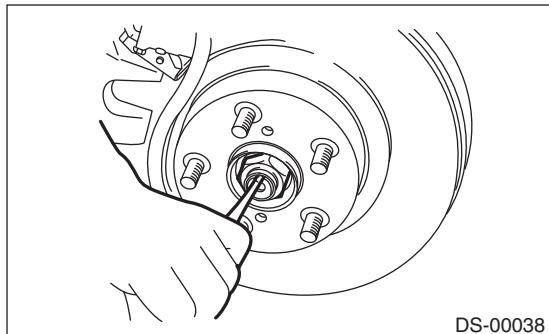


7. Front Drive Shaft

A: REMOVAL

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



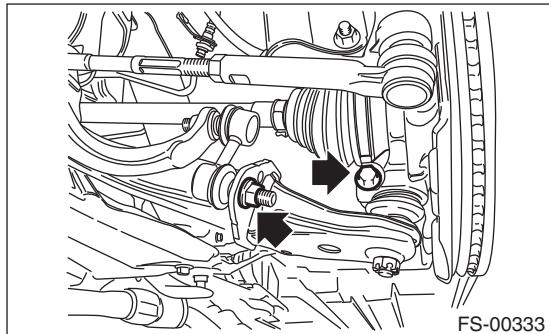
DS-00038

- 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.

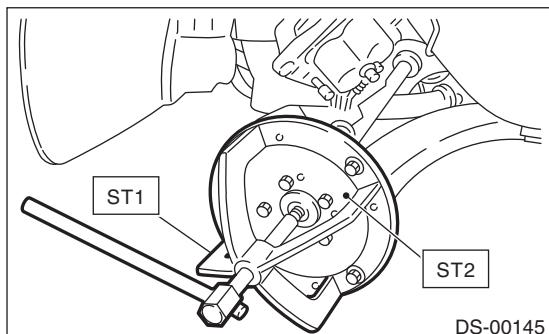
- 4) Drain the transmission gear oil. (MT model)
- 5) Drain differential gear oil. (AT and CVT models)
- 6) Remove the stabilizer link from front arm.
- 7) Disconnect the front arm ball joint from the housing.



FS-00333

- 8) Remove the front drive shaft assembly. If it is hard to remove, use ST1 and ST2.

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



DS-00145

- 9) Using a bar, remove the front drive shaft from transmission.

CAUTION:

Be careful not to allow the bar to damage holder area.

B: INSTALLATION

- 1) Replace the differential side retainer oil seal with a new part.

NOTE:

After pulling out the drive shaft, be sure to replace with a new oil seal.

6MT MODEL <Ref. to 6MT-35, REPLACEMENT, Differential Side Retainer Oil Seal.>

5AT model <Ref. to 5AT-49, REPLACEMENT, Differential Side Retainer Oil Seal.>

CVT model <Ref. to CVT-90, REPLACEMENT, Differential Side Retainer Oil Seal.>

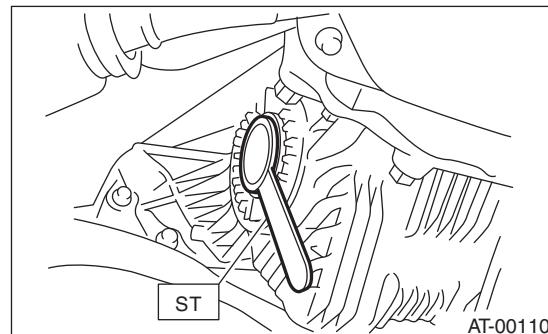
- 2) Insert the drive shaft into the hub spline, and pull in the drive shaft into specified position.

CAUTION:

Do not hammer drive shaft when installing it.

- 3) Tighten the axle nut temporarily.
- 4) Using the ST, install the front drive shaft to transmission.

ST 28399SA010 OIL SEAL PROTECTOR



ST

AT-00110

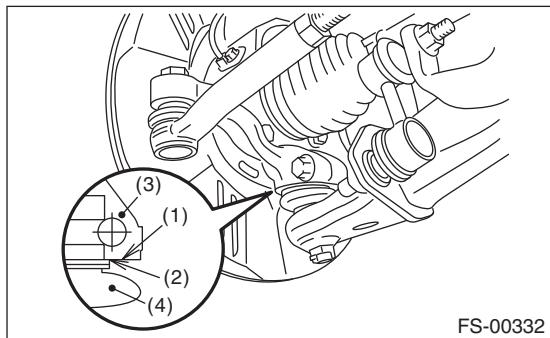
- 5) Connect the front arm ball joint to the housing.

