

5. Front Drive Shaft

A: REMOVAL

1. NON-TURBO MODEL

- 1) Disconnect ground cable from battery.
- 2) Jack-up vehicle, and remove front wheel while supporting with safety stands.
- 3) Unlock axle nut.
- 4) Depress brake pedal to prevent front drive shaft from turning and remove axle nut.

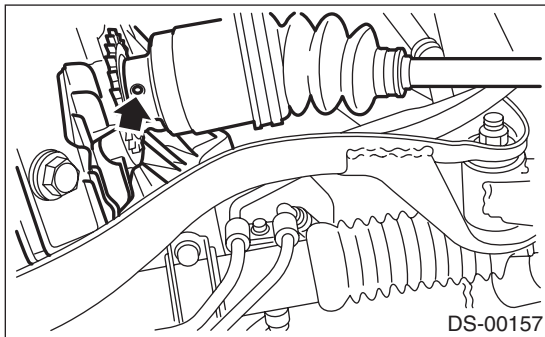
CAUTION:

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

- 5) Remove stabilizer link from transverse link.
- 6) Disconnect transverse link from housing.
- 7) Remove spring pin which secures transmission spindle to inner joint.

CAUTION:

When drive shaft is removed, replace spring pin with new one.



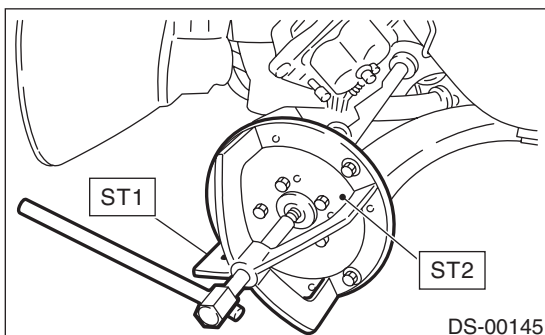
- 8) Remove front drive shaft assembly. If it is hard to remove, use ST1 and ST2.

ST1 926470000 AXLE SHAFT PULLER

ST2 927140000 PLATE

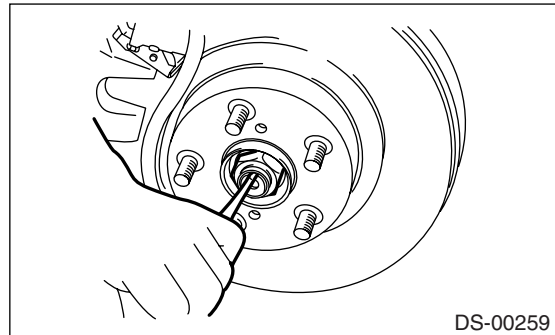
CAUTION:

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



2. TURBO-MODEL

- 1) Lift-up the vehicle, and then remove the front wheels while supporting with safety stands.
- 2) Drain the transmission oil.
- 3) Unlock the axle nut.

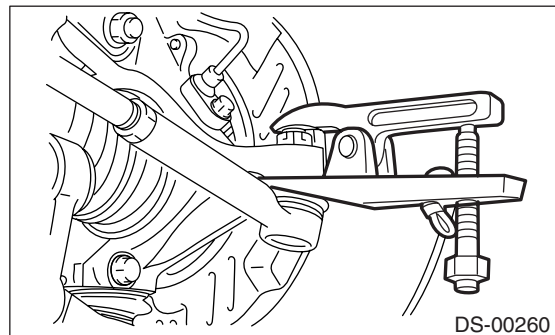


- 4) Remove the axle nut with brake pedal depressed to prevent front drive shaft from turning.

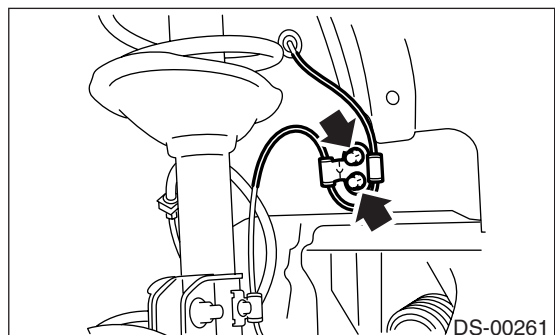
CAUTION:

Remove the axle nut with vehicle weight not applied on axle.

