SECTION PB
PARKING BRAKE SYSTEM

CONTENTS

PRECAUTION 2

PRECAUTIONS 2
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 2

PREPARATION 3

PREPARATION 3
Commercial Service Tool 3

PERIODIC MAINTENANCE 4

PARKING BRAKE SYSTEM 4
Inspection and Adjustment 4

PARKING BRAKE SHOE 6
Inspection and Adjustment 6

REMOVAL AND INSTALLATION 7

PARKING BRAKE CONTROL 7
Exploded View 7
Removal and Installation 7

PARKING BRAKE FRONT CABLE 8
Removal and Installation 8

PARKING BRAKE REAR CABLE 9
Removal and Installation 9

PARKING BRAKE SWITCH 10
Removal and Installation 10

PARKING BRAKE SHOE 11
Exploded View 11
Removal and Installation 11
Inspection 12

SERVICE DATA AND SPECIFICATIONS (SDS) 14

SERVICE DATA AND SPECIFICATIONS (SDS) 14
Parking Drum Brake 14
Parking Brake Control 14

PRECAUTION

PRECAUTIONS

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

INFOID:0000000014903494

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. 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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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:

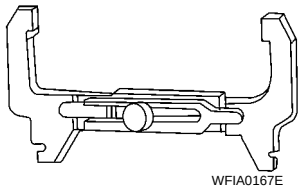
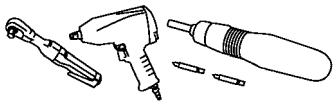
- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious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

PREPARATION

PREPARATION

Commercial Service Tool

INFOID:0000000014626294

Tool name	Description
Brake drum clearance gauge  WFIA0167E	Measuring rear rotor drum inner diameter
Power tool  PIIB1407E	Loosening nuts, screws and bolts

PERIODIC MAINTENANCE

PARKING BRAKE SYSTEM

Inspection and Adjustment

INFOID:0000000014626295

INSPECTION

Pedal Stroke

- Operate the parking brake pedal with a force of 196 N (20.0 kg-f, 44.1 lb-f). Check that the pedal stroke is within the specified number of notches. (Check it by listening to the clicks of the ratchet.)

Number of notches : Refer to PB-14, "Parking Brake Control".

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

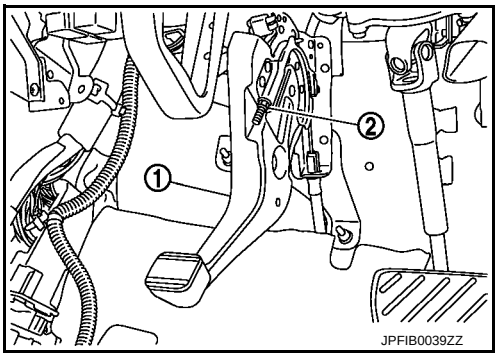
Number of notches : Refer to PB-14, "Parking Brake Control".

Inspect Components

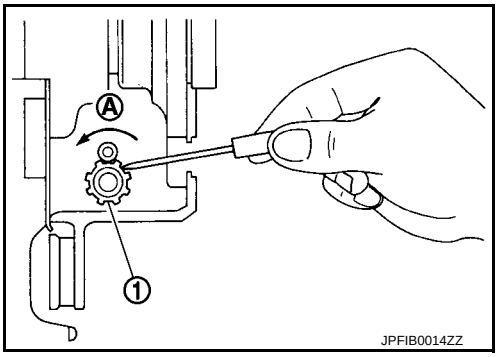
- Check each component for installation condition such as looseness.
- Check the parking brake components for bends, wear, cracks and or damage. Replace if damage is noted.
- Check the parking brake switch, and replace it if necessary. Refer to PB-7, "Exploded View".

ADJUSTMENT

1. Secure the disc brake rotor using wheel nuts.
2. Remove the instrument lower panel (LH). Refer to IP-22, "Removal and Installation".
3. Release the parking brake pedal (1) by turning the adjusting nut (2) using a suitable tool and loosening the cable.



