

A  
B  
C

# SECTION **PB**

## PARKING BRAKE SYSTEM

### CONTENTS

<p><b>PRECAUTION</b> ..... 2</p> <p><b>PRECAUTIONS</b> ..... 2</p> <p style="padding-left: 20px;">Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" .....2</p> <p style="padding-left: 20px;">Precaution Necessary for Steering Wheel Rotation After Battery Disconnect .....2</p> <p><b>PREPARATION</b> ..... 4</p> <p><b>PREPARATION</b> ..... 4</p> <p style="padding-left: 20px;">Commercial Service Tool .....4</p> <p><b>PERIODIC MAINTENANCE</b> ..... 5</p> <p><b>PARKING BRAKE SYSTEM</b> ..... 5</p> <p style="padding-left: 20px;">On-Vehicle Service .....5</p>	<p><b>REMOVAL AND INSTALLATION</b> ..... 6</p> <p><b>PARKING BRAKE CONTROL</b> ..... 6</p> <p style="padding-left: 20px;">Exploded View ..... 6</p> <p style="padding-left: 20px;">Removal and Installation ..... 6</p> <p><b>PARKING BRAKE SHOE</b> ..... 8</p> <p style="padding-left: 20px;">Exploded View ..... 8</p> <p style="padding-left: 20px;">Removal and Installation ..... 8</p> <p><b>SERVICE DATA AND SPECIFICATIONS (SDS)</b> .....11</p> <p><b>SERVICE DATA AND SPECIFICATIONS (SDS)</b> .....11</p> <p style="padding-left: 20px;">Parking Drum Brake .....11</p> <p style="padding-left: 20px;">Parking Brake Control .....11</p>
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A  
B  
C  
D  
E  
**PB**  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

# PRECAUTIONS

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## PRECAUTION

### PRECAUTIONS

#### Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

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The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

#### PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

#### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

#### Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

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#### **NOTE:**

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

#### OPERATION PROCEDURE

1. Connect both battery cables.

#### **NOTE:**

Supply power using jumper cables if battery is discharged.

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

## PRECAUTIONS

### < PRECAUTION >

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5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT.

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# PREPARATION

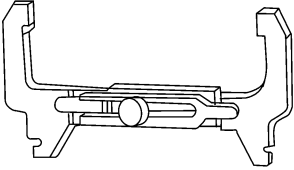

< PREPARATION >

## PREPARATION

### PREPARATION

#### Commercial Service Tool

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Tool name	Description
<p data-bbox="159 415 451 443">Brake drum clearance gauge</p>  <p data-bbox="865 636 938 646">WF1A0167E</p>	<p data-bbox="1060 415 1463 443">Measuring rear rotor drum inner diameter</p>
<p data-bbox="159 667 272 695">Power tool</p>  <p data-bbox="865 888 938 898">PIIB1407E</p>	<p data-bbox="1060 667 1393 695">Loosening nuts, screws and bolts</p>

# PARKING BRAKE SYSTEM

< PERIODIC MAINTENANCE >

## PERIODIC 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.

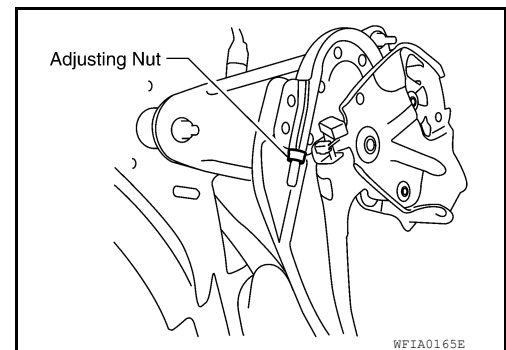
**Number of notches** : Refer to [PB-11, "Parking Brake Control"](#).

#### INSPECTION

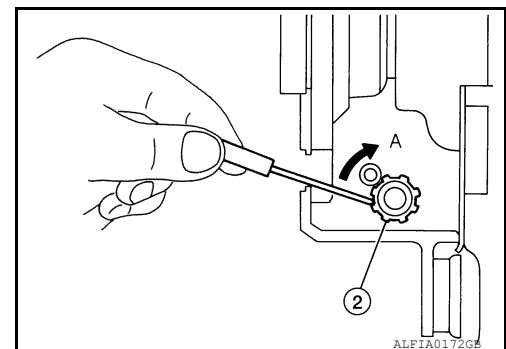
- Make sure the components are attached properly, checking for looseness or backlash.
- Check parking brake pedal assembly for bends, damage and cracks, and replace if necessary.
- Check cable for wear and damage, and replace if necessary.
- Check parking brake warning lamp switch for malfunction, and replace if necessary. Refer to [MWI-63, "Wiring Diagram"](#).

