
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

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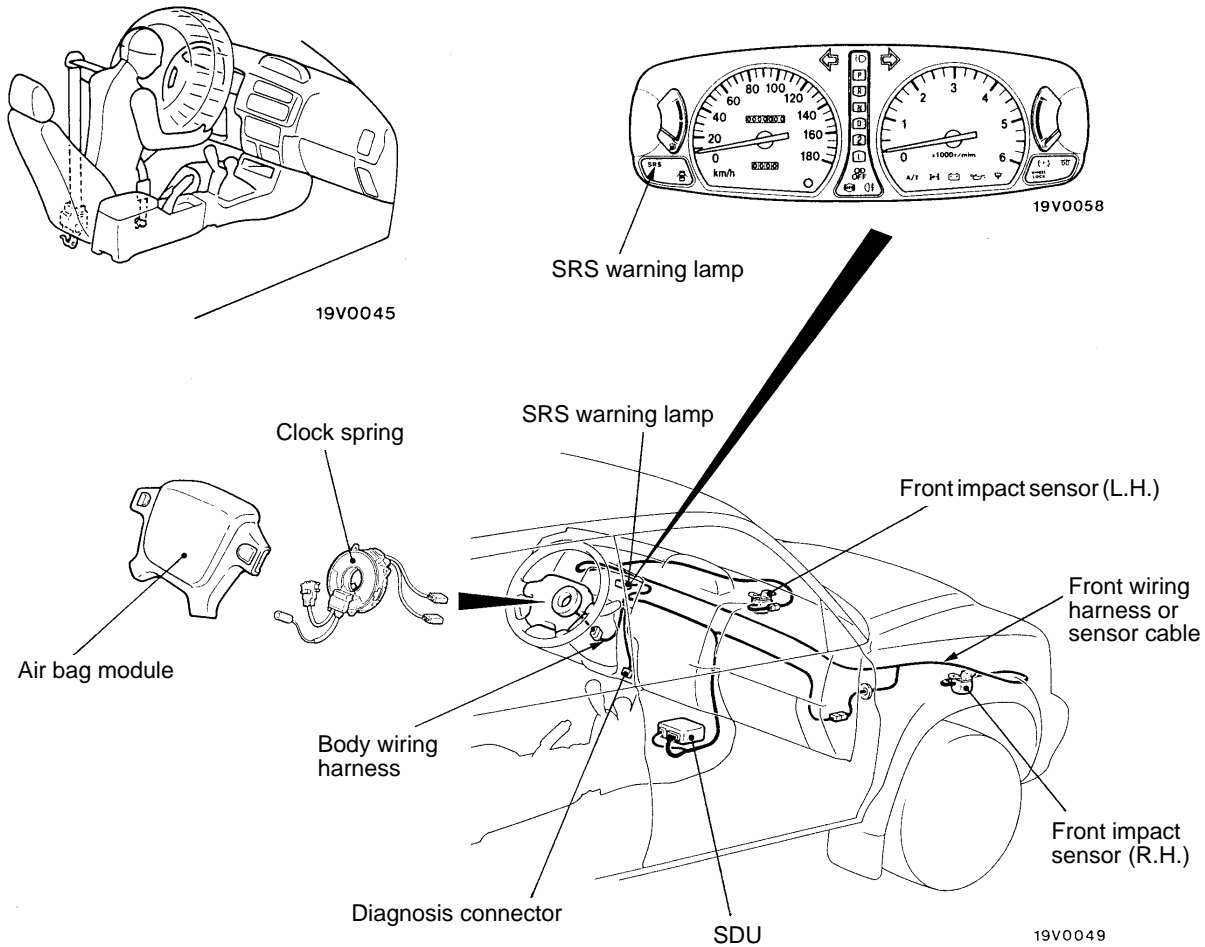
CAUTION

- Carefully read and observe the information in the SRS 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.52-21.) for the components involved.
- If you have any questions about the SRS, please contact your local distributor.

GENERAL INFORMATION

To improve safety, the SRS is available as optional part. These system enhance collision safety by restraining the driver in case of an accident. The SRS consists of an air bag module, SRS diagnosis unit (SDU), SRS warning lamp, two front impact sensors and clock spring. Air bag is located in the centre of the steering wheel. Air bag has a folded air bag and an inflator unit. The control unit under the instrument panel, which monitors the system and has a safing G sensor. The warning lamp on the instrument panel indicates the

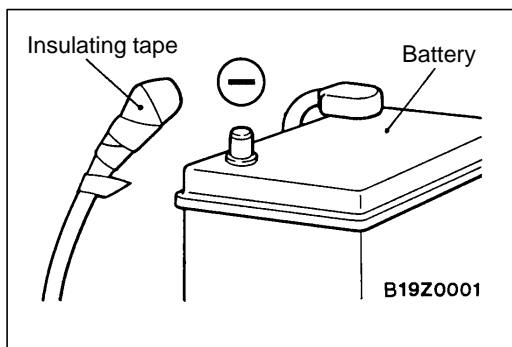
operational status of the SRS. Each front impact sensor is located left and right fender shield panel. The clock spring is installed in the steering column. Only authorized service personnel should do work on or around the SRS components. Those service personnel should read this manual carefully before starting any such work. Extreme care must be used when servicing the SRS to avoid injury to the service personnel (by inadvertent deployment of the air bag) or the driver (by rendering the SRS inoperative).



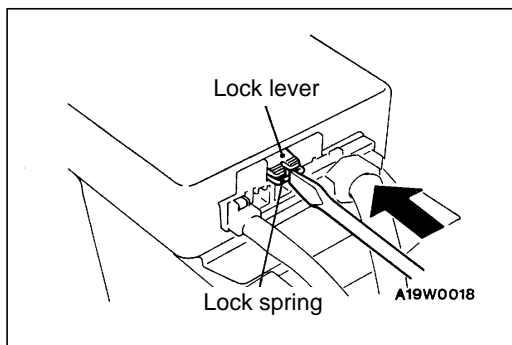
SRS SERVICE PRECAUTIONS

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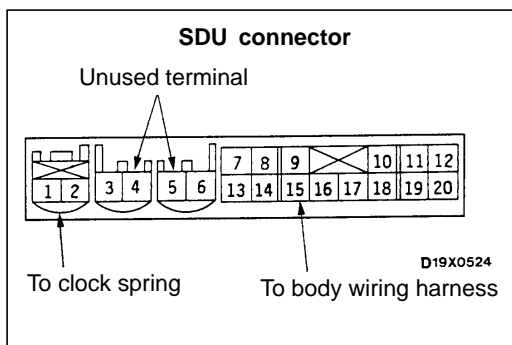
- In order to avoid injury to yourself or others from accidental deployment of the air bag during servicing, read and carefully follow all the precautions and procedures described in this manual.
- Do not use any electrical test equipment on or near SRS components, except those specified on P.52B-5.
- Never Attempt to Repair the Following Components:**
 - SRS Diagnosis unit (SDU)
 - Clock Spring
 - Air Bag Module
 - Front impact sensor



- 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. Wind a tape around the disconnected (-) terminal for insulation.



- To unlock the SDU connector, place a flat-tipped screwdriver against the lock spring at the lock lever notch and push the spring toward the unit. In this case, do not force the lock lever up.



- 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.

Harness connector (No. of terminals, colour)	SDU terminal No.	Destination of harness	Corrective action
2 pins, red	1, 2	Body wiring harness → Clock spring	Replace clock spring
–	3, 4	–	–
–	5, 6	–	–
14 pins, red	7, 8	–	–
	9	Body wiring harness → Diagnosis connector	Correct or replace each wiring harness
	10	Body wiring harness → Front wiring harness → Ignition switch (ST)	
	11	Body wiring harness → Junction block (fuse No.11)	
	12	Body wiring harness → Junction block (fuse No.10)	
	13	Body wiring harness → Combination meter (SRS warning lamp)	
	14	–	–
	15	Body wiring harness → Front wiring harness → Front impact sensor (+) (R.H.)	Sensor cable* installation procedures (Refer to P.52B-39.)
	16	Body wiring harness → Front wiring harness → Front impact sensor (+) (L.H.)	
	17	Body wiring harness → Front wiring harness → Front impact sensor (-) (L.H.)	
	18	Body wiring harness → Front wiring harness → Front impact sensor (-) (R.H.)	
19, 20	Body wiring harness → Earth	Correct or replace each wiring harness	

NOTE

The sensor cable marked with * is available as service part.

7. SRS components should not be subjected to heat over 93°C, so remove the SRS diagnosis unit, air bag module, clock spring and front impact sensors before drying or baking the vehicle after painting.
8. Whenever you finish servicing the SRS, check warning lamp operation to make sure that the system functions properly. (Refer to P.52B-16.)
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.

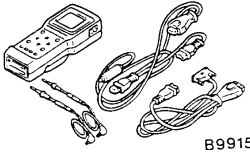
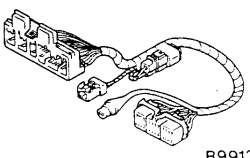
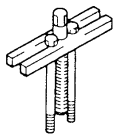
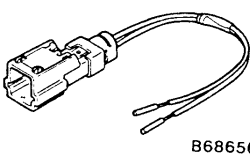
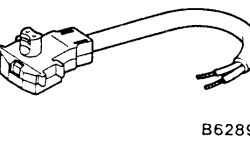
SERVICE SPECIFICATIONS

52400040071

Items	Standard value
Front impact sensor resistance Ω	2,000 \pm 20
Clock spring resistance Ω	Less than 0.4


SPECIAL TOOLS

52400070148

Tool	Number	Name	Use
 B991502	MB991502	MUT-II sub assembly	<ul style="list-style-type: none"> • Reading diagnosis codes • Erasing diagnosis code • Reading trouble period • Reading erase times
 B991349	MB991349	SRS Check harness	Checking the SRS electrical circuitry
 B990803	MB990803	Steering wheel puller	Steering wheel removal
 B686560	MB686560	SRS air bag adapter harness A	Deployment of air bag module inside the vehicle
 B628919	MB628919	SRS air bag adapter harness B	Deployment of air bag module outside the vehicle

TEST EQUIPMENT

52400080035

Tool	Name	Use
 13R0146	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

SEALANT

5240060015

Item	Specified sealant	Remark
Sensor cable	3M ATD Part No. 8625 or equivalent	Ribbon sealer

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 CODES

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

INSPECTION CHART FOR DIAGNOSIS CODES

52400330123

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

Code No.	Diagnosis item	Reference page
11, 12, 13	Front impact sensor system	52B-7
21, 22	Air bag module (squib) system	52B-8
31, 32	SDU capacitor system	52B-9
33*	Cranking signal system	52B-10
34*	Connector lock system	52B-11
41*	IG ₁ (A) power circuit system	52B-11
42*	IG ₁ (B) power circuit system	52B-12
43	SRS warning lamp drive circuit system Lamp does not illuminate*	52B-13
	SRS warning lamp drive circuit system Lamp does not switch off	52B-14
44	SRS warning lamp drive circuit system	52B-14
45	SDU non-volatile memory (EEPROM) and A/D converter system	52B-14

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 fault codes 41 or 42. When these diagnosis codes are displayed, check the battery.

INSPECTION PROCEDURE CLASSIFIED BY DIAGNOSIS CODE

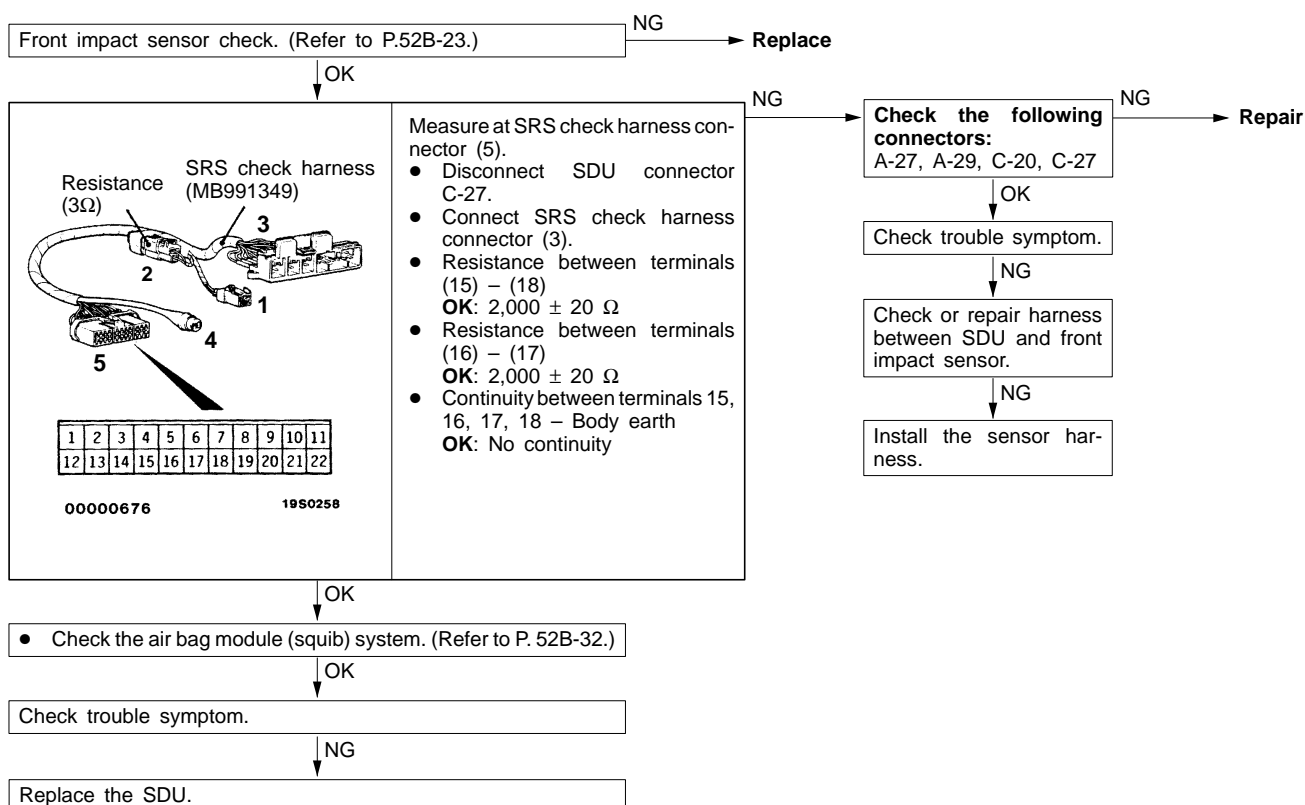
Code No.11, 12 or 13 Front impact sensor system	Probable cause
<ul style="list-style-type: none"> • These diagnosis codes are output if there is abnormal resistance between the input terminals of the front impact sensor. The trouble causes for each code No. are as follows. (Refer to the chart 1.) • Diagnosis codes 11, 12 and 13 are sometimes generated in combination with malfunction codes relating to the air bag module (squib) (code Nos. 21 and 22), but sometimes only one may be output instead of both being memorized. Because of this, the air bag module should also be inspected at the same time. The relationships between the codes are as follows. (Refer to the chart 2.) 	<ul style="list-style-type: none"> • Malfunction of front impact sensor • Malfunction of wiring harnesses of connectors • Malfunction of SDU

CHART 1

Code No.	Trouble Symptom
11	<ul style="list-style-type: none"> • Short in front impact sensor or harness short • Short in front impact sensor or air bag module (squib) harnesses leading to the vehicle body earth • Short in front impact sensor or air bag module (squib) harnesses leading to the power supply
12	<ul style="list-style-type: none"> • Open circuit in either left or right front impact sensor open harness • Short in front impact sensor or air bag module (squib) harness leading to the power supply
13	<ul style="list-style-type: none"> • Open circuit in both left and right front impact sensors or open harness • Short in front impact sensor or air bag module (squib) harnesses leading to the power supply

CHART 2

Item	Front impact sensor		
	Short	Open circuit (1 sensor)	Open circuit (2 sensors)
Air bag module (squib)	Short	11 or 21	12 or 21
	Open circuit	11 or 22	12 or 22



Code No. 21 or 22 Air bag module (squib) system	Probable cause
<p>(1) These diagnosis codes are output if there is abnormal resistance between the input terminals of the air bag module (squib). The trouble causes for each code No. are as follows. (Refer to chart 1.)</p> <p>(2) Diagnosis codes 21 and 22 are sometimes generated in combination with malfunction codes relating to the front impact sensor (code Nos. 11, 12 and 13), but sometimes only one may be output instead of both being memorized. Because of this, the front impact sensor should also be inspected at the same time. The relationships between the codes are as follows. (Refer to chart 2.)</p>	<ul style="list-style-type: none"> ● Malfunction of clock spring ● Malfunction of wiring harnesses or connectors ● Malfunction of air bag module (squib) ● Malfunction of SDU

Chart 1

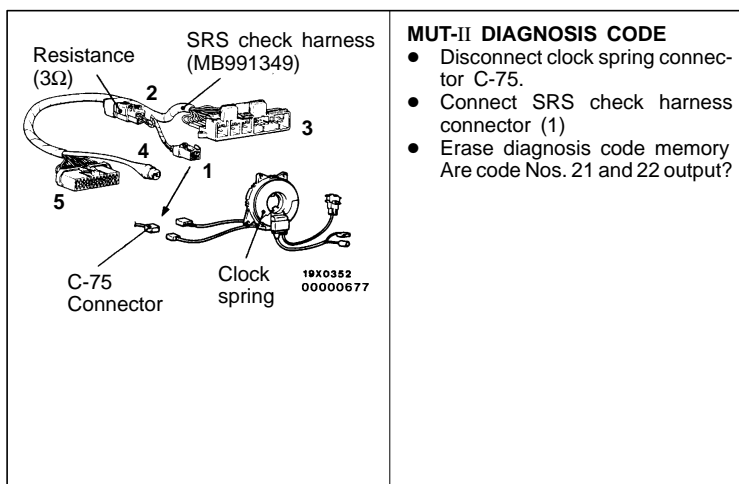
Code No.	Trouble Symptom
21	<ul style="list-style-type: none"> ● Short in air bag module (squib) or harness short ● Short in clock spring ● Short in air bag module (squib) or front impact sensor harnesses leading to the power supply
22	<ul style="list-style-type: none"> ● Open circuit in air bag module (squib) or open harness ● Open circuit in clock spring ● Malfunction of connector contact ● Short in air bag module (squib) or front impact sensor harnesses leading to the power supply

Chart 2

Item	Front impact sensor			
	Short	Open circuit (1 sensor)	Open circuit (2 sensors)	
Air bag module (squib)	Short	11 or 21	12 or 21	13 or 21
	Open circuit	11 or 22	12 or 22	13 or 22

Caution

Do not attempt to measure the air bag module (squib) circuit resistance. Use of a tester in measuring the circuit resistance will supply current to the squib, or erroneous deployment due to static electricity could cause serious injury.



No

Clock spring check. (Refer to P.52B-32.)

NG → Replace

OK

Check the following connectors: C-75, C-76

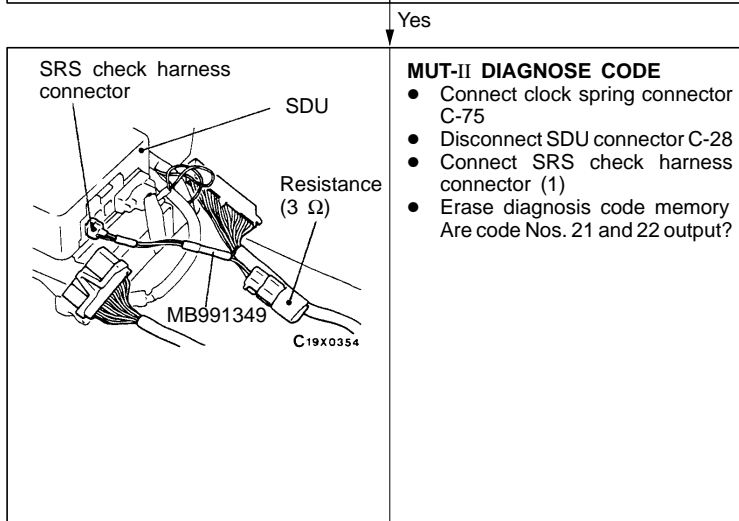
NG → Repair

OK

Check trouble symptom.

NG

Replace the air bag module (squib).



No

Check the harness wire between the SDU and clock spring, and repair if necessary.

Yes

Check the front impact sensor system (Refer to P.52B-25.)

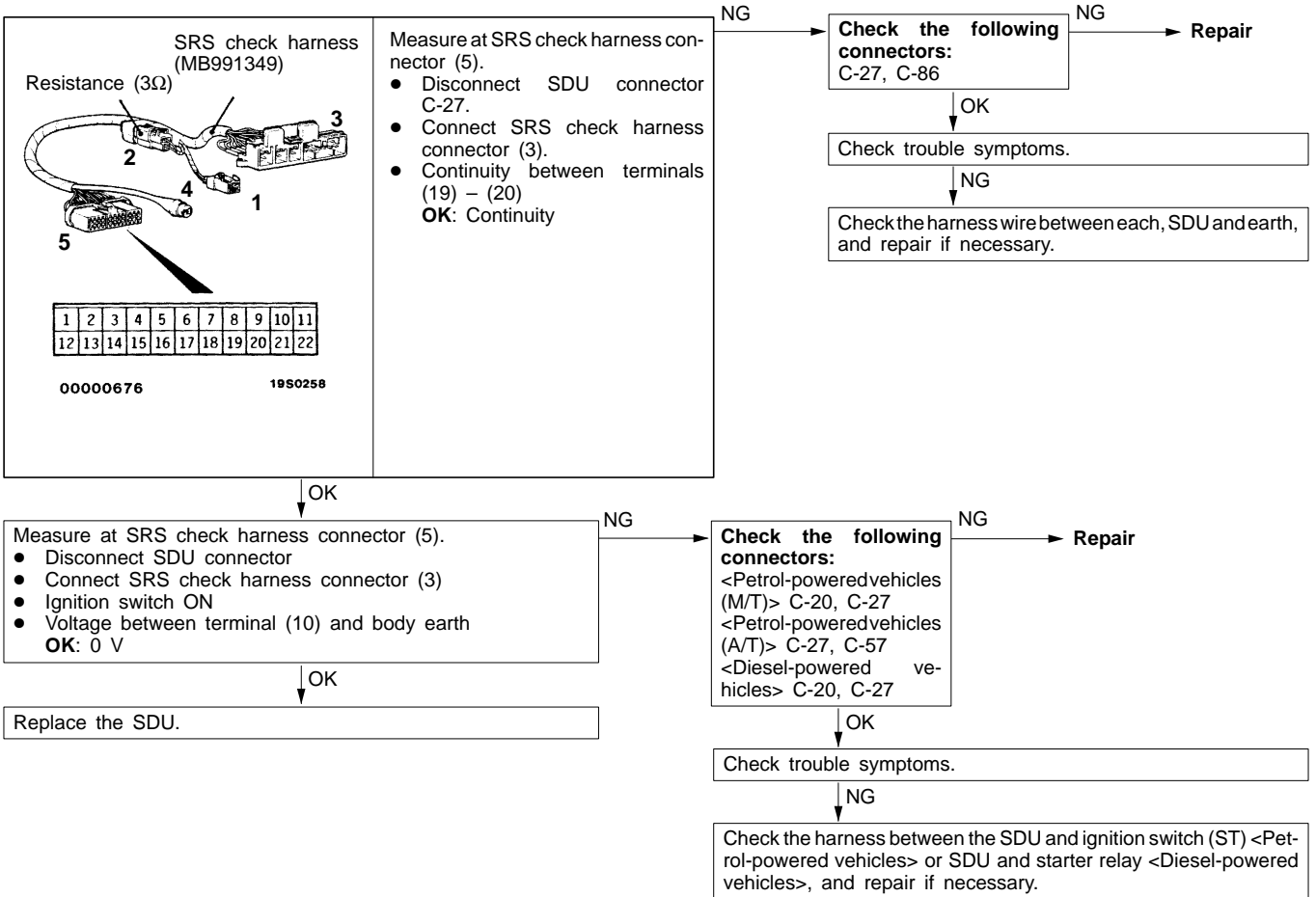
OK

Replace the SDU.

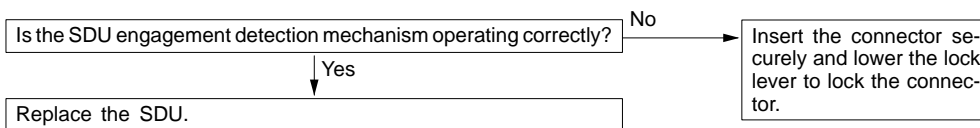
Code No. 31 or 32 SDU capacitor system	Probable cause
<p>These diagnosis codes are output if the voltage at the SDU capacitor terminals is higher (No. 31) or lower (No. 32) than the specified value for 5 seconds or more. However, if diagnosis code Nos. 41 and 42 are being output due to a drop in battery voltage, code No. 32 will not be detected.</p>	<ul style="list-style-type: none"> • Malfunction of front impact sensor • Malfunction of SDU

The capacitor inside the SDU is probably defective, so replace the SDU. However, code No. 32 could also be a result of a short in the front impact sensor, so inspection of the front impact sensor system should also be carried out. (Refer to P. 52B-25.)

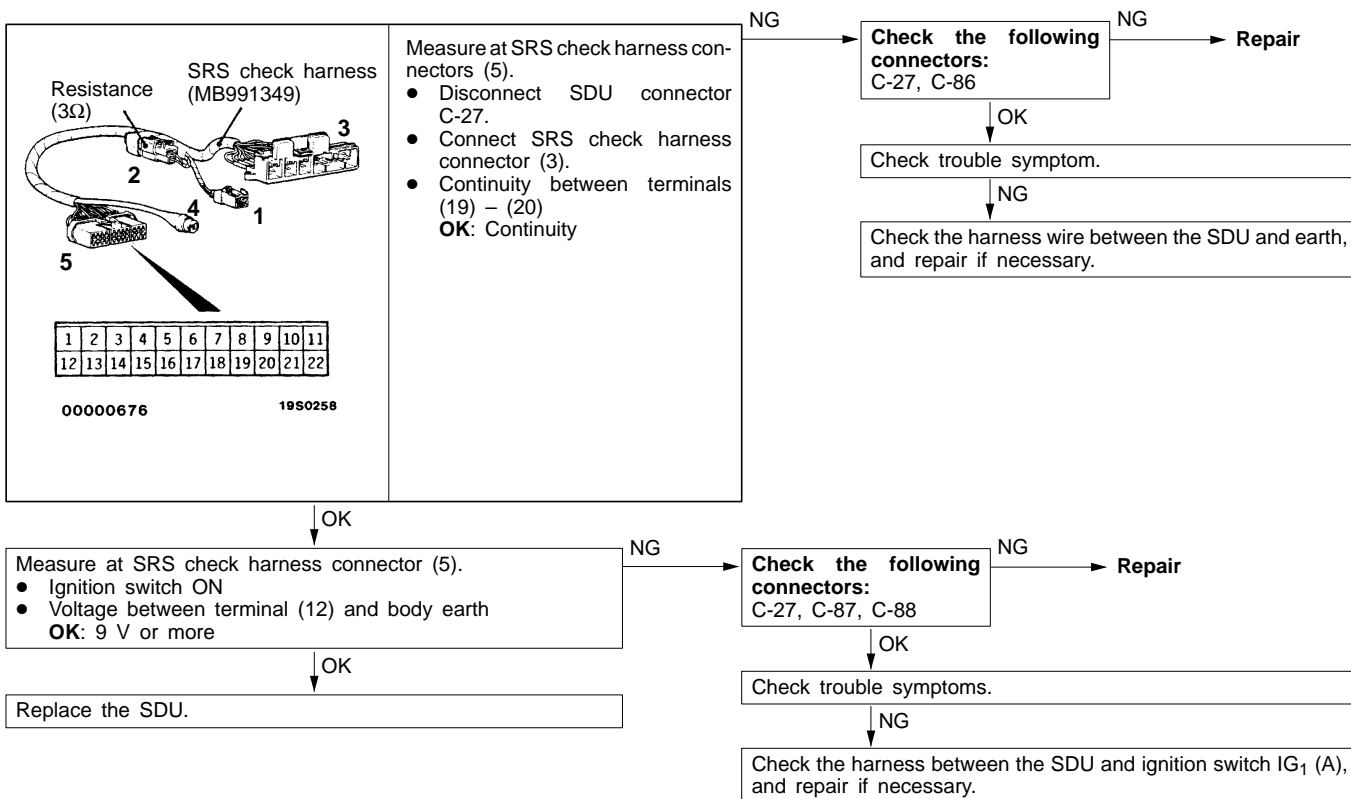
Code No. 33 Cranking signal system	Probable cause
<p>The cranking signal is provided in order to prevent mistaken detection of power supply voltage drops at the IG₁ terminal during cranking. This diagnosis code is output if the cranking signal is output for a continuous period of 45 seconds or more (cranking signal harness is shorted to the power supply). However, if the vehicle condition returns to normal (except when cranking), diagnosis code No. 33 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 SDU



Code No. 34 Connector lock system	Probable cause
This diagnosis code is output if the double lock shorting bar of the SDU connector is detected to be open. However, if the vehicle condition returns to normal, diagnosis code No. 34 will be automatically erased, and the SRS warning lamp will switch off.	<ul style="list-style-type: none"> • Malfunction of connectors • Malfunction of SDU

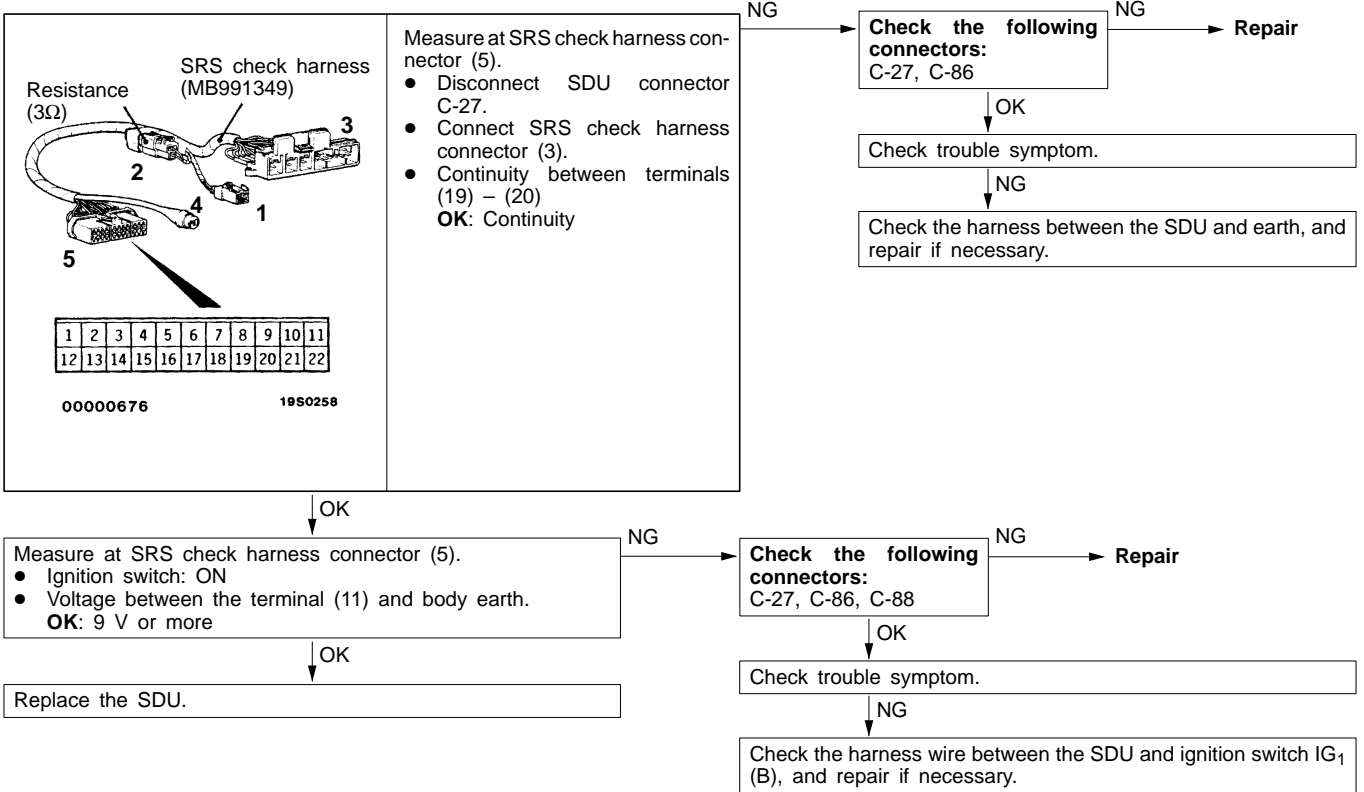


Code No. 41 IG ₁ (A) power circuit system	Probable cause
This diagnosis code is output if the voltage between the IG ₁ (A) terminal and the earth is lower than the specified value for a continuous period of 5 seconds or more. However, if the vehicle condition returns to normal, diagnosis code No. 41 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 SDU

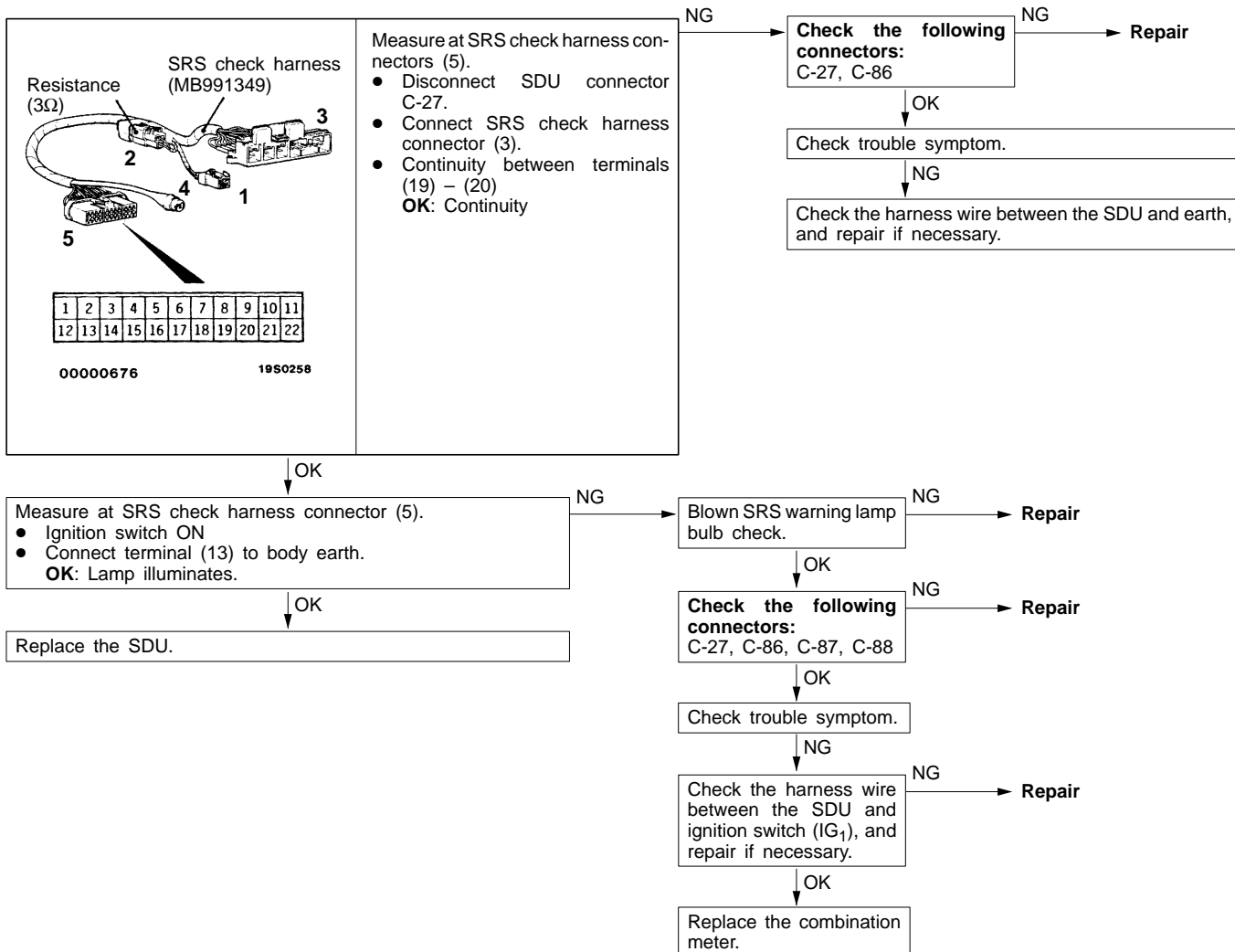


Replace the SDU.