- 5) Remove the cotter pin and castle nut. Remove the tie-rod end using a puller.



- 6) Remove the ABS sensor bracket.

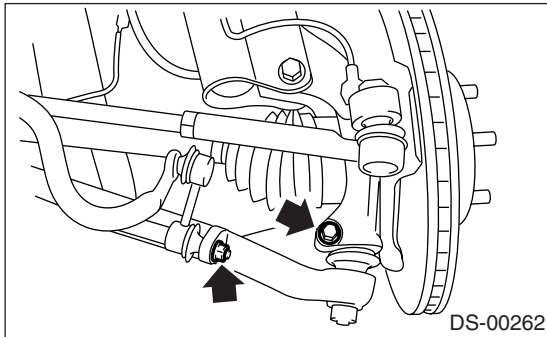


- 7) Remove the front stabilizer link from transverse link.

FRONT DRIVE SHAFT

DRIVE SHAFT SYSTEM

8) Remove the bolt securing ball joint, and then remove the transverse link from front housing.

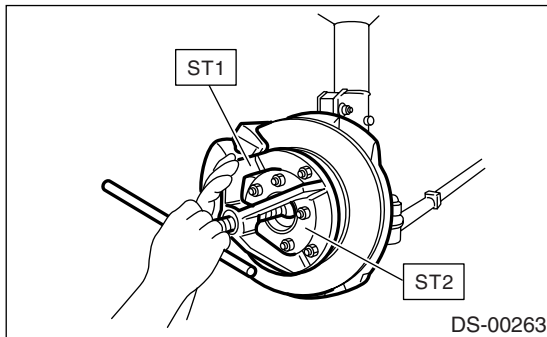


9) Remove the front drive shaft from front axle. If it is hard to remove, remove the brake disk rotor using the ST1 and ST2.

ST1 926470000 AXLE SHAFT PULLER
ST2 927140000 AXLE SHAFT PULLER PLATE

CAUTION:

- Do not pull inner joint when removing front drive shaft.
- Do not hammer the drive shaft when removing.
- Be careful not damage the oil seal and tone wheel.



10) Remove the front drive shaft from transmission using a claw bar.

CAUTION:

Be careful not to damage the holder area with a claw bar.

B: INSTALLATION

1. NON-TURBO MODEL

1) Insert outer joint into hub splines.

CAUTION:

Be careful not to damage inner oil seal lip and tone wheel.

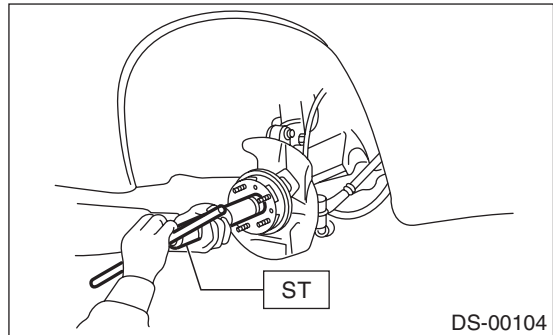
2) Using ST1 and ST2, pull drive shaft into place.

ST1 922431000 AXLE SHAFT INSTALLER

ST2 927390000 ADAPTER

CAUTION:

Do not hammer drive shaft when installing it.

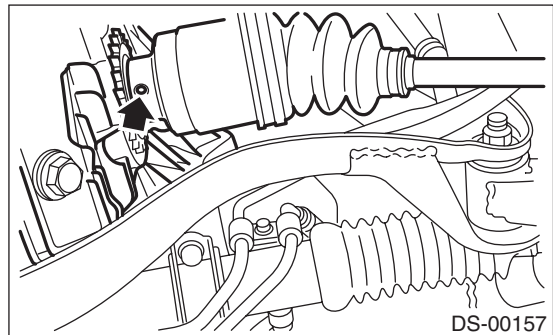


3) Tighten axle nut temporarily.