#### ADJUSTMENT

1. Remove instrument lower panel LH. Refer to [IP-15, "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 until tension is sufficiently released. Then, disengage the parking brake pedal.



4. Remove the rear wheel and tire using power tools. Refer to [WT-50, "Adjustment"](#).
5. Using wheel nuts, secure the disc to the hub to prevent it from tilting.
6. Remove the adjuster hole plug installed on the disc rotor. Turn the adjuster (1) in direction (A) using a suitable tool or flat-bladed screw driver as shown, until disc rotor is locked. Turn the adjuster in the opposite direction by 5 or 6 notches after locking.
7. Rotate disc rotor to make sure there is no drag.
8. Adjust cable as follows:
  - a. If parking brake cable was replaced, operate parking brake pedal 10 or more times with a full stroke of 232.2 mm (9.14).
  - b. Rotate the adjustment nut to adjust parking brake pedal operating force to 196 N (20.0 kg, 44.1 lb-f) under a pedal stroke within the specified number of notches.



**Number of notches** : Refer to [PB-11, "Parking Brake Control"](#).

- c. Release the parking brake pedal and rotate the disc rotors to make sure there is no drag.

# PARKING BRAKE CONTROL

< REMOVAL AND INSTALLATION >

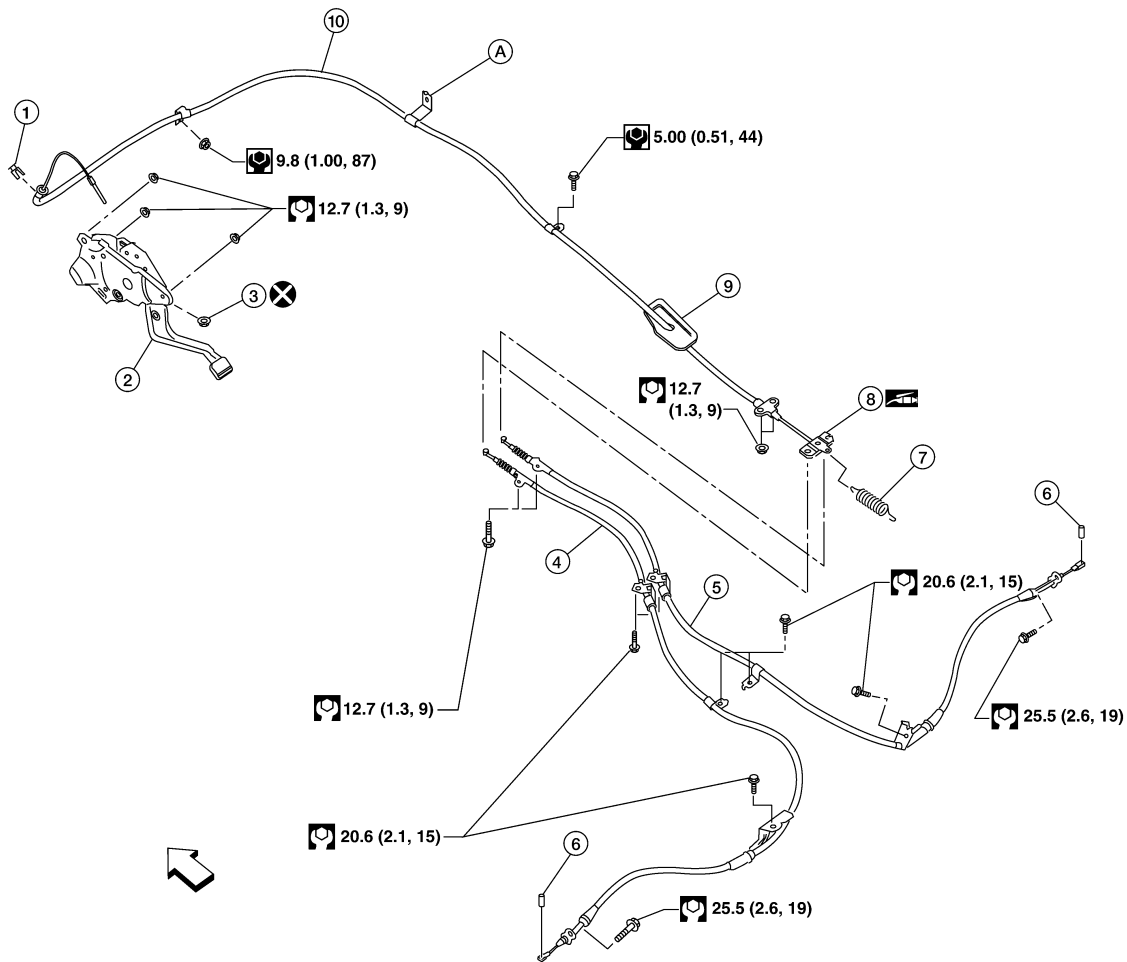
## REMOVAL AND INSTALLATION

### PARKING BRAKE CONTROL

Exploded View

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SEC. 443



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- |                    |                                     |                        |
|--------------------|-------------------------------------|------------------------|