Front Drive Shaft

DRIVE SHAFT SYSTEM

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)

6) Install the stabilizer link.

CAUTION:

Use a new flange nut.

Tightening torque:

60 N·m (6.1 kgf-m, 44.3 ft-lb)

7) While pressing the brake pedal, tighten the new axle nuts to the specified torque.

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.

- 8) After tightening axle nut, lock it securely.
- 9) Fill transmission gear oil. (MT model)
- 10) Fill differential gear oil. (AT and CVT models)
- 11) Install the front wheels.

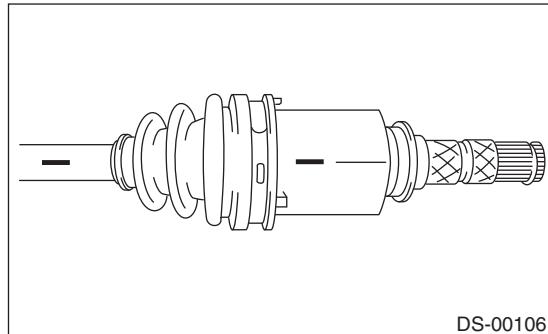
Tightening torque:

120 N·m (12.2 kgf-m, 88.5 ft-lb)

12) Inspect the wheel alignment and adjust if necessary.

C: DISASSEMBLY

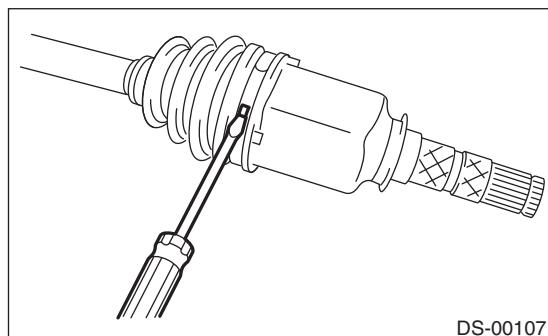
1) Place alignment marks on the shaft and outer race.



2) Remove the AAR boot band and boot.

CAUTION:

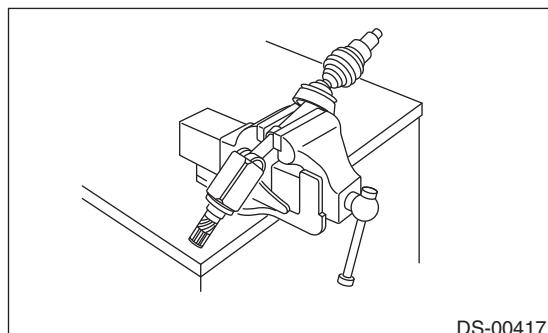
Be careful not to damage the boot.



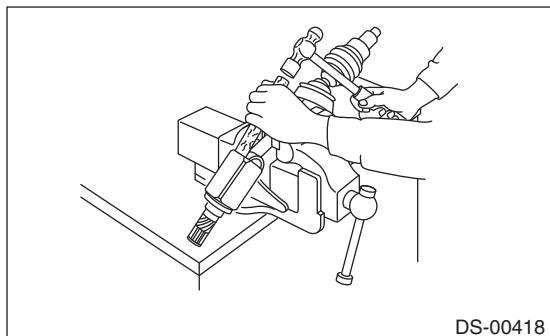
3) Place the drive shaft between wooden blocks etc, and secure it with a vise.

CAUTION:

Do not clamp the drive shaft directly with vise.



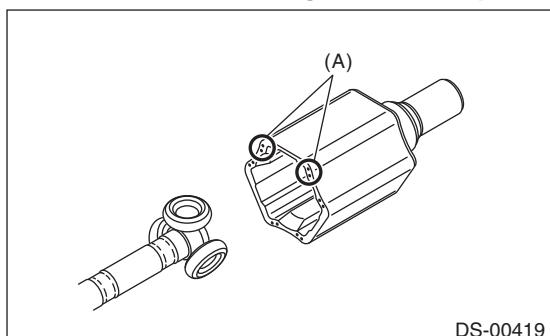
4) Tap the staked part of outer race one after the other using the plastic or wooden bar to remove the roller one by one.