4) Install inner joint on transmission spindle and drive spring pin into place.

CAUTION:

When front drive shaft is removed, replace spring pin with new one.



5) Connect transverse link to housing.

Tightening torque (self-locking nut):

49 N·m (5.0 kgf-m, 36 ft-lb)

CAUTION:

Replace the removed self-locking nut with new one.

6) Install stabilizer bracket.

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

Tightening torque:
220 N·m (22 kgf·m, 162 ft·lb)

CAUTION:

- Replace the removed axle nut 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.

8) After tightening axle nut, lock it securely.

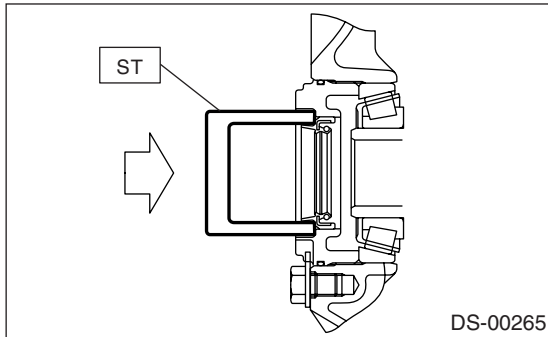
2. TURBO MODEL

1) Using the ST, replace the differential side retainer oil seal with a new one.

ST 18675AA000 DIFFERENTIAL SIDE OIL SEAL INSTALLER

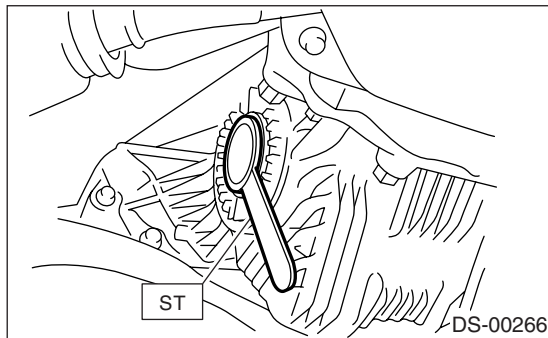
CAUTION:

Be sure to replace the oil seal with a new one when removing drive shaft.



- 2) Insert the front drive shaft into front axle.
- 3) Temporarily tighten the axle nut.
- 4) Install the front drive shaft to transmission using ST.

ST 28399SA010 OIL SEAL PROTECTOR

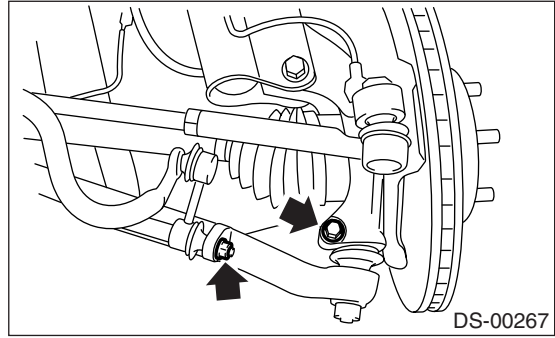


5) Install the ball joint to front axle.

Tightening torque (self-locking nut):
50 N·m (5.1 kgf·m, 37 ft·lb)

6) Install the stabilizer link.

Tightening torque (self-locking nut):
45 N·m (4.6 kgf·m, 33 ft·lb)



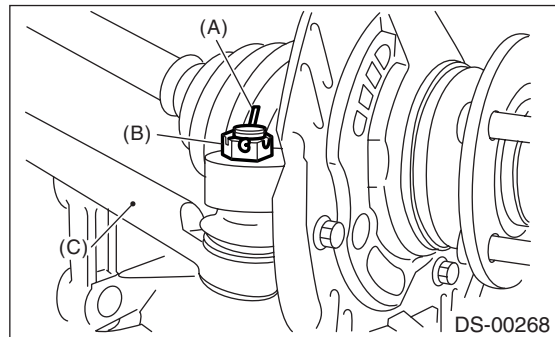
7) Install the tie-rod end.

