

# AIRBAG SYSTEM

# AB

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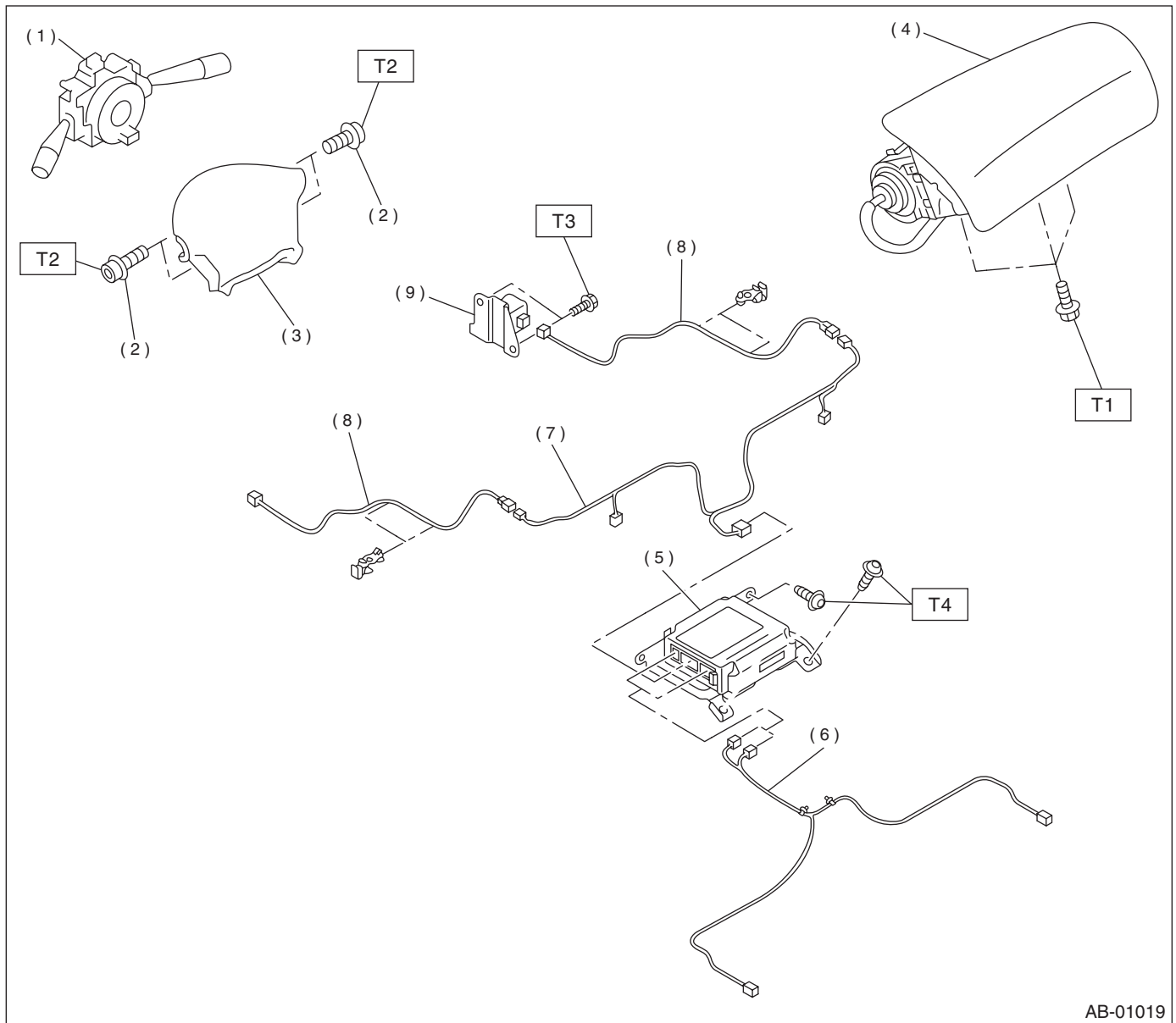
# GENERAL DESCRIPTION

## AIRBAG SYSTEM

### 1. General Description

#### A: COMPONENT

#### 1. SRS AIRBAG



AB-01019

- (1) Combination switch ASSY with roll connector
- (2) TORX® bolt T30
- (3) Airbag module ASSY (Driver)
- (4) Airbag module ASSY (Passenger)

- (5) Airbag control module connector
- (6) Pretensioner harness
- (7) Airbag main harness
- (8) Front sub sensor harness
- (9) Front sub sensor

#### **Tightening torque: N·m (kgf·m, ft·lb)**

**T1: 7.4 (0.75, 5.4)**

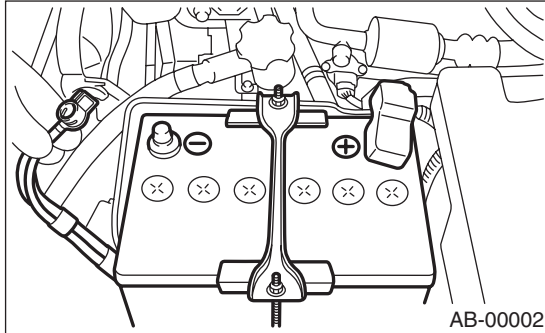
**T2: 10 (1.0, 7.2)**

**T3: 20 (2.0, 14.5)**

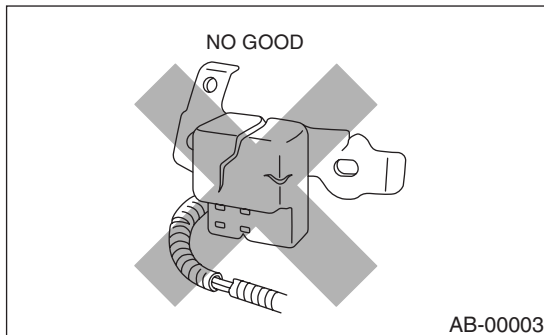
**T4: 25 (2.5, 18.1)**

### B: CAUTION

- When servicing a vehicle, be sure to turn the ignition switch OFF, disconnect the ground cable from the battery, and wait for more than 20 seconds before starting work.
- The airbag system is fitted with a backup power source. If the airbag system is serviced within 20 seconds after the ground cable is disconnected, it may inflate.

