SUPPLEMENTAL RESTRAINT SYSTEM

GENERAL INFORMATION

Description

Restraint System:

Description

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

Passive Restraint System

1. Driver seat belt and front passenger seat belt.
2. Rear seat belt.

Supplemental Restraint System

3. Airbag system

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 ACU control module assembly. Airbag indicator on instrument cluster illuminates for approximately 6 seconds for a test each time ENGINE START STOP 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 of airbag module in supplemental restraint system sends signals to corresponding inflator units of airbags to deploy the airbags quickly, thus protecting occupants.

Caution:

- 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, the airbag must be replaced after deployment and avoid reusing it.
- Always dispose of vehicle together with airbags, or the airbags may be triggered accidentally to cause personal injury.

Warning:

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

Precautions during Usage:

Airbag is passive safety system component. In order to actually protect the passengers in collision with airbag, users should follow the precautions related to airbag usage:

- Driver and passengers should use belt correctly. Correct belt usage can protect human body and reduce the personal injury in accidents.
- DO NOT add any additional units without permission that may interfere or damage belt pretensioner or airbag.
- DO NOT place any objects on steering wheel and front passenger side instrument panel, or these objects may cut into the inflated airbag or become trajectile to injure human body.
- DO NOT add or reversely place seat cover for seats with side airbag.
- Children that are under twelve are not allowed to sit in front seat. For vehicles equipped with passenger airbag, backward facing child seat is not allowed to use on front passenger seat.
- It's only allowed to install genuine spare parts.
- Only authorized personnel can remove the controller, wire harness and connector from ACU system.
- If airbag and belt pretensioner are deployed in accident, airbag controller and all wire harness with airbag connectors must be replaced together with airbag and belt.
- ACU system in all vehicles have been matched and verified and it's forbidden to change vehicle structure and ACU system. Random addition and modification of ACU system and wire harness will make ACU system operate abnormally, leading to airbag fault deployment and undeployment, which results in personal injury.
- Airbag manufacturer suggests that the airbag should be replaced after 10 years.

Post-accident Repair and Inspection

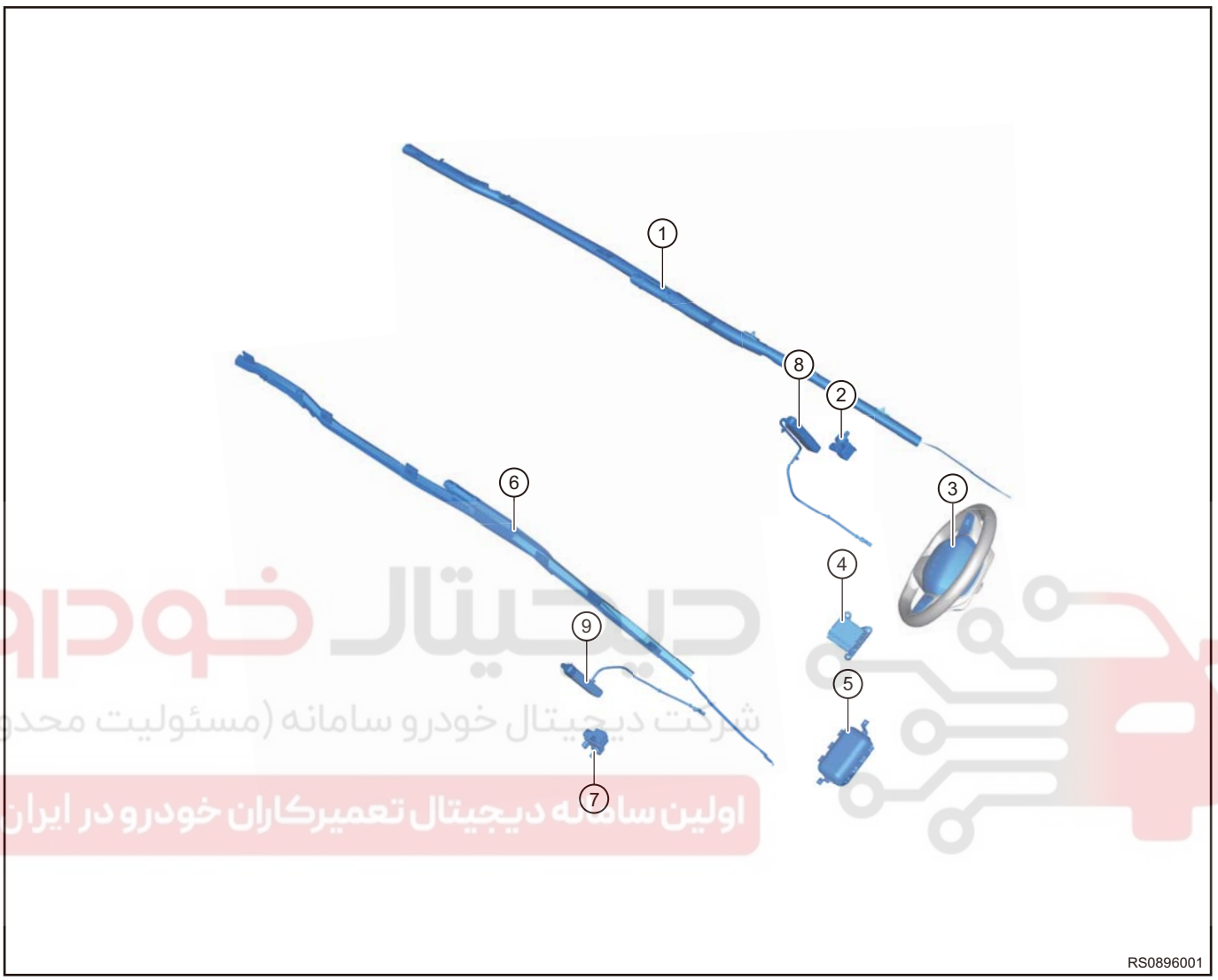
1. Post-accident components replacement of deployed airbag
   (a) ACU system components should be replaced immediately in accordance with the provisions in this manual after the airbag is deployed in an accident. After the airbag is deployed, there may be powder particles on airbag surface, which are primarily composed of chemical reaction product.
2. Post-accident components replacement of seat belt
   (a) Some seat belts need to be replaced or recommended to be replaced if airbag is deployed in an accident:

Seat belt	Replace or not
Used seat belt buckle in the event of an accident	It is necessary to replace it
Used limiting type belt in the event of an accident	It is necessary to replace it
Seat belt with pretensioner that must be exploded or has been exploded	It is necessary to replace it
Used common emergency lock type belt in the event of an accident	It is necessary to replace it
Height adjuster (the seat belt had been used in the event of an accident)	It is necessary to replace it

3. Post-accident inspection of other components
   (a) No matter whether the airbag is deployed or not, specific inspection must be carried out after any collision. The steering column must be measured for dimension. Check the instrument panel and steering column cover for cracks or other damage, check the instrument panel support for deformation, bending, cracks or other damage and check the seat belt and installation fixing point.

Restraint System Components

Restraint system mainly consists of airbag system and safety belt. The schematic diagram for main components is as follows:



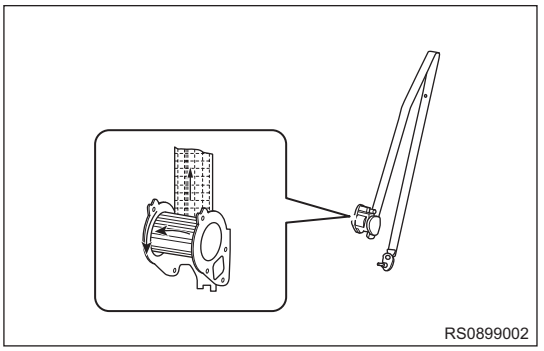
1	Left Curtain Shield Airbag Assembly	6	Right Curtain Shield Airbag Assembly
2	Left Side Collision Sensor	7	Right Side Collision Sensor
3	Driver Airbag Assembly	8	Front Left Seat Side Airbag Assembly
4	Airbag Module Assembly	9	Front Right Seat Side Airbag Assembly
5	Front Passenger Airbag Assembly		

Brief Introduction of Restraint System Function

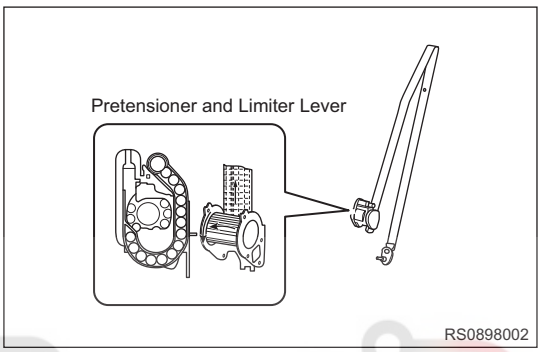
Airbag: The controller controls ignition circuit and ignites airbag (and belt pretensioner) reasonably to keep occupants in proper position in the cabin when accident happens, thus protecting occupants.

1. Driver airbag / front passenger airbag
   It's helpful to protect head and chest of driver and front passenger from being struck by components in vehicles:
2. Front airbag (if equipped)
   It's helpful to protect chest and hip of front passenger

3. Curtain shield airbag (if equipped)
   It's helpful to protect head of passenger



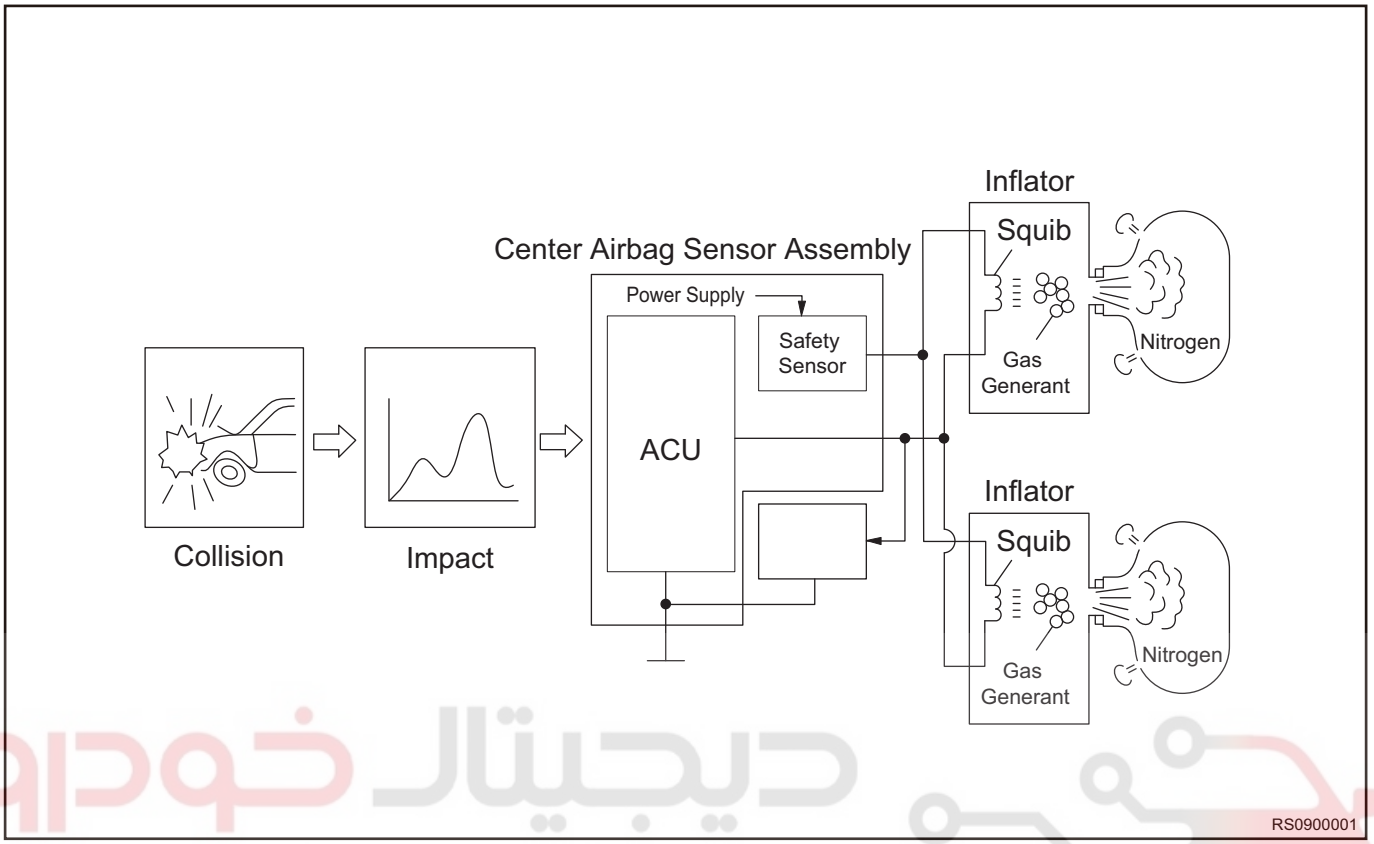
4. In TIGGO 7, the following types of belts are equipped together with common emergency lock type belt
   Emergency lock type belt
   Reduce the pressure of belt on passengers, protect the occupants and prevent second collision.
   Limiting type belt
   Besides common emergency lock type belt, limiter lever is added. Reduce the pressure of belt on passengers, protect the occupants and prevent second collision.



   Limiting type belt with pretensioner
   Besides common emergency lock type belt, pretensioner and limiter lever are added, which tightens the belt, reduces the pressure of belt on passengers, protects the occupants and prevents second collision during deployment.

Limiting type belt with double pretensioners
An end plate pretensioner is added to the common limiting type belt with pretensioner. During deployment, tighten the waist belt to reduce the risk of passenger sinking (the pretensioner recovers the remaining chest belt and waist belt), reduce the displacement of passenger hip and the pressure on thigh, reduce the displacement of passenger chest and avoid direct collision with the interior trim.

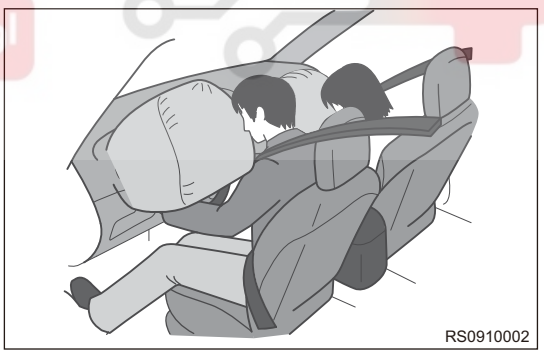
Airbag Control System Operation



Operating conditions:

Front collision

- Front collision is detected by the sensor in controller.
- Front collision ignition deployment circuit: driver and passenger front airbags, all seat belt with pretensioners.

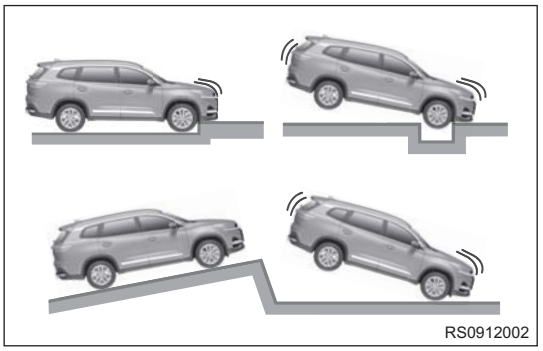


Side collision

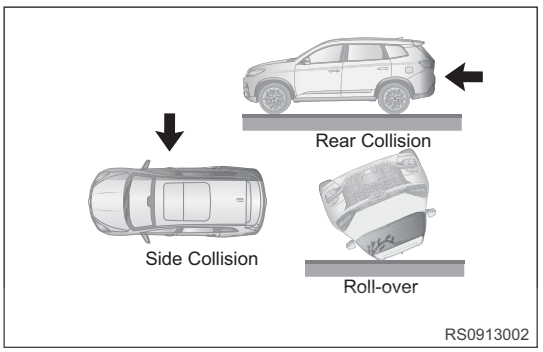
- Side collision is detected by the side collision sensor in B-pillar and the Sensor in controller.
- Side collision ignition deployment circuit: curtain shield airbag and front seat airbag on collision side.

Other collisions

- If the bottom of vehicle is subjected to a severe impact, the driver airbag and front passenger airbag may also deploy as shown in illustration.

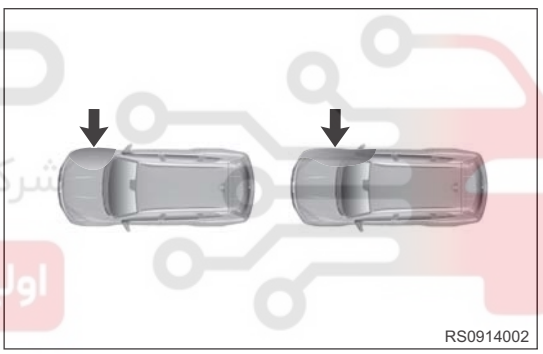

RS0912002

- When vehicle is involved in side collision, rear collision, roll over or frontal collision at low speed, the driver airbag and front passenger airbag will not generally deploy.



RS0913002

- If a collision to the side of the vehicle body other than the passenger compartment, or the vehicle is subjected to a collision from the side at certain angles, the front side airbag and curtain shield airbag may not deploy as shown in illustration.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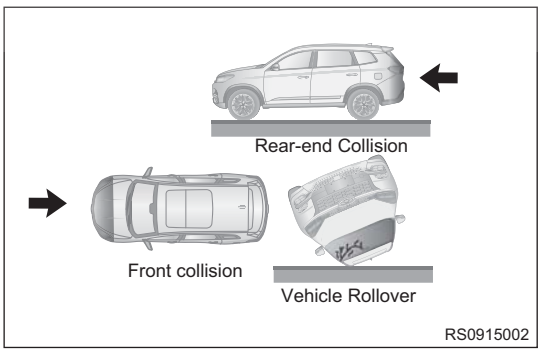
- Front side airbag and curtain shield airbag will not generally deploy if the vehicle is involved in a front or rear collision, roll over or side collision at low speed.

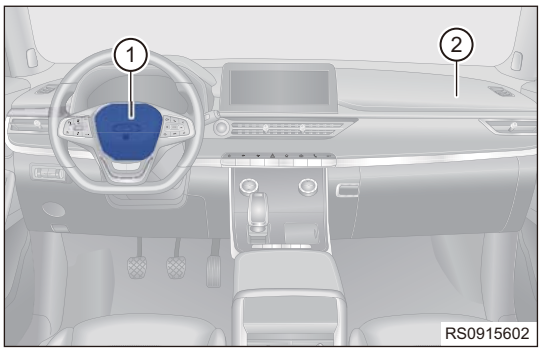


RS0915002

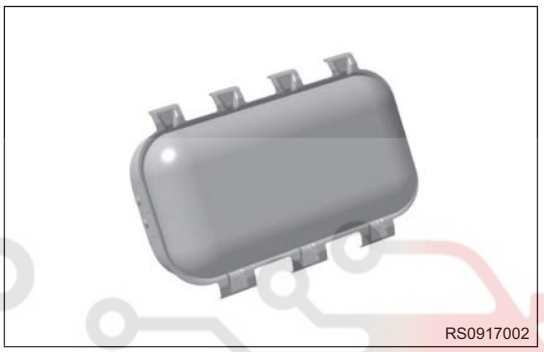
Driver Front Airbag and Passenger Front Airbag

Driver front airbag is located on the steering wheel and integrated with the horn switch. Passenger front airbag is located above the glove box and inside the instrument panel upper body. As shown in illustration:

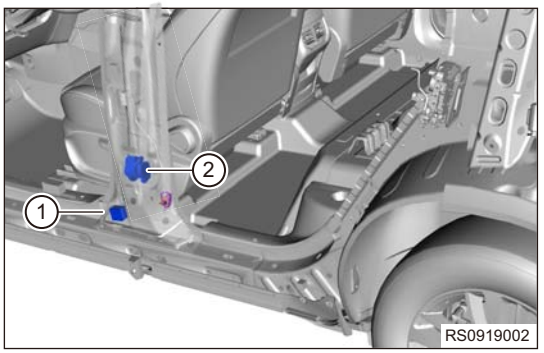
1. Position of driver front airbag (1).
2. Position of passenger front airbag (2).



Passenger front airbag
Resistance value: 2.0 ± 0.3Ω, it's strictly forbidden to measure resistance with multimeter!



Driver front airbag
Resistance value: 2.0 ± 0.3Ω, it's strictly forbidden to measure resistance with multimeter!



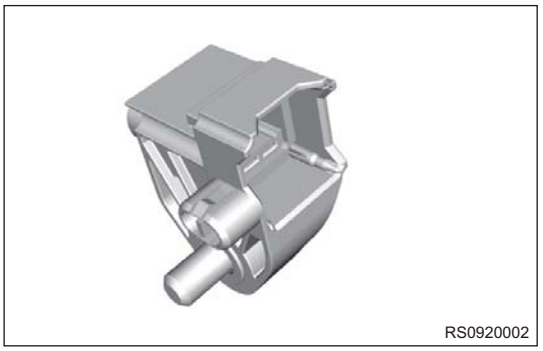
Side Collision Sensor and Front Seat Belt Pretensioner

Seat belt pretensioner and side collision sensor is located under the B-pillar.

Note: Seat belt pretensioner and side collision sensor positions on both sides are the same.

As shown in illustration:

1. Side collision sensor
2. Seat belt pretensioner
   Resistance value is 2.0 ± 0.3Ω, it's strictly forbidden to measure resistance with multimeter!
3. Side collision sensor is used to detect the vehicle side collision signal.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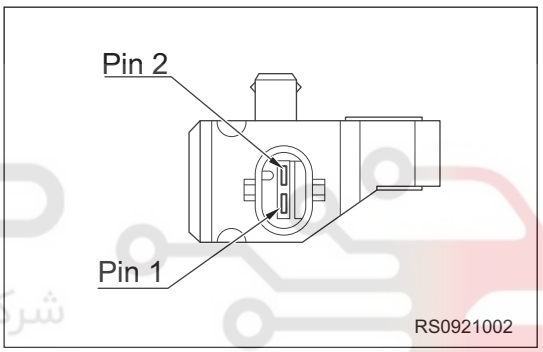
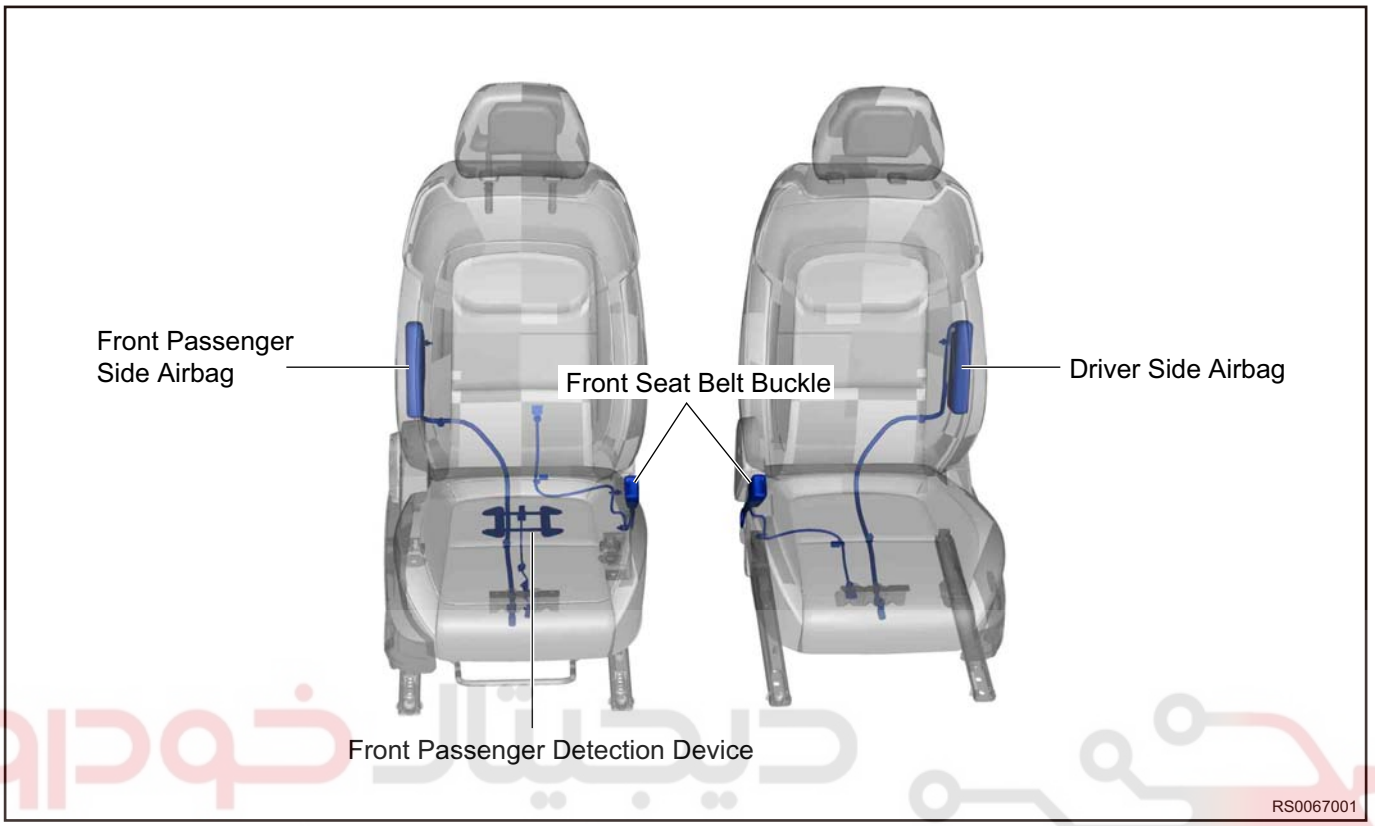
Terminal list
1: Signal
2: Ground



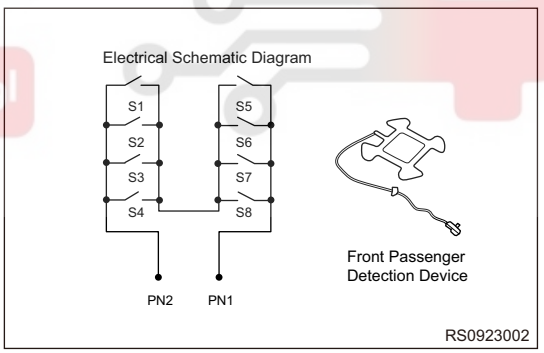
RS0921002

Front Passenger Side Airbag, Front Passenger Seat Belt Buckle and Front Passenger Detection Device

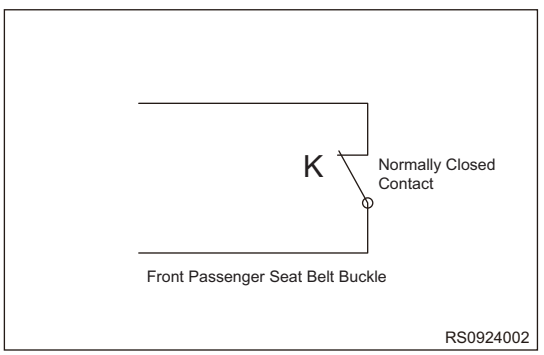


Airbag resistance on seat: 2.0 + 0.5 / -0.3 Ω, it's strictly forbidden to measure resistance with multimeter!

