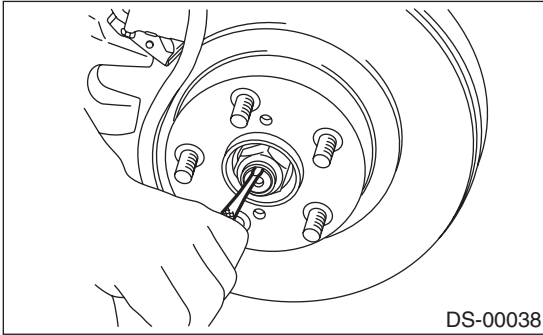


3. Front Axle

A: REMOVAL

- 1) Disconnect ground cable from battery.
- 2) Jack-up vehicle, support it with safety stands, and remove front wheels.
- 3) Unlock axle nut.

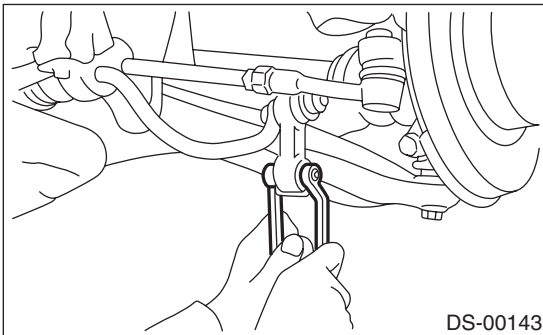


- 4) Remove axle nut while depressing brake pedal to prevent front drive shaft from turning.

CAUTION:

Be sure to loose and retighten axle nut after removing wheel from vehicle. Failure to follow this rule may damage wheel bearings.

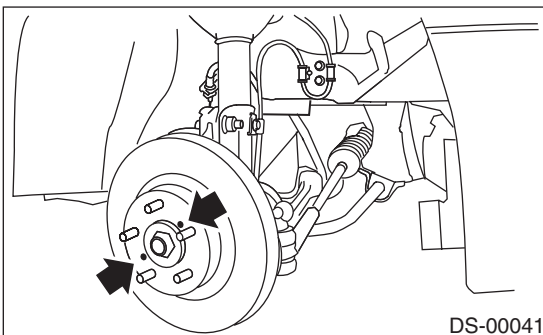
- 5) Remove stabilizer link.



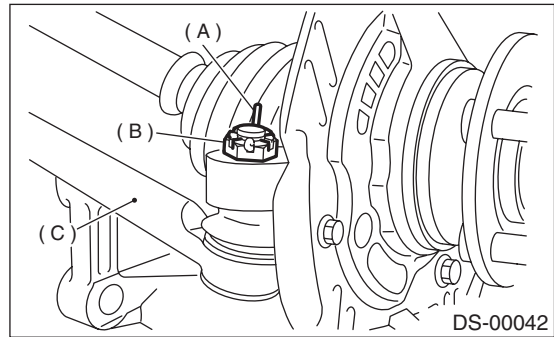
- 6) Remove disc brake caliper from housing, and suspend it from strut using a wire.

- 7) Remove disc rotor from hub.

If disc rotor seizes up within hub, drive disc rotor out by installing an 8-mm bolt in screw hole on the rotor.

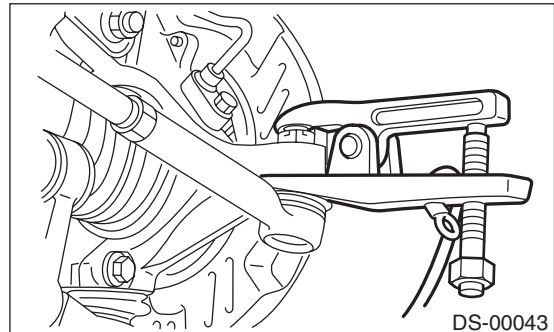


- 8) Remove cotter pin and castle nut which secure tie-rod end to housing knuckle arm.

