
INTERIOR AND SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

CONTENTS

52409000261

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CAUTION

- Carefully read and observe the information in the SERVICE PRECAUTIONS (P.52B-3.) prior to any service.
- For information concerning troubleshooting or maintenance, always observe the procedures in the Troubleshooting (P.52B-6.) section.
- If any SRS components are removed or replaced in connection with any service procedures, be sure to follow the procedures in the INDIVIDUAL COMPONENT SERVICE section (P.52B-26.) for the components involved.
- If you have any questions about the SRS, please contact your local distributor.

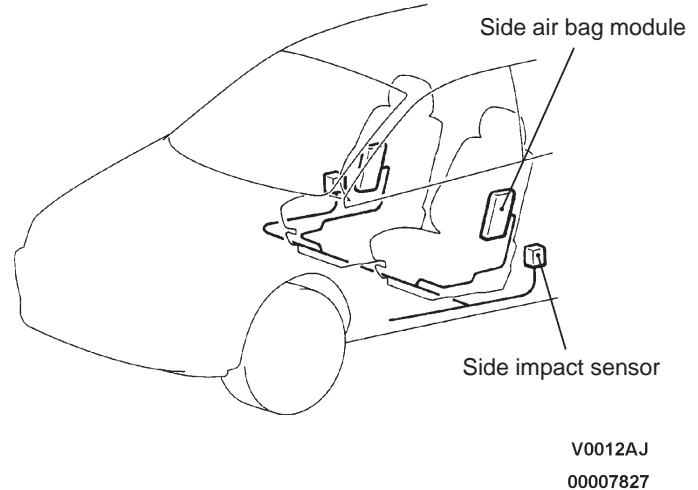
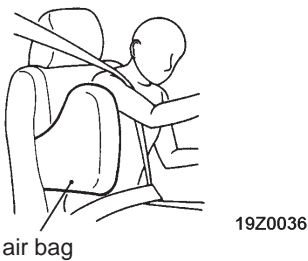
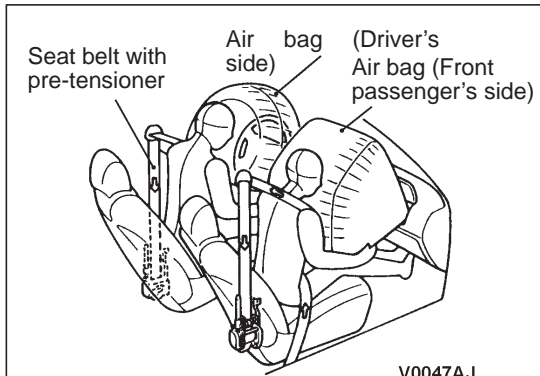
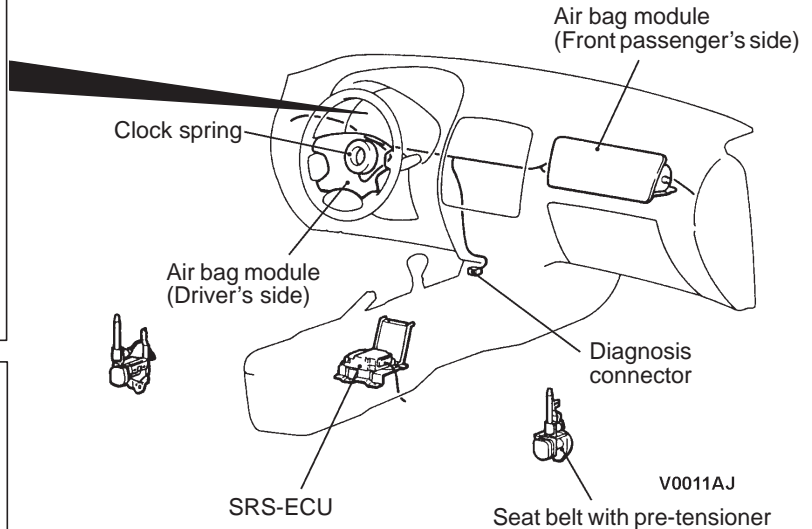
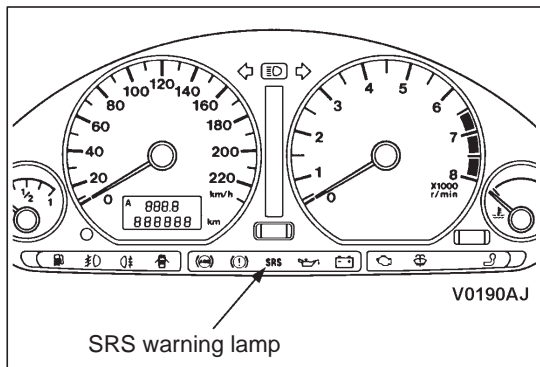
GENERAL INFORMATION

To improve safety, the SRS and seat belts with pre-tensioner are available as optional parts. These systems enhance collision safety by restraining the front passengers in case of an accident. The SRS works with the pre-tensioner simultaneously when a collision is detected.

The SRS consists of four air bag modules, SRS air bag control unit (SRS-ECU), side impact sensors, SRS warning lamp and clock spring. The air bags are located in the centre of the steering wheel, above the glove box, and built into the front seat back assemblies. Each air bag has a folded air bag and an inflator unit. The SRS-ECU under the floor console monitors the system and has a safing G sensor and an analog G sensor. The side impact sensor inside the center pillar monitors any shocks coming from the side of the vehicle. The warning lamp on the instrument panel indicates the

operational status of the SRS. The clock spring is installed in the steering column.

The SRS side air bag deploys if an impact received at the side of the vehicle is stronger than a certain set value, in order to protect the upper bodies of front seat passengers in the event of a collision. The seat belt pre-tensioner is built into the front seat belt retractor. Only authorized service personnel should do work on or around the SRS components and seat belt with pre-tensioner. Those service personnel should read this manual carefully before starting any such work. Extreme care must be used when servicing the SRS to avoid injury to the service personnel (by inadvertent deployment of the air bags or inadvertent operation of the seat belt with pre-tensioner) or the driver (by rendering the SRS or the seat belt with pre-tensioner inoperative).



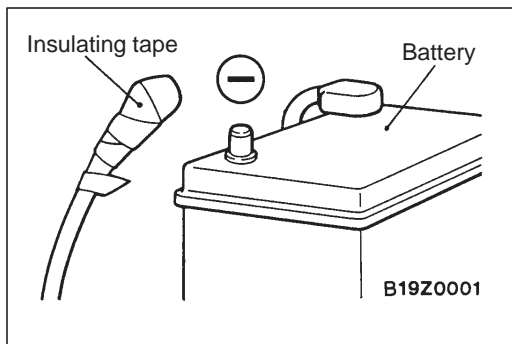
SRS SERVICE PRECAUTIONS

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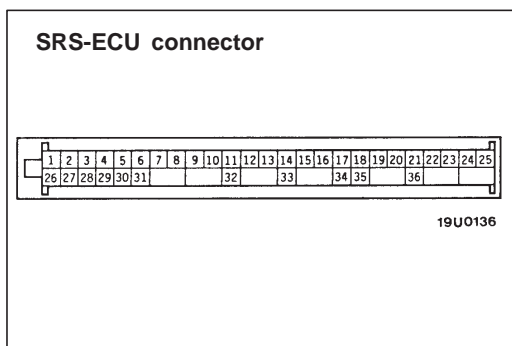
1. In order to avoid injury to yourself or others from accidental deployment of the air bag and accidental operation of the seat belt with pre-tensioner during servicing, read and carefully follow all the precautions and procedures described in this manual.
2. Do not use any electrical test equipment on or near SRS components, except those specified on P.52B-7.
3. **Never Attempt to Repair the Following Components:**
 - SRS air bag control unit (SRS-ECU)
 - Clock spring
 - Front air bag module (Driver's side or front passenger's side)
 - Side air bag module
 - Side impact sensor
 - Seat belt with pre-tensioner

NOTE

If any of these components are diagnosed as faulty, they should only be replaced, in accordance with the INDIVIDUAL COMPONENTS SERVICE procedures in this manual, starting at page 52B-26.



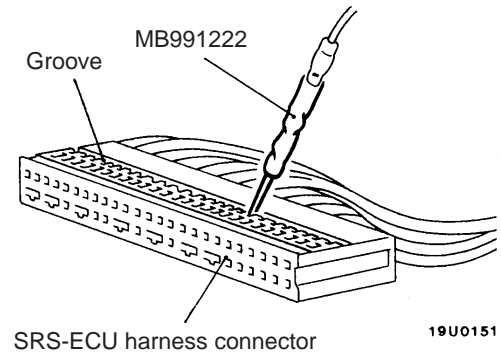
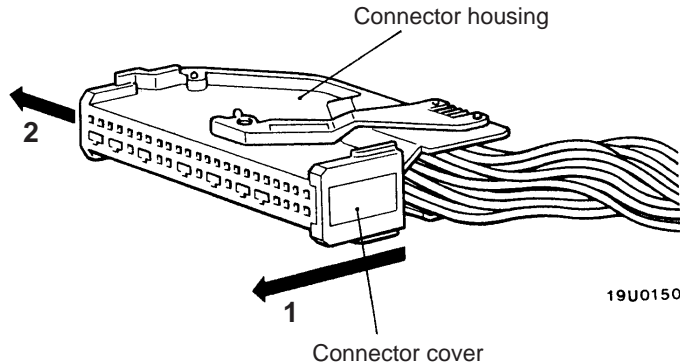
4. **After disconnecting the battery cable, wait 60 seconds or more before proceeding with the following work. The SRS system is designed to retain enough voltage to deploy the air bag for a short time even after the battery has been disconnected, so serious injury may result from unintended air bag deployment if work is done on the SRS system immediately after the battery cables are disconnected.**



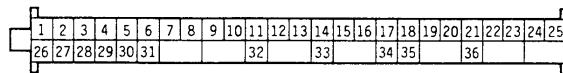
5. Do not attempt to repair the wiring harness connectors of the SRS. If any of the connectors are diagnosed as faulty, replace the wiring harness. If the wires are diagnosed as faulty, replace or repair the wiring harness according to the following table.

SRS-ECU Terminal No.	Destination of harness	Corrective action
1 to 4	–	–
5, 14	Body wiring harness → Side impact sensor (RH)	Correct or replace each wiring harness.
6, 34	Body wiring harness → Side impact sensor (LH)	
7, 8	Body wiring harness → Side air bag module (RH)	
9, 10	Body wiring harness → Side air bag module (LH)	
11	–	–
12, 13	Body wiring harness → Air bag module (Front passenger's side)	Correct or replace each wiring harness.
15, 16	Body wiring harness → Clock spring → Air bag module (Driver's side)	Correct or replace the dash wiring harness. Replace the clock spring.
17	Body wiring harness → Diagnosis connector	Correct or replace each wiring harness.
18	Body wiring harness → Junction block (fuse No.4)	
19	Body wiring harness → Combination meter (SRS warning lamp)	
20, 35	Body wiring harness → Earth	
21	Body wiring harness → Junction block (fuse No.11)	
22, 23	Body wiring harness → Seat belt with pre-tensioner (Front passenger's side)	
24, 25	Body wiring harness → Seat belt with pre-tensioner (driver's side)	
26 to 33, 36	–	–

6. Inspection of the SRS-ECU harness connector should be carried out by the following procedure. After removing the harness connector cover by sliding it in the direction of the arrow 1 in the illustration, remove the connector housing by sliding it in the direction of arrow 2. Insert the special tool (ultra-fine probe in harness set) into the groove in the SRS-ECU harness connector and connect this to the tester in order to carry out inspection. If any tool other than the designated special tool is used, it will damage the harness and other parts. In addition, do not take the measurements by touching the probe directly to any terminals other than the groove shown in the illustration. The connector terminals are plated in order to increase their conductivity, so that if they are touched by the probe, it could cause the plating to peel off, which will adversely affect the reliability of the connector performance.



SRS-ECU harness connector (seen from the rear)



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00006542

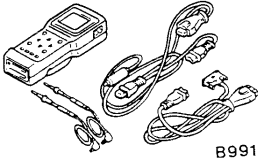
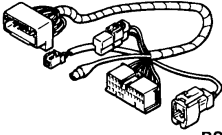
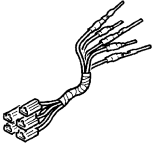
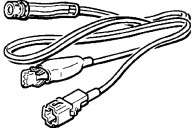
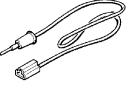

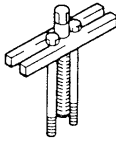
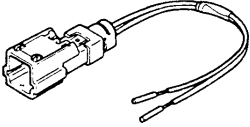
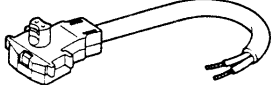
7. SRS components and seat belt with pre-tensioner should not be subjected to heat, so remove the SRS-ECU, air bag module (driver's side and front passenger's side), clock spring and side impact sensors, front seat assemblies (side air bag module), and seat belt with pre-tensioner before drying or baking the vehicle after painting.
- SRS-ECU, air bag module, clock spring, side impact sensor: 93°C or more
 - Seat belt with pre-tensioner: 90°C or more
8. Whenever you finish servicing the SRS, check warning lamp operation to make sure that the system functions properly. (Refer to P.52B-7.)
9. Make certain that the ignition switch is OFF when the MUT-II is connected or disconnected.
10. If you have any questions about the SRS, please contact your local distributor.

NOTE

SERIOUS INJURY CAN RESULT FROM UNINTENDED AIR BAG DEPLOYMENT, SO USE ONLY THE PROCEDURES AND EQUIPMENT SPECIFIED IN THIS MANUAL.


SPECIAL TOOLS

52400070247

Tool	Number	Name	Use
 <p>B991502</p>	MB991502	MUT-II sub assembly	<ul style="list-style-type: none"> ● Reading diagnosis codes ● Erasing diagnosis code ● Reading trouble period ● Reading erase times
 <p>B991613</p>	MB991613	SRS check harness	Checking the SRS electrical circuitry
<p>A</p>  <p>B</p>  <p>C</p>  <p>D</p>  <p>C991223</p>	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
 <p>B990803</p>	MB990803	Steering wheel puller	Steering wheel removal
 <p>B686560</p>	MB686560	SRS air bag adapter harness A	<ul style="list-style-type: none"> ● Deployment of air bag modules inside the vehicle ● Deployment of air bag module (front passenger's side), side air bag module and seat belt pre-tensioner outside the vehicle
 <p>B628919</p>	MR203491 MB628919	or SRS air bag adapter harness B	Deployment of air bag module (driver's side) outside the vehicle

TEST EQUIPMENT

52400080134

Tool	Name	Use
 <p>13R0746</p>	Digital multi-meter	Checking the SRS electrical circuitry Use a multi-meter for which the maximum test current is 2 mA or less at the minimum range of resistance measurement

TROUBLESHOOTING

52400310097

STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING

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

DIAGNOSIS FUNCTION

52400320083

DIAGNOSIS CODES CHECK

Connect the MUT-II to the diagnosis connector (16-pin) under the instrument under cover, then check diagnosis codes.

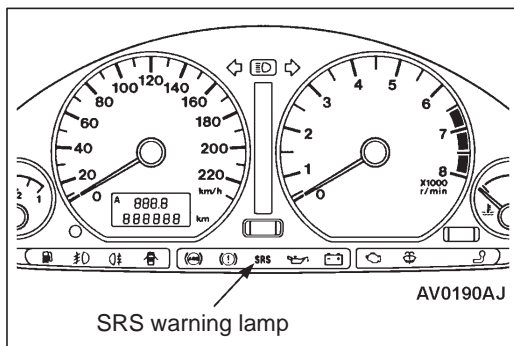
(Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points.)

ERASING DIAGNOSIS CODE

Connect the MUT-II to the diagnosis connector and erase the diagnosis code.

Caution

Turn off the ignition switch before connecting or disconnecting the MUT-II.



SRS WARNING LAMP INSPECTION

52400430083

1. Check to be sure that the SRS warning lamp illuminates when the ignition switch is in the ON position.
2. Check to be sure that it illuminates for approximately 7 seconds and then switches off.
3. If the above is not the cause, inspect the diagnosis codes.

INSPECTION CHART FOR DIAGNOSIS CODES

52400330307

Inspect according to the inspection chart that is appropriate for the malfunction code.

Code No.	Diagnosis item	Reference page
14	Analog G-sensor system in the SRS-ECU	52B-9
15,16	Front impact safing G-sensor system inside SRS-ECU	52B-9
17	Side impact safing G-sensor system inside SRS-ECU	52B-9

Code No.	Diagnosis item	Reference page	
21, 22, 61, 62	Driver's side air bag module (squib) system	52B-10	
24, 25, 64, 65	Front passenger's side air bag module (squib) system	52B-10	
26, 27, 66, 67	Driver's side pre-tensioner (squib) system	52B-11	
28, 29, 68, 69	Front passenger's side pre-tensioner (squib) system	52B-12	
31, 32	SRS-ECU capacitor system	52B-9	
35	SRS-ECU (deployed air bag) system	52B-12	
41*	Power circuit system (fuse No.4 circuit)	52B-13	
42*	Power circuit system (fuse No.11 circuit)	52B-13	
43	SRS warning lamp drive circuit system	Lamp does not illuminate.*	52B-13
		Lamp does not switch off.	52B-14
44*	SRS warning lamp drive circuit system	52B-14	
45	Internal circuit system of non-volatile memory (EEPROM) inside SRS-ECU	52B-9	
51, 52	Driver's side air bag module (squib ignition drive circuit) system	52B-9	
54, 55	Front passenger's side air bag module (squib ignition drive circuit) system	52B-9	
56, 57	Driver's side pre-tensioner (squib ignition drive circuit) system	52B-9	
58, 59	Front passenger's side pre-tensioner (squib ignition drive circuit) system	52B-9	
71, 72, 75, 76	Side air bag module (L.H.) (squib) system	52B-14	
73, 74	Side air bag module (L.H.) (squib ignition drive circuit) system	52B-9	
81, 82, 85, 86	Side air bag module (R.H.) (squib) system	52B-15	
83, 84	Side air bag module (R.H.) (squib ignition drive circuit) system	52B-9	
91*	Side impact sensor (L.H.) power supply circuit system	52B-16	
92	Side impact sensor (L.H.) system	52B-16	
93	Side impact sensor (L.H.) communication system	52B-16	
94*	Side impact sensor (R.H.) power supply circuit system	52B-17	
95	Side impact sensor (R.H.) system	52B-16	
96	Side impact sensor (R.H.) communication system	52B-17	

NOTE

- (1) *: If the vehicle condition returns to normal, the diagnosis code will be automatically erased, and the SRS warning lamp will return to normal.
- (2) If the vehicle has a discharged battery it will store the diagnosis codes 41 or 42. When these diagnosis codes are displayed, check the battery.

INSPECTION PROCEDURE CLASSIFIED BY DIAGNOSIS CODE

Code No.14, 15, 16, 17, 31, 32, 45, 51, 52, 54, 55, 56, 57, 58, 59, 73, 74, 83, 84 System inside SRS-ECU	Probable cause
These diagnostic trouble codes are output when a fault is detected in the SRS-ECU. The defective parts and trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> ● Malfunction of SRS-ECU

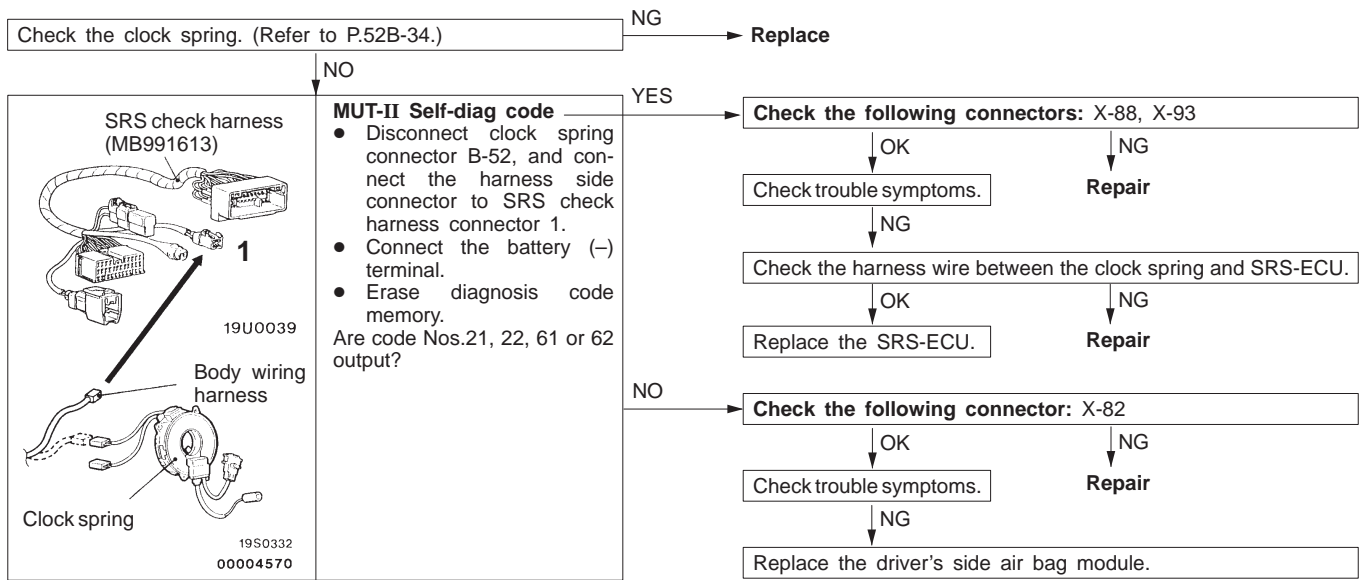
Code No.	Defective parts	Trouble causes
14	Analog G-sensor	<ul style="list-style-type: none"> ● Analog G-sensor is not operating ● Analog G-sensor characteristics are abnormal ● Analog G-sensor output is abnormal
15	Front impact safing G-sensor	● Short circuit in the safing G-sensor
16		● Open circuit in the safing G-sensor
17	Side impact safing G-sensor	<ul style="list-style-type: none"> ● Safing G sensor is not operating ● Safing G sensor characteristics are abnormal ● Safing G sensor output is abnormal
31	Capacitor	● Voltage at the capacitor terminal is higher than the specified value for five seconds or more
32		● Voltage at the capacitor terminal is lower than the specified value for five seconds or more (this is not detected if diagnosis code No.41 or 42 indicating battery voltage drop has been output.)
45	Non-volatile memory (EEPROM)	● Non-volatile memory (EEPROM) is abnormal
51	Driver's side air bag module (squib ignition drive circuit)	● Short circuit in the squib ignition drive circuit
52		● Open circuit in the squib ignition drive circuit
54	Front passenger's side air bag module (squib ignition drive circuit)	● Short circuit in the squib ignition drive circuit
55		● Open circuit in the squib ignition drive circuit
56	Driver's side pre-tensioner (squib ignition drive circuit)	● Short circuit in the squib ignition drive circuit
57		● Open circuit in the squib ignition drive circuit
58	Front passenger's side pre-tensioner (squib ignition drive circuit)	● Short circuit in the squib ignition drive circuit
59		● Open circuit in the squib ignition drive circuit
73	Side air bag module (L.H.) (squib ignition drive circuit)	● Short circuit in the squib ignition drive circuit
74		● Open circuit in the squib ignition drive circuit
83	Side air bag module (R.H.) (squib ignition drive circuit)	● Short circuit in the squib ignition drive circuit
84		● Open circuit in the squib ignition drive circuit

Replace the SRS-ECU.

