

SECTION **PB**  
PARKING BRAKE SYSTEM

A  
B  
C  
D  
E  
PB  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

CONTENTS

<b>PREPARATION</b> .....	2	Removal and Installation .....	4
<b>PREPARATION</b> .....	2	<b>PARKING BRAKE SHOE</b> .....	6
Commercial Service Tool .....	2	Exploded View .....	6
<b>ON-VEHICLE MAINTENANCE</b> .....	3	Removal and Installation .....	6
<b>PARKING BRAKE SYSTEM</b> .....	3	<b>SERVICE DATA AND SPECIFICATIONS</b>	
On-Vehicle Service .....	3	<b>(SDS)</b> .....	9
<b>ON-VEHICLE REPAIR</b> .....	4	<b>SERVICE DATA AND SPECIFICATIONS</b>	
<b>PARKING BRAKE CONTROL</b> .....	4	<b>(SDS)</b> .....	9
Exploded View .....	4	Parking Brake Control .....	9
		Parking Drum Brake .....	9

# PREPARATION

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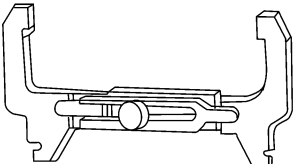
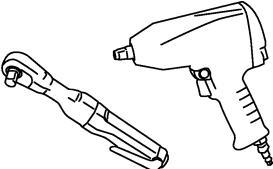
## PREPARATION

### PREPARATION

#### Commercial Service Tool

INFOID:000000004171231

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.

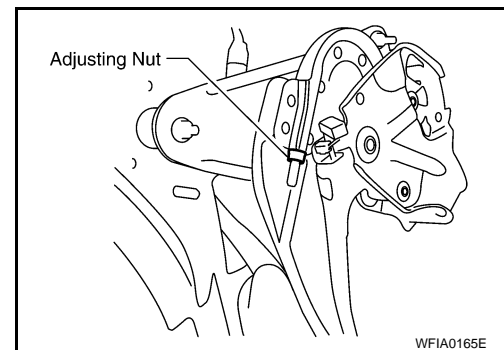
**Pedal stroke** : Refer to [PB-9, "Parking Brake Control"](#).

#### 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 [BRC-68, "Diagnosis Procedure"](#).

#### ADJUSTMENT

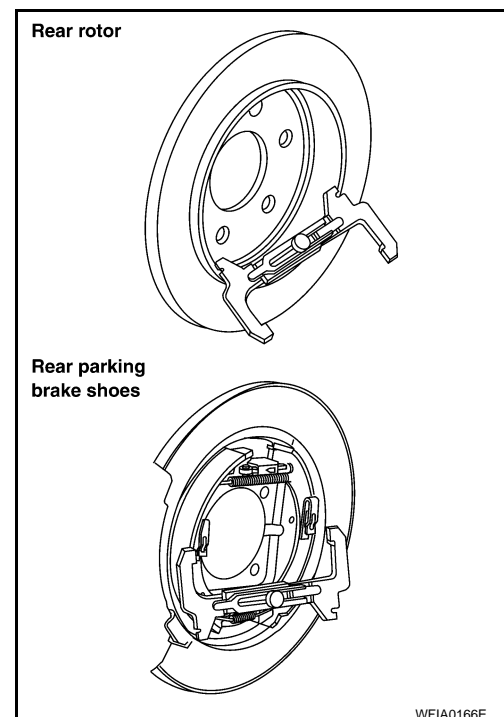
1. Remove the lower instrument panel LH. Refer to [IP-11, "Exploded View"](#).
2. Partially engage parking brake pedal to access adjusting nut.
3. Insert a deep socket wrench to rotate adjusting nut and loosen cable sufficiently. Then, disengage the parking brake pedal.



4. Remove the wheel and tire using power tool.
5. Remove the disc rotor and measure inner diameter at widest point using suitable tool. Refer to [BR-35, "Removal and Installation of Brake Caliper and Rotor"](#).
6. Transfer measurement less 0.6 mm (0.24 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.
  12. Install the lower instrument panel LH. Refer to [IP-12, "Removal and Installation"](#).