4. Remove the adjusting hole plug from the disc brake rotor. Turn the adjuster (1) in the direction (A) as shown 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 brake rotor to check that there is no drag. Install the adjusting hole plug.
7. Adjust the cable with the following procedure.



a. Operate the parking brake pedal with a force of 490 N (50.0 kg-f, 110.2 lb-f) for more than 30 minutes.

b. Adjust the parking brake pedal stroke by turning the adjusting nut using a suitable tool.
CAUTION:
Do not reuse the adjusting nut if the nut is removed.

c. Operate the parking brake pedal with a force of 196 N (20.0 kg-f, 44.1 lb-f). Check that the pedal stroke is within the specified number of notches. (Check it by listening to the clicks of the ratchet.)

Number of notches : Refer to PB-14, "Parking Brake Control".

d. Rotate the disc brake rotor with the parking brake pedal released and check that there is no drag.
CAUTION:

If any drag is found, verify the parking brake components are installed and adjusted correctly.

PARKING BRAKE SHOE

Inspection and Adjustment

INFOID:0000000014626296

1. Adjust parking brake pedal 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. 40 km/h (25 MPH) set (constant and forward)
   - Parking brake operating force: Approx. 160 +30.0 N (16.3 +3.1 kg-f, 36.0 +6.7 lb-f)
   - Time: Approx. 10 +5.0 seconds.

   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 pedal stroke of parking brake.

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

ADJUSTMENT AFTER INSTALLATION

1. Adjust the parking brake pedal stroke. Refer to PB-4, "Inspection and Adjustment".
2. Rotate the disc brake rotor with the parking brake pedal released and check that there is no drag.

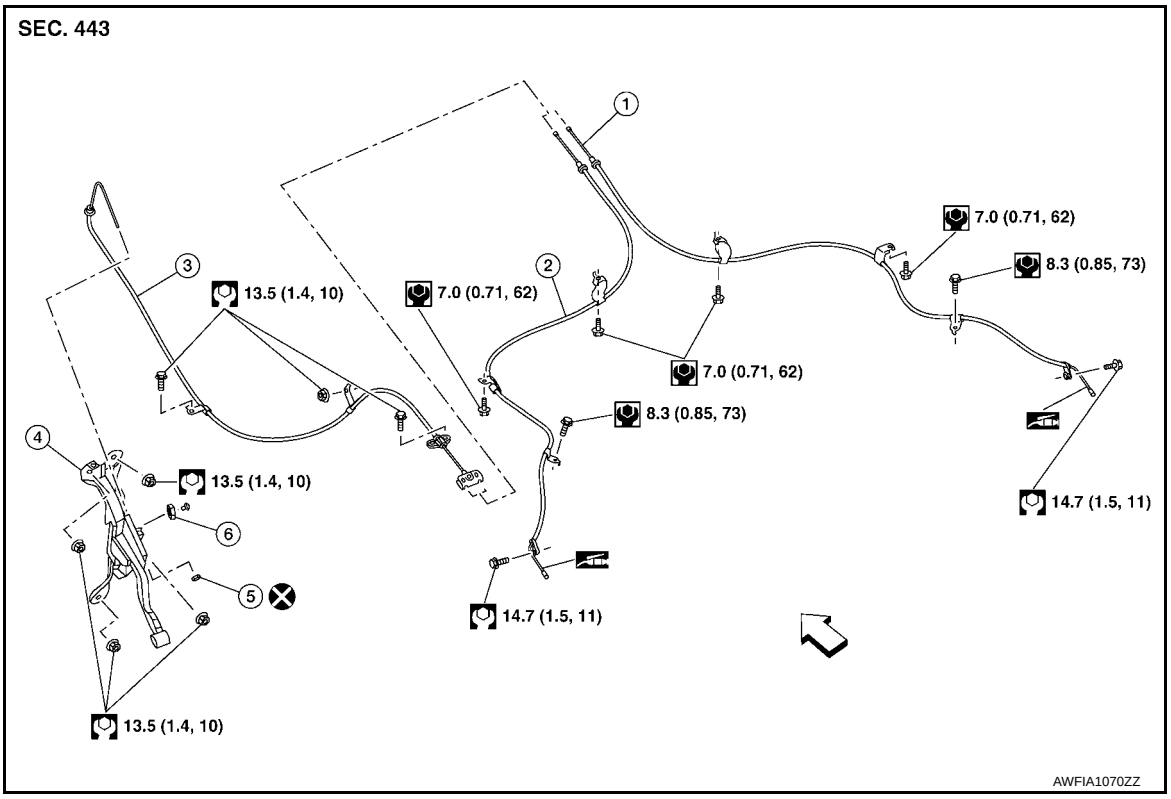
   CAUTION:
   If any drag is found, verify the parking brake components are installed and adjusted correctly.

