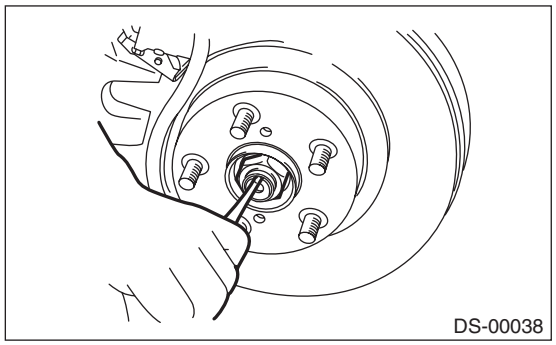
3. Front Axle

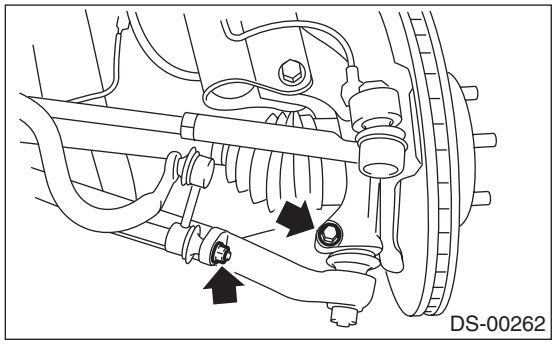
A: REMOVAL

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



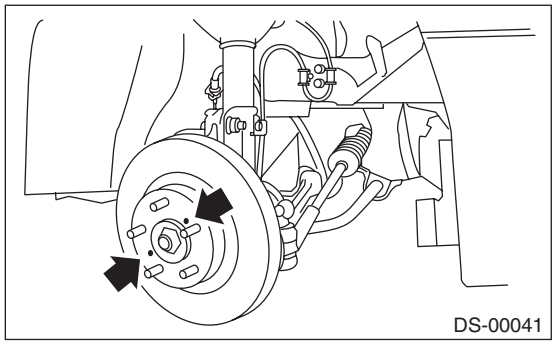
3) Remove the axle nut using a socket wrench while depressing the brake pedal.

CAUTION:
Do not loosen the axle nut while the front axle is loaded. Doing so may damage the hub bearing.
4) Remove the stabilizer link.

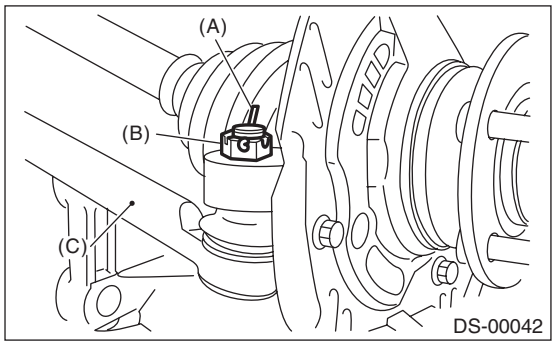


5) Remove the disc brake caliper from the housing, and suspend it from strut using a wire.
6) Remove the disc rotor from the hub.

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.

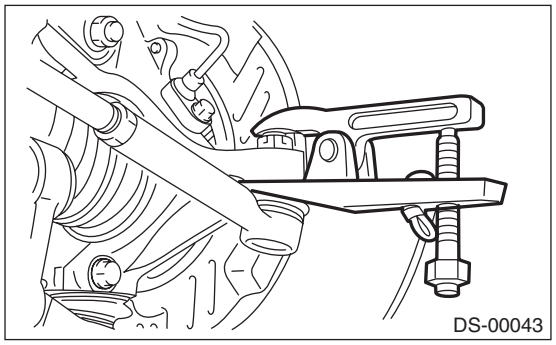


7) Remove the cotter pin and castle nut securing the tie-rod end to the housing knuckle arm.

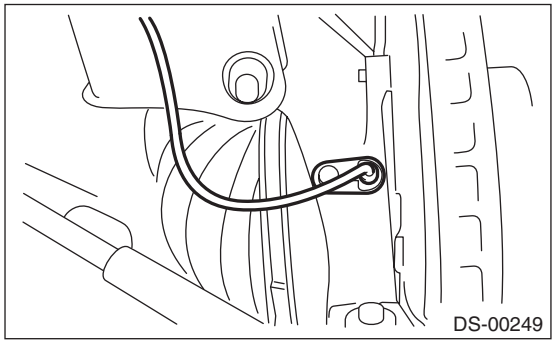


(A) Cotter pin
(B) Castle nut
(C) Tie-rod

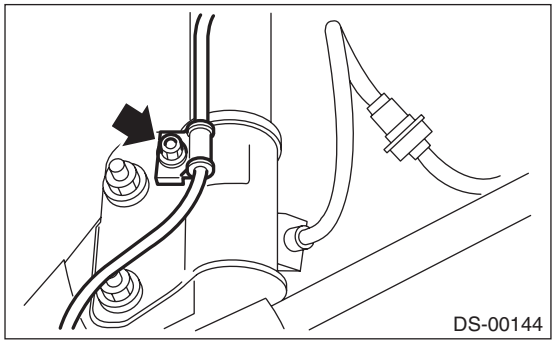
8) Using a puller, remove the tie-rod ball joint from knuckle arm.



