OPERATION
- Power for the passenger's air bag OFF indicator lamp is supplied from the fusible link (2).
- The passenger's air bag OFF indicator lamp illuminates when the ignition switch is turned to the "ON" position and goes out after approximately 6 to 8 seconds if there is not a malfunction in the SRS system.

TROUBLE JUDGEMENT

This code will be set if the passenger's air bag OFF indicator lamp driving circuit is short to earth.

PROBABLE CAUSES

- Damaged wiring harnesses or connectors
- Malfunction of the SRS-ECU
- Malfunction of the passenger's air bag OFF indicator lamp

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1488 set?

YES : Go to Step 3.

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Check the passenger's air bag OFF indicator lamp.

It is checked whether passenger's air bag OFF indicator lamp is normal (Refer to P.52B-152).

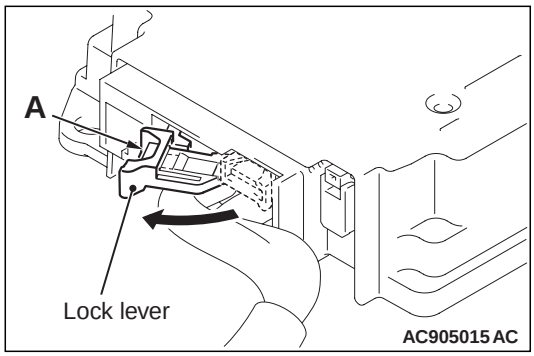
Q: Is the check result normal?

YES : Go to Step 4.

NO : Replace hazard indicator assembly (Refer to GROUP 52A – Instrument Panel Assembly).

STEP 4. Resistance measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
(3) Disconnect the hazard indicator assembly connector.
(4) Take the measurements below at the SRS-ECU connector.
- Continuity between OFLP line and body earth

OK: No continuity

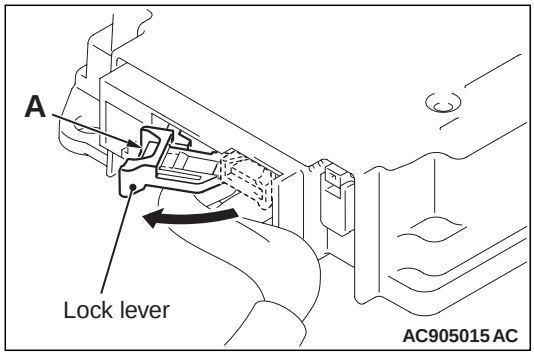
Q: Is the check result normal?

YES : Go to Step 5.

NO : Repair the wiring harnesses OFLP line between the SRS-ECU connector and the hazard indicator assembly connector.

STEP 5. Resistance measurement at the hazard indicator assembly connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

⚠ CAUTION

Do not insert a test probe into the terminal from its front side directly as the connector contact pressure may be weakened.

(3) Take the following measurements at the backside

of the hazard indicator assembly side connector (harness side).
- Continuity between LP line and body earth

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 6
NO : Repair the wiring harnesses LP line between the hazard indicator assembly connector and the body earth.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1488 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

CODE NO. B1489 Passenger's air bag OFF indicator lamp (open circuit)

⚠ CAUTION
If the diagnosis code B1489 is set in the SRS-ECU, be sure to diagnose the CAN bus line

OPERATION
- Power for the passenger's air bag OFF indicator lamp is supplied from the fusible link (2).
- The passenger's air bag OFF indicator lamp illuminates when the ignition switch is turned to the "ON" position and goes out after approximately 6 to 8 seconds if there is not a malfunction in the SRS system.

TROUBLE JUDGEMENT
This code will be set if an open circuit has occurred in the wiring harness between the passenger's air bag OFF indicator lamp and the SRS-ECU.

PROBABLE CAUSES
- Damaged wiring harnesses or connectors
- Malfunction of the SRS-ECU
- Malfunction of the passenger's air bag OFF indicator lamp

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

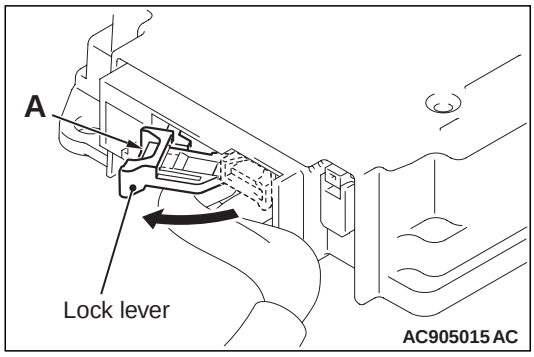
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1489 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Check the passenger's air bag OFF indicator lamp.
It is checked whether passenger's air bag OFF indicator lamp is normal (Refer to P.52B-152).

Q: Is the check result normal?
YES : Go to Step 4.
NO : Replace hazard indicator assembly (Refer to GROUP 52A – Instrument Panel Assembly).

STEP 4. Resistance measurement at the SRS-ECU connector and the hazard indicator assembly connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
(3) Disconnect the hazard indicator assembly

connector.
(4) Take the measurements below at the SRS-ECU and hazard indicator assembly wiring harness side connectors.
- Continuity OFLP line between SRS-ECU connector and hazard indicator assembly connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harnesses OFLP line between the SRS-ECU connector and the hazard indicator assembly connector.

STEP 5. Measure the voltage at the hazard indicator assembly connector.
(1) Disconnect the hazard indicator assembly connector.
(2) Connect the negative battery terminal.
(3) Ignition switch: ON
(4) Measure the voltage between the hazard indicator assembly harness side connector and the body earth.

OK: System voltage

Q: Is the check result normal?
YES : Go to Step 6.
NO : Repair the wiring harness IG+ line between the ETACS-ECU connector and the hazard indicator assembly connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1489 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No. B1499: Air bag deployment determined by SRS-ECU

⚠ CAUTION
If diagnosis code B1499 is set in the SRS-ECU, always diagnose the CAN main bus line.

TROUBLE JUDGMENT
This diagnosis code is set after the air bag has deployed. If this diagnosis code is set before the air bag has deployed, the cause is probably a malfunction inside the SRS-ECU.

PROBABLE CAUSES
Malfunction of the SRS-ECU

Code No. B1570: Passenger's air bag cut off switch malfunction
Code No. B1573: Passenger's air bag cut off switch circuit (power supply side) shorted
Code No. B1574: Passenger's air bag cut off switch circuit open
Code No. B1575: Passenger's air bag cut off switch circuit (earth side) shorted

⚠ CAUTION
If diagnosis code B1570, B1573, B1574 or B1575 are set in the SRS-ECU, always diagnose the CAN bus lines.

OPERATION
According to the passenger’s air bag cut off switch connecting position, the SRS-ECU judges the deployment and non-deployment of passenger’s (front) air bag.

DIAGNOSIS CODE SET CONDITIONS
Diagnosis code is set when the resistance between input terminals of the passenger’s air bag cut off switch is without the standard value.
Cause of trouble in each diagnosis code is as follows.

Code No.	Symptom
B1570	Malfunction of passenger’s air bag cut off switch
B1573	Short to the power supply in the common terminal harness

Code No.	Symptom
B1574	Malfunction of the common terminal or open circuit in its harness
B1575	Short to body earth in the common terminal harness

PROBABLE CAUSES

- Malfunction of the passenger's air bag cut off switch
- Damaged wiring harnesses or connectors
- Malfunction of the SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics

Use the M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus lines (Refer to GROUP 54C, Diagnosis-Can Bus Diagnostic Chart).

STEP 2. Check whether the diagnosis code is reset.

Check again if the diagnosis code is set.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No.B1570, B1573, B1574 or B1575 set?

YES : Go to Step 3.

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Check the passenger's air bag cut off switch.

Check of a passenger's air bag cut off switch (Refer to P.52B-152).

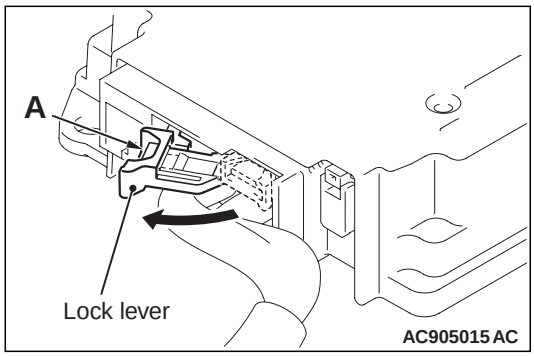
Q: Is the check result normal?

YES : Go to Step 4.

NO : Replace passenger's air bag cut off switch (Refer to P.52B-150.)

STEP 4. Check the passenger's air bag cut off switch circuit. Resistance measurement at SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
(3) Switch the passenger's air bag cut off switch to air bag ON side.
(4) Measure the resistance between POF-, POFO line.

OK: 820 ± 20 Ω

(5) Switch the passenger's air bag cut off switch to air bag OFF side.
(6) Measure the resistance between POF-, POFO line.

OK: Continuity (less than 2 Ω)

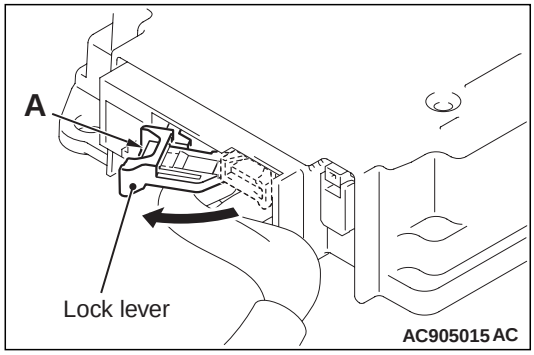
Q: Is the check result normal?

YES : Go to Step 5.

NO : Repair the harness wires POF-, POFO line between SRS-ECU connector and passenger's air bag cut off switch connector.

STEP 5. Resistance measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



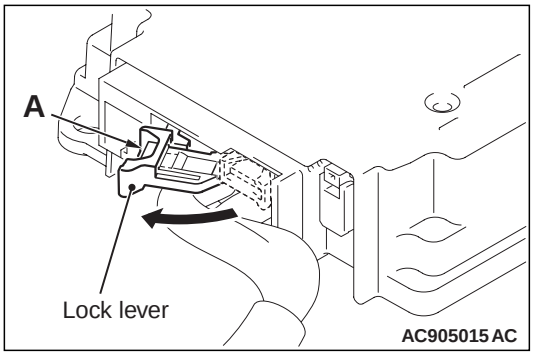
(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

(3) Disconnect the passenger's air bag cut off switch connector.
(4) Take the measurements below at the SRS-ECU harness side connector.
- Continuity between POF-, POFO line and body earth

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 6.
NO : Repair the harness wires POF-, POFO line between SRS-ECU connector and passenger's air bag cut off switch connector.

STEP 6. Voltage measurement at the SRS-ECU connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
(3) Disconnect the passenger's air bag cut off switch connector.
(4) Connect the negative battery terminal.
(5) Ignition switch: ON
(6) Take the measurements below at the SRS-ECU harness side connector.
- Voltage between POF-, POFO line and body earth

OK: 1 V or less

Q: Is the check result normal?
YES : Go to Step 7.
NO : Repair the harness wires POF-, POFO line between SRS-ECU connector and passenger's air bag cut off switch connector.

STEP 7. Check whether the diagnosis code is reset.

Q: Is diagnosis code No.B1570, B1573, B1574 or B1575 set?
YES : Replace the SRS-ECU (Refer to P.52B-129).
NO : An intermittent malfunction is suspected (Refer to GROUP 00 – How to Cope with Intermittent Malfunction).

Code No.B1603 Seat belt pre-tensioner (driver's side) (squib) system (short circuit between squib circuit terminals)

⚠ CAUTION
If the diagnosis code B1603 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the seat belt pre-tensioner (squib).

TROUBLE JUDGEMENT
The code is set when the short circuit occurs between the terminals of SRS-ECU seat belt pre-tensioner (driver's side) (squib) circuit.

PROBABLE CAUSES
- Damaged short spring *
- Short circuit between terminals of seat belt pre-tensioner (driver's side) (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU
- Insufficient press of locking button or locking button not pressed

*NOTE: *: The squib circuit connectors integrate a short spring (which prevents the seat belt pre-tensioner from being unintentionally deployed because of static electricity by shorting the positive wire to the earth wire in the squib circuit when the connectors are disconnected). Therefore, when the above codes are set, the short spring may not be released due to the damaged connector even when the connectors are connected.*

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

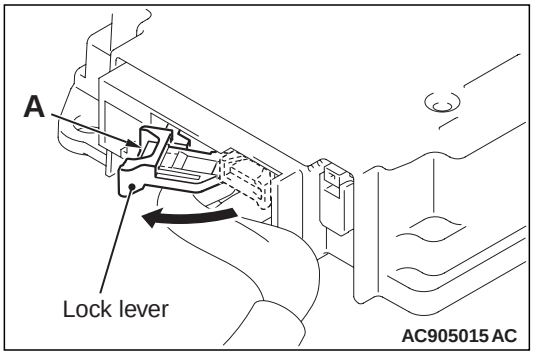
Q: Is the diagnosis code No. B1603 set?

YES : Go to Step 3.

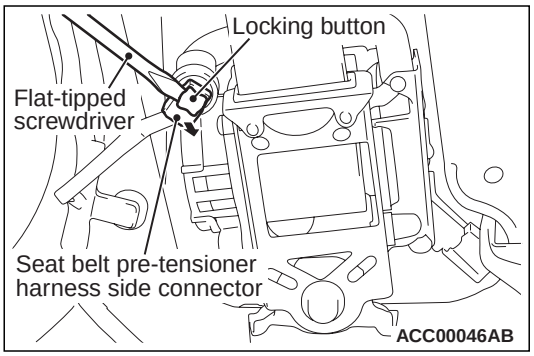
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Connector check: SRS-ECU, seat belt pre-tensioner (driver's side).

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever. After disconnecting the SRS-ECU connector, connect it again.



(3) After disconnecting the seat belt pre-tensioner (driver's side) harness side connector, connect the connector again. For the seat belt pre-tensioner (driver's side) harness side connector disconnection, use the flat-tipped screwdriver to pull out the harness side connector locking button. After releasing the lock, disconnect the harness side connector.
(4) Connect the negative battery terminal.
(5) After erasing the diagnosis code memory, check the diagnosis code again.
(6) Disconnect the negative battery terminal.

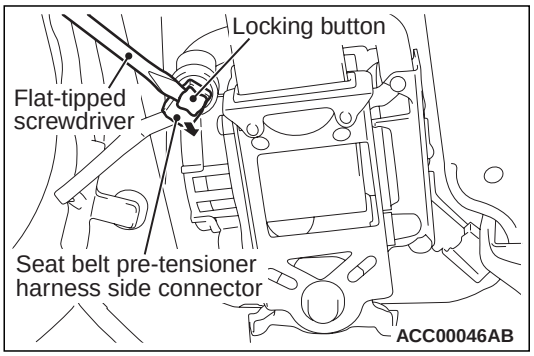
Q: Is the diagnosis code No. B1603 set?

YES : Go to Step 4.

NO : Replace the connector concerned.

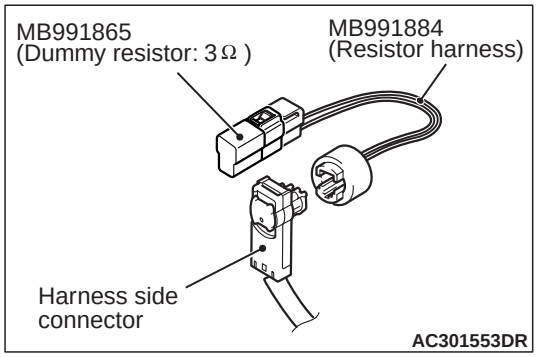
STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (driver's side) harness side

connector.

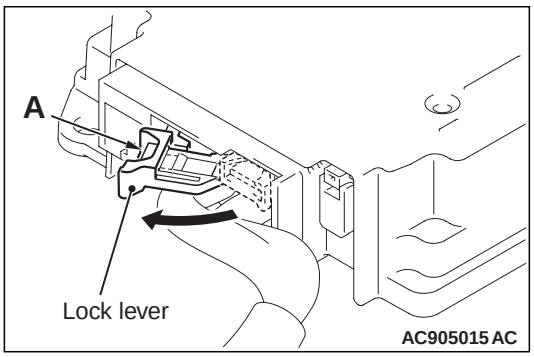


(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect special tool resistor harness to the seat belt pre-tensioner (driver's side) harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1603 set?
YES : Go to Step 5.
NO : Replace the seat belt with pre-tensioner (driver's side) (Refer to P.52B-147).

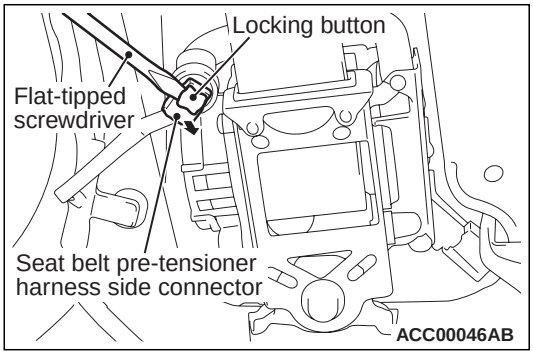
STEP 5. Resistance check at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



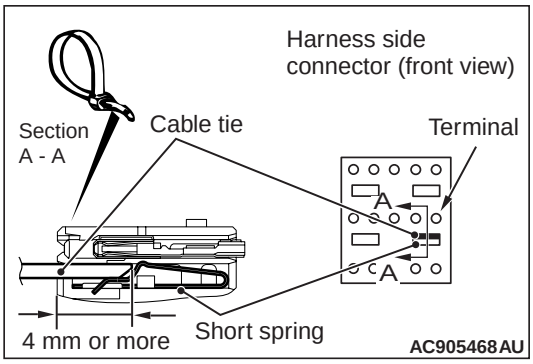
(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

⚠ DANGER
To release the SRS-ECU connector short spring in the following operations, disconnect this seat belt pre-tensioner connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (driver's side) harness side connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the PTD-, PTD+ line and the short spring, and release the short spring.
(5) Take the measurements below at the SRS-ECU harness side connector.
- Continuity between PTD-, PTD+ line

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 6.
NO : Repair the wiring harness PTD-, PTD+ line between the SRS-ECU connector and the seat belt pre-tensioner (driver's side) connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1603 set?

YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1604 Seat belt pre-tensioner (driver's side) (squib) system (open circuit of squib circuit)

⚠ CAUTION
If the diagnosis code B1604 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor and safing G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the seat belt pre-tensioner (squib).

TROUBLE JUDGEMENT

The code is set when the open circuit occurs to the SRS-ECU seat belt pre-tensioner (driver's side) (squib) circuit.

PROBABLE CAUSES

- Open circuit to seat belt pre-tensioner (driver's side) (squib) circuit
- Damaged wiring harness and connector
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.

Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.

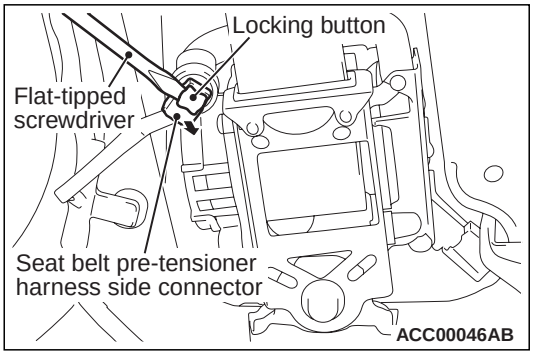
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1604 set?

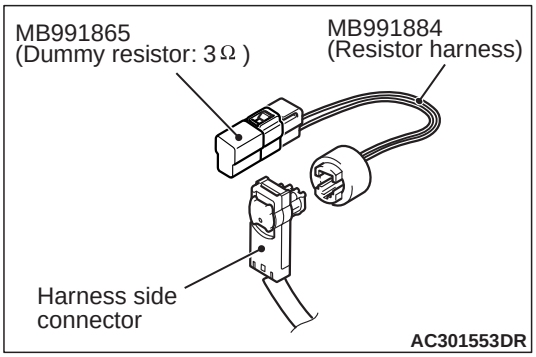
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (driver's side) harness side connector.

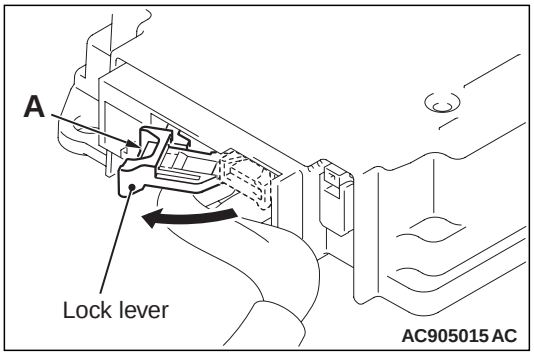


(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect the special tool resistor harness to the seat belt pre-tensioner (driver's side) harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check

the diagnosis code again.
(7) Disconnect the negative battery terminal.

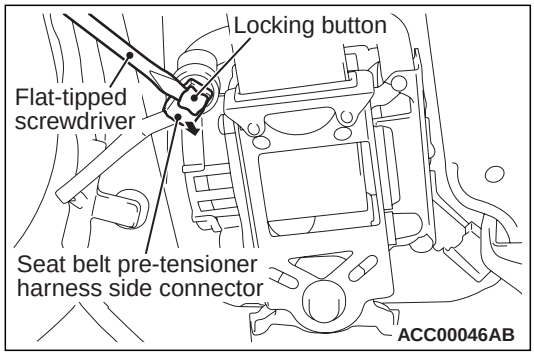
Q: Is the diagnosis code No. B1604 set?
YES : Go to Step 4.
NO : Replace the seat belt with pre-tensioner (driver's side) (Refer to P.52B-147).

STEP 4. Resistance measurement at the SRS-ECU connector and the seat belt pre-tensioner (driver's side) connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



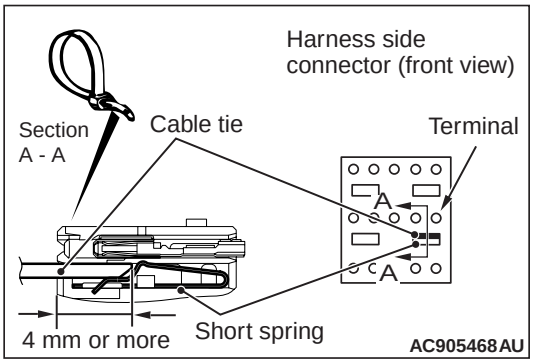
(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

⚠ ***DANGER***
To release the SRS-ECU connector short spring in the following operations, disconnect this seat belt pre-tensioner connector, and keep the squib circuit shorted.

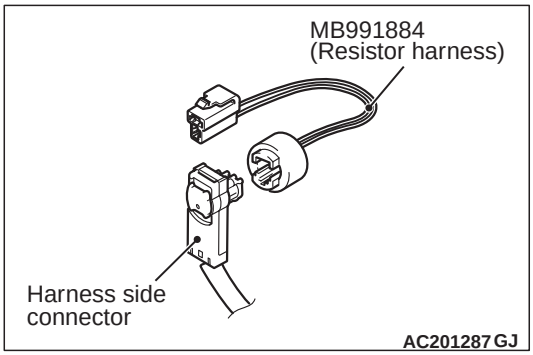


(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (driver's side) harness side connector.

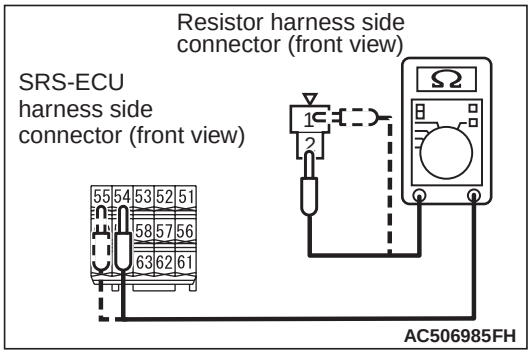
⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.
(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the PTD-, PTD+ line the short spring, and release the short spring.



(5) Connect special tool resistor harness (MB991884) to the removed seat belt pre-tensioner (driver's side) harness side connector.



(6) Take the measurements below at the resistor harness and SRS-ECU harness side connector.
- Continuity PTD- line between SRS-ECU connector and resistor harness connector
- Continuity PTD+ line between SRS-ECU connector and resistor harness connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?

YES : Go to Step 5.
NO : Repair the wiring harness PTD-, PTD+ line between the SRS-ECU connector and the seat belt pre-tensioner (driver's side) connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1604 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1605 Seat belt pre-tensioner (driver's side) (squib) system (shorted to squib circuit earth)

⚠ CAUTION
If the diagnosis code B1605 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the seat belt pre-tensioner (squib).

TROUBLE JUDGEMENT

The code is set when the input terminal of SRS-ECU seat belt pre-tensioner (driver's side) (squib) is shorted to earth

PROBABLE CAUSES

- Damaged wiring harness and connector
- Seat belt pre-tensioner (driver's side) (squib) harness shorted to earth.
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

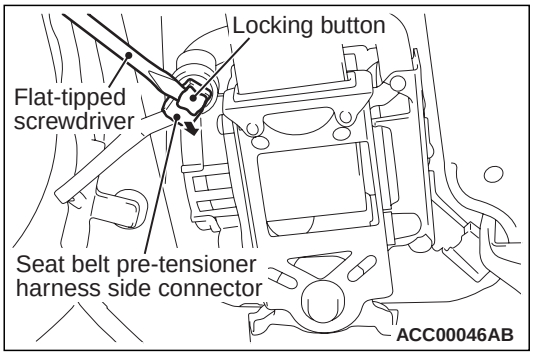
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

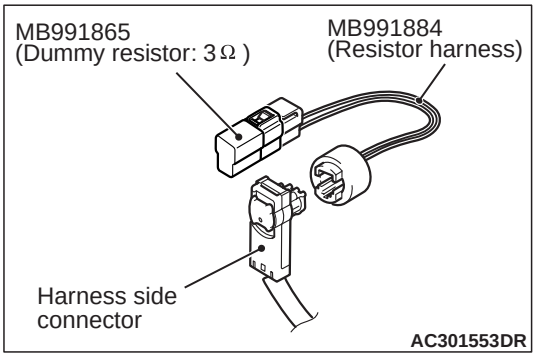
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1605 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (driver's side) harness side connector.



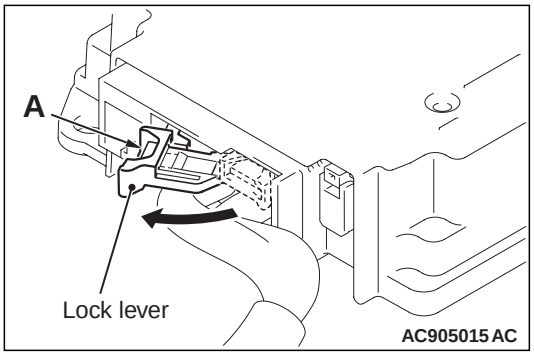
(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect special tool resistor harness to the seat

belt pre-tensioner (driver's side) harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1605 set?
YES : Go to Step 4.
NO : Replace the seat belt with pre-tensioner (driver's side) (Refer to P.52B-147).

STEP 4. Resistance measurement at the SRS-ECU connector.

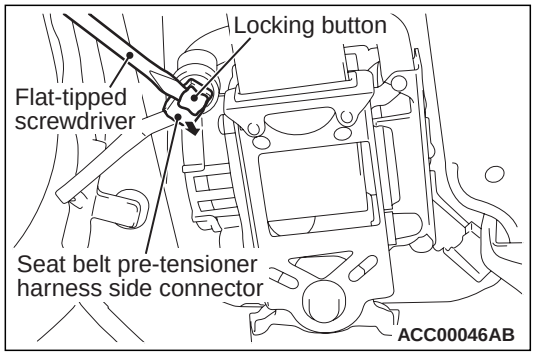
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

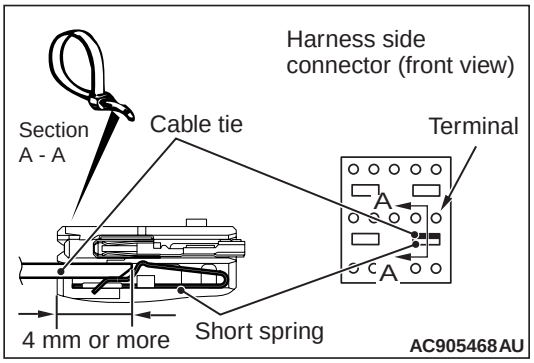
⚠ *DANGER*

To release the SRS-ECU connector short spring in the following operations, disconnect this seat belt pre-tensioner connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (driver's side) harness side connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the PTD-, PTD+ line the short spring, and release the short spring.
(5) Take the measurements below at the SRS-ECU harness side connector.
- Continuity between PTD-, PTD+ line and body earth

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness PTD-, PTD+ line between the SRS-ECU connector and the seat belt pre-tensioner (driver's side) connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1605 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1606 Seat belt pre-tensioner (driver's side) (squib) system (shorted to squib circuit power supply)

⚠ CAUTION
If the diagnosis code B1606 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the seat belt pre-tensioner (squib).

TROUBLE JUDGEMENT
The code is set when the SRS-ECU seat belt pre-tensioner (driver's side) (squib) circuit is shorted to power supply.

PROBABLE CAUSES
- Damaged wiring harness and connector
- Seat belt pre-tensioner (driver's side) (squib) harness shorted to power supply
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

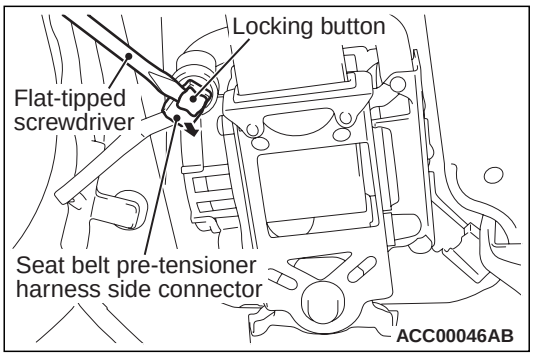
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

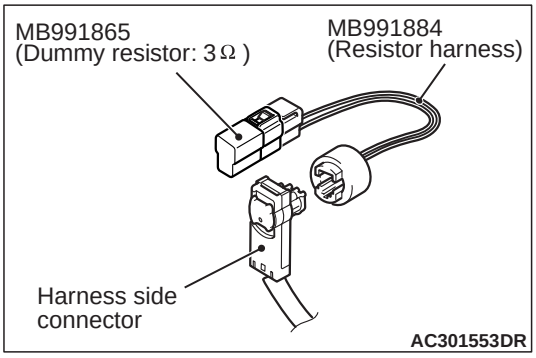
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1606 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (driver's side) harness side connector.

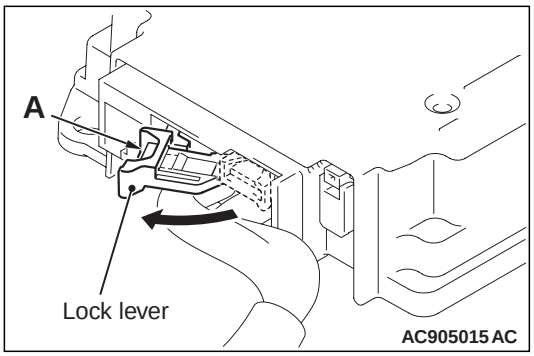


(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect special tool resistor harness to the seat belt pre-tensioner (driver's side) harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1606 set?
YES : Go to Step 4.
NO : Replace the seat belt with pre-tensioner (driver's side) (Refer to P.52B-147).