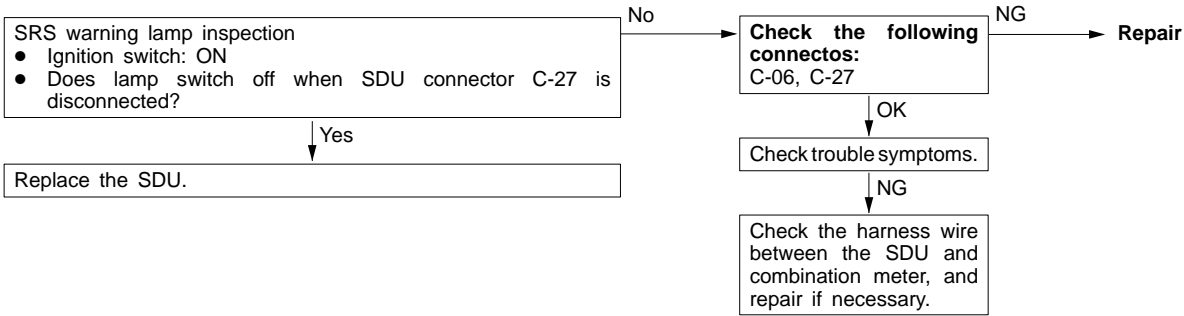
Code No. 42 IG ₁ (B) power circuit system	Probable cause
<p>This diagnosis code is output if the voltage between the IG₁ terminal and the earth is lower than the specified value for a continuous period of 5 seconds or more. However, if the vehicle condition returns to normal, diagnosis code No. 42 will be automatically erased, and the SRS warning lamp will switch off.</p>	<ul style="list-style-type: none"> Malfunction of wiring harness or connectors



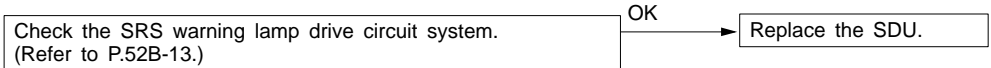
Code No. 43 SRS warning lamp drive circuit system (Lamp does not illuminate.)	Probable cause
<p>This diagnosis code is output when an open circuit occurs for a continuous period of 5 seconds while the SDU is monitoring the SRS warning lamp and the lamp is OFF (transistor OFF). However, if this code is 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 SDU • 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 SDU while SDU 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 SDU • 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 SDU is detected while the SDU is monitoring the SRS warning lamp drive circuit.	<ul style="list-style-type: none"> • Malfunction of wiring harnesses or connectors • Malfunction of SDU



Code No.45 SDU non-volatile memory (EEPROM) and A/D converter system	Probable cause
This diagnosis code is output if there is a malfunction in the SDU non-volatile memory (EEPROM) and A/D converter.	<ul style="list-style-type: none"> • Malfunction of SDU

Replace the SDU.

INSPECTION CHART FOR TROUBLE SYMPTOMS

52400340126

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-15
	Communication is not possible with SRS only.	2	52B-15
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.	52B-14

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

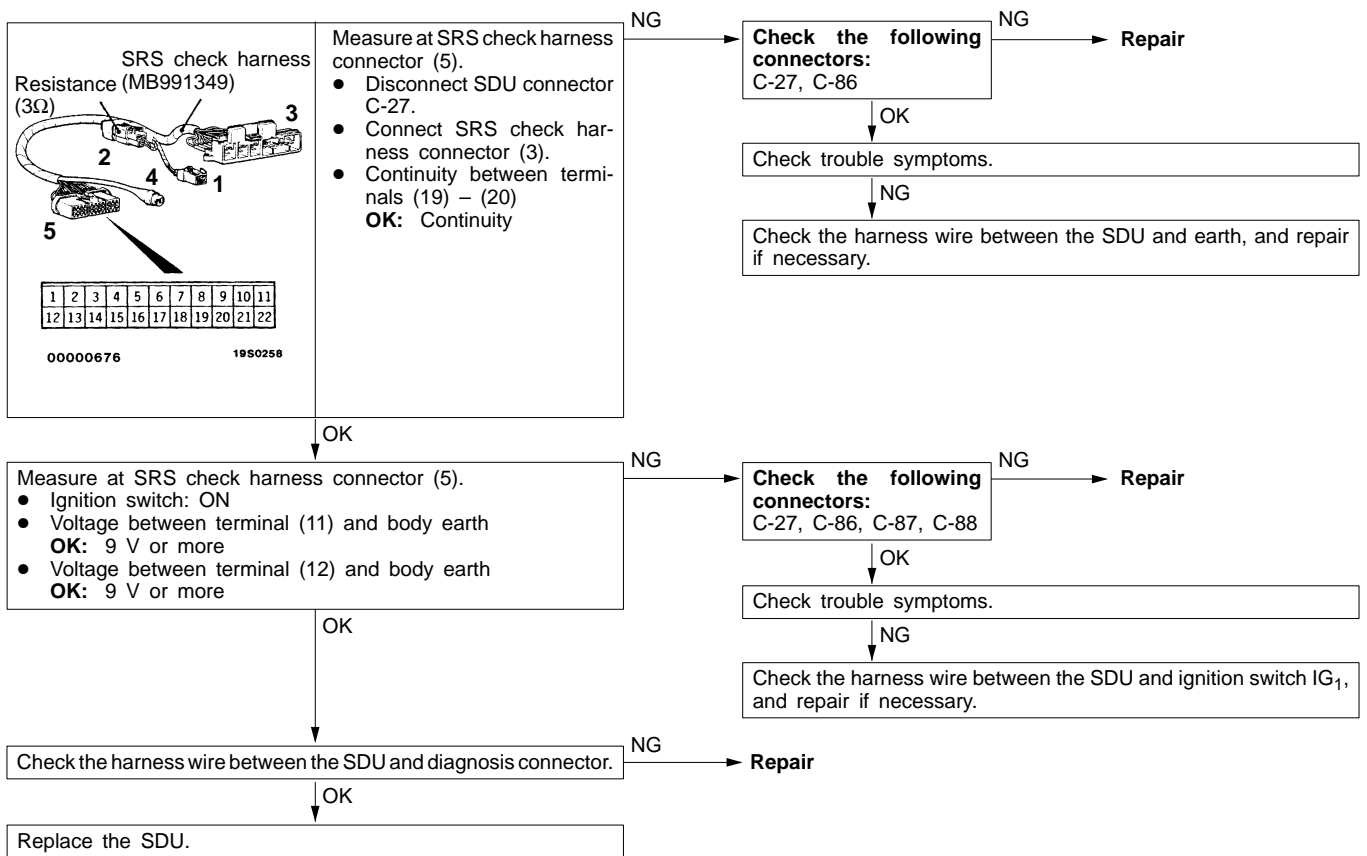
Inspection Procedure 1

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

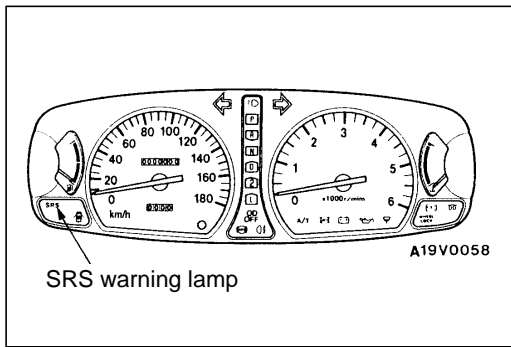
Communication with MUT-II is not possible. (Communication is not possible with SRS only.)	Probable cause
If communication is not possible with the SRS only, the cause is probably an open circuit in the diagnosis output circuit of the SRS or in the power circuit (including earth circuit).	<ul style="list-style-type: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



SRS MAINTENANCE

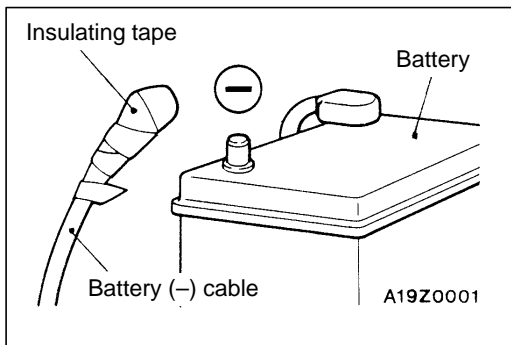
52400390114

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-6.

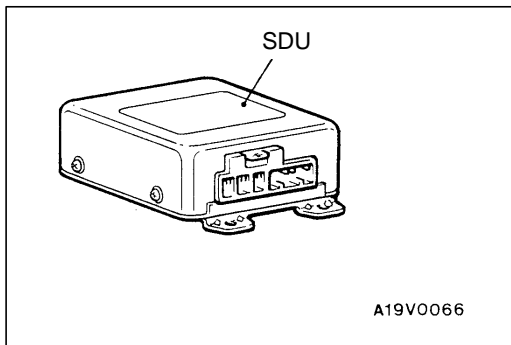


SRS COMPONENT VISUAL CHECK

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-3.)



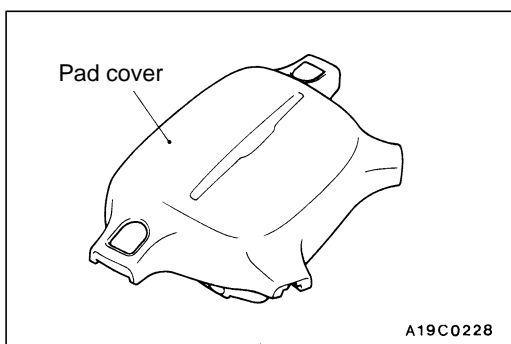
SRS DIAGNOSIS UNIT (SDU)

1. Check SDU case and brackets for dents, cracks, deformation or rust.

Caution

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

2. Check connector for damage, and terminals for deformation or rust.
Replace SDU if it fails visual check.
(Refer to P.52B-26.)



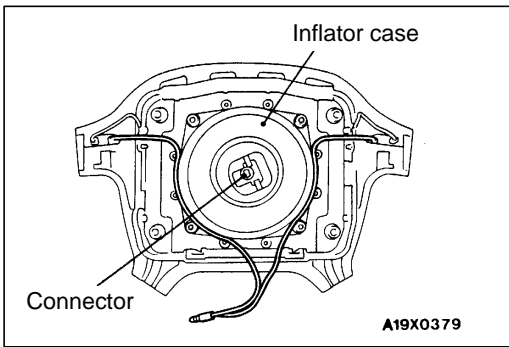
AIR BAG MODULES, STEERING WHEEL AND CLOCK SPRING

1. Remove the air bag modules, steering wheel and clock spring. (Refer to P.52B-28.)

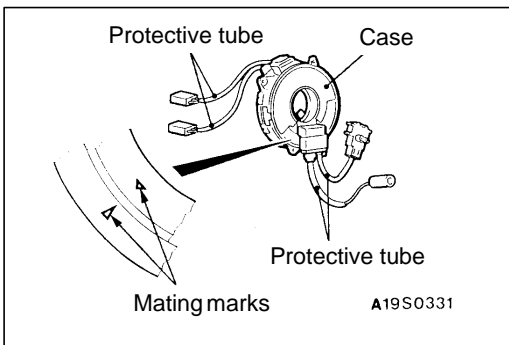
Caution

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

2. Check pad 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

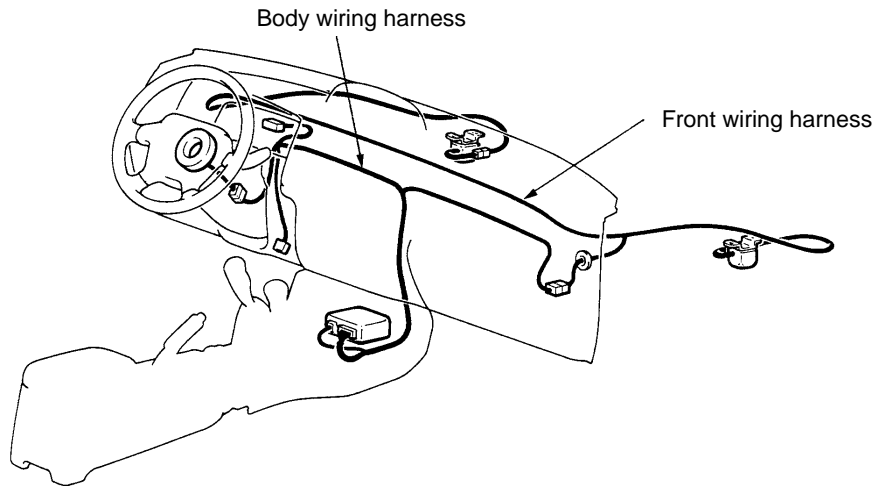
If the clock spring's mating mark is not properly aligned, the steering wheel may not be completely rotational during a turn, or the flat cable within the clock spring may be severed, obstructing normal operation of the SRS and possibly leading to serious injury to the vehicle's driver.

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-28.)

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.

BODY WIRING HARNESS AND FRONT WIRING HARNESS



A19V0048

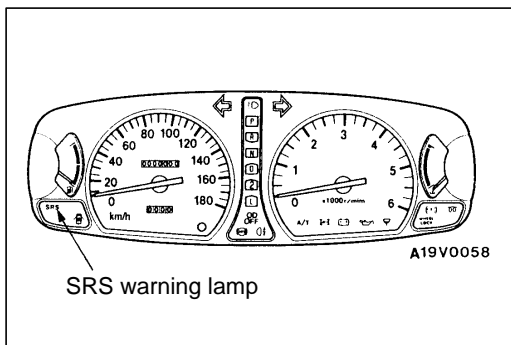
1. Check connector for poor connection.
2. Check harnesses for binds, connectors for damage, and terminals for deformation.
REPLACE ANY CONNECTORS OR HARNESS THAT FAIL THE VISUAL CHECK. (Refer to P. 52B-3.)

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.

POST-INSTALLATION CHECK

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-6.



POST-COLLISION DIAGNOSIS

52400110154

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

SRS DIAGNOSIS UNIT MEMORY CHECK

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

Caution

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

2. Read (and write down) all displayed diagnosis codes. (Refer to P. 52B-6.)

NOTE

If the battery power supply has been disconnected or disrupted by the collision, the MUT-II cannot communicate with the SRS diagnosis unit. 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	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-6.)

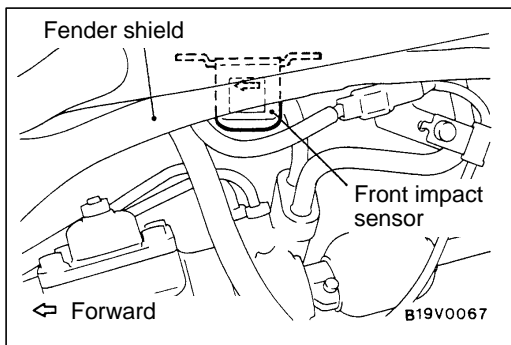
REPAIR PROCEDURE**WHEN AIR BAG DEPLOYS IN A COLLISION.**

1. Replace the following parts with new ones.
 - SRS diagnosis unit (SDU) (Refer to P. 52B-26.)
 - Air bag module (Refer to P. 52B-28.)
 - Front impact sensors (Refer to P. 52B-23.)

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-18.)

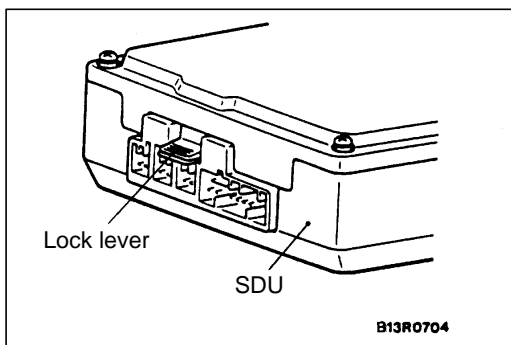
WHEN AIR BAG DOES NOT DEPLOY IN LOW-SPEED COLLISION.

Check the SRS components. If the SRS components 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-21.



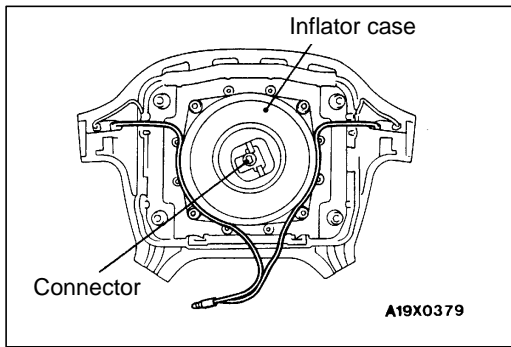
Front impact sensors

1. Check fender shield panel for deformation or rust.
2. Check front impact sensor for dents, cracks, deformation or rust.
3. Check sensor harnesses for binds, connectors for damage, and terminals for deformation.



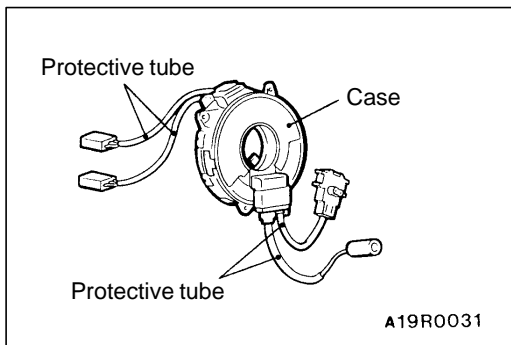
SRS diagnosis unit (SDU)

1. Check SDU case and brackets for dents, cracks or deformation.
2. Check connectors and lock lever for damage, and terminals for deformation.



Air bag module

1. Check pad cover for dents, cracks or deformation.
2. Check connector for damage, terminal 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.



Clock spring

1. Check clock spring connectors and protective tube 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.

Harness connector (body and front wiring harness)

Check harnesses for binding, connectors for damage, poor connection, and terminals for deformation. (Refer to P. 52B-18.)

INDIVIDUAL COMPONENT SERVICE

52400290148

If the SRS components are to be removed or replaced as a result of maintenance, troubleshooting, etc., follow each procedure (P.52B-23 – P.52B-33.)

Caution

1. **SRS components should not be subjected to heat over 93°C, so remove the SRS diagnosis unit, air bag module, clock spring and front impact sensors before drying or baking the vehicle after painting.**
2. **If the SRS components 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.**

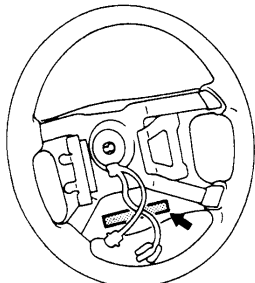
WARNING/CAUTION LABELS

5240030063

A number of caution labels relating to the SRS are found in the vehicle, as shown in the following illustration. Follow label instructions when servicing

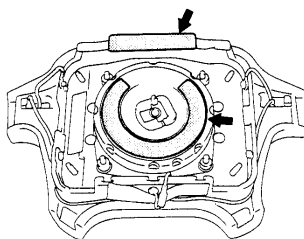
SRS. If labels are dirty or damaged, replace them with new ones.

Steering wheel



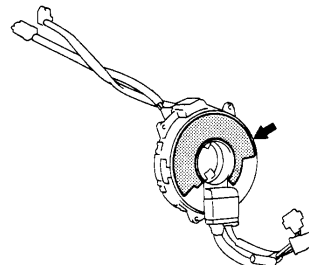
19N0245

Air bag module



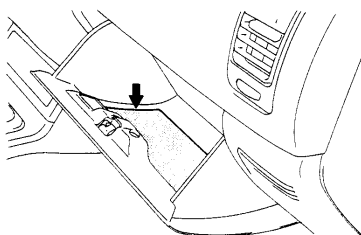
19V0059

Clock spring



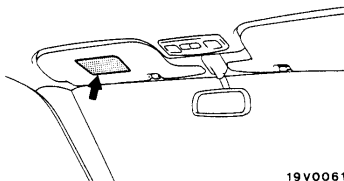
19X0015

Glove box



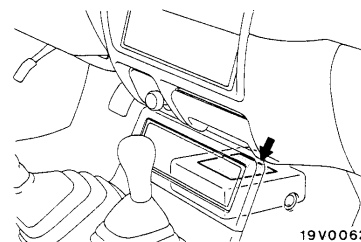
19V0060

Sun visor



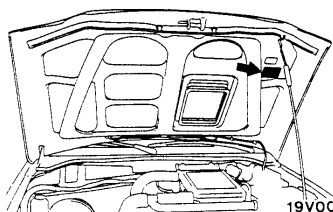
19V0061

SDU



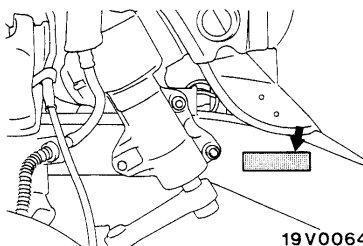
19V0062

Hood



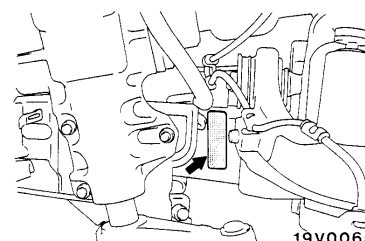
19V0063

Frame <2WD>



19V0064

Frame <4WD>



19V0065

0005050

FRONT IMPACT SENSORS

Caution

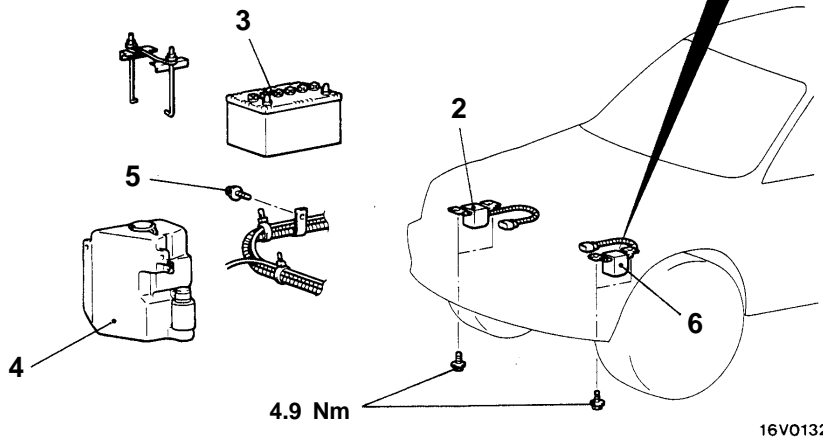
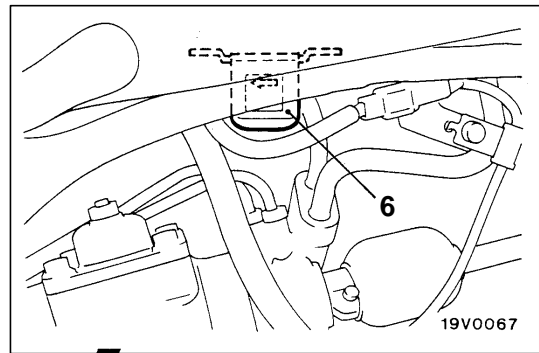
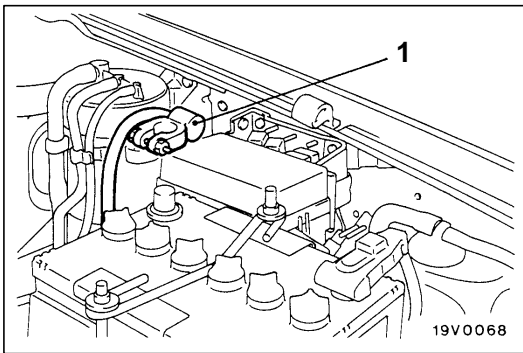
1. Never repair or disassemble a front impact sensor. If faulty, replace it.
2. Handle the front impact sensors very carefully, taking care not to drop them or

- otherwise subject them to impact. If a sensor is seen to be dented, cracked, deformed or rusted, replace it with a new one.
3. Replace sensor with new ones after the air bag has deployed.

REMOVAL AND INSTALLATION

Pre-removal Operation

- Turn the ignition key to the "LOCK" position.

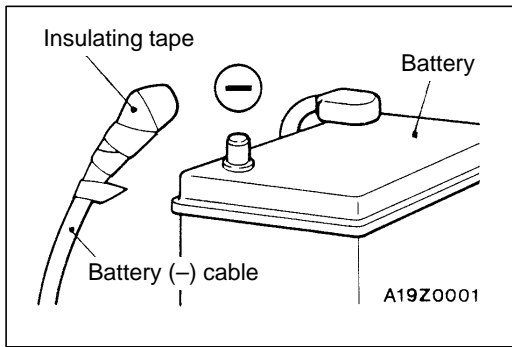


00005051

Removal steps

- ◀A▶ ▶C▶ ● Post-installation inspection
1. Negative (-) Battery cable connection
 - ▶B▶ 2. Front impact sensor (R.H.)
 3. Battery

- ▶B▶ ▶A▶ ● Pre-installation inspection
4. Windshield washer tank
 5. Wiring harness clamp bolt
 6. Front impact sensor (L.H.)



REMOVAL SERVICE POINT

◀A▶ NEGATIVE (-) BATTERY CABLE DISCONNECTION

Disconnect the negative battery cable from the battery and tape the terminal.

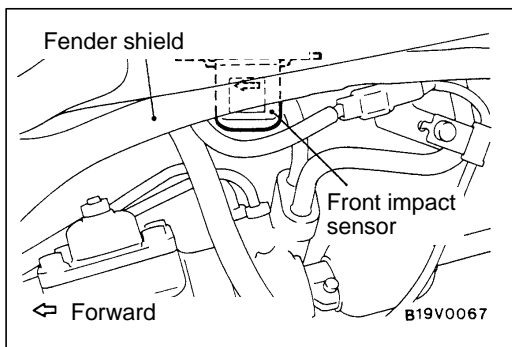
Caution

Wait at least 60 seconds after disconnecting the battery cable before doing any further work. (Refer to P. 52B-3, No. 4.)

INSTALLATION SERVICE POINTS

▶A▶ PRE-INSTALLATION INSPECTION

To mount the new front impact sensor, visually check it and measure the resistance between the terminals. (Refer to the previous item "INSPECTION")

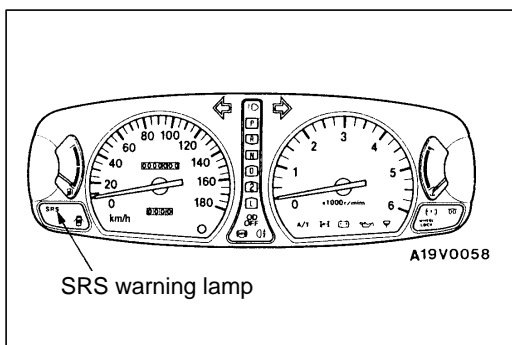


▶B▶ FRONT IMPACT SENSOR INSTALLATION

1. Securely connect the connector.
2. Set the front impact sensor toward the front of the vehicle as shown by the arrow in the illustration, and install it securely.

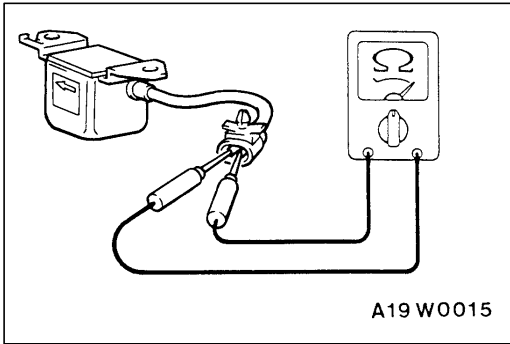
Caution

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



▶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 45 seconds after turning OFF?
4. If yes, SRS system is functioning properly. If no, consult page 52B-6.

**INSPECTION**

52400160067

1. Check the front impact sensor for dents, cracks, deformation or rust.

Caution

If a dent, crack, deformation or rust is detected, replace with a new sensor.

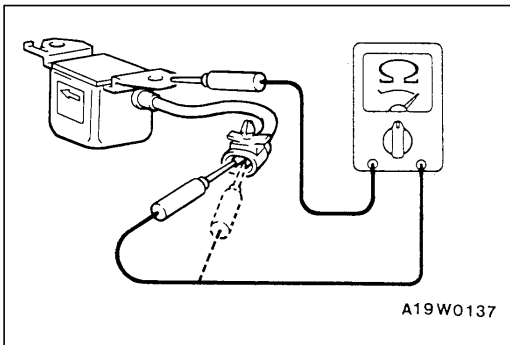
2. Measure the resistance between terminals and check whether it is within the standard value.

Standard value: $2,000 \pm 20\Omega$

Caution

Always replace the sensor with a new one if the resistance is not within the standard value.

3. Check fender shield panel for deformation or rust.
4. Check the continuity between the terminal and bracket. If there is a continuity, the insulation is malfunctioned, and replace the sensor with a new one.



SRS DIAGNOSIS UNIT (SDU)

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, No.4.)
2. Never attempt to disassemble or repair the SDU. If faulty, replace it.
3. Do not drop or subject the SDU to impact or vibration.

If denting, cracking, deformation, or rust are discovered in the SDU, replace it with a new SDU. Discard the old one.

4. After deployment of an air bag, replace the SDU with a new one.
5. Never use an ohmmeter on or near the SDU, and use only the special test equipment described on P.52B-5.

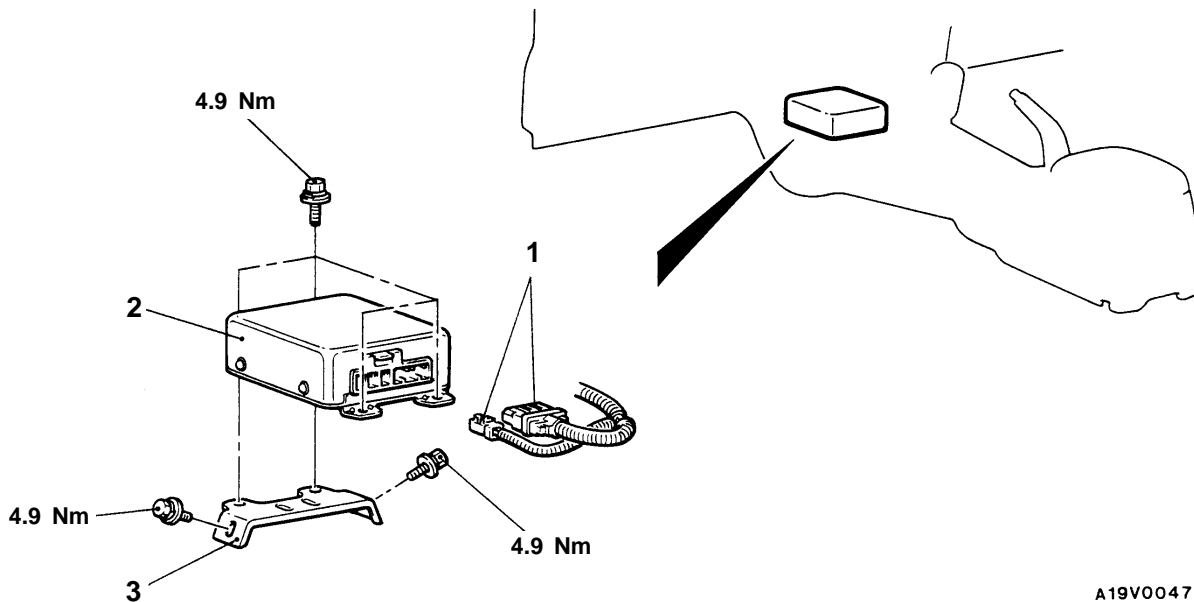
REMOVAL AND INSTALLATION

Pre-removal Operation

- Turn the ignition key to the "LOCK" position.
- Front Floor Console Removal (Refer to GROUP 52A.)

Post-installation Operation

- Front Floor Console Installation (Refer to GROUP 52A.)

