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SECTION

PB

PARKING BRAKE SYSTEM

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# PREPARATION

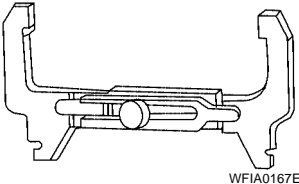
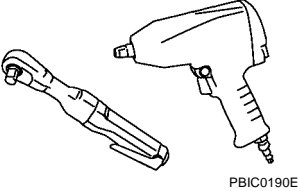
## PREPARATION

PFP:00002

### Commercial Service Tools

EFS0068I

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

| Tool number<br>(Kent-Moore No.)<br>Tool name   |   | Description  |
|--|---|--|
| —<br>(J-21177-A)<br>Brake drum clearance gauge |  | Measuring rear rotor drum to parking<br>brake shoe clearance |
| Power tool                                     |  | Loosening bolts and nuts                                     |

# PARKING BRAKE SYSTEM

## PARKING BRAKE SYSTEM

PFP:36010

### On-Vehicle Service PEDAL STROKE

EFS0068J

- 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.

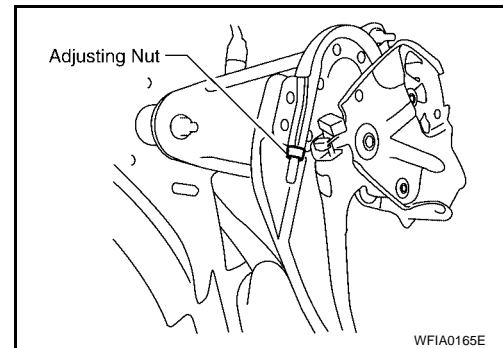
**Pedal stroke : 3 – 4 notches [under force of 196 N (20.0 kg-f, 44.1 lb-f)]**

### 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 [DI-32, "Wiring Diagram — WARN —"](#).

### ADJUSTMENT

- Remove the lower instrument panel LH. Refer to [IP-13, "INSTRUMENT LOWER COVER LH"](#).
- Partially engage parking brake pedal to access adjusting nut.
- Insert a deep socket wrench to rotate adjusting nut and loosen cable sufficiently. Then, disengage the parking brake pedal.



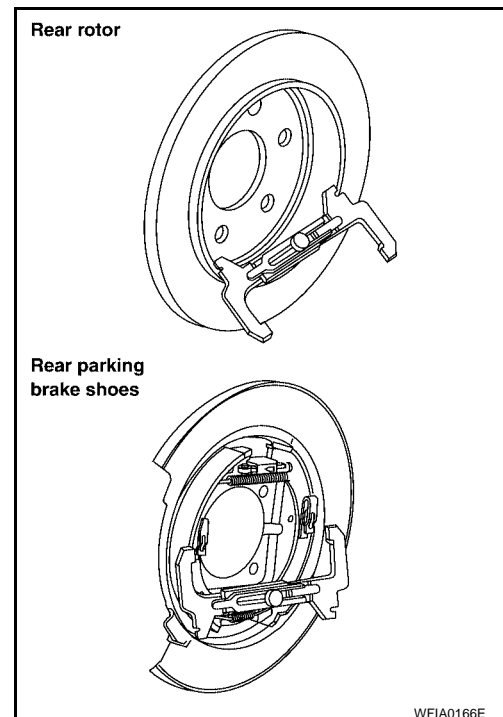
- Remove the wheel and tire using power tool.
- Remove the disc rotor and measure inner diameter at widest point using Tool.

**Tool number : — (J-21177-A)**

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

**Pedal stroke : 3 – 4 notches [under force of 196 N (20.0 kg-f, 44.1 lb-f)]**

- With parking brake pedal completely disengaged, make sure there is no drag on the parking brake.
- Install the disc rotor.
  - Install the wheel and tire using power tool.
  - Install the lower instrument panel LH. Refer to [IP-13, "INSTRUMENT LOWER COVER LH"](#).