STEP 4. Voltage measurement at the SRS-ECU connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is

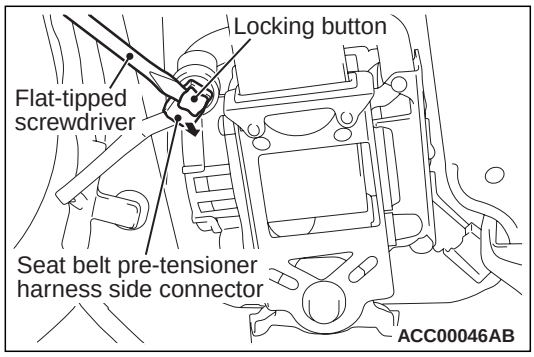
connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

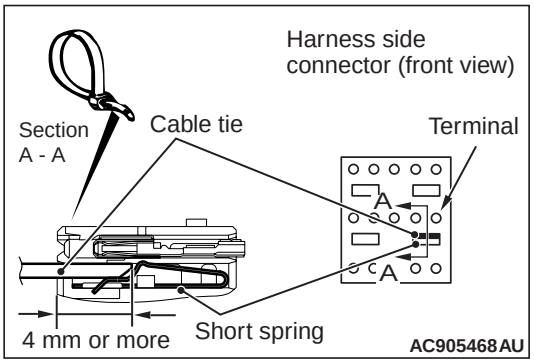
⚠ ***DANGER***

To release the SRS-ECU connector short spring in the following operations, disconnect this seat belt pre-tensioner connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (driver's side) harness side connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the PTD-, PTD+ line the short spring, and release the short spring.
(5) Connect the negative battery terminal.
(6) Ignition switch: ON

(7) Take the measurements below at the SRS-ECU harness side connector.
- Voltage between PTD-, PTD+ line and body earth

OK: 1 V or less

(8) Disconnect the negative battery terminal.

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness PTD-, PTD+ line between the SRS-ECU connector and the seat belt pre-tensioner (driver's side) connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1606 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1609 Seat belt pre-tensioner (passenger's side) (squib) system (short circuit between squib circuit terminals)

⚠ CAUTION
If the diagnosis code B1609 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the ignition signal is sent from SRS-ECU to the seat belt pre-tensioner (squib).

TROUBLE JUDGEMENT
The code is set when the short circuit occurs to between the terminals of SRS-ECU seat belt pre-tensioner (passenger's side) (squib) circuit.

PROBABLE CAUSES
- Damaged short spring *
- Short circuit between terminals of seat belt pre-tensioner (passenger's side) (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU
- Insufficient press of locking button or locking button not pressed

*NOTE: *: The squib circuit connectors integrate a short spring (which prevents the seat belt pre-tensioner from being unintentionally deployed because of static electricity by shorting the positive wire to the earth wire in the squib circuit when the connectors are disconnected). Therefore, when the above codes are set, the short spring may not be released due to the damaged connector even when the connectors are connected.*

DIAGNOSIS PROCEDURE

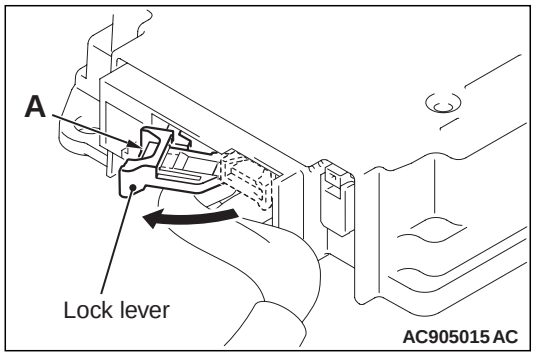
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

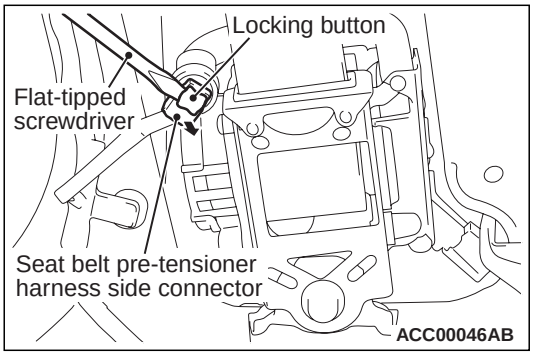
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1609 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Connector check: SRS-ECU, seat belt pre-tensioner (passenger's side).
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever. After disconnecting the SRS-ECU connector, connect it again.

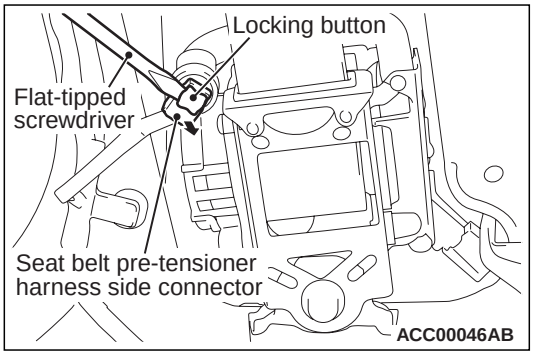


(3) After disconnecting the seat belt pre-tensioner (passenger's side) harness side connector, connect the connector again. For the seat belt pre-tensioner (passenger's side) harness side connector disconnection, use the flat-tipped screwdriver to pull out the harness side connector locking button. After releasing the lock, disconnect the harness side connector.
(4) Connect the negative battery terminal.
(5) After erasing the diagnosis code memory, check the diagnosis code again.
(6) Disconnect the negative battery terminal.

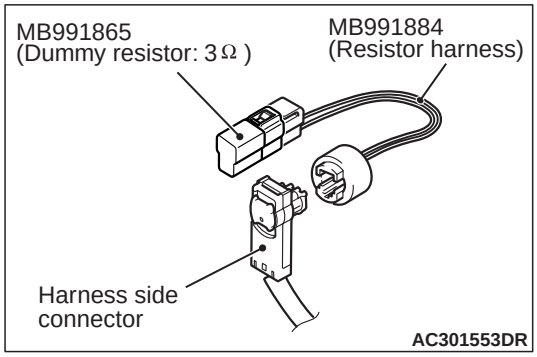
Q: Is the diagnosis code No. B1609 set?
YES : Go to Step 4.
NO : Replace the connector concerned.

STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (passenger's side) harness side connector.

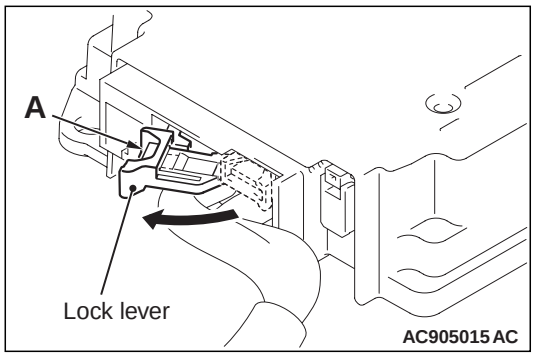


(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect special tool resistor harness to the seat belt pre-tensioner (passenger's side) harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1609 set?
YES : Go to Step 5.
NO : Replace the seat belt with pre-tensioner (passenger's side) (Refer to P.52B-147).

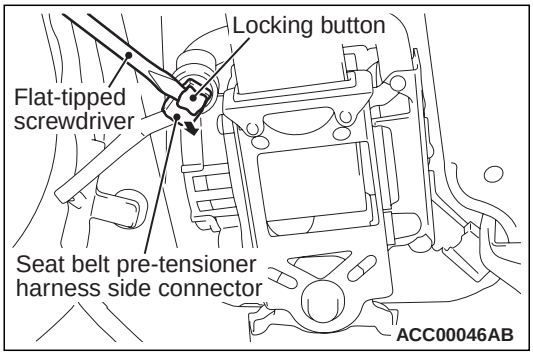
STEP 5. Resistance check at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



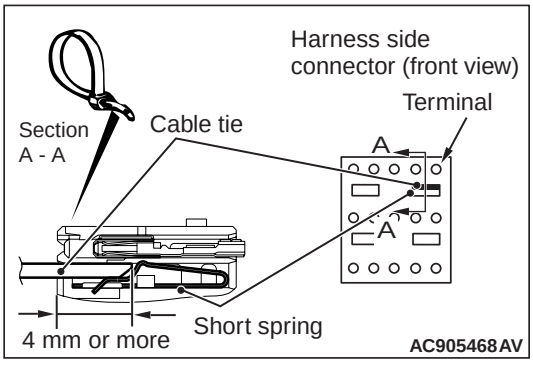
(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

⚠ DANGER
To release the SRS-ECU connector short spring in the following operations, disconnect this seat belt pre-tensioner connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (passenger's side) harness side connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the PTA+, PTA-

line, and the short spring, and release the short spring.
(5) Take the measurements below at the SRS-ECU harness side connector.
- Continuity between PTA+, PTA- line

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 6.
NO : Repair the wiring harness PTA+, PTA- line between the SRS-ECU connector and the seat belt pre-tensioner (passenger's side) connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1609 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1C49 Seat belt pre-tensioner (passenger's side) (squib) system (open circuit of squib circuit)

⚠ CAUTION
If the diagnosis code B1C49 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the seat belt pre-tensioner (squib).

TROUBLE JUDGEMENT
The code is set when the open circuit occurs to the SRS-ECU seat belt pre-tensioner (passenger's side) (squib) circuit.

PROBABLE CAUSES
- Damaged wiring harness and connector
- Open circuit to seat belt pre-tensioner (passenger's side) (squib) circuit
- Malfunction of SRS-ECU

DIAGNOSTIC PROCEDURE

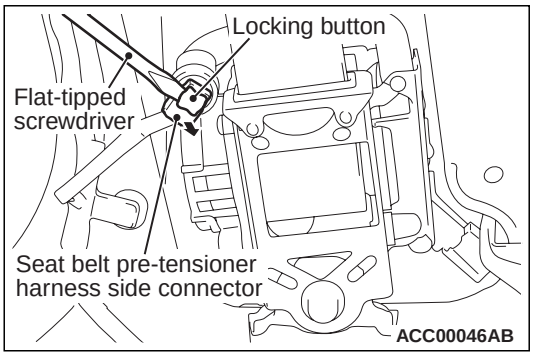
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

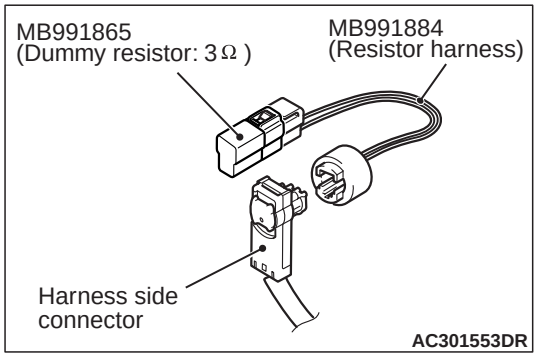
Q: Is the diagnosis code No. B1C49 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (passenger's side) harness side

connector.

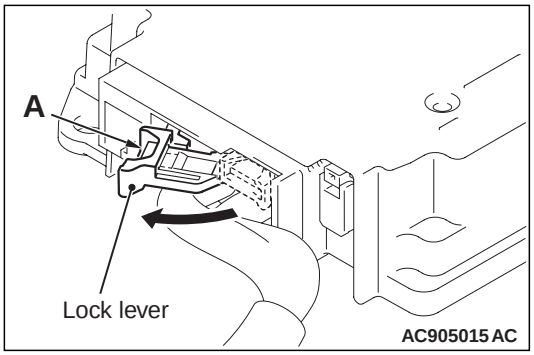


(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect special tool resistor harness to the seat belt pre-tensioner (passenger's side) harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1C49 set?
YES : Go to Step 4.
NO : Replace the seat belt with pre-tensioner (passenger's side) (Refer to P.52B-147).

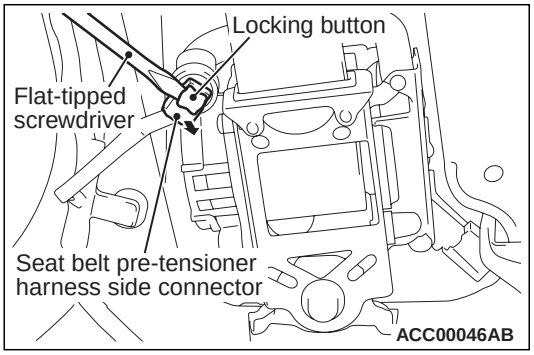
STEP 4. Resistance measurement at the SRS-ECU connector and the seat belt pre-tensioner (passenger's side) connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



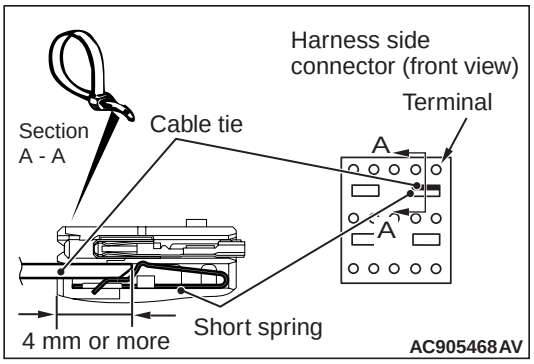
(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

⚠ DANGER
To release the SRS-ECU connector short spring in the following operations, disconnect this seat belt pre-tensioner connector, and keep the squib circuit shorted.



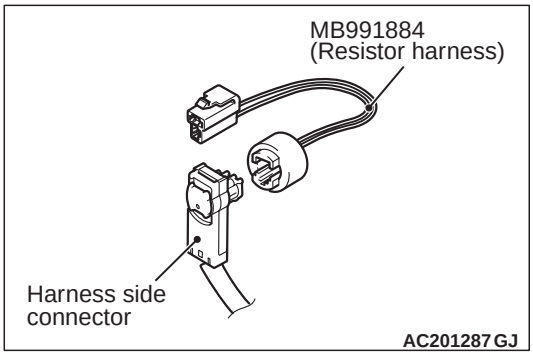
(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (passenger's side) harness side connector.

⚠ CAUTION



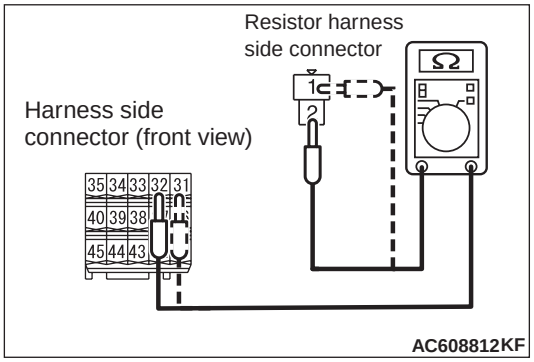
The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the PTA+, PTA- line, and the short spring, and release the short spring.



(5) Connect special tool resistor harness

(MB991884) to the removed seat belt pre-tensioner (passenger's side) harness side connector.



(6) Take the measurements below at the resistor harness and SRS-ECU harness side connector.
- Continuity PTA+ line between SRS-ECU connector and resistor harness connector
- Continuity PTA- line between SRS-ECU connector to resistor harness connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness PTA+, PTA- line between the SRS-ECU connector and the seat belt pre-tensioner (passenger's side) connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1C49 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1C47 Seat belt pre-tensioner (passenger's side) (squib) system (shorted to squib circuit earth)

⚠ CAUTION
If the diagnosis code B1C47 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the seat belt pre-tensioner (squib).

TROUBLE JUDGEMENT
The code is set when the input terminal of SRS-ECU seat belt pre-tensioner (passenger's side) (squib) is shorted to earth.

PROBABLE CAUSES
- Damaged wiring harness and connector
- Seat belt pre-tensioner (passenger's side) (squib) harness shorted to earth
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

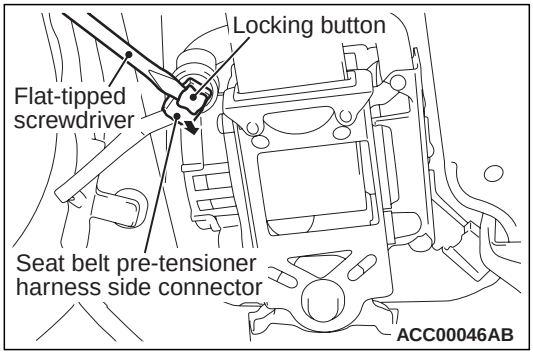
Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

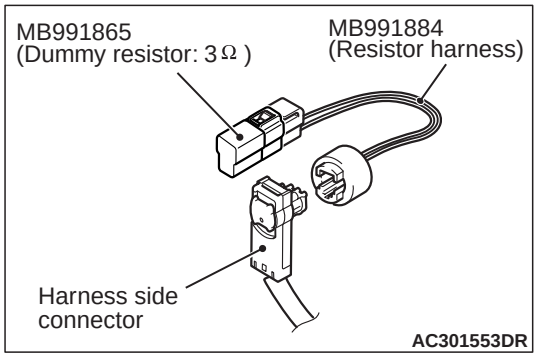
Q: Is the diagnosis code No. B1C47 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (passenger's side) harness side connector.

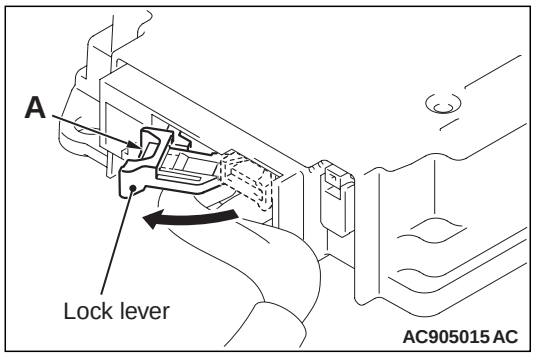


(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect special tool resistor harness to the seat belt pre-tensioner (passenger's side) harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1C47 set?
YES : Go to Step 4.
NO : Replace the seat belt with pre-tensioner (passenger's side) (Refer to P.52B-147).

STEP 4. Resistance measurement at the SRS-ECU connector.

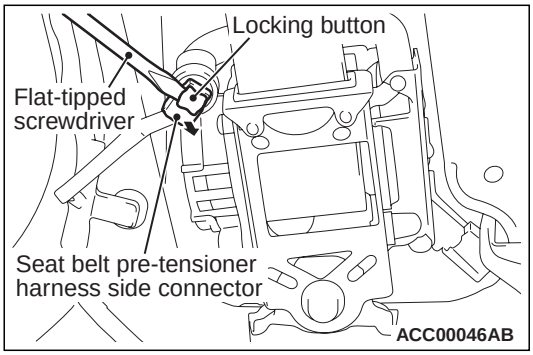
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

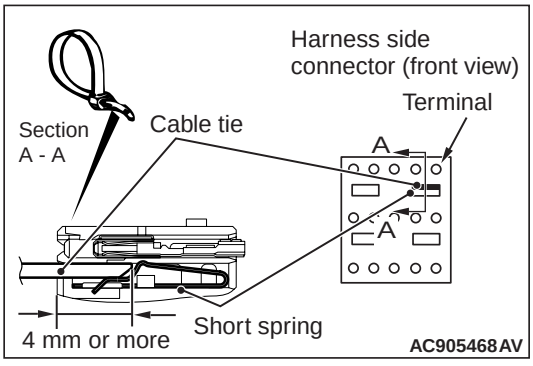
⚠ *DANGER*

To release the SRS-ECU connector short spring in the following operations, disconnect this seat belt pre-tensioner connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (passenger's side) harness side connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the PTA+, PTA-

line, and the short spring, and release the short spring.

(5) Take the measurements below at the SRS-ECU harness side connector.
- Continuity between PTA+, PTA- line and body earth

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness PTA+, PTA- line between the SRS-ECU connector and the seat belt pre-tensioner (passenger's side) connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1C47 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1612 Seat belt pre-tensioner (passenger's side) (squib) system (shorted to squib circuit power supply)

⚠ CAUTION
If the diagnosis code B1612 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the seat belt pre-tensioner (squib).

TROUBLE JUDGEMENT
The code is set when the input terminal of SRS-ECU seat belt pre-tensioner (passenger's side) (squib) is shorted to power supply.

PROBABLE CAUSES
- Damaged wiring harness and connector
- Seat belt pre-tensioner (passenger's side) (squib) harness shorted to power supply
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

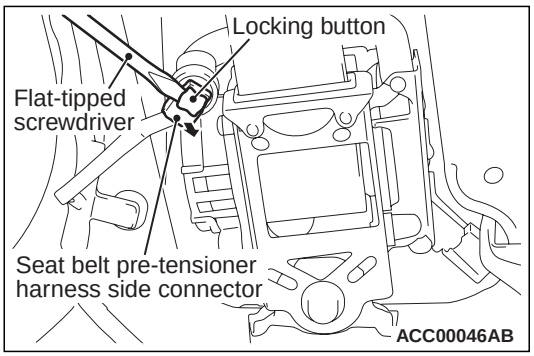
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

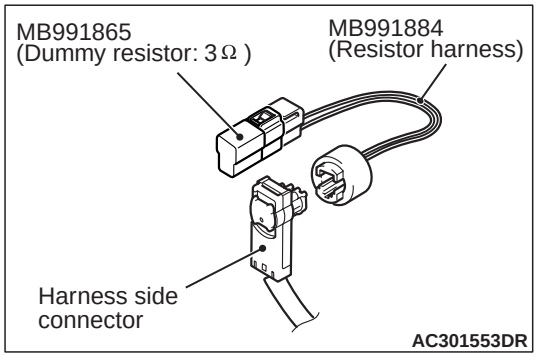
Q: Is the diagnosis code No. B1612 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (passenger's side) harness side

connector.

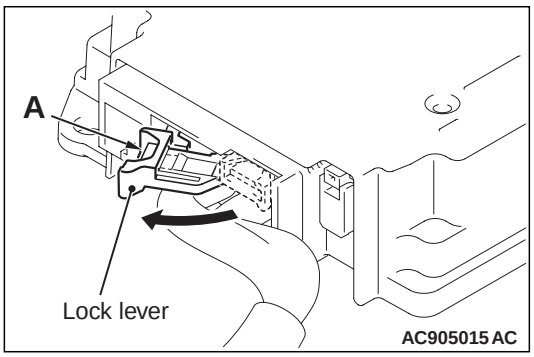


(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect the special tool resistor harness to the seat belt pre-tensioner (passenger's side) harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1612 set?
YES : Go to Step 4.
NO : Replace the seat belt with pre-tensioner (passenger's side) (Refer to P.52B-147).

STEP 4. Voltage measurement at the SRS-ECU connector.

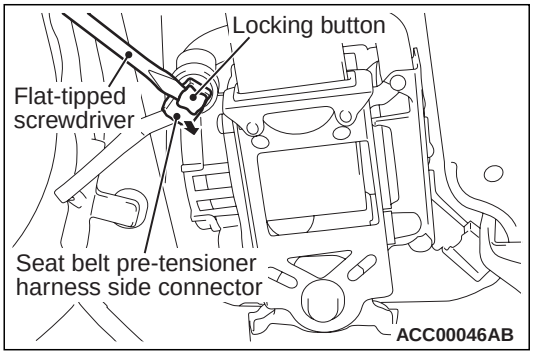
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

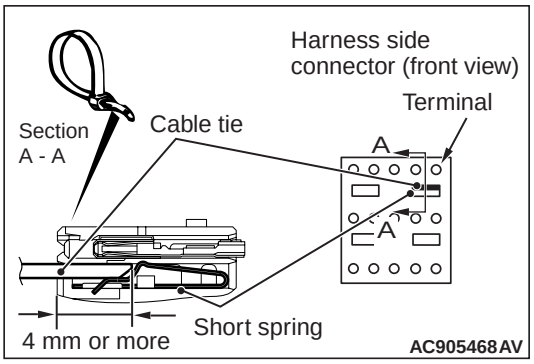
⚠ DANGER

To release the SRS-ECU connector short spring in the following operations, disconnect this seat belt pre-tensioner connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the seat belt pre-tensioner (passenger's side) harness side connector.

⚠ CAUTION



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the PTA+, PTA- line, and the short spring, and release the short spring.
(5) Connect the negative battery terminal.
(6) Ignition switch: ON
(7) Take the measurements below at the SRS-ECU harness side connector.
- Voltage between PTA+, PTA- line and body earth

OK: 1 V or less

(8) Disconnect the negative battery terminal.

Q: Is the check result normal?

YES : Go to Step 5.
NO : Repair the wiring harness PTA+, PTA- line between the SRS-ECU connector and the seat belt pre-tensioner (passenger's side) connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1612 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1631 Driver's knee air bag module (squib) system (short circuit between squib circuit terminals)

⚠ CAUTION
If the diagnosis code B1631 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the knee air bag module (squib).

TROUBLE JUDGEMENT

The code is set when the short circuit occurs to between the terminals of SRS-ECU knee air bag module (squib) circuit.

PROBABLE CAUSES

- Damaged short spring *
- Short circuit between terminals of knee air bag module (squib) circuit
- Damaged connector(s)
- Malfunction of SRS-ECU
- Insufficient press of locking button or locking button not pressed

*NOTE: *: The squib circuit connectors integrate a short spring (which prevents the air bags from being unintentionally deployed because of static electricity by shorting the positive wire to the earth wire in the squib circuit when the connectors are disconnected). Therefore, when the above codes are set, the short spring may not be released due to the damaged connector even when the connectors are connected.*

DIAGNOSIS PROCEDURE

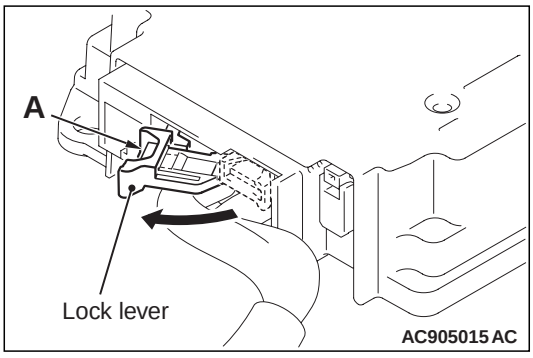
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

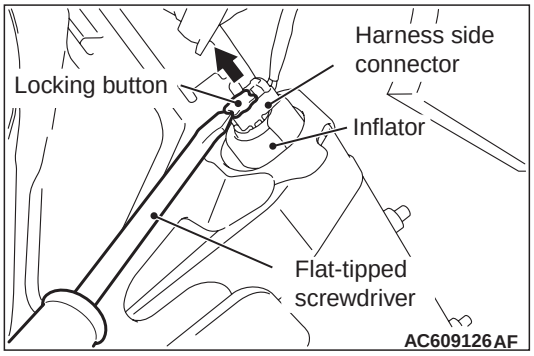
Q: Is the diagnosis code No. B1631 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Connector check: SRS-ECU, knee air bag module.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever. After disconnecting the SRS-ECU

connector, connect it again.

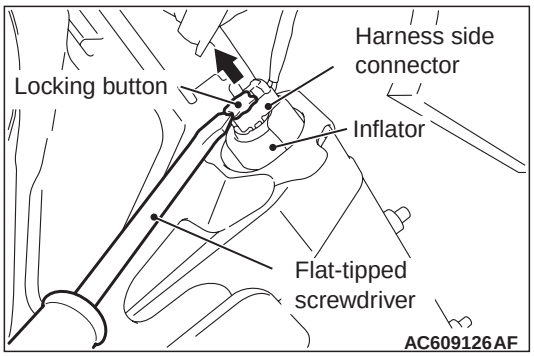


(3) After disconnecting the knee air bag module harness side connector, connect the connector again. For the knee air bag module harness side connector disconnection, use the flat-tipped screwdriver to pull out the harness side connector locking button. After releasing the lock, disconnect the harness side connector.
(4) Connect the negative battery terminal.
(5) After erasing the diagnosis code memory, check the diagnosis code again.
(6) Disconnect the negative battery terminal.

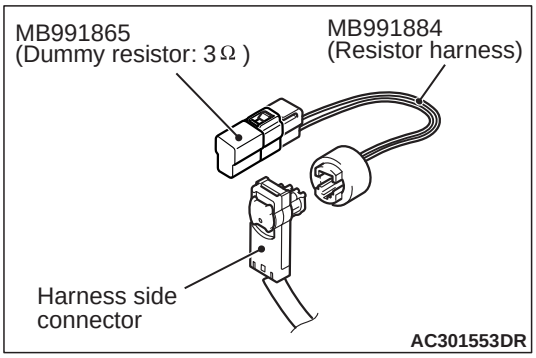
Q: Is the diagnosis code No. B1631 set?
YES : Go to Step 4.
NO : Replace the connector concerned.

STEP 4. Diagnosis check by dummy resistor connection.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the knee air bag module harness side connector.

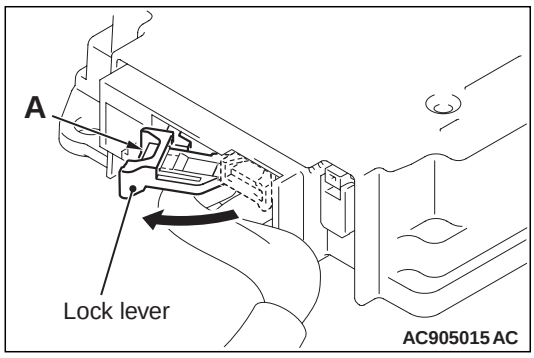


(3) Connect special tool dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect the resistor harness to the knee air bag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1631 set?
YES : Go to Step 5.
NO : Replace the driver's knee air bag module (Refer to P.52B-139).

STEP 5. Resistance check at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

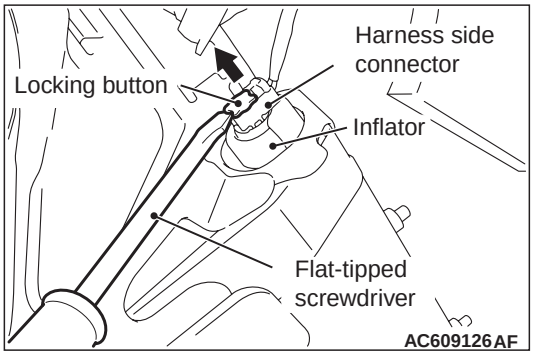


(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

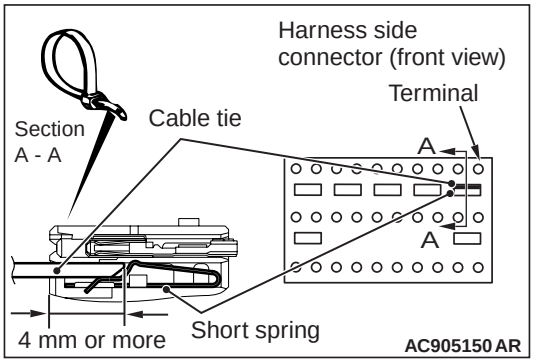
⚠ ***DANGER***

To release the SRS-ECU connector short spring in the following operations, disconnect this harness side connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the knee air bag module harness side connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the KDS-, KDS+ line and the short spring, and release the short spring.

(5) Take the measurements below at the SRS-ECU harness side connector.

- Continuity between KDS-, KDS+ line

OK: No continuity

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the wiring harness KDS-, KDS+ line between the SRS-ECU connector and the knee air bag module connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1631 set?

YES : Replace SRS-ECU (Refer to P.52B-129).

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1632 Driver's knee air bag module (squib) system (open circuit of squib circuit)

⚠ **CAUTION**

If the diagnosis code B1632 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the knee air bag module (squib).

TROUBLE JUDGEMENT

The code is set when the open circuit occurs to the SRS-ECU driver's knee air bag module (squib) circuit.

