

SECTION

PB

PARKING BRAKE SYSTEM

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PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

Precautions for Removing Battery Terminal

INFOID:0000000011710423

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

NOTE:

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

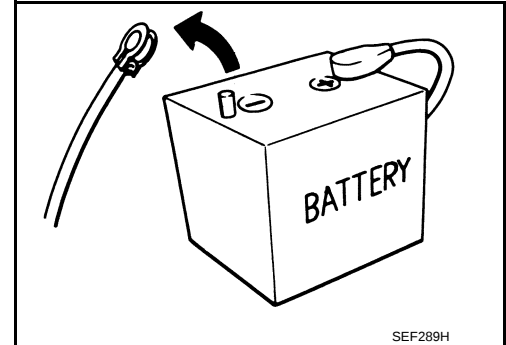
NOTE:

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

NOTE:

The removal of 12V battery may cause a DTC detection error.



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PREPARATION

< PREPARATION >

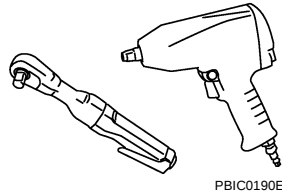
PREPARATION

PREPARATION

Commercial Service Tool

INFOID:0000000011460955

Tool name	Description
Power tool	Loosening bolts and nuts



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PARKING BRAKE SYSTEM

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

PARKING BRAKE SYSTEM

Inspection and Adjustment

INFOID:000000011460956

INSPECTION

Lever Stroke

1. Operate the parking brake lever with a force of 196 N (20 kg, 44 lb). Check that the lever stroke is within the specified number of notches. (Check it by listening to the clicks of the ratchet.)

Number of notches : Refer to [PB-13, "Parking Brake Control"](#).

2. When brake warning lamp turns ON, check that the lever stroke is within the specified number of notches. (Check it by listening to the clicks of the ratchet.)

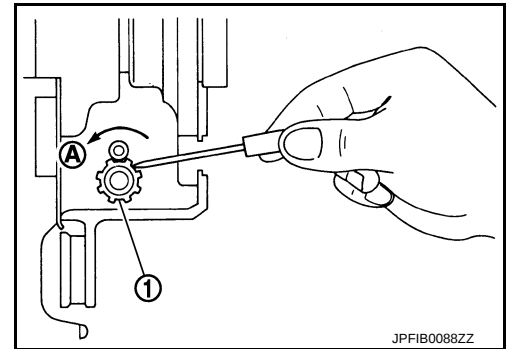
Number of notches : Refer to [PB-13, "Parking Brake Control"](#).

Inspect Components

- Check each component for installation condition such as looseness.
- Check the parking brake lever assembly for bend, damage and cracks. Replace if necessary.
- Check the cables and equalizer for wear, damage and cracks. Replace if necessary.
- Check the parking brake switch, and replace it if necessary. Refer to [BRC-103, "Component Inspection"](#).

ADJUSTMENT

1. Remove rear tires with power tool.
2. Fix the disc rotor using wheel nut.
3. Remove the console mask. Refer to [IP-24, "Removal and Installation"](#).
4. Remove the adjusting hole plug from the disc rotor. Turn the adjuster (1) in the direction (A) as shown in the figure using a suitable tool until the disc rotor is locked.
5. Turn back the adjuster 7 notches from the locked position.
6. Rotate the disc rotor to check that there is no drag. Install the adjuster hole plug. Refer to [PB-11, "Inspection and Adjustment"](#).



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7. Adjust the cable with the following procedure.
 - a. Operate and maintain the parking brake lever with a force of 400 N (41 kg, 90 lb) for 15 minutes or more.
 - b. Adjust the parking brake lever stroke by turning the adjusting nut (1) with a socket wrench.

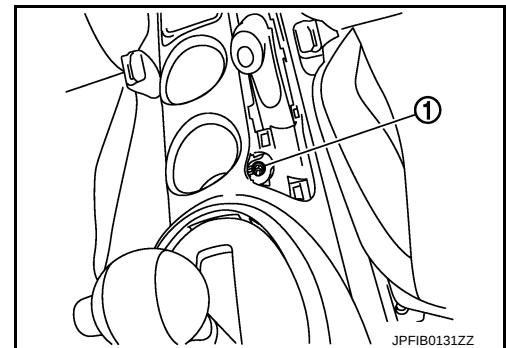
CAUTION:

Make sure to securely depress the brake pedal.