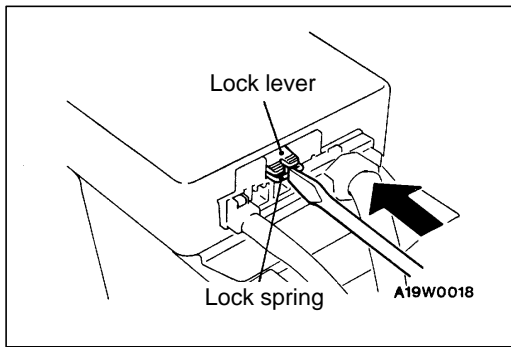


A19V0047

Removal steps

- ▶C◀ ● Post-installation inspection
 ● Negative (-) battery cable connection
 ◀A▶ ▶B▶ 1. Harness connector

- ▶A▶ 2. SRS diagnosis unit (SDU)
 3. SRS diagnosis unit (SDU) bracket



REMOVAL SERVICE POINTS

◀A▶ HARNESS CONNECTOR DISCONNECTION

1. To unlock the SDU connector, place a flat-tipped screwdriver against the lock spring at the lock lever notch and push the spring toward the unit.

Caution

Do not use excessive force to raise the lock lever.

2. While pushing the locks of each connector downwards, remove each connector from the SDU.

Caution

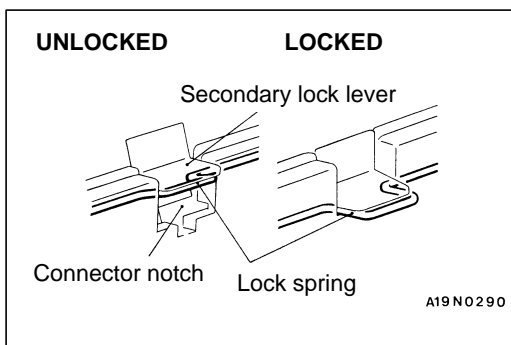
Because a double lock mechanism is employed for the SDU connectors, be careful not to exert undue force to remove the connectors, as this will damage them.

INSTALLATION SERVICE POINTS

▶A◀ SRS DIAGNOSIS UNIT (SDU) INSTALLATION

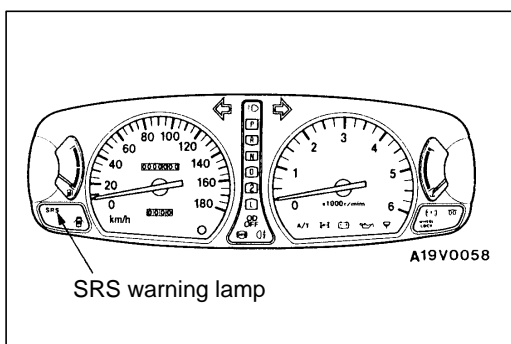
Caution

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



▶B◀ HARNESS CONNECTOR CONNECTION

After connecting each harness connector securely and correctly to the SDU, be sure to press down the lock lever of the SDU.



▶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 45 seconds after turning OFF?
4. If yes, SRS system is functioning properly. If no, consult page 52B-6.

INSPECTION

52400220093

- Check the SDU 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 SDU with a new one.

NOTE

For checking of the SDU other than described above, refer to the section concerning troubleshooting. (Refer to P.52B-6.)

AIR BAG MODULE AND CLOCK SPRING

52400240143

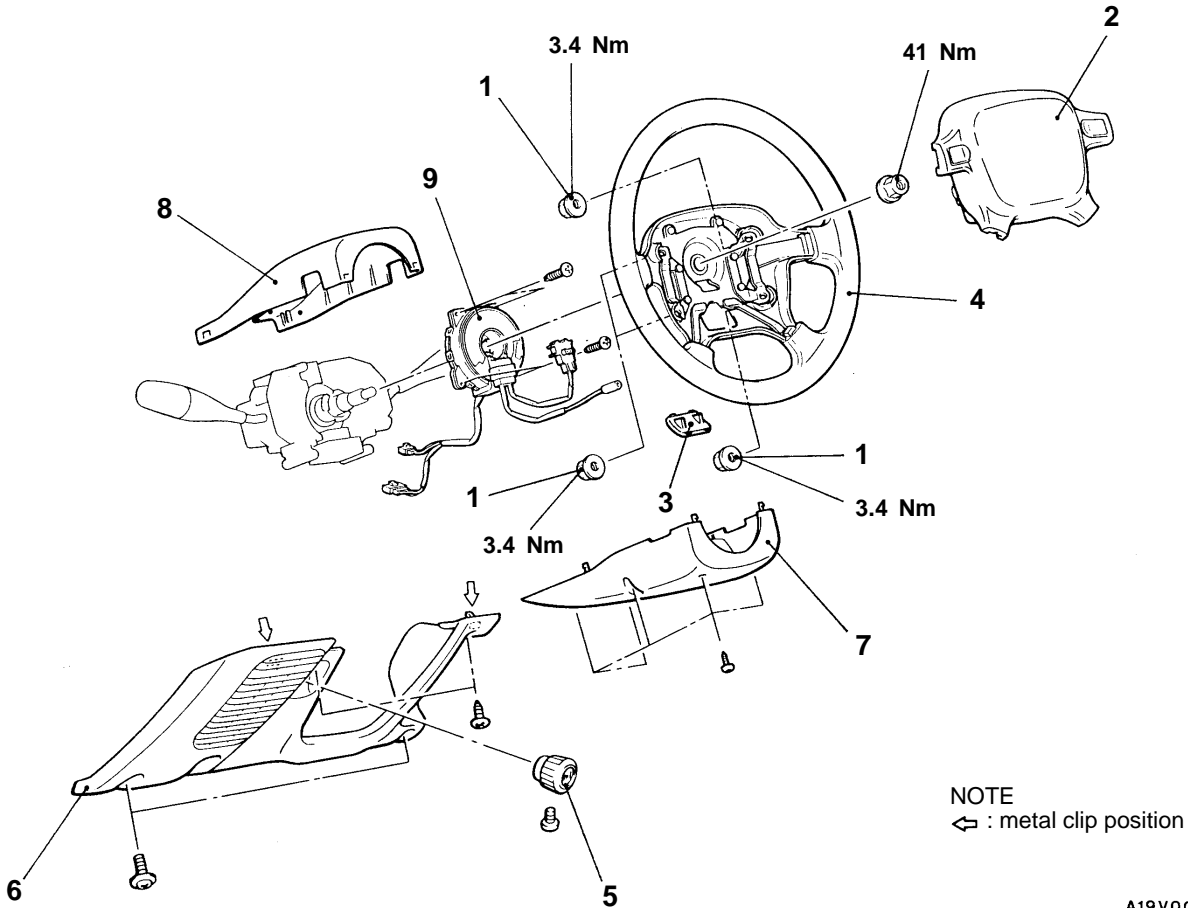
Caution

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, No.4.)
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. After deployment of an air bag, replace the clock spring with a new one.
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-34.)

REMOVAL AND INSTALLATION

Pre-removal Operation

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



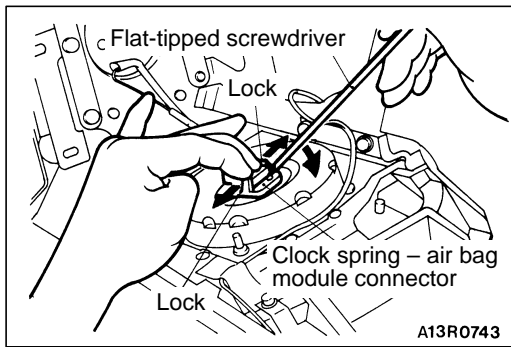
A19V0054

Air bag module removal steps

- ▶D◀ ● Post-installation inspection
- Negative (-) battery cable connection
- ◀A▶ 1. Air bag module mounting nut
- ▶A▶ 2. Air bag module
- ▶A▶ ● Pre-installation inspection

Clock spring removal steps

- ▶D◀ ● Post-installation inspection
- Negative (-) battery cable connection
- ◀A▶ 1. Air bag module mounting nut
- 2. Air bag module
- 3. Cover
- ◀B▶ ▶C▶ 4. Steering wheel
- 5. Throttle cable knob <Diesel-powered vehicles>
- 6. Driver side under cover
- 7. Column cover lower
- 8. Column cover, upper
- ◀C▶ ▶B▶ ▶A▶ 9. Clock spring
- Pre-installation inspection



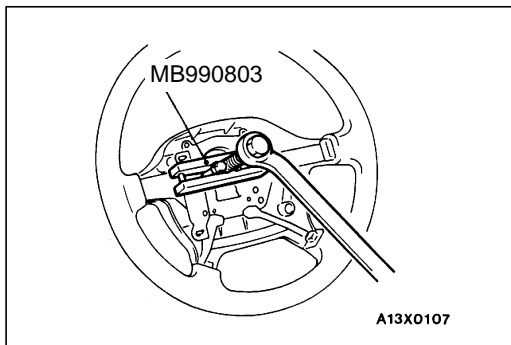
REMOVAL SERVICE POINTS

◀A▶ AIR BAG MODULE REMOVAL

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.

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-34.)

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

Caution

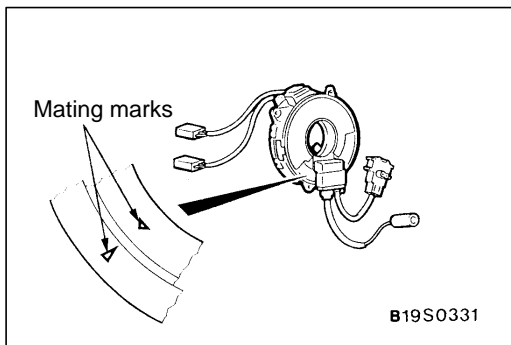
Turn off the ignition switch before connecting or disconnecting the MUT-II.

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, No.4.)

**►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 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.

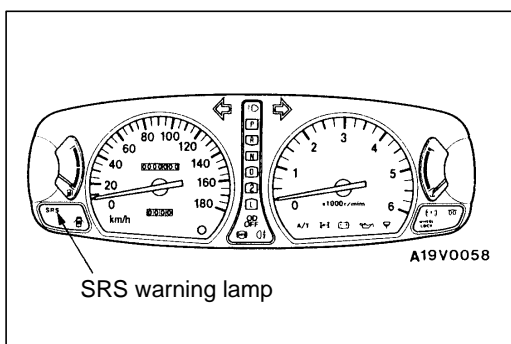
Caution

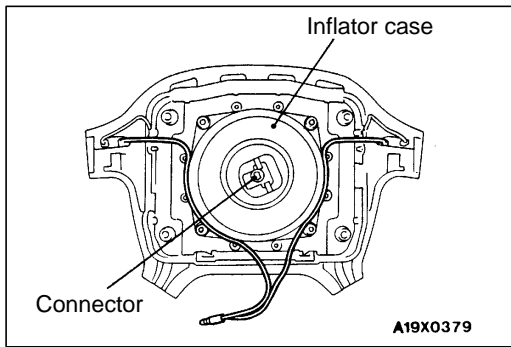
Be sure when installing the steering wheel, that the harness of the clock spring does not become caught or tangled.

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

►D◄ 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 45 seconds after turning OFF?
4. If yes, SRS system is functioning properly. If no, consult page 52B-6.





INSPECTION

52400250146

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-34.)

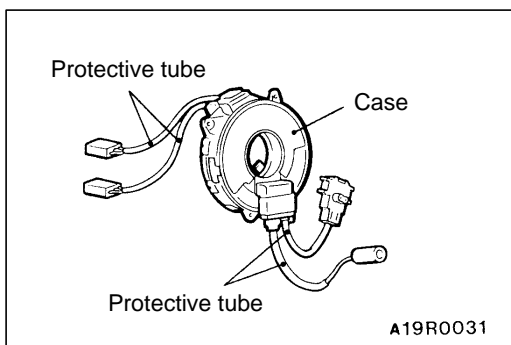
Caution

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

1. Check pad 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 to steering wheel to check fit or alignment with the wheel.

Caution

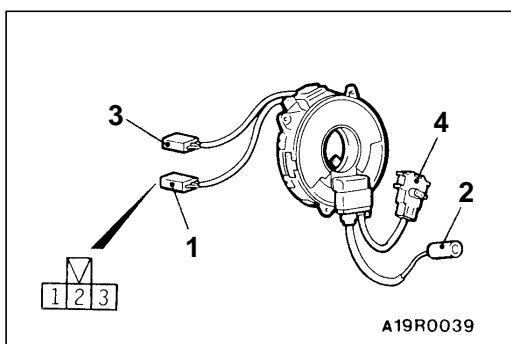
If dents, cracks, deformation, or rust are discovered in the air bag module, replace it with a new one. Dispose of the old one according to the specified procedure. (Refer to P.52B-34.)



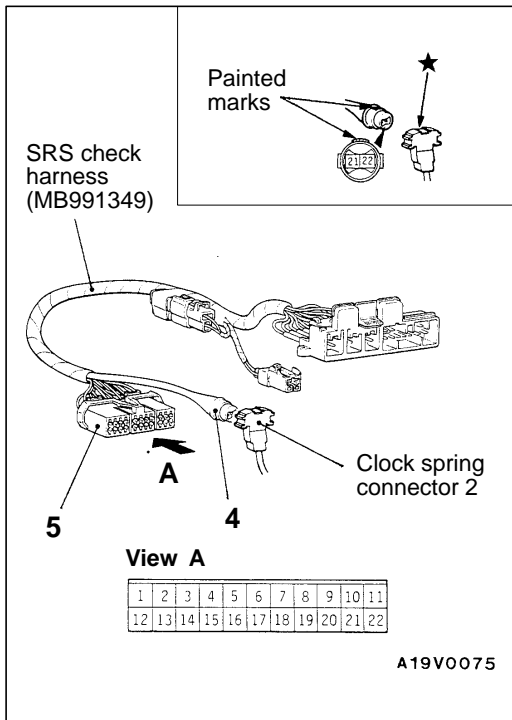
CLOCK SPRING CHECK

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 tube 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. When joining SRS Check harness connector No. 4 and 2 align paint of the No. 4 with the * portion of the No. 2 connector of the clock spring.
5. Check for continuity between terminal 21 and terminal 22 of SRS Check harness connector No. 5.

AIR BAG MODULE DISPOSAL PROCEDURES

52400120157

Before either disposing of a vehicle equipped with air bag, or prior to disposing of the air bag module,

be sure to first follow the procedures described below to deploy the air bag.

UNDEPLOYED AIR BAG MODULE DISPOSAL

Caution

1. If the vehicle is to be scrapped, or otherwise disposed of, deploy the air bag inside the vehicle. If the vehicle will continue to be operated and only the air bag module are to be disposed of, deploy the air bag outside the vehicle.
2. Since a large amount of smoke is produced when the air bag are deployed, select a well-ventilated site. Moreover, never attempt the test near a smoke sensor.
3. Since there is a loud noise when the air bag are deployed, 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.

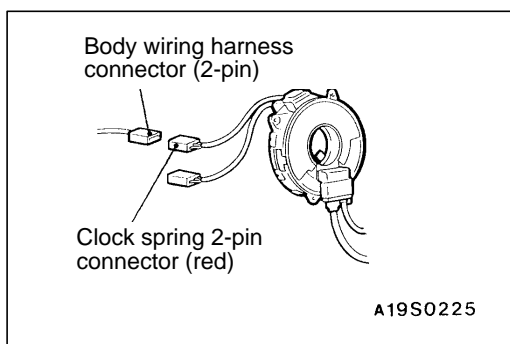
DEPLOYMENT INSIDE THE VEHICLE

(when disposing of a vehicle)

1. Open all windows and doors of the vehicle. 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

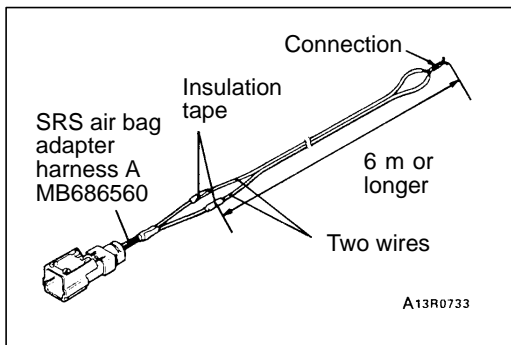
Wait at least 60 seconds after disconnecting the battery cables before doing any further work. (Refer to P. 52B-3, No. 4.)



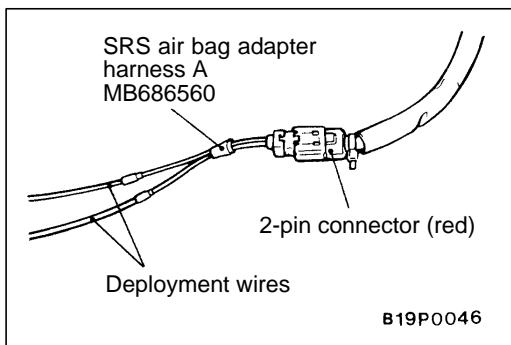
3. To deploy the air bag module.
 - (1) Remove the steering column cover, lower.
 - (2) Remove the connection between the clock spring 2-pin connector (red) and the body wiring harness connector.

NOTE

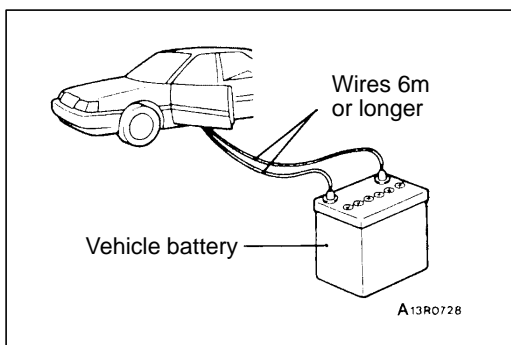
If the clock spring connector is disconnected from the body wiring harness, both electrodes of the clock spring connector will be automatically shorted to prevent unintended deployment of the air bag due to static electricity, etc.



4. 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.



5. Connect the clock spring 2-pin connector (red) to SRS air bag adapter harness A and pass the deployment wires out of the vehicle.



6. 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 Disposal Procedures (P.52B-38.) 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.**

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

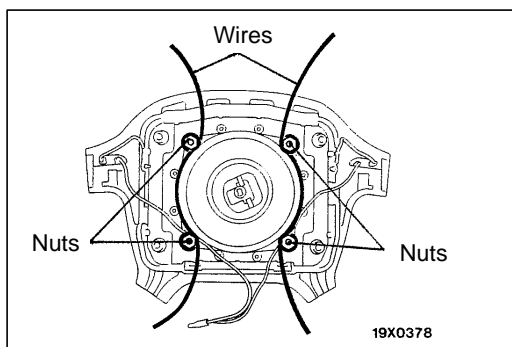
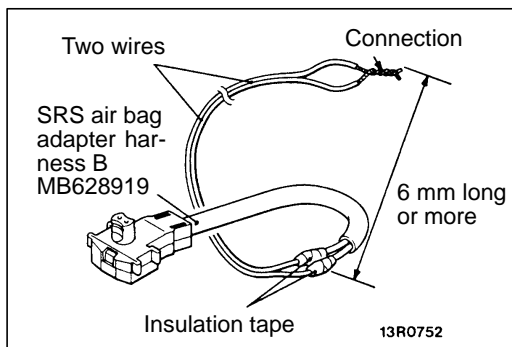
Wait at least 60 seconds after disconnecting the battery cables before doing any further work. (Refer to P.52B-3, No.4.)

2. Remove the air bag module from the vehicle. (Refer to P.52B-28.)

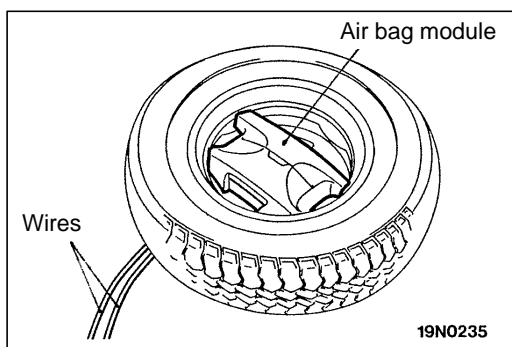
Caution

The air bag module should be stored on a flat surface and placed so that the pad cover face up. Do not place anything on top of it.

3. Connect two wires, each six meters long or more, to the two leads of SRS air bag adapter harness B, 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.



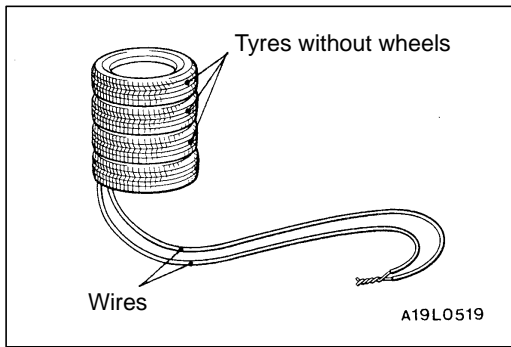
4. Install nuts that are no longer needed to the four bolts on the rear side of the air bag module, and tie on some thick wire to secure to the wheel.
5. Take the SRS air bag adaptor harness B that is connected to the wires, pass it beneath the tyre attached to a wheel, and connect it to the air bag module.



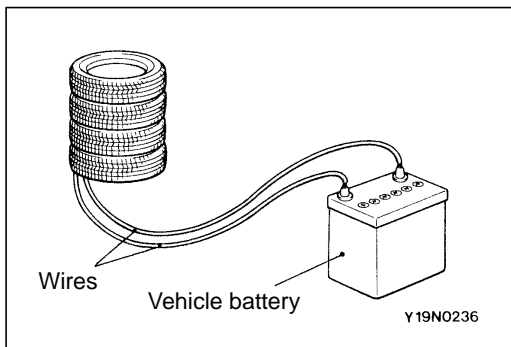
6. Insert the air bag module into the wheel, and secure it with the wires that are tied to the bolts, with the air bag facing upward.

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.



7. Place three old tyres with no wheels on top of the tyre secured to the air bag module.



8. 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.

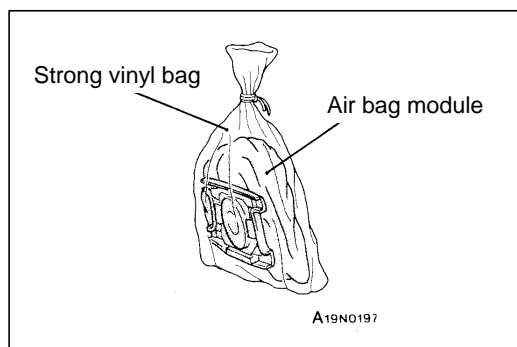
Caution

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. Refer to the Deployed Air Bag Module Disposal Procedures (P.52B-38) for post-deployment handling instructions.
3. If the air bag fails to deploy when the procedures above are followed, do not go near the module. Contact your local distributor.

DEPLOYED AIR BAG MODULE DISPOSAL PROCEDURES

After deployment or operation, the air bag module 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.
3. There may be, adhered to the deployed air bag module, material that could irritate the eye and/or skin, so wear gloves and safety glasses when handling a deployed air bag module. 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.



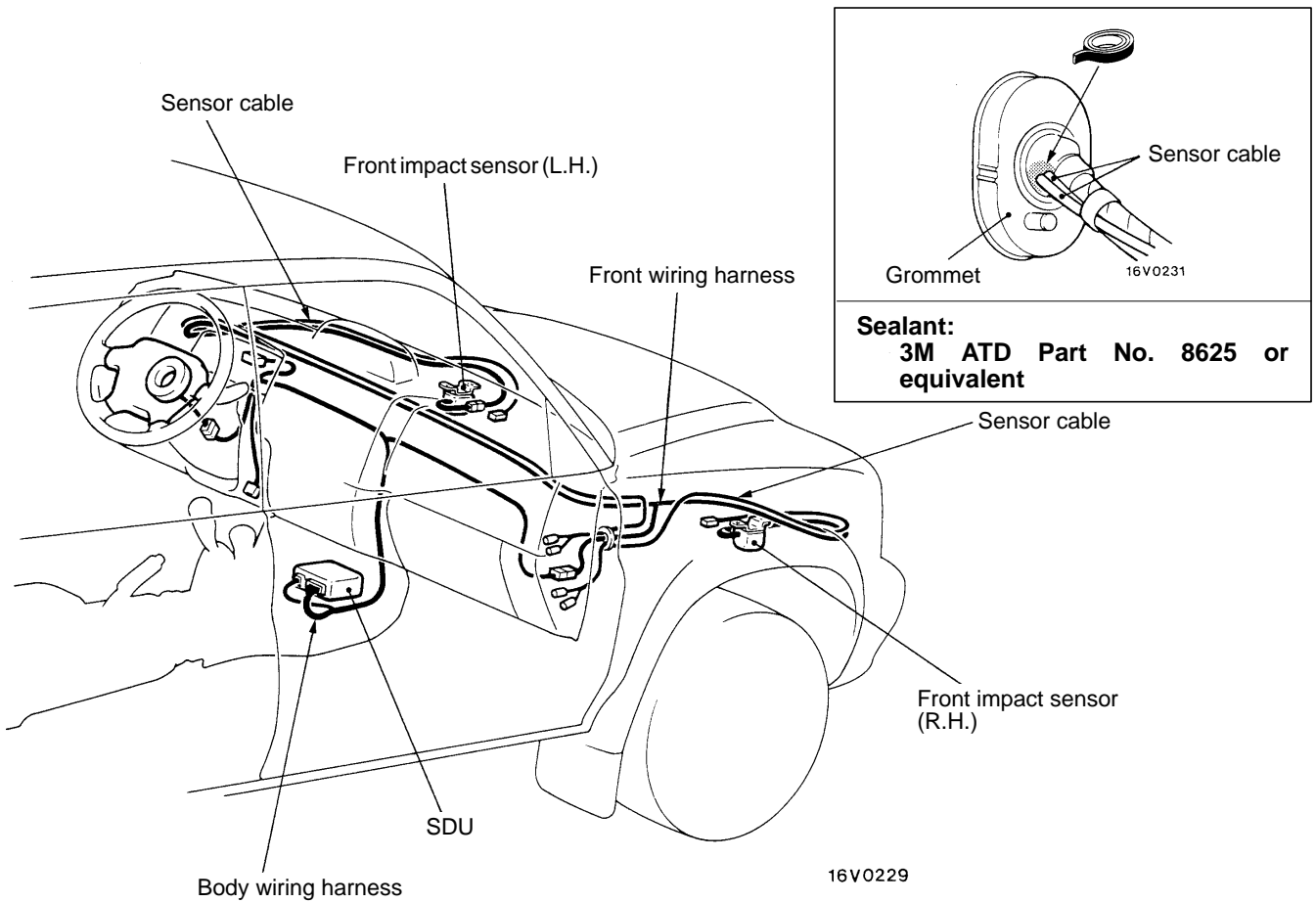
4. Tightly seal the air bag module in a strong vinyl bag for disposal.
5. Be sure to always wash your hands after completing this operation.

SENSOR CABLE INSTALLATION PROCEDURES

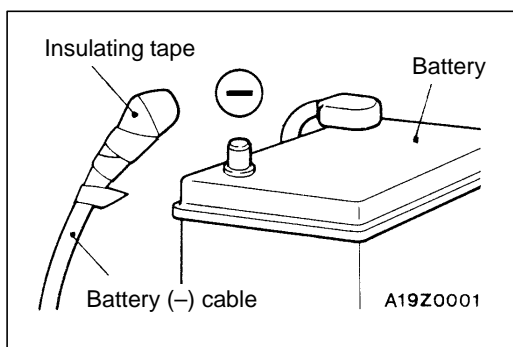
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If there is a malfunction in the front wiring harness between the front impact sensor and body wiring

harness, install the sensor cable. (Refer to P. 52B-4.)



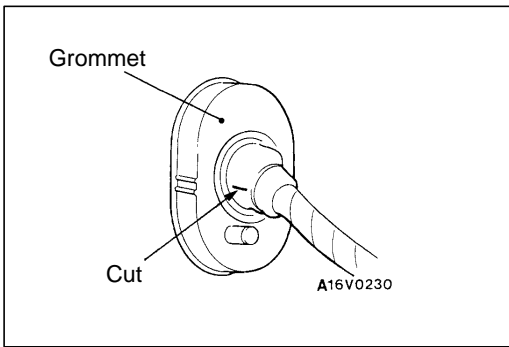
00005053



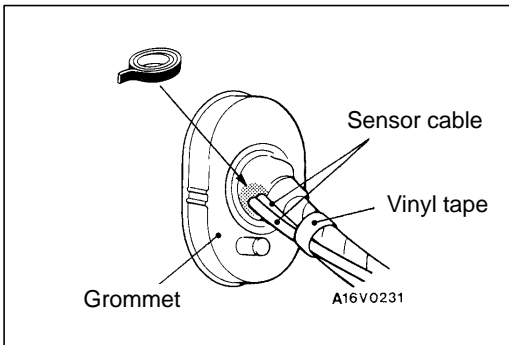
1. Disconnect the negative battery cable and tape the terminal.

Caution

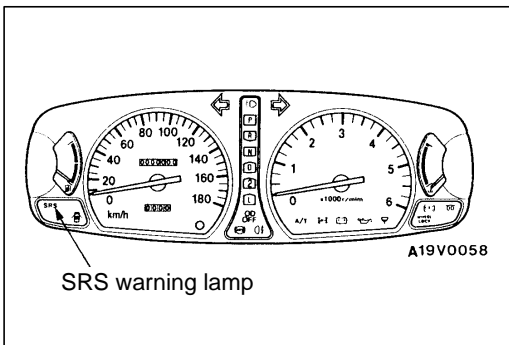
Wait at least 60 seconds after disconnecting the battery cable before doing any further work. (Refer to P. 52B-3, No. 4.)



2. Make a cut in the grommet in the place shown in the illustration, and pass the sensor cable through the cut.



3. Run the sensor cable along the front wiring harness, and then secure the cable to the harness with insulation tape.
4. Apply the specified sealant to the grommet cut portion.
5. Connect the sensor cable to the impact sensor and to the body wiring harness.



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 45 seconds after turning OFF?
4. If yes, SRS system is functioning properly. If no, consult page 52B-6.

GROUP 52B

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

GENERAL

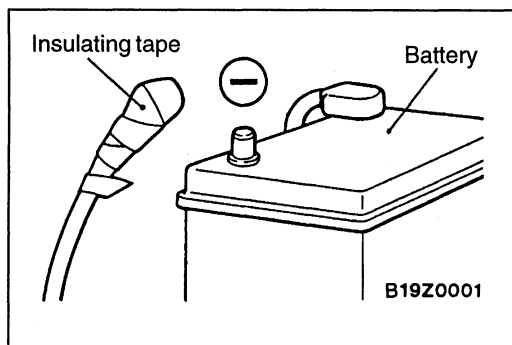
OUTLINE OF CHANGES

The SRS air bag control unit (SRS-ECU) has been modified due to passenger's air bag newly used. Also, driver's air bag module has been modified. Therefore, service procedures have been added, although the other procedures than the below remain the same as before.

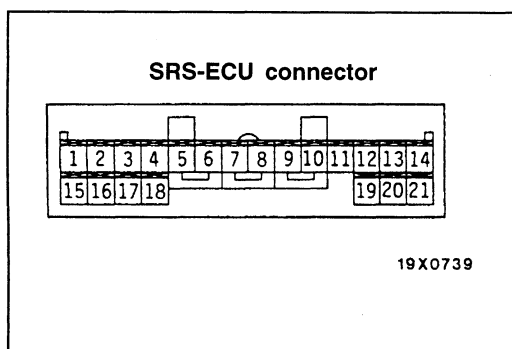
SRS SERVICE PRECAUTIONS

1. In order to avoid injury to yourself or others from accidental deployment of the air bag 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 the basic manual.
3. **Never Attempt to Repair the Following Components:**
 - SRS air bag control unit (SRS-ECU)
 - Front impact sensors
 - Clock Spring
 - Air Bag Modules (Driver's and front passenger's sides)

If these components are diagnosed as faulty, just replace in accordance with the **INDIVIDUAL COMPONENT SERVICE** procedures. Refer to P.52B-13.



After negative battery cable disconnection, wait at least 60 seconds before any further work. Also, wind the terminal with insulating tape. The SRS-ECU condenser retains enough voltage for some time to deploy the air bags even after the battery has been disconnected. So, doing any work in this period of time could result in unintended air bag deployment, leading to serious injury.



Do not repair the SRS air bag wiring harness connector. If faulty, just replace. If the wiring harness is faulty, replace or repair according to the following table.

SRS-ECU terminal No.	Harness connector (No. of terminals, colour)	Destination of harness	Corrective action
1 to 4	21 pins, yellow	–	–
5		Body wiring harness → Clock spring → Air bag module (Driver's side)	Repair or replace each wiring harness. Replace clock spring.
6			
7		Body wiring harness → Air bag module (Front passenger's side)	Repair or replace each wiring harness.
8			
9,10		–	–
11		Body wiring harness → Diagnosis connector	Repair or replace each wiring harness.
12, 17		Body wiring harness → Front wiring harness → Front impact sensor (L.H.)	Sensor cable* installation procedures
13		Body wiring harness → Junction block (fuse No.11)	Repair or replace each wiring harness.
14		Body wiring harness → Junction block (fuse No.10)	
15		Body wiring harness → SRS warning lamp	
16		–	–
18, 19		Body wiring harness → Front wiring harness → Front impact sensor (R.H.)	Sensor cable* installation procedures
20, 21		Body wiring harness → Earth	Repair or replace body wiring harness.

NOTE

*: The sensor cable is available as service part.

6. Do not expose the SRS components to heat over 93°C, so remove the SRS-ECU, air bag modules, clock spring and front impact sensors before drying or baking the vehicle after painting.
7. Whenever you finish servicing the SRS, check warning lamp operation to make sure that the system functions properly.
8. Make certain that the ignition switch is off when the MUT-II is connected and disconnected.
9. 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.