PROBABLE CAUSES

- Poor contact of connector
- Open circuit to driver's knee air bag module (squib) circuit
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

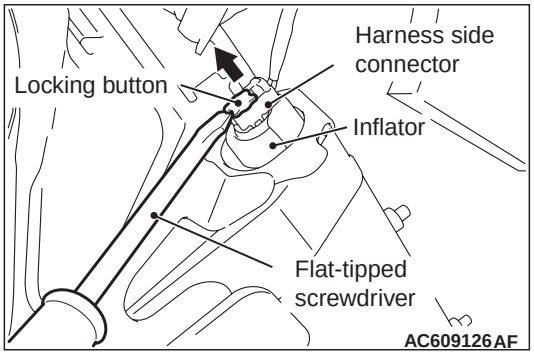
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

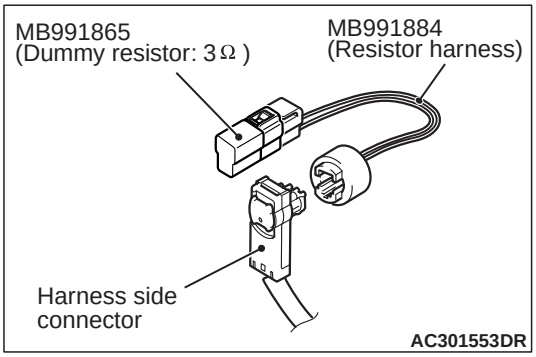
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1632 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



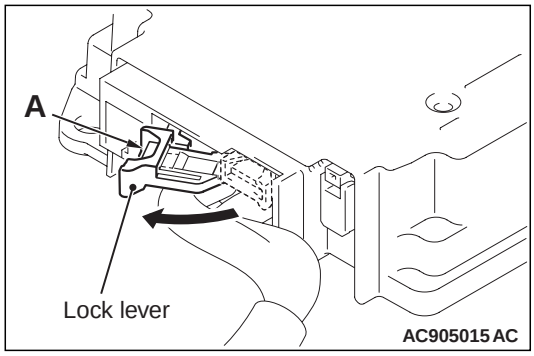
(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the knee air bag module harness side connector.



(3) Connect the special tool dummy resistor (MB991865) to the special tool resistor harness (MB991884).
(4) Connect the special tool resistor harness to the knee air bag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1632 set?
YES : Go to Step 4.
NO : Replace the driver's knee air bag module (Refer to P.52B-139).

STEP 4. Resistance measurement at the SRS-ECU connector and the knee air bag module connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

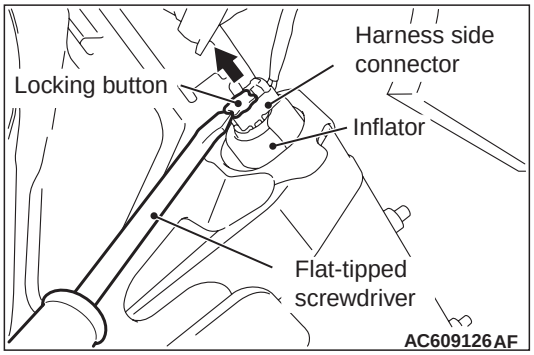


(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

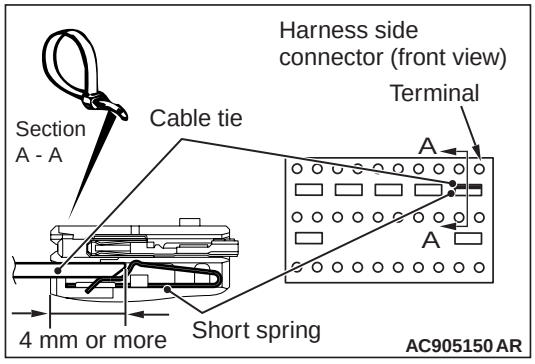
⚠ DANGER

To release the SRS-ECU connector short spring in the following operations, disconnect this harness side connector, and keep the squib circuit shorted.



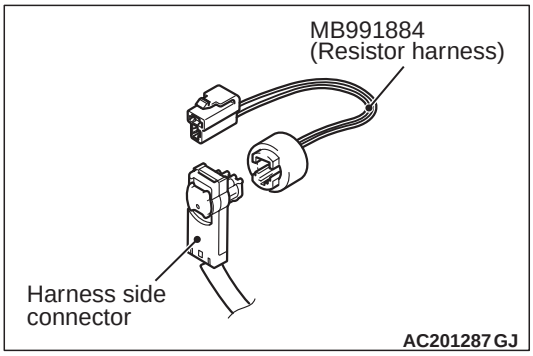
(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the knee air bag module harness side connector.

⚠ CAUTION

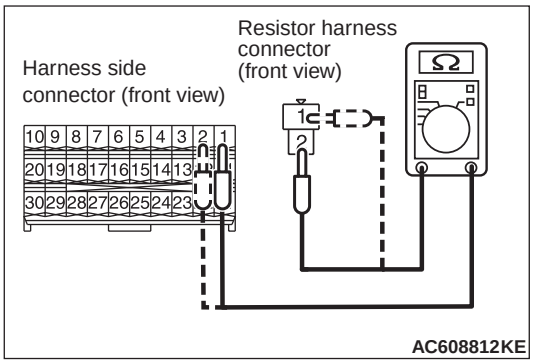


The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the KDS-, KDS+ line and the short spring, and release the short spring.



(5) Connect special tool resistor (MB991884) to the removed knee air bag module harness side connector.



(6) Take the measurements below at the resistor harness and C-126 harness side connector.
- Continuity KDS- line between SRS-ECU connector and resistor harness connector
- Continuity KDS+ line between SRS-ECU connector and resistor harness connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness KDS-, KDS+ line between the SRS-ECU connector and the knee air bag module connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1632 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1633 Driver's knee air bag module (squib) system (shorted to squib circuit earth)

⚠ CAUTION
If the diagnosis code B1633 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION
Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the knee air bag module (squib).

TROUBLE JUDGEMENT
The code is set when the SRS-ECU driver's knee air bag module (squib) circuit is shorted to earth.

PROBABLE CAUSES
- Damaged wiring harness and connectors
- Driver's knee air bag module (squib) harness shorted to earth
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

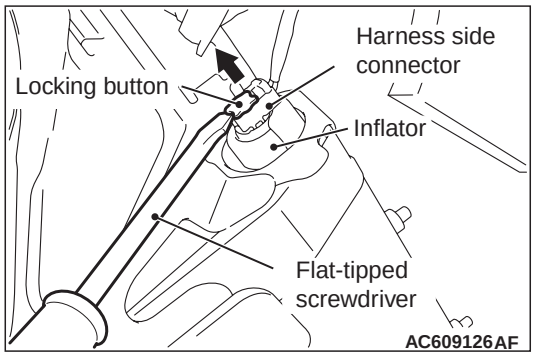
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

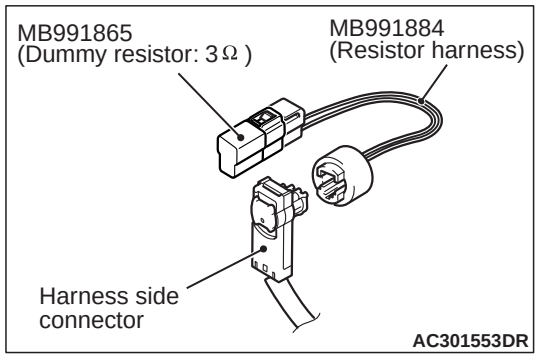
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1633 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the knee air bag module harness side connector.

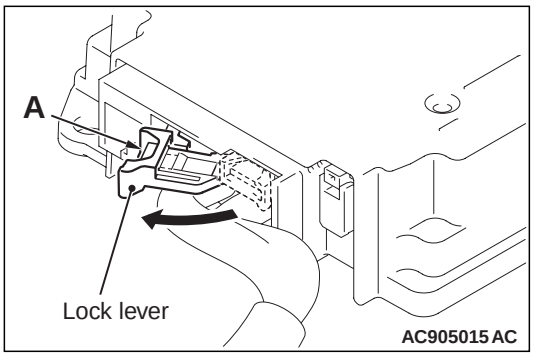


(3) Connect dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect the special tool resistor harness to the knee air bag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1633 set?
YES : Go to Step 4.
NO : Replace the driver's knee air bag module (Refer to P.52B-139). Then go to Step 5.

STEP 4. Resistance measurement at the SRS-ECU connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is

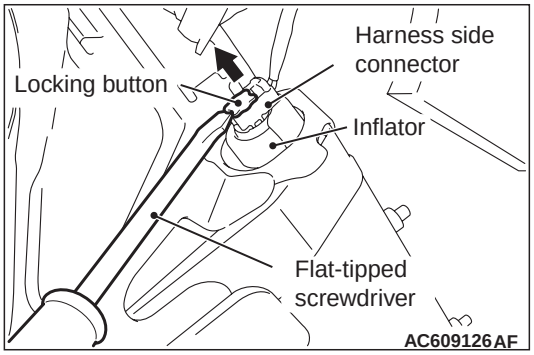
connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

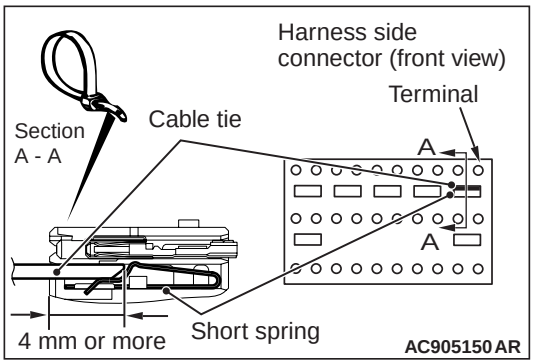
⚠ ***DANGER***

To release the SRS-ECU connector short spring in the following operations, disconnect this harness side connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the knee air bag module harness side connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the KDS-, KDS+ line and the short spring, and release the short spring.

(5) Take the measurements below at the SRS-ECU harness side connector.
- Continuity between KDS-, KDS+ line and body earth

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness KDS-, KDS+ line between the SRS-ECU connector and the knee air bag module connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1633 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No.B1634 Driver's knee air bag module (squib) system (shorted to squib circuit power supply)

⚠ **CAUTION**

If the diagnosis code B1634 is set to SRS-ECU, be sure to diagnose the CAN bus line.

OPERATION

Only when the frontal impact exceeding the threshold is simultaneously detected (turned ON) by the front impact sensor as well as by the analogue G-sensor in SRS-ECU, the electric current is supplied from SRS-ECU to the knee air bag module (squib).

TROUBLE JUDGEMENT

The code is set when the SRS-ECU driver's knee air bag module (squib) circuit is shorted to power supply.

PROBABLE CAUSES

- Poor contact of connector

- Driver's knee air bag module (squib) harness shorted to power supply
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

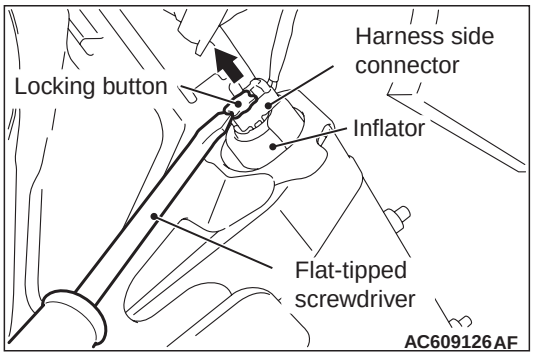
STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

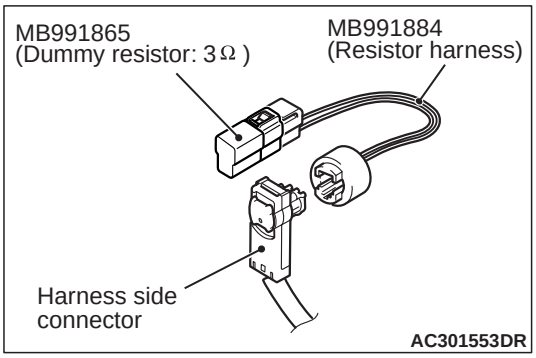
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1634 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Diagnosis check by dummy resistor connection.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



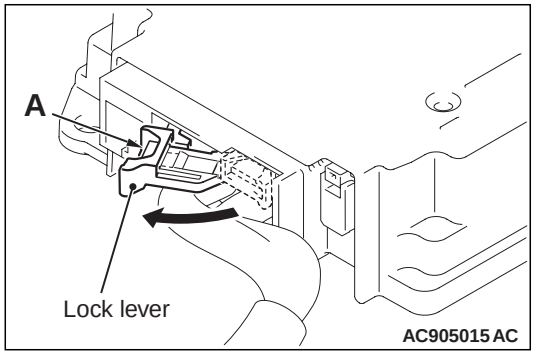
(2) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the knee air bag module harness side connector.



(3) Connect dummy resistor (MB991865) to special tool resistor harness (MB991884).
(4) Connect the special tool resistor harness to the knee air bag module harness side connector.
(5) Connect the negative battery terminal.
(6) After erasing the diagnosis code memory, check the diagnosis code again.
(7) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1634 set?
YES : Go to Step 4.
NO : Replace the driver's knee air bag module (Refer to P.52B-139).

STEP 4. Voltage measurement at the SRS-ECU connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.

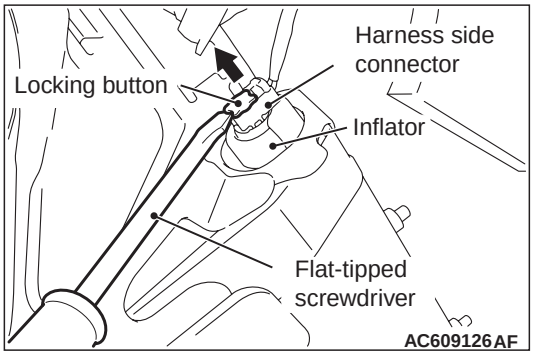


(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock

lever, and disconnect the SRS-ECU connector.

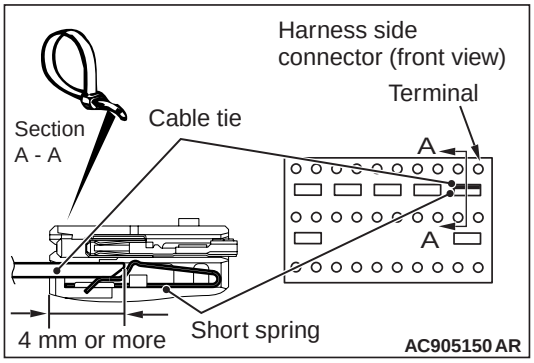
⚠ ***DANGER***

To release the SRS-ECU connector short spring in the following operations, disconnect this harness side connector, and keep the squib circuit shorted.



(3) Use the flat-tipped screwdriver to pull out the locking button of harness side connector. After releasing the lock, disconnect the knee air bag module harness side connector.

⚠ **CAUTION**



The short spring may not be released due to the insufficient insertion. Therefore, insert the insulator for 4 mm or more.

(4) Insert an insulator (width: 3 mm, thickness: 0.5 mm) such as cable tie between the KDS-, KDS+ line and the short spring, and release the short spring.
(5) Connect the negative battery terminal.
(6) Ignition switch: ON
(7) Take the measurements below at the SRS-ECU harness side connector.
- Voltage between KDS-, KDS+ line and body earth

OK: 1 V or less

(8) Disconnect the negative battery terminal.

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harness KDS-, KDS+ line between the SRS-ECU connector and the knee air bag module connector.

STEP 5. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1634 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No. B1646: Coding data mismatch

⚠ **CAUTION**
- **If diagnosis code No. B1646 is set, diagnose the CAN bus lines.**
- **When replacing the ECU, always check that the communication circuit is normal.**

FUNCTION
If a false coding data is written in the SRS-ECU, the SRS-ECU will set diagnosis code No. B1646.

TROUBLE JUDGEMENT
When correct coding data is not received from ETACS-ECU, SRS-ECU will determine that the a problem has occurred.

PROBABLE CAUSES
- Malfunction of CAN bus line
- Malfunction of ETACS-ECU
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

1. M.U.T.-III CAN bus diagnostics
2. M.U.T.-III other system diagnosis code
3. Check whether the diagnosis code is reset.

Code No. B1647 Passenger's air bag ON indicator lamp (short circuited)

⚠ CAUTION
If the diagnosis code B1488 is set in the SRS-ECU, be sure to diagnose the CAN bus line

OPERATION

- Power for the passenger's air bag ON indicator lamp is supplied from the fusible link (2).
- The passenger's air bag ON indicator lamp illuminates when the ignition switch is turned to the "ON" position and goes out after approximately 6 to 8 seconds if there is not a malfunction in the SRS system.

TROUBLE JUDGEMENT

This code will be set if the passenger's air bag ON indicator lamp driving circuit is short to earth.

PROBABLE CAUSES

- Damaged wiring harnesses or connectors
- Malfunction of the SRS-ECU
- Malfunction of the passenger's air bag ON indicator lamp

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

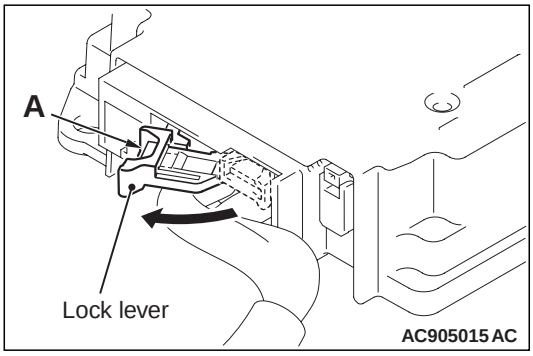
STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1647 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Check the passenger's air bag ON indicator lamp.
It is checked whether passenger's air bag ON indicator lamp is normal (Refer to P.52B-152).

Q: Is the check result normal?
YES : Go to Step 4.
NO : Replace hazard indicator assembly (Refer to GROUP 52A – Instrument Panel Assembly).

STEP 4. Resistance measurement at the SRS-ECU connector.
(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



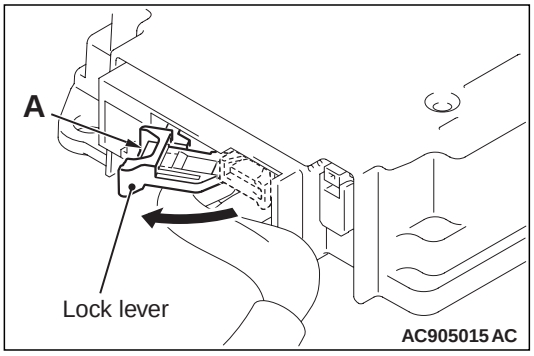
(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
(3) Disconnect the hazard indicator assembly connector.
(4) Take the measurements below at the SRS-ECU connector.
- Continuity between ONLP line and body earth

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 5.
NO : Repair the wiring harnesses ONLP line between the SRS-ECU connector and the hazard indicator assembly connector.

STEP 5. Resistance measurement at the hazard indicator assembly connector.
(1) Check that the negative battery terminal is

disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

⚠ CAUTION
Do not insert a test probe into the terminal from its front side directly as the connector contact pressure may be weakened.

(3) Take the following measurements at the backside of the hazard indicator assembly side connector (harness side).
- Continuity between LP line and body earth

OK: No continuity

Q: Is the check result normal?
YES : Go to Step 6
NO : Repair the wiring harnesses LP line between the hazard indicator assembly connector and the body earth.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1647 set?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No. B1648 Passenger's air bag ON indicator lamp (open circuit)

⚠ CAUTION
If the diagnosis code B1489 is set in the SRS-ECU, be sure to diagnose the CAN bus line

OPERATION
- Power for the passenger's air bag ON indicator lamp is supplied from the fusible link (2).
- The passenger's air bag ON indicator lamp illuminates when the ignition switch is turned to the "ON" position and goes out after approximately 6 to 8 seconds if there is not a malfunction in the SRS system.

TROUBLE JUDGEMENT
This code will be set if an open circuit has occurred in the wiring harness between the passenger's air bag ON indicator lamp and the SRS-ECU.

PROBABLE CAUSES
- Damaged wiring harnesses or connectors
- Malfunction of the SRS-ECU
- Malfunction of the passenger's air bag ON indicator lamp

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. Check whether the diagnosis code is reset.
(1) Connect the negative battery terminal.
(2) After erasing the diagnosis code memory, check the diagnosis code again.
(3) Disconnect the negative battery terminal.

Q: Is the diagnosis code No. B1648 set?
YES : Go to Step 3.
NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

STEP 3. Check the passenger's air bag ON indicator lamp.

It is checked whether passenger's air bag ON indicator lamp is normal (Refer to P.52B-152).

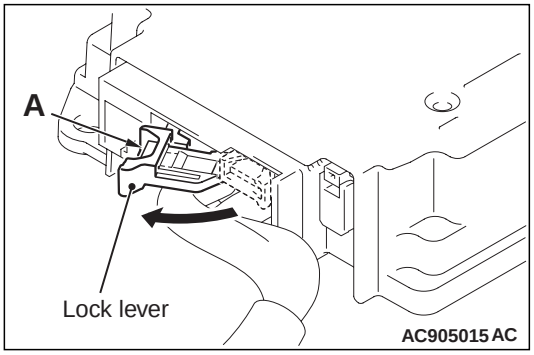
Q: Is the check result normal?

YES : Go to Step 4.

NO : Replace hazard indicator assembly (Refer to GROUP 52A – Instrument Panel Assembly).

STEP 4. Resistance measurement at the SRS-ECU connector and the hazard indicator assembly connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.

(3) Disconnect the hazard indicator assembly connector.

(4) Take the measurements below at the SRS-ECU and hazard indicator assembly wiring harness side connectors.

- Continuity ONLP line between SRS-ECU connector and hazard indicator assembly connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?

YES : Go to Step 5.

NO : Repair the wiring harnesses ONLP line between the SRS-ECU connector and the hazard indicator assembly connector.

STEP 5. Measure the voltage at the centre panel assembly connector.

(1) Disconnect the hazard indicator assembly connector.

(2) Connect the negative battery terminal.

(3) Ignition switch: ON

(4) Measure the voltage between the hazard indicator assembly harness side connector and the body earth.

OK: System voltage

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the wiring harness IG+ line between the ETACS-ECU connector and the hazard indicator assembly connector.

STEP 6. Check whether the diagnosis code is reset.

Q: Is the diagnosis code No. B1648 set?

YES : Replace SRS-ECU (Refer to P.52B-129).

NO : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).

Code No. B1699: SRS-ECU collective deployment

⚠ CAUTION

If diagnosis code B1699 is set in the SRS-ECU, always diagnose the CAN main bus line.

TROUBLE JUDGMENT

This code is set when the air bags have deployed simultaneously. If this code is set before the air bags have deployed, an internal failure may have occurred in the SRS-ECU.

PROBABLE CAUSES

- Malfunction of the CAN bus line
- Malfunction of the SRS-ECU

Code No. U0100 Engine CAN timeout

⚠ CAUTION

- **If diagnosis code No.U0100 is set in the SRS-ECU, diagnose the CAN main bus line.**
- **Whenever the ECU is replaced, ensure that the input and output signal circuits are normal.**

TROUBLE JUDGEMENT

If signal from the engine-ECU cannot be received for 500 milliseconds or more, the SRS-ECU sets diagnosis code No. U0100.

PROBABLE CAUSES

- Malfunction of the engine-ECU
- Malfunction of the SRS-ECU
- Malfunction of the CAN bus

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics

Use the M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2

NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting). On completion, go to Step 6.

STEP 2. Check the M.U.T.-III Diagnosis code for other systems

Check that the engine-ECU set a diagnosis code.

Q: Is the diagnosis code set?

YES : Diagnose the engine-ECU. Refer to GROUP 13A, Troubleshooting .

NO : Go to Step 3

STEP 3. Check the M.U.T.-III Diagnosis code for other systems

Check if the diagnosis code No. U0100 is set to ETACS-ECU.

Q: Is the diagnosis code set?

YES : Go to Step 4

NO : Go to Step 5

STEP 4. Check whether the diagnosis code is reset.

Check again if the diagnosis code is set to the SRS-ECU.

(1) Erase the diagnosis code.
(2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
(3) On completion, check that the diagnosis code is reset.

Q: Is the diagnosis code set?

YES : Replace the engine-ECU. After replacing the ECU, carry out the CAN bus diagnostics. Then go to Step 6.

NO : A poor connection, open circuit or other intermittent malfunction is present in the CAN bus lines between the engine-ECU and the SRS-ECU (Refer to GROUP 00, How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunctions).

STEP 5. Check whether the diagnosis code is reset.

Check again if the diagnosis code is set to the SRS-ECU.

(1) Erase the diagnosis code.
(2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
(3) On completion, check that the diagnosis code is not reset.

Q: Is the diagnosis code set?

YES : Replace the SRS-ECU. After replacing the ECU, carry out the CAN bus diagnostics. Then go to Step 6.

NO : A poor connection, open circuit or other intermittent malfunction is present in the CAN bus lines between the engine-ECU and the SRS-ECU (Refer to GROUP 00, How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunctions).

STEP 6. Check whether the diagnosis code is reset.

Recheck if the diagnosis code is set to the SRS-ECU.

(1) Erase the diagnosis code.
(2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
(3) On completion, check that the diagnosis code is reset.

Q: Is the diagnosis code set?

YES : Return to Step 1.

NO : The procedure is complete.

CODE NO. U0141 ETACS CAN timeout

⚠ CAUTION
- **If the diagnosis code No. U0141 is set, diagnose the CAN bus lines.**
- **When replacing the ECU, always check that the SRS circuit is normal.**

FUNCTION
If the signal from ETACS-ECU cannot be received, the SRS-ECU sets the diagnosis code No. U0141.

TROUBLE JUDGEMENT
Because of the CAN-B bus circuit malfunction, if SRS-ECU becomes unable to perform the normal data transmission, SRS-ECU determines that an abnormality is present.

PROBABLE CAUSES
- Malfunction of CAN bus line
- Malfunction of SRS-ECU
- Malfunction of the ETACS-ECU

Code No. U1190: No receive fault detect signal

⚠ CAUTION
- **If the diagnosis code No. U1190 is set, diagnose the CAN bus lines.**
- **When replacing the ECU, always check that the SRS circuit is normal.**

TROUBLE JUDGEMENT
ETACS-ECU sends the diagnosis code (U code) detection permission or prohibition signal to each ECU connected to the CAN-C-Mid bus line. If the SRS-ECU cannot receive the diagnosis code (U code) detection permission or prohibition signal for 5 seconds after turning the ignition switch to the ON position, diagnosis code U1190 will be set.

PROBABLE CAUSES
- Malfunction of CAN bus line
- Malfunction of SRS-ECU
- Malfunction of the ETACS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics
Use the M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2
NO : Repair the CAN bus line (Refer to GROUP 54C – Troubleshooting).

STEP 2. M.U.T.-III other system diagnosis code
Check again if the diagnosis code is set to the ETACS-ECU.

Q: Is the diagnosis code set?
YES : Diagnose the ETACS-ECU (Refer to GROUP 54A, Troubleshooting).
NO : Go to Step 3

STEP 3. Diagnosis code recheck
Check again if the diagnosis code is set to the SRS-ECU.
(1) Erase the diagnosis code.
(2) Turn the ignition switch from the LOCK (OFF) position to the ON position.
(3) Check if the diagnosis code is set.

Q: Is the diagnosis code set?
YES : Replace the ETACS-ECU. After replacing the ECU, carry out the CAN bus diagnostics. Then go to Step 4.
NO : A poor connection, open circuit or other intermittent malfunction in the CAN bus line between the ETACS-ECU and the SRS-ECU. (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points - How to Cope with Intermittent Malfunction .)

STEP 4. Diagnosis code recheck
Check again if the diagnosis code is set to the SRS-ECU.
(1) Erase the diagnosis code.
(2) Turn the ignition switch from the LOCK (OFF) position to the ON position.
(3) Check if the diagnosis code is set.

Q: Is the diagnosis code set?

YES : Replace the SRS-ECU. After replacing the ECU, carry out the CAN bus diagnostics. Then go to Step 5.
NO : A poor connection, open circuit or other intermittent malfunction in the CAN bus line between the SRS-ECU and the ETACS-ECU. (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points - How to Cope with Intermittent Malfunction .)

STEP 5. Check whether the diagnosis code is reset.
Recheck if the diagnosis code is set to the SRS-ECU.
(1) Erase the diagnosis code.
(2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
(3) On completion, check that the diagnosis code is reset.

Q: Is the diagnosis code set?
YES : Return to Step 1.
NO : The procedure is complete.

Code No. U1195: Coding not completed

TROUBLE JUDGEMENT
If the SRS-ECU is in the initial state or the local coding is incomplete, the SRS-ECU sets diagnosis code No. U1195.

PROBABLE CAUSES
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE
Replace the SRS-ECU.

Code No. U1199: Chassis No. not programmed

⚠ CAUTION
- **When diagnosis code No. U1199 is set, be sure to diagnose the CAN bus line.**
- **When replacing the ECU, always check that the communication circuit is normal.**

FUNCTION
SRS-ECU sets diagnosis code No. U1199 when no Chassis No. is recorded in it.

TROUBLE JUDGEMENT
SRS-ECU determines that the abnormality is present when no Chassis No. is recorded in it.

TROUBLESHOOTING HINTS
- Chassis No. not programmed
- Malfunction of the SRS-ECU

DIAGNOSIS PROCEDURE
1. M.U.T.-III CAN bus diagnostics
2. Register the Chassis No. and recheck the diagnosis code.

Code No. U119A: Chassis No. mismatch

⚠ CAUTION
- **If the diagnosis code No. U1109 is set, diagnose the CAN bus lines.**
- **When replacing the ECU, always check that the SRS circuit is normal.**

FUNCTION
If the registered chassis number is different from that transmitted on the CAN-C-Mid bus lines, the SRS-ECU will set diagnosis code No. U119A.

TROUBLE JUDGEMENT
If the chassis number stored in the SRS-ECU does not comply with that transmitted in CAN-C-Mid bus lines, the SRS-ECU determines that a problem has occurred.

TROUBLESHOOTING HINTS
- Chassis number not written
- Malfunction of CAN bus line

- Malfunction of Engine-ECU
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

1. M.U.T.-III CAN bus diagnostics
2. Check the M.U.T.-III Diagnosis code for other systems
3. Check whether the diagnosis code is reset.

CHECK CHART FOR TROUBLE SYMPTOMS

M1524003401498

Inspection procedure No.	Trouble symptom	Reference page
1	Communication between M.U.T.-III and SRS-ECU cannot be established.	P.52B-116
2	Power supply circuit system	P.52B-116
3	SRS warning lamp does not illuminate.	P.52B-118
4	SRS warning lamp does not turn go out.	P.52B-118

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Communication between M.U.T.-III and SRS-ECU cannot be established.

PROBABLE CAUSES

- Damaged wiring harness and connectors
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics

Use the M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Check and repair the power supply circuit system (Refer to P.52B-116).

NO : Repair the CAN bus lines (Refer to GROUP 54C – Troubleshooting-).

INSPECTION PROCEDURE 2: Power supply circuit system

OPERATION

To SRS-ECU, the power is supplied from two independent circuits (fuse No. 2) via IG1 relay of ETACS-ECU.
If the power is not supplied to SRS-ECU, the communication between M.U.T.-III and SRS-ECU cannot be established.

PROBABLE CAUSES

- Damaged wiring harness and connectors
- Battery failure
- Malfunction of the charging system
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. Fuse Nos. 2 check.

Q: Is the fuse in good condition?

YES : Go to Step 3.

NO : Go to Step 2

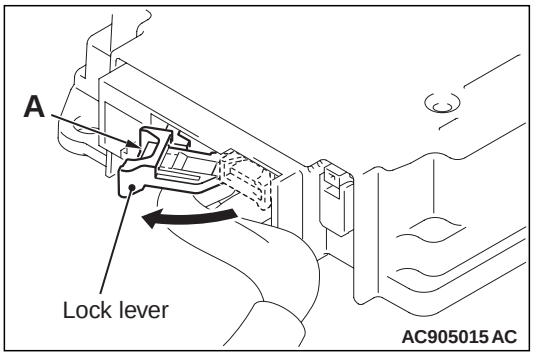
STEP 2. Fuse open circuit check

(1) Replace the fuse.
(2) Turn the ignition switch to the "ON" position, wait for at least one minute, and then turn the switch OFF.
(3) Check the fuse.

