

SECTION **PB**

PARKING BRAKE SYSTEM

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PRECAUTIONS

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PRECAUTION

PRECAUTIONS

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

INFOID:000000006393569

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. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. 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, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, 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 Airbag Diagnosis Sensor Unit or other Airbag 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, and wait at least 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:000000006928534

NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
4. Perform the necessary repair operation.

PRECAUTIONS

< PRECAUTION >

5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
6. Perform self-diagnosis check of all control units using CONSULT.

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PREPARATION

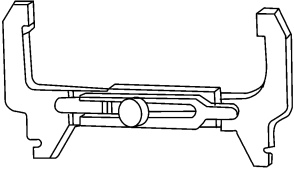

< PREPARATION >

PREPARATION

PREPARATION

Commercial Service Tool

INFOID:000000006393570

(Kent-Moore No.) Tool name	Description
(J-21177-A) Brake drum clearance gauge  WPIA0167E	Measuring rear rotor drum inner diameter
Power tool  PIIB1407E	Loosening nuts, screws and bolts

PARKING BRAKE SYSTEM

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

PARKING BRAKE SYSTEM

PEDAL TYPE

PEDAL TYPE : Inspection

INFOID:000000006393571

PEDAL STROKE

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

Pedal stroke number of notches : Refer to [PB-14, "Parking Brake Control"](#)

INSPECT COMPONENTS

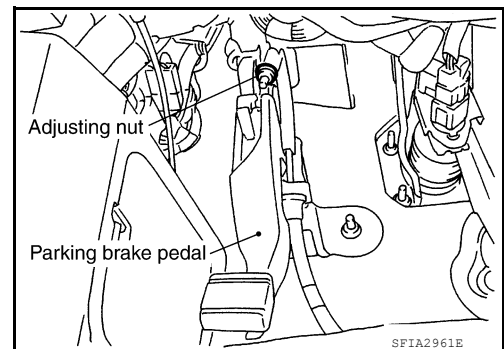
- Make sure that the mounting conditions (looseness, backlash, etc.) of each component are normal.
- Check the following:
 - Device assembly for bend, damage and cracks. Replace if necessary.
 - Cables and equalizer for wear and damage. Replace if necessary.
 - Parking brake switch. Replace if necessary.

PEDAL TYPE : Adjustment

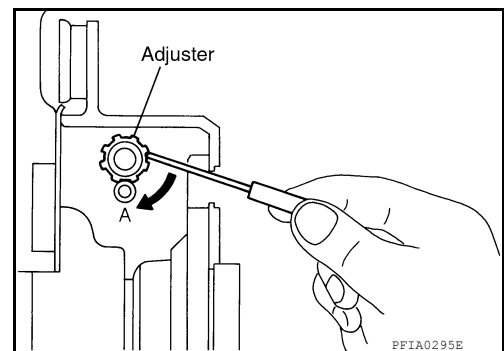
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ADJUSTMENT

1. Remove rear wheels and tires.
2. Insert a deep socket wrench onto adjusting nut. Rotate adjusting nut to fully loosen cable, and then release parking brake pedal.
3. Secure disc rotor to hub using wheel nut so as not to tilt disc rotor.



4. Remove adjuster hole plug installed on the disc rotor. Turn the adjuster in direction (A) using a suitable tool or a flat-bladed screwdriver as shown, until disc rotor is locked. Turn the adjuster in the opposite direction by 5 or 6 notches after locking.
5. Rotate disc rotor to make sure that there is no drag. Install the adjuster hole plug.
6. Adjust parking brake cable with the following procedure.
 - a. Rotate the adjusting nut to adjust parking brake pedal operating force to 490 N (50 kg-f, 110 lb-f) just before a full pedal stroke of 201.7 mm (7.94 in).



CAUTION:

Do not reuse adjusting nut after removing it.