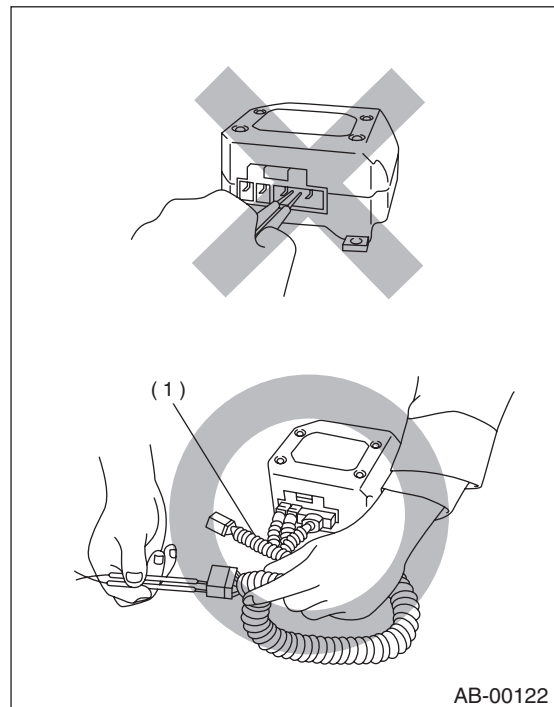
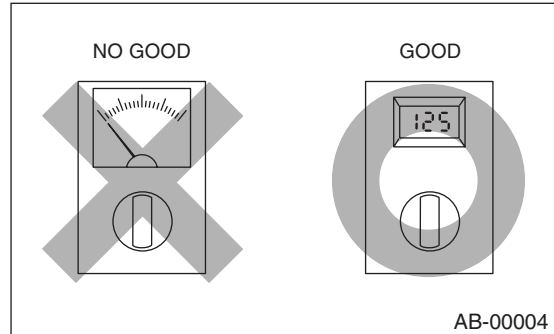


- If sensors, airbag module, airbag control module, pretensioner, and harness are deformed or damaged, replace them with new genuine parts.



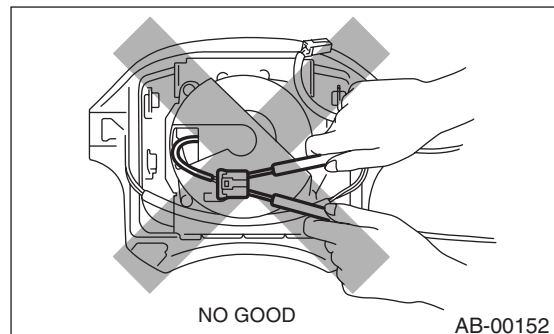
- When checking the system, be sure to use a digital circuit tester. Use of an analog circuit tester may cause the airbag to activate erroneously.

- When checking, use a test harness. Do not directly apply the tester probe to any connector terminal of the airbag.



(1) Test harness

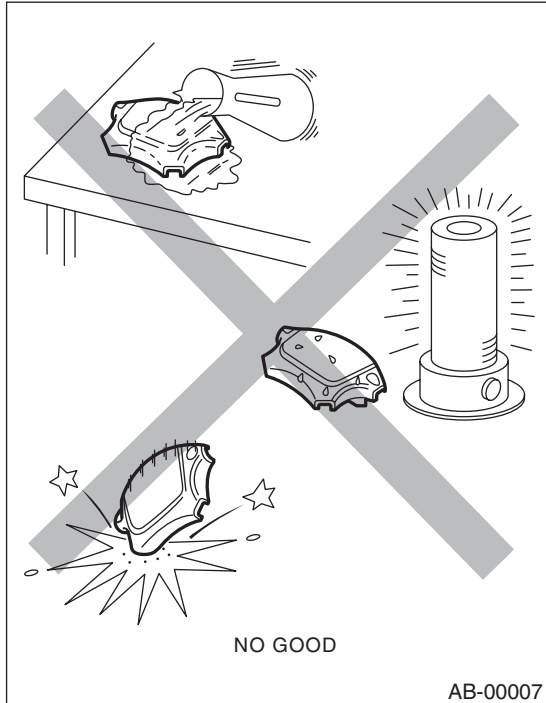
- Do not check continuity of the airbag modules for driver, passenger or pretensioner.



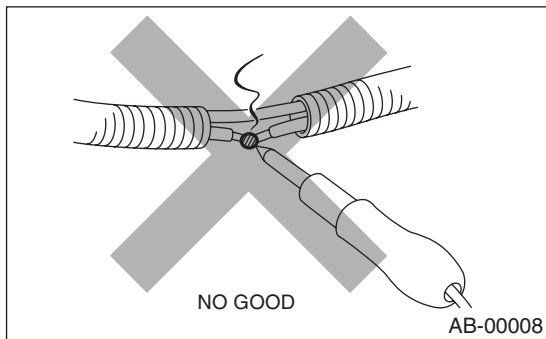
## GENERAL DESCRIPTION

### AIRBAG SYSTEM

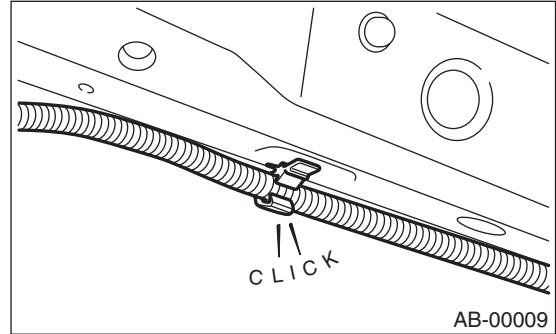
- Do not drop the airbag modulator parts, subject them to high temperature over 93°C (199°F), or let water, oil, or grease get on them; otherwise, the internal parts may be damaged and reliability greatly lowered.



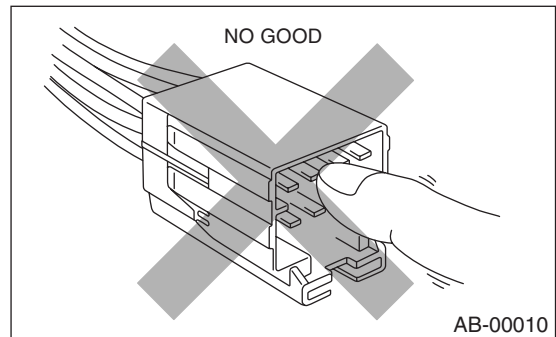
- If any damage, opening, or rust is found on the airbag system wire harness, do not attempt to repair using soldering equipment. Be sure to replace the faulty harness with a new genuine part.



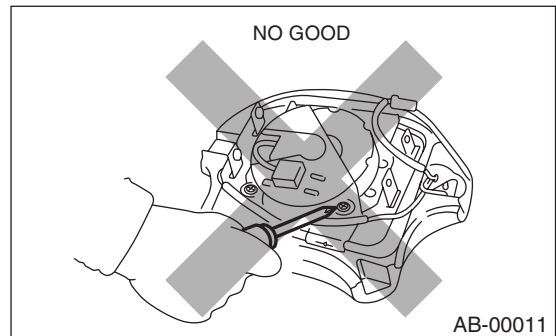
- Install the wire harness securely with the specified clips to avoid interference or tongled up with other parts.