Code No.21, 22, 61 or 62 Driver's side air bag module (squib) system	Probable cause
These diagnosis codes are output if there is abnormal resistance between the input terminals of the driver's side air bag module (squib). The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> ● Malfunction of clock spring ● Partial disconnection due to incorrect clock spring neutral position ● Malfunction of wiring harnesses or connectors ● Malfunction of driver's side air bag module (squib) ● Malfunction of SRS-ECU

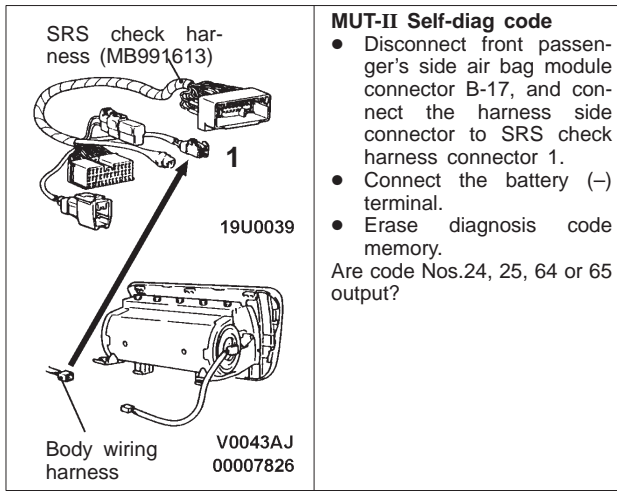
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Code No.	Trouble causes
21	<ul style="list-style-type: none"> ● Short in driver's side air bag module (squib) or harness short ● Short in clock spring
22	<ul style="list-style-type: none"> ● Open circuit in driver's side air bag module (squib) or open harness ● Open circuit in clock spring ● Disconnected driver's side air bag module (squib) connector ● Partial disconnection due to incorrect clock spring neutral position ● Malfunction of connector contact
61	<ul style="list-style-type: none"> ● Short in driver's side air bag module (squib) harness leading to the power supply
62	<ul style="list-style-type: none"> ● Short in driver's side air bag module (squib) harness leading to the earth



Code No.24, 25, 64 or 65 Front passenger's side air bag module (squib) system	Probable cause
These diagnosis codes are output if there is abnormal resistance between the input terminals of the front passenger's side air bag module (squib). The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of front passenger's side air bag module (squib) ● Malfunction of SRS-ECU

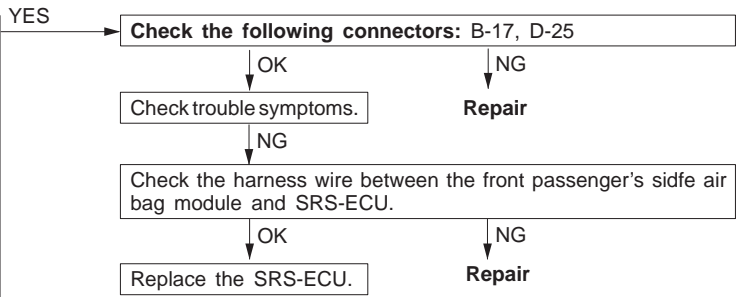
Code No.	Trouble causes
24	<ul style="list-style-type: none"> ● Short in front passenger's side air bag module (squib) or harness short
25	<ul style="list-style-type: none"> ● Open circuit in front passenger's side air bag module (squib) or open harness ● Malfunction of connector contact
64	<ul style="list-style-type: none"> ● Short in front passenger's side air bag module (squib) harness leading to the power supply
65	<ul style="list-style-type: none"> ● Short in front passenger's side air bag module (squib) harness leading to the earth



MUT-II Self-diag code

- Disconnect front passenger's side air bag module connector B-17, and connect the harness side connector to SRS check harness connector 1.
- Connect the battery (-) terminal.
- Erase diagnosis code memory.

Are code Nos.24, 25, 64 or 65 output?

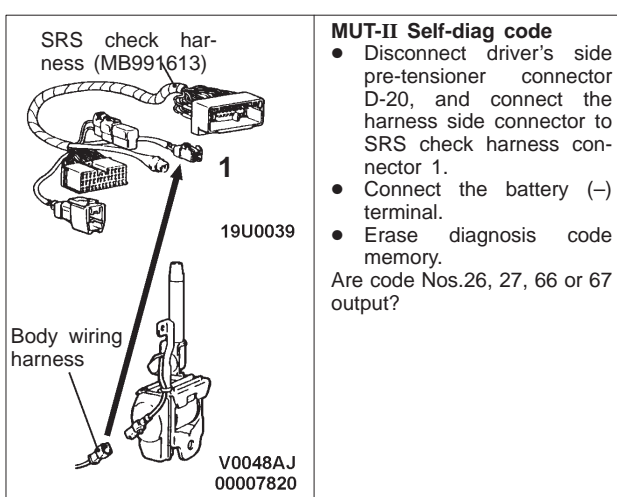


NO

Replace the front passenger's side air bag module.

Code No.26, 27, 66 or 67 Driver's side pre-tensioner (squib) system	Probable cause
These diagnosis codes are output if there is abnormal resistance between the input terminals of the driver's side pre-tensioner (squib). The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of driver's side pre-tensioner (squib) • Malfunction of SRS-ECU

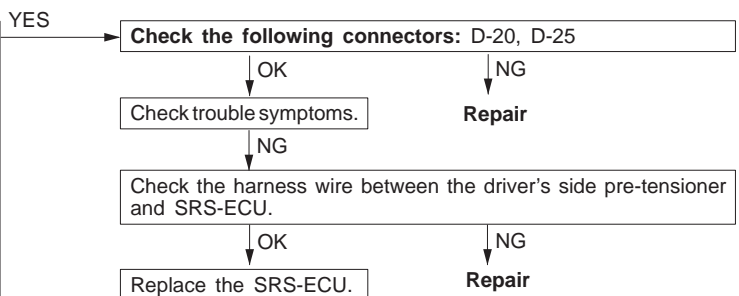
Code No.	Trouble causes
26	<ul style="list-style-type: none"> • Short in driver's side pre-tensioner (squib) or harness short
27	<ul style="list-style-type: none"> • Open circuit in driver's side pre-tensioner (squib) or open harness • Malfunction of connector contact
66	<ul style="list-style-type: none"> • Short in driver's side pre-tensioner (squib) harness leading to the power supply
67	<ul style="list-style-type: none"> • Short in driver's side pre-tensioner (squib) harness leading to the earth



MUT-II Self-diag code

- Disconnect driver's side pre-tensioner connector D-20, and connect the harness side connector to SRS check harness connector 1.
- Connect the battery (-) terminal.
- Erase diagnosis code memory.

Are code Nos.26, 27, 66 or 67 output?

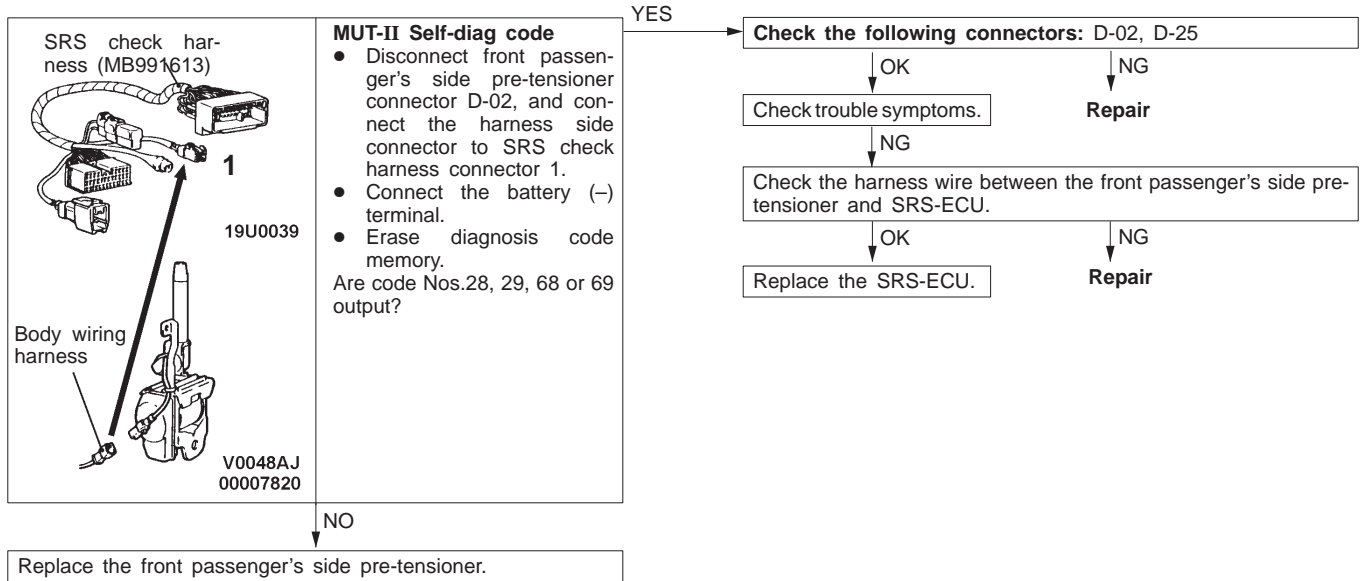


NO

Replace the driver's side pre-tensioner.

Code No.28, 29, 68 or 69 Front passenger's side pre-tensioner (squib) system	Probable cause
These diagnosis codes are output if there is abnormal resistance between the input terminals of the front passenger's side pre-tensioner (squib). The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of front passenger's side pre-tensioner (squib) ● Malfunction of SRS-ECU

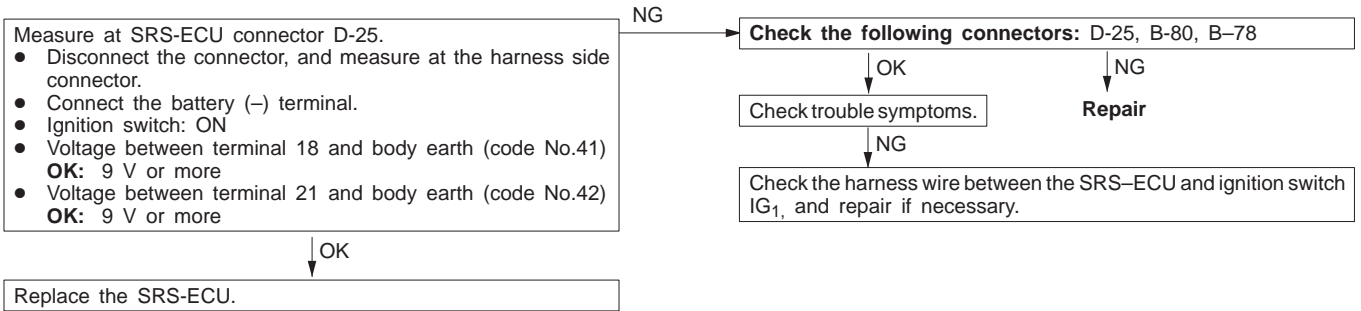
Code No.	Trouble causes
28	<ul style="list-style-type: none"> ● Short in front passenger's side pre-tensioner (squib) or harness short
29	<ul style="list-style-type: none"> ● Open circuit in front passenger's side pre-tensioner (squib) or open harness ● Malfunction of connector contact
68	<ul style="list-style-type: none"> ● Short in front passenger's side pre-tensioner (squib) harness leading to the power supply
69	<ul style="list-style-type: none"> ● Short in front passenger's side pre-tensioner (squib) harness leading to the earth



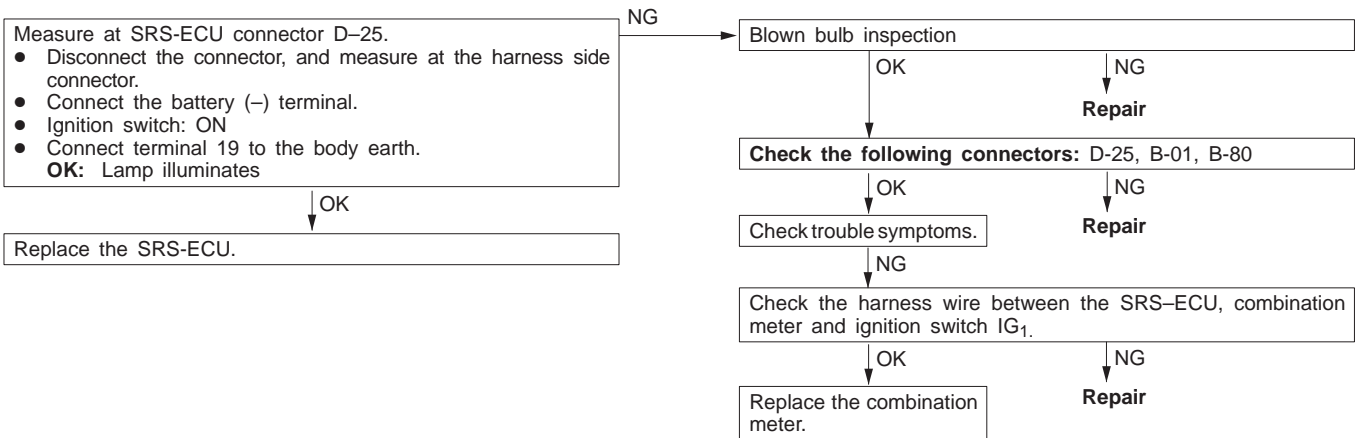
Code No.35 SRS-ECU (deployed air bag) system	Probable cause
This diagnosis code is output after the air bag deploys. If this code is output before the air bag has deployed, the cause is probably a malfunction inside the SRS-ECU.	<ul style="list-style-type: none"> ● Malfunction of SRS-ECU

Replace the SRS-ECU.

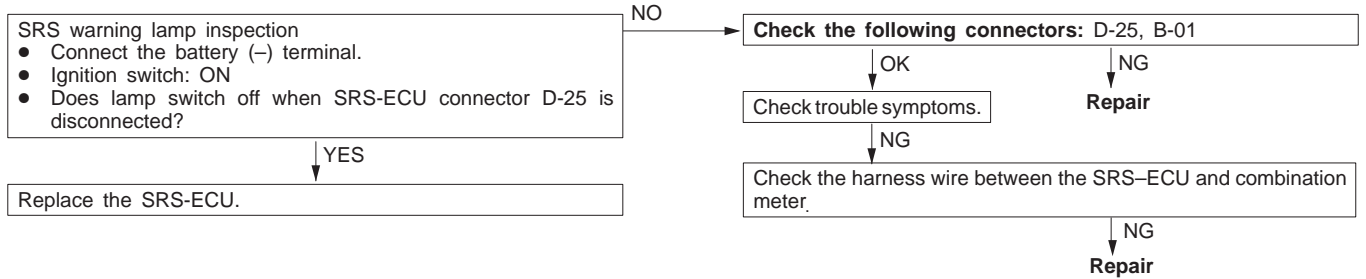
Code No.41 Power circuit system (fuse No.4 circuit)	Probable cause
<p>Code No.42 Power circuit system (fuse No.11 circuit)</p> <p>Code No.41 is output if the voltage between the IG₁ terminal (SRS-ECU, terminal 18) and the earth is lower than the specified value for a continuous period of 5 seconds or more.</p> <p>Code No.42 is output if the voltage between the IG₁ terminal (SRS-ECU, terminal 21) and the earth is lower than the specified value for a continuous period of 5 seconds or more.</p> <p>Automatically erased, and the SRS warning lamp will switch off.</p> <p>If the vehicle has a discharged battery it will store the fault codes 41 and 42. When these diagnosis codes are displayed, check the battery.</p>	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of SRS-ECU



Code No.43 SRS warning lamp drive circuit system (Lamp does not illuminate.)	Probable cause
<p>This diagnosis code is output when an open circuit occurs for a continuous period of 5 seconds while the SRS-ECU in monitoring the SRS warning lamp and the lamp is OFF (transistor OFF).</p> <p>However, if this code is output due to an open circuit, if the vehicle condition returns to normal, this diagnosis code No.43 will be automatically erased, and the SRS warning lamp will return to normal.</p>	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Blown bulb ● Malfunction of SRS-ECU ● Malfunction of combination meter



Code No.43 SRS warning lamp drive circuit system (Lamp does not switch off.)	Probable cause
This diagnosis code is output when a short to earth occurs in the harness between the lamp and the SRS-ECU while SRS-ECU is monitoring the SRS warning lamp and the lamp is ON.	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of SRS-ECU ● Malfunction of combination meter

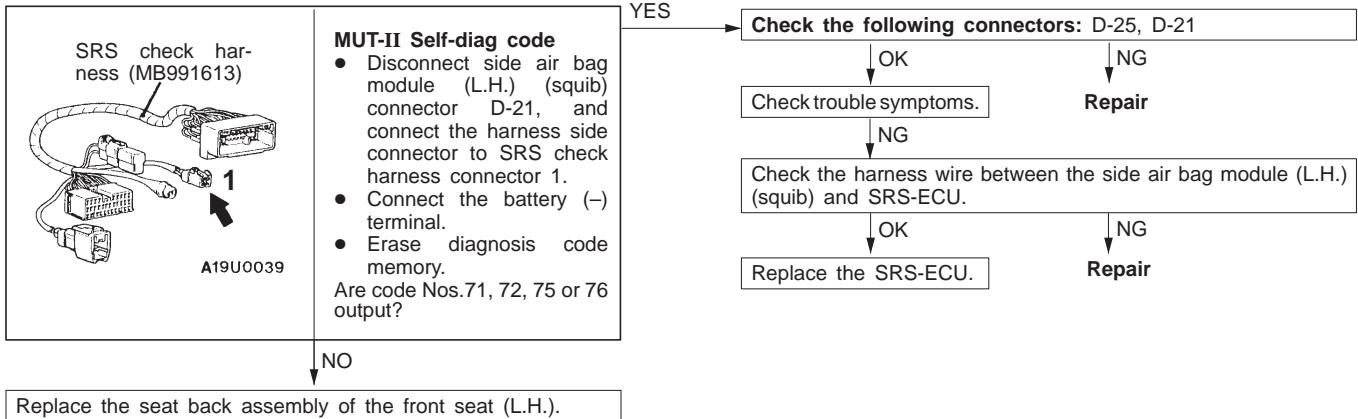


Code No.44 SRS warning lamp drive circuit system	Probable cause
This diagnosis code is output when a short occurs in the lamp drive circuit or a malfunction of the output transistor inside the SRS-ECU is detected while the SRS-ECU is monitoring the SRS warning lamp drive circuit. However, if the vehicle condition returns to normal, diagnosis code No.44 will be automatically erased, and the SRS warning lamp will switch off.	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of SRS-ECU



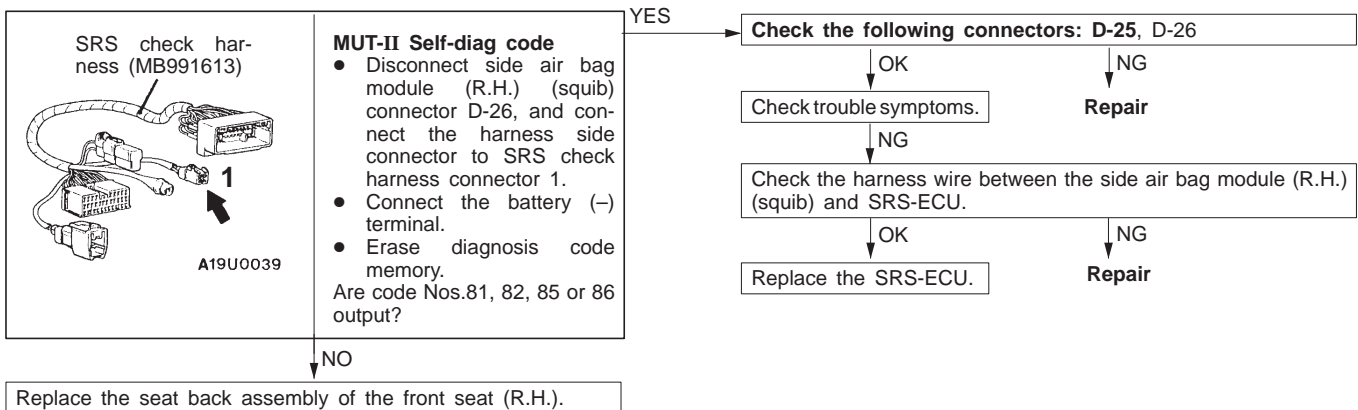
Code No.71, 72, 75 or 76 Side air bag module (L.H.) (squib) system	Probable cause
These diagnosis codes are output if the resistance value between the side air bag module (L.H.) (squib) input terminals of the SRS-ECU is abnormal. The problems which cause these codes to be output are as follows.	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of side air bag module (L.H.) (squib) ● Malfunction of SRS-ECU

Code No.	Trouble causes
71	<ul style="list-style-type: none"> ● Short in side air bag module (L.H.) (squib) or harness short
72	<ul style="list-style-type: none"> ● Open circuit in side air bag module (L.H.) (squib) or open harness ● Malfunction of connector contact
75	<ul style="list-style-type: none"> ● Short in side air bag module (L.H.) (squib) harness leading to the power supply
76	<ul style="list-style-type: none"> ● Short in side air bag module (L.H.) (squib) harness leading to the earth

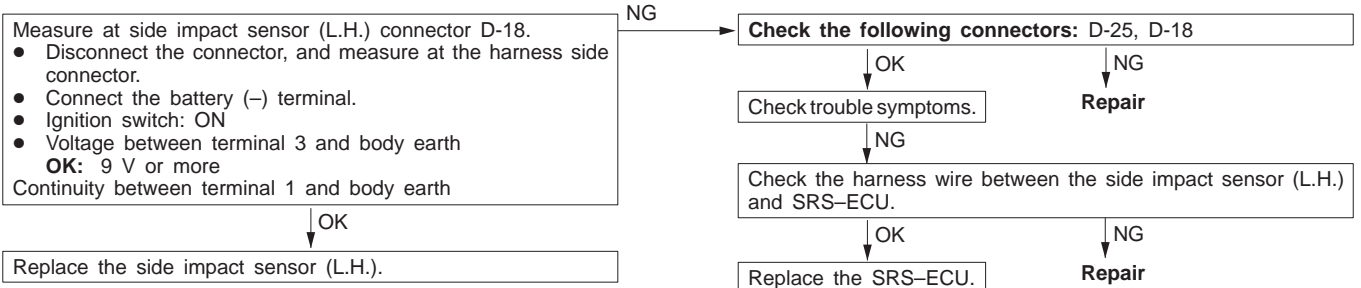


Code No.81, 82, 85 or 86 Side air bag module (R.H.) (squib) system	Probable cause
These diagnosis codes are output if the resistance value between the side air bag module (R.H.) (squib) input terminals of the SRS-ECU is abnormal. The problems which cause these codes to be output are as follows.	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of side air bag module (R.H.) (squib) • Malfunction of SRS-ECU

Code No.	Trouble causes
81	<ul style="list-style-type: none"> • Short in side air bag module (R.H.) (squib) or harness short
82	<ul style="list-style-type: none"> • Open circuit in side air bag module (R.H.) (squib) or open harness • Malfunction of connector contact
85	<ul style="list-style-type: none"> • Short in side air bag module (R.H.) (squib) harness leading to the power supply
86	<ul style="list-style-type: none"> • Short in side air bag module (R.H.) (squib) harness leading to the earth



