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SECTION **PB**

PARKING BRAKE SYSTEM

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PREPARATION

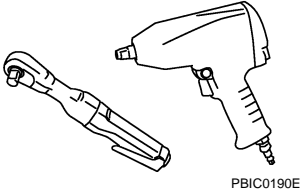
< PREPARATION >

PREPARATION

PREPARATION

Commercial Service Tool

INFOID:000000005656091

Tool name	Description
Power tool  PBIC0190E	Loosening bolts and nuts

PARKING BRAKE SYSTEM

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

PARKING BRAKE SYSTEM

PEDAL TYPE

PEDAL TYPE : Inspection and Adjustment

INFOID:000000005656092

INSPECTION

Pedal Stroke

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

Standard

Number of notches : Refer to [PB-12, "Parking Brake Control"](#)

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

Standard

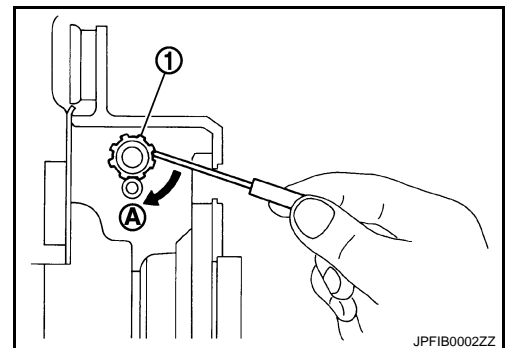
Number of notches : Refer to [PB-12, "Parking Brake Control"](#)

Inspect Components

- Check each component for installation condition such as looseness.
- Check the device 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-71, "Component Inspection"](#).

ADJUSTMENT

1. Fix the disc rotor using wheel nuts.
2. Release the parking brake pedal by turning the adjusting nut with a deep socket wrench and loosening the cable.
3. 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.
4. Turn back the adjuster 5 or 6 notches from the locked position.
5. Rotate the disc rotor to check that there is no drag. Install the adjusting hole plug.
6. Adjust the cable with the following procedure.
 - a. Operate the parking brake pedal with a force of 490 N (50 kg, 110 lb) for 10 strokes or more.
 - b. Adjust the parking brake pedal stroke by turning the adjusting nut with a deep socket wrench.



CAUTION:

Never reuse the adjusting nut if the nut is removed.

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

Standard

Number of notches : Refer to [PB-12, "Parking Brake Control"](#)

- d. Rotate the disc rotor with the parking brake pedal released and check that there is no drag. Refer to [PB-10, "Inspection and Adjustment"](#).

LEVER TYPE

PARKING BRAKE SYSTEM

< PERIODIC MAINTENANCE >

LEVER TYPE : Inspection and Adjustment

INFOID:000000005656093

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 clicks of ratchet.)

Standard

Number of notches : Refer to [PB-12, "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 clicks of ratchet.)

Standard

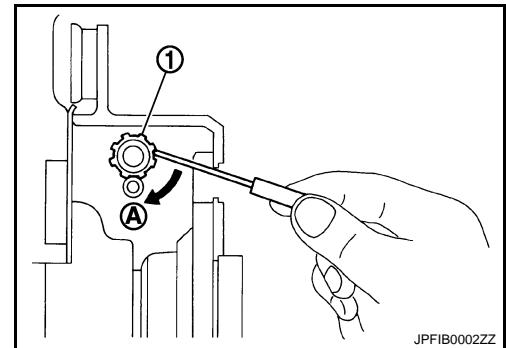
Number of notches : Refer to [PB-12, "Parking Brake Control"](#)

Inspect Components

- Check each component for installation condition such as looseness.
- Check the device 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-71, "Component Inspection"](#).

