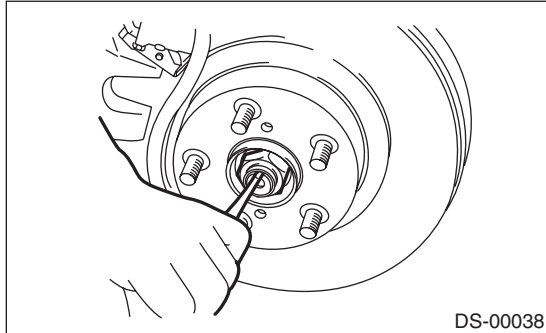


3. Front Axle

A: REMOVAL

- 1) Disconnect the ground cable from battery.
- 2) Lift up the vehicle, and remove the front wheels.
- 3) Lift the crimped section of axle nut.

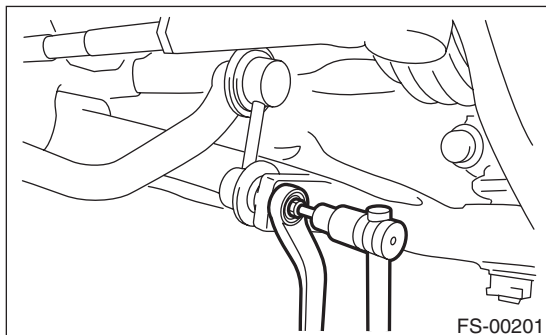


- 4) Remove the axle nut using a socket wrench while depressing the brake pedal.

CAUTION:

Remove the wheel before loosening the axle nut. Failure to follow this rule may damage the wheel bearings.

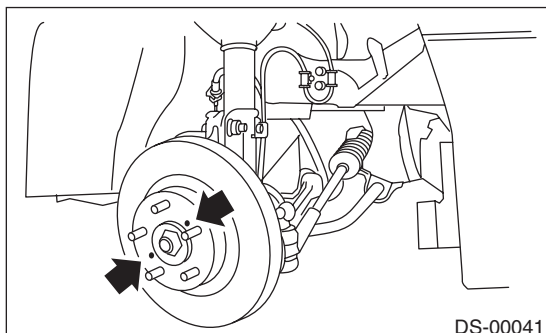
- 5) Remove the stabilizer link.



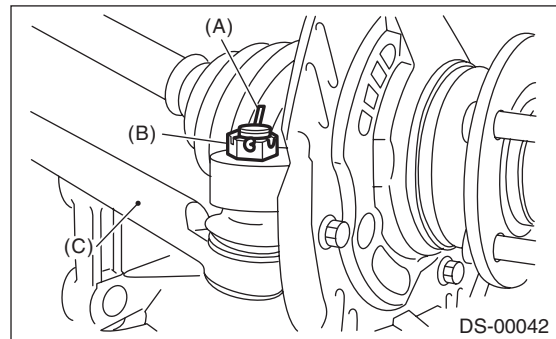
- 6) Remove the disc brake caliper from the front housing, and suspend it from strut using a piece of wire.
- 7) Remove the disc rotor from the hub.

NOTE:

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

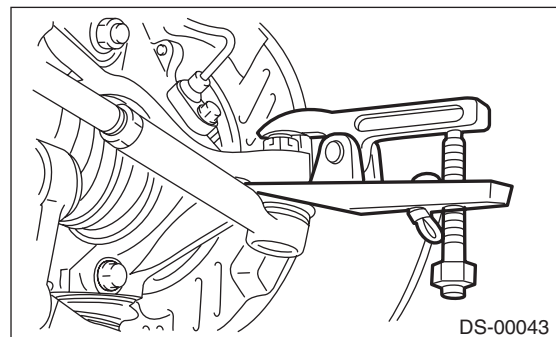


- 8) Remove the cotter pin and castle nut securing the tie-rod end to the front housing knuckle arm.



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

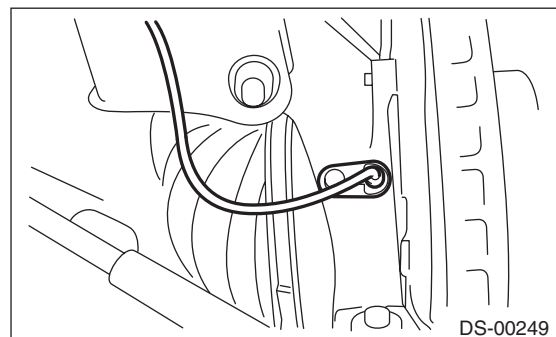
- 9) Using a puller, remove the tie-rod ball joint from knuckle arm.