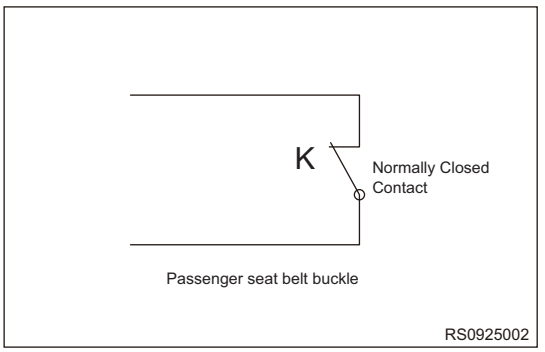
- Front passenger detection device schematic diagram as shown in illustration: Passenger loading status: When detected external resistance is lower than 100 Ω, it's judged that there is passenger. When resistance is higher than 400 Ω, it's judged that there is no passenger.



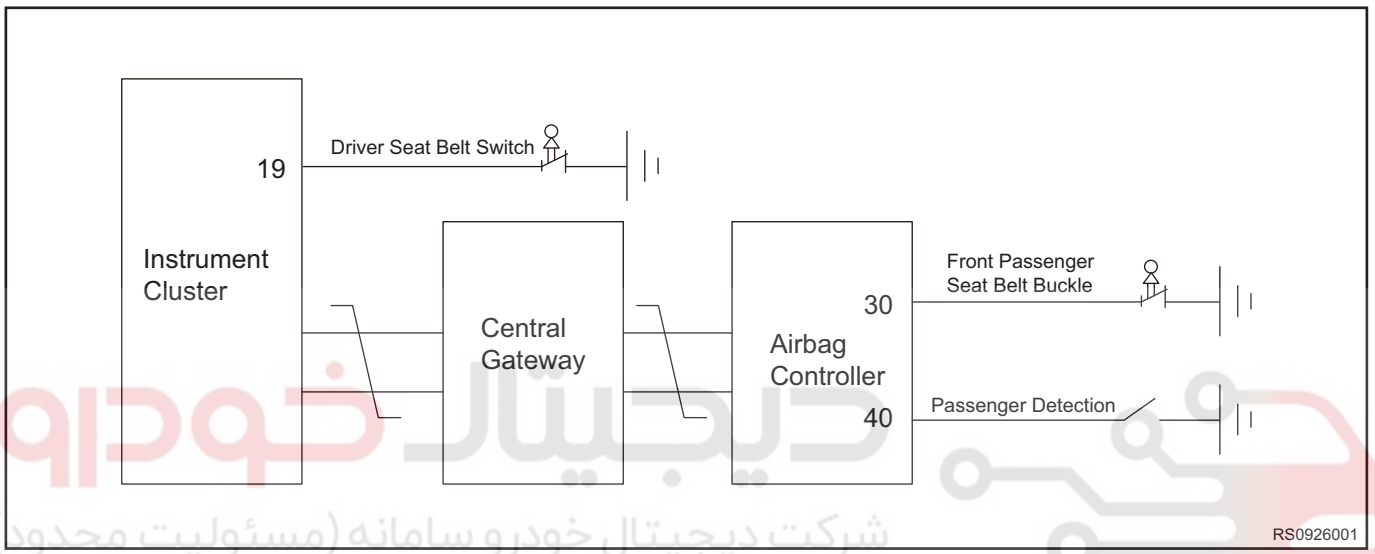
Front passenger seat belt buckle schematic diagram as shown in illustration. Front passenger seat belt buckle status: When detected external resistance is lower than 400 Ω, it's judged that the seat belt is not fastened. When resistance is higher than 900 Ω, it's judged that the seat belt is fastened.



Driver seat belt buckle schematic diagram as shown in illustration. The buckle is connected to the 19# terminal of instrument cluster. When ENGINE START STOP switch is ON, if the 19# terminal is high level / suspending, the driver seat belt warning in instrument cluster does not alarm; if the 19# terminal is low level, it will alarm.



Electrical schematic diagram related to seat belt warning is as follows:



Warning strategy is as follows

When ENGINE START STOP switch is in ON position:

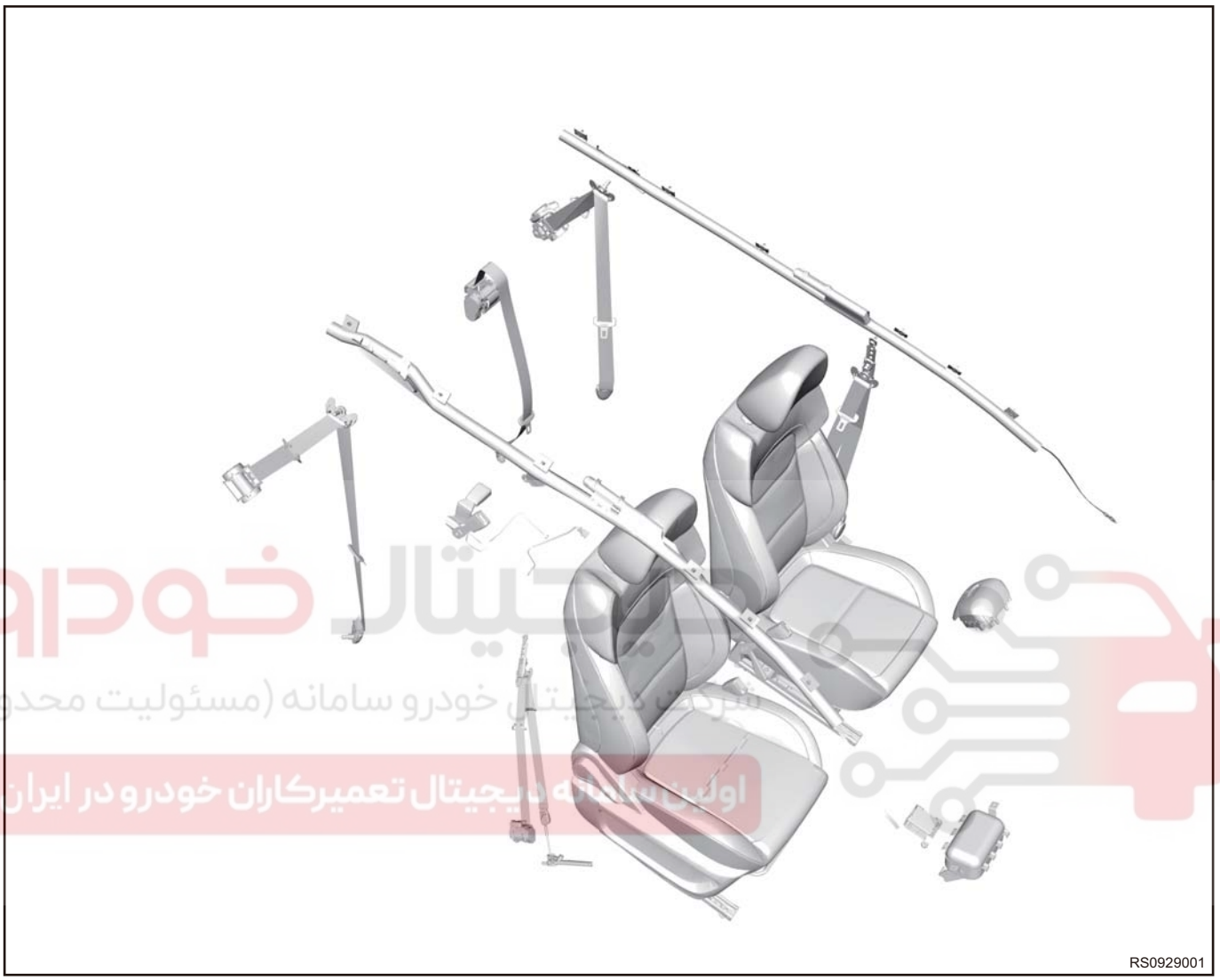
If the driver wears the seat belt, the driver seat belt warning light goes off; If the seat belt is not fastened, the driver seat belt warning symbol flashes, and the buzzer will sound when vehicle speed is ⩾ 25km/h, to remind the driver to wear the seat belt;

When ENGINE START STOP switch is in ON position:

The passenger seat belt buckle switch detection and passenger detection device operate together to confirm the logic of front passenger seat belt reminder warning light.

If there is an adult on the seat (signal of the detection device), and the seat belt is not fastened, the passenger seat belt warning symbol flashes, and the buzzer will sound when vehicle speed is ⩾ 25km/h, to remind the passenger to wear the seat belt. If the seat belt is fastened, the alarm will stop.

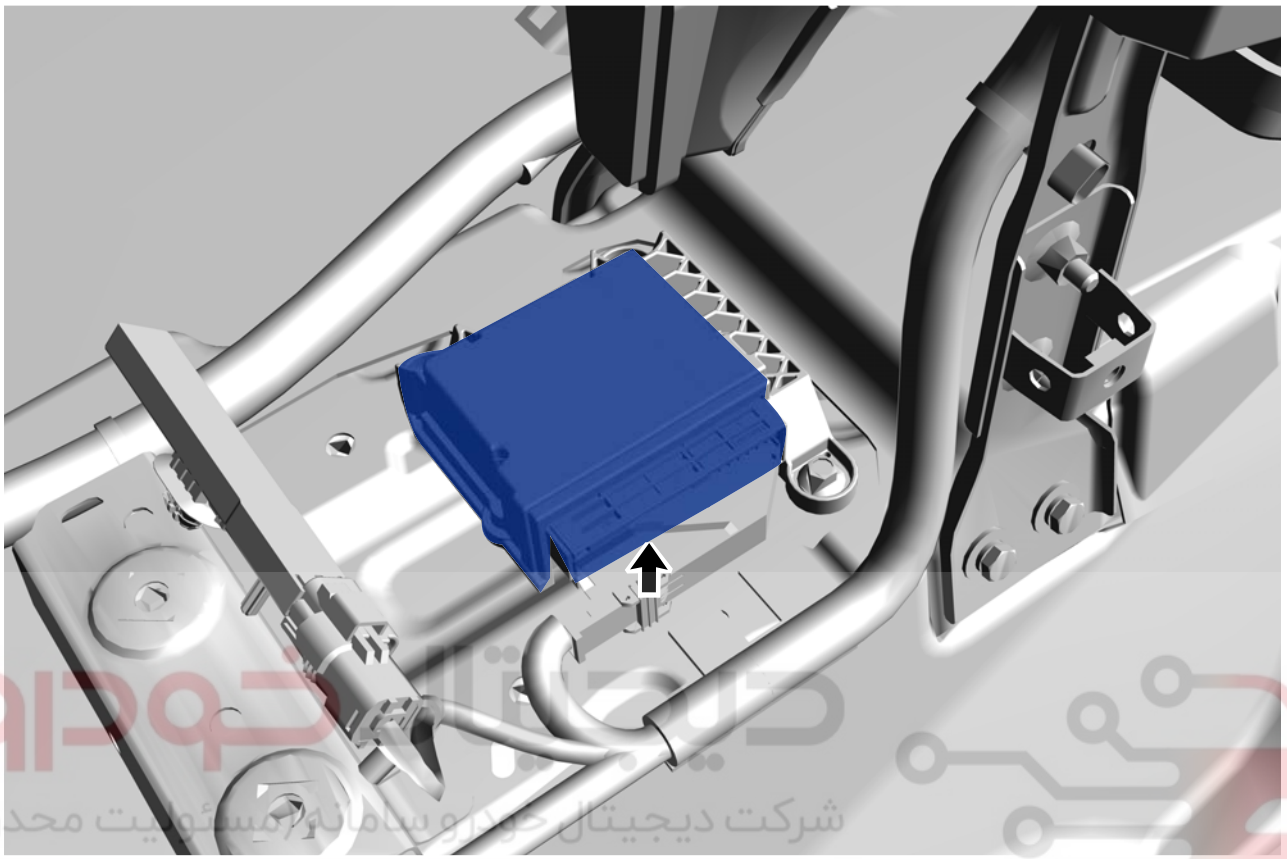
When seat belt warning is operating:
If the seat belt is fastened, the alarm will stop.
Shift to R position or warning for 100 seconds has finished, the buzzer stops sound and indication warning continues.



Curtain shield airbag is mainly used to protect the head of passengers during side collision. The curtain shield airbag is installed in the inner side of roof and body quarter sheet metal, usually run through the front and rear, and it is controlled by the lateral acceleration sensor in the body. It will deploy when the lateral acceleration is greater than the calibrated threshold.
Resistance value: 2.0 ± 0.3 Ω, it's strictly forbidden to measure resistance with multimeter!

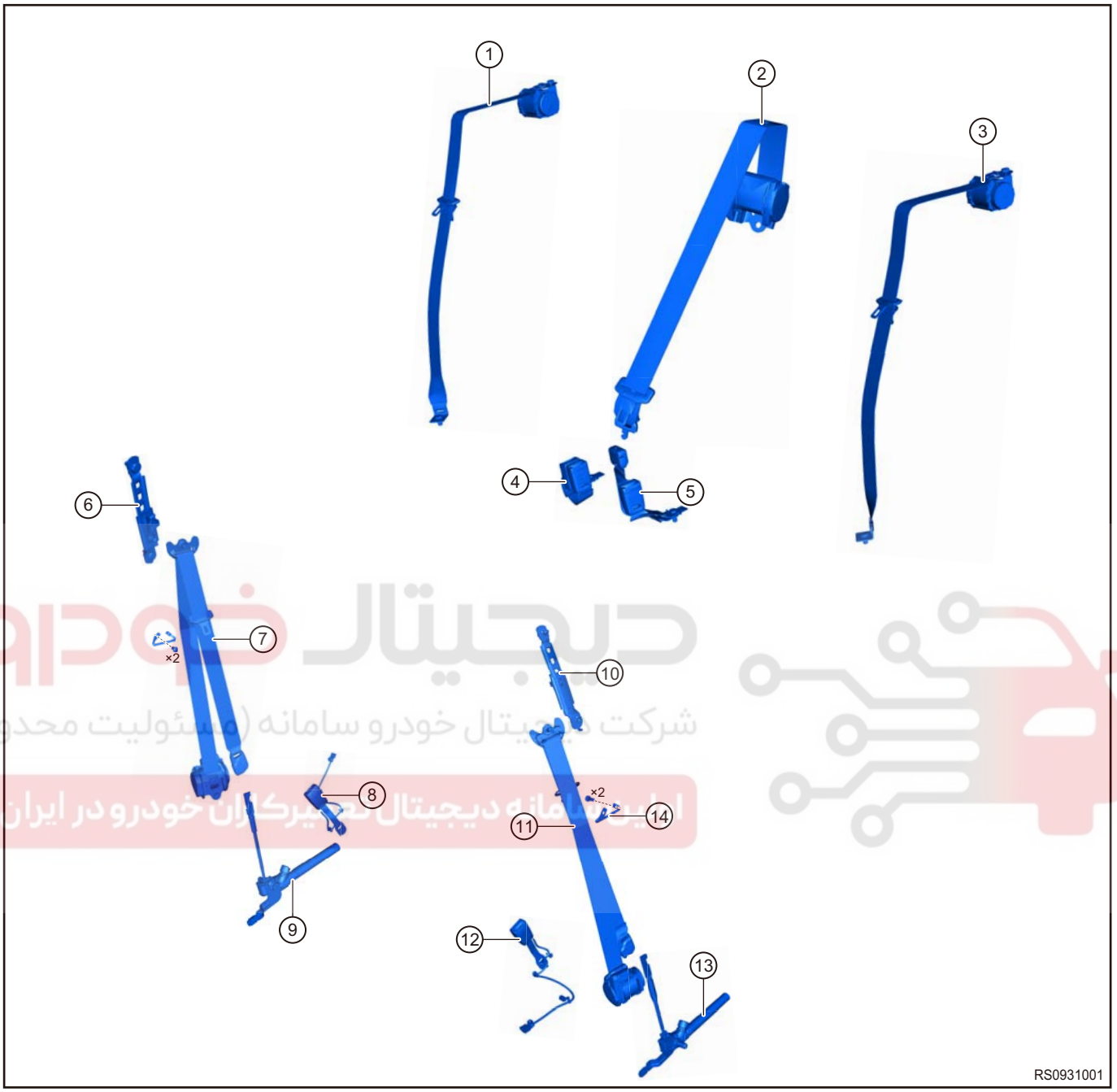
Airbag System Controller

In general, airbag control module is installed in the center passage of vehicle.



1. Repair or replacement of damaged airbag control module must be performed by an authorized worker.
2. During the life of the airbag control module, the same airbag control module must always be installed on the vehicle where it was originally installed and not allowed to be used in other vehicles.
3. Airbag control module must be replaced after the airbag deploys.
4. The airbag control module and peripheral sensors have a high-precision structure, be sure to handle these components carefully. The components must be disposed if they fall to the ground.

Rear Seat Belts



NOTE:

- If the rear left seat belt assembly is preload limiting type belt, the resistance value is 2.15 ± 0.35 Ω, it's strictly forbidden to measure resistance with multimeter!
- If the webbings on both sides of rear seat cannot be pulled out, it is necessary to make a preliminary judgment on the seat belt. If the seat belt is locked due to the sensitivity function of seat belt.
- Judgment method: Slowly contract the webbing for 10-15 mm, and then pull out it slowly. If the seat belt can be pulled out normally and there are no other problems, the seat belt is normal. If the webbing can not be pulled out, further testing of seat belt is required.

Supplemental Restraint System Composition

Caution:

Supplemental restraint system consists of driver airbag, front passenger airbag, front side airbag (if equipped), curtain shield airbag (if equipped), ACU control module assembly, spiral cable, airbag malfunction indicator and wire harness etc.

Driver airbag

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

Driver airbag resistance value

2.0 ± 0.3 Ω

Front passenger airbag

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

Front passenger airbag resistance value

2.0 ± 0.3 Ω

Front side airbag (if equipped)

3. Front side airbag is installed in both sides of front seat, which will mitigate injury caused by side impact, and prevent the direct contact between torso and door panel, thus protecting front passenger safety effectively. It can protect the safety of front passenger effectively.

Front side airbag resistance value

2.0 + 0.5/-0.3 Ω

Curtain shield airbag (if equipped)

4. Curtain shield airbags are installed on both sides of roof, which will inflate to protect passenger in the event of a severe collision.

Curtain shield airbag resistance value

2.0 ± 0.3 Ω

ACU control module assembly

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

Spiral cable

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

Airbag malfunction indicator

7. After ENGINE START STOP switch is turned to ON, if malfunction indicator goes off after coming 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.

Left side collision sensor (if equipped)

8. The sensor transmits collision signals from left side to ACU module to control the airbag to inflate quickly, thus protecting people in vehicle.

Left side collision sensor resistance value

2.0 ± 0.3 Ω

Right side collision sensor (if equipped)

9. The sensor transmits collision signals from right side to ACU module to control the airbag to inflate quickly, thus protecting people in vehicle.

Right side collision sensor resistance value

2.0 ± 0.3 Ω

Wire harness

10. It is yellow and used to connect elements of supplemental restraint system. The connector has a safety mechanism.

Airbag System Function:

1. Airbag must work together with seat belt. 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.
2. Minor collision will not activate the airbag system. Airbags will quickly inflate to protect driver and front passenger only when severe collision occurs.

Seat Belt Pretensioner Consists of Following Components:

1. Driver seat belt pretensioner
   (a) 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.
2. Front passenger seat belt pretensioner
   (a) 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.
3. Seat belt pretensioner function:
   (a) At the moment of collision, the pretensioner retracts seat belt before occupant moves forward, and immediately restraints occupant onto the seat tightly, then locks seat belt to prevent occupant from leaning forward, thus protecting occupant safety.
   (b) Seat belt pretensioner works with airbag. Once a frontal collision impact higher than specified value is detected , the seat belt with pretensioner will work together with airbag system to protect occupant safety.

Operating Conditions:

The controller will send an ignition signal when sensor signal received by the controller exceeds the set value in an accident, the ignition circuit will explode.

1. Front collision
   (a) Front collision is detected by the sensor in controller;
   (b) Front collision ignition deployment circuit: driver and passenger front airbags, all seat belt with pretensioners;
2. Side collision
   (a) Side collision is detected by the side collision sensor in B-pillar and the Sensor in controller.
   (b) Side collision ignition deployment circuit: curtain shield airbag, seat airbag and seat belt with pretensioner on collision side;
3. Other collisions
   (a) If the bottom of vehicle is subjected to a severe impact, the driver airbag and front passenger airbag may also deploy.
   (b) If the vehicle goes under the bottom of truck etc. or involved in side collision, the driver airbag and front passenger airbag may not deploy.
   (c) If a collision to the side of the vehicle body other than the passenger compartment, or the vehicle is subjected to a collision from the side at certain angles, the front side airbag and curtain shield airbag may not deploy.
   (d) The side airbag and curtain shield airbag will not generally deploy if the vehicle is involved in a front collision, rear collision or roll over.

