

SECTION **PB**  
PARKING BRAKE SYSTEM

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# PREPARATION

< PREPARATION >

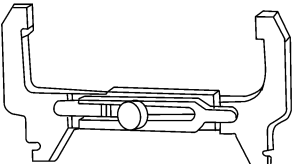
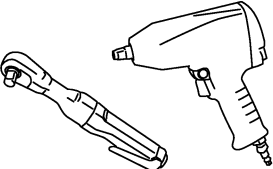
## PREPARATION

### PREPARATION

#### Commercial Service Tool

INFOID:000000003710292

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

(Kent-Moore No.) Tool name		Description
(J-21177-A) Brake drum clearance gauge	 WFIA0167E	Measuring rear rotor drum to parking brake shoe clearance
Power tool	 PBIC0190E	Loosening bolts and nuts

# PARKING BRAKE SYSTEM

< ON-VEHICLE MAINTENANCE >

## ON-VEHICLE MAINTENANCE

### PARKING BRAKE SYSTEM

#### On-Vehicle Service

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#### PEDAL STROKE

- When parking brake pedal is operated with the specified force, make sure the stroke is within the specified number of notches. Check by listening and counting the ratchet clicks.

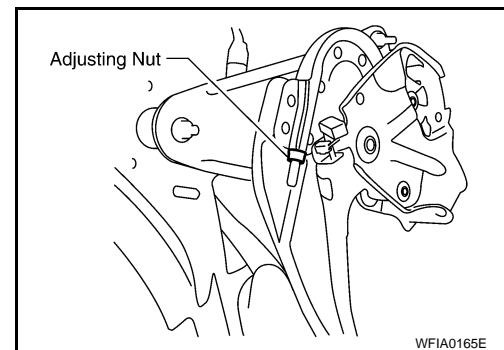
**Pedal stroke** : Refer to [PB-9, "Parking Brake Control"](#).

#### INSPECTION

- Make sure the components are attached properly, checking for looseness or backlash.
- Check parking brake pedal assembly for bends, damage and cracks, and replace if necessary.
- Check cable for wear and damage, and replace if necessary.
- Check parking brake warning lamp switch for malfunction, and replace if necessary. Refer to [MWI-45, "Wiring Diagram"](#).

#### ADJUSTMENT

1. Remove the lower instrument panel LH. Refer to [IP-11, "Removal and Installation"](#).
2. Partially engage parking brake pedal to access adjusting nut.
3. Insert a deep socket wrench to rotate adjusting nut and loosen cable sufficiently. Then, disengage the parking brake pedal.



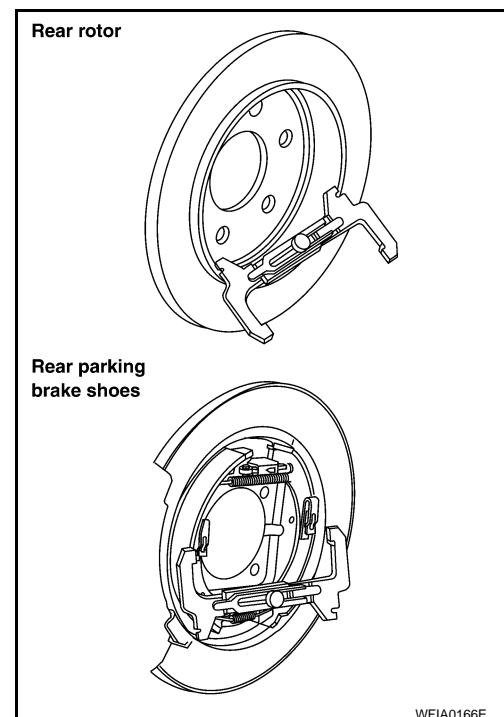
4. Remove the wheel and tire using power tool.
5. Remove the disc rotor and measure inner diameter at widest point using suitable tool.