Code No.91 Side impact sensor (L.H.) power supply circuit system	Probable cause
This diagnosis code is output if the power supply voltage of the side impact sensor (L.H.) drops below the rated value for a continuous period of 5 seconds or more. However, code No.91 will be automatically cleared and the SRS warning lamp will switch off if the condition returns normal.	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of side impact sensor (L.H.) ● Malfunction of SRS-ECU

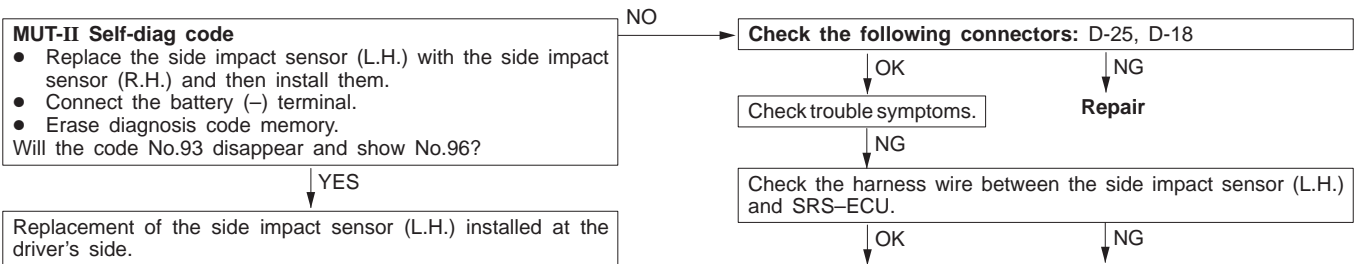


Code No.92, 95 Side impact sensor system	Probable cause
Code No.92 is output when a fault is detected in the side impact sensor (L.H.). Code No.95 is output when a fault is detected in the side impact sensor (R.H.). The defective parts and trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> ● Malfunction of side impact sensor (L.H.) (Code No.92) ● Malfunction of side impact sensor (R.H.) (Code No.95)

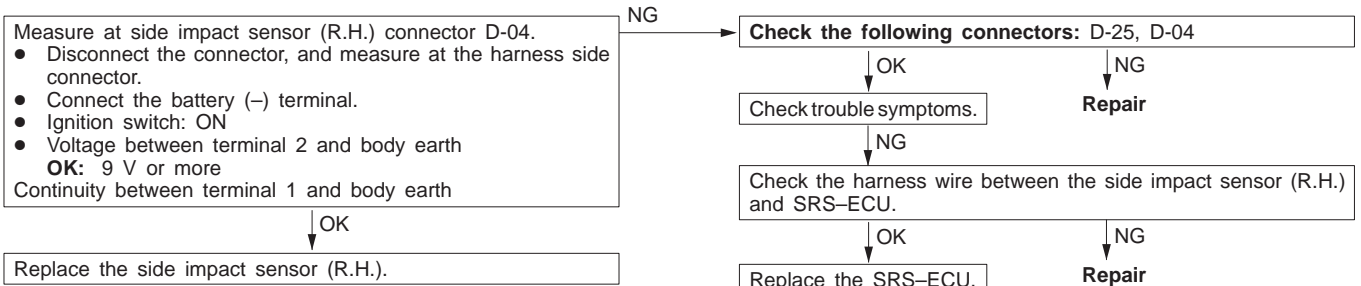
Code No.	Defective parts	Trouble causes
92	Analog G-sensor	<ul style="list-style-type: none"> ● Analog G-sensor is not operating ● Analog G-sensor characteristics are abnormal ● Analog G-sensor output is abnormal
95		

Replace the side impact sensor (L.H.) (code No.92).
 Replace the side impact sensor (R.H.) (code No.95).

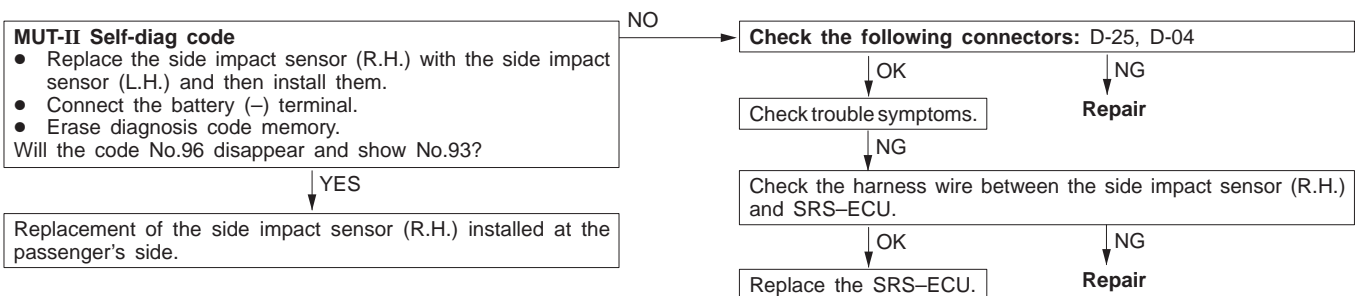
Code No.93 Side impact sensor (L.H.) communication system	Probable cause
This diagnosis code is output if communication between the side impact sensor (L.H.) and the SRS-ECU is abnormal	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of side impact sensor (L.H.) ● Malfunction of SRS-ECU



Code No.94 Side impact sensor (R.H.) power supply circuit system	Probable cause
This diagnosis code is output if the power supply voltage of the side impact sensor (R.H.) drops below the rated value for a continuous period of 5 seconds or more. However, code No.94 will be automatically cleared and the SRS warning lamp will switch off if the condition returns normal.	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of side impact sensor (R.H.) ● Malfunction of SRS-ECU



Code No.96 Side impact sensor (R.H.) communication system	Probable cause
This diagnosis code is output if communication between the side impact sensor (R.H.) and the SRS-ECU is abnormal	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of side impact sensor (R.H.) ● Malfunction of SRS-ECU



INSPECTION CHART FOR TROUBLE SYMPTOMS

52400340294

Get an understanding of the trouble symptoms and check according to the inspection procedure chart.

Trouble symptom		Inspection procedure No.	Reference page
Communication with MUT-II is not possible.	Communication with all systems is not possible.	1	52B-18
	Communication is not possible with SRS only.	2	52B-18
When the ignition key is turned to "ON" (engine stopped), the SRS warning lamp does not illuminate.		Refer to diagnosis code No.43.	52B-13
After the ignition switch is turned to ON, the SRS warning lamp is still on after approximately 7 seconds have passed.		Refer to diagnosis code No.43, 44.	52B-14

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

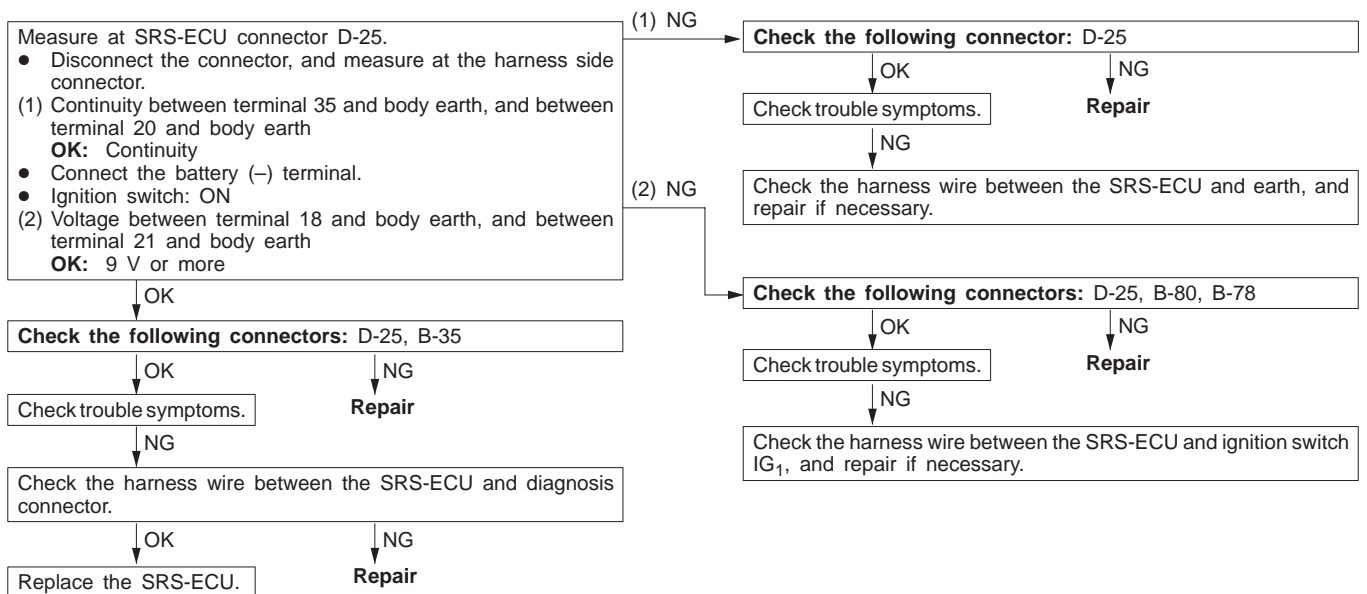
Inspection Procedure 1

Communication with MUT-II is not possible. (Communication with all systems is not possible.)	Probable cause
The cause is probably a power supply system (including earth circuit) of the diagnosis line.	<ul style="list-style-type: none"> ● Malfunction of connectors ● Malfunction of wiring harness

Refer to GROUP 13A – Troubleshooting.

Inspection Procedure 2

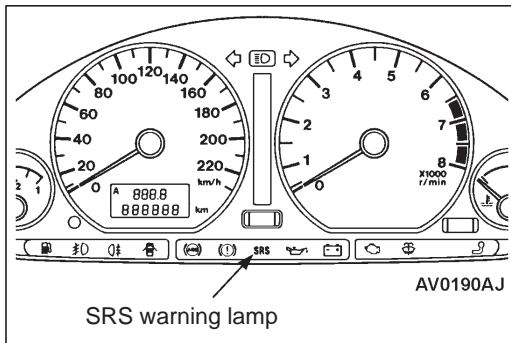
Communication with MUT-II is not possible. (Communication is not possible with SRS only.)	Probable cause
If communication is not possible with the SRS only, the cause is probably an open circuit in the diagnosis output circuit of the SRS or in the power circuit (including earth circuit).	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of SRS-ECU



SRS MAINTENANCE

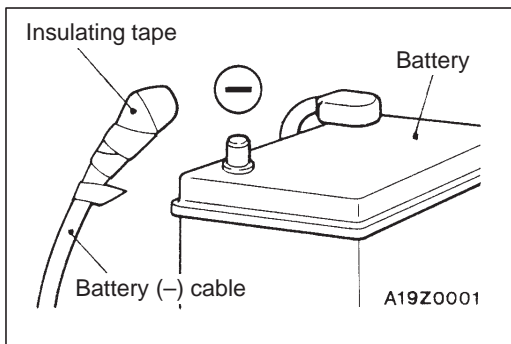
52400390251

The SRS must be inspected by an authorized dealer 10 years after the date of vehicle registration.



SRS WARNING LAMP CHECK

Turn the ignition key to the “ON” position. Does the SRS warning lamp illuminate for about 7 seconds, turn off and then remain extinguished for at least 5 seconds? If yes, SRS system is functioning properly. If no, consult page 52B-7.

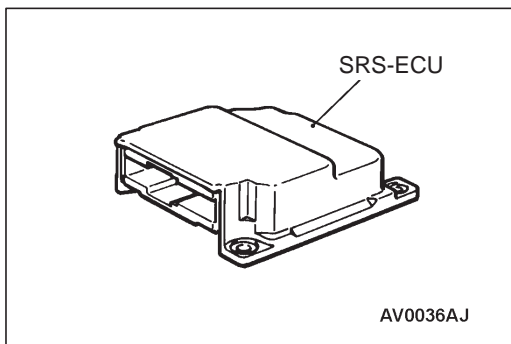


SRS COMPONENT VISUAL CHECK

Turn the ignition key to the “LOCK” position, disconnect the negative battery cable and tape the terminal.

Caution

Wait at least 60 seconds after disconnecting the battery cable before doing any further work. (Refer to P.52B-7.)



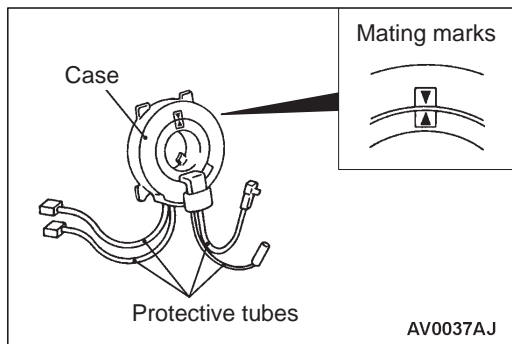
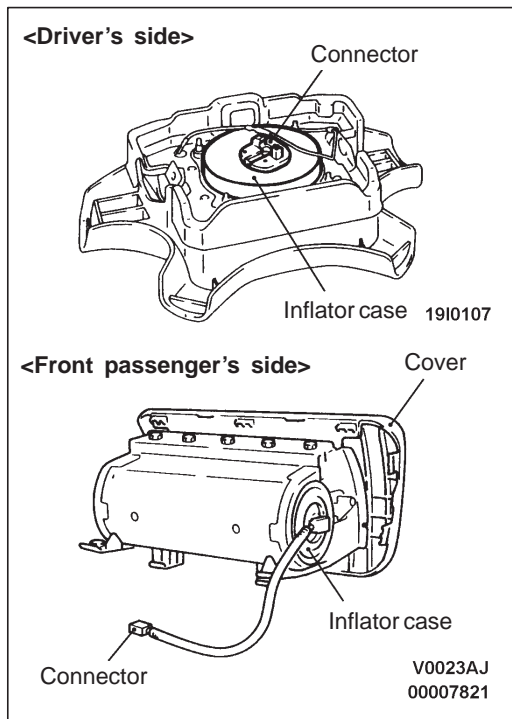
SRS CONTROL UNIT (SRS-ECU)

1. Check SRS-ECU case and brackets for dents, cracks, deformation or rust.

Caution

The SRS may not activate if the SRS-ECU is not installed properly, which could result in serious injury or death to the vehicle’s driver or front passenger.

2. Check connector for damage, and terminals for deformation or rust.
Replace SRS-ECU if it fails visual check.
(Refer to P.52B-28.)



AIR BAG MODULES, STEERING WHEEL AND CLOCK SPRING

1. Remove the air bag modules, steering wheel and clock spring. (Refer to P.52B-30, 31.)

Caution

The removed air bag modules should be stored in a clean, dry place with the cover face up.

2. Check cover for dents, cracks or deformation.
3. Check connector for damage, terminal deformities, and harness for binds.
4. Check air bag inflator case for dents, cracks or deformities.
5. Check harness and connectors for damage, and terminals for deformation.

6. Check clock spring connectors and protective tube for damage, and terminals for deformation.
7. Visually check the clock spring case for damage.
8. Align the mating marks of the clock spring and, after turning the vehicle's front wheels to straight-ahead position, install the clock spring to the column switch.

Mating Mark Alignment

Turn the clock spring clockwise fully, and then turn back it approx. 3 4/5 turns counterclockwise to align the mating marks.

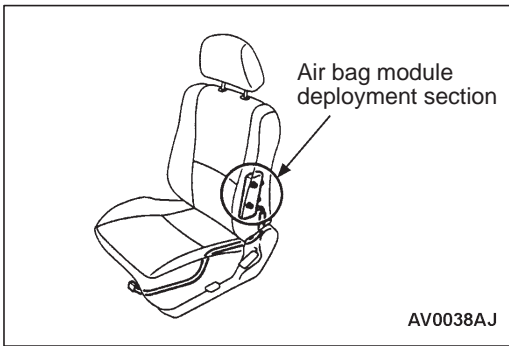
Caution

If the clock spring's mating mark is not properly aligned, the steering wheel may not be completely rotational during a turn, or the flat cable within the clock spring may be severed, obstructing normal operation of the SRS and possibly leading to serious injury to the vehicle's driver or front passenger.

9. Install the steering column covers, steering wheel and the air bag module.
10. Check steering wheel for noise, binds or difficult operation.
11. Check steering wheel for excessive free play.
REPLACE ANY VISUALLY INSPECTED PART IF IT FAILS THAT INSPECTION. (Refer to P.52B-30, 31.)

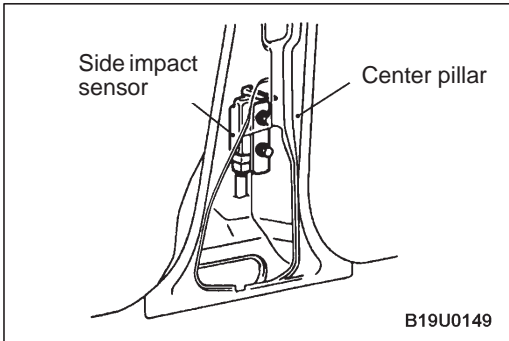
Caution

The SRS may not activate if any of the above components is not installed properly, which could result in serious injury or death to the vehicle's driver or front passenger.



FRONT SEAT BACK ASSEMBLY (SIDE AIR BAG MODULE)

1. Check that there is no abnormality in the seat air bag module deployment section.
2. Check that there is no connector damage, bent terminals or clamping of the harness.



SIDE IMPACT SENSORS

1. Check that there is no bending or corrosion in the center pillar.
2. Check that there is no denting, breakage, bending or corrosion of the side impact sensor.
3. Check that there is no clamping of the harness, connector damage or bent terminals.

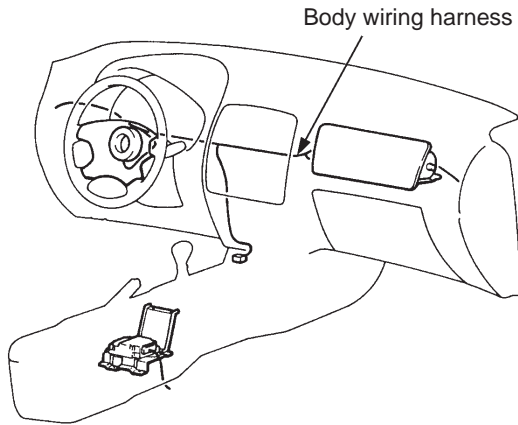
NOTE

The illustration at left shows the side impact sensor (R.H.). The position of the side impact sensor (L.H.) is symmetrical to this.

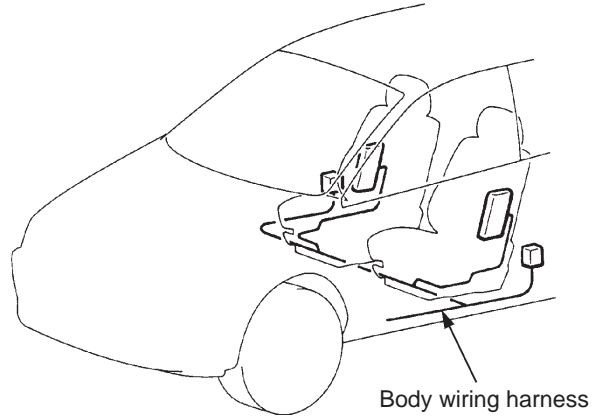
Caution

The SRS may not activate if the side impact sensors are not installed properly, which could result in serious injury or death to the vehicle's driver or front passenger.

BODY WIRING HARNESS



V0011AJ

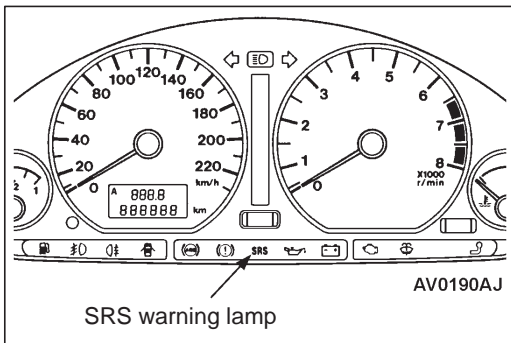


V0012AJ
00007822

1. Check connector for poor connection.
2. Check harnesses for binds, connectors for damage, and terminals for deformation.
REPLACE ANY CONNECTORS OR HARNESS THAT FAIL THE VISUAL INSPECTION. (Refer to P.52B-3.)

Caution

The SRS may not activate if SRS harnesses or connectors are damaged or improperly connected, which could result in serious injury or death to the vehicle's driver or front passenger.



POST-INSTALLATION INSPECTION

Reconnect the negative battery terminal. Turn the ignition key to the "ON" position. Does the SRS warning lamp illuminate for about 7 seconds, turn off and then remain extinguished for at least 5 seconds? If yes, SRS system is functioning properly. If no, consult page 52B-7.

POST-COLLISION DIAGNOSIS

52400110338

To inspect and service the SRS after a collision (whether or not the air bags have deployed), perform the following steps.

SRS-ECU MEMORY CHECK

1. Connect the MUT-II to the diagnosis connector (16-pin).

Caution

Make certain that the ignition switch is OFF when the MUT-II is connected or disconnected.

2. Read (and write down) all displayed diagnosis codes. (Refer to P.52B-7.)

NOTE

If the battery power supply has been disconnected or disrupted by the collision, the MUT-II cannot communicate with the SRS-ECU. Inspect and, if necessary, repair the body wiring harness before proceeding further.

3. Read the data list (fault duration and how many times memories are erased) using the MUT-II.

Data list

No	Service Data Item	Applicability
91	How long a problem has lasted (How long it takes from the occurrence of the problem till the first air bag squib igniting signal or from the first air bag squib igniting signal till now.)	Maximum time to be stored: 9999 minutes (approximately 7 days)
92	Number indicating how often the memory is cleared	Maximum time to be stored: 250

4. Erase the diagnosis codes and after waiting 5 seconds or more read (and write down) all displayed diagnosis codes. (Refer to P.52B-7.)

REPAIR PROCEDURE**WHEN AIR BAGS (DRIVER'S SIDE AND FRONT PASSENGER'S SIDE) DEPLOY OR SEAT BELT PRE-TENSIONER OPERATES IN A COLLISION.**

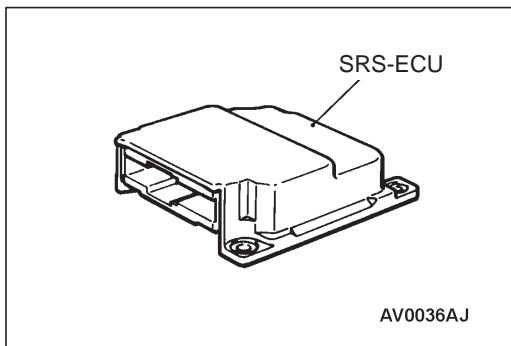
1. Replace the following parts with new ones.
 - SRS-ECU (Refer to P.52B-28.)
 - Driver's side air bag module (Refer to P.52B-30.)
 - Front passenger's side air bag module (Refer to P.52B-30.)
 - Seat belt with pre-tensioner (Refer to P.52B-37.)
2. Check the following parts and replace if there are any malfunctions.
 - Clock spring (Refer to P.52B-28.)
 - Steering wheel, steering column and intermediate joint
 - (1) Check wiring harness (built into steering wheel) and connectors for damage, and terminals for deformation.
 - (2) Install air bag module to check fit or alignment with steering wheel.
 - (3) Check steering wheel for noise, binds or difficult operation and excessive free play.
3. Check harnesses for binding, connectors for damage, poor connections, and terminals for deformation. (Refer to P.52B-22.)

