

SUPPLEMENTAL RESTRAINT SYSTEM

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دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



GENERAL INFORMATION

Description

This vehicle adopts the occupant restraint system, which includes active and supplemental types. Active restraint system requires occupants to take some actions, such as fastening seat belt; while supplemental restraint system requires no actions from occupants.

Active restraint system:

- Driver seat belt and front passenger seat belt
- Rear seat belt

Supplemental restraint system:

- Airbag system
- Driver seat belt pretensioner and front passenger seat belt pretensioner

Airbag system consists of following components:

- Driver airbag

Driver airbag is installed in steering wheel, which will inflate to protect driver in the event of a severe collision.

- Front passenger airbag

Front passenger airbag is installed at upper right side of instrument panel, which will inflate to protect front passenger in the event of a severe collision.

- Driver side airbag (if equipped)

Driver side airbag is installed in driver seat, which will inflate to protect driver in the event of a severe collision.

- Front passenger side airbag (if equipped)

Front passenger side airbag is installed in front passenger seat, which will inflate to protect front passenger in the event of a severe collision.

- Curtain shield airbag (if equipped)

Curtain shield airbag is installed in both sides of roof, which will inflate to protect occupants in the event of a severe collision.

- Side collision sensor (if equipped)

Side collision sensor is installed in body at B-pillar lower end, which will detect strength of side collision and transmit this signal to SRS control module assembly in the event of a severe side collision.

- SRS control module assembly

SRS control module assembly has a built-in collision sensor, which is installed on body floor of auxiliary fascia console assembly. It controls inflation of airbag so as to protect driver and other occupants in the event of a severe collision.

- Spiral cable

It is used to connect driver airbag while ensuring that steering wheel has enough steering angle.

- Airbag malfunction indicator

After ignition switch is turned to ON, if malfunction indicator goes off after it comes on for approximately 6 seconds, it means that supplemental restraint system operates normally. If malfunction indicator does not come on, remains on or flashes, it means that supplemental restraint system has a problem, and it is necessary to perform tests and repairs.

- Wire harness

Generally, it is yellow and used to connect each element of supplemental restraint system. Connector has a safety mechanism.

Airbag system function:

- Airbag must work together with seat belt, and it is not a substitute for seat belt. Driver and passengers should always fasten their seat belts when driving, and adjust the belts to a proper position according to their size.

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- Minor collision will not activate airbag system. Airbags will quickly inflate to protect driver and front passenger only when severe frontal collision occurs.

Seat belt pretensioner consists of following components:

- Driver seat belt pretensioner
Driver seat belt pretensioner is located on driver seat belt retractor, which will retract driver seat belt to protect driver in the event of a severe collision.
- Front passenger seat belt pretensioner
Front passenger seat belt pretensioner is located on front passenger seat belt retractor, which will retract front passenger seat belt to protect front passenger in the event of a severe collision.

Seat belt pretensioner function:

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- At the moment of collision, pretensioner retracts seat belt before occupant moves forward, and restrains occupant onto seat immediately, then locks seat belt to prevent occupant from leaning forward, thus protecting occupant safety.
- Seat belt pretensioner works with airbag system. Once a frontal collision impact higher than specified value is detected, seat belt with pretensioner will work together with airbag system to protect occupant safety.

Operation

Supplemental restraint system can improve the safety of occupants only when used in combination with seat belts. Occupants must fasten their seat belts in order to gain full protection from supplemental restraint system.

Supplemental restraint system circuit is continuously monitored and controlled by SRS control module assembly. Airbag indicator on instrument cluster illuminates for approximately 6 seconds for a test each time ignition switch is turned ON. Airbag indicator goes off after the test is completed. If indicator comes on at any time other than test time, it indicates that there is a problem in supplemental restraint system circuit.

Whether airbag deploys or not depends on the angle and severity of an impact. When vehicle is subjected to a severe collision, microprocessor in supplemental restraint system sends signals to corresponding inflator units of airbags to deploy the airbags quickly, thus protecting occupants.

CAUTION

- Before removing airbag system components, disconnect the negative battery cable and wait for at least 90 seconds. Before servicing steering system, remove driver airbag and spiral cable for safekeeping.
- If vehicle has been involved in a minor collision but airbags do not deploy, always inspect airbag components.
- If airbags may be impacted during servicing, remove airbags as necessary for safekeeping before servicing.
- Never use airbag components in another vehicle. New airbag components should be used during replacement.
- If an airbag component is dropped or if there are any cracks, dents or other defects in case, bracket or connector, replace airbag component with a new one.
- Information labels are attached to periphery of airbag components. Always follow the cautions and instructions on labels.

⚠ WARNING

- Never expose airbag components directly to hot air or open flames.
- Never attempt to disassemble or repair airbag components.
- Removed airbags should be kept properly. Never put other objects on them. If triggered accidentally, it may cause personal injury.
- As a disposable component, airbag must be replaced after deployment and avoid being reused.
- Always dispose of vehicle together with airbags, or airbags may be triggered accidentally to cause personal injury.

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Specifications**Torque Specifications**

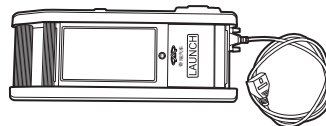
Description	Torque (N·m)
Coupling Bolt Between Front Passenger Airbag Assembly and Instrument Panel Crossmember Assembly	10 ± 2
Coupling Bolt Between Curtain Shield Airbag Assembly and Body	10 ± 1.5
Coupling Bolt Between Side Collision Sensor and Body	10 ± 2
Coupling Bolt Between SRS Control Module Assembly and Body	10 ± 1.5

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Tools

Special Tool

X-431 3G Diagnostic Tester

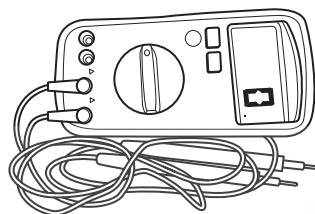


RCH0000001

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General Tool

Digital Multimeter



RCH0000002

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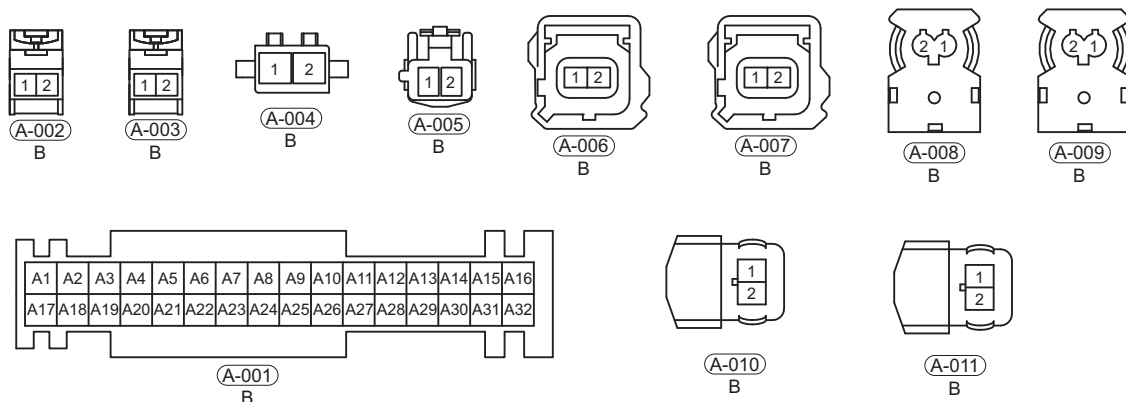
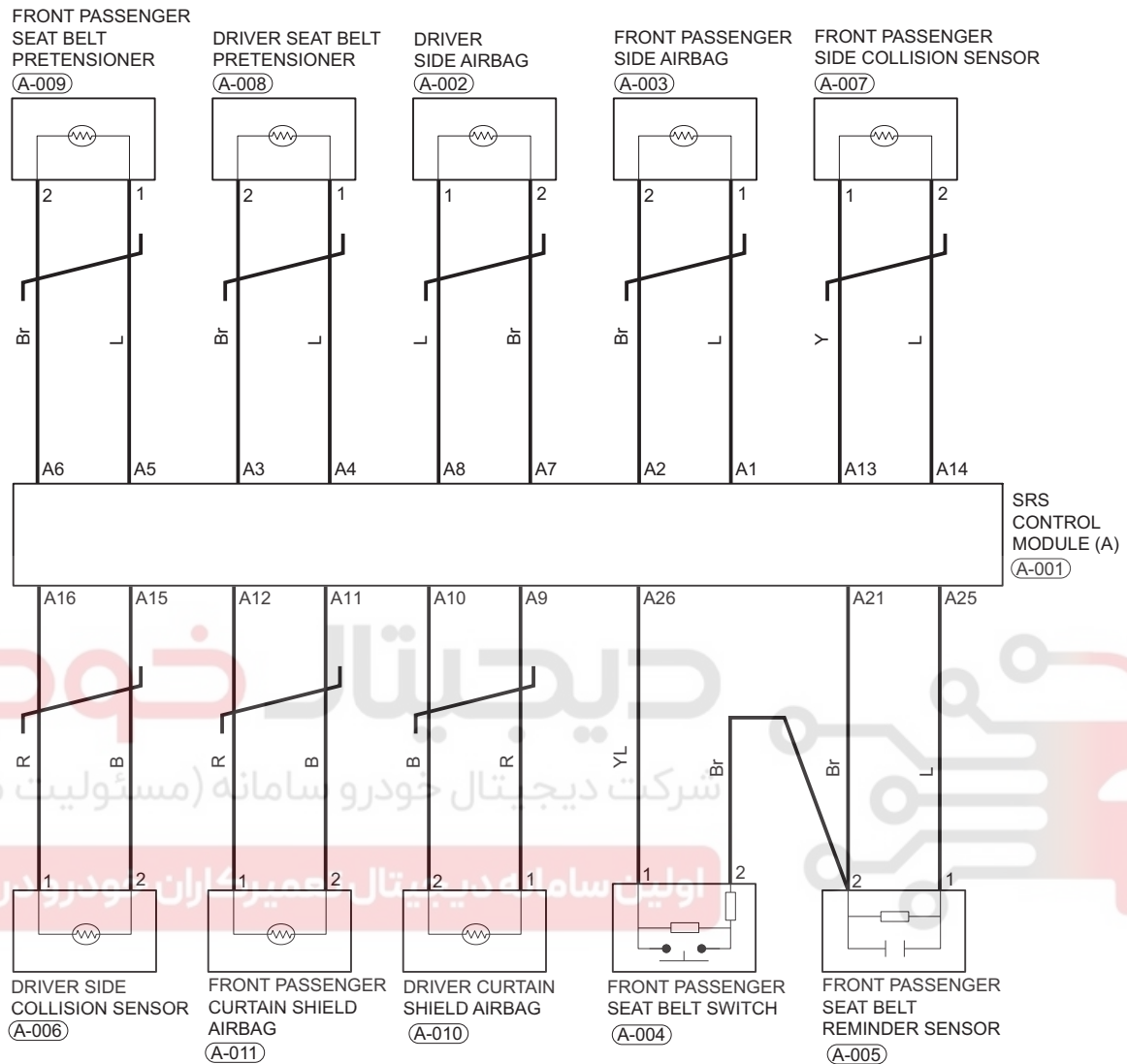
Supplemental Restraint System (Page 1 of 2)



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Supplemental Restraint System (Page 2 of 2)

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EM1A310020

DIAGNOSIS & TESTING

SRS Control Module Assembly Terminal List (Connector A)

Terminal No.	Terminal Definition	Terminal No.	Terminal Definition
A1	Passenger Side Airbag Feed	A17	/
A2	Passenger Side Airbag Return	A18	/
A3	Driver Pre-tensioner Return	A19	/
A4	Driver Pre-tensioner Feed	A20	/
A5	Passenger Pre-tensioner Feed	A21	Ground (Return of A25 and A26)
A6	Passenger Pre-tensioner Return	A22	/
A7	Driver Side Airbag Return	A23	/
A8	Driver Side Airbag Feed	A24	/
A9	Driver Curtain Airbag Feed	A25	Passenger Seatbelt Reminder
A10	Driver Curtain Airbag Return	A26	Passenger Buckle
A11	Passenger Curtain Airbag Feed	A27	/
A12	Passenger Curtain Airbag Return	A28	/
A13	Right Side RSU Feed	A29	/
A14	Right Side RSU Return	A30	/
A15	Left Side RSU Return	A31	/
A16	Left Side RSU Feed	A32	/

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SRS Control Module Assembly Terminal List (Connector B)

Terminal No.	Terminal Definition	Terminal No.	Terminal Definition
B1	Ignition	B13	Passenger Airbag Feed
B2	Ground	B14	Passenger Airbag Return
B3	/	B15	/
B4	/	B16	/
B5	/	B17	/
B6	/	B18	/
B7	/	B19	Driver Airbag Return
B8	/	B20	Driver Airbag Feed
B9	/	B21	/
B10	/	B22	/
B11	CAN Low (Vehicle Bus) CAN-	B23	/
B12	CAN High (Vehicle Bus) CAN+	B24	/

DTC Confirmation Procedure

Confirm that battery voltage is over 12 V before performing following procedures.

- Turn ignition switch to LOCK.
- Connect X-431 3G diagnostic tester (the latest software) to Data Link Connector (DLC).
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester to record and clear DTCs stored in supplemental restraint system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.
- If DTC is detected, malfunction indicated by DTC is current. Go to diagnosis procedure - Step 1.
- If DTC is not detected, malfunction indicated by DTC is intermittent.

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Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

- Check if connectors are loose.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Monitor X-431 3G diagnostic tester (the latest software) data that is related to this circuit.
- Wiggle related wire harnesses and connectors and observe if signal is interrupt in related circuit.
- If possible, try to duplicate the conditions under which DTC was set.
- Look for the data that has changed or DTC to reset during wiggle test.
- Look for broken, bent, protruded or corroded terminals.
- Inspect airbag components and mounting areas for damage, foreign matter, etc. that will cause incorrect signals.
- Check and clean all wire harness connectors and grounding parts related to DTC.
- If multiple trouble codes were set, refer to circuit diagrams to look for any common ground circuit or power supply circuit applied to the DTC.
- Refer to any Technical Bulletin that may apply to the malfunction.

Ground Inspection

Groundings are very important to entire circuit system, which are normal or not can seriously affect the entire circuit system. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) can increase resistance which will change the way in which a circuit works.

Electrical control circuits are very sensitive to proper grounding. A loose or corroded ground can affect the electrical control circuit. Operations to check the ground points are as follows:

1. Remove the ground nut.
2. Check all contact surfaces for tarnish, dirt and rust, etc.
3. Clean as necessary to ensure that contacting is in good condition.
4. Reinstall the ground nut securely.
5. Check if add-on accessories interfere with ground circuit.
6. If several wire harnesses are crimped into one ground eyelet terminal, check if they are installed correctly. Make sure all wire harnesses are clean, securely fastened and providing a good ground path.

Diagnosis Procedure

HINT:

Use following procedures to troubleshoot the Supplemental Restraint System (SRS).

1 Vehicle brought to workshop

NEXT

2 Check battery voltage

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Standard voltage: 11 to 14 V

If voltage is below 11 V, recharge or replace the battery before proceeding to next step.

NEXT

3 Check SRS warning light

NEXT

4 Check for DTCs (current DTC and history DTC)

DTC occurs

For current DTC, go to step 5

No DTC

For history DTC, go to step 6

5 Diagnostic Trouble Code (DTC) Chart

NEXT

6 Circuit inspection

HINT:

- An activation prevention mechanism is built in airbag system connector. When connector is disconnected, this mechanism cuts off circuit by bringing short spring plate into contact with terminals, thus insulating the circuit from external power sources to prevent accidental airbag activation.
- To release activation prevention mechanism, insert a piece of paper with the same thickness as male terminal between terminals and short spring plate to disconnect the connection.

⚠ WARNING

- DO NOT release the activation prevention mechanism, unless specially directed by troubleshooting procedure.

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During circuit troubleshooting for airbag system, make sure to cut off battery power source, and wait for at least 90 seconds to discharge the system condenser.

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

NEXT

7 Repair

NEXT

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8 Clear DTCs (current and history DTCs)

NEXT

9 Check for DTCs (current and history DTCs)

DTC
occurs

Go to step 5

No
DTC

Go to next step

NEXT

10 Confirmation test

NEXT

11 End

Diagnostic Trouble Code (DTC) Chart

Failure Type Byte (Hex)	Description
00	No Subtype Information
11	Circuit Short to Ground
12	Circuit Short to Battery
13	Circuit Open
15	Circuit Short to Battery or Open
16	Circuit Voltage Below Threshold
17	Circuit Voltage Above Threshold
18	Circuit Current Below Threshold
19	Circuit Current Above Threshold
1A	Circuit Resistance Below Threshold
1B	Circuit Resistance Above Threshold
1E	Circuit Resistance Out of Range
29	Signal Invalid
47	Watchdog/Safety μ C Failure
49	Internal Electronic Failure
54	Missing Calibration
55	Not Configured
71	Actuator Stuck
86	Signal Invalid
87	Missing Message
88	Bus Off CAN
95	Incorrect Assembly
96	Component Internal Failure

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DTC	DTC Definition
B0001-11	Driver Frontal Airbag Deployment Control
B0001-12	Driver Frontal Airbag Deployment Control
B0001-1A	Driver Frontal Airbag Deployment Control
B0001-1B	Driver Frontal Airbag Deployment Control
B0001-95	Driver Frontal Airbag Deployment Control
B0010-11	Passenger Frontal Airbag Deployment Control
B0010-12	Passenger Frontal Airbag Deployment Control
B0010-1A	Passenger Frontal Airbag Deployment Control
B0010-1B	Passenger Frontal Airbag Deployment Control
B0010-95	Passenger Frontal Airbag Deployment Control
B0020-11	Left Side Airbag Deployment Control
B0020-12	Left Side Airbag Deployment Control
B0020-1A	Left Side Airbag Deployment Control
B0020-1B	Left Side Airbag Deployment Control
B0020-95	Left Side Airbag Deployment Control
B0021-11	Left Curtain Deployment Control
B0021-12	Left Curtain Deployment Control
B0021-1A	Left Curtain Deployment Control
B0021-1B	Left Curtain Deployment Control
B0021-95	Left Curtain Deployment Control
B0028-11	Right Side Airbag Deployment Control
B0028-12	Right Side Airbag Deployment Control
B0028-1A	Right Side Airbag Deployment Control
B0028-1B	Right Side Airbag Deployment Control
B0028-95	Right Side Airbag Deployment Control
B0029-11	Right Curtain Deployment Control
B0029-12	Right Curtain Deployment Control
B0029-1A	Right Curtain Deployment Control
B0029-1B	Right Curtain Deployment Control
B0029-95	Right Curtain Deployment Control
B1285-11	Front Row Left Seatbelt Pretensioner Deployment Control
B1285-12	Front Row Left Seatbelt Pretensioner Deployment Control
B1285-1A	Front Row Left Seatbelt Pretensioner Deployment Control
B1285-1B	Front Row Left Seatbelt Pretensioner Deployment Control
B1285-95	Front Row Left Seatbelt Pretensioner Deployment Control
B1286-11	Front Row Right Seatbelt Pretensioner Deployment Control
B1286-12	Front Row Right Seatbelt Pretensioner Deployment Control

DTC	DTC Definition
B1286-1A	Front Row Right Seatbelt Pretensioner Deployment Control
B1286-1B	Front Row Right Seatbelt Pretensioner Deployment Control
B1286-95	Front Row Right Seatbelt Pretensioner Deployment Control
B0091-15	Left Side Restraints Sensor
B0091-16	Left Side Restraints Sensor
B0091-55	Left Side Restraints Sensor
B0091-96	Left Side Restraints Sensor
B0096-15	Right Side Restraints Sensor
B0096-16	Right Side Restraints Sensor
B0096-55	Right Side Restraints Sensor
B0096-96	Right Side Restraints Sensor
B1212-00	Side Airbag and Curtain Deployed
B1215-00	Squib Cross Coupling Error
B1216-00	Frontal Airbag Deployed
B1240-00	ICM Airbag Lamp Failed
B1251-00	ECU Internal Error
B127F-47	Crash Recording Locked
B1233-12	Passenger Buckle Switch
B1234-12	Passenger SBR
B1250-16	Power Supply Circuit
B1250-17	Power Supply Circuit
U0100-87	Lost Communication with EMS
U0129-87	Lost Communication with BSM
U0140-87	Lost Communication with BCM

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DTC	B0001-11	Driver Frontal Airbag Deployment Control	Circuit Short to Ground
DTC	B0001-12	Driver Frontal Airbag Deployment Control	Circuit Short to Battery
DTC	B0001-1A	Driver Frontal Airbag Deployment Control	Circuit Resistance Below Threshold
DTC	B0001-1B	Driver Frontal Airbag Deployment Control	Circuit Resistance Above Threshold
DTC	B0001-95	Driver Frontal Airbag Deployment Control	Incorrect Assembly

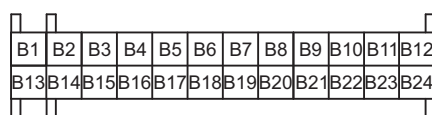
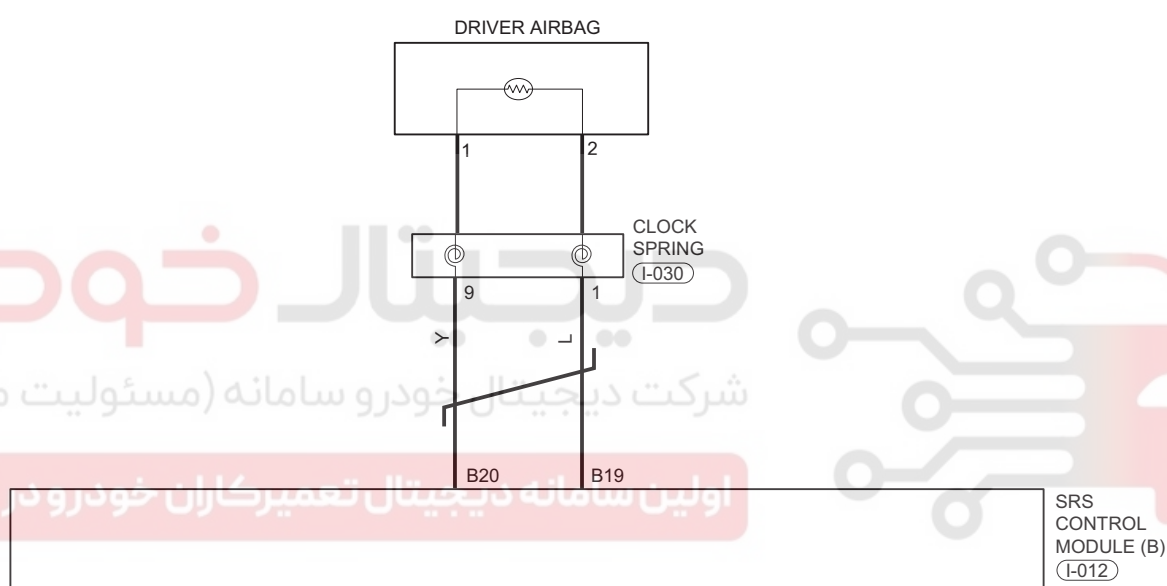
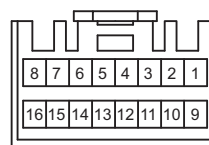
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دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



(I-012)
B(I-030)
W

EM1A310030

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B0001-11	Driver Frontal Airbag Deployment Control	Airbag circuit short to ground	ON	• Driver airbag • Spiral cable • Wire harness and connector • SRS control module assembly
B0001-12		Airbag circuit short to power supply		
B0001-1A		Airbag circuit resistance below 1.435 Ω		
B0001-1B		Airbag circuit not engaged or resistance above 5.832 Ω		
B0001-95		Driver airbag circuit not configured		

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1	Check driver airbag
----------	----------------------------

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect driver airbag connector, and connect 2 Ω substitute resistor or new driver airbag to vehicle.

⚠ WARNING

- Never measure driver airbag directly; otherwise it may cause serious personal injury due to accidental deployment of airbag.

- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace driver airbag

YES

2	Check wire harness and connector
----------	---

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector I-012.

- Disconnect the spiral cable wire harness connector.
- Disconnect the instrument panel wire harness connector I-030.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace instrument panel/spiral cable wire harness and connector

OK

31

3

Check driver airbag control circuit

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector I-012.
- Disconnect the driver airbag connector A.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between driver airbag connector A and body ground to check for a short circuit to power supply according to table below.