CAUTION:

When removing tie-rod, do not hit the tie-rod end with hammer.

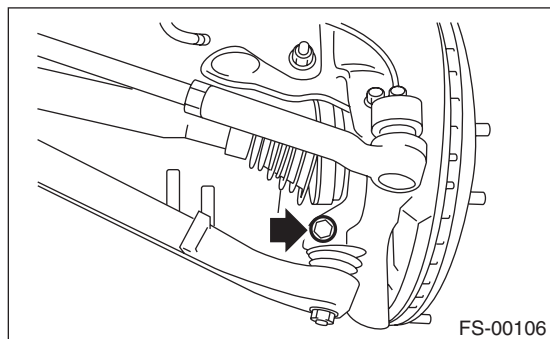
- 10) Remove the ABS wheel speed sensor assembly and harness.



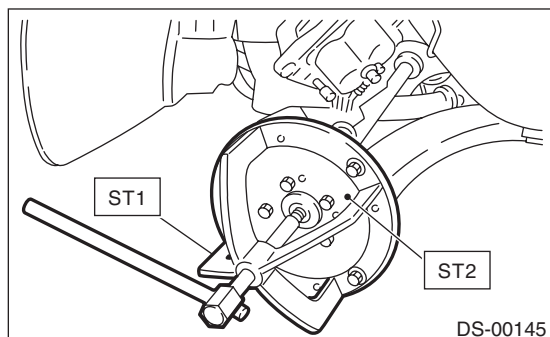
Front Axle

DRIVE SHAFT SYSTEM

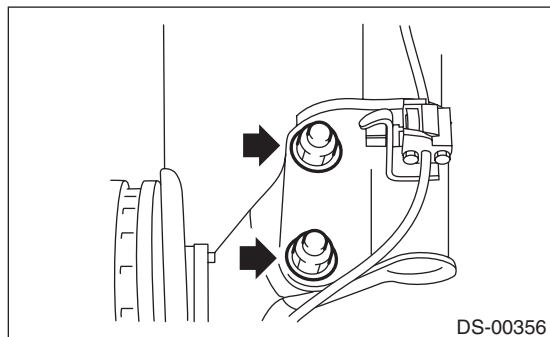
- 11) Remove the front arm ball joint from the front housing.



- 12) Remove the PTJ from 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 the camber adjusting bolt head, remove the bolts which connect the front housing and strut, and disconnect the front housing from the strut.



- 15) Remove the front axle.

B: INSTALLATION

- 1) Align the alignment mark on the camber adjusting bolt head, and affix the front housing and strut together using a new self-locking 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 front arm ball joint to the front housing.

Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)

- 4) Install the ABS wheel speed sensor on the front housing.

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

- 5) Install the disc rotor to hub.
6) Install the disc brake caliper to the front housing.

Tightening torque:

120 N·m (12.2 kgf-m, 88.5 ft-lb)

- 7) Install the stabilizer link.
8) Connect the tie-rod end ball joint to the knuckle arm with a castle nut.

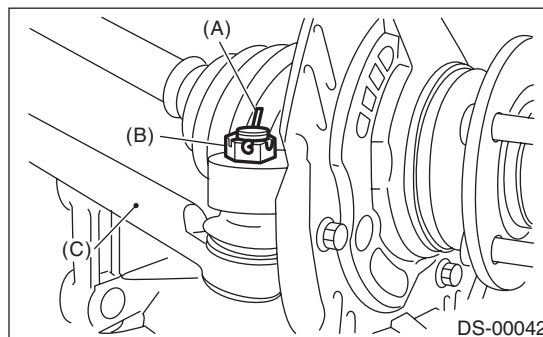
Tightening torque:

27.0 N·m (2.75 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 nut. Bend the cotter pin to lock.



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

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

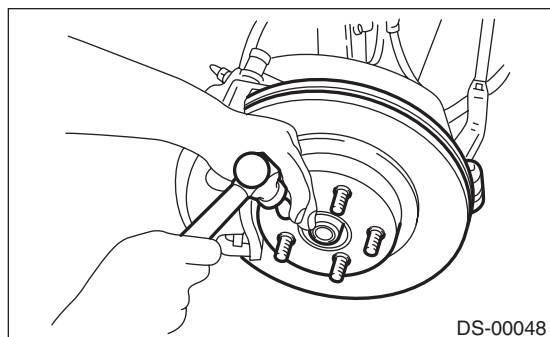
Tightening torque:

240 N·m (24.5 kgf-m, 177 ft-lb)

CAUTION:

- Install the wheel after installation of axle nut. Failure to follow this rule may damage the wheel bearing.
- Be sure to tighten the axle nut to specified torque. Do not overtighten it as this may damage the wheel bearing.

