
SUPPLEMENTAL RESTRAINT SYSTEM

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10.1 AIRBAG CONTROL SYSTEM

1 Warnings and Precautions

1.1 Warnings

- (1) 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.
- (2) If vehicle has been involved in a minor collision but the airbags do not deploy, always inspect airbag components.
- (3) If airbags may be touched during servicing, remove the airbags as necessary and keep it properly before servicing.
- (4) Never use airbag components from another vehicle. When replacing the airbag components, parts of the same model should be selected for replacement.
- (5) If an airbag component is dropped or if there are any cracks, dents or other defects in the case, bracket or connector, it must be replaced with an airbag component with same model.
- (6) Information labels are attached to the periphery of airbag components. Always follow the cautions and instructions on labels.
- (7) Do not use a common multimeter to measure the resistance of airbag. Only use a multimeter with high impedance for measurement. Otherwise, the airbag may be deployed.

1.2 Precautions

- (1) Never expose airbag components directly to hot air or open flame.
- (2) Never attempt to disassemble or repair airbag components.
- (3) Removed airbags should be kept properly. Never put other objects on them. If triggered accidentally, it may cause personal injury.
- (4) As a disposable component, the airbag must be replaced after deployment and never reuse.
- (5) Always dispose of vehicle together with airbags, or the airbags may be triggered accidentally to cause personal injury.

■ 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 projectile 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 airbag.
- 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.
- Airbag controller in all vehicles have been matched and verified and it's forbidden to change vehicle structure and airbag controller. Random addition and modification of airbag controller and wire harness will make airbag controller 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.

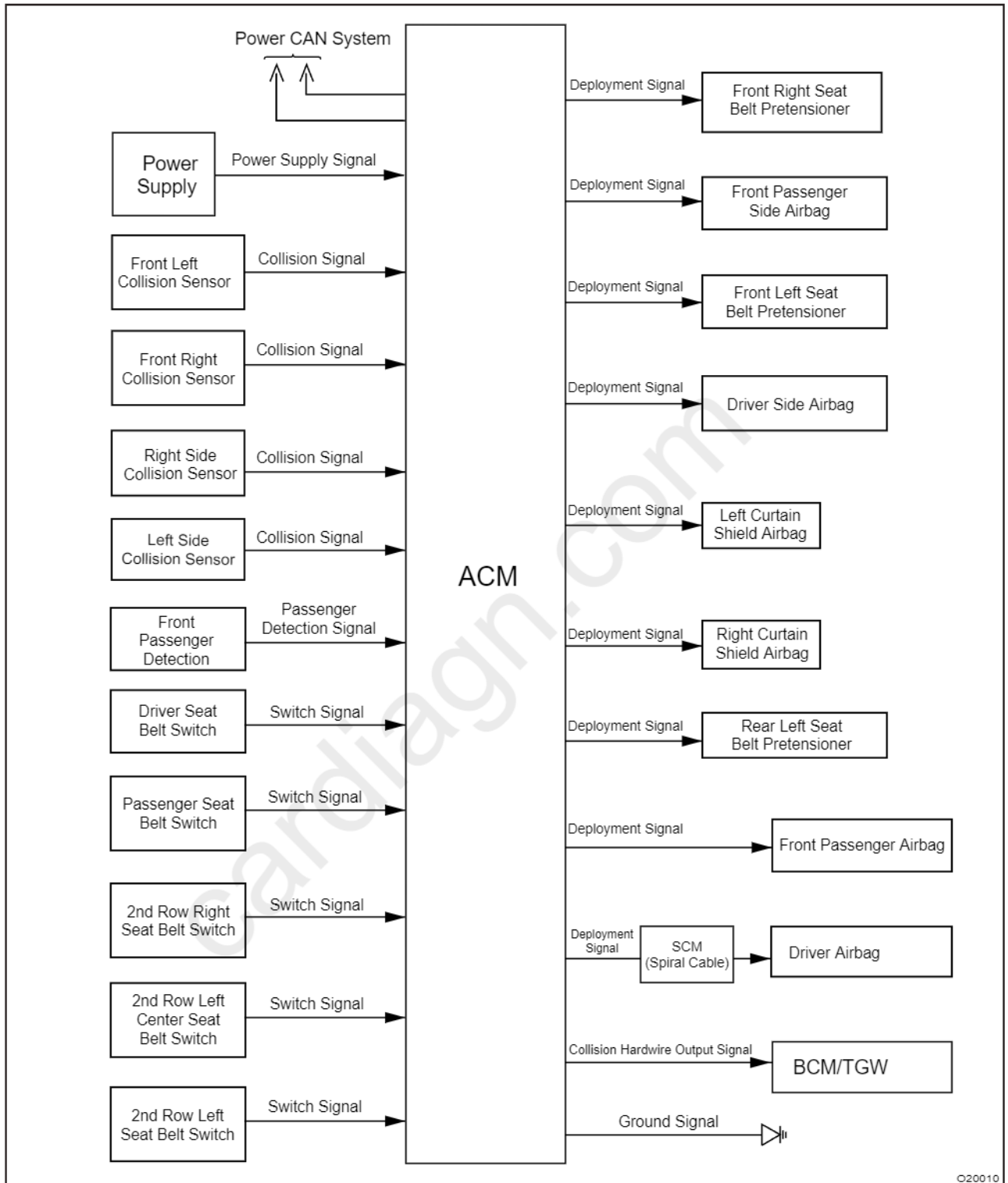
2 System Overview

2.1 System Description

Supplemental restraint system (SRS) consists of Airbag Control Module (ACM), driver airbag/front passenger airbag, front side airbag, curtain airbag, seat belt and other components. Circuit is continuously monitored and controlled by the airbag controller assembly. Airbag indicator on instrument cluster illuminates for approximately 6 seconds for a test each time ENGINE START STOP switch is turned to "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.

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2.2 System Components Diagram



- Whether the airbag is deployed depends on the deceleration signal of the vehicle during the collision. When the deceleration signal reaches the set activation conditions; The microprocessor in the airbag controller of the supplemental restraint system sends signal to inflator unit of the corresponding airbag to rapidly deploy the airbag, thus protecting the occupant.
- (1) The airbag controller controls the airbag and seat belt.
- Seat belt signals of front passenger and rear seat belt are directly transmitted to the airbag controller through hard wire connection.

- The airbag controller directly controls whether the airbags and curtain shield actuators are activated. When a collision occurs, the airbag controller will determine whether to issue the ignition command according to the detailed ignition condition strategy.
- (2) This vehicle adopts the occupant restraint system, which includes active and supplemental types. Active restraint system requires occupants to take some actions, such as fastening seat belt; while supplemental restraint system requires no actions from occupants.

Airbag controller is a real-time embedded electronic control unit designed for passenger protection in cabin.

The main function of airbag controller is to trigger passive safety related devices such as airbags and pretensioner in the event of a crash.

- 1) Active restraint system
 - i. Driver seat belt and front passenger seat belt.
 - ii. Rear seat belt.
- 2) Supplemental restraint system
 - i. Airbag system.

■ Collision Operating Condition

Hint:

When the collision reaches the set ignition threshold.

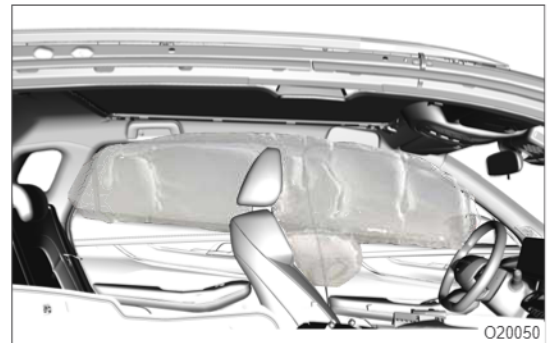
(1) Front collision

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



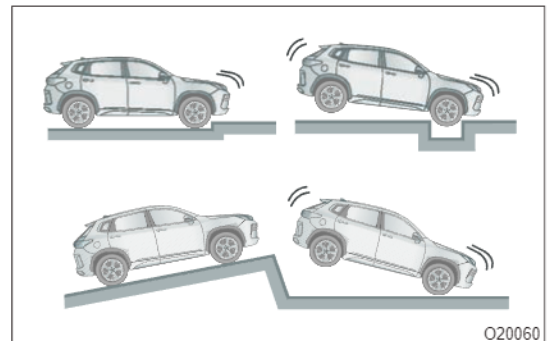
(2) Side collision

- Side collision is detected by the side collision sensor in B-pillar and the Sensor in controller.

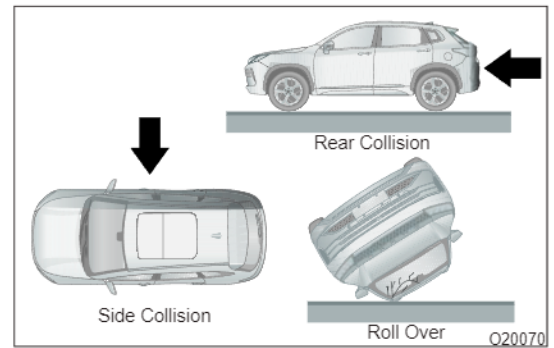


(3) Other collisions

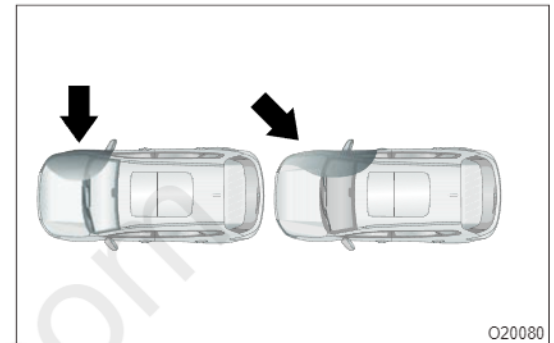
- If the bottom of vehicle is subjected to a severe impact, the driver airbag and front passenger airbag may also deploy as shown in illustration.



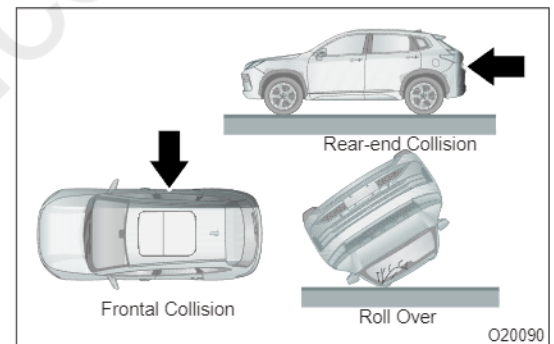
- When vehicle is involved in side collision, rear collision, roll over or frontal collision at low speed as shown in illustration, the driver airbag and front passenger airbag will not generally deploy.



- As shown in illustration, 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.



- 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.



2.3 System Components Description

■ Airbag Control Module

The controller controls ignition circuit and activates airbag (and belt pretensioner) according to set activation threshold to keep occupants at proper position in the cabin when accident occurs, thus protecting occupants.

■ Driver Front Airbag and Passenger Front Airbag

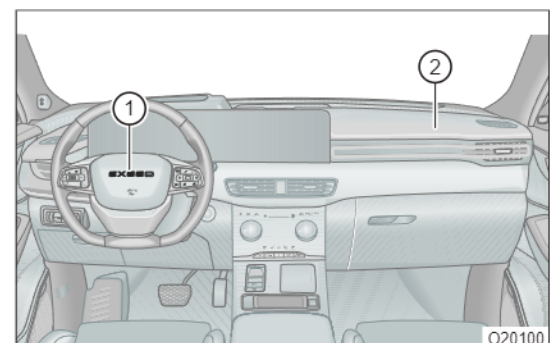
Driver front airbag is located on the steering wheel and integrated with the horn switch. Passenger front airbag is located above the glove box and inside the instrument panel upper body. As shown in illustration:

- Position of driver front airbag.

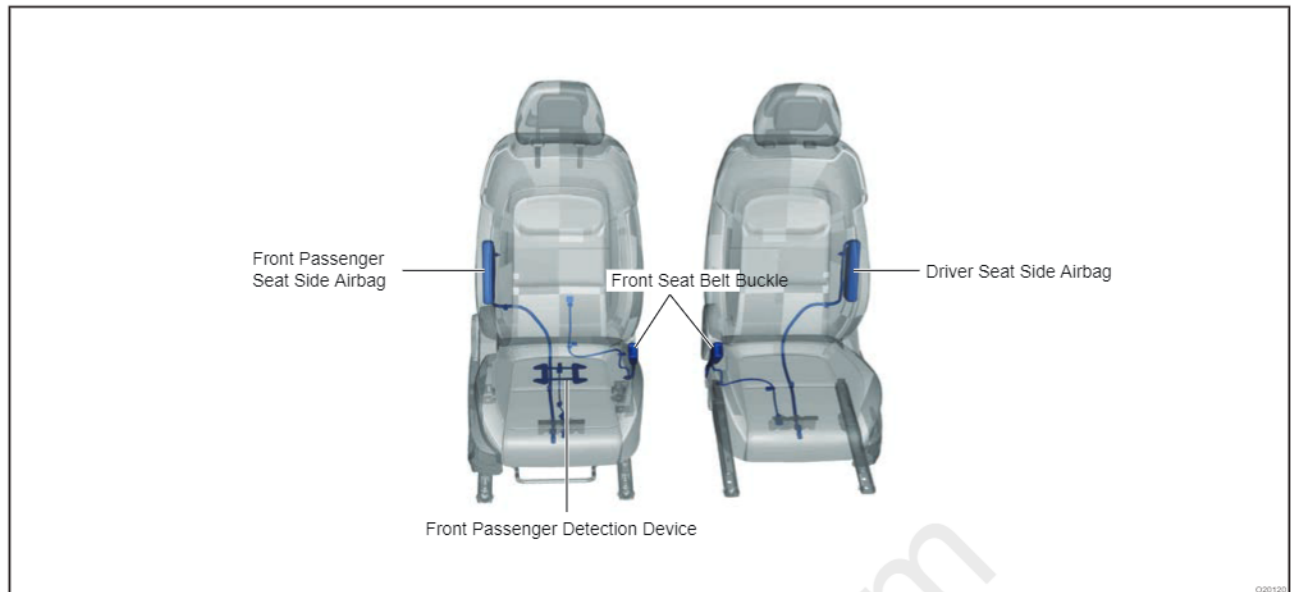
Resistance: $2.0 \pm 0.3 \Omega$

- Position of front passenger front airbag.

Resistance: $2.0 \pm 0.3 \Omega$

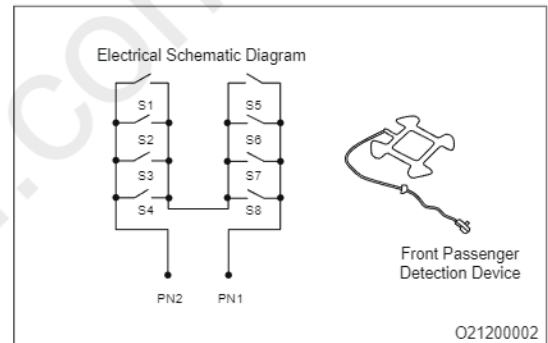


■ Front Passenger Side Airbag and Front Passenger Seat Belt Buckle

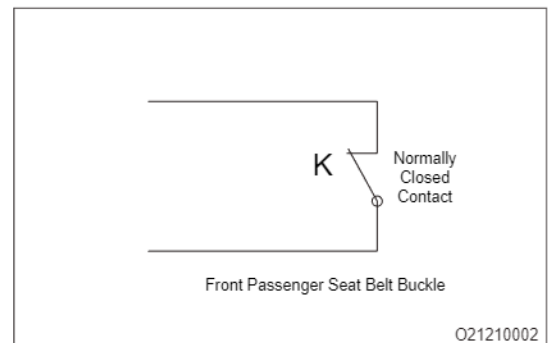


Airbag resistance on seat: $2.0 + 0.5 / -0.3\Omega$, it's strictly forbidden to measure resistance with multimeter!

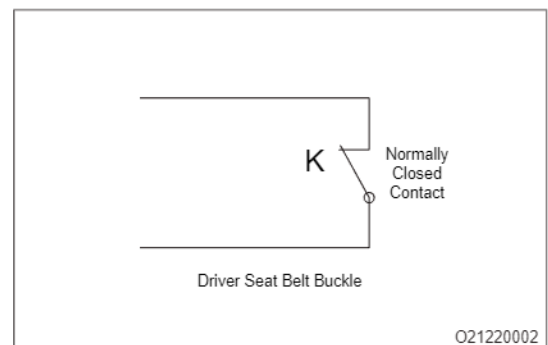
- Front passenger detection device schematic diagram as shown in illustration: Passenger loading status: When detected external resistance is lower than 100Ω , it's judged that there is passenger. When resistance is higher than 400Ω , it's judged that there is no passenger.



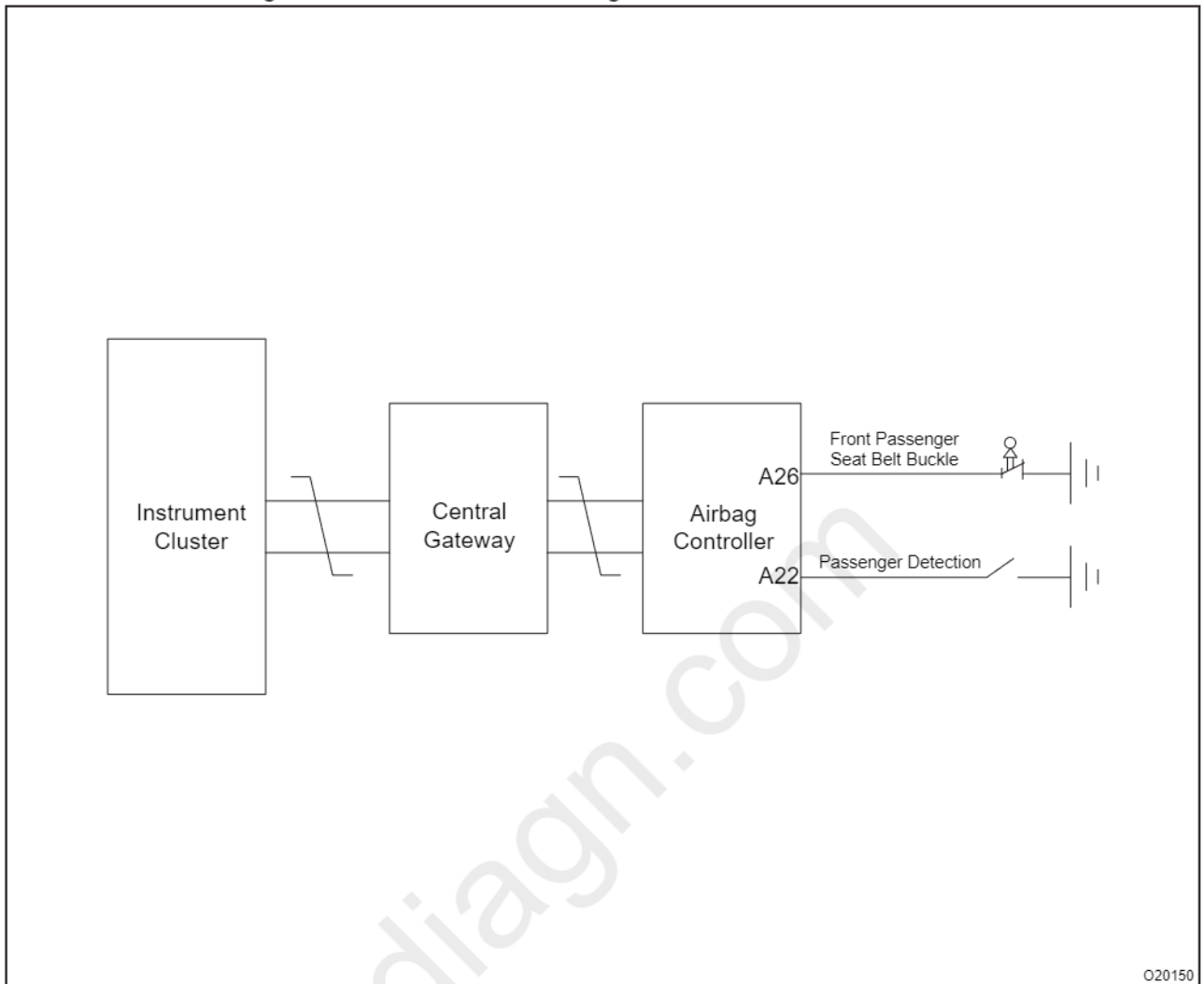
- Front passenger seat belt buckle schematic diagram is as shown in illustration. Front passenger seat belt buckle status: When detected external resistance is lower than 400Ω , it's judged that the seat belt is not fastened. When resistance is higher than 900Ω , it's judged that the seat belt is fastened.



- Driver seat belt buckle schematic diagram is 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:



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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 ≥ 25 km/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 25 km/h or more, 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 sounding and indication warning continues.

■ Curtain Shield Airbag

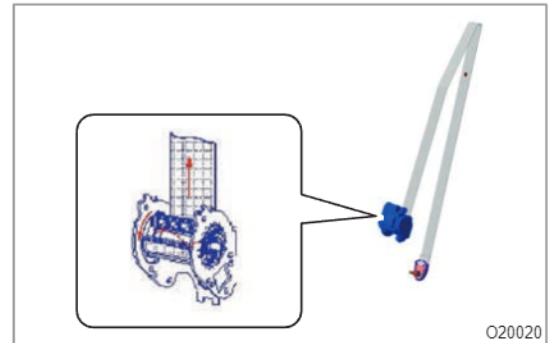
Curtain shield airbag is mainly used to protect the head of passengers during side collision. The curtain shield airbag is installed in the inner side of roof and body quarter sheet metal, usually run through the front and rear, and it is controlled by the lateral acceleration sensor in the body. It will deploy when the lateral acceleration is greater than the calibrated threshold.

Resistance: $2.0 \pm 0.3 \Omega$

■ Seat Belt

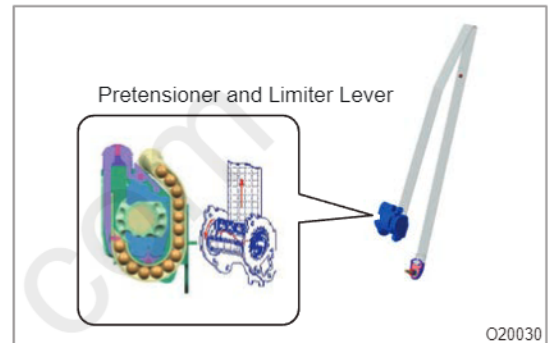
Following types of belts are equipped together with common emergency lock type seat belt:

- (1) Emergency lock type belt
Reduce the pressure of belt on passengers, protect the occupants and prevent second collision.
- (2) 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.



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- (3) 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.



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2.4 Post-accident Repair and Inspection

- (1) Post-accident components replacement of deployed airbag.
 - 1) Airbag controller components should be replaced immediately in accordance with the provisions in this manual after the airbag is deployed in an accident.
- (2) Post-accident components replacement of seat belt.

Hint:

After the collision, the seat belt replacement can be divided into the following two situations:

- The seat belt with pretensioner is determined to be activated or not depending on the form of the collision.
- Restraint and emergency locking are based on the presence or absence of an occupant.

