

SECTION BR
BRAKE SYSTEM

A
B
C
D
E

CONTENTS

PRECAUTION	3	Brake Burnishing	14
PRECAUTIONS	3	REMOVAL AND INSTALLATION	15
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	3	BRAKE PEDAL	15
Precaution for Brake System	3	Removal and Installation	15
PREPARATION	4	BRAKE PIPING AND HOSE	18
PREPARATION	4	Removal and Installation of Front Brake Piping and Brake Hose	18
Special Service Tool	4	Removal and Installation of Rear Brake Piping and Brake Hose	18
Commercial Service Tool	4	Inspection After Installation	19
FUNCTION DIAGNOSIS	5	BRAKE MASTER CYLINDER	20
NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING	5	Removal and Installation	20
NVH Troubleshooting Chart	5	BRAKE BOOSTER	22
Hydraulic Circuit	6	Removal and Installation	22
BASIC INSPECTION	7	VACUUM LINES	24
INSPECTION AND ADJUSTMENT	7	Removal and Installation	24
Brake Fluid Level Inspection	7	FRONT DISC BRAKE	25
Brake Booster Inspection	7	Component	25
Pad Wear Inspection	7	Removal and Installation of Brake Caliper and Disc Rotor	26
Brake Pedal Inspection and Adjustment	7	Brake Burnishing	27
ON-VEHICLE MAINTENANCE	9	REAR DISC BRAKE	28
BRAKE FLUID	9	Component	28
Drain and Refill	9	Removal and Installation of Brake Caliper and Disc Rotor	29
Bleeding Brake System	9	Brake Burnishing	29
FRONT DISC BRAKE	10	DISASSEMBLY AND ASSEMBLY	30
Component	10	BRAKE MASTER CYLINDER	30
Removal and Installation of Brake Pad	11	Disassembly and Assembly	30
Brake Burnishing	11	FRONT DISC BRAKE	32
REAR DISC BRAKE	12	Component	32
Component	12	Disassembly and Assembly of Brake Caliper	33
Removal and Installation of Brake Pad	13		

BR

G

H

I

J

K

L

M

N

O

P

REAR DISC BRAKE	36
Component	36
Disassembly and Assembly of Brake Caliper	37

SERVICE DATA AND SPECIFICATIONS (SDS)	40
--	-----------

SERVICE DATA AND SPECIFICATIONS (SDS)	40
General Specification	40
Brake Pedal	40
Brake Booster	41
Check Valve	41
Front Disc Brake	41
Rear Disc Brake	41

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000003220992

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.

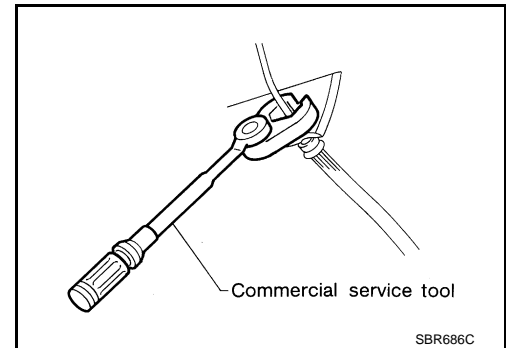
Precaution for Brake System

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- Recommended fluid is Genuine NISSAN Super Heavy Duty Brake Fluid or equivalent. Refer to [MA-12, "Fluids and Lubricants"](#).
- Do not reuse drained brake fluid.
- Be careful not to splash brake fluid on painted areas.
- To clean or wash all parts of master cylinder, disc brake caliper and wheel cylinder, use clean brake fluid.
- Do not use mineral oils such as gasoline or kerosene. They will ruin rubber parts of the hydraulic system.
- Use flare nut wrench when removing and installing brake tube.
- Always check tightening torque when installing brake lines.
- Before working, turn ignition switch to OFF and disconnect connectors for ABS actuator and electric unit (control unit) or battery negative terminal.
- Burnish the brake contact surfaces after refinishing or replacing drums or rotors, after replacing pads or linings, or if a soft pedal occurs at very low mileage. Refer to [BR-27, "Brake Burnishing"](#).

WARNING:

- Clean brake pads and shoes with a waste cloth, then wipe with a dust collector.



PREPARATION

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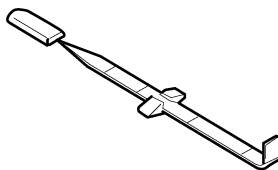
PREPARATION

PREPARATION

Special Service Tool

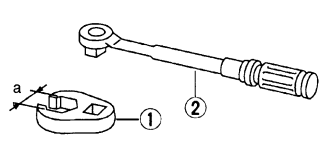
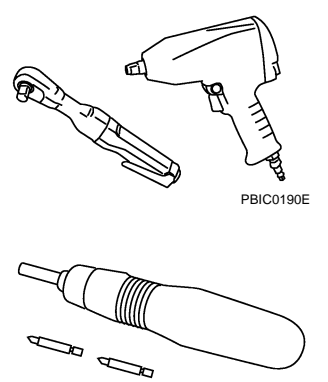
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
<p>— (J-46532) Brake and clutch pedal height measurement tool</p>  <p style="text-align: right;">LFIA0227E</p>	<p>Measuring brake pedal height</p>

Commercial Service Tool

INFOID:000000003220995

Tool name	Description
<p>1. Flare nut crowfoot 2. Torque wrench</p>  <p style="text-align: right;">S-NT360</p>	<p>Removing and installing each brake piping a: 10 mm (0.39 in) / 12 mm (0.47 in)</p>
<p>Power tool</p>  <p style="text-align: right;">PBIC0190E PBIC0191E</p>	<p>Removing nuts, bolts and screws</p>

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

< FUNCTION DIAGNOSIS >

FUNCTION DIAGNOSIS

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

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Use the chart below to help you find the cause of the symptom. If necessary, repair or replace these parts.

Symptom	Possible cause and SUSPECTED PARTS		Reference page
	Noise	Shake	
			BR-7
		Pads - uneven wear	BR-7
		Shims damaged	BR-10 , BR-12
		Rotor imbalance	BR-33 , BR-37
		Rotor damage	BR-33 , BR-37
		Rotor runout	BR-33 , BR-37
		Rotor deformation	BR-33 , BR-37
		Rotor deflection	BR-33 , BR-37
		Rotor rust	BR-27 , BR-14
		Rotor thickness variation	BR-33 , BR-37
		PROPELLER SHAFT	DLN-128 , "NVH Troubleshooting Chart" (2F1310), DLN-136 , "NVH Troubleshooting Chart" (2S1330), DLN-152 , "NVH Troubleshooting Chart" (2S1350)
		FRONT FINAL DRIVE	DLN-172 , "NVH Troubleshooting Chart"
		REAR FINAL DRIVE	DLN-206 , "NVH Troubleshooting Chart" (C200), DLN-240 , "NVH Troubleshooting Chart" (M226) DLN-271 , "NVH Troubleshooting Chart" (M226 w/ ELD)
		DRIVESHAFT	FAX-4 , "NVH Troubleshooting Chart" (FAX), RAX-6 , "NVH Troubleshooting Chart" (RAX C200) RAX-18 , "NVH Troubleshooting Chart" (RAX M226)
		SUSPENSION	FSU-4 , "NVH Troubleshooting Chart" (FSU), RSU-4 , "NVH Troubleshooting Chart" (RSU)
		TIRES AND ROAD WHEEL	WT-30 , "NVH Troubleshooting Chart"
		STEERING	ST-5 , "NVH Troubleshooting Chart"

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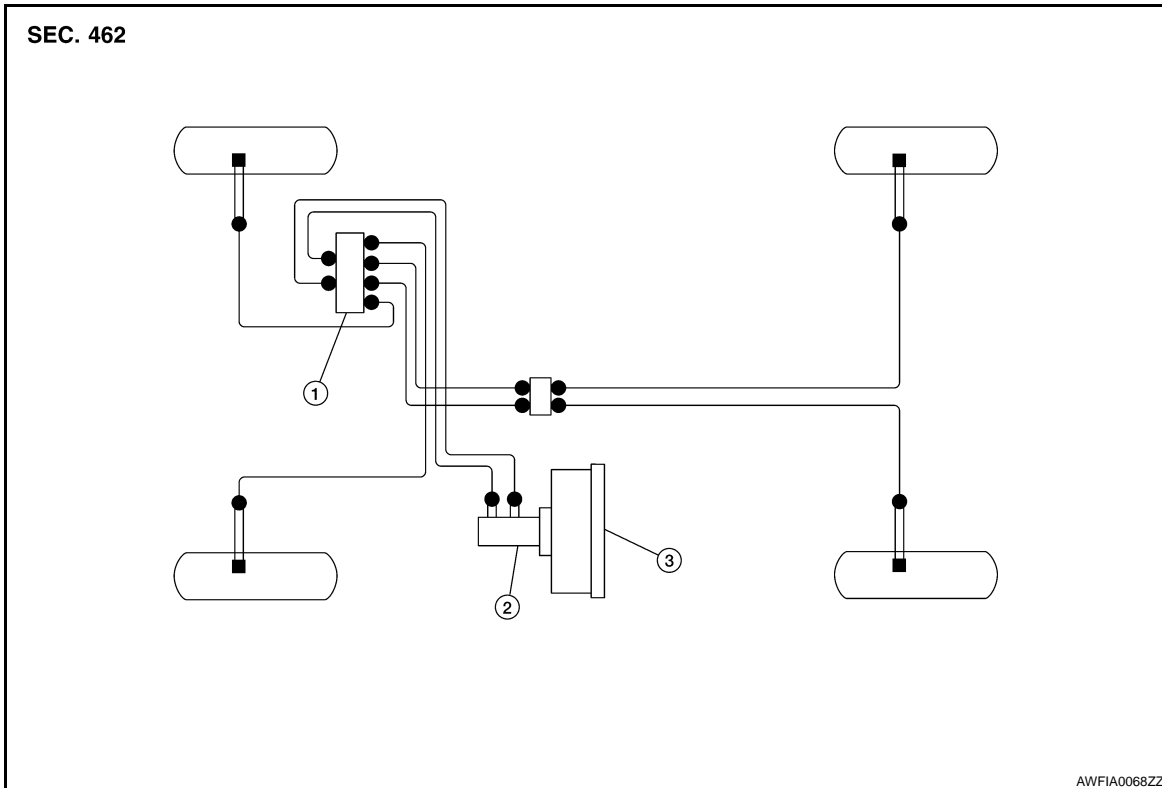
BR

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

< FUNCTION DIAGNOSIS >

Hydraulic Circuit

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1. Actuator

- Flare nut: 10 mm
16.2 N·m (1.7 kg-m, 12 ft-lb)

2. Master Cylinder

- Flare nut: 12 mm
16.2 N·m (1.7 kg-m, 12 ft-lb)