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



12) Install the front wheel and tighten the wheel nuts to specified torque.

Tightening torque:

Chromed wheel

150 N·m (15.3 kgf-m, 110.6 ft-lb)

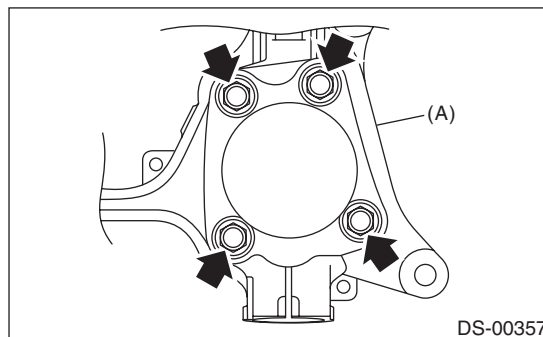
Other than above

120 N·m (12.2 kgf-m, 88.5 ft-lb)

13) Inspect the wheel alignment and adjust if necessary.

C: DISASSEMBLY

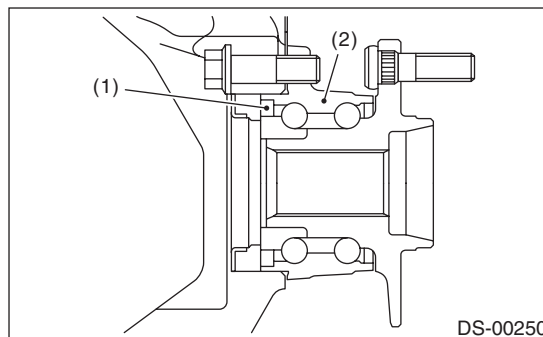
1) Remove the four bolts from the front housing, and remove the front hub unit bearing and disc cover.



(A) Front 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-21, DISASSEMBLY, Front Hub Unit Bearing.>

Front Axle

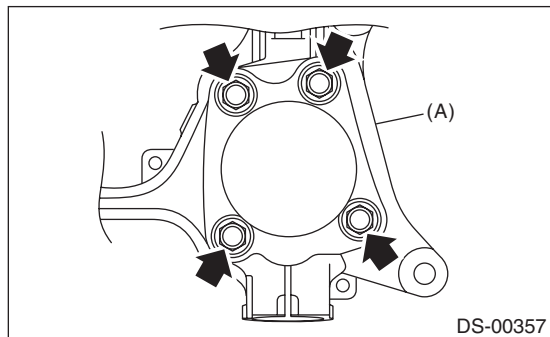
DRIVE SHAFT SYSTEM

D: ASSEMBLY

- 1) Assemble the front hub unit bearing. <Ref. to DS-21, ASSEMBLY, Front Hub Unit Bearing.>
- 2) Place the disc cover between front housing and front hub unit, and tighten the four bolts.

Tightening torque:

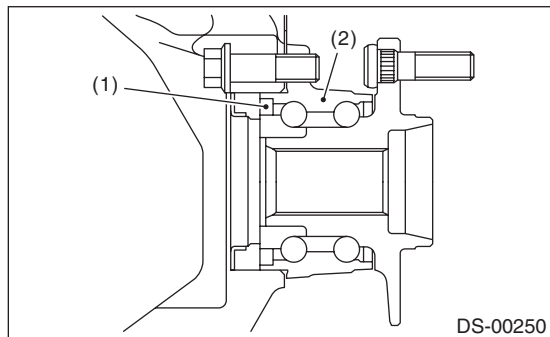
65 N·m (6.6 kgf-m, 47.9 ft-lb)



(A) Front housing

CAUTION:

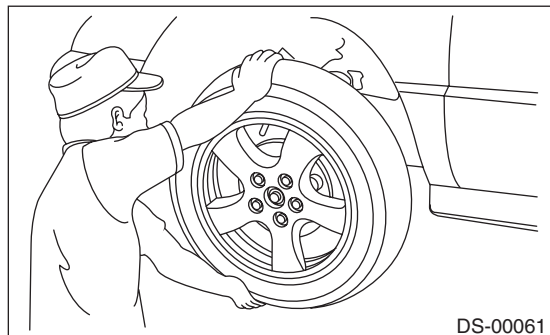
- Do not get closer the tool which charged magnetism to magnetic encoder.
- Be careful not to damage the magnetic encoder.



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

E: INSPECTION

- 1) Moving the front tire up and down by hand, check there is no backlash 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)