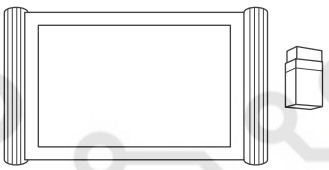
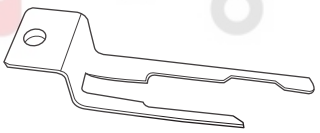
Specifications

Torque Specifications

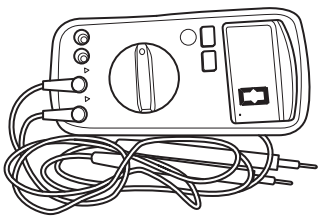
Description	Torque (N·m)
Height Adjuster Fixing Bolt	50 ± 5
Front Seat Belt Assembly Fixing Bolt	50 ± 5
Fork Bracket Fixing Screw	2.5 ± 0.5
Front Pretensioner End Plate Assembly Fixing Bolt	50 ± 5
Buckle Assembly Fixing Bolt	50 ± 5
Rear Seat Belt Assembly Fixing Bolt	50 ± 5
Airbag Module Assembly Fixing Bolt	9 ± 1
Side Collision Sensor Assembly Fixing Bolt	9 ± 1
Front Passenger Airbag Fixing Bolt	23 ± 2
Front Passenger Airbag Fixing Screw	2.5 ± 0.5

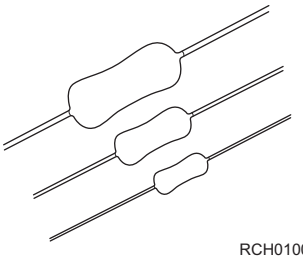
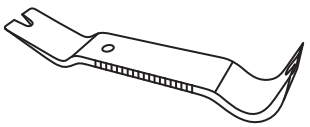
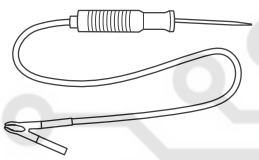
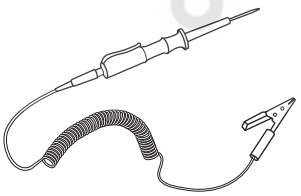
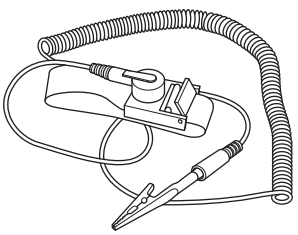
Tools

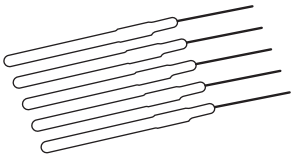
Special Tools

Diagnostic Tester	 RCH000106
Pretensioner End Plate Remover	 RCH013806

General Tools

Digital Multimeter	 RCH0002006

Resistance: 2 Ω	 RCH010006
Interior & Exterior Dismantling Device	 RCH002506
Bulb Test Light	 RCH010106
Diode Test Light	 RCH010206
Static-proof Wrist Strap	 RCH010406

Wire Harness Terminal Service Tool	 RCH010506

DIAGNOSIS & TESTING

Diagnosis Procedure

Hint

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

1	Vehicle brought to workshop

Result

Go to
NEXT

NEXT

2	Check battery voltage

Check if battery voltage is normal.

OK

Standard voltage: Not less than 12 V

Result

Go to
OK
NG

NG → Recharge or replace battery

OK

3	Check ACU warning light

Result

Go to
NEXT

NEXT

4	Check for DTCs (current DTC and history DTC)

Result

Go to
NEXT

NEXT

5	Diagnostic Trouble Code (DTC) Chart

Result

Go to
No DTC
Current DTC
History DTC

History DTC

6	Problem repair (no DTC), then go to step 9

Result

Go to
NEXT

NEXT → Go to step 9

7	Troubleshoot according to Diagnostic Trouble Code (DTC) chart, then go to step 9

Result

Go to
NEXT

NEXT → Go to step 9

8	Troubleshoot according to Problem Symptoms Table, then go to step 9

Result

Go to
NEXT

NEXT

9	Adjust, repair or replace

Result

Go to
NEXT

NEXT → End

DTC Confirmation Procedure

Confirm that battery voltage is normal before performing following procedures.

- Turn ENGINE START STOP switch to OFF.
- Connect the diagnostic tester (the latest software) to Data Link Connector (DLC).
- Turn ENGINE START STOP switch to ON.
- Use diagnostic tester to record and clear DTCs stored in supplemental restraint system.
- Turn ENGINE START STOP switch to OFF and wait several seconds.
- Turn ENGINE START STOP switch to "ON", and then select Read DTC.
- If DTC is detected, it indicates current malfunction. Go to diagnosis procedure - Step 1.
- If no DTC is detected, malfunction indicated by the DTC is intermittent.

Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

- Check if connector is loose.
- Check if wire harness is worn, pierced, pinched or partially broken.
- Monitor 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 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 ground 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 DTC.
- Refer to any Technical Bulletin that may apply to this malfunction.

Ground Inspection

Ground points are very important to the proper operation of circuits. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) may increase load resistance. This situation may change the way in which a circuit works. Circuits are very sensitive to proper grounding. A loose or corroded ground can affect the control circuit. Check the ground points as follows:

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

Preparations before Dealing with Airbag System Wire Harness Malfunction

1. Read and record the system DTC.
2. Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable at least 1 minute so that the airbag controller has enough time to discharge.
3. Prevent electric static discharge, such as static-proof wrist strap.
4. To prevent the ignition element from igniting accidentally during wire harness measurement, it is necessary to disengage all elements connected to wire harness, such as airbag, module, sensor etc. before measuring.

Airbag System Malfunction Repair Completion Inspection

1. Turn ENGINE START STOP switch to OFF and disconnect the negative battery cable (if is the connected);
2. Connect each wire harness connector of airbag system;
3. Connect negative battery cable;
4. Start the vehicle, operate the electrical system, turn on the electrical equipment as much as possible (blower, rear defroster, headlight, audio, etc.). If all the following requirements are met, the airbag system is normal, otherwise it should be checked and repaired again:
   (a) ENGINE START STOP switch is ON, system performs self-check, airbag warning light comes on. Warning light goes off when self-check is completed.
   (b) Connect the diagnostic tester, read the DTC and observe the datastream. Use the simulation method if necessary. Test the vehicle in the malfunction conditions described by customer, check if the malfunction is no longer duplicate and no other DTCs are produced.
   (c) If equipped with front passenger detection device, the front passenger seat belt warning light should operate normally; (Check method: A person sits on the front passenger seat and does not wear the seat belt, the light comes on and goes off after the seat belt is fastened.)
   (d) Clear history DTC (If exists).

Disposal of Airbag

Airbag deploys (in vehicle).

1. It is necessary to deploy the airbag before disposing. If the vehicle is scrapped and disassembled, the airbag may deploy in vehicle.
   (a) Preventive procedure of airbag deployment
   Caution:
   To prevent injury when deploying the airbag in vehicle, please refer to following prevention methods:
   - Remove all movable objects or loose parts within airbag deployment range before the airbag is deployed.
   - The airbag is deployed only in the reserved airbag deployment area with door closed and side window opened.
   - The airbag is deployed only in the reserved airbag deployment area (site), the technicians must stand at least 10 meters in front of the vehicle.
   - Do not load voltage before all preparations have been completed.
   - Cool down the airbag at least 30 minutes before handling the deployed airbag.
   - Please wear gloves and safety glasses during disposal process.
   - If airbag deployment is failed, wait at least 5 minutes after disconnecting the voltage, and then you can approach the vehicle.
   (b) Prevention methods of deployment procedure
   (1) Inside deployment prevention methods
   - Disconnect the negative and positive battery cables and move the battery 10 meters away from the vehicle.
   - Prepare two additional wire harnesses at least 10 meters long for each one and special connector for connecting the spiral cable (clock spring). Peel off the 13 mm insulation coat at the end of wire harness. Connect the connector at one end and another end to twist as shown in illustration.
   - Place the twisted end next to the battery for airbag deployment, but do not connect it to battery at this time.
   - Remove driver side lower instrument panel from steering column. When connecting the lower part of steering column to ACU wire harness connector of spiral cable, connect the connector in figure 10.
   - Clean the site.
   - Disengage the twisted end of the wire harness next to the battery for airbag deployment.

- One wire harness contacts with negative battery and another one contacts with positive battery, the airbag will deploy at this time.
- Deploy the passenger side airbag module using the same procedure.
- Handle the deployed airbag with correct prevention methods. Refer to "Handling Procedure for Deployed Airbag" in this manual.

Outside deployment prevention methods

(c) Install the airbag set to the tire with rim with airbag front surface faced up, and the space for wire and connector is reserved to prevent the deployment from being destroyed.

(d) Prepare two additional wire harnesses at least 10 meters long for each one and special connector for connecting airbag set. Peel off the 13 mm insulation coat at the end of wire harness. Connect the connector at one end as shown in illustration.

(e) Place the twisted end next to the battery for airbag deployment, but do not connect it to battery at this time.

(f) Stack 4 old tires without rims on the wheel installed with airbag set, and secure all the tires in 4 different positions with rope.

(g) Clean the site.

(h) Disengage the twisted end of the wire harness next to the battery for airbag deployment.

(i) One wire harness contacts with negative battery and another one contacts with positive battery, the airbag will deploy at this time.

(j) Deploy the passenger side airbag module using the same procedure.

(k) Handle the deployed airbag with correct prevention methods. Refer to "Handling Procedure for Deployed Airbag Set" in this manual.

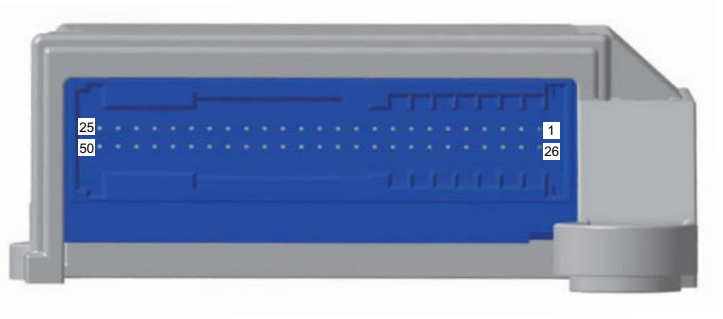
Handling procedure for deployed airbag set

2. Place the deployed airbag in a solid plastic bag.
3. Be sure to seal the plastic bag tightly.
4. Wash both hands carefully after handling the deployed airbag.
5. Although above protection measures are taken, if the irritant substance attaches to the eyes or skin, flush it with a large amount of water immediately.

Caution:

- There may be powder particles on airbag surface, which is primarily composed of chemical reaction product (used to lubricate bag when inflating).
- There may be substance which can irritate eyes or skin attached to the deployed airbag, so please wear gloves and safety glasses during disposal process.
- After the airbag deploys, the temperature on airbag module metal surface is very high. To avoid any injury or fire, please keep the deployed airbag module far away from any combustible materials,
- Do not pour water or oil on the airbag after the airbag deploys and handle it after cooling for 30 minutes.

ACU Control Module Assembly Terminal List

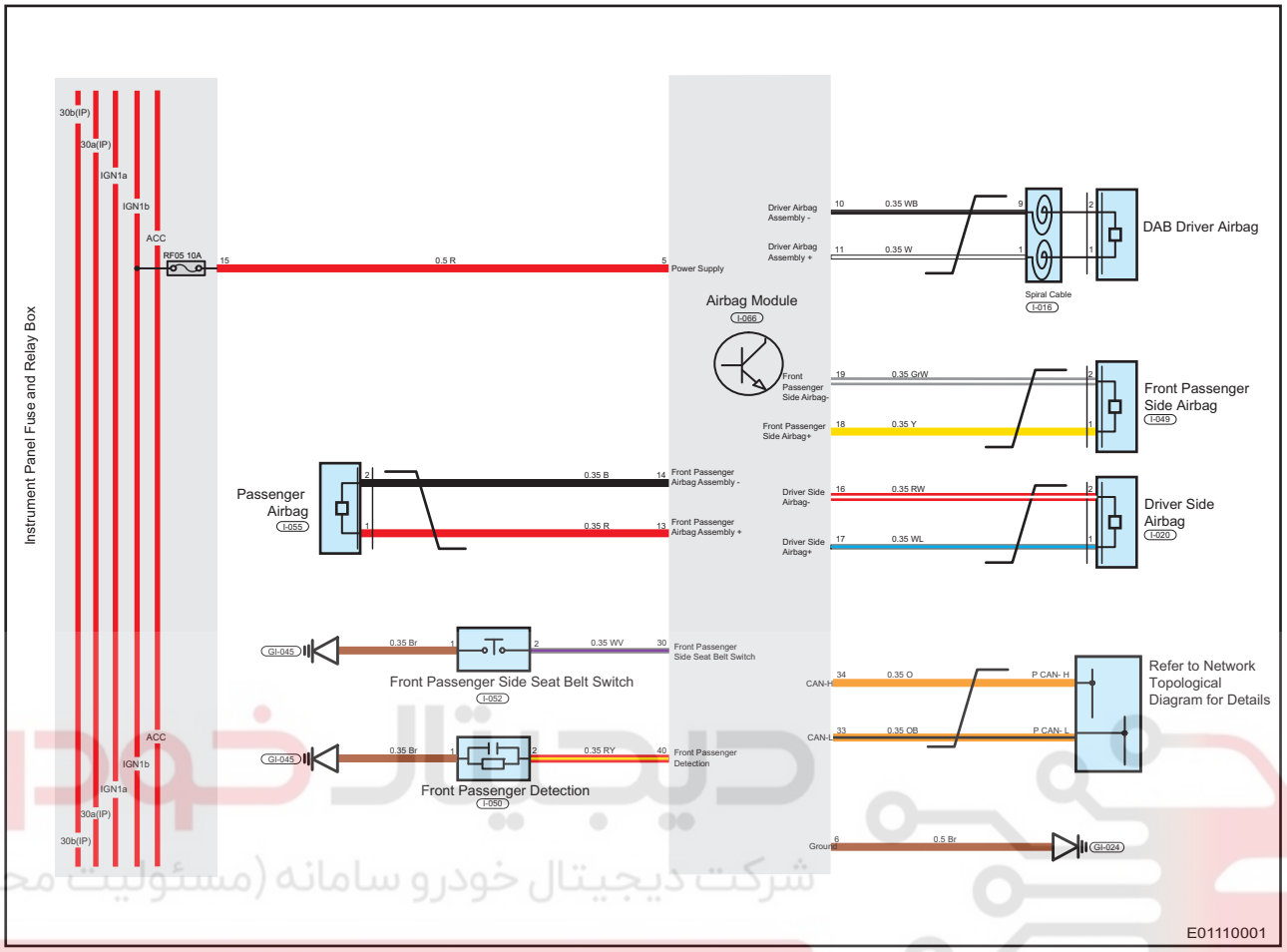


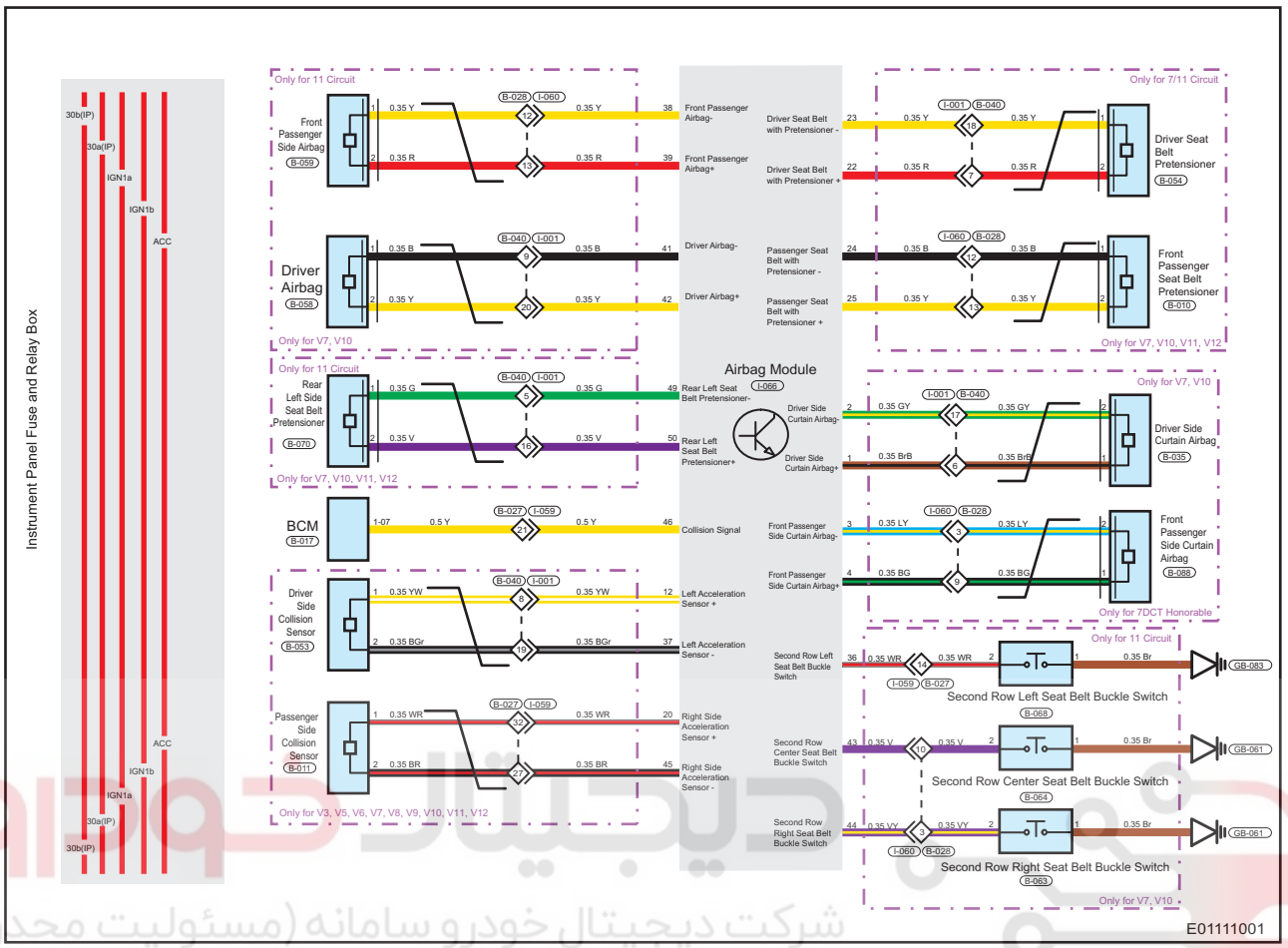
RS0047501

Airbag System Controller Pin Definition

Terminal No.	Description	Terminal No.	Description
1	Left Curtain Shield Airbag Assembly (+)	26	-
2	Left Curtain Shield Airbag Assembly (-)	27	-
3	Right Curtain Shield Airbag Assembly (-)	28	-
4	Right Curtain Shield Airbag Assembly (+)	29	-
5	Power Supply	30	Passenger Seat Belt Buckle Switch
6	Ground	31	Short Bar
7	-	32	Short Bar
8	-	33	CAN - Low
9	-	34	CAN - High
10	Driver Airbag Assembly (+)	35	-
11	Driver Airbag Assembly (-)	36	Rear Seat Belt Buckle Switch
12	Left Acceleration Sensor (+)	37	Left Acceleration Sensor (-)
13	Front Passenger Airbag Assembly (+)	38	-
14	Front Passenger Airbag Assembly (-)	39	-
15	-	40	Passenger Detection
16	Front Left Seat Side Airbag Assembly (-)	41	Driver Seat Belt with Pretensioner -
17	Front Left Seat Side Airbag Assembly (+)	42	Driver Seat Belt with Pretensioner +
18	Front Right Seat Side Airbag Assembly (+)	43	Rear Center Seat Belt Buckle Switch
19	Front Right Seat Side Airbag Assembly (-)	44	Rear Right Seat Belt Buckle Switch
20	Right Acceleration Sensor (+)	45	Right Acceleration Sensor -
21	-	46	Collision Signal
22	Driver Seat Belt with Pretensioner (+)	47	-
23	Driver Seat Belt with Pretensioner (-)	48	-
24	Passenger Seat Belt with Pretensioner (-)	49	Rear Left Seat Belt with Pretensioner -
25	Passenger Seat Belt with Pretensioner (+)	50	Rear Left Seat Belt with Pretensioner +

Circuit Diagram





Diagnostic Trouble Code (DTC) Chart

DTC	DTC Definition
B0001-11	Driver Frontal Airbag Deployment Control-Circuit Short To Ground
B0001-12	Driver Frontal Airbag Deployment-Circuit Short To Battery
B0001-1A	Driver Frontal Airbag Deployment Control-Circuit Resistance Below Threshold
B0001-1B	Driver Frontal Airbag Deployment Control-Circuit Resistance Above Threshold
B0010-11	Passenger Frontal Airbag Deployment Control-Circuit Short To Ground
B0010-12	Passenger Frontal Airbag Deployment Control-Circuit Short To Battery
B0010-1A	Passenger Frontal Airbag Deployment Control-Circuit Resistance Below Threshold
B0010-1B	Passenger Frontal Airbag Deployment Control-Circuit Resistance Above Threshold
B0020-11	Left Side Airbag Deployment Control-Circuit Short To Ground
B0020-12	Left Side Airbag Deployment Control-Circuit Short To Battery
B0020-1A	Left Side Airbag Deployment Control-Circuit Resistance Below Threshold
B0020-1B	Left Side Airbag Deployment Control-Circuit Resistance Above Threshold
B0028-11	Right Side Airbag Deployment Control-Circuit Short To Ground
B0028-12	Right Side Airbag Deployment Control-Circuit Short To Battery
B0028-1A	Right Side Airbag Deployment Control-Circuit Resistance Below Threshold
B0028-1B	Right Side Airbag Deployment Control-Circuit Resistance Above Threshold
B0021-11	Left Curtain Airbag Deployment Control-Circuit Short To Ground
B0021-12	Left Curtain Airbag Deployment Control-Circuit Short To Battery
B0021-1A	Left Curtain Airbag Deployment Control-Circuit Resistance Below Threshold
B0021-1B	Left Curtain Airbag Deployment Control-Circuit Resistance Above Threshold
B0029-11	Right Side Airbag Deployment Control-Circuit Short To Ground

DTC	DTC Definition
B0029-12	Right Side Airbag Deployment Control-Circuit Short To Battery
B0029-1A	Right Side Airbag Deployment Control-Circuit Resistance Below Threshold
B0029-1B	Right Side Airbag Deployment Control-Circuit Resistance Above Threshold
B1285-11	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Ground
B1285-12	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Battery
B1285-1A	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Below Threshold
B1285-1B	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Above Threshold
B1286-11	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Ground
B1286-12	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Battery
B1286-1A	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Below Threshold
B1286-1B	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Above Threshold
B0073-11	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Short To Ground
B0073-12	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Short To Battery
B0073-1A	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Resistance Below Threshold
B0073-1B	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Resistance Above Threshold
B1204-11	Belt Pretensioner Driver Deployment Control-Circuit Short To Ground
B1204-12	Belt Pretensioner Driver Deployment Control-Circuit Short To Battery
B1204-1A	Belt Pretensioner Driver Deployment Control-Circuit Resistance Below Threshold
B1204-1B	Belt Pretensioner Driver Deployment Control-Circuit Resistance Above Threshold
B1205-11	Belt Pretensioner Passenger Deployment Control-Circuit Short To Ground
B1205-12	Belt Pretensioner Passenger Deployment Control-Circuit Short To Battery
B1205-1A	Belt Pretensioner Passenger Deployment Control-Circuit Resistance Below Threshold
B1205-1B	Belt Pretensioner Passenger Deployment Control-Circuit Resistance Above Threshold
B00C7-12	Passenger Presence Detection Switch-Circuit Short To Battery
B1233-12	Passenger Buckle Switch-Circuit Short To Battery
B1234-12	Second Row Left Buckle Switch-Circuit Short To Battery
B1254-95	Second Row Middle Buckle switch-Incorrect Assembly
B1235-12	Second Row Middle Buckle Switch-Circuit Short To Battery
B1255-95	Second Row Right Buckle Switch-Incorrect Assembly
B1236-12	Second Row Right Buckle Switch-Circuit Short To Battery
B0091-11	Left Side Restraints Sensor-Circuit Short To Ground
B0091-13	Left Side Restraints Sensor-Circuit Open
B0091-96	Left Side Restraints Sensor-Component Internal Failure
B0091-00	Left Side Restraints Sensor-No Sub Type Information
B0091-95	Left Side Restraints Sensor-Incorrect Assembly
B0096-11	Right Side Restraints Sensor-Circuit Short To Ground
B0096-13	Right Side Restraints Sensor-Circuit Open
B0096-96	Right Side Restraints Sensor-Component Internal Failure
B0096-00	Right Side Restraints Sensor-No Sub Type Information
B0090-11	Left Front Restraints Sensor-Circuit Short To Ground
B0090-13	Left Front Restraints Sensor-Circuit Open
B0090-96	Left Front Restraints Sensor-Component Internal Failure
B0090-00	Left Front Restraints Sensor-No Sub Type Information
B1228-95	Front Side Restraints Sensor-Incorrect Assembly
B0095-11	Right Front Restraints Sensor-Circuit Short To Ground
B0095-13	Right Front Restraints Sensor-Circuit Open
B0095-96	Right Front Restraints Sensor-Component Internal Failure
B1250-16	Power Supply-Circuit Voltage Below Threshold

DTC	DTC Definition
B1250-17	Power Supply-Circuit Voltage Above Threshold
B1215-00	Squib Cross Coupling Error-No Sub Type Information
B1240-00	ICM Airbag Lamp Failed-No Sub Type Information
U0100-87	Lost Communication With EMS-Missing Message
U0146-87	Lost Communication With CGW-Missing Message
U0129-87	Lost Communication With Brake System Control Module-Missing Message
U0126-87	Lost Communication With SAM-Missing Message
B1251-00	ACU Internal Error-No Sub Type Information
B1216-47	Crash Front-Watchdog / Safety µC Failure
B1217-47	Crash Side-Watchdog / Safety µC Failure
B1218-47	Crash Row-Watchdog / Safety µC Failure
B122A-00	-No Sub Type Information
U1300-55	Software Configuration Error-Not Configured
B0095-00	Right Front Restraints Sensor-No Sub Type Information
B122C-00	ACU Has Been Scrapped-No Sub Type Information
B122D-95	Driver Airbag Unexpected Config-Incorrect Assembly
B122E-95	Passenger Airbag Unexpected Config-Incorrect Assembly
B121F-95	Left Side Airbag Unexpected Config-Incorrect Assembly
B1220-95	Right Side Airbag Unexpected Config-Incorrect Assembly
B1221-95	Left Curtain Unexpected Config-Incorrect Assembly
B1222-95	Right Curtain Unexpected Config-Incorrect Assembly
B1223-95	Front Row Left Seatbelt Retractor Pretensioner Unexpected Config-Incorrect Assembly
B1224-95	Front Row Right Seatbelt Retractor Pretensioner Unexpected Config-Incorrect Assembly
B1225-95	Belt Pretensioner Driver Unexpected Config-Incorrect Assembly
B1226-95	Belt Pretensioner Pass Unexpected Config-Incorrect Assembly
B1227-95	Second Row Left Seatbelt Pretensioner Unexpected Config-Incorrect Assembly

DTC	B1250-16	Power Supply-Circuit Voltage Below Threshold

DTC	B1250-17	Power Supply-Circuit Voltage Above Threshold

Description

DTC	DTC Definition	Possible Cause
B1250-16	Power Supply-Circuit Voltage Below Threshold	Excessive low vehicle power supply voltage
B1250-17	Power Supply-Circuit Voltage Above Threshold	Excessive high vehicle power supply voltage

- Possible cause for "High Voltage" malfunction: unstable power supply, sudden invalid load;
- Possible cause for "Low Voltage" malfunction: unstable power supply, poor contact;

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

Procedure

1	Check system voltage

Use circuit diagram as a guide to perform the following procedures:
(a) Start engine, and use voltage band of multimeter to check if battery voltage is normal. (Rated voltage: Not less than 12 V)

Operating voltage

Multimeter Connection	Condition	Operating Voltage
Battery (+) - Battery (-)	ENGINE START STOP switch "ON"	Not less than 12 V

OK
System voltage is normal

Result

Go to
NEXT

NEXT → **For inspection, refer to "Airbag system malfunction repair completion inspection"**

2	Check fuse

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction";
Use circuit diagram as a guide to perform the following procedures:
(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Check continuity of fuse RF05 (10A) in instrument panel fuse and relay box with a multimeter.