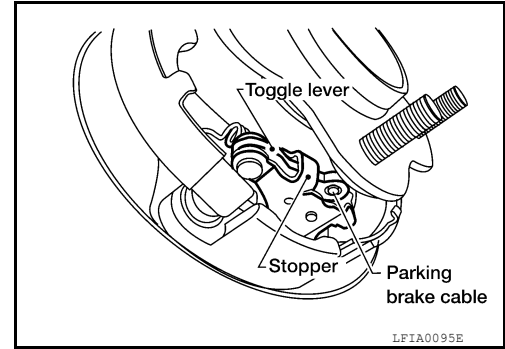
- b. When replacing parking brake cable, operate parking brake pedal 10 or more times with a full stroke of 201.7 mm (7.94 in).
- c. Release the parking brake pedal and rotate the disc rotor to make sure there is no drag.
- d. Rotate the adjusting nut to adjust the parking brake pedal force to 196 N (20 kg-f, 44 lb-f) when the parking brake pedal stroke is within the specified number of notches. (check it by listening and counting the ratchet clicks).

Pedal stroke number of notches : Refer to [PB-14, "Parking Brake Control"](#)

PARKING BRAKE SYSTEM

< PERIODIC MAINTENANCE >

- e. After adjustment, check that there is no drag with the parking brake pedal is being released. If drag exists, perform the following:
- Remove the rear disc rotor, refer to [BR-35. "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#). Verify the toggle lever returns to stopper when the parking brake pedal is released.



- If toggle lever does not return to stopper, loosen adjusting nut.
 - Install rear disc rotor and adjust shoe clearance. Refer to [BR-35. "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#).
7. Install rear wheels and tires. Refer to [WT-65. "Adjustment"](#).

LEVER TYPE

LEVER TYPE : Inspection

INFOID:000000006393573

LEVER STROKE

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

Lever stroke number of notches : Refer to [PB-14. "Parking Brake Control"](#)

INSPECT COMPONENTS

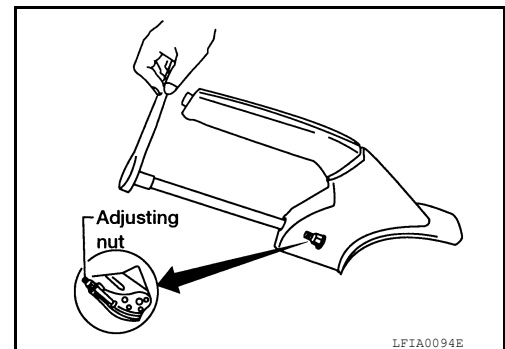
- Make sure that the mounting conditions (looseness, backlash, etc.) of each component are normal.
- Check the following:
 - Device assembly for bend, damage and cracks. Replace if necessary.
 - Cables and equalizer for wear and damage. Replace if necessary.
 - Parking brake switch. Replace if necessary.

LEVER TYPE : Adjustment

INFOID:000000006393574

ADJUSTMENT

1. Remove rear wheels and tires. Refer to [WT-65. "Adjustment"](#).
2. Insert a deep socket wrench onto adjusting nut. Rotate adjusting nut to fully loosen cable, and then release parking brake lever.
3. Secure disc rotor to hub using wheel nut so as not to tilt disc rotor.



PARKING BRAKE SYSTEM

< PERIODIC MAINTENANCE >

4. Remove adjuster hole plug installed on the disc rotor. Turn the adjuster in direction "A" using a suitable tool or a flat-bladed screwdriver as shown, until disc rotor is locked. Turn the adjuster in the opposite direction by 5 or 6 notches after locking.
5. Rotate disc rotor to make sure that there is no drag. Install the adjuster hole plug.
6. Adjust parking brake cable with the following procedure.
 - a. Rotate the adjusting nut to adjust parking brake lever operating force to 294 N (30 kg-f, 66 lb-f) just before a full lever stroke of 225.6 mm (8.88 in).