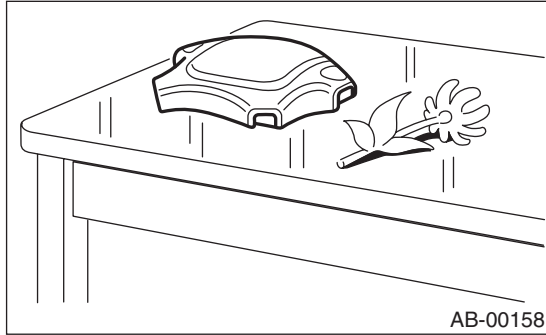
- Do not allow water or oil to come in contact with the connector terminals. Do not touch the connector terminals.



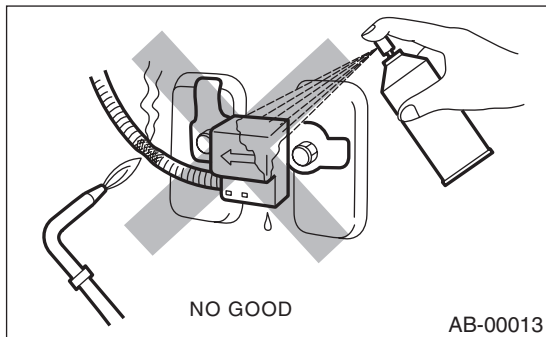
- Either of the airbag parts, or pretensioner must not be disassembled.



- After removal, keep the airbag module with the pad facing upward on a dry, clean, and flat surface away from heat and light sources, and moisture and dust.



- Do not use the airbag or pretensioner parts from other vehicles. Always replace defective parts with new parts.
- Never re-use a deployed airbag or pretensioner.
- When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender, and front side frame, remove parts and take utmost care not to apply paint or the flame of the welding burner directly to the front sub sensors and wire harness of the airbag system.

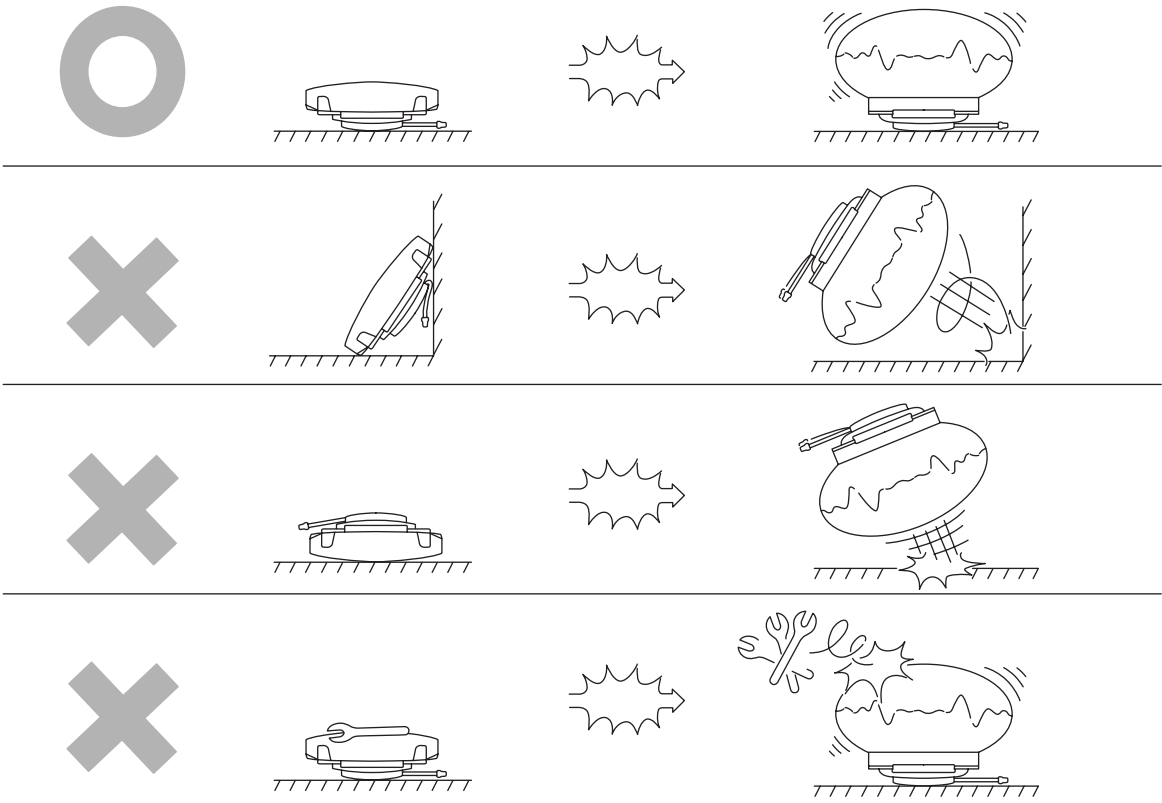


GENERAL DESCRIPTION

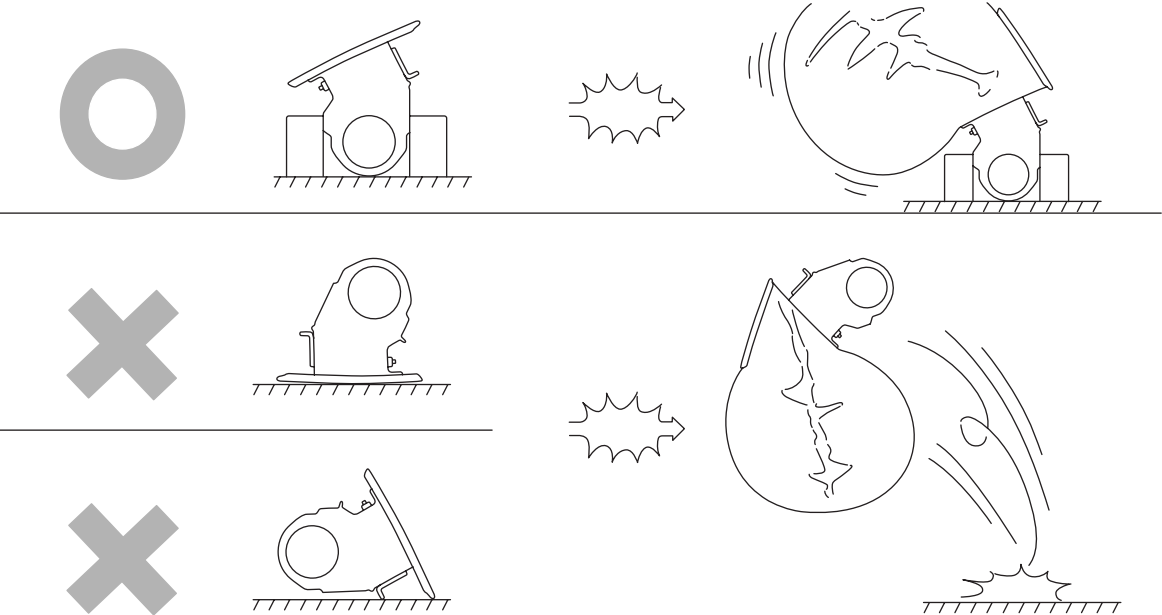
AIRBAG SYSTEM

- When storing a removed airbag module, do not place any objects on it or pile airbag modules on top of each other. If the airbag inflates for some reason when it is placed with its pad side facing downward or under any object, a serious accident may result.