Q: Is the fuse in good condition?

YES : Go to Step 3.
NO : Repair the wiring harness IG1A line between the ETACS-ECU connector and the SRS-ECU connector, and replace the fuse.

STEP 3. Resistance measurement at the SRS-ECU connector.



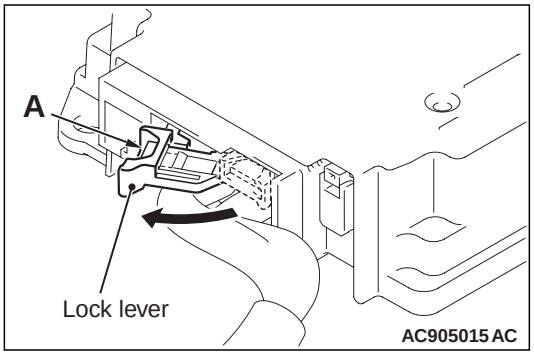
(1) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
(2) Take the measurements below at the SRS-ECU wiring harness side connectors.
- Continuity GND2 line between SRS-ECU wiring harness side connector and body earth

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Go to Step 4.
NO : Repair the wiring harness GND2 line between the SRS-ECU connector and the earth.

STEP 4. Voltage measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.



(2) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
(3) Connect the negative battery terminal.
(4) Ignition switch: ON
(5) Take the measurements below at the SRS-ECU harness side connector.
- Voltage between IG1A line and body earth

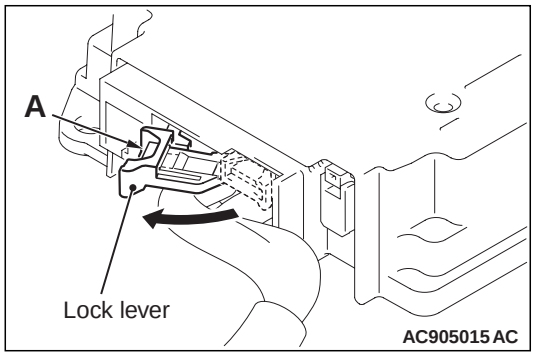
OK: 9 V or more

(6) Disconnect the negative battery terminal.

Q: Is the check result normal?
YES : Go to Step 6.
NO : Go to Step 5.

STEP 5. Resistance measurement at the SRS-ECU connector.

(1) Check that the negative battery terminal is disconnected. If the negative battery terminal is connected, disconnect it.
(2) Disconnect the ETACS-ECU connector.



(3) While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever, and disconnect the SRS-ECU connector.
- Continuity IG1A line between ETACS-ECU connector and SRS-ECU connector

OK: Continuity (less than 2 Ω)

Q: Is the check result normal?
YES : Replace the ETACS-ECU (Refer to GROUP 54A – ETACS-ECU).
NO : Repair the wiring harness IG1A line between the ETACS-ECU connector and the SRS-ECU connector.

STEP 6. Trouble symptom check.

Q: Is the communication between M.U.T.-III and SRS-ECU possible?
YES : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).
NO : Replace SRS-ECU (Refer to P.52B-129).

INSPECTION PROCEDURE 3: SRS warning lamp does not illuminate.

OPERATION

- The SRS warning lamp illuminates when the ignition switch is turned to the "ON" position and goes out after approximately 6 to 8 seconds if there is not a malfunction in the SRS system.
- SRS-ECU sends the SRS warning lamp signal to the combination meter via the CAN communication.
- As a cause, the failure of CAN bus line, combination meter, or SRS-ECU is suspected.

PROBABLE CAUSES

- Damaged wiring harness and connectors
- Combination meter malfunction
- Malfunction of SRS-ECU

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the CAN bus lines (refer to Group 54C – Troubleshooting).

STEP 2. M.U.T.-III actuator test
Use M.U.T.-III to perform the SRS-ECU actuator tests.
Item No. 01: SRS warning lamp

Q: Does the SRS warning lamp turn on and off normally?
YES : Go to Step 5.
NO : Go to Step 3.

STEP 3. M.U.T.-III actuator test
Use M.U.T.-III to perform the combination meter actuator tests.
Item No. 07: Indicator1

Q: Does the SRS warning lamp turn on and off normally?
YES : Replace SRS-ECU (Refer to P.52B-129).
NO : Go to Step 4.

STEP 4. Check of short to power supply, short to earth, and open circuit in IG1 line between ETACS-ECU connector and combination meter connector

Q: Is the check result normal?
YES : Replace the combination meter (Refer to GROUP 54A – Combination Meter).
NO : Repair the wiring harness.

STEP 5. Recheck of the SRS warning lamp
(1) Connect the negative battery terminal.
(2) Ignition switch: ON

Q: Does the lamp illuminate?
YES : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).
NO : Return to Step 1.

Inspection Procedure 4: The SRS warning lamp does not go out.

OPERATION

- The SRS warning lamp illuminates when the ignition switch is turned to the "ON" position and goes out after approximately 6 to 8 seconds if there is not a malfunction in the SRS system.
- SRS-ECU sends the SRS warning lamp signal to the combination meter via the CAN communication.
- As a cause, the failure of CAN bus line, combination meter, or SRS-ECU is suspected.

PROBABLE CAUSES

- Damaged wiring harness and connectors
- Combination meter malfunction
- Malfunction of SRS-ECU

DIAGNOSTIC PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics.
Use M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?
YES : Go to Step 2
NO : Repair the CAN bus lines (refer to Group 54C – Troubleshooting).

STEP 2. Recheck of the SRS warning lamp
(1) Connect the negative battery terminal.

(2) Ignition switch: ON

Q: Does the SRS warning light illuminate for approximately 6 to 8 seconds and then go out after the ignition switch is turned to the "ON" position?
YES : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction).
NO : Go to Step 3

STEP 3. M.U.T.-III actuator test
Use M.U.T.-III to perform the combination meter actuator tests.
Item No. 07: Indicator1

Q: Does the SRS warning lamp turn on and off normally?
YES : Go to Step 4
NO : Replace the combination meter (Refer to GROUP 54A – combination meter).

STEP 4. Check the diagnosis code.
After erasing the diagnosis code memory, check the diagnosis code.

Q: Is the diagnosis code set?
YES : Troubleshoot for the relevant diagnosis code. (Refer to P.52B-13.)
NO : Go to Step 5.

STEP 5. Recheck of the SRS warning lamp

Q: Does the lamp stay ON?
YES : Replace the SRS-ECU (Refer to P.52B-129).
NO : This diagnosis is complete.

DATA LIST REFERENCE TABLE

M1524003500588

The following items of the ECU input data can be read using M.U.T.-III.

Item No.	Date list item	Check conditions	Normal conditions
01	Failure continuation time 1 (continue time since the occurrence of trouble until the first judging a collision)	Always	Maximum time to be stored: 9,999 minutes (approximately seven days)
02	Failure continuation time 2 (continue time since the second judging a collision until the present)	Always	

ACTUATOR TEST REFERENCE TABLE

M1524003600381

The following actuators can be forcibly operated using M.U.T-III.

Item No.	Item name	Test item	Driven component
01	SRS warning lamp	SRS warning lamp illumination	ON
02	Passenger's SRS OFF lamp	Passenger's SRS OFF lamp illumination	ON
		Passenger's SRS OFF lamp illumination	OFF
03	Passenger's SRS ON lamp	Passenger's SRS ON lamp illumination	ON
		Passenger's SRS ON lamp illumination	OFF

POST-COLLISION DIAGNOSIS

M1524001102416

Perform the inspection and service on post-collision vehicles according to the procedures below regardless of the deployment or activation statuses of air bags, lap pre-tensioner and seat belt pre-tensioner.

SRS-ECU MEMORY CHECK

1. Connect M.U.T.-III to the diagnosis connector (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points).
2. Use M.U.T.-III to read all the diagnosis codes.

NOTE: If the battery power is not supplied because of the collision impact, M.U.T.-III and SRS-ECU cannot communicate with each other. When this occurs, check or repair the instrument panel harness.

3. Erase the stored memory of diagnosis code, and then wait for 45 seconds or more to read the diagnosis code again. However, when the air bag has been deployed or if SRS-ECU is judged to be failure, do not erase the stored memory of diagnosis code.

REPAIR PROCEDURE

<DRIVER'S AND FRONT PASSENGER'S AIR BAGS ARE DEPLOYED>

1. Replace the following parts with new ones.
   - SRS-ECU (Refer to P.52B-129).
   - Driver's air bag module (Refer to P.52B-131).
   - Passenger's (front) air bag module (Refer to P.52B-136).
   - Seat belt with pre-tensioner (Refer to P.52B-147).
   - Front impact sensor (Refer to P.52B-125).
   - Passenger's (front) air bag lid assembly (Refer to GROUP 52A – Instrument Panel Assembly).
2. Check the following parts. If there is an abnormality, replace with new parts.
   - Clock spring (Refer to P.52B-131).
   - Steering wheel, steering column assembly
     (1) Check that the driver's air bag module is installed to the steering wheel correctly.
     (2) Check the steering wheel for noise, binding, operational failure, and play.
     (3) Check the shock absorbing mechanism of steering column shaft assembly (Refer to GROUP 37 – On-vehicle Service).
3. Instrument panel assembly (Refer to GROUP 52A – Instrument Panel Assembly).
4. Check the wiring harness for binding, the connector for damage, and the terminal for deformation (Refer to P.52B-7).

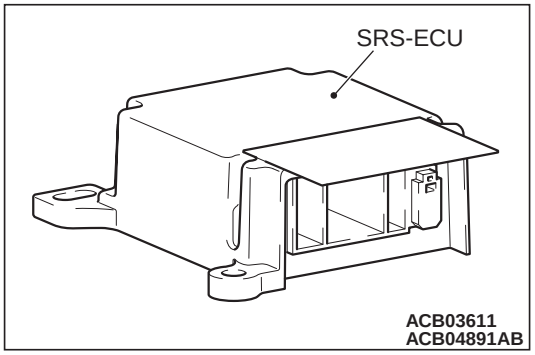
<SIDE AND CURTAIN AIR BAGS ARE DEPLOYED>

1. Replace the following parts with new ones.
   - SRS-ECU (Refer to P.52B-129).
   - Front seatback assembly (Refer to P.52B-142).
   - Curtain air bag module (Refer to P.52B-144).
   - Side impact sensor (Refer to P.52B-127).
   - Headlining (Refer to GROUP 52A, Headlining).
   - Front pillar trim, centre pillar trim upper, quarter trim upper (Refer to GROUP 52A – Interior Trim).
   - Seat belt with pre-tensioner (Refer to P.52B-147).
2. Check the wiring harness for binding, the connector for damage, and the terminal for deformation (Refer to P.52B-7).

<AIR BAG NOT DEPLOYED BECAUSE OF LOW-SPEED COLLISION>

1. Check the SRS air bag components and seat belt assembly according to the following procedures.
2. Check the operation of seat belt. If the seat belt cannot be drawn out, replace the seat belt with a new one.
3. Visually check the seat belt components (such as pre-tensioner, retractor and buckle) for a dent, breaks, deformation, fraying. If found, replace them with new one.
4. For removal and installation of parts, refer to "Servicing the SRS air bag/seat belt with pre-tensioner" P.52B-122.

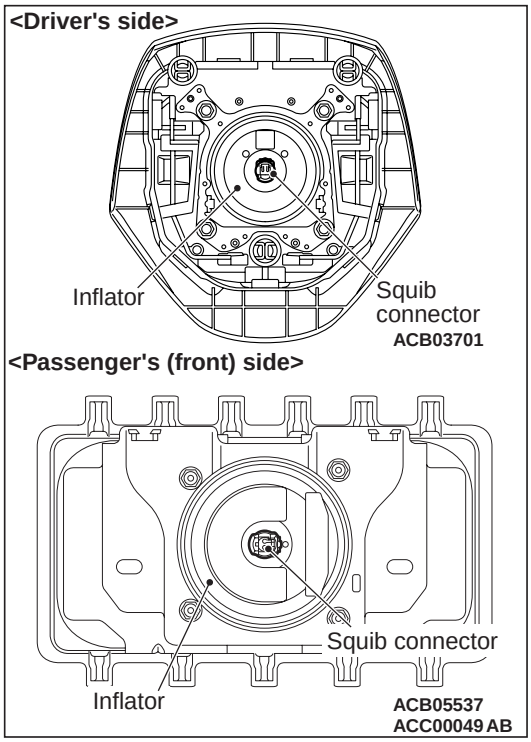
SRS-ECU



1. Check the SRS-ECU case and bracket for dent, crack, or deformation.
2. Check the connector and wiring harness for damage, and the terminal for deformation.
3. Check that SRS-ECU is installed correctly.

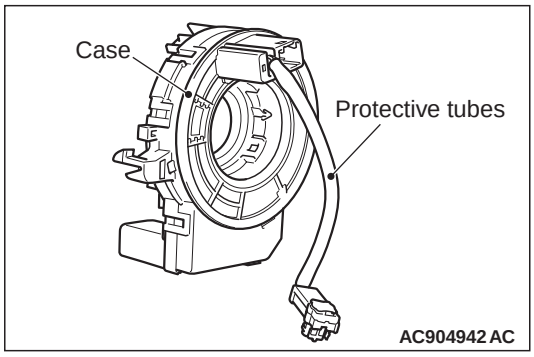
DRIVER'S AND PASSENGER'S (FRONT) AIR BAG MODULE

1. Check the pad cover for dent, crack, or deformation.



2. Check the connector for damage, the terminal for deformation, and the harness for binding.
3. Check the inflator case for dent, crack, or deformation.
4. Check that the air bag module is installed correctly.

CLOCK SPRING

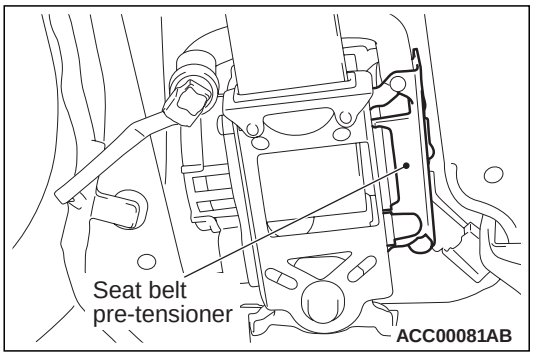


1. Check the connector and protector tube for damage, and the terminal for deformation.
2. Check the case for damage.

STEERING WHEEL, STEERING COLUMN ASSEMBLY

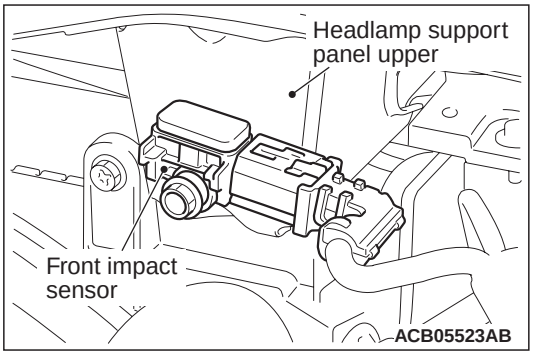
1. Check that the driver's air bag module is installed to the steering wheel correctly.
2. Check the steering wheel for noise, binding, operational failure, and play.
3. Check the shock absorbing mechanism of steering column shaft assembly (Refer to GROUP 37 − On-vehicle Service).

SEAT BELT PRE-TENSIONER <Driver's side>



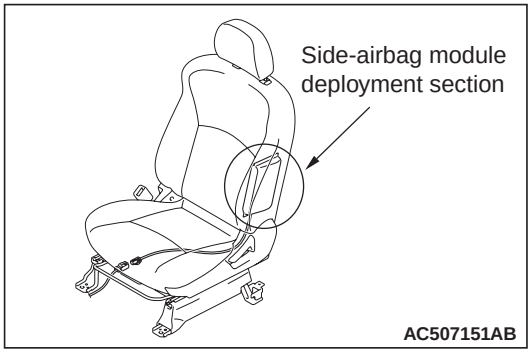
1. Check the seat belt pre-tensioner crack or deformation.
2. Check the connector for damage and the terminal for deformation.

FRONT IMPACT SENSOR



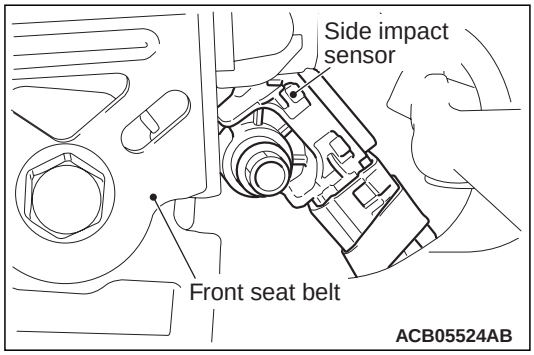
1. Check the front impact sensor for dent, crack or deformation.
2. Check the connector for damage, the terminal for deformation, and the harness for binding.

FRONT SEAT ASSEMBLY (WITH BUILT-IN SIDE AIR BAG MODULE)



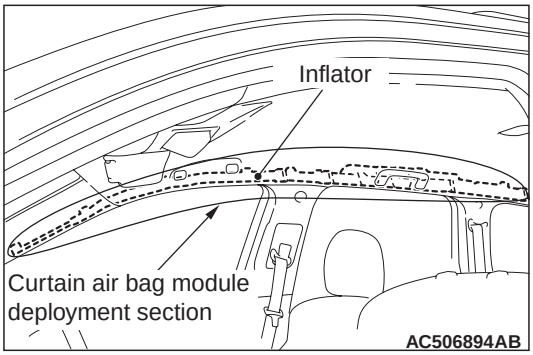
1. Check that the side-airbag module deployment part of the seat is normal.
2. Check the connector for damage, the terminal for deformation, and the harness for binding.

SIDE IMPACT SENSOR



1. Check the centre pillar and quarter trim lower for deformation.
2. Check the side impact sensor for dent, crack, deformation, or rust.
3. Check the connector for damage, the terminal for deformation, and the harness for binding.

CURTAIN AIR BAG MODULE



1. Check that the curtain air bag deployment part of the headlining is normal.
2. Check the inflator surface for cracks, dents or deformations.
3. Check the connector for damage, the terminal for deformation, and the harness for binding.

PASSENGER'S AIR BAG CUT OFF SWITCH

1. Check the passenger's air bag cut off switch for dents or deformation.
2. Check the installation of the passenger's air bag cut off switch.

HARNESS CONNECTOR

Check the wiring harness for binding, the connector for damage, and the terminal for deformation (Refer to P.52B-7).

INDIVIDUAL COMPONENT SERVICE

M1524002901014

⚠ CAUTION

1. **If the influence of heat is suspected during painting work, remove the following parts.**
   - **93°C or more: SRS-ECU, air bag module, clock spring, front impact sensor, side impact sensor**
   - **90°C or more: Seat belt with pre-tensioner**
2. **Store the removed SRS air bag and components of seat belt with pre-tensioner in a clean, dry place.**

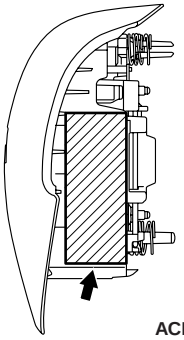
Remove or install the SRS air bag and seat belt with pre-tensioner according to the procedures indicated in the removal and installation of each part.

WARNING/CAUTION LABELS

M1524003002192

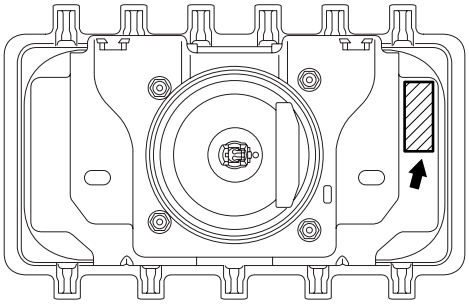
The labels indicating the precautions for handling and maintenance of SRS air bags and seat belt with pre-tensioner are attached to the locations shown in the figure. If the label is damaged or is dirty, replace with the new label.

Driver's air bag module



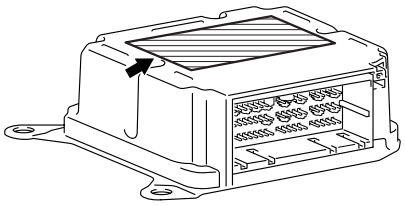
ACB03681

Passenger's (front) air bag module



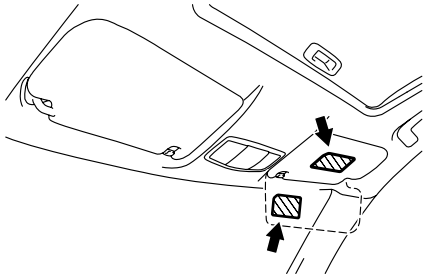
ACB05535

SRS-ECU

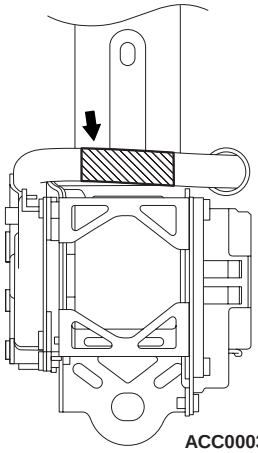


ACB05614

Sunvisor *



Seat belt pre-tensioner (right and left)

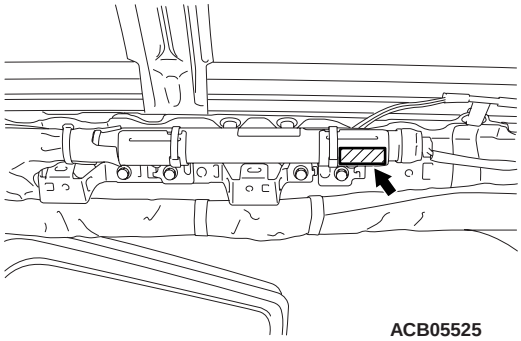


ACC00035

Side-airbag module (right and left)

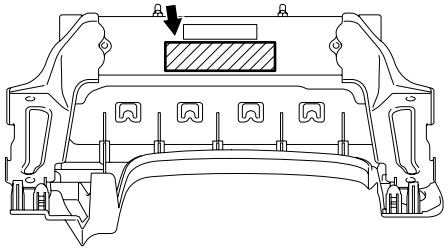
AC506241

Curtain air bag module (right and left)



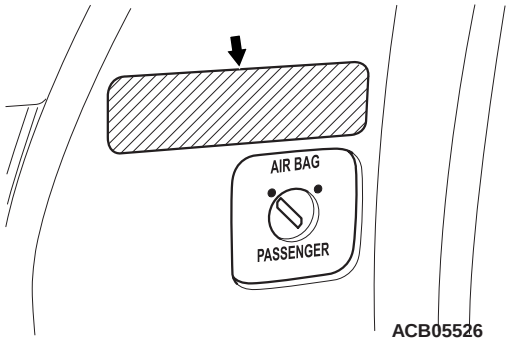
ACB05525

Knee air bag module



ACB05536

Passenger's air bag cut off switch



ACB05526

ACC00073AB

FRONT IMPACT SENSORS

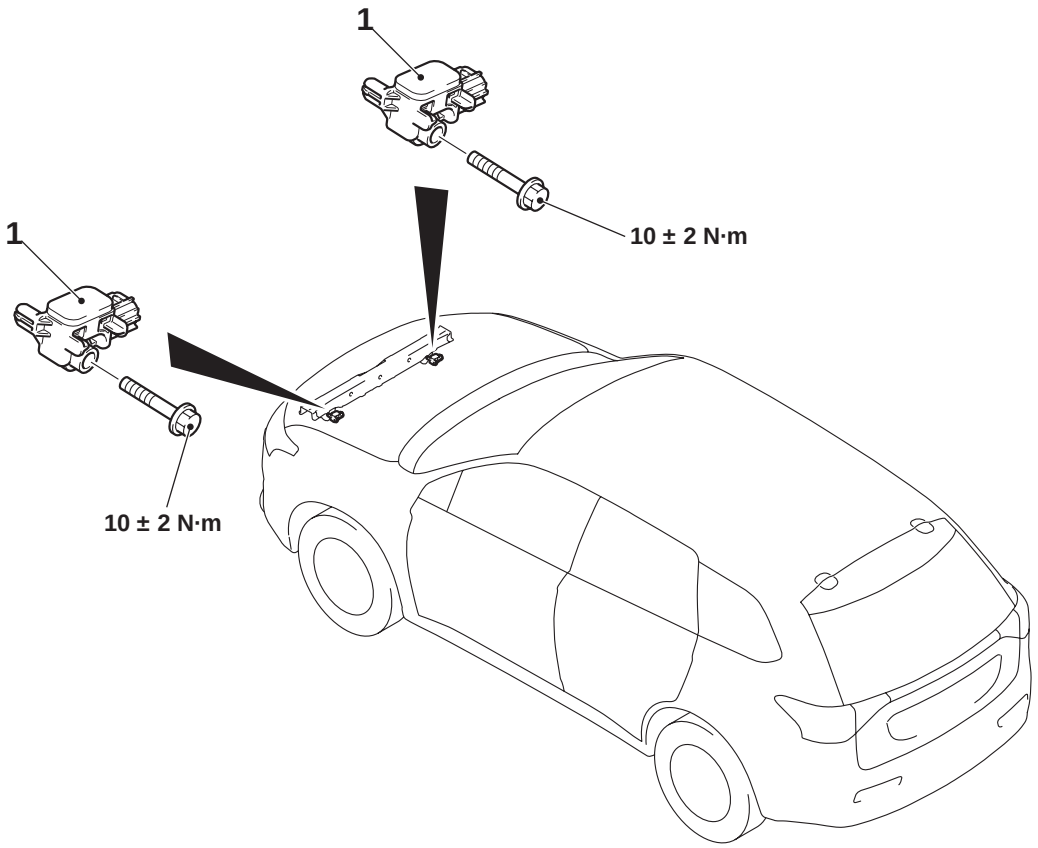
REMOVAL AND INSTALLATION

M1524001501938

⚠ CAUTION

- **Disconnect the negative (–) battery terminal and wait for 60 seconds or more before starting work. Insulate the disconnected (–) terminal by wrapping the tape (Refer to the item 5 of Service Precautions P.52B-7).**
- **Never attempt to disassemble or repair the front impact sensor. If faulty, replace it with new one(s).**
- **Handle the front impact sensor with sufficient caution, and do not drop the sensor or allow contact with water, oil, or others. If denting, cracking, or deformation is discovered, replace it with new one(s).**
- **After deployment of an air bag, replace the front impact sensor with a new one.**

Pre-removal operation
- Turn the ignition switch to the LOCK (OFF) position.
- Disconnect the negative (–) battery terminal.



ACB05457AB

Removal steps

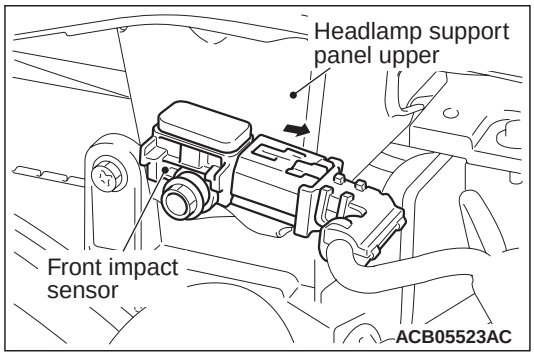
<<A>> 1. Front impact sensor

Installation steps

>>A<< • Pre-installation inspection
>>B<< 1. Front impact sensor
>>C<< • Post-installation inspection

REMOVAL SERVICE POINT

<<A>> FRONT IMPACT SENSOR CONNECTOR REMOVAL



Slide the outer housing of the front impact sensor connector in the arrow direction shown, and disconnect the connector.

INSTALLATION SERVICE POINTS

>>A<< PRE-INSTALLATION INSPECTION

Check the front impact sensor before installation (Refer to P.52B-126).

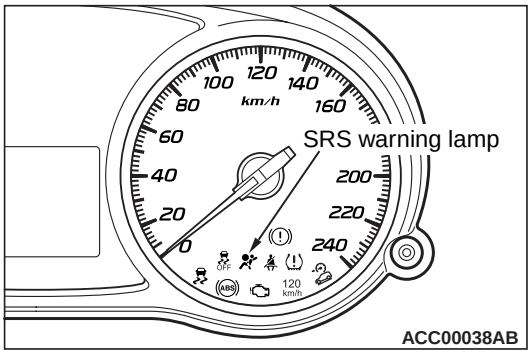
>>B<< FRONT IMPACT SENSOR INSTALLATION

⚠ CAUTION

If the front impact sensor is not securely and correctly installed, the correct operation of air bag and pre-tensioner is prevented.

>>C<< POST-INSTALLATION INSPECTION

1. Connect the negative (–) battery cable.
2. Turn the ignition switch to the "ON" position.



3. Check that the SRS warning lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
4. If the lamp does not extinguish, perform the troubleshooting (Refer to P.52B-13).

INSPECTION

M1524001600608

⚠ CAUTION

If a dent, crack, deformation or rust is found, replace the sensor with a new front impact sensor.

1. Check the front impact sensor for dents, cracks, deformation or rust.
2. Binding of wiring harness, damaged connector, and deformation of terminal
3. Deformation and rust of headlamp support panel

SIDE IMPACT SENSOR

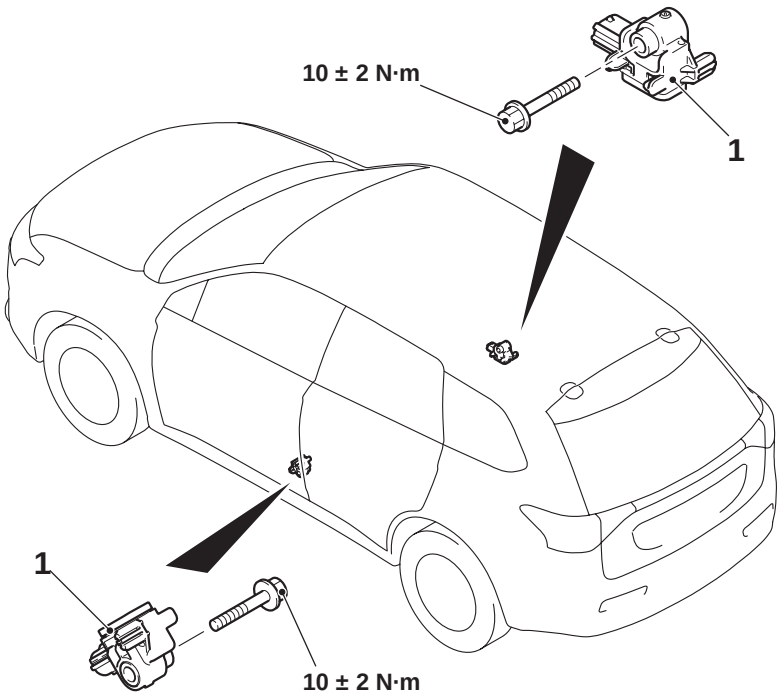
REMOVAL AND INSTALLATION

M1524004601462

⚠ CAUTION

- **Disconnect the negative (–) battery terminal and wait for 60 seconds or more before starting work. Insulate the disconnected (–) terminal by wrapping the tape (Refer to the item 5 of Service Precautions P.52B-7).**
- **Never attempt to disassemble or repair the side impact sensor. If damaged, replace it with new one(s).**
- **Handle the side impact sensor with sufficient caution, and do not drop or subject the sensor to impact or vibration. If there is a dent, crack, or deformation, replace with a new sensor.**
- **After the side/curtain air bag deployment, replace with a new sensor.**

Pre-removal operation
- Turn the ignition switch to the LOCK (OFF) position.
- Disconnect the negative (–) battery terminal.



ACB05458AB

Side impact sensor removal steps
- Centre pillar trim lower (Refer to GROUP 52A – Interior Trim).
- Seat belt with pre-tensioner (Refer to P.52B-147).

