SECTION PB
PARKING BRAKE SYSTEM

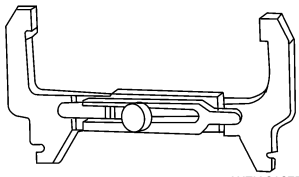
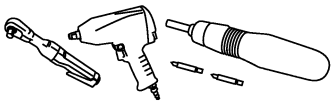
CONTENTS

PREPARATION

PREPARATION

Commercial Service Tool

INFOID:0000000003937529

(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	 PIIB1407E	Removing bolts and nuts

ON-VEHICLE MAINTENANCE

PARKING BRAKE SYSTEM

On-Vehicle Service

INFOID:0000000003937530

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.

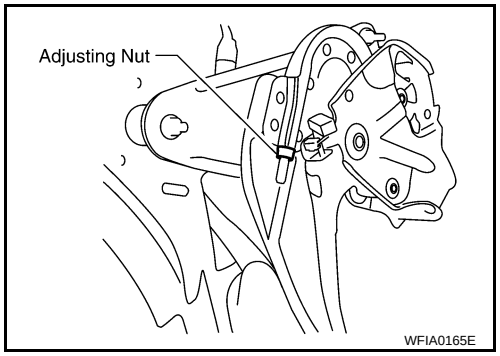
Pedal stroke : Refer to PB-9, "Parking Brake Control".

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 MWI-41, "Wiring Diagram".

ADJUSTMENT

1. Remove lower instrument panel LH. Refer to IP-10, "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 until tension is sufficiently released. Then, disengage the parking brake pedal.



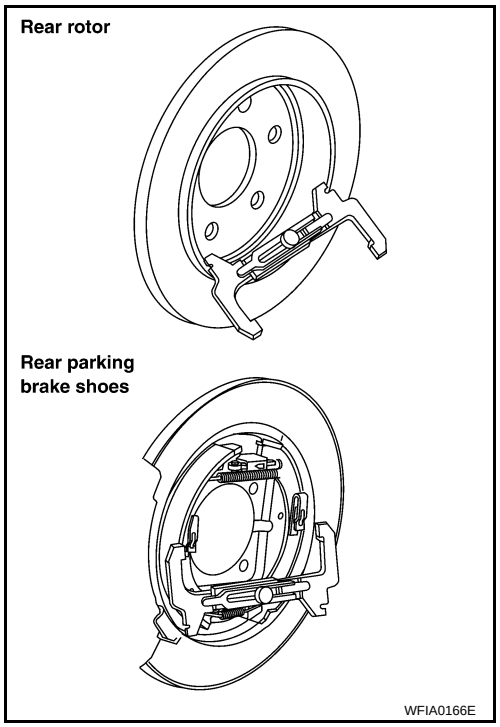
4. Remove the wheel and tire. Refer to WT-48, "Rotation".
5. Remove the rotor and measure inner diameter at widest point using suitable tool as shown.
6. Transfer the measurement less 0.6 mm (0.024 in) to the parking brake shoes and adjust accordingly.
7. Using wheel nuts, secure the disc to the hub to prevent it from tilting.
8. Rotate 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.