WHEN SIDE AIR BAG DEPLOYS OR SEAT BELT PRE-TENSIONER OPERATES IN A COLLISION.

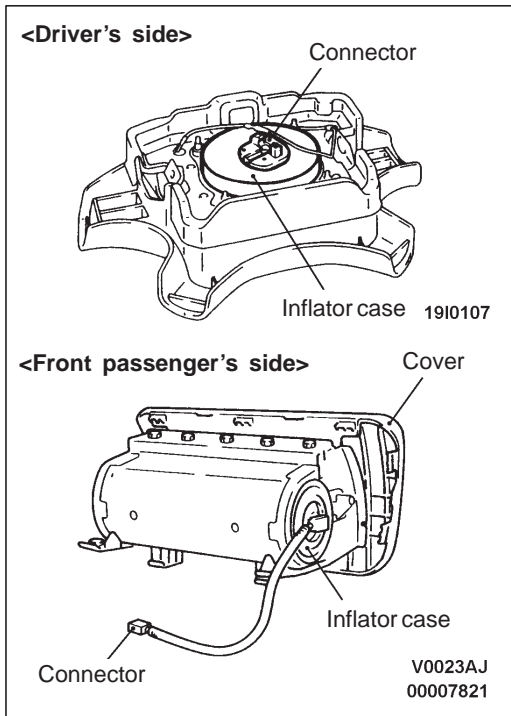
1. Replace the following parts with new ones.
 - SRS-ECU (Refer to P.52B-28.)
 - Side impact sensor (Refer to P.52B-35.)
 - Front seat back assembly (Refer to GROUP 52A-Seat.)
 - Seat belt with pre-tensioner (Refer to P.52B-37.)
2. Check harnesses for binding, connectors for damage, poor connections, and terminals for deformation. (Refer to P.52B-22.)

WHEN AIR BAG OR SEAT BELT PRE-TENSIONER DOES NOT DEPLOY IN LOW-SPEED COLLISION.

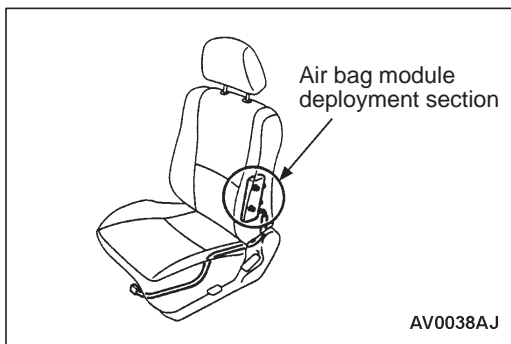
Check the SRS components and seat belt with pre-tensioner. If the SRS components and seat belt with pre-tensioner are showing any visible damage such as dents, cracks, or deformation, replace them with new ones. Concerning parts removed for inspection, replacement with new parts and cautionary points for working, refer to appropriate INDIVIDUAL COMPONENT SERVICE, P. 52B-26.

**SRS-ECU**

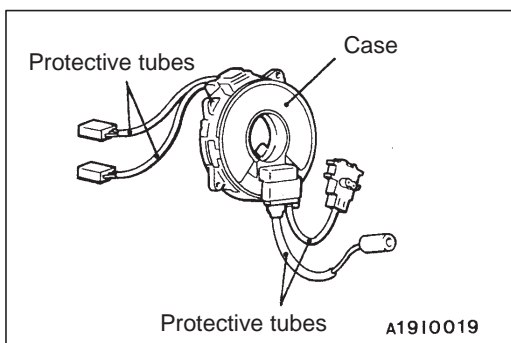
1. Check SRS-ECU case and brackets for dents, cracks or deformation.
2. Check connector for damage, and terminals for deformation.

**Air bag modules**

1. Check cover for dents, cracks or deformation.
2. Check connector for damage, terminals deformities, and harness for binds.
3. Check air bag inflator case for dents, cracks or deformities.
4. Install air bag module to steering wheel to check fit or alignment with the wheel.

**Front seat back assembly (Side air bag module)**

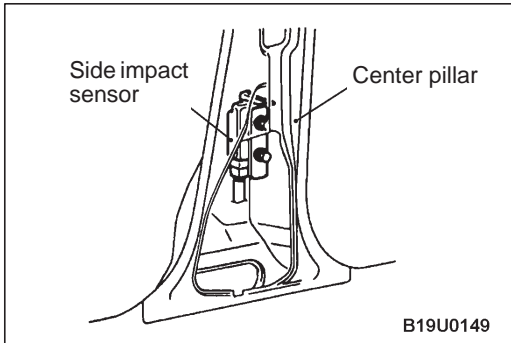
1. Check that there is no abnormality in the seat air bag module deployment section.
2. Check that there is no connector damage, bent terminals or clamping of the harness.

**Clock spring**

1. Check clock spring connectors and protective tubes for damage, and terminals for deformation.
2. Visually check the case for damage.

Steering wheel, steering column and intermediate joint

1. Check wiring harness (built into steering wheel) and connectors for damage, and terminals for deformation.
2. Install air bag module to check fit or alignment with steering wheel.
3. Check steering wheel for noise, binds or difficult operation and excessive free play.



Side impact sensor

1. Check that there is no bending or corrosion in the center pillar.
2. Check that there is no denting, breakage, bending or corrosion of the side impact sensor.
3. Check that there is no clamping of the harness, connector damage or bent terminals.

NOTE

The illustration at left shows the side impact sensor (L.H.). The position of the side impact sensor (R.H.) is symmetrical to this.

Harness connector (body wiring harness)

Check harnesses for binding, connectors for damage, poor connection, and terminals for deformation. (Refer to P.52B-22.)

Seat belt with pre-tensioner

1. Check the seat belt for damage or deformation.
2. Check the pre-tensioner for cracks or deformation.
3. Check that the unit is installed correctly to the vehicle body.

INDIVIDUAL COMPONENT SERVICE

52400290322

If the SRS components and seat belt with pre-tensioner are to be removed or replaced as a result of maintenance, troubleshooting, etc., follow each procedure (P.52B-28 – P.52B-38.)

Caution

1. **SRS components and seat belt with pre-tensioner should not be subjected to heat, so remove the SRS-ECU, air bag modules (driver's side and front passenger's side), front seat assemblies (side air bag module), clock spring, side impact sensors and seat belts with pre-tensioner before drying or baking the vehicle after painting.**
 - SRS-ECU, Air bag module, clock spring, side impact sensor: 93°C or more
 - Seat belt with pre-tensioner: 90°C or moreRecheck SRS system operability after re-installing them.
2. If the SRS components and seat belts with pre-tensioner are removed for the purpose of check, sheet metal repair, painting, etc., they should be stored in a clean, dry place until they are reinstalled.

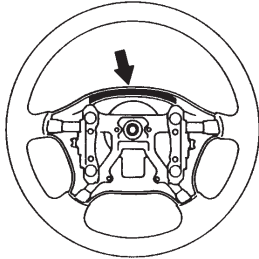
WARNING/CAUTION LABELS

52400300100

A number of caution labels relating to the SRS and seat belt with pre-tensioner are found in the vehicle, as shown in the following illustration. Follow label

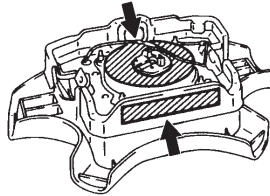
instructions when servicing SRS and seat belt pre-tensioner. If labels are dirty or damaged, replace them with new ones.

Steering wheel



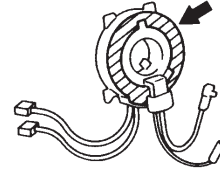
19I0042

Air bag module (driver's side)



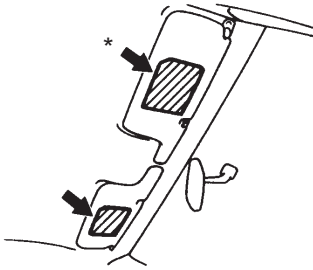
19I0034

Clock spring



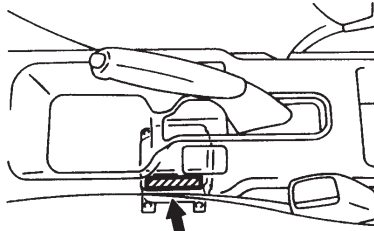
V0014AJ

Sun visor



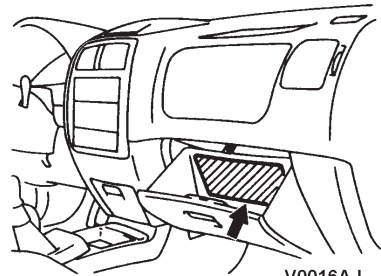
V0036AJ

SRS-ECU



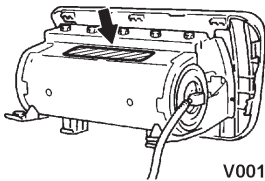
V0015AJ

Glove box



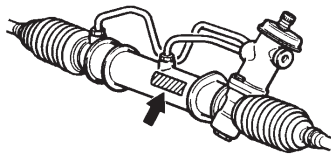
V0016AJ

Air bag module (front passenger's side)



V0017AJ

Steering gear box



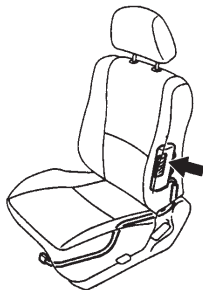
V0018AJ

Seat belt with pre-tensioner



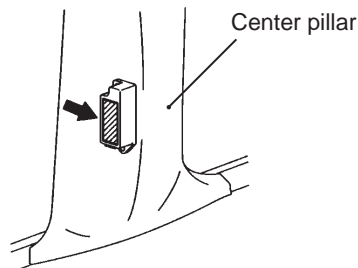
V0021AJ
00007813

Side air bag module (driver's and front passenger's seat)



V0019AJ

Side impact sensor



V0020AJ

NOTE

*: Vehicles with front passenger's air bag or SRS side air bags

SRS AIR BAG CONTROL UNIT (SRS-ECU)

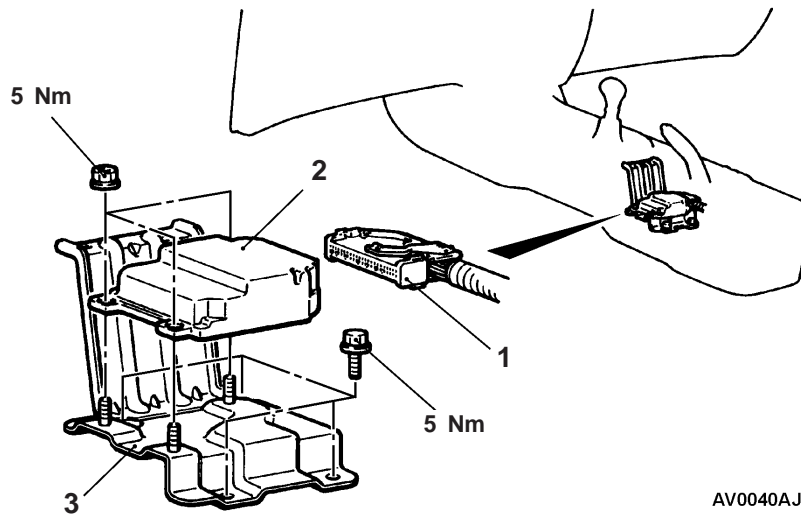
52400210236

Caution

1. Disconnect the battery (–) terminal and wait for 60 seconds or more before starting work. Furthermore, the disconnected battery terminal should be covered with tape to insulate it. (Refer to P.52B-3.)
2. Never attempt to disassemble or repair the SRS-ECU. If faulty, replace it.
3. Do not drop or subject the SRS-ECU to impact or vibration. If denting, cracking, deformation, or rust are discovered in the SRS-ECU, replace it with a new SRS-ECU. Discard the old one.
4. After deployment of an air bag, replace the SRS-ECU with a new one.
5. Never use an ohmmeter on or near the SRS-ECU, and use only the special test equipment described on P.52B-7.

REMOVAL AND INSTALLATION

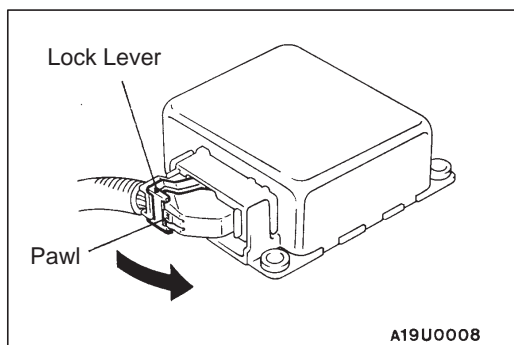
Pre-removal Operation
Turn the ignition key to the "LOCK" position.



AV0040AJ

Removal steps

- | | | | |
|-----|--|---------|--|
| ▶C◀ | <ul style="list-style-type: none"> ● Post-installation inspection ● Negative (–) battery cable connection ● Floor console (Refer to GROUP 52A.) | ◀A▶ ▶B◀ | <ol style="list-style-type: none"> 1. Harness connector 2. SRS-ECU 3. SRS-ECU bracket |
|-----|--|---------|--|



A19U0008

REMOVAL SERVICE POINT

◀A▶ HARNESS CONNECTOR DISCONNECTION

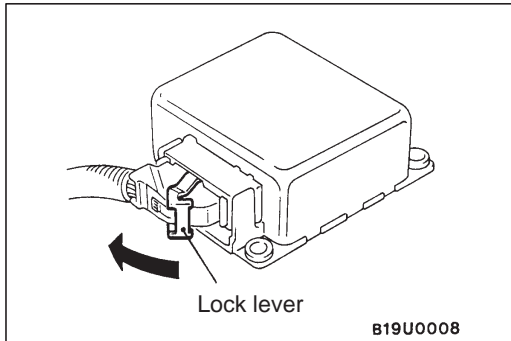
Push the connector pawl to unlock the connector, and then turn the lock lever in the direction of the arrow to disconnect the connector.

INSTALLATION SERVICE POINTS

►A◄ SRS-ECU INSTALLATION

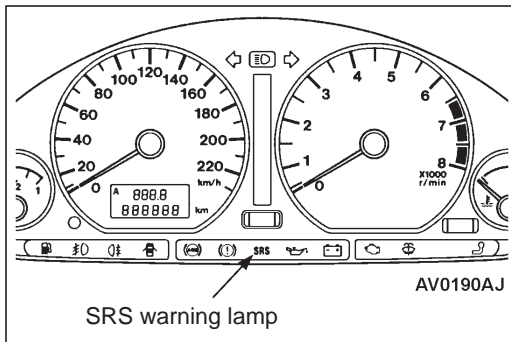
Caution

The SRS may not activate if SRS-ECU is not installed properly, which could result in serious injury or death to the vehicle's driver or front passenger.



►B◄ HARNESS CONNECTOR CONNECTION

Connect the harness-side connector securely to the SRS-ECU connector, and then turn the lock lever in the direction of the arrow to lock the connector.



►C◄ POST-INSTALLATION INSPECTION

1. Reconnect the negative battery terminal.
2. Turn the ignition key to the "ON" position.
3. Does the "SRS" warning lamp illuminate for about 7 seconds, and then remain extinguished for at least 5 seconds after turning OFF?
4. If yes, SRS system is functioning properly.
If no, consult page 52B-7.

INSPECTION

52400220208

- Check the SRS-ECU and brackets for dents, cracks or deformation.
- Check connector for damage, and terminals for deformation.

Caution

If a dent, crack, deformation or rust is discovered, replace the SRS-ECU with a new one.

NOTE

For checking of the SRS-ECU other than described above, refer to the section concerning troubleshooting. (Refer to P.52B-7.)

AIR BAG MODULES AND CLOCK SPRING

52400240297

Caution

1. Disconnect the battery (–) terminal and wait for 60 seconds or more before starting work. Furthermore, the disconnected battery terminal should be covered with tape to insulate it. (Refer to P.52B-3.)
2. Never attempt to disassemble or repair the air bag modules or clock spring. If faulty, replace it.
3. Do not drop the air bag modules or clock spring or allow contact with water, grease or oil. Replace it if a dent, crack, deformation or rust is detected.
4. The air bag modules should be stored on a flat surface and placed so that the pad surface is facing upward. Do not place anything on top of it.
5. Do not expose the air bag modules to temperatures over 93°C.
6. When the driver’s side and front passenger’s side air bags have been deployed, the air bag modules (driver’s side and front passenger’s side) should be replaced with new modules. When a side air bag has been deployed, the front seat back assembly (driver’s seat or passenger’s seat) should be replaced with a new assembly.
7. Wear gloves and safety glasses when handling air bags that have already deployed.
8. An undeployed air bag module should only be disposed of in accordance with the procedures (Refer to P.52B-39.)

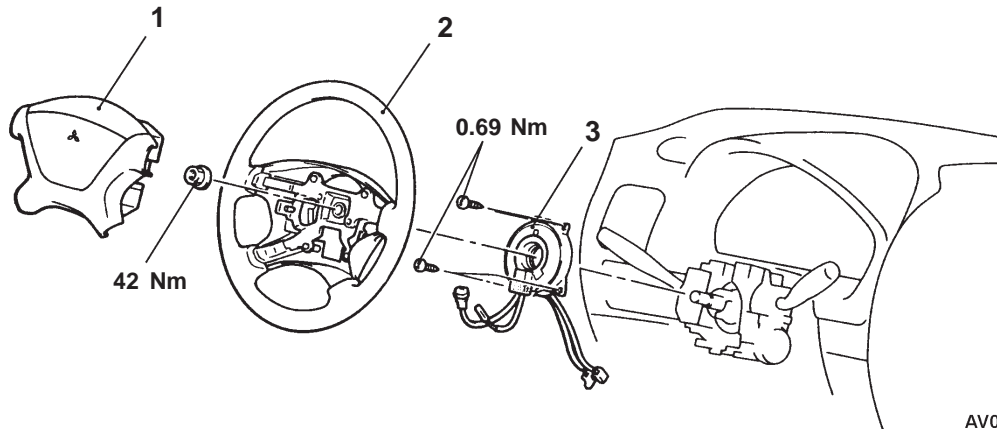
REMOVAL AND INSTALLATION

<Side air bag module>

For removal and installation of the front seat back assembly with side air bag module, refer to GROUP 52A – Seat.

<Air bag module (driver’s side), clock spring>

Pre-removal Operation
 After setting the steering wheel and the front wheels to the straight ahead position, remove the ignition key.



AV0041AJ

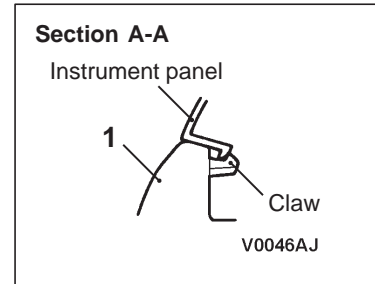
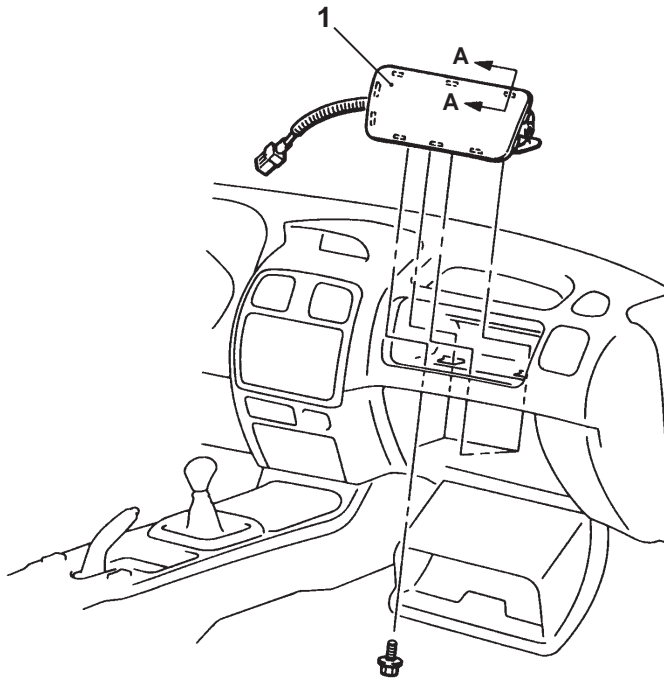
Air bag module removal steps

- ▶E◀ ● Post-installation inspection
- ▶D◀ ● Negative (–) battery cable connection
- ◀A▶ 1. Air bag module
- ▶A◀ ● Pre-installation inspection

Clock spring removal steps

- ▶E◀ ● Post-installation inspection
- ▶D◀ ● Negative (–) battery cable connection
- ◀A▶ 1. Air bag module
- ◀B▶ 2. Steering wheel
 - Column cover (Refer to GROUP 52A – Instrument Panel.)
- ◀C▶ 3. Clock spring
- ▶A◀ ● Pre-installation inspection

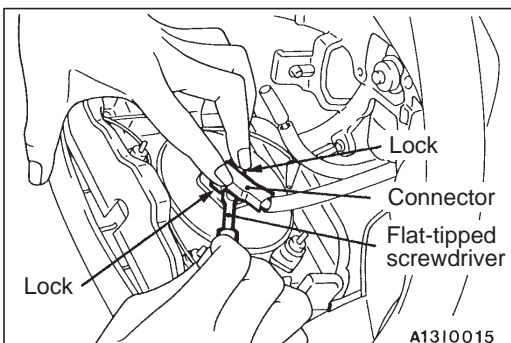
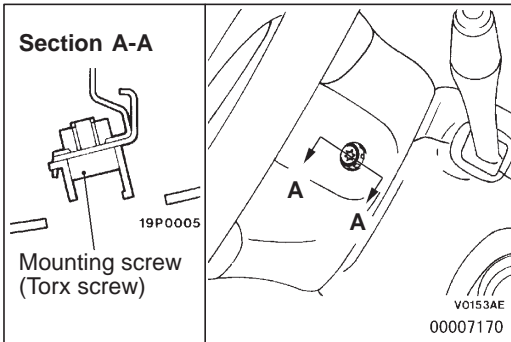
<Air bag module (front passenger’s side)>



V0045AJ
00007824

Air bag module removal steps

- ▶E◀ • Post-installation inspection
- Negative (-) battery cable connection
- ◀D▶
- ▶A◀ 1. Air bag module
- Pre-installation inspection



REMOVAL SERVICE POINTS

◀A▶ **AIR BAG MODULE REMOVAL (DRIVER’S SIDE)**

1. Remove the air bag module mounting screws (torx screws) at the sides of the steering wheel.

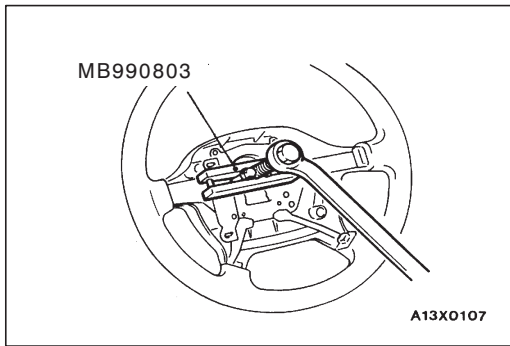
NOTE

Do not remove the screws from the holders.

2. When disconnecting the connector of the clock spring from the air bag module, press the air bag’s lock towards the outer side to spread it open. Use a flat-tipped screwdriver, as shown in the figure at the left, to pry so as to remove the connector gently.

Caution

- (1) When disconnect the air bag module clock spring connector, take care not to apply excessive force to it.
- (2) The removed air bag module should be stored in a clean, dry place with the pad cover face up.