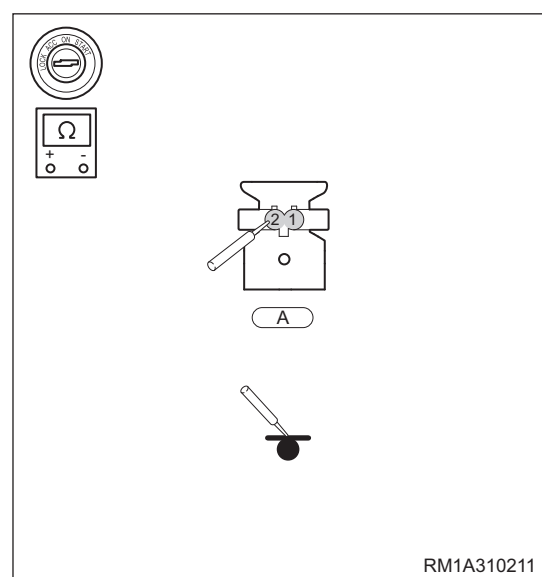
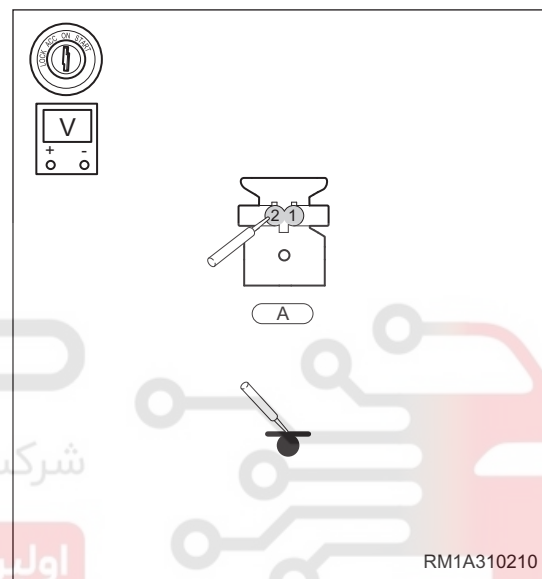
Standard Voltage

Multimeter Connection	Condition	Specified Condition
A (1) - Body ground	Ignition switch ON	Below 1 V
A (2) - Body ground	Ignition switch ON	Below 1 V

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Using a digital multimeter, check for continuity between driver airbag connector A and body ground to check for a short circuit to ground according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A (1) - A (2)	Always	Continuity
A (1) - Body ground	Always	No continuity
A (2) - Body ground	Always	No continuity

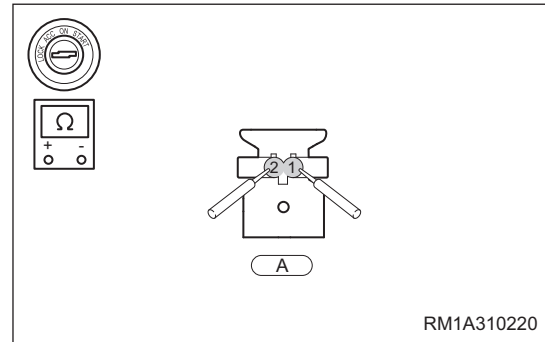


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- i. Release activation prevention mechanism in SRS control module assembly connector I-012.
- j. Using a digital multimeter, check for continuity between terminals of driver airbag connector A according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A (1) - A (2)	Always	No continuity



31

OK

Replace SRS control module assembly

NG

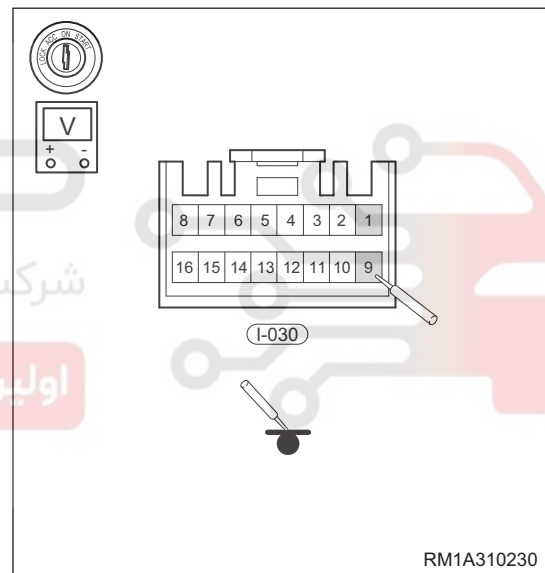
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Check airbag wire harness and connector (SRS control module assembly - instrument panel wire harness connector)

- a. Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- b. Disconnect the SRS control module assembly connector I-012.
- c. Disconnect the instrument panel wire harness connector I-030.
- d. Connect the negative battery cable and wait for a few seconds.
- e. Turn ignition switch to ON.
- f. Using a digital multimeter, measure voltage between instrument panel wire harness connector I-030 and body ground to check for a short circuit to power supply according to table below.

Standard Voltage

Multimeter Connection	Condition	Specified Condition
I-030 (1) - Body ground	Ignition switch ON	Below 1 V
I-030 (9) - Body ground	Ignition switch ON	Below 1 V

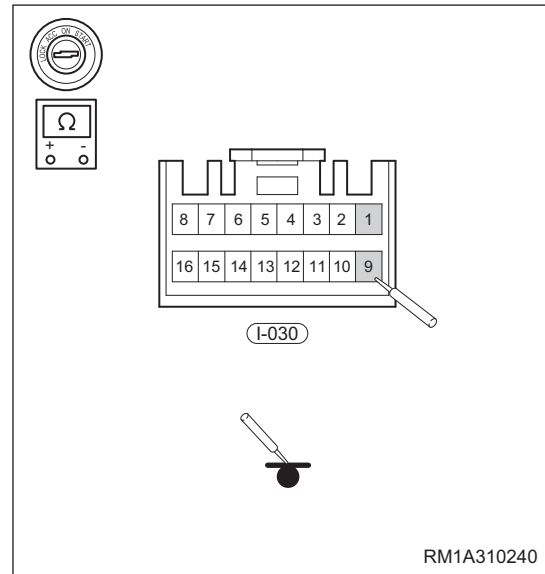


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- g. Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- h. Using a digital multimeter, check for continuity between instrument panel wire harness connector I-030 and body ground to check for a short circuit to ground according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-030 (1) - I-030 (9)	Always	Continuity
I-030 (1) - Body ground	Always	No continuity
I-030 (9) - Body ground	Always	No continuity

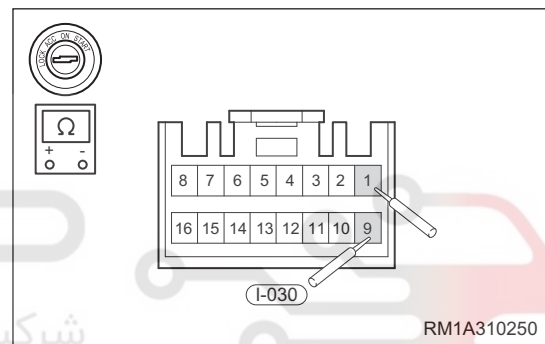


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- i. Release activation prevention mechanism in SRS control module assembly connector I-012.
- j. Using a digital multimeter, check for continuity between terminals of instrument panel wire harness connector I-030 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-030 (1) - I-030 (9)	Always	No continuity



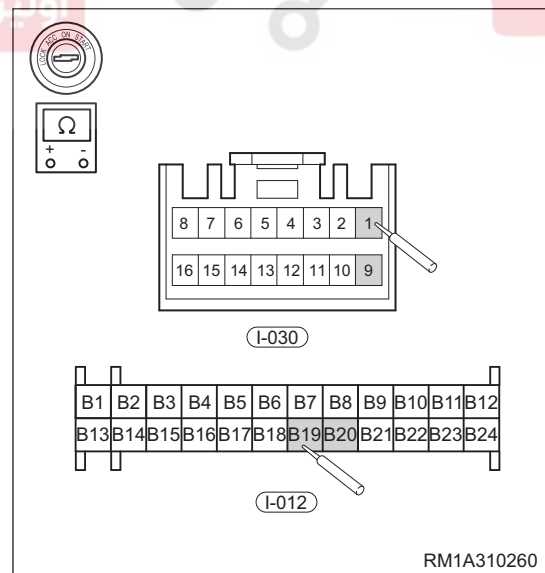
- k. Using a digital multimeter, check for continuity between terminals of connectors I-030 and I-012 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-030 (1) - I-012 (B19)	Always	Continuity
I-030 (9) - I-012 (B20)	Always	Continuity

NG

Replace instrument panel wire harness and connector



OK

Replace spiral cable

31 - SUPPLEMENTAL RESTRAINT SYSTEM

DTC	B0010-11	Passenger Frontal Airbag Deployment Control	Circuit Short to Ground
DTC	B0010-12	Passenger Frontal Airbag Deployment Control	Circuit Short to Battery
DTC	B0010-1A	Passenger Frontal Airbag Deployment Control	Circuit Resistance Below Threshold
DTC	B0010-1B	Passenger Frontal Airbag Deployment Control	Circuit Resistance Above Threshold
DTC	B0010-95	Passenger Frontal Airbag Deployment Control	Incorrect Assembly

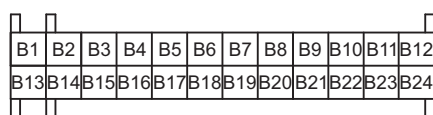
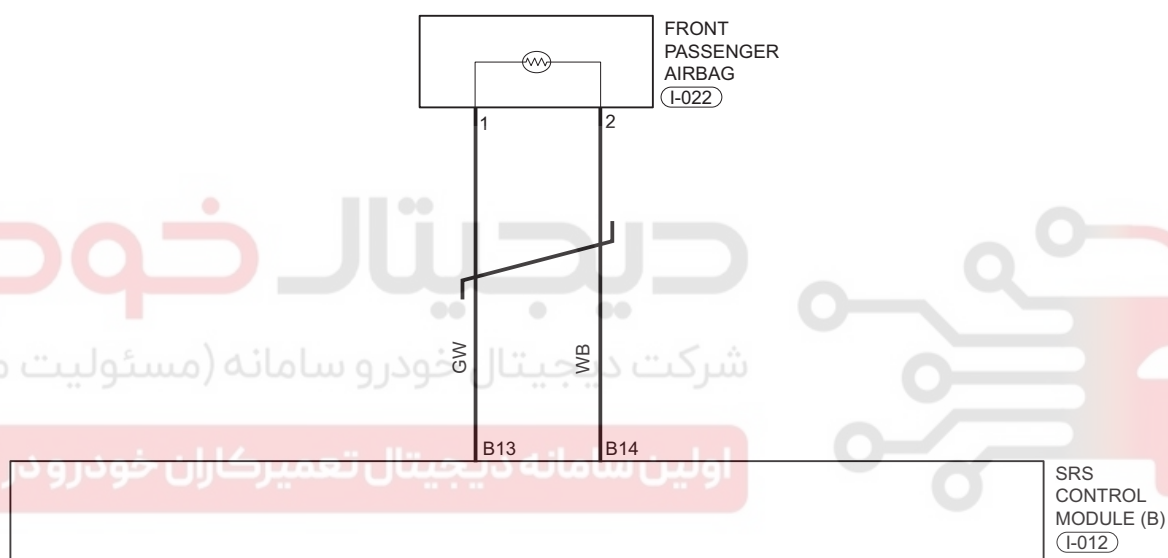
31

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران





(I-012)
B



(I-022)
Y

EM1A310040

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B0010-11	Passenger Frontal Airbag Deployment Control	Airbag circuit short to ground	ON	- Front passenger airbag - Wire harness and connector - SRS control module assembly
B0010-12		Airbag circuit short to power supply		
B0010-1A		Airbag circuit resistance below 1.435 Ω		
B0010-1B		Airbag circuit not engaged or resistance above 5.832 Ω		
B0010-95		Front passenger airbag circuit not configured		

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1	Check front passenger airbag
----------	-------------------------------------

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect front passenger airbag connector, and connect new front passenger airbag to connector I-022.

⚠ WARNING

- Never measure front passenger airbag directly; otherwise it may cause serious personal injury due to accidental deployment of airbag.

- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace front passenger airbag

YES

2	Check wire harness and connector
----------	---

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.

- Disconnect front passenger airbag connector I-022 and SRS control module assembly connector I-012.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace instrument panel wire harness and connector

OK

3

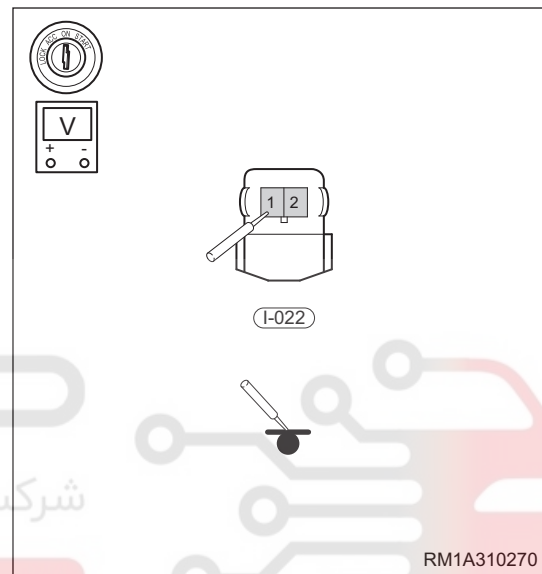
Check front passenger airbag control circuit

31

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector I-012.
- Disconnect the front passenger airbag connector I-022.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between front passenger airbag connector I-022 and body ground to check for a short circuit to power supply according to table below.

Standard Voltage

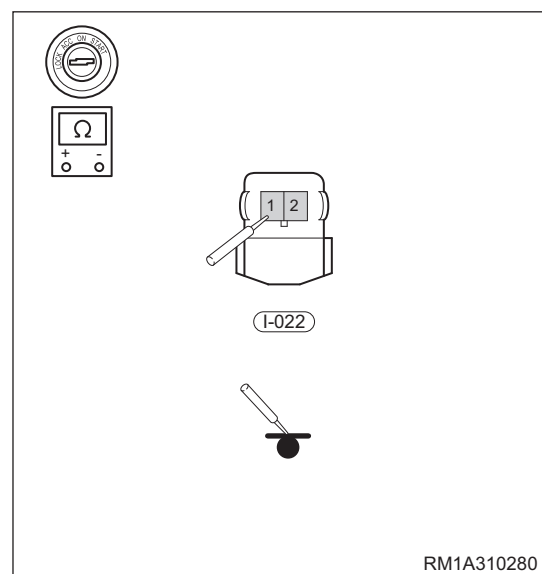
Multimeter Connection	Condition	Specified Condition
I-022 (1) - Body ground	Ignition switch ON	Below 1 V
I-022 (2) - Body ground	Ignition switch ON	Below 1 V



- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Using a digital multimeter, check for continuity between front passenger airbag connector I-022 and body ground to check for a short circuit to ground according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-022 (1) - I-022 (2)	Always	Continuity
I-022 (1) - Body ground	Always	No continuity
I-022 (2) - Body ground	Always	No continuity

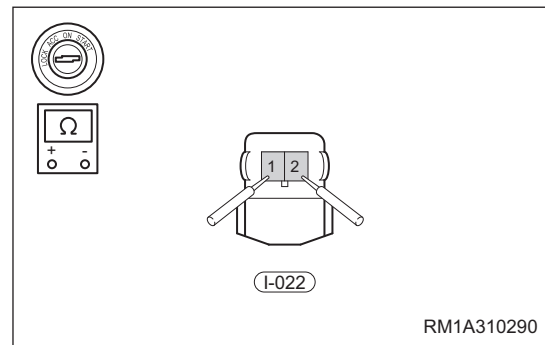


31 - SUPPLEMENTAL RESTRAINT SYSTEM

- i. Release activation prevention mechanism in SRS control module assembly connector I-012.
- j. Using a digital multimeter, check for continuity between terminals of front passenger airbag connector I-022 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-022 (1) - I-022 (2)	Always	No continuity



31

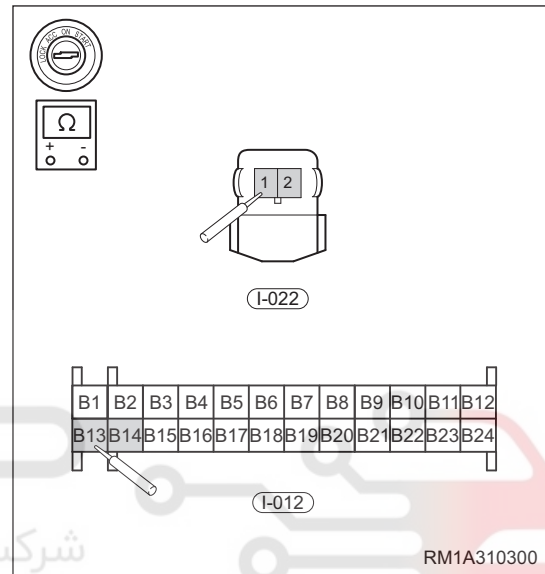
- k. Using a digital multimeter, check for continuity between terminals of connectors I-022 and I-012 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-022 (1) - I-012 (B13)	Always	Continuity
I-022 (2) - I-012 (B14)	Always	Continuity

OK

Replace SRS control module assembly



RM1A310300

NG

Replace instrument panel wire harness and connector

DTC	B0020-11	Left Side Airbag Deployment Control	Circuit Short to Ground
DTC	B0020-12	Left Side Airbag Deployment Control	Circuit Short to Battery
DTC	B0020-1A	Left Side Airbag Deployment Control	Circuit Resistance Below Threshold
DTC	B0020-1B	Left Side Airbag Deployment Control	Circuit Resistance Above Threshold
DTC	B0020-95	Left Side Airbag Deployment Control	Incorrect Assembly

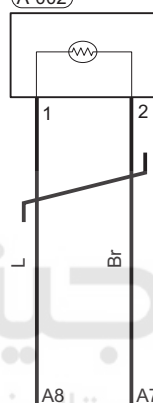
دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

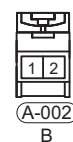
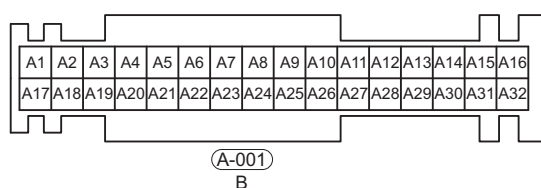
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



DRIVER
SIDE AIRBAG
(A-002)



SRS
CONTROL
MODULE (A)
(A-001)



EM1A310050

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B0020-11	Left Side Airbag Deployment Control	Airbag circuit short to ground	ON	- Driver side airbag - Wire harness and connector - SRS control module assembly
B0020-12		Airbag circuit short to power supply		
B0020-1A		Airbag circuit resistance below 1.435 Ω		
B0020-1B		Airbag circuit not engaged or resistance above 5.832 Ω		
B0020-95		Left side airbag circuit not configured		

31

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1	Check driver side airbag
----------	---------------------------------

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect driver side airbag connector, and connect new driver side airbag to connector A-002.

⚠ WARNING

- Never measure driver side airbag directly; otherwise it may cause serious personal injury due to accidental deployment of airbag.

- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace driver side airbag

YES

2**Check wire harness and connector**

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect driver side airbag connector A-002 and SRS control module assembly connector A-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

31**NG**

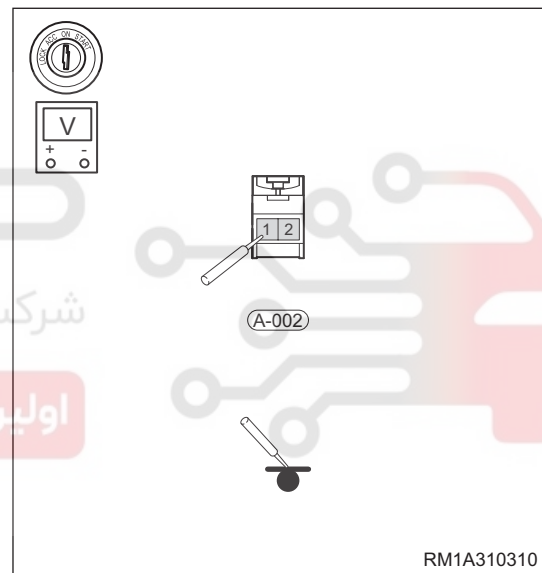
Repair or replace airbag wire harness and connector

OK**3****Check driver side airbag control circuit**

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector A-001.
- Disconnect the driver side airbag connector A-002.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between driver side airbag connector A-002 and body ground to check for a short circuit to power supply according to table below.

Standard Voltage

Multimeter Connection	Condition	Specified Condition
A-002 (1) - Body ground	Ignition switch ON	Below 1 V
A-002 (2) - Body ground	Ignition switch ON	Below 1 V

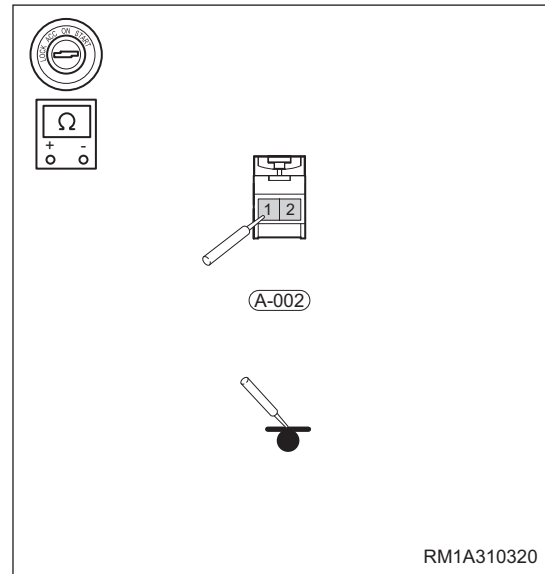


31 - SUPPLEMENTAL RESTRAINT SYSTEM

- g. Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- h. Using a digital multimeter, check for continuity between driver side airbag connector A-002 and body ground to check for a short circuit to ground according to table below.

Standard Condition

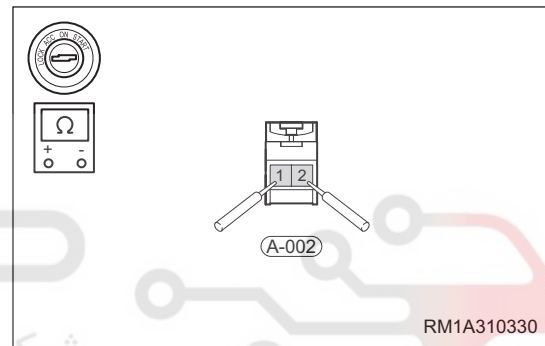
Multimeter Connection	Condition	Specified Condition
A-002 (1) - A-002 (2)	Always	Continuity
A-002 (1) - Body ground	Always	No continuity
A-002 (2) - Body ground	Always	No continuity



- i. Release activation prevention mechanism in SRS control module assembly connector A-001.
- j. Using a digital multimeter, check for continuity between terminals of driver side airbag connector A-002 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-002 (1) - A-002 (2)	Always	No continuity



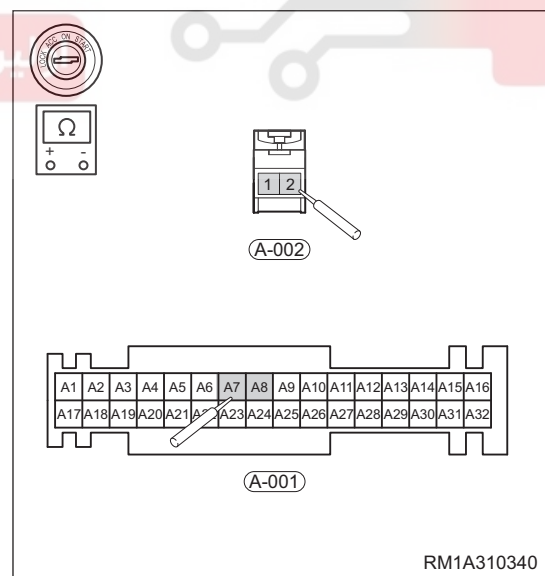
- k. Using a digital multimeter, check for continuity between terminals of connectors A-002 and A-001 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-002 (1) - A-001 (A8)	Always	Continuity
A-002 (2) - A-001 (A7)	Always	Continuity

OK

Replace SRS control module assembly



NG

Replace airbag wire harness and connector

31 - SUPPLEMENTAL RESTRAINT SYSTEM

DTC	B0021-11	Left Curtain Deployment Control	Circuit Short to Ground
DTC	B0021-12	Left Curtain Deployment Control	Circuit Short to Battery
DTC	B0021-1A	Left Curtain Deployment Control	Circuit Resistance Below Threshold
DTC	B0021-1B	Left Curtain Deployment Control	Circuit Resistance Above Threshold
DTC	B0021-95	Left Curtain Deployment Control	Incorrect Assembly

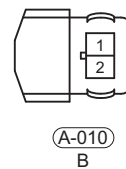
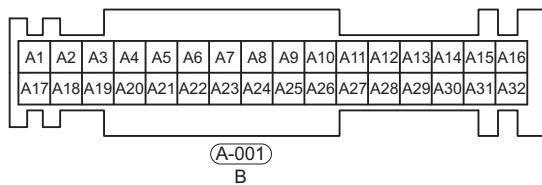
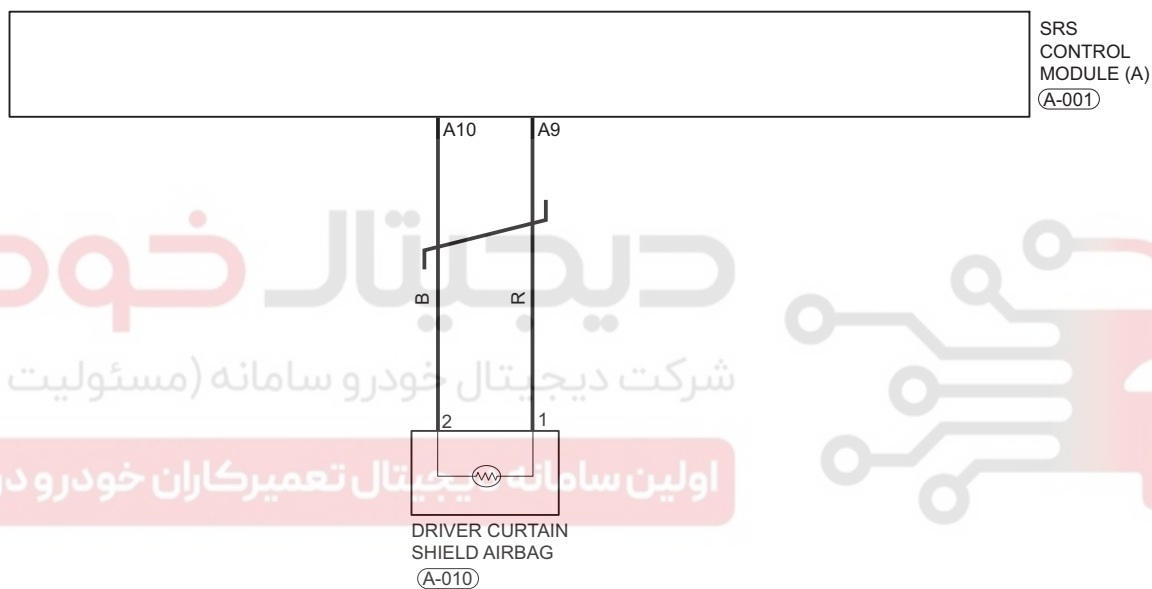
31

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران





EM1A310060

31 - SUPPLEMENTAL RESTRAINT SYSTEM

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B0021-11	Left Curtain Deployment Control	Airbag circuit short to ground	ON	- Left curtain shield airbag - Wire harness and connector - SRS control module assembly
B0021-12		Airbag circuit short to power supply		
B0021-1A		Airbag circuit resistance below 1.435 Ω		
B0021-1B		Airbag circuit not engaged or resistance above 5.832 Ω		
B0021-95		Left curtain shield airbag circuit not configured		

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1 Check left curtain shield airbag

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect left curtain shield airbag connector, and connect new left curtain shield airbag to connector A-010.