Tightening torque (self-locking nut):
27.0 N·m (2.75 kgf·m, 19.9 ft·lb)

CAUTION:

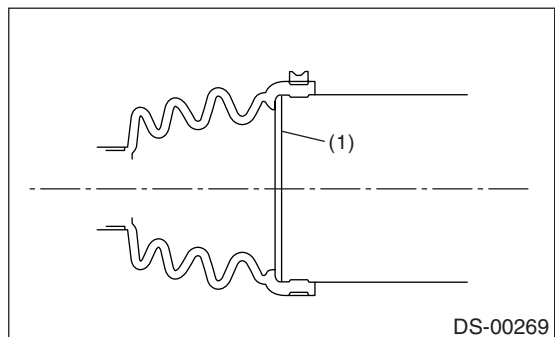
When installing, do not hit the bottom of tie-rod with hammer.

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



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

9) Make sure the inner joint retainer is in proper position.



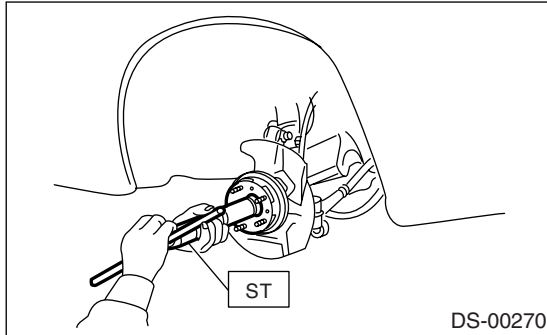
- (1) Retainer

FRONT DRIVE SHAFT

DRIVE SHAFT SYSTEM

10) Using the ST1 and ST2, pull the front drive shaft into place.

ST1 922431000 AXLE SHAFT INSTALLER
ST2 927390000 ADAPTER

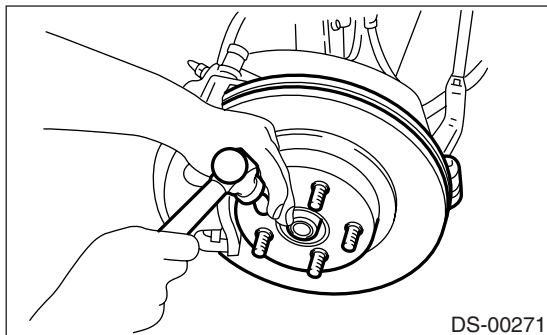


11) Tighten a new axle nut with brake pedal depressed to prevent front drive shaft from turning.

Tightening torque:

220 N·m (22 kgf·m, 162 ft·lb)

12) Tighten the axle nut and lock securely.



13) Install the ABS sensor bracket.

Tightening torque:

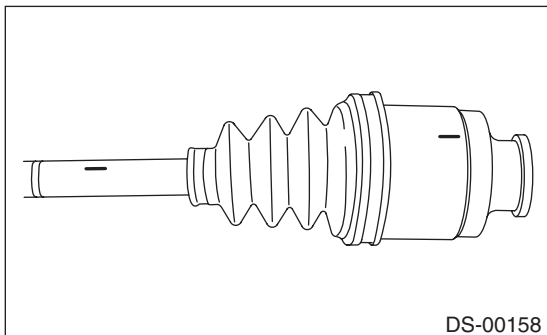
32 N·m (3.3 kgf·m, 24 ft·lb)

14) Add the transmission oil.

15) Install the front wheel and tighten wheel nut to the specified torque.

C: DISASSEMBLY

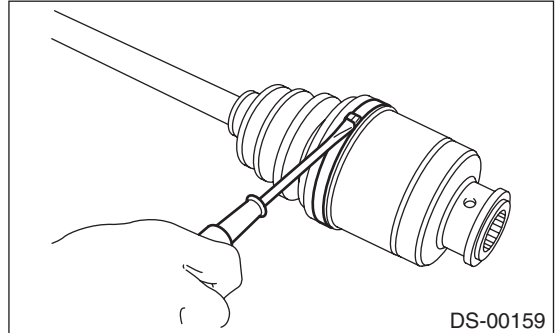
1) Place alignment marks on shaft and outer race.