- 1) 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 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

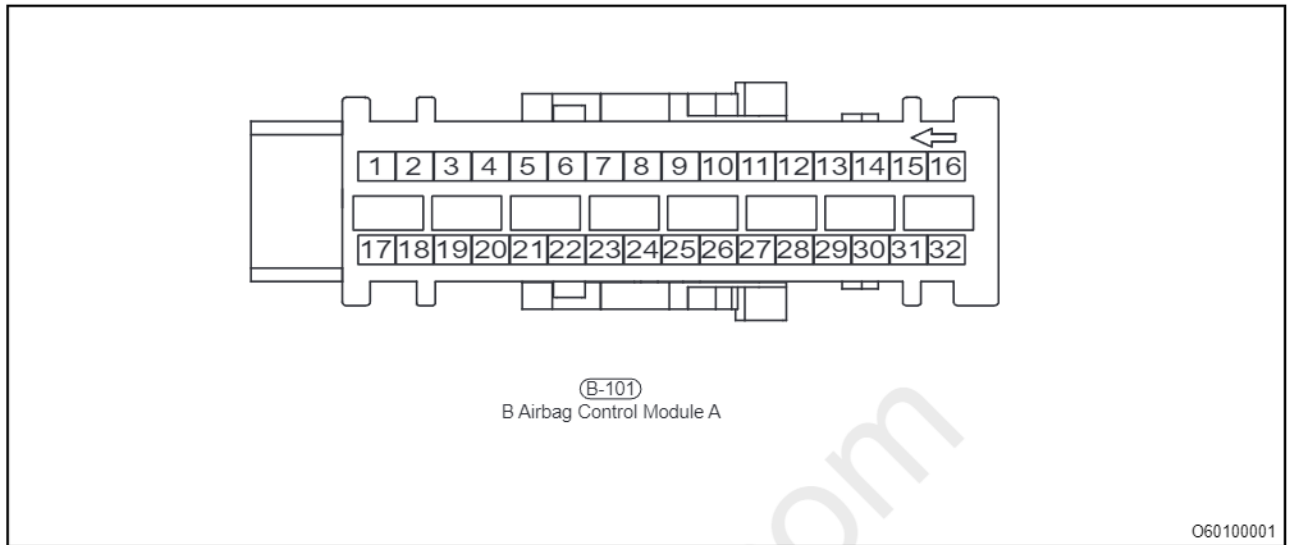
- (3) Post-accident inspection of other components

- 1) 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.

3 System Circuit Diagram

3.1 Module Terminal Definition

■ Airbag Controller A

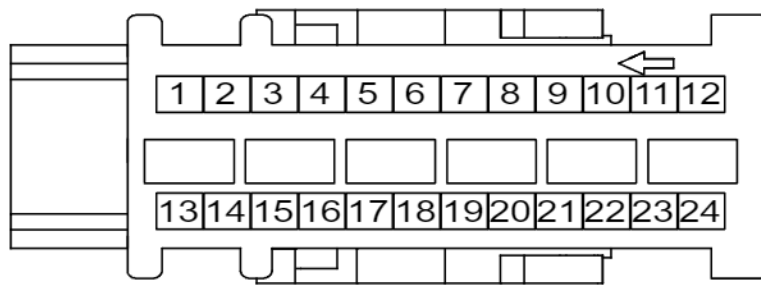


Terminal Inspection		Terminal Definition	Detection Condition	Measured Value
Multimeter Positive	Multimeter Negative			
A1	/	Front Right Seat Side Airbag (+)	/	/
A2	/	Front Right Seat Side Airbag (-)	/	/
A3	/	Driver Airbag (-)	/	/
A4	/	Driver Airbag (+)	/	/
A5	/	Front Passenger Airbag (+)	/	/
A6	/	Front Passenger Airbag (-)	/	/
A7	/	Front Left Seat Side Airbag (-)	/	/
A8	/	Front Left Seat Side Airbag (+)	/	/
A9	/	Left Curtain Shield Airbag (+)	/	/
A10	/	Left Curtain Shield Airbag (-)	/	/
A11	/	Right Curtain Shield Airbag (-)	/	/
A12	/	Right Curtain Shield Airbag (+)	/	/

Terminal Inspection		Terminal Definition	Detection Condition	Measured Value
Multimeter Positive	Multimeter Negative			
A13	Body ground	Right Collision Sensor (+)	Power supply "ON"	7V
A14	Body ground	Right Collision Sensor (-)	Power supply "ON"	0V
A15	Body ground	Left Collision Sensor (-)	Power supply "ON"	0V
A16	Body ground	Left Collision Sensor (+)	Power supply "ON"	7V
A17	/	/	/	/
A18	/	/	/	/
A19	/	/	/	/
A20	/	/	/	/
A21	/	/	/	/
A22	Body ground	Second Row Right Seat Belt Buckle Switch	Power supply "ON"	0 V when not locked; 0.5 V when locked
A23	Body ground	Second Row Middle Seat Belt Buckle Switch	Power supply "ON"	0 V when not locked; 0.5 V when locked

Terminal Inspection		Terminal Definition	Detection Condition	Measured Value
Multimeter Positive	Multimeter Negative			
A24	Body ground	Second Row Middle Seat Belt Buckle Switch	Power supply "ON"	0 V when not locked; 0.5 V when locked
A25	Body ground	Front Passenger Weight Detection Sensor	Power supply "ON"	0V
A26	Body ground	Front Passenger Seat Belt Buckle Switch	Power supply "ON"	0V
A27	/	/	/	/
A28	/	/	/	/
A29	Body ground	Front Left Collision Sensor (+)	Power supply "ON"	7V
A30	Body ground	Front Left Collision Sensor (-)	Power supply "ON"	0V
A30	Body ground	Front Right Collision Sensor (-)	Power supply "ON"	0V
A32	Body ground	Front Right Collision Sensor (+)	Power supply "ON"	7V

■ Airbag Controller B



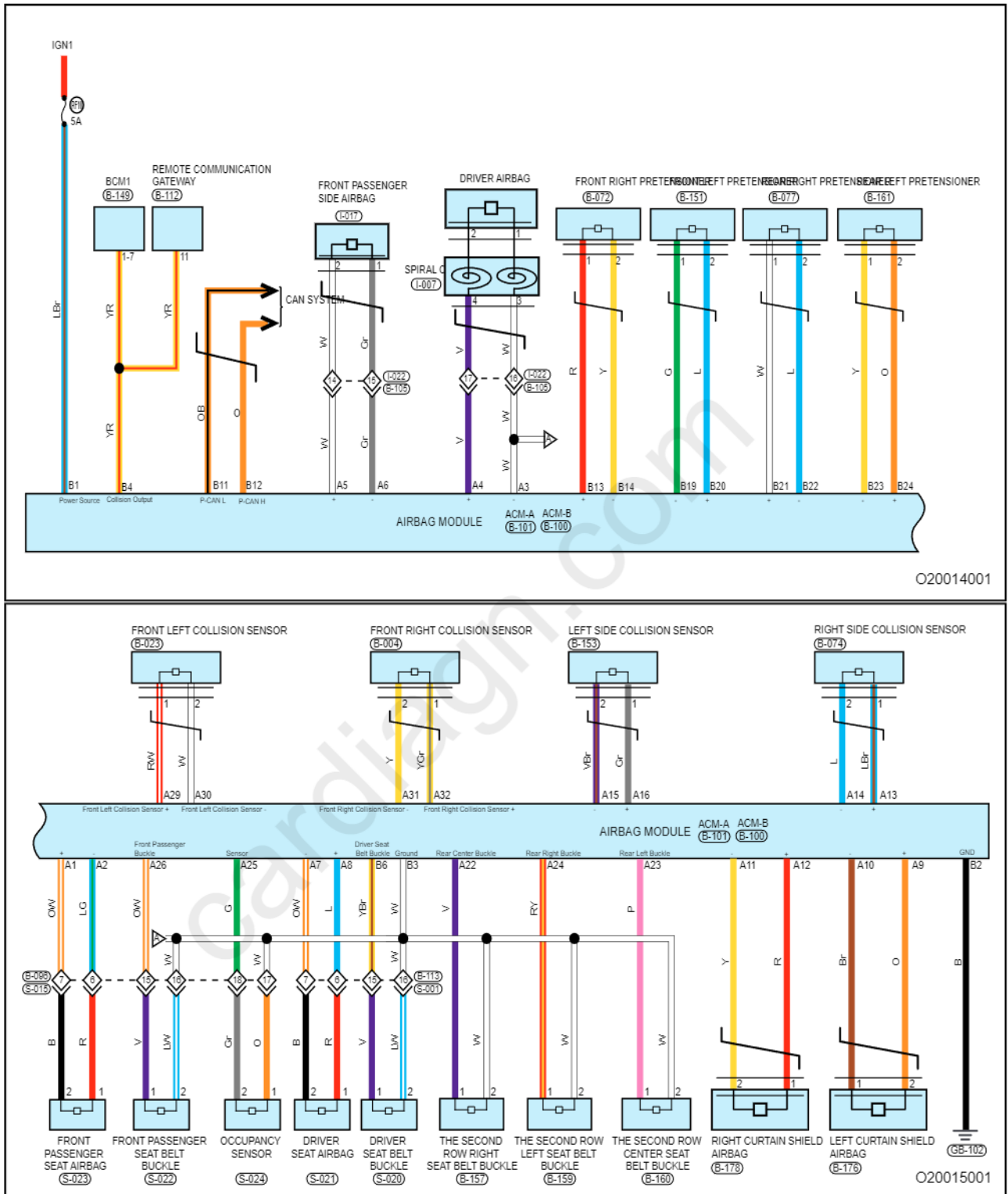
(B-100)
B Airbag Control Module B

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Terminal Inspection		Terminal Definition	Detection Condition	Measured Value
Multimeter Positive	Multimeter Negative			
B1	Body ground	IGN power supply	Power supply "ON"	12V
B2	Body ground	GND	Power supply "ON"	0V
B3	Body ground	GND (DCS GND)	Power supply "ON"	0V
B4	Body ground	Collision Output (ENS)	Power supply "ON"	8-9V
B5	/	/	/	/
B6	Body ground	Driver Seat Belt Buckle Switch	Power supply "ON"	0 V when not locked; 0.5 V when locked
B7	/	/	/	/
B8	/	/	/	/
B9	/	/	/	/
B10	/	/	/	/
B11	Body ground	CAN_L	Power supply "ON"	2.27V
B12	Body ground	CAN_H	Power supply "ON"	2.7V
B13	/	Front Right Seat Belt with Pretensioner (- Retractor) (+)	/	/
B14	/	Front Right Seat Belt with Pretensioner (- Retractor) (-)	/	/
B15	/	/	/	/

Terminal Inspection		Terminal Definition	Detection Condition	Measured Value
Multimeter Positive	Multimeter Negative			
B16	/	/	/	/
B17	/	/	/	/
B18	/	/	/	/
B19	/	Front Left Seat Belt with Pretensioner (- Retractor) (-)	/	/
B20	/	Front Left Seat Belt with Pretensioner (- Retractor) (+)	/	/
B21	/	Second Row Right Seat Belt Pretensioner (+)	/	/
B22	/	Second Row Right Seat Belt Pretensioner (-)	/	/
B23	/	Second Row Left Seat Belt with Pretensioner (-)	/	/
B24	/	Second Row Left Seat Belt with Pretensioner (+)	/	/

3.2 Circuit Diagram



4 DIAGNOSIS & TEST

4.1

■ Diagnostic Tester Menu Function and Data Stream

Airbag system

(1) Enter "ACM (Airbag Control Module)".

- (2) Click "Version Information" .
- (3) Click "Read Datastream" .
 - 1) Click "IMU Off-line Calibration Status" .
 - 2) Click "EOL Mode" .
 - 3) Click "ACM Configuration Data" .
- (4) Click "Special Operation" .
 - 1) Click "IMU (Inertial Sensor) Calibration" .
 - 2) Click "Write ACM Configuration Data" .
 - i. Click "Save the Paste (Transfer Configuration Data in Old Controller to New Controller Quickly)" .
 - Click "Save Configuration Data in Old Controller" .
 - Click "Write Configuration Data from Old Controller into New Controller" .
 - 3) Click "Manual Writing" .

■ Diagnosis Contents

Problem Symptoms Table

Hint:

Use symptoms table below to help determine cause of problem. Check each suspected area in sequence. Repair, replace or adjust faulty components as necessary.

Symptom	Suspected Area
Airbag system indicator remains on	Battery voltage is too low or too high
	Airbag module internal fault
	Instrument cluster airbag indicator fault
	Poor contact in instrument cluster connector
	Airbag module power supply fuse open or poor contact
	Poor contact in airbag module connector
	Airbag circuit fault
Airbag assembly (resistance is too high or too low)	Airbag itself fault
	Connection fault between airbag and airbag module
	Airbag module fault

■ 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 the ENGINE START STOP switch to OFF and wait for several seconds.
- Turn ENGINE START STOP switch to "ON" , and then select read DTC.
- If DTC is detected, it indicates current malfunction.
- 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 operates. Circuits are very sensitive to proper grounding. A loose or corroded ground can seriously 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 any additional accessories interfere with ground circuit.
- (6) If several wire harnesses are crimped into one ground terminal, check for proper crimp condition. Make sure that all wire harnesses are clean and securely fastened while providing a proper 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 for 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:
 - 1) ENGINE START STOP switch is ON, system performs self-check, airbag warning light comes on. Warning light goes off when self-check is completed.
 - 2) 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.
 - 3) 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.)
 - 4) 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.

1) 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.**

2) Prevention methods of deployment procedure

i. 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 SRS 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.

ii. Outside deployment prevention methods

- 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.
- 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.
- Place the twisted end next to the battery for airbag deployment, but do not connect it to battery at this time.
- Stack 4 old tires without rims on the wheel installed with airbag set, and secure all the tires in 4 different positions with rope.
- 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 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.

■ Diagnosis Procedure

Hint:

Use following procedures to troubleshoot the brake control system.

1 Vehicle brought to workshop

Next

2 Check battery voltage

Check if battery voltage is normal.

OK

Standard voltage: Not less than 12V.

Result

Result	Go to
OK	A
NG	B

B

Replace battery

A

3 Customer problem analysis

Next

4 Read DTCs

Result

Result	Go to
DTC occurs	A
No DTC	B

B

Perform repair according to problem symptoms table

A**5**

Read DTCs (current DTC and history DTC)

Result

Result	Go to
Current DTC	A
History DTC	B

B

Troubleshoot according to Intermittent DTC Fault Flow

A**6**

Repair according to Diagnostic Trouble Code (DTC) Chart

Next

7

Adjust, repair or replace

Next

8

Conduct test and confirm malfunction has been repaired

Next

END

4.2 Diagnostic Trouble Code (DTC) Chart

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B1271-16	ECU Supply Voltage Low	1. IG ON; 2. Initialization of components is completed.	Battery voltage; Wire harness connector; Module failure.	1. Check battery voltage; 2. Check wire harness; 3. Replace ECU.
B1270-17	ECU Supply Voltage High			
B0001-11	Driver/Left Front Airbag Squib Short to GND	Driver/front left airbag squib is short to GND for 4800 ms (400ms * 12); Resistances is less than 1KΩ.	1. Wire harness connector; 2. Airbag 3. Controller.	1. Check driver/front left airbag connector; 2. Check related wire harness of passenger frontal airbag; 3. Replace passenger frontal airbag; 4. Replace ECU.
B0001-12	Driver Frontal Airbag Deployment-Circuit Short To Battery	Driver/front left airbag squib is short to GND for 4800 ms (400ms * 12); Resistances is less than 1KΩ.		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0001-13	Driver/Left Front Airbag Squib High Resistance	Driver/front left airbag squib is short to GND for 4800 ms (400ms * 12); Resistance is more than 5.83Ω; gray area: 5.0~5.83Ω.		
B0001-19	Driver/Left Front Airbag Squib Cross-connect	Driver/front left airbag rear squib is cross-connected to another squib for 4800 ms (400ms * 12)/ Airbag pin is connected to another airbag pin in series.		
B0001-1A	Driver/Left Front Airbag Squib Low Resistance	Driver/front left airbag squib is short to GND for 4800 ms (400ms * 12); Resistance is less than 1.43 Ω; gray area: 1.43~1.7 Ω		
B0001-95	Driver/Left Front Airbag Squib Configured Fault	Not configured for driver/front left airbag/ airbag is only installed as hardware, but not configured for software.	1. Wire harness connector; 2. Not configured; 3. Controller.	1. Check driver/front left airbag connector; 2. Check related wire harness of passenger frontal airbag; 3. Check configuration; 4. Replace passenger frontal airbag; 5. Replace ECU.
B0020-11	Driver/Left Side Airbag Squib Short to GND	Driver side airbag squib is short to GND for 4800 ms (400ms * 12); Resistances is less than 1KΩ.	1. Wire harness connector; 2. Airbag 3. Controller.	1. Check driver/front left airbag connector; 2. Check related wire harness of driver side airbag; 3. Replace driver side airbag; 4. Replace ECU.
B0020-12	Driver/Left Side Airbag Squib Short to Power Line	Driver side airbag squib is short to power supply line for 4800 ms (400ms * 12); Resistances is less than 1 KΩ.		
B0020-13	Driver/Left Side Airbag Squib High Resistance	Driver side frontal airbag squib high resistance for 4800 ms (400ms * 12); Resistances is more than 5.83 Ω; gray area: 5.0~5.83 Ω.		
B0020-19	Driver/Left Side Airbag Squib Cross-connect	Driver side frontal airbag rear squib is cross-connected to another squib for 4800 ms(400ms * 12)/ Airbag pin is connected to		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
		another airbag pin in series.		
B0020-1A	Driver/Left Side Airbag Squib Low Resistance	Driver side frontal airbag rear squib low resistance for 4800 ms (400ms * 12); Resistances is less than 1.43 Ω ; gray area: 1.43~1.7 Ω .		
B0020-95	Driver/Left Side Airbag Squib Configured Fault	Not configured for driver side curtain shield airbag / airbag is only installed as hardware, but not configured for software.	1. Wire harness connector; 2. Not configured; 3. Controller.	1. Check driver/front left airbag connector; 2. Check related wire harness of driver side airbag; 3. Check configuration; 4. Replace driver side airbag; 5. Replace ECU.

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0021-11	Driver/Left Curtain Airbag Squib Short to GND	Driver side curtain shield airbag squib is short to GND for 4800 ms (400ms * 12); Resistances is less than 1K Ω .		
B0021-12	Driver/Left Curtain Airbag Squib Short to Power Line	Driver side curtain shield airbag squib is short to power supply line for 4800 ms (400ms * 12); Resistances is less than 1 K Ω .		
B0021-13	Driver/Left Curtain Airbag Squib High Resistance	Driver side curtain shield airbag squib high resistance for 4800 ms (400ms * 12); Resistances is more than 5.83 Ω ; gray area: 5.0~5.83 Ω .	1. Wire harness connector; 2. Airbag 3. Controller.	1. Check driver/front left airbag connector; 2. Check related wire harness of driver side curtain shield airbag; 3. Replace driver side curtain shield airbag; 4. Replace ECU.
B0021-19	Driver/Left Curtain Airbag Squib Cross-connect	Driver side curtain shield airbag rear squib is cross-connected to another squib for 4800 ms(400ms * 12)/ Airbag pin is connected to another airbag pin in series.		
B0021-1A	Driver/Left Curtain Airbag Squib Low Resistance	Driver side curtain shield airbag rear squib low resistance for 4800 ms (400ms * 12); Resistances is less than 1.43 Ω ; gray area: 1.43~1.7 Ω .		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0021-95	Driver/Left Curtain Airbag Squib Configured Fault	Not configured for driver side frontal airbag/airbag is only installed as hardware, not configured for software.	1. Wire harness connector; 2. Not configured; 3. Controller.	1. Check driver side curtain shield airbag connector; 2. Check related wire harness of driver side curtain shield airbag; 3. Check configuration; 4. Replace driver side curtain shield airbag; 5. Replace ECU.
B0028-11	Passenger/Right Side Airbag Squib Short to GND	Passenger side airbag squib is short to GND for 4800 ms (400ms * 12); Resistances is less than 1K Ω .	1. Wire harness connector; 2. Airbag 3. Controller.	1. Check passenger side airbag connector; 2. Check related wire harness of passenger side airbag; 3. Replace passenger side airbag; 4. Replace ECU.
B0028-12	Passenger/Right Side Airbag Squib Short to Power Line	Passenger side airbag squib is short to power supply line for 4800 ms (400ms * 12); Resistances is less than 1 K Ω .		
B0028-13	Passenger/Right Side Airbag Squib High Resistance	Passenger side frontal airbag squib high resistance for 4800 ms (400ms * 12); Resistances is more than 5.83 Ω ; gray area: 5.0~5.83 Ω .		
B0028-19	Passenger/Right Side Airbag Squib Cross-connect Fault	Passenger side frontal airbag rear squib is cross-connected to another squib for 4800 ms(400ms * 12)/ Airbag pin is connected to another airbag pin in series.		
B0028-1A	Passenger/Right Side Airbag Squib Low Resistance	Passenger side frontal airbag rear squib low resistance for 4800 ms (400ms * 12); Resistances is less than 1.43 Ω ; gray area: 1.43~1.7 Ω .		
B0028-95	Passenger/Right Side Airbag Squib Configured Fault	Not configured for passenger side curtain shield airbag / airbag is only installed as hardware, not configured for software.	1. Wire harness connector; 2. Not configured; 3. Controller.	1. Check passenger side curtain shield airbag connector; 2. Check related wire harness of passenger side curtain shield airbag; 3. Check configuration; 4. Replace passenger side curtain shield airbag; 5. Replace ECU.