TROUBLESHOOTING**INSPECTION CHART FOR DIAGNOSIS CODES**

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

Code No.	Diagnosis item	Reference page	
11, 12, 13	Front impact sensor system	52B-4	
14	Analog G-sensor system in the SRS-ECU	52B-5	
15,16	Safing G-sensor system in the SRS-ECU	52B-5	
21, 22, 61, 62	Driver's air bag module (squib) system	52B-6	
24, 25, 64, 65	Front passenger's air bag module (squib) system	52B-7	
31, 32	SRS-ECU capacitor system	52B-5	
34*	Connector lock system	52B-7	
35	SRS-ECU (deployed air bag) system	52B-8	
41*	IG ₁ (A) power circuit system	52B-8	
42*	IG ₁ (B) power circuit system	52B-8	
43	SRS warning lamp drive circuit system	Lamp does not illuminate.*	52B-9
		Lamp does not switch off.	52B-9
44*	SRS warning lamp drive circuit system	52B-10	
45	SRS-ECU non-volatile memory (EEPROM) and A/D converter system	52B-5	
51, 52	Driver's air bag module (squib ignition drive circuit) system	52B-5	
54, 55	Front passenger's air bag module (squib ignition drive circuit) system	52B-5	

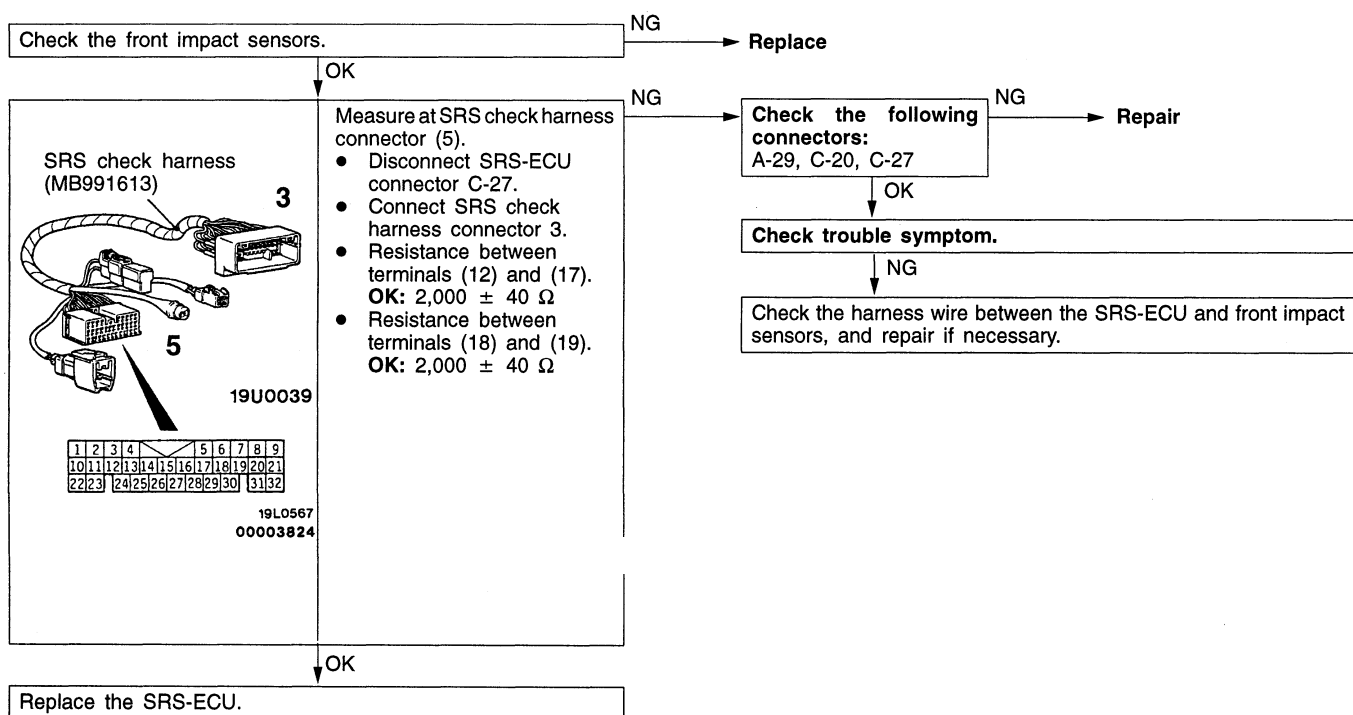
NOTE

- *: If the vehicle condition returns to normal, the diagnosis code is automatically erased, and the SRS warning lamp turns off.
- If the vehicle has a discharged battery, it stores the fault code 41 or 42. When either is displayed, check the battery.

INSPECTION PROCEDURE CLASSIFIED BY DIAGNOSIS CODE

Code No.11, 12 or 13 Front impact sensor system	Probable cause
These diagnostic trouble codes are output if there is abnormal resistance between the input terminals of the front impact sensors. The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> ● Malfunction of front impact sensors ● Malfunction of wiring harness of connectors ● Malfunction of SRS-ECU

Code No.	Trouble
11	<ul style="list-style-type: none"> ● Short circuit in front impact sensors or harness ● Short circuit in front impact sensors harness leading to the vehicle body ground ● Short circuit in front impact sensors harness leading to the power supply
12	<ul style="list-style-type: none"> ● Open circuit in either left or right front impact sensors or harness ● Short circuit in front impact sensors harness leading to the power supply
13	<ul style="list-style-type: none"> ● Open circuit in both left and right front impact sensors or harness ● Short circuit in front impact sensors harness leading to the power supply



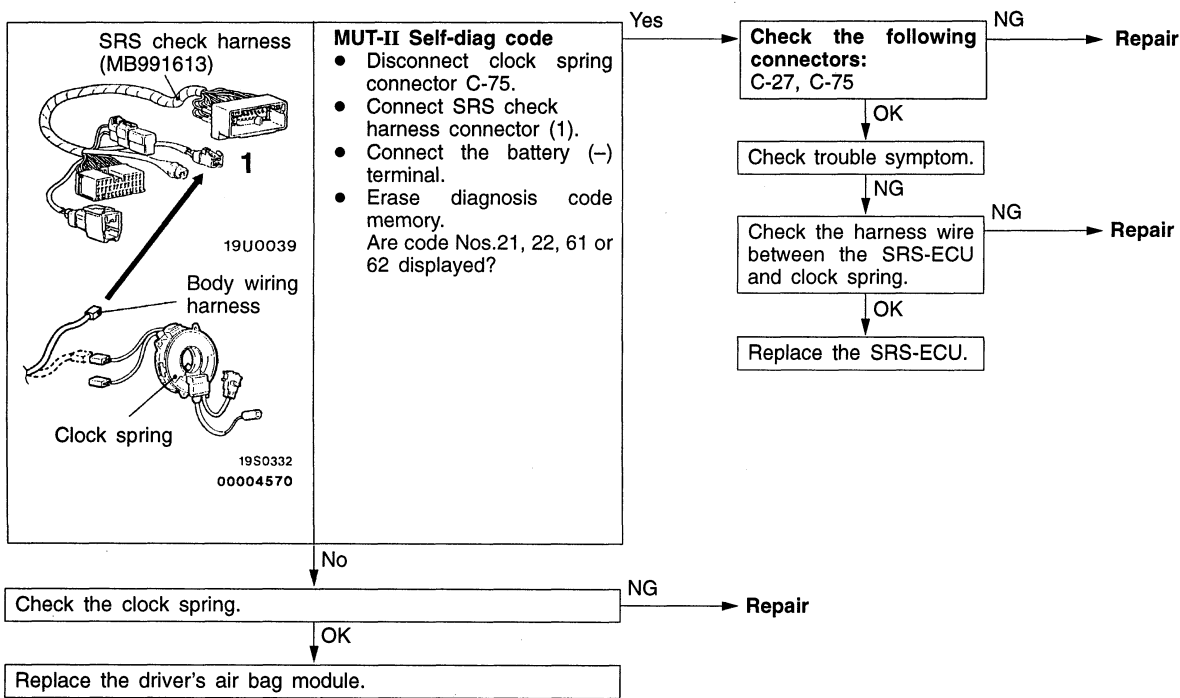
Code No.14, 15, 16, 31, 32, 45, 51, 52, 54, 55 System inside SRS-ECU	Probable cause
These diagnostic trouble codes are displayed when a fault is detected in the SRS-ECU. The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> • Malfunction of SRS-ECU

Code No.	Defective part	Trouble
14	Analog G-sensor	<ul style="list-style-type: none"> • When the analog G-sensor is not operating • When the characteristics of the analog G-sensor are abnormal • When the output from the analog G-sensor is abnormal
15	Safing G-sensor	<ul style="list-style-type: none"> • Short circuit in the safing G-sensor
16		<ul style="list-style-type: none"> • Open circuit in the safing G-sensor
31	Capacitor	<ul style="list-style-type: none"> • Voltage at the capacitor terminal is higher than the specified value for five seconds or more
32		<ul style="list-style-type: none"> • Voltage at the capacitor terminal is lower than the specified value for five seconds or more (this is not detected if diagnostic trouble code No.41 or 42 indicating battery voltage drop has been output.)
45	Non-volatile memory (EEPROM) and A/D converter	<ul style="list-style-type: none"> • When the non-volatile memory (EEPROM) and A/D converter system are abnormal
51	Driver's air bag module (squib ignition drive circuit)	<ul style="list-style-type: none"> • Short circuit in the squib ignition drive circuit
52		<ul style="list-style-type: none"> • Open circuit in the squib ignition drive circuit
54	Front passenger's air bag module (squib ignition drive circuit)	<ul style="list-style-type: none"> • Short circuit in the squib ignition drive circuit
55		<ul style="list-style-type: none"> • Open circuit in the squib ignition drive circuit

Replace the SRS-ECU.

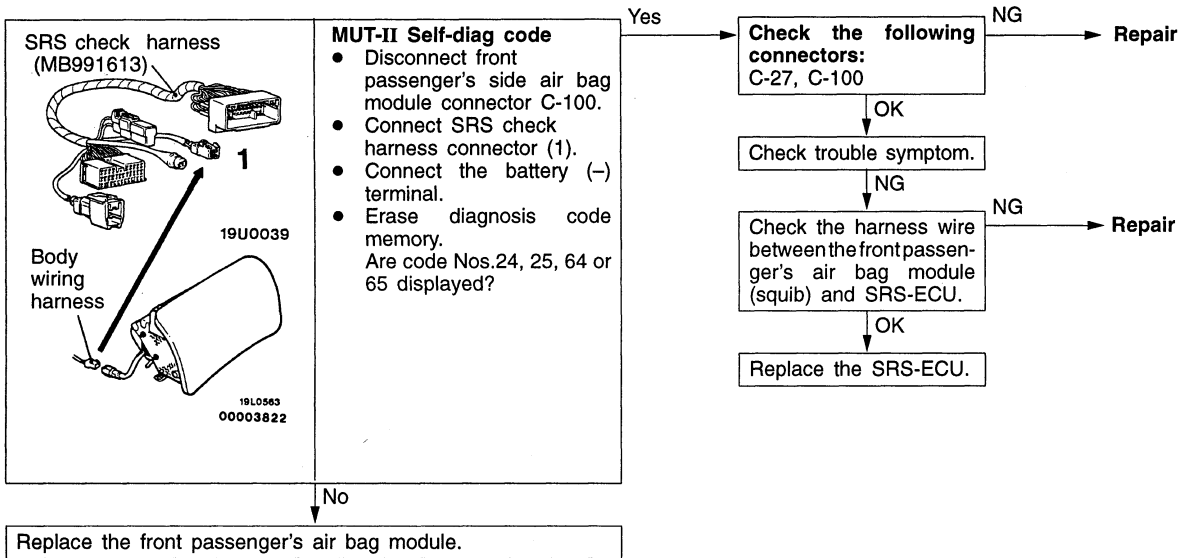
Code No.21, 22, 61 or 62 Driver's air bag module (squib) system	Probable cause
These diagnosis codes are displayed if there is abnormal resistance between the input terminals of the driver's air bag module (squib). The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: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

Code No.	Trouble
21	<ul style="list-style-type: none"> ● Short in driver's air bag module (squib) or harness short ● Short in clock spring
22	<ul style="list-style-type: none"> ● Open circuit in driver's air bag module (squib) or open harness ● Open circuit in clock spring ● Poor connector contact
61	<ul style="list-style-type: none"> ● Short in driver's air bag module (squib) harness leading to the power supply
62	<ul style="list-style-type: none"> ● Short in driver's air bag module (squib) harness leading to the earth

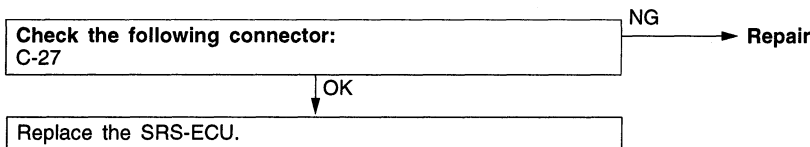


Code No.24, 25, 64 or 65 Front passenger's side air bag module (squib) system	Probable cause
These diagnosis codes are displayed if there is abnormal resistance between the input terminals of the driver's air bag module (squib). The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: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

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



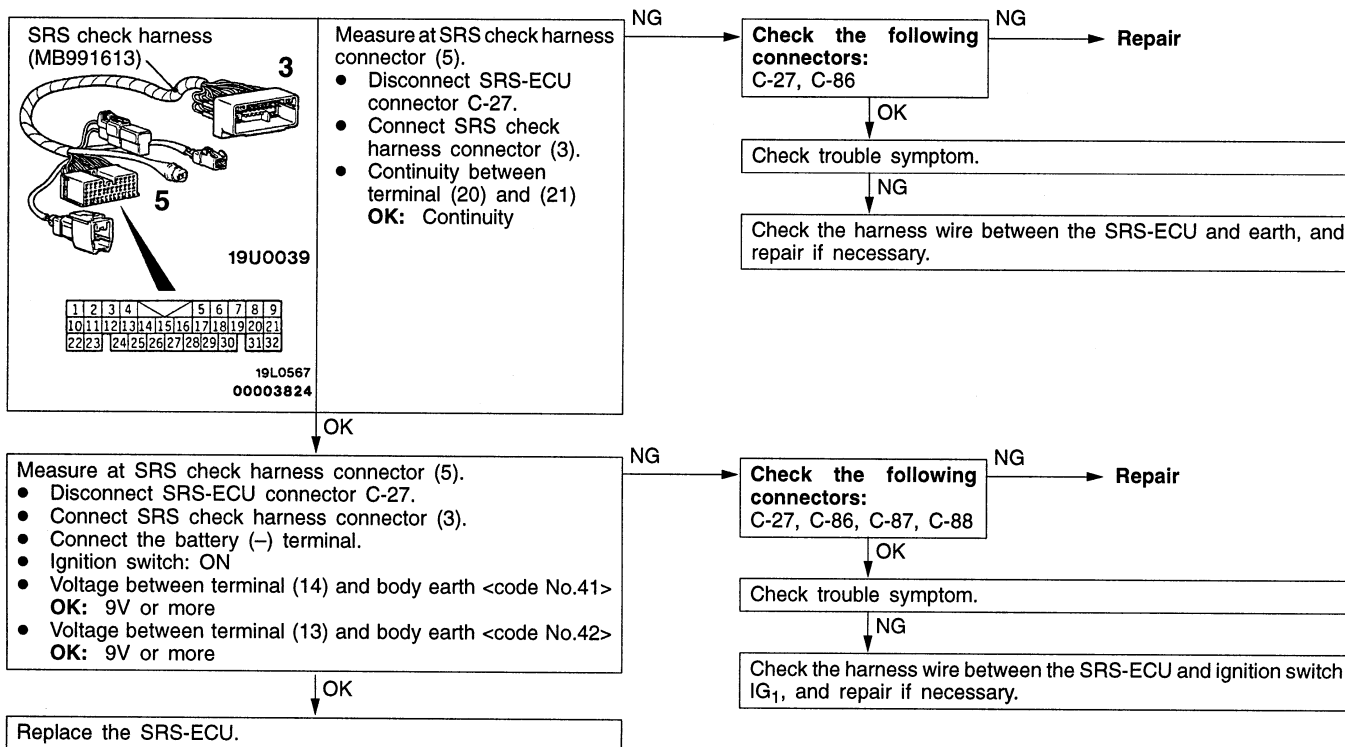
Code No.34 Connector lock system	Probable cause
This diagnosis code is displayed if a poor connection of the SRS-ECU is detected. However, if the vehicle condition returns to normal, diagnosis code No.34 will be automatically erased, and the SRS warning lamp will switch off.	<ul style="list-style-type: none"> • Malfunction of connectors • Malfunction of SRS-ECU



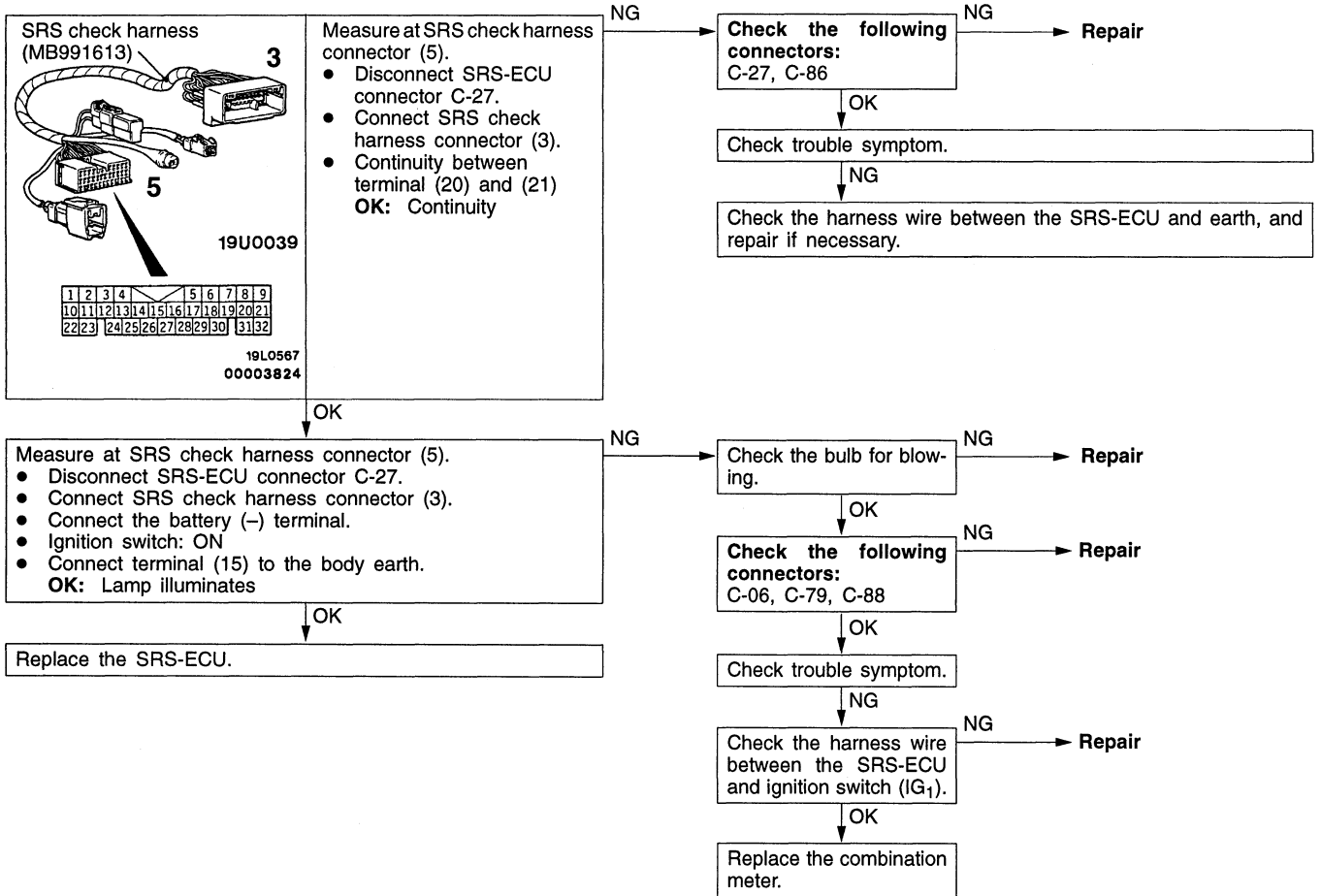
Code No.35 SRS-ECU (deployed air bag) system	Probable cause
This diagnosis code is displayed after the air bag deploys. If this code is output before the air bag has deployed, the cause is probably a malfunction inside the SRS-ECU.	<ul style="list-style-type: none"> Malfunction of SRS-ECU

Replace the SRS-ECU.

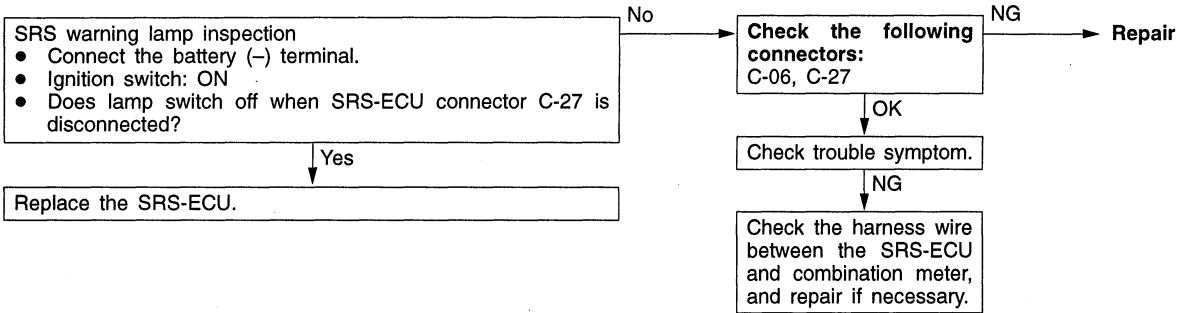
Code No.41 Power circuit system (fuse No.10 circuit)	Probable cause
Code No.42 Power circuit system (fuse No.11 circuit)	
<p>Code No.41 is displayed if the voltage between the IG₁ terminal (SRS-ECU, terminal 14) and the earth is lower than the specified value for a continuous period of five seconds or more.</p> <p>Code No.42 is displayed if the voltage between the IG₁ terminal (SRS-ECU, terminal 13) and the earth is lower than the specified value for a continuous period of five 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 harness or connectors Malfunction of SRS-ECU



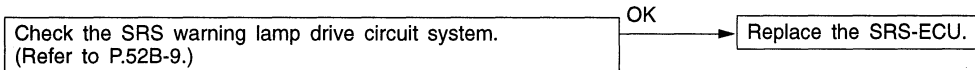
Code No.43 SRS warning lamp drive circuit system (Lamp does not illuminate.)	Probable cause
<p>This diagnosis code is displayed when an open circuit occurs for a continuous period of 5 seconds while the SRS-ECU in monitoring the SRS warning lamp and the lamp is OFF (transistor OFF). However, if this code is displayed 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 displayed 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 displayed 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.	<ul style="list-style-type: none"> ● Malfunction of wiring harnesses or connectors ● Malfunction of SRS-ECU



POST-COLLISION DIAGNOSIS

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

SRS DIAGNOSIS UNIT MEMORY CHECK

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

Caution

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

2. Read (and write down) all displayed diagnosis codes. (Refer to P. 52B-3.)

NOTE

If the battery power supply has been shut by the collision, the MUT-II cannot communicate with the SRS diagnosis unit. 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	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-3.)

REPAIR PROCEDURE

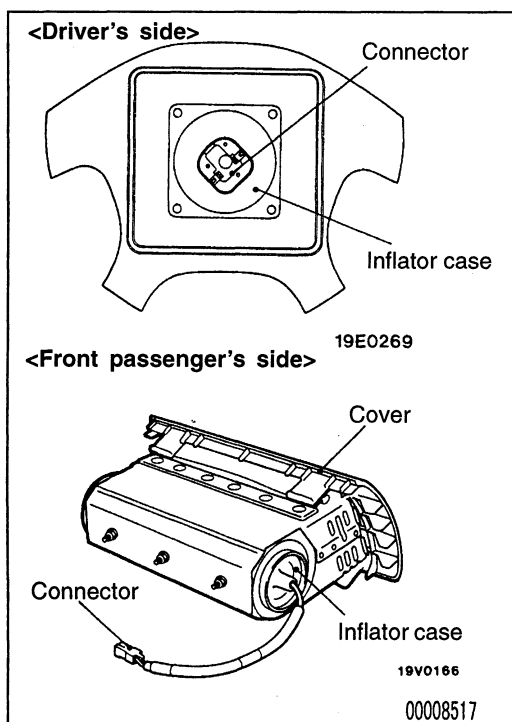
WHEN AIR BAGS DEPLOY IN COLLISION

1. Replace the following parts with new ones.
 - SRS-ECU (Refer to P.52B-14.)
 - Air bag modules (driver's and front passenger's sides) (Refer to P.52B-15.)
 - Front impact sensors

2. Check the following parts and replace if malfunction is present.
 - Clock spring
 - Steering wheel, steering column and intermediate joint
 - (1) Check the wiring harness (built into steering wheel) and connectors for damage, and terminals for deformation.
 - (2) Install the air bag module (driver's side) to check fit or alignment with the steering wheel.
 - (3) Check the steering wheel for noise, binds or difficult operation and excessive free play.
3. Check the harnesses for binding, the connectors for damage and poor connection, and the terminals for deformation.
(Refer to P.52B-1.)

WHEN AIR BAGS DO NOT DEPLOY IN LOW-SPEED COLLISION

Check the SRS components. If the SRS components 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-13.



Air bag modules

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

INDIVIDUAL COMPONENT SERVICE

If the SRS components are to be removed or replaced as a result of maintenance, troubleshooting, and so on, follow each procedure (P.52B-14 – P.52B-18.)

Caution

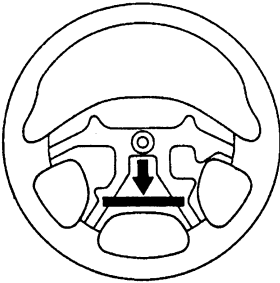
1. Do not expose the SRS components to heat over 93°C, so remove the SRS diagnosis unit, air bag modules, clock spring and front impact sensors before drying or baking the vehicle after painting.
2. If the SRS components are removed for the purpose of check, sheet metal repair, painting, and so on, store them in a clean, dry place until they are reinstalled.

WARNING/CAUTION LABELS

Caution labels relating to the SRS are found in the vehicle, as shown below. Follow label

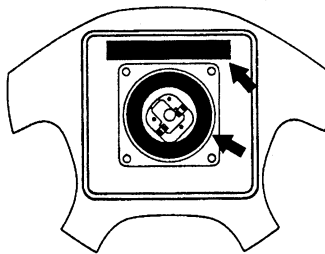
instructions when servicing SRS. If the labels are dirty or damaged, replace them with new ones.

Steering wheel



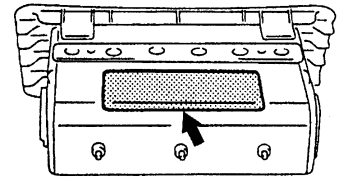
19E0267

Air bag module (driver's side)



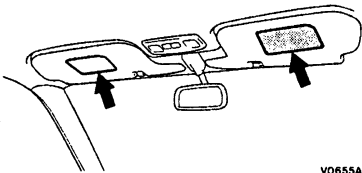
19E0268

Air bag module (front passenger's side)



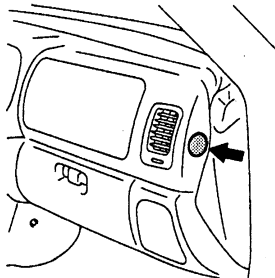
19V0127

Sun visor



V0655AA

Instrument panel



V0656AA

00008516

SRS AIR BAG CONTROL UNIT (SRS-ECU)

Caution

1. Disconnect the negative battery terminal and wait at least 60 seconds before any further work. Also, wind the disconnected terminal with insulating tape. (Refer to P.52B-1.)
2. Never disassemble or repair the SRS-ECU. If faulty, replace.
3. Do not drop or subject the SRS-ECU to impact or vibration.

If dents, cracks, deformation, or rust are discovered in the SRS-ECU, replace it with a new SRS-ECU. Discard the old one.

4. After deployment of the air bags, replace the SRS-ECU with a new one.
5. Never use an ohmmeter on or near the SRS-ECU. Use only the special test equipment described on the basic manual.

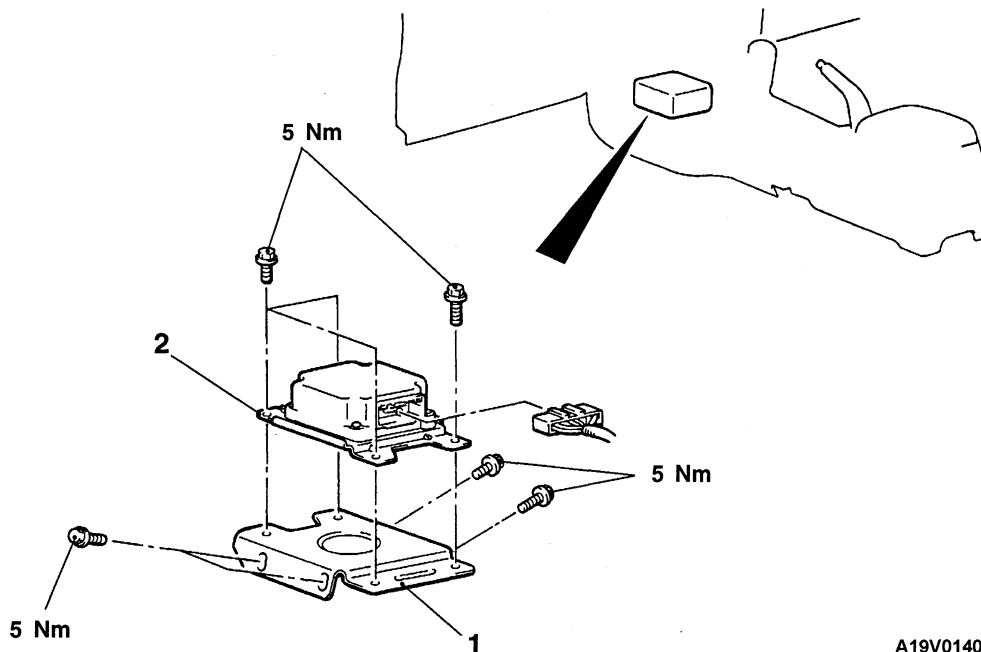
REMOVAL AND INSTALLATION

Pre-removal Operation

- Turn the ignition key to "LOCK".
- Floor Console Removal

Post-installation Operation

- Floor Console Installation



A19V0140

Removal steps

- B◄
- Post-installation inspection
 - Negative battery cable connection
1. SRS-ECU bracket

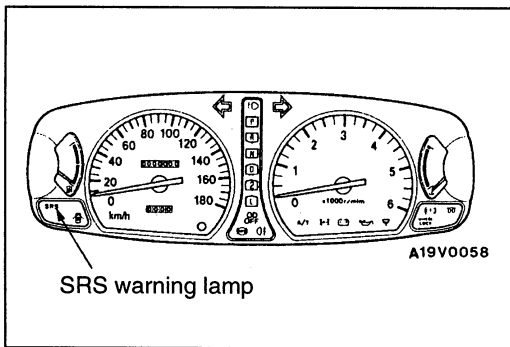
- A◄ 2. SRS-ECU

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◄ POST-INSTALLATION INSPECTION

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

INSPECTION

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

Caution

If dents, cracks, deformation or rust are 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-3.)

AIR BAG MODULES

Caution

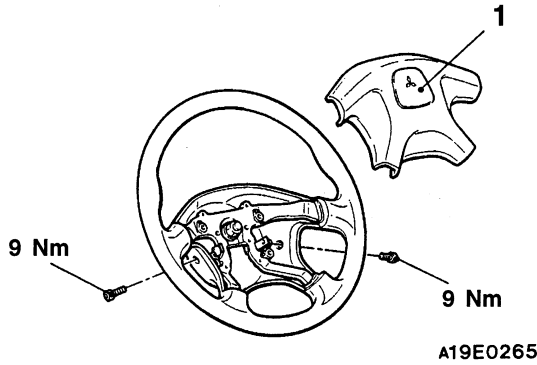
1. Disconnect the negative battery terminal and wait at least 60 seconds before any further work. Also, wind the disconnected terminal with insulating tape. (Refer to P.52B-1)
2. Never disassemble or repair the air bag modules.
If faulty, replace.
3. Do not drop the air bag modules or allow contact with water, grease or oil. Replace if dents, cracks, deformation or rust are detected.
4. Store the air bag modules on a flat surface with the pad covers upwards.
Do not place anything on top of them.
5. Do not expose the air bag modules to heat over 93°C.
6. After deployment of the air bags, replace the air bag modules.
7. Wear gloves and safety glasses when handling the deployed air bags.
8. Dispose of undeployed air bag modules in accordance with the procedures (Refer to P.52B-19.)

REMOVAL AND INSTALLATION

<Air bag module (driver's side)>

Pre-removal Operation

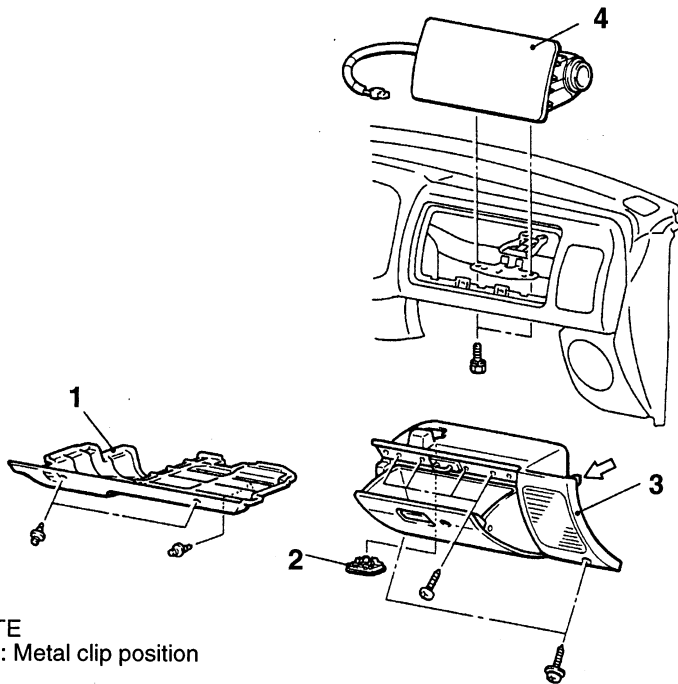
- After setting the steering wheel and the front wheels to the straight ahead position, remove the ignition key.