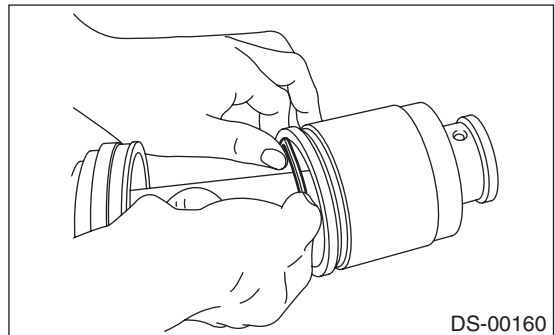
2) Remove inner joint boot band and boot.

CAUTION:

Be careful not to damage boot.



3) Remove circlip from inner joint outer race using screwdriver.



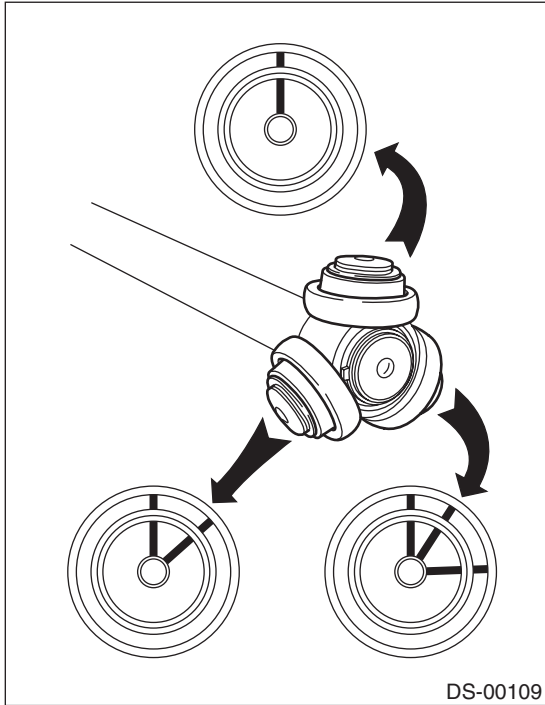
4) Remove inner joint outer race from shaft assembly.

5) Wipe off grease.

CAUTION:

The grease is a special grease. Do not confuse with other greases.

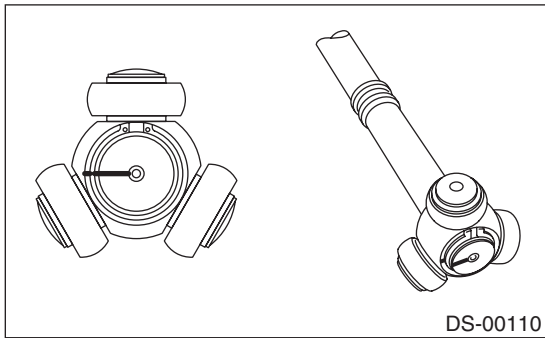
6) Place alignment mark on free ring and trunnion.



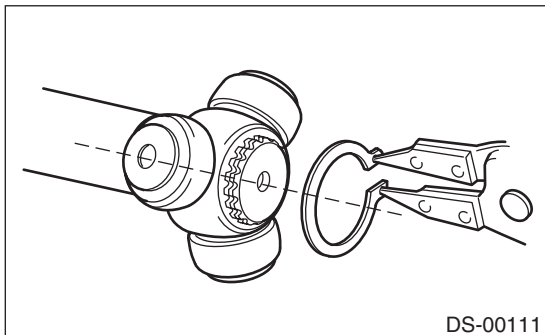
7) Remove free ring from trunnion.

CAUTION:
Be careful with the free ring position.

8) Place alignment mark on trunnion and shaft.