<<A>> 1. Side impact sensor

Side impact sensor installation steps

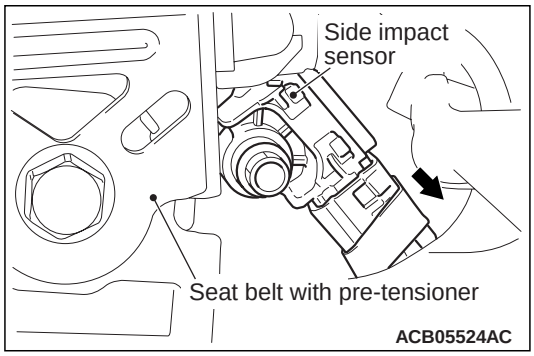
>>A<< • Pre-installation inspection

>>B<< 1. Side impact sensor
- Seat belt with pre-tensioner (Refer to P.52B-147).
- Centre pillar trim lower (Refer to GROUP 52A – Interior Trim).

>>C<< • Post-installation inspection

REMOVAL SERVICE POINT

<<A>> SIDE IMPACT SENSOR CONNECTOR REMOVAL



Slide the outer housing of the side impact sensor connector in the arrow direction shown, and disconnect the connector.

INSTALLATION SERVICE POINTS

>>A<< PRE-INSTALLATION INSPECTION

Even when installing a new side impact sensor, perform an inspection before the installation (Refer to the item on inspection).

>>B<< SIDE IMPACT SENSOR INSTALLATION

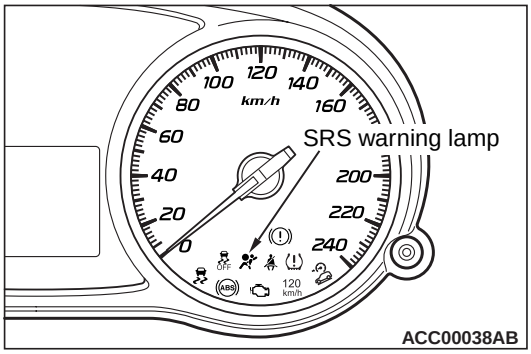
⚠ CAUTION

If the side impact sensor is not securely and correctly installed, the correct operation of side/curtain air bag is prevented.

Connect the connector securely.

>>C<< POST-INSTALLATION INSPECTION

1. Turn the ignition switch to the "ON" position.



2. Check that the SRS warning lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
3. If the lamp does not extinguish, perform the troubleshooting.

INSPECTION

M1524004700701

⚠ CAUTION

If there is a dent, crack, deformation or others, replace with a new sensor.

1. Dents, cracks, deformation, and rust of side impact sensor
2. Connector damage and terminal deformation
3. Deformation or rust of centre pillar and quarter panel

NOTE: For side impact sensor inspections other than above, refer to the item on troubleshooting (Refer to P.52B-13).

SRS CONTROL UNIT (SRS-ECU)

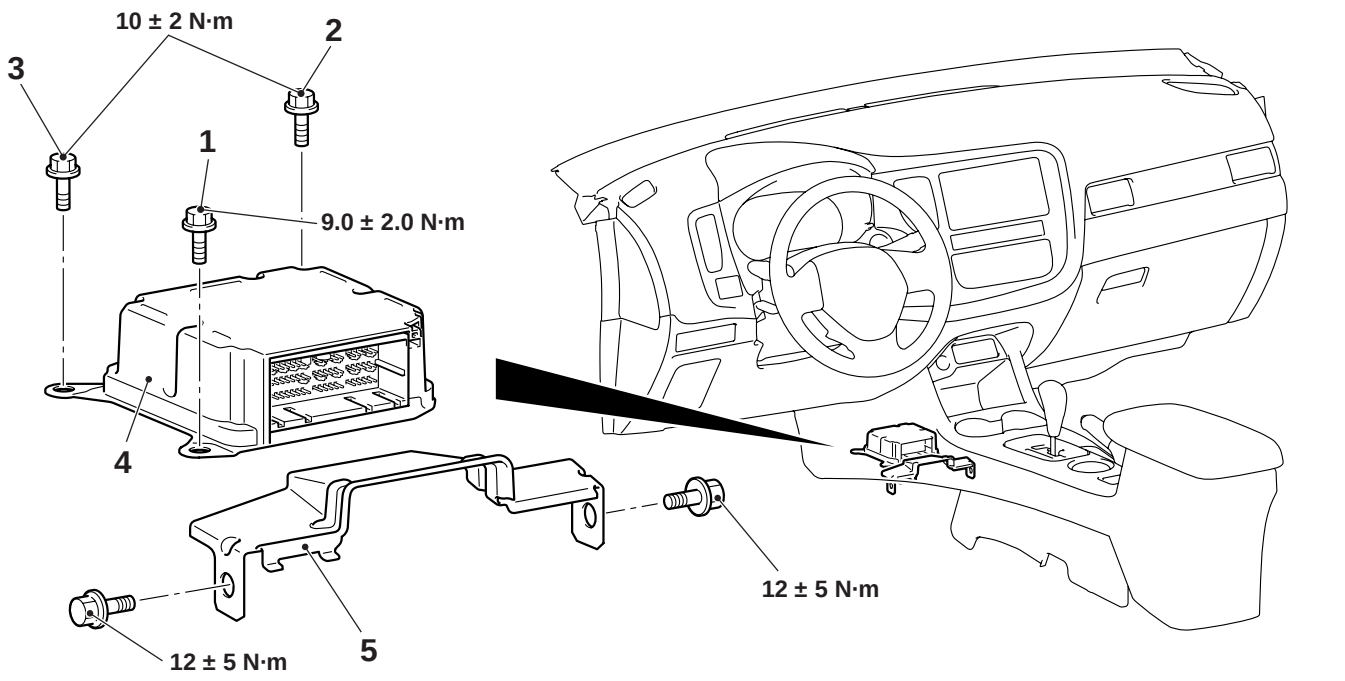
REMOVAL AND INSTALLATION

M1524002101911

⚠ CAUTION

- **Disconnect the negative (–) battery terminal and wait for 60 seconds or more before starting work. Insulate the disconnected (–) terminal by wrapping the tape (Refer to the item 5 of Service Precautions P.52B-7).**
- **Never attempt to disassemble or repair SRS-ECU. If damaged, replace with a new SRS-ECU.**
- **Do not drop or subject SRS-ECU to impact or vibration. If denting, cracking, deformation, or rust is discovered in SRS-ECU, replace it with a new one.**
- **After deployment of the air bags, replace SRS-ECU with a new one.**
- **When the SRS-ECU is replaced, chassis number writing and coding must be performed. Perform the coding when SRS-ECU sets diagnosis code No. U1195 (coding incomplete). Refer to the "M.U.T.-III operation manual" and perform coding.**

Pre-removal operation
- Turn the ignition switch to the LOCK (OFF) position.
- Disconnect the negative (–) battery terminal.



ACB05614AB

Removal steps
- Front floor console panel (Refer to GROUP 52A – Front Floor Console Assembly).
- Rear heater duct A (Refer to GROUP 55 – Duct).

1. SRS-ECU mounting bolt (earth bolt)
2. SRS-ECU mounting bolt
3. SRS-ECU mounting bolt

<<A>> 4. SRS-ECU
5. Control unit cover

Installation steps

5. Control unit cover

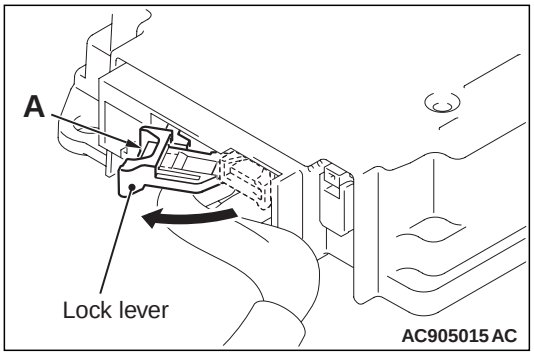
>>A<< 4. SRS-ECU
3. SRS-ECU mounting bolt
2. SRS-ECU mounting bolt

>>B<< 1. SRS-ECU mounting bolt (earth bolt)
- Front floor console panel (Refer to GROUP 52A – Front Floor Console Assembly).
- Rear heater duct A (Refer to GROUP 55 – Duct).

>>C<<
- Post-installation inspection

REMOVAL SERVICE POINT

<<A>> SRS-ECU REMOVAL



While pushing the part "A" indicated in the figure of the harness side connector, turn the lock lever to the direction of the arrow to release the lock lever.

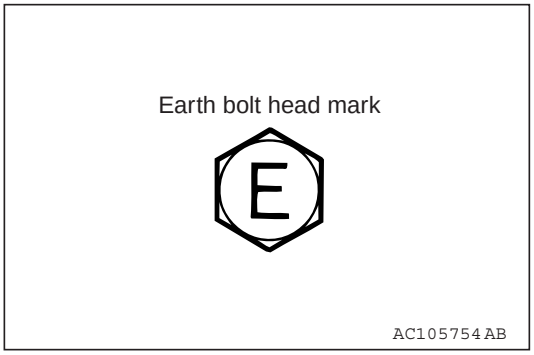
INSTALLATION SERVICE POINTS

>>A<< SRS-ECU INSTALLATION

⚠ CAUTION

If SRS-ECU is not securely and correctly installed, the correct operation of SRS air bag is prevented.

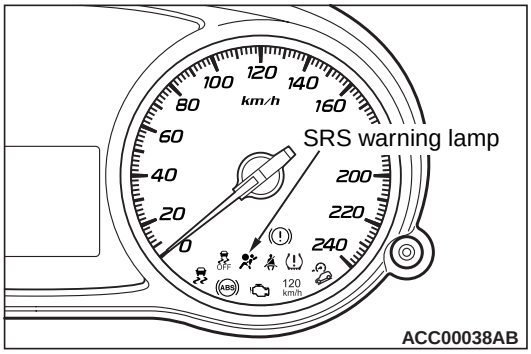
>>B<< SRS-ECU MOUNTING BOLT (EARTH BOLT) INSTALLATION



Check the head mark "E" and install the earth bolt.

>>C<< POST-INSTALLATION INSPECTION

1. Connect the negative (–) battery cable.
2. Turn the ignition switch to the "ON" position.



3. Check that the SRS warning lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
4. If the lamp does not extinguish, perform the troubleshooting (Refer to P.52B-13).

INSPECTION

M1524002200692

NOTE: For SRS-ECU inspections other than below, refer to the item on troubleshooting (Refer to P.52B-13).

⚠ CAUTION

If there are dents, cracks, deformations or others to the SRS-ECU case, replace with the new one.

1. Dent, crack and deformation of SRS-ECU case
2. Damaged connector, deformation of terminal, and harness binding

DRIVER'S AIR BAG MODULE AND CLOCK SPRING

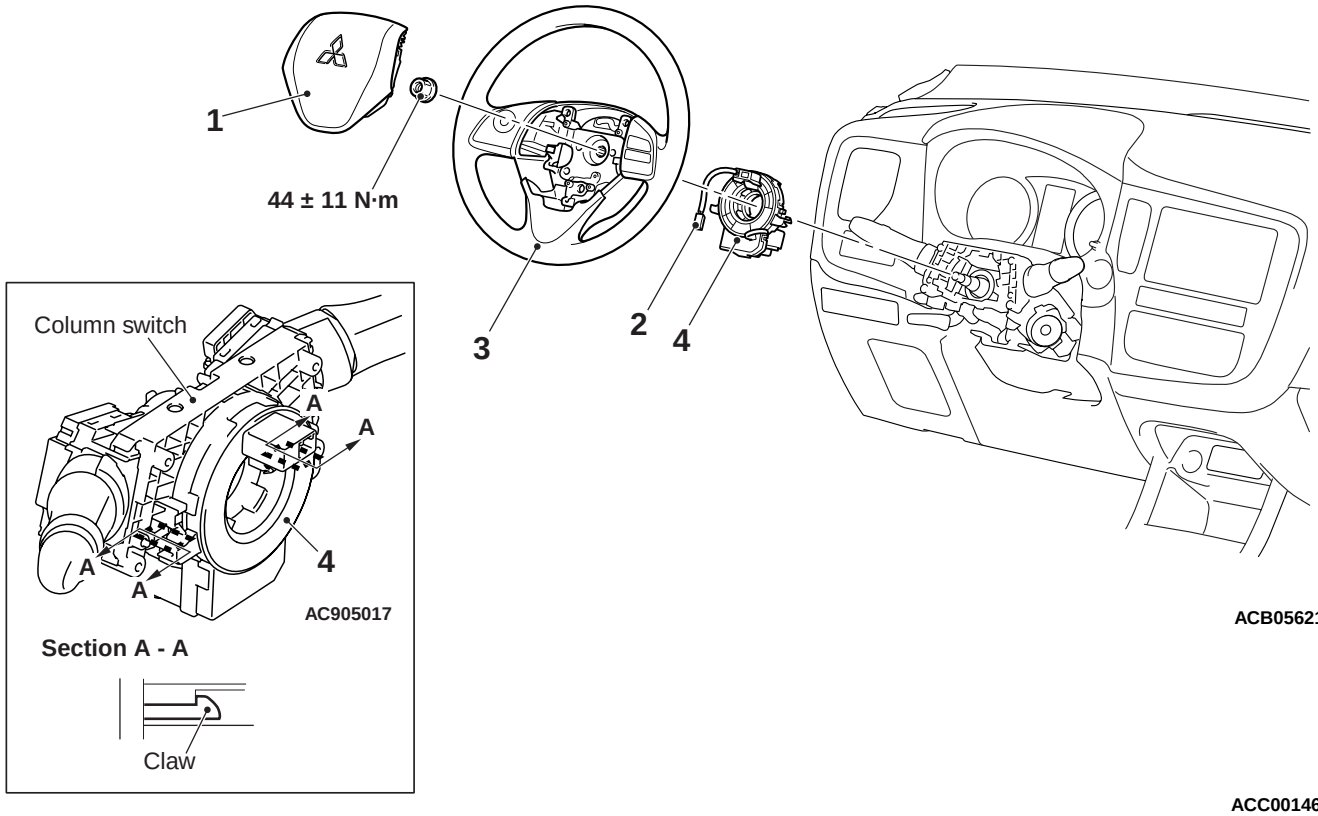
REMOVAL AND INSTALLATION

M1524047500692

⚠ CAUTION

- **Disconnect the negative (–) battery terminal and wait for 60 seconds or more before starting work. Insulate the disconnected (–)terminal by wrapping the tape (Refer to the item 5 of Service Precautions).**
- **Never attempt to disassemble or repair the air bag module and clock spring. If faulty, replace it with new one.**
- **Do not drop the air bag module or clock spring or allow contact with water, grease or oil. If denting, cracking, or deformation is discovered, replace it with new one.**
- **Store the air bag module on a flat surface with the deployment surface facing up. Also, do not put anything on it.**
- **Do not store the air bag module in a place more than 93°C.**
- **When the driver's air bag have been deployed, replace the driver's air bag module with new one. Also, check the clock spring, and replace with a new part if there is an abnormality.**
- **Put on gloves and safety glasses when handling deployed air bag.**
- **When discarding the air bag module, make sure to deploy the air bag before the disposal (Refer to P.52B-152).**

Pre-removal operation
- Disconnect the negative (–) battery terminal.



ACC00146AB

Driver's air bag module removal steps

<<A>> 1. Driver's air bag module
<<B>> 2. Driver's air bag module connector

Driver's air bag module installation steps

>>A<< • Pre-installation inspection
2. Driver's air bag module connector

Driver's air bag module installation steps (Continued)

1. Driver's air bag module

>>D<< • Post-installation inspection

Clock spring removal steps

<<A>> 1. Driver's air bag module
<<B>> 2. Driver's air bag module connector
<<C>> 3. Steering wheel assembly
• Steering column lower, upper cover (Refer to GROUP 37 –Steering Column Shaft Assembly).
<<D>> 4. Clock spring

Clock spring installation steps

>>A<< Pre-installation inspection
>>B<< 4. Clock spring
• Steering column lower, upper cover (Refer to GROUP 37 – Steering Column Shaft Assembly <.
>>C<< 3. Steering wheel assembly

Clock spring installation steps

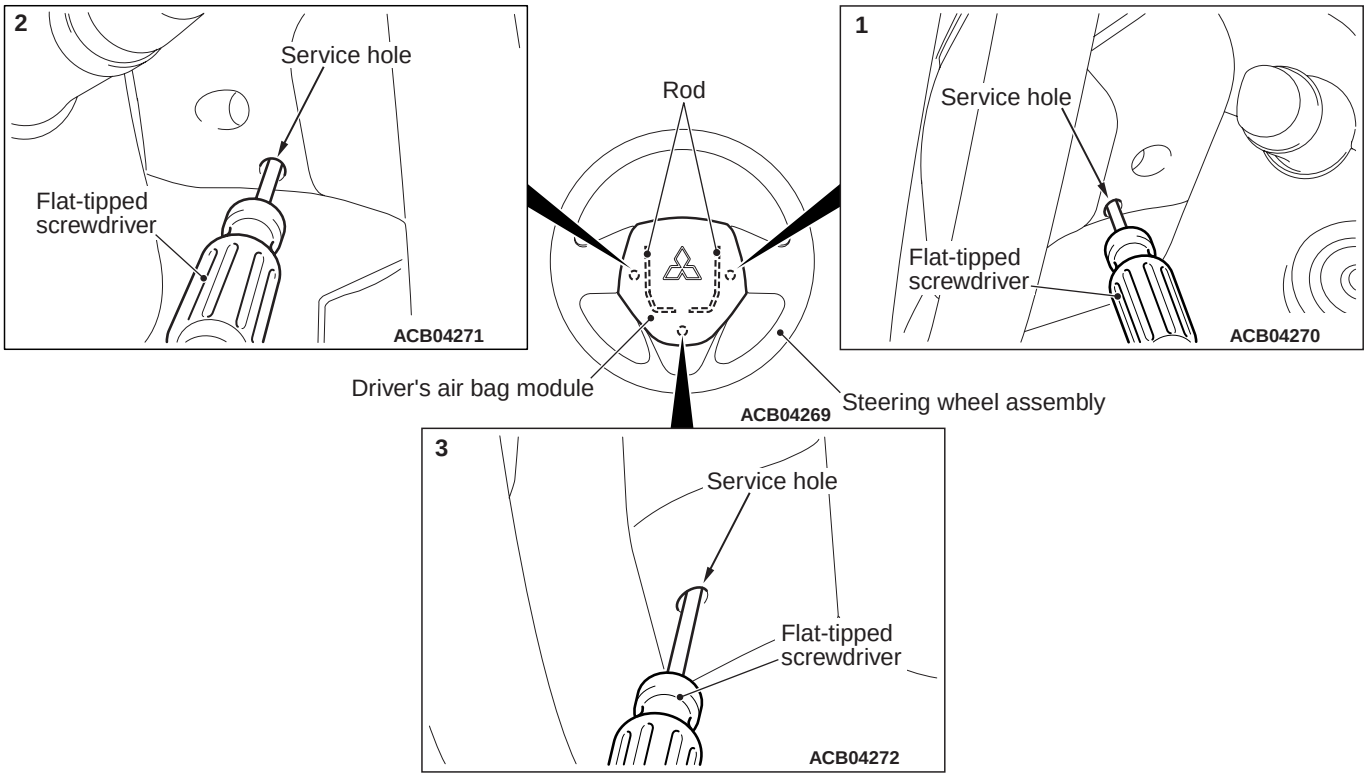
2. Driver's air bag module connector
1. Driver's air bag module

>>D<< • Post-installation inspection

<<A>> DRIVER'S AIR BAG MODULE REMOVAL

⚠ CAUTION

- **Never use an electric tester to diagnose the air bag module circuit. Never attempt to disassemble the air bag module.**
- **Be sure to store the removed air bag module in a clean and dry place with a pad surface facing upward.**
- **When discarding the air bag module, discard after deploying the air bag as specified in the service procedure (Refer to P.52B-152).**



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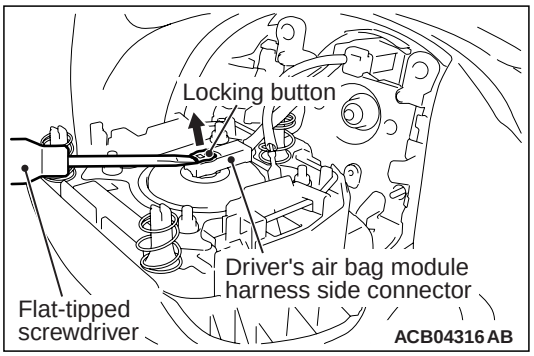
Follow the procedure below according to the item numbers in the illustration.

1. Insert a flat-tipped screwdriver into the service hole on the steering wheel assembly.
2. Use the flat-tipped screwdriver to press the rod in driver's air bag module.
3. When the driver's air bag module is disengaged, the driver's air bag module will be released.
4. Repeat for the other service hole end then remove the driver's air bag module.

<<B>> DRIVER'S AIR BAG MODULE CONNECTOR REMOVAL



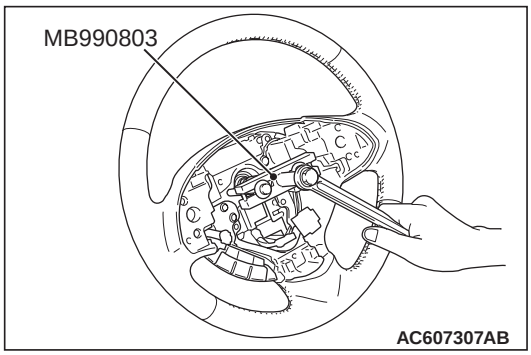
1. Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.

<<C>> STEERING WHEEL ASSEMBLY REMOVAL

⚠ CAUTION

Use the special tool to remove the steering wheel since the steering column collision absorbing mechanism may be damaged.

1. Position the steering wheel in a straight ahead direction.

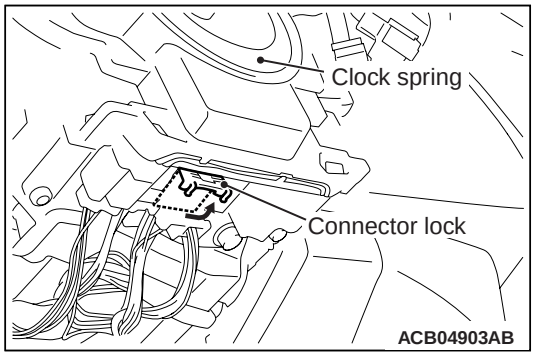


2. Using special tool steering wheel puller (MB990803), remove the steering wheel assembly as shown in the figure.

<<D>> CLOCK SPRING REMOVAL

⚠ CAUTION

The removed clock spring should be stored in a clean, dry place.



Lift the connector lock of clock spring connector to the direction of the arrow, then unlock and disconnect the connector.

INSTALLATION SERVICE POINTS

>>A<< PRE-INSTALLATION INSPECTION

1. Before the installation, check the air bag module and clock spring (Refer to P.52B-135).

   NOTE: Even when installing a new air bag module or clock spring, perform an inspection before the installation.

2. Connect the negative (–) battery terminal.

⚠ CAUTION

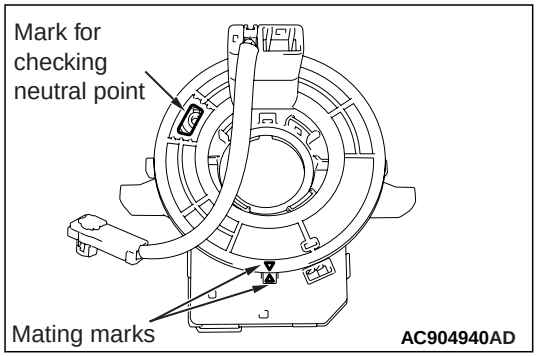
Be sure to turn the ignition key to the LOCK (OFF) position when connecting or disconnecting M.U.T.-III.

3. Connect M.U.T.-III to the diagnosis connector (16 pin).
4. Turn the ignition switch to the ON position.
5. Read the diagnosis code, and check that everything is normal except the air bag module open circuit.
6. Turn the ignition switch to the LOCK (OFF) position.

>>B<< CLOCK SPRING INSTALLATION

⚠ CAUTION

- **If the centre of the clock spring is not correctly aligned, the steering wheel may not be turned fully or the cable inside the clock spring may be broken, causing the SRS airbag to be inoperative or operated incorrectly.**
- **When aligning the clock spring neutral position mark, perform with the clock spring independently. If performed with the steering wheel sensor installed, the steering wheel sensor may be damaged.**



Align the mating marks of the clock spring.

<Alignment of mating marks>

(1) Turn the clock spring clockwise fully.

(2) Turn the clock spring anti-clockwise approximately two and 9/10 turns to align the mating marks.

(3) Check that the orange roller can be seen from the window for checking the neutral point when the mating marks are aligned.

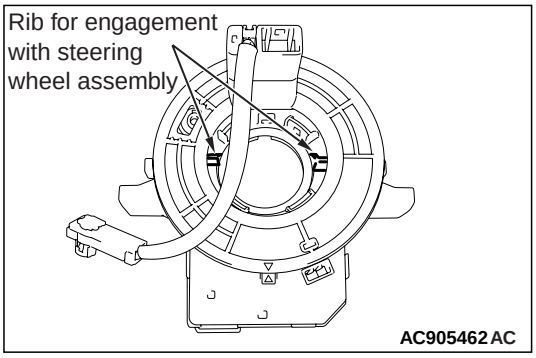
NOTE: If the orange roller cannot be seen or black roller can be seen, the neutral point is not aligned correctly.

(4) Install the clock spring to the column switch.

>>C<< STEERING WHEEL ASSEMBLY INSTALLATION

⚠ CAUTION

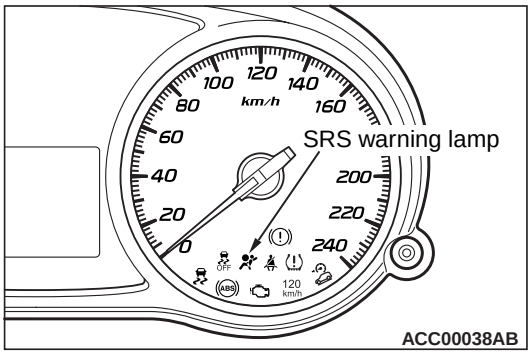
When installing the steering wheel assembly, do not trap the clock spring harness.



1. After checking that the clock spring centre alignment is already performed, install the steering wheel assembly so that its boss part is aligned with the rib of the clock spring slowly.
2. After the installation, check that there is no abnormality when the steering wheel is fully turned to left and right.

>>D<< POST-INSTALLATION INSPECTION

1. Connect the negative (–) battery cable.
2. Turn the ignition switch to the "ON" position.



3. Check that the SRS warning lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
4. If the lamp does not extinguish, perform the troubleshooting (Refer to P.52B-13).

INSPECTION

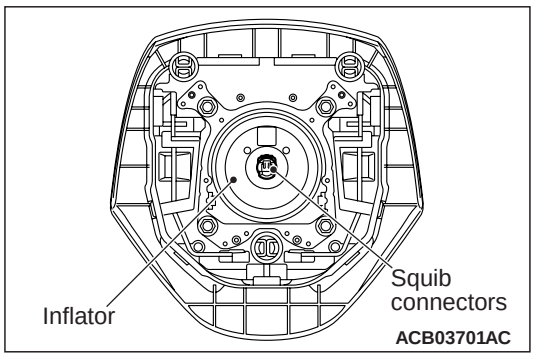
M1524047600280

DRIVER'S AIR BAG MODULE

⚠ CAUTION

- **Never measure circuit resistance in the air bag modules (squib) even with the specified tester. Measuring the circuit resistance with a tester causes accidental air bag deployment due to current that flows or static, resulting in serious personal injury.**
- **When replacing the parts, discard the old parts after deploying the air bag according to the specified procedure (Refer to P.52B-152).**

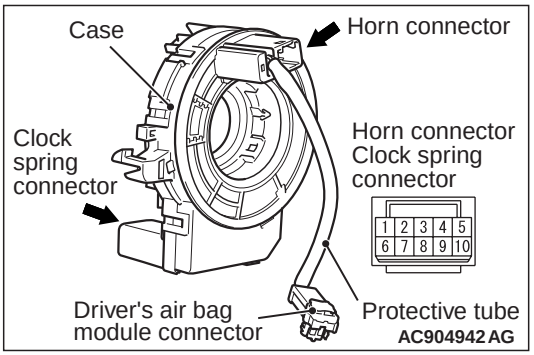
If any malfunction is found in the following inspections, replace the air bag module with a new one.



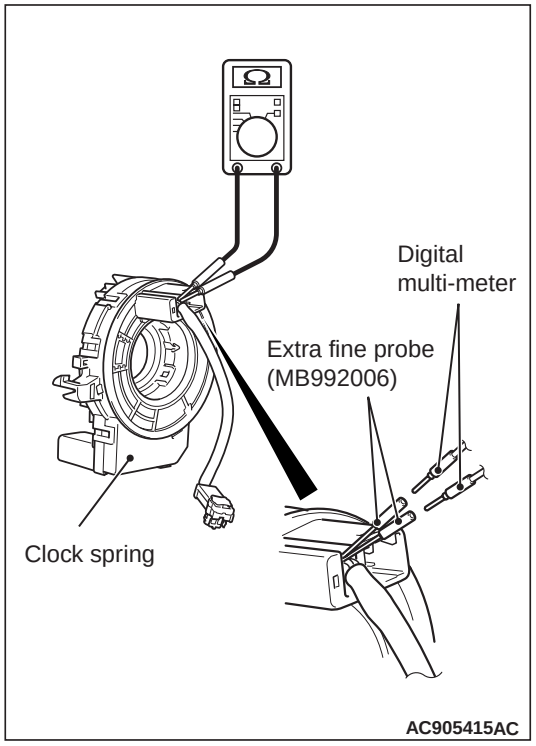
1. Pad cover dent, crack or deformation
2. Check the harness and connector for damage and the terminal for deformation.
3. Check the air bag inflator cases for dents, cracks or deformation.
4. Check the air bag module for proper installation.

CLOCK SPRING

If any malfunction is found in the following inspections, replace the clock spring with a new one.



1. Check the connectors and protective tubes for damage and the terminal for deformation.
2. Check the case for damage.
3. Check that the continuity exists between the following connector terminals.
   - Clock spring connector terminal 1 and horn connector terminal 1
   - Clock spring connector terminal 5 and horn connector terminal 5



4. As shown in the Figure, connect the circuit tester to special tool extra fine probe (MB992006) and check to see that there is a charge between the terminals.

PASSENGER'S (FRONT) AIR BAG MODULE

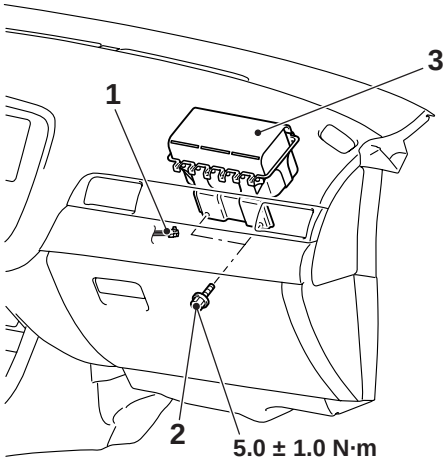
REMOVAL AND INSTALLATION

M1524047300386

⚠ CAUTION

- **Disconnect the negative (–) battery terminal and wait for 60 seconds or more before starting work. Insulate the disconnected (–)terminal by wrapping the tape (Refer to the item 5 of Service Precautions P.52B-7).**
- **Never attempt to disassemble or repair the air bag module. If faulty, replace it with new one.**
- **Do not drop the air bag module or allow contact with water, grease or oil. If denting, cracking, or deformation is discovered, replace it with new one.**
- **Store the air bag modules on a flat surface with the deployment surface facing up. Also, do not put anything on it.**
- **Do not store the air bag module in a place more than 93°C.**
- **When the air bags have been deployed, replace the and air bag module with new one.**
- **Put on gloves and safety glasses when handling deployed air bags.**
- **When discarding the air bag module, make sure to deploy the air bag before the disposal (Refer to P.52B-152).**

Pre-removal operation
- Turn ignition switch to the LOCK (OFF) position.
- Disconnect the negative (–) battery terminal.