- c. Operate the parking brake lever with a force of 196 N (20 kg, 44lb). Check that the lever stroke is within the specified number of notches. (Check it by listening to the clicks of the ratchet.)

Number of notches : Refer to [PB-13, "Parking Brake Control"](#).

- d. Rotate the disc rotor to check that there is no drag. Refer to [PB-11, "Inspection and Adjustment"](#).



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PARKING BRAKE SHOE

< PERIODIC MAINTENANCE >

PARKING BRAKE SHOE

Adjustment

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1. Adjust parking brake lever stroke. Refer to [PB-4, "Inspection and Adjustment"](#).
2. Perform parking brake break-in (drag on) operation by driving vehicle under the following conditions:
 - Drive forward
 - Vehicle speed: Approx. 43 km/h (27 MPH) set (constant and forward)
 - Parking brake operating force: 125 N (12.8 kg, 28.1 lb) set contact
 - Time: Approx. 8 sec.

CAUTION:
To prevent lining from getting too hot, allow a cool off period of approximately 5 minutes after every break-in operation.
3. After the break-in procedure, check parking brake lever stroke of parking brake.

CAUTION:
If it is out of the specification, adjust again. Refer to [PB-4, "Inspection and Adjustment"](#).

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PARKING BRAKE CONTROL

< REMOVAL AND INSTALLATION >

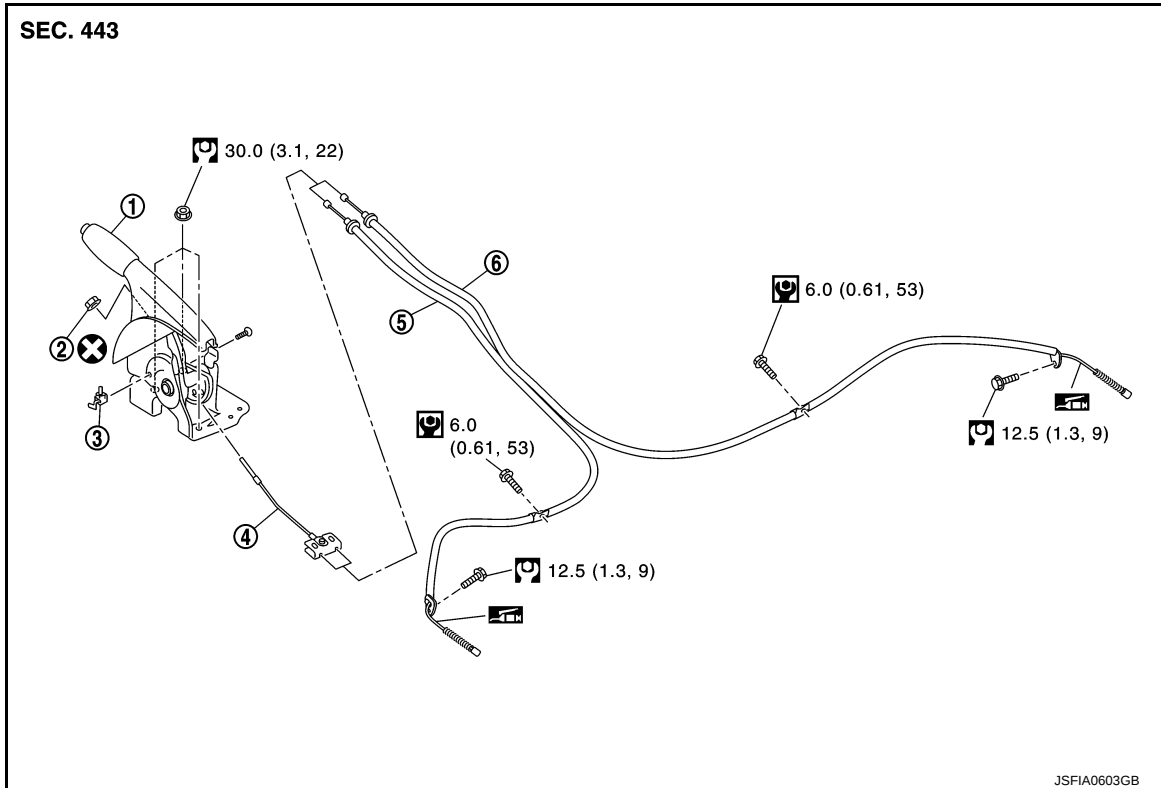
REMOVAL AND INSTALLATION

PARKING BRAKE CONTROL

Exploded View

INFOID:000000011460958

2WD



1. Parking brake lever assembly

2. Adjusting nut

3. Parking brake switch

4. Front cable

5. Rear cable (LH)

6. Rear cable (RH)

Apply multi-purpose grease.

: N·m (kg-m, ft-lb)

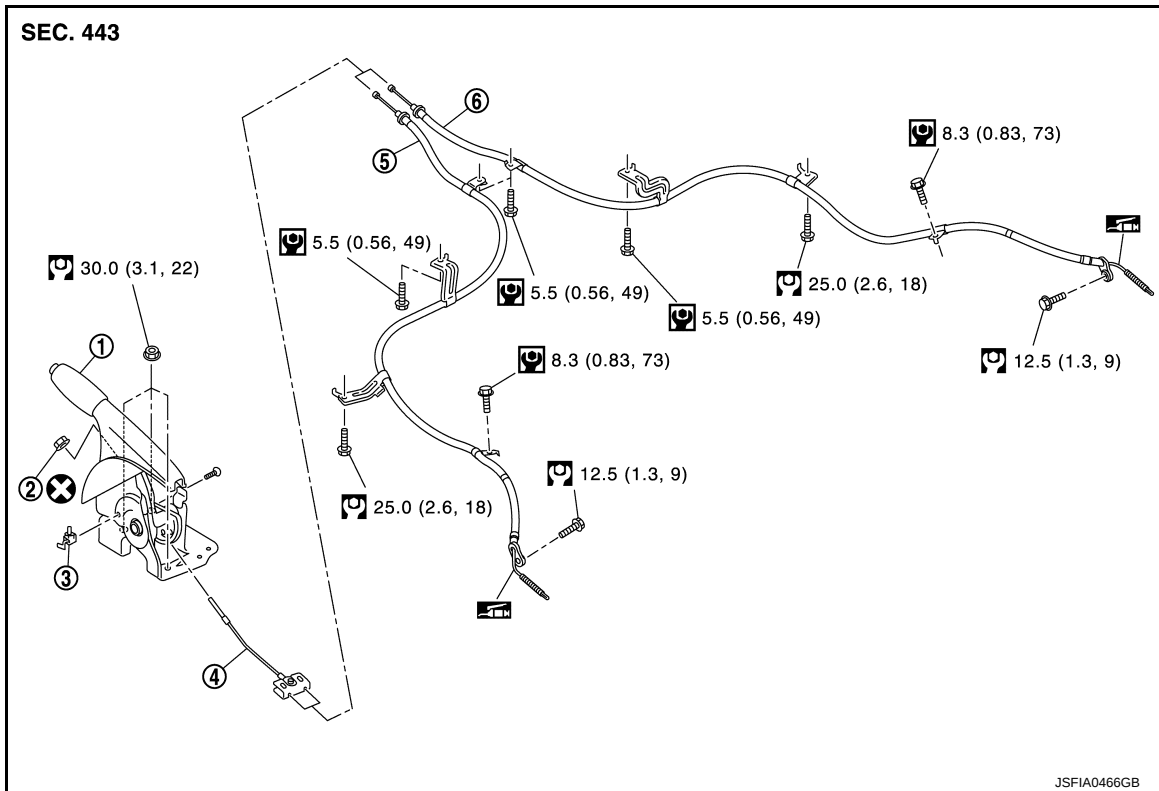
: N·m (kg-m, in-lb)

: Always replace after every disassembly.