9) Remove snap ring and trunnion.



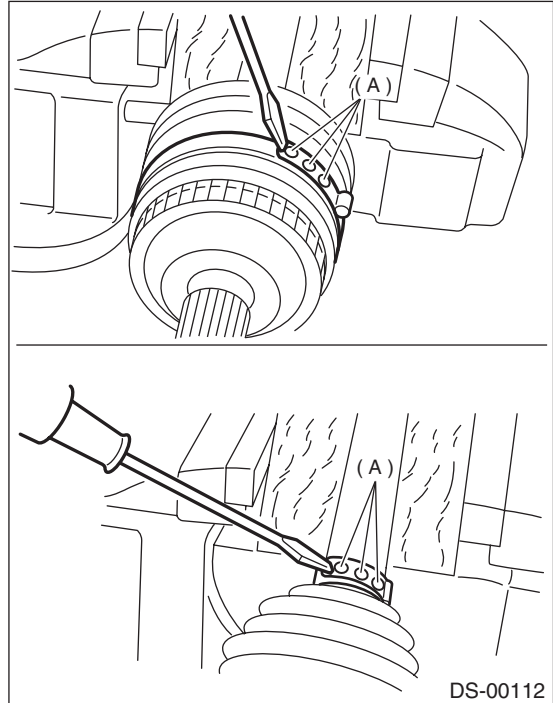
CAUTION:
Be careful not to damage boot by wrapping shaft splines with vinyl tape.

10) Remove inner joint boot.

11) Place drive shaft in a vise between wooden blocks.

CAUTION:
Do not place drive shaft directly in the vise; use wooden block.

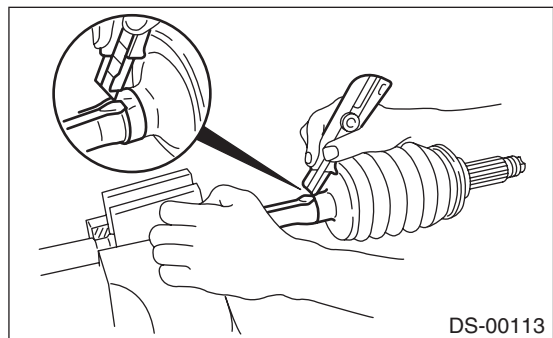
12) Raise boot band claws by means of screwdriver and hammer.



(A) Boot band claws

13) Cut and remove the boot.

CAUTION:
Replace the removed boot with a new one.



14) Thus, disassembly of axle is completed, but outer joint cannot be disassembled.

FRONT DRIVE SHAFT

DRIVE SHAFT SYSTEM

D: ASSEMBLY

CAUTION:

Use specified grease.

BJ side (Non-TURBO model, outside):
NTG2218-M (Part No. 28395AG030)

SFJ side (Non-TURBO model, inside):
NKG302 (Part No. 28495AE010)

AC side (TURBO model, outside):
HTBJ (Part No. 28395SA010)

AAR side (TURBO model, inside):
One luber C (Part No. 28395SA000)

1) Place outer joint boot and small boot band on outer joint side of shaft.

CAUTION:

Be careful not to damaged boot by wrapping shaft splines with vinyl tape.

2) Place drive shaft in a vise.

CAUTION:

Do not place drive shaft directly in the vise; use wooden blocks.

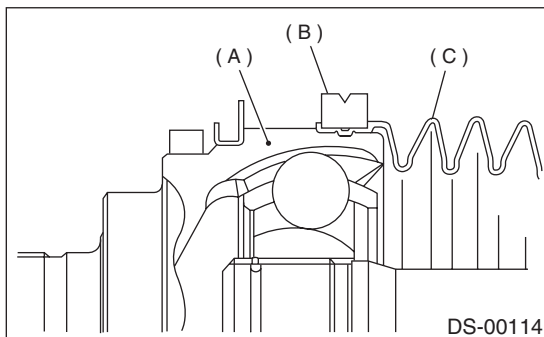
3) Apply a coat of specified grease [60 to 70 g (2.12 to 2.47 oz)] to outer joint.