3. Brake Booster

- Union Bolt

CAUTION:

- All hoses and piping (tubes) must be free from excessive bending, twisting and pulling.
- Make sure there is no interference with other parts when turning steering both clockwise and counterclockwise.
- The brake piping is an important safety part. If a brake fluid leak is detected, always disassemble the parts. Replace applicable part with a new one, if necessary.
- Be careful not to splash brake fluid on painted areas; it may cause paint damage. If brake fluid is splashed on painted areas, wash it away with water immediately.
- Do not bend or twist brake hose sharply, or strongly pull it.
- When removing components, cover connections so that no dirt, dust, or other foreign matter gets in.
- Refill with new brake fluid. Refer to [MA-12, "Fluids and Lubricants"](#).
- Do not reuse drained brake fluid.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

BASIC INSPECTION

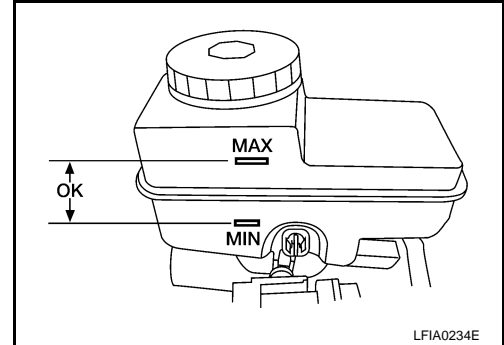
INSPECTION AND ADJUSTMENT

Brake Fluid Level Inspection

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LEVEL CHECK

- Check that the brake fluid level in the reservoir tank is within specification, between the MAX and MIN lines as shown.
- Visually check around reservoir tank for fluid leaks.
- If fluid level is excessively low, check brake system for leaks.
- If brake warning lamp remains illuminated after the parking brake pedal is released, check the brake system for any brake fluid leaks.



Brake Booster Inspection

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VISUAL INSPECTION

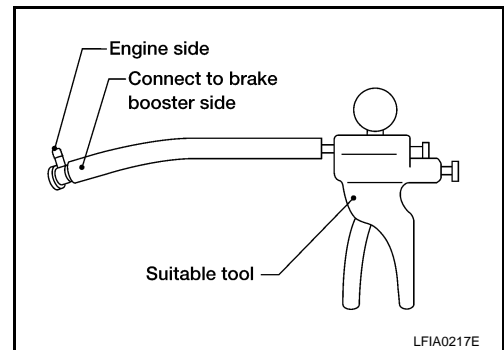
Check for improper assembly, damage and deterioration.

CHECK VALVE INSPECTION

Airtightness Inspection

Use a suitable vacuum pump to check. Connect to brake booster side of check valve.

Check valve specification : Vacuum decrease should be within 1.3 kPa (10 mmHg, 0.39 inHg) for 15 seconds under a vacuum of - 66.7 kPa (- 500 mmHg, - 19.69 inHg)

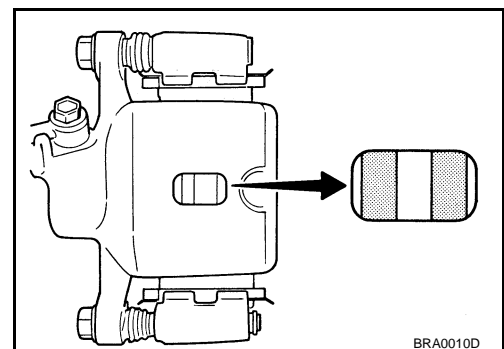


Pad Wear Inspection

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PAD WEAR INSPECTION

- Inspect the thickness of pad through cylinder body inspection hole. Use a scale for inspection if necessary. Refer to [BR-41, "Front Disc Brake"](#) (Front), [BR-41, "Rear Disc Brake"](#) (Rear).



Brake Pedal Inspection and Adjustment

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INSPECTION

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

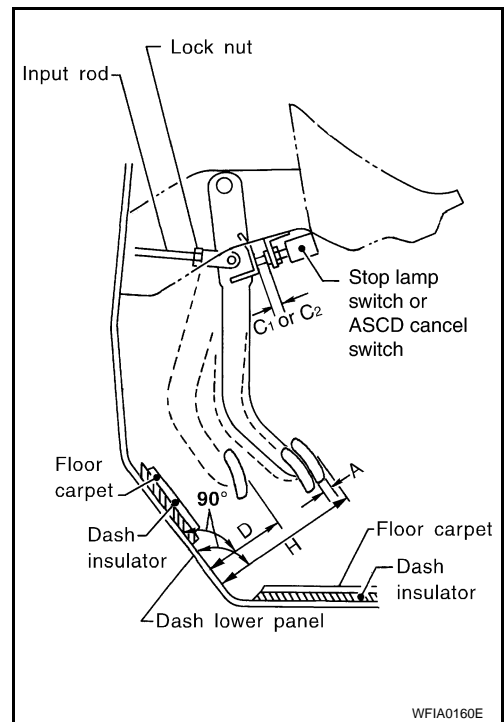
1. Inspect the brake pedal free height "H" from dash lower panel using Tool.

Tool : — (J-46532)

2. Adjust the height referring to the following specifications.

CAUTION:

The adjustable pedal must be in the frontmost (closest to the floor) position for pedal height measurement.



Unit: mm (in)

Free height "H"	: 182.1 - 192.1 (7.17 - 7.56)
Depressed pedal height ("D" [under a force of 490 N (50 kg, 110 lb) with engine running])	: 105 - 115 (4.13 - 4.53)
Clearance between pedal stopper and threaded end of stop lamp switch and ASCD cancel switch "C1" or "C2"	: 0.74 - 1.96 (0.029 - 0.077)
Pedal play "A"	: 3 - 11 (0.12 - 0.43)

ADJUSTMENT

1. Loosen the stop lamp switch and ASCD cancel switch by turning 45° counterclockwise.
2. Loosen lock nut on the input rod, then turn input rod to adjust the pedal to specified height. When finished adjusting, tighten lock nut.

CAUTION:

Make sure that the screw portion of the end of input rod is located inside the clevis.

Lock nut : 18.6 N·m (1.9 kg·m, 14 ft·lb)

3. With the pedal pulled up and held by hand, press the stop lamp switch and the ASCD cancel switch in until threaded ends contact pedal arm.
4. With the threaded ends of the stop lamp switch and ASCD cancel switch contacting the pedal arm, turn the switches 45° clockwise to lock in place.

CAUTION:

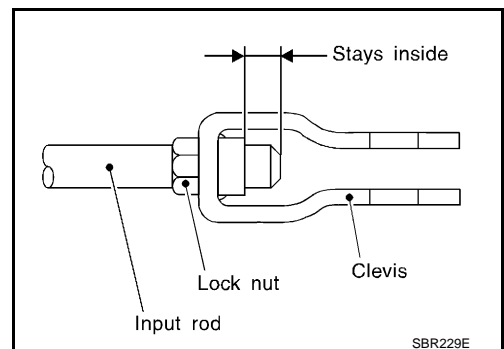
Make sure that the gap "C1 or C2" between the rubber stops and switch ends are within specification.

5. Check the pedal play.

CAUTION:

Make sure that the stop lamp goes off when the pedal is released.

6. Start the engine and check the height of the brake pedal when depressing it.



BRAKE FLUID

< ON-VEHICLE MAINTENANCE >

ON-VEHICLE MAINTENANCE

BRAKE FLUID

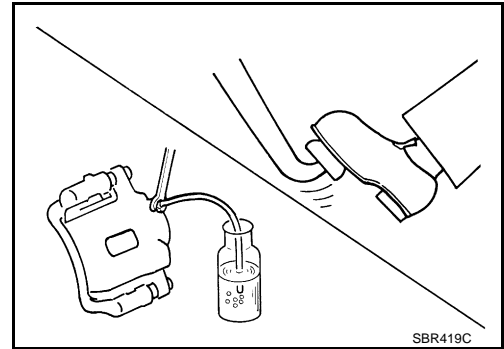
Drain and Refill

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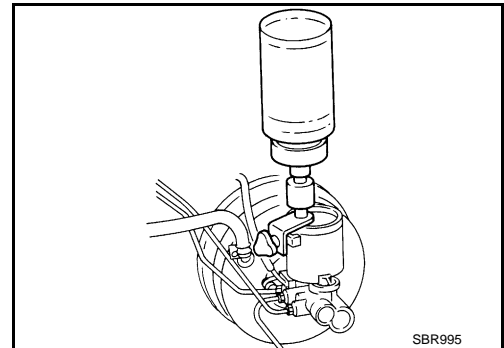
CAUTION:

- Refill with new brake fluid. Refer to [MA-12, "Fluids and Lubricants"](#).
- Do not reuse drained brake fluid.
- Do not let brake fluid splash on the painted surfaces of the body. This might damage the paint, so when splashing it, immediately wipe off the area and wash away with water.
- Before servicing, disconnect battery negative cable.

1. Connect a vinyl tube to each bleed valve.
2. Depress brake pedal, loosen each bleed valve, and gradually remove brake fluid.



3. Make sure there is no foreign material in reservoir tank, and refill with new brake fluid.
4. Rest foot on brake pedal. Loosen bleed valve. Slowly depress pedal until it stops. Tighten bleed valve. Release brake pedal. Repeat this process a few times, then pause to add new brake fluid to master cylinder. Continue until new brake fluid flows out. Bleed air from brake system. Refer to [BR-9, "Bleeding Brake System"](#).



Bleeding Brake System

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CAUTION:

While bleeding, monitor the master cylinder brake fluid level.

1. Turn ignition switch OFF and disconnect battery negative cable.
2. Connect a vinyl tube to the rear right bleed valve.
3. Fully depress brake pedal 4 to 5 times.
4. With brake pedal depressed, loosen bleed valve to let the air out, and then tighten it immediately.
5. Repeat steps 3 and 4 until no more air comes out.
6. Tighten bleed valve to the specified torque. Refer to [BR-10, "Component"](#) (front disc brake), [BR-12, "Component"](#) (rear disc brake).
7. Perform steps 2 to 6 at each wheel, with master cylinder reservoir tank filled at least half way, bleed air from the front left, rear left, and front right bleed valve, in that order.

FRONT DISC BRAKE

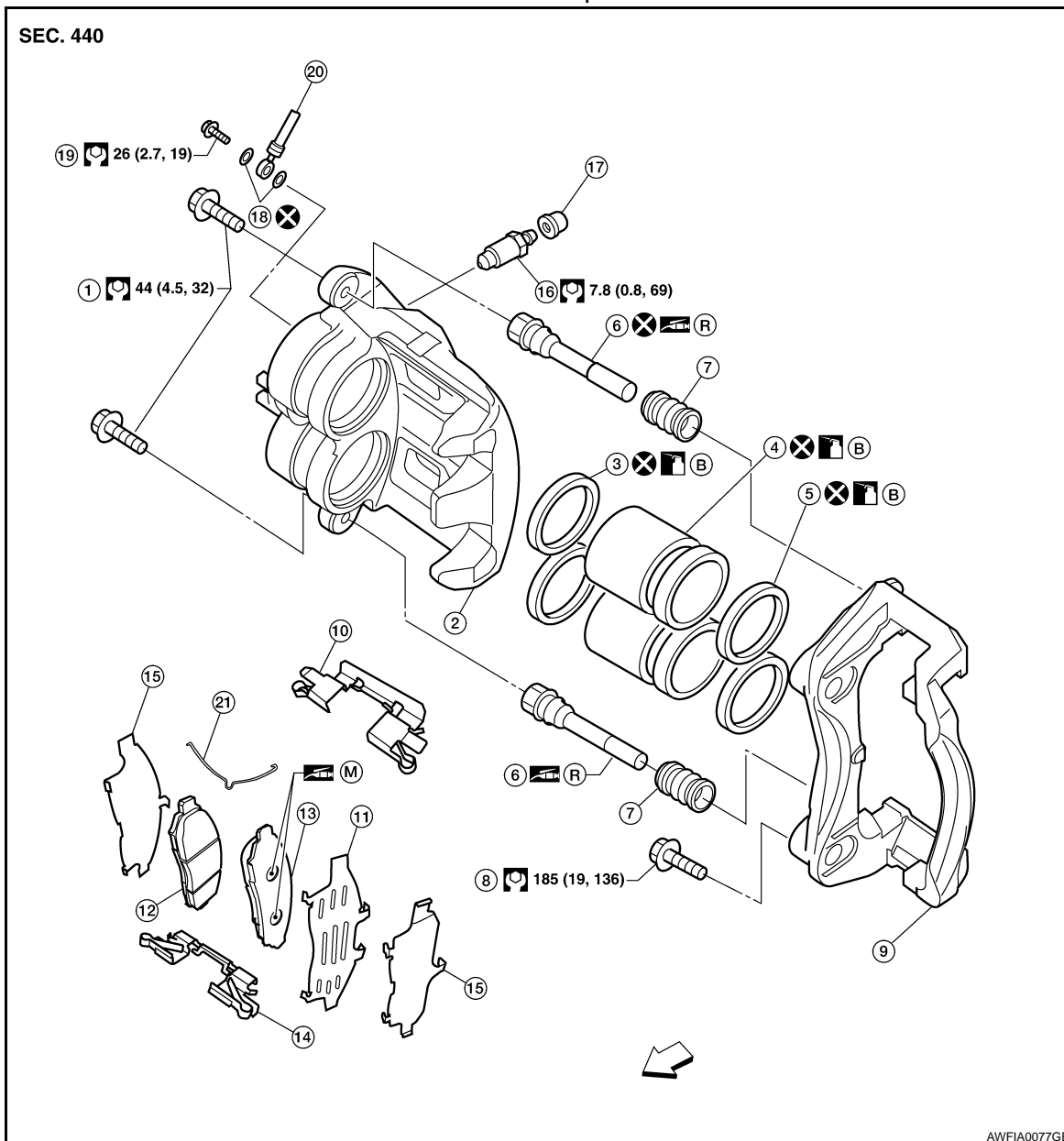
< ON-VEHICLE MAINTENANCE >

FRONT DISC BRAKE

Component

INFOID:000000003221004

Front Disc Brake Caliper and Pads



- | | | |
|------------------------|------------------------|-----------------------|
| 1. Sliding pin bolt | 2. Cylinder body | 3. Piston seal |
| 4. Piston | 5. Piston boot | 6. Sliding pin |
| 7. Sliding pin boot | 8. Torque member bolt | 9. Torque member |
| 10. Upper pad retainer | 11. Outer shim | 12. Inner brake pad |
| 13. Outer brake pad | 14. Lower pad retainer | 15. Shim cover |
| 16. Bleed valve | 17. Cap | 18. Copper washers |
| 19. Union bolt | 20. Brake hose | 21. Pad return spring |
| B. Brake fluid | R. Rubber grease | ← : Front |

WARNING:

Clean dust on caliper and brake pad with a vacuum dust collector to minimize the hazard of airborne particles or other materials.

CAUTION:

FRONT DISC BRAKE

< ON-VEHICLE MAINTENANCE >

- While removing cylinder body never depress brake pedal because piston will pop out.
- It is not necessary to remove bolts on torque member and brake hose except for disassembly or replacement of cylinder body. In this case, hang cylinder body with a wire so as not to stretch brake hose.
- Do not damage piston boot.
- Burnish brake contact surface after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage. Refer to [BR-27. "Brake Burnishing"](#).

Removal and Installation of Brake Pad

INFOID:000000003221005

REMOVAL

1. Remove wheel and tire using power tool.
2. Remove master cylinder reservoir cap.
3. Remove lower sliding pin bolt using power tool.
4. Suspend cylinder body with a wire and remove pad return spring, pads, shim, shim covers, and retainers from torque member.

INSTALLATION

1. Apply Molykote M-77 grease between outer brake pad plate and shim, then attach shim and shim covers to brake pads. Refer to [MA-12. "Fluids and Lubricants"](#).
2. Attach pad retainer to torque member, then install brake pad, shims and pad return spring.

CAUTION:

When attaching pad retainer, attach it firmly so that it is flush with torque member, as shown.

3. Using a suitable tool push pistons into cylinder body.

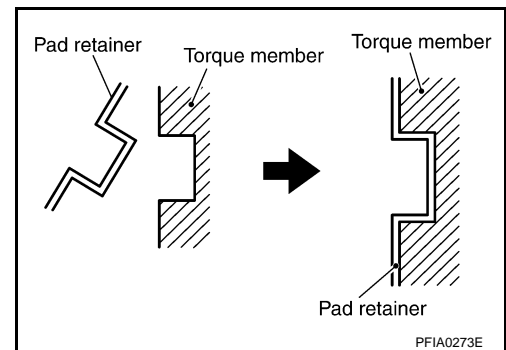
NOTE:

Using a disc brake piston tool (commercial service tool), etc., makes it easier to push pistons into cylinder body.

CAUTION:

By pushing in piston, brake fluid returns to master cylinder reservoir tank. Watch the level of the surface of reservoir tank.

4. Remove wire then swing cylinder body down over brake pad assemblies.
5. Install lower sliding pin bolt and tighten to specification. Refer to [BR-10. "Component"](#).
6. Check brake for drag.
7. Inspect fluid level, then install master cylinder reservoir cap.
8. Install wheel and tire. Refer to [WT-35. "Rotation"](#).



Brake Burnishing

INFOID:000000003221006

Burnish brake contact surface according to the following procedure after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage.

CAUTION:

Only perform this procedure under safe road and traffic conditions. Use extreme caution.

1. Drive the vehicle on a straight smooth road at 50 km/h (31 MPH).
2. Use medium brake pedal/foot effort to bring the vehicle to a complete stop from 50 km/h (31 MPH). Adjust brake pedal/foot pressure such that vehicle stopping time equals 3 to 5 seconds.
3. To cool brake system, drive the vehicle at 50 km/h (31 MPH) for 1 minute without stopping.
4. Repeat steps 1 to 3, 10 times or more to complete the burnishing procedure.

REAR DISC BRAKE

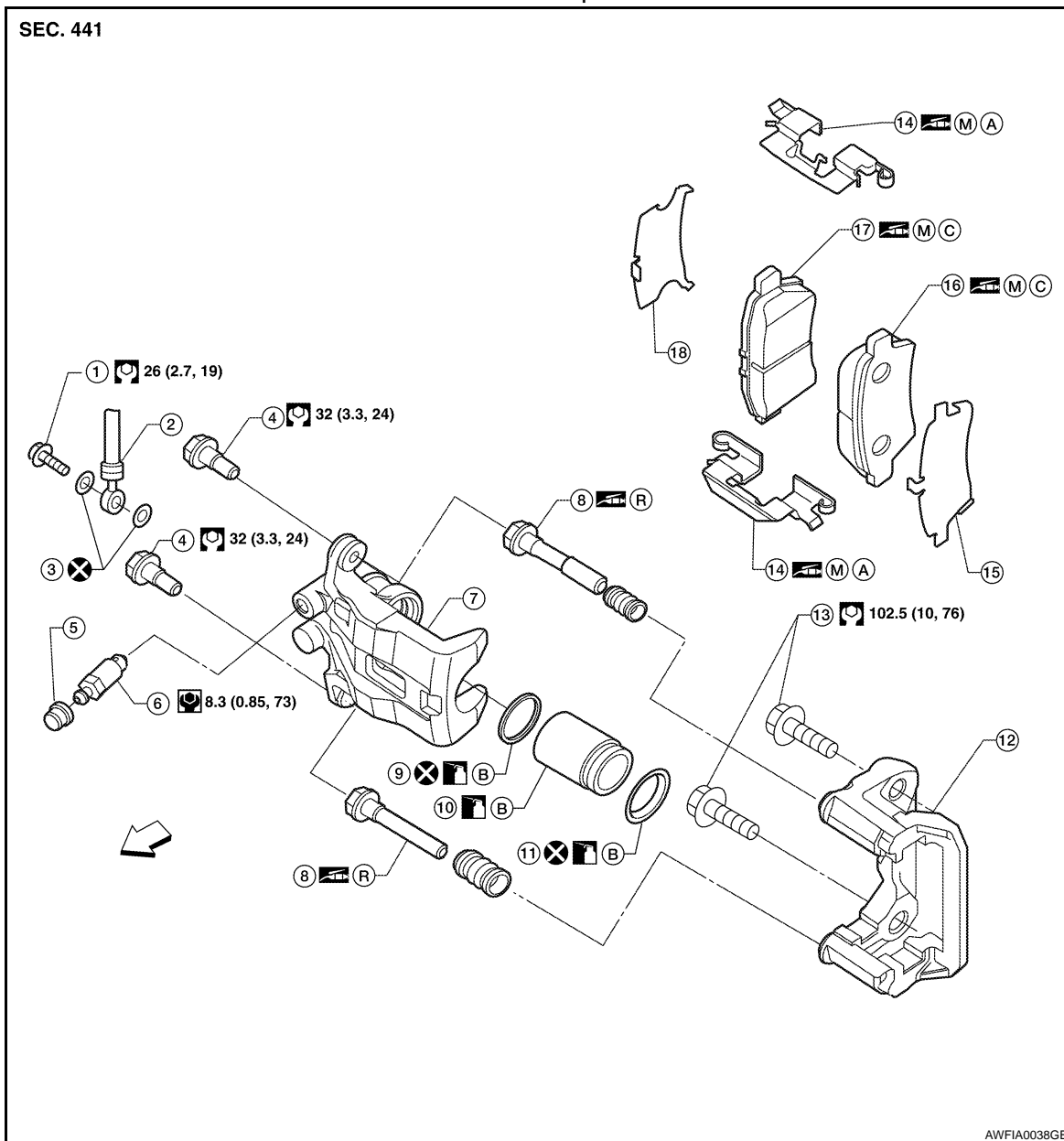
< ON-VEHICLE MAINTENANCE >

REAR DISC BRAKE

Component

INFOID:000000003221007

Rear Disc Brake Caliper and Pads



- | | | |
|---|---------------------|-------------------|
| 1. Union bolt | 2. Brake hose | 3. Copper washers |
| 4. Sliding pin bolt | 5. Cap | 6. Bleed valve |
| 7. Cylinder body | 8. Sliding pin | 9. Piston seal |
| 10. Piston | 11. Piston boot | 12. Torque member |
| 13. Torque member bolt | 14. Pad retainer | 15. Outer shim |
| 16. Outer brake pad | 17. Inner brake pad | 18. Inner shim |
| A. Molykote 7439 Refer to BR-13 for application areas | B. Brake fluid | C. Molykote 77 |
| R. Rubber grease | ← : Front | |

WARNING:

Clean dust on caliper and brake pad with a vacuum dust collector to minimize the hazard of airborne particles or other materials.

REAR DISC BRAKE

< ON-VEHICLE MAINTENANCE >

CAUTION:

- While removing cylinder body, never depress brake pedal because piston will pop out.
- It is not necessary to remove bolts on torque member and brake hose except for disassembly or replacement of cylinder body. In this case, hang cylinder body with a wire so as not to stretch brake hose.
- Do not damage piston boot.
- Burnish brake contact surface after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage. Refer to [BR-14, "Brake Burnishing"](#).

Removal and Installation of Brake Pad

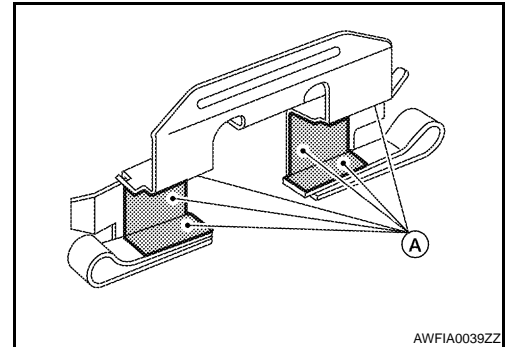
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REMOVAL

1. Remove wheel and tire using power tool.
2. Remove master cylinder reservoir cap.
3. Remove lower sliding pin bolt using power tool.
4. Suspend cylinder body with a wire and remove pads, shims and retainers from torque member.

INSTALLATION

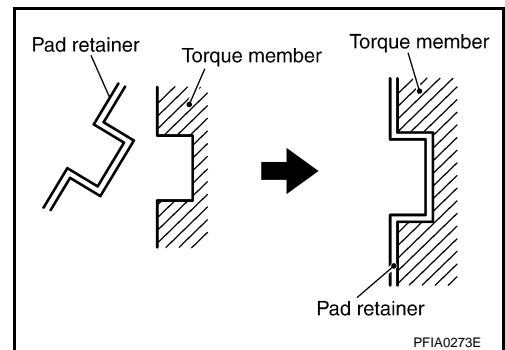
1. Apply Molykote M-77 grease between outer brake pad plate and shim, then attach shims to brake pads. Refer to [MA-12, "Fluids and Lubricants"](#).
2. Apply Molykote 7439 to pad retainers (A) as shown



3. Attach pad retainer to torque member, then install brake pad and shim assemblies.

CAUTION:

When attaching pad retainer, attach it firmly so that it is flush with torque member, as shown.



4. Using a suitable tool push piston into cylinder body.

NOTE:

Using a disc brake piston tool (commercial service tool), etc., makes it easier to push piston into cylinder body.

CAUTION:

By pushing in piston, brake fluid returns to master cylinder reservoir tank. Watch the level of the surface of reservoir tank.

5. Remove wire then swing cylinder body down over brake pad assemblies.
6. Install lower sliding pin bolt and tighten to specification. Refer to [BR-12, "Component"](#).
7. Check brake for drag.
8. Inspect fluid level, then install master cylinder reservoir cap.
9. Install wheel and tire. Refer to [WT-35, "Rotation"](#).

REAR DISC BRAKE

< ON-VEHICLE MAINTENANCE >

Brake Burnishing

INFOID:000000003221009

Burnish brake contact surface according to the following procedure after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage.

CAUTION:

Only perform this procedure under safe road and traffic conditions. Use extreme caution.

1. Drive the vehicle on a straight smooth road at 50 km/h (31 MPH).
2. Use medium brake pedal/foot effort to bring the vehicle to a complete stop from 50 km/h (31 MPH). Adjust brake pedal/foot pressure such that vehicle stopping time equals 3 to 5 seconds.
3. To cool brake system, drive the vehicle at 50 km/h (31 MPH) for 1 minute without stopping.
4. Repeat steps 1 to 3, 10 times or more to complete the burnishing procedure.