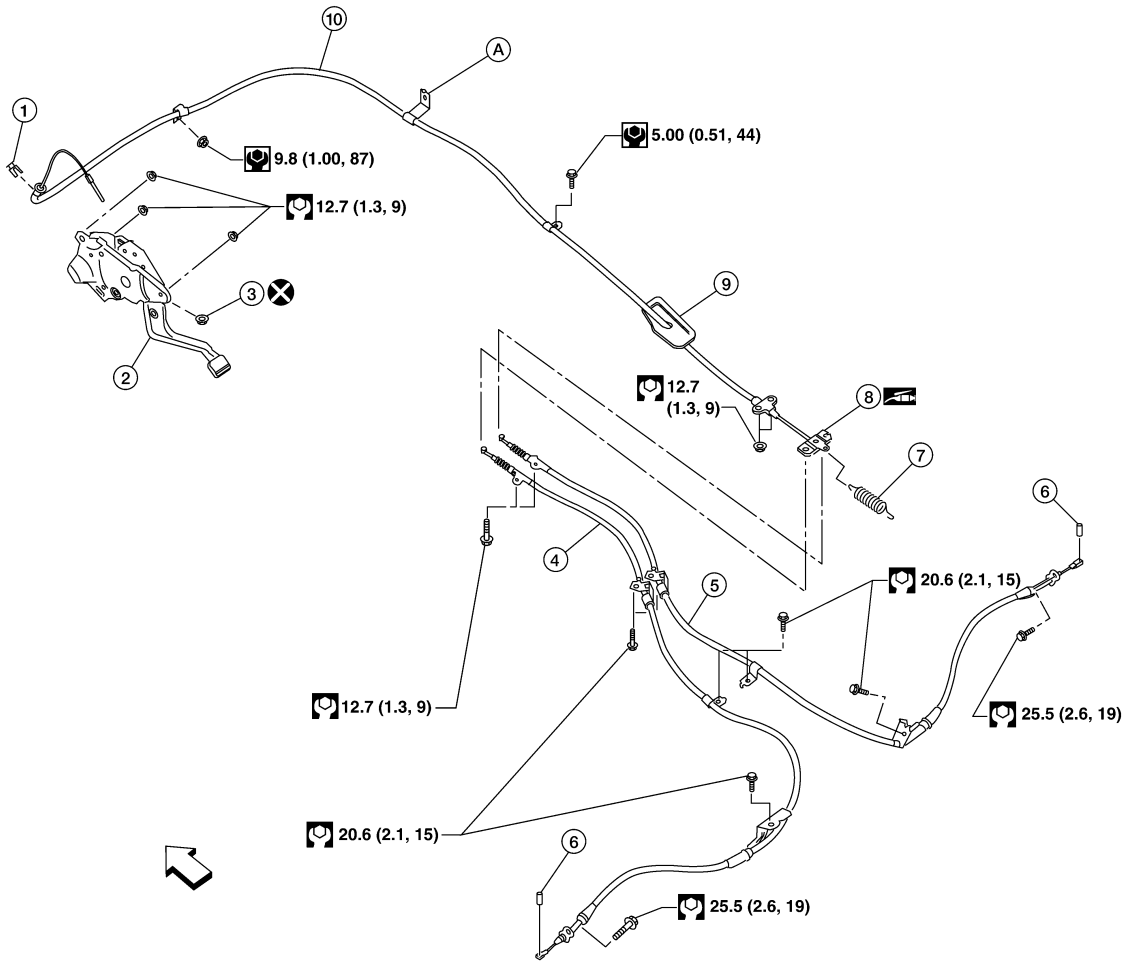
ON-VEHICLE REPAIR

PARKING BRAKE CONTROL

Exploded View

INFOID:0000000003937531

SEC. 443



AWFIA0477GB

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

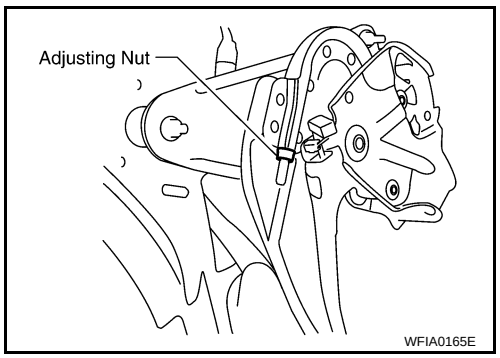
Removal and Installation

INFOID:0000000003937532

REMOVAL

1. Remove the lower instrument panel LH and center console. Refer to IP-10, "Exploded View" (instrument panel) and IP-16, "Exploded View" (center console).
2. Remove the floor trim. Refer to INT-19, "Removal and Installation".

3. Remove the parking brake control adjusting nut.
CAUTION:
Do not reuse adjusting nut after removing it.
4. Remove the lock plate from the front cable.
5. Remove the front parking brake cable bolt and nut.
6. Disconnect the return spring from equalizer.
7. Disconnect the front parking brake cable from the equalizer and remove front cable.
8. Remove the rear disc rotors. Refer to BR-44, "Removal and Installation of Brake Caliper and Disc Rotor".
9. Remove the parking brake shoes, and disconnect the rear cables from the toggle levers. Refer to PB-6, "Removal and Installation".
10. Remove the equalizer from right and left rear cables.
11. 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-3, "On-Vehicle Service".
CAUTION:
Do not reuse adjusting nut after removing it.