REMOVAL AND INSTALLATION

PARKING BRAKE CONTROL

Exploded View

INFOID:0000000014626297



1. Parking brake rear cable (RH)
2. Parking brake rear cable (LH)
3. Parking brake front cable
4. Parking brake control
5. Adjusting nut
6. Parking brake switch

⇦ Front

Removal and Installation

INFOID:0000000014626298

REMOVAL

1. Remove instrument lower panel LH. Refer to IP-22, "Removal and Installation".
2. Remove the knee protector. Refer to IP-14, "Exploded View".
3. Disconnect the harness connector from the parking brake switch.
4. Remove the parking brake switch.
5. Remove the parking brake control nuts and remove the parking brake control.
6. Remove adjusting nut from parking brake control.
7. Disconnect the parking brake front cable from the parking brake control.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Do not reuse the adjusting nut.

- Adjust the parking brake with new adjusting nut.Refer to PB-4, "Inspection and Adjustment".

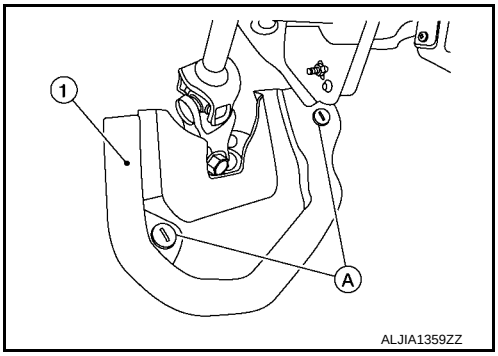
PARKING BRAKE FRONT CABLE

Removal and Installation

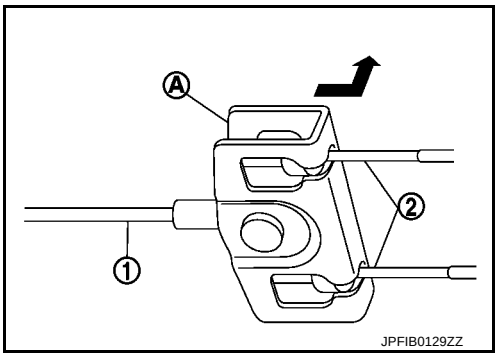
INFOID:0000000014626299

REMOVAL

1. Disconnect the positive and negative battery terminals. Refer to PG-128, "Battery Disconnect"
2. Remove the parking brake control. Refer to PB-7, "Removal and Installation"
3. Remove driver seat (LH). Refer to SE-34, "DRIVER SIDE : Removal and Installation".
4. Remove the center console. Refer to IP-18, "Removal and Installation".
5. Remove front door welts (LH). Refer to INT-23, "BODY SIDE WELT : Removal and Installation - Front Door Welt".
6. Remove dash side finisher (LH). Refer to INT-24, "DASH SIDE FINISHER : Removal and Installation".
7. Remove shift selector knob. Refer to TM-206, "Exploded View".
8. Remove the front floor connecting ducts (LH/RH). Refer to VTL-11, "FRONT FLOOR DUCT : Removal and Installation - Front Floor Connecting Duct".
9. Remove the front floor duct. Refer to VTL-11, "FRONT FLOOR DUCT : Removal and Installation - Front Floor Duct"
10. Remove the rear center ventilator duct. Refer to VTL-12, "REAR CENTER VENTILATOR DUCT : Removal and Installation".
11. Release clips (A) using a suitable tool and remove steering joint floor cover (1).



12. Place front floor trim aside and remove the front floor spacer. Refer to INT-26, "Exploded View".
13. Remove the bolts from the parking brake front cable mount. Refer to PB-7, "Exploded View".
14. Pull equalizer (A) of the parking brake front cable (1) in a rearward direction and then push upward to separate each parking brake rear cable (2) from the parking brake front cable (1).
    CAUTION:
    To prevent damage to the parts, do not bend the parking brake cables.