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0029-11	Passenger/Right Curtain Airbag Squib Short to GND	Passenger side curtain shield airbag squib is short to GND for 4800 ms (400ms * 12); Resistances is less than 1K Ω .	1. Wire harness connector; 2. Airbag 3. Controller.	1. Check passenger side curtain shield airbag connector; 2. Check related wire harness of passenger side curtain shield airbag; 3. Replace passenger side curtain shield airbag; 4. Replace ECU.
B0029-12	Passenger/Right Curtain Airbag Squib Short to Power Line	Passenger side curtain shield airbag squib is short to power supply line for 4800 ms (400ms * 12); Resistances is less than 1 K Ω .		
B0029-13	Passenger/Right Curtain Airbag Squib High Resistance	Passenger side frontal curtain shield airbag squib high resistance for 4800 ms (400ms * 12); Resistances is more than 5.83 Ω ; gray area: 5.0~5.83 Ω .		
B0029-19	Passenger/Right Curtain Airbag Squib Cross-connect	Passenger side frontal curtain shield airbag rear squib is cross-connected to another squib for 4800 ms (400ms * 12)/ Airbag pin is connected to another airbag pin in series.		
B0029-1A	Passenger/Right Curtain Airbag Squib Low Resistance	Passenger side frontal curtain shield airbag rear squib low resistance for 4800 ms (400ms * 12); Resistances is less than 1.43 Ω ; gray area: 1.43~1.7 Ω .		
B0029-95	Passenger/Right Curtain Airbag Squib Configured Fault	Not configured for passenger side frontal airbag/airbag is only installed as hardware, not configured for software.	1. Wire harness connector; 2. Not configured; 3. Controller.	1. Check passenger side curtain shield airbag connector; 2. Check related wire harness of passenger side curtain shield airbag; 3. Check configuration; 4. Replace passenger side curtain shield airbag; 5. Replace ECU.
B0050-11	Driver Seatbelt Buckle Short to Ground	Driver seat belt fixing buckle is short to ground for 6.2 seconds.	1. Wire harness connector; 2. Seat belt buckle is damaged; 3. Controller.	1. Check driver seat belt buckle switch connector; 2. Check related wire harness of driver seat belt buckle switch;

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0050-12	Driver Seatbelt Buckle Short to Power Line	Driver seat belt fixing buckle is short to power supply line for 6200 ms (100 ms * 62)/short to high voltage is circuit, voltage is more than 1.4 V.		3. Replace driver seat belt buckle switch; 4. Replace ECU.
B0050-13	Driver Seatbelt Buckle Open Circuit	Open in driver seat belt buckle circuit for 6.2 seconds.		
B0050-1D	Driver Seatbelt Buckle Meas High/Meas Low/Bad Sensor	Driver seat belt buckle current high/low/sensor is damaged for 6.2 seconds.		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0052-12	Front Passenger Seatbelt Buckle Short to Power Line	Short to high voltage in circuit is more than 1.4V.	1. Wire harness connector; 2. Seat belt buckle is damaged; 3. Controller.	1. Check corresponding seat belt buckle switch connector; 2. Check corresponding wire harness of driver seat belt buckle switch; 3. Replace corresponding seat belt buckle switch; 4. Replace ECU.
B0053-12	Second Row Left Seatbelt Sensor Short to Power Line			
B0054-12	Second Row Center Seatbelt Sensor Short to Power Line			
B0055-12	Second Row Right Seatbelt Sensor Short to Power Line			
B0070-11	Driver/Left Pretensioner Squib Short to GND	Driver seat belt pretensioner squib is short to GND for 4800 ms (400ms * 12); Resistances is less than 1K Ω .	1. Wire harness connector; 2. Seat belt pretensioner; 3. Controller.	1. Check driver seat belt pretensioner connector; 2. Check related wire harness of driver seat belt pretensioner; 3. Replace driver seat belt pretensioner; 4. Replace ECU.
B0070-12	Driver/Left Pretensioner Squib Short to Power Line	Driver seat belt pretensioner squib is short to GND and power supply line for 4800 ms (400ms * 12); Resistances is less than 1K Ω .		
B0070-13	Driver/Left Pretensioner Squib High Resistance	Driver seat belt pretensioner squib high resistance for 4800 ms (400ms * 12); Resistances is more than 5.83 Ω ; gray area: 5.0~5.83 Ω .		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0070-19	Driver/Left Pretensioner Squib Cross-connect	Driver seat belt pretensioner squib is cross-connected to another squib for 4800 ms(400ms * 12)/ Driver seat belt pretensioner squib pin is connected to another airbag pin in series.		
B0070-1A	Driver/Left Pretensioner Squib Low Resistance	Driver seat belt pretensioner squib low resistance for 4800 ms (400ms * 12); Resistances is less than 1.43 Ω; gray area: 1.43~1.7 Ω.		
B0070-95	Driver/Left Pretensioner Squib Configured Fault	Not configured for driver seat belt pretensioner / airbag is only installed as hardware, not configured for software.	1. Wire harness connector; 2. Not configured; 3. Controller.	1. Check driver seat belt pretensioner connector; 2. Check related wire harness of driver seat belt pretensioner; 3. Replace driver seat belt pretensioner; 4. Replace ECU.

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0072-11	Passenger/Right Pretensioner Squib Short to GND	Passenger seat belt pretensioner squib is short to GND for 4800 ms (400ms * 12); Resistances is less than 1KΩ.		
B0072-12	Passenger/Right Pretensioner Squib Short to Power Line	Passenger seat belt pretensioner squib is short to GND and power supply line for 4800 ms (400ms * 12); Resistances is less than 1KΩ.		
B0072-13	Passenger/Right Pretensioner Squib High Resistance	Passenger seat belt pretensioner squib high resistance for 4800 ms (400ms * 12); Resistances is more than 5.83 Ω; gray area: 5.0~5.83 Ω.	1. Wire harness connector; 2. Seat belt pretensioner; 3. Controller.	1. Check passenger seat belt pretensioner connector; 2. Check related wire harness of passenger seat belt pretensioner; 3. Replace passenger seat belt pretensioner; 4. Replace ECU.
B0072-19	Passenger/Right Pretensioner Squib Cross-connect Fault	Passenger seat belt pretensioner squib is cross-connected to another squib for 4800 ms (400ms * 12)/ Driver seat belt pretensioner squib pin is connected to another airbag pin in series.		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0072-1A	Passenger/Right Pretensioner Squib Low Resistance	Passenger seat belt pretensioner squib low resistance for 4800 ms (400ms * 12); Resistances is less than 1.43 Ω ; gray area: 1.43~1.7 Ω .		
B0072-95	Passenger/Right Pretensioner Squib Configured Fault	Not configured for Passenger seat belt pretensioner/airbag is only installed as hardware, not configured for software.	1. Wire harness connector; 2. Not configured; 3. Controller.	1. Check passenger seat belt pretensioner connector; 2. Check related wire harness of passenger seat belt pretensioner; 3. Replace passenger seat belt pretensioner; 4. Replace ECU.

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0073-11	Passenger/Right Pretensioner Squib Short to GND	Passenger seat belt pretensioner squib is short to GND for 4800 ms (400ms * 12); Resistances is less than 1KΩ.	1. Wire harness connector; 2. Seat belt pretensioner; 3. Controller.	1. Check passenger seat belt pretensioner connector; 2. Check related wire harness of passenger seat belt pretensioner; 3. Replace passenger seat belt pretensioner; 4. Replace ECU.
B0073-12	Passenger/Right Pretensioner Squib Short to Power Line	Passenger seat belt pretensioner squib is short to GND and power supply line for 4800 ms (400ms * 12); Resistances is less than 1KΩ.		
B0073-13	Passenger/Right Pretensioner Squib High Resistance	Passenger seat belt pretensioner squib high resistance for 4800 ms (400ms * 12); Resistances is more than 5.83 Ω; gray area: 5.0~5.83 Ω.		
B0073-19	Passenger/Right Pretensioner Squib Cross-connect Fault	Passenger seat belt pretensioner squib is cross-connected to another squib for 4800 ms (400ms * 12)/ Driver seat belt pretensioner squib pin is connected to another airbag pin in series.		
B0073-1A	Passenger/Right Pretensioner Squib Low Resistance	Passenger seat belt pretensioner squib low resistance for 4800 ms (400ms * 12); Resistances is less than 1.43 Ω; gray area: 1.43~1.7 Ω.		
B0073-95	Passenger/Right Pretensioner Squib Configured Fault	Not configured for Passenger seat belt pretensioner/airbag is only installed as hardware, not configured for software.	1. Wire harness connector; 2. Not configured; 3. Controller.	1. Check passenger seat belt pretensioner connector; 2. Check related wire harness of passenger seat belt pretensioner; 3. Replace passenger seat belt pretensioner; 4. Replace ECU.

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0075-11	Rear Right Pretensioner Squib Short to GND	Rear right seat belt pretensioner squib is short to GND for 4800 ms (400ms * 12); Resistances is less than 1KΩ.	1. Wire harness connector; 2. Seat belt pretensioner; 3. Controller.	1. Check passenger seat belt pretensioner connector; 2. Check related wire harness of passenger seat belt pretensioner; 3. Replace passenger seat belt pretensioner; 4. Replace ECU.
B0075-12	Rear Right Pretensioner	Rear right seat belt pretensioner squib is		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
	Squib Short to Power Line	short to GND and power supply line for 4800 ms (400ms * 12); Resistances is less than 1KΩ.		
B0075-13	Rear Right Seat Belt Pretensioner High Resistance	Rear right belt pretensioner squib high resistance for 4800 ms (400ms * 12); Resistances is more than 5.83 Ω; gray area: 5.0~5.83 Ω.		
B0075-19	Right Rear Pretensioner Squib Cross-connect Fault	Rear right seat belt pretensioner squib is cross-connected to another squib for 4800 ms(400ms * 12)/ Driver seat belt pretensioner squib pin is connected to another airbag pin in series.		
B0075-1A	Rear Right Pretensioner Low Resistance	Rear right seat belt pretensioner low resistance for 4800 ms (400ms * 12); Resistances is less than 1.43 Ω; gray area: 1.43~1.7 Ω.		
B0075-95	Rear Right Pretensioner Squib Configured Fault	Not configured for rear right seat belt pretensioner/airbag is only installed as hardware, not configured for software.	1. Wire harness connector; 2. Not configured; 3. Controller.	1. Check rear right seat belt pretensioner connector; 2. Check related wire harness of rear right seat belt pretensioner; 3. Check configuration; 4. Replace rear right seat belt pretensioner; 5. Replace ECU.
B0090-11	Front Left Sensor Short to GND	Front left collision sensor is short to ground for 2000ms (5ms * 400), output current from passage exceeds 130 mA.	1. Wire harness connector; 2. Sensor failure; 3. Controller.	1. Check front left collision sensor connector; 2. Check related wire harness of front left collision sensor; 3. Replace front left collision sensor; 4. Replace ECU.
B0090-13	Front Left Sensor Open	Open in front left collision sensor for 2000ms (5ms * 400).		
B0090-49	Front Left Sensor Internal Fault	Data in front left collision sensor exceeds range for 2000ms (5ms * 400).		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0090-55	Front Left Sensor Configured Fault	Configuration fault in front left collision sensor for 2000ms (5ms * 400).	1. Wire harness connector; 2. Not configured or configuration fault; 3. Controller.	1. Check front left collision sensor connector; 2. Check related wire harness of front left collision sensor; 3. Check configuration; 4. Replace front left collision sensor; 5. Replace ECU.
B0090-87	Front Left Sensor Communication Fault	Communication in front left collision sensor for 2000ms (5ms * 400).	1. Wire harness connector; 2. Sensor failure; 3. Controller.	1. Check front left collision sensor connector; 2. Check related wire harness of front left collision sensor; 3. Replace front left collision sensor; 4. Replace ECU.
B0091-11	Left B-pillar Sensor Short to GND	Left B-pillar collision sensor is short to ground for 2000ms (5ms * 400), output current from passage exceeds 130 mA.	1. Wire harness connector; 2. Sensor failure; 3. Controller.	1. Check left B-pillar collision sensor connector; 2. Check related wire harness of left B-pillar collision sensor; 3. Replace left B-pillar collision sensor; 4. Replace ECU.
B0091-13	Left B-pillar Sensor Open	Open in left B-pillar collision sensor for 2000ms (5ms * 400).		
B0091-49	Left B-pillar Sensor Internal Fault	Data in left B-pillar collision sensor exceeds range for 2000ms (5ms * 400).		
B0091-55	Left B-pillar Sensor Configured Fault	Configuration fault in front left collision sensor for 2000ms (5ms * 400).	1. Wire harness connector; 2. Not configured or configuration fault; 3. Controller.	1. Check left B-pillar collision sensor connector; 2. Check related wire harness of left B-pillar collision sensor; 3. Check configuration; 4. Replace left B-pillar collision sensor; 5. Replace ECU.
B0091-87	Left B-pillar Sensor Communication Fault	Communication in front left collision sensor for 2000ms (5ms * 400).	1. Wire harness connector; 2. Sensor failure; 3. Controller.	1. Check left B-pillar collision sensor connector; 2. Check related wire harness of left B-pillar collision sensor; 3. Replace left B-pillar collision sensor; 4. Replace ECU.

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0095-11	Front Right Sensor Short to GND	Front right collision sensor is short to ground for 2000ms (5ms * 400), output current from passage exceeds 130 mA.	1. Wire harness connector; 2. Sensor failure; 3. Controller.	1. Check front right collision sensor connector; 2. Check related wire harness of front right collision sensor; 3. Check front right collision sensor connector; 4. Replace ECU.
B0095-13	Front Right sensor Open	Open in front right collision sensor for 2000ms (5ms * 400).		
B0095-49	Front Right Sensor Internal Fault	Data in front right collision sensor exceeds range for 2000ms (5ms * 400).		
B0095-55	Front Right Sensor Configured Fault	Configuration fault in front right collision sensor for 2000ms (5ms * 400).	1. Wire harness connector; 2. Not configured or configuration fault; 3. Controller.	1. Check front right collision sensor connector; 2. Check related wire harness of front right collision sensor; 3. Check configuration; 4. Replace front right collision sensor; 5. Replace ECU.
B0095-87	Front Right Sensor communication Fault	Communication in front right collision sensor for 2000ms (5ms * 400).	1. Wire harness connector; 2. Sensor failure; 3. Controller.	1. Check front right collision sensor connector; 2. Check related wire harness of front right collision sensor; 3. Replace front right collision sensor; 4. Replace ECU.
B0096-11	Right B-pillar Sensor Short to GND	Right B-pillar collision sensor is short to ground for 2000ms (5ms * 400), output current from passage exceeds 130 mA.	1. Wire harness connector; 2. Sensor failure; 3. Controller.	1. Check right B-pillar collision sensor connector; 2. Check related wire harness of right B-pillar collision sensor; 3. Replace right B-pillar collision sensor; 4. Replace ECU.
B0096-13	Right B-pillar Sensor Open	Open in right B-pillar collision sensor for 2000ms (5ms * 400).		
B0096-49	Right B-pillar Sensor Internal Error	Data in right B-pillar collision sensor exceeds range for 2000ms (5ms * 400).		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B0096-55	Right B-pillar Sensor Configured Error	Configuration fault in front right collision sensor for 2000ms (5ms * 400).	1. Wire harness connector; 2. Not configured or configuration fault; 3. Controller.	1. Check right B-pillar collision sensor connector; 2. Check related wire harness of right B-pillar collision sensor; 3. Check configuration; 4. Replace right B-pillar collision sensor; 5. Replace ECU.
B0096-87	Right B-pillar Sensor Communication Error	Communication in front right collision sensor for 2000ms (5ms * 400).	1. Wire harness connector; 2. Sensor failure; 3. Controller.	1. Check right B-pillar collision sensor connector; 2. Check related wire harness of right B-pillar collision sensor; 3. Replace right B-pillar collision sensor; 4. Replace ECU.

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B12E0-49	Internal Error	Internal malfunction occurs.	Controller internal fault occurs.	Replace ACM module.
B12E1-96	Airbag or Pretensioner Deployed When Front Crash Detect	Airbag or pretensioner deploys when front crash is detected.	1. Vehicle is involved in a collision. 2. Controller fault.	
B12E2-96	Airbag or Pretensioner Deployed When Rear Crash Detect	Airbag or pretensioner deploys when front crash is detected.		
B12E3-96	Airbag or Pretensioner Deployed When Rear Crash Detect	Airbag or pretensioner deploys when front crash is detected.		
B12E5-00	Disposal Command Record - Performed Scrap Deployment	Disposal command is received.	1. Disposal command is received; 2. Vehicle is involved in a collision. 3. Controller.	
B12E6-54	IMU EOL Calibration Missing	IMU calibration is not performed.	IMU calibration is not performed.	IMU calibration is performed.
B12E6-92	IMU EOL Calibration Fail	External IMU failed to be calibrated.	External IMU failed to be calibrated.	
B12E7-95	EOL Configuration Parameters Missing	EOL configuration fails.	EOL configuration fails.	EOL calibration is successfully completed.

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
B12E8-95	ACM in EOL Configuration Mode	ACM is in EOL mode.	ACM is in EOL mode.	

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
U0100-87	Lost Communication with EMS	If EMS message is not received within 10 ms, this DTC will be generated, if this message is received for 3 consecutive times, DTC will be cleared.	1. Control module is damaged; 2. Wire harness is broken.	Refer to CAN network system for troubleshooting
U0101-87	Lost Communication with TCU	If TCU information is not received within 100 ms, this DTC will be generated, if this information is received for 3 consecutive times, DTC will be cleared.		
U0122-87	Lost Communication with ESC	If ESC message is not received within 20 ms, this DTC will be generated, if this message is received for 3 consecutive times, DTC will be cleared.		
U0140-87	Lost Communication with BCM	If BCM message is not received within 100 ms, this DTC will be generated, if this message is received for 3 consecutive times, DTC will be cleared.		
U0155-87	Lost Communication with IPC	If IPC information is not received within 100 ms, this DTC will be generated, if this information is received for 3 consecutive times, DTC will be cleared.		
U0212-87	Lost Communication with SCM	If SCM message is not received within 10 ms, this DTC will be generated, if this message is received for 3 consecutive times, DTC will be cleared.		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
U0248-87	Lost Communication with PEPS	If PEPS message is not received within 10 ms, this DTC will be generated, if this message is received for 3 consecutive times, DTC will be cleared.		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
U1272-88	CAN Bus Off	Vehicle CAN is short to ground, this DTC will be generated when disconnected; This DTC will be cleared after returning to normal.	1. Control module is damaged; 2. Wire harness is broken.	Refer to CAN network system for troubleshooting
U0401-86	Abnormal Data Length Received by EMS	If incorrect data is received from EMS, this DTC will occur, the DTC will be cleared after data is normal.		
U0401-81	Invalid Data Received from EMS			
U0402-86	Abnormal Data Length Received by TCU	If incorrect data is received from TCU, this DTC will be generated, the DTC will be cleared after data is normal.		
U0402-81	Invalid Data Received from TCU			
U0416-86	Abnormal Data Length Received by ESC	If incorrect data is received from ESC, this DTC will be generated, the DTC will be cleared after data is normal.		
U0416-81	Invalid Data Received from ESC			
U0422-86	Abnormal Data Length Received by BCM	If incorrect data is received from BCM, this DTC will be generated, the DTC will be cleared after data is normal.		
U0422-81	Invalid Data Received from BCM			
U0423-86	Abnormal Data Length Received by IPC	If incorrect data is received from IPC, this DTC will be generated, the DTC will be cleared after data is normal.		
U0423-81	Invalid Data Received from IPC			
U0426-86	Abnormal Data Length Received by PEPS	If incorrect data is received from PEPS, this DTC will be generated, the DTC		

DTC	DTC Definition	Detection Condition	Possible Cause	Maintenance Advice
U0426-81	Invalid Data Received from PEPS	will be cleared after data is normal.		
U0429-86	Abnormal Data Length Received by SCM	If incorrect data is received from SCM, this DTC will be generated, the DTC will be cleared after data is normal.		
U0429-81	Invalid Data Received from SCM			

■ Controller Power Supply Fault

DTC	DTC Definition
B1271-16	ECU Supply Voltage Low
B1270-17	ECU Supply Voltage High

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

⚠ Warning

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

1 Check system voltage

Use circuit diagram as a guide to perform the following inspection 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

NG

Repair or replace battery/alternator

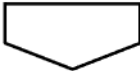
2 Check fuse

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

- (a) Turn ENGINE START STOP switch to OFF.
 (b) Disconnect the negative battery cable.
 (c) Check for continuity of fuse RF10 in instrument panel fuse with a digital multimeter.

NG

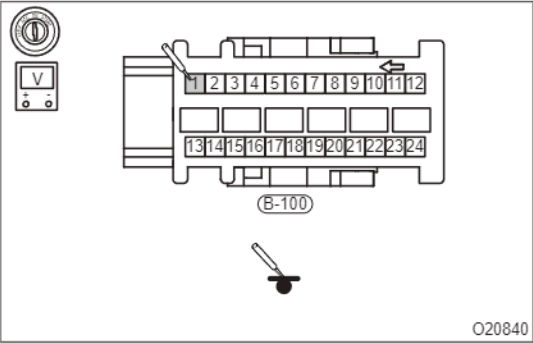
Replace fuse.



3 Check airbag controller power supply

Use circuit diagram as a guide to perform the following inspection 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 21W 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.

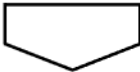


Specified Condition

Multimeter Connection	Condition	Operating Voltage
B-100 (B1) - Ground	ENGINE START STOP switch "ON"	Not less than 12 V

NG

Replace fuse



4 Check airbag controller ground

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

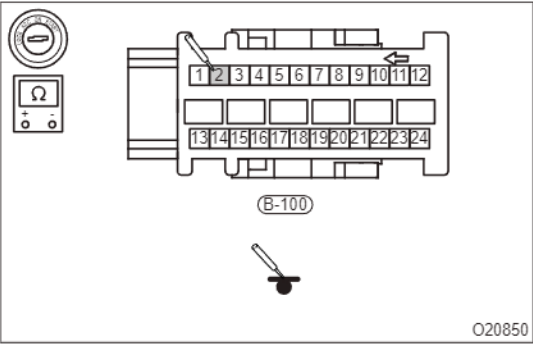
- (a) Turn ENGINE START STOP switch to OFF and connect the negative battery cable.
- (b) Disconnect the component connectors (measurement value is incorrect with power on, and power off is necessary).
- (c) Use ohm band of digital multimeter to detect the continuity between B-100 (B2) and ground.

Specified Condition

Multimeter Connection	Condition	Operating Voltage
B-100 (B1) - Ground	ENGINE START STOP switch "ON"	Not less than 12 V

OK

Replace module assembly.



NG

Check or repair module ground.

■ Actuator Short Fault to Ground

DTC	DTC Definition
B0001-11	Driver Frontal Airbag Deployment Control-Circuit Short To Ground
B0010-11	Passenger Airbag Deployment Control-Circuit Short To Ground
B0020-11	Driver/Left Side Airbag Squib Short to GND
B0021-11	Driver/Left Curtain Airbag Squib Short to GND
B0028-11	Passenger/Right Side Airbag Squib Short to GND
B0029-11	Passenger/Right Curtain Airbag Squib Short to GND
B0050-11	Driver Seatbelt Buckle Short to Ground
B0070-11	Driver/Left Pretensioner Squib Short to GND
B0072-11	Passenger/Right Pretensioner Squib Short to GND
B0073-11	Rear Left Pretensioner Squib Short to GND
B0075-11	Rear Right Pretensioner Squib Short to GND
B0090-11	Front Left Sensor Short to GND
B0091-11	Left B-pillar Sensor Short to GND
B0095-11	Front Right Sensor Short to GND
B0096-11	Right B-pillar Sensor Short to GND

 Warning

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

Hint:

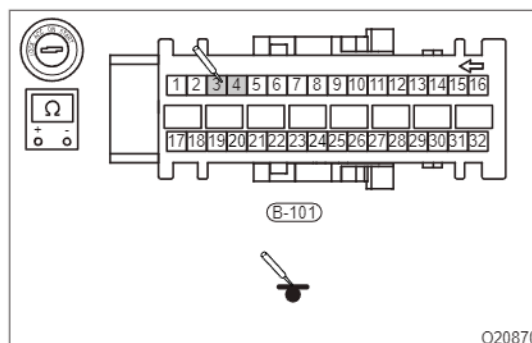
- An activation prevention mechanism is built in airbag system connector. When connector is disconnected, this mechanism cuts off circuit by bringing short spring plate into contact with terminals, thus insulating the circuit from external power sources to prevent accidental airbag activation.
- To release 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

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

- Check sensor connectors, controller connectors for corrosion, poor contact, displacement and repair it if any symptom occurs.
- Check the continuity of sensor wire harness and replace wire harness if open circuit malfunction occurs.
- Turn ENGINE START STOP switch to "OFF", disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect airbag module connector B-101 and driver frontal airbag connector.
- Turn ENGINE START STOP switch to ON and make all accessories operate.
- Using ohm band of multimeter, detect B-101 (A3) to ground and B-101 (A4) to ground separately.