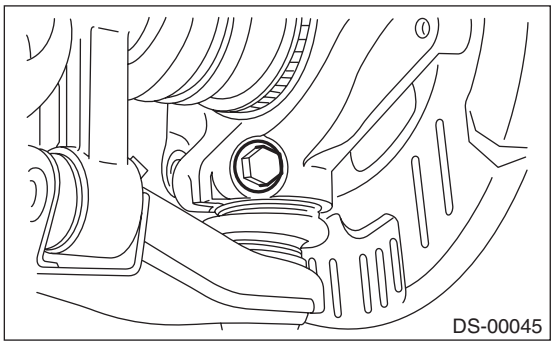
9) Remove the ABS wheel speed sensor assembly and harness.



10) Remove the bolts which secure the sensor harness to the strut.

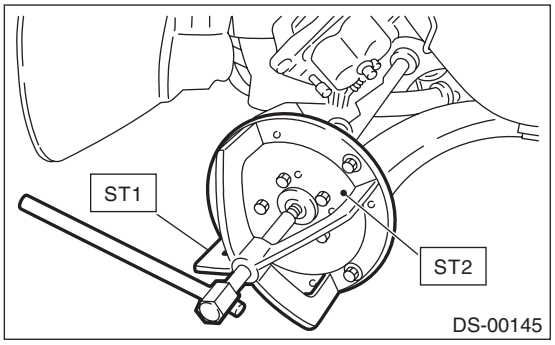


11) Remove the front arm ball joint from the housing.

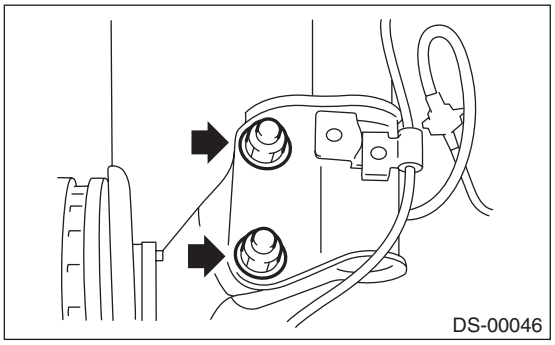


12) Remove the front drive shaft from the transmission.
13) Remove the front drive shaft assembly from the hub. If it is hard to remove, use the ST.

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



14) After scribing an alignment mark on camber adjusting bolt head, remove the bolts which connect the housing and strut, and disconnect the housing from strut.



B: INSTALLATION

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

Tightening torque:
155 N·m (15.81 kgf-m, 114.3 ft-lb)

2) Install the front drive shaft. <Ref. to DS-27, INSTALLATION, Front Drive Shaft.>
3) Install the front arm ball joint to the housing.

Tightening torque:
50 N·m (5.10 kgf-m, 36.9 ft-lb)

4) Install the ABS sensor harness to the strut.
5) Install the ABS wheel speed sensor on the housing.

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

6) Install the disc rotor to hub.
7) Install the disc brake caliper on the housing.

Tightening torque:
17-inch type
155 N·m (15.81 kgf-m, 114.3 ft-lb)
16-inch type
80 N·m (8.16 kgf-m, 59 ft-lb)

8) Install the stabilizer link.

CAUTION:
Use a new flange nut.

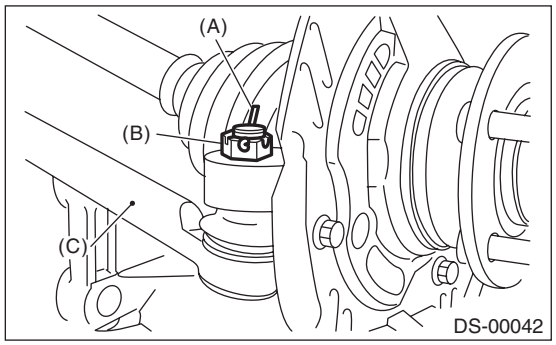
Tightening torque:
38 N·m (3.87 kgf-m, 28 ft-lb)

9) Connect the tie-rod end ball joint to the knuckle arm with a castle nut.

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

Tightening torque:
27 N·m (2.75 kgf-m, 19.9 ft-lb)

10) 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.



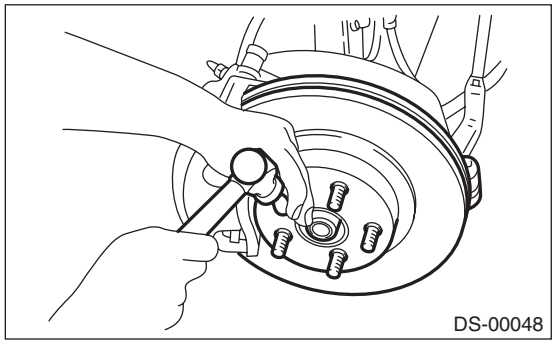
(A) Cotter pin
(B) Castle nut
(C) Tie-rod

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

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

Tightening torque:
220 N·m (22.43 kgf-m, 162.3 ft-lb)

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



13) Install the wheel.

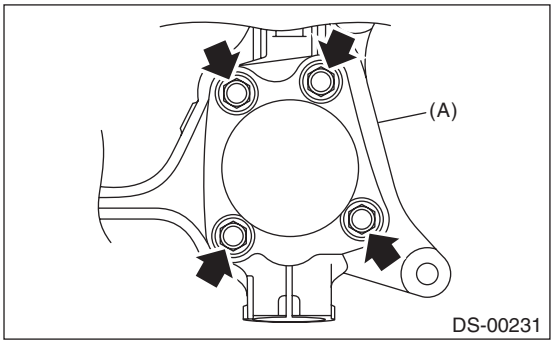
Tightening torque:
100 N·m (10.20 kgf-m, 73.8 ft-lb)

14) Connect the battery ground terminal.

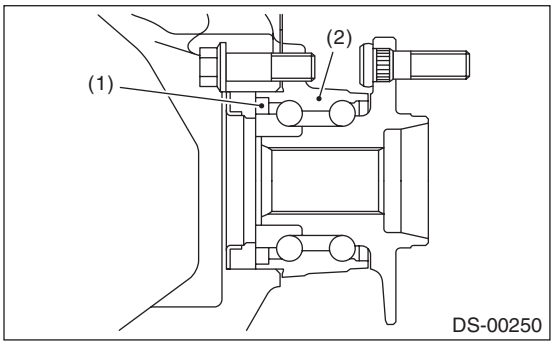
15) Inspect the wheel alignment and adjust if necessary.

C: DISASSEMBLY

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



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

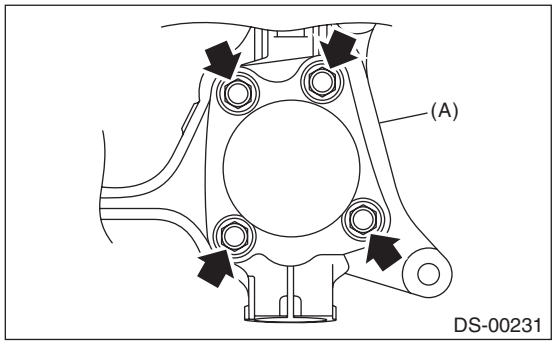


(1) Magnetic encoder
(2) Front hub unit bearing

2) Disassemble the front hub unit bearing. <Ref. to DS-19, DISASSEMBLY, Front Hub Unit Bearing.>

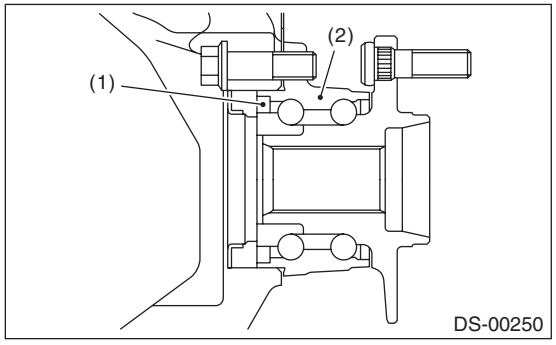
D: ASSEMBLY

1) Assemble the front hub unit bearing. <Ref. to DS-19, ASSEMBLY, Front Hub Unit Bearing.>
2) Place the disc cover between housing (A) and front hub unit, and tighten the four bolts.



Tightening torque:
65 N·m (6.63 kgf-m, 47.9 ft-lb)

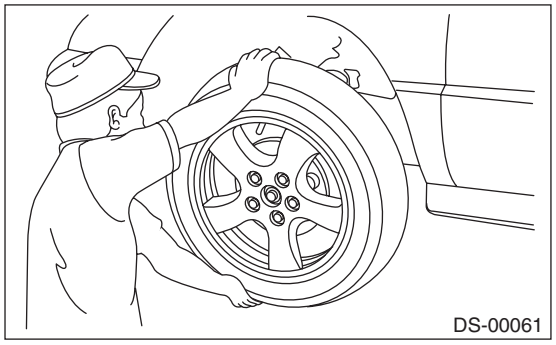
CAUTION:
• Do not get closer the tool which charged magnetism to magnetic encoder.
• Be careful not to damage the magnetic encoder.



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

E: INSPECTION

1) Moving the front tire up and down by hand, check there is no play in bearing, and check the wheel rotates smoothly.



2) Inspect the lean of axis direction using a dial gauge. Replace the bearing if the load range exceeds the limitation.

Service limit:
Maximum: 0.05 mm (0.0020 in)