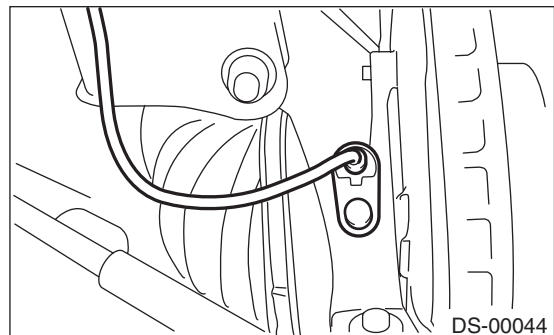


- (A) Cotter pin
- (B) Castle nut
- (C) Tie-rod

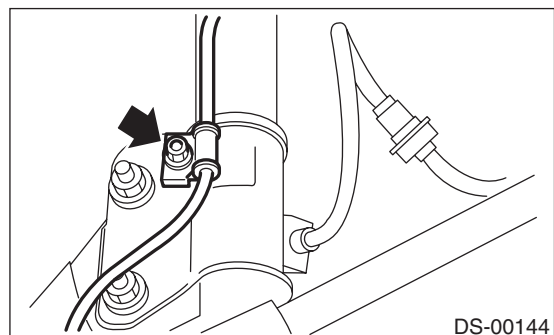
- 9) Using a puller, remove tie-rod ball joint from knuckle arm.



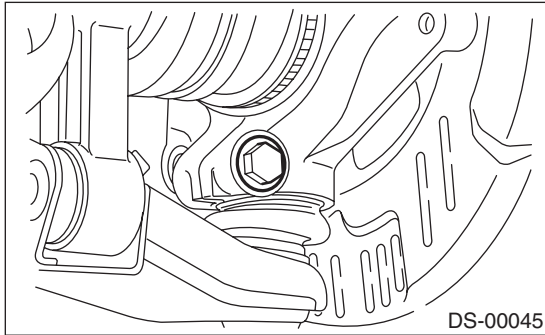
- 10) Remove ABS sensor assembly and harness.



- 11) Remove bolt which secures sensor harness to strut.



12) Remove transverse link ball joint from housing.



13) Remove inner joint from transmission spindle.

CAUTION:

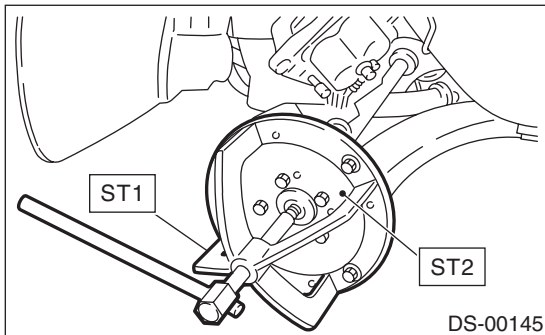
Do not pull inner joint when removing front drive shaft.

14) Remove front drive shaft assembly from hub. If it is hard to remove, use STs.

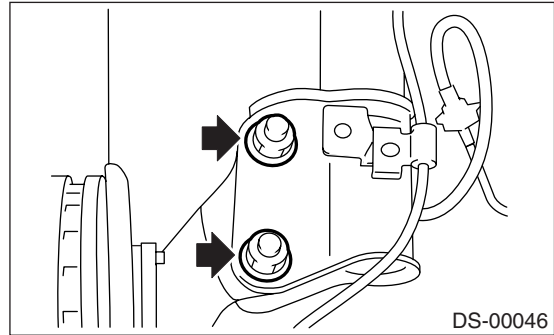
ST1 926470000 AXLE SHAFT PULLER
ST2 927140000 PLATE

CAUTION:

- Be careful not to damage oil seal lip and tone wheel when removing front drive shaft.
- If front drive shaft is removed, replace inner oil seal with new one.



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



B: INSTALLATION

1) While aligning alignment mark on camber adjusting bolt head, connect housing and strut.

CAUTION:

When self-locking nut is removed, replace it with new one.

Tightening torque:

177 N·m (18.0 kgf-m, 130 ft-lb)

2) Install front drive shaft. <Ref. to DS-30, INSTALLATION, Front Drive Shaft.>

3) Install transverse link ball joint to housing.

Tightening torque:

49 N·m (5.0 kgf-m, 36 ft-lb)

4) Install ABS sensor harness on strut.

5) Install ABS sensor on housing.

Tightening torque:

32 N·m (3.3 kgf-m, 23.9 ft-lb)

6) Install disc rotor on hub.

7) Install disc brake caliper on housing.

Tightening torque:

78 N·m (8 kgf-m, 57.9 ft-lb)

8) Connect stabilizer link.

9) Install tie-rod end.