ADJUSTMENT

1. Fix the disc rotor using wheel nuts.
2. Release the parking brake lever by turning the adjusting nut with a deep socket wrench and loosening the cable.
3. 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.
4. Turn back the adjuster 5 or 6 notches from the locked position.
5. Rotate the disc rotor to check that there is no drag. Install the adjusting hole plug.
6. Adjust the cable with the following procedure.
 - a. Operate the parking brake lever with a force of 294 N (30 kg, 66 lb) for 10 strokes or more.
 - b. Adjust the parking brake lever stroke by turning the adjusting nut with a deep socket wrench.



CAUTION:

Never reuse the adjusting nut if the nut is removed.

- c. 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 clicks of ratchet.)

Standard

Number of notches : Refer to [PB-12, "Parking Brake Control"](#)

- d. Rotate the disc rotor with the parking brake lever released and check that there is no drag. Refer to [PB-10, "Inspection and Adjustment"](#).

PARKING BRAKE SHOE

< PERIODIC MAINTENANCE >

PARKING BRAKE SHOE

Adjustment

INFOID:000000005656094

1. Adjust parking brake pedal (pedal type) or parking brake lever (lever type) stroke. Refer to [PB-3. "PEDAL TYPE : Inspection and Adjustment"](#) (pedal type), [PB-4. "LEVER TYPE : Inspection and Adjustment"](#) (lever type).
2. Perform parking brake break-in (drag on) operation by driving vehicle under the following conditions:
 - Drive forward
 - Vehicle speed: Approx. 30 km/h (19 MPH) set (constant and forward)
 - Parking brake operating force: 318.5 N (32.5 kg, 71.6 lb) set contact
 - Time: Approx. 35 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 pedal (pedal type) or parking brake lever (lever type) stroke of parking brake.

CAUTION:

If it is out of the specification, adjust again. Refer to [PB-3. "PEDAL TYPE : Inspection and Adjustment"](#) (pedal type), [PB-4. "LEVER TYPE : Inspection and Adjustment"](#) (lever type).