BRAKE PEDAL

< REMOVAL AND INSTALLATION >

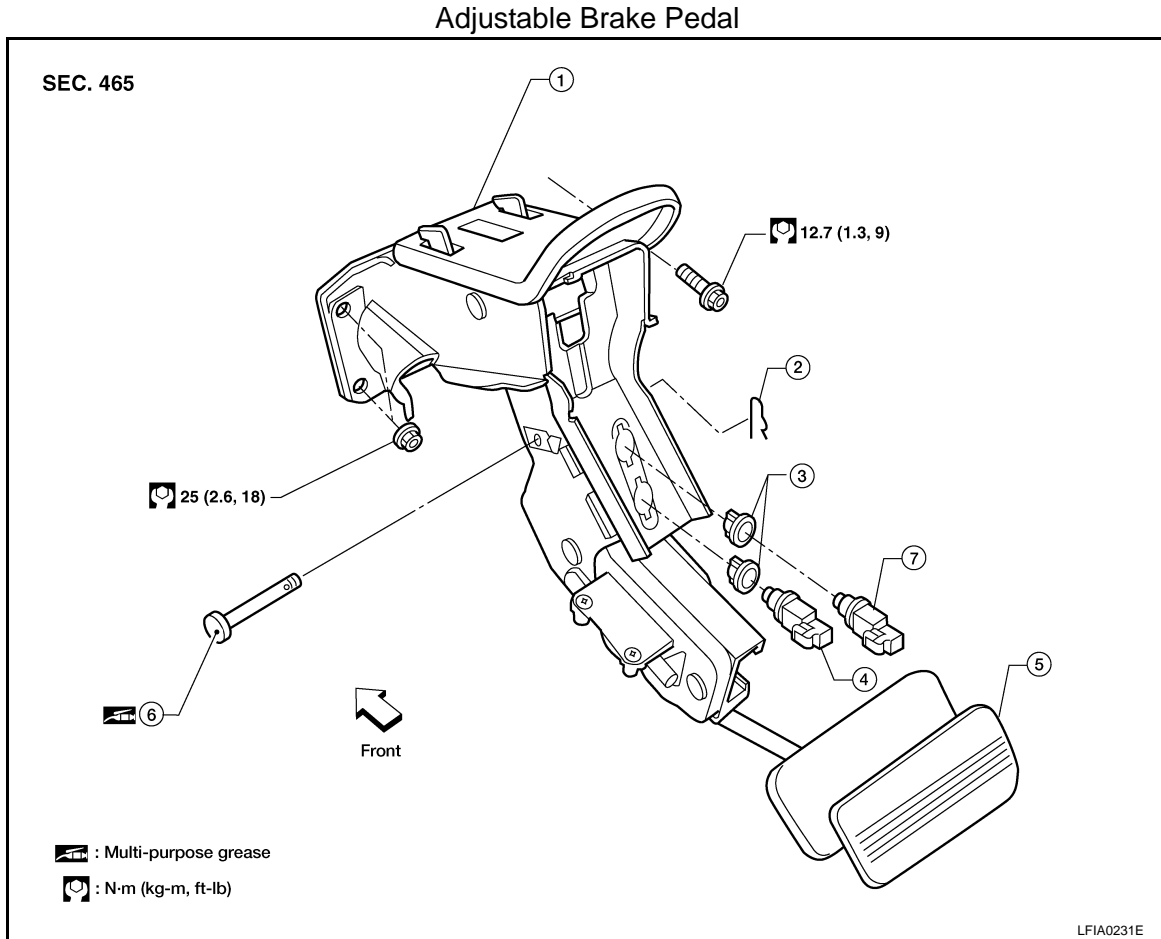
REMOVAL AND INSTALLATION

BRAKE PEDAL

Removal and Installation

INFOID:000000003221010

COMPONENTS



1. Brake pedal assembly
4. Stop lamp switch
7. ASCD cancel switch

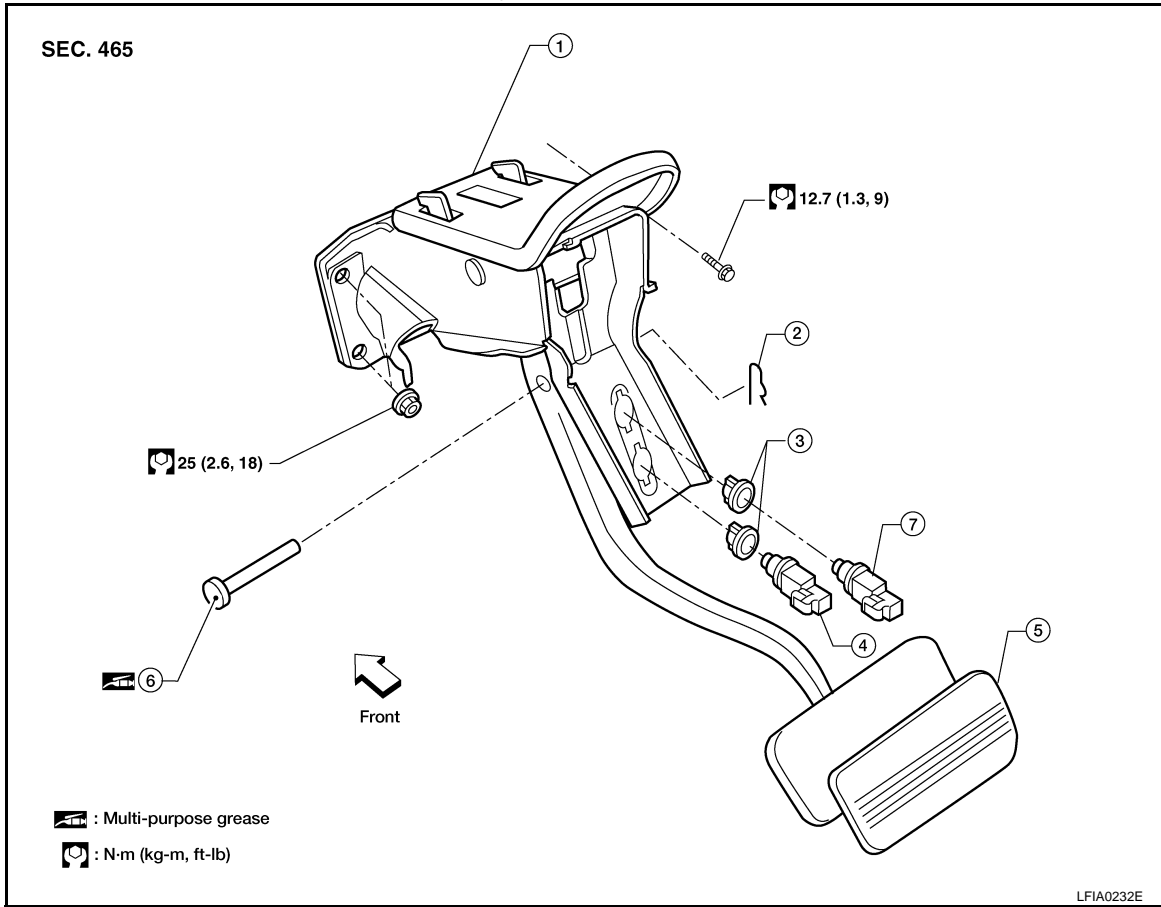
2. Snap pin
5. Pedal pad

3. Clip
6. Clevis pin

BRAKE PEDAL

< REMOVAL AND INSTALLATION >

Non-adjustable Brake Pedal



- | | | |
|-------------------------|--------------|---------------|
| 1. Brake pedal assembly | 2. Snap pin | 3. Clip |
| 4. Stop lamp switch | 5. Pedal pad | 6. Clevis pin |
| 7. ASCD cancel switch | | |

REMOVAL FOR ADJUSTABLE BRAKE PEDAL

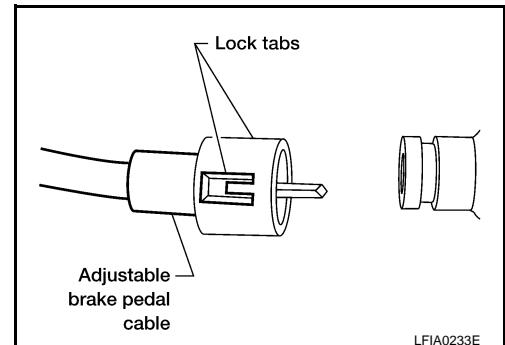
WARNING:

Do not deform the brake tube.

CAUTION:

- Before removal and installation the accelerator and brake pedals must be in the forward most position (closest to the floor). This is to align the base position of the accelerator and brake pedals.
- Do not disassemble the brake pedal adjusting mechanism.
- Avoid damage from dropping the brake pedal assembly during handling.
- Keep the brake pedal assembly away from water.

1. Remove the lower driver instrument panel. Refer to [IP-10. "Removal and Installation"](#).
2. Remove the stop lamp switch and ASCD cancel switch from the pedal assembly.
3. Disconnect the adjustable brake pedal cable from the adjustable pedal.
 - Release the two lock tabs, then pull the adjustable brake pedal cable to disconnect it from the adjustable brake pedal.



4. Remove snap pin and clevis pin from the clevis of the brake booster.

BRAKE PEDAL

< REMOVAL AND INSTALLATION >

5. Remove nuts and the pedal assembly.
 - Temporarily install the nuts by hand to support the booster.

CAUTION:

- Before removal and installation the accelerator and brake pedals must be in the frontmost position (closest to the floor). This is to align the base position of the accelerator and brake pedals.
- Do not disassemble the brake pedal adjusting mechanism.
- Avoid damage from dropping the brake pedal assembly during handling.
- Keep the brake pedal assembly away from water.

REMOVAL FOR NON-ADJUSTABLE BRAKE PEDAL

WARNING:

Do not deform the brake tube.

CAUTION:

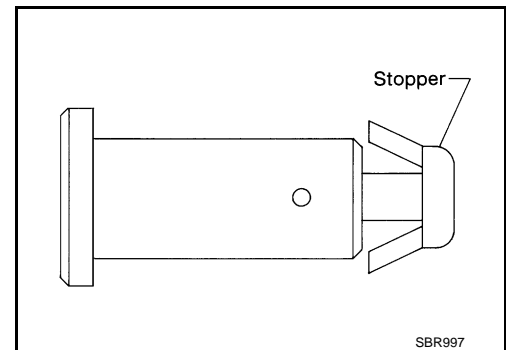
- Do not disassemble the brake pedal assembly.
- Avoid damage from dropping the brake pedal assembly during handling.
- Keep the brake pedal assembly away from water.

1. Remove the lower driver instrument panel. Refer to [IP-10, "Removal and Installation"](#).
2. Remove the stop lamp switch and ASCD cancel switch from the pedal assembly.
3. Remove snap pin and clevis pin from the clevis of the brake booster.
4. Remove nuts and the pedal assembly.
 - Temporarily install the nuts by hand to support the booster.

INSPECTION AFTER REMOVAL

Check brake pedal for following items.

- Crack or deformation of clevis pin stopper
- Clevis pin deformation
- Crack of any welded portion
- Brake pedal bend



INSTALLATION

1. Installation is in the reverse order of removal.
 - Check the brake pedal for smooth operation. There should be no binding or sticking when applying or releasing the brake pedal.
 - On models equipped with adjustable brake pedal, check the adjustable feature for smooth operation. There should be no binding or sticking when adjusting the brake pedal forward and backward.
 - After installing the brake pedal assembly in the vehicle, be sure to adjust it. Refer to [BR-7, "Brake Pedal Inspection and Adjustment"](#).

BRAKE PIPING AND HOSE

< REMOVAL AND INSTALLATION >

BRAKE PIPING AND HOSE

Removal and Installation of Front Brake Piping and Brake Hose

INFOID:000000003221011

REMOVAL

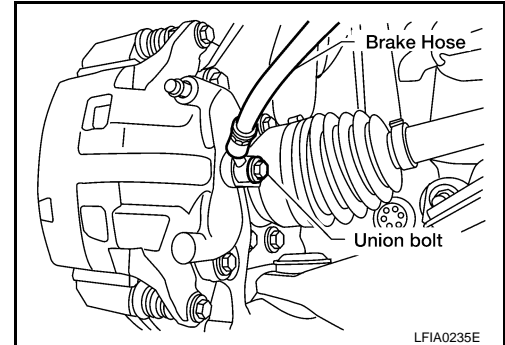
1. Drain brake fluid. Refer to [BR-9, "Drain and Refill"](#).
2. Remove brake tube from brake hose, using a suitable tool.
3. Remove lock plate and brake hose from bracket.
4. Remove union bolt and then remove brake hose from caliper assembly.

INSTALLATION

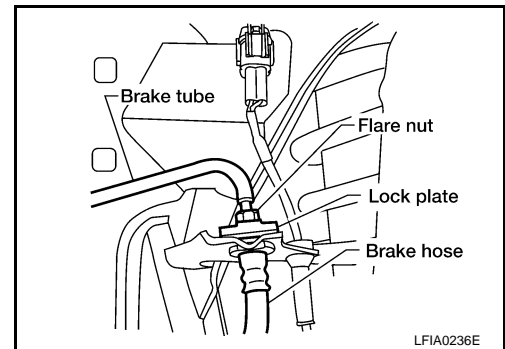
1. Install brake hose by aligning with the protrusion on caliper assembly, and tighten union bolt to the specified torque. Refer to [BR-6, "Hydraulic Circuit"](#).

NOTE:

Do not reuse copper washer.



2. Insert brake hose end through bracket, then secure it to bracket with lock plate.
3. Install brake tube to brake hose, then tighten flare nut to the specified torque using a suitable tool.
4. Refill brake fluid and bleed air. Refer to [BR-9, "Bleeding Brake System"](#).



Removal and Installation of Rear Brake Piping and Brake Hose

INFOID:000000003221012

REMOVAL

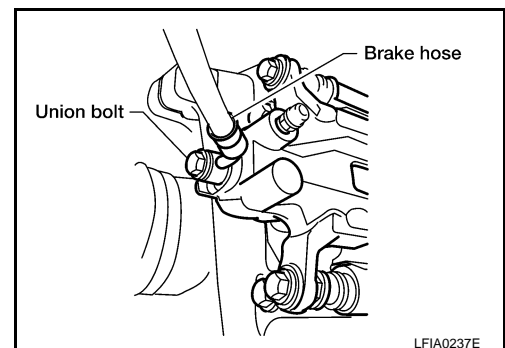
1. Drain brake fluid. Refer to [BR-9, "Drain and Refill"](#).
2. Remove brake tube from brake hose, using a suitable tool.
3. Remove lock plate and brake hose from bracket.
4. Remove union bolt, and then remove brake hose from caliper assembly.

INSTALLATION

1. Install brake hose by aligning with the protrusion on caliper assembly, and tighten union bolt to the specified torque. Refer to [BR-6, "Hydraulic Circuit"](#).

NOTE:

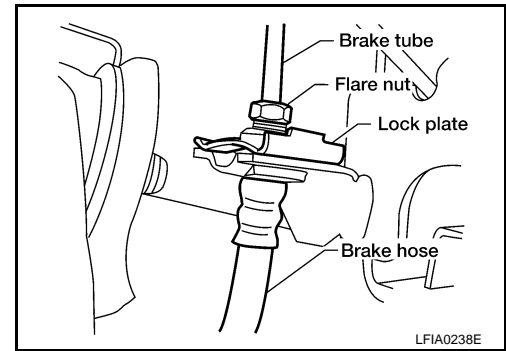
Do not reuse copper washer.



BRAKE PIPING AND HOSE

< REMOVAL AND INSTALLATION >

2. Insert brake hose end through bracket, then secure it to bracket with lock plate.
3. Install brake tube to brake hose, then tighten flare nut to the specified torque using a suitable tool.
4. Refill brake fluid and bleed air. Refer to [BR-9, "Bleeding Brake System"](#).



Inspection After Installation

INFOID:000000003221013

CAUTION:

If a leak is detected at the connections, retighten it or, if necessary, replace the damaged part.

1. Check brake lines (tubes and hoses), and connections for fluid leaks, damage, twist, deformation, contact with other parts, and loose connections. Replace any damaged parts.
2. While depressing brake pedal under a force of 785 N (80 kg-f, 177 lb-f) with engine running for approximately 5 seconds, check for fluid leaks from each part.

