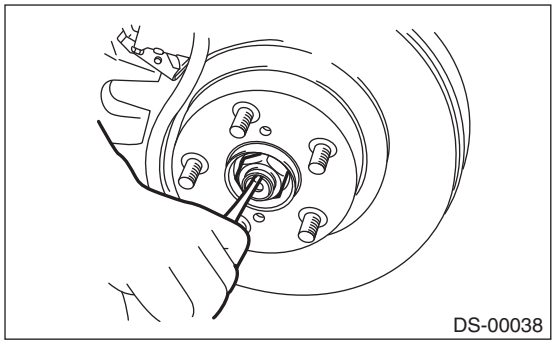
3. Front Axle

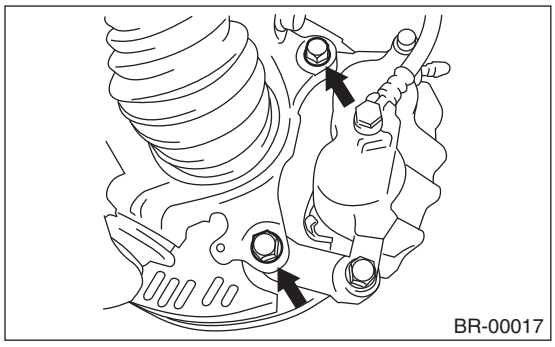
A: REMOVAL

1) Lift up the vehicle, and remove the front wheels.
2) Lift the crimped section of axle nut.



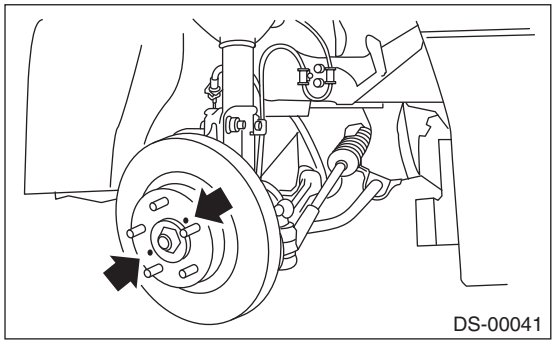
3) Remove the axle nut using a socket wrench while depressing the brake pedal.

CAUTION:
Do not loosen the axle nut while the front axle is loaded. Doing so may damage the hub bearing.
4) Remove the disc brake caliper from the housing, and suspend it from strut using a wire.

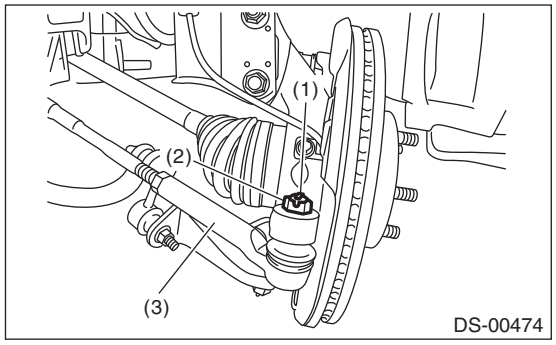


5) Remove the disc rotor.

NOTE:
If it is difficult to remove the disc rotor from the hub, drive the 8 mm bolt into the threaded end of rotor, and then remove the rotor.

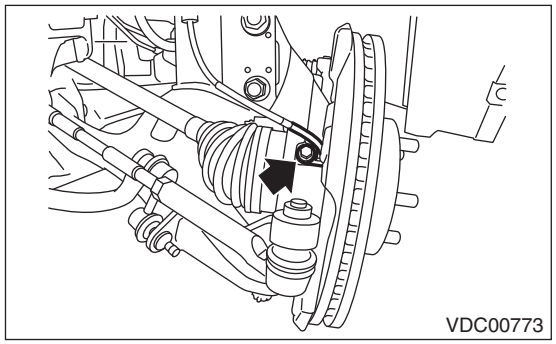


6) After removing the cotter pin and castle nut, use a puller to remove the tie-rod end from the front housing.

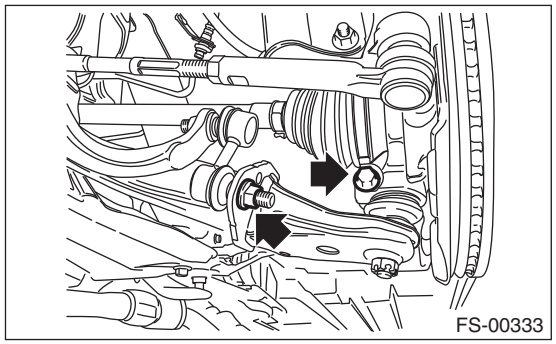


(1) Cotter pin
(2) Castle nut
(3) Tie-rod end

7) Remove the front ABS wheel speed sensor.



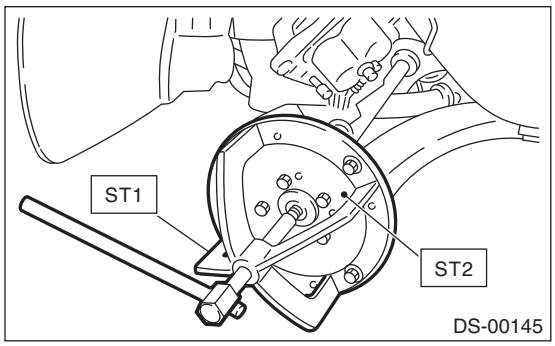
8) Remove the stabilizer link and ball joint.



9) Remove the front drive shaft from the transmission.

10) Remove the front drive shaft assembly from the hub. If it is hard to remove, use the ST.

ST1	926470000	AXLE SHAFT PULLER
ST2	28099PA110	AXLE SHAFT PULLER PLATE



11) Place an alignment mark on the camber adjusting bolt and front housing.
12) Remove two bolts to remove the front housing from the strut.

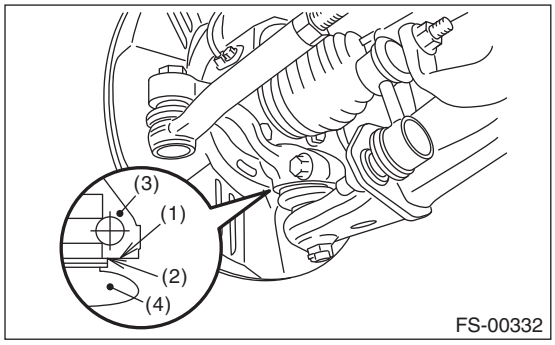
B: INSTALLATION

1) Align the alignment mark on the camber adjusting bolt, and tighten the housing and strut using a new flange nut.

Tightening torque:
155 N·m (15.8 kgf-m, 114.3 ft-lb)

2) Install the front drive shaft. <Ref. to DS-25, INSTALLATION, Front Drive Shaft.>
3) Install the ball joint into housing.

CAUTION:
Before tightening, make sure the lower side of housing and stepped section of ball joint are in contact.



(1) Housing bottom
(2) Raised section of ball joint
(3) Housing
(4) Ball joint

Tightening torque:
50 N·m (5.1 kgf-m, 36.9 ft-lb)

4) Install the front ABS wheel speed sensor.

Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

5) Install the disc rotor.
6) Install the disc brake.

Tightening torque:
120 N·m (12.2 kgf-m, 88.5 ft-lb)

7) Install the stabilizer link.

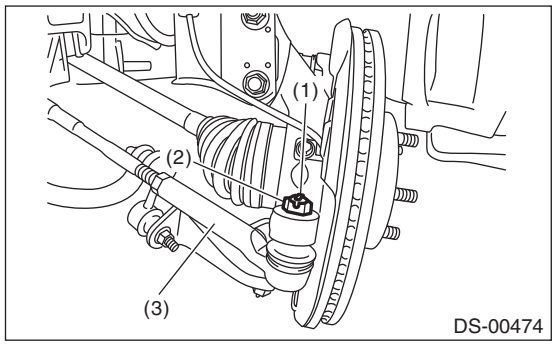
Tightening torque:
60 N·m (6.1 kgf-m, 44.3 ft-lb)

8) Install the tie-rod end ball joint to the front housing using a castle nut.

Tightening torque:
27 N·m (2.8 kgf-m, 19.9 ft-lb)

CAUTION:
When connecting the tie-rod, do not hit the cap at bottom of tie-rod end with a hammer.

9) Tighten the castle nut to specified torque and tighten further within 60° until the pin hole is aligned with the slot in the nut. Bend the cotter pin to lock.



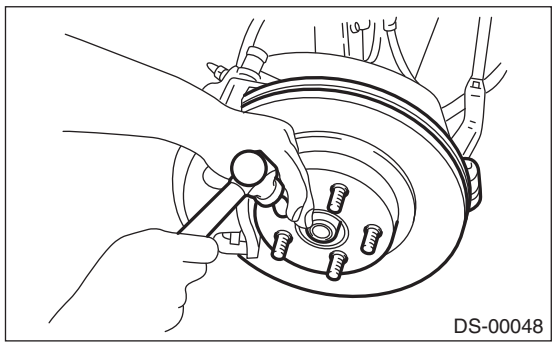
(1) Cotter pin
(2) Castle nut
(3) Tie-rod end

10) While depressing the brake pedal, tighten a new axle nut to the specified torque and lock it securely.

Tightening torque:
220 N·m (22.4 kgf-m, 162.3 ft-lb)

CAUTION:
Do not load the front axle before tightening the axle nut. Doing so may damage the hub bearing.

11) After tightening the axle nut, lock it securely.



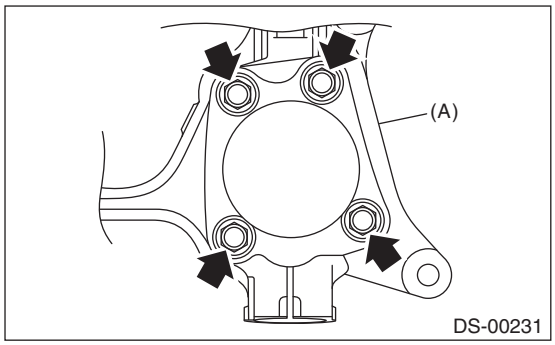
12) Install the wheel.

Tightening torque:
120 N·m (12.2 kgf-m, 88.5 ft-lb)

13) Inspect the wheel alignment and adjust if necessary.

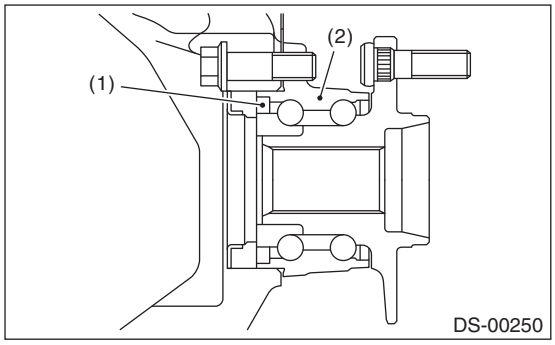
C: DISASSEMBLY

1) Remove four bolts from the housing, and remove the front hub unit bearing and disc brake cover.



(A) Housing

CAUTION:
• Do not get closer the tool which charged magnetism to magnetic encoder.
• Be careful not to damage the magnetic encoder.



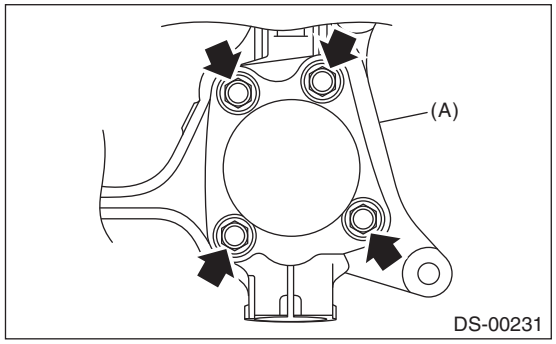
(1) Magnetic encoder
(2) Front hub unit bearing

2) Disassemble the front hub unit bearing. <Ref. to DS-17, DISASSEMBLY, Front Hub Unit Bearing.>

D: ASSEMBLY

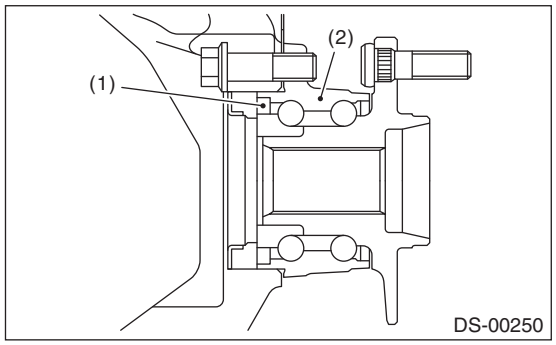
1) Assemble the front hub unit bearing. <Ref. to DS-17, ASSEMBLY, Front Hub Unit Bearing.>
2) Place the disc brake cover between housing and front hub unit, and tighten the four bolts.

Tightening torque:
65 N·m (6.6 kgf-m, 47.9 ft-lb)



(A) Housing

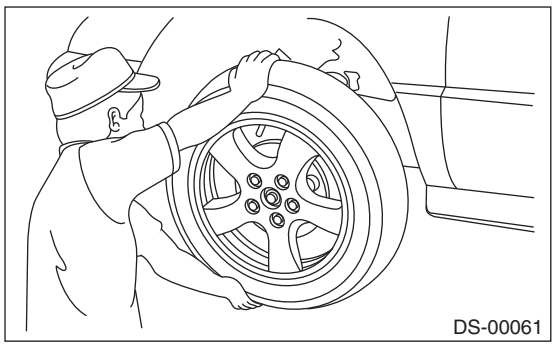
CAUTION:
• Do not get closer the tool which charged magnetism to magnetic encoder.
• Be careful not to damage the magnetic encoder.



(1) Magnetic encoder
(2) Front hub unit bearing

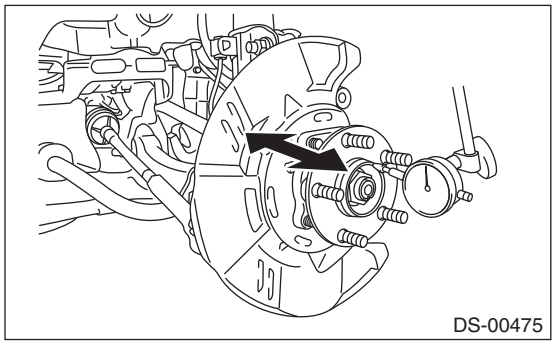
E: INSPECTION

1) While moving the front tire up and down by hand, check if there is no free play in the bearing, and make sure the wheel rotates smoothly.


DS-00061

2) Inspect the play in axial direction using a dial gauge. Replace the bearing if the load range exceeds the limitation.

Service limit:
Maximum: 0.05 mm (0.0020 in)


DS-00475