**Tool number** : — (J-21177-A)

6. Transfer measurement less 0.6 mm (0.024 in) to the parking brake shoes and adjust accordingly.
7. Using wheel nuts, secure the disc rotor to the hub to prevent it from tilting.
8. Rotate the disc rotor to make sure there is no drag.
9. Adjust cable as follows:
  - a. Operate pedal 10 or more times with a force of 490 N (50 kg-f, 110 lb-f).
  - b. Rotate adjusting nut with deep socket to adjust pedal stroke to specification.

**Pedal stroke** : Refer to [PB-9, "Parking Brake Control"](#).

- c. With parking brake pedal completely disengaged, make sure there is no drag on the parking brake.
10. Install the disc rotor.
  11. Install the wheel and tire using power tool.



## PARKING BRAKE SYSTEM

< ON-VEHICLE MAINTENANCE >

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12. Install the lower instrument panel LH. Refer to [IP-11. "Removal and Installation"](#).

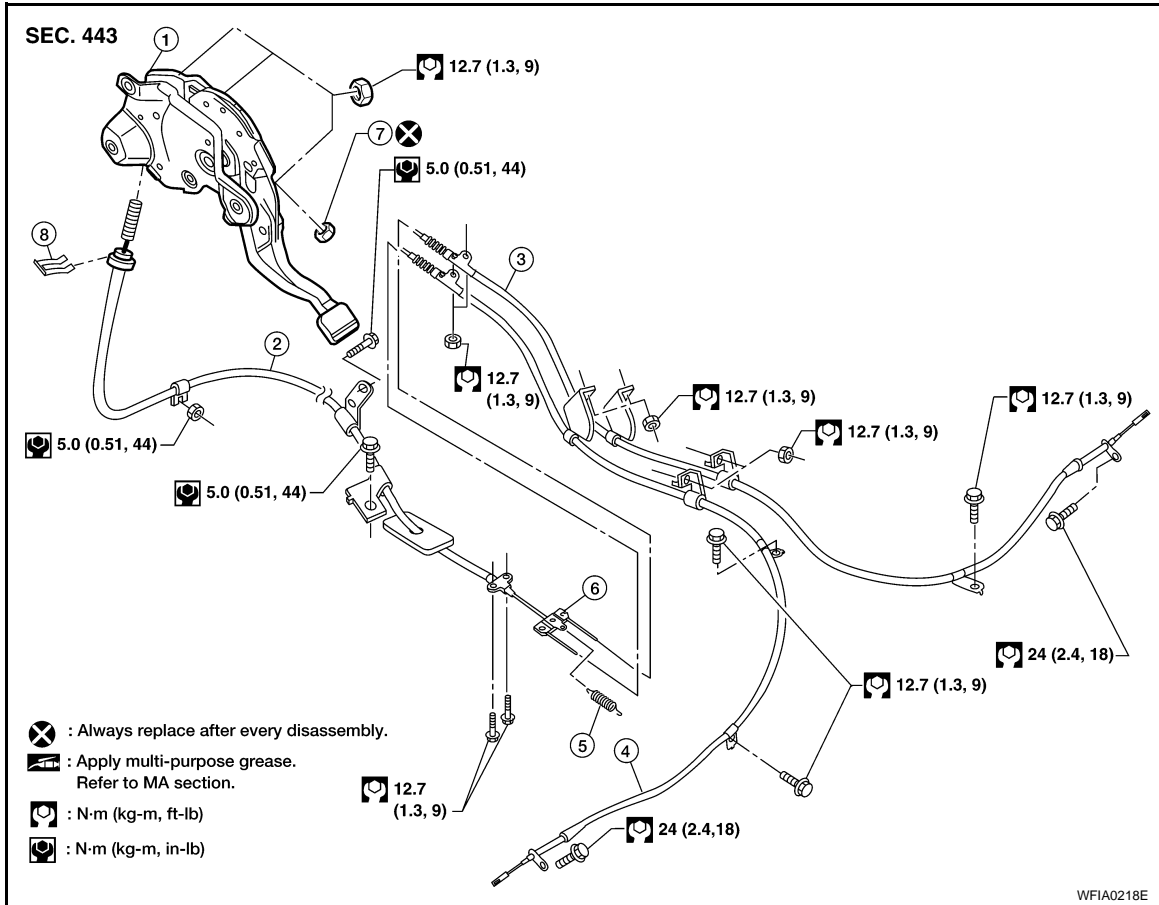
# PARKING BRAKE CONTROL

< ON-VEHICLE REPAIR >

## ON-VEHICLE REPAIR PARKING BRAKE CONTROL

Component

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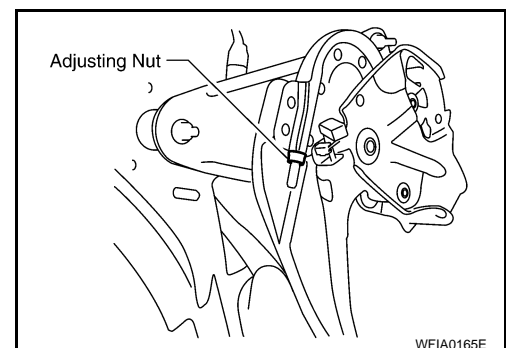
- |                    |                  |                     |
|--------------------|------------------|---------------------|
| 1. Pedal assembly  | 2. Front cable   | 3. Right rear cable |