AWD

PARKING BRAKE CONTROL

< REMOVAL AND INSTALLATION >



1. Parking brake lever assembly

2. Adjusting nut

3. Parking brake switch

4. Front cable

5. Rear cable (LH)

6. Rear cable (RH)

: Apply multi-purpose grease.

: N·m (kg-m, ft-lb)

: N·m (kg-m, in-lb)

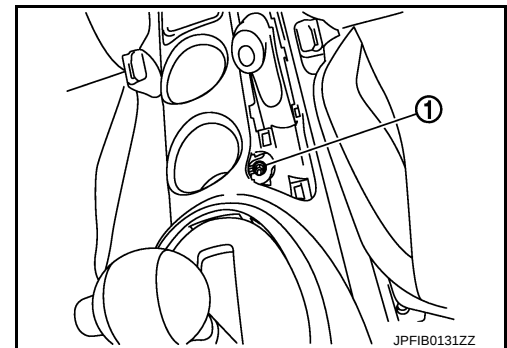
: Always replace after every disassembly.

Removal and Installation

INFOID:0000000011460959

REMOVAL

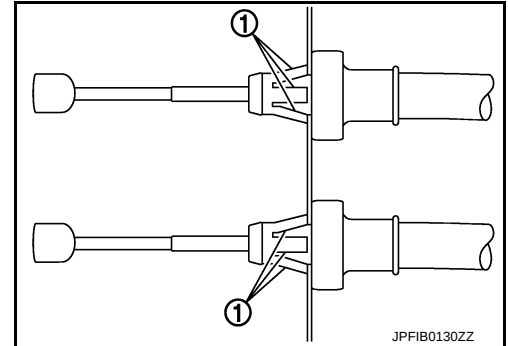
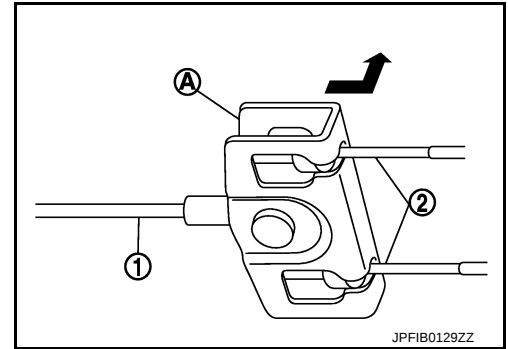
1. Remove rear tires with power tool.
2. Remove the center console assembly. Refer to [IP-24, "Removal and Installation"](#).
3. Disconnect the parking brake switch harness connector.
4. Remove adjusting nut (1) and loosen front cable.
5. Remove the parking brake lever assembly.



PARKING BRAKE CONTROL

< REMOVAL AND INSTALLATION >

6. Remove rear cable with the following procedure.
 - a. Pull equalizer (A) of the front cable (1) in a rearward direction.
 - b. Push the equalizer upward to remove the rear cable (2).
7. Remove center muffler and heat plate. Refer to [EX-10, "Removal and Installation"](#).
8. Remove brake shoe, and remove rear cable from toggle lever. Refer to [PB-9, "Exploded View"](#).
9. Remove rear cable mounting bolts, pull out rear cable from vehicle.
10. Press the pawl (1) to remove the rear cable from the vehicle.



INSTALLATION

Note the following, install in the reverse order of the removal.

- Never reuse adjusting nut.
- Perform adjustment after installation. Refer to [PB-4, "Inspection and Adjustment"](#).

Adjustment

INFOID:000000011460960

ADJUSTMENT AFTER INSTALLATION

Adjust the parking brake lever stroke. Refer to [PB-4, "Inspection and Adjustment"](#).