CAUTION:

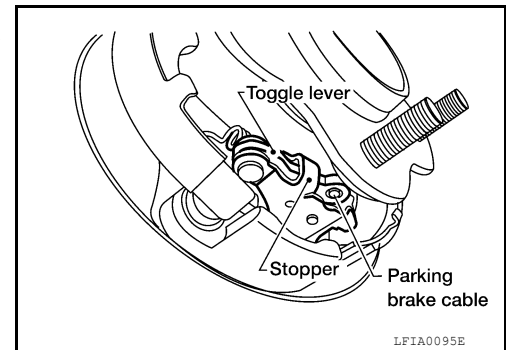
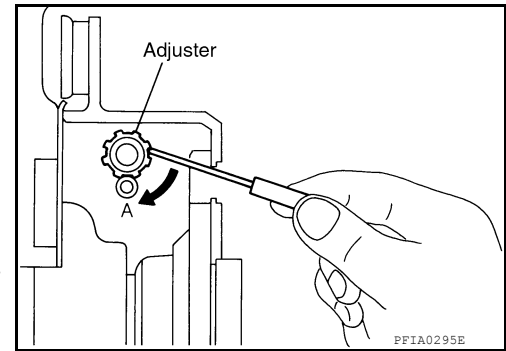
Do not reuse adjusting nut after removing it.

- b. When replacing parking brake cable, operate parking brake lever 10 or more times with a full stroke of 225.6 mm (8.88 in).
 - c. Release the parking brake lever and rotate the disc rotor to make sure there is no drag.
 - d. Rotate the adjusting nut to adjust the parking brake lever force to 196 N (20 kg-f, 44 lb-f) when the parking brake lever stroke is within the specified number of notches. (check it by listening and counting the ratchet clicks).

Lever stroke (number of notches) : Refer to [PB-14, "Parking Brake Control"](#)

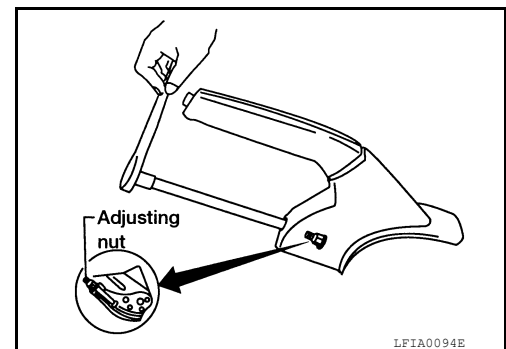
- e. After adjustment, check that there is no drag with the control lever released. If drag exists, perform the following:

- Remove the rear disc rotor, refer to [BR-35, "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#). Verify the toggle lever returns to stopper when the parking brake lever is released.



- If toggle lever does not return to stopper, loosen adjusting nut.
- Install rear disc rotor and adjust shoe clearance. Refer to [BR-35, "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#).

7. Install rear wheels and tires. Refer to [WT-65, "Adjustment"](#).



PARKING BRAKE SHOE

< PERIODIC MAINTENANCE >

PARKING BRAKE SHOE

Inspection

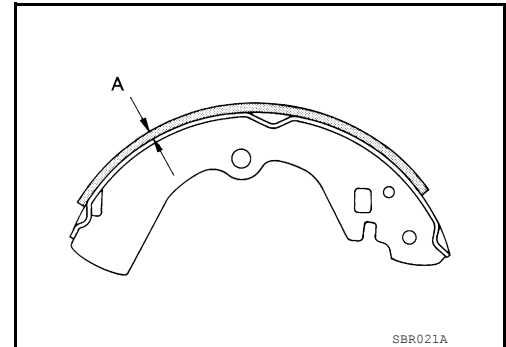
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LINING THICKNESS INSPECTION

- Check thickness of lining.

Standard thickness (new) (A) : Refer to [PB-14, "Parking Drum Brake"](#).

Wear limit thickness (A) : Refer to [PB-14, "Parking Drum Brake"](#).