Air bag module removal steps

- | | | |
|--|------------|---|
| <p>▶C◀</p> <ul style="list-style-type: none"> • Post-installation inspection • Negative battery cable connection | <p>◀A▶</p> | <p>▶A◀</p> <ul style="list-style-type: none"> 1. Air bag module • Pre-installation inspection |
|--|------------|---|

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

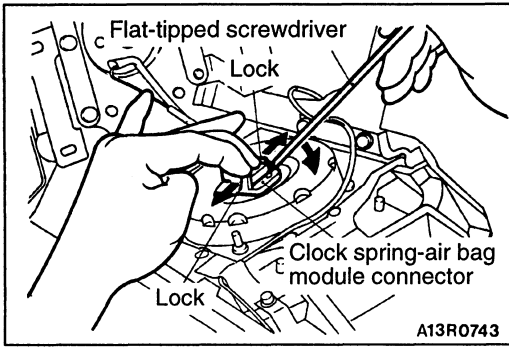


NOTE
 ◁ : Metal clip position

AV0657AA

Air bag module removal steps

- | | | |
|--|------------|--|
| <p>▶C◀</p> <ul style="list-style-type: none"> • Post-installation inspection • Negative battery cable connection | <p>▶B◀</p> | <p>2. Connector plug</p> |
| <p>1. Under cover</p> | <p>◀B▶</p> | <p>3. Glove box assembly</p> |
| | <p>▶A◀</p> | <p>4. Air bag module</p> <ul style="list-style-type: none"> • Pre-installation inspection |



REMOVAL SERVICE POINTS

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

When disconnecting the clock spring-air bag module connector, push the air bag lock outwards to spread. Then, pry out the connector gently, using a flat-tipped screwdriver, as shown.

Caution

- (1) When disconnecting the clock spring - air bag module connector, take care not to apply excessive force.
- (2) Store the air bag module in a flat surface with the pad cover upwards.

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

Caution

Store the air bag module in a flat surface with the pad cover upwards.

INSTALLATION SERVICE POINTS

▶A◀ PRE-INSTALLATION INSPECTION

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

Caution

Dispose of the old air bag modules only according to the specified procedure. (Refer to P.52B-19.)

2. Connect the negative 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 and disconnected.

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

Caution

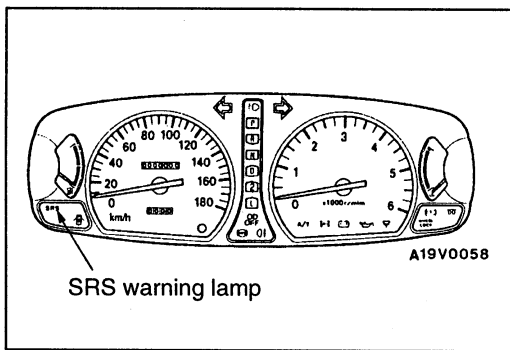
Wait at least 60 seconds after disconnecting the battery cable before doing any further work. (Refer to P.52B-1.)

►B◀CONNECTOR PLUG INSTALLATION

Install the combined connectors of passenger's air bag module and the body wiring harness behind the connector plug. Then, install the connector plug to the glove box assembly.

►C◀POST-INSTALLATION INSPECTION

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

**INSPECTION****AIR BAG MODULE CHECK**

If any improper part is found during the following inspection, replace the air bag modules with a new one. Dispose the old one according to the specified procedure. (Refer to P.52B-19.)

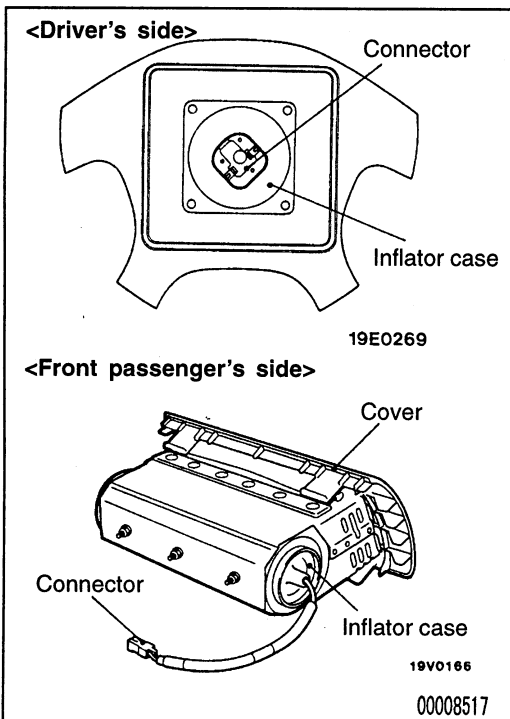
Caution

Never attempt to measure 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 bag deployment will result in serious personal injury.

1. Check the pad cover for dents, cracks or deformation.
2. Check the connectors for damage, the terminals for deformation, and the harness for binds.
3. Check the 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 steering wheel.
5. Install the air bag module (front passenger's side) to the instrument panel and crossmember. Then, check fit and alignment.
6. Install the air bag module cover (front passenger's side) to the instrument panel to 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 procedures. (Refer to P.52B-19.)



AIR BAG MODULE (FRONT PASSENGER’S SIDE) DISPOSAL PROCEDURES

Before disposing of the air bag or the vehicle equipped with it, follow these procedures below to deploy the air bag.

UNDEPLOYED AIR BAG MODULE (FRONT PASSENGER’S SIDE) DISPOSAL

Caution

1. If the vehicle is to be scrapped or otherwise disposed of, deploy the air bags inside the vehicle. If the vehicle is used and only the air bag modules is disposed of, deploy the air bags outside the vehicle.
2. Since a large amount of smoke is produced when the air bag is deployed, avoid residential areas whenever possible.
3. Since there is loud noise when the air bags are deployed, avoid residential areas whenever possible. If anyone is nearby, give warning of the impending noise.
4. Personnel performing these procedures or nearby people must wear ear plugs.

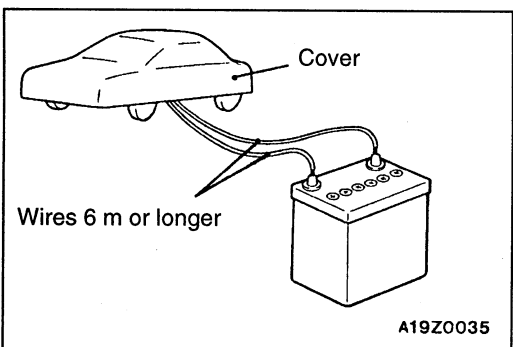
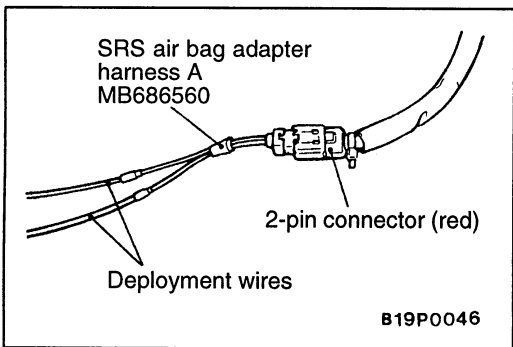
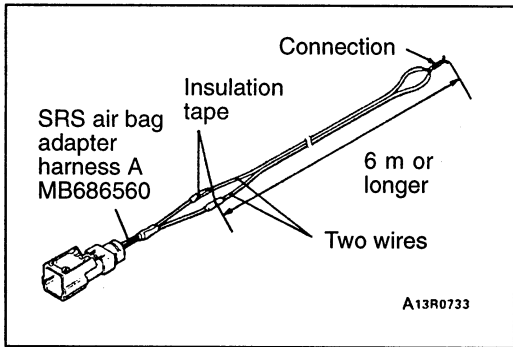
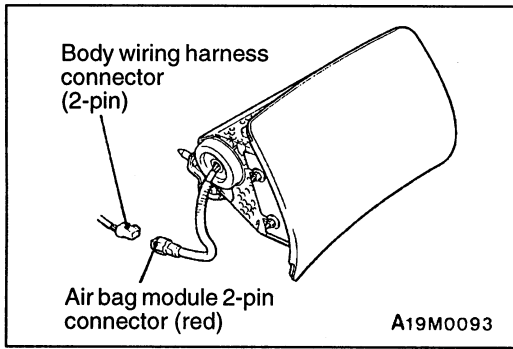
DEPLOYMENT INSIDE THE VEHICLE

(when disposing of a vehicle)

1. Open all windows and doors of the vehicle. 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-1.)



3. To deploy the air bag module:
 - (1) Remove the glove box. (Refer to P.52B-16.)
 - (2) Remove the connection between the air bag module 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 is automatically shorted to prevent unintended deployment of the air bag due to static electricity, and so on.

4. 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. Connect the other ends of the two wires to each other (short-circuited), to prevent sudden unexpected deployment of the air bag.

5. Connect the air bag module 2-pin connector (red) to SRS air bag adapter harness A and pass the deployment wires out of the vehicle.

6. Close all the doors with the windows closed 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.

7. 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 that no one is 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 Disposal Procedures (P.52B-23) for post-deployment handling instructions.

52B-21 SRS – Air Bag Module (Front Passenger’s Side) Disposal Procedures

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.
8. After deployment, dispose of the air bag module according to the Deployed Air Bag Module (Front Passenger’s Side) Disposal Procedures. (Refer to P.52B-23.)

DEPLOYMENT OUTSIDE THE VEHICLE

Caution

1. This must be carried out in a wide, flat area at least 6 m away from obstacles and other people.
2. Do not deploy the air bag outside if a strong wind is blowing. Even in a slight breeze, deploy the air bag module downwind from the battery.
1. Disconnect the negative and positive battery cables from the battery terminals, and then remove the battery from the vehicle.

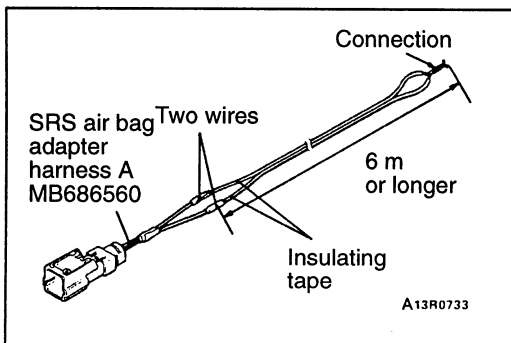
Caution

Wait at least 60 seconds after disconnecting the battery cables before doing any further work. (Refer to P.52B-1.)

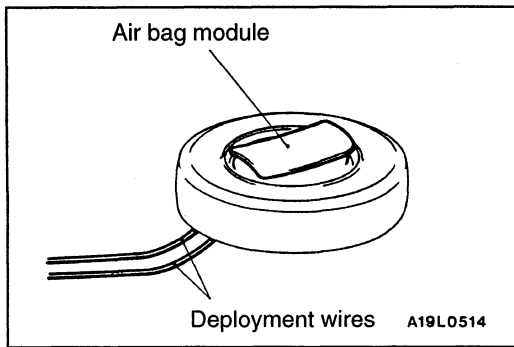
2. Remove the air bag module from the vehicle. (Refer to P.52B-16.)

Caution

Store the air bag module on a flat surface with the pad cover upwards. Do not place anything on it.



3. Connect two wires, each six meters or longer, to the two leads of SRS air bag adapter harness A, and cover the connection with insulating tape. Connect the other ends of the two wires to each other (short-circuited), to prevent sudden unexpected deployment of the air bag module.



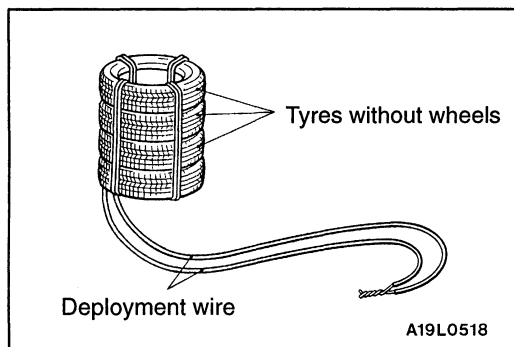
4. Set the air bag module as follow:
 - (1) Connect the deployment wires to the SRS air bag adaptor harness A, pass it beneath the tyre, and wheel assembly, and connect it to the air bag module.
 - (2) Pass the thick wires into the hole of the air bag module bracket, and secure it to the wheel of the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

Caution

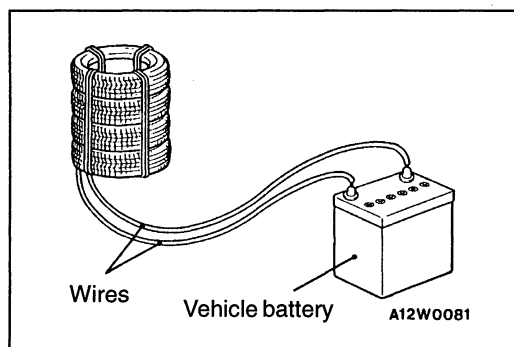
- 1) **Leave some space below the wheel for the deployment wires.**

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

- 2) **Position the connector of the SRS air bag adaptor harness A so as not to be caught under the tyre while deployment takes place.**



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



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 that no one is nearby.**
- (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 (Front passenger’s side) Disposal Procedures (P.52B-23) for post-deployment handling instructions.**

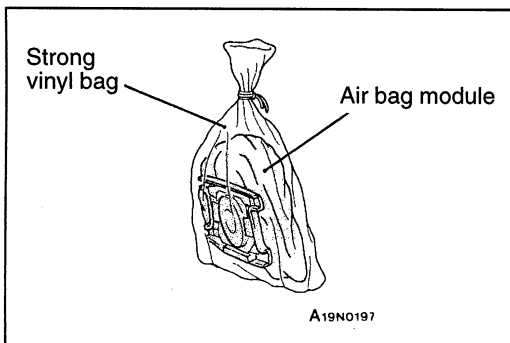
- (3) If the air bag fails to deploy when the procedures above are followed, do not go near the module. Contact your local distributor.
6. After deployment, dispose of the air bag module according to the Deployed Air Bag Module Disposal Procedures.

DEPLOYED AIR BAG MODULE (FRONT PASSENGER’S SIDE) DISPOSAL PROCEDURES

After deployment, dispose of the air bag module 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.
3. There may be, adhered to the deployed air bag module, material that could irritate the eye and/or skin, so wear gloves and safety glasses when handling a deployed air bag module. 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 in a strong vinyl bag for disposal.
5. Be sure to always wash your hands after completing this operation.



SERVICE BULLETIN

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

SERVICE BULLETIN		No.: ESB-97E52-502	
		Date: 1997-09-26	
Subject:	CORRECTION TO CAUTION ON AIR BAG MODULE AND CLOCK SPRING	<Model> (EC,EXP) ECLIPSE (D30)	<M/Y> 96-10
Group:	SUPPLEMENTAL RESTRAIN	(EC,EXP) L2000 (K60, K70)	96-10
CORRECTION		(EC,EXP) CARISMA	96-10
<small>O. Kai - E.V.P. & G.M. After Sales Service Dept.</small>			

1. Description:

This Service Bulletin informs you that caution on air bag module and clock spring has been corrected.

2. Applicable Manuals:

Manual	Pub. No.	Language	Page(s)
'96 CARISMA Workshop Manual chassis	PWDE9502	(English)	52B-22
	PWDS9503	(Spanish)	
	PWDF9504	(French)	
	PWDG9505	(German)	
	PWDD9506	(Dutch)	
	PWDW9507	(Swedish)	
	PWDI96E1	(Italian)	
'96 ECLIPSE Workshop Manual chassis	PWUE95E1	(English)	52B-24
	PWUS95E1	(Spanish)	
	PWUF95E1	(French)	
	PWUG95E1	(German)	52B-25
	PWUD95E1	(Dutch)	
	PWUI95E1	(Italian)	
'97 L200 Workshop Manual chassis	PWTE96E1	(English)	52B-28
	PWTS96E1	(Spanish)	
	PWTF96E1	(French)	
	PWTG96E1	(German)	

3. Details:

'96 CARISMA Workshop Manual chassis, Page 52B-22

'96 ECLIPSE Workshop Manual chassis, Page 52B-24

'97 L200 Workshop Manual, Page 52B-28

INSPECTION

- Check the SRS-ECU and brackets for dents, cracks or deformation.
- Check connectors and lock lever 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-5.)

AIR BAG MODULES AND CLOCK SPRING

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. ~~After deployment of an air bag, replace the clock spring with a new one.~~
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-31.)

<Correct>

After deployment of an air bag, replace the air bag modules. Check the clock spring, and if faulty, replace it with a new part.

AIR BAG MODULES AND CLOCK SPRING

Caution

1. Disconnect the negative battery cable from the battery and tape the terminal

Caution

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

2. Never attempt to disassemble or repair the air bag module or clock spring. If faulty, replace it.
3. Do not drop the air bag module or clock spring or allow contact with water, grease or oil. Replace it if a dent, cracks deformation or rust are 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 the air bag modules.

5. Do not expose the air bag module to temperature over 93° C. **<Incorrect>**

6. **After deployment of an air bag, replace the clock spring.**

7. Wear gloves and safety goggles when handling an air bag that has deployed.

8. An undeployed air bag module should only be disposed of in accordance with the specified procedures. (Refer to P.52B-30)

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REMOVAL AND INSTALLATION

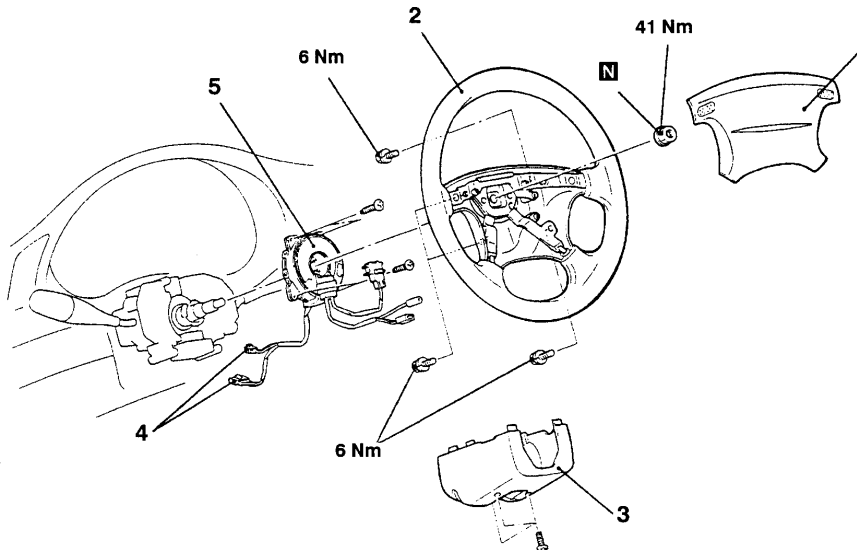
<Air bag module (Driver's side), Clock spring>

Pre-removal Operation

Set the steering wheel and the front wheels to the straight ahead position, and then remove the ignition key.

After deployment of an air bag, replace the air bag modules. Check the clock spring, and if faulty, replace it with a new part.

<Correct>



S19X0566

Clock spring removal steps

- ▶E◀ • Post-installation inspection
- ▶D◀ • Negative (-) battery cable connection
- ◀A▶ ▶C◀ 1. Air bag module (Driver's side)
- ◀B▶ ▶C◀ 2. Steering wheel
- ▶C◀ 3. Column cover lower
- ▶B◀ 4. Clock spring and body wiring harness connection
- ▶B◀ 5. Clock spring
- ▶A◀ • Pre-installation inspection

Air bag module (Driver's side) removal steps

- ▶E◀ • Post-installation inspection
- ▶D◀ • Negative (-) battery cable connection
- ▶D◀ 2. Air bag module (Driver's side)
- ▶A◀ • Pre-installation inspection

INSPECTION

- Check the SDU 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 SDU with a new one.

NOTE

For checking of the SDU other than described above, refer to the section concerning troubleshooting. (Refer to P.52B-6.)

AIR BAG MODULES AND CLOCK SPRING

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.
4. 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. **<Incorrect>**
6. **After deployment of an air bag, replace the clock spring with a new one.**
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-31.)

After deployment of an air bag, replace the air bag modules. Check the clock spring, and if faulty, replace it with a new part.

<Correct>



SERVICE BULLETIN

QUALITY INFORMATION ANALYSIS
OVERSEAS SERVICE DEPT. MITSUBISHI MOTORS CORPORATION

SERVICE BULLETIN		No.: MSB-97E52-001	
		Date: 1997-04-30	<Model> <M/Y>
Subject: ADDITION OF SRS AIR BAG MAINTENANCE PROCEDURE		ALL MODELS	91-10
Group: INTERIOR	Draftno: 96-AL-022		
INFORMATION	OVERSEAS SERVICE DEPT	 R. USAMI - MANAGER QUALITY INFORMATION ANALYSIS	

1. Description:

In the SRS air bag troubleshooting, items of cause of trouble in the inspection procedure for each diagnostic trouble code, have been added.

2. Applicable Vehicles:

- '91~'10 SIGMA
- '92~'10 3000GT
- '91~'10 COLT/LANCER
- '93~'10 GALANT
- '92~'10 SPACE RUNNER/SPACE WAGON
- '95~'10 L400
- '91~'10 PAJERO/MONTERO
- '97~'10 L200

3. Applicable Manuals:

Manual	Pub. No.	Language	Page(s)
SIGMA Workshop Manual chassis	PWGE9004-G	(English)	52B-14
	PWGS9005-F	(Spanish)	
	PWGF9006-F	(French)	
	PWGG9007-F	(German)	
	PWGD9008-F	(Dutch)	
	PWGW900-F	(Swedish)	
3000GT Workshop Manual chassis	PWUE9119-D	(English)	52B-12
'97 3000GT Workshop Manual chassis Supplement	PWUE9119-F	(English)	52B-6
COLT/LANCER Workshop Manual chassis	PWME9117-D	(English)	52B-12
	PWMS9118-D	(Spanish)	
	PWMF9119-D	(French)	
	PWMG9120-D	(German)	
	PWMD9121-D	(Dutch)	
	PWMW9122-D	(Swedish)	

Manual	Pub. No.	Language	Page(s)
95' COLT/LANCER Workshop Manual chassis Supplement	PWME9117-E	(English)	52B-7
	PWMS9118-E	(Spanish)	
	PWMF9119-E	(French)	
	PWVG9120-E	(German)	
	PWMD9121-E	(Dutch)	
	PWMW9122-E	(Swedish)	
'97 COLT/LANCER Workshop Manual chassis Supplement	PWME9117-F	(English)	52B-5
	PWMS9118-F	(Spanish)	
	PWMF9119-F	(French)	
	PWVG9120-F	(German)	
	PWMD9121-F	(Dutch)	
	PWMW9122-F	(Swedish)	
'96 COLT/LANCER Workshop Manual chassis	PWME9511	(English)	52B-8
	PWMS9512	(Spanish)	
	PWMF9513	(French)	
	PWVG9514	(German)	
	PWMD9515	(Dutch)	
	PWMW9516	(Swedish)	
GALANT Workshop Manual chassis	PWDE9211-B	(English)	52B-13
	PWDS9212-B	(Spanish)	
	PWDF9213-B	(French)	
	PWDG9214-B	(German)	52B-11
	PWDD9215-B	(Dutch)	52B-13
	PWDW9216-B	(Swedish)	
'96 GALANT Workshop Manual chassis Supplement	PWDE9211-D	(English)	52B-7
	PWDS9212-D	(Spanish)	
	PWDF9213-D	(French)	
	PWDG9214-D	(German)	
	PWDD9215-D	(Dutch)	
	PWDW9216-D	(Swedish)	
SPACE RUNNER/SPACE WAGON Workshop Manual chassis	PWDE9104-D	(English)	52B-9
	PWDS9105-D	(Spanish)	
	PWDF9106-D	(French)	
	PWDG9107-D	(German)	
	PWDD9108-D	(Dutch)	
	PWDW9109-D	(Swedish)	
'95 SPACE RUNNER/SPACE WAGON Workshop Manual chassis Supplement	PWDE9104-E	(English)	52B-8
	PWDS9105-E	(Spanish)	
	PWDF9106-E	(French)	
	PWDG9107-E	(German)	
	PWDD9108-E	(Dutch)	
	PWDW9109-E	(Swedish)	

Manual	Pub.No.	Language	Page(s)	
'97 SPACE RUNNER/SPACE WAGON Workshop Manual chassis Supplement	PWDE9104-G	(English)	52B-6	
	PWDS9105-G	(Spanish)		
	PWDF9106-G	(French)		
	PWDG9107-G	(German)		
	PWDD9108-G	(Dutch)		
	PWDW9109-G	(Swedish)		
'95 L400 Workshop Manual chassis	PWWE9410	(English)	52B-9	
	PWWS9411	(Spanish)		
	PWWG9412	(French)		
	PWWG9413	(German)		
	PWWD9415	(Dutch)		
	PWWW9416	(Swedish)		
'97 L400 Workshop Manual chassis Supplement	PWWE9410-B	(English)	52B-5	
	PWWS9411-B	(Spanish)		
	PWWG9412-B	(French)		
	PWWG9413-B	(German)		
	PWWD9415-B	(Dutch)		
	PWWW9416-B	(Swedish)		
PAJERO Workshop Manual chassis	PWJE9086-F	(English)	52B-10	
MONTERO Workshop Manual chassis	PWJS9087-F	(Spanish)		
PAJERO Workshop Manual chassis	PWJF9088-F	(French)		
	PWJG9089-F	(German)		
	PWJD9090-F	(Dutch)		
	PWJW9091-F	(Swedish)		
'96 PAJERO Workshop Manual chassis Supplement	PWJE9086-G	(English)	52B-10	
'96 MONTERO Workshop Manual chassis Supplement	PWJS9087-G	(Spanish)		
'96 PAJERO Workshop Manual chassis Supplement	PWJF9088-G	(French)		
	PWJG9089-G	(German)		
	PWJD9090-G	(Dutch)		
	PWJW9091-G	(Swedish)		
'97PAJERO Workshop Manual chassis Supplement	PWJE9086-H	(English)	52B-6, 52B-7	
'97 MONTERO Workshop Manual chassis Supplement	PWJS9087-H	(Spanish)		
'97 PAJERO Workshop Manual chassis Supplement	PWJF9088-H	(French)		
	PWJG9089-H	(German)		
	PWJD9090-H	(Dutch)		52B-7
	PWJW9091-H	(Swedish)		52B-6, 52B-7
'97 L200 Workshop Manual chassis	PWTE96E1	(English)	52B-8	

4. Details:

- SIGMA Workshop Manual chassis, Page 5
- 3000GT Workshop Manual chassis, Page 6
- '97 3000GT Workshop Manual chassis Supplement, Page 7
- COLT/LANCER Workshop Manual chassis, Page 8
- '95 COLT/LANCER Workshop Manual chassis Supplement, Page 9
- '97 COLT/LANCER Workshop Manual chassis Supplement, Page 10
- '96 COLT/LANCER Workshop Manual chassis Supplement, Page 11
- GALANT Workshop Manual chassis, Page 12
- '96 GALANT Workshop Manual chassis Supplement, Page 13
- SPACE RUNNER/SPACE WAGON Workshop Manual chassis, Page 14
- '95 SPACE RUNNER/SPACE WAGON Workshop Manual chassis, Page 15
- '97 SPACE RUNNER/SPACE WAGON Workshop Manual chassis, Page 16
- '95 L400 Workshop Manual chassis, Page 17
- '97 L400 Workshop Manual chassis Supplement, Page 18
- PAJERO Workshop Manual chassis, Page 19
- MONTERO Workshop Manual chassis, Page 19
- '96 PAJERO Workshop Manual chassis Supplement, Page 20
- '96 MONTERO Workshop Manual chassis Supplement, Page 20
- '97 PAJERO Workshop Manual chassis Supplement, Page 21
- '97 MONTERO Workshop Manual chassis Supplement, Page 22
- '97 L200 Workshop Manual chassis, Page 23

TEST 2	SRS WARNING LAMP DOES NOT ILLUMINATE
---------------	---

- (1) Read (and write down) all of the displayed diagnosis codes and service data (fault duration and how many times memories are erased) using the Multi- use Tester <vehicles without front passenger’s air bag> or MUT-II <all models>

NOTE

- (1) if the Multi-use Tester or Mut-II displays “CAN’T COMM”. check the Multi-use Tester or MUT-II and vehicle side diagnosis connector for poor connections (Refer to P.52B-12.) and perform TEST 4.
- (2) Maximum stored period: 9999 minutes (approximately 7 days)
- (3) Maximum number of times to be stored: 250
- (4) Check diagnosis codes against SELF-DIAGNOSIS QUICK REFERENCE CHART and perform service indicated there.

SELF-DIAGNOSIS QUICK REFERENCE CHART

After carrying out test 1 or 2, use the following table to repair.

Diagnosis code No.	Explanation	Service
-	Normal. The SRS is in good order	-
11	The circuits for the front impact sensor are shorted together, the (-) side of the harness between the air bag module and the SDU is shorted to the earth, or the (+) side of the harness between the front impact sensor and the SDU is shorted to the earth	Perform TEST 5 <Vehicles without front passenger’s air bag> L.H. drive vehicles refer to P 52B-22
12	Right or left impact sensor circuit is open, or the wire from the sensor to the SDU is open-circuit.	R.H. drive vehicles: refer to P. 52B-26 <Vehicles with
13	Right and left impact sensor circuits are open or the wires from the sensors to the SDU are open-circuit	Front passenger’s air bag> refer to P.52B-32
21	The circuits for the driver’s side air bag module (squib) are shorted together other or the circuit is earthed.	Perform TEST 6 <Vehicles without front passenger’s air
22	The driver’s side air bag module (squib) circuit is open or the wire from the driver’s side air bag module to the SDU (clock spring) is open circuit, the harness connection is defective, or the (+) side of the harness between the driver’s side air bag module and the SDU is shorted to the earth. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> Disconnected connector in driver’s side air bag module (squib). <Added> Open-circuit in clock spring due to inappropriate neutral position. </div>	bag> L.H. drive vehicles: refer to P52B-35 R.H. drive vehicles refer to P.52B-39 <Vehicles with front passenger’s air bag>: refer to P.52B-45
24	The circuits for the front passenger’s side air bag module (squib) are shorted together other or the circuit is earthed.	Perform TEST 13 (Refer to P.52B-64)
25	The front passenger’s side air bag module (squib) circuit is open or the wire from the front passenger’s side air bag module to the SDU (clock spring) is open circuit, the harness connection is defective or the (+) side of the harness between the front passenger’s side air bag module and the SDU is shorted to the earth.	

TEST 2	SRS WARNING LAMP DOES NOT ILLUMINATE
---------------	---

- (1) Read (and write down) all of the displayed diagnosis codes and service data (fault duration and how many times memories are erased) using the Multi-use Tester <1993 models> or MUT-II <all models>

NOTE

- (1) if the Multi-use Tester or Mut-II displays “CAN’T COMM”. check the Multi-use Tester or MUT-II and vehicle side diagnosis connector for poor connections (Refer to P.52B-10.) and perform TEST 4.
- (2) Maximum stored period: 9999 minutes (approximately 7 days)
- (3) Maximum number of times to be stored: 250
- (4) Check diagnosis codes against SELF-DIAGNOSIS QUICK REFERENCE CHART and perform service indicated there.

SELF-DIAGNOSIS QUICK REFERENCE CHART

After carrying out test 1 or 2, use the following table to repair.

Diagnosis code No.	Explanation	Service
-	Normal. The SRS is in good order	-
11	The circuits for the front impact sensor are shorted together, the (-) side of the harness between the air bag module and the SDU is shorted to the earth, or the (+) side of the harness between the front impact sensor and the SDU is shorted to the earth	Perform TEST 5 <Vehicles without front passenger’s air bag> refer to P 52B-20 <Vehicles with Front passenger’s air bag> refer to P.52B-24
12	Right or left impact sensor circuit is open, or the wire from the sensor to the SDU is open-circuit.	
13	Right and left impact sensor circuits are open or the wires from the sensors to the SDU are open-circuit	
21	The circuits for the driver’s side air bag module (squib) are shorted together other or the circuit is earthed.	Perform TEST 6 <Vehicles without front passenger’s air
22	The driver’s side air bag module (squib) circuit is open or the wire from the driver’s side air bag module to the SDU (clock spring) is open circuit, the harness connection is defective, or the (+) side of the harness between the driver’s side air bag module and the SDU is shorted to the earth. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> Disconnected connector in driver’s side air bag module (squib). Open-circuit in clock spring due to inappropriate neutral position. </div> <Added>	bag> refer to P52B-27 <Vehicles with front passenger’s air bag>: refer to P.52B-31
24	The circuits for the front passenger’s side air bag module (squib) are shorted together other or the circuit is earthed.	Perform TEST 13 (Refer to P.52B-47)
25	The front passenger’s side air bag module (squib) circuit is open or the wire from the front passenger’s side air bag module to the SDU (clock spring) is open circuit, the harness connection is defective or the (+) side of the harness between the front passenger’s side air bag module and the SDU is shorted to the earth.	