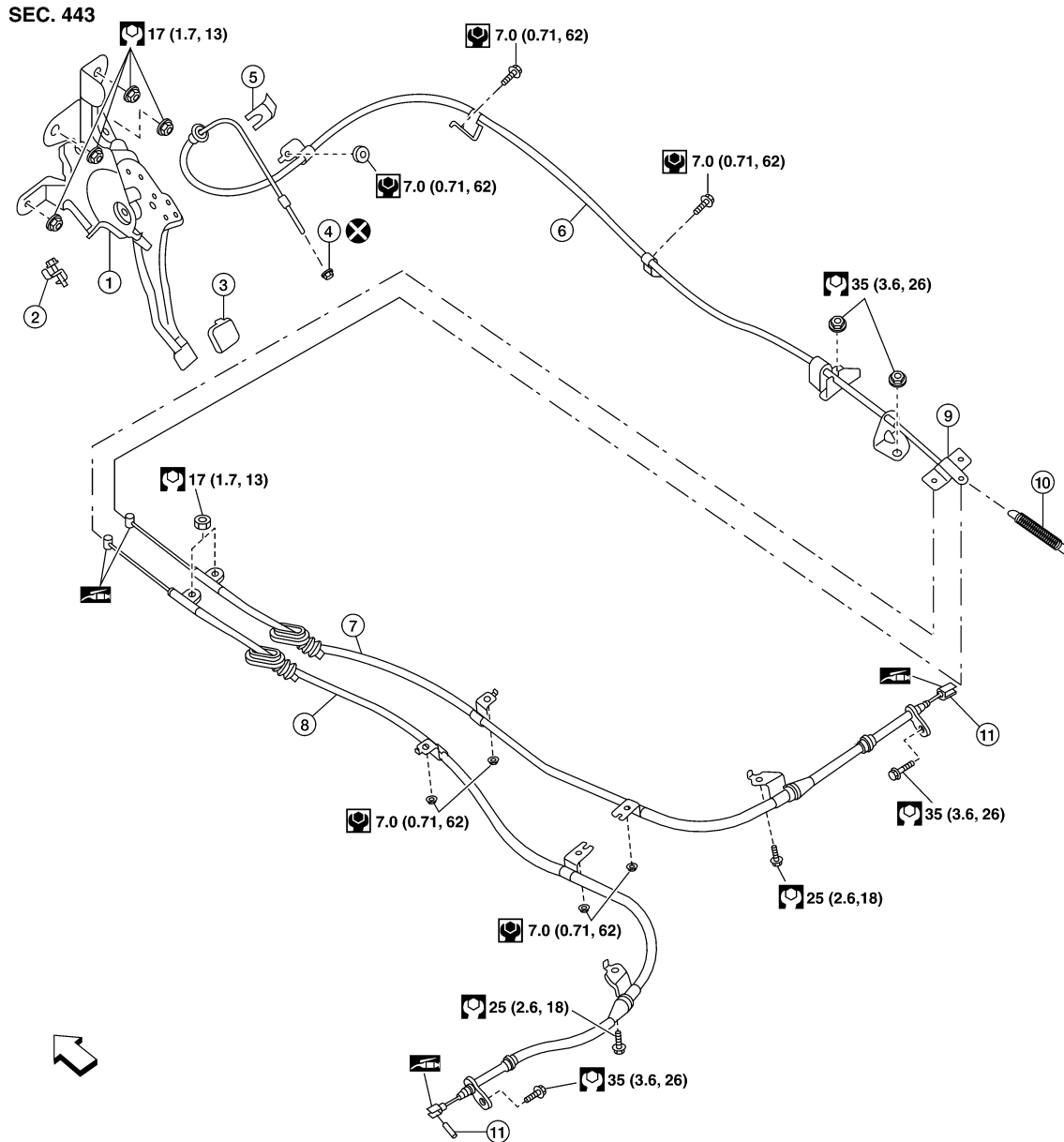
# PARKING BRAKE CONTROL

< ON-VEHICLE REPAIR >

## ON-VEHICLE REPAIR PARKING BRAKE CONTROL

Exploded View

INFOID:000000003895150



AWFIA0431GB

- |                        |                         |                |
|------------------------|-------------------------|----------------|
| 1. Parking brake pedal | 2. Parking brake switch | 3. Pedal pad   |
| 4. Adjusting nut       | 5. Lock plate           | 6. Front cable |
| 7. Rear cable (RH)     | 8. Rear cable (LH)      | 9. Equalizer   |
| 10. Spring             | 11. Pin                 | ⇐ Front        |

### Removal and Installation

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#### REMOVAL

1. Remove rear wheel and tires using power tool.
2. Remove instrument lower cover (LH) and lower knee protector. Refer to [IP-12. "Removal and Installation"](#).

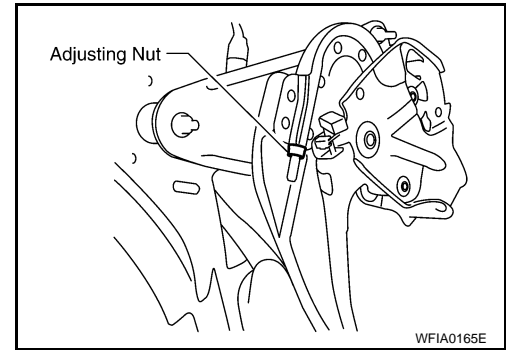
# PARKING BRAKE CONTROL

## < ON-VEHICLE REPAIR >

3. Disconnect parking brake switch connector.
4. Remove adjusting nut and discard, then loosen the front cable.

**CAUTION:**

**Do not reuse adjusting nut.**



5. Remove parking brake pedal nuts and remove the parking brake pedal.
6. Remove center console. Refer to [IP-16, "Removal and Installation"](#).
7. Reposition the floor carpet aside.
8. Separate the LH and RH rear cables from the equalizer then remove the front cable.
9. Remove the front exhaust tube and the center exhaust tube. Refer to [EX-5, "Removal and Installation"](#).
10. Remove the exhaust center tube heat insulator.
11. Remove the rear brake disc rotors. Refer to [BR-35, "Removal and Installation of Brake Caliper and Rotor"](#).
12. Disconnect the LH and RH rear cables from the toggle lever. Refer to [PB-6, "Exploded View"](#).
13. Remove the LH and RH rear cable bolts and nuts, then remove the LH and RH rear cables.

## INSTALLATION

Installation is in the reverse order of removal.

- Refer to [PB-4, "Exploded View"](#) for torque specifications.
- Adjust parking brake. Refer to [PB-3, "On-Vehicle Service"](#).

**CAUTION:**

**Do not reuse adjusting nut.**

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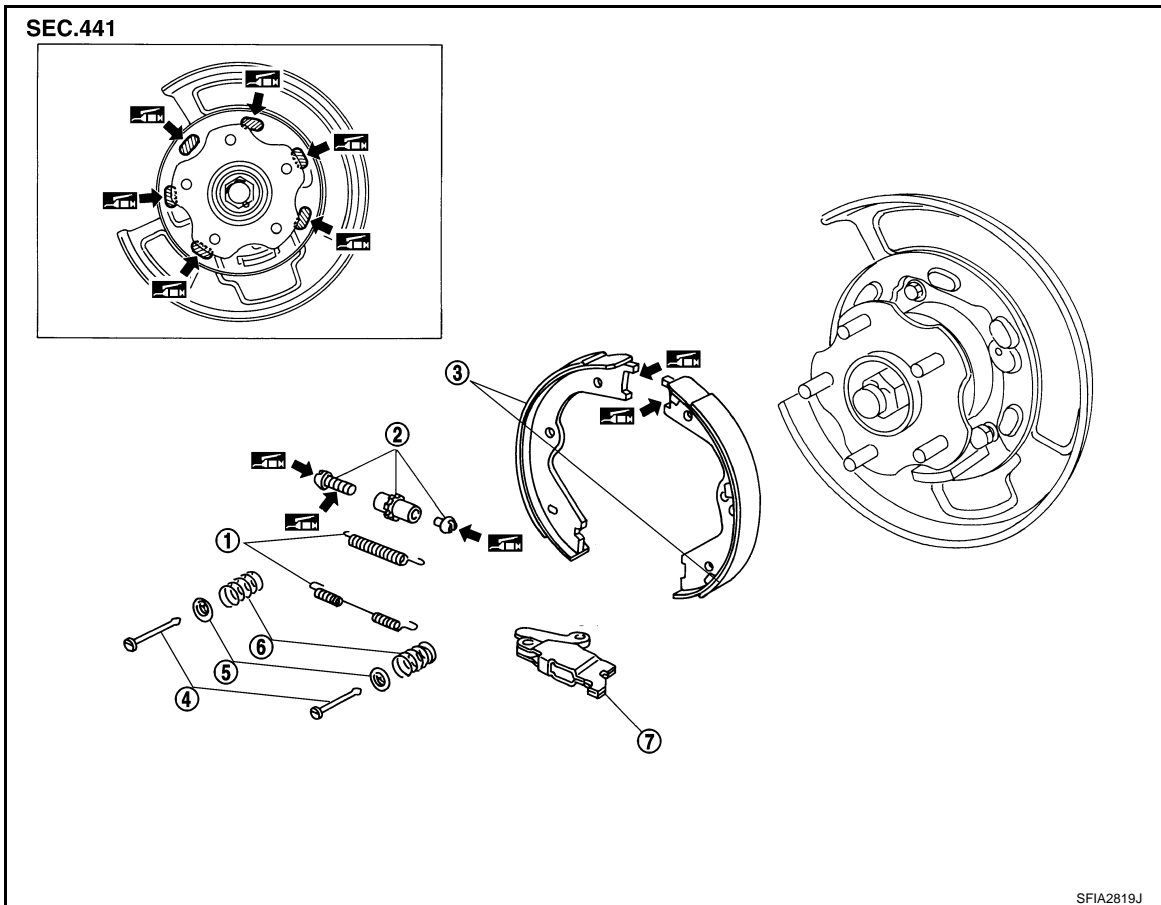
# PARKING BRAKE SHOE

< ON-VEHICLE REPAIR >

## PARKING BRAKE SHOE

Exploded View

INFOID:000000003895149



1. Return spring

2. Adjuster


3. Brake shoe

4. Anti-rattle pin

5. Retainer

6. Anti-rattle spring

7. Toggle lever

 : PBC (Poly Butyl Cuprysil) grease or silicone-based grease

## Removal and Installation

INFOID:000000003895154

### REMOVAL

#### **WARNING:**

- Clean brakes with a vacuum dust collector to minimize the hazard of air borne particles or other materials.
- Clean dust on disc rotor and back plate using a vacuum dust collector. Do not blow with compressed air.

1. Remove rear wheel and tires using power tool.
2. Remove the rear brake calipers. Refer to [BR-35, "Removal and Installation of Brake Caliper and Rotor"](#).

# PARKING BRAKE SHOE

## < ON-VEHICLE REPAIR >

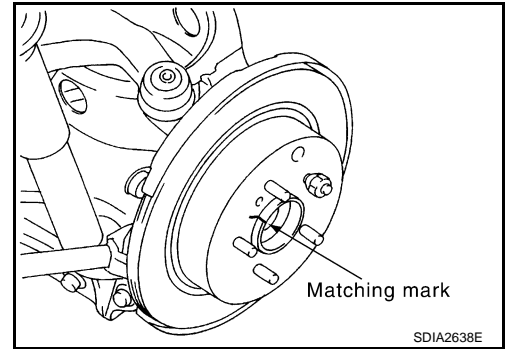
3. With the parking brake pedal in the fully released position, remove the disc rotor.

**CAUTION:**

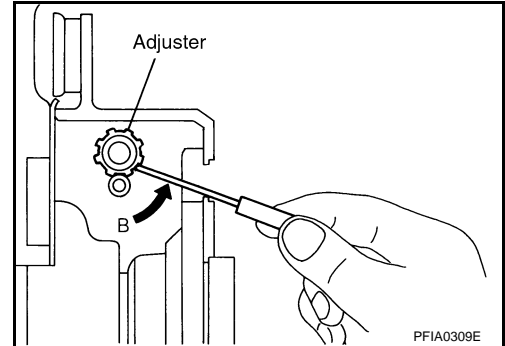
**Put matching marks on both disc rotor and wheel hub when removing disc rotor.**

If the disc rotor cannot be removed, remove as follows:

- a. Secure the disc rotor in place with wheel nuts and remove adjuster hole plug.



- b. Rotate adjuster in direction (B) to retract and loosen brake shoe, using suitable tool as shown.



4. Remove anti-rattle pins, retainers, anti-rattle springs, and return springs.
5. Remove parking brake shoes, adjuster assembly, and toggle lever.

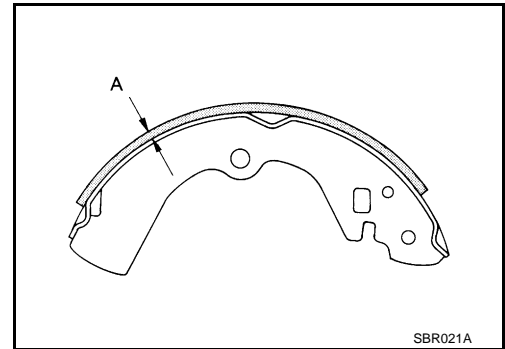
## INSPECTION AFTER REMOVAL

### Lining Thickness Inspection

- Check thickness of lining.

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

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

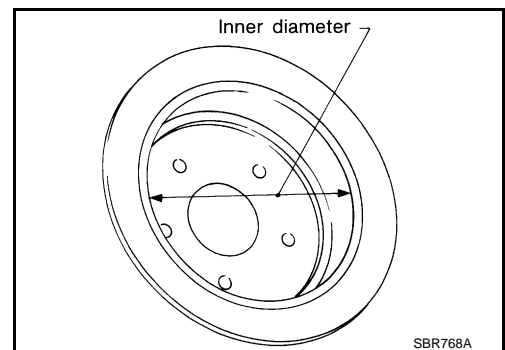


### Disc Rotor Inner Diameter Inspection

- Check inner diameter of drum (in disc).

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

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



### Other Inspections

- Check the following:
  - Lining for excessive wear, damage, and peeling.
  - Shoe sliding surface for excessive wear and damage.
  - Anti-rattle pin for excessive wear and corrosion.
  - Return spring for sagging.

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# PARKING BRAKE SHOE

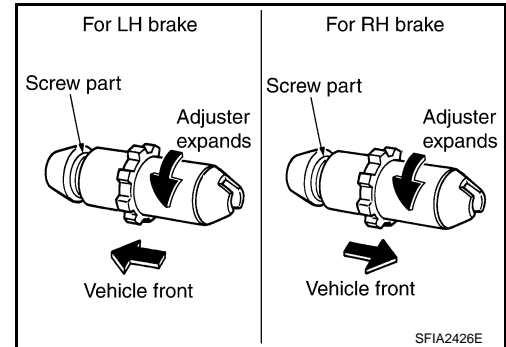
## < ON-VEHICLE REPAIR >

- Make sure that adjuster moves smoothly.
- Visually check the inside of drum for excessive wear, cracks, and damage.
- Replace with new parts as necessary.

### INSTALLATION

Installation is in the reverse order of removal.

- Refer to [PB-6, "Exploded View"](#) and apply PBC (Poly Butyl Cuprysil) grease or equivalent to the specified points during installation.
- Assemble adjusters so that threaded part is expanded when rotating it in the direction as shown.
- Shorten adjuster by rotating it the opposite as shown.



- Check parking brake shoe sliding surface and drum inner surface for grease. Wipe off all grease adhering to the friction surfaces.

### NOTE:

After replacing the parking brake shoes or disc rotors, or if the parking brake does not function properly, perform the break-in operation as follows.

1. Adjust parking brake pedal stroke to the specified amount. Refer to [PB-3, "On-Vehicle Service"](#).
2. Perform parking brake break-in (drag run) operation by driving and performing the following steps:
  - Drive forward at a constant speed of approximately 40 km/h (25 mph).
  - Apply the parking brake for approximately 10 seconds at an operating force at approximately 400 N (40 kg-f, 88 lb-f).

### CAUTION:

- **To prevent lining from getting too hot, allow 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 that the parking brake pedal stroke is at specification and adjust again as necessary. Refer to [PB-3, "On-Vehicle Service"](#).



# SERVICE DATA AND SPECIFICATIONS (SDS)

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## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Parking Brake Control

INFOID:000000003895156

Control type	Foot pedal
Pedal stroke - number of notches [under force of 196 N (20 kg-f, 44 lb-f)]	4 - 5
Pedal stroke - number of notches when parking brake warning lamp switch comes on	1

#### Parking Drum Brake

INFOID:000000003895155

Unit: mm (in)

Brake lining	Standard thickness (new)	3.2 (0.126)
	Wear limit thickness	1.5 (0.059)
Drum (in disc)	Standard inner diameter (new)	172 (6.77)
	Wear limit of inner diameter	173 (6.81)