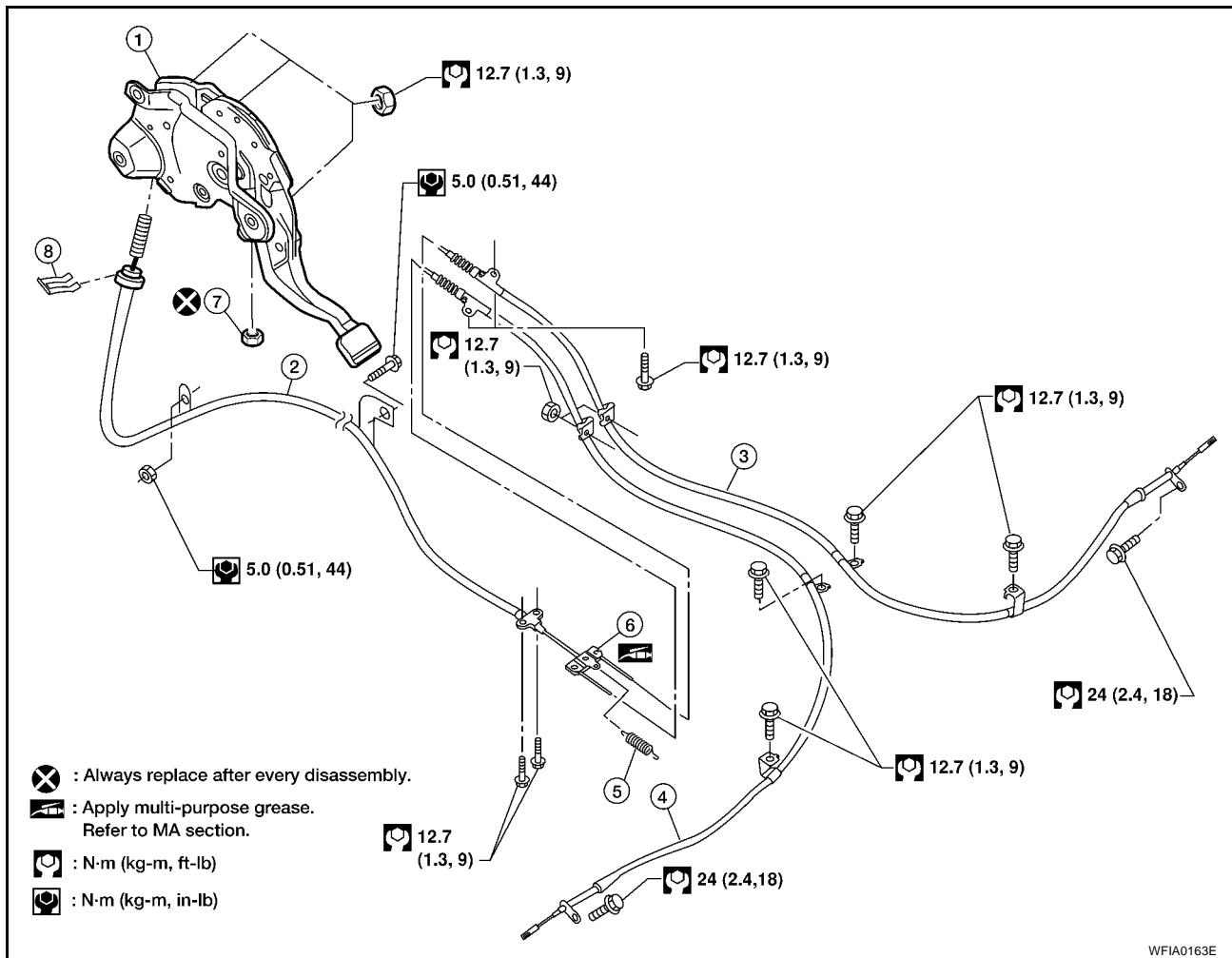
# PARKING BRAKE CONTROL

## PARKING BRAKE CONTROL

PFP:36010

### Components

EFS0068K



## Removal and Installation

EFS0068L

### REMOVAL

1. Remove the lower instrument panel LH and center console. Refer to [IP-14, "Lower Instrument Panel RH and Glove Box"](#) and [IP-16, "Center Console"](#).
2. Remove the floor trim. Refer to [EI-37, "Removal and Installation"](#).
3. Disconnect the parking brake warning lamp switch.
4. Remove the adjusting nut.  
**CAUTION:**  
**Do not reuse adjusting nut after removing it.**
5. Remove the lock plate from the front cable.
6. Remove front cable bolts and nut.
7. Disconnect return spring from equalizer.
8. Disconnect the front cable from the equalizer and remove front cable.
9. Remove the rear disc rotors. Refer to [BR-28, "Removal and Installation of Brake Caliper and Disc Rotor"](#).
10. Remove shoes, and remove left and right rear cables from toggle levers. Refer to [PB-6, "Removal and Installation"](#).
11. Remove equalizer from right and left rear cables.

## PARKING BRAKE CONTROL

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12. Remove right and left rear cable bolts and nuts, then remove right and left rear cables.

### INSTALLATION

- Installation is in the reverse order of removal.