(1)



(2)



AB-00130

(1) Driver side

(2) Passenger side

**C: PREPARATION TOOL**

**1. GENERAL TOOL**

TOOL NAME	REMARKS
TORX® T30	Used for removal/installation of drivers airbag module

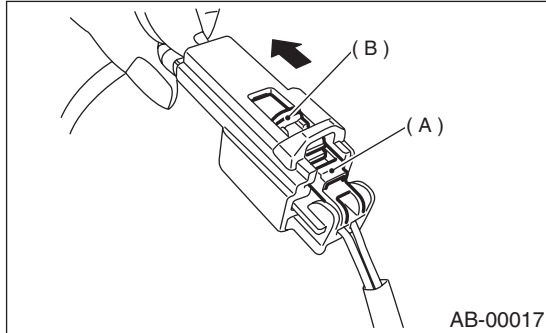
## 2. Airbag Connector

### A: OPERATION

#### 1. DRIVER'S AIRBAG, FRONT SUB SENSOR HARNESS TO AIRBAG MAIN HARNESS AND PRETENSIONER

##### • How to disconnect:

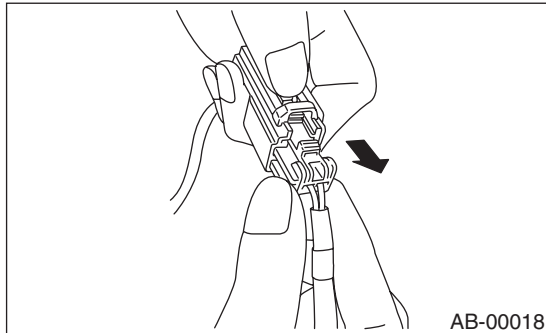
- 1) Push lock arm (A).
- 2) With lock arm (A) pushed in, move slide lock (B) in the direction of the arrow.



- 3) With slide lock (B) pulled, remove lock arm (A) to its original position, and then pull in the direction of the arrow and separate the connector.

##### CAUTION:

When pulling, be sure to hold onto the connector and not the wire.

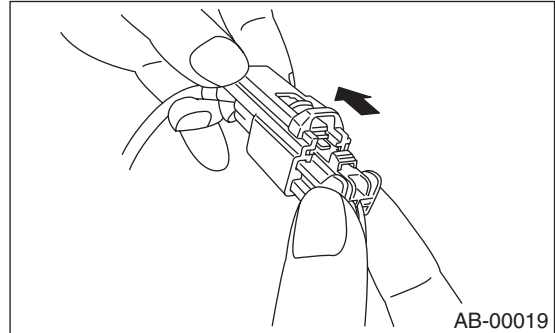


##### • How to connect:

Holding the connector, and push it in carefully until a connecting sound is heard.

##### CAUTION:

Be sure to insert the connector in until it locks. Then pull on it gently to make sure that it is locked.





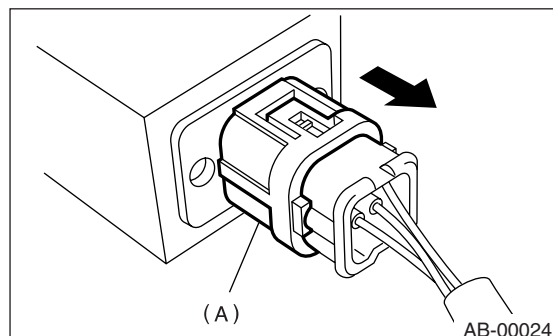
## 2. FRONT SUB-SENSOR

### • How to disconnect:

1) Holding outer part (A), pull it in the direction of the arrow.

### CAUTION:

**When pulling, be sure to hold onto the connector and not the wire.**

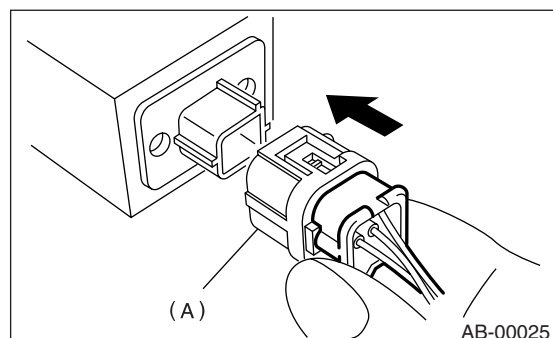


### • How to connect:

Holding the connector, and push it in carefully until a connecting sound is heard.

### CAUTION:

- Outer (A) moves back, and so do not put your hand on the outer part.
- Be sure to insert the connector in until it locks. Then pull on it gently to make sure that it is locked.



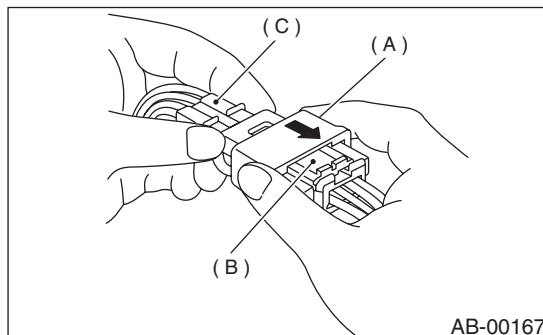
## 3. PASSENGER'S AIRBAG

### • How to disconnect:

Holding male connector (C) in one hand, use your other hand to pull slide lock (A) in the direction of the arrow.

### CAUTION:

**When pulling, be sure to hold onto the slide lock and not the male connector or wire.**



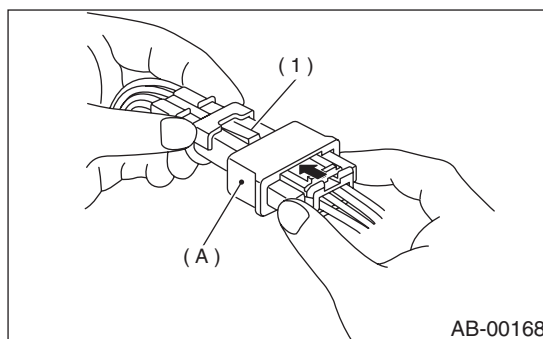
### • How to connect:

1) Insert male connector (C) over female connector socket (B), and push slide lock (A) into the male connector tabs.

### CAUTION:

**Do not hold onto the slide lock.**

2) If the female connector socket (B) is pushed, slide lock (A) will go past slide lock hook and connect.

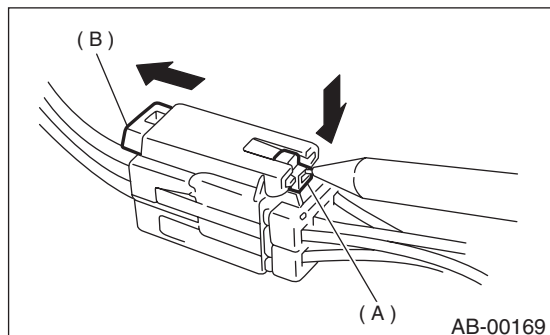


(1) Hook

### 4. AIRBAG MAIN HARNESS TO BODY HARNESS CONNECTOR

#### 1) How to disconnect:

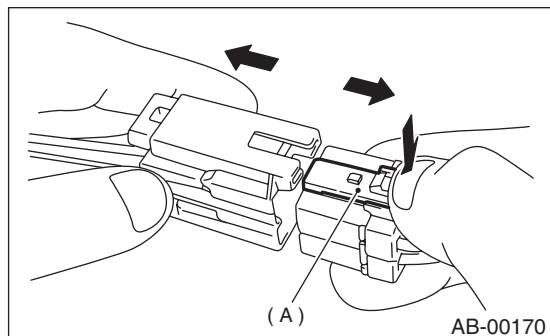
- (1) Push lock arm (A) to let green lever (B) pop out.



- (2) Then separate the connector halves by pulling them apart while pressing lever (A).

#### CAUTION:

**When pulling, be sure to hold onto the connector and not the wire.**



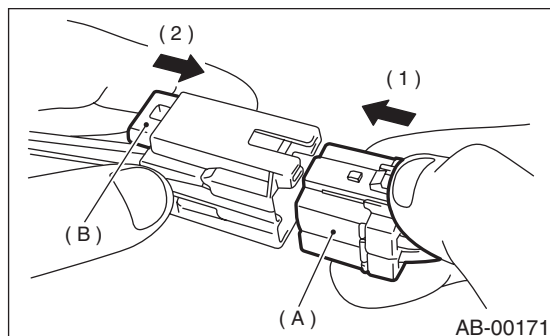
#### 2) How to connect:

- (1) Insert the (A) connector half into the other until a "click" is heard.
- (2) Push in green lever (B) until a "click" is heard.

This engages the double lock mechanism.

#### CAUTION:

**Be sure to insert the connector in until it locks. Then pull on it gently to make sure that it is locked.**



### 3. Inspection Locations After a Collision

#### A: INSPECTION

If the vehicle is involved in a collision on any side, even if it is a slight collision, be sure to check the following system parts.

#### 1. AIRBAG MODULE (DRIVER)

1) Check for the following, and replace damaged parts with new parts.

- Airbag module is cracked or deformed.
- Harness and/or connector is cracked, deformed or open. Lead wire is exposed.
- Mounting bracket is cracked or deformed.
- The module surface is fouled with grease, oil, water or cleaning solvent.

2) When installing a new driver's airbag module, check the following. If necessary, install a new airbag module and steering wheel.

- The clearance between the driver's airbag module and steering wheel is not constant.
- Free play of the steering wheel is over specifications in axial and radial directions.

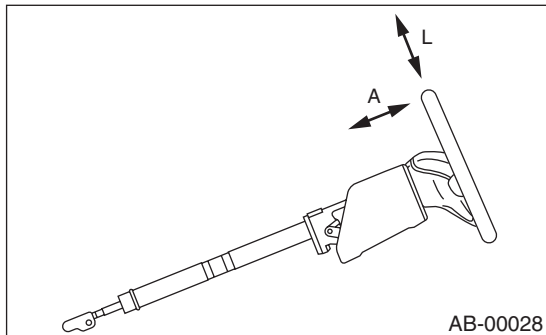
#### Specifications:

##### Height deflection A

**Less than 6 mm (0.24 in)**

##### O.D. deflection L

**Less than 7 mm (0.28 in) [Excluding steering offset 5 mm (0.20 in)]**



AB-00028

#### 2. AIRBAG MODULE (PASSENGER)

Check for the following, and replace damaged parts with new parts.

- Airbag module is cracked or deformed.
- Harness and/or connector is cracked, deformed or open. Lead wire is exposed.
- Mounting bracket is cracked or deformed.
- The module surface is fouled with grease, oil, water or cleaning solvent.

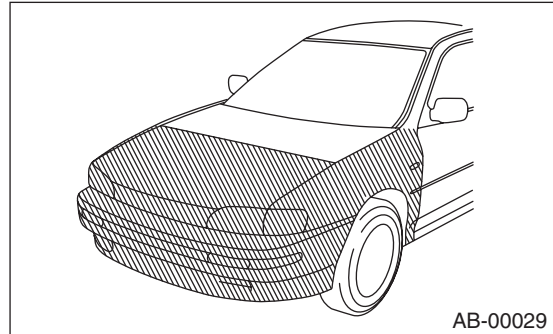
#### 3. AIRBAG CONTROL MODULE

Check for the following, and replace damaged parts with new parts.

- Control module is cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched or deformed.
- Airbag is deployed.

#### 4. FRONT SUB SENSOR

If the front section of vehicle as shown in the figure is damaged:



AB-00029

Check for the following, and replace damaged parts with new parts.

- Front sub sensor is cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched or cracked.
- Airbag is deployed.

#### 5. FRONT SUB SENSOR HARNESS

Check for the following, and replace damaged parts with new parts.

- Harness is open, lead wire is exposed, and corrugated tube is noticeably cracked.
- Connector is scratched or cracked.

#### 6. MAIN HARNESS

Check for the following, and replace damaged parts with new parts.

- Harness is open, lead wire is exposed, and corrugated tube is noticeably cracked.
- Connector is scratched or cracked.

#### 7. ROLL CONNECTOR

Check for the following, and replace damaged parts with new parts.

- Combination switch or steering roll connector is cracked or deformed.

# INSPECTION LOCATIONS AFTER A COLLISION

## AIRBAG SYSTEM

### 8. STEERING SHAFT

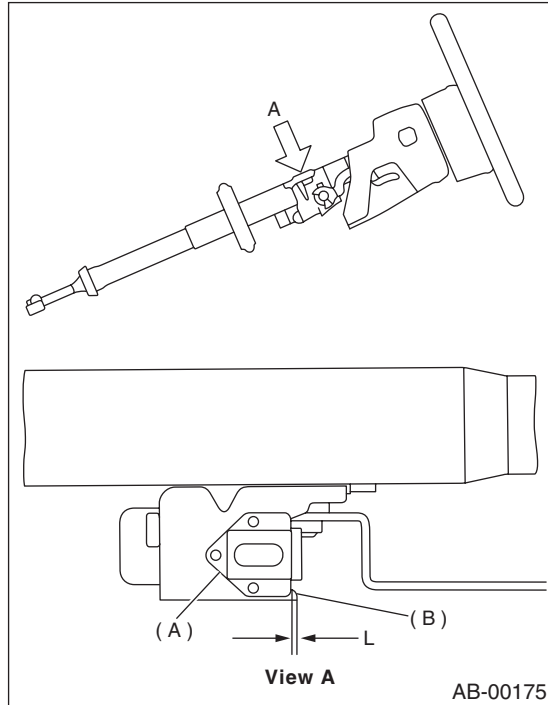
Check for the following, and replace damaged parts with new parts.

The clearance between capsule (A) and tip of column bracket (B) on steering column upper side should be within specifications.

#### **Specifications:**

***Clearance between capsule (A) and tip of column bracket L***

***More than 1.3 mm (0.051 in)***



If necessary, replace them with new parts.

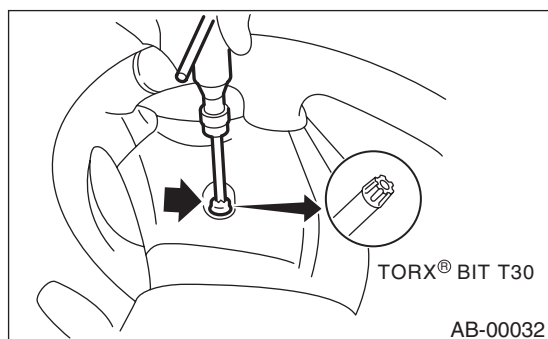
## 4. Driver's Airbag Module

### A: REMOVAL

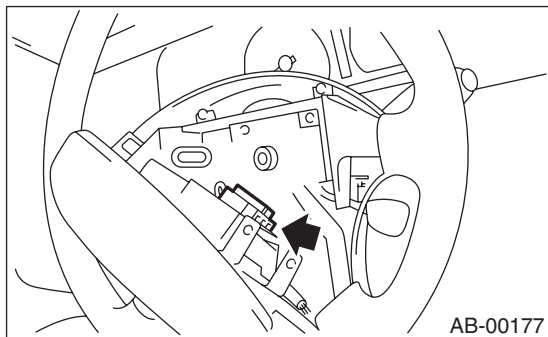
#### CAUTION:

Refer to "CAUTION" in General Description before handling the airbag module. <Ref. to AB-3, CAUTION, GENERAL DESCRIPTION.>

- 1) Position front wheels straight ahead. (After moving a vehicle more than 5 m (16 ft) with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead).
- 2) Turn ignition switch OFF.
- 3) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
- 4) Using TORX® BIT T30, remove two TORX® bolts on side of steering wheel.



- 5) Disconnect airbag connector on back of airbag module, and then remove airbag module.



- 6) Refer to "CAUTION" for handling of a removed airbag module. <Ref. to AB-3, CAUTION, GENERAL DESCRIPTION.>

### B: INSTALLATION

- 1) Install in the reverse order of removal.

#### CAUTION:

Do not allow harness and connectors to interfere or get tangled up with other parts.

### C: INSPECTION

#### CAUTION:

Refer to "CAUTION" in General Description before handling the airbag module. <Ref. to AB-3, CAUTION, GENERAL DESCRIPTION.>

Check for the following, and replace damaged parts with new parts.

- Airbag module, harness, connector, and mounting bracket are damaged.

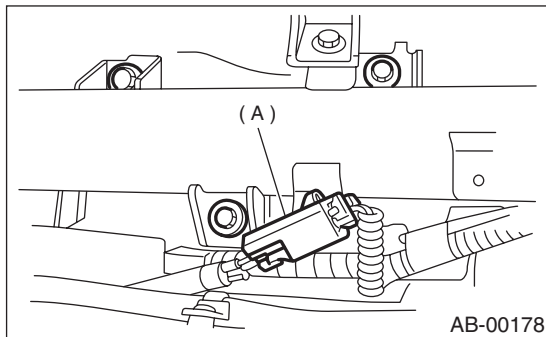
### 5. Passenger's Airbag Module

#### A: REMOVAL

##### CAUTION:

Refer to "CAUTION" in General Description before handling the airbag module. <Ref. to AB-3, CAUTION, GENERAL DESCRIPTION.>

- 1) Turn ignition switch OFF.
- 2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
- 3) Open the glove box lid. Pull out two stopper pins and lower the globe box. <Ref. to EI-34, REMOVAL, Glove Box.>
- 4) Disconnect airbag connector (A), and then detach airbag connector from support beam bracket.
- 5) Remove three bolts, and then carefully remove airbag module.



- 6) Refer to "CAUTION" for handling of a removed airbag module. <Ref. to AB-3, CAUTION, GENERAL DESCRIPTION.>

#### B: INSTALLATION

Install in the reverse order of removal.

##### CAUTION:

Do not allow harness and connectors to interfere or get tangled up with other parts.

#### C: INSPECTION

##### CAUTION:

Refer to "CAUTION" in General Description before handling the airbag module. <Ref. to AB-3, CAUTION, GENERAL DESCRIPTION.>

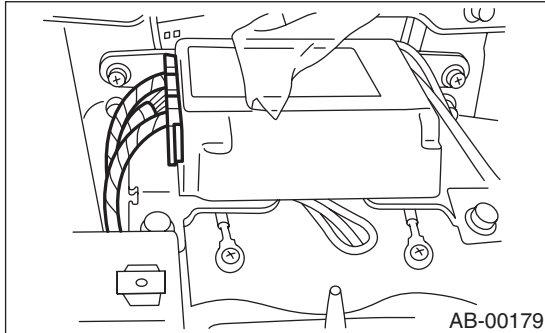
Check for the following, and replace damaged parts with new parts.

- Airbag module, harness, connector, and mounting bracket are damaged.