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Removal steps

- Upper glove box assembly (Refer to GROUP 52A – Instrument Panel Assembly).

<<A>> 1. Passenger's (front) air bag module connector

2. Bolts

- Instrument panel assembly (Refer to GROUP 52A – Instrument Panel Assembly).

<<B>> 3. Passenger's (front) air bag module

Installation steps

>>A<<
- Pre-installation inspection

3. Passenger's (front) air bag module

- Instrument panel assembly (Refer to GROUP 52A – Instrument Panel Assembly).

2. Bolts

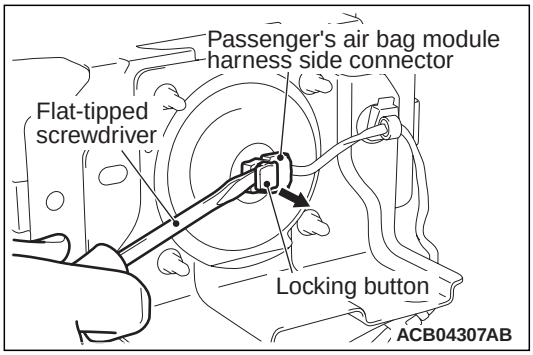
1. Passenger's (front) air bag module connector

- Upper glove box assembly (Refer to GROUP 52A – Instrument Panel Assembly).

>>B<<
- Post-installation inspection

REMOVAL SERVICE POINTS

<<A>> PASSENGER'S (FRONT) AIR BAG MODULE CONNECTOR REMOVAL

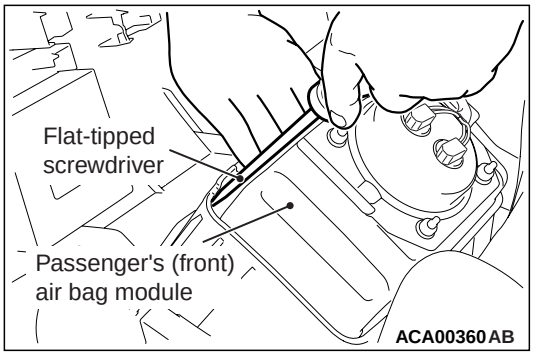


Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.

<<B>> PASSENGER'S (FRONT) AIR BAG MODULE REMOVAL

⚠ CAUTION

- **Never use an electric tester to diagnose the air bag module circuit. Never attempt to disassemble the air bag module.**
- **The removed passenger's air bag module should be stored in a clean, dry place with the deployment surface facing up.**
- **When discarding the air bag module, discard after deploying the air bag as specified in the service procedure (Refer to P.52B-152).**



Insert a flat-tipped screwdriver or similar tool to the location shown in the figure. After disengaging the tabs, remove the passenger's (front) air bag module.

INSTALLATION SERVICE POINTS

>>A<< PRE-INSTALLATION INSPECTION

1. Before the installation, check the air bag module (Refer to P.52B-137).

NOTE: Even when installing a new air bag module, perform an inspection before the installation.

2. Connect the negative (–) battery terminal.

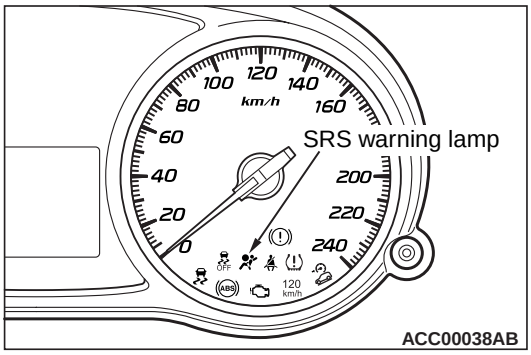
⚠ CAUTION

Be sure to turn the ignition key to the LOCK (OFF) position when connecting or disconnecting M.U.T.-III.

3. Connect M.U.T.-III to the diagnosis connector (16 pin).
4. Turn the ignition switch to the ON position.
5. Read the diagnosis code, and check that everything is normal except the air bag module open circuit.
6. Turn the ignition switch to the LOCK (OFF) position.

>>B<< POST-INSTALLATION INSPECTION

1. Connect the negative (–) battery cable.
2. Turn the ignition switch to the "ON" position.



3. Check that the SRS warning lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
4. If the lamp does not extinguish, perform the troubleshooting (Refer to P.52B-13).

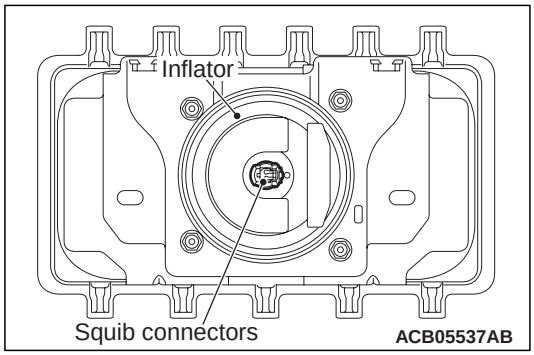
INSPECTION

M1524047400145

⚠ CAUTION

- **Never measure circuit resistance in the air bag modules (squib) even with the specified tester. Measuring the circuit resistance with a tester causes accidental air bag deployment due to current that flows or static, resulting in serious personal injury.**
- **When replacing the parts, discard the old parts after deploying the air bag according to the specified procedure (Refer to P.52B-152).**

If any malfunction is found in the following inspections, replace the air bag module with a new one.



1. Check the harness and connector for damage and the terminal for deformation.
2. Check the air bag inflator cases for dents, cracks or deformation.
3. Check the air bag module for proper installation.

KNEE AIR BAG MODULE

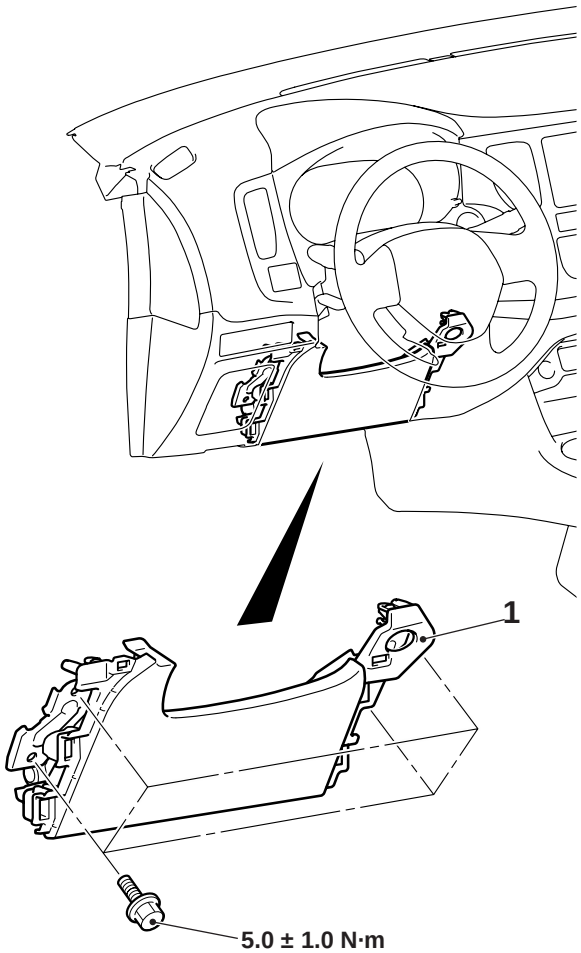
REMOVAL AND INSTALLATION

M1524044000319

⚠ CAUTION

- **Disconnect the negative (–) battery terminal and wait for 60 seconds or more before starting work. Insulate the disconnected (–) terminal by wrapping the tape (Refer to the item 5 of Service Precautions P.52B-7).**
- **Never attempt to disassemble or repair the air bag module. If faulty, replace it with new one(s).**
- **Handle the air bag module with sufficient caution, and do not drop the module or allow contact with water, oil, or others. If denting, cracking, or deformation is discovered, replace it with new one(s).**
- **Store the air bag module on a flat surface. Also, do not put anything on it.**
- **Do not store the air bag modules in a place more than 93°C.**
- **After the knee air bag deployment, replace the knee air bag module with a new part.**
- **Put on gloves and safety glasses when handling deployed air bags.**
- **When discarding the air bag module, make sure to deploy the air bag before the disposal (Refer to P.52B-152)**

Pre-removal operation
- Turn the ignition switch to the LOCK (OFF) position.
- Disconnect the negative (–) battery terminal.



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Removal steps
- Side lower panel assembly (LH), Centre lower panel assembly (Refer to GROUP 52A, Instrument Panel Assembly).

<<A>> 1. Knee air bag module

Installation steps

>>A<< • Pre-installation inspection

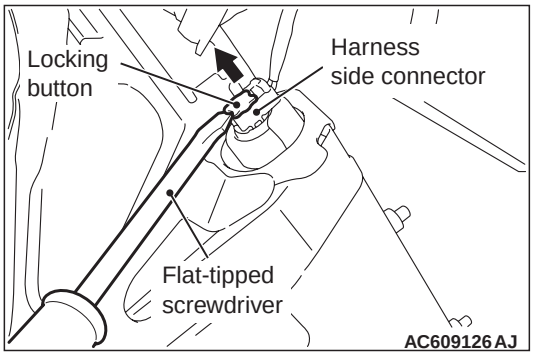
>>B<< 1. Knee air bag module
- Side lower panel assembly (LH), Centre lower panel assembly (Refer to GROUP 52A, Instrument Panel Assembly).

>>C<< • Post-installation inspection

REMOVAL SERVICE POINTS

<<A>> KNEE AIR BAG MODULE REMOVAL

⚠ CAUTION
- **Never use an electric tester to diagnose the air bag module circuit. Never attempt to disassemble the air bag module.**
- **The removed air bag module should be stored in a clean, dry place.**
- **When discarding the air bag module, discard after deploying the air bag as specified in the service procedure (Refer to P.52B-152).**



Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.

INSTALLATION SERVICE POINTS

>>A<< PRE-INSTALLATION INSPECTION

1. Before the installation, check the air bag module (Refer to P.52B-146).

NOTE: Even when installing a new air bag module, perform an inspection before the installation.

2. Connect the negative (–) battery terminal.

⚠ CAUTION
Be sure to turn the ignition key to the LOCK (OFF) position when connecting or disconnecting M.U.T.-III.

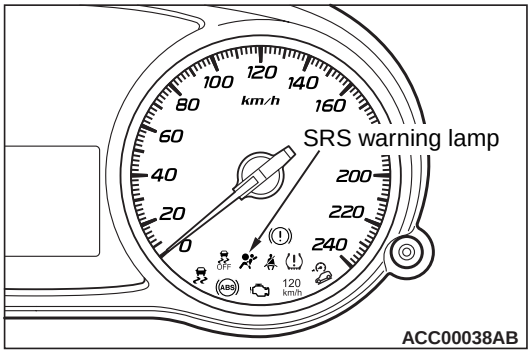
3. Connect M.U.T.-III to the diagnosis connector (16 pin).
4. Turn the ignition switch to the ON position.
5. Read the diagnosis code, and check that everything is normal except the air bag module open circuit.
6. Turn the ignition switch to the LOCK (OFF) position.

>>B<< KNEE AIR BAG MODULE INSTALLATION

⚠ CAUTION
- **Take care not to contort the knee air bag when installing it.**
- **Connect the connector to the inflator thoroughly.**

>>C<< POST-INSTALLATION INSPECTION

1. Turn the ignition switch to the "ON" position.



2. Check that the SRS warning lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
3. If the lamp does not extinguish, perform the troubleshooting (Refer to P.52B-13).

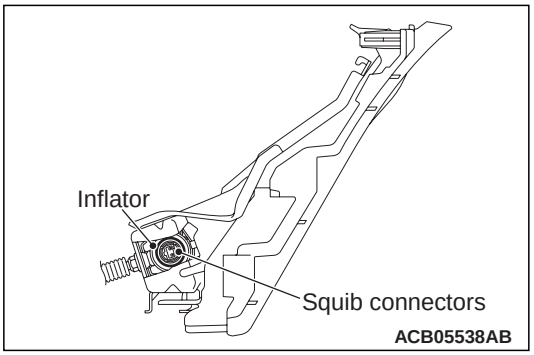
INSPECTION

M1524044100123

⚠ CAUTION

- **Never measure the knee air bag module circuit resistance even with the specified tester. Measuring the circuit resistance with a tester causes accidental air bag deployment due to current that flows or static, resulting in serious personal injury.**
- **When replacing the parts, discard the old parts after deploying the air bag according to the specified procedure (Refer to P.52B-152).**
- **There must be no abnormality to the knee air bag deployment section of headlining.**

If any malfunction is found in the following inspections, replace with a new knee air bag module.



1. Crack, dent or deformation to inflator surface
2. Torn air bag
3. Damaged connector, deformation of terminal, and harness binding

SIDE-AIRBAG MODULE(S)

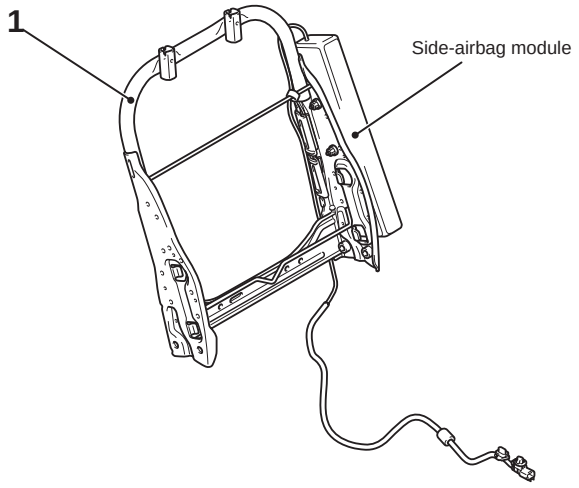
REMOVAL AND INSTALLATION

M1524036500740

⚠ CAUTION

- **Disconnect the negative auxiliary battery terminal and wait for 60 seconds or more before starting work. Insulate the disconnected (–) terminal by wrapping the tape (Refer to the item 5 of Service Precautions P.52B-7).**
- **Never attempt to disassemble or repair the air bag module. If faulty, replace it with new one(s).**
- **Handle the front seatback frame (with side-airbag module) with sufficient caution, and do not drop the assembly or allow contact with water, oil, or others. If denting, cracking, or deformation is discovered, replace it with new one(s).**
- **Store the front seatback frame (with side-airbag module) on a flat surface. Also, do not put anything on it.**
- **Do not store the front seatback frame (with side-airbag module) in a place where the temperature exceeds 93°C.**
- **After the side-airbag deployment, replace the front seatback frame (with side-airbag module) with the new one.**
- **Put on gloves and safety glasses when handling deployed air bags.**
- **When discarding the air bag module, make sure to deploy the air bag before the disposal (Refer to P.52B-152).**

Pre-removal operation
- Electric motor switch to the "ON" position.
- Disconnect the negative auxiliary battery terminal.



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Removal step
- Front seat assembly (Refer to GROUP 52A – Front Seat Assembly)

<<**A**>> 1. Front seatback frame (with side-airbag module) (Refer to GROUP 52A – Front Seat Assembly)

Installation step

>>**A**<<
- Pre-installation inspection

1. Front seatback frame (with side-airbag module) (Refer to GROUP 52A – Front Seat Assembly)
- Front seat assembly (Refer to GROUP 52A – Front Seat Assembly)

>>**B**<<
- Post-installation inspection

REMOVAL SERVICE POINT

<<A>> FRONT SEATBACK FRAME (WITH SIDE-AIRBAG MODULE) REMOVAL

⚠ CAUTION

- **When replacing the side-airbag module, replace the front seatback frame.**
- **Never use an electric tester to diagnose the air bag module circuit. Never attempt to disassemble the air bag module.**
- **Store the removed front seatback frame in a clean and dry place.**
- **When discarding the air bag module, discard after deploying the air bag as specified in the service procedure (Refer to P.52B-152).**

INSTALLATION SERVICE POINTS

>>A<< PRE-INSTALLATION INSPECTION

1. Before the installation, check the air bag module (Refer to P.52B-143).

   NOTE: Even when installing a new front seatback frame (with side-airbag module), perform an inspection before the installation.
2. Connect the negative auxiliary battery terminal.

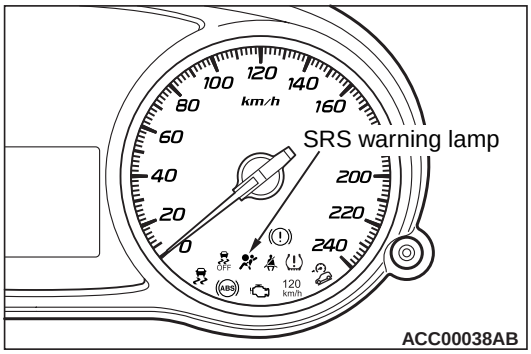
⚠ CAUTION

Be sure to turn the ignition key to the LOCK (OFF) position when connecting or disconnecting M.U.T.-III.

3. Connect M.U.T.-III to the diagnosis connector (16 pin).
4. Turn the ignition switch to the ON position.
5. Read the diagnosis code, and check that everything is normal except the air bag module open circuit.
6. Electric motor switch to the "ON" position.

>>B<< POST-INSTALLATION INSPECTION

1. Turn the ignition switch to the "ON" position.

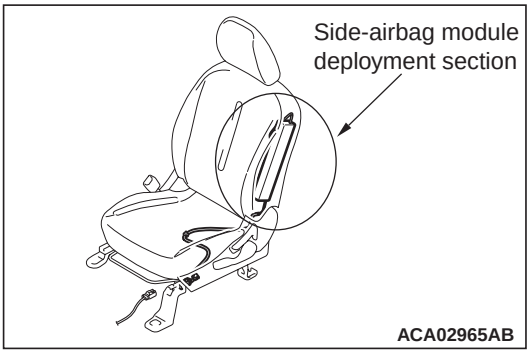


2. Check that the SRS warning lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
3. If the lamp does not extinguish, perform the troubleshooting (Refer to P.52B-13).

INSPECTION

M1524036600220

⚠ CAUTION



- **Never measure the side-airbag module (squib) circuit resistance even with the specified tester. Measuring the circuit resistance with a tester causes accidental air bag deployment due to current that flows or static, resulting in serious personal injury.**
- **When replacing the parts, discard the old parts after deploying the air bag according to the specified procedure (Refer to P.52B-152).**

If any malfunction is found in the following inspections, replace the front seatback pad and frame assembly with the new one. Discard the removed front seatback pad and frame assembly after deploying the air bag according to the specified procedure (Refer to P.52B-152).

1. Dent or deformation to side-airbag module deployment part
2. Check the harness and connector for damage and the terminal for deformation.

CURTAIN AIR BAG MODULE(S)

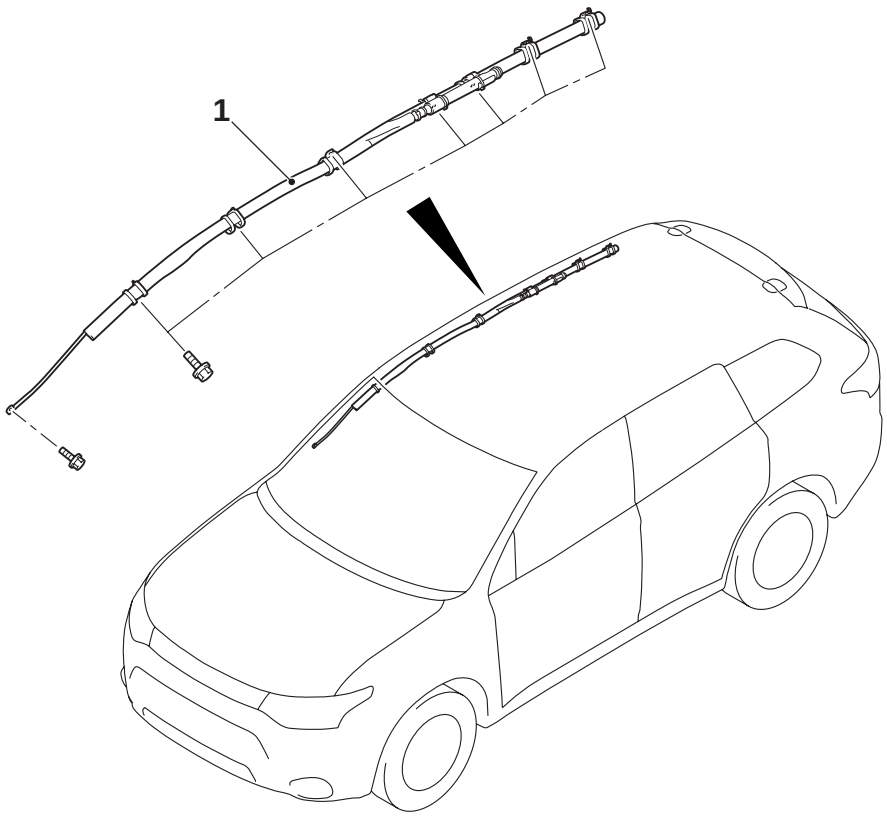
REMOVAL AND INSTALLATION

M1524013500727

⚠ CAUTION

- **Disconnect the negative (–) battery terminal and wait for 60 seconds or more before starting work. Insulate the disconnected (–) terminal by wrapping the tape (Refer to the item 5 of Service Precautions P.52B-7).**
- **Never attempt to disassemble or repair the air bag module. If faulty, replace it with new one(s).**
- **Handle the air bag module with sufficient caution, and do not drop the module or allow contact with water, oil, or others. If denting, cracking, or deformation is discovered, replace it with new one(s).**
- **Store the air bag module on a flat surface. Also, do not put anything on it.**
- **Do not store the air bag modules in a place more than 93°C.**
- **After the curtain air bag deployment, replace the curtain air bag module with a new part.**
- **Put on gloves and safety glasses when handling deployed air bags.**
- **When discarding the air bag module, make sure to deploy the air bag before the disposal (Refer to P.52B-152)**

Pre-removal operation
- Turn the ignition switch to the LOCK (OFF) position.
- Disconnect the negative (–) battery terminal.



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Removal steps
- Headlining (Refer to GROUP 52A – Headlining).

<<A>> 1. Curtain air bag module connector

Installation steps

>>A<< • Pre-installation inspection

>>B<< 1. Curtain air bag module
- Headlining (Refer to GROUP 52A – Headlining).

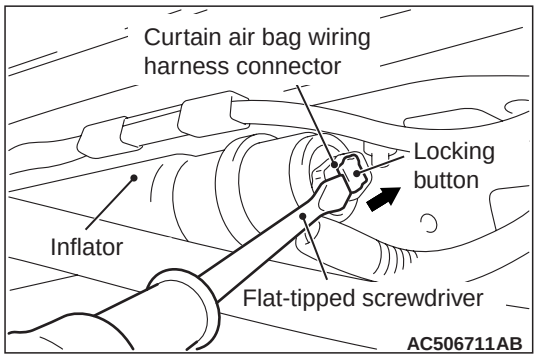
>>C<< • Post-installation inspection

NOTE: The figure shows the right curtain air bag module.

REMOVAL SERVICE POINT

<<A>> CURTAIN AIR BAG MODULE REMOVAL

⚠ CAUTION
- **Never use an electric tester to diagnose the air bag module circuit. Never attempt to disassemble the air bag module.**
- **The removed air bag module should be stored in a clean, dry place.**
- **When discarding the air bag module, discard after deploying the air bag as specified in the service procedure (Refer to P.52B-152).**



Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.

INSTALLATION SERVICE POINTS

>>A<< PRE-INSTALLATION INSPECTION

1. Before the installation, check the air bag module (Refer to P.52B-146).

   NOTE: Even when installing a new air bag module, perform an inspection before the installation.

2. Connect the negative battery terminal.

⚠ CAUTION
Be sure to turn the ignition key to the LOCK (OFF) position when connecting or disconnecting M.U.T.-III.

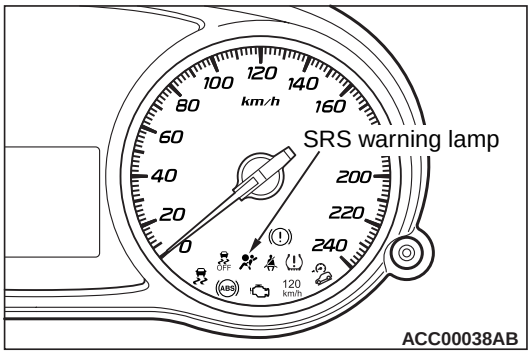
3. Connect M.U.T.-III to the diagnosis connector (16 pin).
4. Turn the ignition switch to the ON position.
5. Read the diagnosis code, and check that everything is normal except the air bag module open circuit.
6. Turn the ignition switch to the LOCK (OFF) position.

>>B<< CURTAIN AIR BAG MODULE INSTALLATION

⚠ CAUTION
- **Take care not to contort the curtain air bag when installing it.**
- **Do not trap the air bag with the peripheral parts.**
- **Do not trap the strap with the front pillar trim clip or others.**
- **Connect the connector to the inflator thoroughly.**

>>C<< POST-INSTALLATION INSPECTION

1. Turn the ignition switch to the "ON" position.

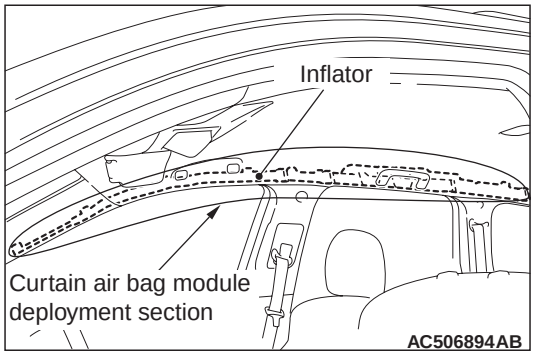


2. Check that the SRS warning lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
3. If the lamp does not extinguish, perform the troubleshooting (Refer to P.52B-13).

INSPECTION

M1524013600337

⚠ CAUTION



- **Never measure the curtain air bag module circuit resistance even with the specified tester. Measuring the circuit resistance with a tester causes accidental air bag deployment due to current that flows or static, resulting in serious personal injury.**
- **When replacing the parts, discard the old parts after deploying the air bag according to the specified procedure (Refer to P.52B-152).**
- **There must be no abnormality to the curtain air bag deployment section of headlining.**

If any malfunction is found in the following inspections, replace with a new curtain air bag module.

1. Crack, dent or deformation to inflator surface
2. Torn air bag
3. Damaged connector, deformation of terminal, and harness binding

SEAT BELTS WITH PRE-TENSIONER

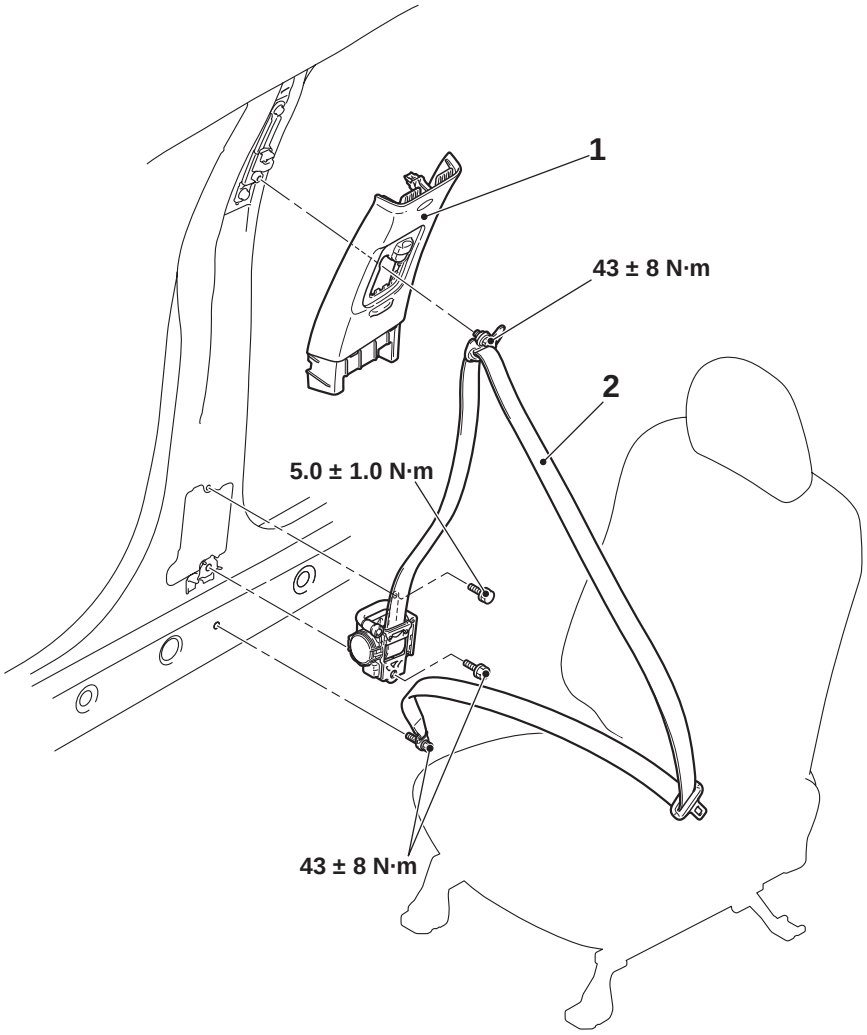
REMOVAL AND INSTALLATION

M1524004101809

⚠ CAUTION

- **Disconnect the negative (–) battery terminal and wait for 60 seconds or more before starting work. Insulate the disconnected (–) terminal by wrapping the tape (Refer to the item 5 of Service Precautions P.52B-7).**
- **Never attempt to disassemble or repair the seat belt pre-tensioner. If faulty, replace it with new one(s).**
- **Do not drop the seat belt with pre-tensioner or allow contact with water, grease or oil. If denting, cracking, or deformation is discovered, replace it with new one(s).**
- **Do not place anything on top of seat belt pre-tensioner.**
- **Do not store the seat belt with pre-tensioner in a place more than 90°C.**
- **After the seat belt pre-tensioner deployment, replace with the new seat belt with pre-tensioner.**
- **Put on gloves and safety glasses when handling a seat belt pre-tensioner once it has been used.**
- **When discarding the seat belt with pre-tensioner, be sure to dispose it after deploying the seat belt pre-tensioner (Refer to P.52B-163).**

Pre-removal operation
- Turn the ignition switch to the LOCK (OFF) position.
- Disconnect the negative (–) battery terminal.



ACC00044AB

Removal steps
- Front scuff plate, scuff plate rear, centre pillar trim lower (Refer to GROUP 52A – Interior Trim).

1. Centre pillar trim upper (Refer to GROUP 52A – Interior Trim)
2. <<**A**>> Seat belt with pre-tensioner

Installation steps
- >>**A**<< Pre-installation inspection

2. Seat belt with pre-tensioner
1. Centre pillar trim upper (Refer to GROUP 52A – Interior Trim)

- Front scuff plate, scuff plate rear, centre pillar trim lower (Refer to GROUP 52A – Interior Trim).
- >>**B**<< Post-installation inspection

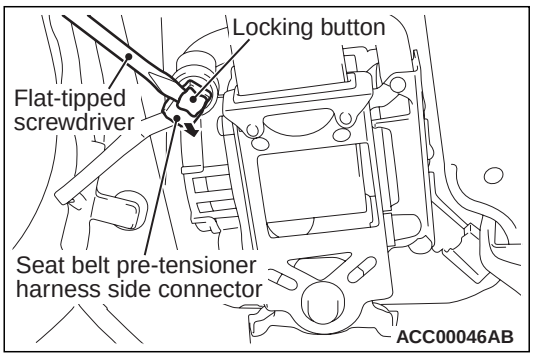
NOTE: The figure shows the driver's side seat belt.