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PARKING BRAKE CONTROL

< REMOVAL AND INSTALLATION >

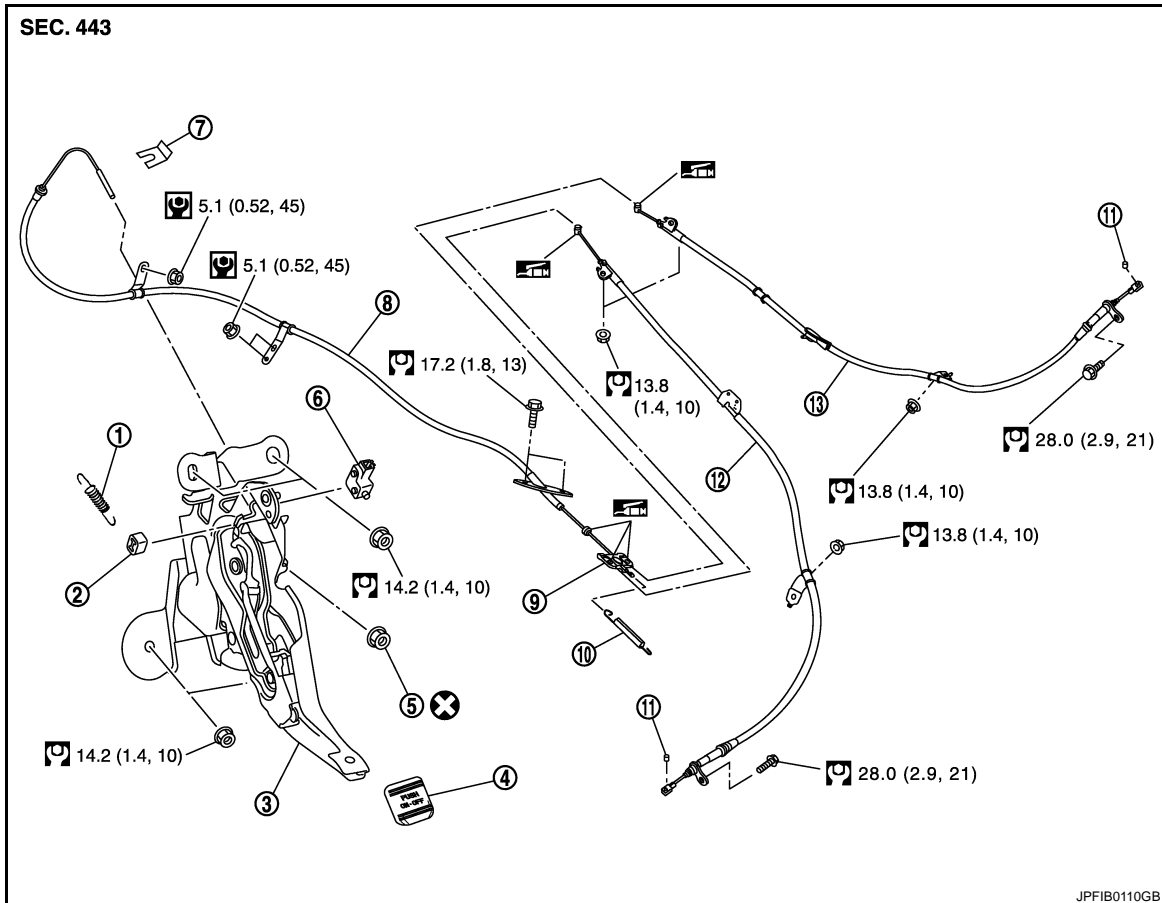
REMOVAL AND INSTALLATION

PARKING BRAKE CONTROL

PEDAL TYPE

PEDAL TYPE : Exploded View

INFOID:000000005656095



- | | | |
|-----------------------------|-------------------|----------------------------|
| 1. Return spring | 2. Stopper rubber | 3. Device assembly |
| 4. Pedal pad | 5. Adjusting nut | 6. Parking brake switch |
| 7. Lock plate | 8. Front cable | 9. Equalizer |
| 10. Spring | 11. Pin | 12. Rear cable (left side) |
| 13. Rear cable (right side) | | |

 Apply multi-purpose grease.

Refer to [GI-4. "Components"](#) for symbols not described on the above.

PEDAL TYPE : Removal and Installation

INFOID:000000005656096

REMOVAL

1. Remove rear tires.
2. Remove instrument lower panel LH. Refer to [IP-12. "A/T MODELS : Exploded View"](#).
3. Disconnect parking brake switch harness connector.
4. Remove adjusting nut and loosen front cable.
5. Remove device assembly.
6. Remove center console. Refer to [IP-33. "A/T MODELS : Exploded View"](#).
7. Remove the center muffler and heat insulator. Refer to [EX-5. "Exploded View"](#).

PARKING BRAKE CONTROL

< REMOVAL AND INSTALLATION >

8. Separate front cable from rear cable, and remove front cable and spring.
9. Remove parking brake shoe, and remove rear cable from toggle lever. Refer to [PB-9, "Exploded View"](#).
10. Remove rear cable mounting bolts and nuts, pull out rear cable from vehicle.

INSTALLATION

Note the following, Install the reverse order of the removal.

- Never reuse the adjusting nut.