Operating Voltage

Multimeter Connection	Condition	Resistance
B-101 (A3) - Ground	ENGINE START STOP switch "OFF"	∞
B-101 (A4) - Ground	ENGINE START STOP switch "OFF"	∞

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

■ Actuator Short to Power Supply Fault

DTC	DTC Definition
B0001-12	Driver Frontal Airbag Deployment-Circuit Short To Power Supply
B0010-12	Passenger Airbag Deployment Control-Circuit Short To Power Supply
B0020-12	Driver/Left Side Airbag Squib Short to Power Line
B0021-12	Driver/Left Curtain Airbag Squib Short to Power Line
B0028-12	Passenger/Right Side Airbag Squib Short to Power Line
B0029-12	Passenger/Right Curtain Airbag Squib Short to Power Line
B0050-12	Driver Seatbelt Buckle Short to Power Line
B0052-12	Front Passenger Seatbelt Buckle Short to Power Line
B0053-12	Second Row Left Seatbelt Sensor Short to Power Line
B0054-12	Second Row Center Seatbelt Sensor Short to Power Line
B0055-12	Second Row Right Seatbelt Sensor Short to Power Line
B0070-12	Driver/Left Pretensioner Squib Short to Power Line
B0072-12	Passenger/Right Pretensioner Squib Short to Power Line

DTC	DTC Definition
B0073-12	Rear Left Pretensioner Squib Short to Power Line
B0075-12	Rear Right Pretensioner Squib Short to Power Line
B00C0-12	Front Passenger Occupant Sensor Short to Power Line

Warning

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

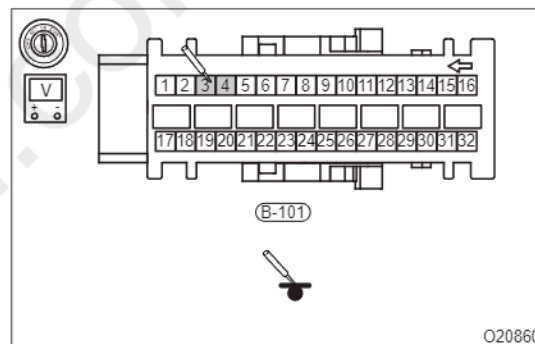
Hint:

- 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 power supply malfunction

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

- Check sensor connectors, controller connectors for corrosion, poor contact, displacement and repair it if any symptom occurs.
- Check the continuity of sensor wire harness and replace wire harness if open circuit malfunction occurs.
- Turn ENGINE START STOP switch to "OFF", disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect airbag module connector B-101 and driver frontal airbag connector.
- Turn ENGINE START STOP switch to ON and make all accessories operate.
- Using ohm band of multimeter, detect B-101 (A3) to ground and B-101 (A4) to ground separately.



Operating Voltage

Multimeter Connection	Condition	Operating Voltage
B-101 (A3) - Ground	ENGINE START STOP switch "OFF"	0V
B-101 (A4) - Ground	ENGINE START STOP switch "OFF"	0V

NG

Repair or replace wire harness and connectors of driver frontal airbag deployment control circuit shorted to ground.

OK

Refer to "Airbag system malfunction repair completion inspection".

■ Front Left Sensor Fault

DTC	DTC Definition
B0090-13	Front Left Sensor Open
B0091-13	Left B-pillar Sensor Open
B0095-13	Front Right sensor Open
B0096-13	Right B-pillar Sensor Open

⚠ Warning

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

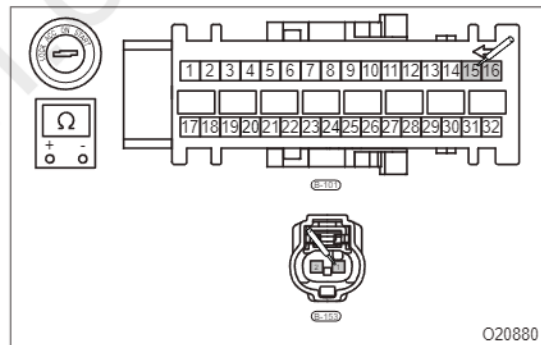
Hint:

- 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 Left side collision sensor circuit open

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

- Check sensor connectors, controller connectors for corrosion, poor contact, displacement and repair it if any symptom occurs.
- Check the continuity of sensor wire harness and replace wire harness if open circuit malfunction occurs.
- Turn ENGINE START STOP switch to "OFF", disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect airbag module connector B-101 and left side collision sensor connector B-153.
- Using ohm band of multimeter, detect continuity between B-101 (A16) and B-153 (1), B-101 (A15) and B-153 (2) separately.



Operating Voltage

Multimeter Connection	Condition	Resistance
B-101 (A16) - B-153(1)	ENGINE START STOP switch "OFF"	$\leq 1 \Omega$
B-101 (A15) - B-153(2)	ENGINE START STOP switch "OFF"	$\leq 1 \Omega$

NG

Repair or replace opened wire harness or connector.

OK

Inspection. Refer to "Airbag system malfunction repair completion inspection" and replace the sensor if wire harness is not malfunctioning

■ Airbag Low Resistance Fault

DTC	DTC Definition
B0001-1A	Driver/Left Front Airbag Squib Low Resistance
B0010-1A	Passenger/Right Front Airbag Squib Low Resistance
B0020-1A	Driver/Left Side Airbag Squib Low Resistance
B0021-1A	Driver/Left Curtain Airbag Squib Low Resistance
B0028-1A	Passenger/Right Side Airbag Squib Low Resistance
B0029-1A	Passenger/Right Curtain Airbag Squib Low Resistance
B0070-1A	Driver/Left Pretensioner Squib Low Resistance
B0072-1A	Passenger/Right Pretensioner Squib Low Resistance
B0073-1A	Rear Left Seat Belt Pretensioner Low Resistance
B0075-1A	Rear Right Pretensioner Low Resistance

Warning

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

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 Left side collision sensor circuit open

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

- Use 2 Ω resistance to substitute airbag or tensioner indicated by DTC.
- Connect wire harness connector on the end of airbag module.
- Connect the battery and diagnostic tester and read the previous DTC.

NG

Replace damaged airbag or tensioner.

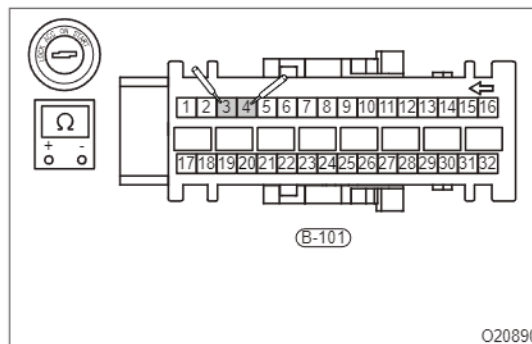
OK

Inspection. Refer to "Airbag system malfunction repair completion inspection".

2 Check for short circuit between 2 cables

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

- Turn ENGINE START STOP switch to "OFF", disconnect the negative battery cable and wait for at least 90 seconds.
- Disconnect the airbag module connector B-101.
- Using ohm band of multimeter, check for continuity between B-101 (A3) and I-023 (A4).



Standard Condition

Multimeter Connection	Condition	Resistance
B-101 (A3) - I-023 (A4)	ENGINE START STOP switch "OFF"	$\leq 1 \Omega$

NG	Repair or replace opened wire harness or connector.
OK	Inspection. Refer to "Airbag system malfunction repair completion inspection".

■ Airbag Low Resistance Fault

DTC	DTC Definition
B0001-13	Driver/Left Front Airbag Squib High Resistance
B0010-13	Passenger/Right Front Airbag Squib High Resistance
B0020-13	Driver/Left Side Airbag Squib High Resistance
B0021-13	Driver/Left Curtain Airbag Squib High Resistance
B0028-13	Passenger/Right Side Airbag Squib High Resistance
B0029-13	Passenger/Right Curtain Airbag Squib High Resistance
B0070-13	Driver/Left Pretensioner Squib High Resistance
B0072-13	Passenger/Right Pretensioner Squib High Resistance
B0073-13	Rear Left Seat Belt Pretensioner High Resistance
B0075-13	Rear Right Seat Belt Pretensioner High Resistance

⚠ Warning

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

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
---	--------------------------------------

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

- Use 2 Ω resistance to substitute airbag or tensioner indicated by DTC.
- Connect wire harness connector on the end of airbag module.
- Connect the battery and diagnostic tester and read the previous DTC.

NG

Replace damaged airbag or tensioner.

OK

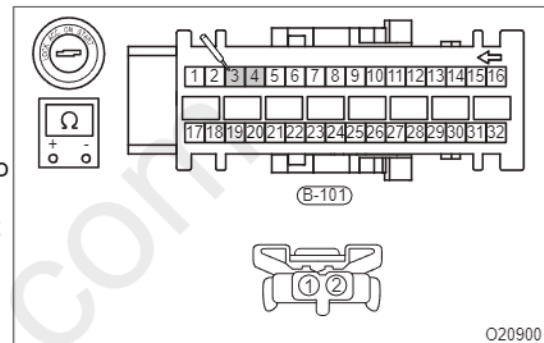
Inspection. Refer to "Airbag system malfunction repair completion inspection" .

2

Check for short circuit between 2 cables

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

- Turn ENGINE START STOP switch to "OFF", disconnect the negative battery cable and wait for at least 90 seconds.
- 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.
- Disconnect airbag module connector B-101 and driver airbag connector.
- Using ohm band of multimeter, check the continuity between B-101 (A4) and driver airbag (2), B-101 (A3) and driver airbag (1) separately.



Q20900

Standard Condition

Multimeter Connection	Condition	Resistance
B-101 (A4) - Driver airbag (2)	ENGINE START STOP switch "OFF"	$\leq 1 \Omega$
B-101 (A3) - Driver airbag (1)	ENGINE START STOP switch "OFF"	$\leq 1 \Omega$

NG

Repair or replace opened wire harness or connector.

OK

Inspection. Refer to "Airbag system malfunction repair completion inspection" .

■ Airbag Configured Fault

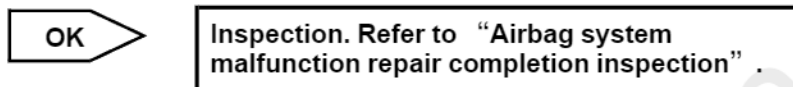
DTC	DTC Definition
B0001-95	Driver/Left Front Airbag Squib Configured Fault
B0010-95	Passenger/Right Front Airbag Squib Configured Fault
B0020-95	Driver/Left Side Airbag Squib Configured Fault
B0021-95	Driver/Left Curtain Airbag Squib Configured Fault
B0028-95	Passenger/Right Side Airbag Squib Configured Fault

DTC	DTC Definition
B0029-95	Passenger/Right Curtain Airbag Squib Configured Fault
B0070-95	Driver/Left Pretensioner Squib Configured Fault
B0072-95	Passenger/Right Pretensioner Squib Configured Fault
B0073-95	Rear Left Pretensioner Squib Configured Fault
B0075-95	Rear Right Pretensioner Squib Configured Fault
B0090-95	Front Left Sensor Configured Fault
B0091-55	Left B-pillar Sensor Configured Fault
B0095-55	Front Right Sensor Configured Fault
B0096-55	Front Right Sensor Configured Fault

1	Check front passenger load detection switch
---	--

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

- (a) Replace it with seat belt buckle switch of correct function and type.



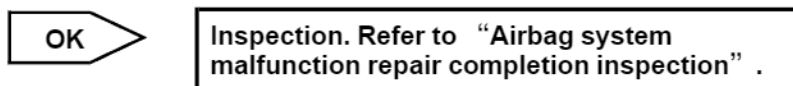
■ Airbag Squib Cross-connect Problem

DTC	DTC Definition
B0001-19	Driver/Left Front Airbag Squib Cross-connect
B0010-19	Passenger/Right Front Airbag Squib Cross-connect
B0020-19	Driver/Left Side Airbag Squib Cross-connect
B0021-19	Driver/Left Curtain Airbag Squib Cross-connect
B0028-19	Passenger/Right Side Airbag Squib Cross-connect Fault
B0029-19	Passenger/Right Curtain Airbag Squib Cross-connect
B0070-19	Driver/Left Pretensioner Squib Cross-connect
B0072-19	Passenger/Right Pretensioner Squib Cross-connect Fault
B0073-19	Rear Left Pretensioner Squib Cross-connect Fault
B0075-19	Rear Right Pretensioner Squib Cross-connect Fault

1	Check front passenger load detection switch
---	--

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

- (a) Replace it with seat belt buckle switch of correct function and type.



■ Sensor Internal Failure Problem

DTC	DTC Definition
B0090-49	Front Left Sensor Internal Fault
B0091-49	Left B-pillar Sensor Internal Fault
B0095-49	Front Right Sensor Internal Fault
B0096-49	Right B-pillar Sensor Internal Error

Hint:

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

1 Check side collision sensor

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

(a) Replace with side collision sensor of correct function and type.

OK

Inspection. Refer to "Airbag system malfunction repair completion inspection".

■ Front Left Sensor & ACM Internal Fail

DTC	DTC Definition
B0090-87	Front Left Sensor Communication Fault
B0091-87	Left B-pillar Sensor Communication Fault
B0095-87	Front Right Sensor Communication Fault
B0096-87	Right B-pillar Sensor Communication Error
B12E0-49	ACM Internal Error
B00D2-F0	ACM in Supplier Manufacturing Mode
B12E5-00	ACM Has Been Scrapped

Hint:

Trouble cause: Sensor usage incorrect or controller damaged.

1 Check controller

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

(a) Replace with side collision sensor or module of correct function and type.

OK

Inspection. Refer to "Airbag system malfunction repair completion inspection".

■ CAN Network Fault

DTC	DTC Definition
U0100-87	Lost Communication with EMS
U0101-87	Lost Communication with TCU
U0122-87	Lost Communication with ESC
U0140-87	Lost Communication with BCM
U0155-87	Lost Communication with IPC

DTC	DTC Definition
U0212-87	Lost Communication with SCM
U0248-87	Lost Communication with PEPS

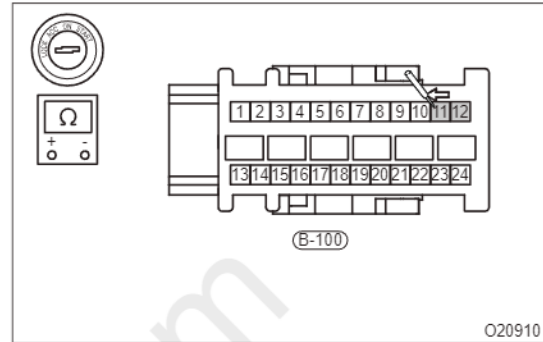
Hint:

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

1	Check CAN network
----------	--------------------------

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

- (a) Disconnect the airbag module connector B-100.
- (b) Use ohm band of multimeter to measure resistance between B-100 (B11) and B-100 (B12).

**Standard Condition**

Multimeter Connection	Condition	Resistance
B-100 (B11) - B-100 (B12)	ENGINE START STOP switch "OFF"	120 Ω

NG	Repair or replace wire harness or connector.
OK	Check controller

2	Check controller
----------	-------------------------

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

- (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.

Warning

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

OK	Inspection. Refer to "Airbag system malfunction repair completion inspection" .
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■ Airbag or pretensioner deploys when front crash is detected

DTC	DTC Definition
B12E1-96	Airbag or Pretensioner Deployed When Front Crash Detect
B12E2-96	Airbag or Pretensioner Deployed When Side Crash Detect
B12E3-96	Airbag or Pretensioner Deployed When Rear Crash Detect

Hint:

Possible cause for malfunction: Ignition circuit has been initiated and collision information is recorded.

1	Check controller and initiated ignition element
----------	--

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

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

OK

Inspection. Refer to “Airbag system malfunction repair completion inspection” .

■ **EOL calibration fault**

DTC	DTC Definition
B12E6-54	IMU EOL Calibration Missing
B12E6-92	MU EOL Calibration Fail
B12E7-95	EOL Configuration Parameters Missing
B12E8-95	ACM in EOL Configuration Mode

Hint:

Trouble cause: ACM is not configured with EOL or sample is error.

1	ACM is configured with EOL.
----------	------------------------------------

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

NG

Replace it with sample of correct function and type.

OK

Inspection. Refer to “Airbag system malfunction repair completion inspection” .

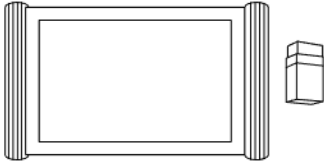
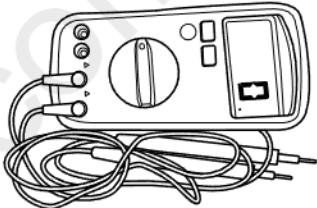
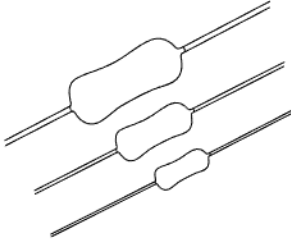
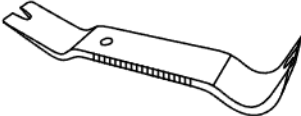
■ **PLG Communication Failure**

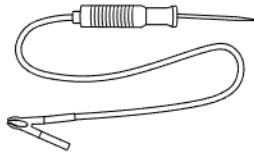
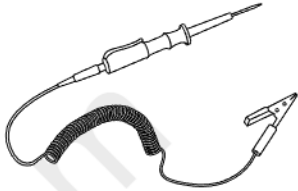
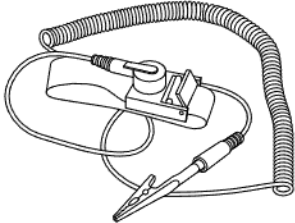
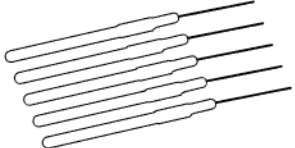
DTC	DTC Definition
U0401-86	Abnormal Data Length Received by EMS
U0401-81	Invalid Data Received from EMS
U0402-86	Abnormal Data Length Received by TCU
U0402-81	Invalid Data Received from TCU
U0416-86	Invalid Data Received from ESC
U0416-81	Invalid Data Received from ESC
U0422-86	Abnormal Data Length Received by BCM
U0422-81	Invalid Data Received from BCM
U0423-86	Abnormal Data Length Received by IPC
U0423-81	Invalid Data Received from IPC
U0426-86	Abnormal Data Length Received by PEPS
U0426-81	Invalid Data Received from PEPS
U0429-86	Abnormal Data Length Received by SCM
U0429-81	Invalid Data Received from SCM

1	Refer to “CAN Network System” for troubleshooting
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5 On-vehicle Service

5.1 Tools

Tool Name	Tool Drawing
Diagnostic Tester	 S00001
Digital Multimeter	 S00002
Resistor (2 Ω)	 S00070
Interior & Exterior Remover	 S00020

Tool Name	Tool Drawing
Bulb Test Light	 S00071
Diode Test Light	 S00072
Static-proof Wrist Strap	 S00073
Wire Harness Terminal Service Tool	 S00074

5.2 Replacement of Airbag System Controller.(ACU)

■ Removal

⚠ Warning

- Be sure to follow correct procedures to remove and install airbag system controller.
- Inspect and confirm that part number in airbag control module 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;
- Handle airbag control module carefully and it's strictly forbidden to tap and crash it fiercely.
- There should be no other objects between airbag control module installation plane and ACU module, and ACU must be installed directly on body panel.
- Make sure that the **ENGINE START STOP** Switch in **OFF** state during installation and removal of ACU, and never install or remove it with power on.
- Reconfirm the installation direction of ACU 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) Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.
- (3) Remove the auxiliary fascia console assembly. (See page).
- (4) Remove 3 fixing bolts (10# socket wrench) from airbag controller.



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



■ Inspection

- (1) Check whether pins of airbag system controller are exposed and bent before assembly.
- (2) Check whether there are cracks, burrs and other phenomena on airbag system controller.

■ Installation

⚠ Caution

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

- (1) Place ACU module on passage bottom panel in body with arrow direction in label facing vehicle head, install and tighten 3 fixing bolts (10# socket wrench).

Torque: $8 \pm 1.2 \text{ N}\cdot\text{m}$

- (2) Install ACU connector, generally a “click” sound will be heard, which indicates that the clip has been clamped into place.
- (3) Connect diagnostic tester, read and clear DTCs.

■ Write VIN Code

- (1) Turn ENGINE START STOP switch to OFF.
- (2) Connect the diagnostic tester (the latest software).
- (3) Turn ENGINE START STOP switch to ON.
- (4) Click “Traditional Diagnosis” .
- (5) Click “EXCEED” .
- (6) Click “VX” .

Show Menu

EXEED V10.61 > New TXL > System Selection

VGW (Vehicle Gateway)	PLG (Power Lift Gate)
CWC (Cellphone Wireless Charger)	ACP (Audio Control Panel)
DVR (Driving Video Recorder)	SCU (Seat Control Unit)
ACM (Airbag Control Module)	AWD (All Wheel Drive)
SCM (Steering Column Module)	RLS (Rain Light Sensor)
IBS (Intelligent Battery Sensor)	DCM (Door Control Module)
AMP (Amplifier)	SAM (Steering Angle Module)

Exeed New TXL

0209

020920

(7) Click “ACM (Airbag Control Module)”

Show Menu



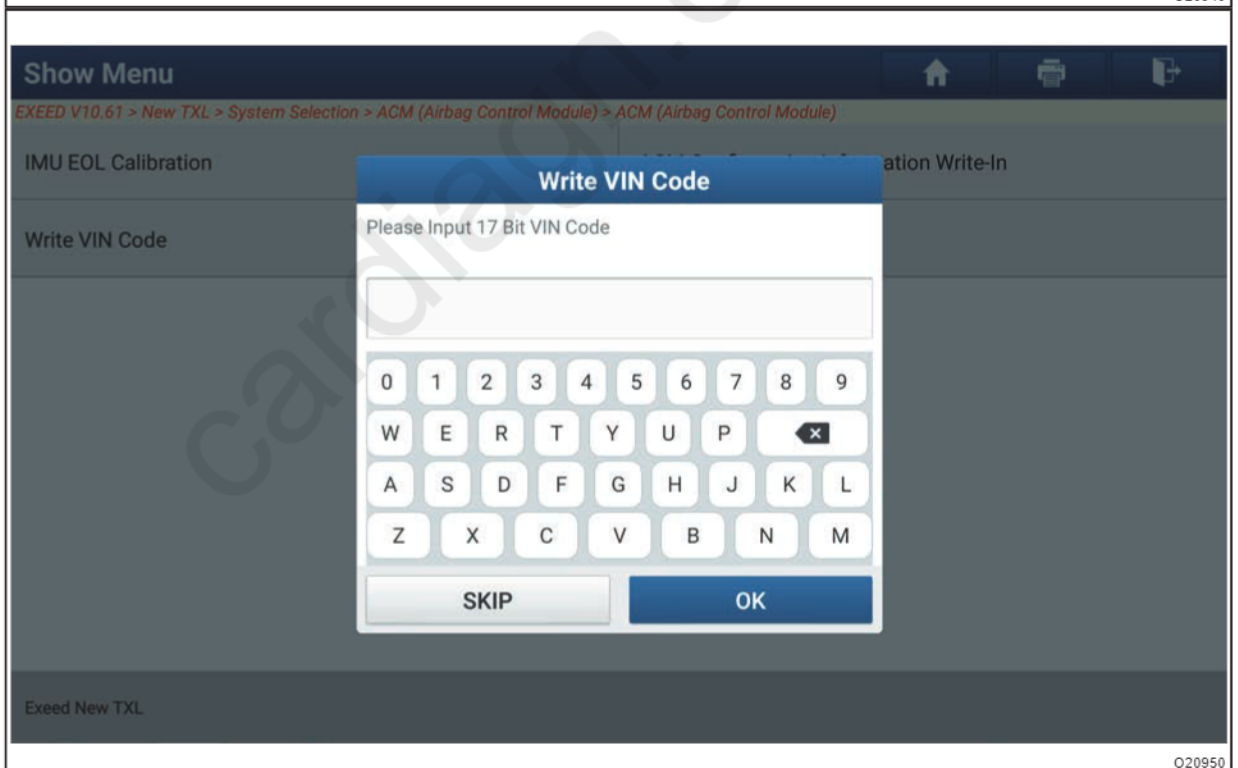
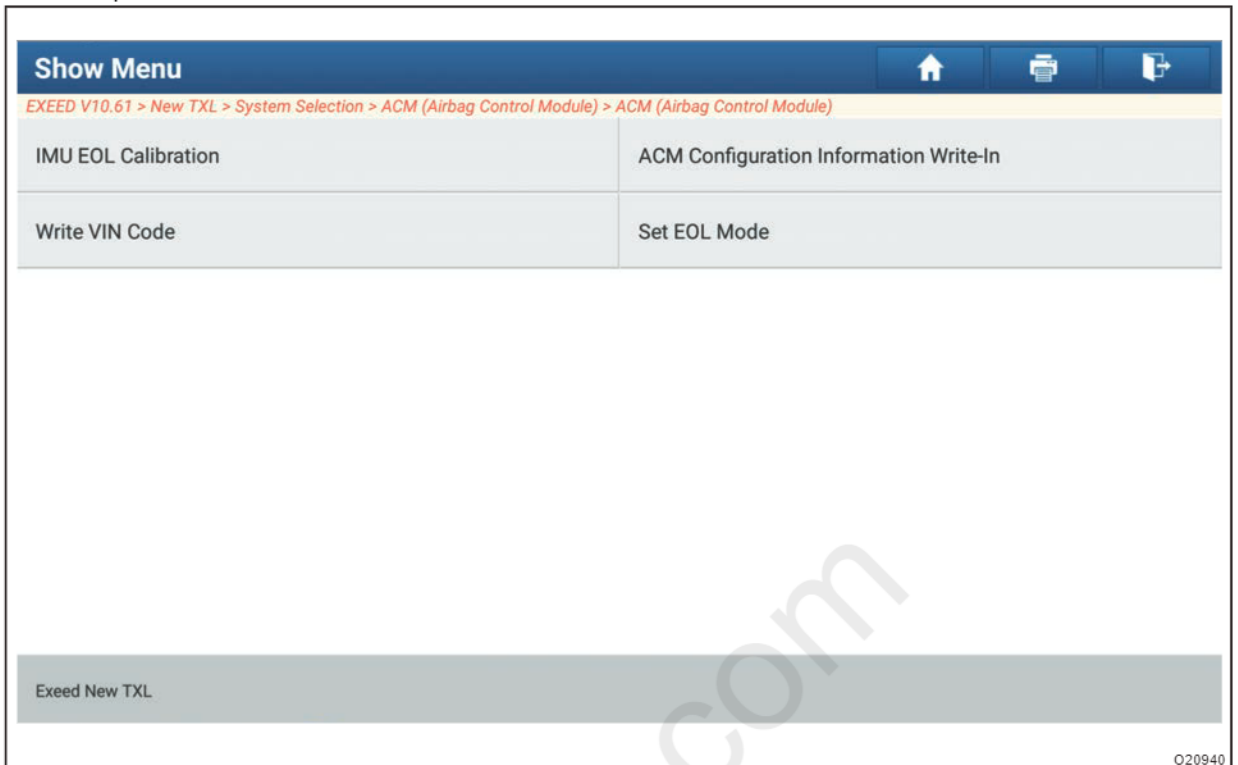
EXEED V10.61 > New TXL > System Selection > ACM (Airbag Control Module) > ACM (Airbag Control Module)

Version Information	Read Fault Code
Clear Fault Memory	Read Data Stream
Special Function	

Exeed New TXL

O20930

- (8) Click “Special Function” .



- (9) Click “Write VIN code” .

■ IMU (Inertial Sensor) Calibration

- (1) Turn ENGINE START STOP switch to OFF.
- (2) Connect the diagnostic tester (the latest software).
- (3) Turn ENGINE START STOP switch to ON.
- (4) Click “Traditional Diagnosis” .
- (5) Click “EXCEED” .

(6) Click “VX” .

Show Menu



EXEED V10.61 > New TXL > System Selection

VGW (Vehicle Gateway)	PLG (Power Lift Gate)
CWC (Cellphone Wireless Charger)	ACP (Audio Control Panel)
DVR (Driving Video Recorder)	SCU (Seat Control Unit)
ACM (Airbag Control Module)	AWD (All Wheel Drive)
SCM (Steering Column Module)	RLS (Rain Light Sensor)
IBS (Intelligent Battery Sensor)	DCM (Door Control Module)
AMP (Amplifier)	SAM (Steering Angle Module)

Exeed New TXL

O20920

(7) Click “ACM (Airbag Control Module)” .

Show Menu



EXEED V10.61 > New TXL > System Selection > ACM (Airbag Control Module) > ACM (Airbag Control Module)

Version Information	Read Fault Code
Clear Fault Memory	Read Data Stream
Special Function	

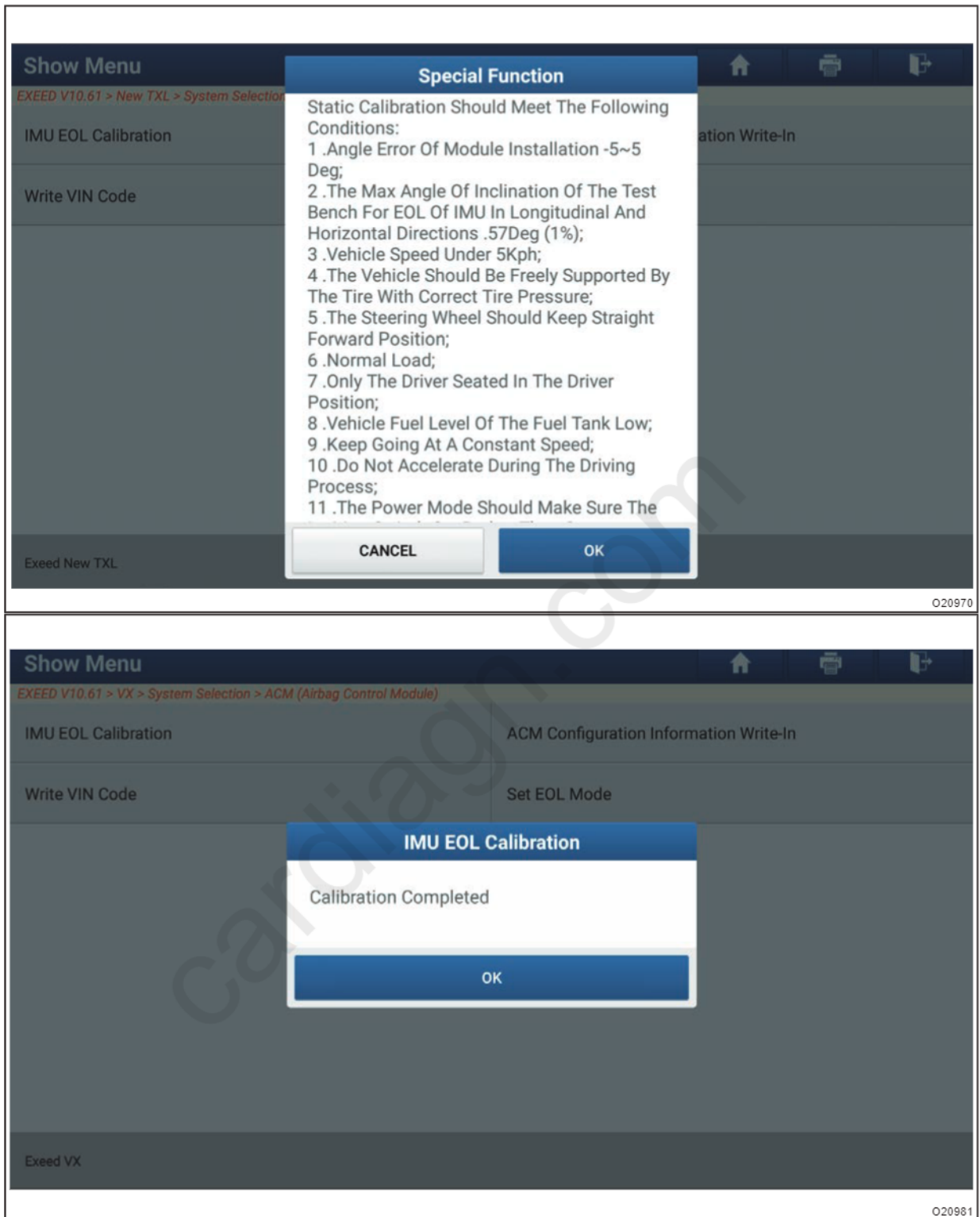
Exeed New TXL

O20930

(8) Click “Special Function” .

Show Menu	
EXEED V10.61 > New TXL > System Selection > ACM (Airbag Control Module) > ACM (Airbag Control Module)	
IMU EOL Calibration	ACM Configuration Information Write-In
Write VIN Code	Set EOL Mode
Exeed New TXL	

O20961



(9) Click “IMU (Inertial Sensor) Calibration” .

■ Airbag Control Module (ACM) Configuration Data

- (1) Turn ENGINE START STOP switch to OFF.
- (2) Connect the diagnostic tester (the latest software).
- (3) Turn ENGINE START STOP switch to ON.
- (4) Click “Traditional Diagnosis” .
- (5) Click “EXCEED” .

(6) Click “VX” .

Show Menu	
EXEED V10.61 > New TXL > System Selection	
VGW (Vehicle Gateway)	PLG (Power Lift Gate)
CWC (Cellphone Wireless Charger)	ACP (Audio Control Panel)
DVR (Driving Video Recorder)	SCU (Seat Control Unit)
ACM (Airbag Control Module)	AWD (All Wheel Drive)
SCM (Steering Column Module)	RLS (Rain Light Sensor)
IBS (Intelligent Battery Sensor)	DCM (Door Control Module)
AMP (Amplifier)	SAM (Steering Angle Module)
Exeed New TXL	

O20920

(7) Click “ACM (Airbag Control Module)” .

Show Menu	
EXEED V10.61 > New TXL > System Selection > ACM (Airbag Control Module) > ACM (Airbag Control Module)	
Version Information	Read Fault Code
Clear Fault Memory	Read Data Stream
Special Function	
Exeed New TXL	

O20930

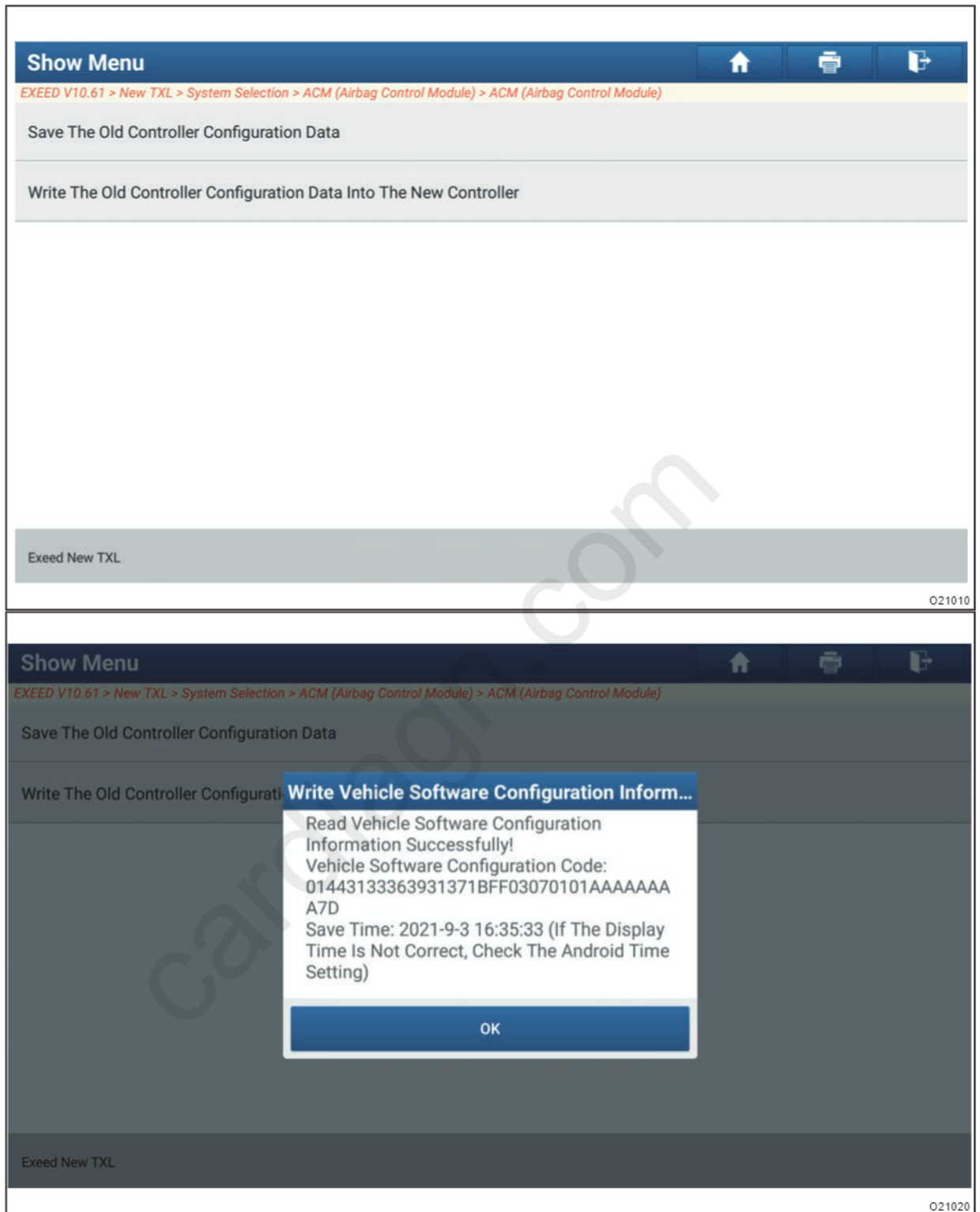
- (8) Click “Special Function” .

Show Menu				
EXEED V10.61 > New TXL > System Selection > ACM (Airbag Control Module) > ACM (Airbag Control Module)				
IMU EOL Calibration	ACM Configuration Information Write-In			
Write VIN Code	Set EOL Mode			
Exeed New TXL				
O20961				

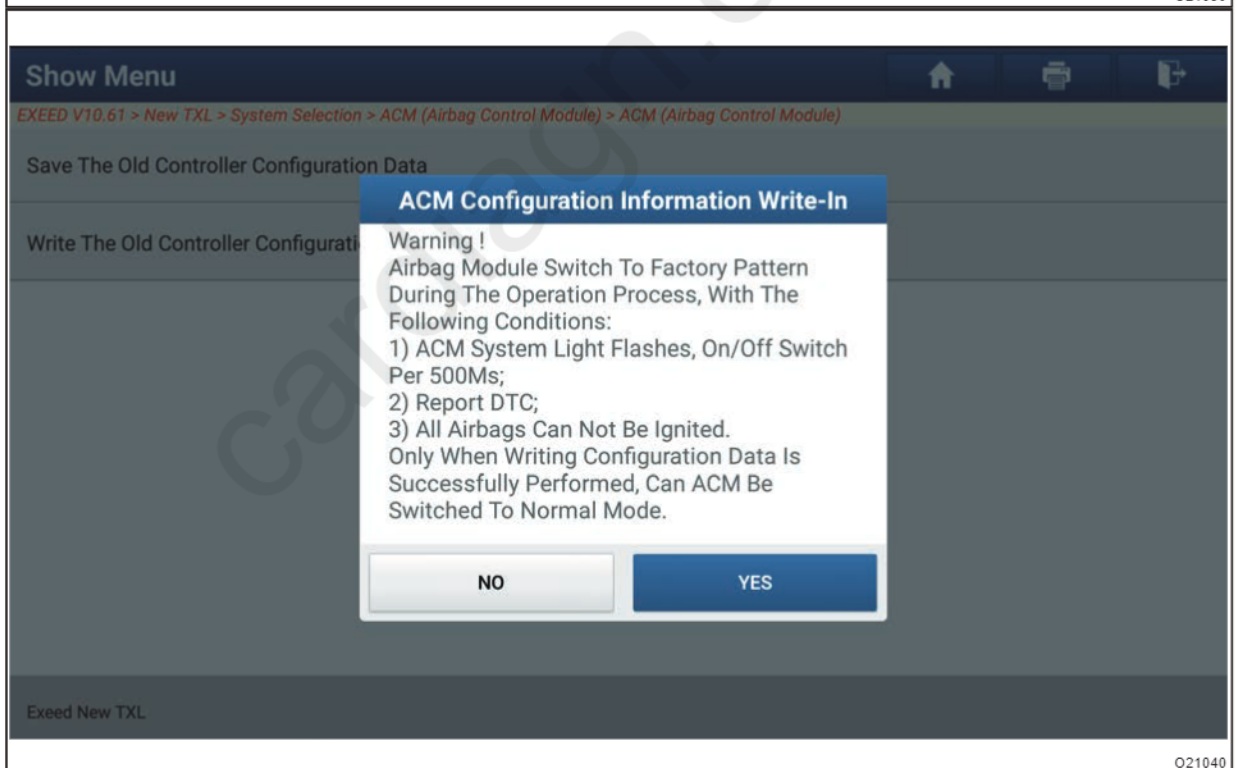
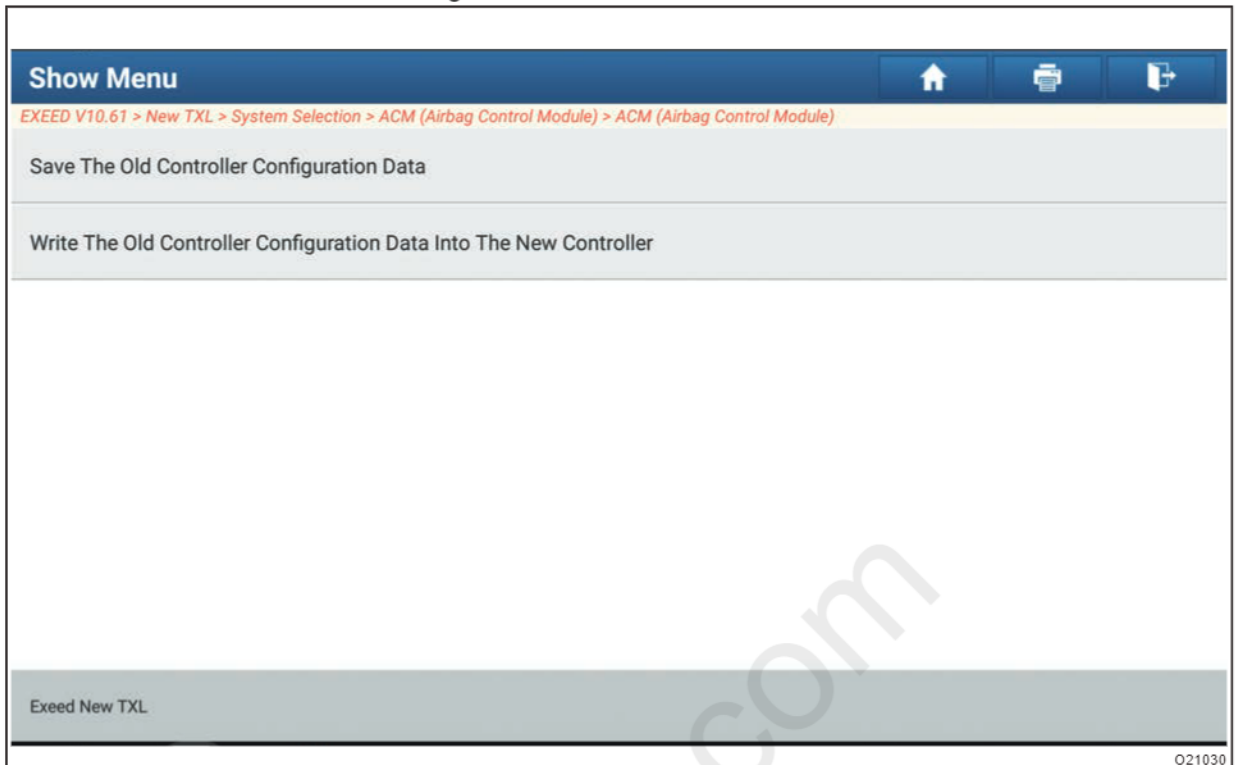
- (9) Click “Write Airbag Control Module (ACM) Configuration Data” .

