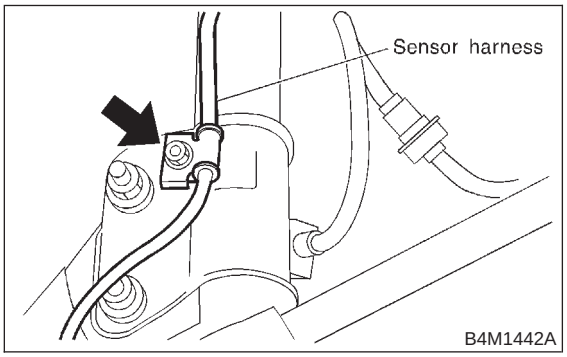
14. ABS Sensor

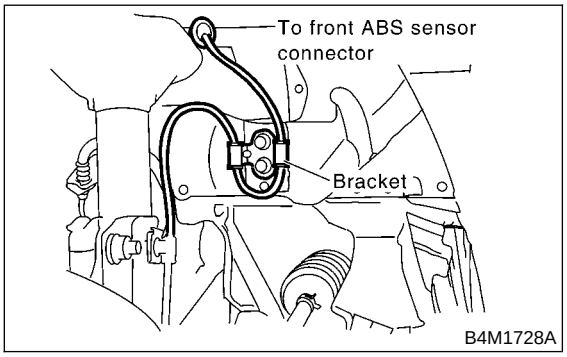
A: REMOVAL

1. FRONT ABS SENSOR

1) Disconnect battery ground cable.
2) Disconnect front ABS sensor connector located next to front strut mounting house in engine compartment.
3) Remove bolts which secure sensor harness to strut.

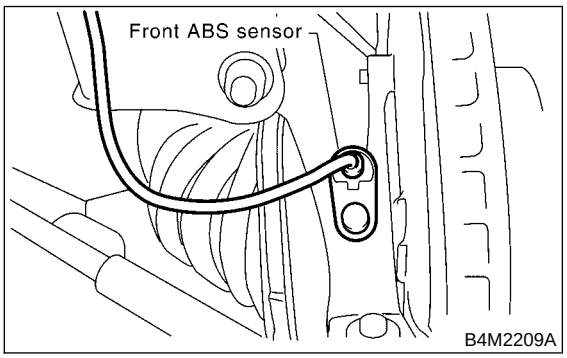


4) Remove bolts which secure sensor harness to body.



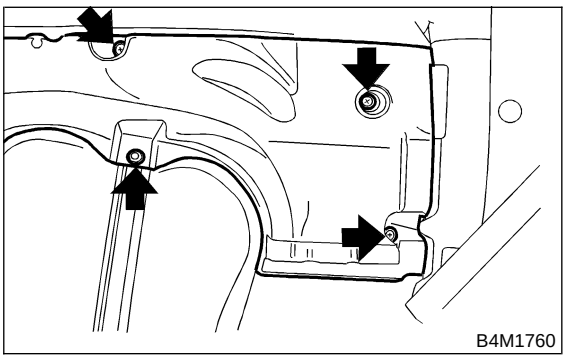
5) Remove bolts which secure front ABS sensor to housing, and remove front ABS sensor.

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.**

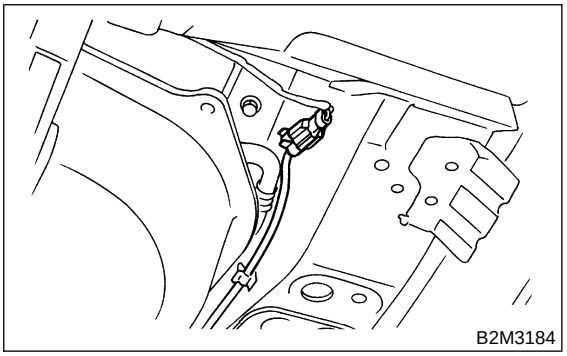


2. REAR ABS SENSOR

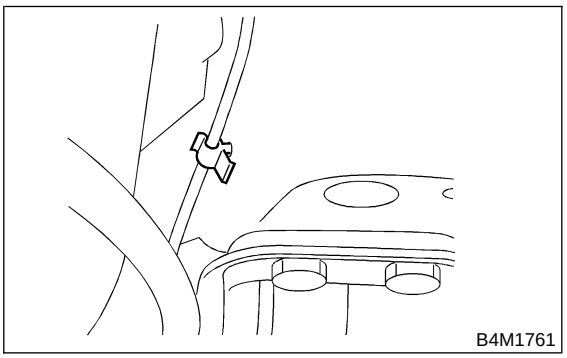
1) Disconnect battery ground cable.
2) Lift-up the vehicle.
3) Remove fuel tank cover.



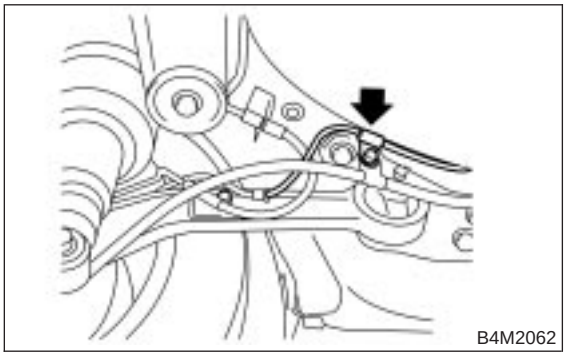
4) Disconnect rear ABS sensor connector.

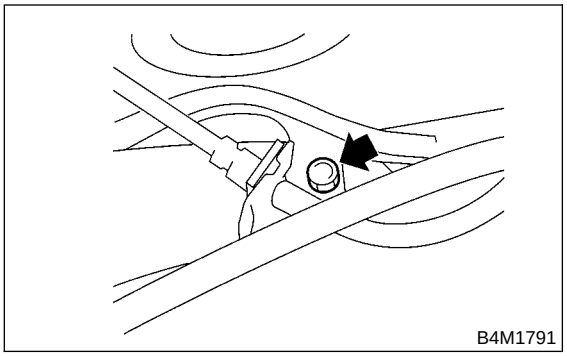


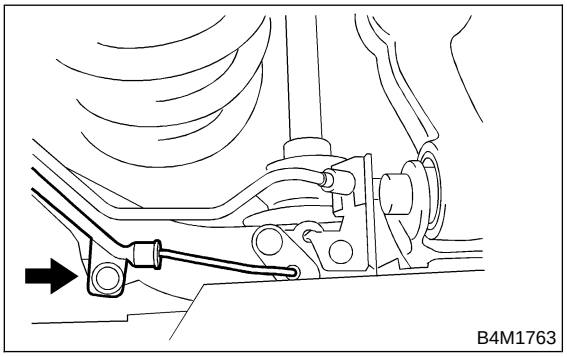
5) Remove rear sensor harness from clip on body side.



6) Remove bolts which hold rear sensor harness brackets.

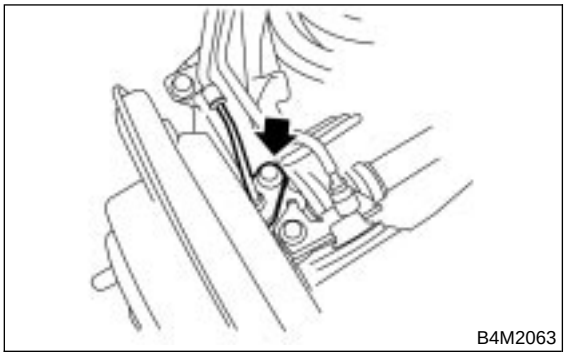

B4M2062


B4M1791

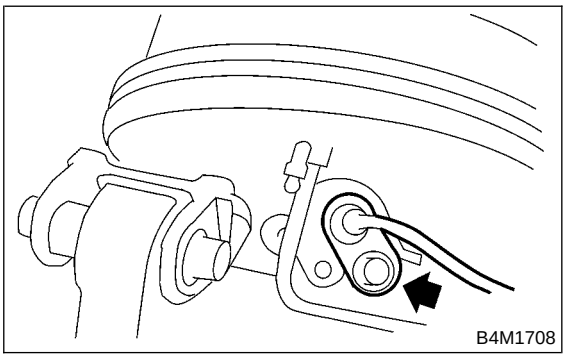

B4M1763

7) Remove rear ABS sensor from rear arm.

With disc brake model:


B4M2063

With drum brake model:


B4M1708

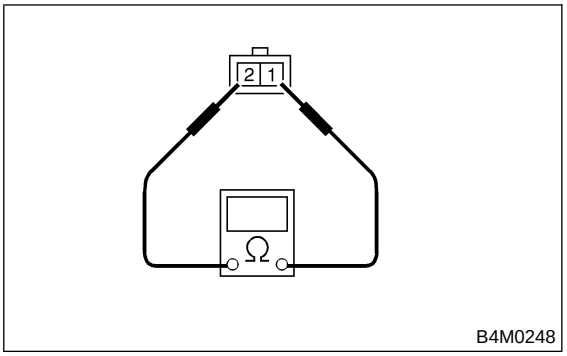
8) When inspecting rear tone wheel, remove rear drive shaft as rear tone wheel is unitized with BJ assembly of rear drive shaft. <Ref. to 4-2 [W3A2].>

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.



B4M0248

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

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

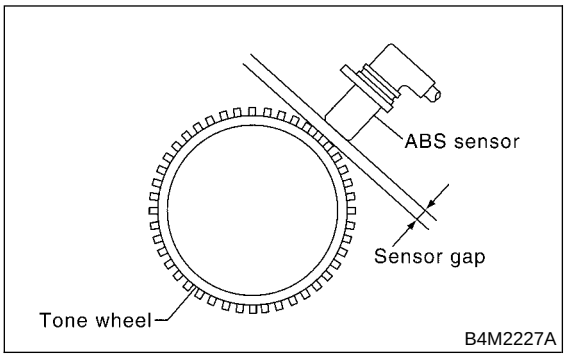
NOTE:
Check ABS sensor cable for discontinuity. If necessary, replace with a new one.

2. TONE WHEEL

1) Visually check tone wheel's teeth (44 pieces) for cracks or dents. If necessary, replace tone wheel with a new one.

NOTE:
Replace BJ assembly with new one as a single unit if there are any defects found on tone wheel as the rear tone wheel is unitized with BJ assembly of drive shaft.

2) Clearances (sensor gaps) should be measured one by one to ensure tone wheel and speed sensor are installed correctly.



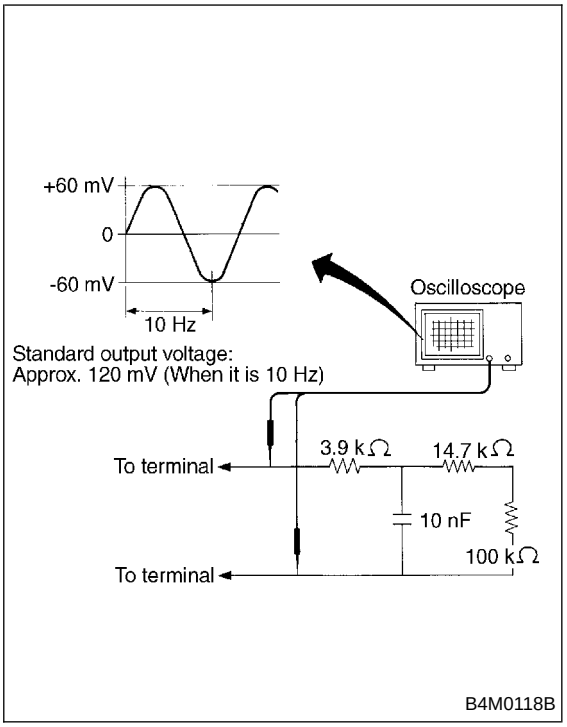
ABS sensor clearance:
Front
0.3 — 0.8 mm (0.012 — 0.031 in)
Rear
0.44 — 0.94 mm (0.0173 — 0.0370 in)

NOTE:
● If clearance is narrow, adjust the gap 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.

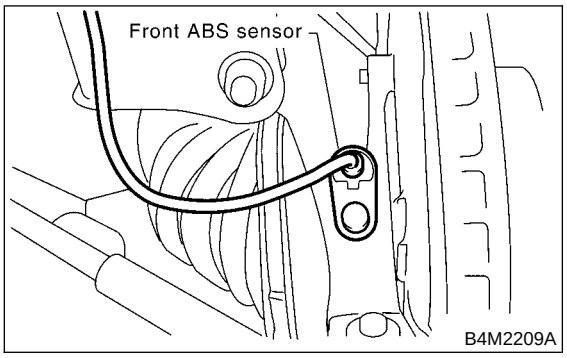


C: INSTALLATION

1. FRONT ABS SENSOR

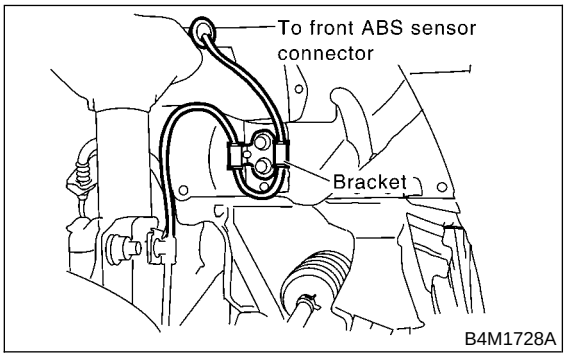
1) Temporarily install front ABS sensor on housing.

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



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

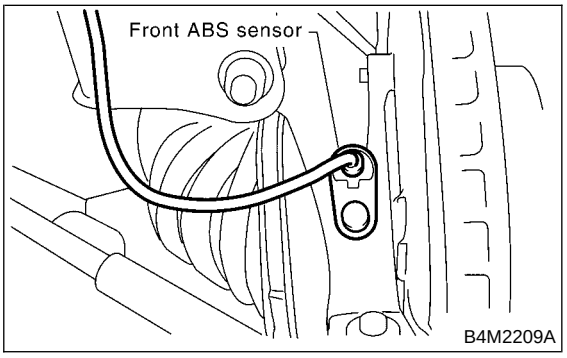
Tightening torque:
32±10 N·m (3.3±1.0 kg-m, 24±7 ft-lb)



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

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.

Model	LH	RH
Except OUTBACK	Yellow	White
OUTBACK	Brown	Light blue

NOTE:
If the clearance is outside specifications, readjust.

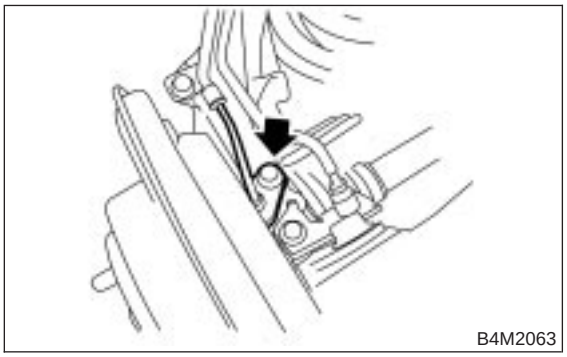
4) After confirmation of the ABS sensor clearance, connect connector to ABS sensor.
5) Connect connector to battery ground cable.

2. REAR ABS SENSOR

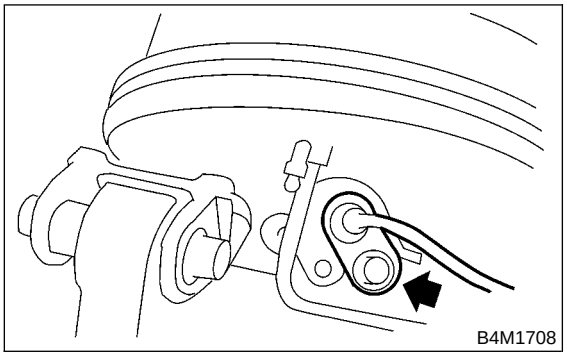
1) Install rear drive shaft to the vehicle. <Ref. to 4-2 [W3E2].>
2) Temporarily install rear ABS sensor on rear arm.

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

With disc brake model:

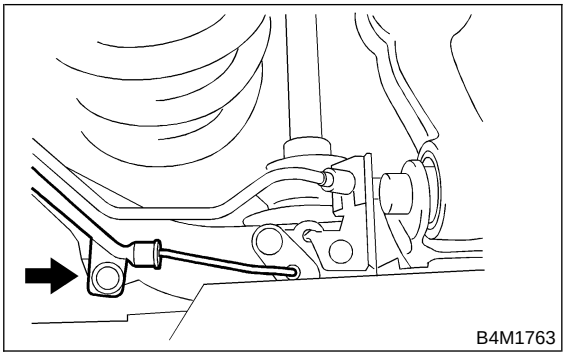

B4M2063

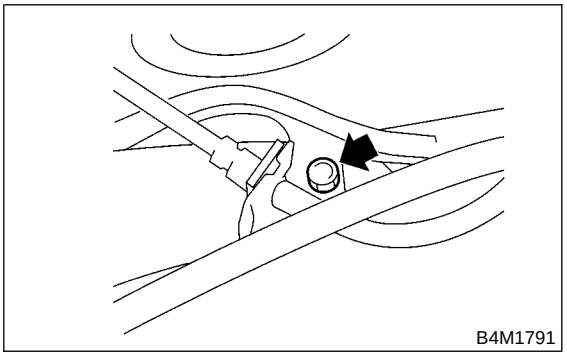
With drum brake model:


B4M1708

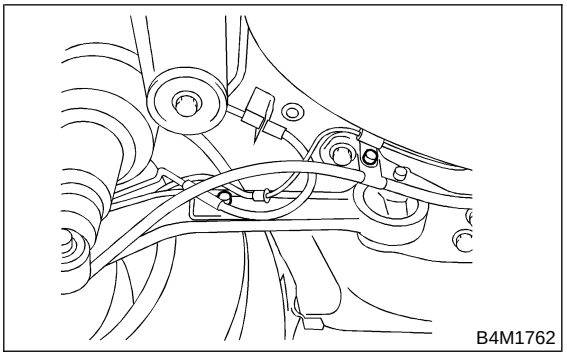
3) Install rear sensor harness brackets in the original positions and install harness on the clip.

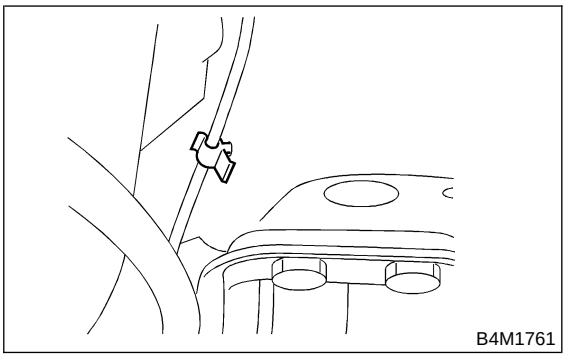
Tightening torque:
32±10 N·m (3.3±1.0 kg-m, 24±7 ft-lb)


B4M1763


B4M1791

Tightening torque:
32±10 N·m (3.3±1.0 kg-m, 24±7 ft-lb)


B4M1762


B4M1761

4) Place a thickness gauge between ABS sensor's and tone wheel's tooth face. After standard clearance is obtained over the entire perimeter, tighten ABS sensor on rear arm to specified torque.

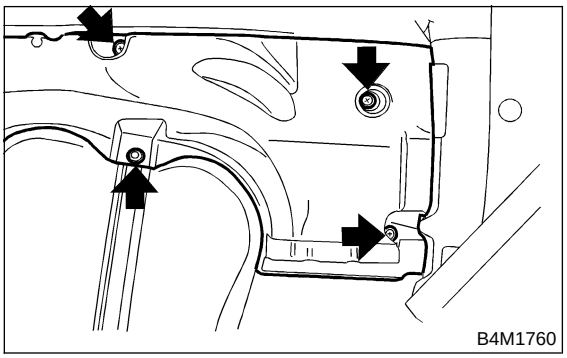
ABS sensor standard clearance:
0.44 — 0.94 mm (0.0173 — 0.0370 in)

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: white, LH: yellow)

NOTE:
If the clearance is outside specifications, readjust.

5) After confirmation of the ABS sensor clearance, connect connector to ABS sensor and install fuel tank cover.



6) Connect connector to battery ground cable.