OK
Fuse is not burned out

Result

Go to
OK
NG

NG → **Replace fuse**

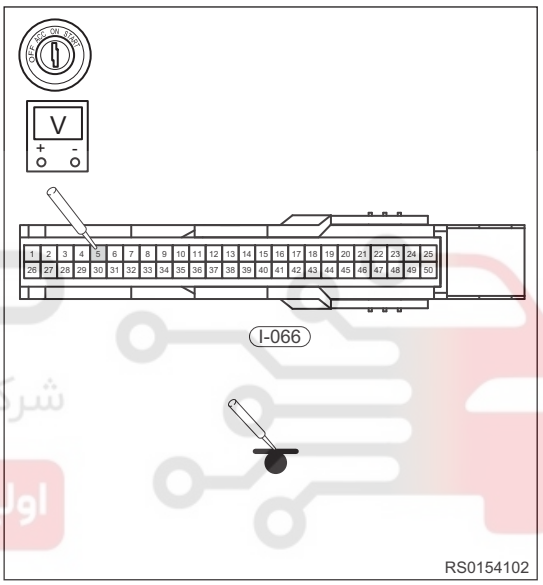
OK

3 Check airbag module power supply

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction";
Use circuit diagram as a guide to perform the following procedures:

(a) Turn ENGINE START STOP switch to OFF and connect the negative battery cable.

(b) Turn ENGINE START STOP switch to ON and use a digital multimeter to measure voltage of power supply. If the voltage is as required, make tests with test lamp made of vehicle bulbs. Bright test lamp indicates that power supply is sufficient, and dim test lamp indicates that power supply is insufficient and poor contact of wire harness may occur.



Specified Condition

Multimeter Connection	Condition	Specified Condition
I-066 (5) - Ground	ENGINE START STOP switch "ON"	Not less than 12 V

Result

Go to
OK
NG

OK

Airbag power supply is normal

NEXT → **Check airbag module power supply**

NEXT

4 Check airbag module ground

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction";
Use circuit diagram as a guide to perform the following procedures:

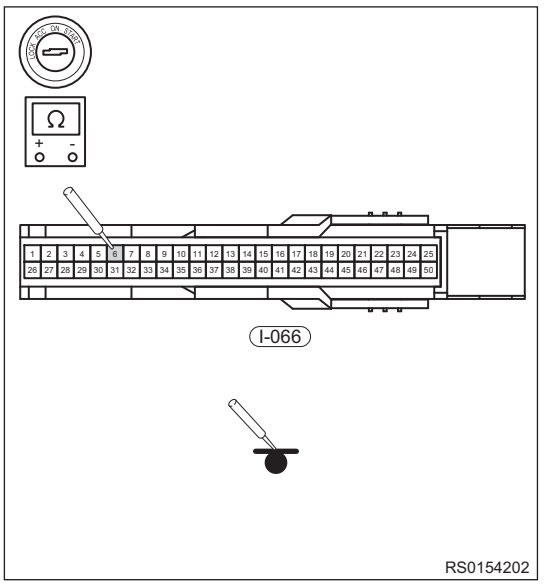
(a) Turn ENGINE START STOP switch to OFF.

(b) Disconnect component connectors (measurement value is incorrect with power on, and power off is necessary)

(c) Use ohm band of multimeter to detect the continuity between I-066(6) and ground.

Specified Condition

Multimeter Connection	Condition	Specified Condition
I-066 (6) - Ground	ENGINE START STOP switch "OFF"	⩽ 1 Ω



OK

Airbag module ground is normal

Result

Go to
OK
NG

OK	Airbag module ground is normal
NG	Check or repair airbag module ground

DTC	B0001-12	Driver Frontal Airbag Deployment Control
DTC	B0010-12	Passenger Frontal Airbag Deployment Control
DTC	B0020-12	Left Side Airbag Deployment Control
DTC	B0028-12	Right Side Airbag Deployment Control
DTC	B0021-12	Left Curtain Airbag Deployment Control-Circuit Short To Battery
DTC	B0029-12	Right Side Airbag Deployment Control-Circuit Short To Battery
DTC	B1285-12	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Battery
DTC	B1286-12	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Battery
DTC	B0073-12	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Short To Battery
DTC	B1204-12	Belt Pretensioner Driver Deployment Control-Circuit Short To Battery
DTC	B1205-12	Belt Pretensioner Passenger Deployment Control-Circuit Short To Battery
DTC	B00C7-12	Passenger Presence Detection Switch-Circuit Short To Battery
DTC	B1233-12	Passenger Buckle Switch-Circuit Short To Battery
DTC	B1234-12	Second Row Left Buckle Switch-Circuit Short To Battery
DTC	B1235-12	Second Row Middle Buckle Switch-Circuit Short To Battery

DTC	B1236-12	Second Row Right Buckle Switch-Circuit Short To Battery

Description

DTC	DTC Definition	Possible Cause
B0001-12	Driver Frontal Airbag Deployment-Circuit Short To Battery	It's generally wire harness being short to voltage or power supply
B0010-12	Passenger Frontal Airbag Deployment Control	
B0020-12	Left Side Airbag Deployment Control	
B0028-12	Right Side Airbag Deployment Control	
B0021-12	Left Curtain Airbag Deployment Control-Circuit Short To Battery	
B0029-12	Right Side Airbag Deployment Control-Circuit Short To Battery	
B1285-12	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Battery	
B1286-12	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Battery	
B0073-12	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Short To Battery	
B1204-12	Belt Pretensioner Driver Deployment Control-Circuit Short To Battery	
B1205-12	Belt Pretensioner Passenger Deployment Control-Circuit Short To Battery	
B00C7-12	Passenger Presence Detection Switch-Circuit Short To Battery	
B1233-12	Passenger Buckle Switch-Circuit Short To Battery	
B1234-12	Second Row Left Buckle Switch-Circuit Short To Battery	
B1235-12	Second Row Middle Buckle Switch-Circuit Short To Battery	
B1236-12	Second Row Right Buckle Switch-Circuit Short To Battery	

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction".

Caution:

When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

Warning:

For similar malfunctions of other modules in airbag system, it's also allowable to refer to "Driver Frontal Airbag Deployment Control" for troubleshooting.

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.

Procedure

1	**Check driver frontal airbag deployment control circuit shorted to power supply malfunction**

Use circuit diagram as a guide to perform the following procedures:

(a) Check sensor connectors, controller connectors for corrosion, poor contact, displacement and repair it if any symptom occurs.

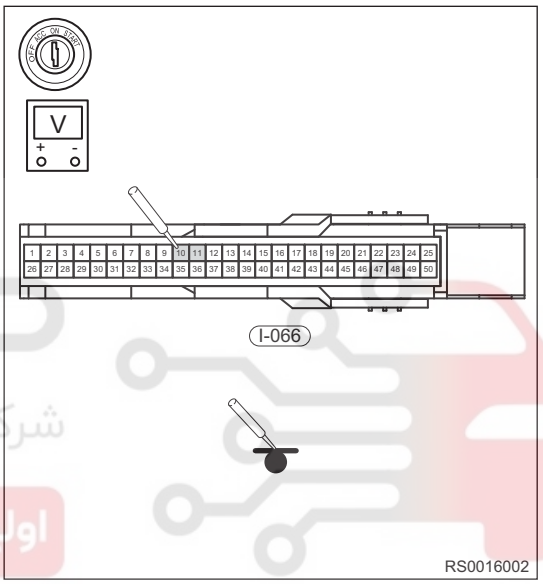
(b) Check the continuity of sensor wire harness and replace wire harness if open circuit malfunction occurs.

(c) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable and wait for at least 90 seconds.

(d) Disconnect airbag module connector I-066 and driver frontal airbag connector.

(e) Turn ENGINE START STOP switch to ON and make all accessories operate.

(f) Using voltage band of multimeter, detect I-066 (10) - ground and I-066 (11) - ground separately.



Specified Condition

Multimeter Connection	Condition	Specified Condition
I-066 (10) - Ground	ENGINE START STOP switch "ON"	0V
I-066 (11) - Ground	ENGINE START STOP switch "ON"	0V

Result

Go to
OK
NG

OK → **Refer to "Airbag system malfunction repair completion inspection"**

NG → **Repair or replace wire harness shorted to power supply or voltage**

DTC	B0001-11	Driver Frontal Airbag Deployment Control-Circuit Short To Ground
DTC	B0010-11	Passenger Frontal Airbag Deployment Control
DTC	B0020-11	Left Side Airbag Deployment Control
DTC	B0028-11	Right Side Airbag Deployment Control
DTC	B0021-11	Left Curtain Airbag Deployment Control-Circuit Short To Ground
DTC	B0029-11	Right Side Airbag Deployment Control-Circuit Short To Ground
DTC	B1285-11	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Ground
DTC	B1286-11	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Ground
DTC	B0073-11	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Short To Ground
DTC	B1204-11	Belt Pretensioner Driver Deployment Control-Circuit Short To Ground
DTC	B1205-11	Belt Pretensioner Passenger Deployment Control-Circuit Short To Ground
DTC	B0091-11	Left Side Restraints Sensor-Circuit Short To Ground
DTC	B0096-11	Right Side Restraints Sensor-Circuit Short To Ground
DTC	B0090-11	Left Front Restraints Sensor-Circuit Short To Ground
DTC	B0095-11	Right Front Restraints Sensor-Circuit Short To Ground

Description

DTC	DTC Definition	Possible Cause
B0001-11	Driver Frontal Airbag Deployment Control-Circuit Short To Ground	It's generally wire harness being shorted to ground
B0010-11	Passenger Frontal Airbag Deployment Control	
B0020-11	Left Side Airbag Deployment Control	
B0028-11	Right Side Airbag Deployment Control	
B0021-11	Left Curtain Airbag Deployment Control-Circuit Short To Ground	
B0029-11	Right Side Airbag Deployment Control-Circuit Short To Ground	
B1285-11	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Ground	
B1286-11	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Short To Ground	
B0073-11	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Short To Ground	
B1204-11	Belt Pretensioner Driver Deployment Control-Circuit Short To Battery	
B1205-11	Belt Pretensioner Passenger Deployment Control-Circuit Short To Ground	
B0091-11	Left Side Restraints Sensor-Circuit Short To Ground	
B0096-11	Right Side Restraints Sensor-Circuit Short To Ground	
B0090-11	Left Front Restraints Sensor-Circuit Short To Ground	
B0095-11	Right Front Restraints Sensor-Circuit Short To Ground	

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction".

Caution:

When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

Warning:

For similar malfunctions of other modules in airbag system, it's also allowable to refer to "Driver Frontal Airbag Deployment Control" for troubleshooting.

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction";

Caution:

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

Warning:

For similar malfunctions of other modules in airbag system, it's also allowable to refer to "Driver Frontal Airbag Deployment Control" for troubleshooting.

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.

1	Check driver frontal airbag deployment control circuit shorted to ground malfunction

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction";
Use circuit diagram as a guide to perform the following procedures:

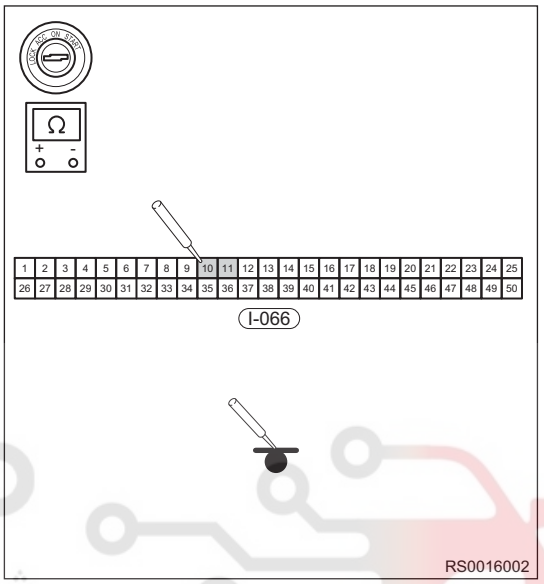
(a) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable and wait for at least 90 seconds.

(b) Disconnect airbag module connector I-066 and driver frontal airbag connector.

(c) Using ohm band of multimeter, check the continuity of I-066 (10) - ground, and I-066 (11) - ground separately.

Specified Condition

Multimeter Connection	Condition	Specified Condition
I-066 (10) - Ground	ENGINE START STOP switch "OFF"	∞
I-066 (11) - Ground	ENGINE START STOP switch "OFF"	∞



Result

Go to
OK
NG

OK	**Refer to "Airbag system malfunction repair completion inspection"**
NG	**Repair or replace wire harness and connectors of driver frontal airbag deployment control circuit shorted to ground**

DTC	B0091-13	Left Side Restraints Sensor-Circuit Open

DTC	B0096-13	Right Side Restraints Sensor-Circuit Open

DTC	B0090-13	Left Front Restraints Sensor-Circuit Open

DTC	B0095-13	Right Front Restraints Sensor-Circuit Open

Description

DTC	DTC Definition	Possible Cause
B0091-13	Left Side Restraints Sensor-Circuit Open	It's generally wire harness being shorted to ground
B0096-13	Right Side Restraints Sensor-Circuit Open	
B0090-13	Left Front Restraints Sensor-Circuit Open	
B0095-13	Right Front Restraints Sensor-Circuit Open	

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction";

Caution:

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

Warning:

For similar malfunctions of other modules in airbag system, it's also allowable to refer to "Left Side Restraints Sensor" for troubleshooting.

1	Left side collision sensor circuit open

Use circuit diagram as a guide to perform the following procedures:

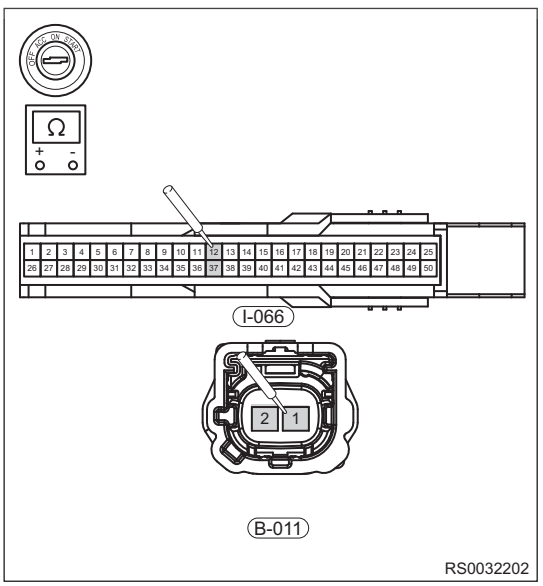
(a) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable and wait for at least 90 seconds.

(b) Disconnect airbag module connector I-066 and left side collision sensor connector B-011.

(c) Using ohm band of multimeter, detect I-066 (12) - B-011 (1), and I-066 (37) - B-011 (2) separately.

Specified Condition

Multimeter Connection	Condition	Specified Condition
I-066 (12) - B-011 (1)	ENGINE START STOP switch "OFF"	⩽ 1 Ω
I-066 (37) - B-011 (2)	ENGINE START STOP switch "OFF"	⩽ 1 Ω



OK

Result

Go to
OK
NG

OK	For inspection, refer to "Airbag system malfunction repair completion inspection" and replace the sensor if wire harness is not malfunctioning
NG	Repair or replace opened wire harness or connector

DTC	B0001-1A	Driver Frontal Airbag Deployment Control-Circuit Resistance Below Threshold
DTC	B0010-1A	Passenger Frontal Airbag Deployment Control
DTC	B0020-1A	Left Side Airbag Deployment Control
DTC	B0028-1A	Right Side Airbag Deployment Control
DTC	B0021-1A	Left Curtain Airbag Deployment Control-Circuit Resistance Below Threshold
DTC	B0029-1A	Right Side Airbag Deployment Control-Circuit Resistance Below Threshold
DTC	B1285-1A	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Below Threshold
DTC	B1286-1A	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Below Threshold
DTC	B0073-1A	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Resistance Below Threshold
DTC	B1204-1A	Belt Pretensioner Driver Deployment Control-Circuit Resistance Below Threshold
DTC	B1205-1A	Belt Pretensioner Passenger Deployment Control-Circuit Resistance Below Threshold

Description

DTC	DTC Definition	Possible Cause
B0001-1A	Driver Frontal Airbag Deployment Control-Circuit Resistance Below Threshold	It's generally ignition element being damaged or wire harness being short
B0010-1A	Passenger Frontal Airbag Deployment Control	
B0020-1A	Left Curtain Airbag Deployment Control-Circuit Resistance Below Threshold	
B0028-1A	Right Side Airbag Deployment Control	
B0021-1A	Left Curtain Airbag Deployment Control-Circuit Resistance Below Threshold	
B0029-1A	Right Side Airbag Deployment Control-Circuit Resistance Below Threshold	
B1285-1A	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Below Threshold	
B1286-1A	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Below Threshold	
B0073-1A	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Resistance Below Threshold	
B1204-1A	Belt Pretensioner Driver Deployment Control-Circuit Resistance Below Threshold	
B1205-1A	Belt Pretensioner Passenger Deployment Control-Circuit Resistance Below Threshold	

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

Hint:
For similar malfunctions of other modules in airbag system, it's also allowable to refer to "Driver Frontal Airbag Deployment Control" for troubleshooting.

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.

1	Check if ignition element is damaged

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction";
Use circuit diagram as a guide to perform the following procedures:

(a) Use 2 Ω resistance to substitute airbag or tensioner indicated by DTC.
(b) Connect wiring connector on the end of airbag module.
(c) Connect the battery and diagnostic tester and read the previous DTC.

Warning:
It's normal for other DTC occurrence currently as other airbag or sensor is not connected.

OK
Airbag or tensioner is damaged and replace it.

Result

Go to
OK
NG

NG → **Replace damaged airbag or tensioner**

OK

2	Check for short circuit between 2 cables

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.

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction";
Use circuit diagram as a guide to perform the following procedures:

(a) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable and wait for at least 90 seconds.
(b) Disconnect the airbag module connector I-066.
(c) Using ohm band of multimeter, check the continuity between I-066 (10) and I-066 (11) separately.

Standard Condition

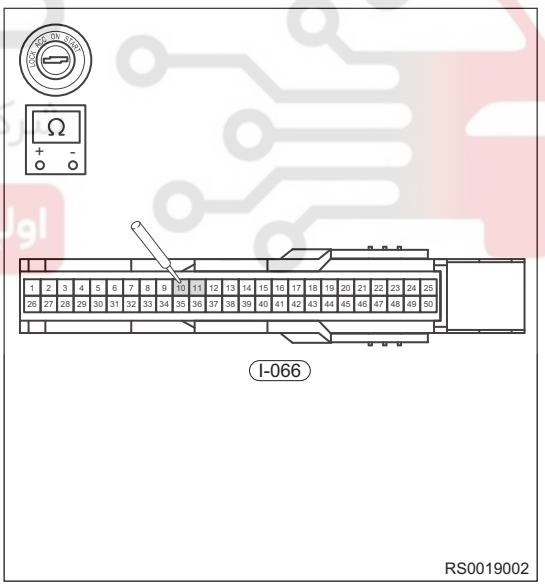
Multimeter Connection	Condition	Standard Condition
I-066 (10) - I-066 (11)	ENGINE START STOP switch "OFF"	⩽ 1 Ω

OK

For inspection, refer to "Airbag system malfunction repair completion inspection"

Result

Go to
OK
NG



OK → **For inspection, refer to "Airbag system malfunction repair completion inspection"**

NG → **Repair or replace right side airbag wire harness and connector**

DTC	B0001-1B	Driver Frontal Airbag Deployment Control-Circuit Resistance Above Threshold
DTC	B0010-1B	Passenger Frontal Airbag Deployment Control
DTC	B0020-1B	Left Side Airbag Deployment Control
DTC	B0021-1B	Left Curtain Airbag Deployment Control-Circuit Resistance Above Threshold
DTC	B0029-1B	Right Side Airbag Deployment Control-Circuit Resistance Above Threshold
DTC	B1285-1B	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Above Threshold
DTC	B1286-1B	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Above Threshold
DTC	B0073-1B	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Resistance Above Threshold
DTC	B1204-1B	Belt Pretensioner Driver Deployment Control-Circuit Resistance Above Threshold
DTC	B1205-1B	Belt Pretensioner Passenger Deployment Control-Circuit Resistance Above Threshold

Description

DTC	DTC Definition	Possible Cause
B0001-1B	Driver Frontal Airbag Deployment Control-Circuit Resistance Above Threshold	Ignition circuit resistance above set threshold
B0010-1B	Passenger Frontal Airbag Deployment Control	
B0020-1B	Left Side Airbag Deployment Control	
B0021-1B	Left Curtain Airbag Deployment Control-Circuit Resistance Above Threshold	
B0029-1B	Right Side Airbag Deployment Control-Circuit Resistance Above Threshold	
B1285-1B	Front Row Left Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Above Threshold	
B1286-1B	Front Row Right Seatbelt Retractor Pretensioner Deployment Control-Circuit Resistance Above Threshold	
B0073-1B	Second Row Left Seatbelt Pretensioner Deployment Control-Circuit Resistance Above Threshold	
B1204-1B	Belt Pretensioner Driver Deployment Control-Circuit Resistance Above Threshold	
B1205-1B	Belt Pretensioner Passenger Deployment Control-Circuit Resistance Above Threshold	

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

Hint:
For similar malfunctions of other modules in airbag system, it's also allowable to refer to "Driver Frontal Airbag Deployment Control" for troubleshooting.

- 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.

1	Check if ignition element is damaged

For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction";
Use circuit diagram as a guide to perform the following procedures:

(a) Use 2 Ω resistance to substitute airbag or tensioner indicated by DTC.
(b) Connect wiring connector on the end of airbag module.
(c) Connect the battery and diagnostic tester and read the previous DTC.

Warning:
It's normal for other DTC occurrence currently as other airbag or sensor is not connected.

OK
Airbag or tensioner is damaged and replace it.

Result

Go to
OK
NG

NG → **Replace damaged airbag or tensioner**

OK

2	Driver frontal airbag deployment control circuit resistance is higher than upper limit

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.