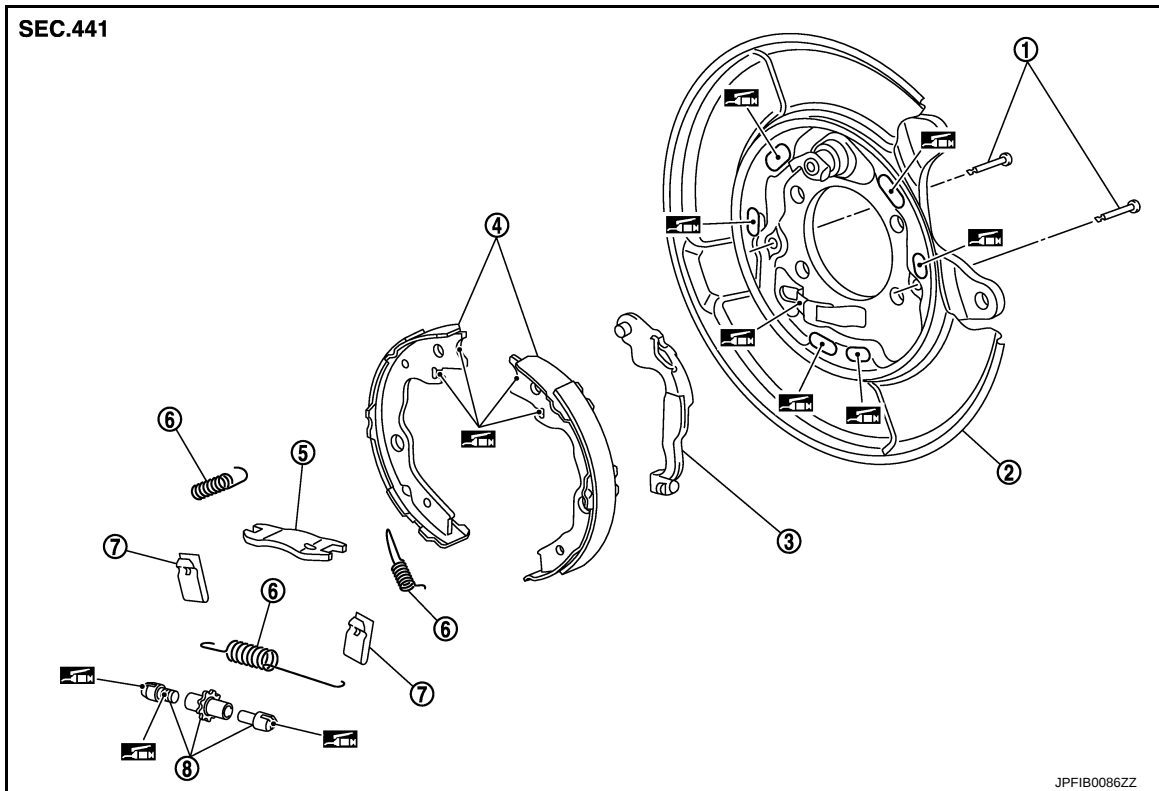
PARKING BRAKE SHOE

< REMOVAL AND INSTALLATION >

PARKING BRAKE SHOE

Exploded View

INFOID:0000000011460961



- | | | |
|-----------------------|----------------|------------------|
| 1. Anti-rattle pin | 2. Back plate | 3. Toggle lever |
| 4. Parking brake shoe | 5. Brake strut | 6. Return spring |
| 7. Spring | 8. Adjuster | |

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

Removal and Installation

INFOID:0000000011460962

REMOVAL

WARNING:

Since dust covering the parking brake has an affect on human body, the dust must be removed with a dust collector. Never splatter the dust with an air blow gun.

1. Remove rear tires with power tool.
2. Remove disc rotor.
 - 2WD: Refer to [RAX-7, "Removal and Installation"](#).
 - AWD: Refer to [RAX-16, "Removal and Installation"](#).

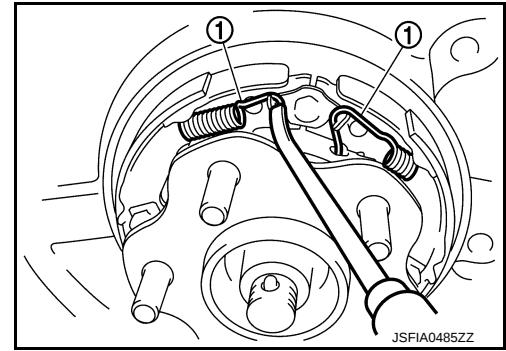
CAUTION:

Parking brake completely in the released position.