◀B▶ STEERING WHEEL REMOVAL

Caution

Do not hammer on the steering wheel. Doing so may damage the collapsible column mechanism.

◀C▶ CLOCK SPRING REMOVAL

Caution

The removed clock spring should be stored in a clean, dry place.

◀D▶ AIR BAG MODULE REMOVAL (FRONT PASSENGER'S SIDE)

Caution

The removed air bag module should be stored in a clean, dry place with the pad cover face up.

INSTALLATION SERVICE POINTS

▶A◀ PRE-INSTALLATION INSPECTION

1. When installing the new air bag modules and clock spring, refer to "INSPECTION".

Caution

Dispose of air bag modules only according to the specified procedure. (Refer to P.52B-39.)

2. Connect the battery (-) terminal.
3. Connect the MUT-II to the diagnosis connector.

Caution

Make certain that the ignition switch is OFF when the MUT-II is connected or disconnected.

4. Turn the ignition key to the "ON" position.
5. Conduct self-diagnosis using the MUT-II to ensure entire SRS operates properly, except open circuit of air bag modules.
6. Turn the ignition key to the "LOCK" position, disconnect the negative battery cable and tape the terminal.

Caution

Wait at least 60 seconds after disconnecting the battery cable before doing any further work. (Refer to P.52B-3.)

▶B◀ CLOCK SPRING INSTALLATION

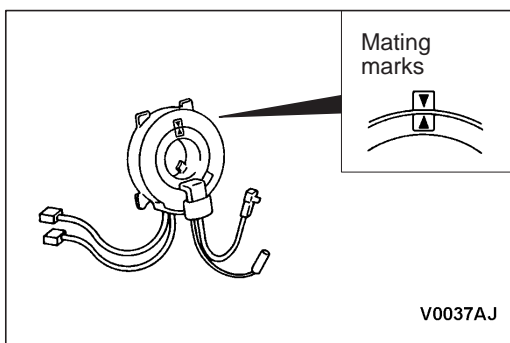
Align the mating marks of the clock spring and, after turning the front wheels to the straight-ahead position, install the clock spring to the column switch.

Mating Mark Alignment

Turn the clock spring clockwise fully, and then turn back it approx. 3 4/5 turns counterclockwise to align the mating marks.

Caution

If the clock spring's mating marks are not properly aligned, the steering wheel may not be completely rotational during a turn, or the flat cable within the clock spring may be severed, obstructing normal operation of the SRS and possibly leading to serious injury to the vehicle's driver.



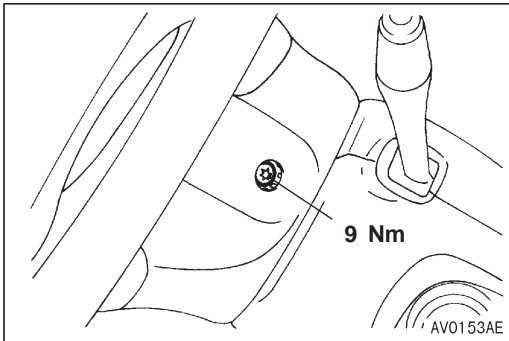
►C◄ STEERING WHEEL INSTALLATION

1. Before installation of the steering wheel, be sure to first turn the vehicle's front wheels to the straight-ahead position and align the mating marks of the clock spring.

Caution

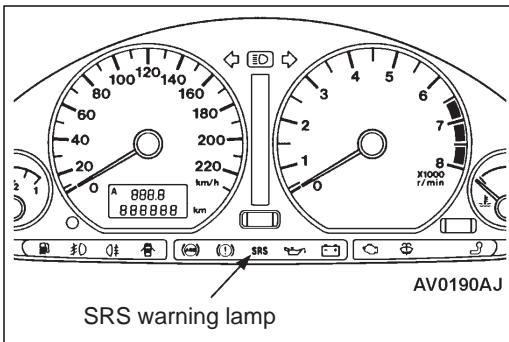
Be sure when installing the steering wheel, that the harness of the clock spring does not become caught or tangled.

2. After clamping, turn the steering wheel all the way in both directions to confirm that steering is normal.



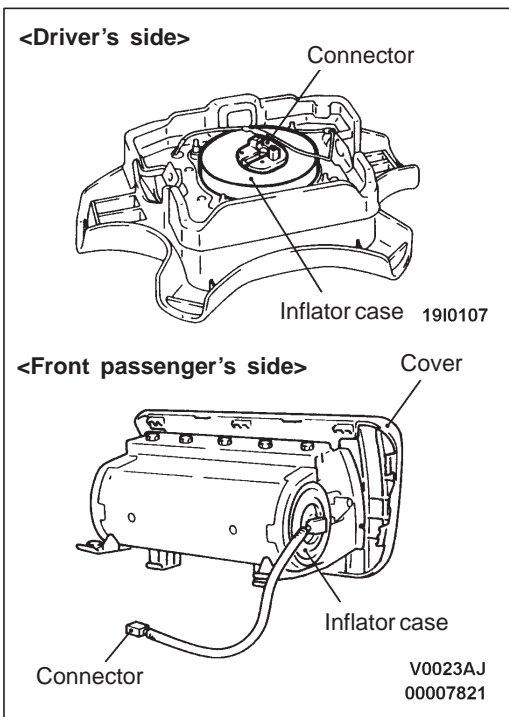
►D◄ AIR BAG MODULE INSTALLATION (DRIVER'S SIDE)

1. Connect the air bag module connector securely.
2. Tighten the air bag module mounting screws.



►E◄ POST-INSTALLATION INSPECTION

1. Reconnect the negative battery terminal.
2. Turn the ignition key to the "ON" position.
3. Does the "SRS" warning lamp illuminate for about 7 seconds, and then remain extinguished for at least 5 seconds after turning OFF?
4. If yes, SRS system is functioning properly. If no, consult page 52B-7.



INSPECTION

52400250290

AIR BAG MODULE CHECK

If any improper part is found during the following inspection, replace the air bag module with a new one.

Dispose the old one according to the specified procedure. (Refer to P.52B-39.)

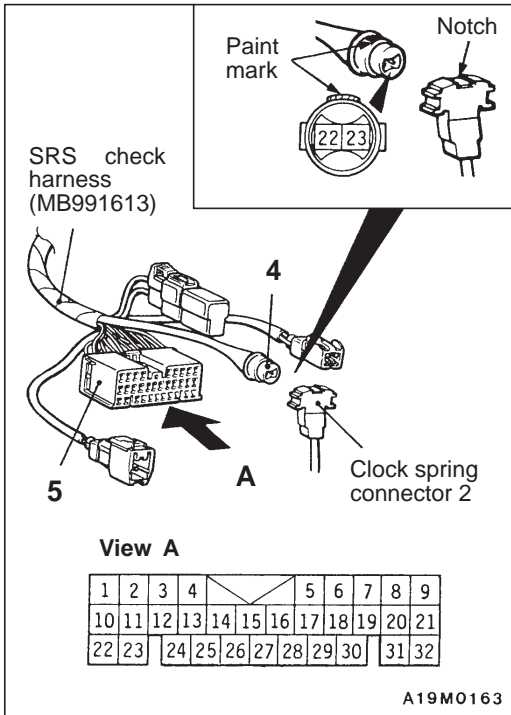
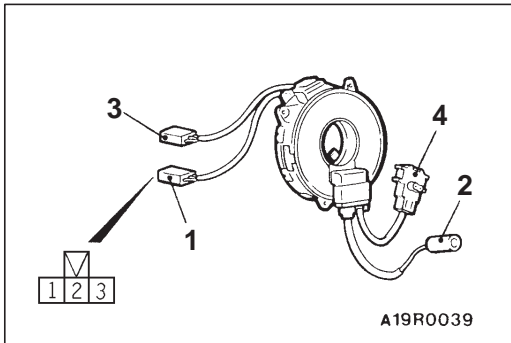
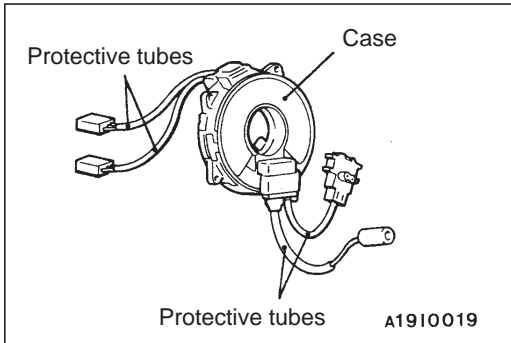
Caution

Never attempt to measure the circuit resistance of the air bag modules (squib) even if you are using the specified tester. If the circuit resistance is measured with a tester, accidental air bags deployment will result in serious personal injury.

1. Check cover for dents, cracks or deformation.
2. Check connectors for damage, terminals for deformation, and harness for binds.
3. Check air bag inflator case for dents, cracks or deformation.
4. Install the air bag module (driver's side) to steering wheel to check fit or alignment with the wheel.
5. Install the air bag module (front passenger's side) to the instrument panel and crossmember and check fit and alignment.

Caution

If dents, cracks, deformation, or rust are discovered in the air bag module, replace it with a new one. Dispose of the old one according to the specified procedure. (Refer to P.52B-39.)



CLOCK SPRING CHECK

If, as result of following checks, even one abnormal point is discovered, replace the clock spring with a new one.

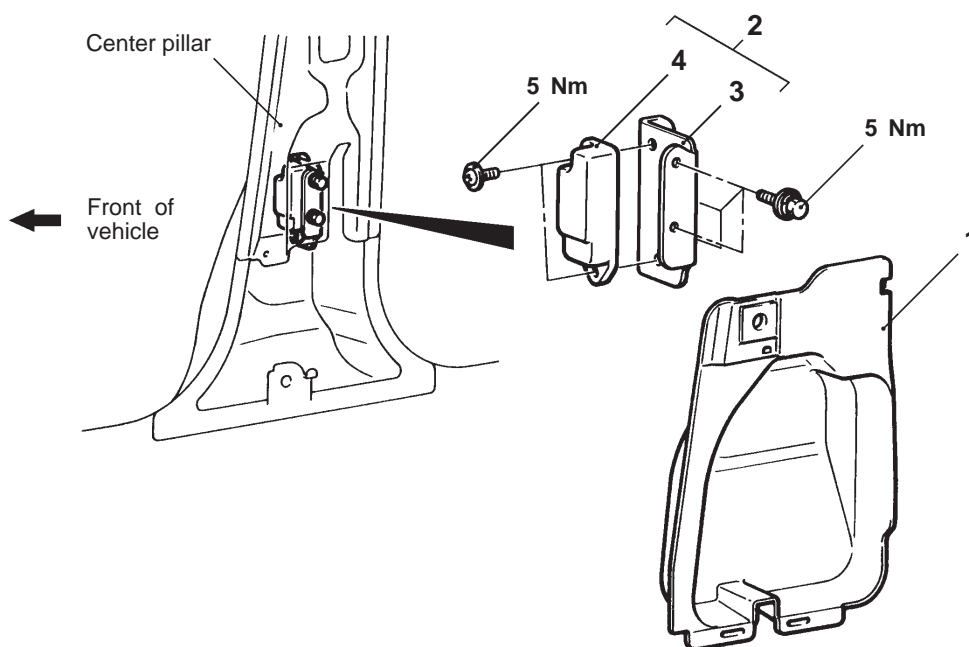
1. Check connectors and protective tubes for damage, and terminals for deformation.
2. Visually check the case for damage.
3. Check that there is continuity between terminal (3) of the clock spring No.1 connector and the No. 2 connector.
4. Align the paint mark of the SRS check harness connector No.4 with the notch in clock spring connector No.2 to connect the connectors Nos.2 and 4.
5. Check continuity between the terminals 22 and 23 of the SRS check harness connector No.5.

Caution

1. Disconnect the battery (-) terminal and wait for 60 seconds or more before starting work. Furthermore, the disconnected battery terminal should be covered with tape to insulate it. (Refer to P.52B-3.)
2. Never attempt to disassemble or repair the side impact sensor. If faulty, replace it.
3. Do not drop or subject the side impact sensor to impact or vibration. If denting, cracking, deformation, or rust are discovered in the side impact sensor, replace it with a new side impact sensor. Discard the old one.
4. After deployment of an air bag, replace the side impact sensor with a new one.

REMOVAL AND INSTALLATION**Pre-removal Operation**

Turn the ignition key to the "LOCK" position.



AV0039AJ

Removal steps

- ▶C◀
- Post-installation inspection
 - Negative (-) battery cable connection
 - Center pillar lower trim (Refer to GROUP 52A.)
 - Seat belt with pre-tensioner (Refer to P.52B-37.)
1. Water proof cover
 2. Side impact sensor and bracket

- ▶B◀
- ▶A◀
- 3. Bracket
 - 4. Side impact sensor
 - Pre-installation inspection

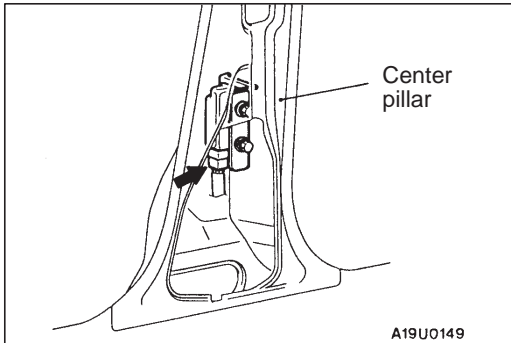
NOTE

The illustration above shows the side impact sensor (L.H.). The position of the side impact sensor (R.H.) is symmetrical to this.

INSTALLATION SERVICE POINTS

▶A◀ PRE-INSTALLATION INSPECTION

Check the side impact sensor for dents, breakage and measure the resistance between the terminals, even when installing a new side impact sensor.

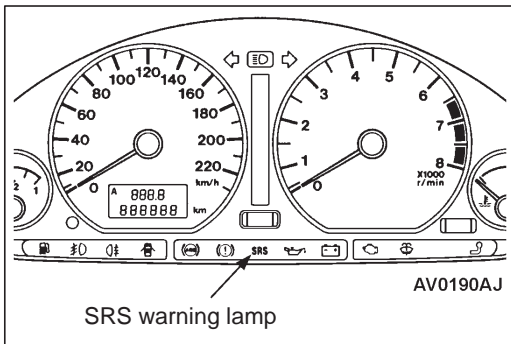


▶B◀ SIDE IMPACT SENSOR INSTALLATION

Securely connect the connector.

Caution

If the side impact sensor is not installed securely and correctly, the side air bag may not operate normally.



▶C◀ POST-INSTALLATION INSPECTION

1. Reconnect the negative battery terminal.
2. Turn the ignition key to the "ON" position.
3. Does the "SRS" warning lamp illuminate for about 7 seconds, and then remain extinguished for at least 5 seconds after turning OFF?
4. If yes, SRS system is functioning properly. If no, consult page 52B-7.

INSPECTION

52400470030

SEAT BELT WITH PRE-TENSIONER CHECK

- Check the side impact sensor and bracket for dents, cracks or deformation.
- Check connector for damage, and terminals for deformation.

Caution

If a dent, crack, deformation or rust is discovered, replace the side impact sensor with a new one.

NOTE

For checking of the side impact sensor other than described above, refer to the section concerning troubleshooting. (Refer to P.52B-7.)

- Check that there is no bending or corrosion in the center pillar.

SEAT BELT WITH PRE-TENSIONER

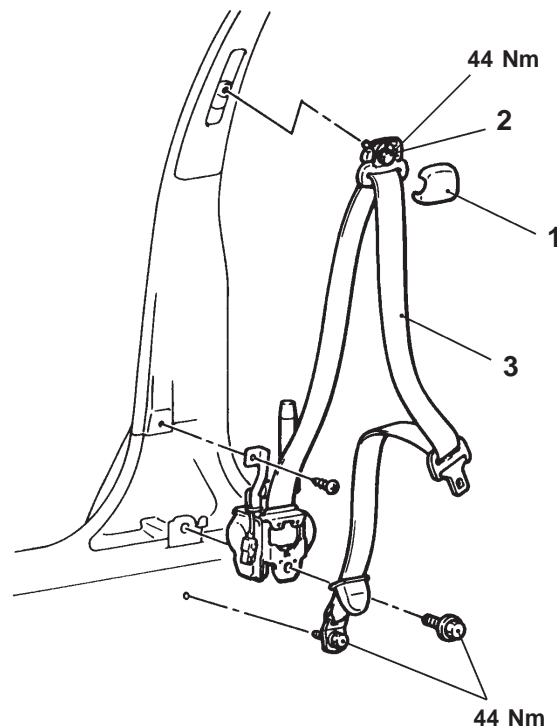
52400410063

Caution

1. Never attempt to disassemble or repair the seat belt with pre-tensioner. If faulty, replace it.
2. Be extremely careful when handling the seat belt with pre-tensioner. Do not subject it to shocks, drop it, bring it close to strong magnets or allow contact with water, grease or oil. Always replace it with a new part if any dents, cracks or deformation is found.
3. Do not place anything on top of the seat belt pre-tensioner.
4. Do not expose the seat belt with pre-tensioner to temperatures over 90°C.
5. After operating the seat belt pre-tensioner, replace the seat belt pre-tensioner with a new part.
6. Gloves and protective goggles should be worn when handling a pre-tensioner once it has been used.
7. If disposing of a seat belt with pre-tensioner which has not yet been used, its pre-tensioner should be operated first before disposal. (Refer to P.52B-39.)

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
Center Pillar Lower Trim Removal and Installation (Refer to GROUP 52A.)



AV0042AJ

Removal steps

- B◀ ● Post-installation inspection
1. Sash guide cover
 2. Sash guide

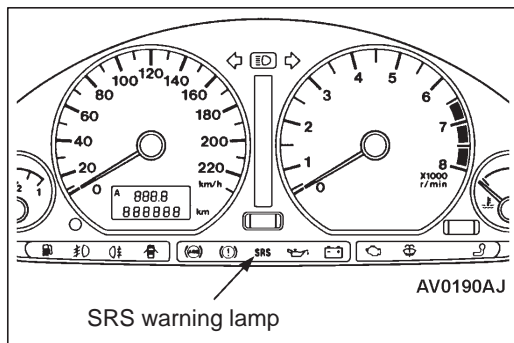
- A◀ ● Pre-installation inspection
3. Seat belt with pre-tensioner

INSTALLATION SERVICE POINTS**▶A◀ PRE-INSTALLATION INSPECTION**

When installing a new seat belt with pre-tensioner refer to “INSPECTION”.

Caution

Disposal of the pre-tensioner must be carried out as stated in the procedure. (Refer to P.52B-39.)

**▶B◀ POST-INSTALLATION INSPECTION**

1. Reconnect the negative battery terminal.
2. Turn the ignition key to the “ON” position.
3. Does the “SRS” warning lamp illuminate for about 7 seconds, and then remain extinguished for at least 5 seconds after turning OFF?
4. If yes, SRS system is functioning properly. If no, consult page 52B-7.

INSPECTION

52400420066

SEAT BELT WITH PRE-TENSIONER CHECK

If any part is found to be faulty during the inspection, it must be replaced with a new one.

Dispose of the old one according to the specified procedure. (Refer to P.52B-39.)

- Check seat belt pre-tensioner for dents, cracks or deformation.

AIR BAG MODULE AND SEAT BELT PRE-TENSIONER DISPOSAL PROCEDURES

52400120317

Before disposing of a vehicle which is equipped with air bags or seat belts with pre-tensioner, or when disposing of the air bags or seat belt

pre-tensioner themselves, the following procedures must be used to deploy the air bags or operate the seat belt pre-tensioners before disposal.

UNDEPLOYED AIR BAG MODULE AND SEAT BELT PRE-TENSIONER DISPOSAL

Caution

1. If the vehicle is to be scrapped or otherwise disposed of, deploy the air bags inside the vehicle, and operate the seat belt pre-tensioners outside the vehicle. If the vehicle will continue to be operated and only the air bag modules and seat belt pre-tensioner are to be disposed of, deploy the air bags and operate the seat belt pre-tensioners outside the vehicle.
2. Since a large amount of smoke is produced when the air bag are deployed or the seat belt pre-tensioner is operated, avoid residential areas whenever possible.
3. Since there is a loud noise when the air bags are deployed and when the seat belt pre-tensioners are operated, avoid residential areas whenever possible. If anyone is nearby, give warning of the impending noise.
4. Suitable ear protection should be worn by personnel performing these procedures or by people in the immediate area.

AIR BAG MODULE DEPLOYMENT

Deployment Inside The Vehicle

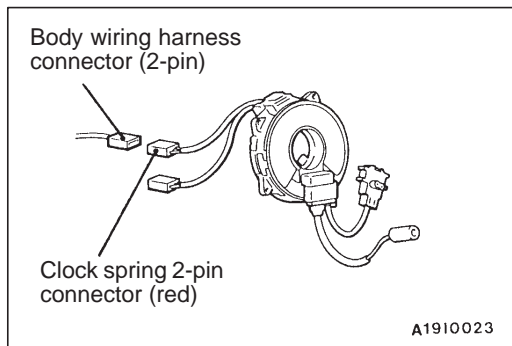
(when disposing of a vehicle)

1. Move the vehicle to an isolated spot.
2. Disconnect the negative (–) and positive (+) battery cables from the battery terminals, and then remove the battery from the vehicle.

Caution

Wait at least 60 seconds after disconnecting the battery cables before doing any further work.

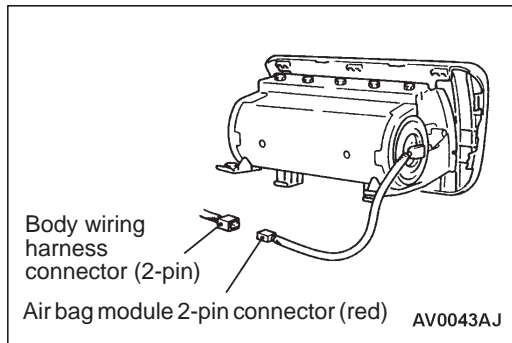
(Refer to P.52B-3.)



3. To deploy the air bag module (driver's side):
 - (1) Remove the steering column cover lower.
 - (2) Remove the connection between the clock spring 2-pin connector (red) and the body wiring harness connector.

NOTE

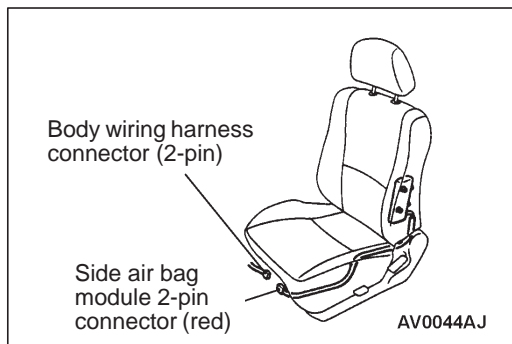
If the clock spring connector is disconnected from the body wiring harness, both electrodes of the clock spring connector will be automatically shorted to prevent unintended deployment of the air bag due to static electricity, etc.



4. To deploy the air bag module (front passenger's side):
 - (1) Remove the glove box.
 - (2) Remove the connection between the air bag module (front passenger's side) connector (red 2-pin) and the body wiring harness connector.

NOTE

If the air bag module connector is disconnected from the body wiring harness, both electrodes of the air bag module connector will be automatically shorted to prevent unintended deployment of the air bag due to static electricity, etc.



