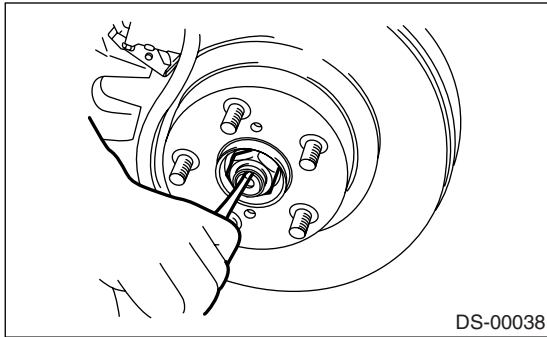


5. Front Drive Shaft

A: REMOVAL

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

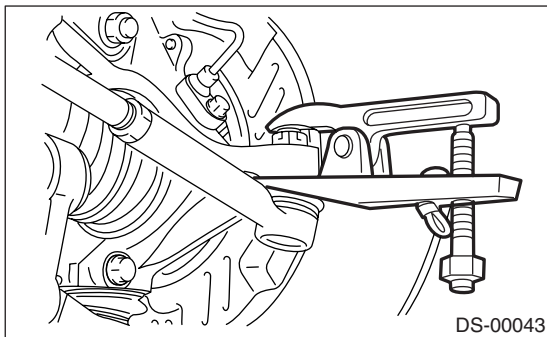


- 4) Remove the axle nut using a socket wrench with brake pedal depressed.

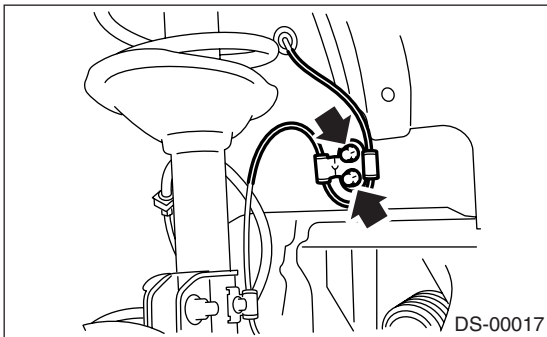
CAUTION:

Remove the axle nut with vehicle weight not applied on axle. Failure to follow this rule may damage the wheel bearings.

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

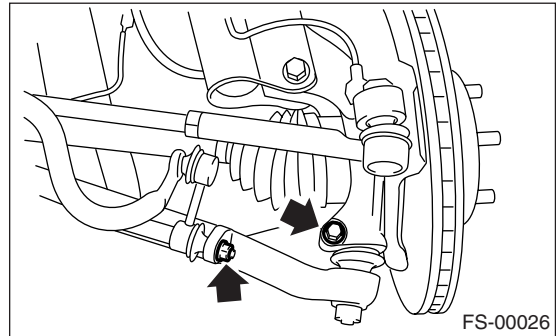


- 6) Remove the ABS wheel speed sensor bracket.



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

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

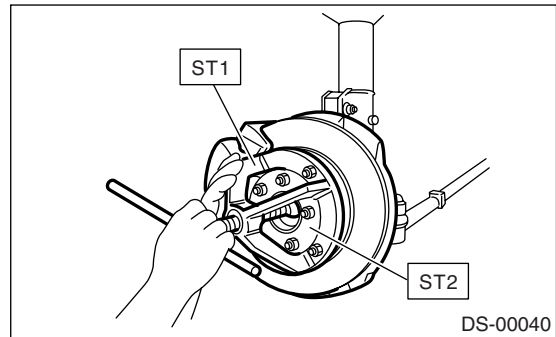


- 9) Remove the front drive shaft from front axle. If it is hard to remove, remove the brake disk rotor using the ST1 and ST2.

- | | | |
|-----|-----------|-------------------------|
| ST1 | 926470000 | AXLE SHAFT PULLER |
| ST2 | 927140000 | AXLE SHAFT PULLER PLATE |

CAUTION:

- Do not hammer the drive shaft when removing.
- Do not damage the oil seal and tone wheel.
- When the front drive shaft is to be replaced, also replace the inner oil seal.