| 1. Lock plate      | 2. Pedal assembly                   | 3. Adjusting nut       |
| 4. Left rear cable | 5. Right rear cable                 | 6. Pin                 |
| 7. Return spring   | 8. Equalizer                        | 9. Front cable grommet |
| 10. Front cable    | A. Attached to steering member stay | ↩ Front                |

### Removal and Installation

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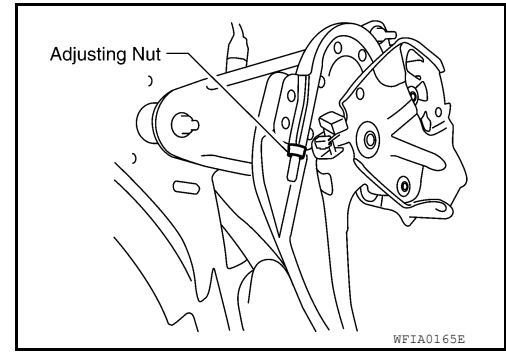
#### REMOVAL

1. Remove the instrument lower panel LH. Refer to [IP-15, "Removal and Installation"](#).
2. Remove the front carpet. Refer to [INT-21, "Removal and Installation"](#).

# PARKING BRAKE CONTROL

## < REMOVAL AND INSTALLATION >

3. Remove the console floor bracket.
4. Remove the parking brake control adjusting nut.  
**CAUTION:**  
**Do not reuse adjusting nut after removing it.**
5. Remove the lock plate from the front cable.
6. Remove the front parking brake cable bolt and nut.
7. Disconnect the return spring from equalizer.
8. Disconnect the front parking brake cable from the equalizer and remove front cable.
9. Remove the rear disc rotors. Refer to [BR-47. "Removal and Installation of Brake Caliper and Disc Rotor"](#).
10. Remove the parking brake shoes, and disconnect the rear cables from the toggle levers. Refer to [PB-8. "Removal and Installation"](#).
11. Remove the spare tire.
12. Remove the equalizer from right and left rear cables.
13. Remove the right and left rear cable bolts and nuts, then remove the right and left rear cables.



## INSTALLATION

Installation is in the reverse order of removal.

- Adjust the parking brake. Refer to [PB-5. "On-Vehicle Service"](#).