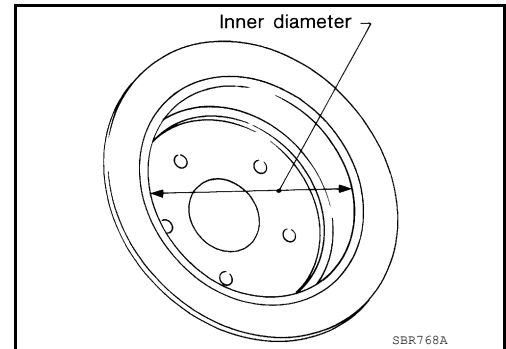


DRUM INNER DIAMETER INSPECTION

- Check inner diameter of drum in rear disc rotor.

Standard inner diameter (new) : Refer to [PB-14, "Parking Drum Brake"](#).

Wear limit of inner diameter : Refer to [PB-14, "Parking Drum Brake"](#).



OTHER INSPECTIONS

- Check the following:
 - Lining for excessive wear, damage, and peeling.
 - Shoe sliding surface for excessive wear and damage.
 - Anti-rattle pin for excessive wear and corrosion.
 - Return spring for sagging.
- Make sure that adjuster moves smoothly.
- Visually check the inside of drum for excessive wear, cracks, and damage. Check the inside of drum using a pair of vernier calipers.
- Replace with new parts as necessary.