PEDAL TYPE : Adjustment

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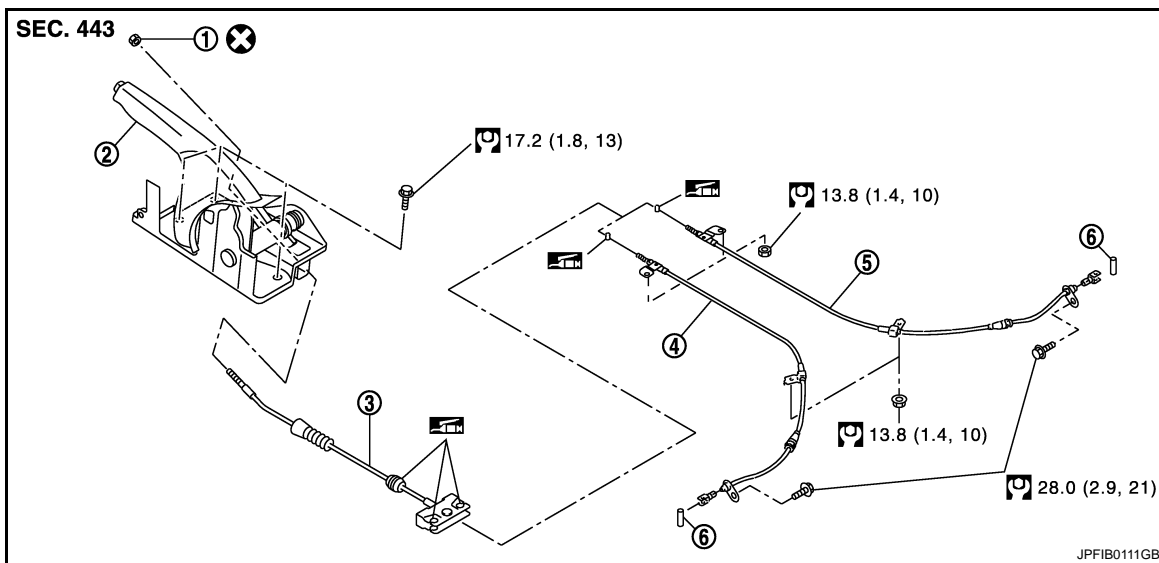
ADJUSTMENT AFTER INSTALLATION

Adjust the parking brake pedal stroke. Refer to [PB-3, "PEDAL TYPE : Inspection and Adjustment"](#).

LEVER TYPE

LEVER TYPE : Exploded View

INFOID:000000005656098



- | | | |
|---------------------------|----------------------------|----------------|
| 1. Adjusting nut | 2. Device assembly | 3. Front cable |
| 4. Rear cable (left side) | 5. Rear cable (right side) | 6. Pin |

Apply multi-purpose grease.

Refer to [GI-4, "Components"](#) for symbols not described on the above.

LEVER TYPE : Removal and Installation

INFOID:000000005656099

REMOVAL

1. Remove rear tires.
2. Remove center console. Refer to [IP-38, "M/T MODELS : Exploded View"](#).
3. Disconnect parking brake switch harness connector.
4. Remove adjusting nut and loosen front cable.
5. Remove device assembly.
6. Remove the center muffler and heat insulator. Refer to [EX-5, "Exploded View"](#).
7. Separate front cable from rear cable, and remove front cable and spring.
8. Remove parking brake shoe, and remove rear cable from toggle lever. Refer to [PB-9, "Exploded View"](#).
9. Remove rear cable mounting bolts and nuts, pull out rear cable from vehicle.

INSTALLATION

Note the following, Install the reverse order of the removal.

- Never reuse the adjusting nut.

PARKING BRAKE CONTROL

< REMOVAL AND INSTALLATION >

LEVER TYPE : Adjustment

INFOID:000000005656100

ADJUSTMENT AFTER INSTALLATION

Adjust the parking brake pedal stroke. Refer to [PB-4. "LEVER TYPE : Inspection and Adjustment"](#).