- 10) Remove the front drive shaft from transmission using ST.

- | | | |
|----|------------|---------------------|
| ST | 28399SA000 | DRIVE SHAFT REMOVER |
|----|------------|---------------------|

NOTE:

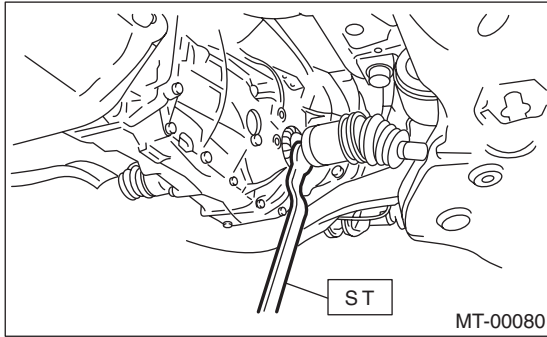
- ST usage is different depending on type of transmission equipped.
- For AT model, face the "AT" letter stamped on ST to transmission side. For MT model, face the "MT" letter stamped on ST to transmission side.

FRONT DRIVE SHAFT

DRIVE SHAFT SYSTEM

CAUTION:

Do not contact the ST to holder area.



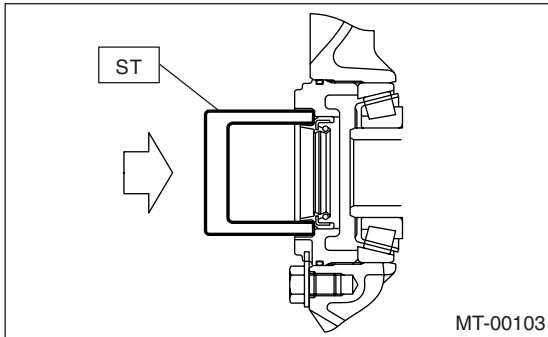
B: INSTALLATION

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 differential side retainer oil seal with a new one when removing drive shaft.

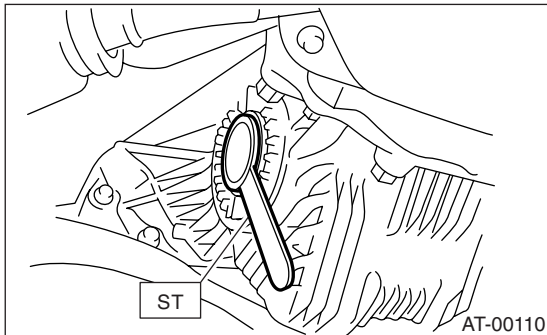


2) Insert the front drive shaft into front axle.

3) Temporarily tighten the axle nut.

4) Using ST, protect the differential side retainer oil seal and install the front drive shaft to transmission.

ST 28399SA010 OIL SEAL PROTECTOR



5) Install the ball joint to front axle.

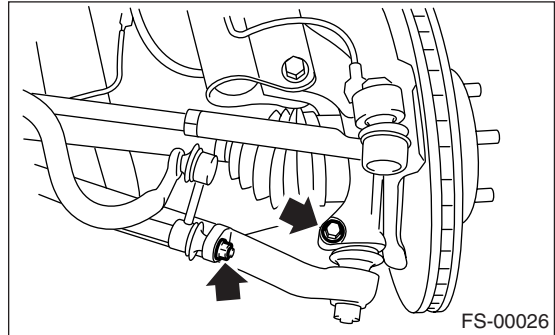
Tightening torque:

50 N·m (5.1 kgf·m, 37 ft·lb)

6) Install the stabilizer link.

Tightening torque:

45 N·m (4.6 kgf·m, 33 ft·lb)



7) Install the tie-rod end.