PARKING BRAKE CONTROL

< REMOVAL AND INSTALLATION >

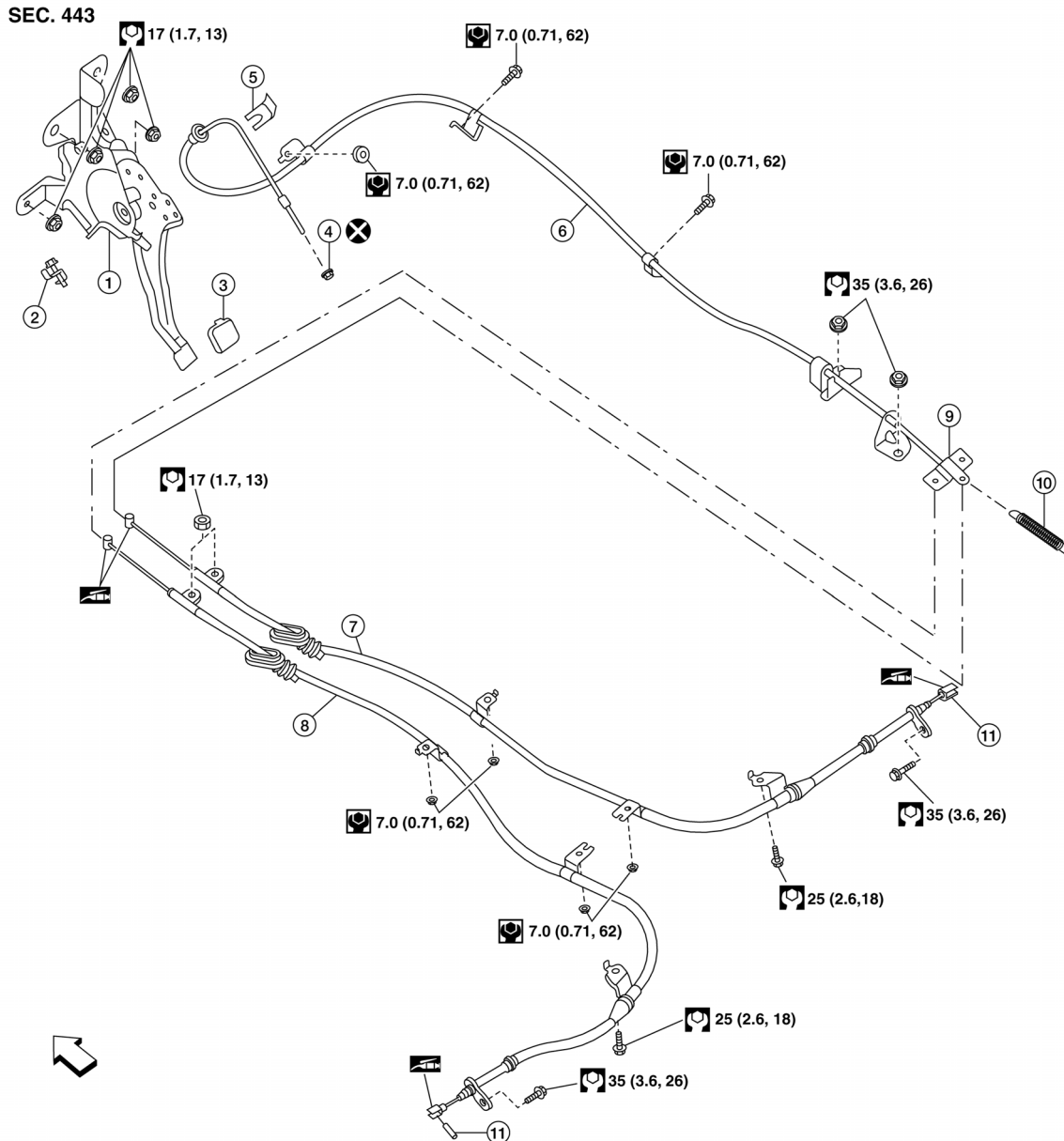
REMOVAL AND INSTALLATION

PARKING BRAKE CONTROL

PEDAL TYPE

PEDAL TYPE : Exploded View

INFOID:000000006393576



- | | | |
|----------------------------|-------------------------|----------------|
| 1. Control device assembly | 2. Parking brake switch | 3. Pedal pad |
| 4. Adjusting nut | 5. Lock plate | 6. Front cable |
| 7. Rear cable RH | 8. Rear cable LH | 9. Equalizer |
| 10. Spring | 11. Pin | ← Front |

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PEDAL TYPE : Removal and Installation

INFOID:000000006393577

REMOVAL

1. Remove rear wheel and tires. Refer to [WT-65, "Adjustment"](#).

PARKING BRAKE CONTROL

< REMOVAL AND INSTALLATION >

2. Remove instrument lower cover and lower knee protector. Refer to [IP-11. "Exploded View"](#).
3. Disconnect parking brake switch connector.
4. Remove adjusting nut and discard, then loosen front cable.
CAUTION:
Do not reuse adjusting nut.
5. Remove control device assembly nuts and remove control device assembly.
6. Remove center console. Refer to [IP-22. "Exploded View"](#).
7. Separate rear cables from front cable, remove front cable.
8. Remove heat insulator of the exhaust center tube.
9. Remove parking brake shoe, and remove rear cables from toggle lever. Refer to [PB-12. "Exploded View"](#).
10. Remove rear cable bolts and nuts, then remove rear cables.

INSTALLATION

Installation is in the reverse order of removal.

- Adjust the parking brake with new adjusting nut. Refer to [WT-65. "Adjustment"](#).