| 4. Left rear cable | 5. Return spring | 6. Equalizer        |
| 7. Adjusting nut   | 8. Lock plate    |                     |

### Removal and Installation

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#### REMOVAL

1. Remove lower instrument panel LH. Refer to [IP-11, "Removal and Installation"](#).
2. Remove center console. Refer to [IP-19, "Removal and Installation"](#).
3. Remove floor trim. Refer to [INT-15, "Removal and Installation"](#).
4. Remove adjusting nut and discard.  
**CAUTION:**  
**Do not reuse adjusting nut after removing it.**
5. Remove the lock plate from the front cable.
6. Remove front cable retaining bolts and nut.
7. Disconnect return spring from equalizer.
8. Disconnect right and left rear cables from equalizer.
9. Remove rear disc rotors. Refer to [BR-35, "Removal and Installation of Brake Caliper and Disc Rotor"](#).



## PARKING BRAKE CONTROL

< ON-VEHICLE REPAIR >

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10. Remove parking brake shoe, and remove rear cable from toggle lever. Refer to [PB-5. "Component"](#).

11. Remove right and left rear cables retaining bolts and nuts, then remove right and left rear cables.

### INSTALLATION

Installation is in the reverse order of removal.

- Adjust parking brake. Refer to [PB-3. "On-Vehicle Service"](#).