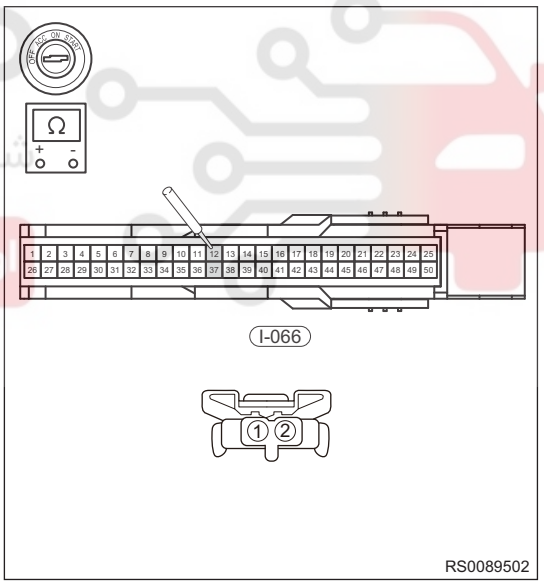
For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction";
Use circuit diagram as a guide to perform the following procedures:

(a) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable and wait for at least 90 seconds.

(b) Replace front passenger frontal airbag with a new one, connect the negative battery cable, turn ENGINE START STOP switch to ON, and use diagnostic tester to read DTCs to observe if DTC exists. If exists, it indicates that there is no problem in front passenger frontal airbag resistance, and a further inspection is needed.

(c) Disconnect airbag module connector I-066 and driver airbag connector.

(d) Using ohm band of multimeter, check the continuity between I-066 (10) and driver airbag (1), I-066 (11) and driver airbag (2) separately.



Standard Condition

Multimeter Connection	Condition	Standard Condition
I-066 (10) - Driver airbag (1)	ENGINE START STOP switch "OFF"	⩽ 1 Ω
I-066 (11) - Driver airbag (2)	ENGINE START STOP switch "OFF"	⩽ 1 Ω

OK

For inspection, refer to "Airbag system malfunction repair completion inspection".

Result

Go to
OK
NG

OK → **For inspection, refer to "Airbag system malfunction repair completion inspection"**

NG → **Repair or replace short wire harness or connector**

DTC	B1254-95	Second Row Middle Buckle switch-Incorrect Assembly
DTC	B1255-95	Second Row Right Buckle Switch-Incorrect Assembly
DTC	B0091-95	Left Side Restraints Sensor-Incorrect Assembly
DTC	B1228-95	Front Side Restraints Sensor-Incorrect Assembly
DTC	B122D-95	Driver Airbag Unexpected Config-Incorrect Assembly
DTC	B122E-95	Passenger Airbag Unexpected Config-Incorrect Assembly
DTC	B121F-95	Left Side Airbag Unexpected Config-Incorrect Assembly
DTC	B1220-95	Right Side Airbag Unexpected Config-Incorrect Assembly
DTC	B1221-95	Left Curtain Unexpected Config-Incorrect Assembly
DTC	B1222-95	Right Curtain Unexpected Config-Incorrect Assembly
DTC	B1223-95	Front Row Left Seatbelt Retractor Pretensioner Unexpected Config-Incorrect Assembly
DTC	B1224-95	Front Row Right Seatbelt Retractor Pretensioner Unexpected Config-Incorrect Assembly
DTC	B1225-95	Belt Pretensioner Driver Unexpected Config-Incorrect Assembly
DTC	B1226-95	Belt Pretensioner Pass Unexpected Config-Incorrect Assembly

DTC	B1227-95	Second Row Left Seatbelt Pretensioner Unexpected Config-Incorrect Assembly

Description

DTC	DTC Definition	Possible Cause
B1254-95	Second Row Middle Buckle switch-Incorrect Assembly	Element damaged or ignition circuit configuration error
B1255-95	Second Row Right Buckle Switch-Incorrect Assembly	
B0091-95	Left Side Restraints Sensor-Incorrect Assembly	
B1228-95	Front Side Restraints Sensor-Incorrect Assembly	
B122D-95	Driver Airbag Unexpected Config-Incorrect Assembly	
B122E-95	Passenger Airbag Unexpected Config-Incorrect Assembly	
B121F-95	Left Side Airbag Unexpected Config-Incorrect Assembly	
B1220-95	Right Side Airbag Unexpected Config-Incorrect Assembly	
B1221-95	Left Curtain Unexpected Config-Incorrect Assembly	
B1222-95	Right Curtain Unexpected Config-Incorrect Assembly	
B1223-95	Front Row Left Seatbelt Retractor Pretensioner Unexpected Config-Incorrect Assembly	
B1224-95	Front Row Right Seatbelt Retractor Pretensioner Unexpected Config-Incorrect Assembly	
B1225-95	Belt Pretensioner Driver Unexpected Config-Incorrect Assembly	
B1226-95	Belt Pretensioner Pass Unexpected Config-Incorrect Assembly	
B1227-95	Second Row Left Seatbelt Pretensioner Unexpected Config-Incorrect Assembly	

Hint:

- For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction".
- When performing circuit diagnosis and test, always refer to the circuit diagram for specific circuit and component information.

Caution:

- When DTCs above occur, it's necessary to replace the controller, deployed airbag or tensioner and collision sensor on collision side. For disposed airbag treatment, please refer to airbag disposal section;

DTC	B0091-96	Left Side Restraints Sensor-Component Internal Failure
DTC	B0096-96	Right Side Restraints Sensor-Component Internal Failure
DTC	B0090-96	Left Front Restraints Sensor-Component Internal Failure
DTC	B0095-96	Right Front Restraints Sensor-Component Internal Failure
DTC	B122D-95	Left Front Restraints Sensor-Component Internal Failure
DTC	B122E-95	Right Front Restraints Sensor-Component Internal Failure

Description

DTC	DTC Definition	Possible Cause
B0091-96	Left Side Restraints Sensor-Component Internal Failure	Component internal fault
B0096-96	Right Side Restraints Sensor-Component Internal Failure	
B0090-96	Left Side Restraints Sensor-Incorrect Assembly	
B0095-96	Front Side Restraints Sensor-Incorrect Assembly	
B122D-95	Left Front Restraints Sensor-Component Internal Failure	
B122E-95	Right Front Restraints Sensor-Component Internal Failure	

Warning:
Trouble cause: Acceleration sensor type is wrong or the element is damaged.

1	Check side collision sensor

(a) For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction".
(b) Replace with side collision sensor of correct function and type.

Result

Go to
OK

OK	For inspection, refer to "Airbag system malfunction repair completion inspection"

DTC	B0091-00	Left Side Restraints Sensor-No Sub Type Information
DTC	B0096-00	Right Side Restraints Sensor-No Sub Type Information
DTC	B0090-00	Left Front Restraints Sensor-No Sub Type Information
DTC	B0095-00	Right Front Restraints Sensor-No Sub Type Information
DTC	B1215-00	Squib Cross Coupling Error-No Sub Type Information
DTC	B1240-00	ICM Airbag Lamp Failed-No Sub Type Information
DTC	B1251-00	ACU Internal Error-No Sub Type Information
DTC	B122A-00	-No Sub Type Information
DTC	B122C-00	ACU Has Been Scrapped-No Sub Type Information

Description

DTC	DTC Definition	Possible Cause
B0091-00	Left Side Restraints Sensor-No Sub Type Information	Sensor usage incorrect or controller damaged
B0096-00	Right Side Restraints Sensor-No Sub Type Information	
B0090-00	Left Front Restraints Sensor-No Sub Type Information	
B0095-00	Right Front Restraints Sensor-No Sub Type Information	
B1215-00	Squib Cross Coupling Error-No Sub Type Information	
B1240-00	ICM Airbag Lamp Failed-No Sub Type Information	
B1251-00	ACU Internal Error-No Sub Type Information	
B122A-00	-No Sub Type Information	
B122C-00	ACU Has Been Scrapped-No Sub Type Information	

Warning:
Possible cause for malfunction: Controller is damaged;

1	Check controller

(a) For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction".
(b) Replace the controller.
Warning:
Prevent electric static discharge, such as static-proof wrist strap.

Result

Go to
OK

OK → **For inspection, refer to "Airbag system malfunction repair completion inspection"**

DTC	U0100-87	Lost Communication With EMS-Missing Message

DTC	U0146-87	Lost Communication With CGW-Missing Message

DTC	U0129-87	Lost Communication With Brake System Control Module-Missing Message

DTC	U0126-87	Lost Communication With SAM-Missing Message

DTC	U0073-88	CAN BUS OFF-Bus Off

Description

DTC	DTC Definition	Possible Cause
U0100-87	Lost Communication With EMS-Missing Message	ACU lost communication with other module
U0146–87	Lost Communication With CGW-Missing Message	
U0129-87	Lost Communication With Brake System Control Module-Missing Message	
U0126-87	Lost Communication With SAM-Missing Message	
U0073-88	Squib Cross Coupling Error-No Sub Type Information	

Warning:

Possible cause for malfunction: CAN bus malfunctions or controller indicated by DTC is faulty.

Hint:

For similar malfunctions of other modules in airbag system, it's also allowable to refer to "Lost Communication With EMS" for troubleshooting.

1	Check CAN network

Use circuit diagram as a guide to perform the following procedures:

(a) Refer to "Preparations before dealing with airbag system wire harness malfunction";

(b) Disconnect the airbag module connector I-066.

(c) Use ohm band of multimeter to measure resistance between I-066 (34) and I-066 (33).

Standard Condition

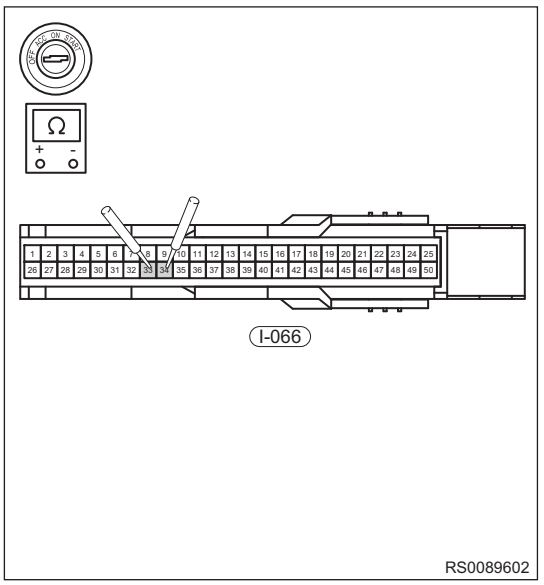
Multimeter Connection	Condition	Standard Condition
I-066 (34) - I-066 (33)	ENGINE START STOP switch "OFF"	60 Ω

OK

For inspection, refer to "Airbag system malfunction repair completion inspection".

Result

Go to
OK
NG



NG → **Repair or replace wire harness or connector**

OK

2 Check controller

(a) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable and wait for at least 90 seconds.

(b) Replace with controller of correct function and type.

Caution:

- Prevent electric static discharge, such as static-proof wrist strap.

OK

For inspection, refer to "Airbag system malfunction repair completion inspection".

Result

Go to
OK
NG

OK → **For inspection, refer to "Airbag system malfunction repair completion inspection"**

NG → **Replace airbag controller**

DTC	B1216-47	Crash Front-Watchdog / Safety µC Failure

DTC	B1217-47	Crash Side-Watchdog / Safety µC Failure

DTC	B1218-47	Crash Row-Watchdog / Safety µC Failure

Description

DTC No.	DTC Definition	Possible Cause
B1216-47	Crash Front-Watchdog / Safety µC Failure	Collision occurs
B1217-47	Crash Side-Watchdog / Safety µC Failure	
B1218-47	Crash Row-Watchdog / Safety µC Failure	

Warning:

Judging condition of malfunction: Sensor communication malfunction signal is abnormal, such as incorrect signal coding;

Possible cause for malfunction: Sensor internal malfunction or wire harness connection malfunction, interference;

1	Check controller and initiated ignition element.

Caution:

- Possible cause for malfunction: Ignition circuit has been initiated and collision information is recorded.
- For similar malfunctions of other modules in airbag system, it's also allowable to refer to "Crash Front-Watchdog / Safety µC Failure" for troubleshooting.

(a) For preparations, refer to "Preparations before dealing with airbag system wire harness malfunction".

(b) Replace with front collision sensor or module of correct function and type.

Result

Go to
OK

OK → **For inspection, refer to "Airbag system malfunction repair completion inspection"**

DTC	U1300-55	Software Configuration Error-Not Configured

Description

DTC	DTC Definition	Possible Cause
U1300-55	Software Configuration Error-Not Configured	EOL configuration error

Caution:

- Possible cause for malfunction: ACU is not configured with EOL or sample is error.

1	ACU is configured with EOL

(a) Use circuit diagram as a guide to perform the following procedures:
(b) Refer to "Preparations before dealing with airbag system wire harness malfunction";

Result

Go to
OK

OK → **For inspection, Refer to "Airbag system malfunction repair completion inspection"**

ON-VEHICLE SERVICE

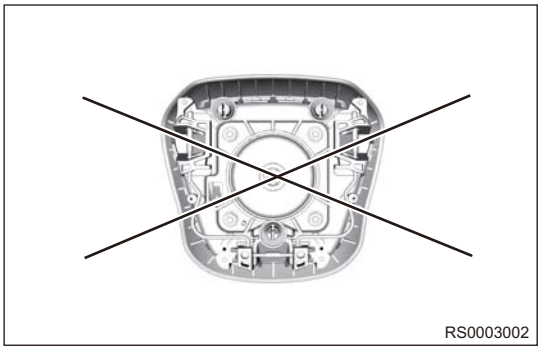
Driver Airbag Assembly

On-vehicle Inspection

Warning/Caution/Hint

Caution:

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


RS0003002

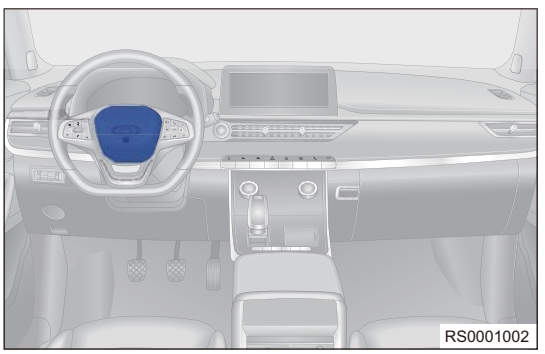
Hint:

If driver airbag assembly contact plate is deformed, never repair it. Always replace it with a new one. There should not be any contact between driver airbag assembly and steering wheel, and keep an uniform clearance all around, when installing new driver airbag assembly onto the steering wheel.

Caution:

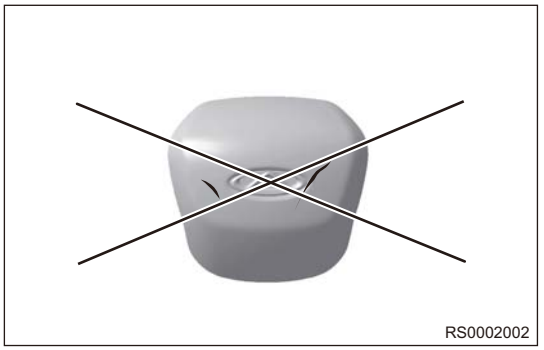
- Handle airbag assembly and airbag control module assembly carefully, and never tap or strike them fiercely.
- Removal, inspection and installation of airbag system must meet relevant requirements and specifications, and never perform operation casually.
- Removed airbag should be kept properly with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

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


RS0001002

2. Check the driver airbag assembly (vehicle is involved in a collision and airbag is not deployed).
   (a) Perform the diagnosis system inspection.

(b) Perform visual inspection with the driver airbag assembly removed from vehicle.
Check wire harnesses for cuts and cracks, and if connectors are chipped.
Check steering wheel for deformation.



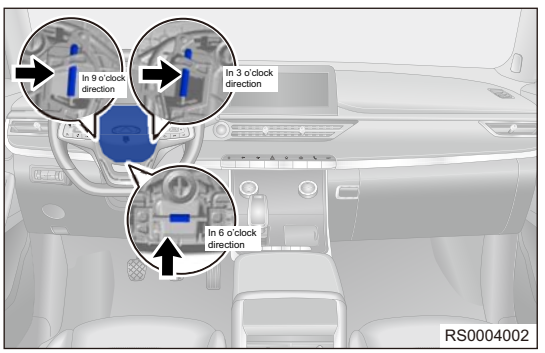
Removal

Warning/Caution/Hint

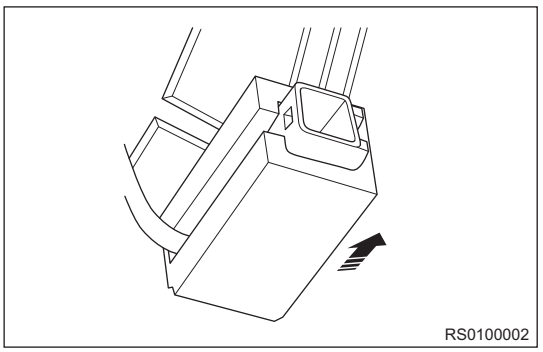
Warning:

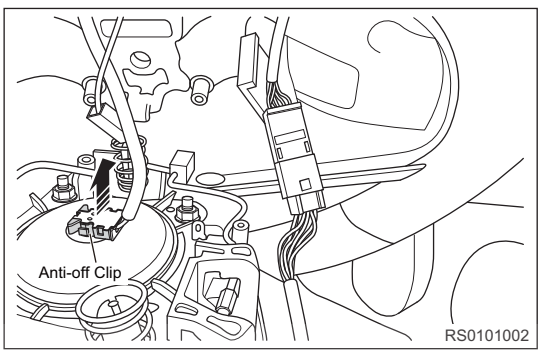
- Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.
- DO NOT damage the airbag wire harness when handling airbag assembly wire harness connector.
- DO NOT pull the airbag wire harness when removing driver airbag assembly.
- DAB installation and repairing must be performed with power off, and it's strictly forbidden to install, remove and rework DAB on any production line with power on. DAB replacement and repairing must be performed with power off. Within 30s of vehicle stalling or fused removed (refer to Technology Instruction for Wire Harness System Assembly), sufficient power to deploy airbag is still remained inside airbag controller, so it's necessary to perform repairing after 30s since the power of airbag controller is cut off.
- In order to avoid DTC, never energize airbag system before connecting all airbag system components (including DAB) and performing diagnostic inspection;
- Keep space in area for storing DAB to prevent accidental deployment of DAB. If there is no deployment space, accidental deployment of DAB may injure human body or damage the vehicle.
- If DAB falls down from a position higher than 1 m, please do not reuse it and insulate it.
- Handle DAB carefully, and never tap or strike it fiercely.
- Assembly, detection and removal of DAB must meet relevant requirements and specifications, and never perform operation casually.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the driver airbag assembly.
   (a) Position the front wheels straight ahead.
   (b) Using a slotted screwdriver, remove DAB in sequence through 3 removal holes in locations of 3 o'clock, 9 o'clock and 6 o'clock on steering wheel. Insert the screwdriver into removal hole of 3 o'clock position on steering wheel in removal direction and push it further lightly when reaching to snap spring until a "click" sound is heard, which means that the clip is detached, and the corresponding side of airbag will be bounced up. Then perform removal in 9 o'clock direction with the same method as above. Finally perform removal in 6 o'clock direction, and then take up the whole DAB module from steering wheel lightly with both hands.

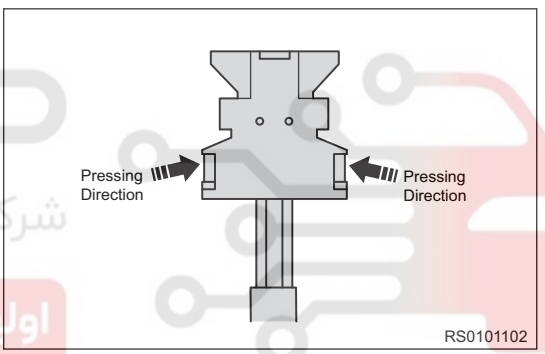


(c) Removal of multi-function switch wire harness connector: Remove switch wire harness connector in direction as indicated in illustration.

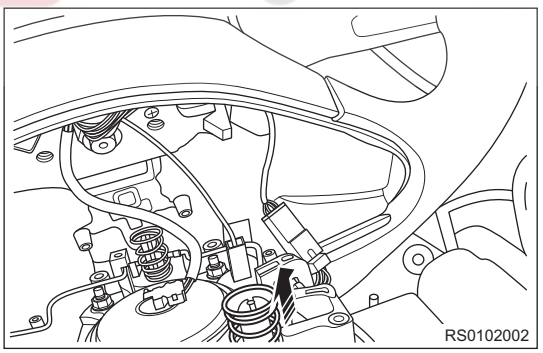




(d) Removal of clock spring DAB connector: While taking up DAB with one hand, use 2 fingers of the other hand to press and hold lock clips of both sides in "pressing direction" as indicated in illustration and then remove DAB connector in removal direction.



(e) Removal of horn connector: Remove horn connector in direction as indicated in illustration.



40

Installation

Warning/Caution/Hint

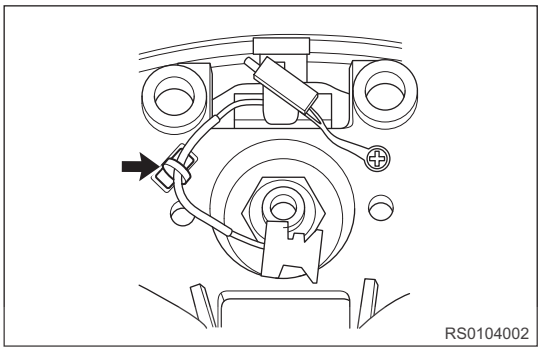
Caution:

- Confirm that label part number in DAB and configuration card part number in vehicle matches before assembly.
- Then check DAB cover plate surface for trimming, residual, air vent, scratches, galling etc.; it's also forbidden for defects such as inclusion and dents etc. Peel off a bar code after inspection and attach it to record card in vehicle.
- Install the DAB after completing the steering wheel;
- Make sure that the ignition key cylinder is in OFF state during installation and never install it with power on;

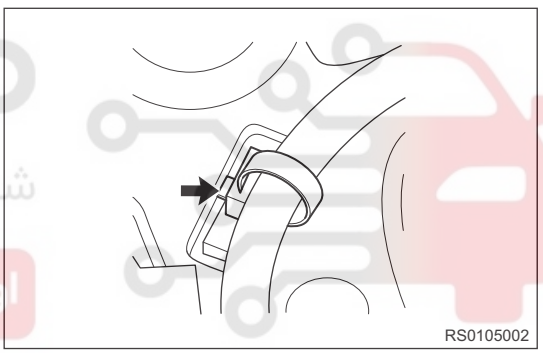
- Make sure that all connectors are securely connected and the wire harness is fixed in the set slot before pressing DAB into steering wheel;
- After installing the DAB, airbag light is normal after the power is turned on, ensure that the horn pressing function is normal;
- Press periphery and center part of DAB cover with palms to make sure that the pressing operation is smooth without sluggish.

1. Pass airbag connector on clock spring side through the ribbon hole and zip up the ribbon and cut out the unnecessary ribbon tail part with a scissor. Connect airbag connector on clock spring to generator in DAB in pressing direction as indicated in illustration until a "click" sound is heard. The connector plane and generator port fitted flatly indicates that the connector is installed in place.

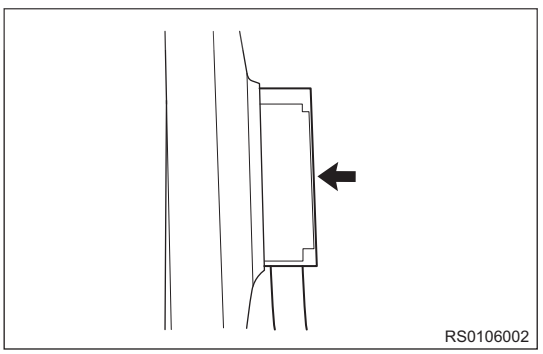
   (a) Install the airbag connector and ribbon on clock spring side.


RS0104002

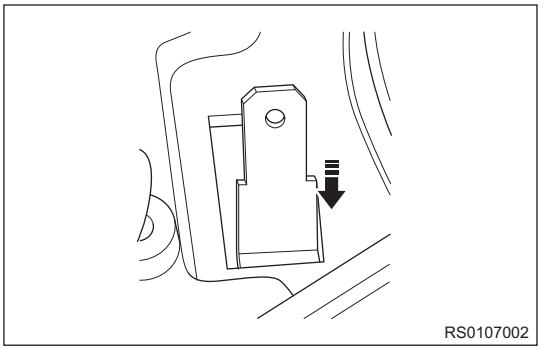
   (b) Tighten the ribbon firmly and cut out the unnecessary part.


RS0105002

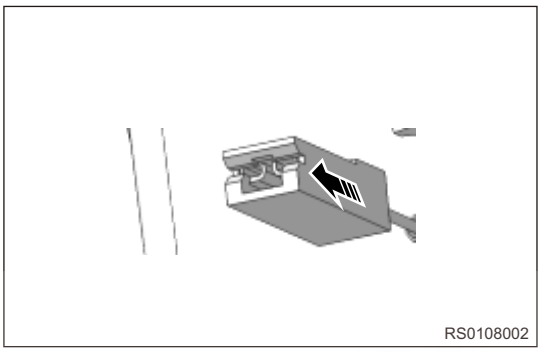
   (c) Press the airbag connector on clock spring side to the connector on generator in direction of arrow to flatten them.