Code No. 15 Safing G-sensor system in the SRS-ECU	Probable cause
This code is output if there is a short or open circuit between the terminals of the safing G-sensor inside the SRS-ECU. The trouble causes for each diagnosis code No. Are as follows	<ul style="list-style-type: none"> Malfunction of SRS-ECU

Code No.	Trouble symptom
15	Short circuit in the safing G-sensor
16	Open circuit in the safing G-sensor

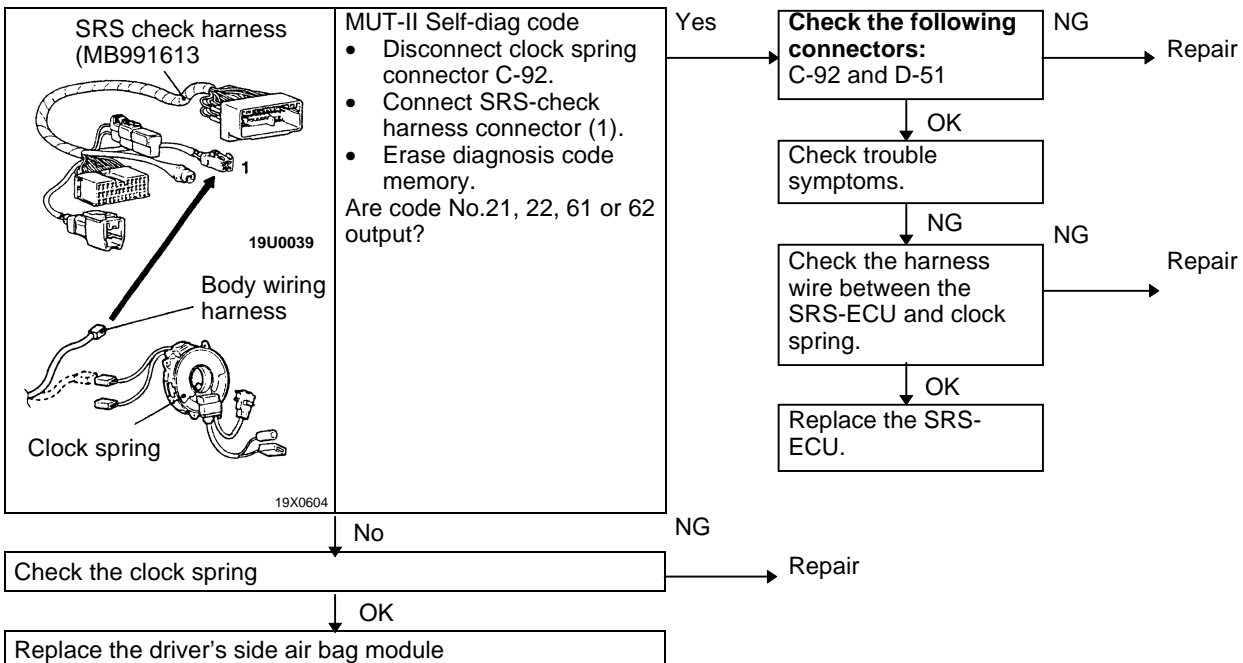
Replace the SRS-ECU

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 Open-circuit in clock spring due to inappropriate neutral position Malfunction of wiring harness or connectors Malfunction of driver's side air bag module (squib) Malfunction of SRS-ECU

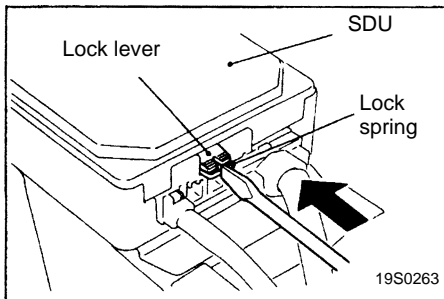
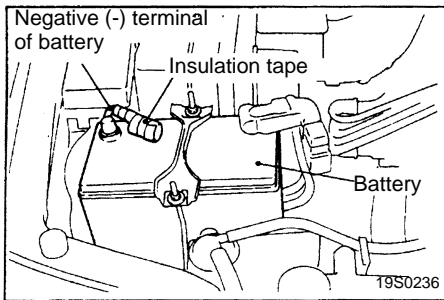
<Added>

Code No.	Trouble symptoms
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 connector in the driver's side air bag module (squib). Open circuit in clock spring due to inappropriate neutral position. Malfunction of connector contact
61	Short in driver's side air bag module (squib) harness leading to the power supply
62	Short in driver's side air bag module (squib) harness leading to the earth

<Added>



Code No. 21, 22	Air bag module (squib) system	Probable cause of trouble						
(Explanation)	These codes are output when the resistance value between the air bag module (squib) terminals in the SDU is out of the normal range. The probable causes of trouble associated with the respective code Nos. are as follows.	<ul style="list-style-type: none"> • Defective clock spring • Open circuit in clock spring due to inappropriate neutral position • Defective harness, connector • Defective air bag module (squib) • Defective SDU 						
	<table border="1"> <thead> <tr> <th>Code No.</th> <th>Probable cause of trouble</th> </tr> </thead> <tbody> <tr> <td>21</td> <td> <ul style="list-style-type: none"> • Air bag module (squib) or harness short-circuited • Clock spring short-circuited </td> </tr> <tr> <td>22</td> <td> <ul style="list-style-type: none"> • Air bag module (squib) or harness open-circuited • Clock spring open-circuited • Disconnected connector in the driver's side air bag module (squib) • Open-circuit in clock spring due to inappropriate neutral position • Connector in loose contact </td> </tr> </tbody> </table>	Code No.	Probable cause of trouble	21	<ul style="list-style-type: none"> • Air bag module (squib) or harness short-circuited • Clock spring short-circuited 	22	<ul style="list-style-type: none"> • Air bag module (squib) or harness open-circuited • Clock spring open-circuited • Disconnected connector in the driver's side air bag module (squib) • Open-circuit in clock spring due to inappropriate neutral position • Connector in loose contact 	<p style="text-align: right;"><Added></p>
Code No.	Probable cause of trouble							
21	<ul style="list-style-type: none"> • Air bag module (squib) or harness short-circuited • Clock spring short-circuited 							
22	<ul style="list-style-type: none"> • Air bag module (squib) or harness open-circuited • Clock spring open-circuited • Disconnected connector in the driver's side air bag module (squib) • Open-circuit in clock spring due to inappropriate neutral position • Connector in loose contact 							



Caution

1. After the ignition switch has been placed at the LOCK position and the negative (-) terminal of the battery has been disconnected, wait for more than 60 seconds before starting work. Wind a tape around the disconnected (-) terminal for insulation. (Refer to P.52B-4, No. 5)
2. Do not attempt to measure the air bag module (squib) circuit resistance. Use of a tester in measuring the circuit resistance will supply current to the squib, or erroneous deployment due to static electricity could cause serious injury.
3. To unlock the SDU connector, place a flat-tipped screwdriver against the lock spring at the lock lever notch and push the spring toward the unit. In this case, do not force the lock lever up.

INSPECTION PROCEDURE FOR DIAGNOSIS CODES

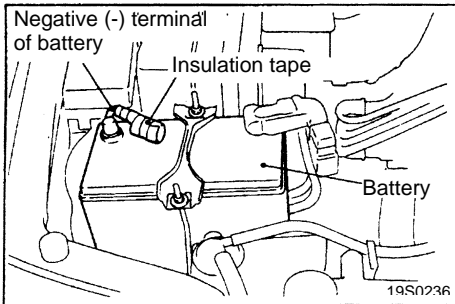
Code No. 21,22 Air bag module (Driver's side squib) system	Probable cause of trouble
(Explanation) These codes are output when the resistance value between the air bag module (squib) terminals in the SDU is out of the normal range. The probable causes of trouble associated with the respective codes Nos. are as follows. <Refer to the chart 1.>	Defective clock spring
	Open-circuit in clock spring due to inappropriate neutral position
	Defective harness, connector
	Defective air bag module (driver's side squib)
	Defective SDU

<Added>

CHART 1

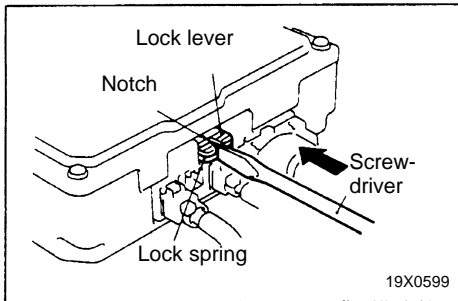
Code No.	Probable cause of trouble
21	<ul style="list-style-type: none"> • Air bag module (driver's side squib) or harness short-circuited • Clock spring short-circuited
22	<ul style="list-style-type: none"> • Air bag module (driver's side squib) or harness open-circuited • Clock spring open-circuited • Disconnected connector in the driver's side air bag module (squib) • Open-circuit in clock spring due to inappropriate neutral position • Connector in loose contact

<Added>



Caution

1. After the ignition switch has been placed at the LOCK position and the negative (-) terminal of the battery has been disconnected, wait for more than 60 seconds before starting work. Wind a tape around the disconnected (-) terminal for insulation. (Refer to P.52B-4, No. 5)
2. Do not attempt to measure the air bag module (squib) circuit resistance. Use of a tester in measuring the circuit resistance will supply current to the squib, or erroneous deployment due to static electricity could cause serious injury
3. To unlock the SDU connector, place a flat-tipped screwdriver against the lock spring at the lock lever notch and push the spring toward the unit. In this case, do not force the lock lever up.



TROUBLESHOOTING

INSPECTION CHART FOR DIAGNOSIS CODES

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	-
15, 16	Safing G-sensor system in the SRS-ECU	-
21, 22, 61, 62	Driver's side air bag module (squib) system	52B-5
24, 25, 64, 65	Front passenger's side air bag module (squib) system	52B-6
31, 32	SRS-ECU capacitor system	-
34*	Connector lock system	-
35	SRS-ECU capacitor system	-
41*	IG ₁ (A) power circuit system	52B-7
42*	IG ₁ (B) power circuit system	52B-7
43	SRS warning lamp drive circuit system	Lamp does not illuminate. *
		Lamp does not switch off.
44	SRS warning lamp drive circuit system	-
45	SRS-ECU non volatile memory (EEPROM) and A/D converter system	-
51, 52	Driver's side air bag module (squib ignition drive circuit) system	-
54, 55	Front passenger's side air bag module (squib ignition drive circuit) system	-

NOTE

- (1) *: if the vehicle condition return 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 fault codes 41 or 42. When these diagnosis codes are displayed, check the battery.

INSPECTION PROCEDURE CLASSIFIED BY DIAGNOSIS CODE

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> <p style="text-align: right;"><Added></p>	<ul style="list-style-type: none"> • Malfunction of clock spring • Open-circuit in clock spring due to inappropriate neutral position. • Malfunction of wiring harnesses or connectors • Malfunction of driver's side air bag module (squib) • Malfunction of SRS-ECU

Code No.	Trouble symptoms
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 connector in the driver's side air bag module (squib). • Open circuit in clock spring due to inappropriate neutral position. • Malfunction of connector contact <p style="text-align: right;"><Added></p>
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. 15 Safing G-sensor system in the SRS-ECU	Probable cause
This code is output if there is a short or open circuit between the terminals of the safing G-sensor inside the SRS-ECU. The trouble causes for each diagnosis code No. Are as follows	<ul style="list-style-type: none"> Malfunction of SRS-ECU

Code No.	Trouble symptom
15	Short circuit in the safing G-sensor
16	Open circuit in the safing G-sensor

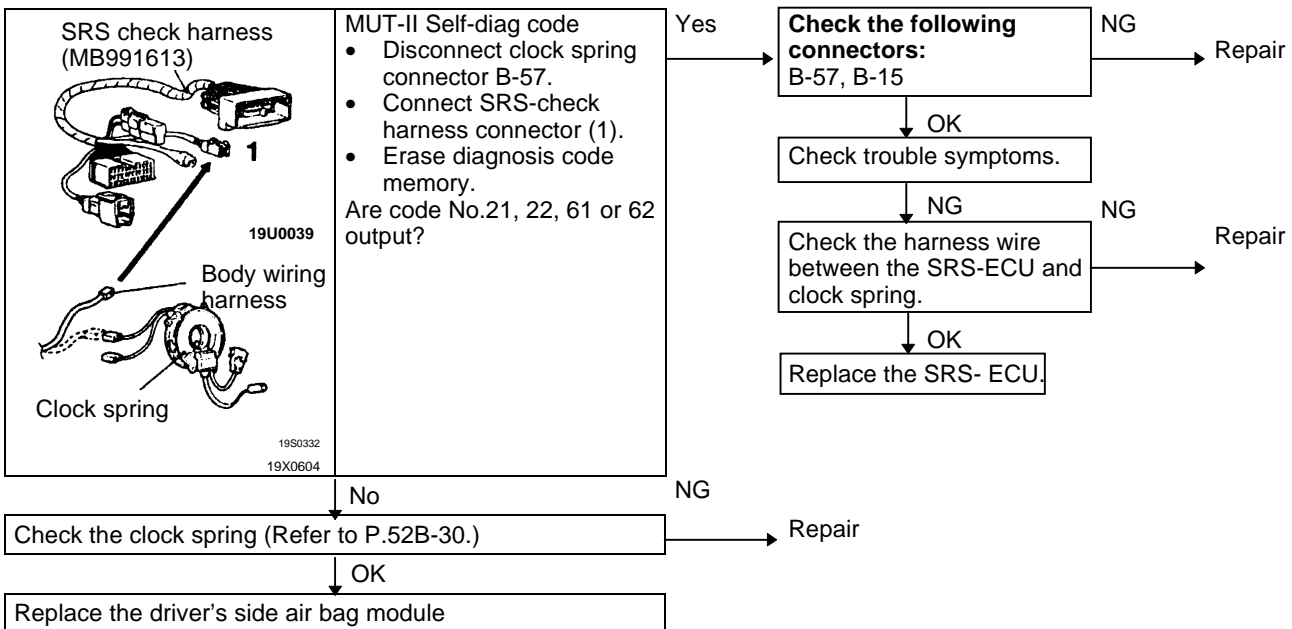
Replace the SRS-ECU

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 Open-circuit in clock spring due to inappropriate neutral position Malfunction of wiring harness or connectors Malfunction of driver's side air bag module (squib) Malfunction of SRS-ECU

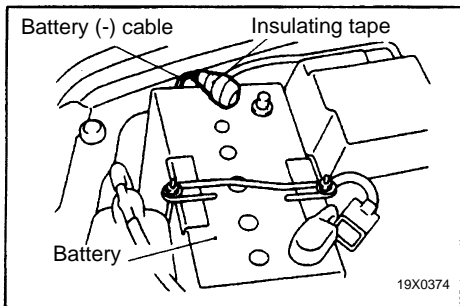
<Added>

Code No.	Trouble symptoms
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 connector in the driver's side air bag module (squib). Open circuit in clock spring due to inappropriate neutral position. Malfunction of connector contact
61	Short in driver's side air bag module (squib) harness leading to the power supply
62	Short in driver's side air bag module (squib) harness leading to the earth

<Added>

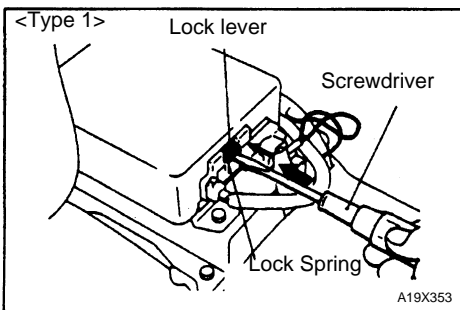


Code No. 21 or 22	Air bag module (driver's side squib) system	Probable cause																	
(Comment) (1) These codes are output if there is abnormal resistance between the input terminals of the air bag module (driver's side squib). The trouble causes for each code No. are as follow		<ul style="list-style-type: none"> Malfunction of clock spring Open circuit in clock spring due to inappropriate neutral position Malfunction of harness or connectors Malfunction of air bag module (driver's side squib) Malfunction of SDU 																	
<table border="1"> <thead> <tr> <th>Code No.</th> <th>Trouble Symptom</th> </tr> </thead> <tbody> <tr> <td>21</td> <td> <ul style="list-style-type: none"> Short in air bag module (driver's side squib) or harness short Short in clock spring Short in air bag module (driver's side squib) or front impact sensor harnesses leading to the power supply </td> </tr> <tr> <td>22</td> <td> <ul style="list-style-type: none"> Open circuit in air bag module (driver's side squib) or open harness Disconnected connector in the driver's side air bag module (squib) Open-circuit in clock spring due to inappropriate neutral position Malfunction of connector contact Short in air bag module (driver's side squib) or front impact sensor harnesses leading to the power supply </td> </tr> </tbody> </table>	Code No.		Trouble Symptom	21	<ul style="list-style-type: none"> Short in air bag module (driver's side squib) or harness short Short in clock spring Short in air bag module (driver's side squib) or front impact sensor harnesses leading to the power supply 	22	<ul style="list-style-type: none"> Open circuit in air bag module (driver's side squib) or open harness Disconnected connector in the driver's side air bag module (squib) Open-circuit in clock spring due to inappropriate neutral position Malfunction of connector contact Short in air bag module (driver's side squib) or front impact sensor harnesses leading to the power supply 	<p style="text-align: right;"><Added></p>											
Code No.	Trouble Symptom																		
21	<ul style="list-style-type: none"> Short in air bag module (driver's side squib) or harness short Short in clock spring Short in air bag module (driver's side squib) or front impact sensor harnesses leading to the power supply 																		
22	<ul style="list-style-type: none"> Open circuit in air bag module (driver's side squib) or open harness Disconnected connector in the driver's side air bag module (squib) Open-circuit in clock spring due to inappropriate neutral position Malfunction of connector contact Short in air bag module (driver's side squib) or front impact sensor harnesses leading to the power supply 																		
(2) Diagnosis codes 21 and 22 are sometimes generated in combination with malfunction codes relating to the front impact sensor (code Nor. 11, 12 and 13), but sometimes only one should also be inspected at the same time. The relationships between the codes are as follows.																			
		<table border="1"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="3">Front impact sensor</th> </tr> <tr> <th>Short</th> <th>Open circuit (1 sensor)</th> <th>Open circuit (2 sensors)</th> </tr> </thead> <tbody> <tr> <th rowspan="2">Air bag module (driver's side squib)</th> <th>Short</th> <td>11 or 21</td> <td>12 or 21</td> <td>13 or 21</td> </tr> <tr> <th>Open circuit</th> <td>11 or 22</td> <td>12 or 22</td> <td>13 or 22</td> </tr> </tbody> </table>			Front impact sensor			Short	Open circuit (1 sensor)	Open circuit (2 sensors)	Air bag module (driver's side squib)	Short	11 or 21	12 or 21	13 or 21	Open circuit	11 or 22	12 or 22	13 or 22
		Front impact sensor																	
		Short	Open circuit (1 sensor)	Open circuit (2 sensors)															
Air bag module (driver's side squib)	Short	11 or 21	12 or 21	13 or 21															
	Open circuit	11 or 22	12 or 22	13 or 22															



Caution

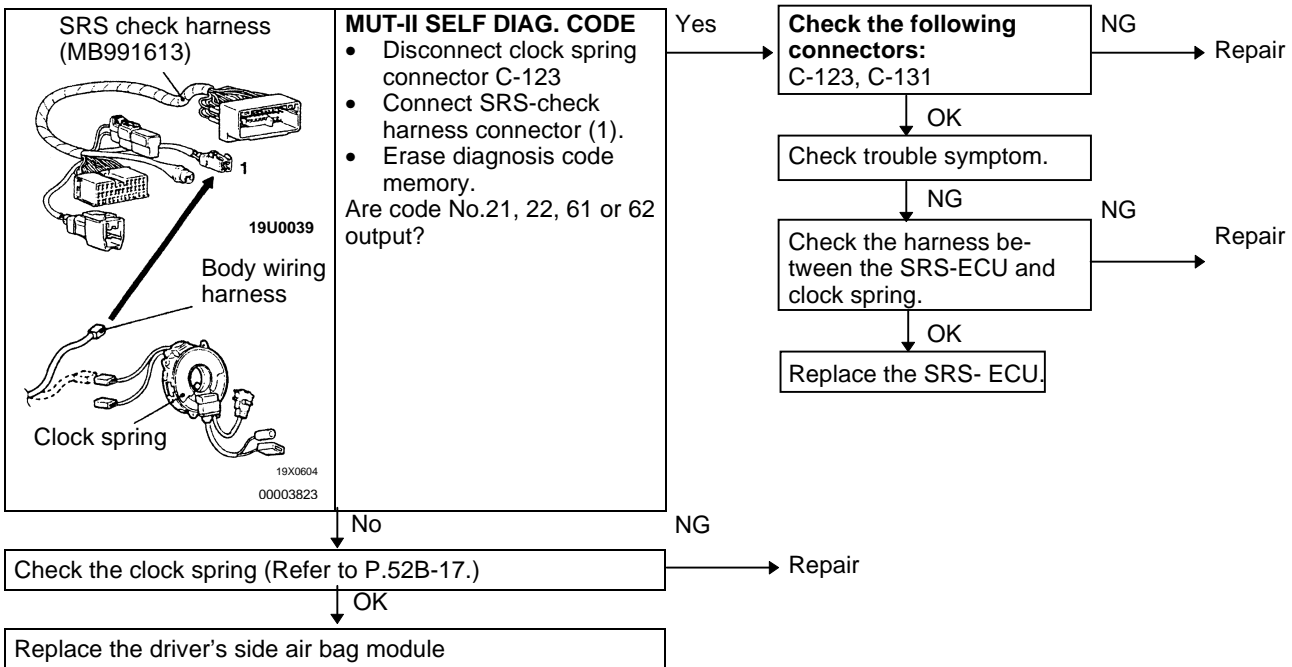
1. Turn the ignition key to the "LOCK" position, disconnect the negative battery cable and tape the terminal. Wait at least 60 seconds after disconnecting the battery cable before doing any further work. (Refer to P. 52B-6)



2. Remove the SDU connector lock by the following procedure.
 If there is no notch in the connector lock lever (Type 1). Place a (-) screwdriver against the lock spring (metal section) of the connector lock lever as shown in the illustration, and push the spring horizontally toward the inside of the unit.
 (1) Do not use excessive force to raise the lock lever.
 (2) Do not insert the screwdriver into the gap between the lock lever and the lock spring.

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

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



52B-9 SUPPLEMENTAL RESTRAINT SYSTEM (SRS) - Troubleshooting

TEST 2

SRS WARNING LAMP DOES NOT ILLUMINATE

- (1) Read (and write down) all of the displayed diagnosis codes and service data (fault duration and how many times memories are erased) using the MUT or MUT-II

NOTE

- (1) if the MUT or MUT-II displays "CAN'T COMM". check the MUT or MUT-II and vehicle side diagnosis connector for poor connections (Refer to P.52B-7.) and perform TEST 6.
- (2) Maximum stored period: 9999 minutes (approximately 7 days)
- (3) Maximum number of times to be stored: 250
- (4) Check diagnosis codes against SELF-DIAGNOSIS QUICK REFERENCE CHART and perform service indicated there.

SELF-DIAGNOSIS QUICK REFERENCE CHART

After carrying out test 2 or 3, use the following table to repair.

Diagnosis code No.	Explanation	Service
-	Normal. The SRS is in good order	-
14	Analog G sensor output signal is abnormal Analog G sensor does not function or its characteristic is abnormal	Replace the SDU (Refer to P.52B-34.)
15	The circuits for the safing impact sensor are shorted together or the circuit is earthed	
16	The safing input sensor circuit is open or the wire from the air module to the SDU is open circuit	
21	The circuits for the air bag module (squib) are shorted together other or the circuit is earthed.	Perform TEST 7
22	The air bag module (squib) circuit is open or the wire from the air bag module to the SDU (clock spring) is open circuit, the harness connection is defective, or the (+) side of the harness between the air bag module and the SDU is shorted to the earth. Disconnected connector in driver's side air bag module (squib). Open-circuit in clock spring due to inappropriate neutral position <Added>	
31	The DC/DC converter (integrated in the SDU) terminal voltage is higher than the specified value for 5 seconds.	Replace the SDU (Refer to P.52B-34.)

INSPECTION PROCEDURE CLASSIFIED BY DIAGNOSTIC TROUBLE

Code No. 14 Analog G-sensor system in the SDU	Probable cause
<p>(Comment) The SDU monitors the output of the analog G sensor inside the SDU. It outputs this code when any of the following are detected</p> <ul style="list-style-type: none"> • When the analog G sensor is not operating • When the characteristics of the analog G sensor are abnormal 	<ul style="list-style-type: none"> • Malfunction of SDU

The cause is probably a malfunction of the analog G-sensor inside the SDU, so replace the SDU

Code No. 15 or 16 Safing G-sensor system in the SDU	Probable cause
<p>(Comment) This code is output if the resistance between the terminals of the safing G sensor inside the SDU is different from normal. The trouble causes for each diagnosis code No. are as follows</p>	<ul style="list-style-type: none"> • Malfunction of SDU

Code No.	Trouble symptom
15	Short circuit in the safing G-sensor
16	Open circuit in the safing G-sensor

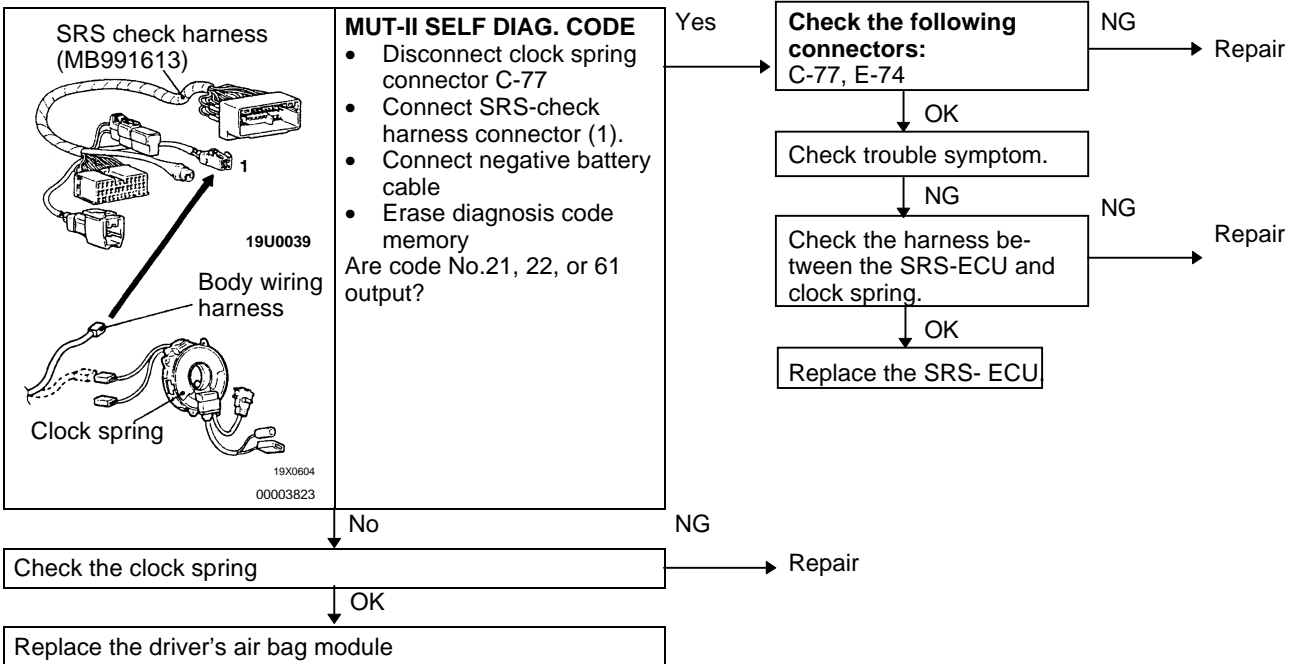
Code No. 21 or 22 Driver's side Air bag module (squib) system	Probable cause
<p>(Comment) These diagnosis codes are output if there is abnormal resistance between the input terminals of the air bag module (driver's side squib). The trouble causes for each code No. are as follows</p> <p style="text-align: center;"><Added></p>	<ul style="list-style-type: none"> • Malfunction of clock spring • Open-circuit in clock spring due to inappropriate neutral position • Malfunction of harnesses or connectors • Malfunction of air bag module (driver's side squib) • Malfunction of SRS-ECU

Code No.	Trouble Symptom
21	<ul style="list-style-type: none"> • Short in air bag module (driver's side squib) or harness short • Short in clock spring
22	<ul style="list-style-type: none"> • Open circuit in Air bag module (driver's side squib) or harness • Open circuit in clock spring • Disconnected connector in the driver's side air bag module (squib) • Open-circuit in clock spring due to inappropriate neutral position • Malfunction of connector contact <p style="text-align: right;"><Added></p>

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

<Added>

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



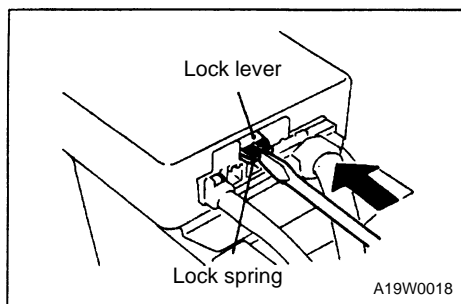
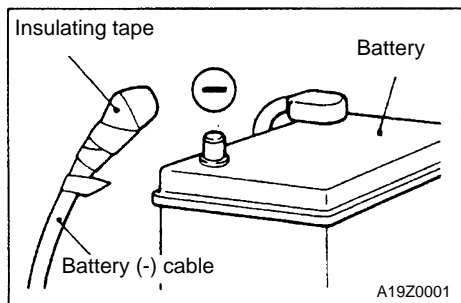
Code No. 21 or 22 Air bag module (Driver's side squib) system	Probable cause
<p>(Comment)</p> <p>(1) These diagnosis codes are output if there is abnormal resistance between the input terminals of the air bag module (driver's side squib). The trouble causes for each code No. are as follows</p> <p>(2) Diagnosis codes 21 and 22 are sometimes generated in combination with malfunction codes relating to the front impact sensor (code Nos. 11, 12 and 13), but sometimes only one may be output instead of both being memorised. Because of this, the front impact sensor should also be inspected at the same time. The relationship between the codes are as follows. (Refer to chart 2.)</p>	<ul style="list-style-type: none"> • Malfunction of clock spring • Open-circuit in clock spring due to inappropriate neutral position • Malfunction of harnesses or connectors • Malfunction of air bag module (driver's side squib) • Malfunction of SDU <p style="text-align: right;"><Added></p>

Chart 1

Code No.	Trouble symptom
21	<ul style="list-style-type: none"> • Short in air bag module (driver's side squib) or harness short • Short in clock spring
22	<ul style="list-style-type: none"> • Open circuit in air bag module (driver's side squib) or open harness • Open circuit in clock spring • Disconnected connector in the driver's side air bag module (squib). • Open circuit in clock spring due to inappropriate neutral position. • Malfunction of connector contact <p style="text-align: right;"><Added></p>

Chart 2

Item	Front impact sensor		
	Short	Open circuit (1 sensor)	Open circuit (2 sensors)
Air bag module (driver's side squib)	Short	11 or 21	12 or 21
	Open circuit	11 or 22	12 or 22



Caution

1. After the ignition switch has been placed at the LOCK position and the negative (-) terminal of the battery has been disconnected, wait for more than 60 seconds before starting work. Wind a tape around the disconnected (-) terminal for insulation. (Refer to P.52B-3, No.5)
2. do not attempt to measure the air bag module (squib) circuit resistance. Use of a tester in measuring the circuit resistance will supply current to the squib, or erroneous deployment due to static electricity could cause serious injury
3. To unlock the SDU connector, place a flat-tipped screwdriver against the lock spring at the lock lever notch and push the spring toward the unit. In this case, do not force the lock lever up.

Code No. 15 or 16 Safing G-sensor system in the SRS-ECU	Probable cause
This code is output if there is a short or open circuit between the terminals of the safing G-sensor inside the SRS-ECU. The trouble causes for each diagnosis code No. Are as follows	<ul style="list-style-type: none"> Malfunction of SRS-ECU

Code No.	Trouble symptom
15	Short circuit in the safing G-sensor
16	Open circuit in the safing G-sensor

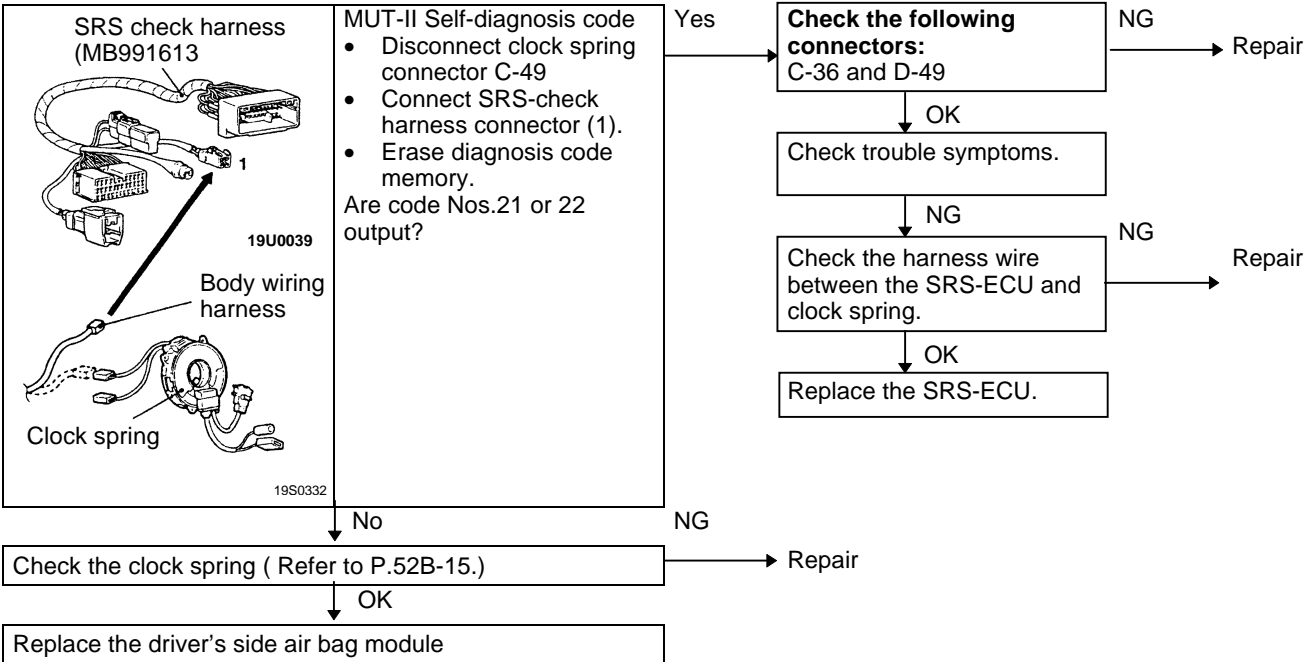
Replace the SRS-ECU

Code No. 21 or 22 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 Open-circuit in clock spring due to inappropriate neutral position Malfunction of wiring harness or connectors Malfunction of driver's side air bag module (squib) Malfunction of SRS-ECU

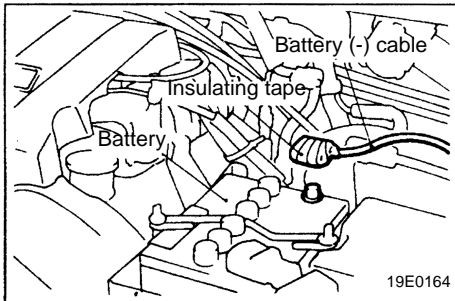
<Added>

Code No.	Trouble symptoms
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 connector in the driver's side air bag module (squib). Open circuit in clock spring due to inappropriate neutral position. Malfunction of connector contact

<Added>



Code No. 21 or 22	Air bag module (squib) system	Probable cause																	
<p>(Comment)</p> <p>(1) These diagnosis codes are output if there is abnormal resistance between the input terminals of the air bag module (squib). The trouble causes for each code No. are as follow</p> <table border="1"> <thead> <tr> <th>Code No.</th> <th>Trouble Symptom</th> </tr> </thead> <tbody> <tr> <td>21</td> <td> <ul style="list-style-type: none"> Short in air bag module (squib) or harness short Short in clock spring Short in air bag module (squib) or front impact sensor harnesses leading to the power supply </td> </tr> <tr> <td>22</td> <td> <ul style="list-style-type: none"> Open circuit in air bag module (driver's side squib) or open harness Open circuit in clock spring Disconnected connector in the driver's side air bag module (squib) Open-circuit in clock spring due to inappropriate neutral position Malfunction of connector contact Short in air bag module (squib) or front impact sensor harnesses leading to the power supply </td> </tr> </tbody> </table>		Code No.	Trouble Symptom	21	<ul style="list-style-type: none"> Short in air bag module (squib) or harness short Short in clock spring Short in air bag module (squib) or front impact sensor harnesses leading to the power supply 	22	<ul style="list-style-type: none"> Open circuit in air bag module (driver's side squib) or open harness Open circuit in clock spring Disconnected connector in the driver's side air bag module (squib) Open-circuit in clock spring due to inappropriate neutral position Malfunction of connector contact Short in air bag module (squib) or front impact sensor harnesses leading to the power supply 	<ul style="list-style-type: none"> Malfunction of clock spring Open circuit in clock spring due to inappropriate neutral position Malfunction of harness or connectors Malfunction of air bag module (squib) Malfunction of SDU 											
Code No.	Trouble Symptom																		
21	<ul style="list-style-type: none"> Short in air bag module (squib) or harness short Short in clock spring Short in air bag module (squib) or front impact sensor harnesses leading to the power supply 																		
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<p>(2) Diagnosis codes 21 and 22 are sometimes generated in combination with malfunction codes relating to the front impact sensor (code Nor. 11, 12 and 13), but sometimes only one should also be inspected at the same time. The relationships between the codes are as follows.</p> <table border="1"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="3">Front impact sensor</th> </tr> <tr> <th>Short</th> <th>Open circuit (1 sensor)</th> <th>Open circuit (2 sensors)</th> </tr> </thead> <tbody> <tr> <th rowspan="2">Air bag module (squib)</th> <th>Short</th> <td>11 or 21</td> <td>12 or 21</td> <td>13 or 21</td> </tr> <tr> <th>Open circuit</th> <td>11 or 22</td> <td>12 or 22</td> <td>13 or 22</td> </tr> </tbody> </table>				Front impact sensor			Short	Open circuit (1 sensor)	Open circuit (2 sensors)	Air bag module (squib)	Short	11 or 21	12 or 21	13 or 21	Open circuit	11 or 22	12 or 22	13 or 22	<p><Added></p>
				Front impact sensor															
		Short	Open circuit (1 sensor)	Open circuit (2 sensors)															
Air bag module (squib)	Short	11 or 21	12 or 21	13 or 21															
	Open circuit	11 or 22	12 or 22	13 or 22															

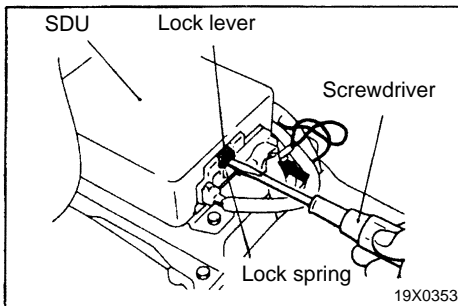


- Turn the ignition key to the "LOCK" position, disconnect the negative battery cable and tape the terminal.