#### **CAUTION:**

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

- Adjust parking brake. Refer to [PB-3, "ADJUSTMENT"](#) .

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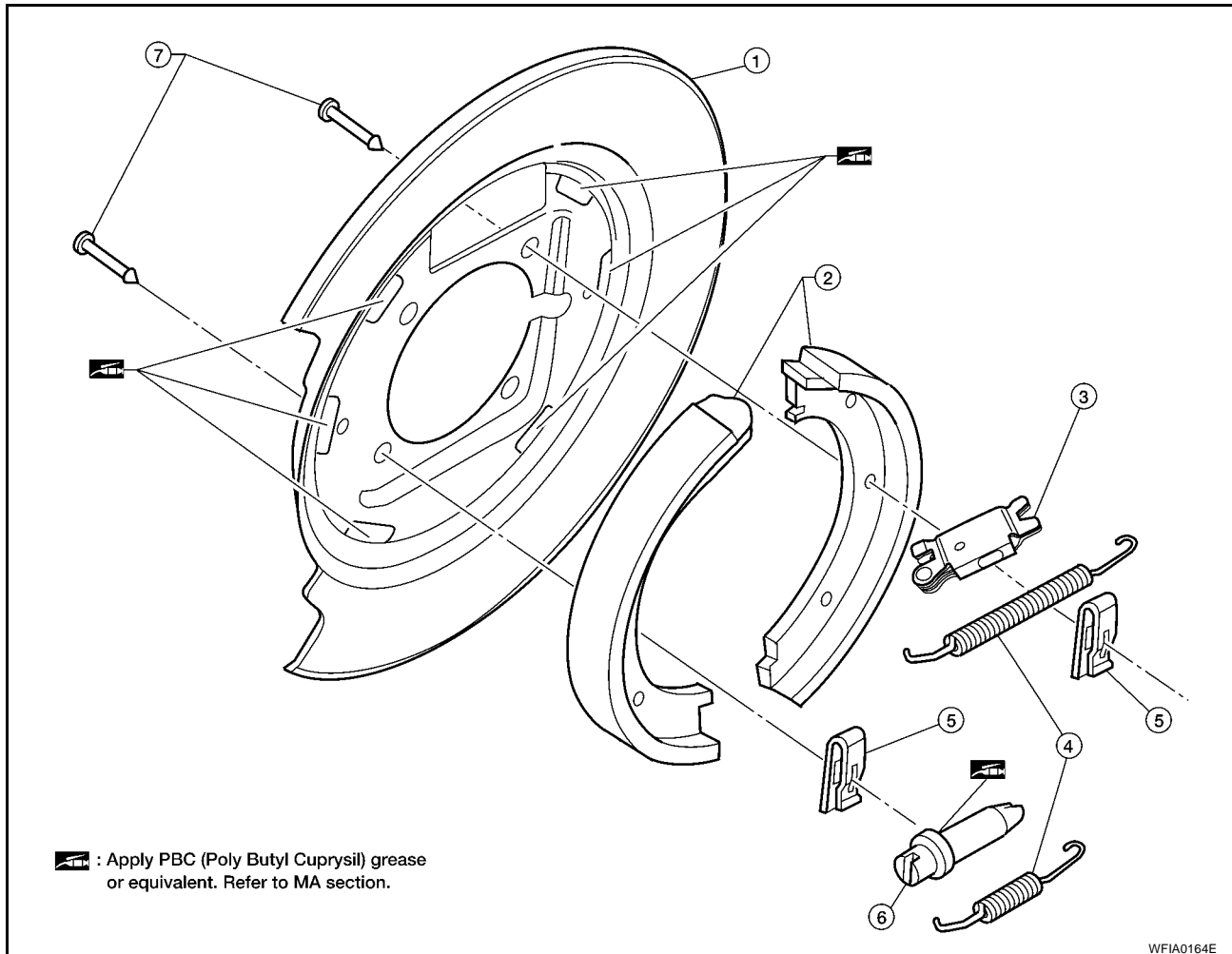
# PARKING BRAKE SHOE