REMOVAL SERVICE POINT

<<A>> SEAT BELT WITH PRE-TENSIONER REMOVAL

⚠ CAUTION

When discarding the seat belt with pre-tensioner, discard after operating the seat belt pre-tensioner as specified in the service procedure (Refer to P.52B-163).



Use the flat-tipped screwdriver to pull out the locking button of wiring harness side connector, and release the lock.

INSTALLATION SERVICE POINTS

>>A<< PRE-INSTALLATION INSPECTION

1. Check the seat belt pre-tensioner before installation (Refer to P.52B-149).

   NOTE: Even when installing a new seat belt with pre-tensioner, perform an inspection before the installation.
2. Connect the negative battery terminal.

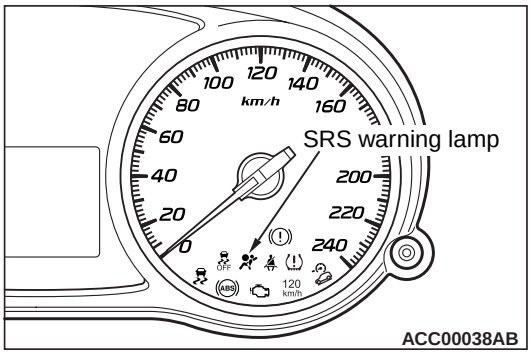
⚠ CAUTION

Be sure to turn the ignition key to the LOCK (OFF) position when connecting or disconnecting M.U.T.-III.

3. Connect M.U.T.-III to the diagnosis connector (16 pin).
4. Turn the ignition switch to the ON position.
5. Read the diagnosis code, and check that everything is normal except the pre-tensioner open circuit.
6. Turn the ignition switch to the LOCK (OFF) position.

>>B<< POST-INSTALLATION INSPECTION

1. Turn the ignition switch to the "ON" position.



2. Check that the SRS warning lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
3. If the lamp does not extinguish, perform the troubleshooting (Refer to P.52B-13).
4. Check the seat belt operation. If the seat belt cannot be draw out, replace with a new seat belt with pre-tensioner.

INSPECTION

M1524004200728

⚠ CAUTION

- **Never measure circuit resistance in the seat belt pre-tensioner and lap pre-tensioner even with the specified tester. Measuring the circuit resistance with a tester causes accidental air bag deployment due to current that flows or static, resulting in serious personal injury.**
- **When replacing the parts, discard the old parts after deploying the seat belt pre-tensioner according to the specified procedure (Refer to P.52B-163).**

If any malfunction is found in the following inspections, replace the seat belt with pre-tensioner with a new one.

1. Check the seat belt pre-tensioner and lap pre-tensioner for dents, cracks or deformation.
2. Check the harness and connector for damage and the terminal for deformation.

PASSENGER'S AIR BAG CUT OFF SWITCH

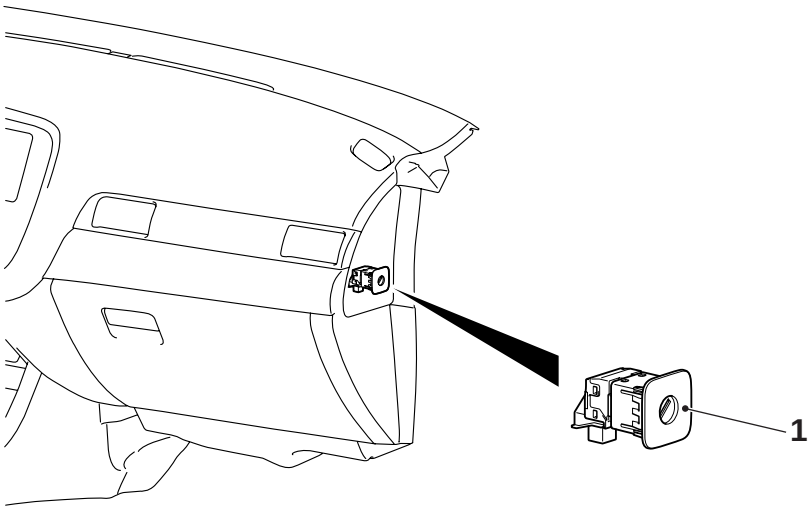
REMOVAL AND INSTALLATION

M1524026700538

⚠ WARNING

- ***Never attempt to disassemble or repair the passenger's air bag cut off switch. If faulty, replace it.***
- ***Do not drop or subject the passenger's air bag cut off switch to impact or vibration. Replace the passenger's air bag cut off switch, if a dent, cracking, deformation, or rust is present.***

Pre-removal Operation
- Turn the ignition key to the "LOCK" (OFF) position.
- Disconnect the negative (–) battery terminal.



ACB05631AB

Removal steps
- Glove box side panel (Refer to GROUP 52A – Instrument panel assembly).

1. Passenger's air bag cut off switch

Installation steps

>>A<<
- Pre-installation inspection

>>B<<

1. Passenger's air bag cut off switch

- Glove box side panel (Refer to GROUP 52A – Instrument panel assembly).

>>C<<
- Post-installation inspection

INSTALLATION SERVICE POINTS

>>A<< PRE-INSTALLATION INSPECTION

Check the passenger's air bag cut off switch for dents, breakage and bending and measure the resistance between the terminals, even when installing a new passenger's air bag cut off switch.

>>B<< PASSENGER'S AIR BAG CUT OFF SWITCH INSTALLATION

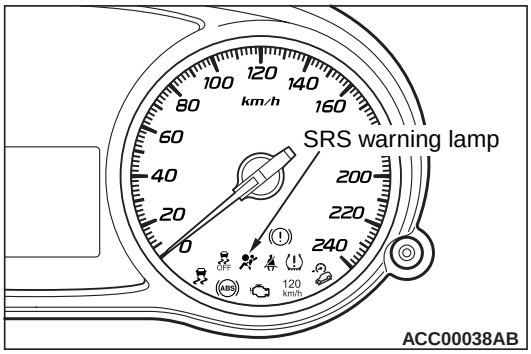
⚠ WARNING

If the passenger's air bag cut off switch is not installed securely and correctly, the passenger's (front) air bag may not operate normally.

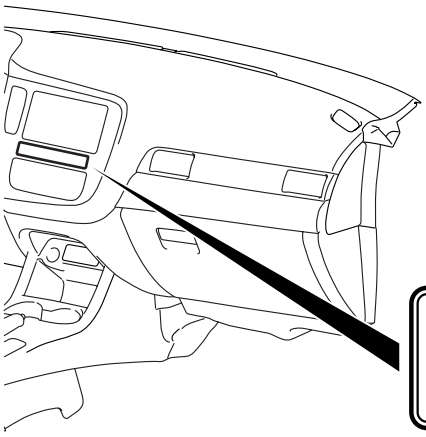
Securely connect the connector.

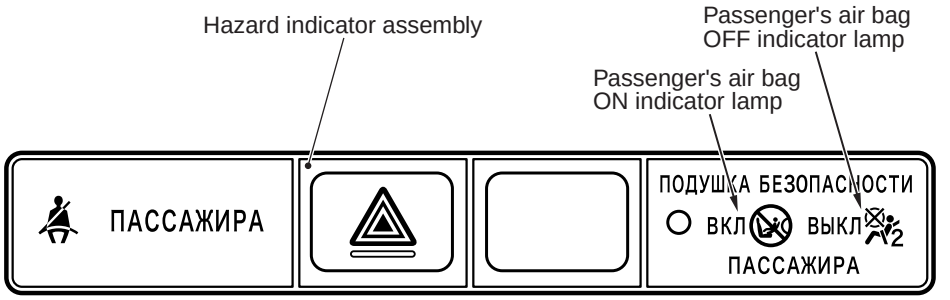
>>C<< POST-INSTALLATION INSPECTION

1. Turn the ignition switch to the "ON" position.



2. Check that the SRS warning lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
3. If the lamp does not extinguish, perform the troubleshooting.
4. Turn the ignition switch to the "ON" position.





ACC00116AB

5. Check that the passenger’s air bag OFF indicator lamp is illuminated for 6 to 8 seconds, and extinguished afterward.
6. If the lamp does not extinguish, perform the troubleshooting.

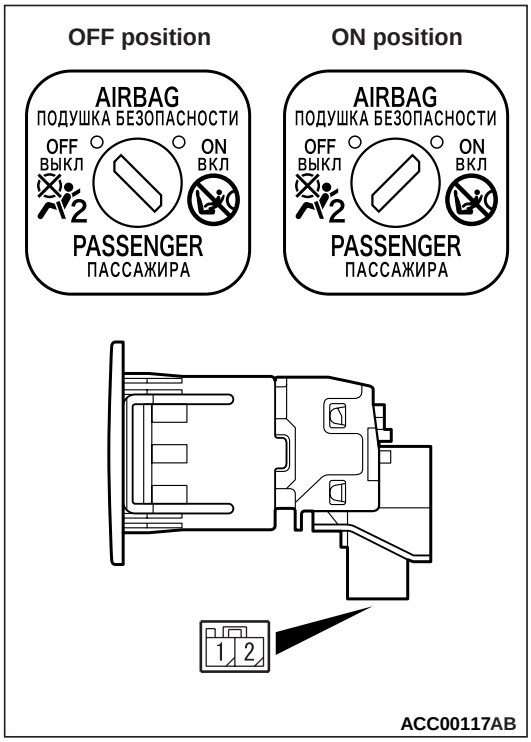
INSPECTION

M1524026800416

PASSENGER'S AIR BAG CUT OFF SWITCH CONTINUITY CHECK

⚠ CAUTION

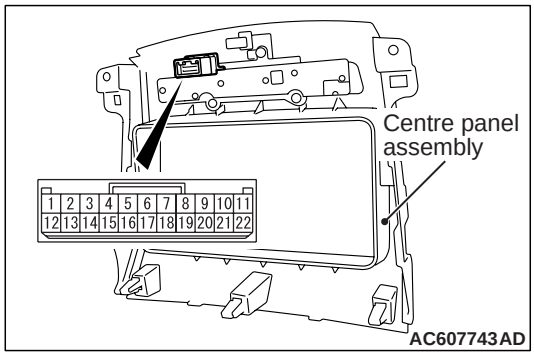
Do not insert a test probe into the terminal from its front side directly as the connector contact pressure may be weakened.



Switch position	Tester connection	Specified condition
ON position	1 – 2	820 ± 82 Ω
OFF position	1 – 2	Continuity (Less than 2 Ω)

PASSENGER'S AIR BAG OFF INDICATOR LAMP

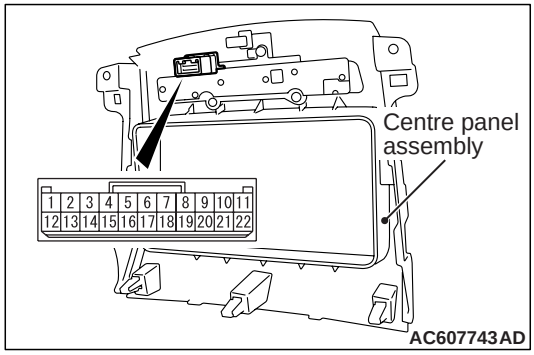
1. Remove the centre panel assembly (Refer to GROUP 52A – Instrument panel assembly).



2. Connect the positive battery terminal with the centre panel connector terminal No. 1. Then, check if the passenger's air bag OFF indicator lamp is illuminated when the negative battery terminal and the centre panel connector terminal No. 7 are connected.
3. When the passenger's air bag OFF indicator lamp is illuminated, the result is judged as good.

PASSENGER'S AIR BAG ON INDICATOR LAMP

1. Remove the centre panel assembly (Refer to GROUP 52A – Instrument panel assembly).



2. Connect the positive battery terminal with the centre panel connector terminal No. 1. Then, check if the passenger's air bag ON indicator lamp is illuminated when the negative battery terminal and the centre panel connector terminal No. 18 are connected.
3. When the passenger's air bag ON indicator lamp is illuminated, the result is judged as good.

AIR BAG MODULE DISPOSAL PROCEDURES

M1524001202093

When discarding the air bag modules or a vehicle with SRS air bags, be sure to deploy the air bags in advance as specified in the service procedure that follows.

DISPOSAL OF UNDEPLOYED AIR BAG MODULES

⚠ CAUTION

- **If the vehicle is to be scrapped or disposed of, deploy the air bags inside the vehicle.**
- **If the vehicle is still to be used and only the air bag modules are to be discarded, deploy the air bags outside the vehicle.**
- **Since a large amount of smoke is produced when the air bags are deployed, avoid residential areas whenever possible. Also, do not perform the operation near the smoke detector.**
- **Since there is substantial report when the air bags are deployed, avoid residential areas whenever possible. If anyone is nearby, give warning of the impending noise.**
- **Suitable ear protection must be put on by personnel performing these procedures or by people in the immediate area.**

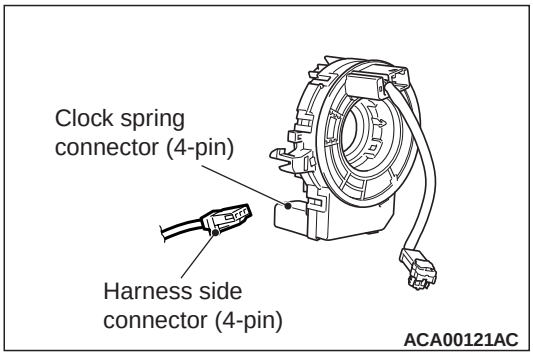
DRIVER'S AIR BAG MODULE DEPLOYMENT INSIDE THE VEHICLE

1. Move the vehicle to flat and isolated spot.

⚠ CAUTION

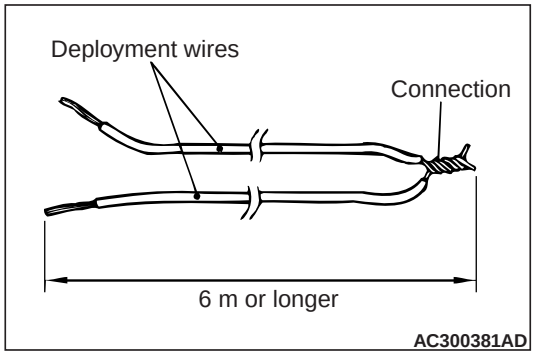
Disconnect the battery cable connection, and wait for 60 seconds or more before starting the work.

2. Disconnect the (–) and (+) terminals of battery cable, and then remove the battery from the vehicle.
3. Remove the Steering column lower cover (Refer to GROUP 37 – Steering column shaft assembly).

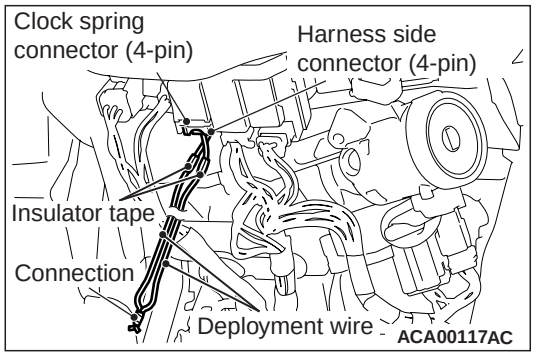


4. Remove the connection between the clock spring connector (4-pin) and the harness side connector (4-pin).

NOTE: Once disconnected from the instrument panel wiring harness, both electrodes of the clock spring connector short automatically. This prevents the driver's air bag from accidental deployment caused by static, etc.



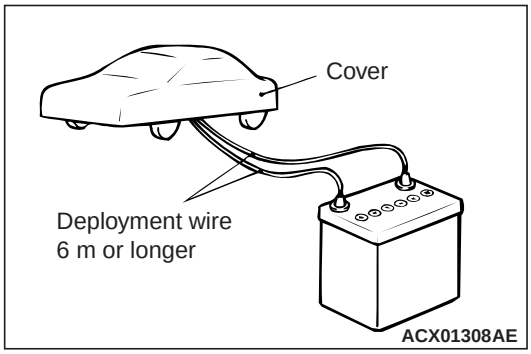
5. Obtain two suitable wires, which are 6 m or longer, as deployment wires. Then connect the wires at one end to short.
6. Touch the vehicle's body with bare hands to discharge static in you.



7. Cut with a pliers, etc. the instrument panel wiring harness shown in the figure of the instructions, while the clock spring connector is disconnected.

   NOTE: The disconnection location should be sufficiently away from the harness side connector with consideration to the expansion harness connection location upon disconnections.
8. Connect the deployment wires on the two instrument panel wiring harnesses disconnected, cover the connection areas with insulator tape and then pull out the deployment wires outside the vehicle.
9. Connect the harness side connector connected with an expansion harness to the clock spring connector.

⚠ WARNING



If the glass is scratched, the glass may be shattered at deployment. Therefore, cover with a vehicle cover to avoid danger.

10. In order to suppress the operation sound as much as possible, fully close all the door windows, close the doors, and then cover the vehicle with a vehicle cover.

⚠ CAUTION

- **Make sure that no one is present inside or near the vehicle before deploying the air bag.**
- **Immediately after the air bag deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.**
- **If the air bag module does not deploy, consult with your distributor.**

11. Disconnect the deployment wire connection at a place as far as possible from the vehicle. Then, connect the wires to the removed vehicle battery to deploy the air bag module.
12. Discard the deployed air bag module according to the disposal procedures (Refer to P.52B-163).

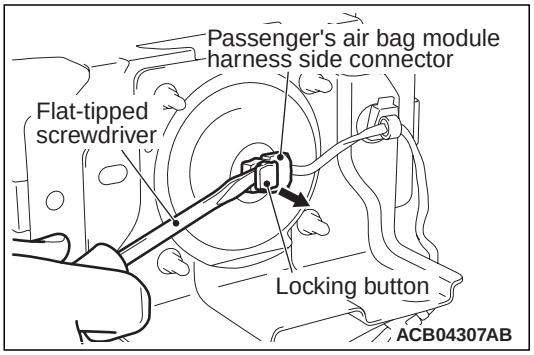
PASSENGER'S (FRONT) AIR BAG MODULE DEPLOYMENT INSIDE THE VEHICLE

1. Move the vehicle to flat and isolated spot.

⚠ CAUTION

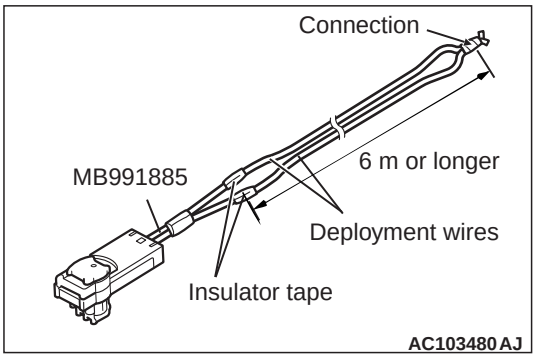
Disconnect the battery cable connection, and wait for 60 seconds or more before starting the work.

2. Disconnect the (–) and (+) terminals of battery cable, and then remove the battery from the vehicle.
3. Remove the passenger's (front) air bag module from the vehicle (Refer to P.52B-136).



4. Use the flat-tipped screwdriver to pull out the locking button of floor harness connector. After releasing the lock, disconnect the connector.

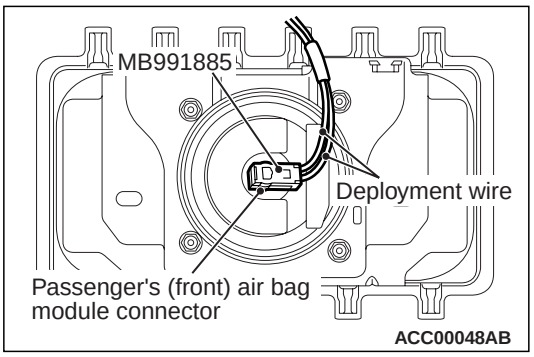
   NOTE: When the passenger's (front) air bag module connector is disconnected from the inflator, the two pins of inflator connector are automatically shorted. This prevents the unintentional deployment of passenger's (front) air bags caused by the static or others.



5. Connect the deployment wires of 6 m or more to each of the two wiring harnesses of special tool adapter harness (MB991885), and cover the connection areas with insulation tape. Keep the other ends of deployment wires connected to each other (shorted).

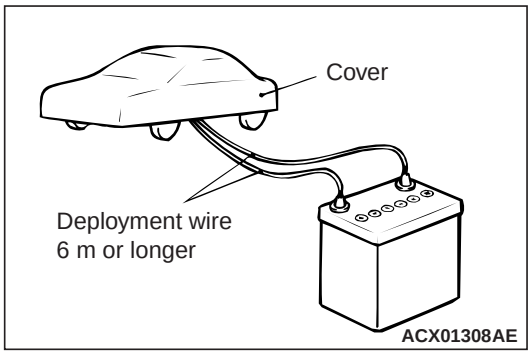
   NOTE: This prevents the unintentional activation of inflator caused by the static or others.

6. Connect the adapter harness to the passenger's (front) air bag module.



7. Connect the adapter harness to the passenger's (front) air bag module, and then pull out the deployment wire to outside the vehicle.

⚠ WARNING



If the glass is scratched, the glass may be shattered at deployment. Therefore, cover with a vehicle cover to avoid danger.

8. In order to suppress the operation sound as much as possible, fully close all the door windows, close the doors, and then cover the vehicle with a vehicle cover.

⚠ CAUTION

- **Make sure that no one is present inside or near the vehicle before deploying the air bag.**
- **Immediately after the air bag deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.**
- **If the air bag module does not deploy, consult with your distributor.**

9. Disconnect the deployment wire connection at a place as far as possible from the vehicle. Then, connect the wires to the removed vehicle battery to deploy the air bag module.
10. Discard the deployed air bag module according to the disposal procedures (Refer to P.52B-163).

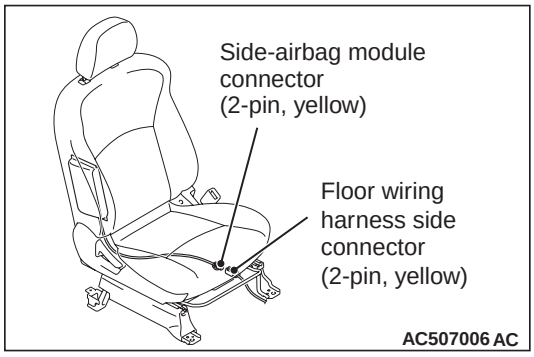
SIDE-AIRBAG MODULE DEPLOYMENT INSIDE THE VEHICLE

1. Move the vehicle to flat and isolated spot.

⚠ CAUTION

Disconnect the battery cable connection, and wait for 60 seconds or more before starting the work.

2. Disconnect the (–) and (+) terminals of battery cable, and then remove the battery from the vehicle.

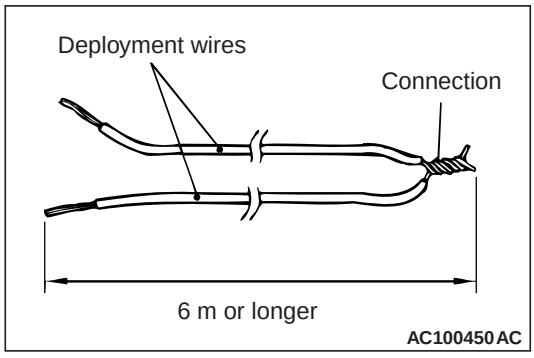


3. Disconnect the connections of the side-airbag module connector (2-pin: yellow) and the floor harness connector (2-pin: yellow).

⚠ CAUTION

Make sure to deploy both driver's and front passenger's side-airbags.

NOTE: When the side-airbag module connector is disconnected from the floor harness, the two pins of side-airbag module connector are automatically shorted. This prevents the unintentional deployment of side-airbags caused by the static or others.



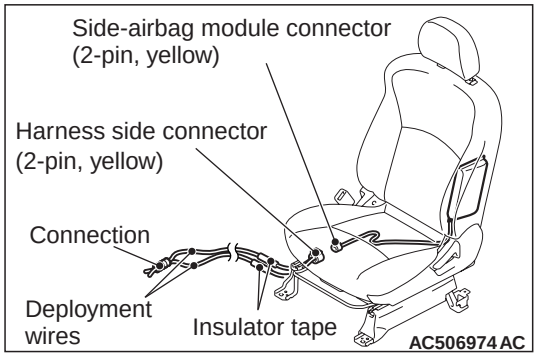
4. Prepare two deployment wires of 6 m or more, and keep the terminal at one end connected to that of the other wire (shorted).

NOTE: This prevents the air bags from unintentional deployment caused by static.

⚠ CAUTION

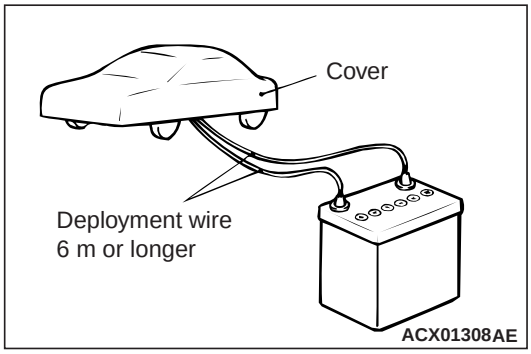
The following procedures are intended to prevent the unintentional deployment caused by the static. Therefore, make sure to perform the procedures.

5. Touch the vehicle body with bare hands to release the charged static.



6. With the side-airbag module connector disconnected, cut the floor harness using a nipper or similar tools.
7. Connect the deployment wire to each of two cut wiring harnesses. After covering the connection areas with insulation tape, pull out the deployment wire to outside the vehicle.
8. Connect the floor harness, to which the deployment wire is connected, to the side-airbag module connector.

⚠ *WARNING*



If the glass is scratched, the glass may be shattered at deployment. Therefore, cover with a vehicle cover to avoid danger.

9. In order to suppress the operation sound as much as possible, fully close all the door windows, close the doors, and then cover the vehicle with a vehicle cover.

⚠ CAUTION

- **Make sure that no one is present inside or near the vehicle before deploying the air bag.**
- **Immediately after the air bag deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.**
- **If the air bag module does not deploy, consult with your distributor.**

10. Disconnect the deployment wire connection at a place as far as possible from the vehicle. Then, connect the wires to the removed vehicle battery to deploy the side-airbag module.
11. Discard the deployed air bag module according to the disposal procedures (Refer to P.52B-163).

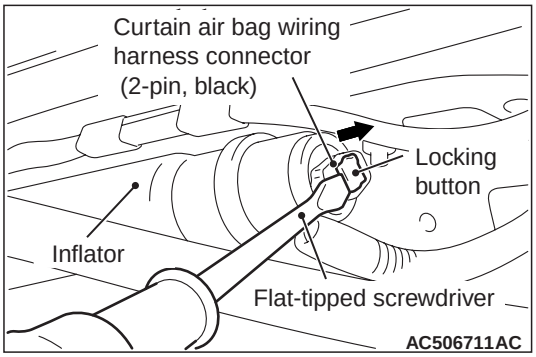
CURTAIN AIR BAG MODULE DEPLOYMENT INSIDE THE VEHICLE

1. Move the vehicle to flat and isolated spot.

⚠ CAUTION

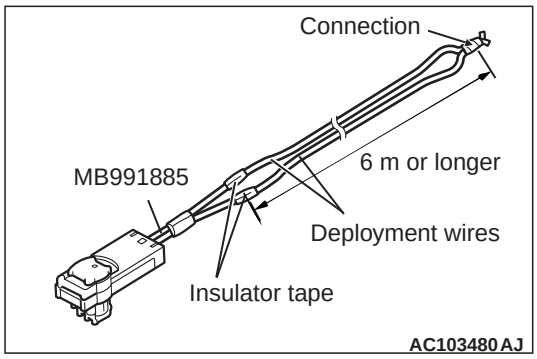
Disconnect the battery cable connection, and wait for 60 seconds or more before starting the work.

2. Disconnect the (–) and (+) terminals of battery cable, and then remove the battery from the vehicle.
3. Remove the headlining (Refer to GROUP 52A - Headlining).



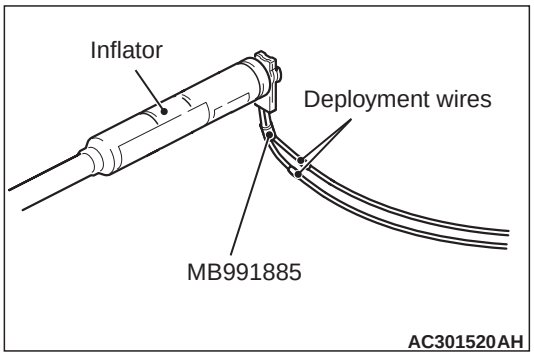
4. Use the flat-tipped screwdriver to pull out the locking button of curtain air bag harness connector. After releasing the lock, disconnect the connector.

   NOTE: When the curtain air bag module connector is disconnected from the inflator, the two pins of inflator connector are automatically shorted. This prevents the unintentional deployment of curtain air bags caused by the static or others.



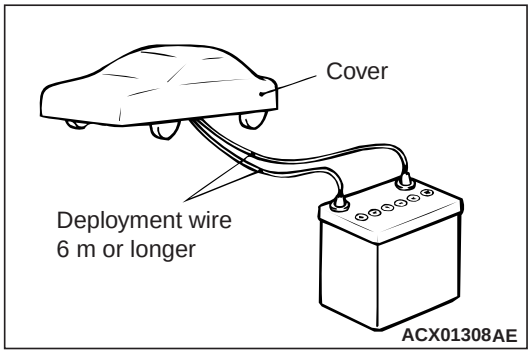
5. Connect the deployment wires of 6 m or more to each of the two wiring harnesses of special tool adapter harness (MB661885), and cover the connection areas with insulation tape. Keep the other ends of deployment wires connected to each other (shorted).

   NOTE: This prevents the unintentional deployment of curtain air bags caused by the static or others.



6. Connect the adapter harness to the inflator, and then pull out the deployment wire to outside the vehicle.

⚠ *WARNING*



If the glass is scratched, the glass may be shattered at deployment. Therefore, cover with a vehicle cover to avoid danger.

7. In order to suppress the operation sound as much as possible, fully close all the door windows, close the doors, and then cover the vehicle with a vehicle cover.

⚠ CAUTION

- **Make sure that no one is present inside or near the vehicle before deploying the air bag.**
- **Immediately after the air bag deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.**
- **If the air bag module does not deploy, consult with your distributor.**

8. Disconnect the deployment wire connection at a place as far as possible from the vehicle. Then, connect the wires to the removed vehicle battery to deploy the air bag module.
9. Discard the deployed air bag module according to the disposal procedures (Refer to P.52B-163).

DRIVER'S AIR BAG MODULE DEPLOYMENT OUTSIDE THE VEHICLE

⚠ CAUTION

- **Deploy the air bag in the wide open, flat place with a distance of 6 m or more from obstacles and people.**
- **When deploying the air bag in the open space, do not deploy when the strong wind is blowing. Even with a slight breeze, ignite at the windward of the air bag module.**

⚠ CAUTION

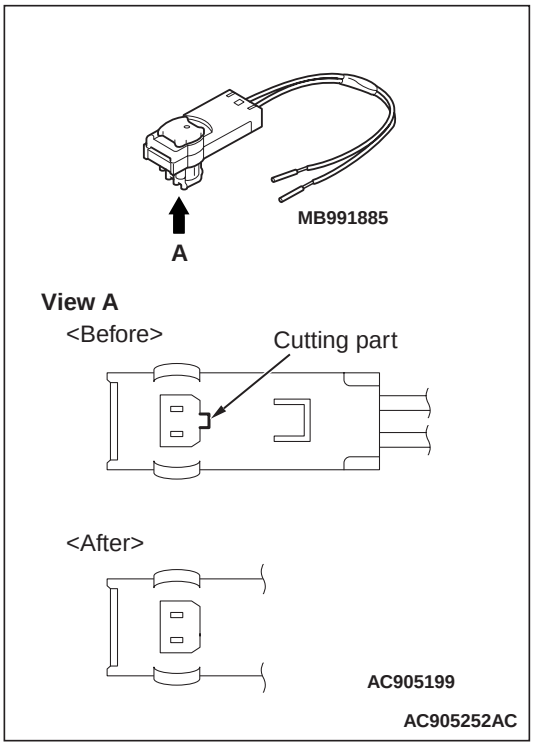
Disconnect the battery cable connection, and wait for 60 seconds or more before starting the work.