### **CAUTION:**

**Do not reuse adjusting nut after removing it.**

# PARKING BRAKE SHOE

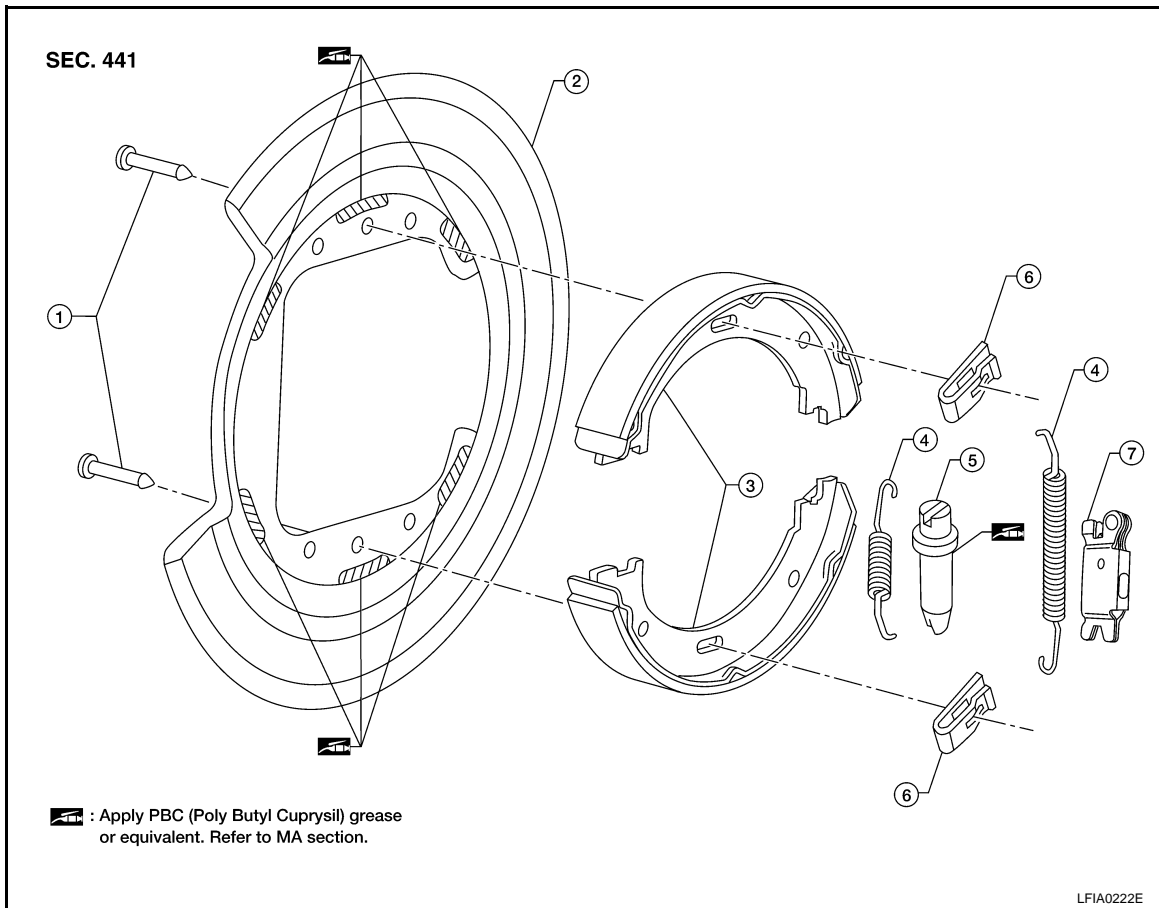
< ON-VEHICLE REPAIR >

## PARKING BRAKE SHOE

### Removal and Installation

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### COMPONENTS



- |                     |               |              |
|---------------------|---------------|--------------|
| 1. Anti-rattle pins | 2. Back plate | 3. Shoes     |
| 4. Return springs   | 5. Adjuster   | 6. Retainers |
| 7. Toggle lever     |               |              |

### REMOVAL

#### **WARNING:**

**Clean the brakes with a vacuum dust collector to minimize the hazard of airborne particles or other materials.**

#### **NOTE:**

Remove the disc rotor only with the parking brake pedal completely in the released position.

1. Remove the rear disc rotor. Refer to [BR-35. "Removal and Installation of Brake Caliper and Disc Rotor"](#).
2. Remove the return springs.
3. Remove the adjuster.
4. Disconnect the rear cable from the toggle lever, if necessary.
  - Remove pin retainer and withdraw cable end from toggle lever.
5. Remove the retainers, anti-rattle pins and shoes.

### INSPECTION AFTER REMOVAL

Lining Thickness Inspection

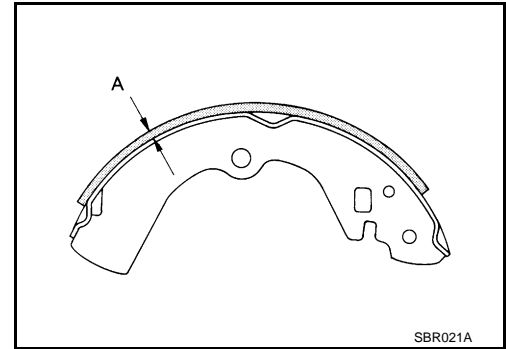
# PARKING BRAKE SHOE

## < ON-VEHICLE REPAIR >

- Check thickness of lining.