Tightening torque:

27.0 N·m (2.75 kgf-m, 19.9 ft-lb)

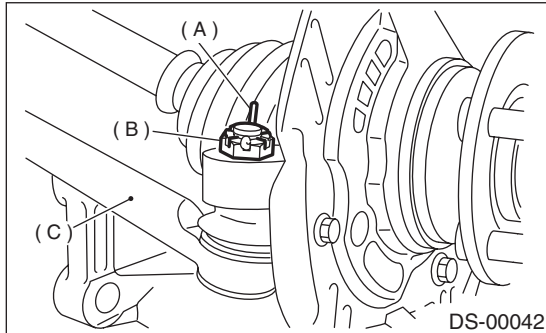
CAUTION:

Do not hammer the bottom of tie-rod end when installing it.

FRONT AXLE

DRIVE SHAFT SYSTEM

10) After tightening castle nut to specified torque, retighten it further within 60° until a slot in castle nut is aligned with the ball joint hole. Insert cotter pin, and then bend the cotter pin around castle nut to secure it.



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

11) While depressing brake pedal to prevent front drive shaft from turning, tighten axle nut to specified torque.

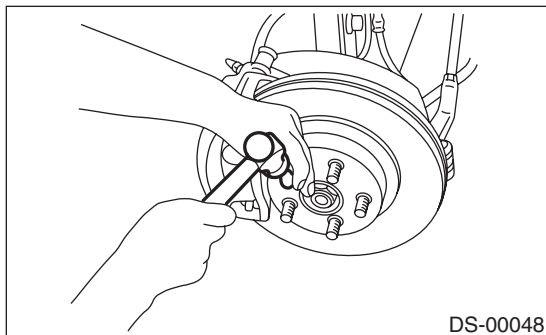
Tightening torque:

220 N-m (22 kgf-m, 162 ft-lb)

CAUTION:

- When axle nut is removed, replace it with new one.
- Always tighten axle nut before installing wheel on vehicle.
- Be sure to tighten axle nut to specified torque. Do not overtighten it as this may damage wheel bearing.

12) After tightening axle nut, lock it securely.



13) Install wheel and tighten wheel nuts to specified torque.

Tightening torque:

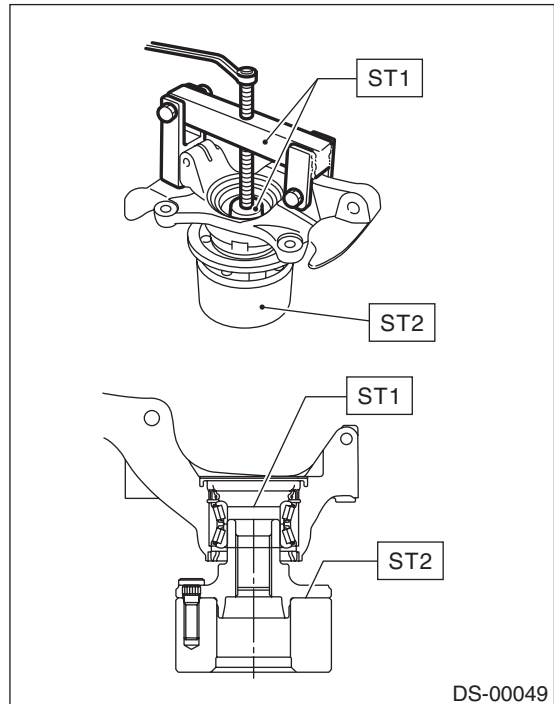
88 N-m (9 kgf-m, 65 ft-lb)

C: DISASSEMBLY

- 1) Using ST1, support housing and hub securely.
- 2) Attach ST2 to housing and drive hub out.

ST1 927060000 HUB REMOVER

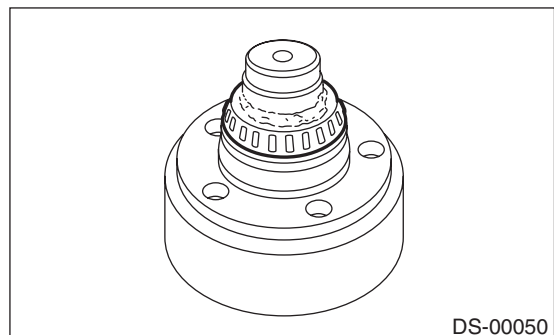
ST2 927080000 HUB STAND



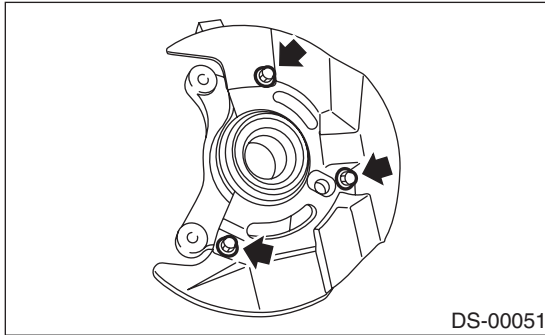
If inner bearing race remains in the hub, remove it with a suitable tool (commercially available).

