PARKING BRAKE

PB

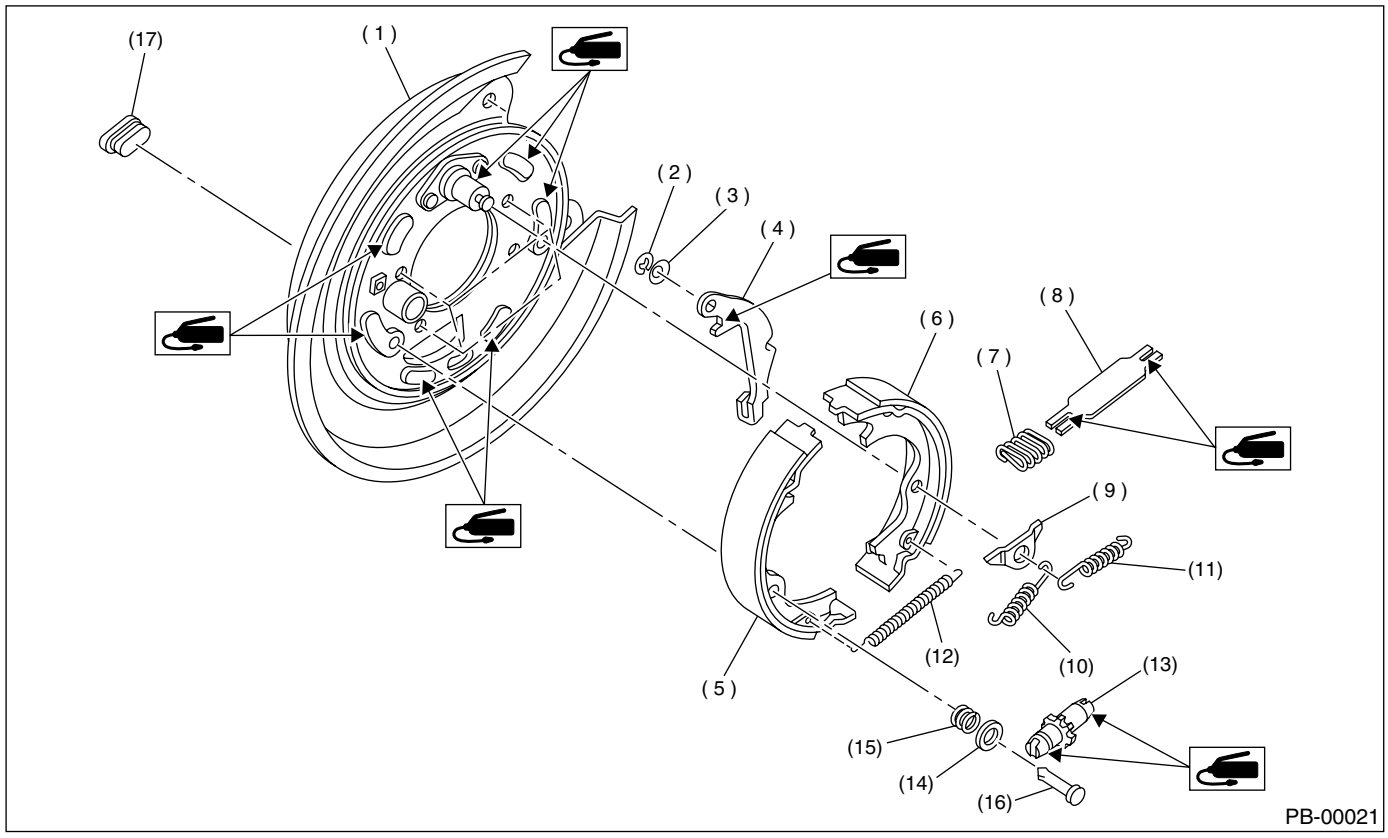
1. General Description

A: SPECIFICATIONS

Type		Mechanical on rear brakes, drum in disc
Effective drum diameter	mm (in)	170 (6.69)
Lining dimensions (length × width × thickness)	mm (in)	162.6 × 30.0 × 3.2 (6.40 × 1.181 × 0.126)
Clearance adjustment		Manual adjustment
Lever stroke	notches/N (kgf, lb)	7 to 8/196 (20, 44)