5. To deploy the side air bag module:

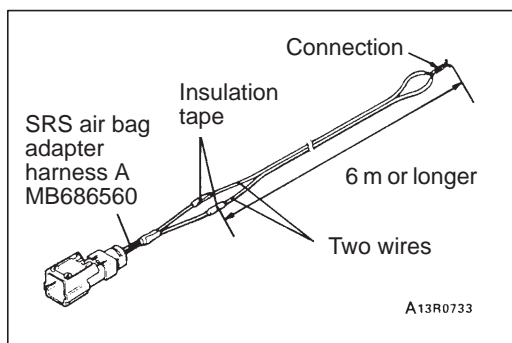
Remove the connection between the side air bag module connector (red 2-pin) and the body wiring harness connector.

Caution

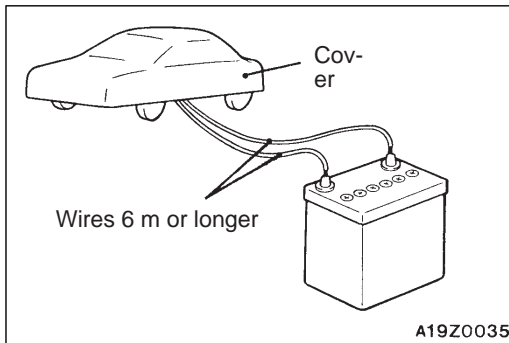
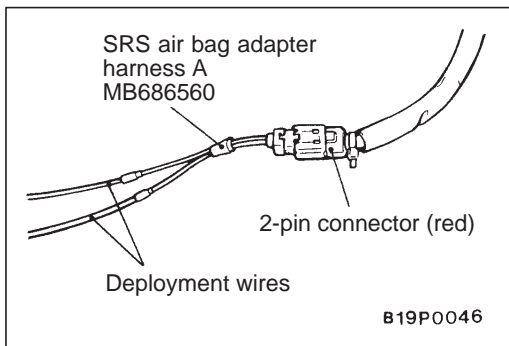
The side air bag modules for both the driver's side and passenger's side should be deployed.

NOTE

If the air bag module connector is disconnected from the body wiring harness, both electrodes of the side air bag module connector will be automatically shorted to prevent unintended deployment of the side air bag due to static electricity, etc.



6. Connect two wires, each six meters or longer, to the two leads of SRS air bag adapter harness A and cover the connections with insulation tape. The other ends of the two wires should be connected to each other (short-circuited), to prevent sudden unexpected deployment of the air bag.



7. Connect the clock spring or air bag module (front passenger's side), side air bag module 2-pin connector (red) to SRS air bag adapter harness A and pass the deployment wires out of the vehicle.

8. Fully close all door windows, close the doors and place a cover over the vehicle to minimize the amount of noise.

Caution

If the glass is damaged, it may break, so the car must be covered.

9. At a location as far away from the vehicle as possible, disconnect the two connected wires from each other, and connect them to the two terminals of the battery (which has been removed from the vehicle) to deploy the air bag.

Caution

(1) Before deploying the air bag in this manner, first check to be sure that there is no one in or near the vehicle. Wear safety glasses.

(2) The inflator will be quite hot immediately following the deployment, so wait at least 30 minutes to allow it to cool before attempting to handle it. Although not poisonous, do not inhale gas from air bag deployment.

See Deployed Air Bag Module or Operated Seat Belt Pre-tensioner Disposal Procedures (P.52B-46.) for post-deployment handling instructions.

(3) If the air bag module fails to deploy when the procedures above are followed, do not go near the module. Contact your local distributor.

10. After deployment, dispose of air bag module according to the Deployed Air Bag Module or Operated Seat Belt Pre-tensioner Disposal Procedures. (Refer to P.52B-46.)

Deployment Outside The Vehicle

Caution

1. This should be carried out in a wide, flat area at least 6 m away from obstacles and other people.
 2. Do not perform deployment outside, if a strong wind is blowing, and if there is even a slight breeze, the air bag module should be placed and deployed downwind from the battery.
1. Disconnect the negative (–) and positive (+) battery cables from the battery terminals, and then remove the battery from the vehicle.

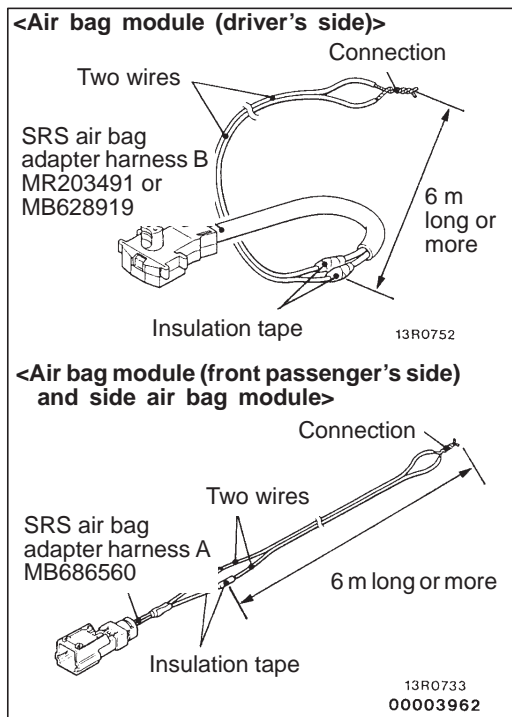
Caution

Wait at least 60 seconds after disconnecting the battery cables before doing any further work. (Refer to P.52B-4.).

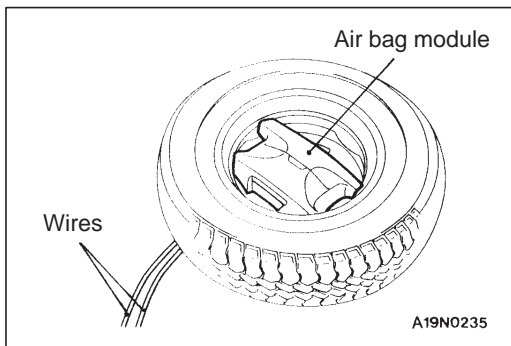
2. Remove the air bag modules (driver's side and front passenger's side) (Refer to P.52B-30, 31.) and the front seat back assemblies with built-in side air bag module from the vehicle. (Refer to GROUP 52A – Front Seat.)

Caution

The air bag module should be stored on a flat surface and placed so that the air bag deployment surfaces are facing upward. Do not place anything on top of them.



3. Connect two wires, each six meters or longer, to the two leads of SRS air bag adapter harness B <air bag module (driver's side)> or SRS air bag adapter harness A <air bag module (front passenger's side) and side air bag module>, and cover the connections with insulation tape. The other ends of the two wires should be connected to each other (short-circuited), to prevent sudden unexpected deployment of the air bag module.



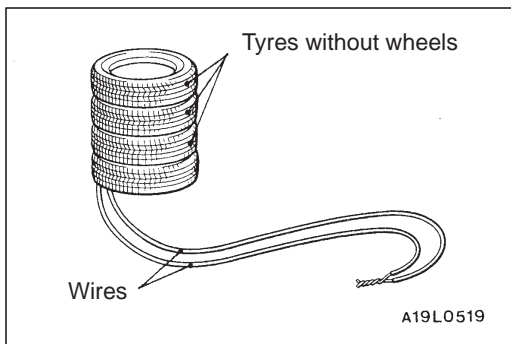
4. Set the air bag modules as follows:

<Air bag module (driver's side)>

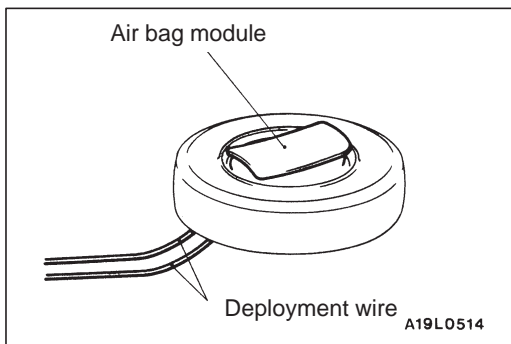
- (1) Take the SRS air bag adapter harness B that is connected to the wires, pass it beneath the old tyre wheel assembly, and connect it to the air bag module.
- (2) Pass the thick wire through the air bag module mounting hole, and then secure the air bag module to an old tyre with a wheel in it so that the pad on the module is facing upwards.

Caution

Leave some space below the wheel for the adaptor harness. If there is no space, the reaction when the air bag deploys could damage the adaptor harness.



- (3) Place three old tyres without wheels on top of the tyre secured to the air bag module.



<Air bag module (front passenger's side)>

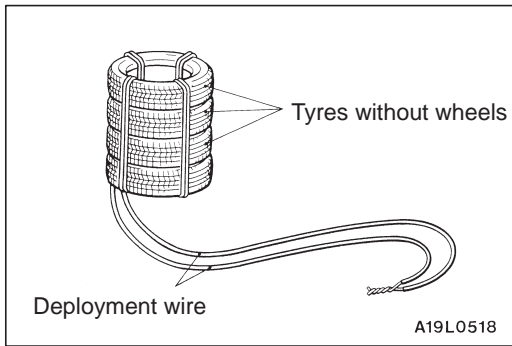
- (1) Connect the deployment wires to the SRS air bag adaptor harness A, pass it beneath the tyre, and wheel assembly, and connect it to the air bag module.
- (2) Pass thick wires into the hole of the air bag module bracket, and secure them to the wheel of the old tyre with wheel (4 locations), with the air bag deployment surface facing upwards.

Caution

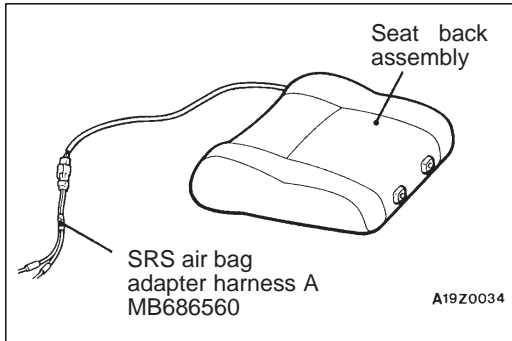
- a) **Leave some space below the wheel for the deployment wires.**

If there is no space, the reaction of the air bag deployment could result in damage of the adaptor harness.

- b) **While deployment takes place, do not have the connector of the SRS air bag adaptor harness A inserted between the tyres.**

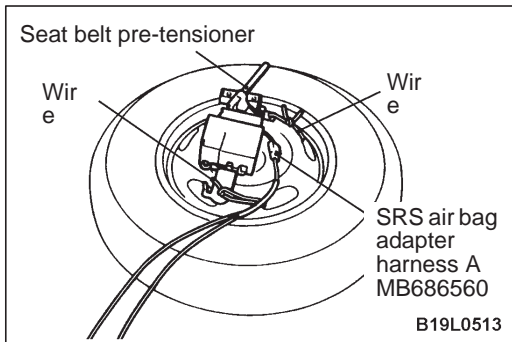


- (3) Place three old tyres, without wheels, on top of the tyre secured to the air bag module, and secure all tyres with ropes (4 locations).



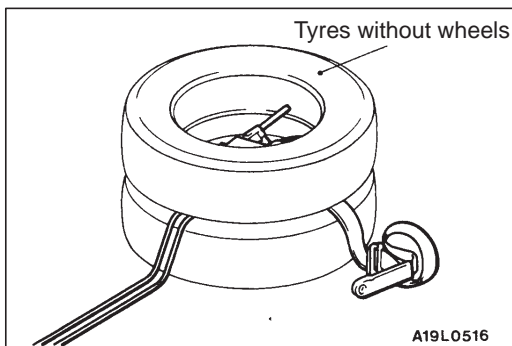
<Side air bag module>

- (1) Place the seat back assembly so that the rear of the assembly is lying on the ground.
- (2) Connect SRS air bag adapter harness A (Which is connected to the deployment harness) to the side air bag module connector.



<Seat belt pre-tensioner>

- (1) Connect SRS air bag adapter harness A (with the deployment harness connected) to the seat belt pre-tensioner from the top of the old tyre with the wheel in it.
- (2) Pass the wires through the hole on the seat belt retractor bracket and secure them to the front (raised part) of the wheel on two places.

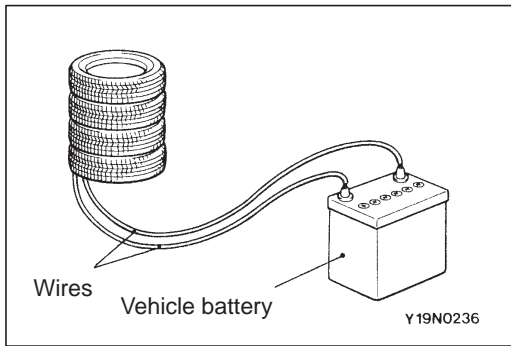


Caution

- a) The deployment harness should be left with some slack. If it is too tight, the adapter harness may become damaged during deployment.
- b) The connector of the SRS air bag adapter harness A should be placed so that it is not clamped by the tyres during deployment or operation.
- c) Pull the seat belt out the outside of the tyre, and then place one tyre without a wheel inside on top of the existing tyre.

NOTE

The cylinder of the seat belt pre-tensioner should be placed inside the cavity of top tyre.



5. At a location as far away from the air bag module or seat belt pre-tensioner as possible, and from a shielded position, disconnect the two connected wires from each other and connect them to the two terminals of the battery (which has been removed from the vehicle) to deploy the air bag or to operate the seat belt pre-tensioner.

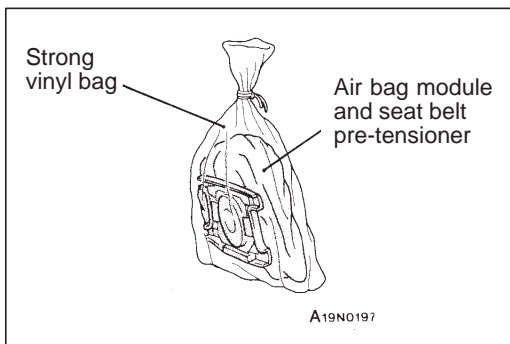
Caution

- (1) Before deployment, check carefully to be sure that no one is nearby.
 - (2) The inflator will be quite hot immediately following deployment, so wait at least 30 minutes to allow it to cool before attempting to handle it. Although the gas resulting from air bag deployment is not poisonous, it should not be inhaled. Refer to the Deployed Air Bag Module or Operated Seat Belt Pre-tensioner Disposal Procedures (P.52B-46) for post-deployment handling instructions.
 - (3) If the air bag fails to deploy or seat belt pre-tensioner fails to operate when the procedures above are followed, do not go near the module or the seat belt pre-tensioner. Contact your local distributor.
6. After deployment or operation, dispose of the driver's side air bag module, front passenger's side air bag module or seat belt pre-tensioner according to the Deployed Air Bag Module and Seat Belt Pre-tensioner Disposal Procedures. (Refer to P.52B-46.)
 7. After deployment or operation, remove the side air bag module from the seatback and then dispose it according to the Deployed Air Bag Module and Seat Belt Pre-tensioner Disposal Procedures. (Refer to P.52B-46.)

DEPLOYED AIR BAG MODULE OR OPERATED SEAT BELT PRE-TENSIONER DISPOSAL PROCEDURES

After deployment or operation, the air bag module and the seat belt pre-tensioner should be disposed of in the same manner as any other scrap parts, adhering to local laws and/or legislation that may be in force except that the following points should be carefully noted during disposal.

1. The inflator will be quite hot immediately following deployment, so wait at least 30 minutes to allow it cool before attempting to handle it.
2. Do not put water or oil on the air bag after deployment or on the seat belt pre-tensioner after operation.
3. There may be, adhered to the deployed air bag module or the operated seat belt pre-tensioner, material that could irritate the eye and/or skin, so wear gloves and safety glasses when handling a deployed air bag module or a operated seat belt pre-tensioner. IF AFTER FOLLOWING THESE PRECAUTIONS, ANY MATERIAL DOES GET INTO THE EYES OR ON THE SKIN, IMMEDIATELY RINSE THE AFFECTED AREA WITH A LARGE AMOUNT OF CLEAN WATER. IF ANY IRRITATION DEVELOPS, SEEK MEDICAL ATTENTION.

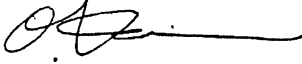


4. Tightly seal the air bag module and seat belt pre-tensioner in a strong vinyl bag for disposal.
5. Be sure to always wash your hands after completing this operation.



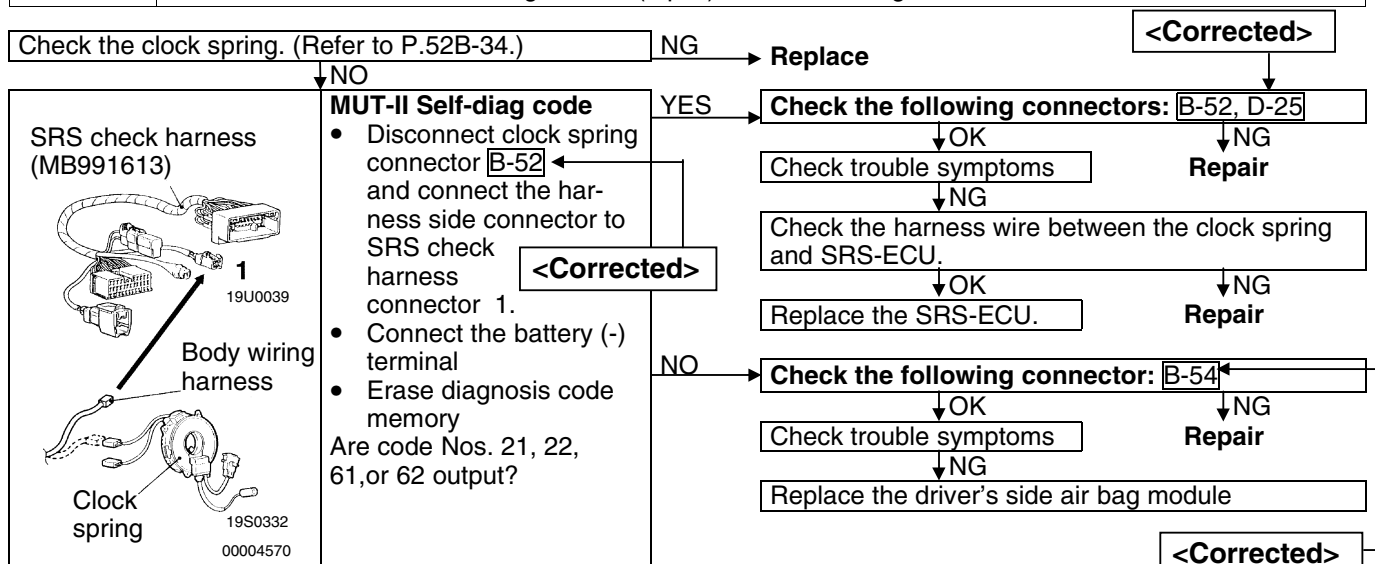
SERVICE BULLETIN

PUBLICATION GROUP, AFTER SALES SERVICE DEP.
MITSUBISHI MOTOR SALES EUROPE BV

SERVICE BULLETIN		Nr.: ESB-99E52-900	
		Date: 2000-09-15	<Model> <M/Y>
Subject:	CORRECTION OF CONNECTOR NUMBERS IN SRS-DIAGNOSTIC PROCEDURE.	(EC) SPACE STAR	99-10
Group:	INTERIOR		
INFORMATION/CORRECTION		 O. Kai - E.V.P. & G.M. After Sales Service Dept.	
1. Description:			
Connector numbers of the SRS-system in diagnostic procedures have been corrected.			
2. Applicable Manuals:			
Manual	Pub. No.	Language	Page(s)
'99 SPACE STAR Workshop Manual chassis	CMXE99E1	(English)	52B-10
	CMXS99E1	(Spanish)	52B-10 – 52B-18
	CMXF99E1	(French)	
	CMXG99E1	(German)	
	CMXD99E1	(Dutch)	
	CMXW99E1	(Swedish)	
	CMXI99E1	(Italian)	
3. Details:			

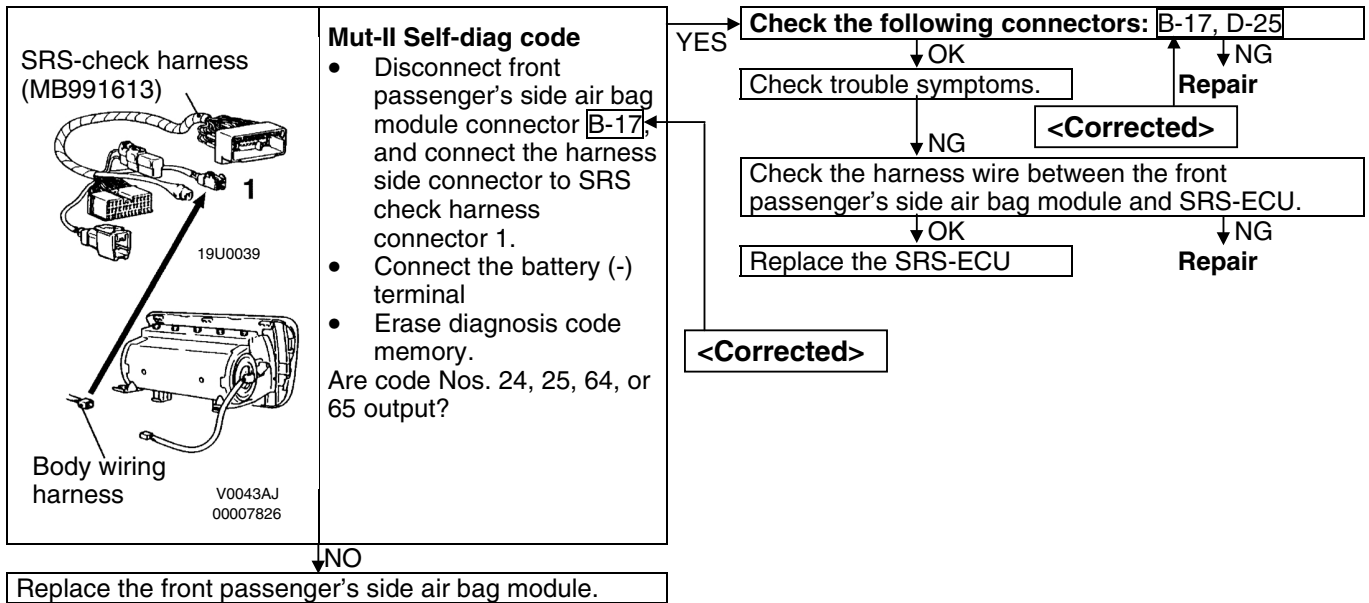
Code No.21, 22, 61 or 62 Driver's side air bag module (squib) system	Probable cause
<p>These diagnosis codes are output if there is abnormal resistance between the input terminals of the driver's side air bag module (squib). The trouble causes for each diagnosis code No. are as follows.</p>	<ul style="list-style-type: none"> • Malfunction of clock spring • Partial disconnection due to incorrect clock spring neutral position • Malfunction of wiring harnesses or connectors • Malfunction of driver's side air bag module (squib) • Malfunction of SRS-ECU

Code No.	Trouble causes
21	<ul style="list-style-type: none"> • Short in driver's side air bag module (squib) or harness short • Short in clock spring
22	<ul style="list-style-type: none"> • Open circuit in driver's side air bag module (squib) or open harness • Open circuit in clock spring • Disconnected driver's side air bag module (squib) connector • Partial disconnection due to incorrect clock spring neutral position • Malfunction of connector contact
61	<ul style="list-style-type: none"> • Short in driver's side air bag module (squib) harness leading to the power supply
62	<ul style="list-style-type: none"> • Short in driver's side air bag module (squib) harness leading to the earth