CAUTION:

- Be careful not to scratch polished area of hub.
- Be sure to install inner race on the side of outer race from which it was removed.
- Replace the removed hub with new one.



3) Remove disc cover from housing.

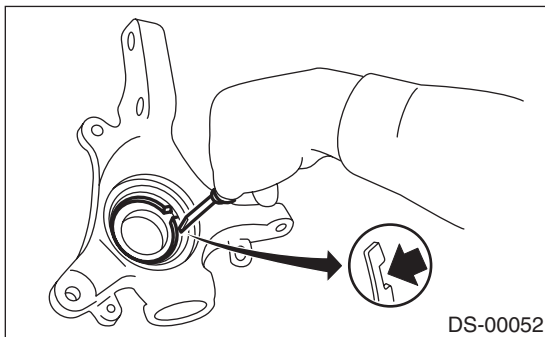


4) Using a screwdriver, remove outer and inner oil seals.

CAUTION:

Replace the removed oil seal with new one.

5) Using flat-bladed screwdriver, remove snap ring.



6) Using ST1, support housing securely.

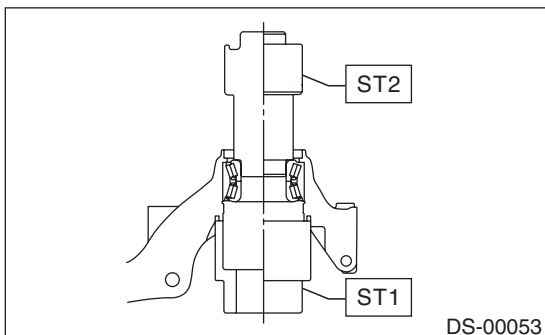
7) Using ST2, press inner race to drive out outer bearing.

ST1 927400000 HOUSING STAND

ST2 927100000 BEARING REMOVER

CAUTION:

- Do not remove outer race unless it is faulty.
- Replace the removed outer race with new one.
- Do not replace inner or outer race separately; always replace as a unit.

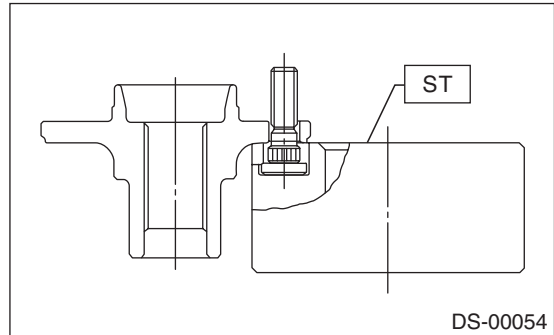


8) Using ST and a hydraulic press, drive hub bolts out.

ST 927080000 HUB STAND

CAUTION:

Be careful not to hammer hub bolts. This may deform hub.



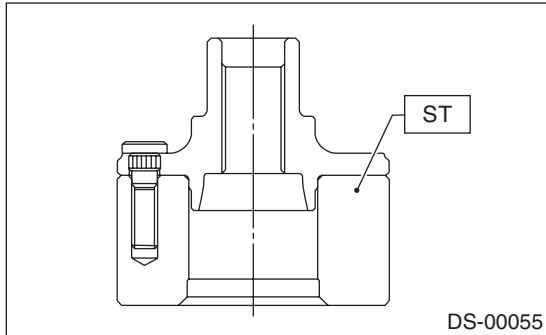
FRONT AXLE

DRIVE SHAFT SYSTEM

D: ASSEMBLY

1) Attach hub to ST securely.

ST 927080000 HUB STAND



2) Using a hydraulic press, press new hub bolts into place.

CAUTION:

Be sure to press hub bolts until their seating surfaces contact the hub.

NOTE:

Use 12 mm (0.47 in) dia. holes in HUB STAND to prevent bolts from tilting.

3) Clean dust or foreign particles from inside the housing.