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

A  
B  
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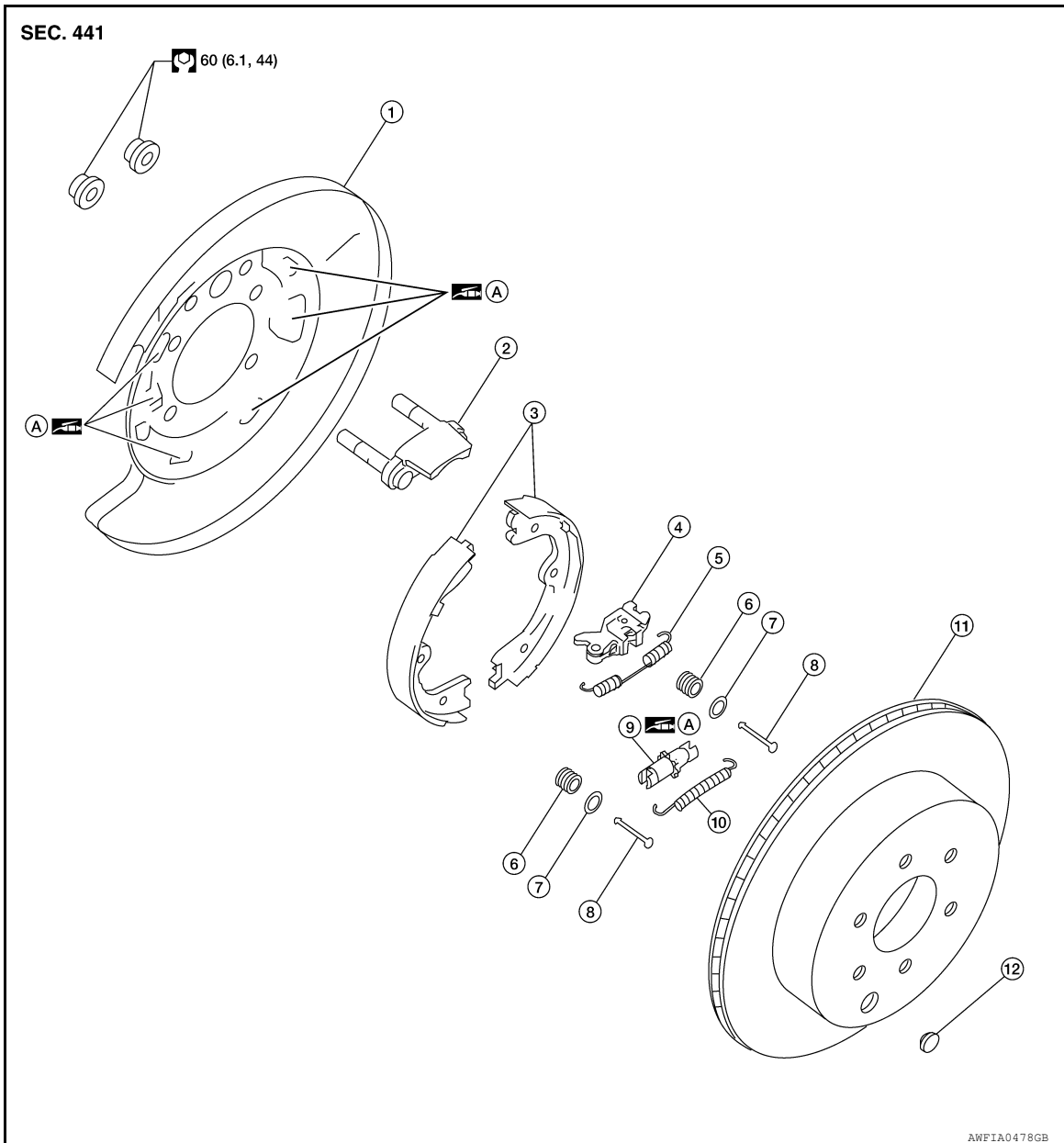
# PARKING BRAKE SHOE

< REMOVAL AND INSTALLATION >

## PARKING BRAKE SHOE

Exploded View

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|---|------------------------|--------------------------|
| 1. Back plate                                     | 2. Anchor              | 3. Shoes                 |
| 4. Toggle lever                                   | 5. Upper return spring | 6. Shoe hold-down spring |
| 7. Retainer                                       | 8. Shoe hold-down pin  | 9. Adjuster              |
| 10. Lower return spring                           | 11. Disc rotor         | 12. Adjuster access plug |
| A. PBC (Poly Butyl Cuprysil) grease or equivalent |                        |                          |

### Removal and Installation

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#### REMOVAL

#### **WARNING:**

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



# PARKING BRAKE SHOE

## < REMOVAL AND INSTALLATION >

1. Remove the rear disc rotor. Refer to [BR-47, "Removal and Installation of Brake Caliper and Disc Rotor"](#).  
**NOTE:**  
Remove the disc rotor only with the parking brake pedal completely disengaged.
2. Remove the upper and lower return springs.
3. Remove the adjuster.
4. Remove the shoe hold-down pins, retainers, shoe hold-down springs and shoes.
5. Disconnect the parking brake cable from the toggle lever.
6. Remove the anchor pin if necessary.