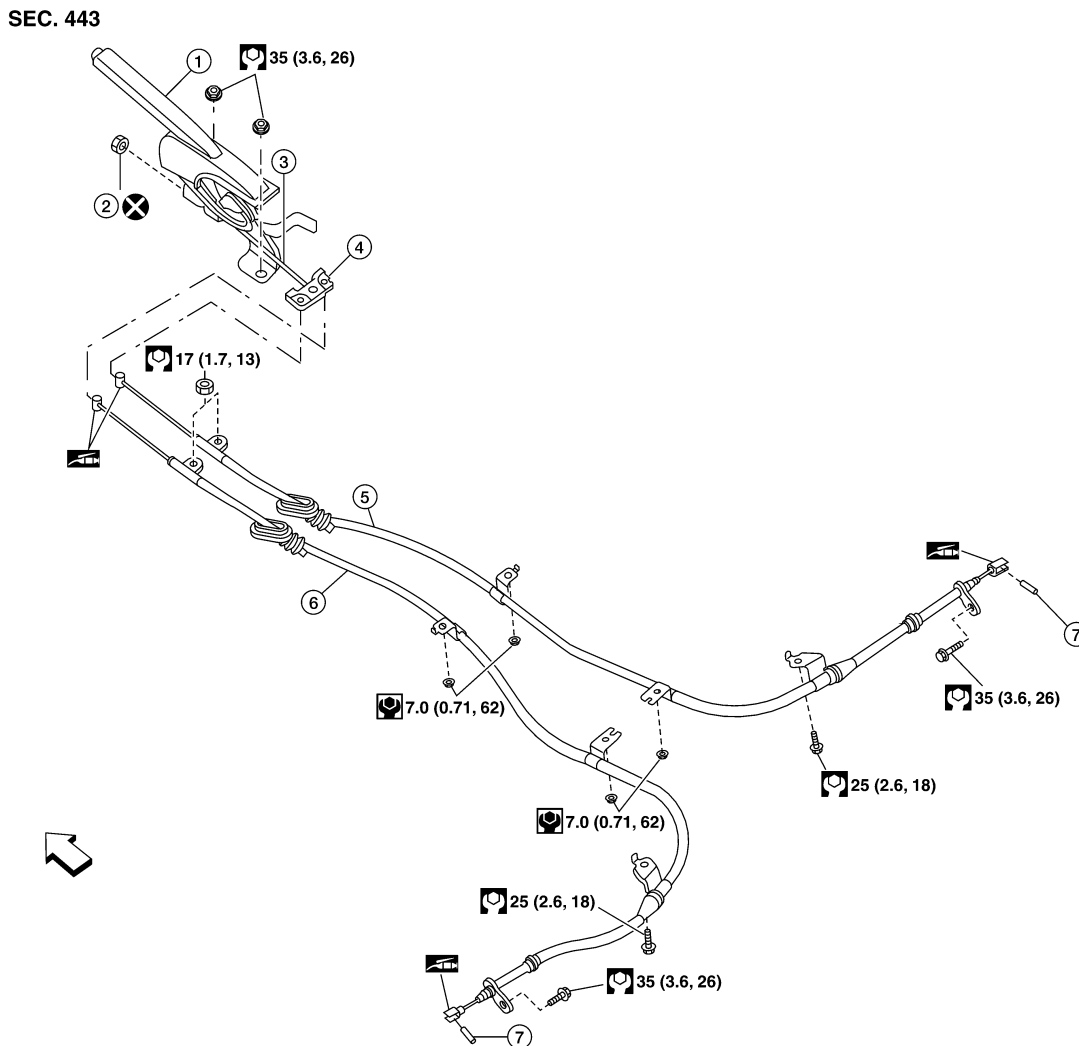
CAUTION:

- **Do not reuse adjusting nut.**
- **The cables should be free from twists, damage, cracks or corrosion.**

LEVER TYPE

LEVER TYPE : Exploded View

INFOID:000000006393578



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PARKING BRAKE CONTROL

< REMOVAL AND INSTALLATION >

- | | | | |
|----------------------------|--------------------|--------------------|---|
| 1. Control device assembly | 2. Adjusting nut | 3. Front cable | A |
| 4. Equalizer | 5. Rear cable (RH) | 6. Rear cable (LH) | |
| 7. Pin | ↔ Front | | |

LEVER TYPE : Removal and Installation

INFOID:000000006393579

REMOVAL

1. Remove rear wheel and tires. Refer to [WT-65, "Adjustment"](#). C
2. Remove center console. Refer to [IP-22, "Disassembly and Assembly"](#). D
3. Disconnect parking brake switch connector. D
4. Remove adjusting nut and discard. Loosen cable, then disconnect rear cables from equalizer.
CAUTION:
Do not reuse adjusting nut. E
5. Remove control device assembly nuts and remove control device assembly. E
6. Remove heat insulator for the exhaust center tube. E
7. Remove parking brake shoes, and disconnect rear cable from toggle lever. Refer to [PB-12, "Exploded View"](#). PB
8. Remove rear cable bolts and nuts, then remove rear cables. G

INSTALLATION

Installation is in the reverse order of removal.