Caution

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

- Remove the floor console assembly. (Refer to GROUP 52A - Floor Console.)



- Place a flat-tipped (-) screwdriver against the lock spring (metal portion) of the SDU connector lock lever, and push the spring horizontally toward the inside of the unit.

Caution

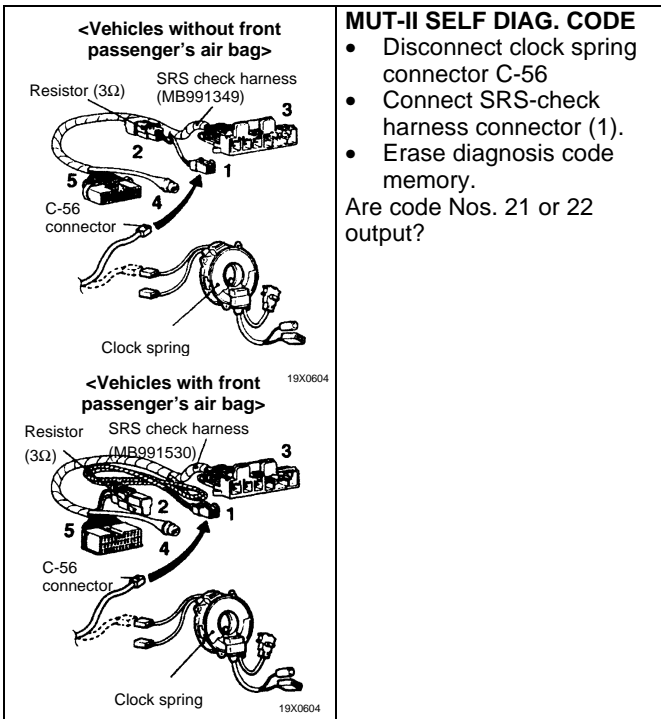
- Do not use excessive force to raise the lock lever (green)
- do not insert the screwdriver into the gap between the lock lever (green) and the lock spring (metal portion).

- Disconnect the red 14-pin connector from the SDU.

Code No. 21 or 22 Driver's air bag module (squib) system	Probable cause
<p>(1) These diagnosis codes are output if there is abnormal resistance between the input terminals of the driver's air bag module (squib) . Refer to table 1 for the conditions for output of each diagnosis code.</p> <p>(2) Diagnosis codes 21 and 22 are sometimes generated in combination with diagnosis codes relating to the front impact sensor (code Nos. 11, 12 and 13), but sometimes only one may be output instead of both being memorised. Because of this, the front impact sensor should also be inspected at the same time. Refer to table 2 for the failure mode combinations.</p>	<ul style="list-style-type: none"> • malfunction of clock spring • Open-circuit in clock spring due to inappropriate neutral position • Malfunction of harnesses or connectors • Malfunction of air bag module (driver's side squib) • Malfunction of SDU <p style="text-align: right;"><Added></p>

TABLE 1: CONDITIONS FOR OUTPUT OF EACH DIAGNOSIS CODE

Code No.	Trouble symptoms
21	<ul style="list-style-type: none"> • Short in air bag module (driver's side squib) or harness short • Short in clock spring • Short in driver's side air bag module (squib) or front impact sensor harnesses leading to the power supply
22	<ul style="list-style-type: none"> • Open circuit in air bag module (driver's side squib) or open harness • Open circuit in clock spring • Disconnected connector in the driver's side air bag module (squib). • Open circuit in clock spring due to inappropriate neutral position. • Malfunction of connector contact • Short in driver's air bag module (squib) or front impact sensor harnesses leading to the power supply <p style="text-align: right;"><Added></p>



MUT-II SELF DIAG. CODE

- Disconnect clock spring connector C-56
- Connect SRS-check harness connector (1).
- Erase diagnosis code memory.

Are code Nos. 21 or 22 output?

```

    graph TD
      Start[Are code Nos. 21 or 22 output?] -- NG --> ClockSpring[Clock spring inspection]
      ClockSpring -- NG --> Repair1[Repair]
      ClockSpring -- OK --> CheckConnectors[Check the following connectors: C-49 and C-56]
      CheckConnectors -- NG --> Repair2[Repair]
      CheckConnectors -- OK --> CheckSymptoms[Check trouble symptoms.]
      CheckSymptoms -- NG --> ReplaceModule[Replace the air bag module (driver's side squib)]
  
```

Yes
To next page

INSPECTION PROCEDURE CLASSIFIED BY DIAGNOSTIC TROUBLE

Code No. 14 Analog G-sensor system in the SRS-ECU	Probable cause
The SRS-ECU monitors the output of the analog G-sensor inside the SRS-ECU. It outputs this code when any of the following are detected <ul style="list-style-type: none"> • When the analog-G sensor is not operating • When the characteristics of the analog-G sensor are abnormal • When the output from the analog G-sensor is abnormal 	<ul style="list-style-type: none"> • Malfunction of SRS-ECU

Replace the SRS-ECU

Code No.15 or 16 Safing G-sensor system in the SRS-ECU	Probable cause
This code is output if there is a short or open circuit between the terminals of the safing G-sensor inside the SRS-ECU. The trouble causes for each diagnosis code No. Are as follows	<ul style="list-style-type: none"> • Malfunction of SRS-ECU

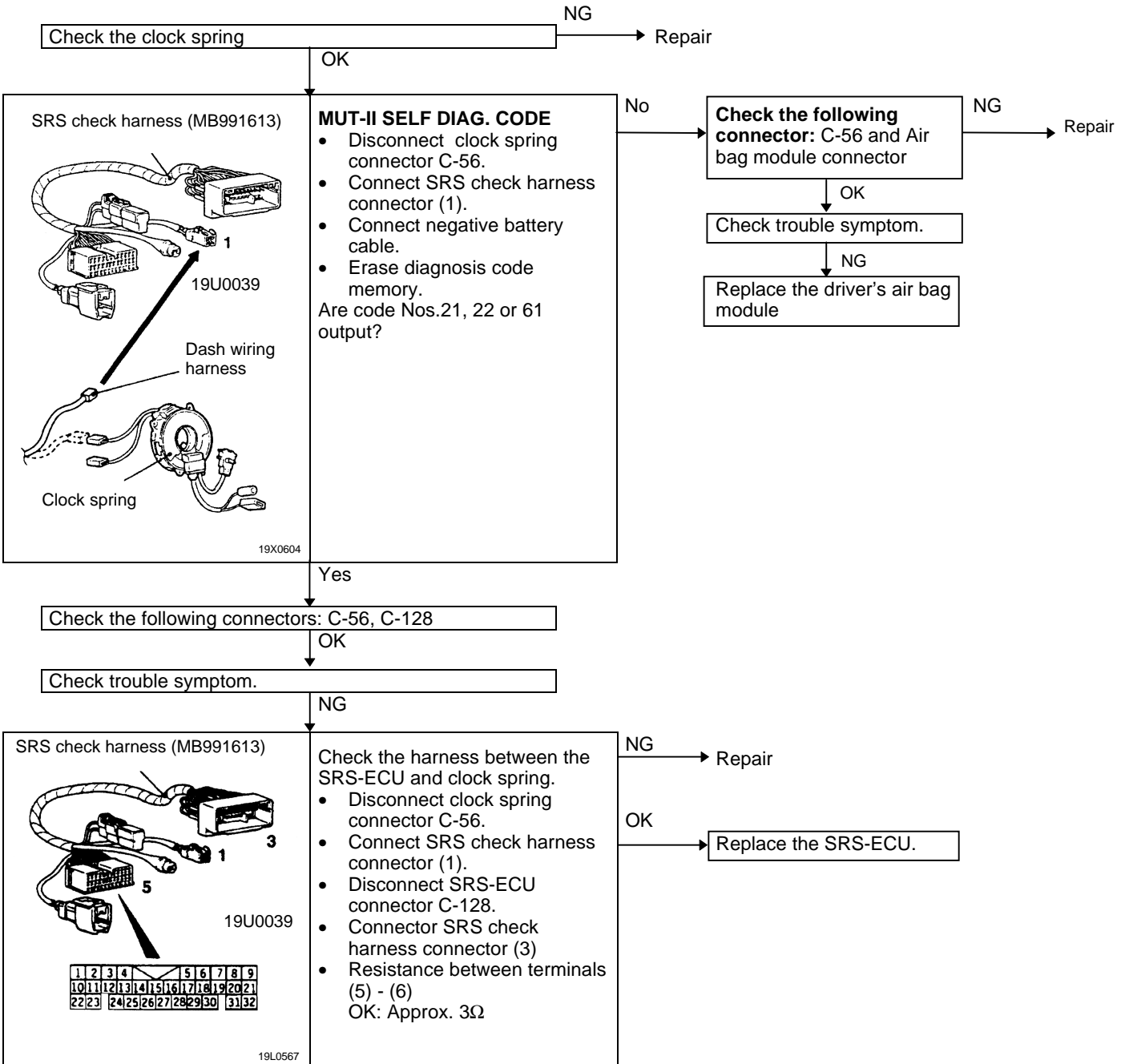
Code No.	Trouble Symptom
15	Short circuit in the safing G-sensor
16	Open circuit in the safing G-sensor

Replace the SRS-ECU

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

<Added>

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



Code No. 21 or 22 Air bag module (squib) system	Probable cause
<p>(1) These diagnosis codes are output if there is abnormal resistance between the input terminals of the air bag module (squib). The trouble causes for each code No. are as follows (Refer to chart 1.)</p> <p>(2) Diagnosis codes 21 and 22 are sometimes generated in combination with malfunction codes relating to the front impact sensor (code Nos. 11, 12 and 13), but sometimes only one may be output instead of both being memorised. Because of this, the front impact sensor should also be inspected at the same time. The relationship between the codes are as follows. (Refer to chart 2.)</p>	<ul style="list-style-type: none"> • Malfunction of clock spring • Disconnected connector in the driver's side air bag module (squib) • Open-circuit in clock spring due to inappropriate neutral position • Malfunction of harnesses or connectors • Malfunction of air bag module (squib) • Malfunction of SDU <p style="text-align: right;"><Added> ↑</p>

Chart 1

Code No.	Trouble symptom
21	<ul style="list-style-type: none"> • Short in air bag module (squib) or harness short • Short in clock spring • Short in air bag module (squib) or front impact sensor harnesses leading to the power supply
22	<ul style="list-style-type: none"> • Open circuit in air bag module (squib) or open harness • Open circuit in clock spring • Disconnected connector in the driver's side air bag module (squib). • Open circuit in clock spring due to inappropriate neutral position. • Malfunction of connector contact • Short in air bag module (squib) or front impact sensor harnesses leading to the power supply <p style="text-align: right;"><Added></p>

Chart 2

Item		Front impact sensor		
		Short	Open circuit (1 sensor)	Open circuit (2 sensors)
Air bag module (squib)	Short	11 or 21	12 or 21	13 or 21
	Open circuit	11 or 22	12 or 22	13 or 22

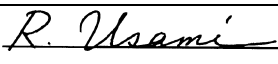
Caution

Do not attempt to measure the air bag module (squib) circuit resistance. Use of a tester in measuring the circuit resistance will supply current to the squib, or erroneous deployment due to static electricity could cause serious injury.



SERVICE BULLETIN

QUALITY INFORMATION ANALYSIS
OVERSEAS SERVICE DEPT. MITSUBISHI MOTORS CORPORATION

SERVICE BULLETIN		No.: MSB-97E52-004	
		Date: 1998-02-15	
Subject: CHANGE IN ATTACHMENT POSITION OF SRS AIR BAG CAUTION LABEL		<Model> (EC,EXP)L200 (K60,K70)	<M/Y> 97-10
Group: SUPPLEMENTAL RESTRAINT	Draftno: 97-SY-029		
INFORMATION	OVERSEAS SERVICE DEPT	 R. USAMI - MANAGER QUALITY INFORMATION ANALYSIS	

1. Description:

This Service Bulletin informs you of change in attachment position of the SRS air bag caution label.

2. Applicable Manuals:

Manual	Pub. No.	Language	Page(s)
L200 Technical Information Manual	PYTE96E1	(English)	6-10
L200 Workshop Manual	PWTE96E1	(English)	52B-22
	PWTS96E1	(Spanish)	
	PWTF96E1	(French)	
	PWTG96E1	(German)	

3. Effective Date:

From October 1997

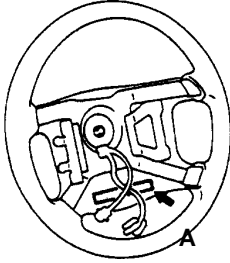
4. Details:

Interior - Supplemental Restraint System (SRS), page 2
SRS - Warning / Caution Labels, page 3

WARNING/CAUTION LABELS

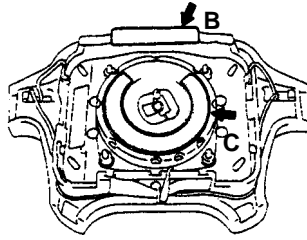
A number of caution labels relating to the SRS can be found in the vehicle, as shown in the following illustration. Follow label instruction when servicing SRS.

Steering wheel



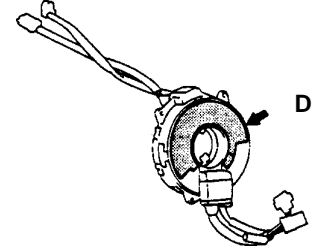
19N0245

Air bag module



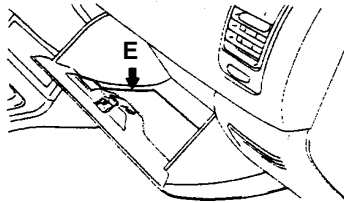
19V0059

Clock spring



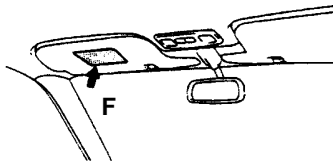
19X0015

Glove box



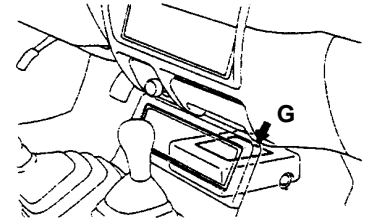
19V0060

Sun visor



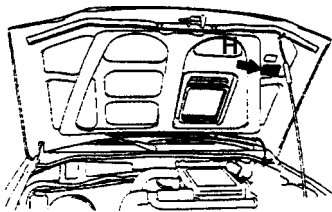
19V0061

SDU



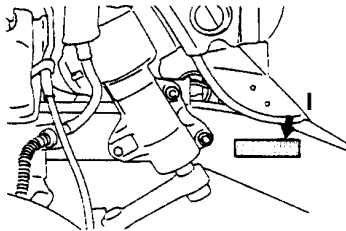
19V0062

Hood



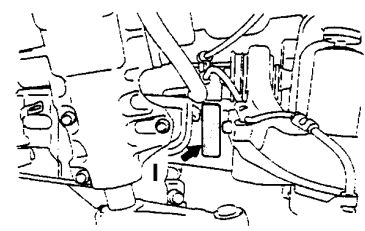
19V0063

Frame <2WD>



19V0064

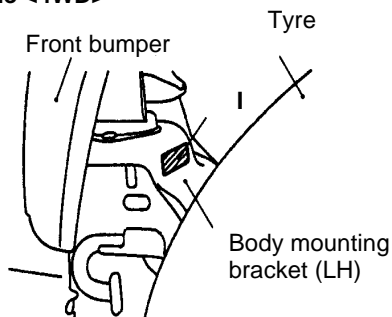
<Added>
Frame <4WD> *1



19V0065

<Added>

Frame <4WD>²



NOTE

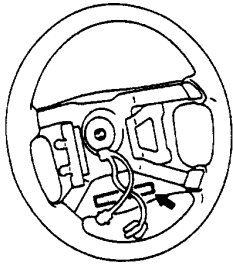
Label I is attached in position either at Frame <4WD>^{*1} or at Frame <4WD>^{*2}

WARNING/CAUTION LABELS

A number of caution labels relating to the SRS are found in the vehicle, as shown in the following illustration. Follow label instructions when servicing

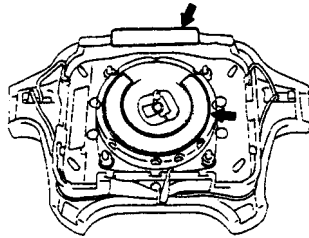
SRS. If labels are dirty or damaged, replace them with new ones.

Steering wheel



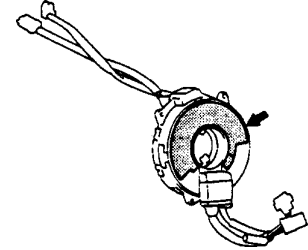
19N0245

Air bag



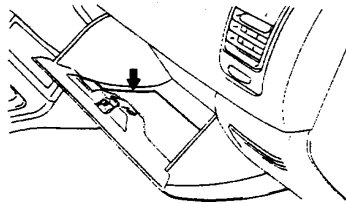
19V0059

Clock spring



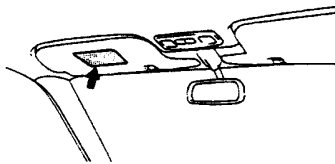
19X0015

Glove box



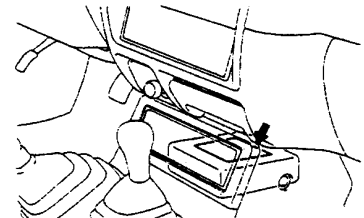
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Sun visor



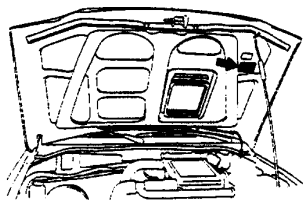
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SDU



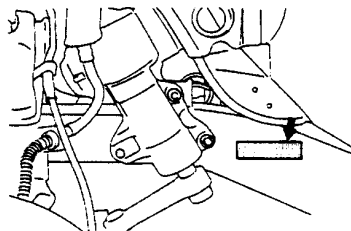
19V0062

Hood



19V0063

Frame <2WD>

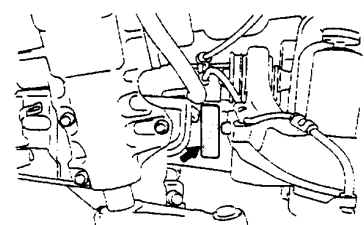


19V0064

Frame <4WD>

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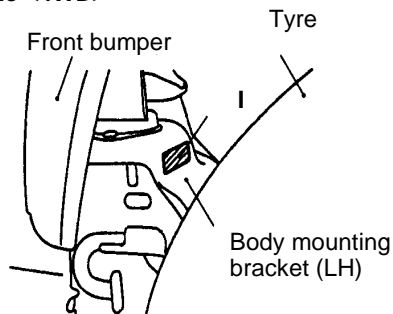


19V0065

<Added>

00005050

Frame <4WD>²




NOTE
The label for Frame <4WD> is attached in position either at Frame <4WD>¹ or at Frame <4WD>².

V0205AA



SERVICE BULLETIN

QUALITY INFORMATION ANALYSIS
OVERSEAS SERVICE DEPT. MITSUBISHI MOTORS CORPORATION

SERVICE BULLETIN		No.: MSB-98E52-502	
		Date: 1999-10-31	
Subject: CORRECTION TO ERASING OF DIAGNOSIS CODES		<Model> (EX,EXP)ECLIPSE (D30) (EX,EXP)GALANT (E50-80)	<M/Y> 98-10 98-10 98-10 98-10
Group: INTERIOR	Draft No.: 98AL070710		(EX,EXP)L200 (K00) (EX,EXP)L300 (P0, P10, P20, P30) 98-10 98-10 98-10
CORRECTION	OVERSEAS SERVICE DEPT	 T. NITTA - VICE GENERAL MANAGER QUALITY INFORMATION ANALYSIS	(EX,EXP)COLT (CJ0A) (EX,EXP)LANCER (CK0A) (EX,EXP)CARISMA

1. Description:

This Service Bulletin informs you of correction to erasing of the diagnosis codes.

2. Applicable Manuals:

Manual	Pub. No.	Language	Page(s)
'96 COLT/LANCER Workshop Manual CHASSIS	PWME9511	(English)	52B-6
	PWMS9512	(Spanish)	
	PWMF9513	(French)	
	PWMG9514	(German)	
	PWMD9515	(Dutch)	
	PWMW9516	(Swedish)	
'98 COLT/LANCER Workshop Manual CHASSIS	PWME9511-A	(English)	52B-5
	PWMS9512-A	(Spanish)	
	PWMF9513-A	(French)	
	PWMG9514-A	(German)	
	PWMD9515-A	(Dutch)	
	PWMW9516-A	(Swedish)	
'96 ECLIPSE Workshop Manual CHASSIS	PWUE95E1	(English)	52B-6
	PWUS95E1	(Spanish)	
	PWUF95E1	(French)	
	PWUG95E1	(German)	
	PWUD95E1	(Dutch)	
	PWUI95E1	(Italian)	
'97 GALANT Workshop Manual CHASSIS	PWDE9611	(English)	52B-8
	PWDS9612	(Spanish)	
	PWDF9613	(French)	
	PWDG9614	(German)	
	PWDD9615	(Dutch)	
	PWDW9616	(Swedish)	

Manual	Pub. No.	Language	Page(s)
'96 CARISMA Workshop Manual CHASSIS	PWDE9502	(English)	52B-6
	PWDS9503	(Spanish)	
	PWDF9504	(French)	
	PWDG9505	(German)	
	PWDD9506	(Dutch)	
	PWDW9507	(Swedish)	
	PWDI95E1	(Italian)	
'97 L200 Workshop Manual CHASSIS	PWTE95E1	(English)	52B-6
	PWTS95E1	(Spanish)	
	PWTF95E1	(French)	
	PWTG95E1	(German)	
'98 L300 Workshop Manual CHASSIS	PWWE8608-Q	(English)	52B-6
	PWWS8613-Q	(Spanish)	
	PWWF8612-Q	(French)	
	PWWG8609-Q	(German)	
	PWWD8610-Q	(Dutch)	
	PWWW8611-Q	(Swedish)	

3. Details:

'96 COLT/LANCER Workshop Manual CHASSIS, page 3

'98 COLT/LANCER Workshop Manual CHASSIS, page 4

'96 ECLIPSE Workshop Manual CHASSIS, page 5

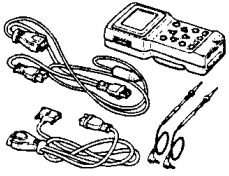
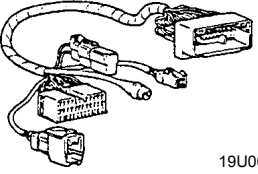
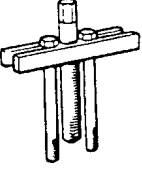
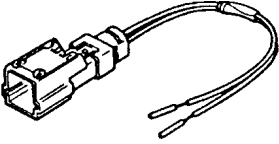
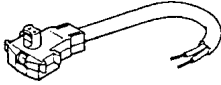
'97 GALANT Workshop Manual CHASSIS, page 6

'96 CARISMA Workshop Manual CHASSIS, page 7

'97 L200 Workshop Manual CHASSIS, page 8


'98 L300 Workshop Manual CHASSIS, page 9

SPECIAL TOOLS

Tool	Number	Name	Use
	MB991502	MUT-II sub assembly	<ul style="list-style-type: none"> • Reading diagnosis codes • Erasing diagnosis code • Reading trouble period • Reading erase times
 19U0039	MB991613	SRS check harness	Checking the SRS electrical circuitry
	MB990803	Steering wheel puller	Steering wheel removal
	MB686560	SRS air bag adapter harness A	<ul style="list-style-type: none"> • Deployment of air bag modules and seat belt with pre-tensioner inside the vehicle • Deployment of air bag module (front passenger's side) outside the vehicle
	MR203491 or MB628919	SRS air bag adapter harness B	Deployment of air bag module (driver's side) outside the vehicle

52400080035

TEST EQUIPMENT

Tool	Name	Use
 13R0748	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

52400310097

TROUBLESHOOTING

STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING

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

DIAGNOSIS FUNCTION

52400320063

DIAGNOSIS CODE 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 CODES

Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points. **<Incorrect>**

WHEN USING THE MUT-II

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.

<Correct>

TROUBLESHOOTING

STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING

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

DIAGNOSIS FUNCTION

DIAGNOSIS CODE 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 CODES

~~Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points.~~ **<Incorrect>**

INSPECTION CHART FOR DIAGNOSIS CODES

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-6	
15, 16	Front impact safing G sensor system inside SRS-ECU	52B-6	
17	Side impact safing G sensor system inside SRS-ECU	52B-6	
21, 22, 61, 62	Driver's side air bag module (squib) system	52B-7	
24, 25, 64, 65	Front passenger's side air bag module (squib) system	52B-8	
31, 32	SRS-ECU capacitor system	52B-8	
34*	Connector lock system	52B-9	
35	SRS-ECU (deployed air bag) system	52B-9	
41*	IG ₁ (A) power circuit system	52B-9	
42*	IG ₁ (B) power circuit system	52B-9	
43	SRS warning lamp driver circuit system	Lamp does not illuminate.*	52B-10
		Lamp does not switch off.	52B-10
44*	SRS warning lamp drive circuit system	52B-10	
45	Internal circuit system of non-volatile memory (EEPROM) inside SRS-ECU	52B-11	
51, 52	Driver's side air bag module (squib ignition drive circuit) system	52B-11	
54, 55	Front passenger's side air bag module (squib ignition drive circuit) system	52B-11	
71, 72, 75, 76	Side air bag module (R.H.) (squib) system	52B-11	
73, 74	Side air bag module (R.H.) (squib) ignition drive circuit system	52B-12	
79, 93	Side air bag module (L.H.) communication system	52B-12	
81, 82, 85, 86	Side air bag module (L.H.) (squib) system	52B-12	
83, 84	Side air bag module (L.H.) (squib) ignition drive circuit system	52B-13	

<Correct>

WHEN USING THE MUT-II

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.

TROUBLESHOOTING

STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING

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

DIAGNOSIS FUNCTION

DIAGNOSIS CODE 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 CODES

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

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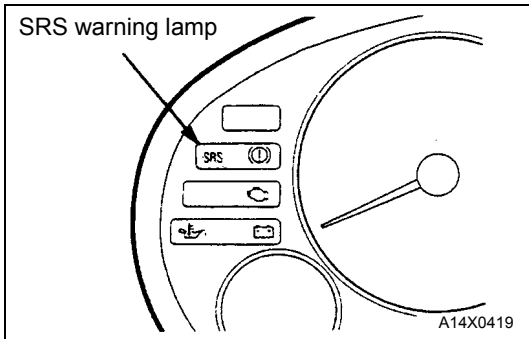
↑ **<Correct>**

WHEN USING THE MUT-II

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

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

TEST EQUIPMENT

5240080035

Tool	Name	Use
	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

52400320063

DIAGNOSIS CODE 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 CODES

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

<Incorrect>

↑
<Correct>

WHEN USING THE MUT-II

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.

INSPECTION CHART FOR DIAGNOSIS CODES

52400330222

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-10
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-11
31, 32	SRS-ECU capacitor system	52B-11
34*	Connector lock system	52B-12
35	SRS-ECU (deployed air bag) system	52B-12
41*	IG ₁ (A) power circuit system	52B-12
42*	IG ₁ (B) power circuit system	52B-13
43	SRS warning lamp drive circuit system	Lamp does not illuminate.*
		Lamp does not switch off.
44*	SRS warning lamp drive circuit system	52B-15
45	Internal circuit system of non-volatile memory (EEPROM) inside SRS-ECU	52B-15

DIAGNOSIS FUNCTION

DIAGNOSIS CODE 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 CODES

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

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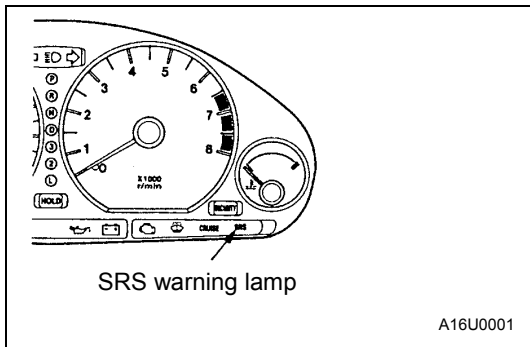
↑ <Correct>

WHEN USING THE MUT-II

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 CHECK

Turn the ignition with the key “ON” position. Does the “SRS” warning lamp illuminate for about 7 seconds, turn OFF and the remain extinguished for at least 5 seconds? If yes, SRS system is functioning properly. If no, consult page 52B-6.

INSPECTION CHART FOR DIAGNOSIS CODES

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

Code No.	Diagnosis Item	Reference Page	
14	Analog G-sensor system	52B-7	
15	Safing G sensor system	52B-7	
21, 22	Driver's side air bag module (squib) system	52B-7	
24*1, 25*1	Front passenger's side air bag module (squib) system	52B-8	
26, 27	Driver's side pre-tensioner (squib) system	52B-9	
28, 29	Front passenger's side pre-tensioner (squib) system	52B-9	
31, 32	SRS-ECU capacitor system	52B-10	
35	SRS-ECU system (ignition of the air bag or activation of the seat belt pre-tensioner completed)	52B-10	
41*2	IG1 (A) power circuit system	52B-10	
42*2	IG1 (B) power circuit system	52B-11	
43*2	SRS warning lamp drive circuit system	Lamp does not illuminate	52B-12
		Lamp does not switch off	52B-13
44*2	SRS warning lamp drive circuit system	52B-13	

SEALANT

52400060015

Item	Specified sealant	Remark
Sensor cable	3M ATD Part No. 8625 or equivalent	Ribbon sealer

TROUBLESHOOTING

52400310097

STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING

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

DIAGNOSIS FUNCTION

52400320063

DIAGNOSIS CODE 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 CODES

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

<Incorrect>

↑ **<Correct>**

WHEN USING THE MUT-II

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.

INSPECTION CHART FOR DIAGNOSIS CODES

52400330123


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

Code No.	Diagnosis Item	Reference Page
11, 12, 13	Front impact sensor system	52B-7
21, 22	Air bag module (squib) system	52B-8
31, 32	SDU capacitor system	52B-9
33*	Cranking signal system	52B-10
34*	Connector lock system	52B-11
41*	IG ₁ (A) power circuit system	52B-11
42*	IG ₁ (B) power circuit system	52B-12
43	SRS warning lamp drive circuit system Lamp does not illuminate*	52B-13
	SRS warning lamp drive circuit system Lamp does not switch off	52B-14
44	SRS warning lamp drive circuit system	52B-14
45	SDU non-volatile memory (EEPROM) and A/D converter system	52B-14

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 fault codes 41 or 42. When these diagnosis codes are displayed, check the battery.

TEST EQUIPMENT

Tool	Name	Use
	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

STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING

Refer to GROUP 13 – Service Adjustment Procedures (MPI). (Refer to the '95 L300 Workshop Manual <Pub. No. PWWE9409(1/2)>.)

DIAGNOSIS FUNCTION

DIAGNOSIS CODE CHECK

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

Refer to GROUP 13 – Service Adjustment Procedures (MPI). (Refer to the '95 L300 Workshop Manual <Pub. No. PWWE9409(1/2)>.)

ERASING DIAGNOSIS CODES

<Incorrect>

~~Refer to GROUP 13 – Service Adjustment Procedures (MPI). (Refer to the '95 L300 Workshop Manual <Pub. No. PWWE9409(1/2)>.)~~

↑ **<Correct>**

WHEN USING THE MUT-II

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.