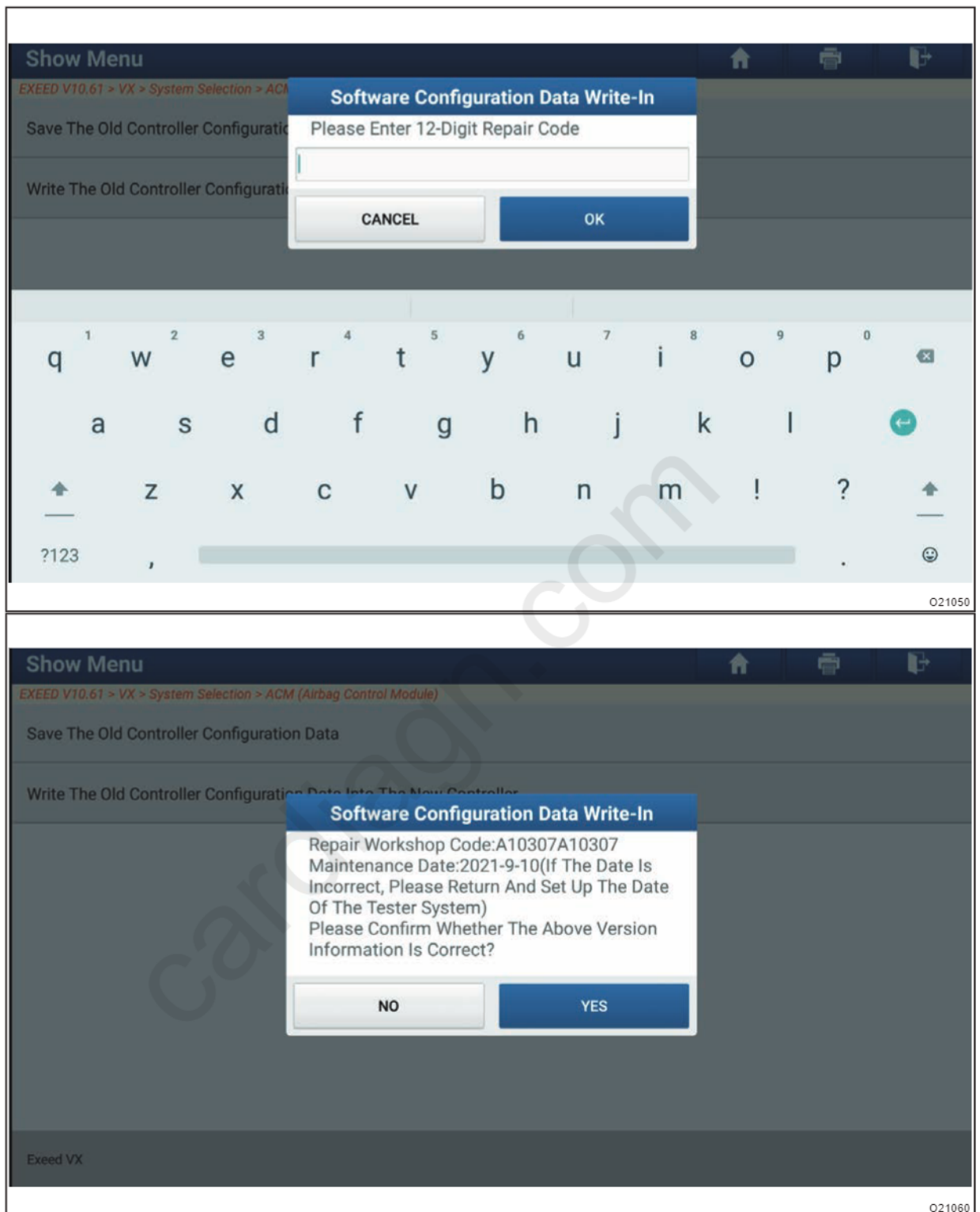
Show Menu				
EXEED V10.61 > New TXL > System Selection > ACM (Airbag Control Module) > ACM (Airbag Control Module)				
Read And Display QR Code Of Current Software Configuration	Manual Write-In			
Save And Paste(Transfer The Configuration Data In The Old Controller To The New Controller)	Scan To Write In			
Import XML File And Automatically Write In				
Exeed New TXL				
O21000				

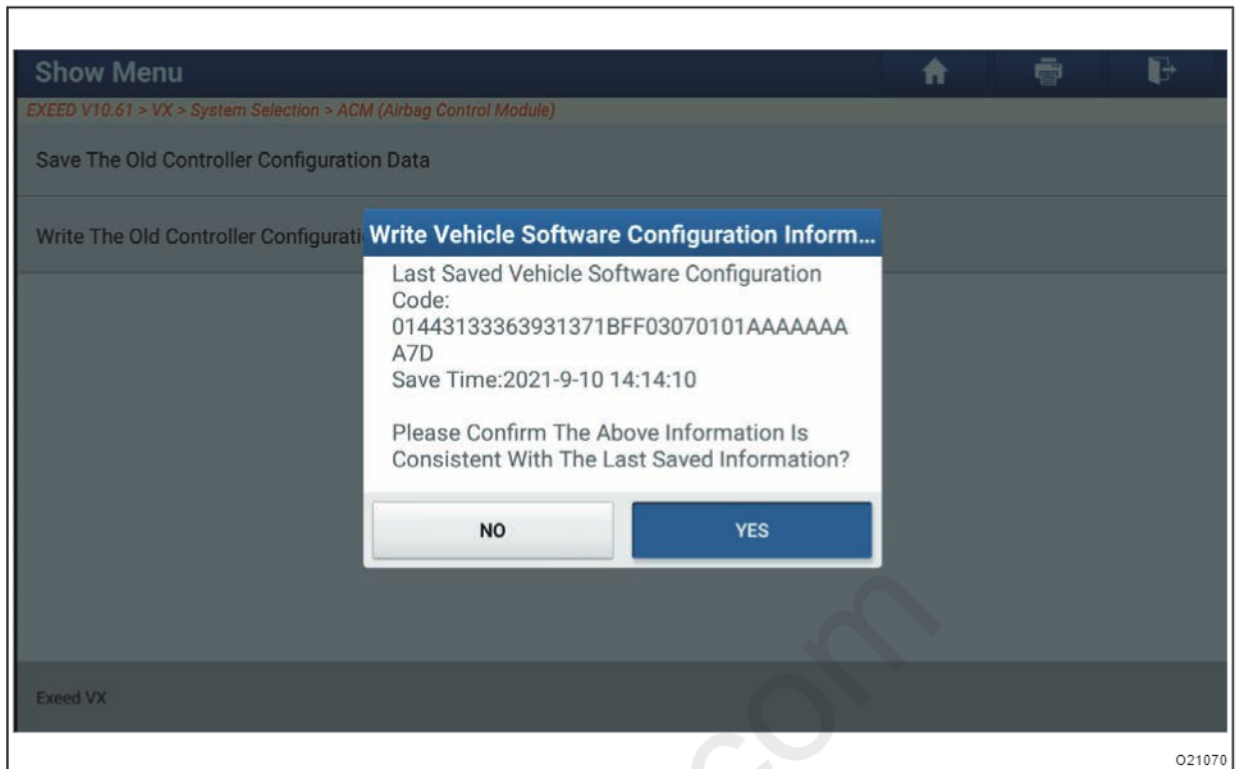
- (10) Click “Save And Paste (Transfer The Configuration Data In The Old Controller To The New Controller)” .

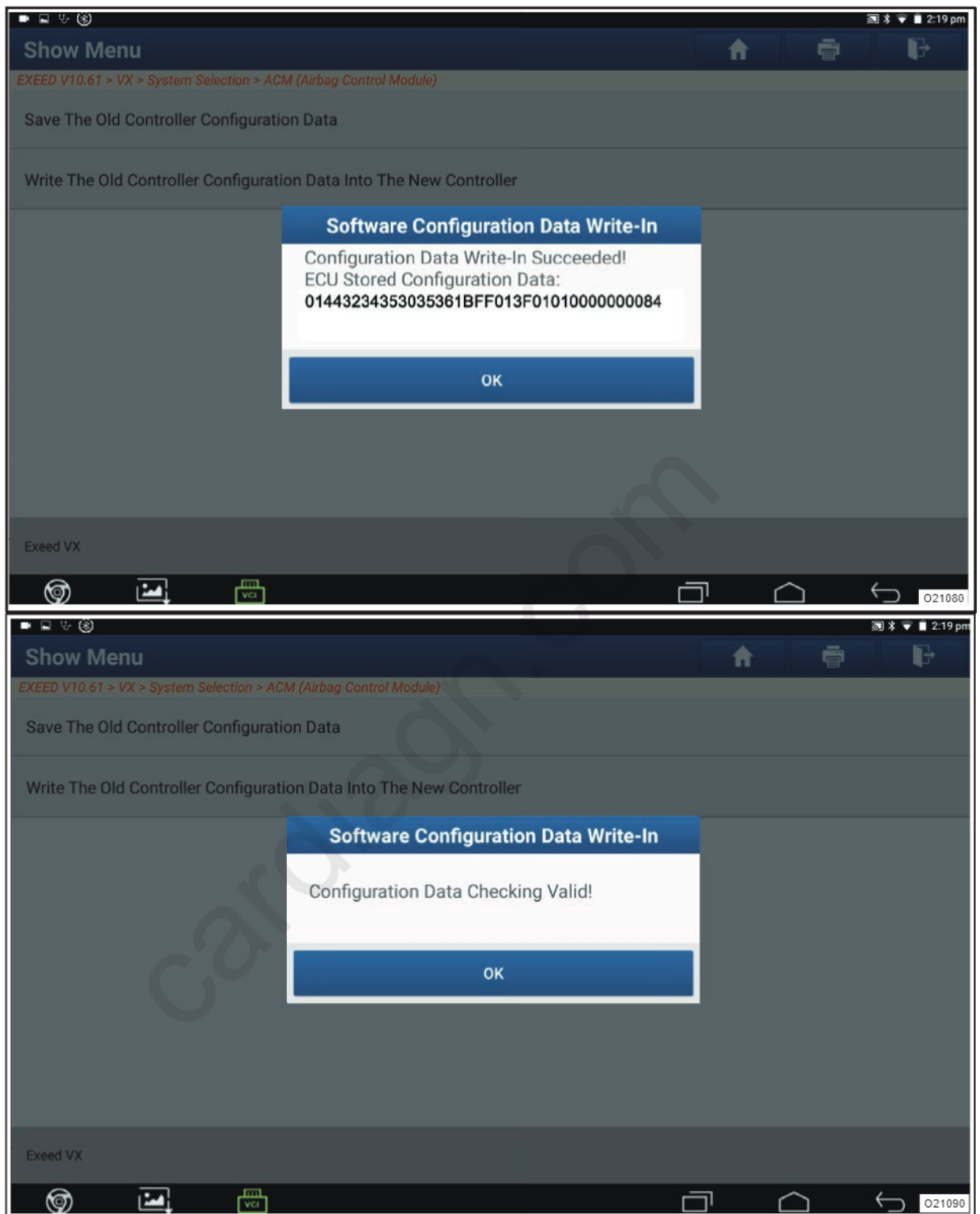


(11) Click “Save The Old Controller Configuration Data” .









(12) Click "Write The Old Controller Configuration Data Into The New Controller" .

10.2 AIRBAG

1 Warnings and Precautions

1.1 Warnings

In order to avoid possible property loss, personal injury or death, always follow the instructions below before repair:

- (1) Wire harness assembly: Arrange the wire harness without any torsion and wrinkles, etc. Never make it with metal or non-metal sharp edge. It should be connected with ACU (Airbag Module), SIS and each airbag module firmly without any looseness.
- (2) System power-on detection:
 - 1) After powering-on, ACU sends airbag indicator light on signal via CAN, the lighting time should last for 3 seconds (When the controller has an Squib fault or undervoltage/overvoltage error, initialization time of malfunction indicator is extended to a maximum of 10 seconds). After self-check is completed, ACU sends airbag indicator off signal via CAN, the warning light goes off for (1 ± 0.1) seconds, and then it will enter normal operation state;
 - 2) After completion of (remains on for 3 seconds) and (goes off for 1 ± 0.1 seconds) states, if there is no DTC in system that requires the indicator light to be turned on, the indicator light will go off. If the indicator light remains on, it indicates that there is a malfunction in ACU, it is necessary to clear the fault with a diagnostic tester. Check corresponding components and wire harness connection according to the fault display of diagnostic tester. If the malfunction is still not eliminated, you must complete the corresponding adjustment operation under the guidance of the quality department, design department and suppliers until the indicator goes off.
 - 3) Diagnosis of airbag system should be completed at the follow-up station of four-wheel alignment. It is required to perform diagnosis when the vehicle is powered-on and airbag modules, etc. are fully fastened.
- (3) The installation and repairing of all airbag parts must be performed with power off, and it's strictly forbidden to install, remove and rework on production line with power on. If the replacement or repairing of airbag parts is involved, you must cut off power supply. Because within 30 seconds of vehicle stalling or fuse removed (refer to Technology Instruction for Wire Harness System Assembly and Adjustment), sufficient power to deploy airbag is still remained inside airbag controller, so perform the repairing operation after 30 seconds of airbag controller and battery cut off.
- (4) Be sure to clear all DTCs from ACU after vehicle assembly is complete.
- (5) Store the airbag in a place with enough spare space to prevent accidental airbag deployment. If there is no airbag deployment space, accidental airbag deployment may injure human body or damage the vehicle.
- (6) In order to avoid DTC, never energize airbag system before connecting all airbag system components and performing diagnostic inspection.
- (7) If airbag and ACU had fallen down from a position higher than 1 m, please do not reuse it and insulate it.
- (8) Handle airbag and ACU carefully, and never tap or strike it fiercely.
- (9) Assembly, detection and removal of airbag system must meet relevant requirements and specifications, and never perform operation casually.

2 System Overview

2.1 System Components Diagram



Q20320

1 - Left Curtain Shield Airbag Assembly	7 - Right Side Collision Sensor
2 - Left Side Collision Sensor	8 - Front Right Seat Side Airbag Assembly
3 - Driver Airbag Assembly	9 - Front Left Seat Side Airbag Assembly
4 - Airbag Module Assembly	10 - Left Frontal Collision Sensor
5 - Front Passenger Airbag Assembly	11 - Right Frontal Collision Sensor
6 - Right Curtain Shield Airbag Assembly	

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

3 Diagnostic Information and Steps

3.1 Diagnosis Procedure

■ Preparations before dealing with airbag system wire harness malfunction

- Read and record the system DTC.

- Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable for at least 90 seconds so that the airbag controller has enough time to discharge.
- Prevent electric static discharge, such as static-proof wrist strap.
- 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 it is 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:
 - 1) ENGINE START STOP switch is ON, system performs self-check, airbag warning light comes on. Warning light goes off when self-check is completed.
 - 2) 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.
 - 3) 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, seat belt warning light comes on and goes off after the seat belt is fastened.)
 - 4) Clear history DTC (If exists).

■ Handling procedure for deployed airbag set

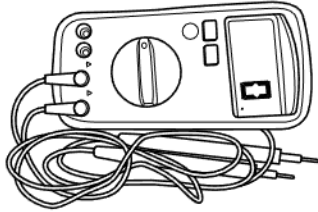
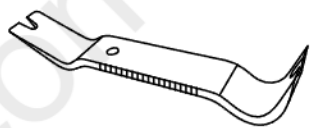
- (1) Place the deployed airbag in a solid plastic bag.
- (2) Be sure to seal the plastic bag tightly.
- (3) Wash both hands carefully after handling the deployed airbag.
- (4) Although above protection measures are taken, if the irritant substance attaches to the eyes or skin, flush it with a large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

Warning

- 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.

4 On-Vehicle Service

4.1 Tools

Tool Name	Tool Drawing
Digital Multimeter	 S00002
Interior & Exterior Remover	 S00020

4.2 Replacement of Driver Airbag Assembly (DAB)

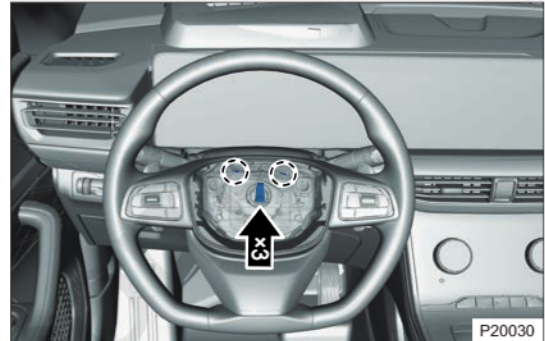
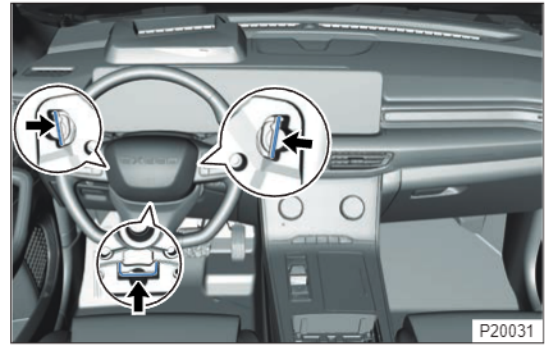
■ Removal

Warning

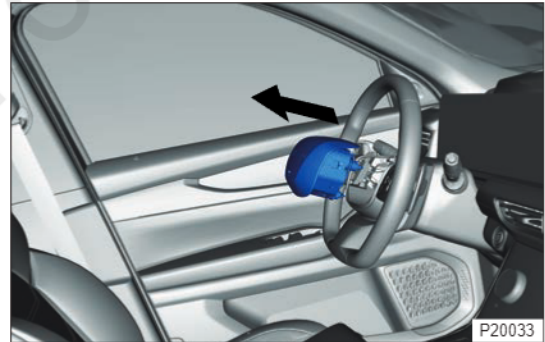
- Be sure to follow correct procedures to remove and install airbag system controller.
- DAB installation and repairing must be performed with power off, and it's strictly forbidden to install, remove and rework DAB on any production line with power on. DAB replacement and repairing must be performed 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) Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.
- (3) Position the front wheels straight ahead.

- (4) Using a slotted screwdriver, remove driver airbag assembly 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 driver airbag assembly from steering wheel lightly with both hands.
- (5) Removal of spiral cable and driver airbag assembly connector: While taking up driver airbag assembly 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 driver airbag assembly connector in removal direction, and remove 2 connectors of horn ground wire.



- (6) Remove the driver airbag assembly.



■ Inspection

- (1) Before assembly, confirm that label part number in driver airbag assembly and configuration card part number in vehicle matches;
- (2) Then check driver airbag assembly 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.

■ Installation

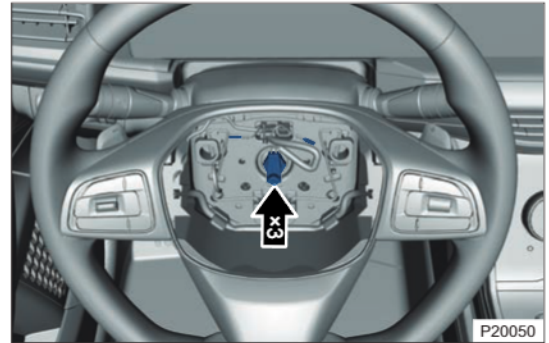
⚠ Warning

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

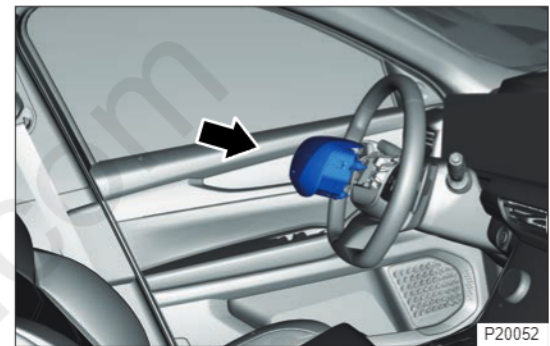
⚠ Caution

- **Press periphery and center part of DAB cover with palms to make sure that the pressing operation is smooth without sluggish after installation.**

- (1) Insert horn connector on spiral cable side into horn metal plate on DAB side, insert airbag connector of spiral cable into generator of driver airbag assembly until a “click” sound is heard. The connector plane and generator port fitted flatly indicates that the connector is installed in place.



- (2) DAB of M36T model adopts press-in mounting structure without any mounting tools. Put DAB into the steering wheel and ensure stability, 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.



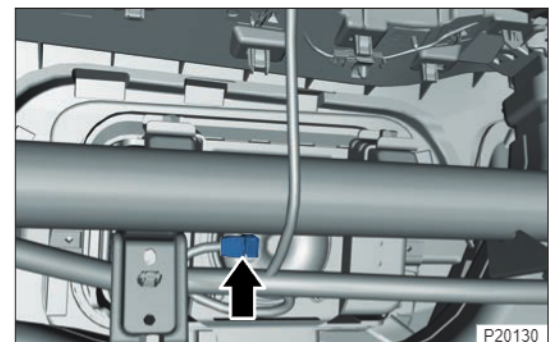
4.3 Replacement of Front Passenger Airbag Assembly (PAB)

■ Removal

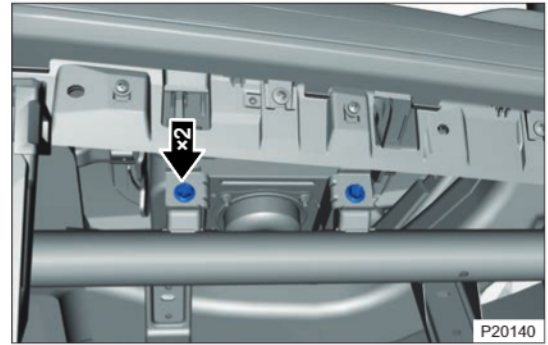
⚠ Warning

- **Handle airbag assembly carefully, and never tap or strike it 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.**

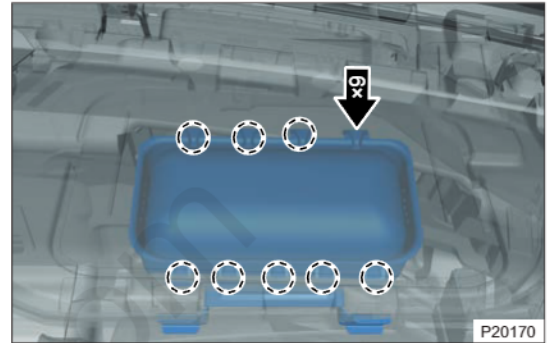
- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.
- (3) Remove the glove box assembly.
- (4) Remove the front passenger airbag assembly wire harness connector assembly.



- (5) Remove 2 coupling bolts (8# socket wrench) between front passenger airbag assembly and instrument panel crossmember assembly.



- (6) Remove the instrument panel upper body assembly.
- (7) Using an interior crow plate, pry off 9 fixing claws around front passenger airbag assembly mounting bracket to separate it from instrument panel body assembly.



■ Inspection

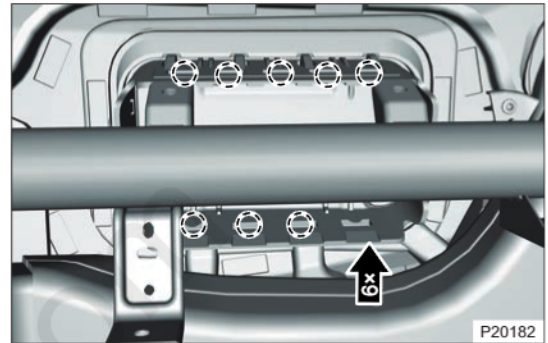
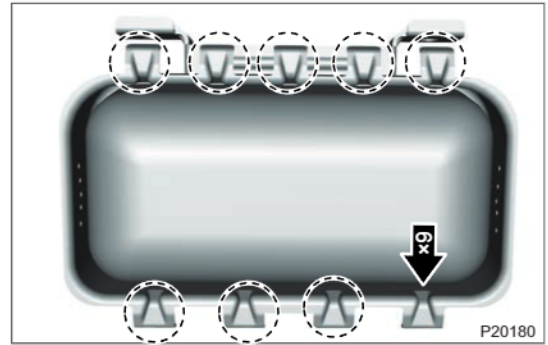
- (1) Confirm that label part number in front passenger airbag assembly and configuration card part number in vehicle matches before assembly;
- (2) Then check front passenger airbag assembly cover plate surface for trimming, residual, air vent, scratches, galling etc.; it's also forbidden for defects such as inclusion and dents etc. Peel off a bar code after inspection and attach it to record card in vehicle.

■ Installation

⚠ Warning

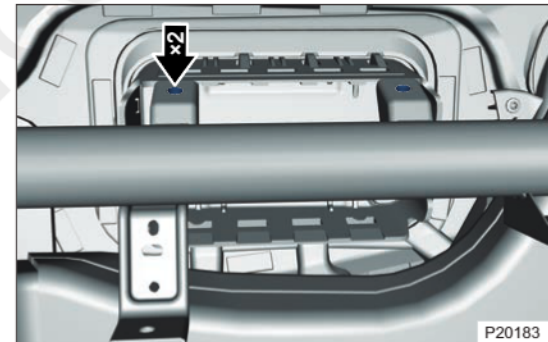
- Inspect and confirm that parts surface should be free of chips and damages and labels and bar codes should be intact and clear before assembly; Peel off one bar code after inspection and attach it to record card in vehicle.
- Before installing tightening bolts, always make sure that airbag wire harness 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 SRS warning light after installation, and make sure that supplemental restraint system operates normally.

- (1) 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 4 hooks into fixing holes in airbag frame, then press 5 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.

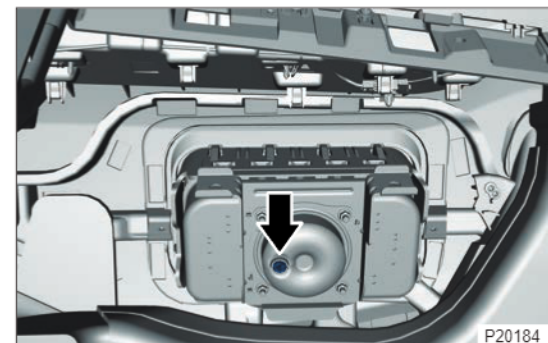


- (2) Pre-tighten 2 bolts of PAB to CCB bracket in glove box port. Finally tightens bolts with installing tools according to set torque value.

23 ± 2 N m



- (3) 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.



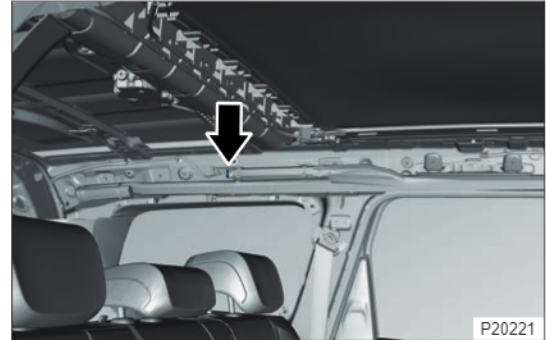
4.4 Replacement of Side Curtain Shield Airbag Assembly (CAB)

■ Removal

⚠ Warning

- Handle airbag assembly carefully, and never tap or strike it 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.

- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.
- (3) Remove the roof assembly.
- (4) Disconnect wire harness connector from side curtain shield airbag generator.



- (5) Remove 4 fixing bolts from left curtain shield airbag. (10# socket wrench).



- (6) Remove 6 fixing bolts from left curtain shield airbag. (10# socket wrench).
- (7) Remove the left curtain shield airbag assembly.



■ Inspection

- (1) 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.

■ Installation

⚠ Caution

- The installation of airbags can not be rotated and twisted. 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.
- If any of the above situation occurs, normal deployment of airbag will be affected when side collision occurs, it can not form effective protection for drivers and passengers; It is necessary to focus on control during assembly, and above problems are not allowed to occur.

- (1) Install generator mounting bracket to vehicle body with hooks (first hang hook into vehicle body groove, then hang hook beside bolt hole into vehicle body hole), and tighten it to vehicle body through bolt hole finally.
- (2) Assemble tree screws from the center of the generator bracket assembly to both ends, and then assemble bolt assembly in order and tighten the bolts. Torque: 10 ± 1 N·m
- (3) Assemble end of strap into sheet metal hole, first hang hook into vehicle body groove, and then tighten it to vehicle body through bolt hole. Torque: 10 ± 1 N·m
- (4) Insert the connector on wire harness end into generator end and make sure that the connector is assembled into place.

4.5 Replacement of Front Seat Side Airbag

■ Removal

Warning

- Front passenger side airbag is non-removable and must be removed together with seat assembly.

Hint:

Removal method of right seat side airbag and left side is same.

- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.
- (3) Remove the front left seat assembly (installation position of front left seat side airbag).
- (4)



■ Inspection

- (1) Check the front seat for scratches and dirt before assembly.
- (2) Check whether the front seat can adjust automatically before assembly.

■ Installation

Caution

- Always install correctly according to specified operating instructions.

- (1) Install the front left seat assembly.

4.6 Replacement of Spiral Cable (Integrated in SCM Module)

■ Removal

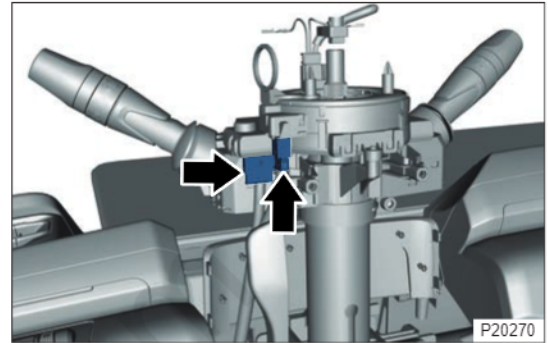
Warning

- 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.

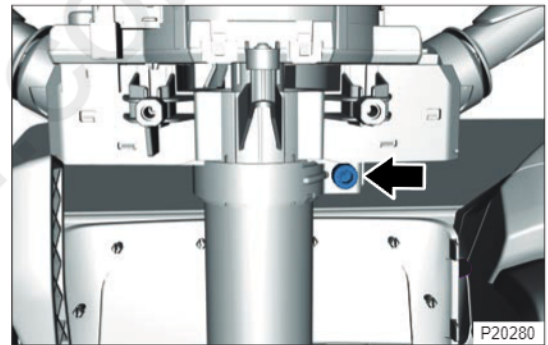
Hint:

When removing spiral cable, use the positioning pin to hold it in its original position.

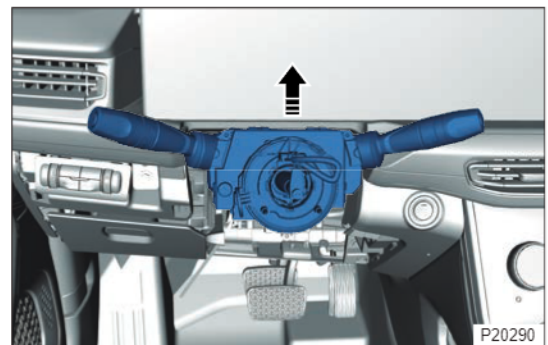
- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.
- (3) Position the front wheels straight ahead.
- (4) Remove the driver airbag.
- (5) Remove the steering wheel assembly.
- (6) Remove the combination switch cover assembly.
- (7) Disconnect SCM module wire harness connector and angle sensor connector.



- (8) Loose 1 fixing screw of SCM module. (6# inner hexagon wrench)



- (9) Remove SCM module from steering column in direction of arrow.



■ Inspection

- (1) Check whether any connector of spiral cable is damaged or exposed before assembly.
- (2) Check whether there are cracks in plastic parts of spiral cable before assembly.

■ Installation

⚠ Caution

- Always install correctly according to specified operating instructions.
- Check that horn operates normally after installation.
- Check SRS warning light after installation, and make sure that supplemental restraint system operates normally.

- (1) Install SCM module with coil spring to steering column.
- (2) Install and tighten fixing screw of coil spring.

Torque: $6 \pm 0.5 \text{ N}\cdot\text{m}$

- (3) Connect spiral cable wire harness connector and angle sensor connector.
- (4) Install the combination switch cover assembly.

⚠ Caution

Remove the positioning pins after the SCM module with spiral cable assembly is installed.

- (5) Install the steering wheel assembly.
- (6) Install the driver airbag.

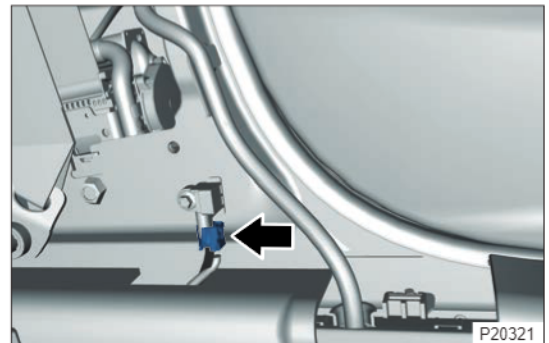
4.7 Replacement of Side Collision Sensor Assembly

■ Removal

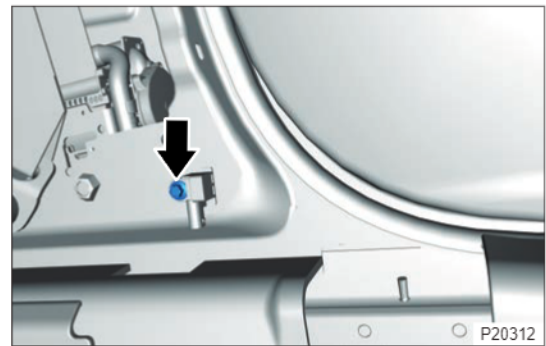
⚠ Warning

- 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 SRS 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.

- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.
- (3) Remove the left B-pillar lower protector. (See page)
- (4) Remove the wire harness connector.



- (5) Remove 1 fixing bolt from side collision sensor assembly. (10# socket wrench).



■ Inspection

- (1) Check whether pins of collision sensor are exposed and bent before assembly.
- (2) Check collision sensor for cracks, burrs and creases before assembly.

■ Installation

⚠ Caution

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

- (1) Install waist-shaped pin of side collision sensor into waist-shaped hole of B-pillar reinforcing plate, install and tighten fixing bolts (10# socket wrench).

Torque: 9 ± 1 N·m

- (2) Insert wire harness connector into side collision sensor port, lock after pushing into the end of connector.

4.8 Replacement of Frontal Collision Sensor Assembly

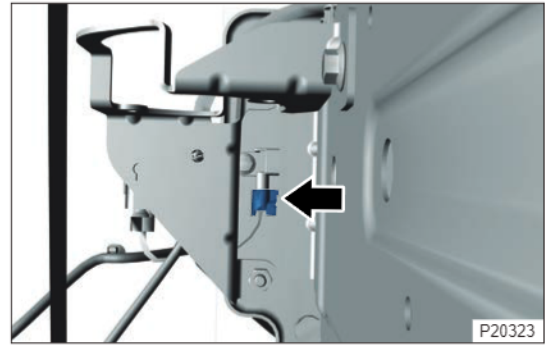
■ Removal

⚠ Warning

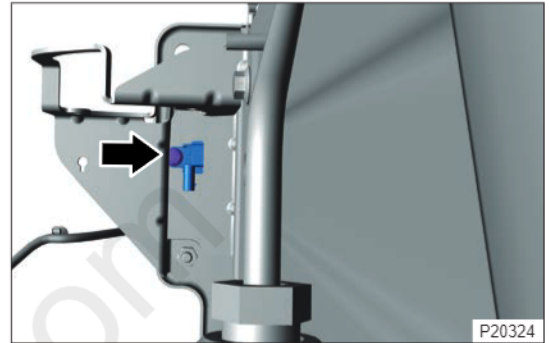
- Before installing tightening bolts, always make sure that airbag wire harness is not held down or stuck. Adjust if necessary and install it in place.
- Make sure to tighten fixing bolts to specified torque during installation.
- Always keep vehicle power off during installation. It is forbidden to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

- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Wait at least 90 seconds after disconnecting the negative battery cable to disable supplementary restraint system.
- (3) Remove the front wheel house protector assembly. (See page)

- (4) Disconnect the frontal collision sensor connector.



- (5) Remove 1 fixing bolt from frontal collision sensor assembly (10# socket wrench).



■ Inspection

- (1) Check whether pins of collision sensor are exposed and bent before assembly.
- (2) Check collision sensor for cracks, burrs and creases before assembly.

■ Installation

⚠ Caution

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

- (1) Install waist-shaped pin of frontal collision sensor into waist-shaped hole of B-pillar reinforcing plate, install and tighten fixing bolts (10# socket wrench).

Torque: $9 \pm 1 \text{ N}\cdot\text{m}$

- (2) Insert wire harness connector into side collision sensor port, lock after pushing into the end of connector.

4.9 Disposal of Airbag

■ Airbag deploys (in vehicle)

It is necessary to deploy the airbag before disposing. If the vehicle is scrapped and disassembled, the airbag may deploy in vehicle.

- (1) Preventive procedure of airbag deployment.

⚠ Warning

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.

(2) Prevention methods of deployment procedure.

1) Inside deployment prevention methods:

- i. Disconnect the negative and positive battery cables and move the battery 10 meters away from the vehicle.
- ii. Prepare two additional wire harnesses at least 10 meters long for each one and special connector for connecting the spiral cable. Peel off the 13 mm insulation coat at the end of wire harness. Connect the connector at one end and another end to twist.
- iii. Place the twisted end next to the battery for airbag deployment, but do not connect it to battery at this time.
- iv. Remove driver side lower instrument panel from steering column. Connect lower part of steering column to SRS wire harness connector of spiral cable.
- v. Clean the site.
- vi. Disengage the twisted end of the wire harness next to the battery for airbag deployment.
- vii. One wire harness contacts with negative battery and another one contacts with positive battery, the airbag will deploy at this time.
- viii. Deploy the passenger side airbag module using the same procedure.
- ix. Handle the deployed airbag with correct prevention methods.

2) Outside deployment prevention methods:

- i. 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.
- ii. 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.
- iii. Place the twisted end next to the battery for airbag deployment, but do not connect it to battery at this time.
- iv. Stack 4 old tires without rims on the wheel installed with airbag set, and secure all the tires in 4 different positions with rope.
- v. Clean the site.
- vi. Disengage the twisted end of the wire harness next to the battery for airbag deployment.
- vii. One wire harness contacts with negative battery and another one contacts with positive battery, the airbag will deploy at this time.
- viii. Deploy the passenger side airbag module using the same procedure.
- ix. Handle the deployed airbag with correct prevention methods.

10.3 SEAT BELT

1 Warnings and Precautions

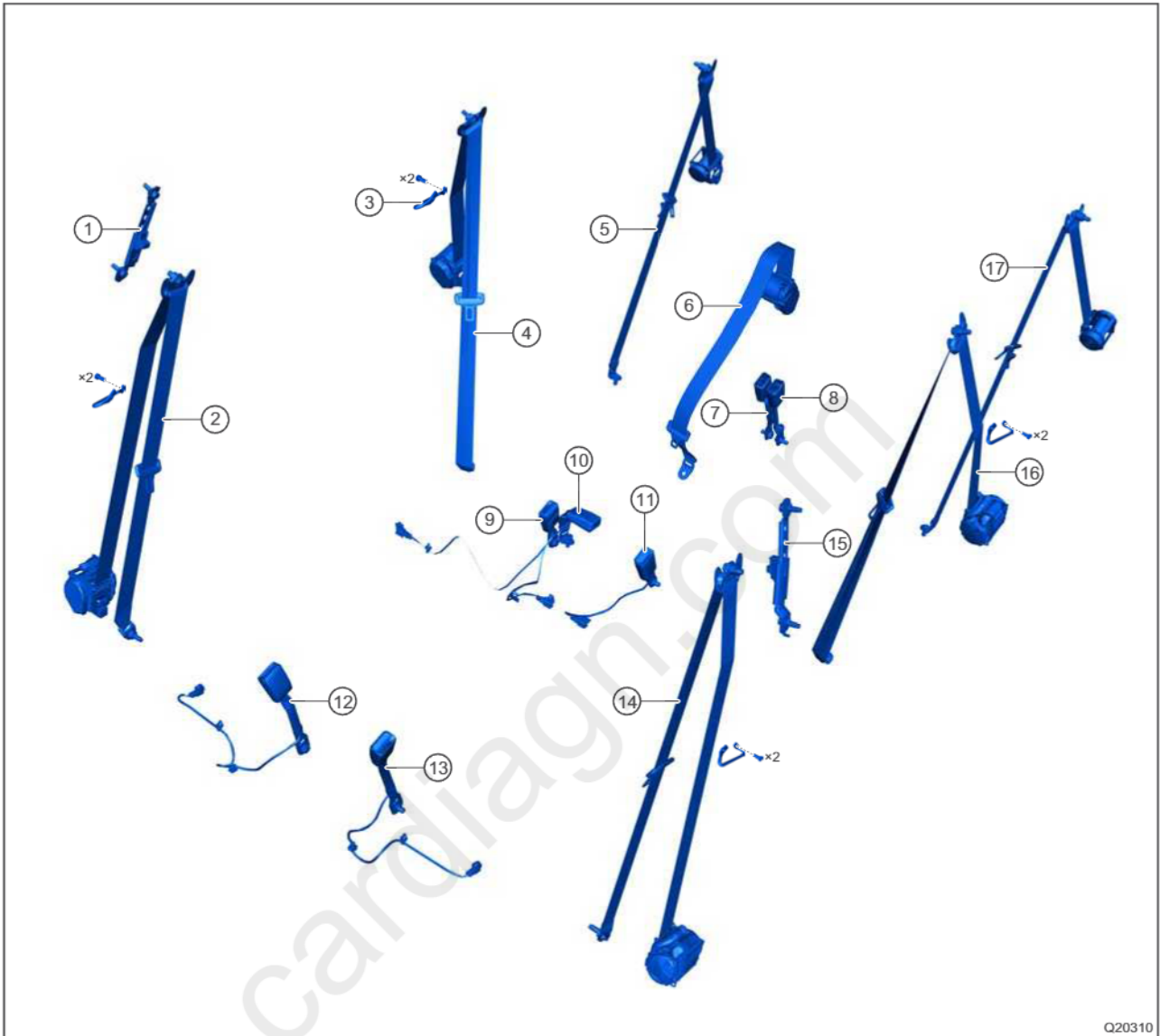
1.1 Precautions

Seat belt assembly precautions

- (1) Be sure to perform assembly of vehicle in accordance with BOM strictly. It is not allowed to replace the parts assembly without permission;
- (2) During assembly of vehicle, tighten parts with specified torque in list strictly;
- (3) It is not allowed to replace the components of parts assembly without permission, such as bolt, washer etc;
- (4) 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;
- (5) 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 assembly of seat belt;
- (6) During overturn inspection of rear seat, never insert locking tab of rear center seat belt into big buckle;
- (7) Never check the retracted function of the rear center seat belt when small buckle (rear seat small buckle lock assembly) is unlocked.

2 System Overview

2.1 System Components Diagram

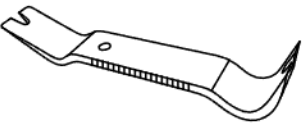


Q20310

1 - Front Right Height Adjuster Assembly	10 - Second Row Middle Seat Belt Buckle
2 - Front Right Seat Belt Assembly	11 - Second Row Left Seat Belt Buckle
3 - Rear Right Fork Bracket	12 - Front Right Buckle Assembly
4 - Second Row Right Seat Belt Assembly	13 - Front Left Buckle Assembly
5 - Third Row Right Seat Belt Assembly	14 - Front Left Seat Belt Assembly
6 - Second Row Middle Seat Belt Assembly	15 - Front Left Height Adjuster Assembly
7 - Third Row Right Seat Belt Buckle	16 - Second Row Left Seat Belt Assembly
8 - Third Row Left Seat Belt Buckle	17 - Third Row Left Seat Belt Assembly
9 - Second Row Right Seat Belt Buckle	

3 On-Vehicle Service

3.1 Tool

Tool Name	Tool Drawing
Interior & Exterior Remover	 S00020

3.2 Replacement of Front Left Seat Belt Assembly

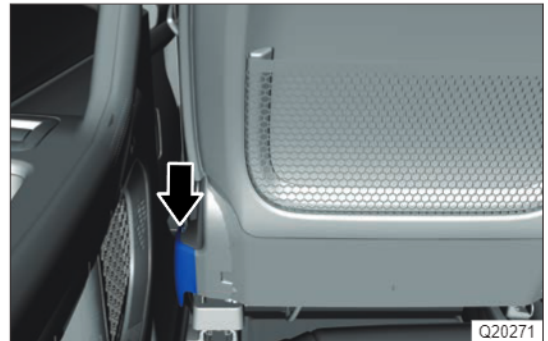
■ Removal

⚠ Caution

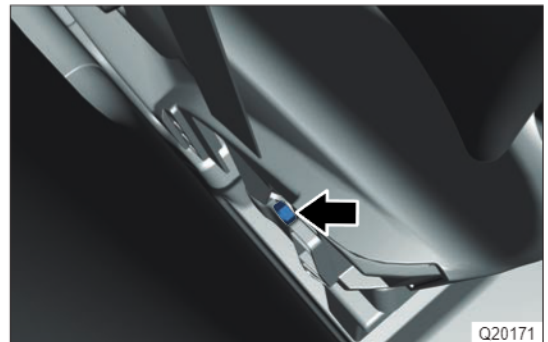
- Removal method of right seat belt assembly and left side is same.

Hint:

- Be sure to wear safety equipment to prevent accidents, when removing front seat belt assembly.
 - Appropriate force should be applied, when removing front seat belt assembly. Be careful not to operate roughly.
 - DO NOT scratch interior when removing front seat belt assembly.
- (1) Turn off all electrical equipment and ENGINE START STOP switch.
 - (2) Disconnect the negative battery cable.
 - (3) Using an interior crow plate, pry off side panel trim cover carefully.

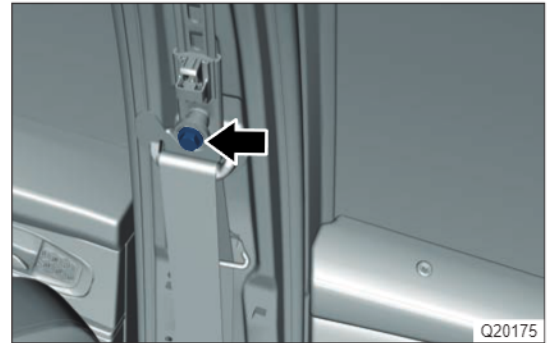


- (4) Remove 1 fixing bolt from seat belt lower end plate (14# socket wrench).



- (5) Remove the left B-pillar lower protector assembly.
- (6) Remove the left B-pillar upper protector assembly.

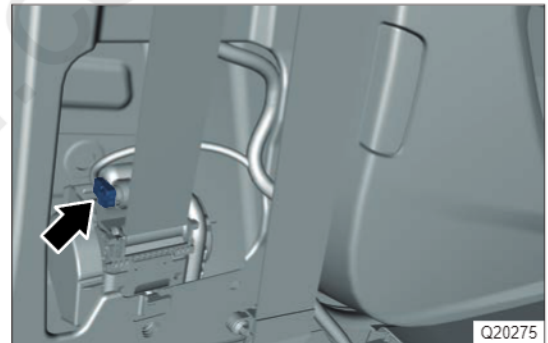
- (7) Remove 1 fixing bolt from guide ring of front left seat belt assembly (17# socket wrench).



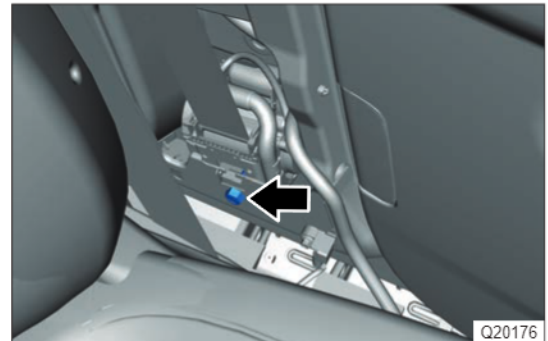
- (8) Remove 2 fixing screws from seat belt assembly fork bracket.



- (9) Disconnect the retractor connector.



- (10) Remove 1 fixing bolt from front left seat belt retractor (14# socket wrench), and move front left seat belt retractor assembly away.



■ Inspection

- (1) Check front left seat belt webbing for dirt, cuts, cracks or wear and replace it if necessary.
- (2) Check whether the pins on the gas generator are broken or bent.
- (3) Check whether retractor can freely rewind and release the webbing without sticking.

■ Installation

⚠ Warning

- When connecting gas generator connector, if the pin inside of gas generator is defective, please pack it properly and dispose it.

⚠ Caution

- If the connector wire harness is too long or interferes with the webbing, it is necessary to insert the wire harness into B-pillar to increase the gap between wire harness and webbing.

- (1) Take a front left seat belt assembly that is in good condition. First 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 90°).
- (2) Using retractor tightening bolt, install the T-type hook of retractor to the retractor mounting board slot of B-pillar sheet metal, then install and tighten the retractor fixing bolt (14# socket wrench).