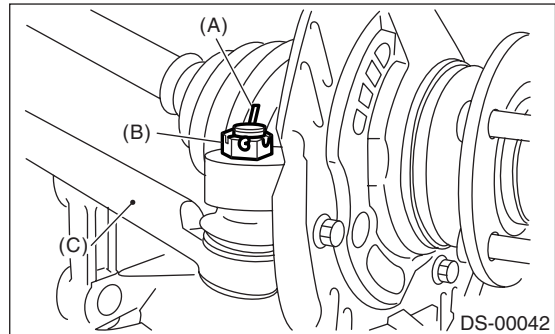
Tightening torque:

27 N·m (2.75 kgf·m, 19.9 ft·lb)

CAUTION:

When connecting, do not hit the cap at 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.

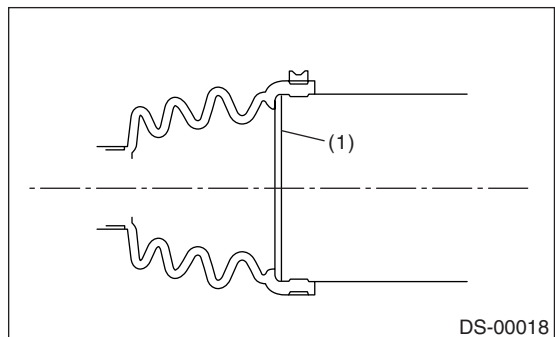


(A) Cotter pin

(B) Castle nut

(C) Tie-rod end

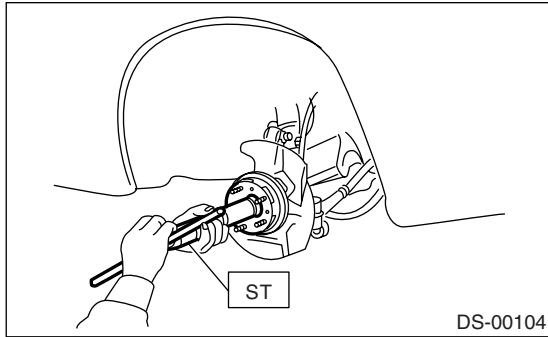
9) Make sure to recognize the position of AARi retainer.



(1) Retainer

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 to the specified torque with brake pedal depressed.

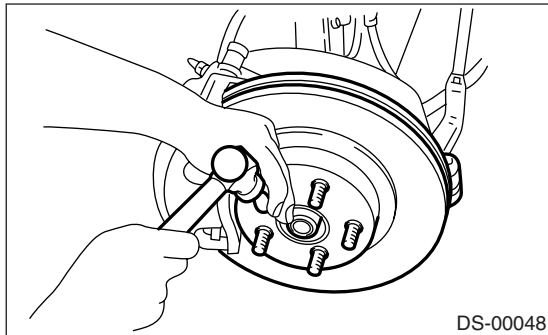
Tightening torque:

186 N·m (19 kgf·m, 137 ft·lb)

CAUTION:

Be sure to tighten the axle nut to specified torque. Do not overtighten it as this may damage wheel bearing.

12) Lock the axle nut.



13) Install the ABS wheel speed sensor bracket.

Tightening torque:

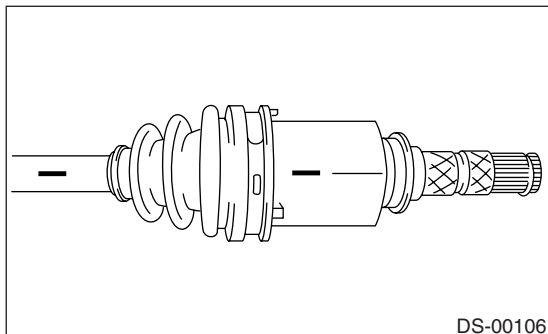
32 N·m (3.3 kgf·m, 24 ft·lb)

14) Add the transmission oil.

15) Install the wheel.

C: DISASSEMBLY

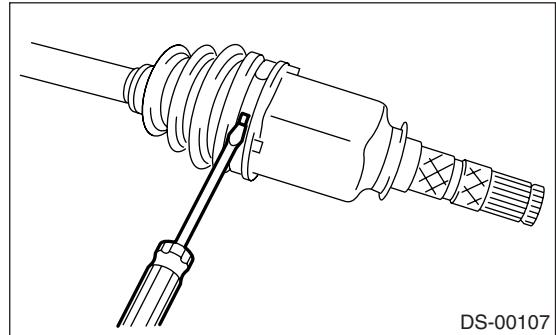
1) Place alignment marks on the shaft and outer race.