1. Disconnect the (–) and (+) terminals of battery cable, and then remove the battery from the vehicle.

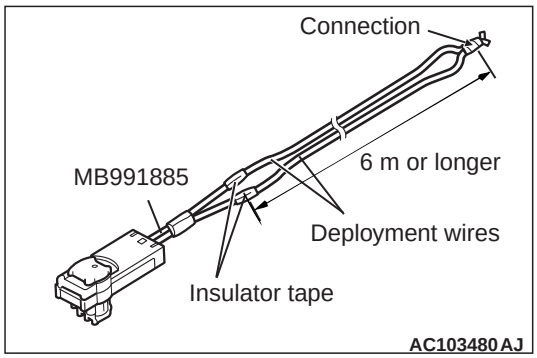
⚠ CAUTION

When the connector is disconnected, the two pins of air bag module are automatically shorted to prevent the unintentional deployment caused by the static or others. However, in preparation for the accidental deployment, store the air bag module on a flat place with the deployment surface facing upward. Also, do not put anything on it.

2. Remove the driver's air bag module from the vehicle (Refer to P.52B-131).



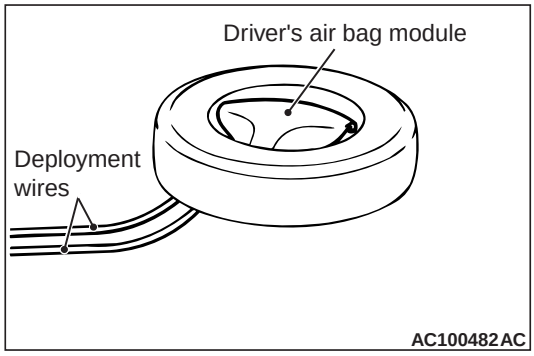
3. Cut the part shown to connect the adapter harness (Special tool: MB991885) to the driver's airbag module connector.



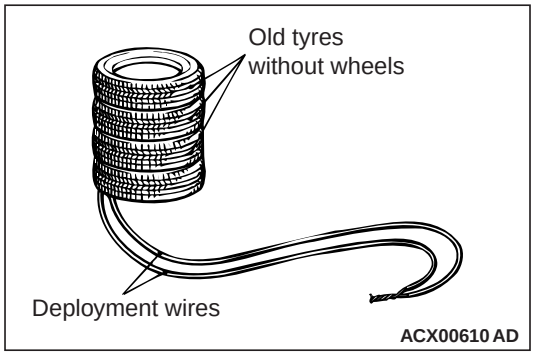
4. Connect the deployment wires of 6 m or more to each of the two wiring harnesses of special tool adapter harness (MB991885), and cover the connection areas with insulation tape. Keep the other ends of deployment wires connected to each other (shorted).

NOTE: This prevents the unintentional activation of inflator caused by the static or others.

5. Connect the adapter harness to the driver's air bag module.
6. To the torx screw installation hole located at the backside of air bag module, tie a thick wire for fixing the wheel.

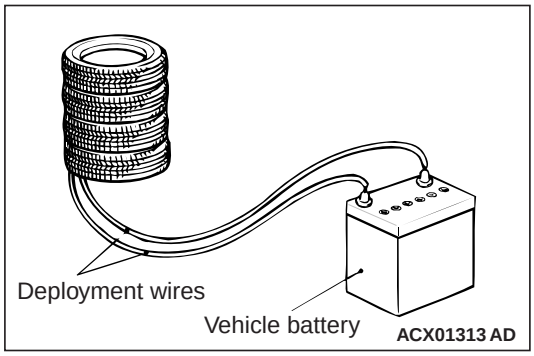


7. Pass the deployment wire connected to the air bag module underneath the old tyre with wheel. Then, fix the air bag module with deployment surface facing upward using the wire which is tied to the bolt.



8. Place three old tyres without wheel onto the tyre to which the air bag module is fixed.

⚠ CAUTION



- **Make sure that no one is present near the air bag module before deploying the air bag.**
- **Immediately after the air bag deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.**
- **If the air bag module does not deploy, consult with your distributor.**

9. Disconnect the deployment wire connection at a place as far as possible from the air bag module. Then, connect the wires to the removed vehicle battery to deploy the air bag module.
10. Discard the deployed air bag module according to the disposal procedures (Refer to P.52B-163).

PASSENGER'S (FRONT) AIR BAG MODULE DEPLOYMENT OUTSIDE THE VEHICLE

⚠ CAUTION

- **Deploy the air bag in the wide open, flat place with a distance of 6 m or more from obstacles and people.**
- **When deploying the air bag in the open space, do not deploy when the strong wind is blowing. Even with a slight breeze, ignite at the windward of the air bag module.**

⚠ CAUTION

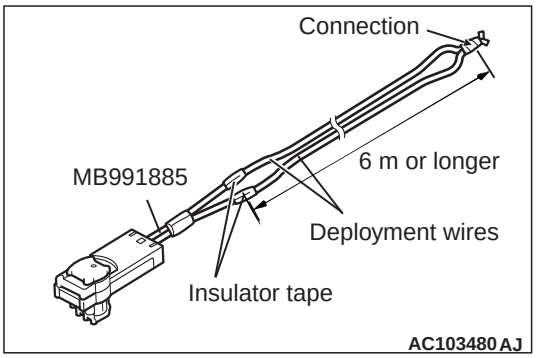
Before starting the work, wait for 60 seconds or more after the disconnection of the battery cable. (Refer to the item 5 P.52B-7 of Service Precautions.)

1. Disconnect the (–) and (+) terminals of battery cable, and then remove the battery from the vehicle.

⚠ CAUTION

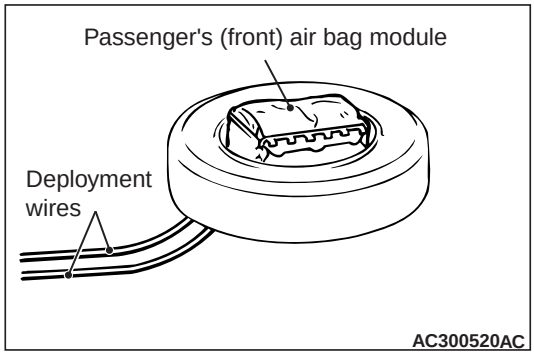
When the connector is disconnected, the two pins of air bag module are automatically shorted to prevent the unintentional deployment caused by the static or others. However, in preparation for the accidental deployment, store the air bag module on a flat place with the deployment surface facing upward. Also, do not put anything on it.

2. Remove the passenger's (front) air bag module from the vehicle (Refer to P.52B-136).

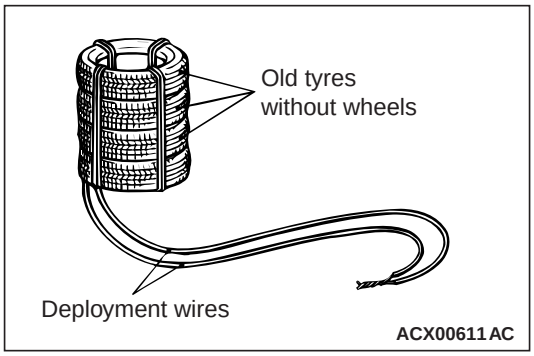


3. Connect the deployment wires of 6 m or more to each of the two wiring harnesses of special tool adapter harness (MB991885), and cover the connection areas with insulation tape. Keep the other ends of deployment wires connected to each other (shorted).

   NOTE: This prevents the unintentional activation of inflator caused by the static or others.
4. Connect the adapter harness to the passenger's (front) air bag module.

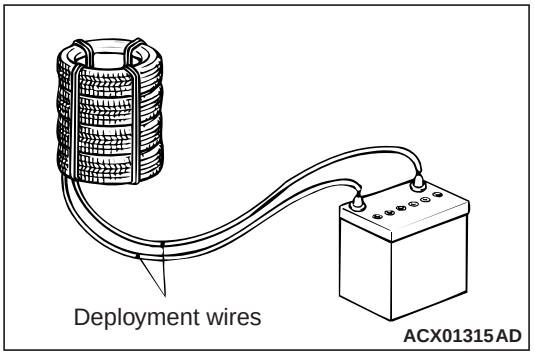


5. Pass a thick wire through the hole of air bag module bracket. Then, with the air bag module deployment surface facing upward, fix the module to the old tyre with wheel.



6. Place three old tyres without wheel onto the tyre to which the air bag module is fixed. Then, tie and fix all the tyres with rope (4 positions).

   NOTE: The passenger's (front) air bag has a larger deployment volume than the driver's air bag. Therefore, it is necessary to tie the tyres with rope.



⚠ CAUTION

- **Make sure that no one is present near the air bag module before deploying the air bag.**
- **Immediately after the air bag deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.**
- **If the air bag module does not deploy, consult with your distributor.**

7. Disconnect the deployment wire connection at a place as far as possible from the air bag module. Then, connect the wires to the removed vehicle battery to deploy the air bag module.
8. Discard the deployed air bag module according to the disposal procedures (Refer to P.52B-163).

SIDE-AIRBAG MODULE DEPLOYMENT OUTSIDE THE VEHICLE

⚠ CAUTION

- **Deploy the air bag in the wide open, flat place with a distance of 6 m or more from obstacles and people.**
- **When deploying the air bag in the open space, do not deploy when the strong wind is blowing. Even with a slight breeze, ignite at the windward of the air bag module.**

⚠ CAUTION

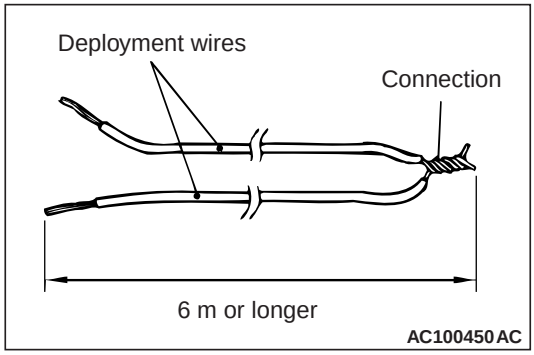
Before starting the work, wait for 60 seconds or more after the disconnection of the battery cable. (Refer to the item 5 P.52B-7 of Service Precautions.)

1. Disconnect the (–) and (+) terminals of battery cable, and then remove the battery from the vehicle.
2. Remove the front seat assembly incorporated in side-airbag from the vehicle (GROUP 52A – Front Seat Assembly).

⚠ CAUTION

When the connector is disconnected, the two pins of side-airbag module are automatically shorted to prevent the unintentional deployment caused by the static or others. However, in preparation for the accidental deployment, store the air bag module on a flat place with the deployment surface facing upward. Also, do not put anything on it.

3. Remove the side-airbag module from the front seat assembly incorporated in the side-airbag (Refer to P.52B-142).



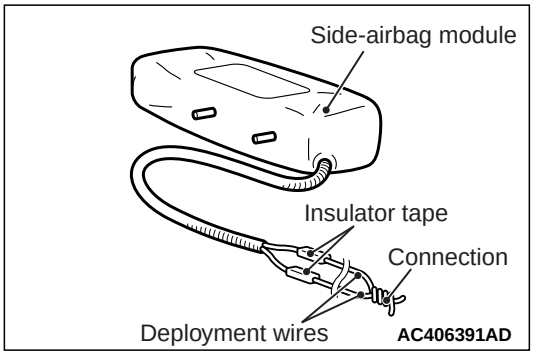
4. Prepare two deployment wires of 6 m or more, and keep the terminal at one end connected to that of the other wire (shorted).

   NOTE: This prevents the air bags from unintentional deployment caused by static.

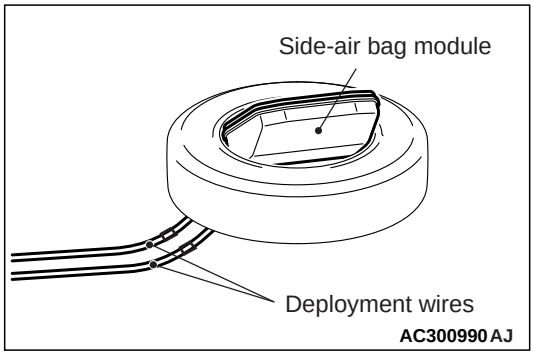
⚠ CAUTION

The following procedures are intended to prevent the unintentional deployment caused by the static. Therefore, make sure to perform the procedures.

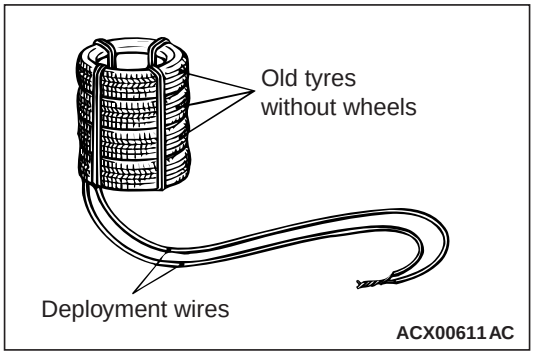
5. Touch the vehicle body with bare hands to release the charged static.



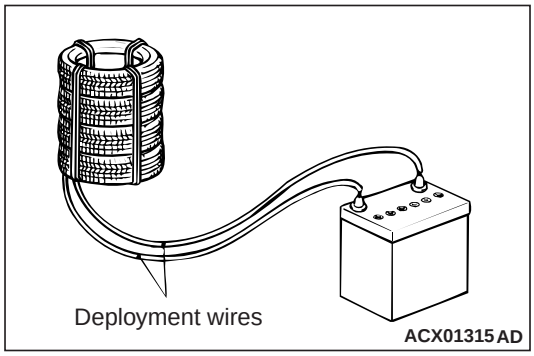
6. Cut off the side-airbag module wiring harness connector from the wiring harness with nippers. Connect the deployment wire to each of the two cut wiring harnesses, and cover the connection areas with insulation tape.



7. Pass the deployment wire under the tyre with wheel, and connect it to the side-airbag module connector.
8. Install a surplus nut to the side-airbag module bolt. Then, tie a thick wire for fixing the wheel to the bolt. Fix the side-airbag module to the wheel of old tyre with the module deployment surface facing upward.



9. Place three old tyres without wheel onto the tyre to which the side-airbag module is fixed. Then, tie and fix all the tyres with rope. (4 positions)



⚠ CAUTION

- **Make sure that no one is present near the air bag module before deploying the air bag.**
- **Immediately after the air bag deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.**
- **If the air bag module does not deploy, consult with your distributor.**

10. Disconnect the deployment wire connection at a place as far as possible from the air bag module. Then, connect the wires to the removed vehicle battery to deploy the air bag module.
11. Discard the deployed air bag module according to the disposal procedures (Refer to P.52B-163).

CURTAIN AIR BAG INFLATOR ACTIVATION OUTSIDE THE VEHICLE

⚠ CAUTION

- **Activate the inflator in the wide open, flat place with a distance of 6 m or more from obstacles and people.**
- **When deploying in the open space, do not deploy when the strong wind is blowing. Even with a slight breeze, ignite at the windward of the inflator.**

⚠ CAUTION

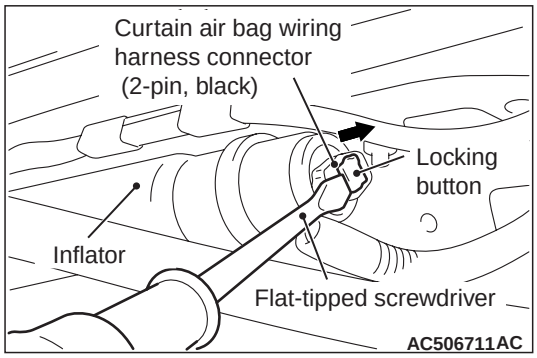
Before starting the work, wait for 60 seconds or more after the disconnection of the battery cable. (Refer to the item 5 P.52B-7 of Service Precautions.)

1. Disconnect the (–) and (+) terminals of battery cable, and then remove the battery from the vehicle.

⚠ CAUTION

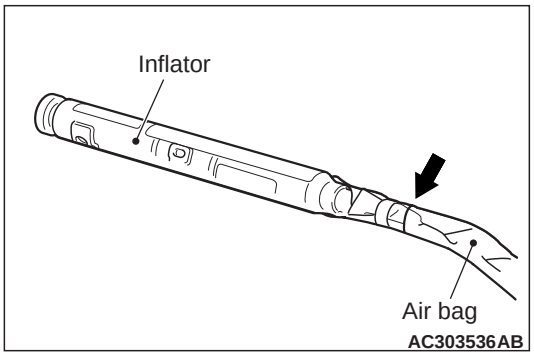
When the connector is disconnected, the two pins of inflator are automatically shorted to prevent the unintentional activation caused by the static or others. However, in preparation for the accidental activation, store the air bag module on a flat place with the activation surface facing upward. Also, do not put anything on it.

2. Remove the headlining (Refer to GROUP 52A - Headlining).

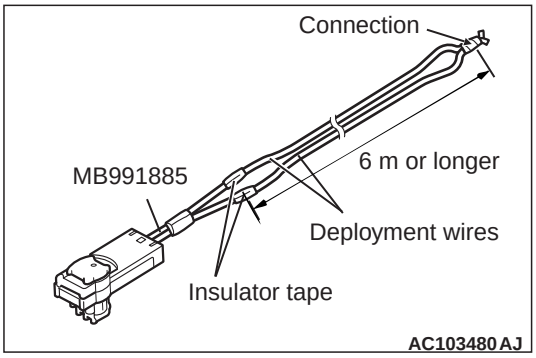


3. Use the flat-tipped screwdriver to pull out the locking button of curtain air bag harness connector. After releasing the lock, disconnect the connector.

   NOTE: When the harness connector is disconnected from the inflator, the two pins of inflator connector are automatically shorted. This prevents the unintentional activation of inflator caused by the static or others.

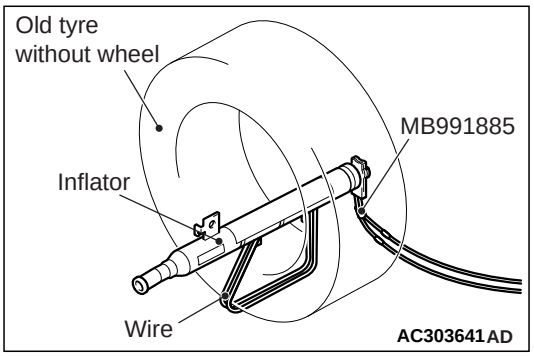


4. Cut the inflator from the air bag as shown in the figure using a cutter or a similar tool.

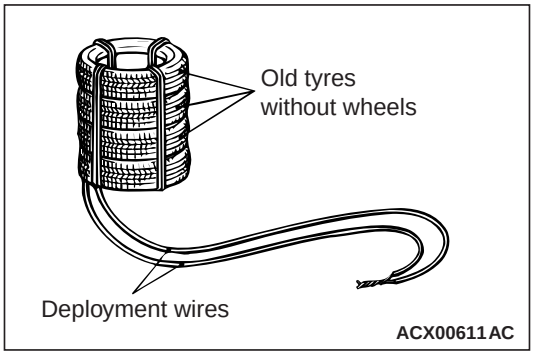


5. Connect the deployment wires of 6 m or more to each of the two wiring harnesses of special tool adapter harness (MB991885), and cover the connection areas with insulation tape. Keep the other ends of deployment wires connected to each other (shorted).

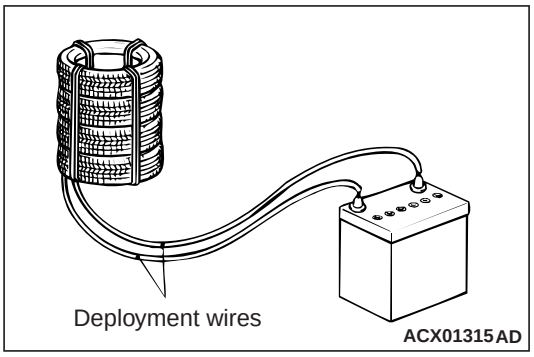
   NOTE: This prevents the unintentional activation of inflator caused by the static or others.



6. Feed a thick wire through the bracket of the inflator, and connect it to an old tyre with a wheel.
7. Connect the adapter harness to the inflator connector.



8. Place the tyre to which the inflator is fixed onto the two stacked tyres. Then, place 1 or more old tyres without wheel onto the stacked tyres, and tie and fix all the tyres with rope. (4 positions)



⚠ CAUTION

- **Make sure that no one is present near the inflator before the activation.**
- **Immediately after the inflator activation, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.**
- **If the inflator does not activate, consult with your distributor.**

9. Disconnect the deployment wire connection at a place as far as possible from the inflator. Then, connect the wires to the removed vehicle battery to activate the inflator.
10. Discard the activated inflator according to the disposal procedures (Refer to P.52B-163).

DISCARD OF DEPLOYED AIR BAG MODULE

After deployment and operation, the air bag module and seat belt pre-tensioner should be disposed of in the same manner as any other scrap parts, adhering to local laws and/or legislation. Observe the following precautions during air bag or seat belt pre-tensioner disposal:

1. Immediately after the air bag deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.
2. Do not pour water or oil onto the deployed air bag module.
3. To the deployed air bag module, substances that irritate eyes and skin may be deposited. Therefore, wear gloves and protective glasses when handling the module. When the substance comes in contact with eyes or skin, flush with a large amount of water.
4. Place the air bag module in the sturdy plastic bag, and seal the bag for disposal.
5. After the work, be sure to wash your hands with water.

SEAT BELT PRE-TENSIONER DISPOSAL PROCEDURES

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When discarding the seat belt with pre-tensioner or a vehicle which is equipped with seat belts with pre-tensioner, be sure to deploy the pre-tensioner in advance as specified in the service procedure that follows.

UNDEPLOYED SEAT BELT WITH PRE-TENSIONER DISPOSAL

⚠ CAUTION

- **If the vehicle is to be scrapped or otherwise disposed of, operate the seat belt pre-tensioner and lap pre-tensioner inside the vehicle.**
- **When replacing the seat belt with pre-tensioner, the seat belt pre-tensioner and lap pre-tensioner of old parts must be operated outside the vehicle.**
- **Since a large amount of smoke is produced when the seat belt pre-tensioner and lap pre-tensioner is operated, avoid residential areas whenever possible. Also, do not perform the operation near the smoke detector.**
- **Since there is substantial report when the seat belt pre-tensioner and lap pre-tensioner pre-tensioner is operated, avoid residential areas whenever possible. If anyone is nearby, give warning of the impending noise.**
- **Suitable ear protection must be put on by personnel performing these procedures or by people in the immediate area.**

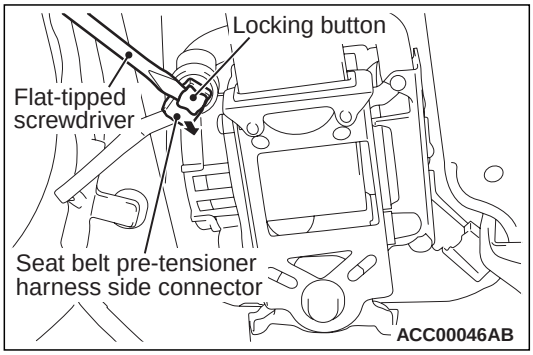
SEAT BELT PRE-TENSIONER DEPLOYMENT INSIDE THE VEHICLE

1. Move the vehicle to flat and isolated spot.

⚠ CAUTION

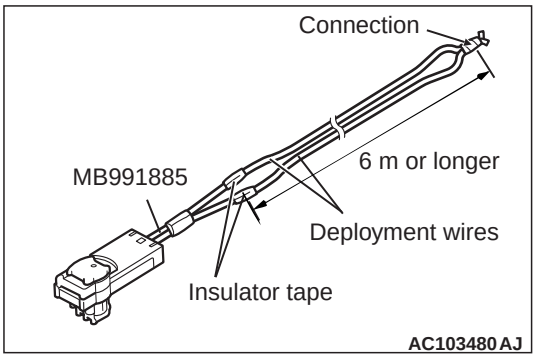
Before starting the work, wait for 60 seconds or more after the disconnection of the battery cable. (Refer to the item 5 P.52B-7 of Service Precautions).

2. Disconnect the (–) and (+) terminals of battery cable, and then remove the battery from the vehicle.
3. Remove the centre pillar trim lower (Refer to GROUP 52A – Interior Trim).



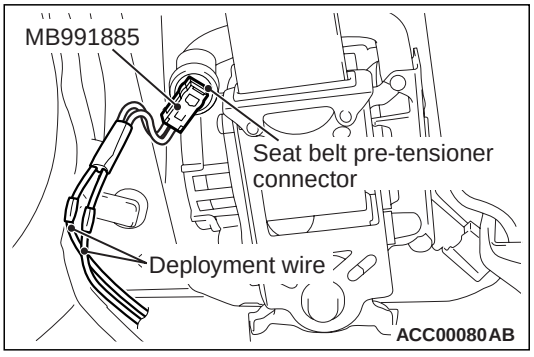
4. Use the flat-tipped screwdriver to pull out the locking button of floor harness connector. After releasing the lock, disconnect the connector.

   NOTE: When the floor harness connector is disconnected from the seat belt pre-tensioner, the two pins of the seat belt pre-tensioner connector are automatically shorted. This prevents the unintentional deployment of the seat belt pre-tensioner caused by the static or others.



5. Connect the deployment wires of 6 m or more to each of the two wiring harnesses of special tool adapter harness (MB991885), and cover the connection areas with insulation tape. Keep the other ends of deployment wires connected to each other (shorted).

   NOTE: This prevents the unintentional deployment of seat belt pre-tensioner caused by the static or others.



6. Connect the adapter harness (MB991885) to the 2-pin connector of seat belt pre-tensioner, and then pull out the deployment wire to outside the vehicle.
7. In order to suppress the operation sound as much as possible, fully close all the door windows and close the doors.

⚠ CAUTION

- **Make sure that no one is present inside or near the vehicle before the deployment.**
- **Immediately after the pre-tensioner deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.**
- **If the seat belt pre-tensioner does not deploy, consult with your distributor.**

8. Disconnect the deployment wire connection at a place as far as possible from the vehicle. Then, connect the wires to the removed vehicle battery to deploy the seat belt pre-tensioner.
9. Discard the deployed seat belt pre-tensioner according to the disposal procedures (Refer to P.52B-166).

SEAT BELT PRE-TENSIONER DEPLOYMENT OUTSIDE THE VEHICLE

⚠ CAUTION

- **Deploy the seat belt pre-tensioner in the wide open, flat place with a distance of 6 m or more from obstacles and people.**
- **When deploying in the open space, do not deploy when the strong wind is blowing. Even with a slight breeze, ignite at the windward of the seat belt pre-tensioner.**

⚠ CAUTION

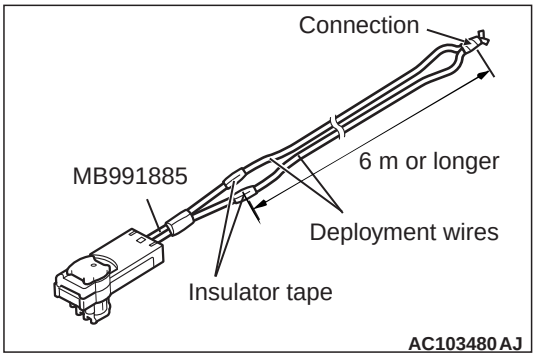
Before starting the work, wait for 60 seconds or more after the disconnection of the battery cable. (Refer to the item 5 P.52B-7 of Service Precautions).

1. Disconnect the (–) and (+) terminals of battery cable, and then remove the battery from the vehicle.

⚠ CAUTION

When the connector is disconnected, the two pins of seat belt pre-tensioner is automatically shorted to prevent the unintentional deployment caused by the static or others.

2. Remove the seat belt with pre-tensioner from the vehicle (Refer to P.52B-147).



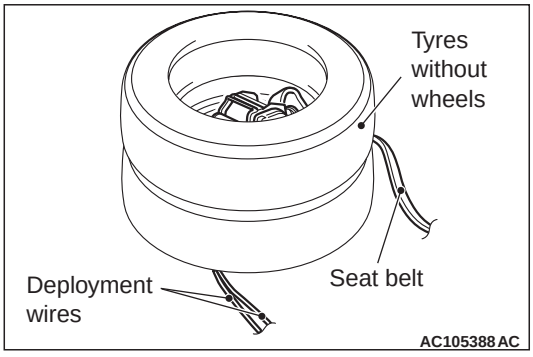
3. Connect the deployment wires of 6 m or more to each of the two wiring harnesses of special tool adapter harness (MB991885), and cover the connection areas with insulation tape. Keep the other ends of deployment wires connected to each other (shorted).

   NOTE: This prevents the unintentional deployment of seat belt pre-tensioner the static or others.
4. Pass a thick wire through the seat belt pre-tensioner bracket hole, and attach it to the old tyre with wheel.
5. Connect the adapter harness to the seat belt pre-tensioner connector. (Retractor side)

⚠ CAUTION

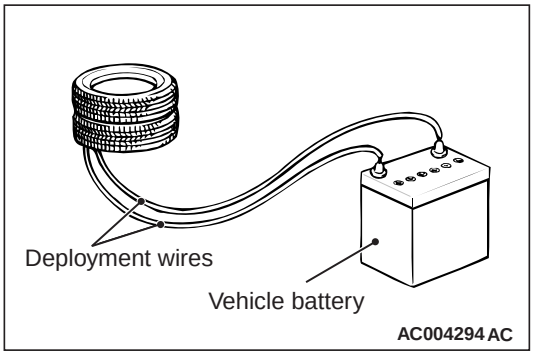
Set so that the connector of pre-tensioner adapter harness does not get pinched between the tyres when deployed.

6. Pull out the seat belt to outside the tyre.



7. Place an old tyre without wheel onto the seat belt with pre-tensioner.

⚠ CAUTION



- **Make sure that no one is present near the seat belt with pre-tensioner before the deployment.**
- **Immediately after the seat belt pre-tensioner deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.**
- **If the seat belt pre-tensioner does not deploy, consult with your distributor.**

8. Disconnect the deployment wire connection at a place as far as possible from the seat belt with pre-tensioner. Then, connect the wires to the removed vehicle battery to deploy the seat belt pre-tensioner.
9. Discard the deployed seat belt with pre-tensioner according to the disposal procedures (Refer to P.52B-166).

DISCARD OF DEPLOYED SEAT BELT WITH PRE-TENSIONER

After deployment and operation, the air bag module and seat belt pre-tensioner should be disposed of in the same manner as any other scrap parts, adhering to local laws and/or legislation. Observe the following precautions during air bag or seat belt pre-tensioner disposal:

1. Immediately after the pre-tensioner deployment, the inflator is extremely hot. Thus, before handling, leave the inflator for 30 minutes or more to cool.
2. Do not pour water or oil onto the deployed pre-tensioner.
3. To the deployed pre-tensioner, substances that irritate eyes and skin may be deposited. Therefore, wear gloves and protective glasses when handling. When the substance comes in contact with eyes or skin, flush with a large amount of water.
4. Place the seat belt with pre-tensioner in the sturdy plastic bag, and seal the bag for disposal.
5. After the work, be sure to wash your hands with water.