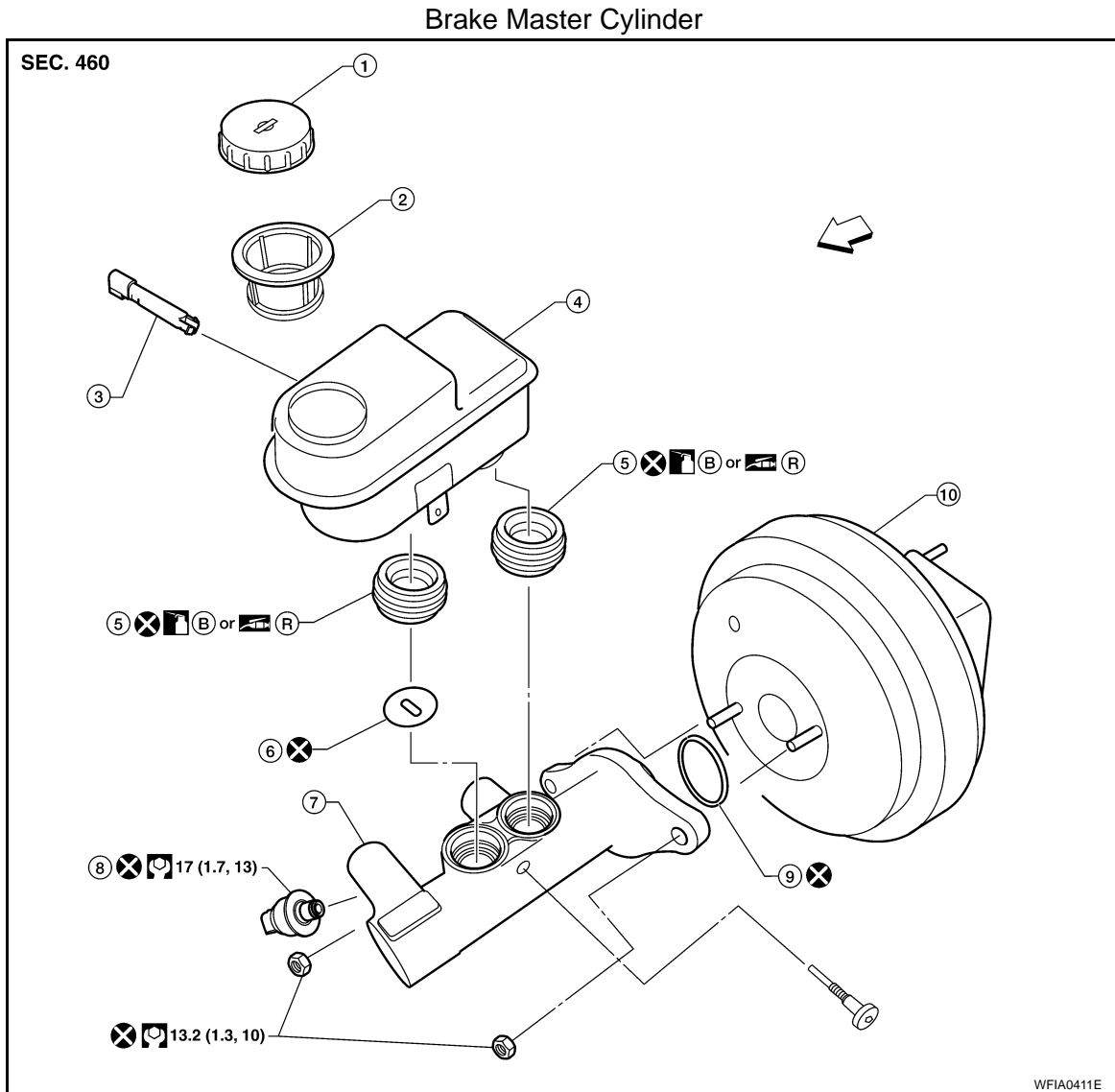
BRAKE MASTER CYLINDER

< REMOVAL AND INSTALLATION >

BRAKE MASTER CYLINDER

Removal and Installation

INFOID:000000003221014



- | | | |
|---------------------------------|--------------------------|-----------------------|
| 1. Reservoir cap | 2. Strainer | 3. Fluid level sensor |
| 4. Reservoir tank | 5. Grommet | 6. Restriction washer |
| 7. Master cylinder sub-assembly | 8. Fluid pressure sensor | 9. O-ring |
| 10. Brake booster | ← Front | B. Brake fluid |
| | | R. Rubber grease |

CAUTION:

Be careful not to splash brake fluid on painted areas; it may cause paint damage. If brake fluid is splashed on painted areas, wash it away with water immediately.

REMOVAL

1. Drain brake fluid. Refer to [BR-9, "Drain and Refill"](#).
2. Disconnect harness connectors for fluid level sensor and pressure sensor.
3. Disconnect brake tube from master cylinder assembly.
4. Remove master cylinder assembly nuts and master cylinder assembly.

INSTALLATION

- Installation is in the reverse order of removal.

BRAKE MASTER CYLINDER

< REMOVAL AND INSTALLATION >

- Refill brake fluid and bleed air. Refer to [BR-9, "Bleeding Brake System"](#).

CAUTION:

- Refill using recommended brake fluid. Refer to [BR-9, "Drain and Refill"](#).
- Do not reuse drained brake fluid.
- Adjust brake pedal. Refer to [BR-7, "Brake Pedal Inspection and Adjustment"](#).

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BRAKE BOOSTER

< REMOVAL AND INSTALLATION >

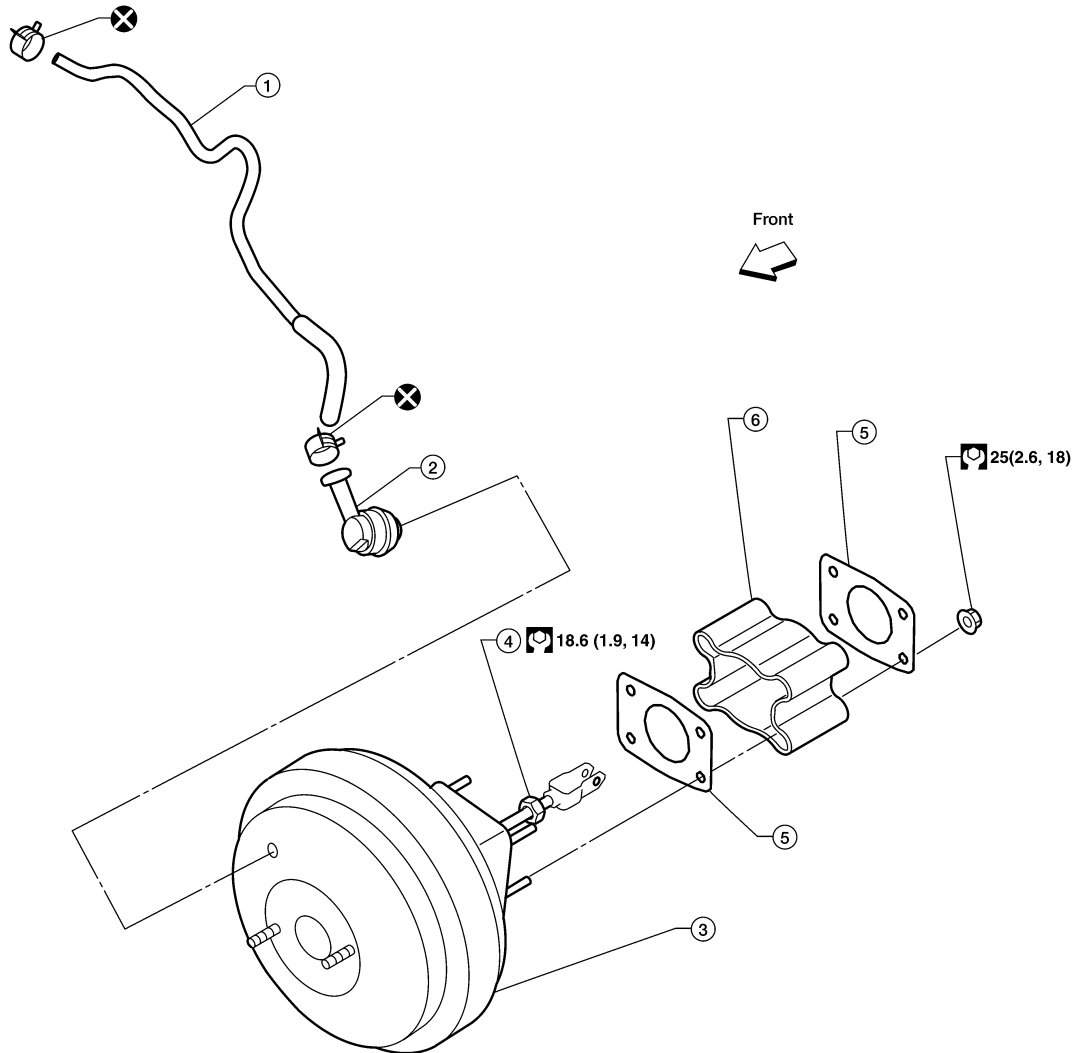
BRAKE BOOSTER


Removal and Installation


INFOID:000000003221015

Brake Booster

SEC. 470



 : N·m (kg-m, ft-lb)

 : Always replace after every disassembly.

LFIA0241E

- | | | |
|-----------------------|-------------------------------------|------------------|
| 1. Brake booster hose | 2. Brake booster vacuum check valve | 3. Brake booster |
| 4. Lock nut | 5. Gasket | 6. Spacer block |

REMOVAL

CAUTION:

- Be careful not to deform or bend brake piping while removing and installing brake booster.
- Replace clevis pin if it is damaged.
- Be careful not to damage brake booster stud bolt threads. If brake booster is tilted or inclined during installation, dash panel may damage the threads.
- Attach the check valve in the correct direction.

1. Remove actuator and electric unit. Refer to [BRC-72, "Removal and Installation"](#) (Type 1), [BRC-156, "Removal and Installation"](#) (Type 2), [BRC-274, "Removal and Installation"](#) (Type 3).
2. Remove brake piping from brake master cylinder.