DS-00418

CAUTION:

- Tap the staked part (A) of outer race.
- Do not use the metal rod because it may deform the outer race.
- Be careful not to damage the roller parts.



DS-00419

5) Take out the outer race from the shaft assembly.

CAUTION:

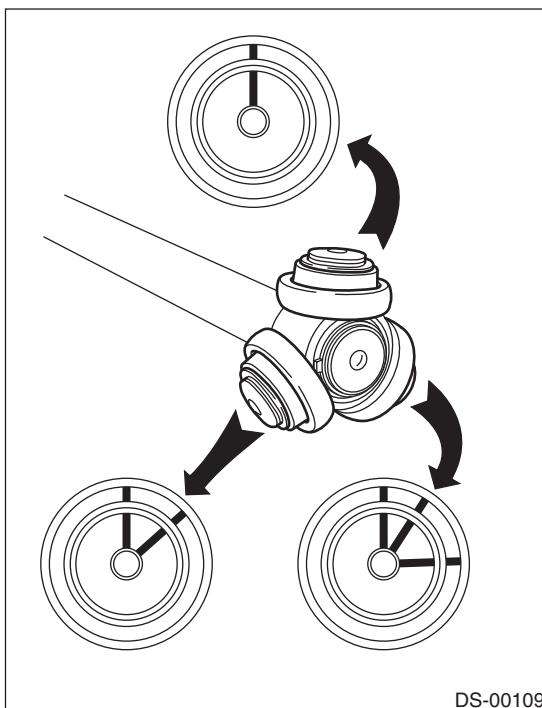
To prevent the outer race from dropping, have the work assistant to support the outer race when removing the 3rd roller.

6) Wipe off grease.

CAUTION:

The grease is a special type of grease. Do not mix with other grease.

7) Place alignment marks on the roller kit and trunnion.



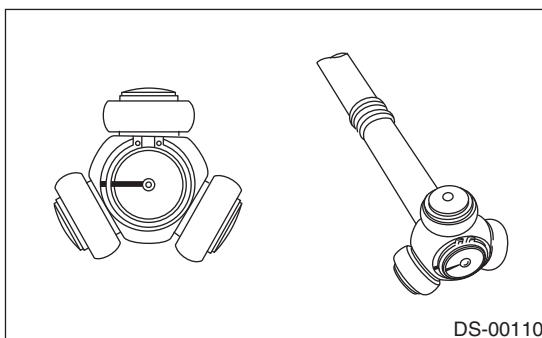
DS-00109

8) Remove the roller kit from trunnion.

CAUTION:

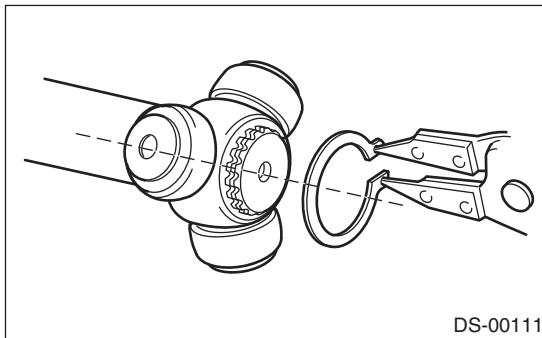
Be careful with the roller kit position.

9) Place alignment marks on the trunnion and shaft.



DS-00110

10) Remove the snap ring and trunnion.



DS-00111

CAUTION:

Be sure to wrap shaft splines with vinyl tape to protect the boot from scratches.

11) Remove the AAR boot.

Front Drive Shaft

DRIVE SHAFT SYSTEM

NOTE:

Further disassembly of the drive shaft is impossible because the AC cannot be disassembled.

D: ASSEMBLY

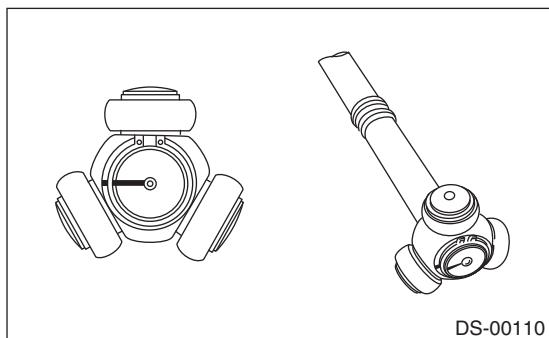
NOTE:

Use specified grease.