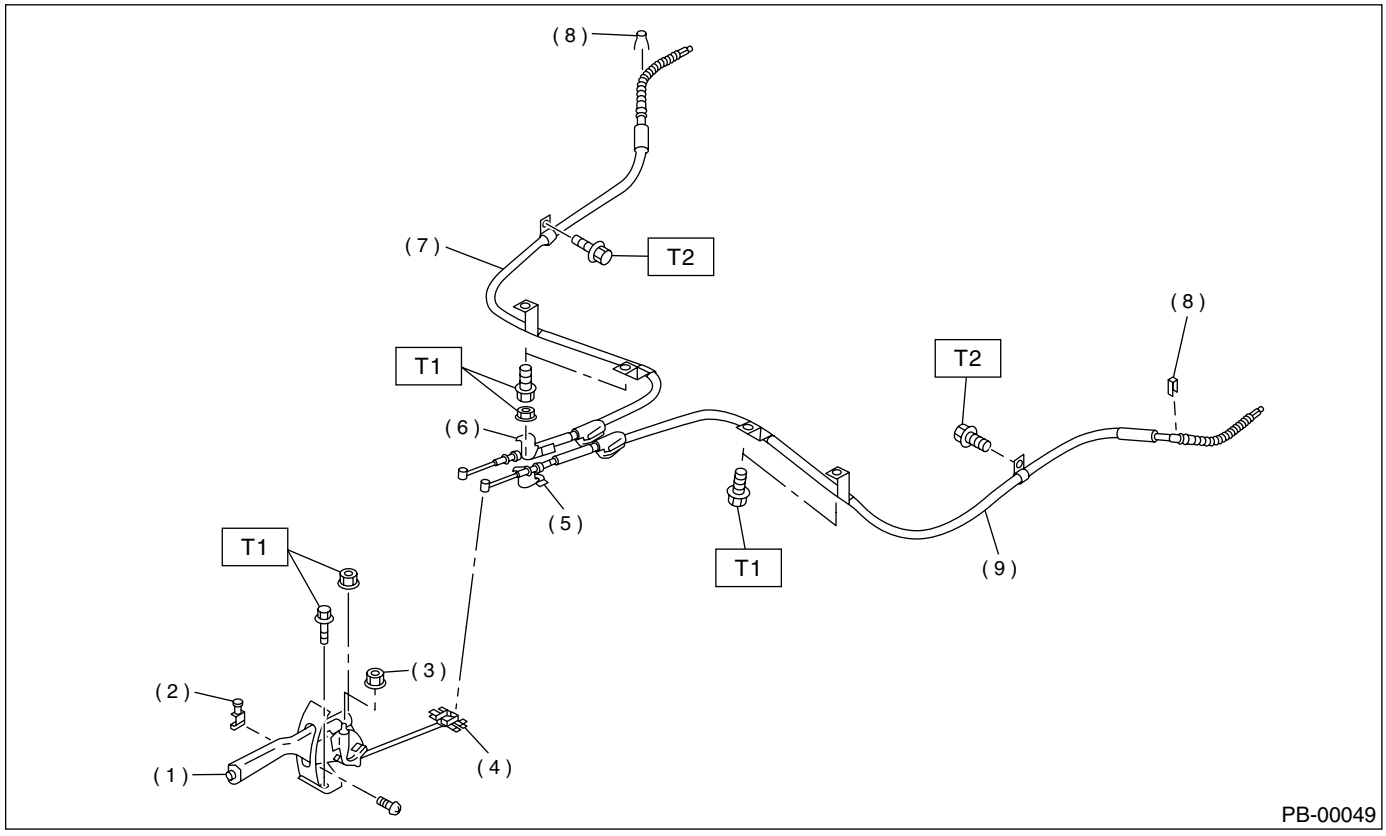
B: COMPONENT

1. PARKING BRAKE



(1) Back plate
(2) Retainer
(3) Spring washer
(4) Lever
(5) Parking brake shoe (Primary)
(6) Parking brake show (Secondary)
(7) Strut spring
(8) Strut
(9) Shoe guide plate
(10) Primary return spring
(11) Secondary return spring
(12) Adjusting spring
(13) Adjuster
(14) Shoe hold-down cup
(15) Shoe hold-down spring
(16) Shoe hold-down pin
(17) Adjusting hole cover