BRAKE BOOSTER

< REMOVAL AND INSTALLATION >

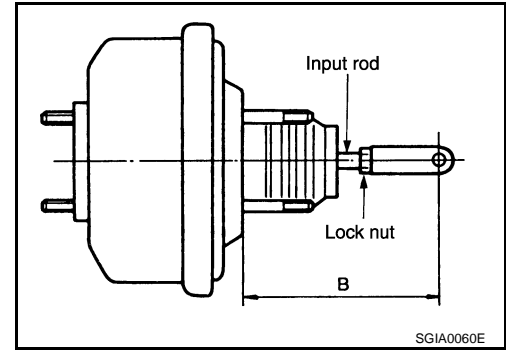
3. Remove brake master cylinder. Refer to [BR-20, "Removal and Installation"](#).
4. Remove vacuum hose from brake booster. Refer to [BR-22](#).
5. Remove brake pedal attachment snap pin and clevis pin from inside the vehicle.
6. Remove nuts on brake booster and brake pedal assembly.
7. Remove brake booster assembly from dash panel.

INSTALLATION

1. Loosen lock nut to adjust input rod length so that the length "B" satisfies the specified value.

Length "B" : 150 mm (5.91 in)

2. After adjusting "B", temporarily tighten lock nut and install booster assembly to the vehicle.
 - Install a gaskets and spacer block between booster assembly and the dash panel.
3. Connect brake pedal with clevis of input rod.
4. Install brake booster nuts.
5. Install brake piping from brake master cylinder to actuator and electric unit. Refer to [BR-6, "Hydraulic Circuit"](#).
6. Connect vacuum hose to brake booster.
7. Install master cylinder to booster assembly. Refer to "Removal and Installation".
8. Adjust the height of brake pedal. Refer to [BR-7, "Brake Pedal Inspection and Adjustment"](#).
9. Tighten input rod lock nut.
10. Refill new brake fluid and bleed air. Refer to [BR-9, "Drain and Refill"](#).



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VACUUM LINES

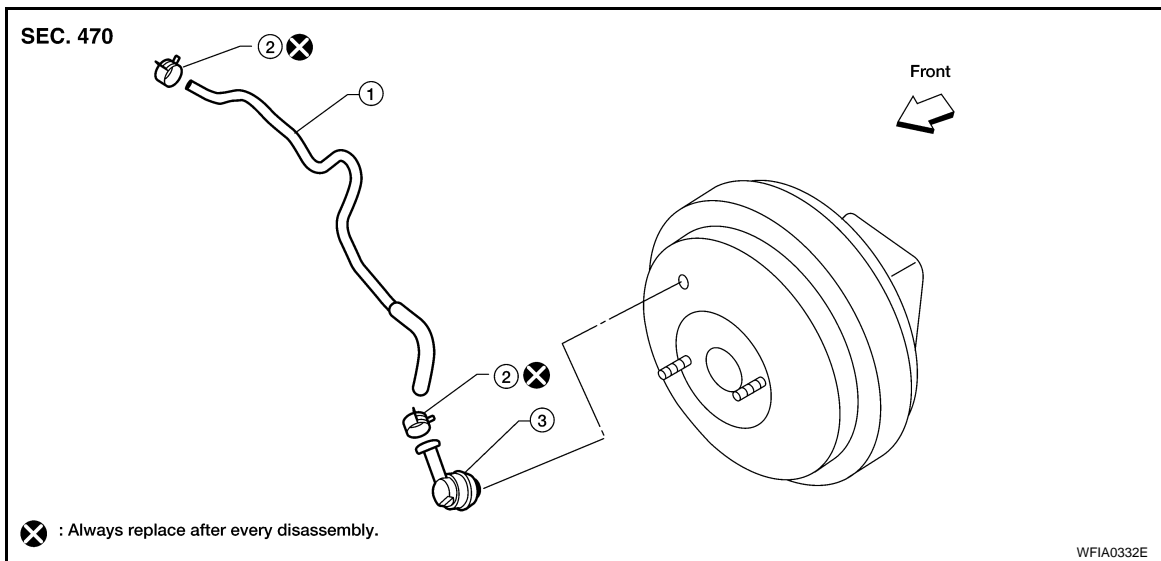
< REMOVAL AND INSTALLATION >

VACUUM LINES

Removal and Installation

INFOID:000000003221016

Brake Booster Vacuum Hose

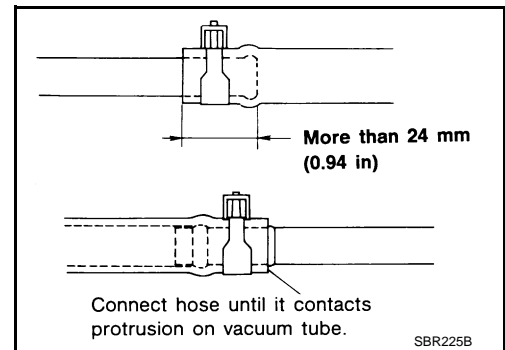


1. Brake booster hose 2. Brake booster hose clip 3. Brake booster vacuum check valve

1. Disconnect brake booster hose from hose clip mounted on bracket.
2. Release clips and disconnect brake booster hose.
3. Remove check valve from brake booster.
4. Installation is in the reverse order of removal.

CAUTION:

- Insert vacuum hose for at least 24 mm (0.94 in).
- Do not use lubricating oil during assembly.



FRONT DISC BRAKE

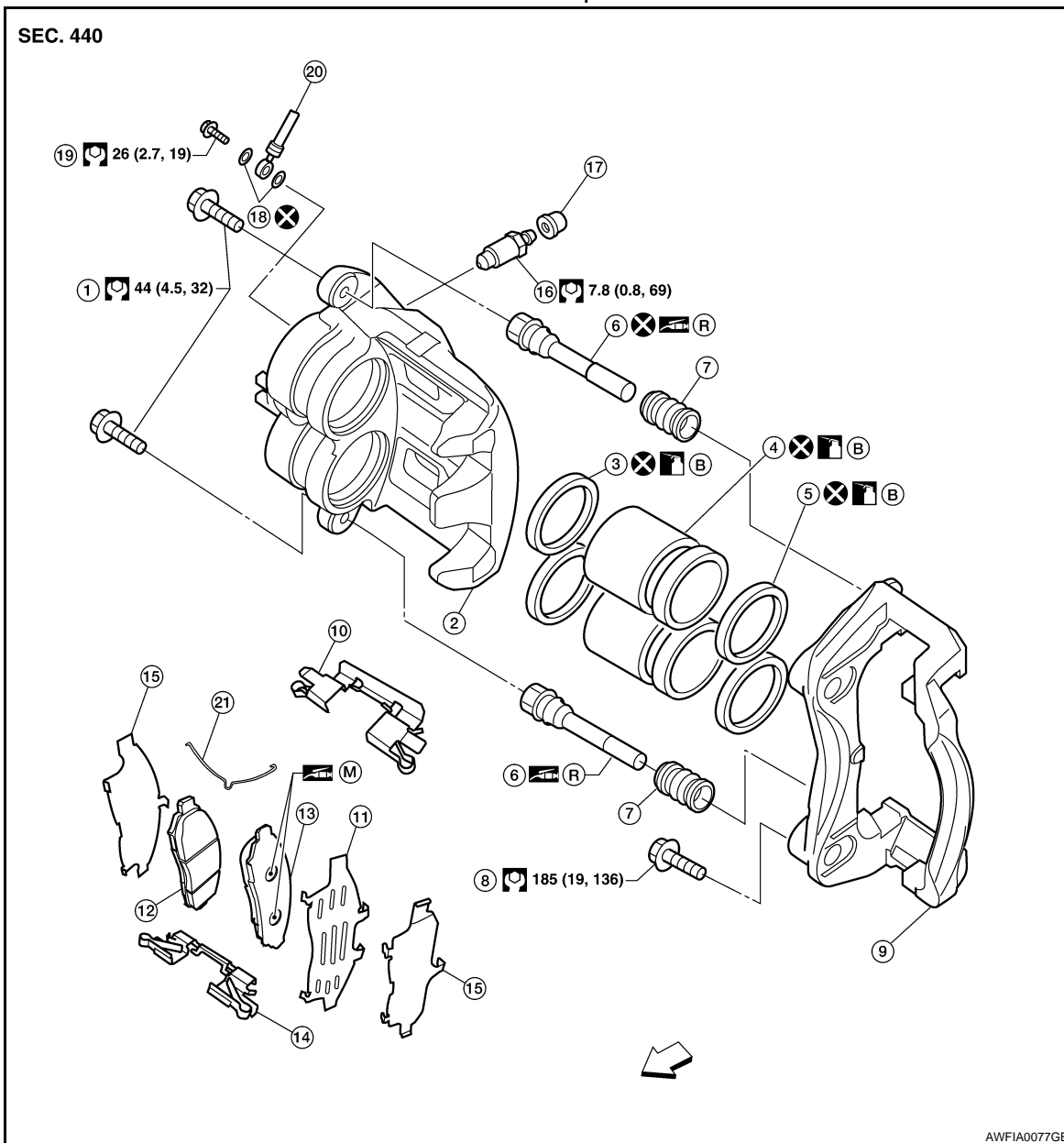
< REMOVAL AND INSTALLATION >

FRONT DISC BRAKE

Component

INFOID:000000003221017

Front Disc Brake Caliper and Pads



- | | | |
|------------------------|------------------------|-----------------------|
| 1. Sliding pin bolt | 2. Cylinder body | 3. Piston seal |
| 4. Piston | 5. Piston boot | 6. Sliding pin |
| 7. Sliding pin boot | 8. Torque member bolt | 9. Torque member |
| 10. Upper pad retainer | 11. Outer shim | 12. Inner brake pad |
| 13. Outer brake pad | 14. Lower pad retainer | 15. Shim cover |
| 16. Bleed valve | 17. Cap | 18. Copper washers |
| 19. Union bolt | 20. Brake hose | 21. Pad return spring |
| B. Brake fluid | R. Rubber grease | ← : Front |

WARNING:

Clean dust on caliper and brake pad with a vacuum dust collector to minimize the hazard of airborne particles or other materials.

CAUTION:

FRONT DISC BRAKE

< REMOVAL AND INSTALLATION >

- While removing cylinder body never depress brake pedal because piston will pop out.
- It is not necessary to remove bolts on torque member and brake hose except for disassembly or replacement of cylinder body. In this case, hang cylinder body with a wire so as not to stretch brake hose.
- Do not damage piston boot.
- Burnish brake contact surface after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage. Refer to [BR-27, "Brake Burnishing"](#).

Removal and Installation of Brake Caliper and Disc Rotor

INFOID:000000003221018

REMOVAL

1. Remove wheel and tire using power tool.
2. Drain brake fluid as necessary. Refer to [BR-9, "Drain and Refill"](#).
NOTE:
Do not remove union bolt unless removing cylinder body from vehicle.
3. Remove union bolt as necessary and torque member bolts, then remove cylinder body from the vehicle.
NOTE:
 - Position cylinder body aside using suitable wire, as necessary.
 - When servicing brake caliper, remove sliding pin bolts and caliper from torque member.
4. Remove torque member.
5. Remove disc rotor.