15. Remove the parking brake front cable.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Do not reuse the adjusting nut.

- Inspect and adjust the parking brake pedal. Refer to PB-4, "Inspection and Adjustment".
- If a malfunction is indicated by the air bag warning lamp after repair or replacement of the malfunctioning parts, perform the SRS Final Check. Refer to SRC-15, "Trouble Diagnosis with CONSULT".

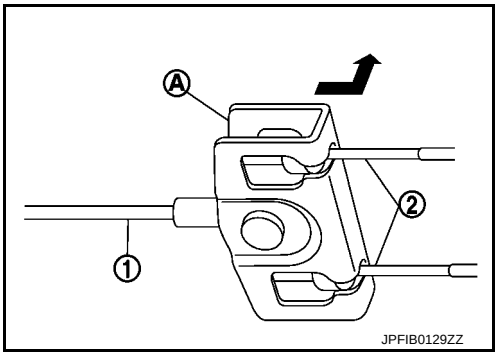
PARKING BRAKE REAR CABLE

Removal and Installation

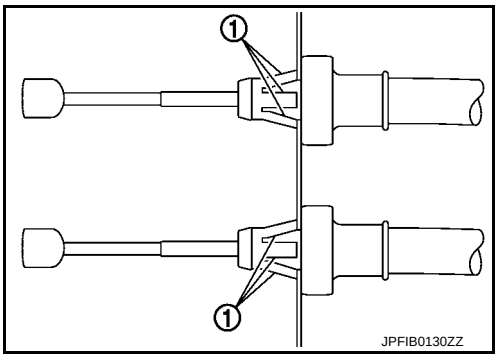
INFOID:0000000014626300

REMOVAL

1. Remove the center console assembly. Refer to IP-18, "Removal and Installation".
2. Remove shift selector. Refer to TM-206, "Removal and Installation".
3. Remove the bolts from the parking brake front cable mount. Refer to PB-7, "Exploded View".
4. Loosen the adjusting nut. Refer to PB-7, "Exploded View".
   NOTE:
   It is not necessary to remove the parking brake front cable.
5. Pull equalizer (A) of the parking brake front cable (1) in a rearward direction and then push upward to separate each parking brake rear cable (2) from the parking brake front cable (1).
   CAUTION:
   To prevent damage to the parts, do not bend the parking brake cables.



6. Press the pawl (1) to remove each parking brake rear cable from the vehicle.



7. Separate the parking brake rear cable from the toggle lever. Refer to PB-7, "Exploded View".

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Do not reuse the adjusting nut if the nut is removed.

- Inspect and adjust the parking brake shoes. Refer to PB-6, "Inspection and Adjustment".

PARKING BRAKE SWITCH

Removal and Installation

INFOID:0000000014626301

REMOVAL

1. Remove the instrument lower panel LH. Refer to IP-22, "Removal and Installation".
2. Disconnect the harness connector from the parking brake switch. Refer to PB-7, "Exploded View".
3. Remove the screw and remove the parking brake switch. Refer to PB-7, "Exploded View".