2. PARKING BRAKE CABLE



(1) Parking brake lever
(2) Parking brake switch
(3) Adjusting nut (Self-lock nut)
(4) Equalizer
(5) Bracket
(6) Clamp
(7) Parking brake cable RH
(8) Clamp (Rear disc brake model only)
(9) Parking brake cable LH

Tightening torque: N·m (kgf-m, ft-lb)
T1: 18 (1.8, 13.0)
T2: 32 (3.3, 24)

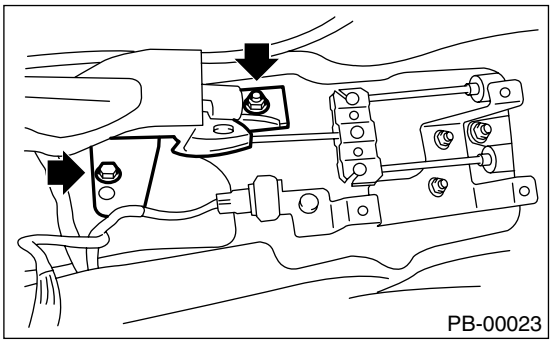
C: CAUTION

• Wear working clothing, including a cap, protective goggles, and protective shoes during operation.
• Remove contamination including dirt and corrosion before removal, installation or disassembly.
• Keep the disassembled parts in order and protect them from dust or dirt.
• Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly, and replacement.
• Be careful not to burn your hands, because each part on the vehicle is hot after running.
• Use SUBARU genuine grease etc. or the equivalent. Do not mix grease etc. with that of another grade or from other manufacturers.
• Be sure to tighten fasteners including bolts and nuts to the specified torque.
• Place shop jacks or safety stands at the specified points.
• Apply grease onto sliding or revolution surfaces before installation.
• Before installing O-rings or snap rings, apply sufficient amount of grease to avoid damage and deformation.
• Before securing a part on a vise, place cushioning material such as wood blocks, aluminum plate, or shop cloth between the part and the vise.
• Keep grease etc. away from parking brake shoes.

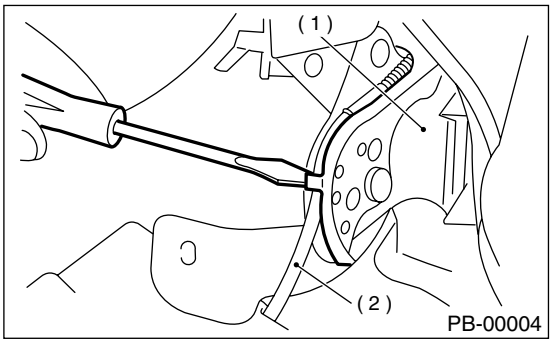
2. Parking Brake Lever

A: REMOVAL

1) Lift-up the vehicle.
2) Remove rear tire and wheel.
3) Remove console box. <Ref. to EI-45, REMOVAL, Console Box.>
4) Loosen parking cable adjusting nut and console bracket.
5) Remove parking brake lever.



6) Unbend parking brake lever pawls and remove cable.



(1) Parking brake lever
(2) Cable

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
Parking brake lever;
18 N·m (1.8 kgf-m, 13.0 ft-lb)

NOTE:
• Be sure to pass cable through guide inside the tunnel.
• Be sure to adjust the lever stroke. <Ref. to PB-5, ADJUSTMENT, Parking Brake Lever.>

C: INSPECTION

While pulling parking brake lever upward, count the notches.