Torque: 50 ± 5 N·m

- (3) Tighten the guide ring mounting bolt to the fixing nut of height adjuster assembly, install and tighten the bolt. (14# socket wrench).

Torque: 50 ± 5 N·m

- (4) Take a fork bracket that is in good condition, pass the webbing through the fork bracket. The fork bracket mounting hole should be aligned with B-pillar sheet metal hole (pay attention to the mounting direction of fork bracket that the arrow marked on fork bracket should face toward the roof), tighten outer hexagon screw of guide ring.

Torque: 8 ± 1 N·m

- (5) Install B-pillar lower protector assembly.
- (6) Install B-pillar upper protector assembly.
- (7) Install 1 fixing bolt of front left seat belt lower end plate (14# socket wrench).

Torque: 50 ± 5 N·m

- (8) Install the side panel trim cover.

3.3 Replacement of Second Row Rear Seat Belt Assembly

■ Removal

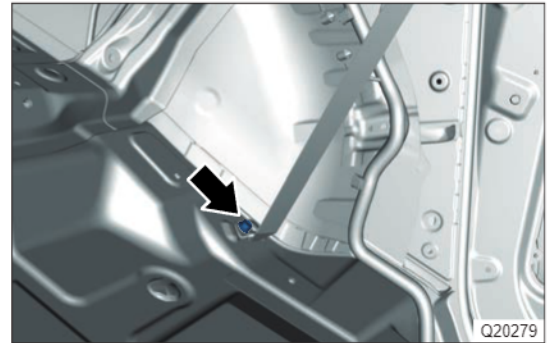
⚠ Caution

- Removal method of second row right seat belt assembly and left side is same.

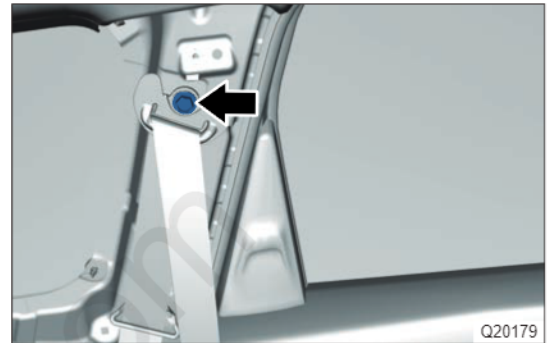
Hint:

- Be sure to wear safety equipment to prevent accidents, when removing the second row seat belt assembly.
 - Appropriate force should be applied, when removing the second row seat belt assembly. Be careful not to operate roughly.
 - DO NOT scratch interior when removing the second row seat belt assembly.
- (1) Turn off all electrical equipment and ENGINE START STOP switch.
 - (2) Disconnect the negative battery cable.
 - (3) Remove the second row left seat assembly.
 - (4) Remove the left luggage compartment protector body assembly.
 - (5) Remove the left D-pillar upper protector assembly.

- (6) Remove 1 fixing bolt from second row seat belt assembly lower end plate (14# socket wrench).



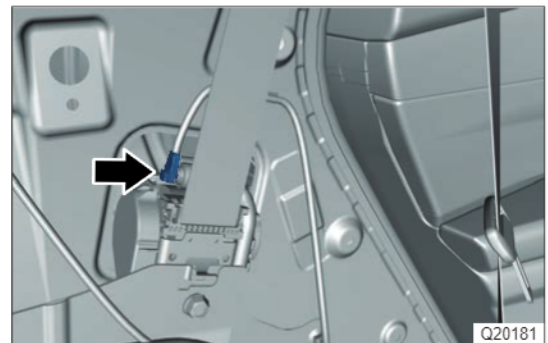
- (7) Remove 1 fixing bolt from second row seat belt assembly guide ring (14# socket wrench).



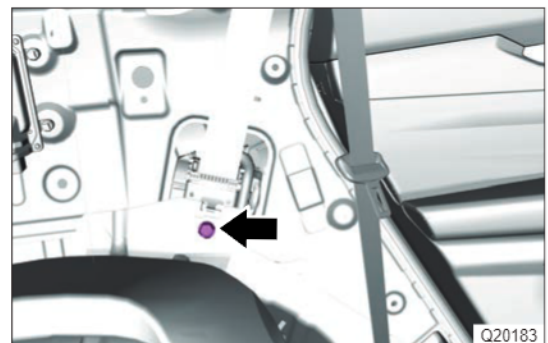
- (8) Remove 2 fixing screws from seat belt assembly fork bracket.



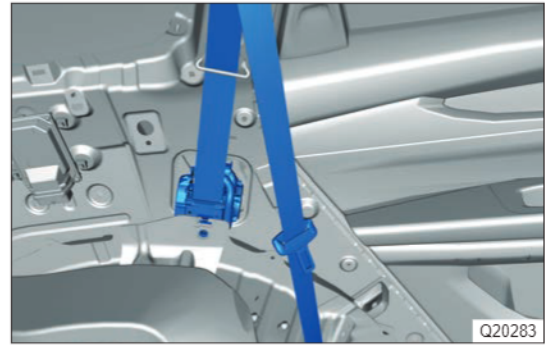
- (9) Remove seat belt pretensioner connector of interior wire harness from gas generator connector of retractor (for high configuration).



- (10) Remove 1 fixing bolt from retractor assembly and remove T-type hook of retractor assembly from mounting board (14# socket wrench).



(11) Remove the second row seat belt assembly.



■ Inspection

- (1) Check front left seat belt webbing for dirt, cuts, cracks or wear and replace it if necessary.
- (2) Check whether the pins on the gas generator are broken or bent.
- (3) Check whether retractor can freely rewind and release the webbing without sticking.

■ Installation

Hint:

- The bar code on rear left seat belt assembly should be peeled off after installation and attach it to the corresponding position on record card in vehicle.

⚠ Warning

- When connecting gas generator connector, if the pin inside of gas generator is defective, please pack it properly and dispose it.
- If the second row seat belt assembly is preload limiting type belt, the resistance value is $2.15 \pm 0.35 \Omega$, it's strictly forbidden to measure resistance with multimeter.

⚠ Caution

- The webbing between lower end plate and retractor should be smooth without any breakage and twist.
- 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.

- (1) Install second row seat belt assembly to a proper position.
- (2) 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°) (for high configuration).
- (3) 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 (14# socket wrench).

Torque: $50 \pm 5 \text{ N}\cdot\text{m}$

- (4) Take a fork bracket that is in good condition, pass the webbing of seat belt through the fork bracket. The fork bracket mounting hole should be aligned with C-pillar sheet metal hole, tighten hexagon head screw of assembly.

Torque: $8 \pm 1 \text{ N}\cdot\text{m}$

- (5) Install 1 fixing bolt of second row seat belt assembly guide ring (14# socket wrench).

Torque: $50 \pm 5 \text{ N}\cdot\text{m}$

- (6) Install D-pillar upper protector assembly, and pass the locking tab and webbing through the hole of D-pillar upper protector.
- (7) Install the left luggage compartment protector body assembly.

- (8) Install and tighten 1 fixing bolt of second row seat belt assembly lower end plate (14# socket wrench).

Torque: 50 ± 5 N·m

- (9) Connect the negative battery cable.

3.4 Replacement of Third Row Seat Belt Assembly

■ Removal

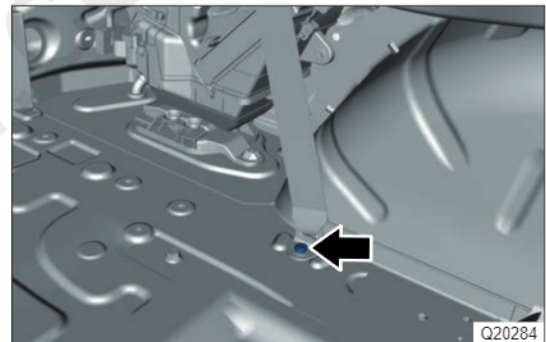
⚠ Caution

- Removal method of third row right seat belt assembly and left side is same.

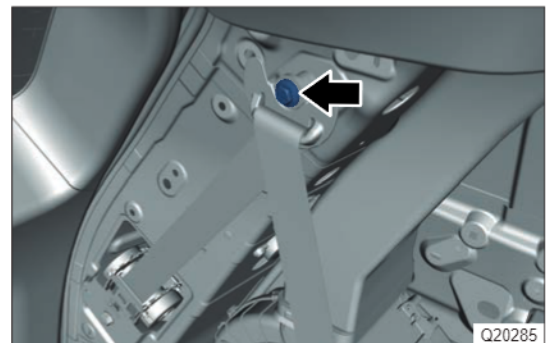
Hint:

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

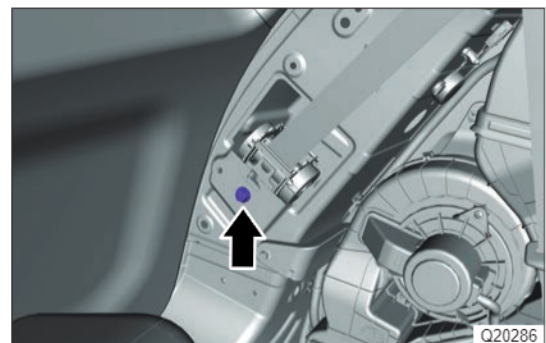
- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Disconnect the negative battery cable.
- (3) Remove the third row left seat assembly.
- (4) Remove the left luggage compartment protector body assembly.
- (5) Remove the left D-pillar upper protector assembly.
- (6) Remove 1 fixing bolt from third row seat belt assembly lower end plate (14# socket wrench).



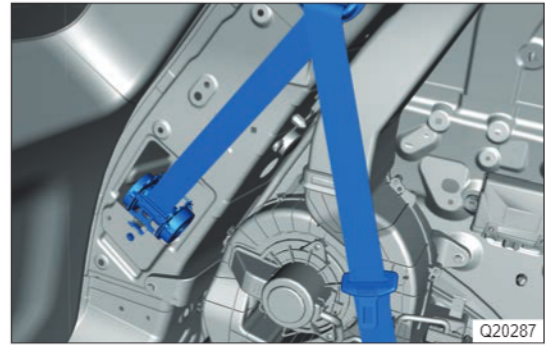
- (7) Remove 1 fixing bolt from third row seat belt assembly guide ring (14# socket wrench).



- (8) Remove 1 fixing bolt from retractor assembly and remove T-type hook of retractor assembly from mounting board (14# socket wrench).



- (9) Remove the third row seat belt assembly.



■ Inspection

- (1) Check front left seat belt webbing for dirt, cuts, cracks or wear and replace it if necessary.
- (2) Check whether retractor can freely rewind and release the webbing without sticking.

■ Installation

Hint:

- The bar code on rear left seat belt assembly should be peeled off after installation and attach it to the corresponding position on record card in vehicle.

⚠ Caution

- The webbing between lower end plate and retractor should be smooth without any breakage and twist.
- 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.

- (1) Install third row seat belt assembly to a proper position.
- (2) Install the T-type hook of retractor to the retractor mounting board slot of D-pillar sheet metal, then install and tighten the retractor fixing bolt (14# socket wrench).

Torque: $50 \pm 5 \text{ N}\cdot\text{m}$

- (3) Install 1 fixing bolt of third row seat belt assembly guide ring (14# socket wrench).

Torque: $50 \pm 5 \text{ N}\cdot\text{m}$

- (4) Install D-pillar upper protector assembly, and pass the locking tab and webbing through the hole of D-pillar upper protector.
- (5) Install the left luggage compartment protector body assembly.
- (6) Install and tighten 1 fixing bolt of third row seat belt assembly lower end plate (14# socket wrench).

Torque: $50 \pm 5 \text{ N}\cdot\text{m}$

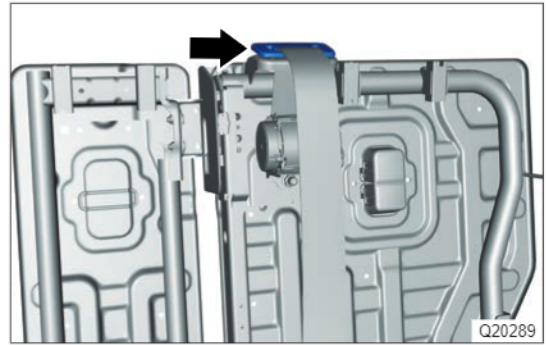
- (7) Connect the negative battery cable.

3.5 Replacement of Second Row Middle Seat Belt Assembly

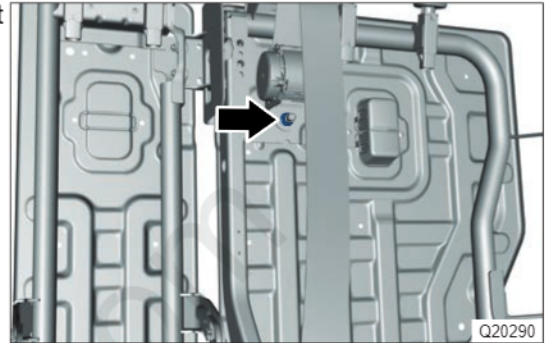
■ Removal

- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Disconnect the negative battery cable.
- (3) Remove the second row left seat assembly.
- (4) Disassemble the second row left seat assembly.

- (5) Pass the webbing and locking tab of the second row middle seat belt assembly through the seat frame and web guide.



- (6) Remove mounting nut of retractor, and remove seat belt retractor assembly.



■ Inspection

- (1) Check front left seat belt webbing for dirt, cuts, cracks or wear and replace it if necessary.
- (2) Check whether retractor can freely rewind and release the webbing without sticking.

■ Installation

- (1) Take a second row middle seat belt assembly that is in good condition, hook the retractor mounting hole onto the seat frame mounting bolt, and align the retractor limit hole with seat frame limit hook, install and tighten the tightening bolt (14# socket wrench).

Torque: 50 ± 5 N·m

- (2) After completing the above steps, pass the webbing and locking tab of the second row middle seat belt assembly through the seat frame and web guide (when the webbing is pulled out, make sure that seatback position is same as the normal usage position of real vehicle, otherwise the webbing cannot be pulled out; webbing from seat guide to retractor is required to be smooth, and there is no folding or twisting). Then clamp the webbing clip on the webbing, approximately more than 20mm (inside) away from the small snap fastener.
- (3) Assemble the seat assembly (See page).
- (4) Install the seat assembly (See page).

3.6 Replacement of Height Adjuster Assembly

■ Removal

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

- (5) Remove 2 fixing bolts from height adjuster assembly.



- (6) Remove the height adjuster assembly.

■ Inspection

- (1) Check if height adjuster slides up and down properly.
- (2) Check height adjustment bolt hole for wear.

■ Installation

Hint:

- It is necessary to press the unlock button all the time when height adjuster assembly of M36T 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) Install height adjuster to a proper position.
- (2) 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 hole; Tighten the mounting bolts.

Torque: $50 \pm 5 \text{ N}\cdot\text{m}$

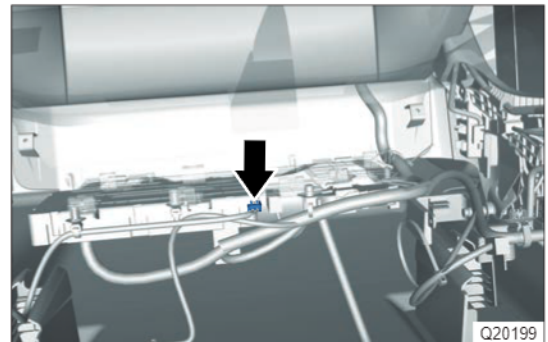
- (3) Install the front left seat belt assembly.
- (4) Install the B-pillar protector assembly.
- (5) Connect the negative battery cable.

3.7 Replacement Front Left Buckle Assembly

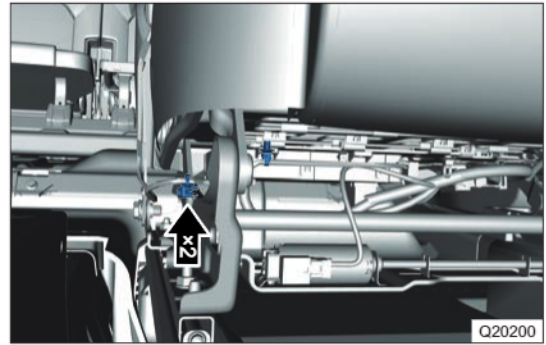
■ Removal

Hint:

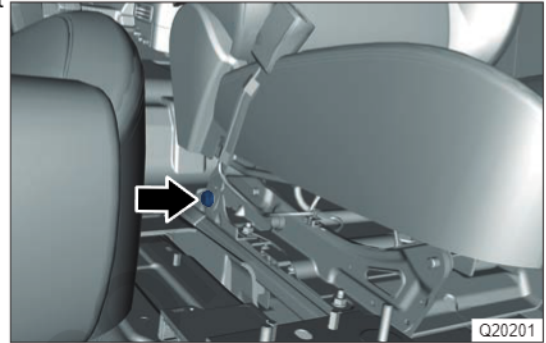
- Removal and adjustment method of front right buckle assembly is similar to the front left buckle assembly.
- (1) Disconnect wire harness connector of front left buckle assembly and corresponding connector of instrument panel wire harness.



- (2) Remove wire harness clips of front left seat assembly on the specified location of seat.



- (3) Loosen front left buckle mounting bolt, and remove front left buckle assembly.



■ Inspection

- (1) Check buckle connector pins for bending and breakage.
- (2) Check if buckle can lock seat belt locking tab.

■ Installation

- (1) Install a good front left buckle assembly, align buckle limit hole with limit hook of seat frame, install and tighten buckle mounting bolt.

Torque: 50 ± 5 N·m

- (2) Secure the wire harness clips of front left buckle assembly to the specified location of seat.
- (3) Connect wire harness connector of front left buckle assembly and corresponding connector of interior wire harness.

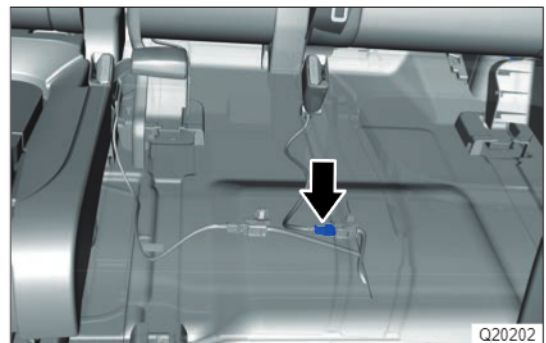
3.8 Replacement of Second Row Buckle Assembly

■ Removal

Hint:

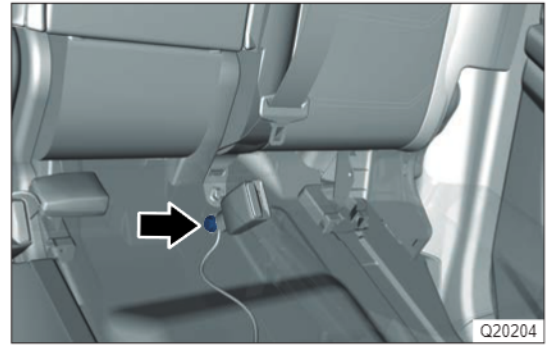
- Removal and adjustment method of second row right buckle assembly is similar to the second row left buckle assembly.

- (1) Disconnect wire harness connector of second row left buckle assembly and corresponding connector of floor wire harness.



- (2) Remove the second row left seat assembly.

- (3) Loosen second row left buckle assembly mounting bolt, and remove front left buckle assembly.



■ Inspection

- (1) Check buckle connector pins for bending and breakage.
- (2) Check if buckle can lock seat belt locking tab.

■ Installation

⚠ Caution

- **Connect the wire harness connector with corresponding connector of interior wire harness and ensure that the connector is connected properly and clamped in place.**

- (1) Install a second row left buckle assembly in good condition, align buckle limit hole with limit hook of seat frame, install and tighten buckle mounting bolt.

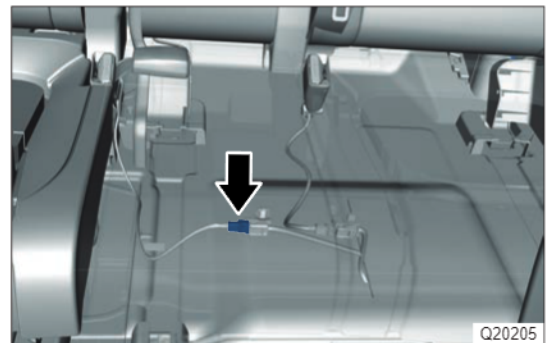
Torque: $50 \pm 5 \text{ N}\cdot\text{m}$

- (2) Connect wire harness connector of second row left buckle assembly and corresponding connector of floor wire harness.

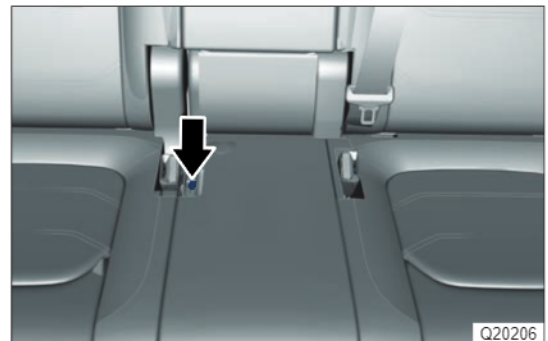
3.9 Replacement of Second Row Middle Buckle Assembly

■ Removal

- (1) Disconnect wire harness connector of second row middle buckle assembly and corresponding connector of floor wire harness.



- (2) Remove the second row left seat assembly.
- (3) Loosen second row middle buckle assembly mounting bolt, and remove front left buckle assembly.



■ Inspection

- (1) Check buckle connector pins for bending and breakage.
- (2) Check if buckle can lock seat belt locking tab.

■ Installation

⚠ Caution

- **Connect the wire harness connector with corresponding connector of interior wire harness and ensure that the connector is connected properly and clamped in place.**

- (1) Install a second row middle buckle assembly in good condition, align buckle limit hole with limit hook of seat frame, install and tighten buckle mounting bolt.

Torque: $50 \pm 5 \text{ N}\cdot\text{m}$

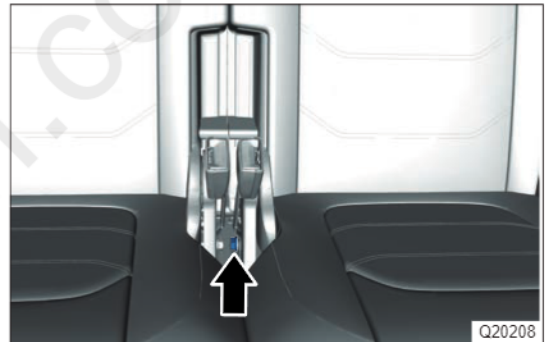
- (2) Connect wire harness connector of second row middle buckle assembly and corresponding connector of floor wire harness.

3.10 Replacement of Third Row Left Buckle Assembly

■ Removal

Hint:

- Removal and adjustment method of third row right buckle assembly is similar to the third row left buckle assembly.
- (1) Remove the third row left seat assembly.
 - (2) Loosen third row left buckle assembly mounting bolt, and remove front left buckle assembly.



■ Inspection

- (1) Check if buckle can lock seat belt locking tab.

■ Installation

- (1) Install a third row middle buckle assembly that is in good condition, align buckle limit hole with limit hook of seat frame, install and tighten buckle mounting bolt.
- (2) Connect wire harness connector of third row middle buckle assembly and corresponding connector of floor wire harness.