- Adjust parking brake. Refer to [WT-65, "Adjustment"](#). H
- **CAUTION:**
• **Do not reuse adjusting nut.**
• **The cables should be free from twists, damage, cracks or corrosion.** I

PARKING BRAKE SHOE

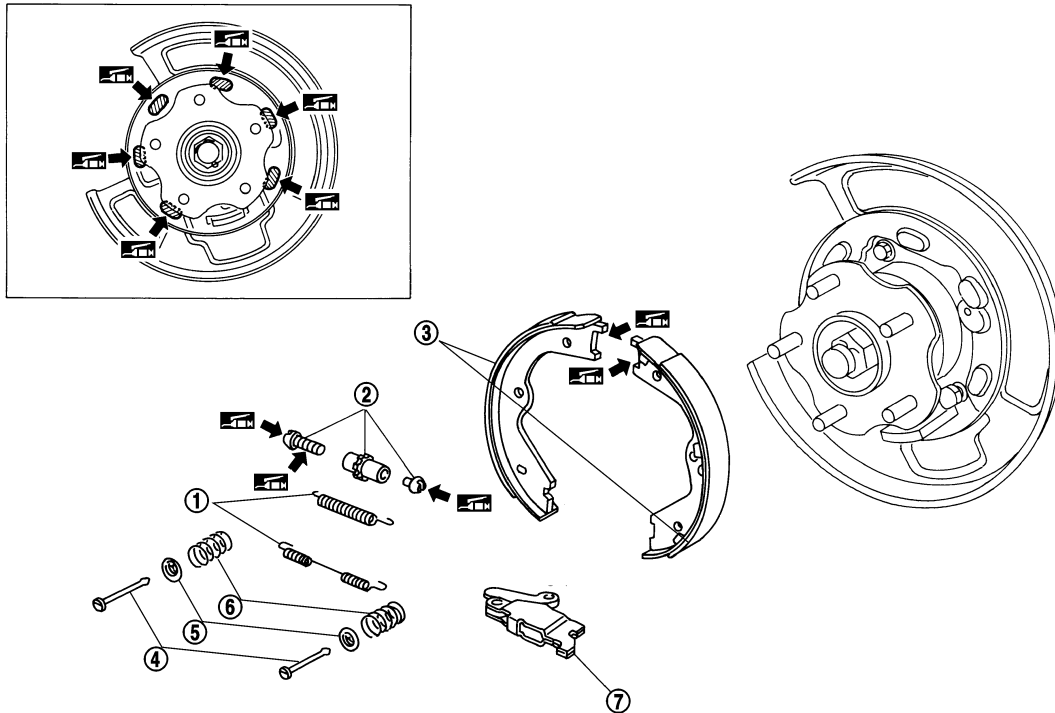
< REMOVAL AND INSTALLATION >

PARKING BRAKE SHOE

Exploded View


INFOID:000000006393580

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- | | | |
|--------------------|-------------|-----------------------|
| 1. Return spring | 2. Adjuster | 3. Brake shoe |
| 4. Anti-rattle pin | 5. Retainer | 6. Anti-rattle spring |
| 7. Toggle lever | | |

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

Removal and Installation

INFOID:000000006393581

WARNING:

- Clean brakes with a vacuum dust collector to minimize the hazard of air borne particles or other materials.
- Clean dust on disc rotor and back plate using a vacuum dust collector. Do not blow with compressed air.

CAUTION:

Put matching marks on both disc rotor and wheel hub when removing disc rotor.