Lever stroke:
7 to 8 notches when pulled with a force of 196 N (20 kgf, 44 lb)

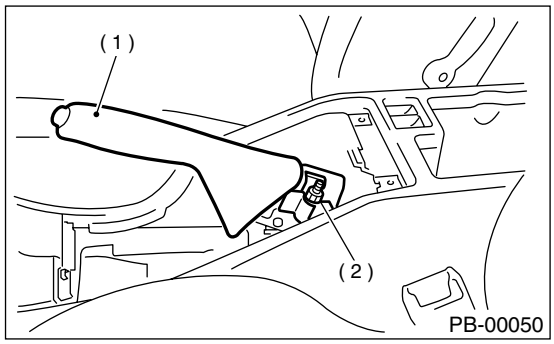
Incorrect, adjust the parking brake. <Ref. to PB-10, ADJUSTMENT, Parking Brake Assembly.>

D: ADJUSTMENT

1) Remove console cover.
2) Forcibly pull parking brake lever 3 to 5 times.
3) Adjust parking brake lever by turning adjuster until parking brake lever stroke is set at 7 to 8 notches with operating force of 196 N (20 kgf, 44 lb).

Lever stroke:
7 to 8 notches when pulled with a force of 196 N (20 kgf, 44 lb)

CAUTION:
Replace the removed adjusting nut (self-lock nut) with a new one.



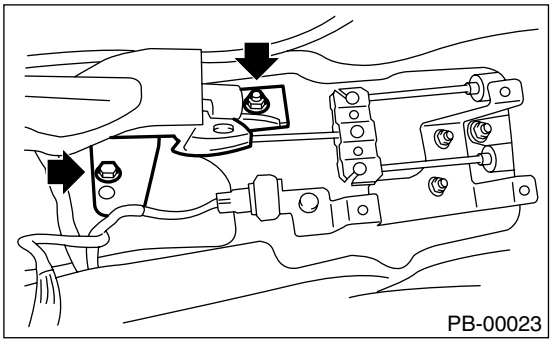
(1) Parking brake lever
(2) Adjusting nut (Self-lock nut)

4) Install console cover.

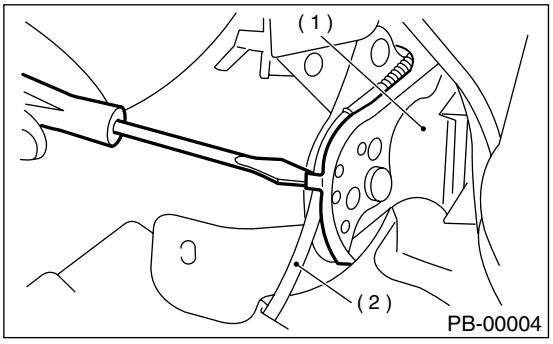
3. Parking Brake Cable

A: REMOVAL

1) Lift-up vehicle.
2) Remove rear tires and wheels.
3) Remove rear seat cushion. <Ref. to SE-18, Rear Seat.>
4) Remove console box. <Ref. to EI-45, REMOVAL, Console Box.>
5) Loosen parking cable adjusting nut and console bracket.
6) Remove parking brake lever.

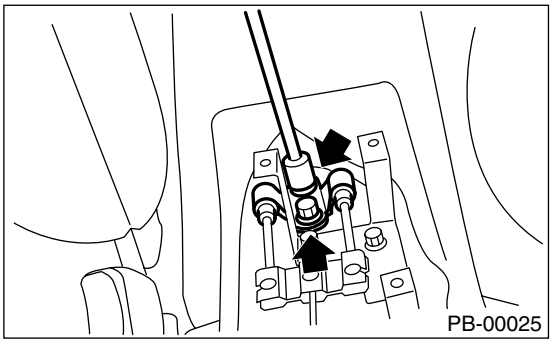


7) Unbend parking brake lever pawls and remove cable.

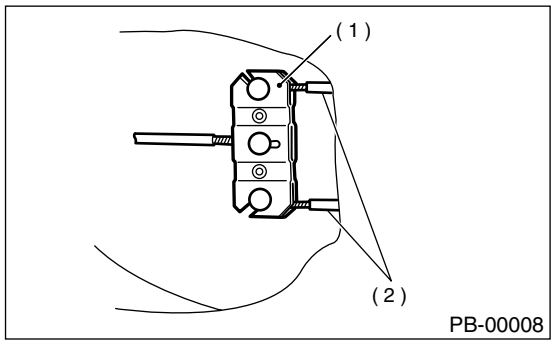


(1) Parking brake lever
(2) Cable

8) Roll up floor mat and remove clamps.