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

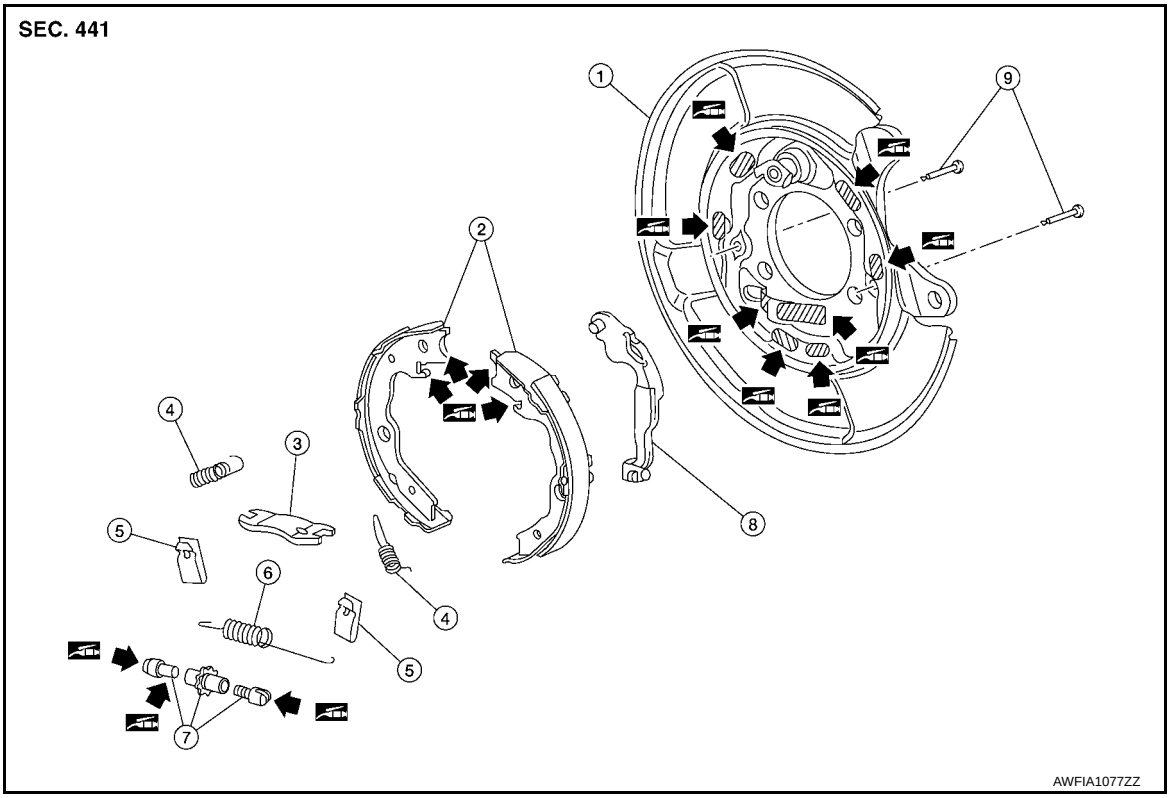
Replace the parking brake switch if it has been dropped or sustained an impact.

Adjust the parking brake cable if necessary. Refer to PB-4, "Inspection and Adjustment".

PARKING BRAKE SHOE

Exploded View

INFOID:0000000014626302



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

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

Removal and Installation

INFOID:0000000014626303

REMOVAL

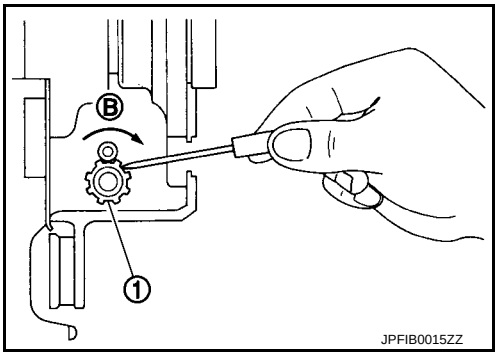
WARNING:

Clean dust on the parking brake shoes with a vacuum dust collector to minimize the hazard of airborne particles or other materials.

1. Remove the rear wheel and tire using power tool. Refer to WT-67, "Removal and Installation".
2. Remove the brake caliper torque member bolts, leaving the brake hose attached. Position the caliper aside with wire. Refer to BR-71, "BRAKE CALIPER ASSEMBLY : Removal and Installation".
   CAUTION:
   Do not depress the brake pedal while the caliper assembly is removed.
3. Put alignment marks on the disc brake rotor and on the wheel hub and bearing and remove the disc brake rotor.
   CAUTION:
   Do not drop the disc brake rotor.
4. If disc brake rotor cannot be removed, remove as follows:

a. Secure the disc brake rotor with wheel nuts and remove the adjusting hole plug.

b. Using suitable tool, rotate adjuster (1) in direction (B) to retract and loosen parking brake shoe.