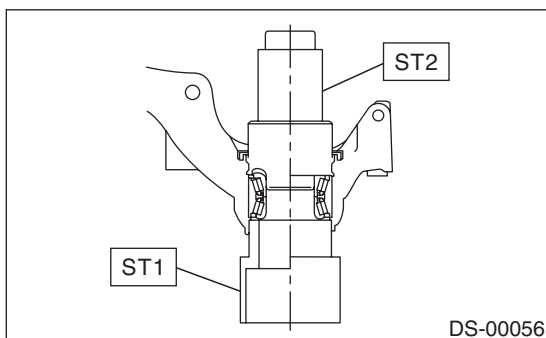
4) Using ST1 and ST2, press a new bearing into place.

ST1 927400000 HOUSING STAND

ST2 927100000 BEARING REMOVER

CAUTION:

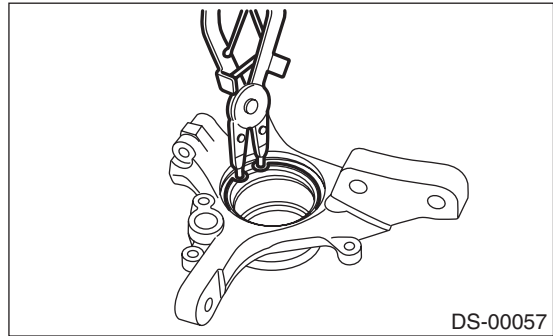
- Always press outer race when installing bearing.
- Be careful not to remove plastic lock from inner race when installing bearing.



5) Using snap ring pliers, install snap ring in its groove.

CAUTION:

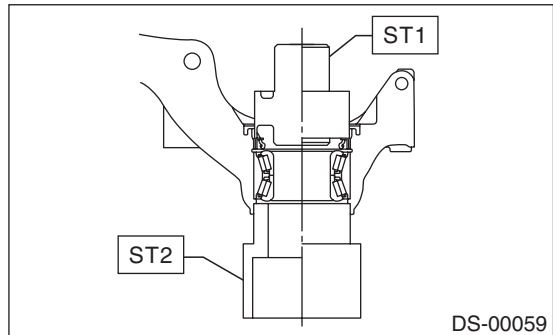
Make sure to install it firmly to groove.



6) Using ST1 and ST2, press inner oil seal until it contacts circlip.

ST1 927410000 OIL SEAL INSTALLER

ST2 927400000 HOUSING STAND



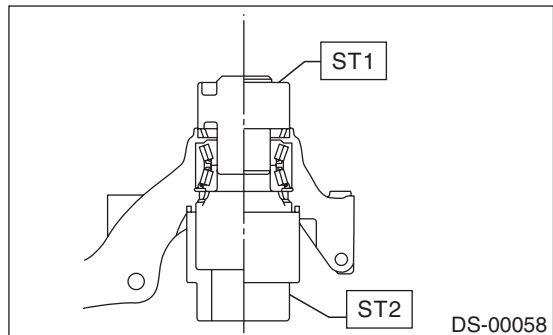
7) Invert ST and housing.

ST 927400000 HOUSING STAND

8) Using ST1 and ST2, press outer oil seal until it contacts the bottom of housing.

ST1 927410000 OIL SEAL INSTALLER

ST2 927400000 HOUSING STAND



9) Apply sufficient grease to oil seal lip portion.

Specified grease
SHELL 6459N

CAUTION:

- If specified grease is not available, remove bearing grease and apply Auto Rex A instead.
- Do not mix different types of grease.

10) Install disc cover to housing the three bolts.

Tightening torque:

18 N·m (1.8 kgf-m, 13.0 ft-lb)

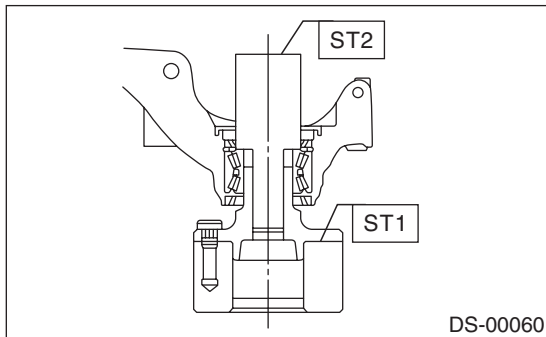
11) Attach hub to ST1 securely.

12) Clean dust or foreign particles from the polished surface of hub.

13) Using ST2, press bearing into hub by driving inner race.

ST1 927080000 HUB STAND

ST2 927120000 HUB INSTALLER



E: INSPECTION

When hub is removed, replace bearing with new one.

CAUTION:

- If bearing is faulty, replace it as a set with new bearing set.
- Replace the removed oil seal with new one.