PFP:44060

EFS0068M

## PARKING BRAKE SHOE

### Removal and Installation COMPONENTS



- 1. Back plate
- 4. Return springs
- 7. Anti-rattle pins

- 2. Shoes
- 5. Retainers

- 3. Toggle lever
- 6. Adjuster

### 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 disengaged.

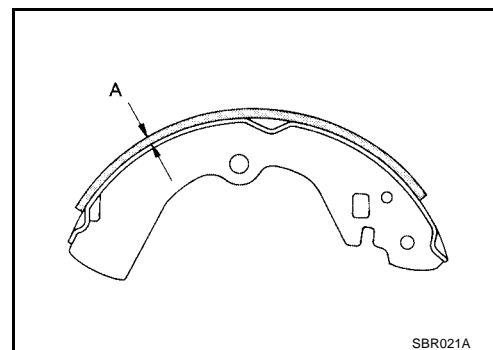
1. Remove wheel hub and bearing assembly. Refer to [FAX-5, "Removal and Installation"](#).
  - Disconnect the wheel sensor at the harness connector. It is not necessary to remove the wheel sensor from the wheel hub and bearing assembly.
2. Remove the return springs.
3. Remove the adjuster.
4. Remove the retainers, anti-rattle pins and shoes.
5. Disconnect the rear cable from the toggle lever.
6. Remove the back plate.

# PARKING BRAKE SHOE

## INSPECTION AFTER REMOVAL

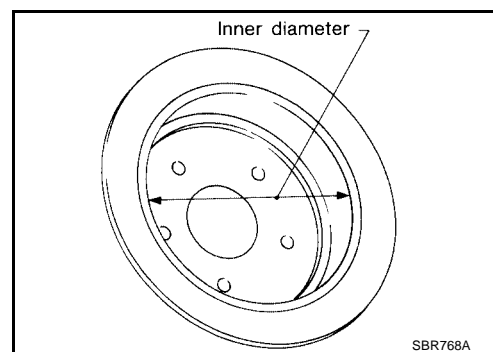
### Lining Thickness Inspection

- Check thickness of lining.
  - Standard thickness "A"** :  $5.15 \pm 0.25$  mm  
( $0.203 \pm 0.010$  in)
  - Wear limit thickness "A"** : 0.5 mm (0.020 in)



### Drum Inner Diameter Inspection

- Check drum inner diameter.
  - Standard inner diameter** :  $205 \pm 0.13$  mm  
( $8.07 \pm 0.01$  in)
  - Wear limit of inner diameter** : 205.7 mm (8.10 in)



### Other Inspections

- Check shoe sliding surface 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 adjuster threads. Refer to [MA-11, "RECOMMENDED FLUIDS AND LUBRICANTS"](#).
- Check either visually or with a vernier caliper to see if there is any excessive wear, cracks, or damage inside drum.

## INSTALLATION

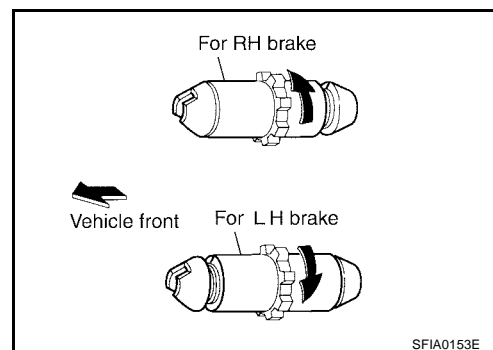
Installation is in the reverse order of removal.

- Apply brake grease to the specified points during assembly. Refer to [PB-4, "Components"](#).
- Install adjuster so that threaded part expands when rotating it in the direction shown by the arrow.
- Shorten adjuster by rotating it in the opposite direction as shown by the arrow.

### NOTE:

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

- Adjust parking brake pedal stroke. Refer to [PB-3, "ADJUSTMENT"](#).



- Perform parking brake burnishing operation by driving the vehicle forward under the following conditions:

- Vehicle speed 40 km/h (25 mph) set (forward)**
- Parking brake operating force 196 N (20.0 kg-f, 44.1 lb-f) set**
- Apply time 30 sec.**

## PARKING BRAKE SHOE

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**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 burnishing operation, check parking brake pedal stroke. Readjust if it is now longer than the specified stroke. Refer to [PB-3, "ADJUSTMENT"](#) .



## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

PFP:00030

#### Parking Drum Brake

EFS0068N

Unit: mm (in)

| Type                       |                               | Drum                                  |
|----------------------------|-------------------------------|---------------------------------------|
| Brake lining               | Standard thickness (new)      | $5.15 \pm 0.25$ ( $0.203 \pm 0.010$ ) |
|                            | Wear limit thickness          | 0.5 (0.020)                           |
| Drum inner diameter (disc) | Standard inner diameter (new) | $205 \pm 0.13$ ( $8.07 \pm 0.01$ )    |
|                            | Wear limit of inner diameter  | 205.7 (8.10)                          |

#### Parking Brake Control

EFS0068O

|   |               |
|---|---------------|
| 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 parking brake warning lamp switch comes on | 1 notch       |

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## SERVICE DATA AND SPECIFICATIONS (SDS)

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