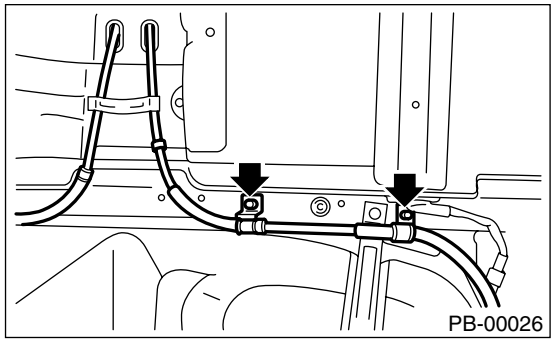


9) Remove equalizer cover.
10) Remove inner cable end from equalizer.



(1) Equalizer
(2) Inner cable end

11) Pull out parking brake cable from rear brake. <Ref. to PB-8, REMOVAL, Parking Brake Assembly.>
12) Pull out clamp from rear brake.
13) Remove bolt and bracket from trailing link bracket.
14) Remove bolt and clamp from rear floor.



15) Detach grommet from rear floor.
16) Remove cable assembly from cabin by forcibly pulling it backward.
17) Detach parking brake cable from cable guide at rear trailing link.

B: INSTALLATION

Install (new) parking brake assembly in the reverse order of removal.

NOTE:
• Be sure to pass cable through cable guide inside the tunnel.
• Be sure to adjust the lever stroke. <Ref. to PB-5, ADJUSTMENT, Parking Brake Lever.>

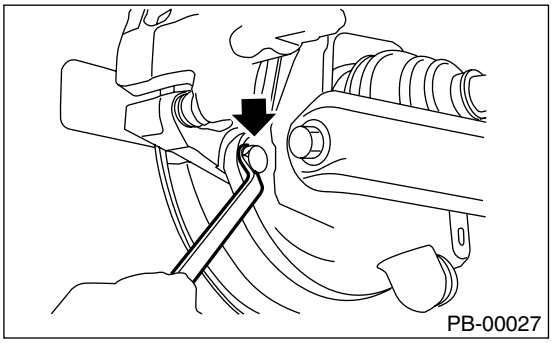
C: INSPECTION

Check the removed cable and replace if damaged, rusty, or malfunctioning.
1) Check for smooth operation of the cable.
2) Check the inner cable for damage and rust.
3) Check the outer cable for damage, bends, and cracks.
4) Check the boot for damage, cracks, and deterioration.

4. Parking Brake Assembly

A: REMOVAL

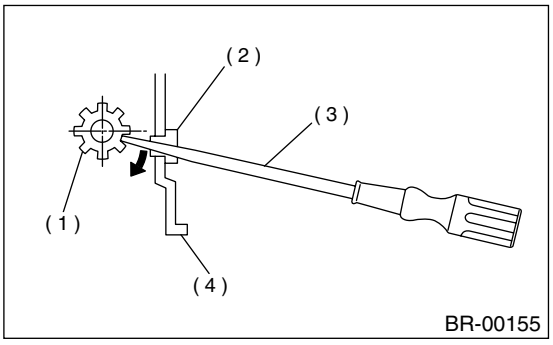
1) Remove the two mounting bolts and remove the disc brake assembly.



2) Suspend the disc brake assembly so that the hose is not stretched.
3) Pull down and release parking brake.
4) Remove the disc rotor.

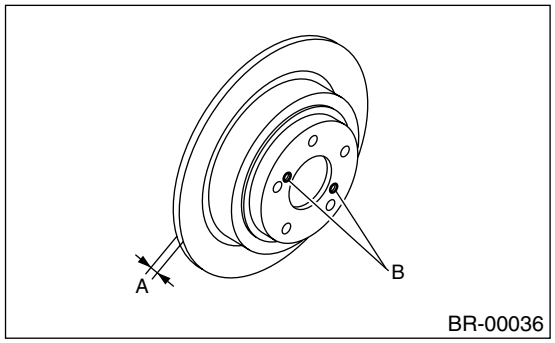
NOTE:
If the disc rotor is difficult to remove, try the following two methods in order.

(1) Turn adjusting screw using a slot-type screwdriver until brake shoe gets away enough from the disc rotor.