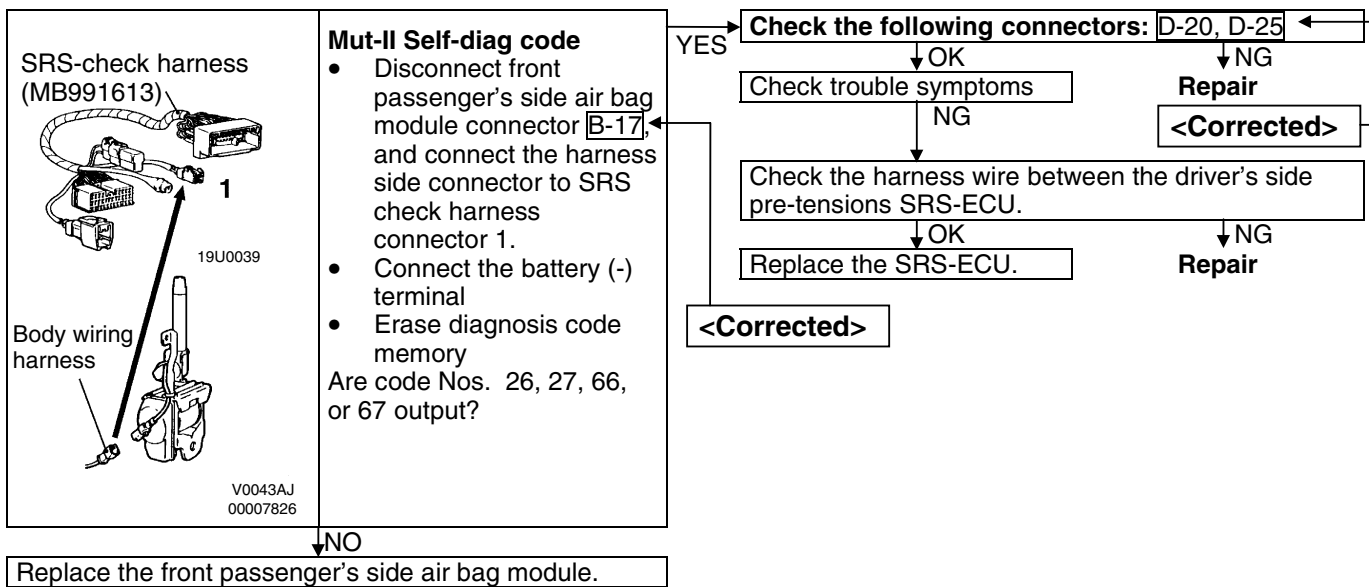
Code No.24, 25, 64 or 65 Front passenger's side air bag module (squib) system	Probable cause
<p>These diagnosis codes are output if there is abnormal resistance between the input terminals of the front passenger's side air bag module (squib). The trouble causes for each diagnosis code No. are as follows.</p>	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of front passenger's side air bag module (squib) • Malfunction of SRS-ECU

Code No.	Trouble causes
24	<ul style="list-style-type: none"> • Short in front passenger's side air bag module (squib) or harness short
25	<ul style="list-style-type: none"> • Open circuit in front passenger's side air bag module (squib) or open harness • Malfunction of connector contact
64	<ul style="list-style-type: none"> • Short in front passenger's side air bag module (squib) harness leading to the power supply
65	<ul style="list-style-type: none"> • Short in front passenger's side air bag module (squib) harness leading to the earth



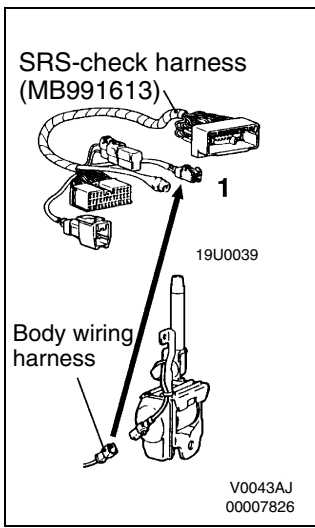
Code No.26, 27, 66 or 67 Driver's side pre-tensioner (squib) system	Probable cause
These diagnosis codes are output if there is abnormal resistance between the input terminals of the driver's side pre-tensioner (squib). The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of driver's side pre-tensioner (squib) • Malfunction of SRS-ECU

Code No.	Trouble causes
26	<ul style="list-style-type: none"> • Short in driver's side pre-tensioner (squib) or harness short
27	<ul style="list-style-type: none"> • Open circuit in driver's side pre-tensioner (squib) or open harness • Malfunction of connector contact
66	<ul style="list-style-type: none"> • Short in driver's side pre-tensioner (squib) harness leading to the power supply
67	<ul style="list-style-type: none"> • Short in driver's side pre-tensioner (squib) harness leading to the earth



Code No.28, 29, 68 or 69 Front passenger’s side pre-tensioner (squib) system	Probable cause
These diagnosis codes are output if there is abnormal resistance between the input terminals of the front passenger’s side pre-tensioner (squib). The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of front passenger’s side pre-tensioner (squib) • Malfunction of SRS-ECU

Code No.	Trouble causes
28	<ul style="list-style-type: none"> • Short in front passenger’s side pre-tensioner (squib) or harness short
29	<ul style="list-style-type: none"> • Open circuit in front passenger’s side pre-tensioner (squib) or open harness • Malfunction of connector contact
68	<ul style="list-style-type: none"> • Short in front passenger’s side pre-tensioner (squib) harness leading to the power supply
69	<ul style="list-style-type: none"> • Short in front passenger’s side pre-tensioner (squib) harness leading to the earth



Mut-II Self-diag code

- Disconnect front passenger’s side pre-tensioned connector D-02 and connect the harness side connector to SRS check harness connector 1.
- Connect the battery (-) terminal.
- Erase diagnosis code memory

Are code Nos. 28, 29, 68, or 69 output?

YES → **Check the following connectors: D-02, D-25**

```

graph TD
    Start[Check the following connectors: D-02, D-25] --> OK1[OK]
    Start --> NG1[NG]
    OK1 --> CheckSym[Check trouble symptoms]
    CheckSym --> NG2[NG]
    NG1 --> Repair1[Repair]
    NG2 --> CheckWire[Check the harness wire between the front passenger's side pre-tensioned and SRS-ECU]
    CheckWire --> OK2[OK]
    CheckWire --> NG3[NG]
    OK2 --> ReplaceECU[Replace the SRS-ECU.]
    NG3 --> Repair2[Repair]
    ReplaceECU --> Corrected1[<Corrected>]
    Repair1 --> Corrected1
    Repair2 --> Corrected2[<Corrected>]
    
```

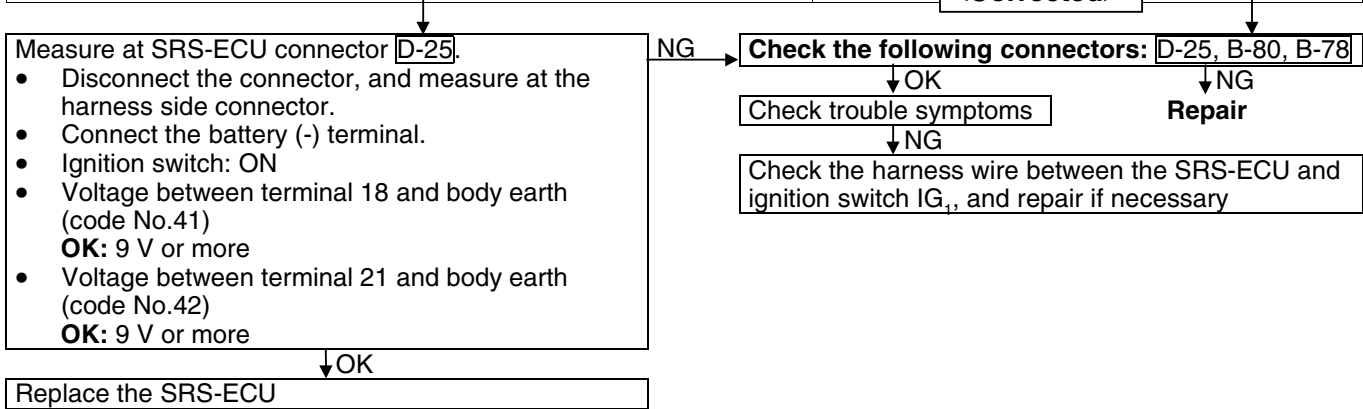
NO
↓

Replace the front passenger’s side pre-tensioner.

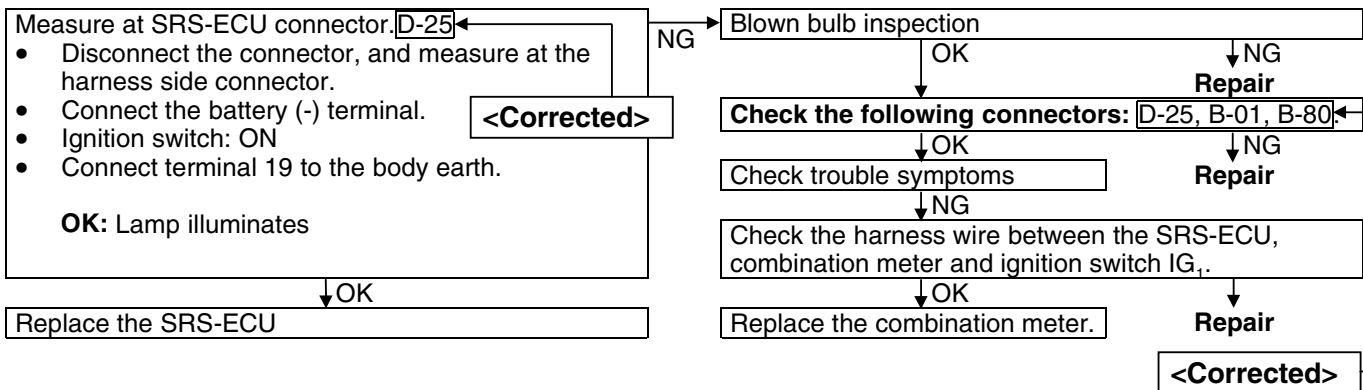
Code No.35 SRS-ECU (deployed air bag) system	Probable cause
This diagnosis code is output after the air bag deploys. If this code is output before the air bag has deployed, the cause is probably a malfunction inside the SRS-ECU.	<ul style="list-style-type: none"> • Malfunction of SRS-ECU

Replace the SRS-ECU.

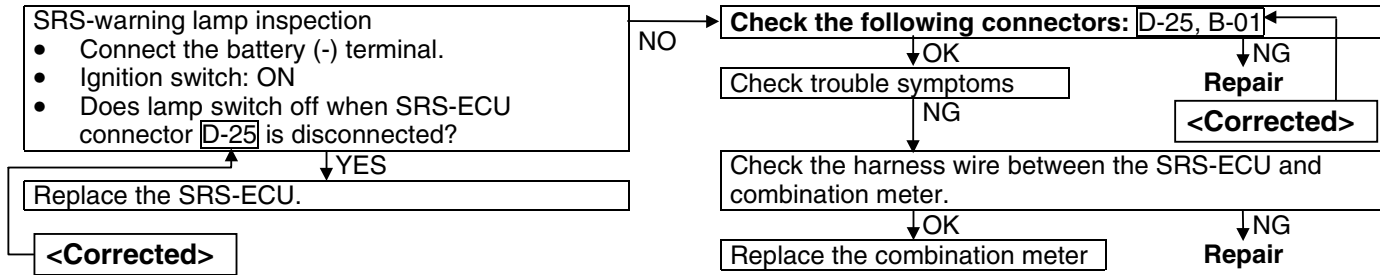
Code No.41 Power circuit system (fuse No.4 circuit)	Probable cause
<p>Code No.42 Power circuit system (fuse No.11 circuit)</p> <p>Code No.41 is output if the voltage between the IG₁ terminal (SRS-ECU, terminal 18) and the earth is lower than the specified value for a continuous period of 5 seconds or more. Code No.42 is output if the voltage between the IG₁ terminal (SRS-ECU, terminal 21) and the earth is lower than the specified value for a continuous period of 5 seconds or more. Automatically erased, and the SRS warning lamp will switch off. If the vehicle has a discharged battery it will store the fault codes 41 and 42. When these diagnosis codes are displayed, check the battery.</p>	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of SRS-ECU



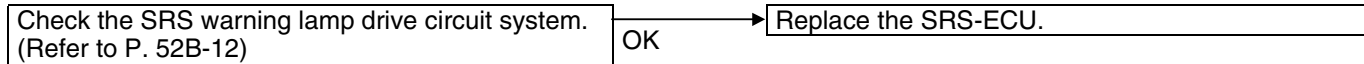
Code No.43 SRS warning lamp drive circuit system (Lamp does not illuminate.)	Probable cause
<p>This diagnosis code is output when an open circuit occurs for a continuous period of 5 seconds while the SRS-ECU is monitoring the SRS warning lamp and the lamp is OFF (transistor OFF). However, if this code is output due to an open circuit, if the vehicle condition returns to normal, this diagnosis code No.43 will be automatically erased, and the SRS warning lamp will return to normal.</p>	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Blown bulb • Malfunction of SRS-ECU • Malfunction of combination meter



<p>Code No.43 SRS warning lamp drive circuit system (Lamp does not switch off.)</p>	<p>Probable cause</p>
<p>This diagnosis code is output when a short to earth occurs in the harness between the lamp and the SRS-ECU while SRS-ECU is monitoring the SRS warning lamp and the lamp is ON.</p>	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of SRS-ECU • Malfunction of combination meter

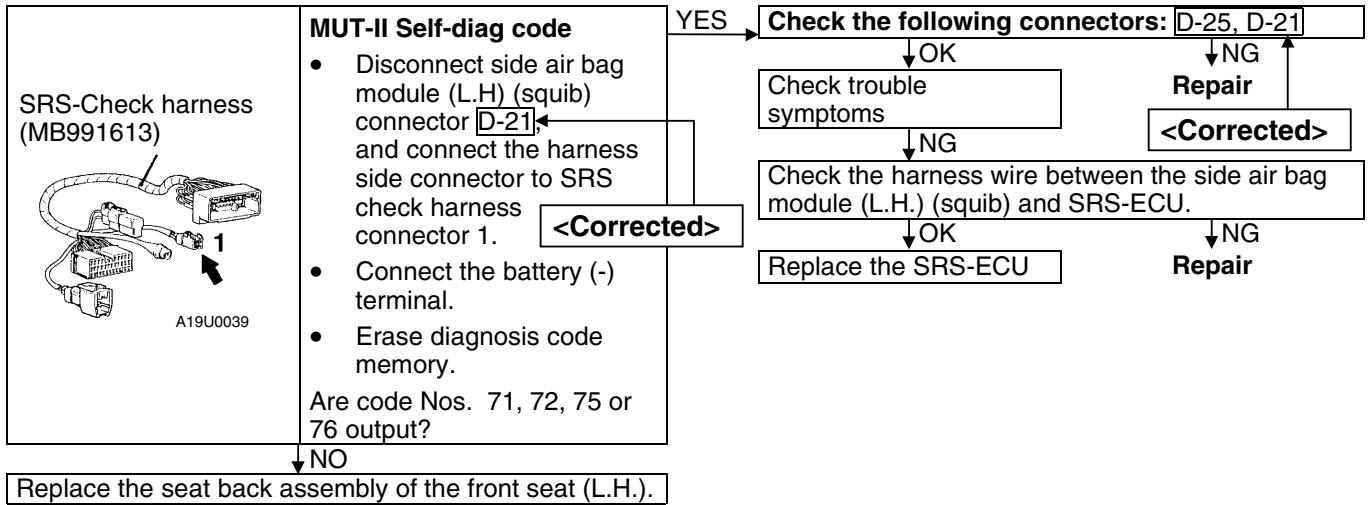


<p>Code No.44 SRS warning lamp drive circuit system</p>	<p>Probable cause</p>
<p>This diagnosis code is output when a short occurs in the lamp drive circuit or a malfunction of the output transistor inside the SRS-ECU is detected while the SRS-ECU is monitoring the SRS warning lamp drive circuit. However, if the vehicle condition returns to normal, diagnosis code No.44 will be automatically erased, and the SRS warning lamp will switch off.</p>	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of SRS-ECU



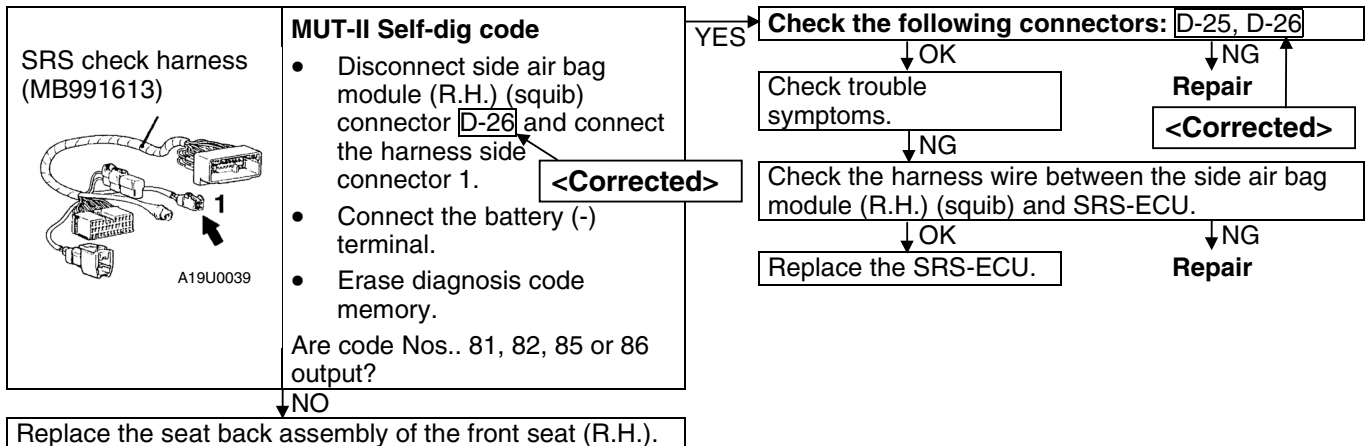
<p>Code No.71, 72, 75 or 76 Side air bag module (L.H.) (squib) system</p>	<p>Probable cause</p>
<p>These diagnosis codes are output if the resistance value between the side air bag module (L.H.) (squib) input terminals of the SRS-ECU is abnormal. The problems, which cause these codes to be output, are as follows.</p>	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of side air bag module (L.H.) (squib) • Malfunction of SRS-ECU

Code No.	Trouble causes
71	<ul style="list-style-type: none"> • Short in side air bag module (L.H.) (squib) or harness short
72	<ul style="list-style-type: none"> • Open circuit in side air bag module (L.H.) (squib) or open harness • Malfunction of connector contact
75	<ul style="list-style-type: none"> • Short in side air bag module (L.H.) (squib) harness leading to the power supply
76	<ul style="list-style-type: none"> • Short in side air bag module (L.H.) (squib) harness leading to the earth

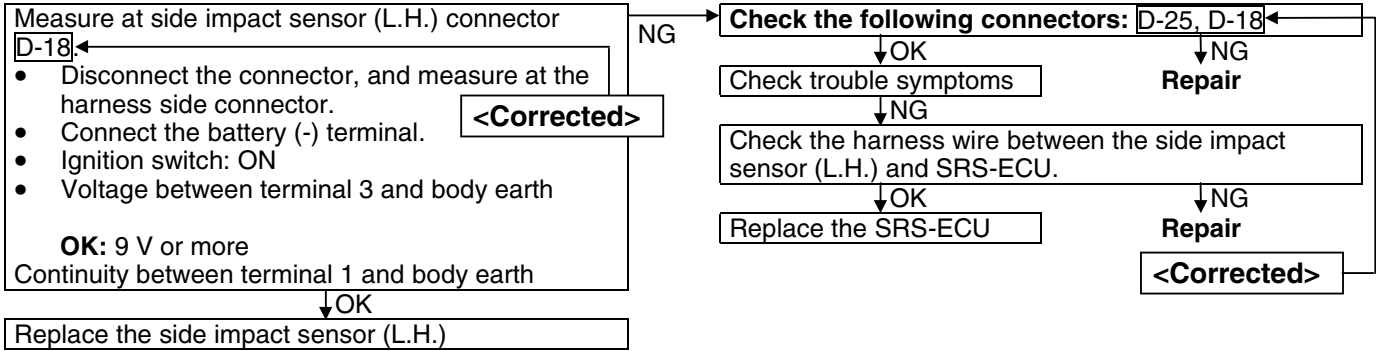


Code No.81, 82, 85 or 86 Side air bag module (R.H.) (squib) system	Probable cause
These diagnosis codes are output if the resistance value between the side air bag module (R.H.) (squib) input terminals of the SRS-ECU is abnormal. The problems, which cause these codes to be output, are as follows.	<ul style="list-style-type: none"> Malfunction of wiring harnesses or connectors Malfunction of side air bag module (R.H.) (squib) Malfunction of SRS-ECU

Code No.	Trouble causes
81	<ul style="list-style-type: none"> Short in side air bag module (R.H.) (squib) or harness short
82	<ul style="list-style-type: none"> Open circuit in side air bag module (R.H.) (squib) or open harness Malfunction of connector contact
85	<ul style="list-style-type: none"> Short in side air bag module (R.H.) (squib) harness leading to the power supply
86	<ul style="list-style-type: none"> Short in side air bag module (R.H.) (squib) harness leading to the earth



Code No.91 Side impact sensor (L.H.) power supply circuit system	Probable cause
<p>This diagnosis code is output if the power supply voltage of the side impact sensor (L.H.) drops below the rated value for a continuous period of 5 seconds or more. However, code No.91 will be automatically cleared and the SRS warning lamp will switch off if the condition returns normal.</p>	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of side impact sensor (L.H.) • Malfunction of SRS-ECU

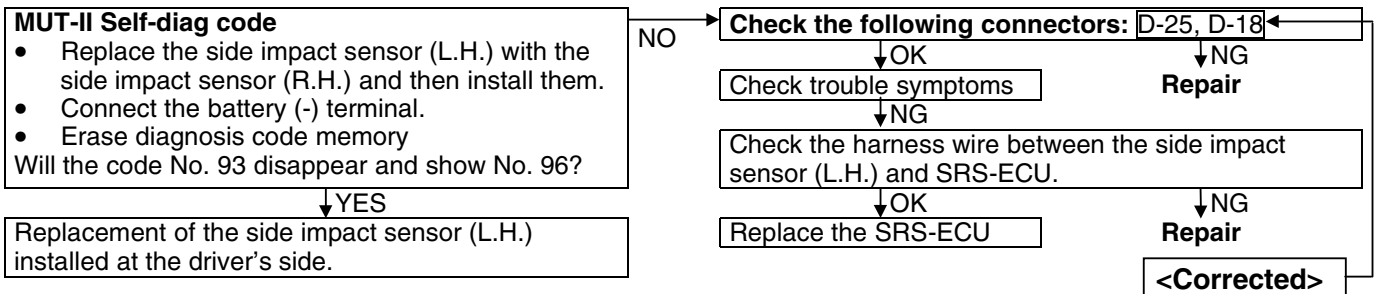


Code No.92, 95 Side impact sensor system	Probable cause
<p>Code No.92 is output when a fault is detected in the side impact sensor (L.H.). Code No.95 is output when a fault is detected in the side impact sensor (R.H.). The defective parts and troubles causes for each diagnosis code No. are as follows.</p>	<ul style="list-style-type: none"> • Malfunction of side impact sensor (L.H.) (Code No.92) • Malfunction of side impact sensor (R.H.) (Code No.95)