**Standard thickness (A)** : Refer to [PB-9, "Parking Brake"](#).

**Wear limit thickness (A)** : Refer to [PB-9, "Parking Brake"](#).

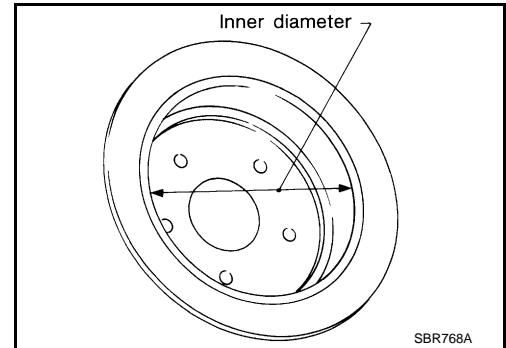


## Disc Rotor Inner Diameter Inspection

- Check inner diameter inside drum area of disc rotor.

**Standard inner diameter** : Refer to [PB-9, "Parking Brake"](#).

**Wear limit of inner diameter** : Refer to [PB-9, "Parking Brake"](#).



## Other Inspections

- Check shoe sliding surface on back plate for excessive wear and damage.
- Check anti-rattle pins for excessive wear and corrosion.
- Check return springs for sagging.
- Check adjuster for rough operation.
- When disassembling adjuster, apply PBC (Poly Butyl Cuprysil) grease or equivalent to the threads.
- Check either visually or with a vernier caliper to see if there is any excessive wear, cracks, or damage inside drum area of disc rotor.

## INSTALLATION

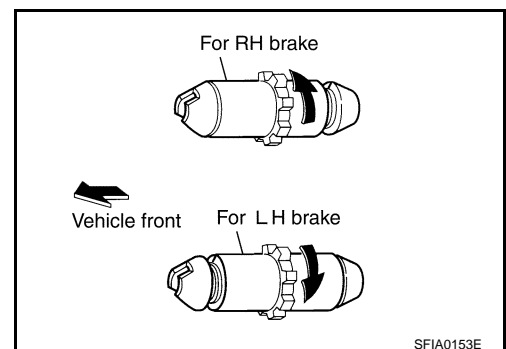
Installation is in the reverse order of removal.

- Apply brake grease to the specified points during assembly.
- Assemble adjuster so that threaded part expands when rotating it in the direction shown by the arrow.
- Shorten adjuster by rotating it.

### NOTE:

After replacing brake shoes or disc rotors, or if brakes do not function well, perform break-in operation as follows.

1. Adjust parking brake pedal stroke. Refer to [PB-3, "On-Vehicle Service"](#).



2. Perform parking brake break-in operation by driving the vehicle forward under the following conditions:

- Vehicle speed at 40 km/h (25 MPH)
- Apply parking brake with an operating force of 196 N (20.0 kg-f, 44.1 lb-f)
- Apply parking brake for a period of 30 seconds

### CAUTION:

- **To prevent lining from getting too hot, allow a cool off period of approximately 5 minutes after every break-in operation.**
- **Do not perform excessive break-in operations, because it may cause uneven or early wear of lining.**

3. After break-in operation, check pedal stroke of parking brake. Readjust if it is no longer at the specified stroke. Refer to [PB-3, "On-Vehicle Service"](#).



# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Parking Brake

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Unit: mm (in)

Type		Disc rotor with inner drum
Brake lining	Standard thickness (new)	3.79 ± 0.21 (0.149 ± 0.008)
	Wear limit thickness	0.5 (0.020)
Drum inner diameter (disc)	Standard inner diameter (new)	205 ± 0.13 (8.07 ± 0.01)
	Wear limit of inner diameter	205.7 (8.10)

#### Parking Brake Control

INFOID:0000000003710298

Control type	Foot pedal
Number of notches [under force of 196 N (20.0 kg-f, 44.1 lb-f)]	3 – 4 notches
Number of notches when warning lamp switch comes on	1 notch