⚠ WARNING

- Never measure left curtain shield airbag directly; otherwise it may cause serious personal injury due to accidental deployment of airbag.

- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace left curtain shield airbag

YES

2 Check wire harness and connector

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect left curtain shield airbag connector A-010 and SRS control module assembly connector A-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace airbag wire harness and connector

OK

31

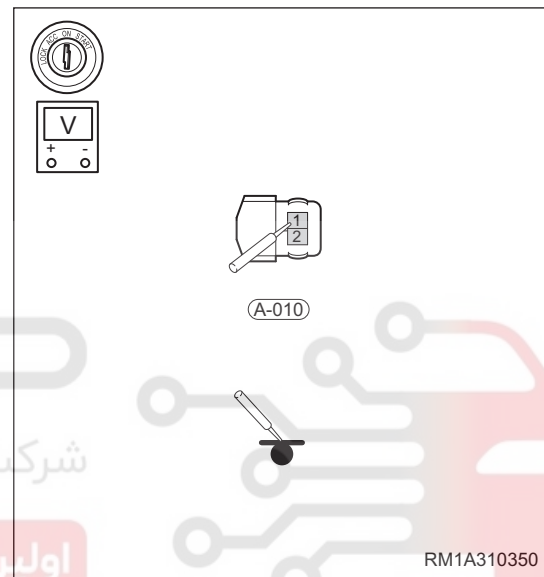
3

Check left curtain shield airbag control circuit

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector A-001.
- Disconnect the left curtain shield airbag connector A-010.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between left curtain shield airbag connector A-010 and body ground to check for a short circuit to power supply according to table below.

Standard Voltage

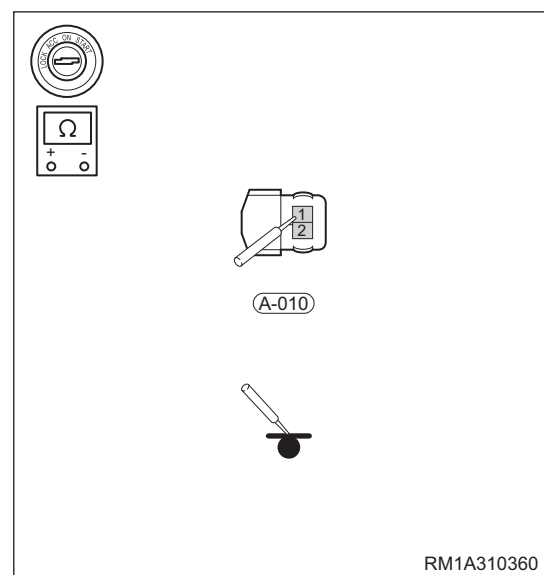
Multimeter Connection	Condition	Specified Condition
A-010 (1) - Body ground	Ignition switch ON	Below 1 V
A-010 (2) - Body ground	Ignition switch ON	Below 1 V



- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Using a digital multimeter, check for continuity between left curtain shield airbag connector A-010 and body ground to check for a short circuit to ground according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-010 (1) - A-010 (2)	Always	Continuity
A-010 (1) - Body ground	Always	No continuity
A-010 (2) - Body ground	Always	No continuity

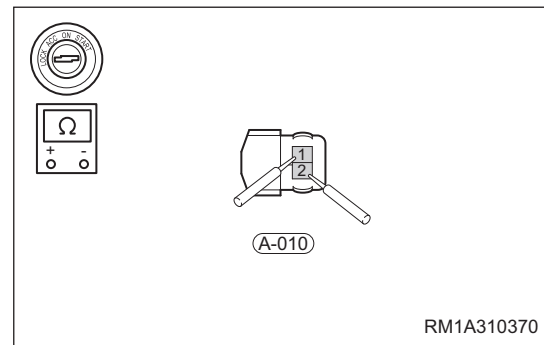


31 - SUPPLEMENTAL RESTRAINT SYSTEM

- i. Release activation prevention mechanism in SRS control module assembly connector A-001.
- j. Using a digital multimeter, check for continuity between terminals of left curtain shield airbag connector A-010 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-010 (1) - A-010 (2)	Always	No continuity



31

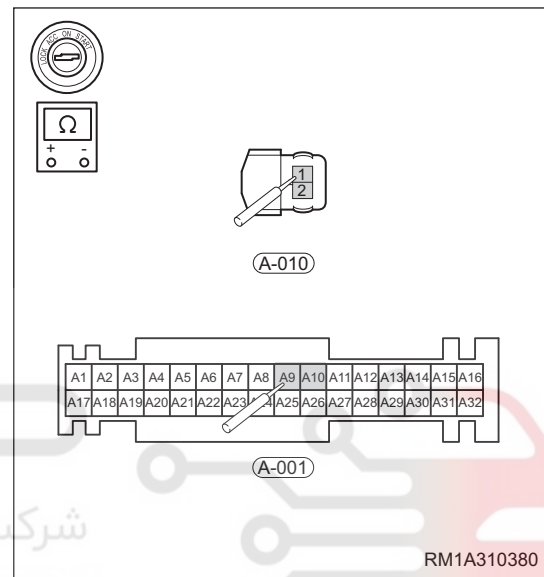
- k. Using a digital multimeter, check for continuity between terminals of connectors A-010 and A-001 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-010 (1) - A-001 (A9)	Always	Continuity
A-010 (2) - A-001 (A10)	Always	Continuity

OK

Replace SRS control module assembly



NG

Replace airbag wire harness and connector

DTC	B0028-11	Right Side Airbag Deployment Control	Circuit Short to Ground
DTC	B0028-12	Right Side Airbag Deployment Control	Circuit Short to Battery
DTC	B0028-1A	Right Side Airbag Deployment Control	Circuit Resistance Below Threshold
DTC	B0028-1B	Right Side Airbag Deployment Control	Circuit Resistance Above Threshold
DTC	B0028-95	Right Side Airbag Deployment Control	Incorrect Assembly

دیجیتال خودرو

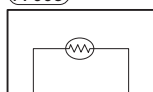
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



FRONT PASSENGER
SIDE AIRBAG

(A-003)



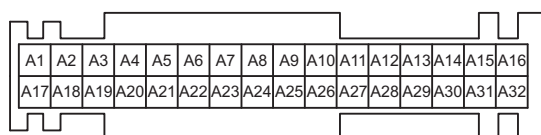
Br

L

A2

A1

SRS
CONTROL
MODULE (A)
(A-001)



(A-001)
B



(A-003)
B

EM1A310070

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B0028-11	Right Side Airbag Deployment Control	Airbag circuit short to ground	ON	- Front passenger side airbag - Wire harness and connector - SRS control module assembly
B0028-12		Airbag circuit short to power supply		
B0028-1A		Airbag circuit resistance below 1.435 Ω		
B0028-1B		Airbag circuit not engaged or resistance above 5.832 Ω		
B0028-95		Right side airbag circuit not configured		

31

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1	Check front passenger side airbag
----------	--

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect front passenger side airbag connector, and connect new front passenger side airbag to connector A-003.

⚠ WARNING

- Never measure front passenger side airbag directly; otherwise it may cause serious personal injury due to accidental deployment of airbag.

- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace front passenger side airbag

YES

2	Check wire harness and connector
----------	---

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.

31 - SUPPLEMENTAL RESTRAINT SYSTEM

- Disconnect front passenger side airbag connector A-003 and SRS control module assembly connector A-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace airbag wire harness and connector

OK

31

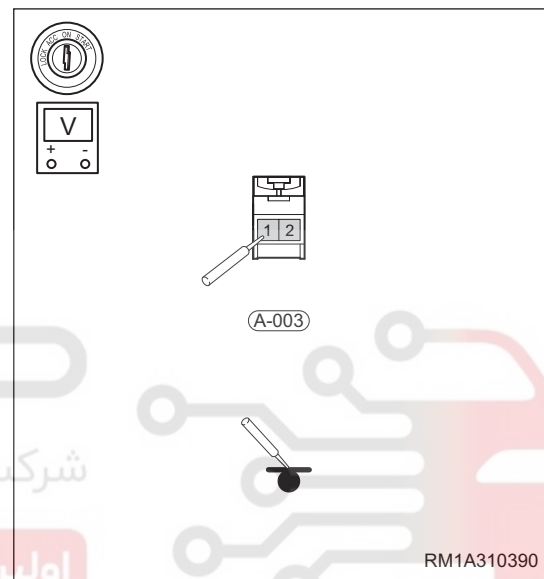
3

Check front passenger side airbag control circuit

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector A-001.
- Disconnect the front passenger side airbag connector A-003.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between front passenger side airbag connector A-003 and body ground to check for a short circuit to power supply according to table below.

Standard Voltage

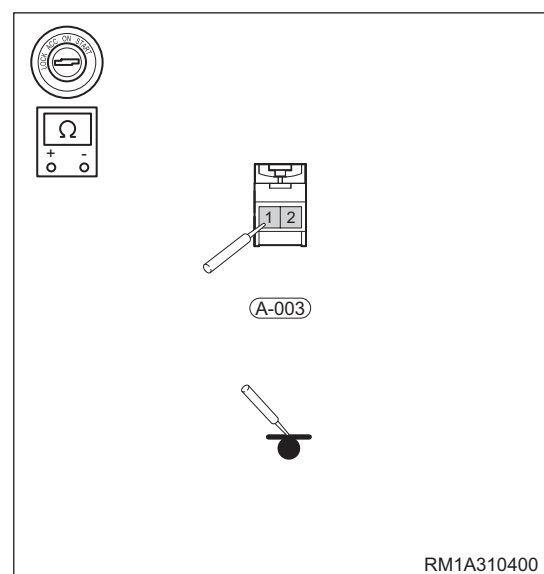
Multimeter Connection	Condition	Specified Condition
A-003 (1) - Body ground	Ignition switch ON	Below 1 V
A-003 (2) - Body ground	Ignition switch ON	Below 1 V



- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Using a digital multimeter, check for continuity between front passenger side airbag connector A-003 and body ground to check for a short circuit to ground according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-003 (1) - A-003 (2)	Always	Continuity
A-003 (1) - Body ground	Always	No continuity
A-003 (2) - Body ground	Always	No continuity

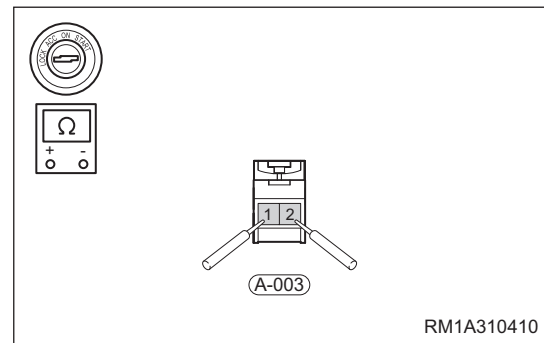


31 - SUPPLEMENTAL RESTRAINT SYSTEM

- i. Release activation prevention mechanism in SRS control module assembly connector A-001.
- j. Using a digital multimeter, check for continuity between terminals of front passenger side airbag connector A-003 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-003 (1) - A-003 (2)	Always	No continuity



31

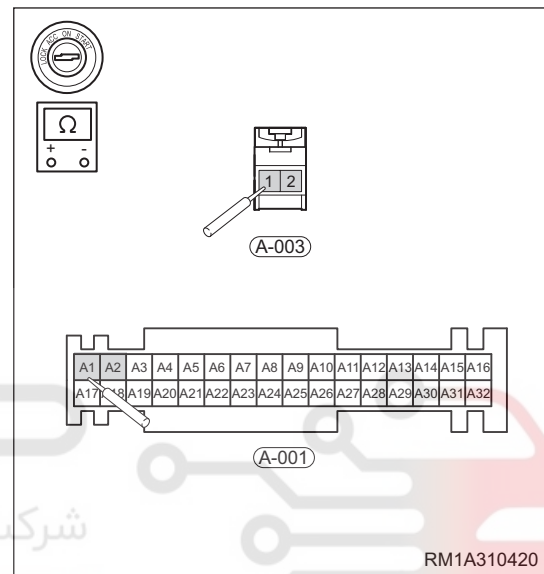
- k. Using a digital multimeter, check for continuity between terminals of connectors A-003 and A-001 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-003 (1) - A-001 (A1)	Always	Continuity
A-003 (2) - A-001 (A2)	Always	Continuity

OK

Replace SRS control module assembly



NG

Replace airbag wire harness and connector

31 - SUPPLEMENTAL RESTRAINT SYSTEM

DTC	B0029-11	Right Curtain Deployment Control	Circuit Short to Ground
DTC	B0029-12	Right Curtain Deployment Control	Circuit Short to Battery
DTC	B0029-1A	Right Curtain Deployment Control	Circuit Resistance Below Threshold
DTC	B0029-1B	Right Curtain Deployment Control	Circuit Resistance Above Threshold
DTC	B0029-95	Right Curtain Deployment Control	Incorrect Assembly

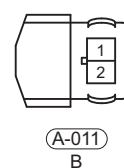
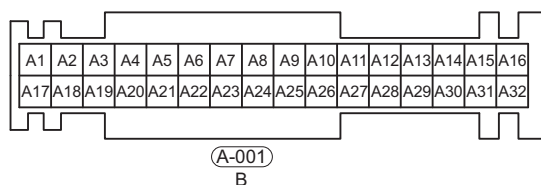
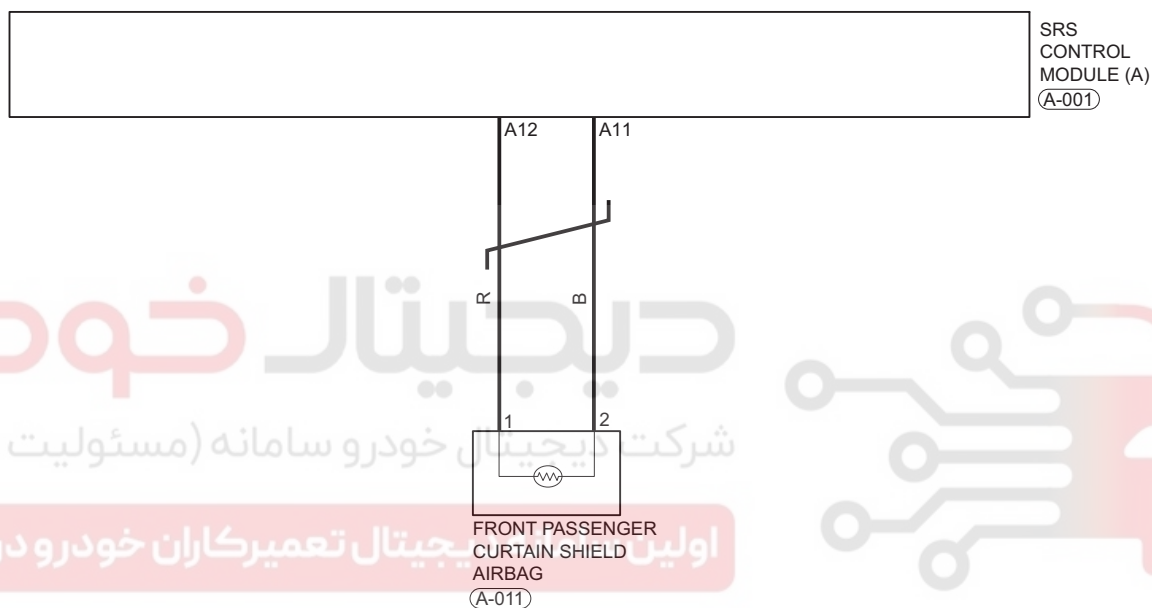
31

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران





EM1A310080

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B0029-11	Right Curtain Deployment Control	Airbag circuit short to ground	ON	- Right curtain shield airbag - Wire harness and connector - SRS control module assembly
B0029-12		Airbag circuit short to power supply		
B0029-1A		Airbag circuit resistance below 1.435 Ω		
B0029-1B		Airbag circuit not engaged or resistance above 5.832 Ω		
B0029-95		Right curtain shield airbag circuit not configured		

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1	Check right curtain shield airbag
----------	--

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect right curtain shield airbag connector, and connect new right curtain shield airbag to connector A-011.

⚠ WARNING

- Never measure right curtain shield airbag directly; otherwise it may cause serious personal injury due to accidental deployment of airbag.

- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace right curtain shield airbag

YES

2**Check wire harness and connector**

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect right curtain shield airbag connector A-011 and SRS control module assembly connector A-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

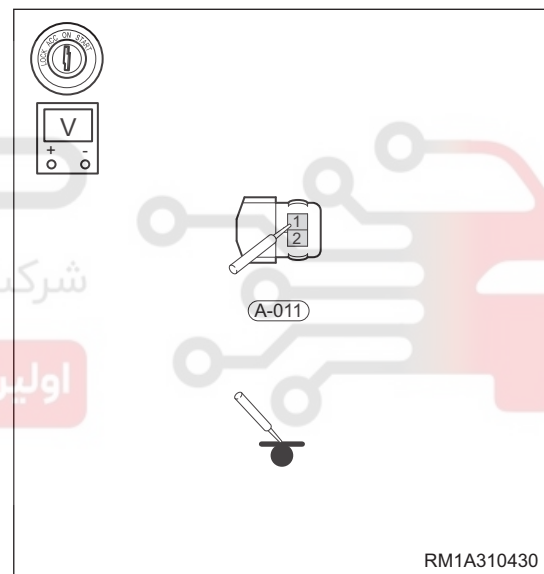
Repair or replace airbag wire harness and connector

OK**3****Check right curtain shield airbag control circuit**

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector A-001.
- Disconnect the right curtain shield airbag connector A-011.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between right curtain shield airbag connector A-011 and body ground to check for a short circuit to power supply according to table below.

Standard Voltage

Multimeter Connection	Condition	Specified Condition
A-011 (1) - Body ground	Ignition switch ON	Below 1 V
A-011 (2) - Body ground	Ignition switch ON	Below 1 V

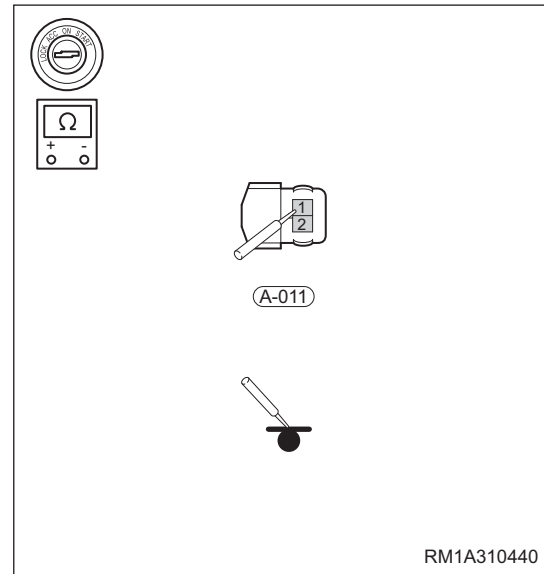


31 - SUPPLEMENTAL RESTRAINT SYSTEM

- g. Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- h. Using a digital multimeter, check for continuity between right curtain shield airbag connector A-011 and body ground to check for a short circuit to ground according to table below.

Standard Condition

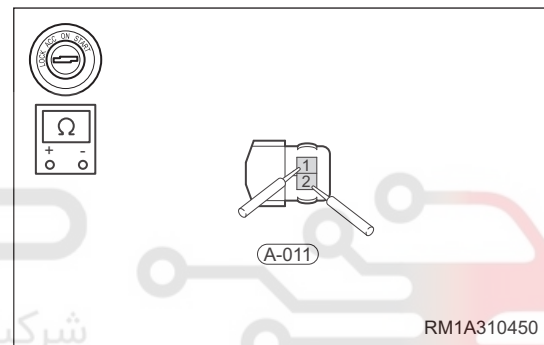
Multimeter Connection	Condition	Specified Condition
A-011 (1) - A-011 (2)	Always	Continuity
A-011 (1) - Body ground	Always	No continuity
A-011 (2) - Body ground	Always	No continuity



- i. Release activation prevention mechanism in SRS control module assembly connector A-001.
- j. Using a digital multimeter, check for continuity between terminals of right curtain shield airbag connector A-011 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-011 (1) - A-011 (2)	Always	No continuity



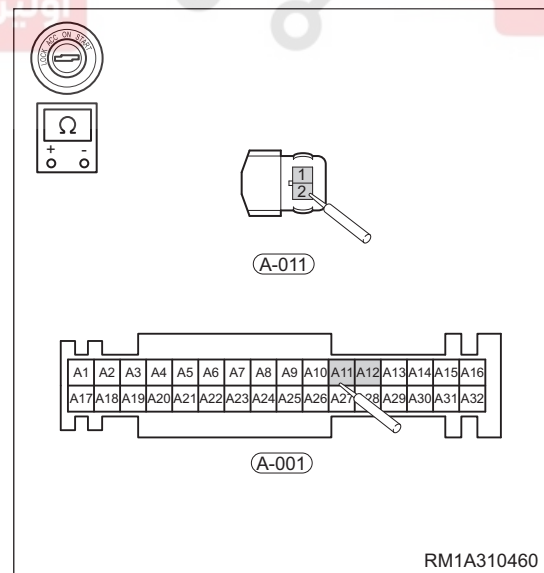
- k. Using a digital multimeter, check for continuity between terminals of connectors A-011 and A-001 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-011 (1) - A-001 (A12)	Always	Continuity
A-011 (2) - A-001 (A11)	Always	Continuity

OK

Replace SRS control module assembly



NG

Replace airbag wire harness and connector

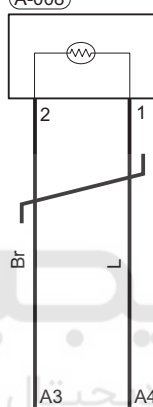
DTC	B1285-11	Front Row Left Seatbelt Pretensioner Deployment Control	Circuit Short to Ground
DTC	B1285-12	Front Row Left Seatbelt Pretensioner Deployment Control	Circuit Short to Battery
DTC	B1285-1A	Front Row Left Seatbelt Pretensioner Deployment Control	Circuit Resistance Below Threshold
DTC	B1285-1B	Front Row Left Seatbelt Pretensioner Deployment Control	Circuit Resistance Above Threshold
DTC	B1285-95	Front Row Left Seatbelt Pretensioner Deployment Control	Incorrect Assembly

31

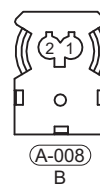
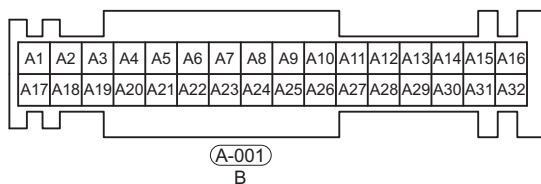
شرکت دیجیتال خودرو (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

DRIVER SEAT BELT
PRETENSIONER
(A-008)



SRS
CONTROL
MODULE (A)
(A-001)



EM1A310090

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B1285-11	Front Row Left Seatbelt Pretensioner Deployment Control	Seat belt circuit short to ground	ON	- Driver seat belt pretensioner - Wire harness and connector - SRS control module assembly
B1285-12		Seat belt circuit short to power supply		
B1285-1A		Seat belt circuit resistance below 1.435 Ω		
B1285-1B		Seat belt circuit not engaged or resistance above 5.832 Ω		
B1285-95		Left seat belt pretensioner circuit not configured		

31

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1	Check driver seat belt pretensioner
----------	--

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect driver seat belt pretensioner connector, and connect new driver seat belt pretensioner to connector A-008.

⚠ WARNING

- Never measure driver seat belt pretensioner directly; otherwise it may cause serious personal injury due to accidental deployment of airbag.

- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace driver seat belt pretensioner

YES

2	Check wire harness and connector
----------	---

31 - SUPPLEMENTAL RESTRAINT SYSTEM

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect driver seat belt pretensioner connector A-008 and SRS control module assembly connector A-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace airbag wire harness and connector

31

OK

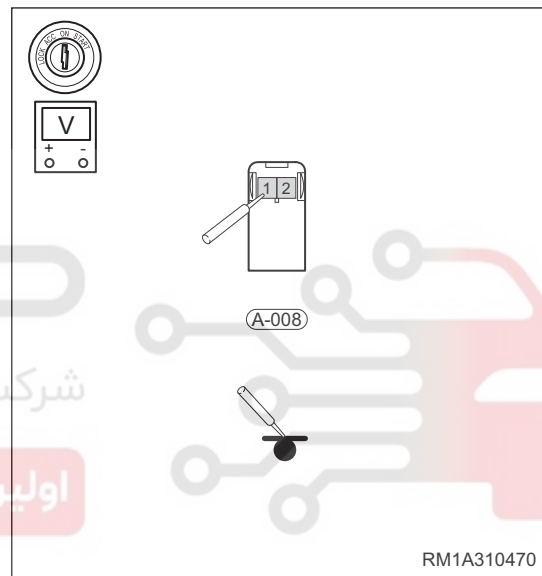
3

Check driver seat belt pretensioner control circuit

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector A-001.
- Disconnect the driver seat belt pretensioner connector A-008.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between driver seat belt pretensioner connector A-008 and body ground to check for a short circuit to power supply according to table below.

Standard Voltage

Multimeter Connection	Condition	Specified Condition
A-008 (1) - Body ground	Ignition switch ON	Below 1 V
A-008 (2) - Body ground	Ignition switch ON	Below 1 V

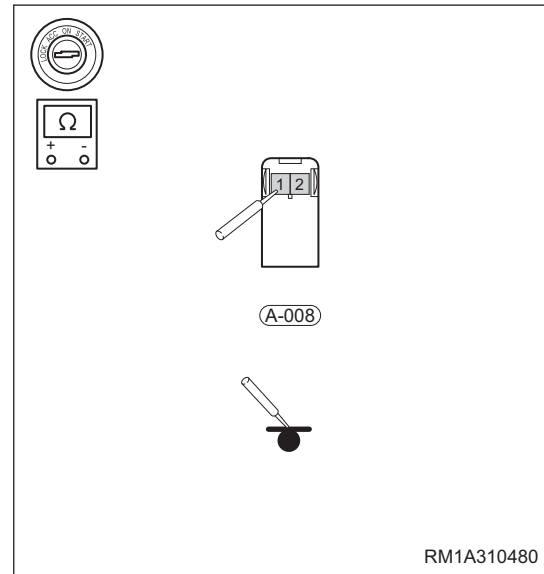


31 - SUPPLEMENTAL RESTRAINT SYSTEM

- g. Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- h. Using a digital multimeter, check for continuity between driver seat belt pretensioner connector A-008 and body ground to check for a short circuit to ground according to table below.

Standard Condition

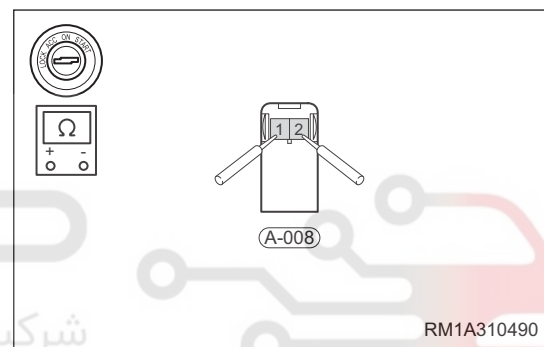
Multimeter Connection	Condition	Specified Condition
A-008 (1) - Body ground	Always	No continuity
A-008 (2) - Body ground	Always	No continuity



- i. Release activation prevention mechanism in SRS control module assembly connector A-001.
- j. Using a digital multimeter, check for continuity between terminals of driver seat belt pretensioner connector A-008 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-008 (1) - A-008 (2)	Always	No continuity



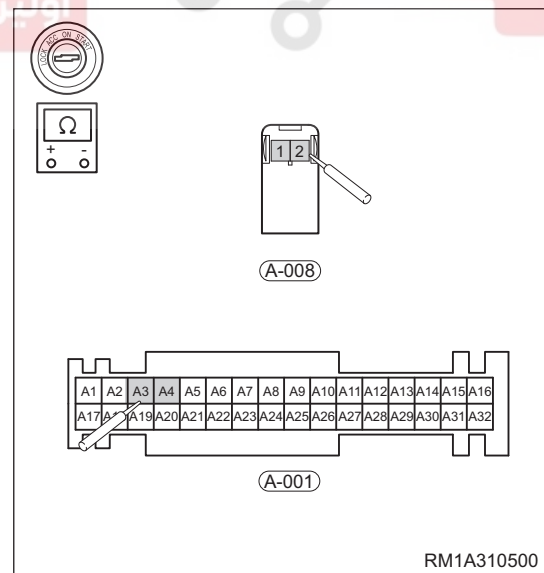
- k. Using a digital multimeter, check for continuity between terminals of connectors A-008 and A-001 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-008 (1) - A-001 (A4)	Always	Continuity
A-008 (2) - A-001 (A3)	Always	Continuity

OK

Replace SRS control module assembly



NG

Replace airbag wire harness and connector

31 - SUPPLEMENTAL RESTRAINT SYSTEM

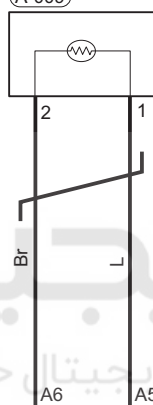
DTC	B1286-11	Front Row Right Seatbelt Pretensioner Deployment Control	Circuit Short to Ground
DTC	B1286-12	Front Row Right Seatbelt Pretensioner Deployment Control	Circuit Short to Battery
DTC	B1286-1A	Front Row Right Seatbelt Pretensioner Deployment Control	Circuit Resistance Below Threshold
DTC	B1286-1B	Front Row Right Seatbelt Pretensioner Deployment Control	Circuit Resistance Above Threshold
DTC	B1286-95	Front Row Right Seatbelt Pretensioner Deployment Control	Incorrect Assembly

31

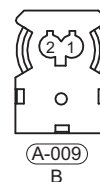
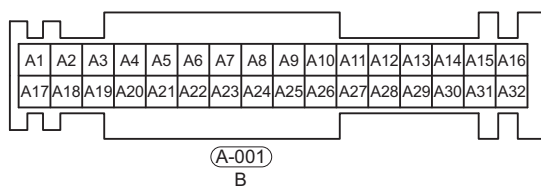
شرکت دیجیتال خودرو (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

FRONT PASSENGER
SEAT BELT
PRETENSIONER
(A-009)



SRS
CONTROL
MODULE (A)
(A-001)



EM1A310100

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B1286-11	Front Row Right Seatbelt Pretensioner Deployment Control	Seat belt circuit short to ground	ON	- Front passenger seat belt pretensioner - Wire harness and connector - SRS control module assembly
B1286-12		Seat belt circuit short to power supply		
B1286-1A		Seat belt circuit resistance below 1.435 Ω		
B1286-1B		Seat belt circuit not engaged or resistance above 5.832 Ω		
B1286-95		Right seat belt pretensioner circuit not configured		

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1 Check front passenger seat belt pretensioner

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect front passenger seat belt pretensioner connector, and connect new front passenger seat belt pretensioner to connector A-009.

⚠ WARNING

- Never measure front passenger seat belt pretensioner directly; otherwise it may cause serious personal injury due to accidental deployment of airbag.

- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace front passenger seat belt pretensioner

YES**2 Check wire harness and connector**

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect front passenger seat belt pretensioner connector A-009 and SRS control module assembly connector A-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace airbag wire harness and connector

OK

31

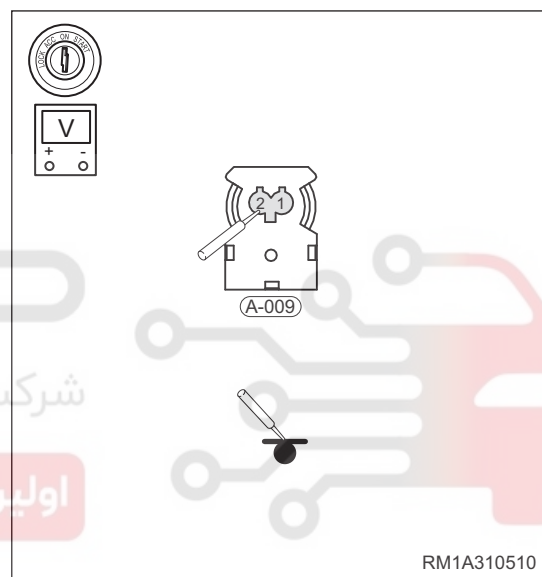
3

Check front passenger seat belt pretensioner control circuit

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector A-001.
- Disconnect the front passenger seat belt pretensioner connector A-009.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between front passenger seat belt pretensioner connector A-009 and body ground to check for a short circuit to power supply according to table below.

Standard Voltage

Multimeter Connection	Condition	Specified Condition
A-009 (1) - Body ground	Ignition switch ON	Below 1 V
A-009 (2) - Body ground	Ignition switch ON	Below 1 V

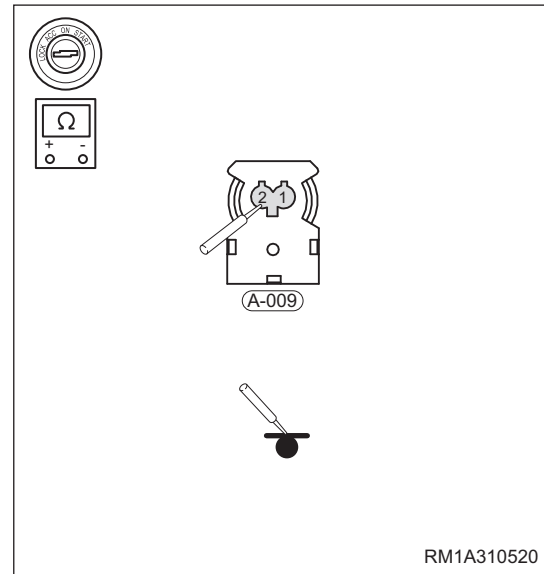


31 - SUPPLEMENTAL RESTRAINT SYSTEM

- g. Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- h. Using a digital multimeter, check for continuity between front passenger seat belt pretensioner connector A-009 and body ground to check for a short circuit to ground according to table below.

Standard Condition

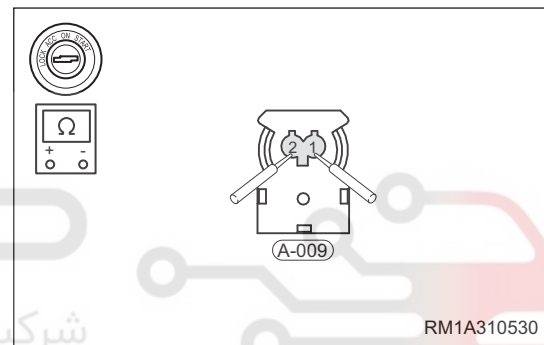
Multimeter Connection	Condition	Specified Condition
A-009 (1) - Body ground	Always	No continuity
A-009 (2) - Body ground	Always	No continuity



- i. Release activation prevention mechanism in SRS control module assembly connector A-001.
- j. Using a digital multimeter, check for continuity between terminals of front passenger seat belt pretensioner connector A-009 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-009 (1) - A-009 (2)	Always	No continuity



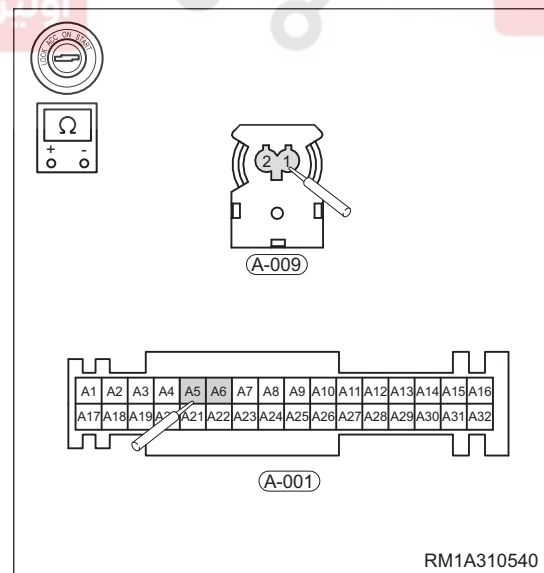
- k. Using a digital multimeter, check for continuity between terminals of connectors A-009 and A-001 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-009 (1) - A-001 (A5)	Always	Continuity
A-009 (2) - A-001 (A6)	Always	Continuity

OK

Replace SRS control module assembly



NG

Replace airbag wire harness and connector

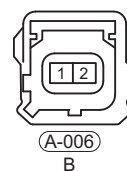
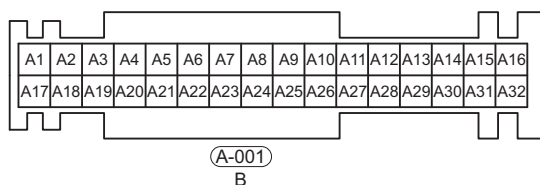
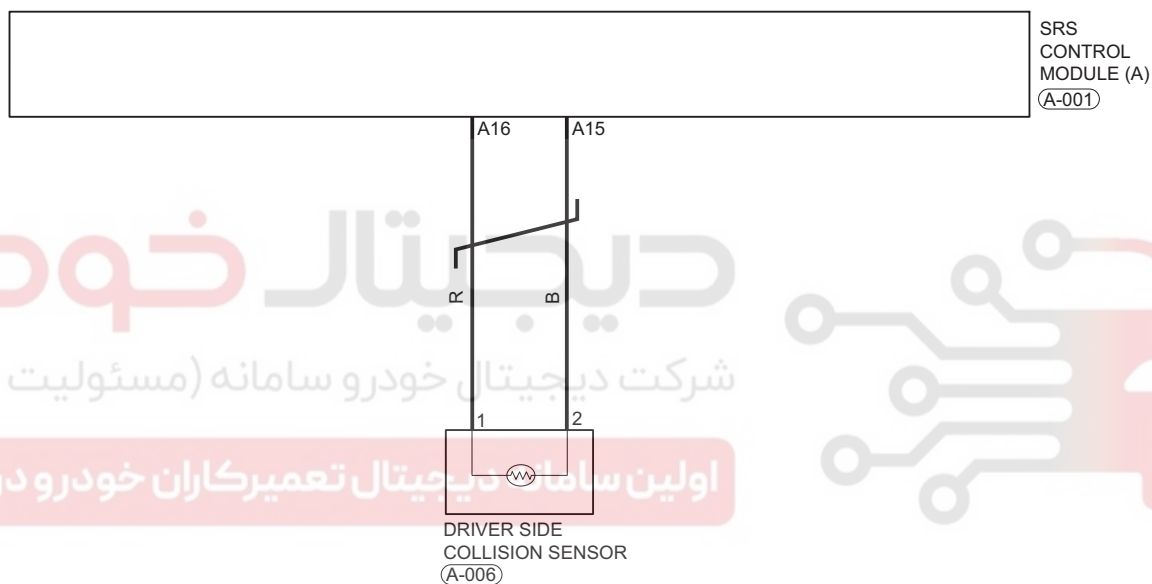
DTC	B0091-15	Left Side Restraints Sensor	Circuit Short to Battery or Open
DTC	B0091-16	Left Side Restraints Sensor	Circuit Voltage Below Threshold
DTC	B0091-55	Left Side Restraints Sensor	Not Configured
DTC	B0091-96	Left Side Restraints Sensor	Component Internal Failure

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران





EM1A310110

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B0091-15	Left Side Restraints Sensor	Sensor circuit short to power supply or open	ON	- Left side collision sensor - Wire harness and connector - SRS control module assembly
B0091-16		Left side collision sensor short to ground		
B0091-55		Left side collision sensor not configured		
B0091-96		Left side collision sensor internal failure		

31

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1	Check left side collision sensor
----------	---

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect left side collision sensor connector, and connect new left side collision sensor to connector A-006.
- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace left side collision sensor

YES

2	Check wire harness and connector
----------	---

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect left side collision sensor connector A-006 and SRS control module assembly connector A-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace airbag wire harness and connector

OK

3

Check left side collision sensor control circuit

- a. Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- b. Disconnect the SRS control module assembly connector A-001.
- c. Disconnect the left side collision sensor connector A-006.
- d. Connect the negative battery cable and wait for a few seconds.
- e. Turn ignition switch to ON.
- f. Using a digital multimeter, measure voltage between left side collision sensor connector A-006 and body ground to check for a short circuit to power supply according to table below.

Standard Voltage

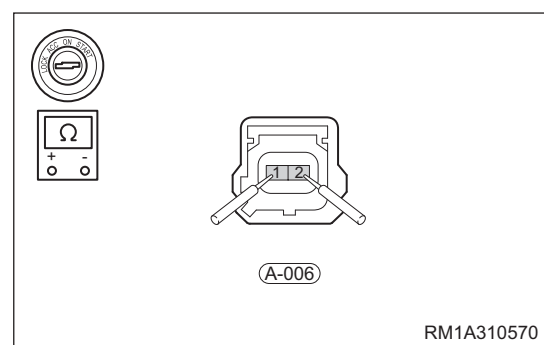
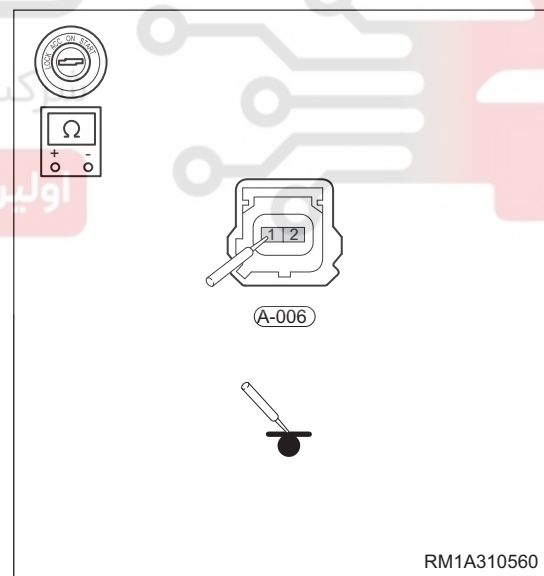
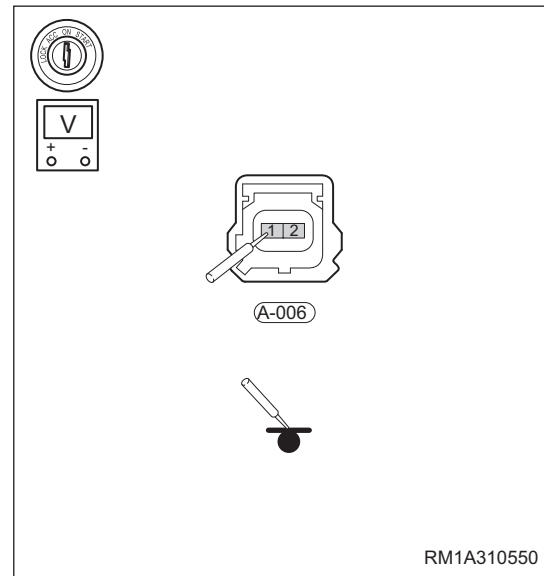
Multimeter Connection	Condition	Specified Condition
A-006 (1) - Body ground	Ignition switch ON	Below 1 V
A-006 (2) - Body ground	Ignition switch ON	Below 1 V

- g. Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- h. Using a digital multimeter, check for continuity between left side collision sensor connector A-006 and body ground to check for a short circuit to ground according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-006 (1) - Body ground	Always	No continuity
A-006 (2) - Body ground	Always	No continuity

- i. Release activation prevention mechanism in SRS control module assembly connector A-001.
- j. Using a digital multimeter, check for continuity between terminals of left side collision sensor connector A-006 according to table below.



Standard Condition

Multimeter Connection	Condition	Specified Condition
A-006 (1) - A-006 (2)	Always	No continuity

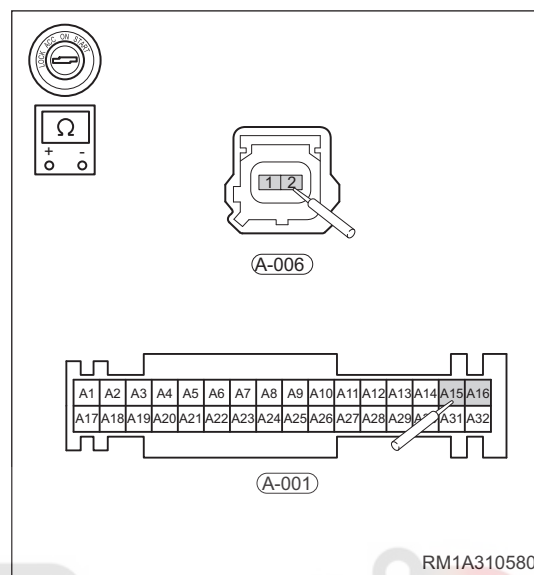
- k. Using a digital multimeter, check for continuity between terminals of connectors A-006 and A-001 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-006 (1) - A-001 (A16)	Always	Continuity
A-006 (2) - A-001 (A15)	Always	Continuity

OK

Replace SRS control module assembly



NG

Replace airbag wire harness and connector

31 - SUPPLEMENTAL RESTRAINT SYSTEM

DTC	B0096-15	Right Side Restraints Sensor	Circuit Short to Battery or Open
DTC	B0096-16	Right Side Restraints Sensor	Circuit Voltage Below Threshold
DTC	B0096-55	Right Side Restraints Sensor	Not Configured
DTC	B0096-96	Right Side Restraints Sensor	Component Internal Failure

31

دیجیتال خودرو

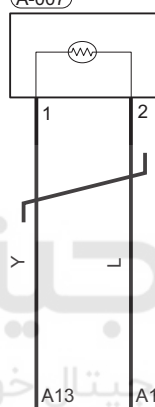
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

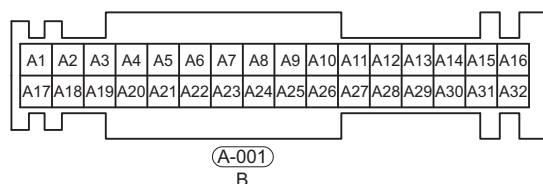


FRONT PASSENGER
SIDE COLLISION SENSOR

(A-007)



SRS
CONTROL
MODULE (A)
(A-001)



EM1A310120

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B0096-15	Right Side Restraints Sensor	Right side collision sensor circuit open	ON	- Right side collision sensor - Wire harness and connector - SRS control module assembly
B0096-16		Right side collision sensor short to ground		
B0096-55		Right side collision sensor not configured		
B0096-96		Right side collision sensor internal failure		

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1	Check right side collision sensor
----------	--

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect right side collision sensor connector, and connect new right side collision sensor to connector A-007.
- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace right side collision sensor

YES

2	Check wire harness and connector
----------	---

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect right side collision sensor connector A-007 and SRS control module assembly connector A-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace airbag wire harness and connector

OK

3**Check right side collision sensor control circuit**

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector A-001.
- Disconnect the right side collision sensor connector A-007.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between right side collision sensor connector A-007 and body ground to check for a short circuit to power supply according to table below.

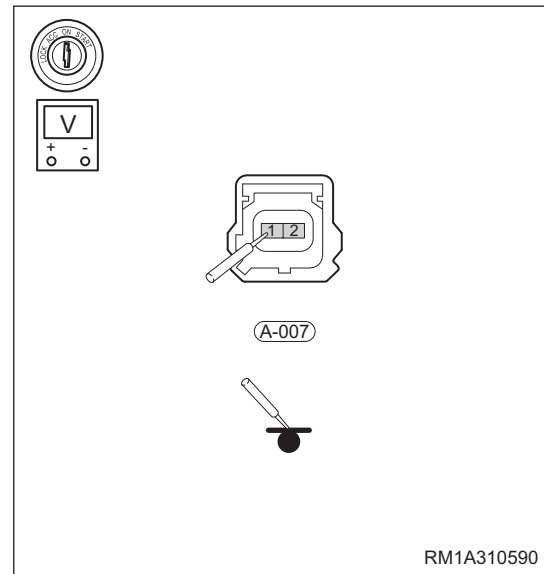
Standard Voltage

Multimeter Connection	Condition	Specified Condition
A-007 (1) - Body ground	Ignition switch ON	Below 1 V
A-007 (2) - Body ground	Ignition switch ON	Below 1 V

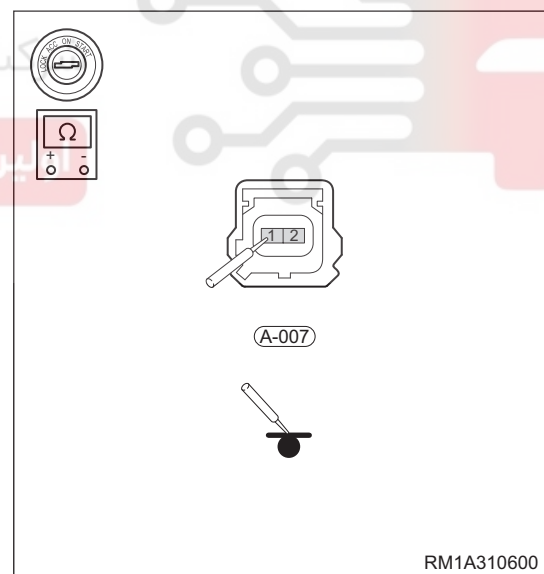
- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Using a digital multimeter, check for continuity between right side collision sensor connector A-007 and body ground to check for a short circuit to ground according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-007 (1) - Body ground	Always	No continuity
A-007 (2) - Body ground	Always	No continuity



31

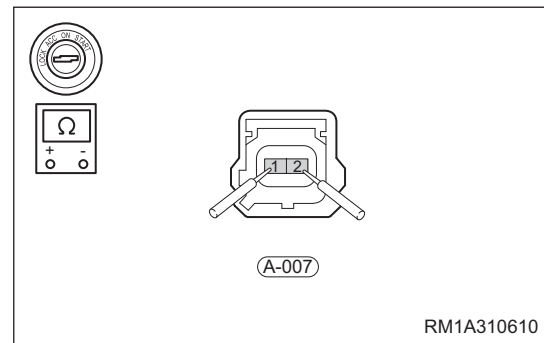


31 - SUPPLEMENTAL RESTRAINT SYSTEM

- i. Release activation prevention mechanism in SRS control module assembly connector A-001.
- j. Using a digital multimeter, check for continuity between terminals of right side collision sensor connector A-007 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-007 (1) - A-007 (2)	Always	No continuity



31

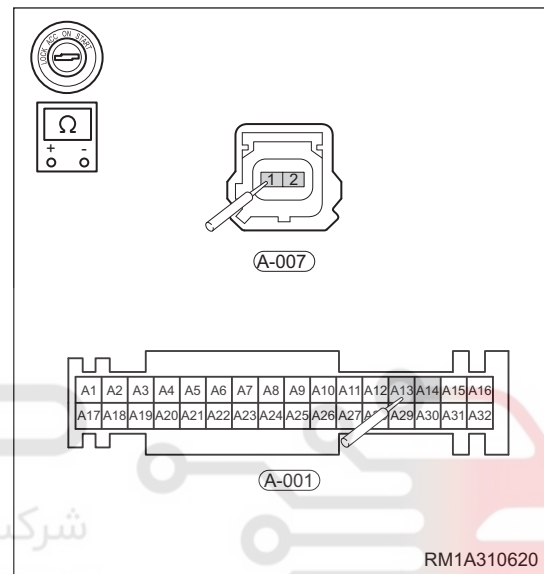
- k. Using a digital multimeter, check for continuity between terminals of connectors A-007 and A-001 according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-007 (1) - A-001 (A13)	Always	Continuity
A-007 (2) - A-001 (A14)	Always	Continuity

OK

Replace SRS control module assembly



NG

Replace airbag wire harness and connector

DTC	B1212-00	Side Airbag and Curtain Deployed	No Subtype Information
DTC	B1215-00	Squib Cross Coupling Error	No Subtype Information
DTC	B1216-00	Frontal Airbag Deployed	No Subtype Information
DTC	B1240-00	ICM Airbag Lamp Failed	No Subtype Information
DTC	B1251-00	ECU Internal Error	No Subtype Information
DTC	B127F-47	Crash Recording Locked	No Subtype Information

دیجیتال خودرو

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31 - SUPPLEMENTAL RESTRAINT SYSTEM

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B1212-00	Side Airbag and Curtain Deployed	After side collision occurred and related airbags deployed	ON	SRS control module assembly
B1215-00	Squib Cross Coupling Error	Airbag and other circuits connected in series		
B1216-00	Frontal Airbag Deployed	After frontal collision occurred and related airbags deployed		
B1240-00	ICM Airbag Lamp Failed	Instrument cluster airbag light failed		
B1251-00	ECU Internal Error	ABM internal failure		
B127F-47	Crash Recording Locked	After collision occurred and related airbags deployed		

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure**1****Check SRS control module assembly**

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable and wait for at least 90 seconds.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to record and clear DTCs stored in supplemental restraint system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.

NG**Replace SRS control module assembly****OK****Malfunction has been repaired and system operates normally**

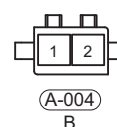
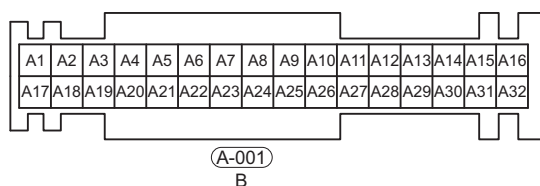
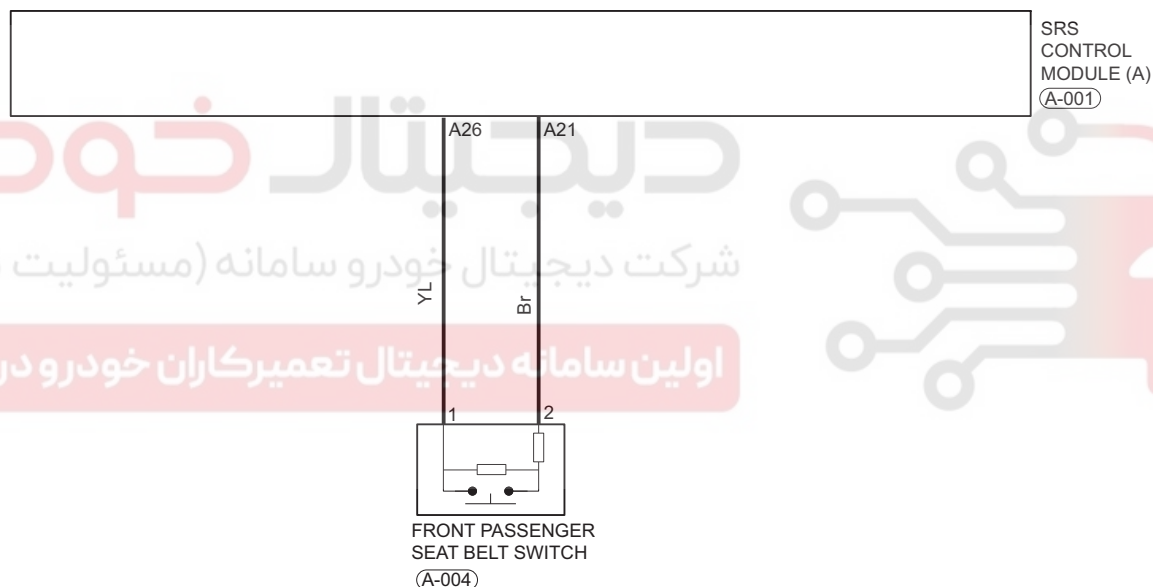
DTC

B1233-12

Passenger Buckle Switch

Circuit Short to Battery

31



EM1A310130

31 - SUPPLEMENTAL RESTRAINT SYSTEM

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B1233-12	Passenger Buckle Switch	Front passenger seat belt buckle short to power supply	ON	- Front passenger seat belt switch - Wire harness and connector - SRS control module assembly

31

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure**1 Check front passenger seat belt switch**

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect front passenger seat belt switch connector, and connect new front passenger seat belt switch to connector A-004.
- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace front passenger seat belt switch

YES

2 Check wire harness and connector

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect front passenger seat belt switch connector A-004 and SRS control module assembly connector A-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace airbag wire harness and connector

OK

3**Check front passenger seat belt switch control circuit**

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector A-001.
- Disconnect the front passenger seat belt switch connector A-004.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between front passenger seat belt switch connector A-004 and body ground to check for a short circuit to power supply according to table below.

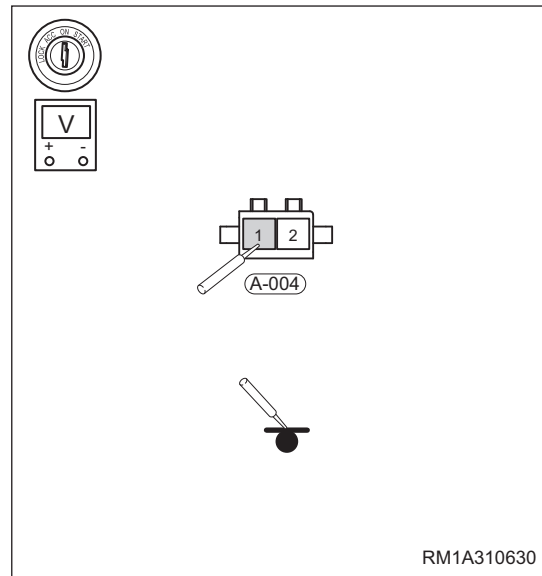
Standard Voltage

Multimeter Connection	Condition	Specified Condition
A-004 (1) - Body ground	Ignition switch ON	Below 1 V

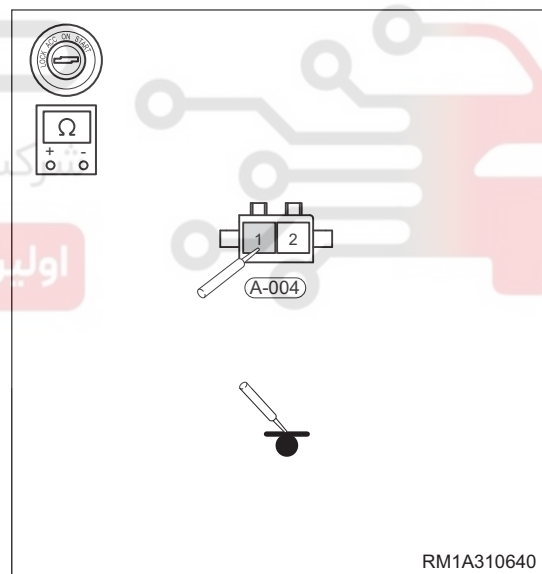
- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Using a digital multimeter, check for continuity between front passenger seat belt switch connector A-004 and body ground to check for a short circuit to ground according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-004 (1) - Body ground	Always	No continuity



31



31 - SUPPLEMENTAL RESTRAINT SYSTEM

- i. Using a digital multimeter, check for continuity between terminals of connectors A-004 and A-001 according to table below.

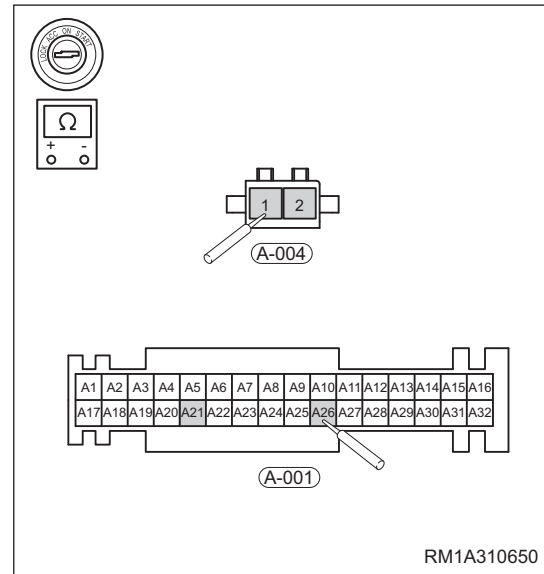
Standard Condition

Multimeter Connection	Condition	Specified Condition
A-004 (1) - A-001 (A26)	Always	Continuity
A-004 (2) - A-001 (A21)	Always	Continuity

31

OK

Replace SRS control module assembly



NG

Repair or replace airbag wire harness and connector

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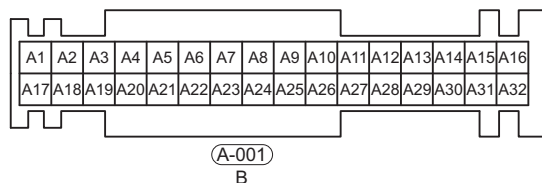
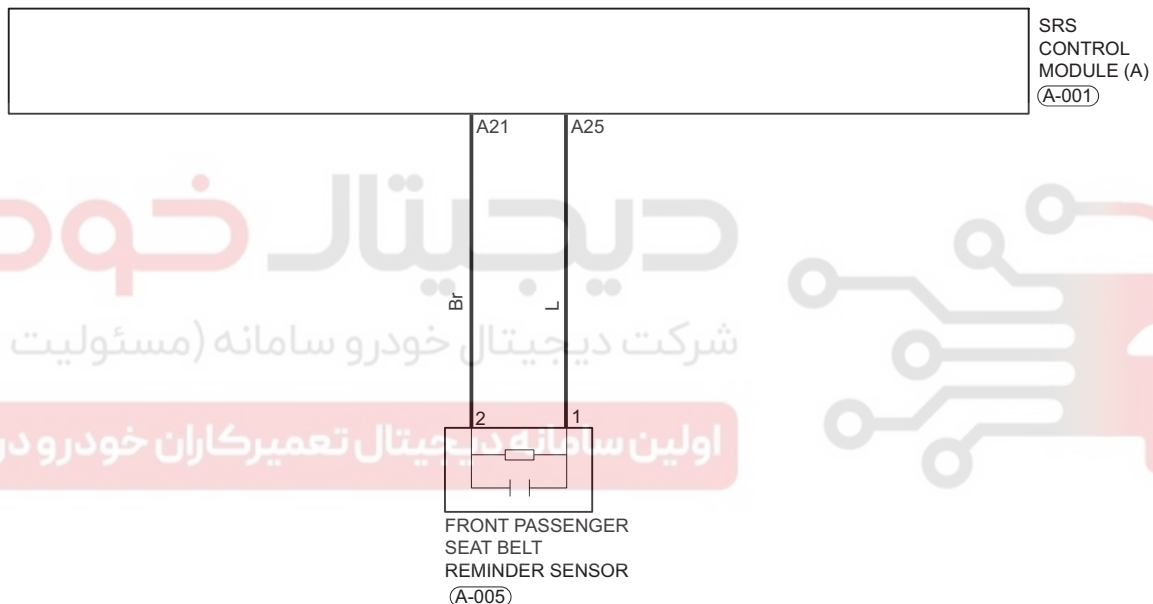
DTC

B1234-12

Passenger SBR

Circuit Short to Battery

31



EM1A310140

31 - SUPPLEMENTAL RESTRAINT SYSTEM

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B1234-12	Passenger SBR	Front passenger seat sensor short to power supply	ON	- Front passenger seat belt reminder sensor - Wire harness and connector - SRS control module assembly

31

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure**1 Check front passenger seat belt reminder sensor**

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect front passenger seat belt reminder sensor connector, and connect new front passenger seat belt reminder sensor to connector A-005.
- Reconnect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to clear DTC.
- Turn ignition switch to LOCK.
- Turn ignition switch to ON and wait for at least 90 seconds.
- Use X-431 3G diagnostic tester to check if DTCs are still output.

NO

Replace front passenger seat belt reminder sensor

YES

2 Check wire harness and connector

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect front passenger seat belt reminder sensor connector A-005 and SRS control module assembly connector A-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace airbag wire harness and connector

OK

3**Check front passenger seat belt reminder sensor control circuit**

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector A-001.
- Disconnect the front passenger seat belt reminder sensor connector A-005.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between front passenger seat belt reminder sensor connector A-005 and body ground to check for a short circuit to power supply according to table below.

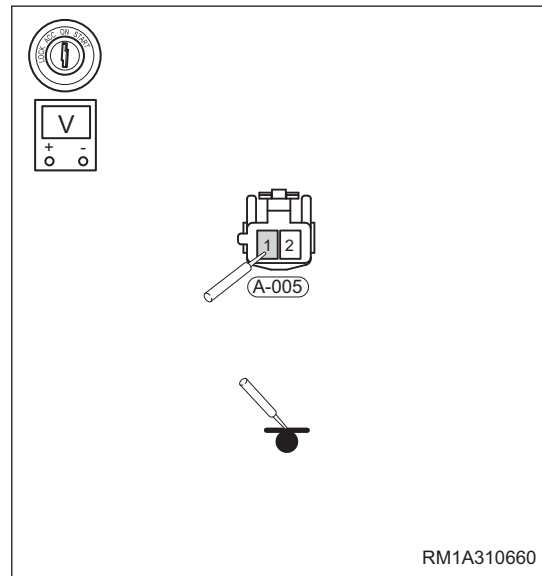
Standard Voltage

Multimeter Connection	Condition	Specified Condition
A-005 (1) - Body ground	Ignition switch ON	Below 1 V

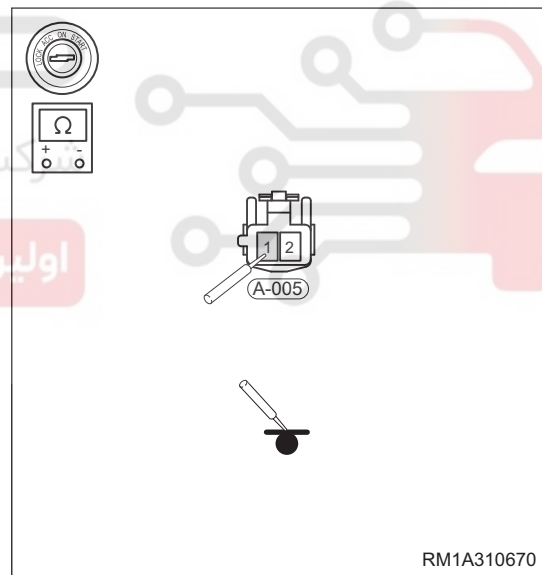
- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Using a digital multimeter, check for continuity between front passenger seat belt reminder sensor connector A-005 and body ground to check for a short circuit to ground according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
A-005 (1) - Body ground	Always	No continuity



31



31 - SUPPLEMENTAL RESTRAINT SYSTEM

- i. Using a digital multimeter, check for continuity between terminals of connectors A-005 and A-001 according to table below.

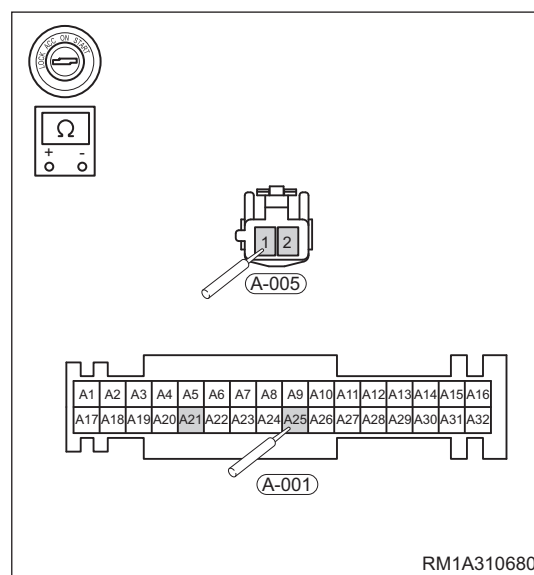
Standard Condition

Multimeter Connection	Condition	Specified Condition
A-005 (1) - A-001 (A25)	Always	Continuity
A-005 (2) - A-001 (A21)	Always	Continuity

31

OK

Replace SRS control module assembly



NG

Repair or replace airbag wire harness and connector

دیجیتال خودرو

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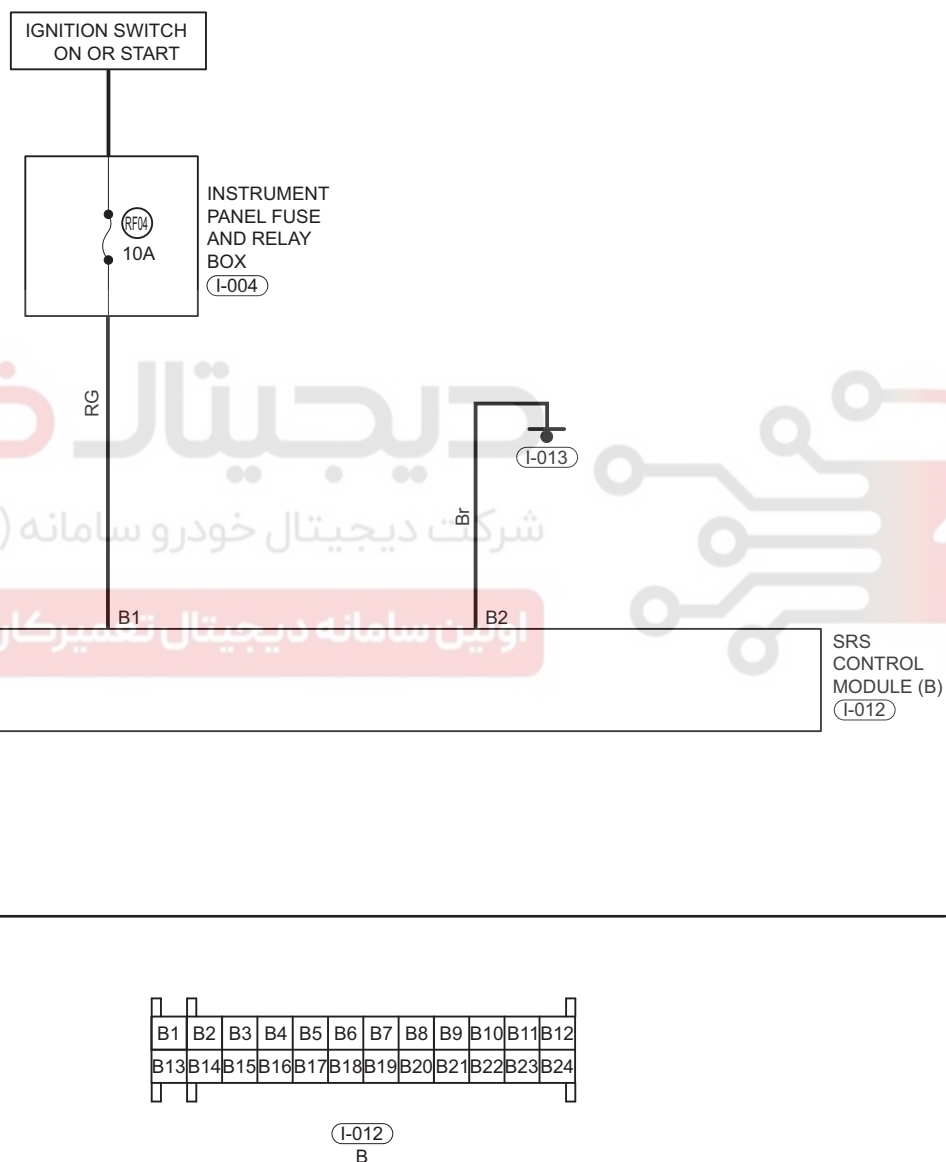
DTC	B1250-16	Power Supply Circuit	Circuit Voltage Below Threshold
DTC	B1250-17	Power Supply Circuit	Circuit Voltage Above Threshold

دیجیتال خودرو

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EM1A310150

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
B1250-16	Power Supply Circuit	Low module power supply voltage	ON	- Battery - Charging system - Wire harness and connector - SRS control module assembly
B1250-17		High module power supply voltage		

31

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1	Check battery voltage
----------	------------------------------

- a. Check battery voltage with a digital multimeter.

Standard voltage: 11 to 14 V

NG

Check charging system (See page 16-6)

OK

2	Check wire harness and connector (SRS control module assembly - instrument panel fuse and relay box)
----------	---

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector I-012.
- Disconnect the instrument panel fuse and relay box wire harness connector I-004.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace instrument panel wire harness and connector

OK

31 - SUPPLEMENTAL RESTRAINT SYSTEM

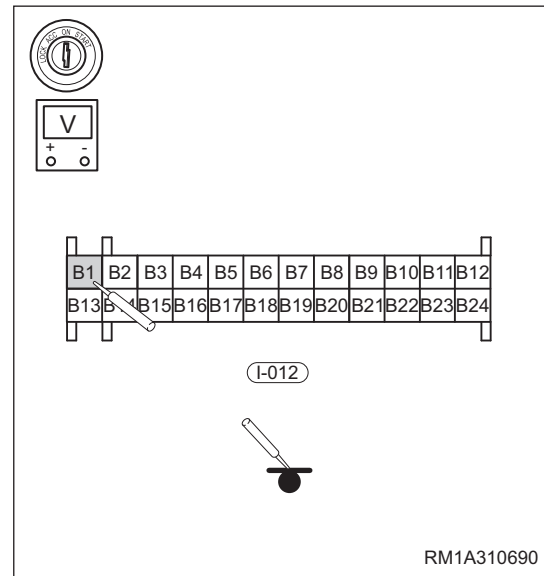
31

3**Check wire harness and connector (SRS control module assembly - battery)**

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector I-012.
- Connect the negative battery cable and wait for a few seconds.
- Turn ignition switch to ON.
- Using a digital multimeter, measure voltage between SRS control module assembly connector I-012 and body ground to check if system power supply circuit is normal according to table below.

Standard Voltage

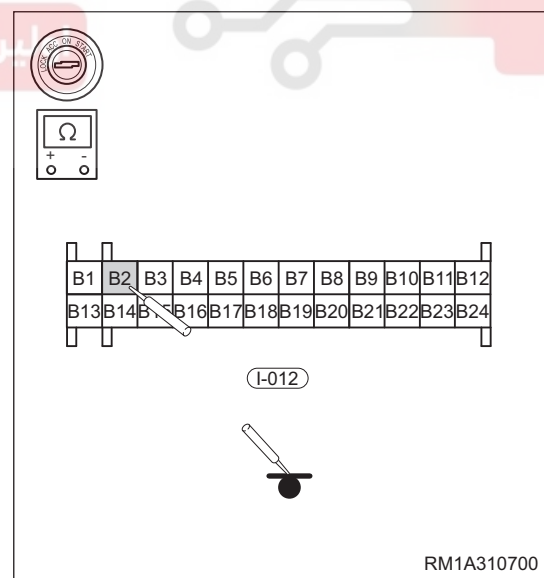
Multimeter Connection	Condition	Specified Condition
I-012 (B1) - Body ground	Ignition switch ON	11 to 14 V

**NG****Repair or replace instrument panel wire harness and connector****OK****4****Check wire harness and connector (SRS control module assembly - body ground)**

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector I-012.
- Using a digital multimeter, check ground circuit of SRS control module assembly connector I-012 to check if system ground is normal according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-012 (B2) - Body ground	Always	Continuity

**NG****Repair or replace airbag wire harness and connector****OK****5****Reconfirm DTCs**

- Reconnect the SRS control module assembly connector I-012 securely.

- b. Reconnect the instrument panel fuse and relay box wire harness connector I-004 securely.
- c. Connect the negative battery cable.
- d. Turn ignition switch to ON.
- e. Use X-431 3G diagnostic tester (the latest software) to record and clear DTCs stored in supplemental restraint system.
- f. Turn ignition switch to LOCK and wait for a few seconds.
- g. Turn ignition switch to ON.
- h. Use X-431 3G diagnostic tester to read DTCs stored in supplemental restraint system again.
- i. Check if same DTCs are still output.

NO

System operates normally

YES

31

Replace SRS control module assembly

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

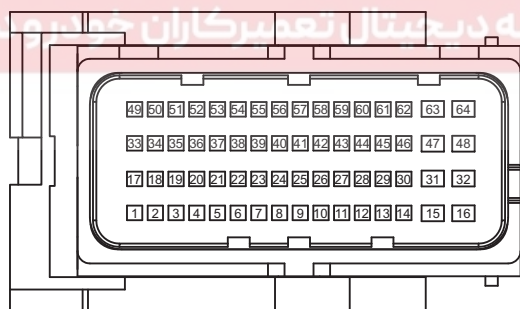
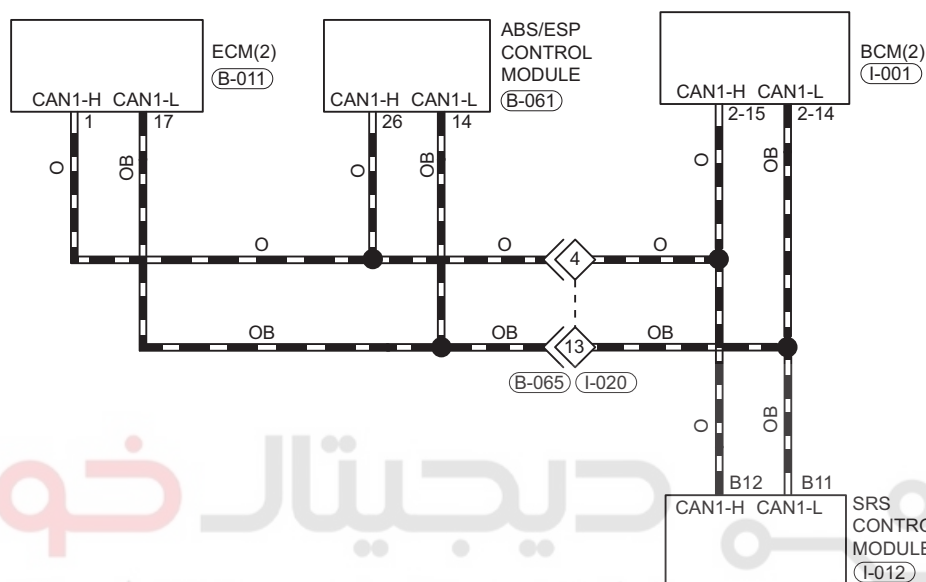
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



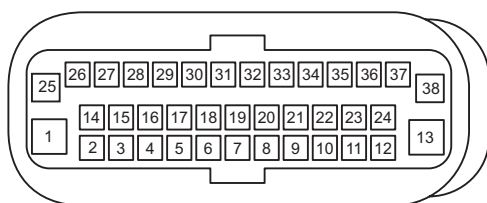
31 - SUPPLEMENTAL RESTRAINT SYSTEM

DTC	U0100-87	Lost Communication with EMS	Missing Message
DTC	U0129-87	Lost Communication with BSM	Missing Message
DTC	U0140-87	Lost Communication with BCM	Missing Message

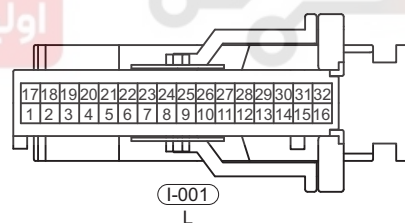




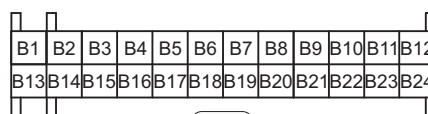
B



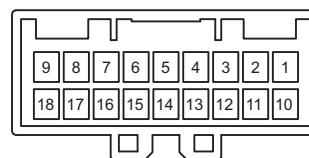
B



L



B



W

EM1A310160

Self-diagnosis Detection Logic

DTC	DTC Definition	DTC Detection Condition	Warning Light Condition	Possible Cause
U0100-87	Lost Communication with EMS	No EMS communication	ON	- Engine Control Module (ECM) - ABS/ESP control module - Body Control Module (BCM) - Wire harness and connector - SRS control module assembly
U0129-87	Lost Communication with BSM	No BSM communication		
U0140-87	Lost Communication with BCM	No BCM communication		

HINT:

When performing circuit diagnosis and test, always refer to circuit diagram for specific circuit and component information.

Diagnosis Procedure

1	Check wire harness and connector
----------	---

Use circuit diagram as a guide to perform following procedures:

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector I-012.
- Disconnect the Engine Control Module (ECM) connector B-011.
- Disconnect the ABS/ESP control module connector B-061.
- Disconnect the Body Control Module (BCM) connector I-001.
- Check if wire harnesses are worn, pierced, pinched or partially broken.
- Look for broken, bent, protruded or corroded terminals.
- Check if related connector terminal contact pins are in good condition.

NG

Repair or replace instrument panel/body wire harness and connector

OK

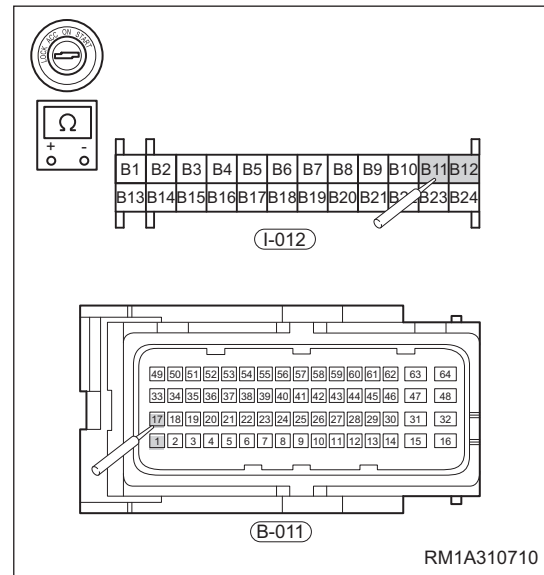
2

Check CAN communication control circuit (SRS control module assembly - Engine Control Module (ECM))

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector I-012.
- Disconnect the Engine Control Module (ECM) connector B-011.
- Using a digital multimeter, check for continuity between terminals of connectors I-012 and B-011 to check if there is an open in CAN communication circuit according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-012 (B11) - B-011 (17)	Always	Continuity
I-012 (B12) - B-011 (1)	Always	Continuity

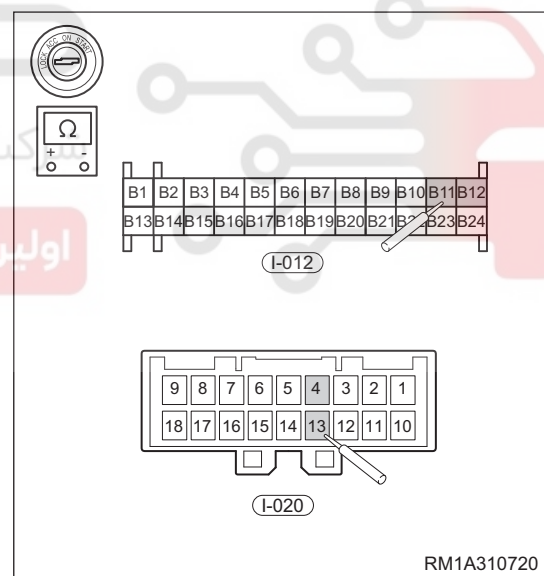


31

- Disconnect body wire harness connector B-065 and instrument panel wire harness connector I-020.
- Using a digital multimeter, check for continuity between terminals of connectors I-012 and I-020 to check if there is an open in CAN communication circuit according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-012 (B11) - I-020 (13)	Always	Continuity
I-012 (B12) - I-020 (4)	Always	Continuity



31 - SUPPLEMENTAL RESTRAINT SYSTEM

- g. Using a digital multimeter, check for continuity between terminals of connectors B-065 and B-011 to check if there is an open in CAN communication circuit according to table below.

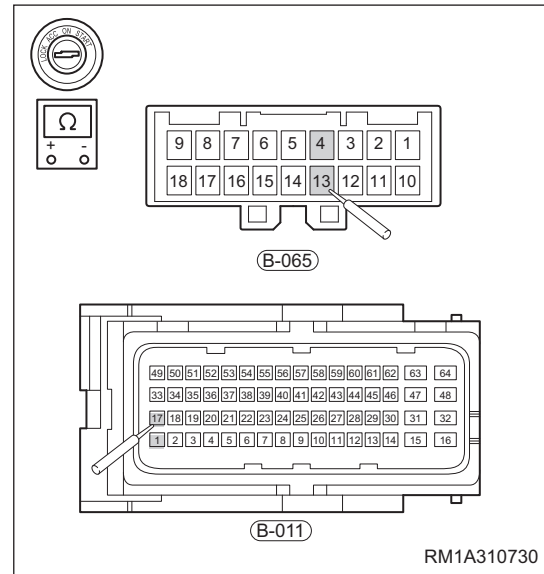
Standard Condition

Multimeter Connection	Condition	Specified Condition
B-065 (4) - B-011 (1)	Always	Continuity
B-065 (13) - B-011 (17)	Always	Continuity

31

NG

Repair or replace instrument panel/body wire harness and connector



OK

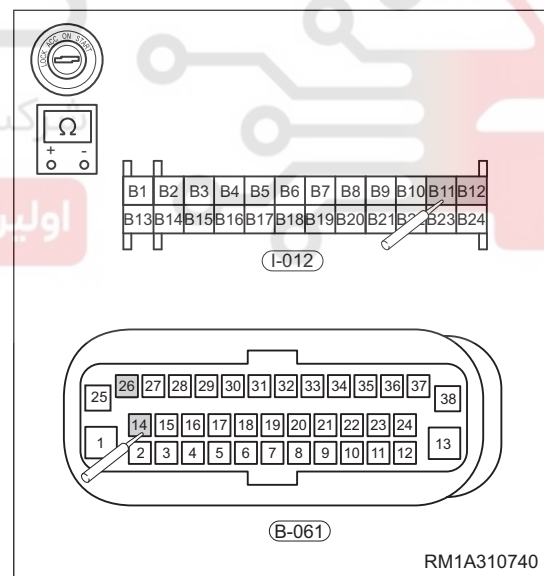
3

Check CAN communication control circuit (SRS control module assembly - ABS/ESP control module)

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector I-012.
- Disconnect the ABS/ESP control module connector B-061.
- Using a digital multimeter, check for continuity between terminals of connectors I-012 and B-061 to check if there is an open in CAN communication circuit according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-012 (B11) - B-061 (14)	Always	Continuity
I-012 (B12) - B-061 (26)	Always	Continuity

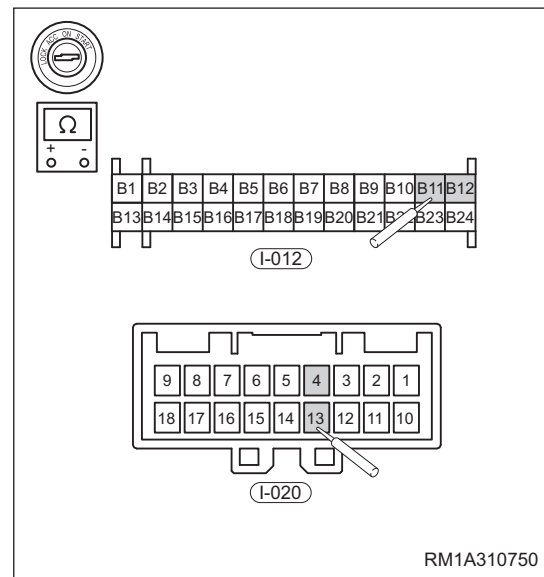


31 - SUPPLEMENTAL RESTRAINT SYSTEM

- e. Disconnect body wire harness connector B-065 and instrument panel wire harness connector I-020.
- f. Using a digital multimeter, check for continuity between terminals of connectors I-012 and I-020 to check if there is an open in CAN communication circuit according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-012 (B11) - I-020 (13)	Always	Continuity
I-012 (B12) - I-020 (4)	Always	Continuity



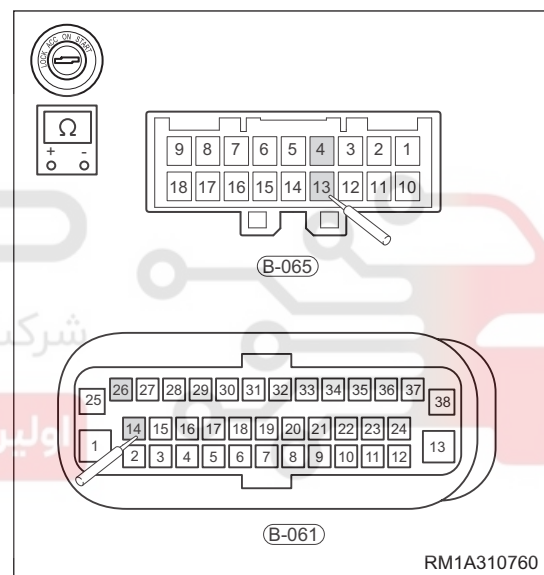
- g. Using a digital multimeter, check for continuity between terminals of connectors B-065 and B-061 to check if there is an open in CAN communication circuit according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
B-065 (4) - B-061 (26)	Always	Continuity
B-065 (13) - B-061 (14)	Always	Continuity

NG

Repair or replace instrument panel/body wire harness and connector

**OK**

31 - SUPPLEMENTAL RESTRAINT SYSTEM

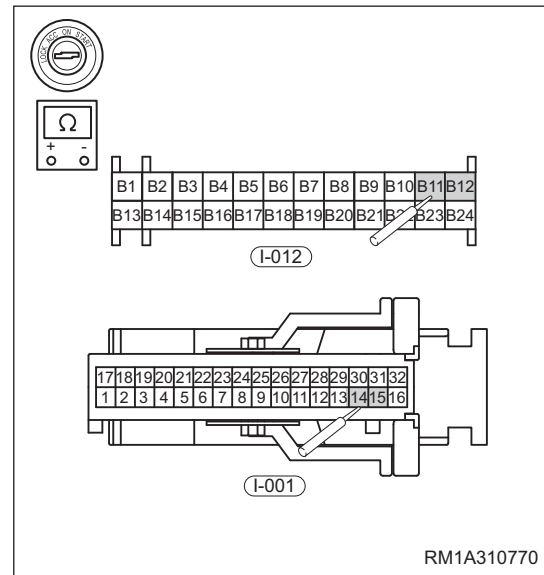
4

Check CAN communication control circuit (SRS control module assembly - Body Control Module (BCM))

- Turn ignition switch to LOCK, disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the SRS control module assembly connector I-012.
- Disconnect the Body Control Module (BCM) connector I-001.
- Using a digital multimeter, check for continuity between terminals of connectors I-012 and I-001 to check if there is an open in CAN communication circuit according to table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
I-012 (B11) - I-001 (14)	Always	Continuity
I-012 (B12) - I-001 (15)	Always	Continuity



NG

Repair or replace instrument panel wire harness and connector

OK

5

Reconfirm DTCs

- Turn ignition switch to LOCK.
- Disconnect the negative battery cable and wait for at least 90 seconds.
- Connect the negative battery cable.
- Turn ignition switch to ON.
- Use X-431 3G diagnostic tester (the latest software) to record and clear DTCs stored in supplemental restraint system.
- Turn ignition switch to LOCK and wait for a few seconds.
- Turn ignition switch to ON, and then select Read Code.

NG

Replace SRS control module assembly

OK

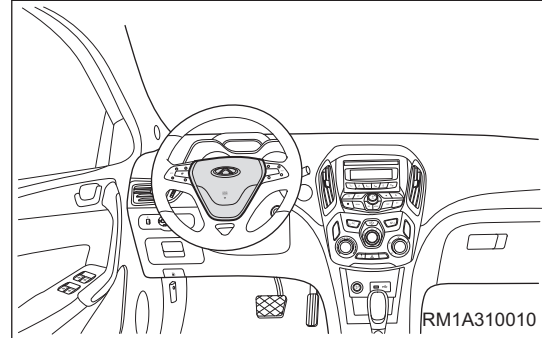
Malfunction has been repaired and system operates normally

ON-VEHICLE SERVICE

Driver Airbag Assembly

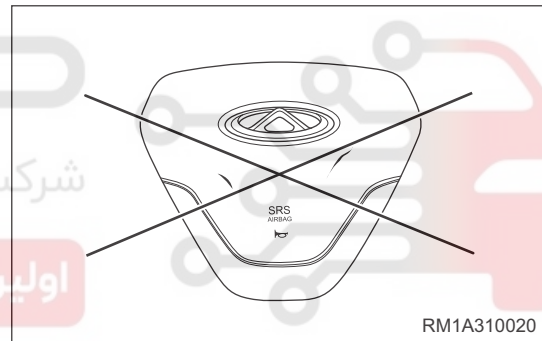
On-vehicle Inspection

1. Check driver airbag assembly (vehicle is not involved in a collision and airbag is not deployed).
 - a. Perform a diagnosis system inspection.
 - b. Perform visual inspection with driver airbag assembly installed on vehicle:
 - Check for cuts, cracks or discoloration on outer surface and grooved portion of driver airbag assembly.
 - If any defect above is found, replace driver airbag assembly with a new one.



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2. Check driver airbag assembly (vehicle is involved in a collision and airbag is not deployed).
 - a. Perform a diagnosis system inspection.
 - b. Perform visual inspection with driver airbag assembly removed from vehicle:
 - Check for cuts, cracks or discoloration on outer surface and grooved portion of driver airbag assembly.
 - Check wire harnesses for cuts and cracks, and if connectors are chipped.
 - Check steering wheel for deformation.

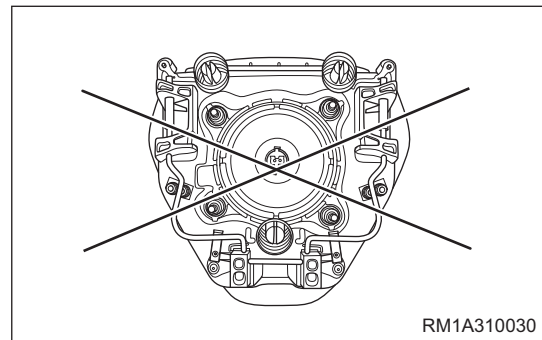


⚠ WARNING

- Be sure to follow correct procedures to remove and install driver airbag assembly.

HINT:

- If driver airbag assembly contact plate is deformed, never repair it. Always replace driver airbag assembly with a new one.



- There should not be any contact between driver airbag assembly and steering wheel, and keep a uniform clearance all around, when installing new driver airbag assembly onto steering wheel.

Removal

CAUTION

- Handle airbag assembly and airbag control module assembly carefully, and never tap or strike them fiercely.
- Removal, inspection and installation of airbag system must meet relevant requirements and specifications, and never perform operation casually.
- Removed airbag assembly should be kept properly with face up. Store the airbag in a place with enough spare space to prevent accidental airbag deployment.

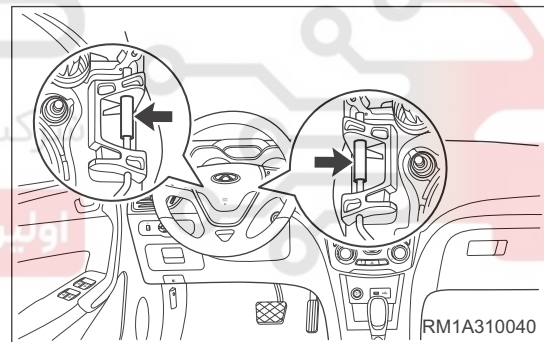
31

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.

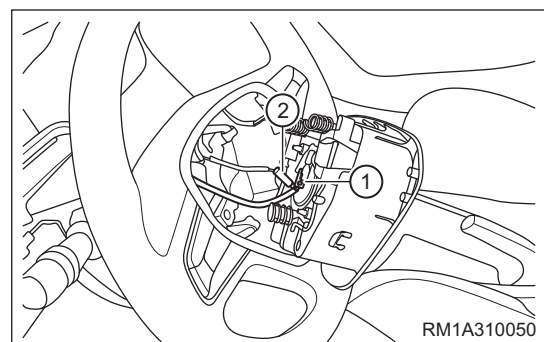
WARNING

- Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.

3. Remove the driver airbag assembly.
 - a. Set front wheels to straight-ahead position.
 - b. Using a flat tip screwdriver wrapped with protective tape, push driver airbag assembly snap springs (arrow) from service hole on both sides of steering wheel.



- c. Disengage driver airbag assembly from steering wheel carefully, and support driver airbag assembly stably by hand.
- d. Disconnect driver airbag assembly wire harness connector (1) and horn wire harness connector (2).



WARNING

- DO NOT damage the airbag wire harness when handling airbag assembly wire harness connector.

CAUTION

- DO NOT pull the airbag wire harness when removing driver airbag assembly.

e. Remove the driver airbag assembly.