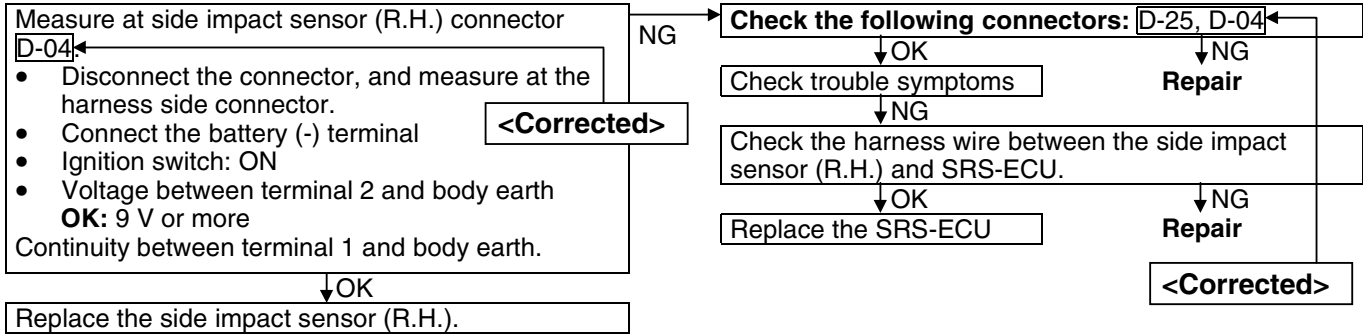
Code No.	Defective parts	Trouble causes
92	Analog G-sensor	• Analog G-sensor is not operating
95		• Analog G-sensor characteristics are abnormal
		• Analog G-sensor output is abnormal

Replace the side impact sensor (L.H.) (code No. 92)
 Replace the side impact sensor (R.H.) (code No. 95)

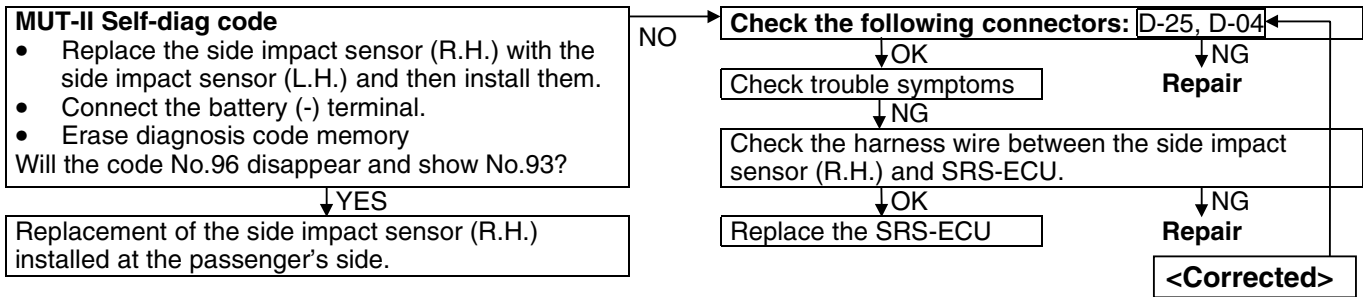
Code No.93 Side impact sensor (L.H.) communication system	Probable cause
<p>This diagnosis code is output if communication between the side impact sensor (L.H.) and the SRS-ECU is abnormal</p>	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of side impact sensor (L.H.) • Malfunction of SRS-ECU



Code No.94 Side impact sensor (R.H.) power supply circuit system	Probable cause
This diagnosis code is output if the power supply voltage of the side impact sensor (R.H.) drops below the rated value for a continuous period of 5 seconds or more. However, code No.94 will be automatically cleared and the SRS warning lamp will switch off if the condition returns normal.	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of side impact sensor (R.H.) • Malfunction of SRS-ECU



Code No.96 Side impact sensor (R.H.) communication system	Probable cause
This diagnosis code is output if communication between the side impact sensor (R.H.) and the SRS-ECU is abnormal	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of side impact sensor (R.H.) • Malfunction of SRS-ECU



INSPECTION CHART FOR TROUBLE SYMPTOMS

Get an understanding of the trouble symptoms and check according to the inspection procedure chart.

Trouble symptom		Inspection procedure No.	Reference page
Communication with MUT-II is not possible.	Communication with all systems is not possible.	1	52B-18
	Communication is not possible with SRS only.	2	52B-18
When the ignition key is turned to "ON" (engine stopped), the SRS warning lamp does not illuminate.		Refer to diagnosis code No.43.	52B-13
After the ignition switch is turned to ON, the SRS warning lamp is still on after approximately 7 seconds have passed.		Refer to diagnosis code No.43, 44.	52B-14

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

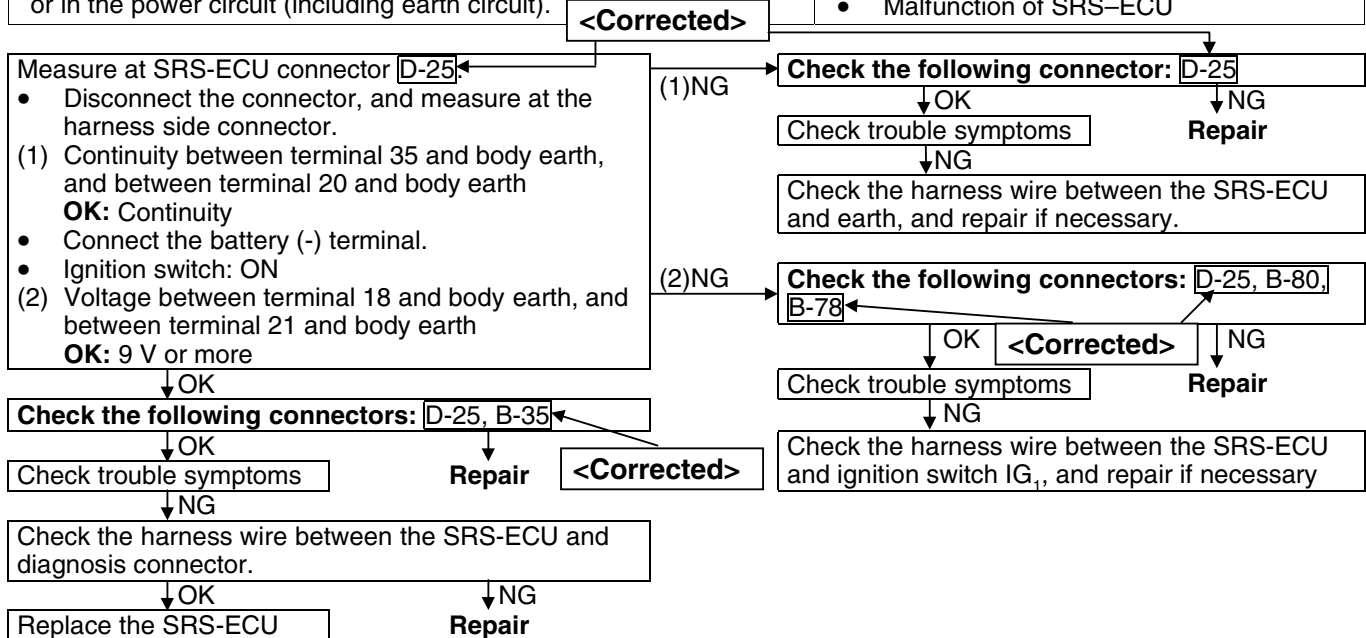
Inspection Procedure 1

Communication with MUT-II is not possible. (Communication with all systems is not possible.)	Probable cause
The cause is probably a power supply system (including earth circuit) of the diagnosis line.	<ul style="list-style-type: none"> Malfunction of connectors Malfunction of wiring harness

Refer to GROUP 13A - Troubleshooting

Inspection Procedure 2

Communication with MUT-II is not possible. (Communication is not possible with SRS only.)	Probable cause
If communication is not possible with the SRS only, the cause is probably an open circuit in the diagnosis output circuit of the SRS or in the power circuit (including earth circuit).	<ul style="list-style-type: none"> Malfunction of wiring harnesses or connectors Malfunction of SRS-ECU



SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

CONTENTS

GENERAL	2	CLOCK SPRING	4
Outline of Changes	2	AIR BAG MODULE (DRIVER'S SIDE)	
SPECIAL TOOLS	2	DISPOSAL PROCEDURES	5
WARNING/CAUTION LABELS	3	Undeployed Air Bag Module (Driver's Side)	
AIR BAG MODULES (DRIVER'S SIDE)	3	Deployment	5
		Deployed Air Bag Module (Driver's Side) Disposal	
		Procedures	6

CAUTION

- Carefully read and observe the information in the **SERVICE PRECAUTIONS*** prior to any service.
- For information concerning troubleshooting or maintenance, always observe the procedures in the Troubleshooting* section.
- If any SRS components are removed or replaced in connection with any service procedures, be sure to follow the procedures in the **INDIVIDUAL COMPONENT SERVICE*** section for the components involved.
- If you have any questions about the SRS, please contact your local distributor.

NOTE

*: Refer to SPACE STAR '99 Workshop Manual chassis (Pub. No. CMXE99E1), GROUP 52B.

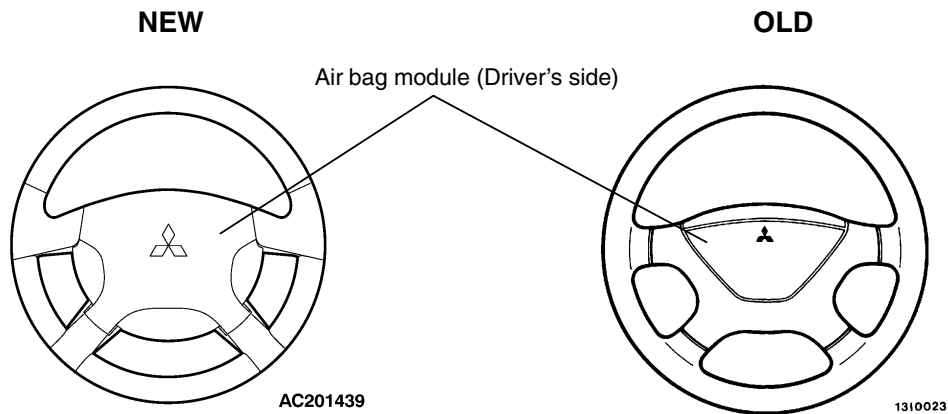
GENERAL

OUTLINE OF CHANGES

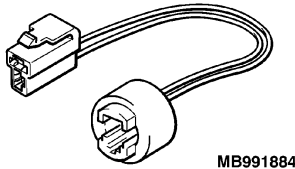
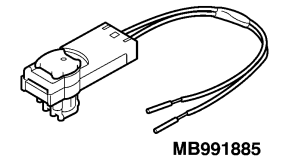
- Due to the change of the air bag module (driver's side), the service and disposal procedures of the air bag module (driver's side) have been revised.
- Due to the change of the clock spring connector, the inspection procedures of the clock spring have been revised.
- A force limiter type of the seat belt pre-tensioner has been adopted. The service procedures for the seat belt pre-tensioner are the same as before.

NOTE

For the force limiter operation of the seat belt pre-tensioner, refer to PAJERO PININ '00 Technical Information Manual (Pub. No. IKRE00E1).

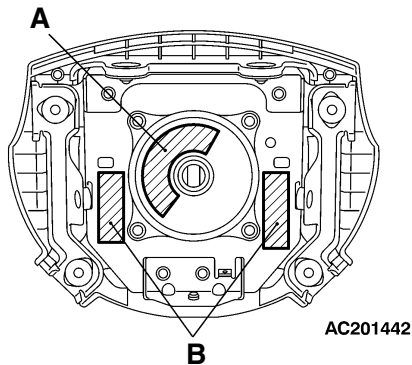


SPECIAL TOOLS

Tool	Number	Name	Use
 MB991884	MB991884	Resistor harness	Clock spring check
 MB991885	MB991885	SRS air bag adapter harness	Deployment of the air bag module (driver's side) outside the vehicle

WARNING/CAUTION LABELS

AIR BAG MODULE (DRIVER'S SIDE)



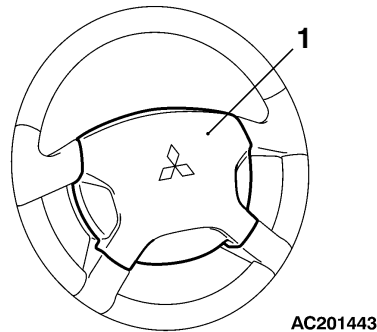
A. DANGER

Contents are extremely flammable.
Do not probe with electrical devices
or otherwise tamper with in any way.

B. WARNING: SRS

This air bag module cannot be repaired. Do not disassemble or tamper.
Do not perform diagnosis. Do not touch with electrical test equipment or probes. Refer to service manual for further instructions, and for special handling, storage and disposal procedures.
Tampering or mishandling can result in injury.

AIR BAG MODULE (DRIVER'S SIDE) REMOVAL AND INSTALLATION



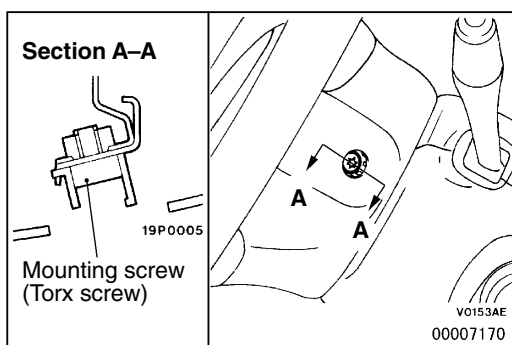
Removal steps

- Post-installation inspection [Refer to SPACE STAR '99 Workshop Manual chassis (Pub. No. CMXE99E1), GROUP 52B.]
- Negative (-) battery cable connection



1. Air bag module

- Pre-installation inspection [Refer to SPACE STAR '99 Workshop Manual chassis (Pub. No. CMXE99E1), GROUP 52B.]



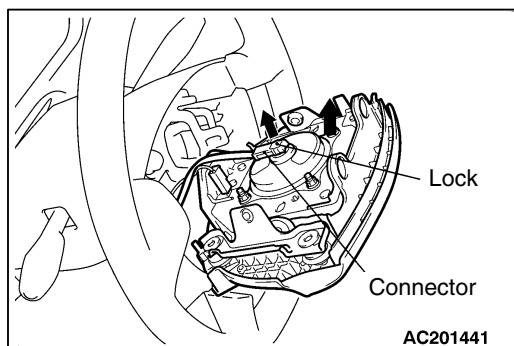
REMOVAL SERVICE POINT

◀A▶ AIR BAG MODULE REMOVAL

1. Remove the air bag module mounting screws (torx screws) at the sides of the steering wheel.

NOTE

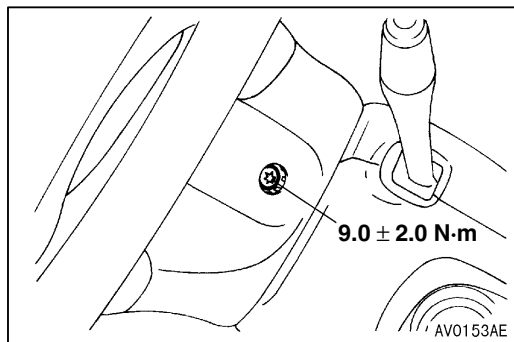
Do not remove the screws from the holders.



- Using a flat-tipped screwdriver, pull up the lock of the connector to unlock the connection. Then remove the connector.

Caution

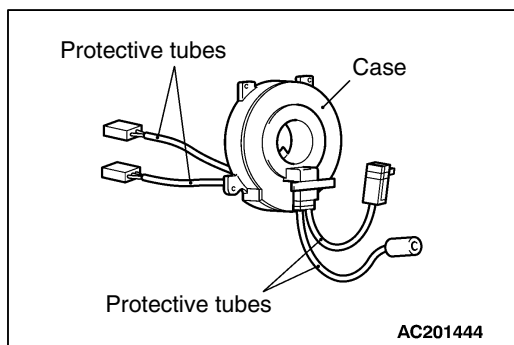
- When disconnect the air bag module connector, take care not to apply excessive force to it.
- The removed air bag module should be stored in a clean, dry place with the pad cover face up.



INSTALLATION SERVICE POINT

▶A◀ AIR BAG MODULE INSTALLATION

- Connect the air bag module connector securely.
- Tighten the air bag module mounting screws.



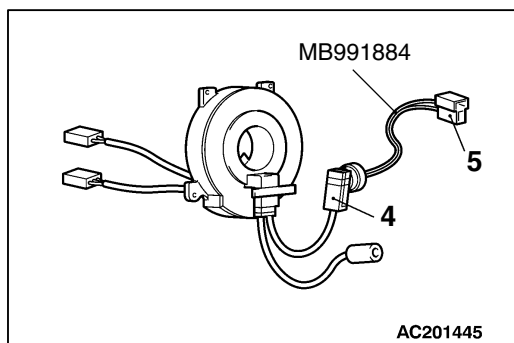
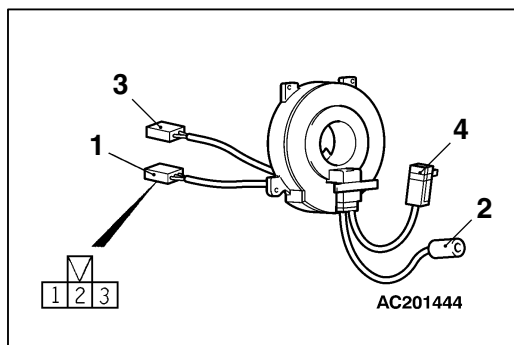
CLOCK SPRING

INSPECTION

CLOCK SPRING CHECK

If, as result of following checks, even one abnormal point is discovered, replace the clock spring with a new one.

- Check connectors and protective tubes for damage, and terminals for deformation.
- Visually check the case for damage.
- Check for continuity between terminal (3) of the clock spring No.1 connector and the No.2 connector.



- Connect special tool MB991884 to the clock spring No.4 connector.
- Check for continuity between the terminals of special tool MB991884 connector No.5.

AIR BAG MODULE (DRIVER'S SIDE) DISPOSAL PROCEDURES

UNDEPLOYED AIR BAG MODULE (DRIVER'S SIDE) DEPLOYMENT

DEPLOYMENT INSIDE THE VEHICLE (when disposing of a vehicle)

Deployment procedure of the air bag module (driver's side) is the same as before.

DEPLOYMENT OUTSIDE THE VEHICLE

Caution

1. This should be carried out in a wide, flat area at least 6 m away from obstacles and other people.
2. Do not perform deployment outside if a strong wind is blowing. If there is even a slight breeze, the air bag module should be placed and deployed downwind from the battery.
1. Disconnect the negative (–) and positive (+) battery cables from the battery terminals, and then remove the battery from the vehicle.

Caution

Wait at least 60 seconds after disconnecting the battery cables before doing any further work.

2. Remove the air bag module (driver's side) (Refer to P.52B-2.) from the vehicle.

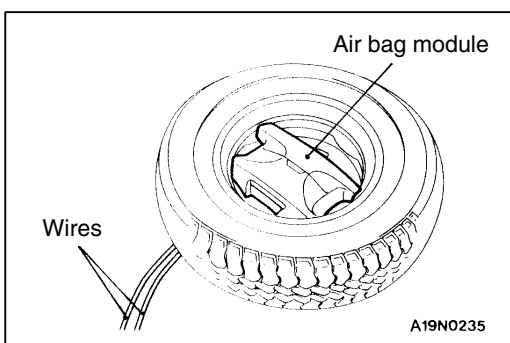
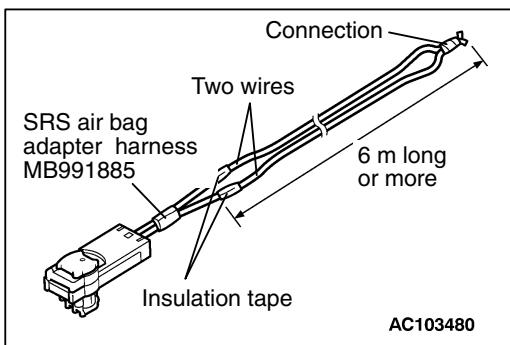
Caution

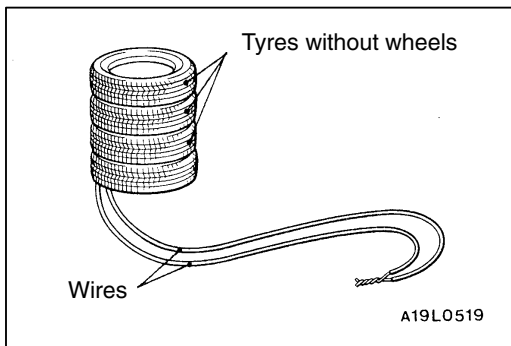
The air bag module should be stored on a flat surface and placed so that the air bag deployment surface is facing upward. Do not place anything on top of it.

3. Connect two wires, each six meters or longer, to the two leads of SRS air bag adapter harness, and cover the connections with insulation tape. The other ends of the two wires should be connected to each other (short-circuited), to prevent sudden unexpected deployment of the air bag module.
4. Set the air bag modules as follows:
 - (1) Take the SRS air bag adapter harness that is connected to the wires, pass it beneath the old tyre wheel assembly, and connect it to the air bag module.
 - (2) Pass the thick wire through the air bag module mounting hole, and then secure the air bag module to an old tyre with a wheel in it so that the pad on the module is facing upwards.

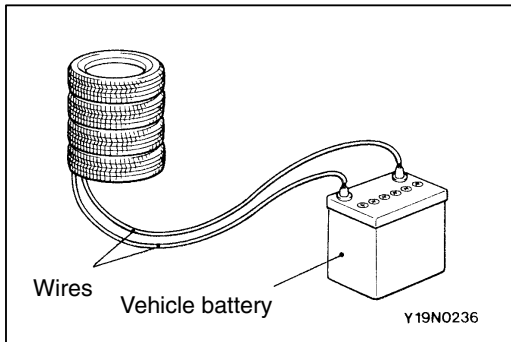
Caution

Leave some space below the wheel for the adaptor harness. If there is no space, the reaction when the air bag deploys could damage the adaptor harness.





- (3) Place three old tyres without wheels on top of the tyre secured to the air bag module.



5. At a location as far away from the air bag module as possible, and from a shielded position, disconnect the two connected wires from each other and connect them to the two terminals of the battery (which has been removed from the vehicle) to deploy the air bag.

Caution

- (1) Before deployment, check carefully to be sure that no one is nearby.
 - (2) The inflator will be quite hot immediately following deployment, so wait at least 30 minutes to allow it to cool before attempting to handle it. Although the gas resulting from air bag deployment is not poisonous, it should not be inhaled.
 - (3) If the air bag fails to deploy when the procedures above are followed, do not go near the air bag module. Contact your local distributor.
6. After deployment, dispose of the air bag module (driver's side) according to the Deployed Air Bag Module (Driver's Side) Disposal Procedures.

DEPLOYED AIR BAG MODULE (DRIVER'S SIDE) DISPOSAL PROCEDURES

Disposal of the air bag module (driver's side) should be carried out in the same manner as before.