4) Apply an even coat of specified grease [20 to 30 g (0.71 to 1.06 oz)] to the entire inner surface of boot. Also apply grease to shaft.

NOTE:

The inside of the larger end of outer joint boot and the boot groove shall be cleaned so as to be free from grease and other substances.

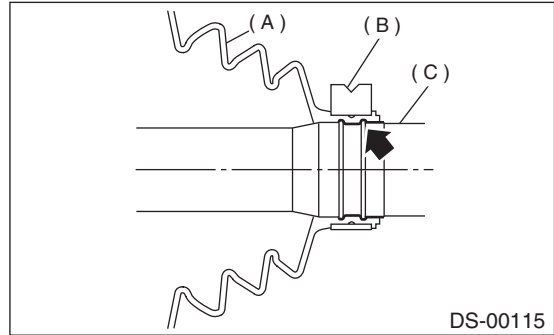
5) Install boot projecting portion to outer joint groove.



- (A) Outer joint
- (B) Large boot band
- (C) Boot

6) Set large boot band in place.

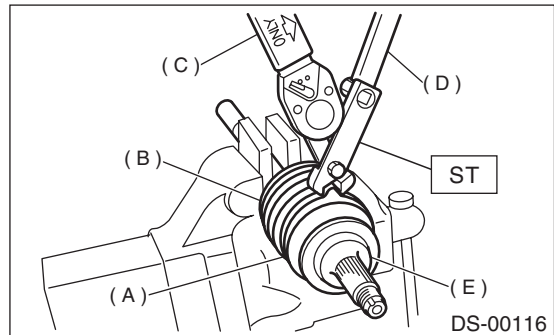
7) Install boot projecting portion to shaft groove.



- (A) Boot
- (B) Small boot band
- (C) Shaft

8) Tighten boot bands 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 joint

Tightening torque:

Large boot band

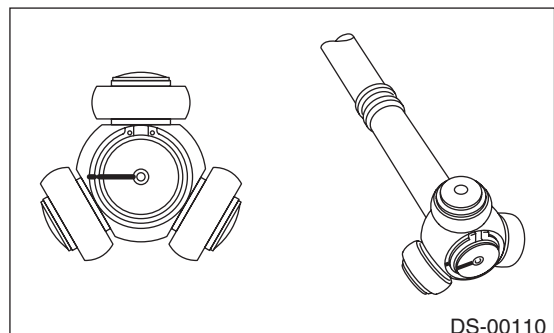
157 N·m (16.0 kgf-m, 116 ft-lb) or more

Small boot band

133 N·m (13.6 kgf-m, 98 ft-lb) or more

9) Place inner joint boot at the center of shaft.

10) Align alignment marks and install trunnion on shaft.



DS-00110

11) Install snap ring to shaft.

CAUTION:

Confirm that the snap ring is completely fitted in the shaft groove.

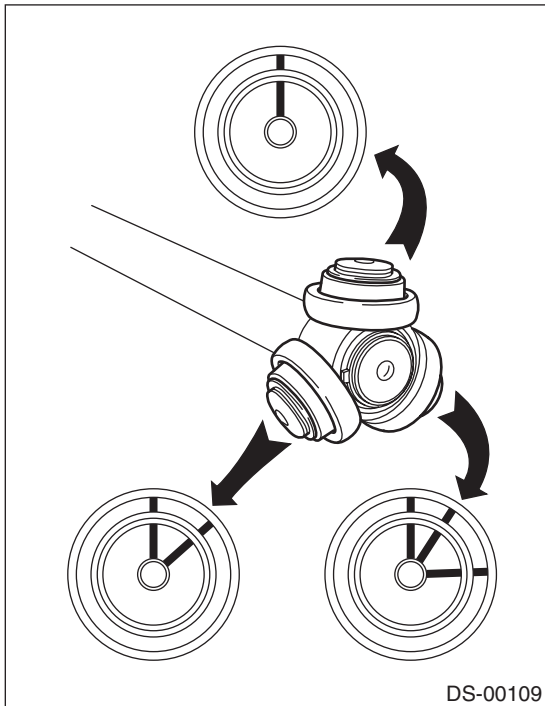
12) Fill 100 to 110 g (3.53 to 3.88 oz) of specified grease into the interior of inner joint outer race.