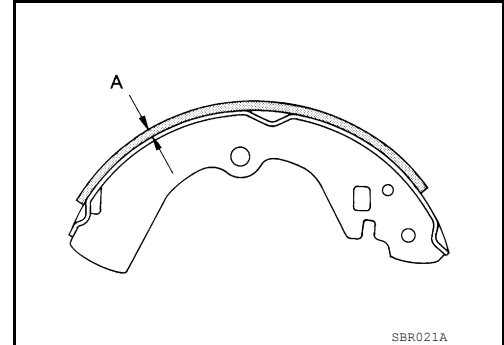
## INSPECTION AFTER REMOVAL

### Lining Thickness Inspection

- Check the thickness of the shoe lining.

**Standard thickness (A)** : Refer to [PB-11, "Parking Drum Brake"](#).

**Wear limit thickness (A)** : Refer to [PB-11, "Parking Drum Brake"](#).

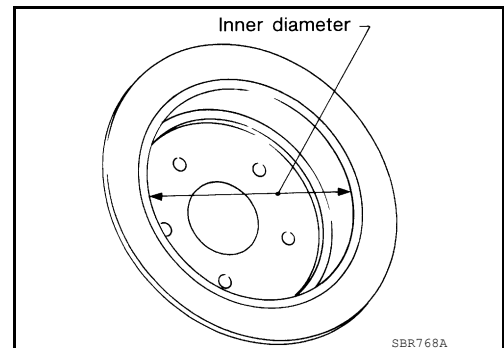


### Drum Inner Diameter Inspection

- Check the drum inner diameter.

**Standard inner diameter** : Refer to [PB-11, "Parking Drum Brake"](#).

**Wear limit of inner diameter** : Refer to [PB-11, "Parking Drum Brake"](#).



### Other Inspections

- Check the shoe sliding surface for excessive wear and damage.
- Check the shoe hold-down pins for excessive wear and corrosion.
- Check the upper and lower return springs for sagging.
- Check the adjuster for rough operation.
- When disassembling the adjuster, apply PBC (Poly Butyl Cuprysil) grease or equivalent to the adjuster threads.
- Check either visually or with a vernier caliper for any excessive wear, cracks, or damage inside the drum.

## INSTALLATION

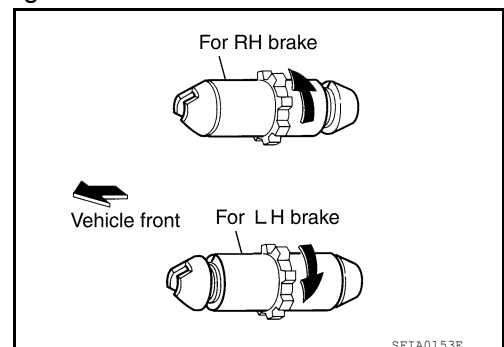
Installation is in the reverse order of removal.

- Apply specified grease to the back plate at the specified points during installation.
- Apply specified grease to adjuster, then install the adjuster so that the threaded part expands when rotating it in the direction shown by the arrow.
- Shorten adjuster by rotating it in the opposite direction.

### **NOTE:**

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

1. Adjust the parking brake pedal stroke to specification. Refer to [PB-5, "On-Vehicle Service"](#).



## PARKING BRAKE SHOE

### < REMOVAL AND INSTALLATION >

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2. Perform the parking brake break-in operation by driving the vehicle forward under the following conditions:
  - Maintain vehicle speed 40 +10, -0 km/h (25 +6, -0 MPH) moving forward.
  - Apply the parking brake pedal with an operating force of 260 +59, -0N (26.5 +6.0, -0 kg-f, 58.4 +13.3, -0 lb-f).
  - Apply the parking brake pedal for a period of 10 +5, -0 seconds before releasing.

**CAUTION:**

  - **To prevent the linings 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 the linings.**
3. After the break-in operation, check parking brake pedal stroke. Readjust as necessary if it is not within the specified stroke. Refer to [PB-5, "On-Vehicle Service"](#).

# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Parking Drum Brake

INFOID:000000007356656

Unit: mm (in)

Type		Disc rotor with inner drum
Brake lining	Standard thickness (new)	3.33 (1.31)
	Wear limit thickness	0.5 (0.020)
Drum inner diameter	Standard inner diameter (new)	190 (7.480)
	Wear limit of inner diameter	190.7 (7.508)

#### Parking Brake Control

INFOID:000000007356657

Control type	Foot pedal
Number of notches [under force of 196 N (20.0 kg-f, 44.1 lb-f)]	4 – 5 notches
Number of notches when warning lamp switch comes on	1 notch