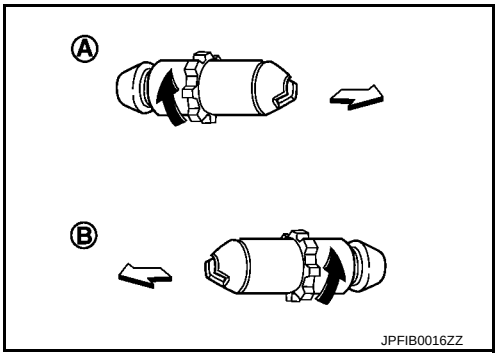


5. Remove anti-rattle pins, springs, and return springs.
   CAUTION:
   Do not drop the removed parts.
6. Remove brake strut, adjuster, parking brake shoes and toggle lever.
   CAUTION:
   - **The leading parking brake shoes are made of different materials than the trailing parking brake shoes. Do not misidentify them when removing.**
   - **Do not drop the removed parts.**
7. Remove the back plate. Refer to RAX-7, "Removal and Installation" (FWD) or RAX-16, "Removal and Installation" (AWD).
8. Inspect the components. Refer to PB-12, "Inspection".

INSTALLATION

Installation is in the reverse order of the removal.

- Apply PBC (Poly Butyl Cuprysil) grease or silicone-based grease to the back plate and brake shoe.
  CAUTION:
  The leading parking brake shoes are made of different materials than the trailing parking brake shoes. Do not misidentify them when installing.
- Assemble adjusters so that threaded part is expanded when rotating it in the direction shown by arrow.



A: For RH brake
B: For LH brake
⇦: Vehicle front
⬅: Adjuster expands

- Shorten adjuster by rotating it.
- When assembling, apply PBC (Poly Butyl Cuprysil) grease or silicone-based grease to threads.
- Check parking brake shoe lining surface and drum inner surface for grease. Wipe off any grease on the surfaces.
- Inspect the parking brake system. Adjust the parking brake system if necessary. Refer to PB-4, "Inspection and Adjustment".

Inspection

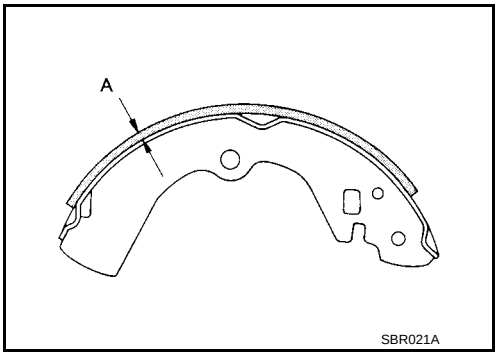
INFOID:0000000014626304

INSPECTION AFTER REMOVAL

Brake Lining Thickness Inspection

- Check thickness (A) of brake lining.

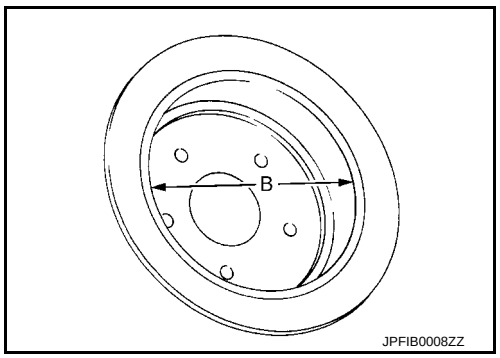
Limit (A) : Refer to PB-14, "Parking Drum Brake".



Drum Inner Diameter Inspection

- Check inner diameter (B) of drum using suitable tool.

Limit (B) : Refer to PB-14, "Parking Drum Brake".



Other Inspections

- Check brake lining for excessive wear, damage, and peeling. Replace if necessary.
- Check parking brake shoe for excessive wear and damage. Replace if necessary.
- Check anti-rattle pin for excessive wear, damage and rust. Replace if necessary.
- Check adjuster spring, anti-rattle spring and return springs for settling, excessive wear, damage, and rust. Replace if necessary.
- Check brake strut for excessive wear, damage and rust. Replace if necessary.
- Check toggle lever for excessive wear, damage and rust. Replace if necessary.
- Visually check inside of the drum for rust, cracks, damage or excessive wear with a suitable tool. Replace if necessary.

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Parking Drum Brake

INFOID:0000000014626305

Unit: mm (in)

Item		Limit
Brake lining	Thickness	3.2 (0.126)
	Wear thickness	1.5 (0.059)
Drum	Inner diameter	172 (6.77)
	Wear limit of inner diameter	173 (6.81)

Parking Brake Control

INFOID:0000000014626306

Item	Standard
Number of notches [under force of 196 N (20.0 kg-f, 44.1 lb-f)]	4 – 5 notches
Number of notches when brake warning lamp turns ON	1 notch