INSPECTION CHART FOR DIAGNOSIS CODES


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-7	
15, 16	Safing G sensor system inside SRS-ECU	52B-7	
21, 22, 51, 54* ¹ , 61, 64* ¹	Driver's side air bag module (squib) system	52B-8	
24, 25, 51, 54, 61, 64	Front passenger's side air bag module (squib) system	52B-9	
31, 32	SRS-ECU capacitor system	52B-19	
34* ²	Connector lock system	52B-10	
35	SRS-ECU (deployed air bag) system	52B-10	
41* ²	IG ₁ (A) power circuit system (fuse No. 14 circuit)	52B-10	
42* ²	IG ₁ (B) power circuit system (fuse No. 15 circuit)	52B-10	
43	SRS warning lamp drive circuit system	Lamp does not illuminate.* ²	52B-11
		Lamp does not switch off.	52B-12
44*	SRS warning lamp drive circuit system	52B-12	
45	Internal circuit system of non-volatile memory (EEPROM) inside SRS-ECU	52B-12	



SERVICE BULLETIN

QUALITY INFORMATION ANALYSIS
OVERSEAS SERVICE DEPT. MITSUBISHI MOTORS CORPORATION

SERVICE BULLETIN		No.: MSB-01E52-001	
		Date: 2001-07-16	<Model> <M/Y>
Subject: MODIFICATION TO SRS-ECU AND FRONT IMPACT SENSOR		(EC)L200(K60,K70)	97-99
Group: INTERIOR	Draft No.: 00SY011308		
INFORMATION	INTERNATIONAL CAR ADMINISTRATION OFFICE	 T.MASAKI-MANAGER TECHNICAL SERVICE PLANNING	

1. Description:

The modified SRS-ECU and front impact sensor have been employed.

2. Applicable Manuals:

Manual	Pub. No.	Language	Page(s)
'97 L200 Workshop Manual Chassis	PWTE96E1	(English)	52B-5, 15, 25
	PWTS96E1	(Spanish)	
	PWTF96E1	(French)	
	PWTG96E1	(German)	
'99 L200 Workshop Manual Chassis Supplement	PWTE96E1-C	(English)	52B-1, 2, 4, 8, 9
	PWTS96E1-C	(Spanish)	
	PWTF96E1-C	(French)	
	PWTG96E1-C	(German)	

3. Interchangeability:

Not Interchangeable.

4. Effective Date:

From February 1, 2000 (Engineering change No.: YW5519)

From February 21, 1999 for KD shipments.

SERVICE SPECIFICATIONS

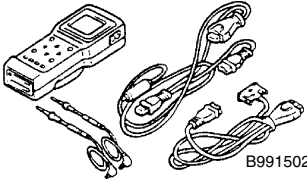
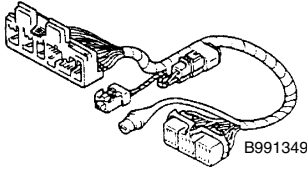
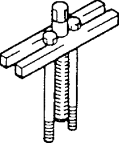
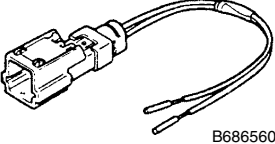
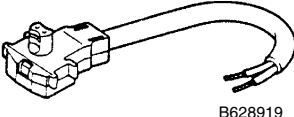
52400040071

Items	Standard value
Front impact sensor resistance Ω	2,000 \pm 20 <Old> (Up to January 31, 2000)
Clock spring resistance Ω	Less than 0.4

820 \pm 82 <New>
(From February 1, 2000)


52400070148

SPECIAL TOOLS

Tool	Number	Name	Use
 B991502	MB991502	MUT-II sub assembly	<ul style="list-style-type: none"> • Reading diagnosis codes • Erasing diagnosis codes • Reading trouble period • Reading erase times
 B991349	MB991349	SRS Check harness	Checking the SRS electrical circuitry
 B990803	MB990803	Steering wheel puller	Steering wheel removal
 B686560	MB686560	SRS air bag adapter harness A	Deployment of air bag module inside the vehicle
 B628919	MB628919	SRS air bag adapter harness B	Deployment of air bag module outside the vehicle

TEST EQUIPMENT

52400080035

Tool	Name	Use
 13R0746	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

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

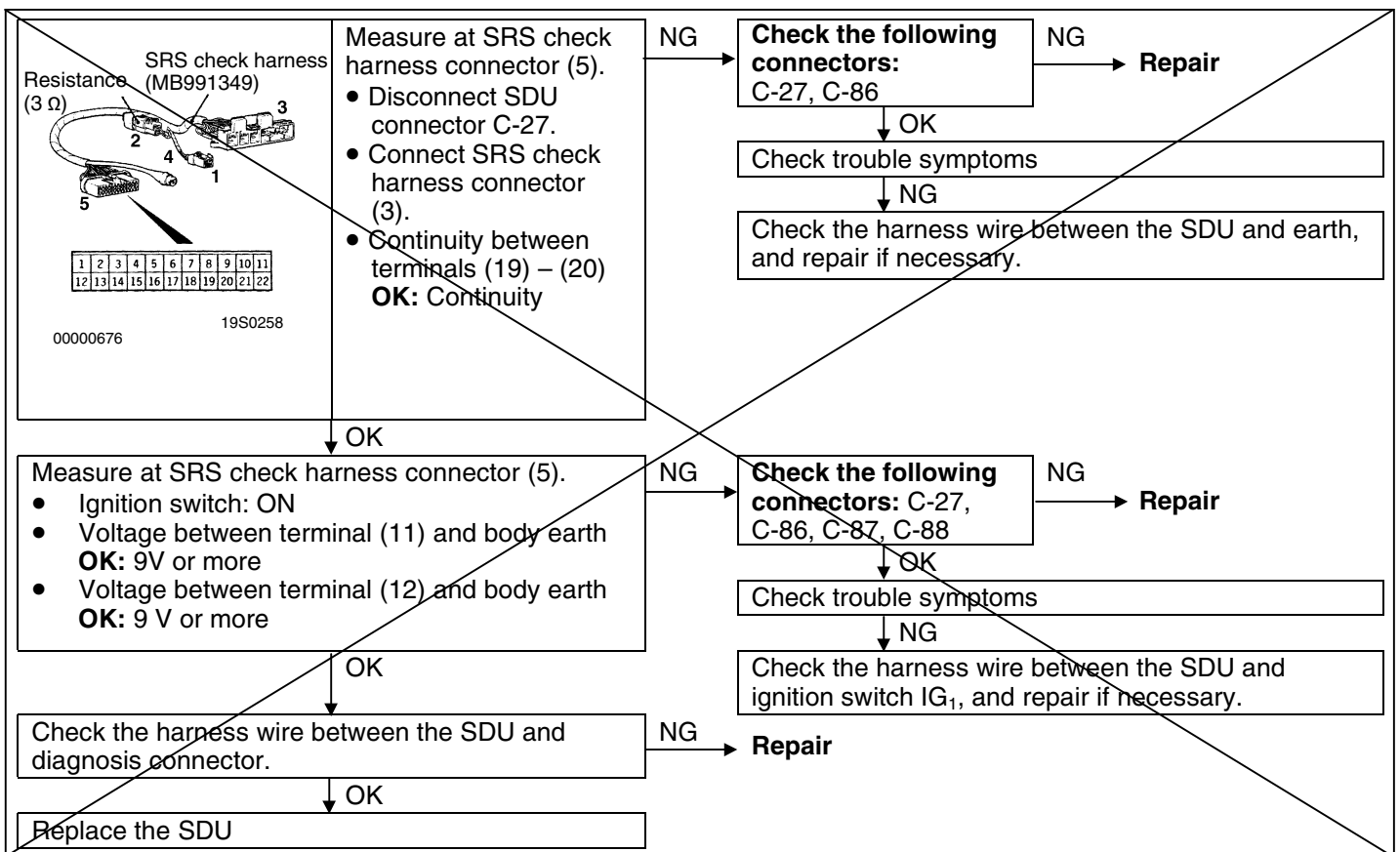
Inspection Procedure 1

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 SDU



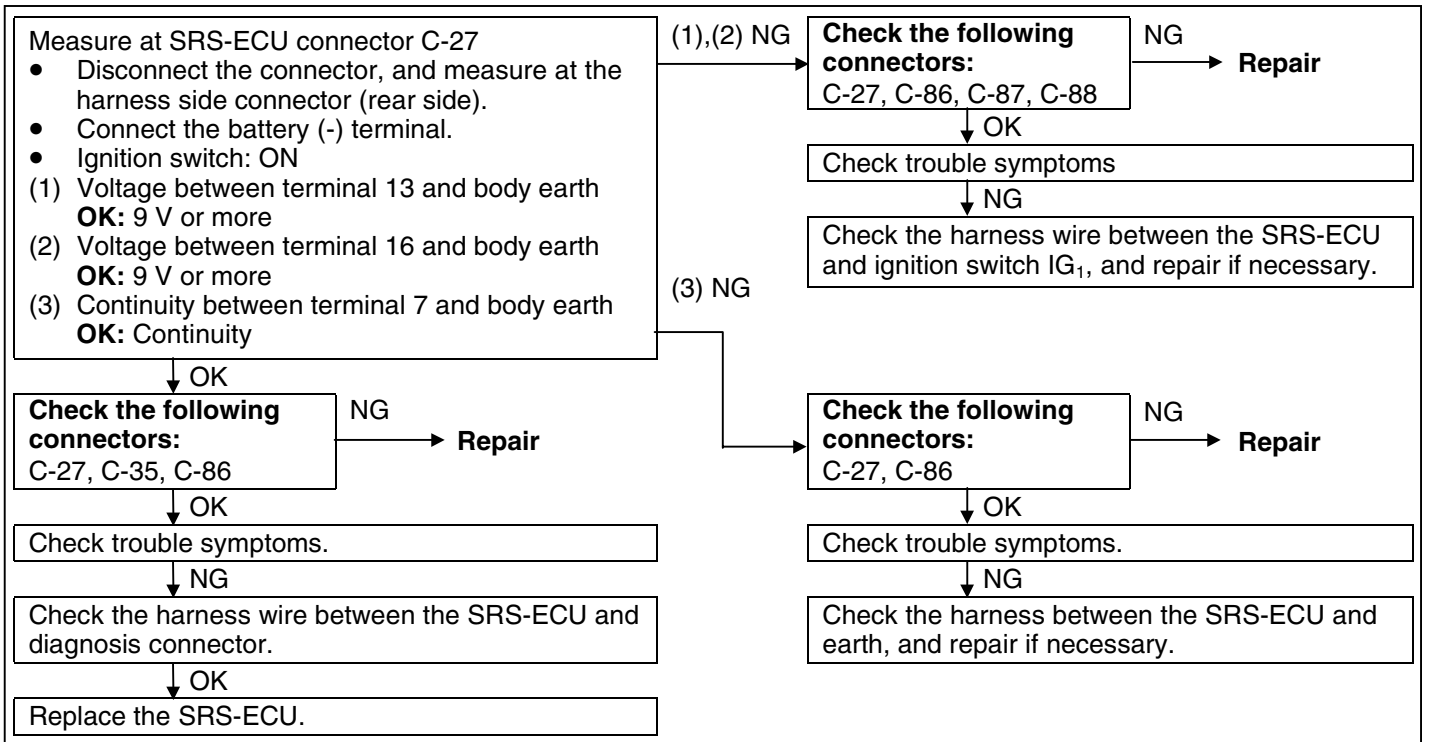
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SRS MAINTENANCE

52400390114

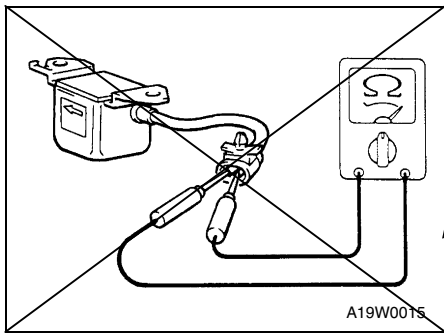
The SRS must be inspected by an authorized dealer 10 years after the date vehicle registration.

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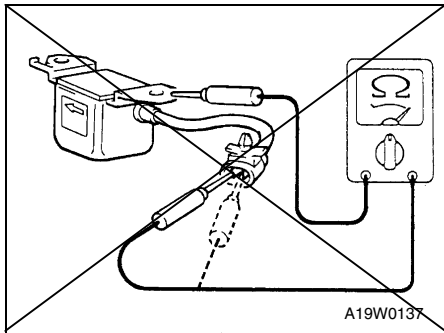


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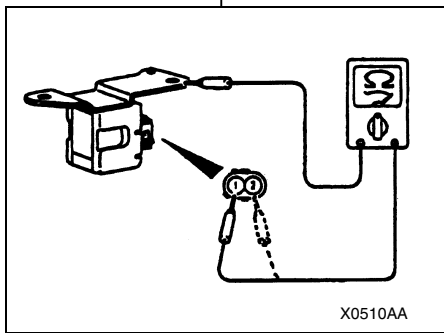
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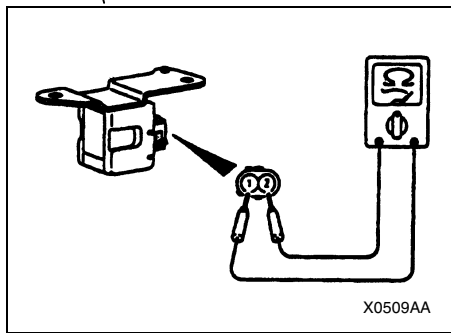
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INSPECTION

1. Check the front impact sensor for dents, cracks, deformation or rust.

Caution

If a dent, crack, deformation or rust is detected, replace with a new sensor.

2. Measure the resistance between terminals and check whether it is within the standard value.

Standard value: ~~2,000 ± 20 Ω~~ ← $820 \pm 82 \Omega$

<Old> <New>

Caution

Always replace the sensor with a new one if the resistance is not within the standard value.

3. Check fender shield panel for deformation or rust.
4. Check the continuity between the terminal and bracket. If there is a continuity, the insulation is malfunctioned, and replace the sensor with a new one.

GROUP 52B
SUPPLEMENT RESTRAINT SYSTEM (SRS)

GENERAL

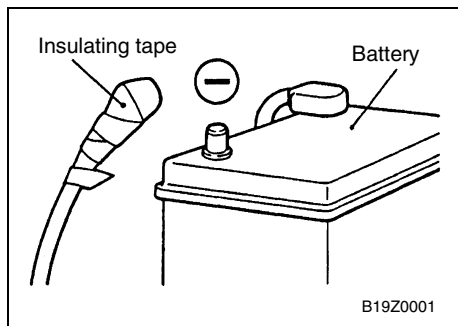
OUTLINE OF CHANGES

The SRS air bag control unit (SRS-ECU) has been modified due to passenger's air bag newly used. Also, driver's air bag module has been modified. Therefore, service procedures have been added, although the other procedures than the below remain the same as before.

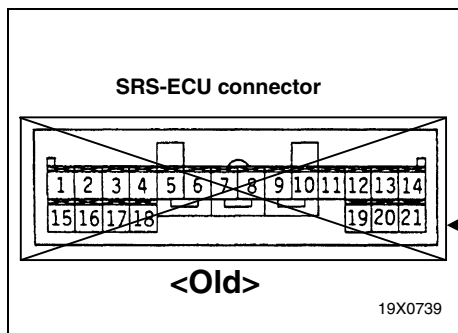
SRS SERVICE PRECAUTIONS

1. In order to avoid injury to yourself or others from accidental deployment of the air bag 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 the basic manual.
3. **Never Attempt to Repair the Following Components:**
 - SRS air bag control unit (SRS-ECU)
 - Front impact sensors
 - Clock spring
 - Air Bag Modules (Driver's and front passenger's sides)

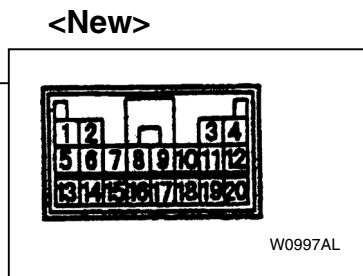
If these components are diagnosed as faulty, just replace in accordance with the **INDIVIDUAL COMPONENT SERVICE** procedures. Refer to P.52B-13.



After negative battery cable disconnection, wait at least 60 seconds before any further work. Also, wind the terminal with insulating tape. The SRS-ECU condenser retains enough voltage for some time to deploy the air bags even after the battery has been disconnected. So, doing any work in this period of time could result in unintended air bag deployment, leading to serious injury.



Do not repair the SRS air bag wiring harness connector. If faulty, just replace. If the wiring harness is faulty, replace or repair according to the following table.



	SRS-ECU terminal No. <Old>	Harness connector (No. of terminals, colour)	Destination of harness	Corrective action
<New>				
17 to 19	1 to 4	2 pins, yellow	-	-
11	5	<Old>	Body wiring harness → Clock spring → Airbag module (Driver's side)	Repair or replace each wiring harness. Replace clock spring.
12	6		Body wiring harness → Airbag module (Front passenger's side)	Repair or replace each wiring harness.
9	7	<New>	-	-
10	8		Body wiring harness → Diagnosis connector	Repair or replace each wiring harness.
5, 6	9, 10		Body wiring harness → Front wiring harness → Front impact sensor (L.H.)	Sensor cable* installation procedures
20	11		Body wiring harness → Junction block (fuse No. 11)	Repair or replace each wiring harness.
3, 4	12, 17		Body wiring harness → Junction block (fuse No. 10)	
16	14		Body wiring harness → SRS warning lamp	
8	15		-	-
14, 15	16		Body wiring harness → Front wiring harness → Front impact sensor (R.H.)	Sensor cable* installation procedures
1, 2	18, 19		Body wiring harness → Earth	Repair or replace body wiring harness.
7	20, 21			

NOTE

*: The sensor cable is available as service part.

6. Do not expose the SRS components to heat over 93°C, so remove the SRS-ECU, air bag modules, clock spring and front impact sensors before drying or baking the vehicle after painting.
7. Whenever you finish servicing the SRS, check warning lamp operation to make sure that the system functions properly.
8. Make certain that the ignition switch is off when the MUT-II is connected and disconnected.
9. If you have any questions about the SRS, please contact your local distributor.

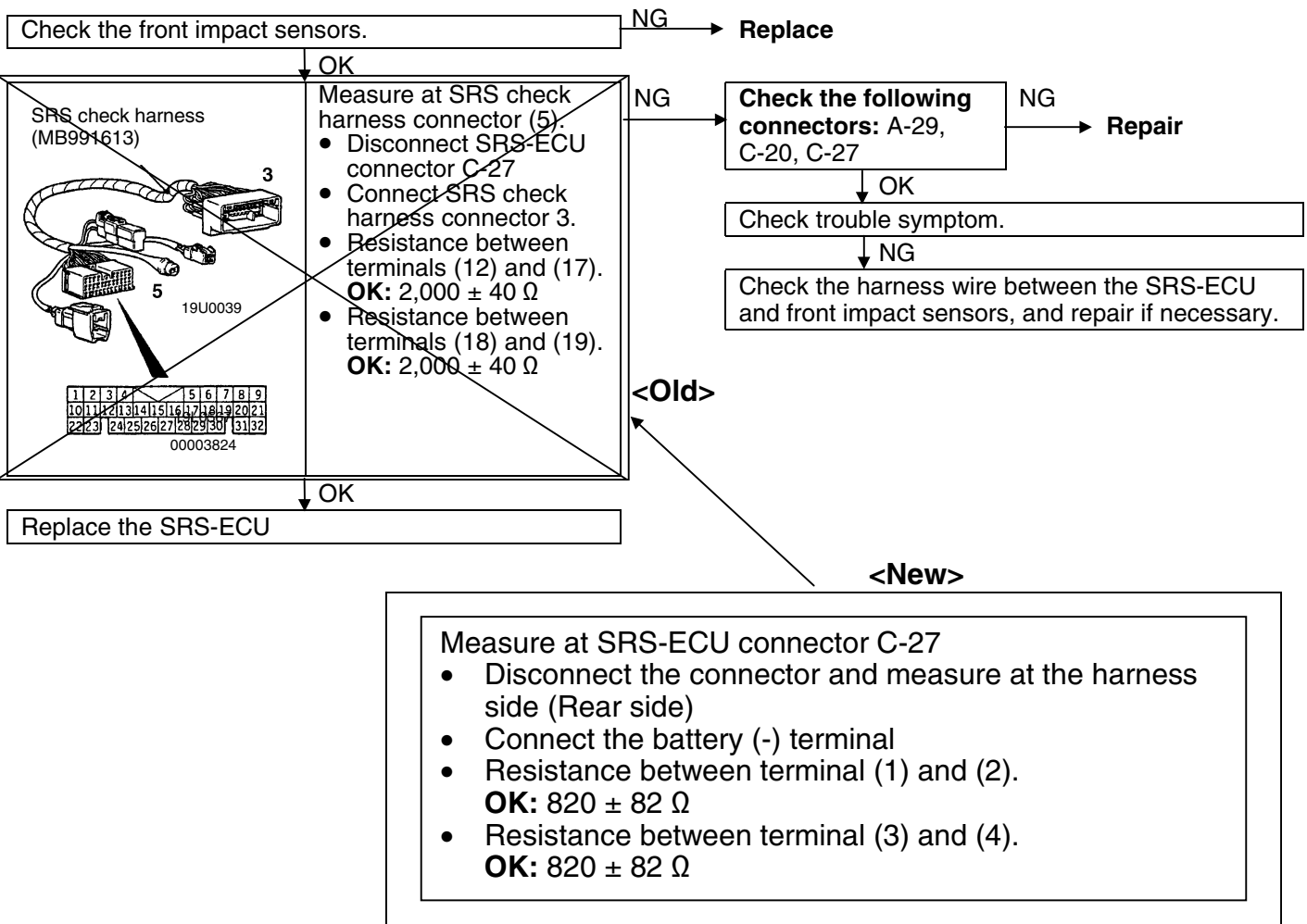
NOTE

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

INSPECTION PROCEDURE CLASSIFIED BY DIAGNOSIS CODE

Code No. 11, 12, or 13 Front impact sensor system	Probable cause
These diagnostic trouble codes are output if there is abnormal resistance between the input terminals of the front impact sensors. The trouble causes for each diagnosis code No. are as follows.	<ul style="list-style-type: none"> • Malfunction of front impact sensors • Malfunction of wiring harness of connectors • Malfunction of SRS-ECU

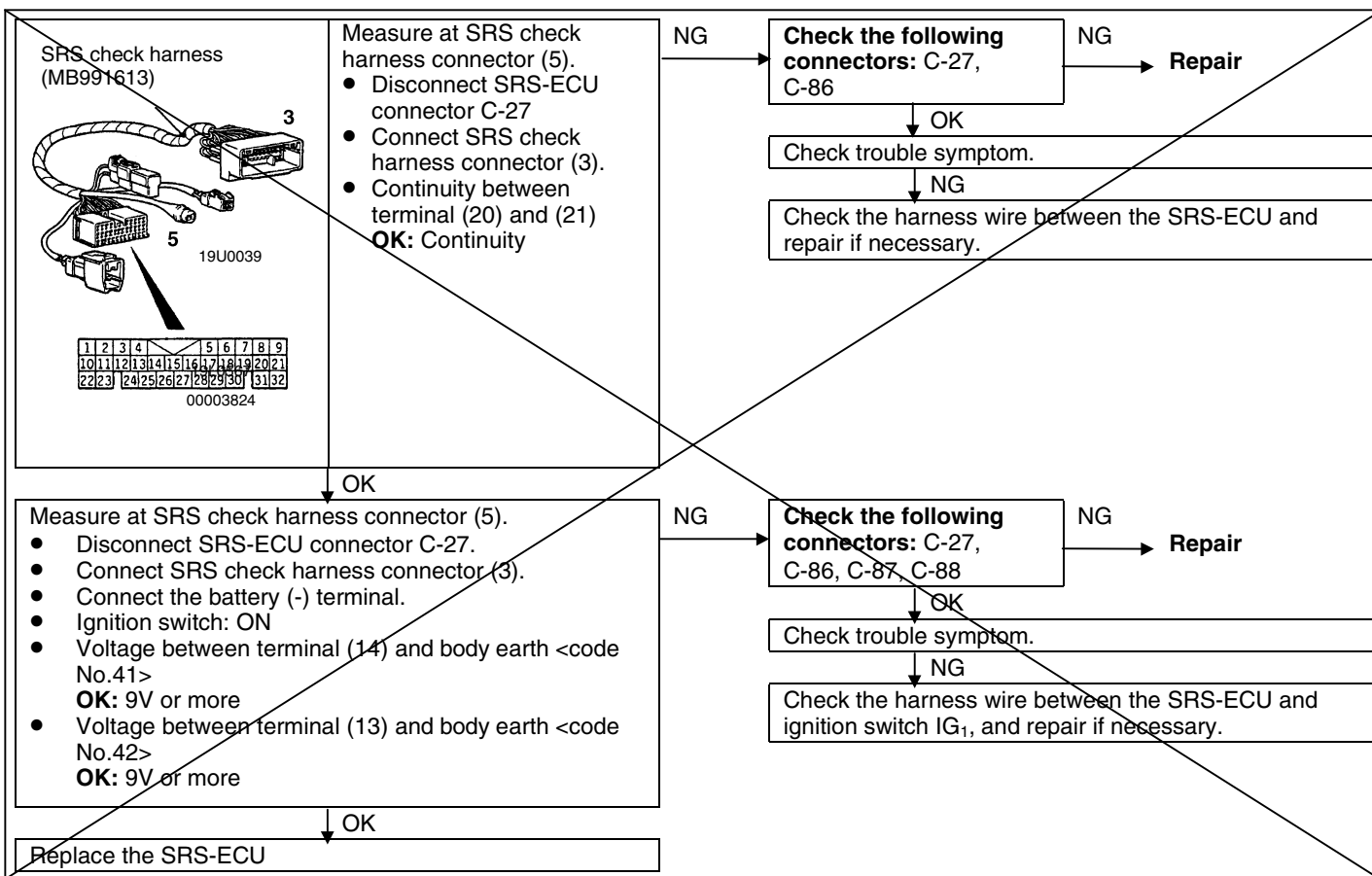
Code No.	Trouble
11	<ul style="list-style-type: none"> • Short circuit in front impact sensors of harness • Short circuit in front impact sensors harness leading to the vehicle body ground • Short circuit in front impact sensors harness leading to the power supply
12	<ul style="list-style-type: none"> • Open circuit in either left or right front impact sensors or harness • Short circuit in front impact sensors harness leading to the power supply
13	<ul style="list-style-type: none"> • Open circuit in both left and right front impact sensors or harness • Short circuit in front impact sensors harness leading to the power supply



Code No.35 SRS-ECU (deployed air bag) system	Probable cause
This diagnosis code is displayed 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

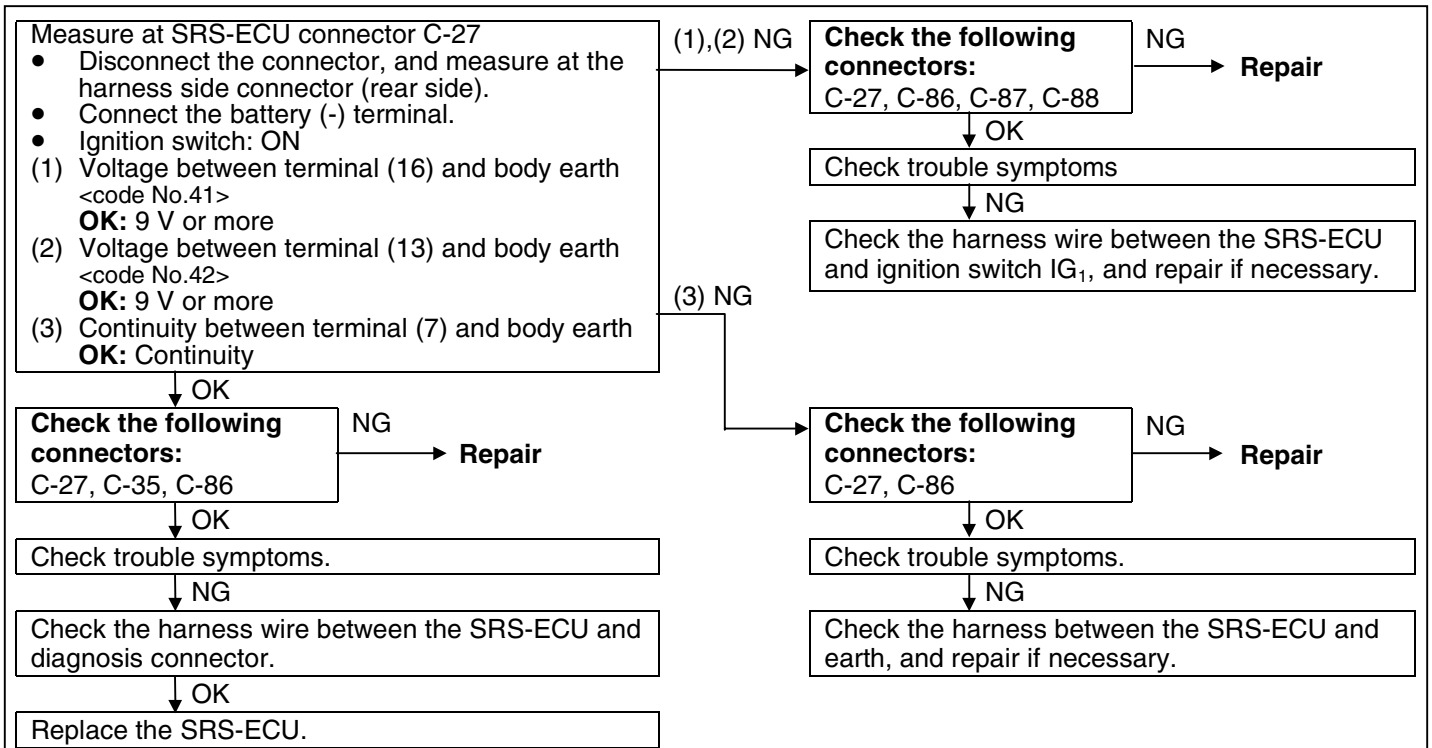
Code No.41 Power circuit system (fuse No.10 circuit)	Probable cause
<p>Code No.42 Power circuit system (fuse No.11 circuit)</p> <p>Code No.41 is displayed if the voltage between the IG₁ terminal (SRS-ECU, terminal 14) and the earth is lower than the specified value for a continuous period of five seconds or more.</p> <p>Code No.42 is displayed if the voltage between the IG₁ terminal (SRS-ECU, terminal 13) and the earth is lower than the specified value for a continuous period of five 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 harness or connectors Malfunction of SRS-ECU



<Old>

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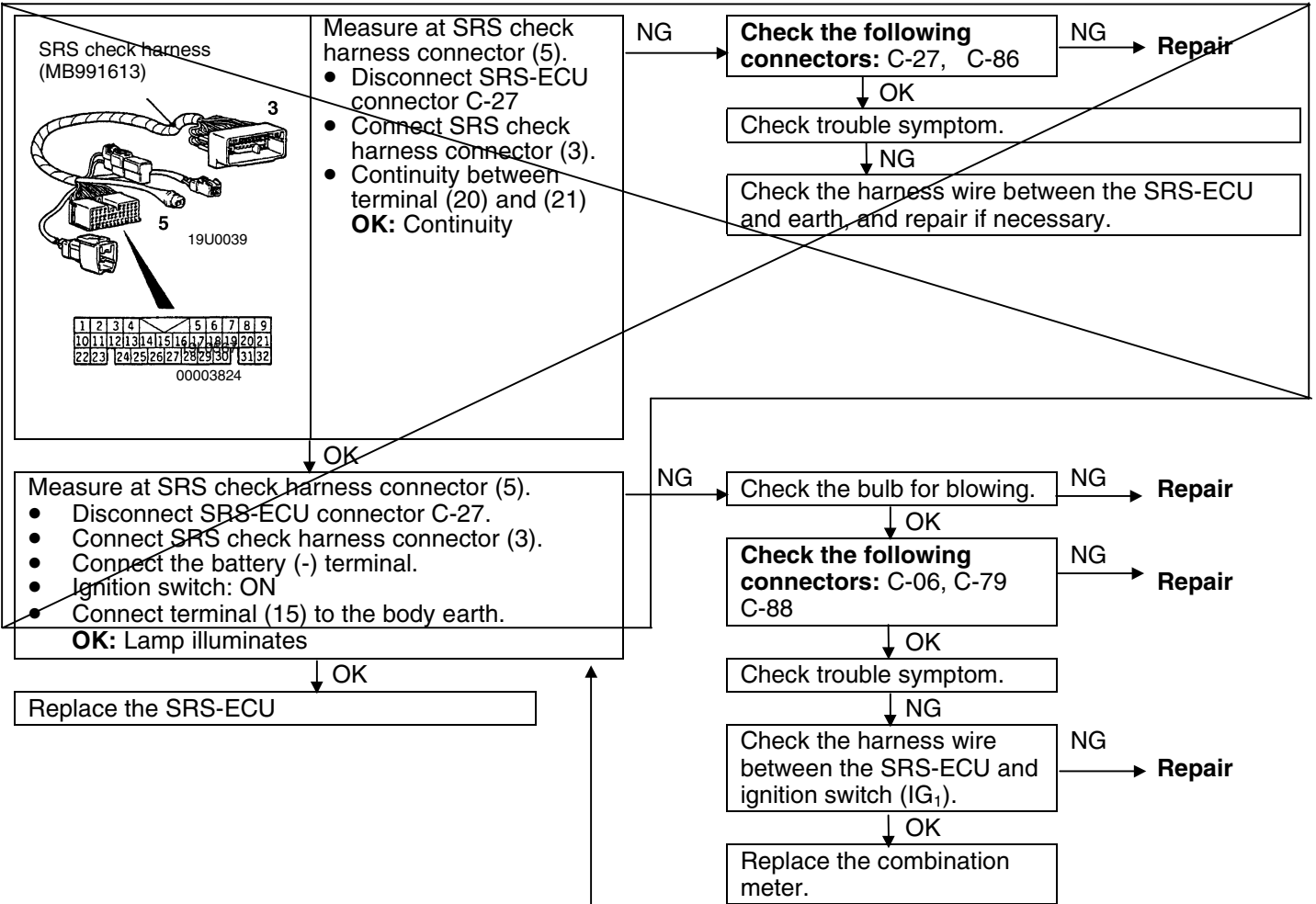
<Added>



<New>

Code No. 43, SRS warning lamp drive circuit system (Lamp does not illuminate.)	Probable cause
<p>This diagnosis code is displayed 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). However, if this code is displayed 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

<Old>



<New>