PARKING BRAKE SHOE

Exploded View

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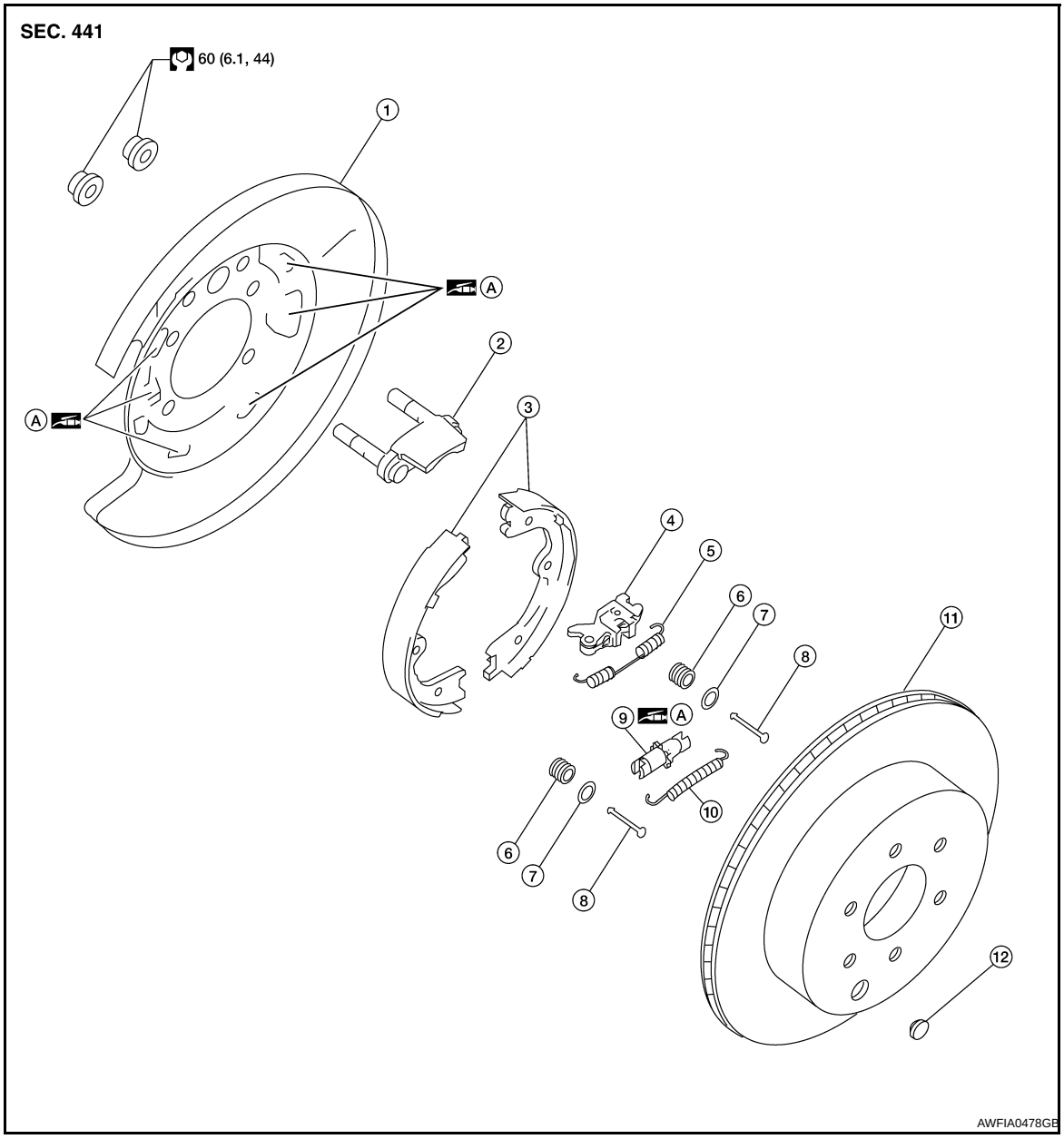


1. Back plate	2. Anchor	3. Shoes
4. Toggle lever	5. Upper return spring	6. Shoe hold-down spring
7. Retainer	8. Shoe hold-down pin	9. Adjuster
10. Lower return spring	11. Disc rotor	12. Adjuster access plug
A. PBC (Poly Butyl Cuprysil) grease or equivalent		

Removal and Installation

INFOID:0000000003937533

REMOVAL

WARNING:

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

NOTE:
Remove the disc rotor only with the parking brake pedal completely disengaged.