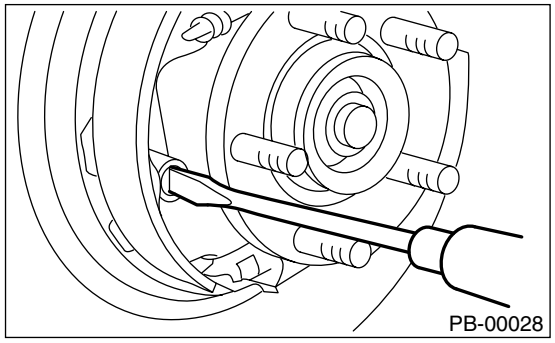


(1) Adjusting screw
(2) Cover (rubber)
(3) Slot-type screwdriver
(4) Back plate

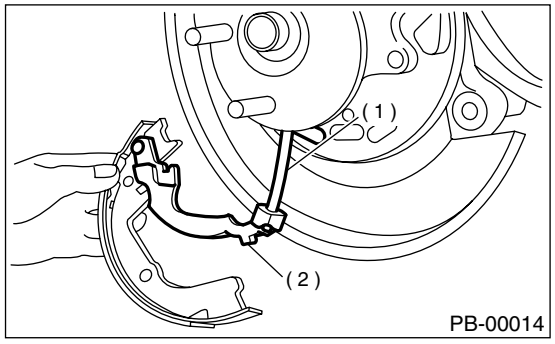
(2) If disc rotor seizes up within hub, drive disc rotor out by installing an 8-mm bolt in holes B on the rotor.



5) Remove shoe return spring from parking brake assembly.
6) Using a standard screwdriver, remove front shoe hold-down spring and pin.



7) Remove strut and strut spring.
8) Remove adjuster assembly from parking brake assembly.
9) Using a standard screwdriver, remove rear shoe hold-down spring and pin.
10) Remove brake shoe.
11) Remove parking cable from parking lever.



(1) Parking brake cable
(2) Parking brake lever

12) Using a standard screwdriver, raise retainer. Remove parking lever and washer from brake shoe.

B: INSTALLATION

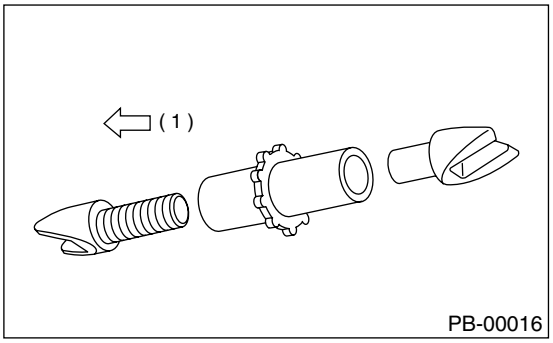
CAUTION:
Be sure lining surface is free from oil contamination.

Brake grease:
Dow Corning Molykote No. 7439 (Part No. 725191460)

1) Apply brake grease to the following places.
• Six contact surfaces of shoe rim and back plate packing
• Contact surface of shoe wave and anchor pin
• Contact surface of lever and strut
• Contact surface of shoe wave and adjuster assembly
• Contact surface of shoe wave and strut
• Contact surface of lever and shoe wave
2) Install in reverse order of removal.

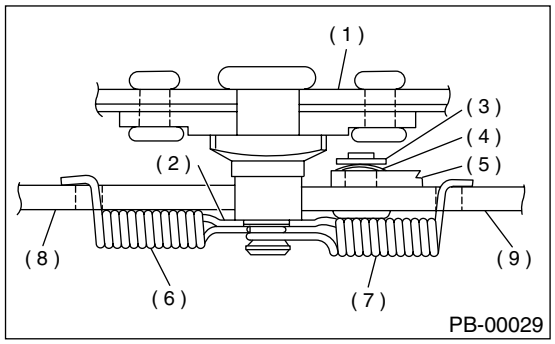
CAUTION:
• Use new retainers and clinch them when installing brake shoes to levers.
• Ensure that parking lever moves smoothly.
• Do not confuse left parking lever with right one.
• Do not confuse left strut with right one.

NOTE:
Ensure that adjuster assembly is securely installed with screw in the left side, facing vehicle front.



(1) LEFT

NOTE:
Ensure that shoe return spring is installed as shown in Figure.