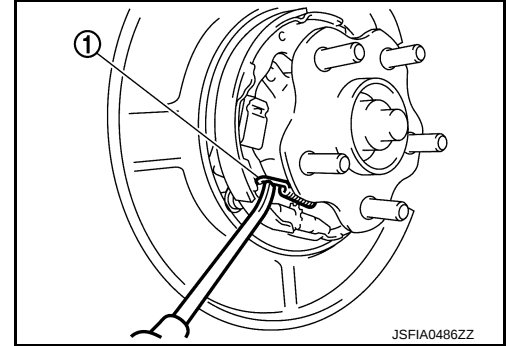
PARKING BRAKE SHOE

< REMOVAL AND INSTALLATION >

3. Remove return spring (1) of the upper side.



4. Remove return spring (1) of the lower side.



5. Remove spring (1).

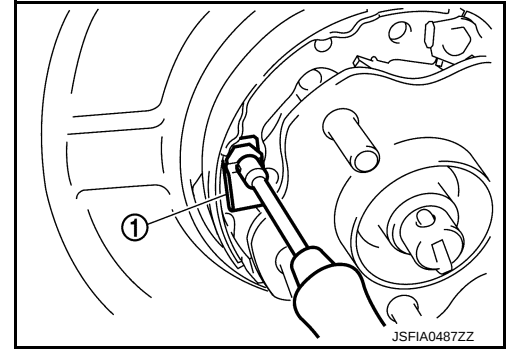
CAUTION:

Never drop the removed parts.

6. Remove parking brake shoes, adjuster, brake strut and toggle lever.

CAUTION:

- The parking brake shoes for the front wheels are made of different materials from those for the rear wheels. Never misidentify them when removing.
- Never drop the removed parts.



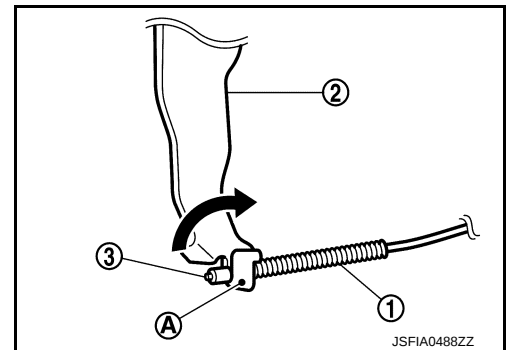
7. Press the rear cable spring (1) against spring tension to remove rear cable (3) from the clamp (A) of toggle lever (2).

CAUTION:

Never bend rear cable.

8. For the removal of back plate.

- 2WD: Refer to [RAX-7, "Removal and Installation"](#).
- AWD: Refer to [RAX-16, "Removal and Installation"](#).



INSTALLATION

Note the following, install in the reverse order of removal.

- Apply PBC (Poly Butyl Cuprysil) grease or silicone-based grease to the back plate and brake shoe.

CAUTION:

The parking brake shoes for the front wheels are made of different materials from those for the rear wheels. Never misidentify them when removing and replacing.

PARKING BRAKE SHOE

< REMOVAL AND INSTALLATION >

- Assemble adjusters so that threaded part is expanded when rotating it in the direction shown by arrow.

A : For right side brake

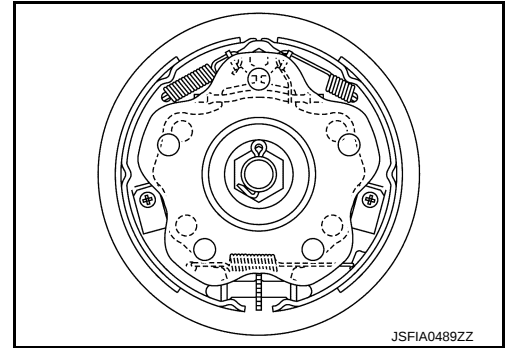
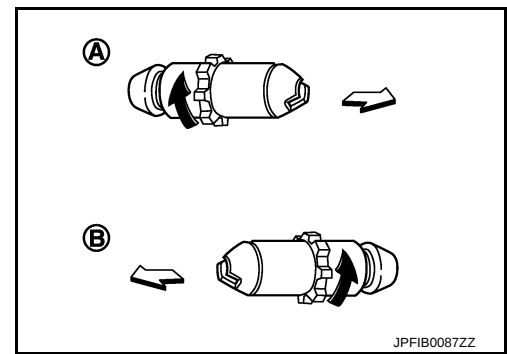
B : For left side brake