RS0106002

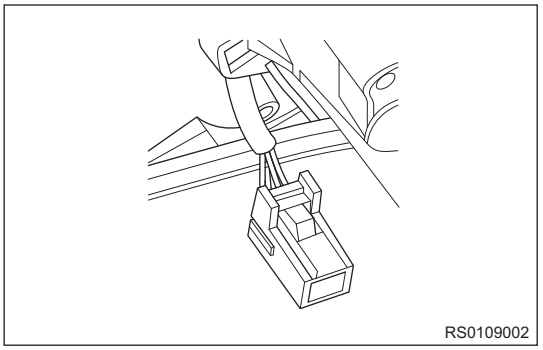
2. Connect horn connector on clock spring to horn metal plate on DAB side in direction as required.

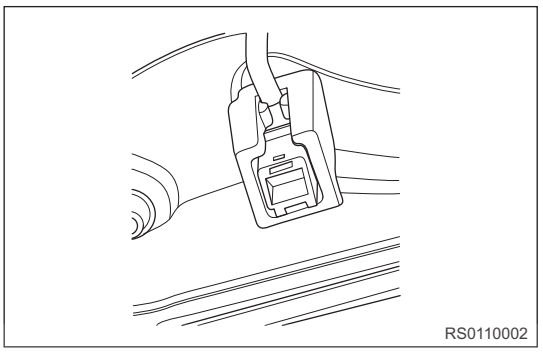

RS0107002

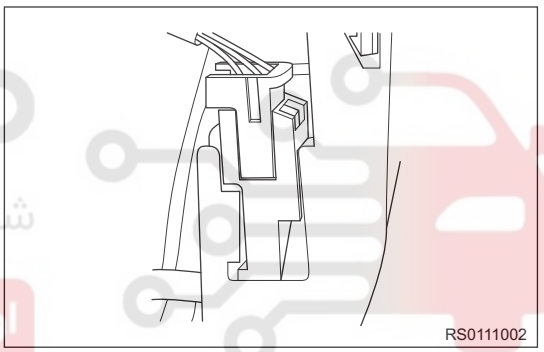
(a) Insert the horn connector into horn metal plate on DAB side in direction of arrow.


RS0108002

3. Connect DAB multi-function switch connector to the corresponding port on steering wheel until a "click" sound is heard, which means that the connector is connected in place. Then press the oppositely connected connector to the bottom of steering wheel fixing hole for fixing.

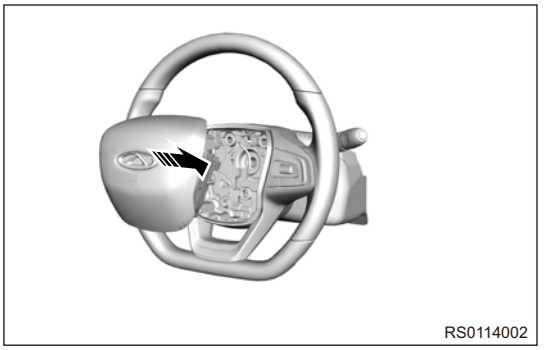

RS0109002

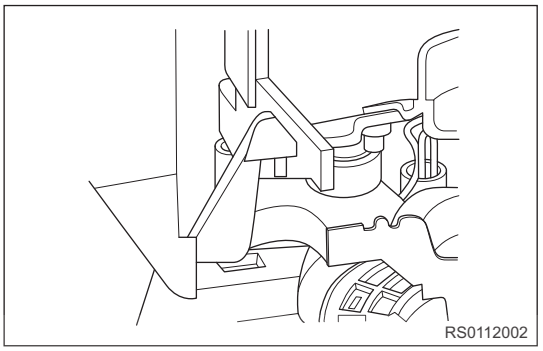

RS0110002


RS0111002

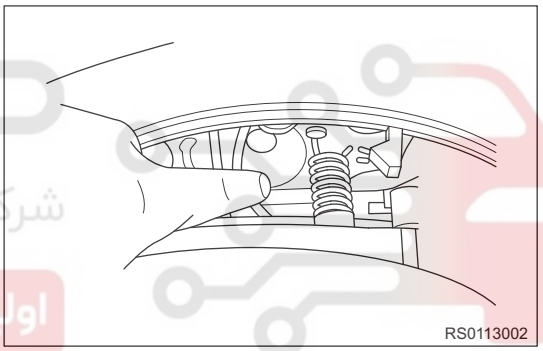
(a) Connect DAB multi-function switch connector to the corresponding port on steering wheel and press the inserted connector to the bottom of steering wheel fixing hole for fixing.

4. DAB on T18 model uses press-in type installation structure without using any installation tool. Place DAB on steering wheel and toggle horn wire harness to the center of steering wheel in direction as indicated in illustration. After confirming that locating pillar aligns with steering wheel, press center part of airbag trim cover with palms of both hands until a "click" sound is heard, which means that the airbag and steering wheel have been fixed and installation is completed.


RS0114002


RS0112002

(a) Press the center part of steering wheel by hand in direction of arrow until a "click" sound is heard, indicating that the installation is completed.


RS0113002

Front Passenger Airbag Assembly

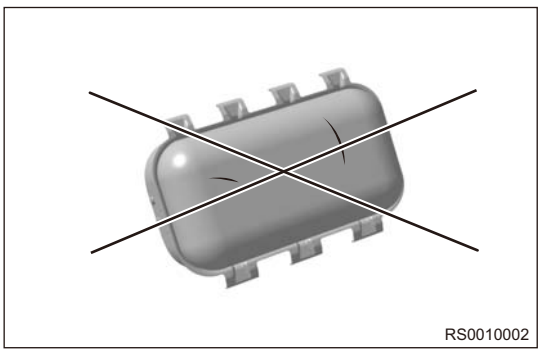
On-vehicle Inspection

Warning/Caution/Hint

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

1. Check the front passenger airbag assembly (vehicle is involved in a collision, but airbag is not deployed).

   (a) Perform the diagnosis system inspection.


RS0010002

   (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.

Removal

Warning/Caution/Hint

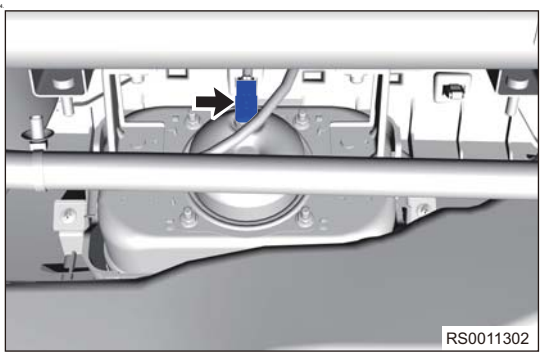
- Handle airbag assembly and airbag control module assembly carefully, and never tap or strike them fiercely.
- Removal, inspection and installation of airbag system must meet relevant requirements and specifications, and never perform operation casually.
- Removed airbag should be kept properly with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

Caution:

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

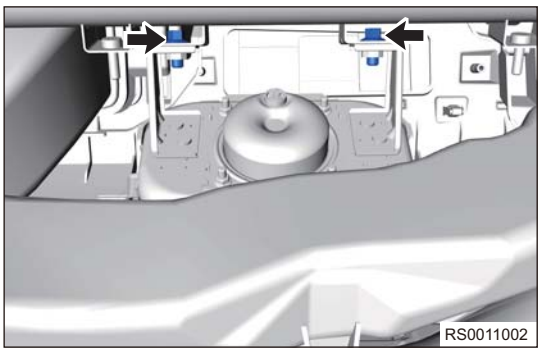
1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the glove box assembly (See page 58-13).
   Click here

   (a) Remove the front passenger airbag assembly wire harness connector assembly (arrow).


RS0011302

(b) Remove 2 coupling bolts (arrow) between front passenger airbag assembly and instrument panel crossmember assembly. (Torque: 23 ± 2 N·m).

Tightening torque
23 ± 2 N·m

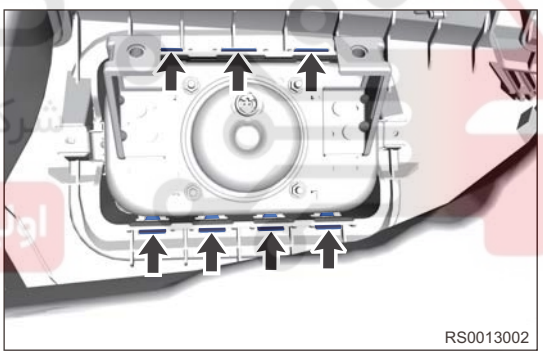


5. Remove the instrument panel upper body assembly.
6. Remove the front passenger airbag assembly.

(a) Remove 2 fixing screws (arrow) between front passenger airbag and instrument panel.

Tightening torque
2.5 ± 0.5 N·m

(b) 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 body assembly.



(c) Remove the front passenger airbag assembly.

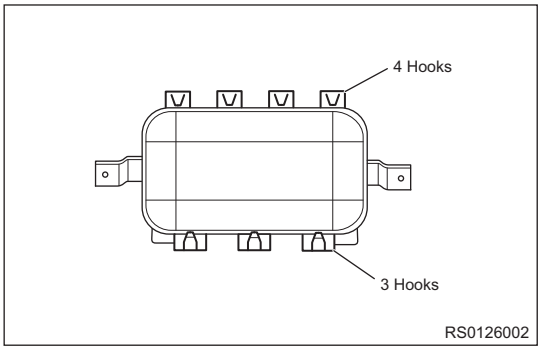
Installation

Warning/Caution/Hint

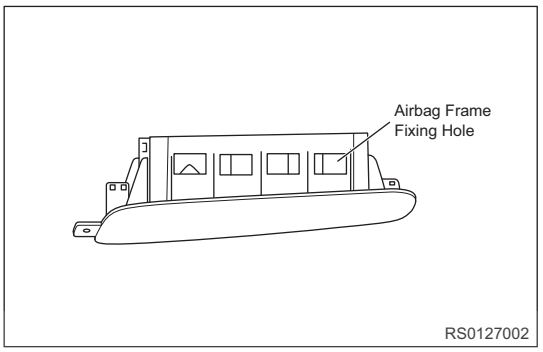
- Before installing tightening bolts, always make sure that airbag wire harness is not held down or stuck. Adjust if necessary and install it in place.
- Make sure to tighten fixing bolts to specified torque during installation.
- When installing front passenger airbag assembly, first slide the hook 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 the front passenger airbag assembly with vehicle power on.
- Check ACU warning light after installation, and make sure that supplemental restraint system operates normally.

1. Detailed description and technology requirements during assembly

(a) Inspect and confirm that parts surface should be free of chips and damages and labels and bar codes should be intact and clear before assembly; Peel off one bar code after inspection and attach it to record card in vehicle;

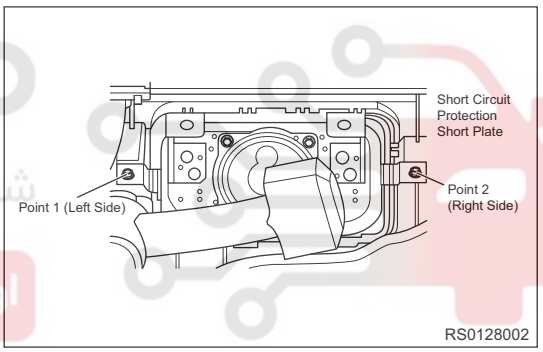


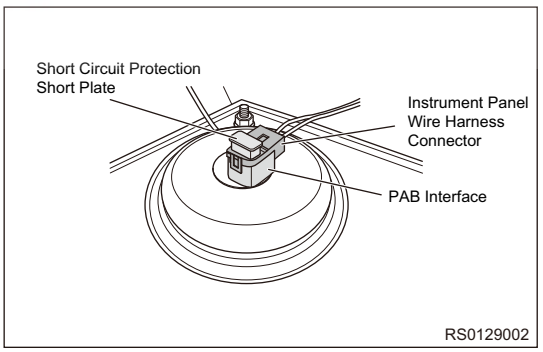
(b) PAB should be installed firstly to instrument panel upper body. Place PAB entirely into airbag bracket on back side of instrument panel upper body. First hang 3 hooks into fixing holes in airbag frame, then press 4 hooks on the other side firmly into bracket holes and make sure that hooks on both sides have been put into the corresponding fixing holes.



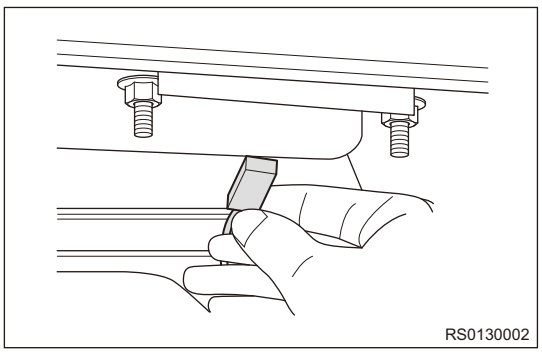
(c) Using 2 cross-recessed button head self-tapping screws, tighten front passenger airbag assembly to instrument panel airbag frame. First tighten point 2 on right side, then tighten point 1 on left side and finally tighten fixing bolts with installing tools according to set torque value.

Tightening torque:
2.5 ± 0.5N·m



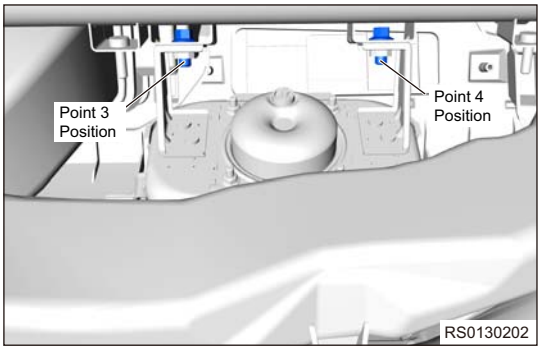


(d) After putting instrument panel body into packing machine, insert instrument cluster wire harness connector into PAB generator port while keeping the connector fitting flatly with the generator. And press down short-circuit plate to keep its upper surface be flush with connector surface on wire harness end, which indicates that it is installed in place. PAB port has failure-proof function and it's forbidden to connect forcibly;



(e) After installing instrument panel body, pre-tighten 2 bolts of PAB to CCB bracket in glove box port. Tighten point 3 on left side, then tighten point 4 on right side and finally tightens bolts with installing tools according to set torque value.

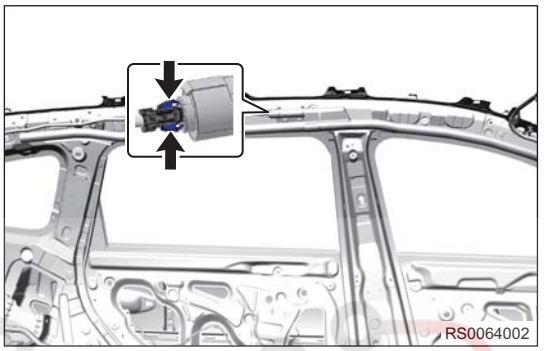
Tightening torque:
23 ± 2N·m



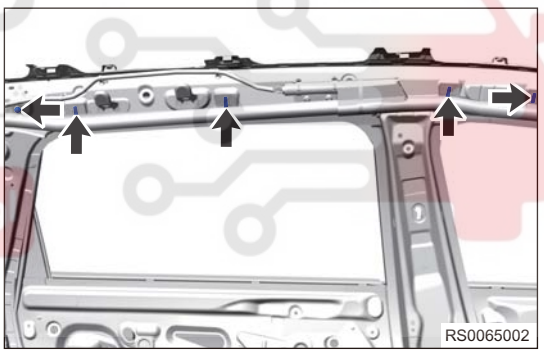
Removal and Installation of Side Curtain Shield Airbag (CAB) (Use same removal/installation procedures for left and right sides)

Removal (Take left side as an example)

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable and wait for 90 seconds.
3. Remove protector and roof.
   Click here
4. Remove the seat belt retractor.
   Click here
5. Remove the left curtain shield airbag.
   (a) Unplug the curtain shield airbag plug (arrow).

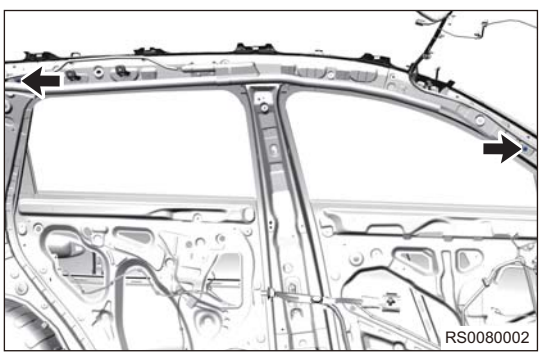


   (b) Use needle nose pliers to remove the airbag clips (arrow) that fix CAB in turn.



   (c) Remove 1 fixing bolt (arrow) from metal end plate of A-pillar airbag strap.

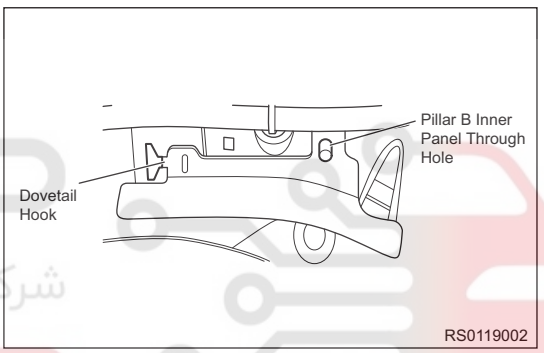
   Tightening torque
   10 ± 1N·m



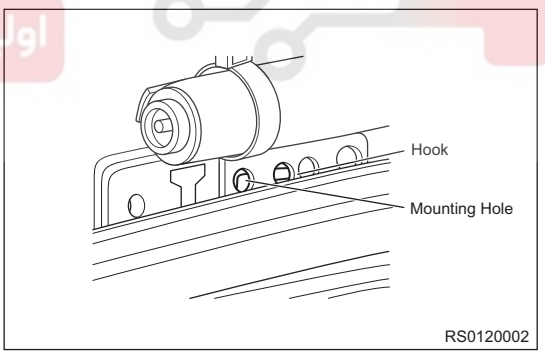
Installation (Use same procedures for left and right sides)

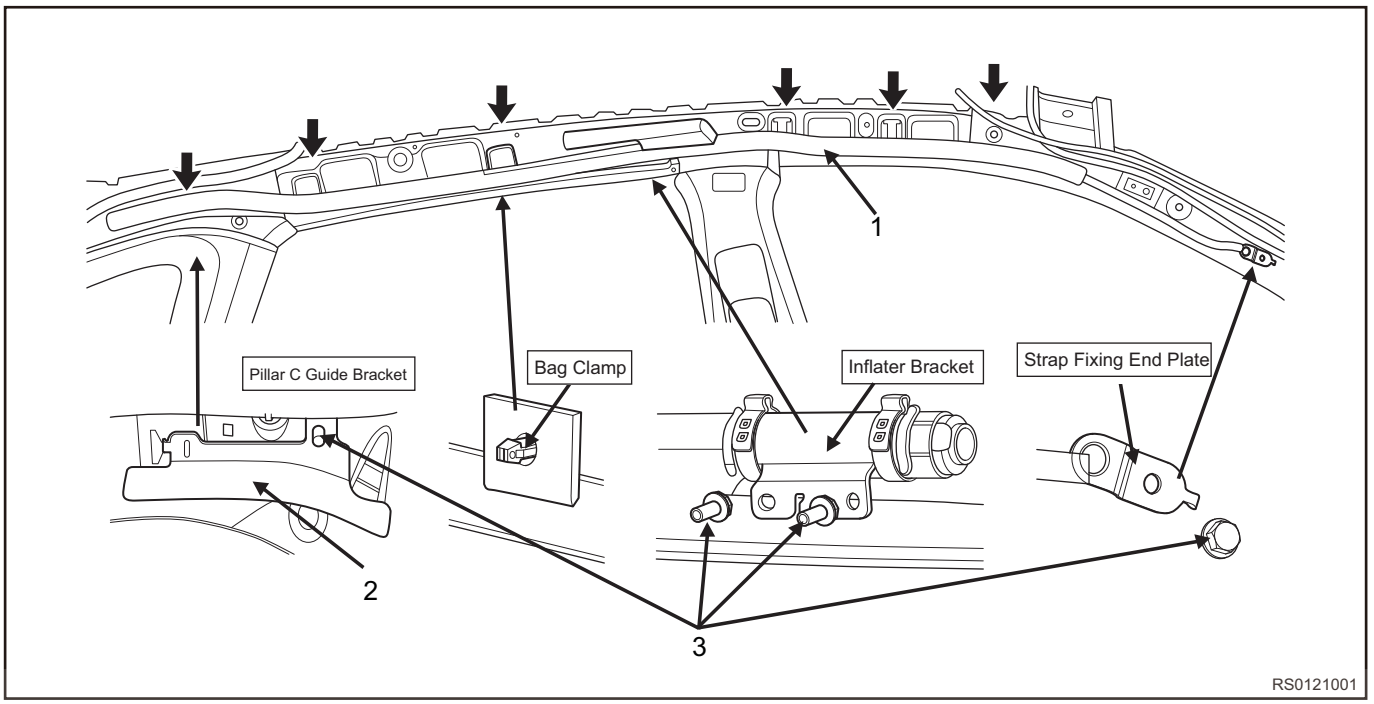
Warning/Caution/Hint

- It is essential to check if protecting bag stitching of air bag is in lower part of air bag during assembly.
- Air bag on each armrest installation bracket should be in lower part of armrest bracket. If air bag covers armrest installation bracket, it's necessary to adjust air bag to lower part of the bracket with hands.
- Always keep vehicle power off during installation. It is forbidden to install the airbag controller assembly with vehicle power on.
- Air bag on C pillar guide bracket should be in upper part of guide bracket. After assembling air bag clip, it's necessary to adjust air bag to upper part of C pillar guide bracket with hands.
- During assembly, insert locating pin of the sensor into waist-shaped locating hole.
- Check that airbag components surface should be free of damages before assembly and labels and bar codes should be intact and clear; it's also necessary to check that CAB installation area on vehicle body should be free of rags, sharp corners, welding spatters etc.
- Be sure to follow correct procedures to remove and install side curtain shield airbag.
- Check that airbag components surface should be free of damages before assembly and labels and bar codes should be intact and clear; it's also necessary to check that CAB installation area on vehicle body should be free of rags, sharp corners, welding spatters etc.; peel off one bar code after the checking and attach it to record card in vehicle.
- Temporary install C pillar guide bracket to vehicle body with hooks (hang swallow tail hook into vehicle body swallow tail groove and then hang the hook beside bolt hole into vehicle body hole) and then tighten it to vehicle body with bolt through bolt hole.

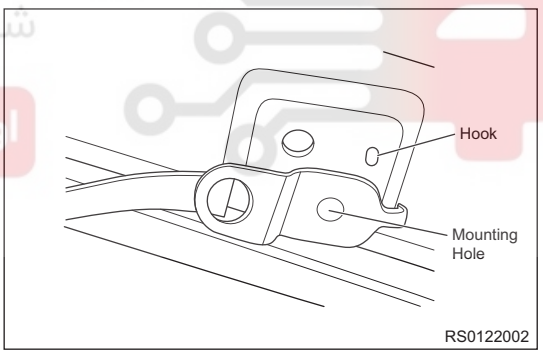


- Hang the hook on CAB generator bracket into vehicle body swallow tail groove and then press clip into the corresponding installation hole in vehicle body; lightly hold the air bag with one hand and use tools to pre-tighten round hole and then waist-shaped hole on CAB generator bracket with the other hand and finally tighten the bolt to vehicle body according to torque requirements.