(1) Back plate
(2) Shoe guide plate
(3) Retainer
(4) Spring washer
(5) Lever
(6) Primary shoe return spring (Blue)
(7) Secondary shoe return spring (Yellow)
(8) Parking brake shoe (Primary)
(9) Parking brake shoe (Secondary)

3) Adjust parking brakes. <Ref. to PB-10, ADJUSTMENT, Parking Brake Assembly.>

CAUTION:
After replacing parking brake lining, be sure to drive vehicle for "break-in" purposes.
(1) Drive the vehicle about 35 km/h (22 MPH).
(2) With the parking brake release button pushed in, pull the parking brake lever gently.
(3) Drive the vehicle for about 200 meter (0.12 mile) in this condition.
(4) Wait 5 to 10 minutes for the parking brake to cool down. Repeat this procedure once more.
(5) After breaking-in, re-adjust parking brakes.

C: INSPECTION

1) Measure brake disc inside diameter. If the disc is scored or worn, replace the brake disc.

Disc inside diameter:
Standard
170 mm (6.69 in)
Service limit
171 mm (6.73 in)

2) Measure the lining thickness. If it exceeds the limit, replace shoe assembly.

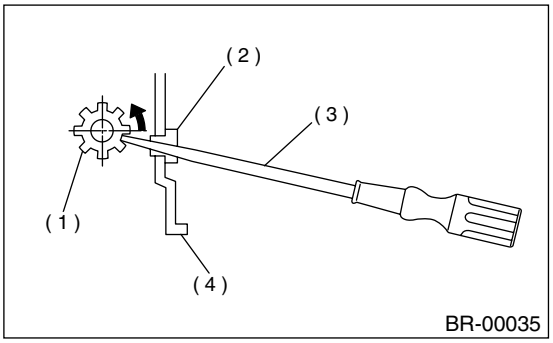
Lining thickness:
Standard
3.2 mm (0.126 in)
Service limit
1.5 mm (0.059 in)

CAUTION:
Replace the brake shoes on the right and left brake assembly at the same time.

D: ADJUSTMENT

1. SHOE CLEARANCE

1) Remove adjusting hole cover from back plate.
2) Turn adjusting screw using a slot-type screwdriver until brake shoe is in close contact with disc rotor.

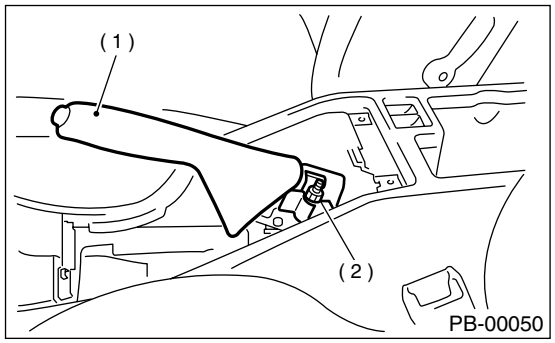


(1) Adjusting screw
(2) Cover (rubber)
(3) Slot-type screwdriver
(4) Back plate

3) Turn back (downward) adjusting screw 3 or 4 notches.
4) Install adjusting hole cover to back plate.

2. LEVER STROKE

1) Remove console box cover.
2) Forcibly pull parking brake lever 3 to 5 times.
3) Adjust parking brake lever by turning adjuster until parking brake lever stroke is set at 6 notches with operating force of 196 N (20 kgf, 44 lb).



(1) Parking brake lever
(2) Adjusting nut (Self-lock nut)

4) Install console box cover.

Lever stroke:
7 to 8 notches when pulled with a force of 196 N (20 kgf, 44 lb)

5. General Diagnostic Table

A: INSPECTION

Symptom	Possible cause	Remedy
Brake drag	• Parking brake lever is maladjusted.	• Adjustment.
	• Parking brake cable does not move.	• Repair or replace.
	• Parking brake shoe clearance is maladjusted.	• Adjustment.
	• Return spring is faulty.	• Replace.
Noise from brake	• Return spring is faulty.	• Replace.
	• Shoe hold-down spring is faulty.	• Replace.

GENERAL DIAGNOSTIC TABLE

MEMO: