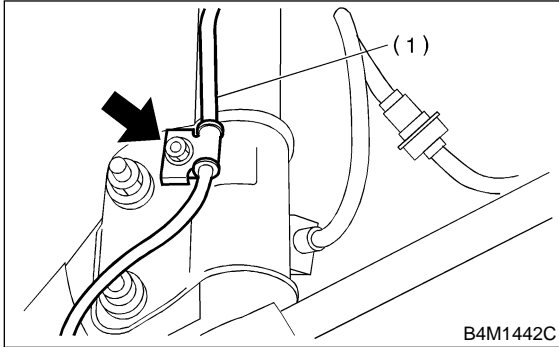


13. ABS Sensor

A: REMOVAL

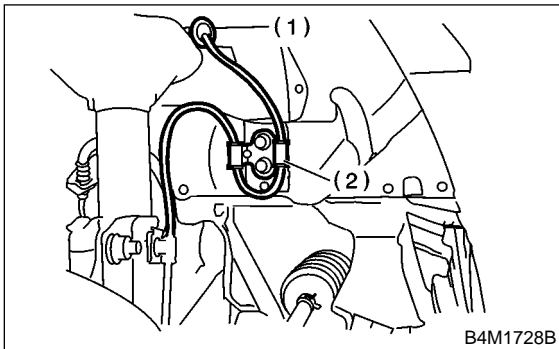
1. FRONT ABS SENSOR

- 1) Disconnect front ABS sensor connector located in engine compartment.
- 2) Remove bolts which secure sensor harness to strut.



(1) Sensor harness

- 3) Remove bolts which secure sensor harness to body.

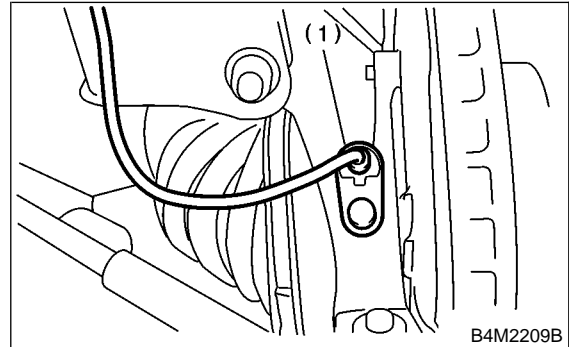


(1) To front ABS sensor connector
(2) Bracket

- 4) Remove bolts which secure front ABS sensor to housing, and remove front ABS sensor.

CAUTION:

- Be careful not to damage pole piece located at tip of the sensor and teeth faces during removal.
- Do not pull sensor harness during removal.

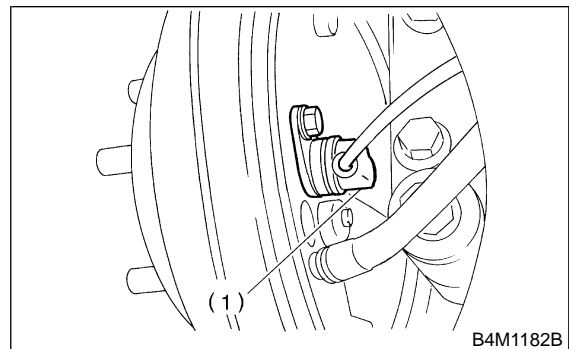


(1) Front ABS sensor

- 5) Remove front disc brake caliper and disc rotor from housing after removing front tire.
- 6) Remove front drive shaft and housing and hub assembly. <Ref. to 4-2 [W1A0].>

2. REAR ABS SENSOR

- 1) Remove rear seat and disconnect rear ABS sensor connector.
- 2) Remove rear sensor harness bracket from rear trailing link and bracket.
- 3) Remove rear ABS sensor from rear back plate.



(1) Rear ABS sensor

- 4) Remove rear tone wheel while removing hub from housing and hub assembly. <Ref. to 4-2 [W2A0].>

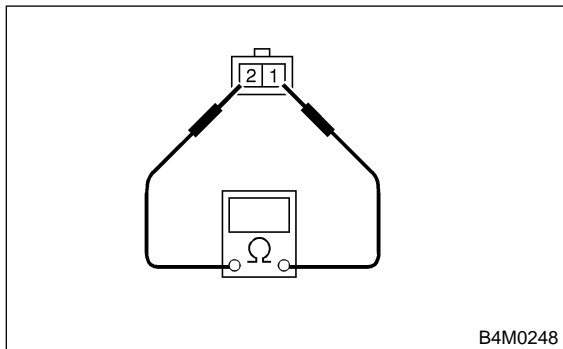
CAUTION:

- Be careful not to damage pole piece located at tip of the sensor and teeth faces during removal.
- Do not pull sensor harness during removal.

B: INSPECTION

1. ABS SENSOR

- 1) Check pole piece of ABS sensor for foreign particles or damage. If necessary, clean pole piece or replace ABS sensor.
- 2) Measure ABS sensor resistance.



ABS sensor	Terminal No.	Standard
Front - LH	1 and 2	1.25±0.25 kΩ
Front - RH	1 and 2	
Rear - LH	1 and 2	1.0±0.2 kΩ
Rear - RH	1 and 2	

CAUTION:

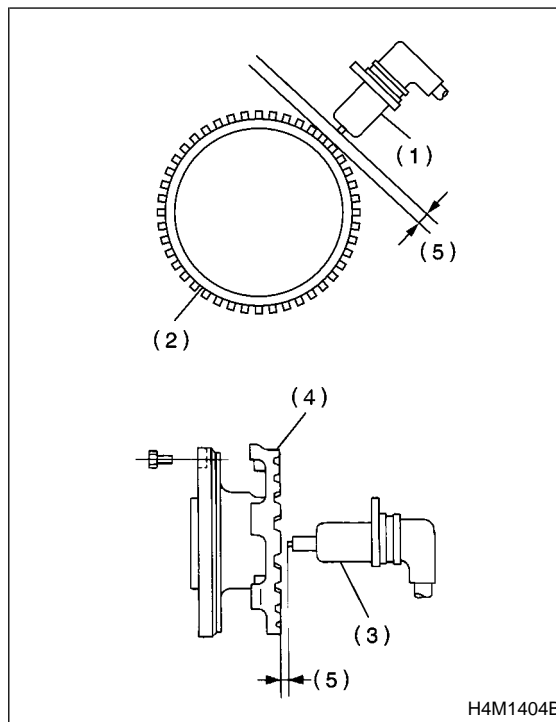
If resistance is outside the standard value, replace ABS sensor with a new one.

NOTE:

Check ABS sensor cable for discontinuity. If necessary, replace with a new one.

2. TONE WHEEL

- 1) Check tone wheel's teeth (44 pieces) for cracks or dents. If necessary, replace tone wheel with a new one.
- 2) Clearances (sensor gaps) should be measured one by one to ensure tone wheel and speed sensor are installed correctly.



- (1) Front ABS sensor
- (2) Front tone wheel
- (3) Rear ABS sensor
- (4) Rear tone wheel
- (5) Sensor gap

ABS sensor clearance:

Front

0.3 — 0.8 mm (0.012 — 0.031 in)

Rear

0.7 — 1.2 mm (0.028 — 0.047 in)

NOTE:

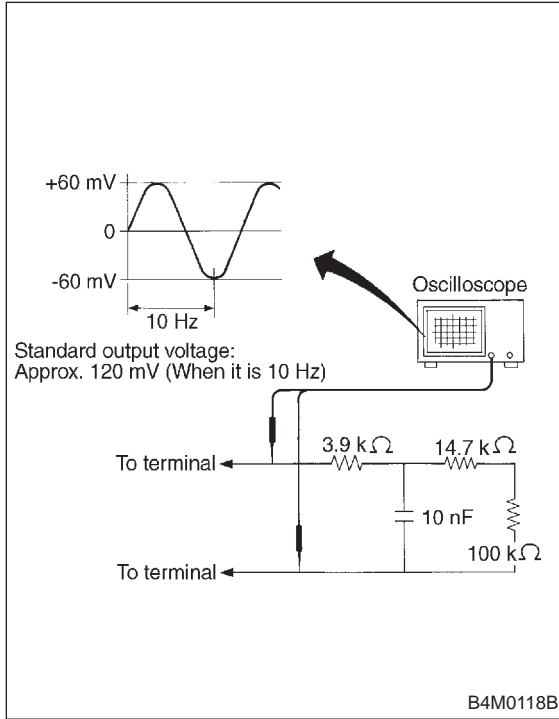
- If clearance is narrow, adjust by using spacer (Part No. 26755AA000).
- If clearance is wide, check the outputted voltage then replace ABS sensor or tone wheel if the outputted voltage is outside the specification.

3. OUTPUT VOLTAGE

Output voltage can be checked by the following method. Install resistor and condenser, then rotate wheel about 2.75 km/h (2 MPH) or equivalent.

NOTE:

Regarding terminal No., please refer to item 1. ABS SENSOR.



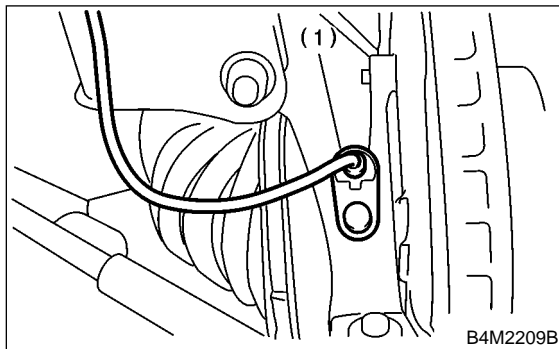
C: INSTALLATION

1. FRONT ABS SENSOR

1) Temporarily install front ABS sensor on housing.

CAUTION:

Be careful not to strike ABS sensor's pole piece and tone wheel's teeth against adjacent metal parts during installation.



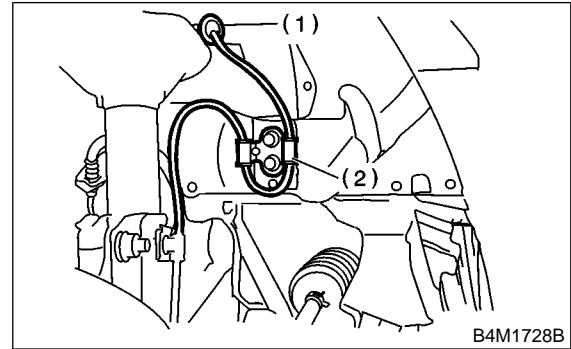
(1) Front ABS sensor

2) Install front drive shaft to hub spline. <Ref. to 4-2 [W1E0].>

3) Install front ABS sensor on strut and wheel apron bracket.

Tightening torque:

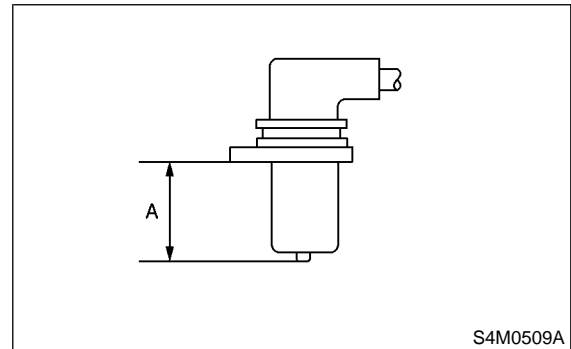
32±10 N·m (3.3±1.0 kg·m, 24±7 ft·lb)



(1) To front ABS sensor connector
(2) Bracket

4) Install ABS sensor on housing.

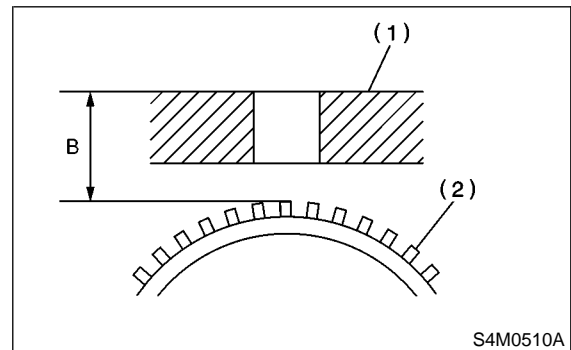
(1) Measure the distance "A" between ABS sensor surface and sensor pole face.



(2) Measure the distance "B" between surface where the front axle housing meets the ABS sensor, and the tone wheel.

NOTE:

Measure so that the gauge touches the tone wheel teeth top.



(1) Tone wheel
(2) Axle housing

(3) Find the gap between the ABS sensor pole face and the surface of the tone wheel teeth by putting the measured values in the formula below and calculating.

NOTE:

After standard clearance is obtained over the entire perimeter, tighten ABS sensor on housing to specified torque.

ABS sensor clearance = B - A

ABS sensor standard clearance:

0.3 — 0.8 mm (0.012 — 0.031 in)

Tightening torque:

32±10 N·m (3.3±1.0 kg·m, 24±7 ft·lb)

CAUTION:

Check the marks on the harness to make sure that no distortion exists. (RH: light blue, LH: brown)

NOTE:

If the clearance is outside specifications, readjust.

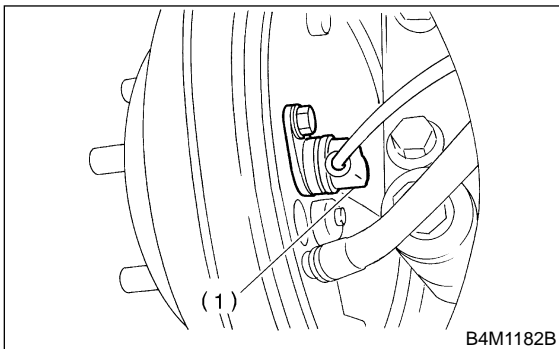
2. REAR ABS SENSOR

1) Install rear tone wheel on hub, then rear housing on hub. <Ref. to 4-2 [W2D0].>

2) Temporarily install rear ABS sensor on back plate.

CAUTION:

Be careful not to strike ABS sensor's pole piece and tone wheel's teeth against adjacent metal parts during installation.



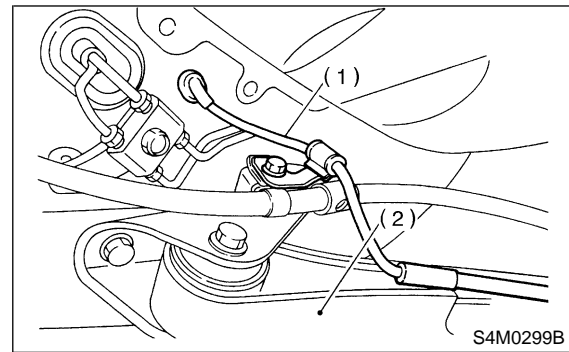
(1) Rear ABS sensor

3) Install rear drive shaft to rear housing and rear differential spindle. <Ref. to 4-2 [W2E0].>

4) Install rear sensor harness on rear trailing link.

Tightening torque:

32±10 N·m (3.3±1.0 kg·m, 24±7 ft·lb)



(1) Rear sensor harness
 (2) Trailing link

5) Place a thickness gauge between ABS sensor's pole piece and tone wheel's tooth face. After standard clearance is obtained over the entire perimeter, tighten ABS sensor on back plate to specified torque.

ABS sensor standard clearance:

0.7 — 1.2 mm (0.028 — 0.047 in)

Tightening torque:

32±10 N·m (3.3±1.0 kg·m, 24±7 ft·lb)

CAUTION:

Check the marks on the harness to make sure that no distortion exists. (RH: Pink, LH: Blue)

NOTE:

If the clearance is outside specifications, readjust.