Installation

Installation is in the reverse order of removal.

CAUTION

- Be sure to install snap springs in place during installation.
- Check that horn operates normally after installation.
- Check SRS warning light after installation, and make sure that supplemental restraint system operates normally.

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Disposal

Always dispose of airbag together with vehicle which is equipped with supplemental restraint system. Otherwise, the airbag will be in chemical and physical hazard. Failure to handle it properly will cause personal injury. Do not dispose of airbag by oneself, and always contact the professional service department to perform disposal.

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Spiral Cable

Removal

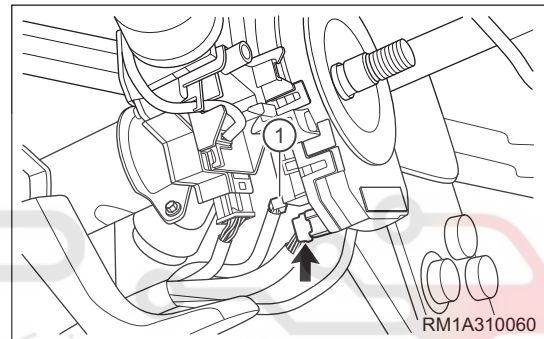
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.

WARNING

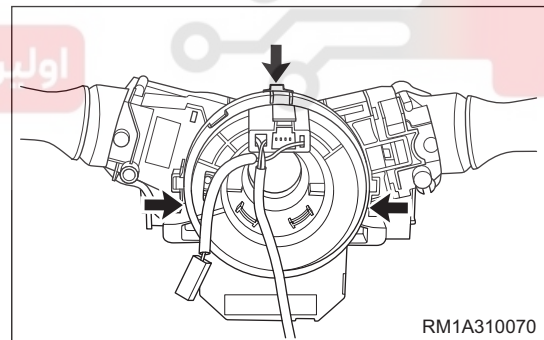
- Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.

31

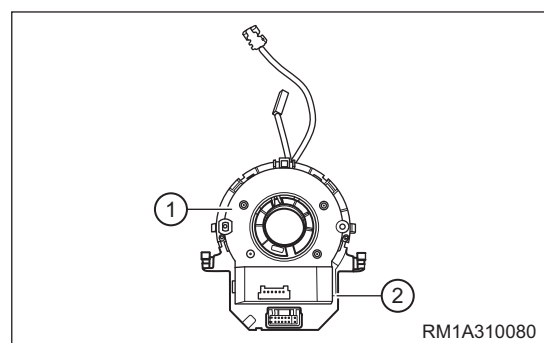
3. Set front wheels to straight-ahead position.
4. Remove the steering wheel assembly (See page 28-10).
5. Remove the combination switch cover assembly (See page 28-13).
6. Remove the spiral cable.
 - a. Disconnect spiral cable wire harness connector (arrow) and angle sensor connector (1) (if equipped).



- b. Disengage fixing claws (arrow) between spiral cable and combination switch assembly.

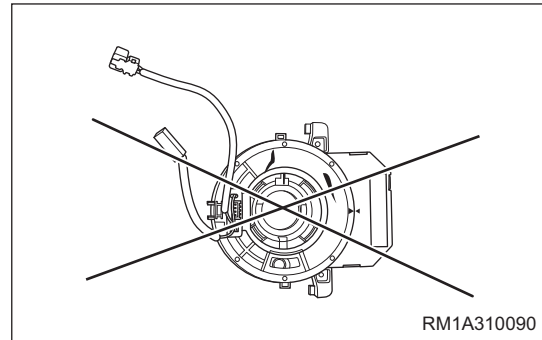


- c. Disengage fixing claws of angle sensor, and disengage angle sensor (1) and spiral cable (2).



Inspection

1. Check the spiral cable.
 - a. Check that there are no scratches or cracks on connectors, and/or no cracks, dents or chipping on cable.
 - b. If there are scratches, cracks, dents or cuts on connectors or spiral cable, replace spiral cable with a new one.



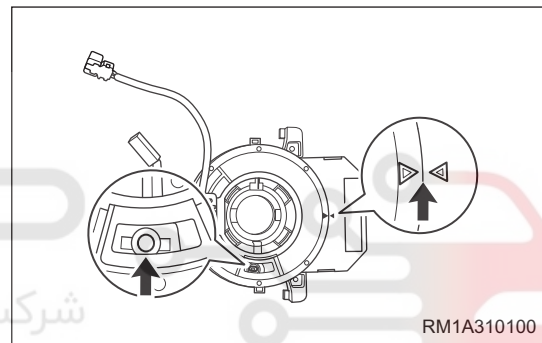
31

Installation

Installation is in the reverse order of removal.

HINT:

Always install spiral cable correctly according to matchmarks on spiral cable and steering column (fully turn spiral cable to one direction slowly, then turn it to the other direction until yellow ball appears in transparent neutral window and aligns with arrow mark), otherwise spiral cable may be damaged.



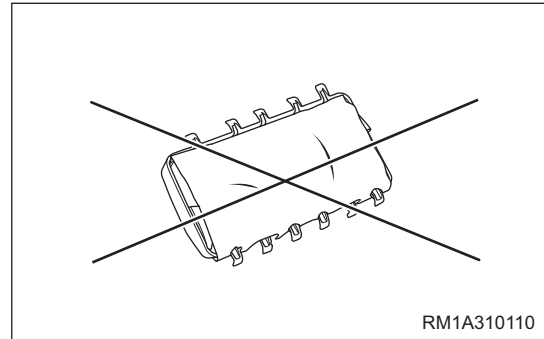
CAUTION

- Always install spiral cable correctly according to specified operating instructions.
- DO NOT rotate the spiral cable over specified turns to prevent it from breaking.
- Be sure to install fixing claws in place when installing spiral cable.
- Check that horn operates normally after installation.
- Check SRS warning light after installation, and make sure that supplemental restraint system operates normally.

Front Passenger Airbag Assembly

On-vehicle Inspection

1. Check the front passenger airbag assembly (vehicle is involved in a collision and airbag is not deployed).
 - a. Perform a diagnosis system inspection.
 - b. Perform visual inspection with front passenger airbag assembly removed from vehicle:
 - Check for cuts, cracks or wear on front passenger airbag assembly.
 - Check for cracks or other damage on connector.
 - Check instrument panel or instrument panel crossmember assembly for deformation or damage. If any defect above is found, replace front passenger airbag assembly with a new one.



WARNING

- Be sure to follow correct procedures to remove and install front passenger airbag assembly.

Removal

CAUTION

- Handle airbag assembly and airbag control module assembly carefully, and never tap or strike them fiercely.
- Removal, inspection and installation of airbag system must meet relevant requirements and specifications, and never perform operation casually.
- Removed airbag assembly should be kept properly with face up. Store the airbag in a place with enough spare space to prevent accidental airbag deployment.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.

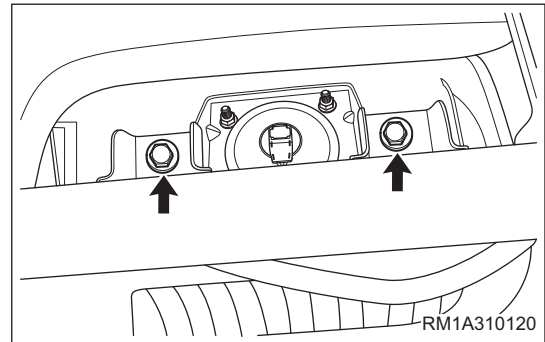
WARNING

- Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.

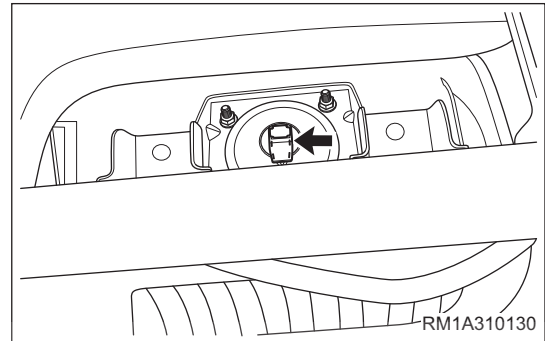
3. Remove the glove box assembly ([See page 46-13](#)).
4. Remove the front passenger airbag assembly.

31 - SUPPLEMENTAL RESTRAINT SYSTEM

- a. Remove 2 coupling bolts (arrow) between front passenger airbag assembly and instrument panel crossmember assembly.
(Tightening torque: 10 ± 2 N·m)



- b. Disconnect the front passenger airbag assembly wire harness connector (arrow).

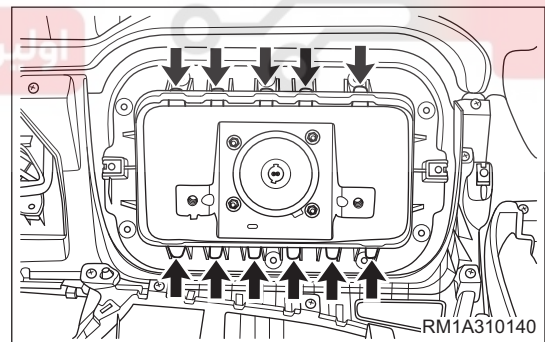


31

⚠ WARNING

- DO NOT damage airbag assembly wire harness when handling airbag assembly wire harness connector.

- c. Remove the instrument panel assembly (See page 46-13).
d. Using a flat tip screwdriver wrapped with protective tape, slightly pry fixing claws (arrow) around front passenger airbag assembly mounting bracket to separate it from instrument panel assembly.



- e. Remove the front passenger airbag assembly.

Installation

Installation is in the reverse order of removal.

CAUTION

- Before installing tightening bolts, always make sure that airbag wire harness is not hold down or stuck. Adjust if necessary and install it in place.
- Make sure to tighten fixing bolts to specified torques during installation.
- When installing front passenger airbag assembly, first slide the hook on one side into locating hole in airbag box, and then press in hook on the other side firmly, making sure that hooks on both sides enter the corresponding locating holes correctly.
- Always keep vehicle power off during installation. It is forbidden to install front passenger airbag assembly with vehicle power on.
- During installation of instrument panel assembly, if installation cannot proceed due to contact of front passenger airbag assembly bracket and instrument panel crossmember assembly, hold the airbag slightly at opening of glove box assembly to install it in place.
- Check SRS warning light after installation, and make sure that supplemental restraint system operates normally.

Disposal

Always dispose of airbag assembly together with vehicle which is equipped with supplemental restraint system. Otherwise, the airbag will be in chemical and physical hazard. Failure to handle it properly will cause personal injury. Do not dispose of airbag by oneself, and always contact the professional service department to perform disposal.

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Curtain Shield Airbag Assembly (if equipped)

Removal

CAUTION

- Handle airbag assembly and airbag control module assembly carefully, and never tap or strike them fiercely.
- Removal, inspection and installation of airbag system must meet relevant requirements and specifications, and never perform operation casually.
- Removed airbag assembly should be kept properly with face up. Store the airbag in a place with enough spare space to prevent accidental airbag deployment.

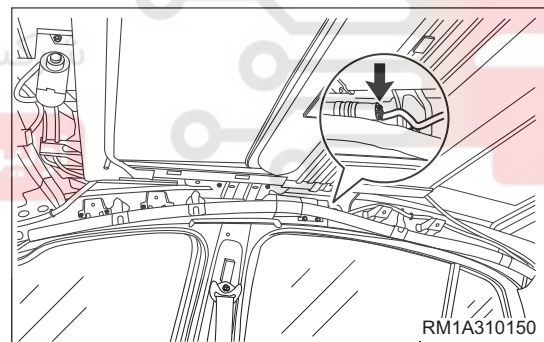
31

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.

WARNING

- Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.

3. Remove the roof assembly (See page 50-27).
4. Remove the curtain shield airbag assembly.
 - a. Disconnect the curtain shield airbag assembly wire harness connector (arrow).

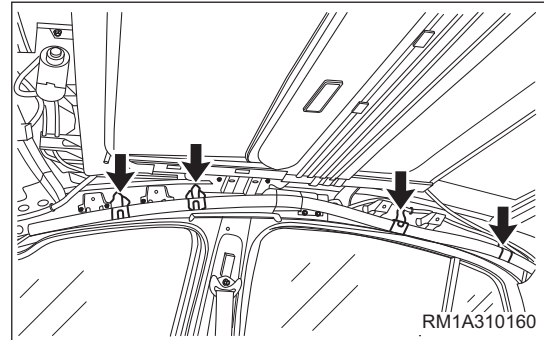


WARNING

- DO NOT damage airbag assembly wire harness when handling airbag assembly wire harness connector.

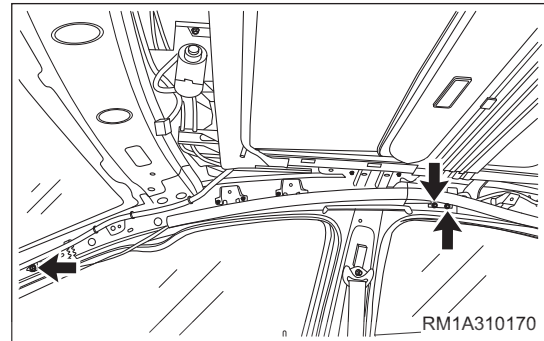
31 - SUPPLEMENTAL RESTRAINT SYSTEM

- b. Disengage fixing clips (arrow) between curtain shield airbag assembly and body.



31

- c. Remove fixing bolts (arrow) between curtain shield airbag assembly and body.
(Tightening torque: $10 \pm 1.5 \text{ N}\cdot\text{m}$)



- d. Remove the curtain shield airbag assembly.

Installation

Installation is in the reverse order of removal.

CAUTION

- Be sure to install fixing clips in place during installation.
- Make sure to tighten fixing bolts to specified torques during installation.
- Check that horn operates normally after installation.
- Always keep vehicle power off during installation. It is forbidden to install the curtain shield airbag assembly with vehicle power on.
- Check SRS warning light after installation, and make sure that supplemental restraint system operates normally.

Disposal

Always dispose of airbag assembly together with vehicle which is equipped with supplemental restraint system. Otherwise, the airbag will be in chemical and physical hazard. Failure to handle it properly will cause personal injury. Do not dispose of airbag by oneself, and always contact the professional service department to perform disposal.

Side Collision Sensor (if equipped)

Removal

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.

WARNING

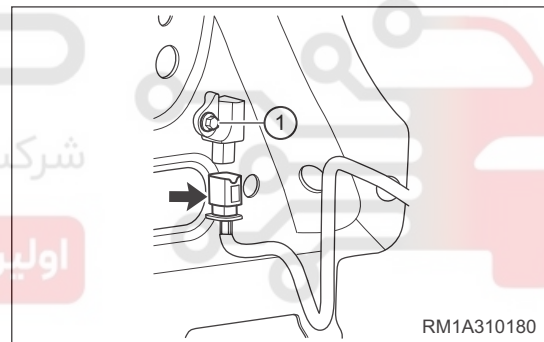
- Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.

3. Remove the B-pillar protector assembly (See page 50-18).
4. Remove the front seat belt assembly (See page 32-8).
5. Remove the side collision sensor.
 - a. Disconnect the side collision sensor connector (arrow).

WARNING

- DO NOT damage wire harness connector when handling.

- b. Remove fixing bolt (1) between side collision sensor and body.
(Tightening torque: 10 ± 2 N·m)



- c. Remove the side collision sensor.

Installation

Installation is in the reverse order of removal.

CAUTION

- Be sure to align dowel pin on side collision sensor with positioning hole on body during installation.
- Make sure to tighten fixing bolts to specified torques during installation.
- Always keep vehicle power off during installation.
- Check that horn operates normally after installation.
- Check SRS warning light after installation, and make sure that supplemental restraint system operates normally.

SRS Control Module Assembly

Removal

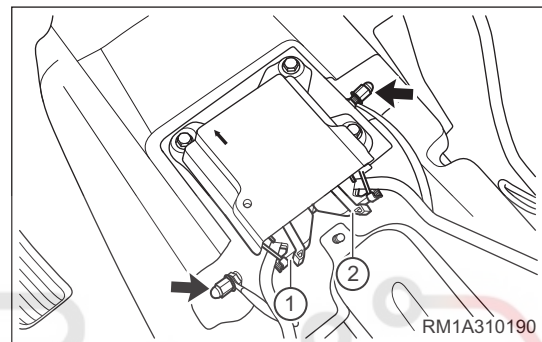
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.

WARNING

- Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.

31

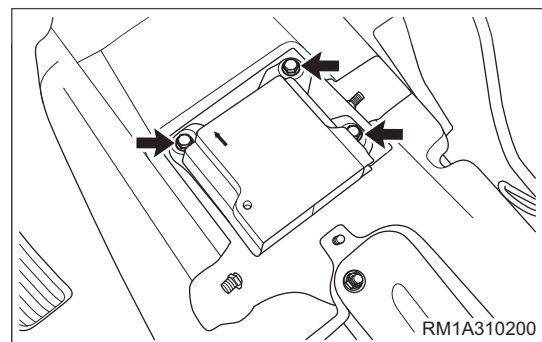
3. Remove the auxiliary fascia console assembly (See page 46-8).
4. Remove the SRS control module assembly.
 - a. Remove left fixing nut (arrow) and disengage ground wire to disconnect SRS control module assembly wire harness connector (1).
 - b. Remove right fixing nut (arrow) and disengage ground wire to disconnect SRS control module assembly wire harness connector (2) (if equipped).



WARNING

- DO NOT damage airbag assembly wire harness when handling airbag assembly wire harness connector.

- c. Remove 3 fixing bolts (arrow) between SRS control module assembly and body.
(Tightening torque: $10 \pm 1.5 \text{ N}\cdot\text{m}$)



- d. Remove the SRS control module assembly.

Installation

Installation is in the reverse order of removal.

CAUTION

- Make sure to tighten fixing bolts to specified torques during installation.
- Always install SRS control module assembly correctly in direction of arrow on control module assembly.
- DO NOT put any object between SRS control module assembly and installation surface.
- Always keep vehicle power off during installation.
- Check SRS warning light after installation, and make sure that supplemental restraint system operates normally.

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SEAT BELT

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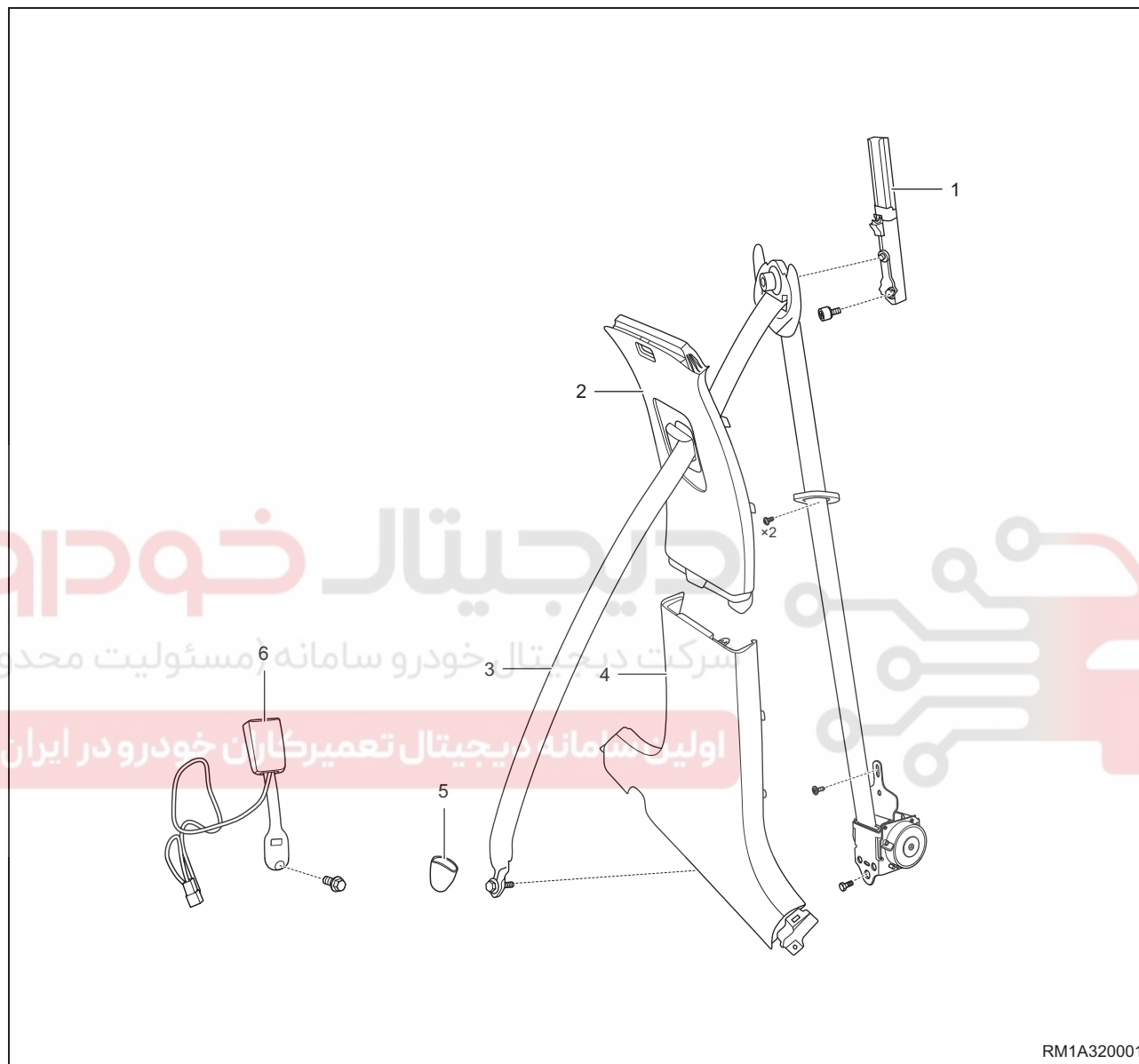
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GENERAL INFORMATION

Description

Front Seat Belt Assembly

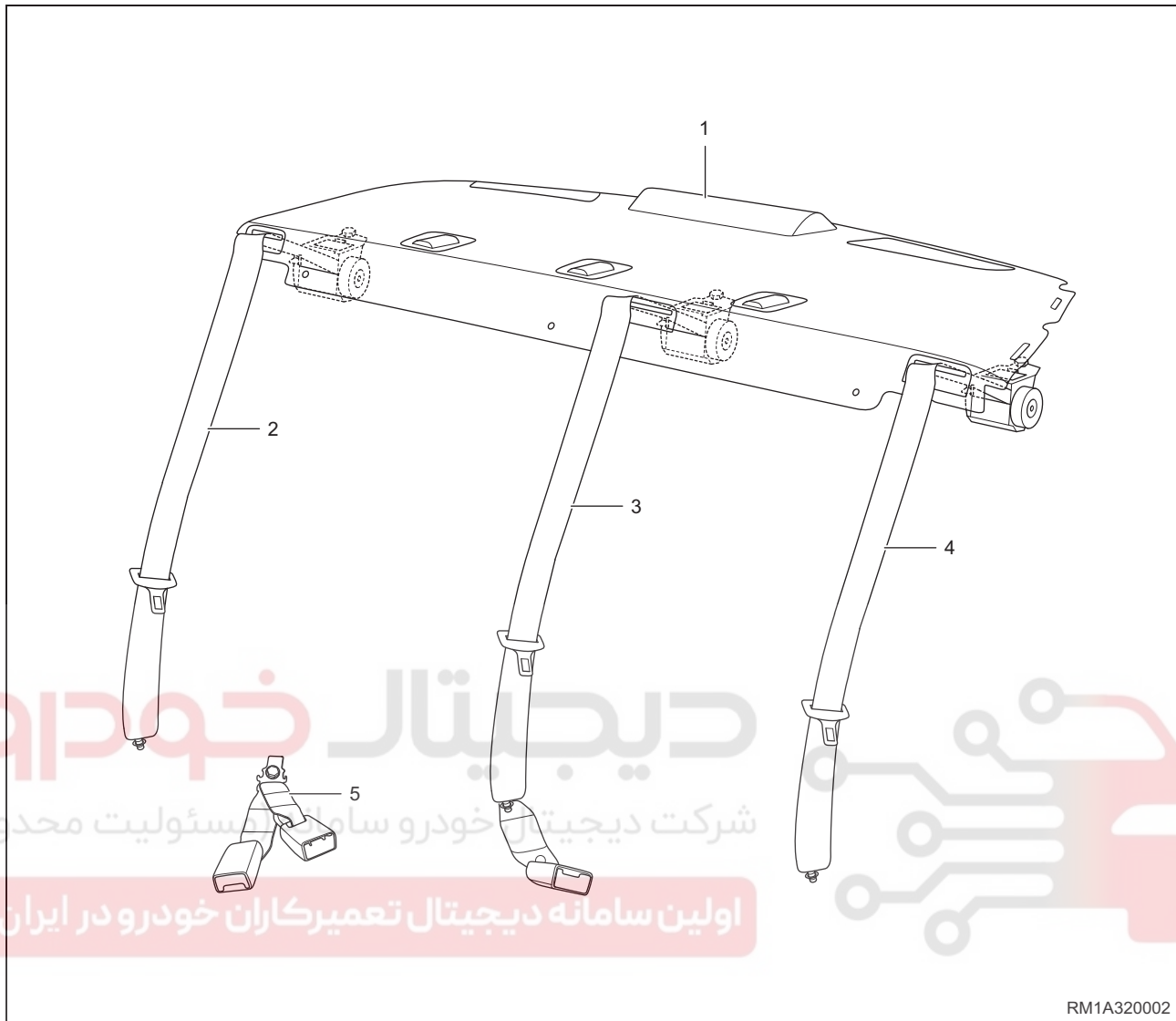


RM1A320001

1 - Height Adjuster Assembly	2 - B-pillar Upper Protector Assembly
3 - Front Seat Belt Assembly	4 - B-pillar Lower Protector Assembly
5 - Seat Belt Lower Bolt Protective Cap	6 - Front Seat Belt Buckle Assembly

Rear Seat Belt Assembly

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RM1A320002

1 - Tonneau Cover Assembly	2 - Rear Right Seat Belt Assembly
3 - Center Seat Belt Assembly	4 - Rear Left Seat Belt Assembly
5 - Rear Seat Belt Buckle Assembly	

Front seat belt assembly is a 3 point type belt with limiter and pretensioner, and front seat belt buckle assembly is a device with unfastened alarm function. Front seat belt is equipped with seat belt reminder light which only works with ignition switch ON. If driver or front passenger seat belt is unfastened, reminder light will flash continuously. When vehicle speed exceeds 20 km/h, buzzer will sound to inform driver and front passenger to fasten their seat belts. Seat belt reminder light will go off immediately if seat belt is fastened.