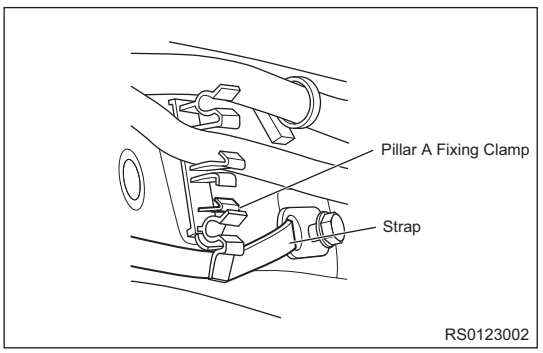




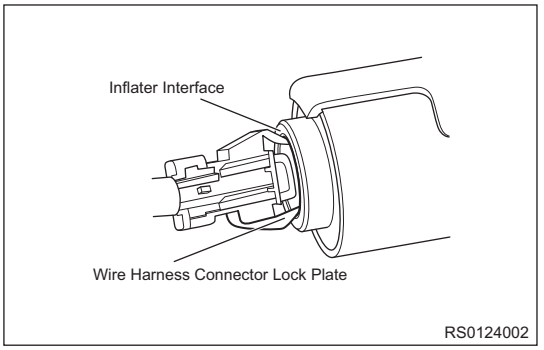
- Press 6 air bag clips (equipped with the generator) on front and rear part of generator into the corresponding installation holes in vehicle body in sequence; protecting bag stitching of air bag must be in lower part of air bag during assembly, the last 6# clip hole in vehicle body is on C pillar metal, it's necessary to perform the installation strictly as indicated in illustration and it's forbidden to clip into peripheral hole forcibly; Check if all clips are firmly secured by pulling lightly. (See illustration above)



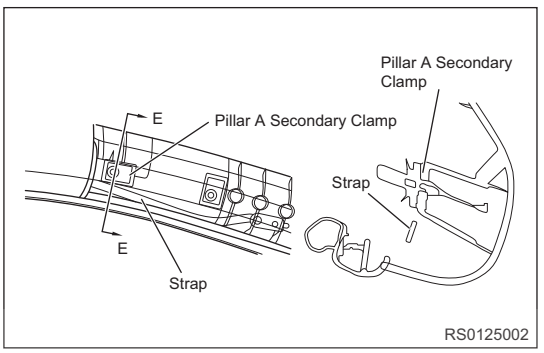
- First hang the hook on strip fixing end plate into hook hole in vehicle body and now strip should operate normally and then tighten the bolt to vehicle body; then clip strip into A pillar fixing clip.



- Insert the connector on wire harness end into generator end and make sure that the connector is assembled into place. Insert wire harness end connector directly into generator end and a "click" sound indicates that it is installed in place; the port has failure-proof function and do not insert it forcibly.



- When assembling A pillar protector, perform fine adjustment of strip with hand. After controlling strip under A pillar secondary clip, fix A pillar protector according to assembly instruction manual of pillar protector system.

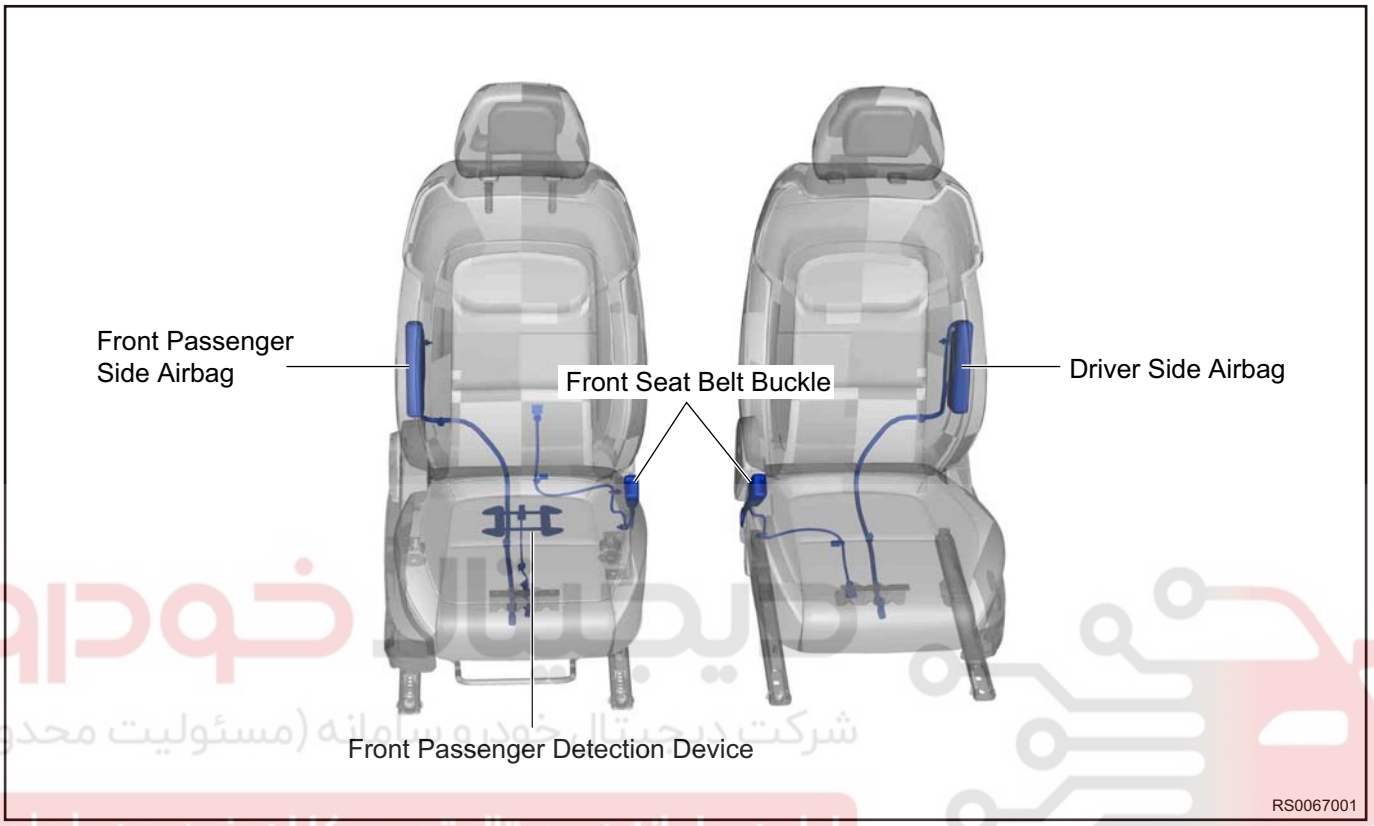


1. Installation is in the reverse order of removal.

Front Passenger Side Airbag

Description

1. Installation positions of front passenger side airbag, front passenger seat belt buckle and front passenger detection device.



Caution:

- Airbag resistance on seat: 2.0 + 0.5 / -0.3Ω, it's strictly forbidden to measure resistance with multimeter.
- Front passenger side airbag is non-removable and must be removed together with seat assembly.
- Passenger loading status: When detected external resistance is lower than 100 Ω, it's judged that there is passenger. When resistance is higher than 400 Ω, it's judged that there is no passenger.

Spiral Cable

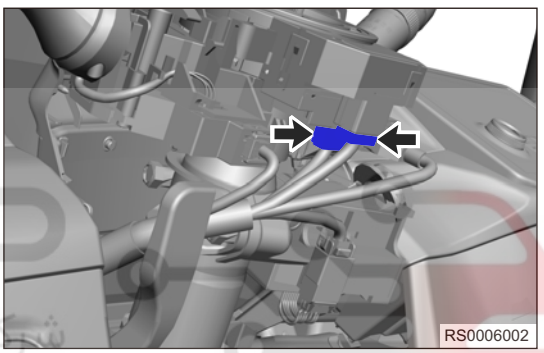
Removal

Warning/Caution/Hint

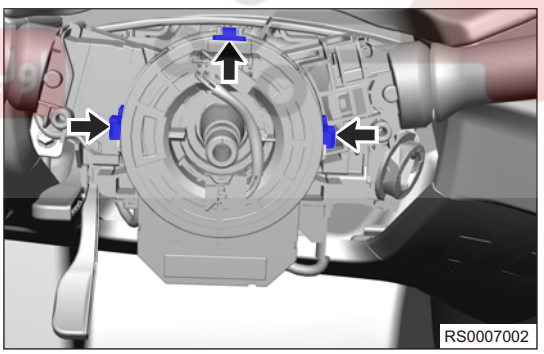
Caution:

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

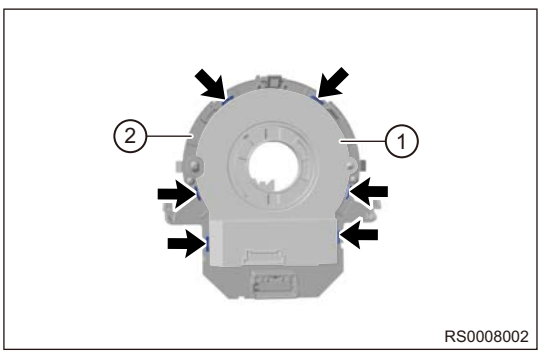
1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Position the front wheels straight ahead.
4. Remove the steering wheel assembly (See page 38-30).
   Click here
5. Remove the combination switch cover assembly.
   Click here
6. Remove the spiral cable.
   (a) Disconnect the spiral cable wire harness connector (arrow) and angle sensor connector (arrow).



   (b) Detach the fixing claws (arrow) between spiral cable and combination switch assembly.



   (c) Detach the angle sensor fixing claws and separate the angle sensor (1) and spiral cable (2).



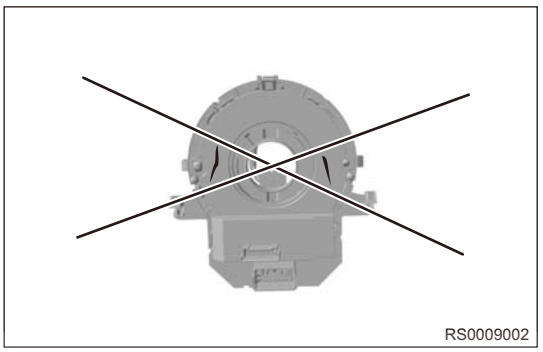
Inspection

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.

1. Check the spiral cable.

   (a) Check that there are no scratches or cracks on connectors, or no cracks, dents or chipping on the cable.


RS0009002

   (b) If there are scratches, cracks, dents or cuts on connectors or spiral cable, replace the spiral cable with a new one.

2. Remove spiral cable and measure pin 1 and pin 2

   Use circuit diagram as a guide to perform the following procedures:

   (a) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable and wait for at least 90 seconds.

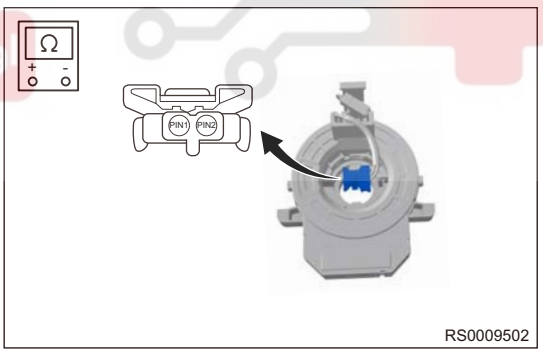
   (b) Remove the single piece of spiral cable.

   (c) Using ohm band of multimeter, measure resistance between 2 pins of spiral cable.

   Specified Condition

Multimeter Connection	Condition	Specified Condition
PIN1–PIN2	ENGINE START STOP switch "OFF"	⩽ 1 Ω

   If result is not as specified, replace spiral cable assembly.

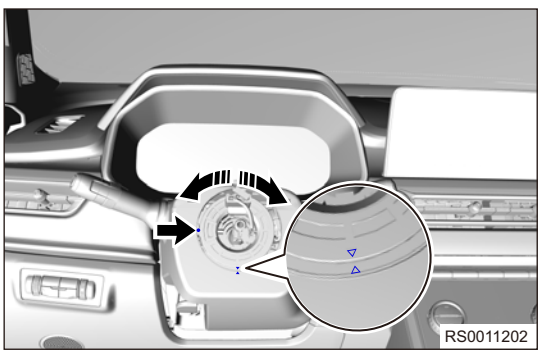


RS0009502

Installation

Hint:

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


RS0011202

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 ACU warning light after installation, and make sure that supplemental restraint system operates normally.

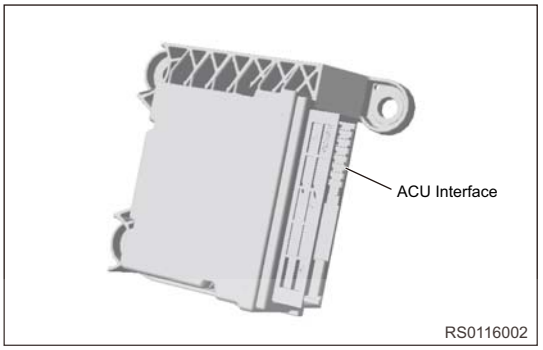
1. Installation is in the reverse order of removal.

Airbag System Controller

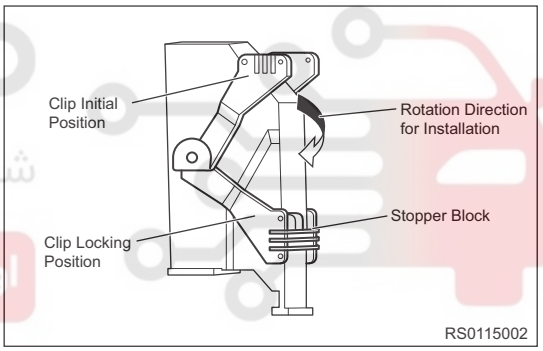
Removal

Warning/Caution/Hint

- Be sure to follow correct procedures to remove and install airbag system controller.
- Inspect and confirm that part number in ACU label matches with configuration card part number in vehicle; parts surface should be free of chips and labels and bar codes should be intact and clear before assembly; Peel off one bar code after inspection and attach it to record card in vehicle;
- Place ACU module on passage bottom panel in body with arrow direction in label facing vehicle head while aligning 3 installation holes of ACU with vehicle body projection welding nut hole. Pre-tighten the bolts and tighten 3 bolts to specified torque with a tool;



- Insert wire harness connector into ACU port: Rotate fuse clip from initial position to final lock position following installation rotation direction and make sure that fuse clip goes over stop block. Generally a "click" sound will be heard, which indicates that fuse clip has been clamped into place. Make sure that fuse clip is in initial position before installation. ACU port has failure-proof function, which causes impossible inserting with incorrect configuration, so never assemble it forcibly.

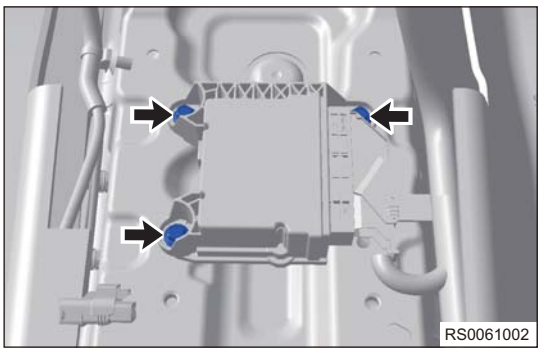


- Peel off the entire bar code and attach it to record card in vehicle for relevant information tracing.
- ACU ignition circuits are divided into 2 circuits, 4 circuits, 9 circuits separately and first confirm the vehicle configuration information during installation.
- Handle ACU carefully and it's strictly forbidden to tap and crash it fiercely.
- There should be no other objects between ACU installation plane and ACU and ACU must be installed directly on body panel.
- When installing and tightening bolts of ACU, make sure that start button is in OFF and it's forbidden to install it with power on.
- Reconfirm the installation direction of airbag controller assembly after installation and make sure that label arrow direction is facing vehicle head. If fitted reversely, airbag controller assembly will not operate normally.

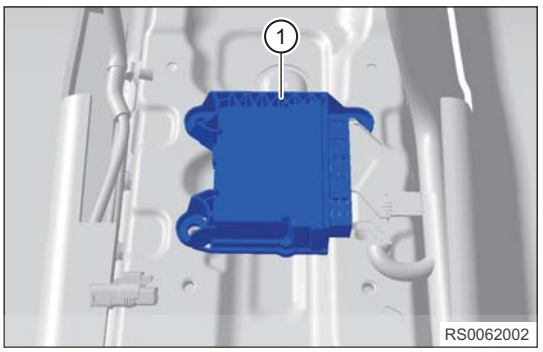
1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable and wait for 90 seconds.
3. Remove the auxiliary fascia console assembly (See page 58-7).
   Click here
4. Remove the airbag controller assembly.

(a) Remove 3 fixing bolts (arrow) from airbag controller.

Tightening torque
9 ± 1 N·m


RS0061002

(b) Press lower limit clamp to separate it from wire harness connector and remove airbag controller assembly (1).



RS0062002

Installation

Warning/Caution/Hint

- Before installing tightening bolts, always make sure that airbag wire harness is not held down or stuck. Adjust if necessary and install it in place.
- Make sure to tighten fixing bolts to specified torque during installation.
- Always keep vehicle power off during installation. It is forbidden to install the airbag controller assembly with vehicle power on.
- Check ACU warning light after installation, and make sure that supplemental restraint system operates normally.

1. Installation is in the reverse order of removal.

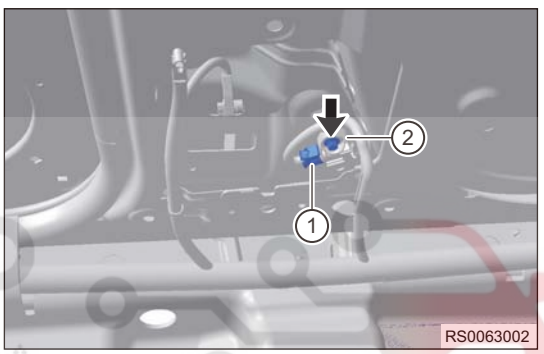
Removal and Installation of Side Collision Sensor (Use same installation procedures for left and right sides)

Removal (Take left side as an example)

Warning/Caution/Hint

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable and wait for 90 seconds.
3. Remove front left doorsill pressure plate, rear left doorsill pressure plate and left B-pillar lower protector.
   Click here
4. Remove the seat belt retractor.
   Click here
5. Remove the side collision sensor.
   (a) Loosen and unscrew fixing bolt (arrow) and unplug connector (1) and remove sensor assembly (2).

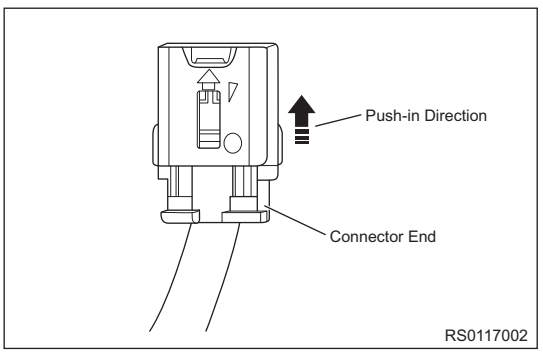
   Tightening torque
   9 ± 1 N·m



Installation

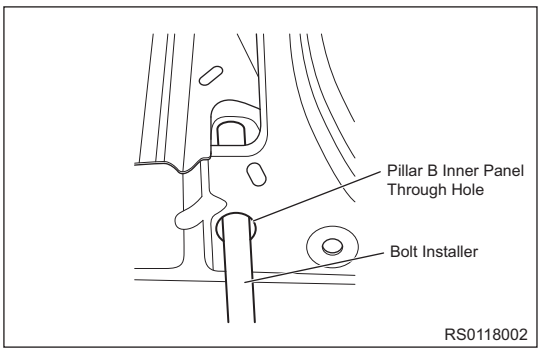
Warning/Caution/Hint

- Before installing tightening bolts, always make sure that airbag wire harness is not held down or stuck. Adjust if necessary and install it in place.
- Make sure to tighten fixing bolts to specified torque during installation.
- Always keep vehicle power off during installation. It is forbidden to install the airbag controller assembly with vehicle power on.
- Check ACU warning light after installation, and make sure that supplemental restraint system operates normally.
- During assembly, insert locating pin of the sensor into waist-shaped locating hole.
- Be sure to follow correct procedures to remove and install side collision sensor.
- Insert wire harness connector into side collision sensor port and generally a "click" sound will be heard after pushing into connector end to lock, which indicates that it is clamped into place; connector port has failure-proof function. If it cannot be inserted, adjust and insert it again and do not insert it forcibly.



- Install SIS waist-shaped pin into waist-shaped hole of B pillar reinforcing plate and bolt installation hole of SIS and bolt installation hole on B pillar reinforcing plate are aligned basically.

- Pass bolt installation tool through B pillar inner plate through hole and tighten SIS to B pillar reinforcing plate metal sheet according to torque requirements with bolt.



1. Installation is in the reverse order of removal.

Front Seat Belt Assembly

Front Seat Belt Assembly

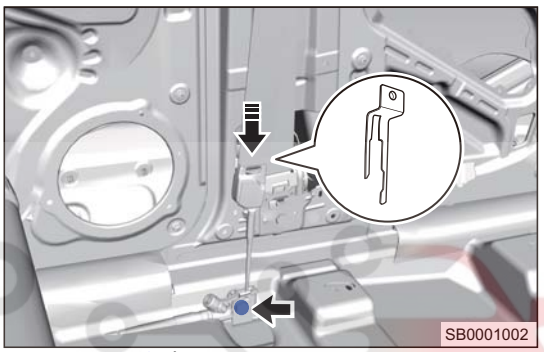
Removal

- 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.
- Try to prevent interior from being scratched, when removing front seat belt assembly.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the left B-pillar lower protector assembly (See page 62-16).
4. Remove the front left seat belt assembly.

(a) Using special tool, insert pretensioner end plate in direction of arrow to disengage front seat belt and remove fixing bolts (arrow) from pretensioner end plate.

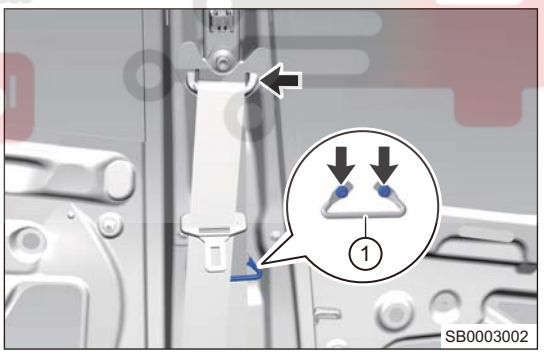
Tightening torque
Tightening torque: 50 ± 5 N·m


SB0001002

(b) Remove the left B-pillar upper protector assembly (See page 62-17).

(c) Remove 1 fixing bolt (arrow) from upper part of front seat belt assembly and 2 fixing screws from seat belt assembly fork bracket.

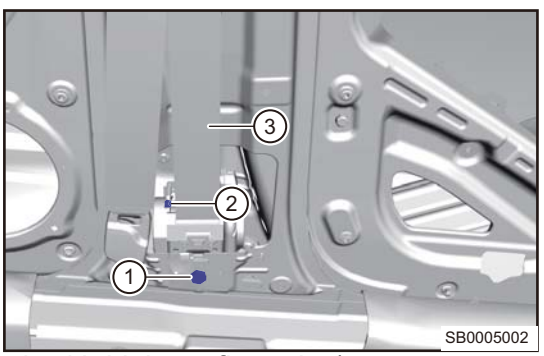
Tightening torque:
50 ± 5 N·m
Tightening torque:
2.5 ± 0.5 N·m



SB0003002

(d) Remove front seat belt retractor fixing bolt (1).

Tightening torque:
50 ± 5 N·m



SB0005002

(e) Remove front seat belt retractor connector (2). (Seat belt with high configuration)
(f) Remove the front left seat belt assembly (3).

Rear Seat Belt Assembly (Take left side as an example)

Removal

Hint:

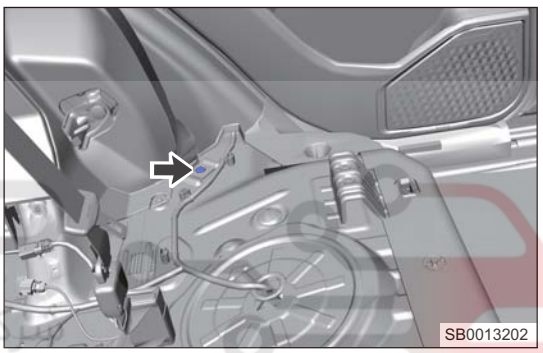
- Use same procedures for right and left sides.
- Procedures listed below are for left side.

Caution:

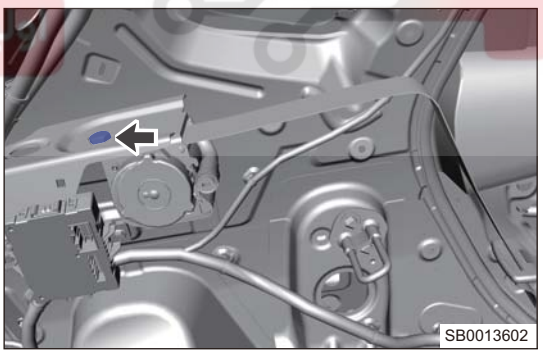
Warning/Caution/Hint

- Be sure to wear safety equipment to prevent accidents, when removing rear seat belt assembly.
- Appropriate force should be applied, when removing the rear seat belt assembly. Be careful not to operate roughly.
- Try to prevent interior from being scratched, when removing rear seat belt assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear seat belt assembly.
   (a) Remove the rear seat belt lower end plate protective cover (arrow).
   (b) Remove the rear seat belt lower fixing bolt (arrow).