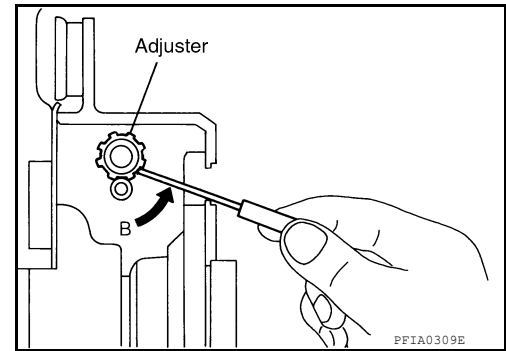
REMOVAL

1. Remove rear wheel and tires. Refer to [WT-65. "Adjustment"](#).
2. Remove rear disc rotor with parking brake control device assembly in the fully released position. Refer to [BR-35. "BRAKE CALIPER ASSEMBLY : Removal and Installation"](#).
3. If disc rotor cannot be removed, remove as follows:
 - a. Secure the disc rotor in place with wheel nuts and remove adjuster hole plug.

PARKING BRAKE SHOE

< REMOVAL AND INSTALLATION >

- b. Rotate adjuster in direction (B) to retract and loosen brake shoe, using tool as shown.
4. Remove anti-rattle pins, retainers, anti-rattle springs, and return springs.
5. Remove parking brake shoes, adjuster assembly, and toggle lever.
6. Remove the back plate.



INSTALLATION

Installation is in the reverse order of removal. Note the following.

- Apply PBC (Poly Butyl Cuprysil) grease or equivalent to the specified points during assembly.
- Assemble adjusters so that threaded part is expanded when rotating it in the direction shown.
- Shorten adjuster by rotating it as shown.
- Check shoe sliding surface and drum inner surface for grease. Wipe it off if it adheres on the surfaces.
- Perform break-in operation as follows after replacing brake shoes or disc rotors, or if brakes do not function well.

1. Adjust parking brake control device assembly stroke to the specified amount. Refer to [PB-5, "PEDAL TYPE : Adjustment"](#) (pedal type), [PB-6, "LEVER TYPE : Adjustment"](#) (lever type).
2. Perform parking brake break-in (drag run) operation by driving vehicle under the following conditions:
 - Drive the vehicle forward.
 - Maintain vehicle speed at approximately 40-50 km/h (25-31 MPH) keeping it constant in forward direction.
 - Apply the parking brake at the constant operating force specified.

Pedal type : 150 +49/-0 N-f (15 +5/-0 kg-f, 34 +11/-0 lb-f)

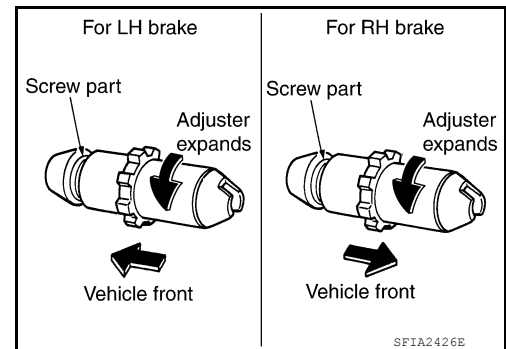
Lever type : 90 +49/-0 N-f (9 +5/-0 kg-f, 20 +11/-0 lb-f)

- Release the parking brake after approximately 5-15 seconds.

CAUTION:

To prevent lining from getting too hot, allow a cool off period of approximately 5 minutes after every break-in operation.

3. Check parking brake control device assembly stroke. Readjust as necessary if it is outside the standard specifications. Refer to [PB-5, "PEDAL TYPE : Inspection"](#) (pedal type), [PB-6, "LEVER TYPE : Inspection"](#) (lever type).



SERVICE DATA AND SPECIFICATIONS (SDS)

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SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Parking Drum Brake

INFOID:000000006393582

Brake lining	Standard thickness (new)	3.2 mm (0.126 in)
	Wear limit thickness	1.5 mm (0.059 in)
Drum (in disc)	Standard inner diameter (new)	172 mm (6.77 in)
	Wear limit of inner diameter	173 mm (6.81 in)

Parking Brake Control

INFOID:000000006393583

Control type	Foot pedal	Lever
Number of notches [under force of 196 N (20 kg-f, 44 lb-f)]	4 - 5	5 - 7
Number of notches when parking brake warning lamp switch comes on	1	1