AAR side:

ONE LUBER (C)

- 1) Pass the AAR boot through the shaft.
- 2) Match alignment marks and install the trunnion onto the shaft, and securely install the snap ring to the shaft groove.



- 3) Fill 50 to 60 g (1.76 to 2.12 oz) of specified grease into the inner side of the AAR outer race.
- 4) Apply a thin coat of specified grease to the roller and trunnion.
- 5) Place the drive shaft between wooden blocks etc, and secure it with a vise.

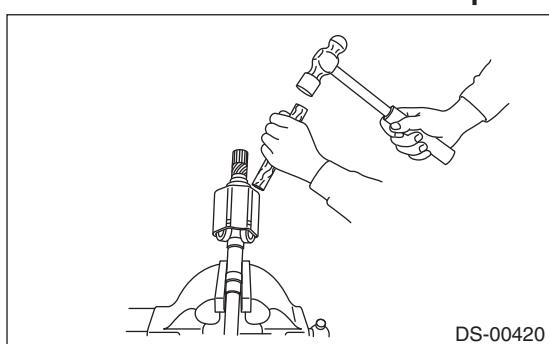
CAUTION:

Do not clamp the drive shaft directly with vise.

- 6) Match alignment marks of the shaft and outer race.
- 7) Tap the upper part of roller insertion on the outer race one after the other, using the plastic or wooden bar, to insert the roller one by one.

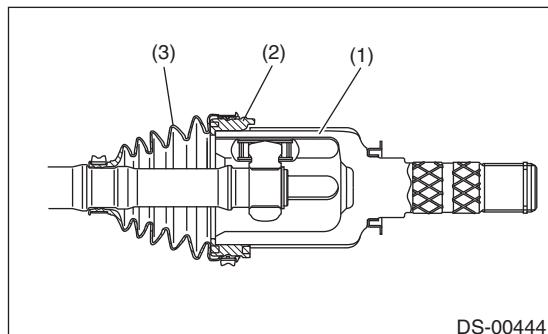
CAUTION:

- **Do not use the metal rod because it may deform the outer race.**
- **Do not tap the outer race tip (shaft part).**
- **Be careful not to deform the baffle plate.**



- 8) Apply an even coat of the specified grease 30 to 40 g (1.06 to 1.41 oz) to the entire inner surface of boot.

- 9) Install the AAR boot and grommet taking care not to twist them.



(1) Outer race

(2) Grommet

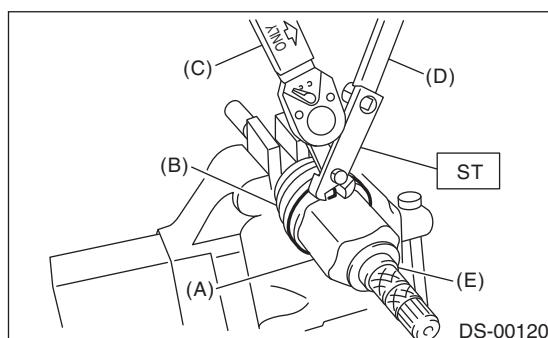
(3) Boot

CAUTION:

- Replace the boot and grommet as a set.
- Make sure the groove on the outer race side is free from grease.

- 10) Insert a flat tip screwdriver between the outer race and grommet so that the air pressure inside the boot is equal to the atmospheric pressure.
- 11) Install new large boot band and small boot band to the specified locations.
- 12) Tighten the boot band using ST, torque wrench and socket flex handle.

ST 28099AC000 BOOT BAND PLIER



(A) Large boot band

(B) Boot

(C) TORQUE WRENCH

(D) Socket flex handle

(E) Outer race

Clearance on the crimped section of boot band:

Large boot band

1 mm (0.04 in) or less

Small boot band

1 mm (0.04 in) or less

13) Extend and retract the AAR repeatedly to provide an equal coating of grease.

E: INSPECTION

Check the removed parts for damage, wear, corrosion etc. If faulty, correct or replace.

- AAR and AC

Check for seizure, corrosion, damage, wear and excessive play.

- Shaft

Check for excessive bending, twisting, damage and wear.

- Boot

Check for wear, warping, breakage and scratches.

- Grease

Check for discoloration and fluidity.