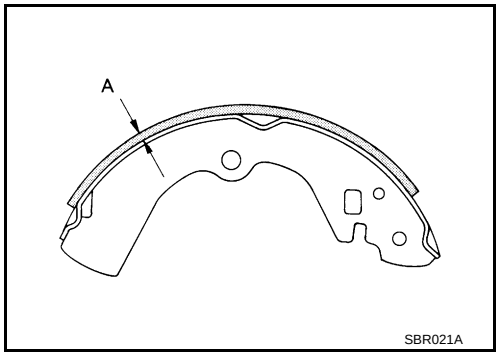
1. Remove the rear disc rotor. Refer to BR-44, "Removal and Installation of Brake Caliper and Disc Rotor".
2. Remove the rear drive shaft. Refer to RAX-9, "Removal and Installation".
3. Disconnect the wheel sensor connector, then remove the wheel sensor harness gromments from the brackets.
4. Remove the wheel hub and bearing assembly without removing the wheel sensor. Refer to RAX-8, "Removal and Installation".
   - Withdraw the wheel sensor harness through the back plate when removing the wheel hub and bearing assembly.
5. Remove the upper and lower return springs.
6. Remove the adjuster.
7. Remove the shoe hold-down pins, retainers, shoe hold-down springs and shoes.
8. Disconnect the parking brake cable from the toggle lever.
9. Remove the back plate.

INSPECTION AFTER REMOVAL

Lining Thickness Inspection

- Check the thickness of the shoe lining.

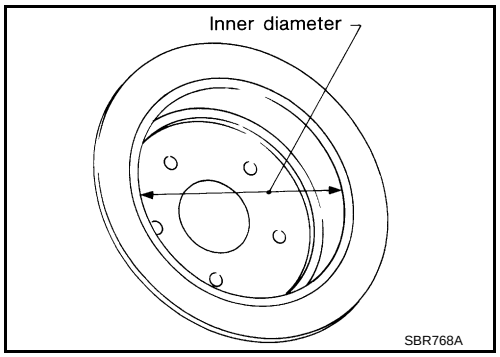
Standard thickness (A)	**: Refer to PB-9, "Parking Drum Brake".**
Wear limit thickness (A)	**: Refer to PB-9, "Parking Drum Brake".**



Drum Inner Diameter Inspection

- Check the drum inner diameter.

Standard inner diameter	**: Refer to PB-9, "Parking Drum Brake".**
Wear limit of inner diameter	**: Refer to PB-9, "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.

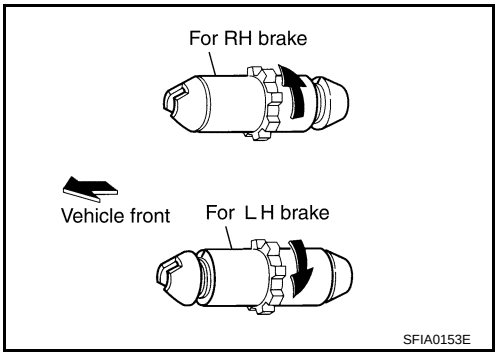
INSTALLATION

Installation is in the reverse order of removal.

- Apply brake grease to the back plate at the specified points during installation.

- 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-3, "On-Vehicle Service".
2. Perform the parking brake break-in operation by driving the vehicle forward under the following conditions:
   - Maintain vehicle speed 40 km/h (25 MPH) moving forward.
   - Apply the parking brake pedal with an operating force of 196 N (20.0 kg-f, 44.1 lb-f).
   - Apply the parking brake pedal for a period of 30 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-3, "On-Vehicle Service".

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Parking Drum Brake

INFOID:0000000003937534

Unit: mm (in)

Type		Disc rotor with inner drum
Brake lining	Standard thickness (new)	3.8 ± 0.15 (0.150 ± 0.006)
	Wear limit thickness	XXX (XXXXX)
Drum inner diameter	Standard inner diameter (new)	190 + 0.15/- 0.00 (7.480 + 0.006/- 0.000)
	Wear limit of inner diameter	XXXXX (XXXXX)

Parking Brake Control

INFOID:0000000003937535

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