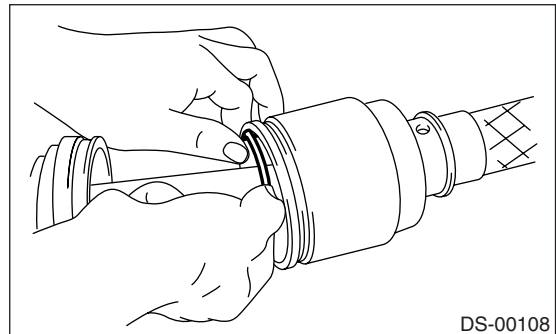
2) Remove the AARi boot band and boot.

CAUTION:

Be careful not to damage the boot.



3) Remove the retainer from AARi outer race.



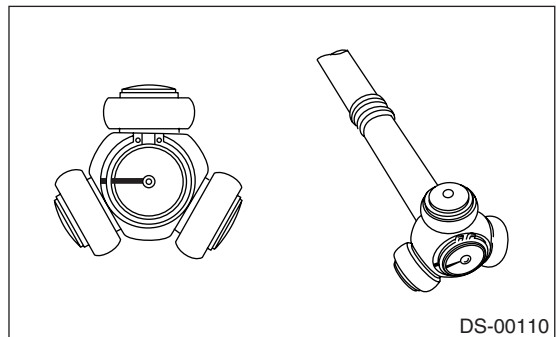
4) Remove the AARi outer race from shaft assembly.

5) Wipe off the grease.

CAUTION:

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

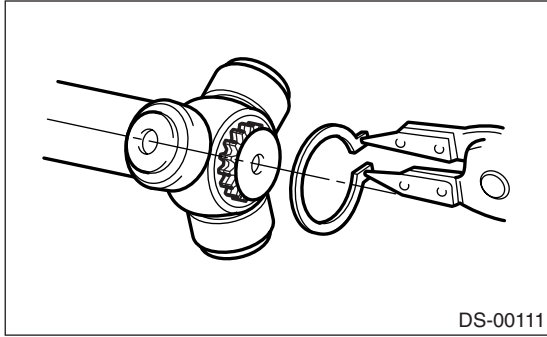
6) Place an alignment mark on the trunnion and shaft.



FRONT DRIVE SHAFT

DRIVE SHAFT SYSTEM

7) Remove the snap ring and trunnion.



8) Remove the spider.

CAUTION:

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

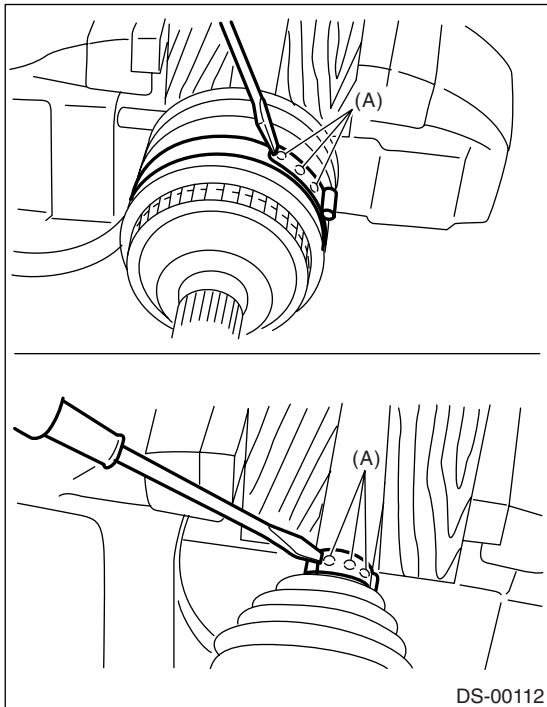
9) Remove the AARi boot.

10) Place the drive shaft in a vise between wooden blocks.