   (c) Remove the C-pillar upper and lower protector assembly.
   (d) Remove 1 fixing bolt (arrow) from retractor assembly and remove T-type hook of retractor assembly from mounting board.



   (e) Remove the rear left seat belt assembly.

Installation

Warning/Caution/Hint

Caution:

- When installing rear seat belt assembly, keep the seat belt assembly clean without oil attached and check the seat belt assembly for damage.
- Be sure to tighten all fixing bolts and fixing screws to specified torque when installing rear seat belt assembly.
- Be sure to perform assembly of vehicle in accordance with BOM strictly. It is not allowed to replace the parts assembly without permission.
- During assembly of vehicle, tighten parts with specified torque in list strictly.
- It is not allowed to replace the components of parts assembly without permission, such as bolt, washer etc.

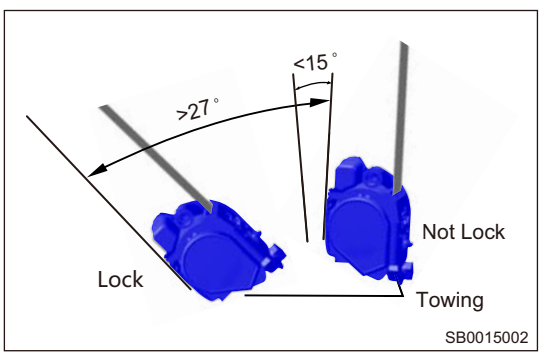
- If the parts assembly is accidentally dropped during handling and installation, please check the plastic parts of parts assembly (such as retractor) for cracks. If there is crack, insulate and dispose it after packaging and marking to prevent accidental injury.
- It is necessary to check whether the seat belt is in good condition before installing it; Pull the webbing and lock the buckle after assembling to ensure that the webbing can be extended and retracted smoothly, the buckle can be locked and unlocked normally. Make sure that there are no objects (such as tools, etc.) can scratch the webbing during assembling the seat belt.

1. Install the rear seat belt assembly.
   (a) Install rear left seat belt assembly to a proper position.
   Tightening torque:
   50 ± 5N·m
   (b) Insert the seat belt pretensioner connector of interior wire harness into the gas generator connector of retractor and press the lock button, ensure that the connector is connected properly and clamped in place (connecting angle is 45).
   (c) Install the T-type hook of retractor to the retractor mounting board slot of C-pillar sheet metal, then install and tighten the retractor fixing bolt.
   Tightening torque:
   50 ± 5N·m
   (d) Install C-pillar lower protector assembly, and pass the locking tab and webbing through the hole of C-pillar lower protector.
   (e) Install and tighten 1 fixing bolt of rear left seat belt assembly lower end plate.
   Tightening torque:
   2.5 ± 0.5 N·m
   Warning:
   - The webbing between lower end plate and retractor should be smooth without any breakage and twist.
   - If the rear left seat belt assembly is limiting type belt with pretensioner, the resistance value is 2.15 ± 0.35 Ω, it's strictly forbidden to measure resistance with multimeter!
   - If the webbings on both sides of rear seat cannot be pulled out, it is necessary to make a preliminary judgment on the seat belt. If the seat belt is locked due to the sensitivity function of seat belt.
   - Judgment method: Slowly contract the webbing for 10-15 mm, and then pull out it slowly. If the seat belt can be pulled out normally and there are no other problems, the seat belt is normal. If the webbing can not be pulled out, further testing of seat belt is required.

Inspection

Warning/Caution/Hint
Caution:
- DO NOT disassemble the rear seat belt retractor.

Hint:
- For the range of locking angle, the retractor should be extended and retracted freely within 15° to each side. It can be locked or unlocked if the angel is between 15° and 27° while it must be locked if the angel is greater than 27°.



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

Check the rear seat belt retractor.

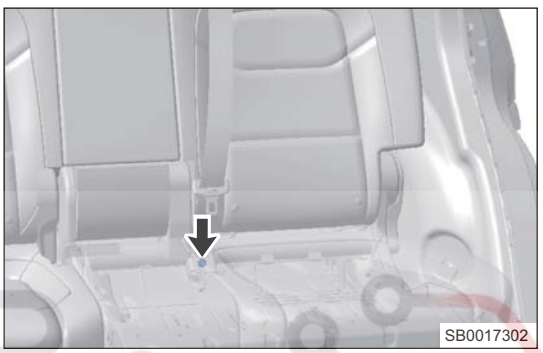
Rear Center Seat Belt Assembly

Removal

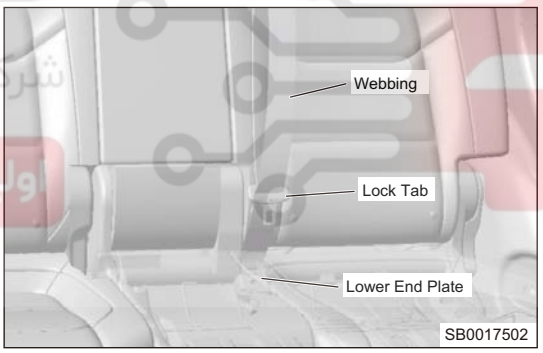
Caution:
Warning/Caution/Hint
- Be sure to wear safety equipment to prevent accidents, when removing center seat belt assembly.
- Appropriate force should be applied, when removing center seat belt assembly. Be careful not to operate roughly.
- Try to prevent interior from being scratched, when removing center seat belt assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the center seat belt assembly.

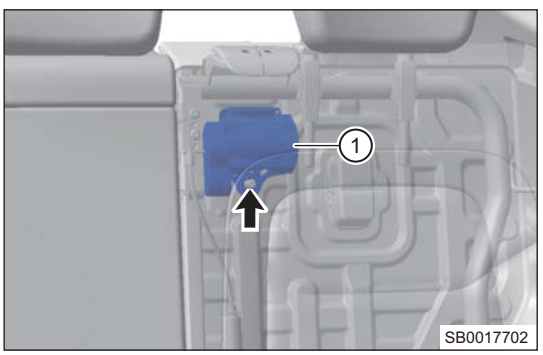
(a) Remove the center seat belt installation bolt (arrow).



(b) Insert the webbing, locking tab and lower end plate of the center seat belt assembly.



(c) Remove bolt (arrow) between retractor and seat frame, and take retractor (1) out of limit hook of seat frame and move it away.



Installation

Warning/Caution/Hint

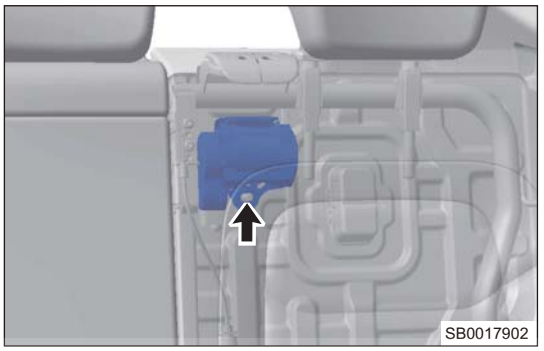
Caution:

- Pass the webbing, locking tab and lower end plate through the seat frame hole and prevent scratches.
- The above assembling operation should be carried out in seat factory. The bar code on rear center seat belt assembly should be peeled off after installing the rear left seat and attach it to the corresponding position on vehicle.
- The seat factory should test the above installation torque by a ratio of 100%.

1. Install the rear center seat belt assembly.

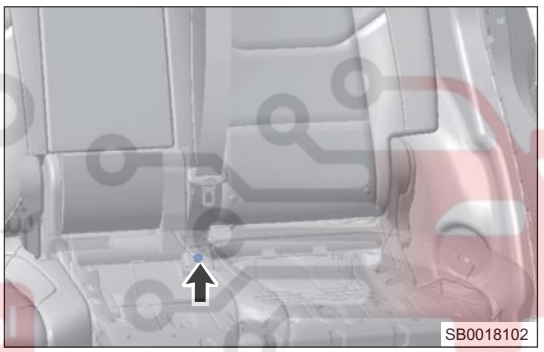
   (a) First take out the rear center seat belt assembly that is in good condition, hook the retractor mounting hole onto the seat frame mounting bolt, and align the retractor limit hook with seat frame limit hook, then pre-tighten the mounting nut (arrow) and tighten it (supplied by the seat supplier).

   Tightening torque:
   50 ± 5N·m


SB0017902

   (b) After above procedures are completed, pass the webbing, locking tab and lower end plate of rear center seat belt assembly through the seat hole. Tighten the mounting bolt (arrow) of lower end plate 1 to the bolt frame after passing through the webbing.

   Tightening torque:
   50 ± 5N·m


SB0018102

2. Connect the negative battery cable.

Inspection

Warning/Caution/Hint

Caution:

- DO NOT disassemble the rear seat belt retractor.

Hint:

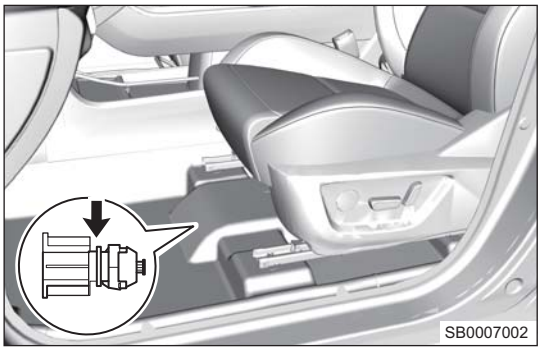
- Rear center seat belt is adaptive type and the angle is 45 ° backward and 35 ° forward, which is not locked.

Front Seat Belt Buckle Assembly

On-vehicle Inspection

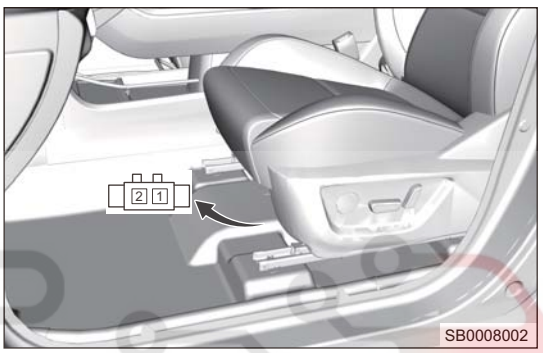
1. Check the front seat belt buckle assembly.

   (a) Disconnect the front seat belt buckle connector (arrow).



   (b) Measure resistance between terminals 1 and 2 of front seat belt buckle assembly connector with a digital multimeter.

   Under normal condition, the measured resistance should be ∞ Ω (no continuity) when front seat belt assembly is fastened; The measured resistance should be less than 1 Ω (continuity) when front seat belt assembly is unfastened.
   If result is not as specified, replace front seat belt buckle assembly.



40

Removal

Hint:

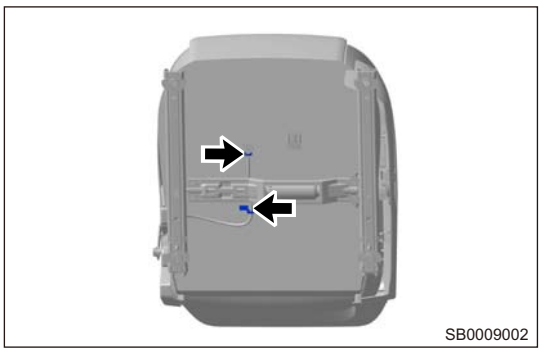
- Use same procedures for front passenger seat belt buckle assembly and driver seat belt buckle assembly.
- Procedures listed below are for driver seat belt buckle assembly.

Caution:

- Be sure to wear safety equipment to prevent accidents, when removing front seat belt buckle assembly.
- Try to prevent interior from being scratched, when removing front seat belt buckle assembly.
- Try to prevent wire harness and connector from being damaged, when removing front seat belt buckle assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front seat assembly (See page 59-12).
   Click here
4. Remove the driver seat belt buckle assembly.

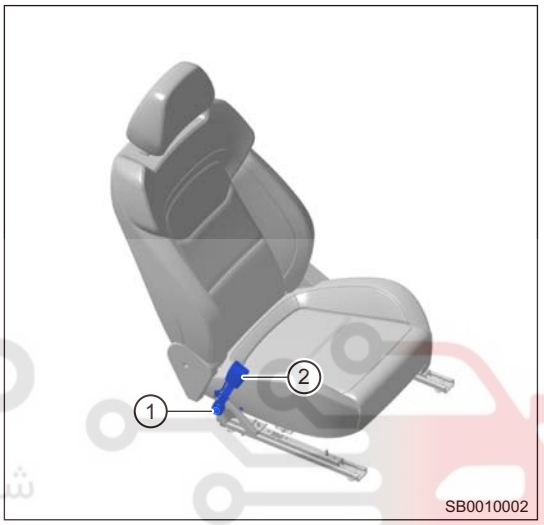
(a) Disengage the seat belt buckle wire harness connector clip (arrow) from bottom part of seat.


SB0009002

(b) Disengage the left side seat belt buckle wire harness connector clip (arrow) from bottom part of seat.

(c) Remove fixing nut (1) from seat belt buckle assembly, and remove driver seat belt with buckle assembly (2).

Tightening torque
50 ± 5 N·m



SB0010002

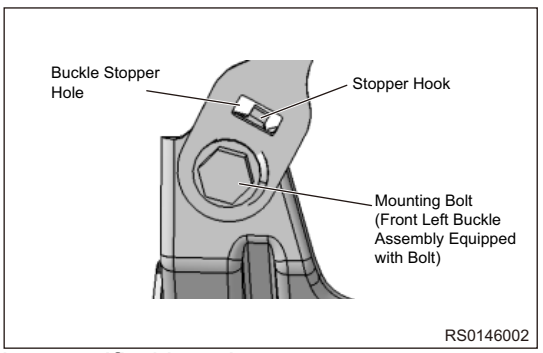
Installation

Warning/Caution/Hint

- Be sure to tighten the fixing nut to specified torque when installing front seat belt buckle assembly.
- Install connector in place, when installing front seat belt buckle assembly.
- Step a and b are carried out at the seat factory, and step c is carried out in the assembly shop of Chery Automobile Co., Ltd.;
- The front right buckle assembly assembling adjustment method is similar to the front left buckle assembly. The difference is that step c is not required for front right buckle assembly.
- The installation quantity of T15-5811030 and T15-5811040 should be in accordance with BOM.

(a) First take out the front left buckle assembly that is in good condition, pre-tighten the buckle mounting bolt, align the buckle limit hook with seat frame limit hook and tighten the mounting bolt.

Tightening torque
50 ± 5 N·m



RS0146002

(b) Wire harness clips of front left buckle are secured on the specified location.

(c) Front left buckle assembly is installed on the seat and supplied with seat assembly. Connect the wire harness connector of front left buckle assembly with the interior wire harness connector and ensure that the connector is connected properly and clamped in place.

Rear Left Seat Belt Buckle Assembly

On-vehicle Inspection

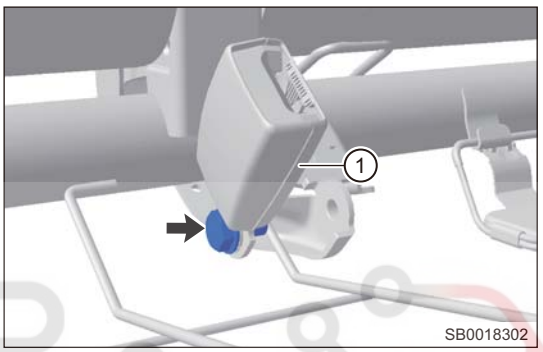
Removal

Hint:

Caution:

- Be sure to wear safety equipment to prevent accidents, when removing rear left seat belt buckle assembly.
- Try to prevent interior from being scratched, when removing rear left seat belt buckle assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear left seat belt buckle assembly.
   (a) Remove mounting bolt (arrow) and rear left seat belt buckle assembly (1).
   Tightening torque:
   50 ± 5N·m



Installation

Warning/Caution/Hint

- Be sure to tighten the fixing nut to specified torque when installing rear left seat belt buckle assembly.
- The assembly should be carried out in the seat factory and supplied with the seat assembly.
- The seat factory should test the above installation torque by a ratio of 100%.

1. Installation is in the reverse order of removal.

Rear Center Seat Belt Buckle Assembly

On-vehicle Inspection

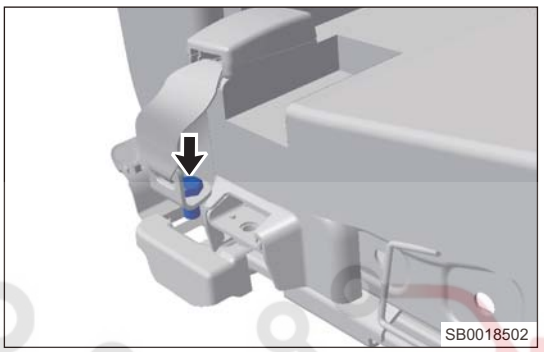
Removal

Hint:

Caution:

- Be sure to wear necessary safety equipment to prevent accidents, when removing rear center seat belt buckle assembly.
- Try to prevent interior from being scratched, when removing rear center seat belt buckle assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear center seat belt buckle assembly.
   (a) Remove mounting bolt (arrow) and rear center seat belt buckle assembly.
   Tightening torque:
   50 ± 5N·m



Installation

Warning/Caution/Hint

- Be sure to tighten the fixing nut to specified torque when installing rear center seat belt buckle assembly.
- The assembly should be carried out in the seat factory and supplied with the seat assembly.
- The seat factory should test the installation torque by a ratio of 100%.

1. Installation is in the reverse order of removal.

Rear Right Seat Belt Buckle Assembly

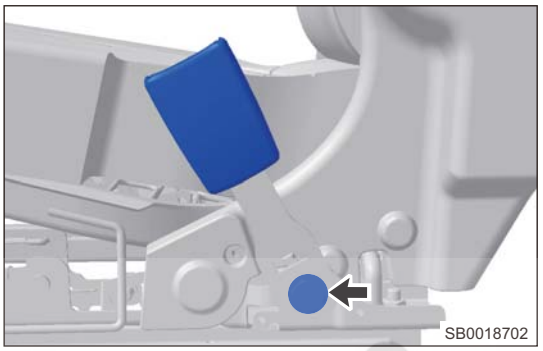
Removal

Hint:

Caution:

- Be sure to wear necessary safety equipment to prevent accidents, when removing rear right seat belt buckle assembly.
- Try to prevent interior from being scratched, when removing rear right seat belt buckle assembly.

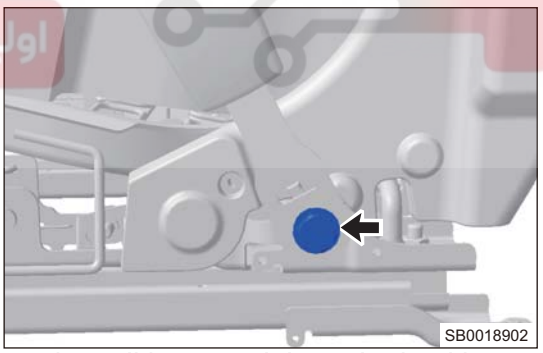
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear right seat belt buckle assembly.
   (a) Remove mounting bolt (arrow) and rear right seat belt buckle assembly.



Installation

Warning/Caution/Hint

- Be sure to tighten the fixing nut to specified torque when installing rear right seat belt buckle assembly.
- The assembly should be carried out in the seat factory and supplied with the seat assembly.
- The seat factory should test the installation torque by a ratio of 100%.



Take out the rear right seat belt buckle assembly that is in good condition, pre-tighten the buckle mounting bolt (arrow), align the buckle limit hook with seat frame limit hook and tighten the mounting bolt.

Tightening torque:

50 ± 5N·m

Height Adjuster Assembly

Removal

Hint:

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

Caution:

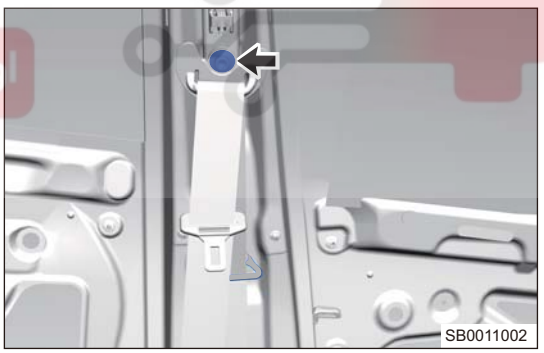
Warning/Caution/Hint

- Be sure to wear safety equipment to prevent accidents, when removing height adjuster assembly.
- Appropriate force should be applied, when removing the height adjuster assembly. Be careful not to operate roughly.
- Try to prevent interior from being scratched, when removing height adjuster assembly.
- Take the height adjuster assembly that is in good condition, first align the mounting bolts of height adjuster assembly with the upper and lower mounting nuts at fixing points of height adjuster for body B-pillar respectively and pre-tighten them. After that, the limit hook of height adjuster assembly should be engaged with the body limit hook; Finally tighten the mounting bolts.
- It is necessary to press the unlock button all the time when the height adjuster assembly of T18 seat belt is adjusted up and down. DO NOT push up directly or forcefully or quickly downward to unlock. Adjust the height adjuster to highest position after assembling.

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 62-16).
   Click here
4. Remove the left B-pillar upper protector assembly (See page 62-17).
   Click here
5. Remove the height adjuster assembly.

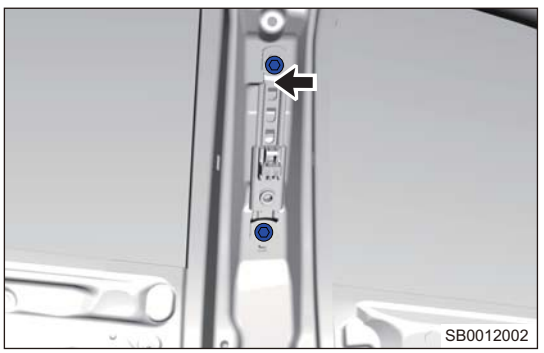
   (a) Remove the front seat belt assembly upper fixing bolt (arrow).

   Tightening torque
   50 ± 5 N·m



   (b) Remove 2 fixing bolts (arrow) from height adjuster assembly.

   Tightening torque
   50 ± 5N·m



   (c) Remove height adjuster assembly (1) from dowel pin.

Installation

Warning/Caution/Hint

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

Installation is in the reverse order of removal.

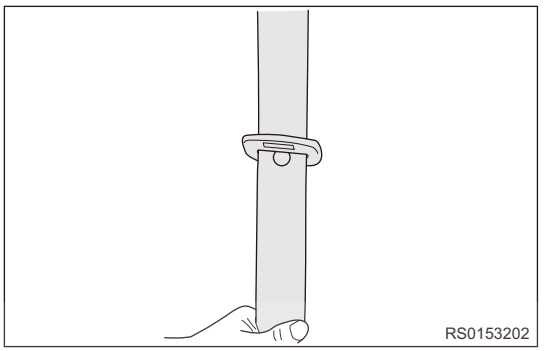
Locking Tab Reversing

Operation Method

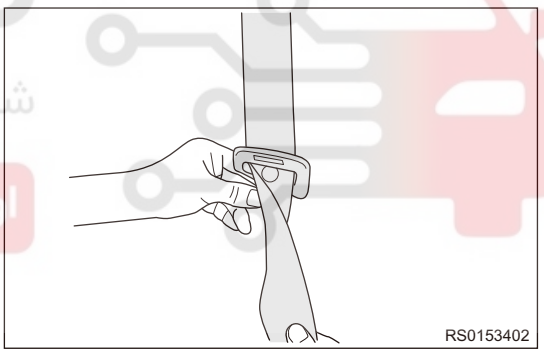
Hint:

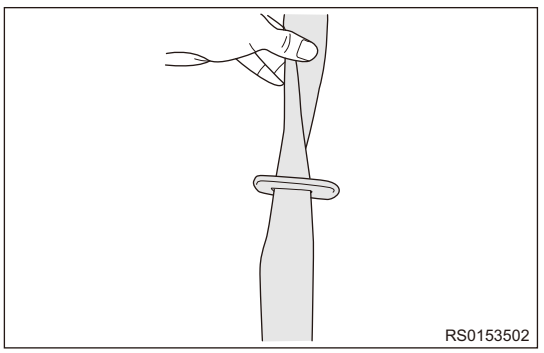
- When the seat belt is recycled, safety webbing contacts with the seat side shoulder, which may cause the safety webbing to be reversed by 180 degrees with the locking tab. When pulling the locking tab (inside opening clearance is larger than the thickness of webbing) at the next time of usage, the locking tab may be reversed occasionally. In this case, recover it according to the instructions (without removing seat belt), and the webbing is not damaged and without replacing.

1. Figure after the locking tab is reversed



2. Fold the webbing in any direction and pull it downward forcefully to make the reversed webbing be pulled into the locking tab





3. Complete the lock tab reversing