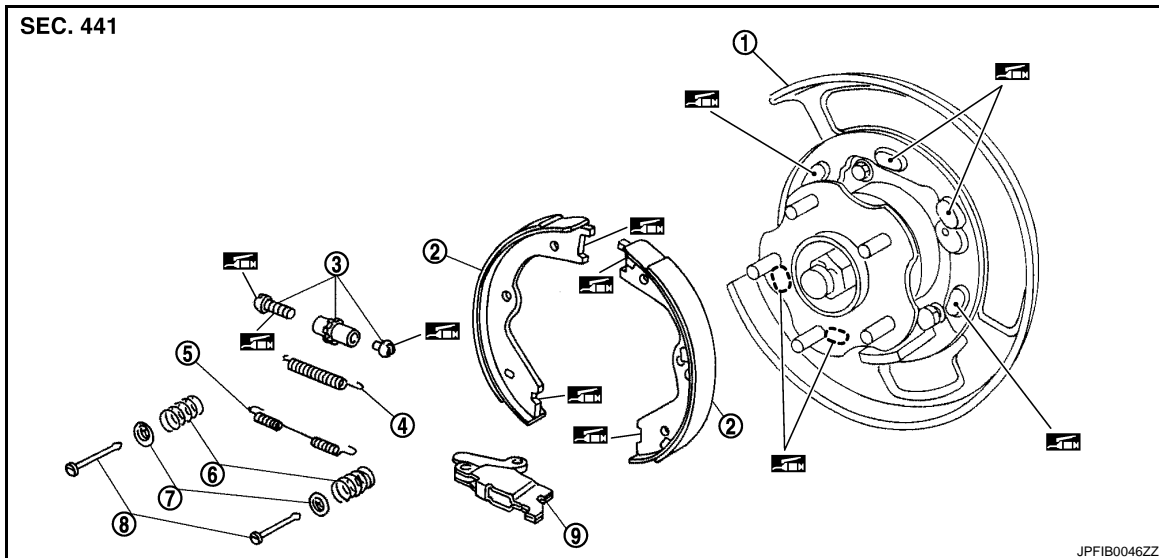
PARKING BRAKE SHOE

< REMOVAL AND INSTALLATION >


PARKING BRAKE SHOE

Exploded View

INFOID:000000005656101



- | | | |
|--------------------|-----------------------|-----------------------|
| 1. Back plate | 2. Parking brake shoe | 3. Adjuster |
| 4. Adjuster spring | 5. Return spring | 6. Anti-rattle spring |
| 7. Retainer | 8. Anti-rattle pin | 9. Toggle lever |

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

Removal and Installation

INFOID:000000005656102

REMOVAL

WARNING:

Clean any dust from the parking brake shoes and back plates with a vacuum dust collector. Never blow with compressed air.

1. Remove rear tires.
2. Remove disc rotor.
 - 1 piston (front caliper 1 piston) type: refer to [BR-65. "BRAKE CALIPER ASSEMBLY \(FRONT CALIPER 1 PISTON TYPE\) : Removal and Installation"](#).
 - 1 piston (front caliper 2 piston) type: refer to [BR-69. "BRAKE CALIPER ASSEMBLY \(FRONT CALIPER 2 PISTON TYPE\) : Removal and Installation"](#).
 - 2 piston type: refer to [BR-73. "BRAKE CALIPER ASSEMBLY \(2 PISTON TYPE\) : Removal and Installation"](#).

CAUTION:

Parking brake completely in the released position.

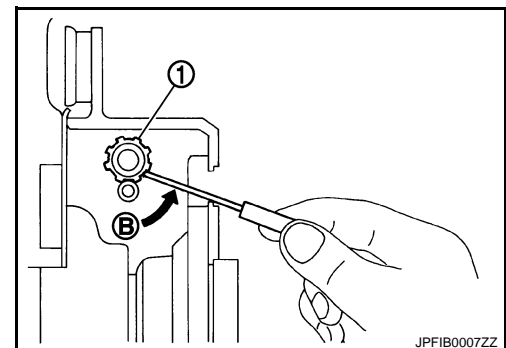
3. If disc rotor cannot be removed, remove as follows:
 - a. Fix the disc rotor with wheel nuts and remove the adjusting hole plug.
 - b. Using suitable tool, rotate adjuster (1) in the direction (B) to retract and loosen brake shoe.
4. Remove anti-rattle pins, retainers, anti-rattle springs, and return spring, adjuster spring.

CAUTION:

Never drop the removed parts.

5. Remove parking brake shoes, adjuster assembly, and toggle lever.

CAUTION:



PARKING BRAKE SHOE

< REMOVAL AND INSTALLATION >

- 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.

6. For the removal of back plate, refer to [RAX-7, "Exploded View"](#).

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.