CAUTION:

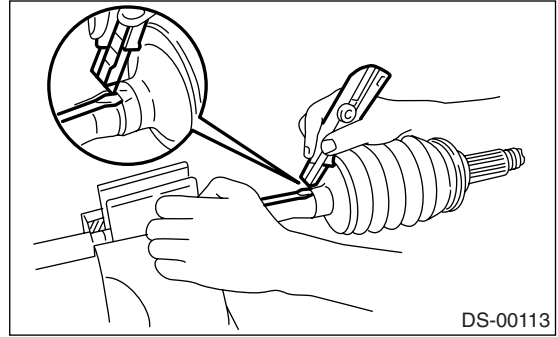
Do not place the drive shaft directly in the vise; use wooden blocks.

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



(A) Boot band claws

12) Cut and remove the boot.



13) Hit the AC joint inner race with hammer to remove AC joint from shaft.

D: ASSEMBLY

NOTE:

Use specified grease.

AC side:

HTBJ (Part No. 28395SA010)

AARi side:

One Luber C (Part No. 28395SA000)

1) Place the AC boot and small boot band on AC side of shaft.

CAUTION:

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

2) Place the drive shaft in a vise between wooden blocks.

CAUTION:

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

3) Apply a coat of specified grease [80 to 85 g (2.82 to 3.0 oz)] to AC.

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 the shaft.

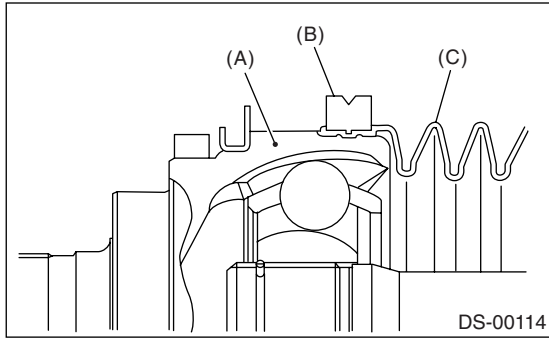
NOTE:

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

FRONT DRIVE SHAFT

DRIVE SHAFT SYSTEM

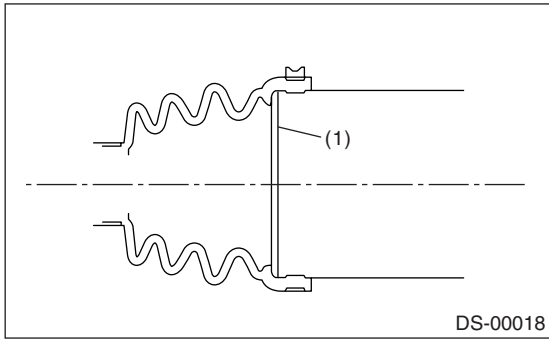
5) Install the boot projecting portion to AC boot groove.



- (A) AC
- (B) Large boot band
- (C) Boot

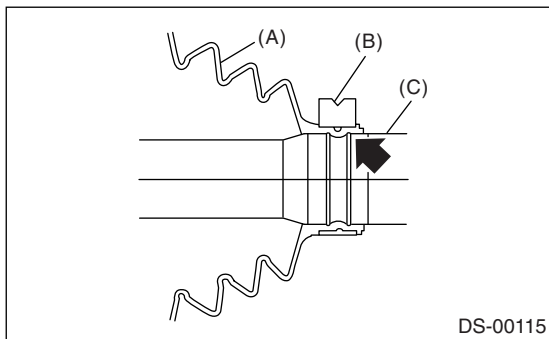
6) Temporarily set the large boot band in the AC boot groove.

7) Make sure to recognize the position of retainer.



- (1) Retainer

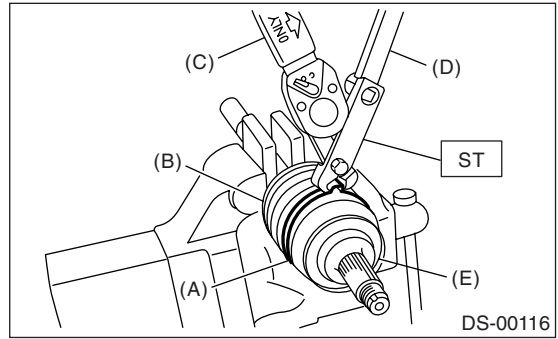
8) Install the boot projecting portion to shaft groove.



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

9) Tighten the 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) AC

Caulked portion clearance of boot band:

Large boot band

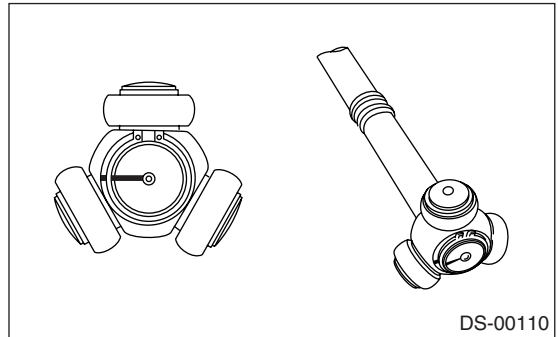
1.3 mm (0.051 in) or more

Small boot band

1.3 mm (0.051 in) or more

10) Fit the AARi boot and retainer to shaft, and then position to center of shaft.

11) Align the alignment marks, and then install the trunnion on shaft.



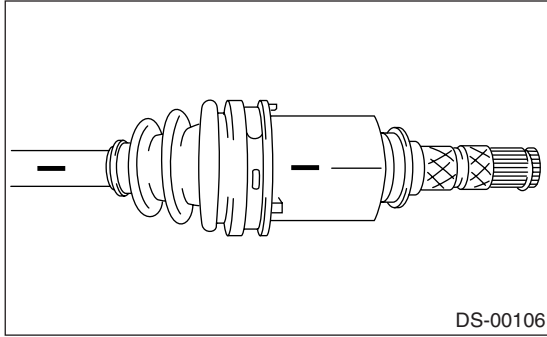
12) Fill 100 to 110 g (3.53 to 3.88 oz) of specified grease into the interior of AARi outer race.

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

FRONT DRIVE SHAFT

DRIVE SHAFT SYSTEM

14) Align the alignment marks on shaft and outer race, and then install the outer race.



15) 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.

16) Install the AARi boot taking care not to twist it.

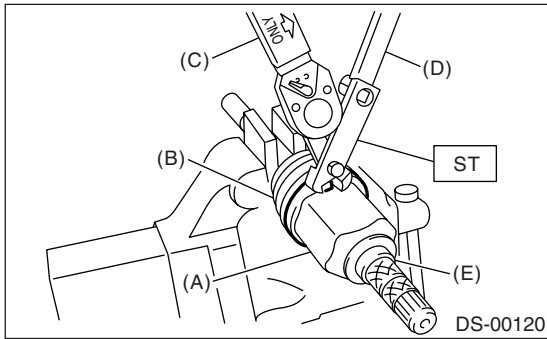
CAUTION:

- The inside of the larger end of AARi boot and boot groove shall be cleaned so as to be free from grease and other substances.
- When installing the AARi boot, position the outer race of AARi at center of its travel.

17) Install a new large boot band and small boot band in specified position.

18) Using the ST, torque wrench and socket flex handle, tighten the boot band.

ST 28099AC000 BOOT BAND PLIERS



- (A) Large boot band
- (B) Boot
- (C) Torque wrench
- (D) Socket flex handle
- (E) AARi

Caulked portion clearance of boot band:

Large boot band

1 mm (0.04 in) or less

Small boot band

1 mm (0.04 in) or less

19) Extend and retract repeatedly the AARi to provide equal grease coating.

E: INSPECTION

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

1) AARi

Check seizure, corrosion, damage and excessive play.

2) Shaft

Check excessive bending, twisting, damage and wear.

3) AC

Check seizure, corrosion, damage and excessive play.

4) Boot

Check for wear, warping, breakage or scratches.

5) Grease

Check for discoloration or fluidity.