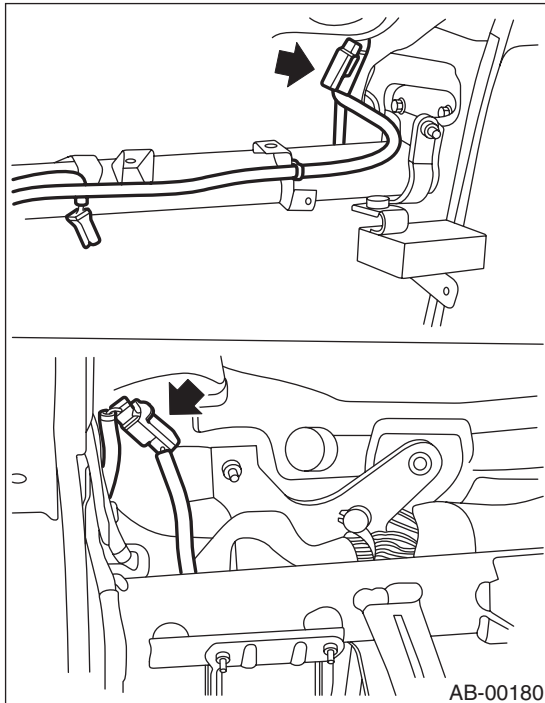
## 6. Main Harness

### A: REMOVAL

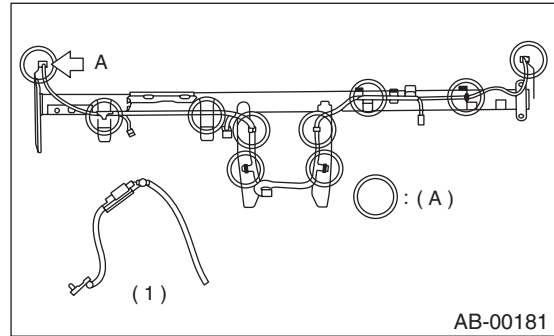
- 1) Turn ignition switch OFF.
- 2) Disconnect the ground cable from the battery and wait for at least 20 seconds before starting work.
- 3) Remove instrument panel. <Ref. to EI-37, REMOVAL, Instrument Panel Assembly.>
- 4) Disconnect connector from airbag control module.



- 5) Disconnect front sub sensor connector (blue) from airbag main harness.



- 6) Detach clips (A) from steering support beam, and remove main harness.



(1) View A

### B: INSTALLATION

Install in the reverse order of removal.

### C: INSPECTION

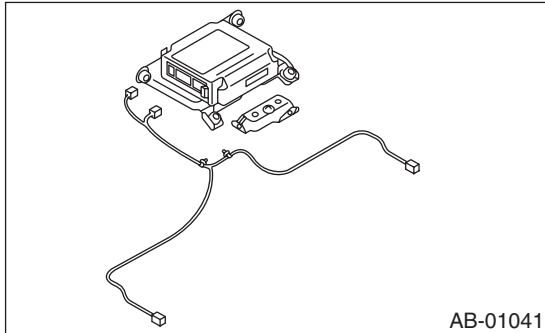
Check for the following, and replace damaged parts with new parts.

- Harness and/or connector is damaged.

### 7. Pretensioner Harness

#### A: REMOVAL

- 1) Turn ignition switch OFF.
- 2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
- 3) Remove front seat. <Ref. to SE-6, REMOVAL, Front Seat.>
- 4) Remove console box. <Ref. to EI-36, REMOVAL, Console Box.>
- 5) Roll up floor mat, and then disconnect two 12-pin yellow connectors from airbag control module.
- 6) Detach clips, and then remove pretensioner harness.



#### B: INSTALLATION

Install in the reverse order of removal.

#### C: INSPECTION

Check for the following, and replace damaged parts with new parts.

- Harness and/or connector is damaged.



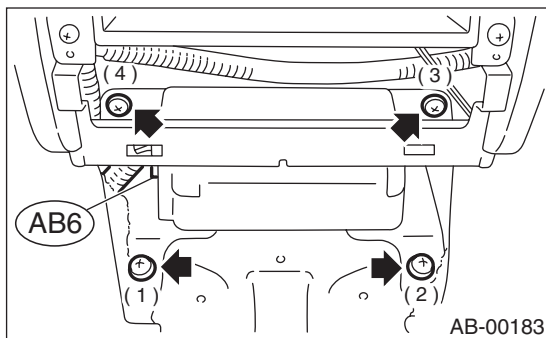
## 8. Airbag Control Module

### A: REMOVAL

#### CAUTION:

- Do not disassemble the airbag control module.
- If the airbag control module is deformed or if water damage is suspected, replace the airbag control module with a new genuine part.
- Do not drop the airbag control module.
- After removal, keep the airbag control module on a dry, clean surface away from moisture, heat, and dust.

- 1) Turn ignition switch OFF.
- 2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
- 3) Remove console box. <Ref. to EI-36, REMOVAL, Console Box.>
- 4) Disconnect connector from airbag control module.
- 5) Remove four airbag control module mounting bolts in the order shown in the figure.



### B: INSTALLATION

#### CAUTION:

Use new mounting bolts during re-assembly.  
Install in the reverse order of removal.

### C: INSPECTION

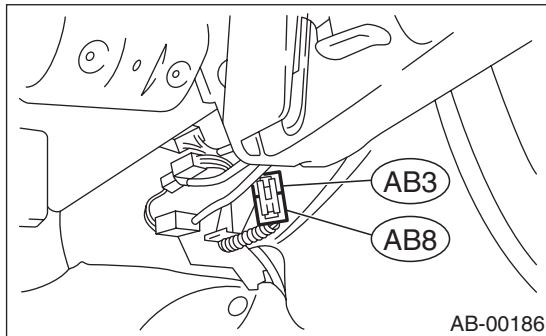
Check for the following, and replace damaged parts with new parts.

- Control module, connector, and mounting bracket are damaged.
- Airbag is deployed.
- Side airbag is deployed.

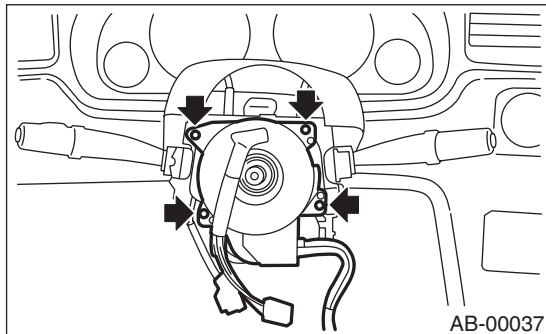
### 9. Roll Connector

#### A: REMOVAL

- 1) Turn ignition switch OFF.
- 2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
- 3) Remove instrument panel lower cover.
- 4) Disconnect airbag connector (AB3) and (AB8) below steering column.



- 5) Remove driver's airbag module. <Ref. to AB-13, Driver's Airbag Module.>
- 6) Remove steering wheel. <Ref. to PS-17, REMOVAL, Steering Wheel.>
- 7) Remove steering column cover.
- 8) Remove screws, and then remove roll connector.



#### B: INSTALLATION

Install in the reverse order of removal.

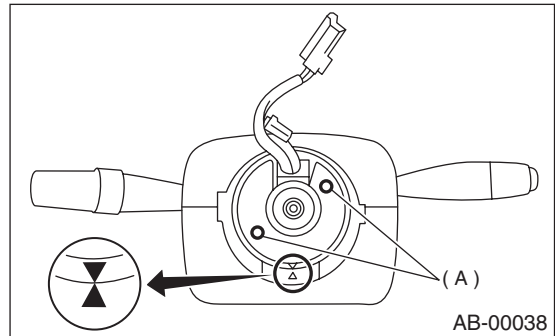
#### C: INSPECTION

Check for the following, and replace damaged parts with new parts.

- Combination switch and roll connector is cracked or deformed.

#### D: ADJUSTMENT

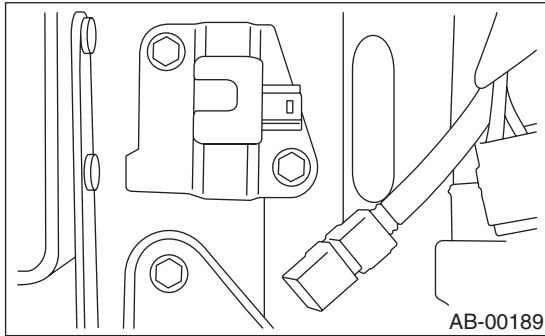
- 1) Check that front wheels are positioned in straight ahead direction.
- 2) Turn roll connector pin (A) clockwise until it stops.
- 3) Turn roll connector pin (A) counterclockwise approximately 2.65 turns until "▲" marks are aligned.



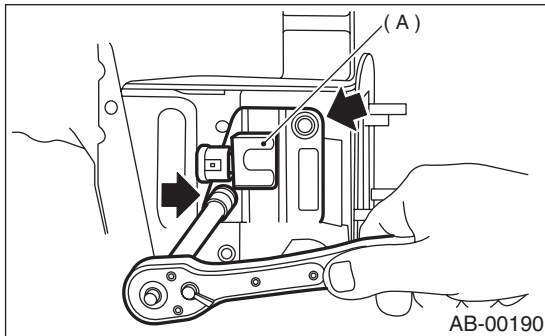
## 10. Front Sub Sensor

### A: REMOVAL

- 1) Turn ignition switch OFF.
- 2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
- 3) Remove front bumper. <Ref. to EI-18, REMOVAL, Front Bumper.>
- 4) Disconnect connector from front sub sensor.



- 5) Remove front sub sensor (A).



### B: INSTALLATION

Install in the reverse order of removal.

### C: INSPECTION

Check for the following, and replace damaged parts with new parts.

- Front sub sensor, mounting bracket, and connector are damaged.

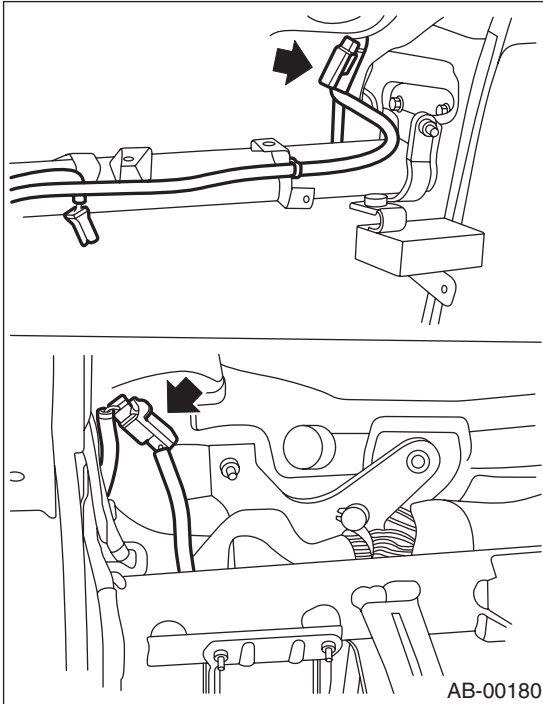
# FRONT SUB SENSOR HARNESS

## AIRBAG SYSTEM

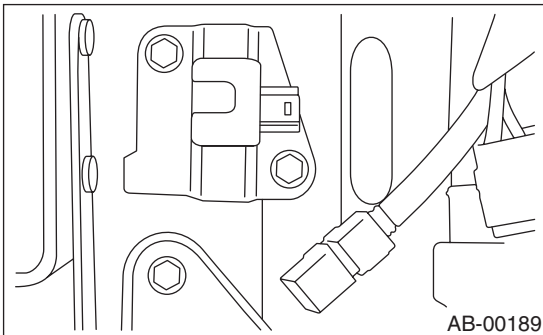
### 11. Front Sub Sensor Harness

#### A: REMOVAL

- 1) Turn ignition switch OFF.
- 2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
- 3) Remove instrument panel. <Ref. to EI-37, REMOVAL, Instrument Panel Assembly.>
- 4) Disconnect front sub sensor connector (blue) from airbag main harness.

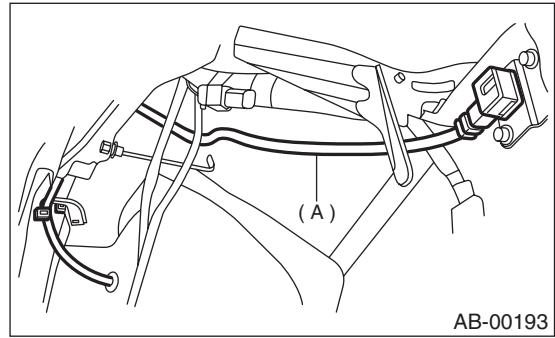


- 5) Remove front bumper. <Ref. to EI-18, REMOVAL, Front Bumper.>
- 6) Disconnect connector from front sub sensor.



- 7) Remove wiring harness clips.

- 8) Remove grommet, and then detach front sub sensor harness (A).



#### B: INSTALLATION

Install in the reverse order of removal.

#### C: INSPECTION

Check for the following, and replace damaged parts.

- Harness and/or connector is damaged.