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

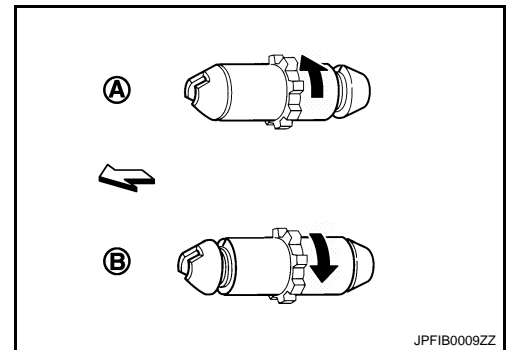
A : For right side brake

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 brake shoe sliding surface and drum inner surface for grease. Wipe it off if it adhere on the surfaces.



Inspection and Adjustment

INFOID:000000005656103

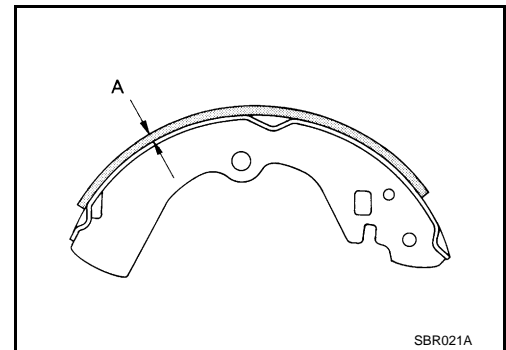
INSPECTION AFTER REMOVAL

Lining Thickness Inspection

- Check thickness (A) of lining.

Limit

A : Refer to [PB-12, "Parking Drum Brake"](#).

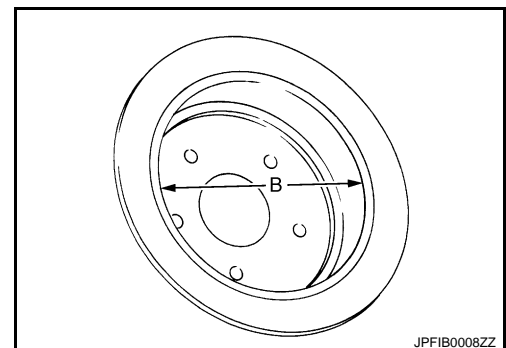


Drum Inner Diameter Inspection

- Check inner diameter (B) of drum.

Limit

B : Refer to [PB-12, "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 and retainer for excessive wear, damage and rust.
- Adjuster spring, return spring and anti-rattle spring for settling, excessive wear, damage, and rust.

PARKING BRAKE SHOE

< REMOVAL AND INSTALLATION >

- Adjuster for smoothness.
- Toggle lever 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 pedal (pedal type), or parking brake lever (lever type) stroke. Refer to [PB-3, "PEDAL TYPE : Inspection and Adjustment"](#) (pedal type), [PB-4, "LEVER TYPE : Inspection and Adjustment"](#) (lever type).
2. Check a drag of the parking brake.
CAUTION:
If any drag is found, inspect the rear disc brake.
 - **1 piston (front caliper 1 piston) type:** refer to [BR-67, "BRAKE CALIPER ASSEMBLY \(FRONT CALIPER 1 PISTON TYPE\) : Inspection"](#).
 - **1 piston (front caliper 2 piston) type:** refer to [BR-72, "BRAKE CALIPER ASSEMBLY \(FRONT CALIPER 2 PISTON TYPE\) : Inspection"](#).
 - **2 piston type:** refer to [BR-76, "BRAKE CALIPER ASSEMBLY \(2 PISTON TYPE\) : Inspection"](#).
3. Adjust the parking brake shoe. Refer to [PB-5, "Adjustment"](#).

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SERVICE DATA AND SPECIFICATIONS (SDS)

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Parking Drum Brake

INFOID:000000005656104

Unit: mm (in)

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

Parking Brake Control

INFOID:000000005656105

Item	Standard	
	Pedal type	Lever type
Control type		
Number of notches [under force of 196 N (20 kg, 44 lb)]	2 – 3 notches	7 – 8 notches
Number of notches when brake warning lamp turns ON	1 notch	