↔: Vehicle front

←: Adjuster expands

- Shorten adjuster by rotating it.
- When disassembling apply PBC (Poly Butyl Cuprysil) grease or silicone-based grease to threads.

- Check that the component parts of the parking brake shoe are properly installed.
- Check brake shoe sliding surface and drum inner surface for grease. Wipe it off if it adhere on the surfaces.



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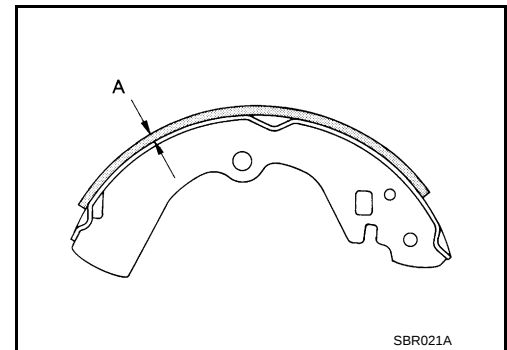
Inspection and Adjustment

INSPECTION AFTER REMOVAL

Lining Thickness Inspection

- Check thickness (A) of lining.

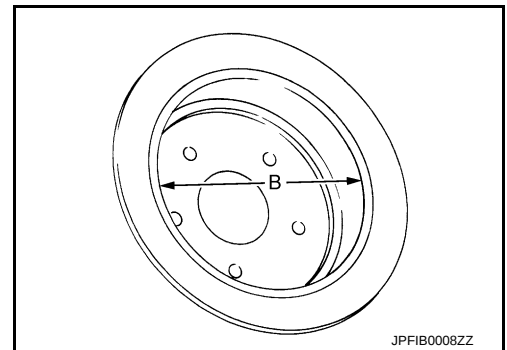
A : Refer to [PB-13, "Parking Drum Brake"](#).



Drum Inner Diameter Inspection

- Check inner diameter (B) of drum.

B : Refer to [PB-13, "Parking Drum Brake"](#).



Other Inspections

Check the following items, and replace the parts if necessary.

- Lining for excessive wear, damage, and peeling.
- Brake shoe sliding surface for excessive wear and damage.
- Anti-rattle pin for excessive wear, damage and rust.
- Return spring and spring for settling, excessive wear, damage, and rust.

PARKING BRAKE SHOE

< REMOVAL AND INSTALLATION >

- Adjuster for smoothness.
- Toggle lever and brake strut for excessive wear, damage and rust.
- Visually check inside of the drum for excessive wear, cracks, and damage with a pair of vernier calipers.

ADJUSTMENT AFTER INSTALLATION

1. Adjust the parking brake lever stroke. Refer to [PB-4, "Inspection and Adjustment"](#).
2. Rotate the disc rotor to check that there is no drag. Install the plug. If any drag is found, follow the procedure described below.
 - a. Adjust parking brake stroke again.
 - b. Check rear disc brake. Refer to [BR-67, "BRAKE CALIPER ASSEMBLY : Inspection"](#).
3. Adjust the parking brake shoe. Refer to [PB-5, "Adjustment"](#).

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Parking Drum Brake

INFOID:0000000011460964

Unit: mm (in)

Item	Limit
Brake lining	1.5 (0.059)
Drum (disc of inner diameter)	173 (6.81)

Parking Brake Control

INFOID:0000000011460965

Item	Standard
Number of notches [under force of 196 N (20 kg, 44 lb)]	9 – 10 notches
Number of notches when brake warning lamp turns ON	1 notch