13) Apply a coat of specified grease to free ring and trunnion.

14) Align alignment marks on free ring and trunnion and install free ring.

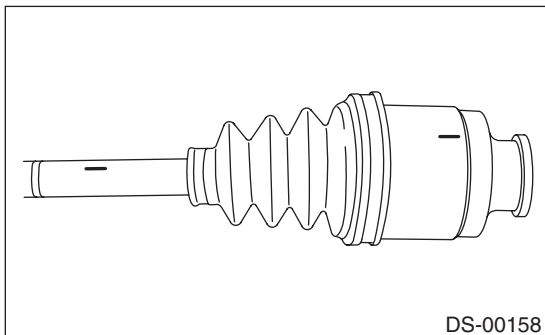
CAUTION:

Be careful with the free ring position.



DS-00109

15) Align alignment marks on shaft and outer race, and install outer race.



DS-00158

16) Install circlip in the groove on inner joint outer race.

CAUTION:

Pull the shaft lightly and assure that the circlip is completely fitted in the groove.

17) 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.

18) Install inner joint boot taking care not to twist it.

CAUTION:

• **The inside of the larger end of inner joint boot and the boot groove shall be cleaned so as to be free from grease and other substances.**

• **When installing inner joint boot, position outer race of inner joint at center of its travel.**

19) Put a band through the clip and wind twice in alignment with band groove of boot.

CAUTION:

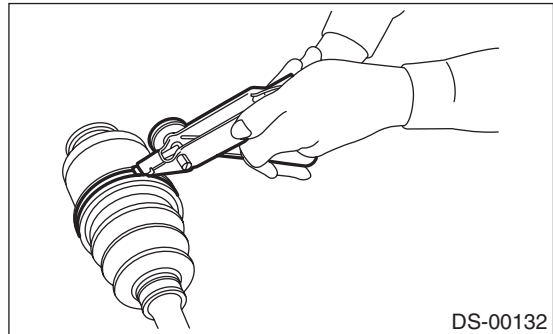
Replace the removed boot band with a new one.

20) Tighten band by using ST.

ST 925091000 BAND TIGHTENING TOOL

NOTE:

Tighten band until it cannot be moved by hand.



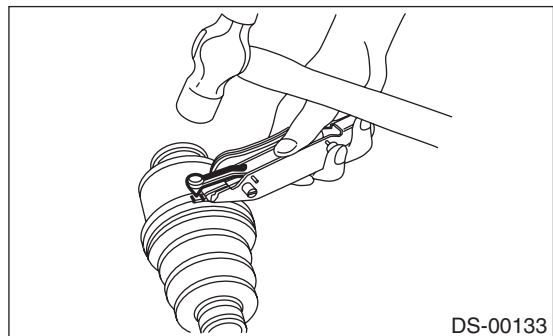
DS-00132

21) Tap on the clip with the punch provided at the end of ST.

ST 925091000 BAND TIGHTENING TOOL

CAUTION:

Tap to an extent that the boot underneath is not damaged.



DS-00133

FRONT DRIVE SHAFT

DRIVE SHAFT SYSTEM

22) Cut off band with an allowance of about 10 mm (0.39 in) left from the clip and bend this allowance over the clip.

CAUTION:

Bend the band so that its end is in close contact with clip.

23) Fix up boot on outer joint in the same manner.

24) Extend and retract inner joint to provide equal grease coating.

E: INSPECTION

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

1) Inner joint

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

2) Outer joint

Check seizure, corrosion, damage and excessive play.

3) Shaft

Check excessive bending, twisting, damage and wear.

4) Boot

Check for wear, warping, breakage or scratches.

5) Grease

Check for discoloration or dilution.