Rear seat belt assembly is 3 point type belt.

Operation

In event of a collision, seat belt retractor starts to work. Seat belt is locked securely and cannot be pulled out from retractor freely, so that passenger will be restricted to seat to prevent head and chest from hitting steering wheel, instrument panel, windshield or front seat, which can reduce the risk of second collision.

Specifications

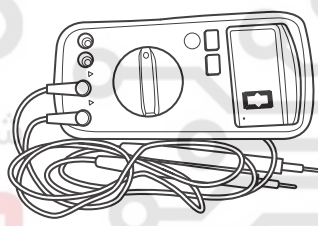
Torque Specifications

Description	Torque (N·m)
Front Seat Belt Assembly Fixing Bolt	50 ± 5
Front Seat Belt Assembly Fixing Screw	7 ± 1
Seat Belt Buckle Assembly Fixing Nut	50 ± 5
Height Adjuster Assembly Fixing Bolt	23 ± 3.5
Rear Seat Belt Assembly Fixing Bolt	50 ± 5
Rear Seat Belt Assembly Fixing Screw	7 ± 1
Center Seat Belt Assembly Fixing Bolt	50 ± 5
Center Seat Belt Assembly Fixing Screw	7 ± 1
Rear Seat Belt Buckle Assembly Fixing Bolt	50 ± 5

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Tool

General Tool

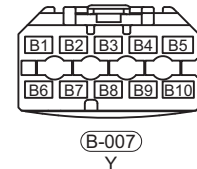
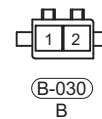
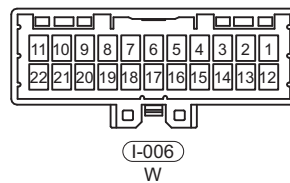
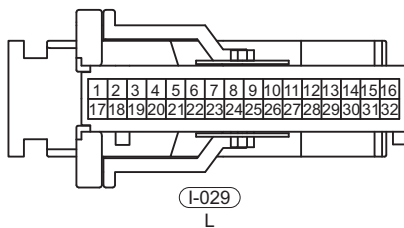
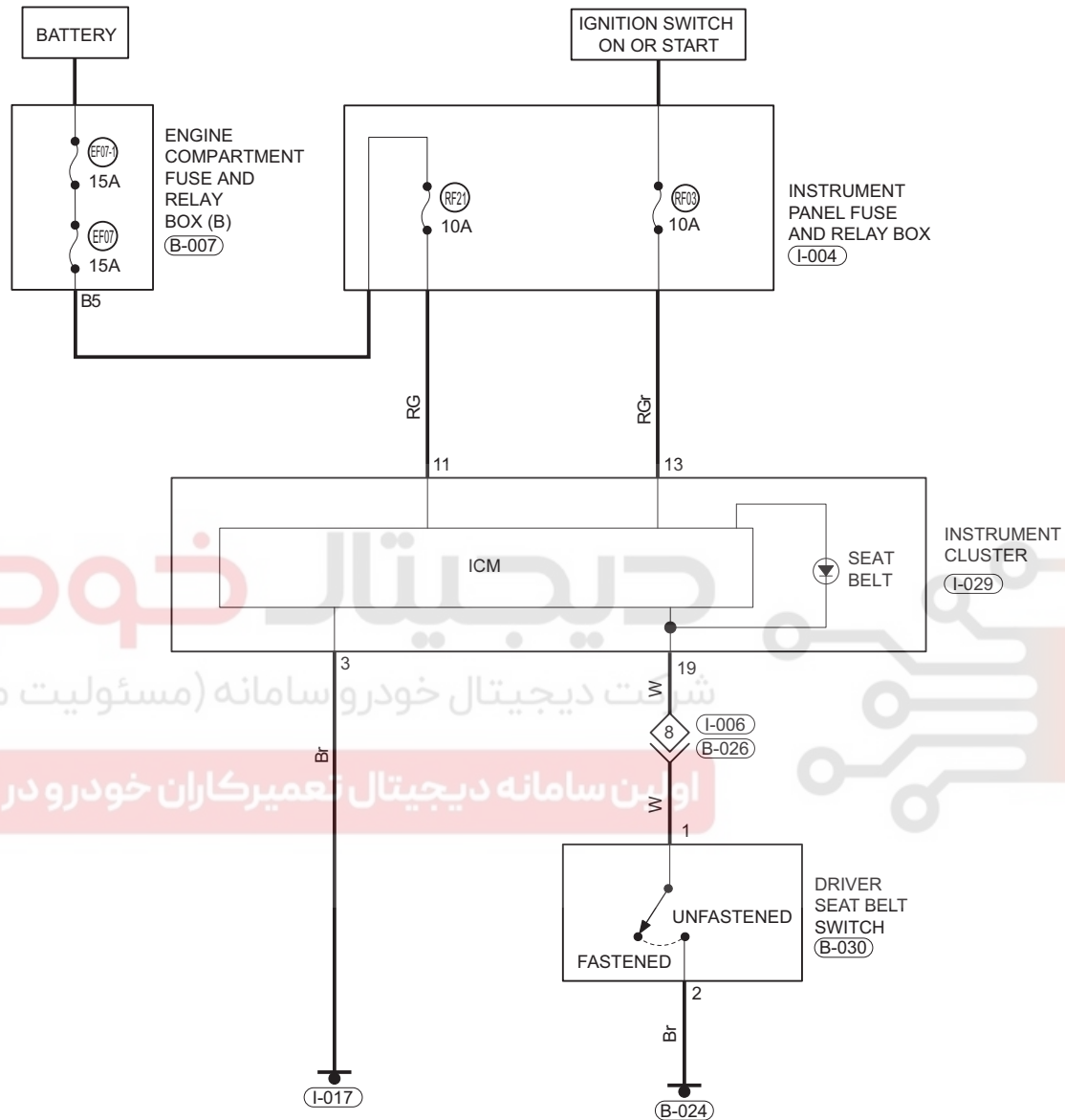
Digital Multimeter	 RCH0000002
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32 - SEAT BELT

Circuit Diagram

Seat Belt

32



EM1A320010

DIAGNOSIS & TESTING

Seat Belt Inspection

1. When pulling seat belt downward slowly by hand, seat belt should be pulled out smoothly from retractor and can return back after releasing. If result is not as specified, replace seat belt assembly. Seat belt should be locked automatically as it is pulled out quickly. If not, replace seat belt.
2. Check seat belt for cuts, wear and looseness. If damaged, replace seat belt assembly.
3. Check seat belt for overstretch (e.g. after an accident). If damaged, replace seat belt assembly or related components.
4. Fasten and release seat belt and seat belt buckle repeatedly to check engagement between them. If difficult operation, excessive sliding resistance and seizing, etc. occur, replace seat belt assembly or seat belt buckle assembly.

WARNING

- Seat belt system should be checked regularly to reduce possibility and serious level of injury caused by accidents.
- When checking impacted vehicle, be sure to check seat belt system to reduce possibility and serious level of injury caused by accidents.

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ON-VEHICLE SERVICE

Front Seat Belt Assembly

Removal

HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

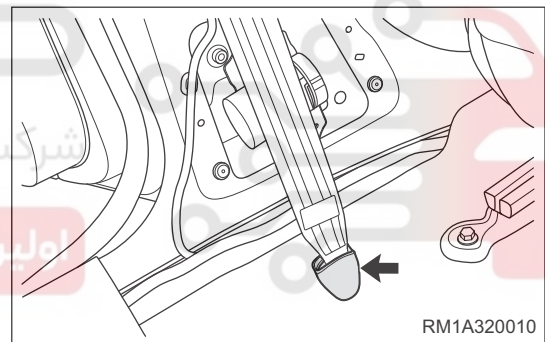
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing front seat belt assembly.
- Appropriate force should be applied, when removing front seat belt assembly. Be careful not to operate roughly.
- DO NOT scratch interior, when removing front seat belt assembly.

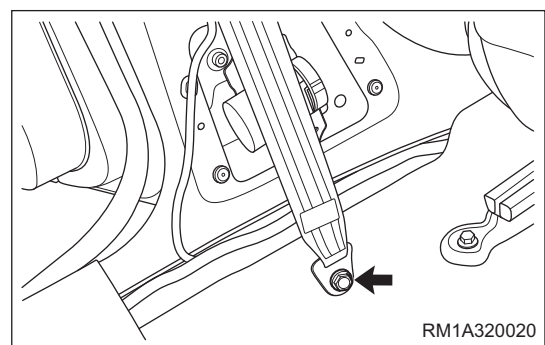
32

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the left B-pillar lower protector assembly (See page 50-18).
4. Remove the front left seat belt assembly.

- a. Using a screwdriver wrapped with protective tape, pry off front seat belt assembly lower bolt protective cover (arrow).

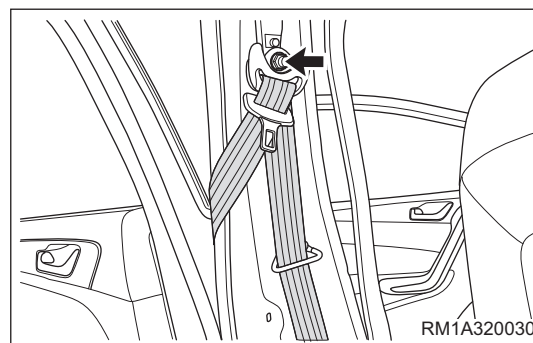


- b. Remove fixing bolt (arrow) from lower part of front seat belt assembly.
(Tightening torque: 50 ± 5 N·m)

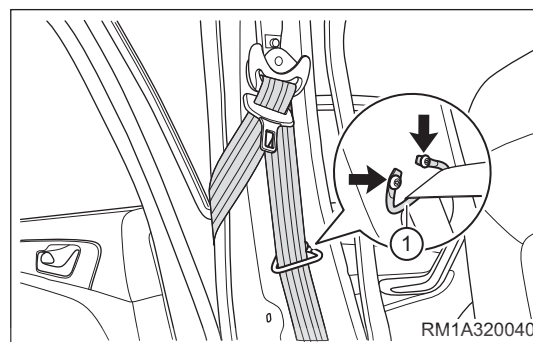


- c. Remove the left B-pillar upper protector assembly (See page 50-20).

- d. Remove fixing bolt (arrow) from upper part of front seat belt assembly.
(Tightening torque: 50 ± 5 N·m)

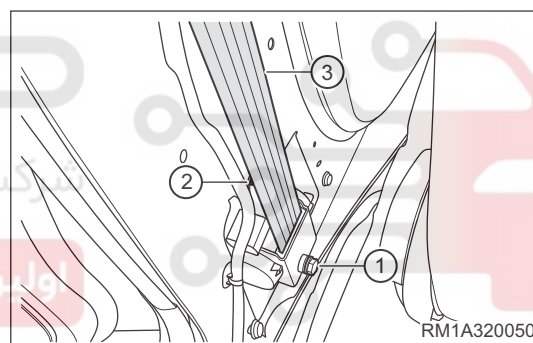


- e. Remove 2 fixing screws (arrow) from guide ring of front seat belt assembly.
(Tightening torque: 7 ± 1 N·m)
- f. Remove seat belt guide ring (1) from slot.



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- g. Remove fixing bolt (1) from front seat belt retractor.
(Tightening torque: 50 ± 5 N·m)
- h. Remove fixing screw (2) from front seat belt retractor.
- i. Remove the front left seat belt assembly (3).



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32 - SEAT BELT

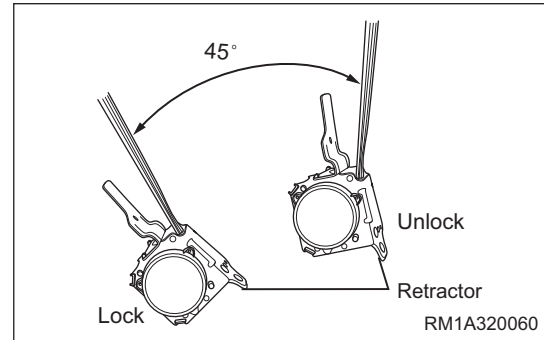
Inspection

Inspect the front seat belt retractor.

CAUTION

- DO NOT disassemble front seat belt retractor.

When inclination of front seat belt retractor is 15° or less, check that front seat belt can be pulled out from front seat belt retractor. When inclination of front seat belt retractor is over 45° , check that front seat belt locks.



If result is not as specified, replace front seat belt assembly.

Installation

Installation is in the reverse order of removal.

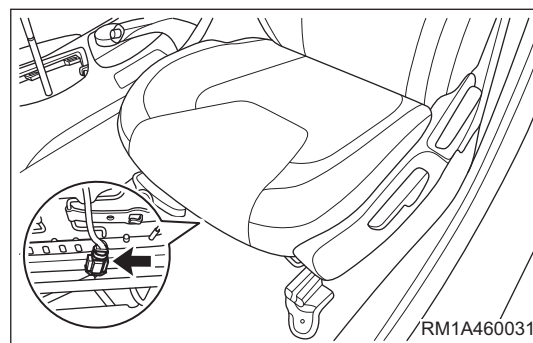
CAUTION

- Keep seat belt assembly clean without oil attached and check seat belt assembly for damage, when installing front seat belt assembly.
- Be sure to tighten all fixing bolts and fixing screws according to specified torque, when installing front seat belt assembly.

Front Seat Belt Buckle Assembly

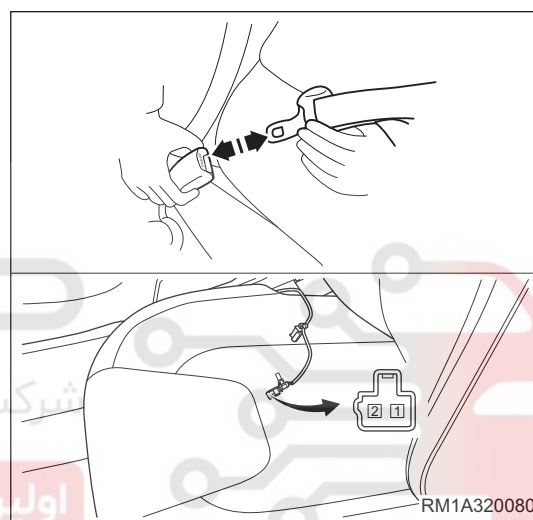
On-vehicle Inspection

1. Inspect the front seat belt buckle assembly.
 - a. Disconnect the front seat belt buckle connector (arrow).



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- b. Using a digital multimeter, measure resistance between terminals 1 and 2 of front seat belt buckle assembly connector.
Under normal condition, measured resistance should be $\infty \Omega$ (no continuity) when front seat belt assembly is fastened, and measured resistance should be less than 0Ω (continuity) when front seat belt assembly is unfastened.



If result is not as specified, replace front seat belt buckle assembly.

32 - SEAT BELT

Removal**HINT:**

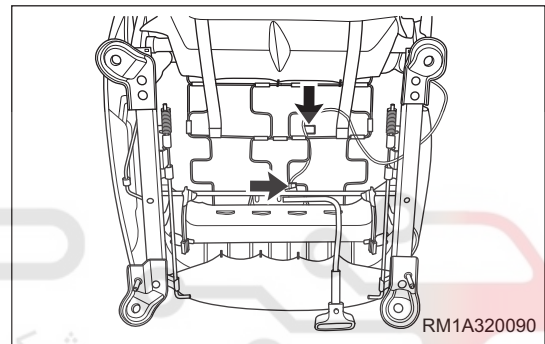
- Use same procedures for front passenger seat belt buckle assembly and driver seat belt buckle assembly.
- Procedures listed below are for driver seat belt buckle assembly.

CAUTION

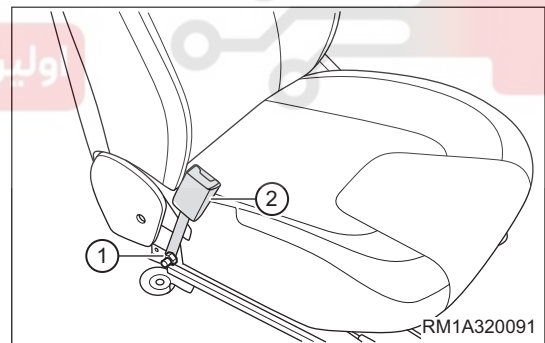
- Be sure to wear safety equipment to prevent accidents, when removing front seat belt buckle assembly.
- DO NOT scratch interior, when removing front seat belt buckle assembly.
- DO NOT damage wire harness and connector, when removing front seat belt buckle assembly.

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1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front seat assembly (See page 47-7).
4. Remove the driver seat belt buckle assembly.
 - a. Disengage clips (arrow) from wire harness connector on lower side of seat belt buckle.
 - b. Disengage clips (arrow) from wire harness connector on right side of seat belt buckle.



- c. Remove fixing nut (1) from seat belt buckle assembly, and remove driver seat belt buckle assembly (2). (Tightening torque: 50 ± 5 N·m)

**Installation**

Installation is in the reverse order of removal.

CAUTION

- Be sure to tighten fixing nut according to specified torque, when installing front seat belt buckle assembly.
- Install connector in place, when installing front seat belt buckle assembly.

Height Adjuster Assembly

Removal

HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing height adjuster assembly.
- Appropriate force should be applied, when removing height adjuster assembly. Be careful not to operate roughly.
- DO NOT scratch interior, when removing height adjuster assembly.

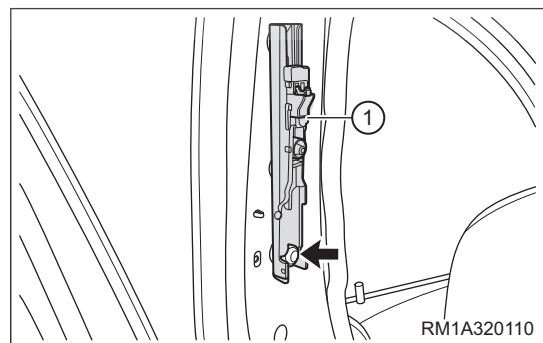
32

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the left B-pillar lower protector assembly (See page 50-18).
4. Remove the left B-pillar upper protector assembly (See page 50-20).
5. Remove the height adjuster assembly.

- a. Remove fixing bolt (arrow) from upper part of front seat belt assembly.
(Tightening torque: 50 ± 5 N·m)



- b. Remove fixing bolt (arrow) from height adjuster assembly.
(Tightening torque: 23 ± 3.5 N·m)
- c. Remove height adjuster assembly (1) from dowel pin.



Installation

Installation is in the reverse order of removal.

CAUTION

- Be sure to tighten fixing bolts according to specified torque, when installing height adjuster assembly.

Rear Seat Belt Assembly

Removal

HINT:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

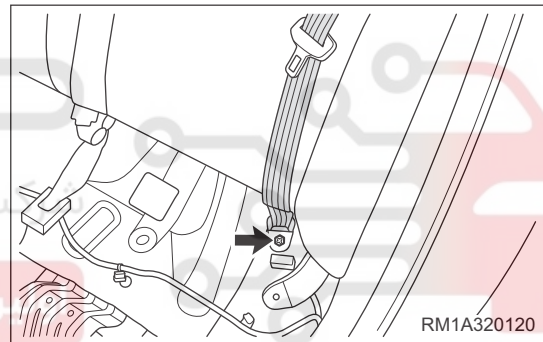
CAUTION

- Be sure to wear safety equipment to prevent accidents, when removing rear seat belt assembly.
- Appropriate force should be applied, when removing rear seat belt assembly. Be careful not to operate roughly.
- DO NOT scratch interior, when removing rear seat belt assembly.

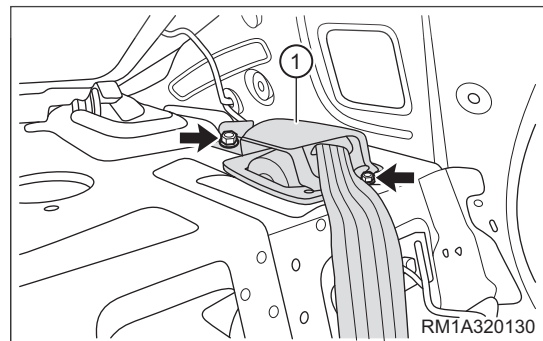
32

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear seat cushion assembly (See page 47-15).
4. Remove the tonneau cover assembly (See page 50-33).
5. Remove the rear left seat belt assembly.

- a. Remove fixing bolt (arrow) from lower part of rear seat belt assembly.
(Tightening torque: 50 ± 5 N·m)



- b. Remove fixing screw (arrow) from rear seat belt retractor.
(Tightening torque: 7 ± 1 N·m)
- c. Remove fixing bolts (arrow) from rear seat belt retractor.
(Tightening torque: 50 ± 5 N·m)
- d. Remove the rear left seat belt assembly (1).



Inspection

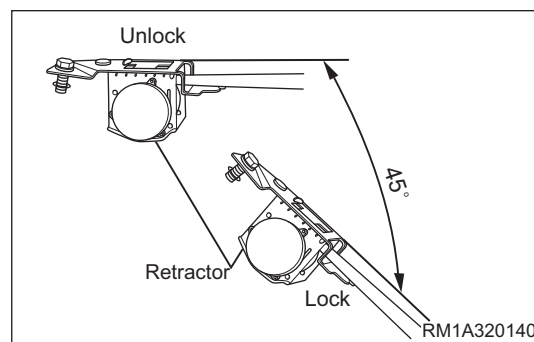
Check the rear seat belt retractor.

CAUTION

- DO NOT disassemble rear seat belt retractor.

HINT:

When inclination of rear seat belt retractor is 15° or less, check that rear seat belt can be pulled out from rear seat belt retractor. When inclination of rear seat belt retractor is over 45° , check that rear seat belt locks.



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If result is not as specified, replace rear seat belt assembly.

Installation

Installation is in the reverse order of removal.

CAUTION

- Keep seat belt assembly clean without oil attached and check seat belt assembly for damage, when installing rear seat belt assembly.
- Be sure to tighten all fixing bolts and fixing screw according to specified torque, when installing rear seat belt assembly.

Rear Seat Belt Buckle Assembly

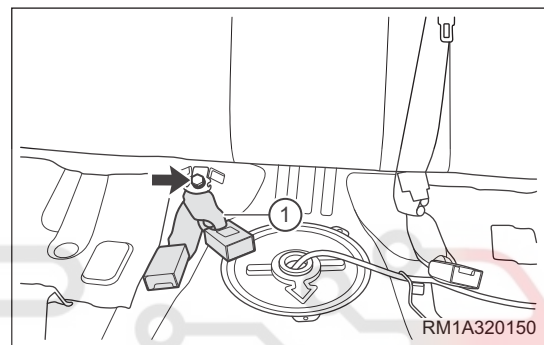
Removal

CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing rear seat belt buckle assembly.
- DO NOT scratch interior, when removing rear seat belt buckle assembly.

32

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear seat cushion assembly (See page 47-15).
4. Remove the rear seat belt buckle assembly.
 - a. Remove fixing bolt (arrow) from rear seat belt buckle assembly, and remove rear seat belt buckle assembly (1).
(Tightening torque: 50 ± 5 N·m)



Installation

Installation is in the reverse order of removal.

CAUTION

- Be sure to tighten fixing bolt according to specified torque, when installing rear seat belt buckle assembly.