INSTALLATION

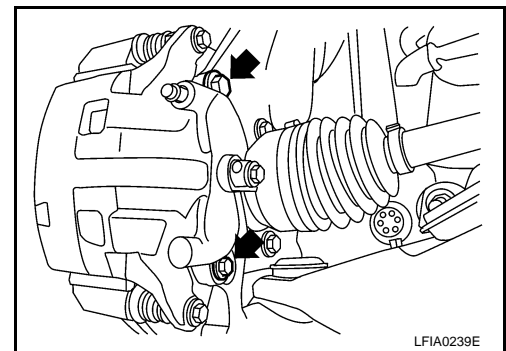
CAUTION:

- Refill with new brake fluid. Refer to [BR-9, "Drain and Refill"](#).
- Do not reuse drained brake fluid.

1. Install disc rotor.
2. Install torque member and tighten to specification. Refer to [BR-10, "Component"](#).
3. Install sliding pin bolts, if removed.
4. Install cylinder body, then tighten sliding pin bolts to the specified torque. Refer to [BR-10, "Component"](#).

CAUTION:

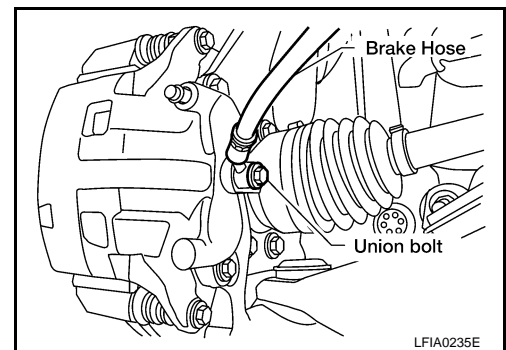
When attaching cylinder body to the vehicle, wipe any oil off knuckle spindle, washers and cylinder body attachment surfaces.



5. Install brake hose to cylinder body, if removed, then tighten union bolt to the specified torque. Refer to [BR-10, "Component"](#).

CAUTION:

- Do not reuse copper washers for union bolt.
- Attach brake hose to cylinder body together with union bolt and washers.



6. Refill with new brake fluid as necessary and bleed air. Refer to [BR-9, "Bleeding Brake System"](#).
7. Install wheel and tire. Refer to [WT-35, "Rotation"](#).

FRONT DISC BRAKE

< REMOVAL AND INSTALLATION >

Brake Burnishing

INFOID:000000003221019

Burnish brake contact surface according to the following procedure after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage.

CAUTION:

Only perform this procedure under safe road and traffic conditions. Use extreme caution.

1. Drive the vehicle on a straight smooth road at 50 km/h (31 MPH).
2. Use medium brake pedal/foot effort to bring the vehicle to a complete stop from 50 km/h (31 MPH). Adjust brake pedal/foot pressure such that vehicle stopping time equals 3 to 5 seconds.
3. To cool brake system, drive the vehicle at 50 km/h (31 MPH) for 1 minute without stopping.
4. Repeat steps 1 to 3, 10 times or more to complete the burnishing procedure.

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REAR DISC BRAKE

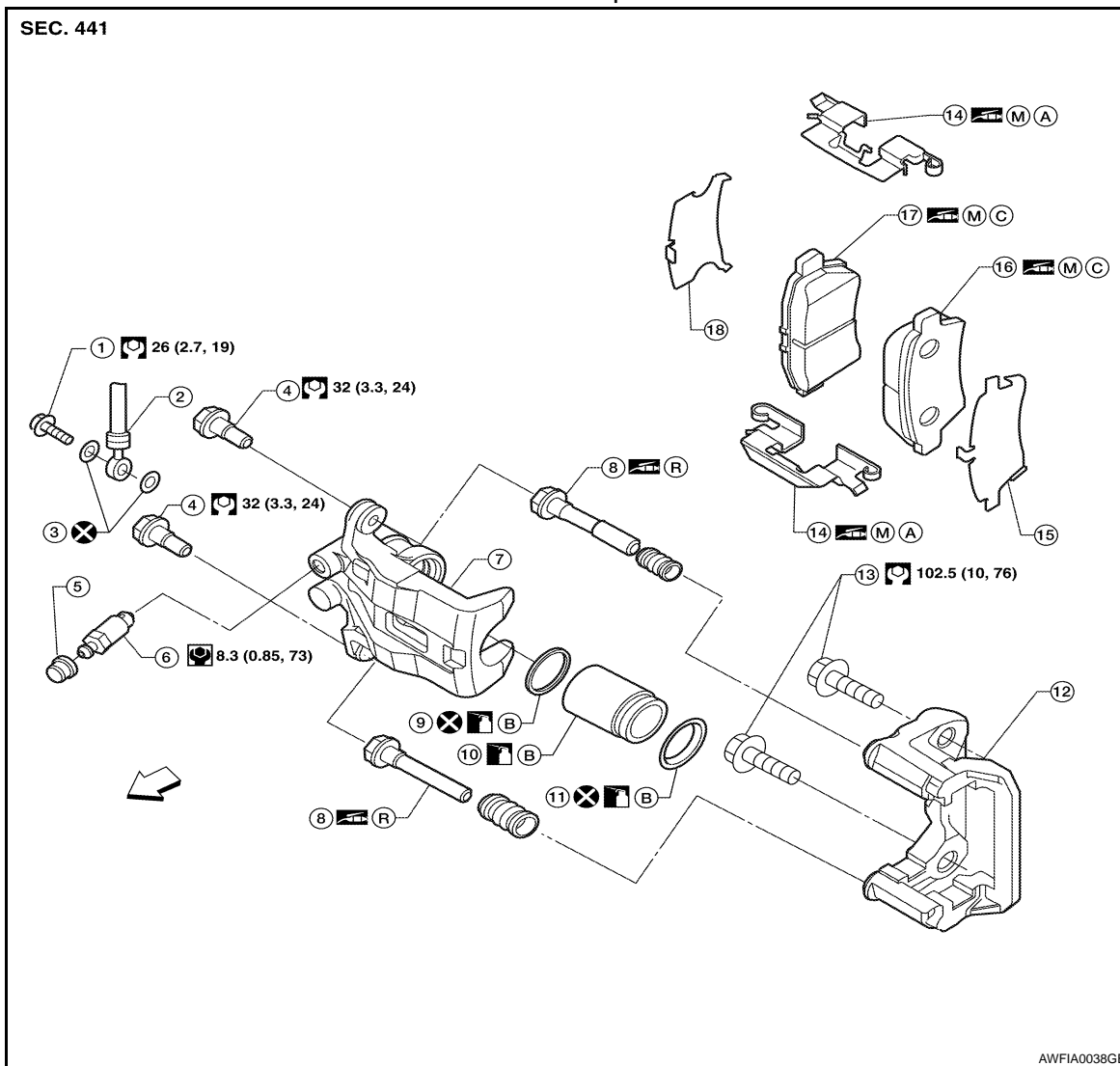
< REMOVAL AND INSTALLATION >

REAR DISC BRAKE

Component

INFOID:000000003221020

Rear Disc Brake Caliper and Pads



- | | | |
|---|---------------------|-------------------|
| 1. Union bolt | 2. Brake hose | 3. Copper washers |
| 4. Sliding pin bolt | 5. Cap | 6. Bleed valve |
| 7. Cylinder body | 8. Sliding pin | 9. Piston seal |
| 10. Piston | 11. Piston boot | 12. Torque member |
| 13. Torque member bolt | 14. Pad retainer | 15. Outer shim |
| 16. Outer brake pad | 17. Inner brake pad | 18. Inner shim |
| A. Molykote 7439 refer to BR-13 for application areas | B. Brake fluid | C. Molykote 77 |
| R. Rubber grease | ⇨ : Front | |

WARNING:

Clean dust on caliper and brake pad with a vacuum dust collector to minimize the hazard of airborne particles or other materials.

CAUTION:

- While removing cylinder body, never depress brake pedal because piston will pop out.
- It is not necessary to remove bolts on torque member and brake hose except for disassembly or replacement of cylinder body. In this case, hang cylinder body with a wire so as not to stretch brake hose.

REAR DISC BRAKE

< REMOVAL AND INSTALLATION >

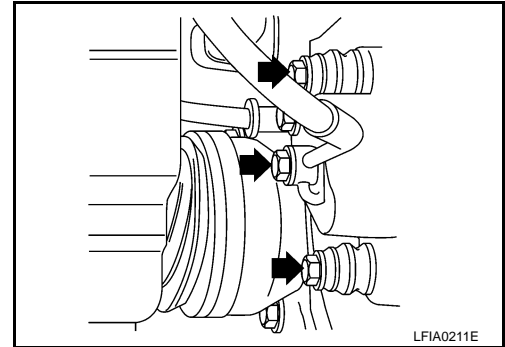
- Do not damage piston boot.
- Burnish brake contact surface after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage. Refer to [BR-14, "Brake Burnishing"](#).

Removal and Installation of Brake Caliper and Disc Rotor

INFOID:000000003221021

REMOVAL

1. Remove wheel and tire using power tool.
2. Drain brake fluid. Refer to [BR-9, "Drain and Refill"](#).
3. Remove union bolt and bolts, and remove cylinder body.
4. Remove torque member.
5. Remove disc rotor.



INSTALLATION

CAUTION:

- Refill with new brake fluid. Refer to [BR-9, "Drain and Refill"](#).
- Do not reuse drained brake fluid.

1. Install disc rotor.
2. Install torque member and tighten to specification. Refer to [BR-12, "Component"](#).
3. Install cylinder body to the vehicle, and tighten mounting bolts to specification.
4. Install brake hose to cylinder body and tighten union bolt to specification. Refer to [BR-12, "Component"](#).

CAUTION:

Before installing cylinder body to the vehicle, wipe off mounting surface of cylinder body.

- Do not reuse copper washer for union bolt.
 - Securely attach brake hose to protrusion on cylinder body.
5. Refill new brake fluid and bleed air. Refer to [BR-9, "Bleeding Brake System"](#).
 6. Install tires to the vehicle.

Brake Burnishing

INFOID:000000003221022

Burnish brake contact surface according to the following procedure after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage.

CAUTION:

Only perform this procedure under safe road and traffic conditions. Use extreme caution.

1. Drive the vehicle on a straight smooth road at 50 km/h (31 MPH).
2. Use medium brake pedal/foot effort to bring the vehicle to a complete stop from 50 km/h (31 MPH). Adjust brake pedal/foot pressure such that vehicle stopping time equals 3 to 5 seconds.
3. To cool brake system, drive the vehicle at 50 km/h (31 MPH) for 1 minute without stopping.
4. Repeat steps 1 to 3, 10 times or more to complete the burnishing procedure.

BRAKE MASTER CYLINDER

< DISASSEMBLY AND ASSEMBLY >

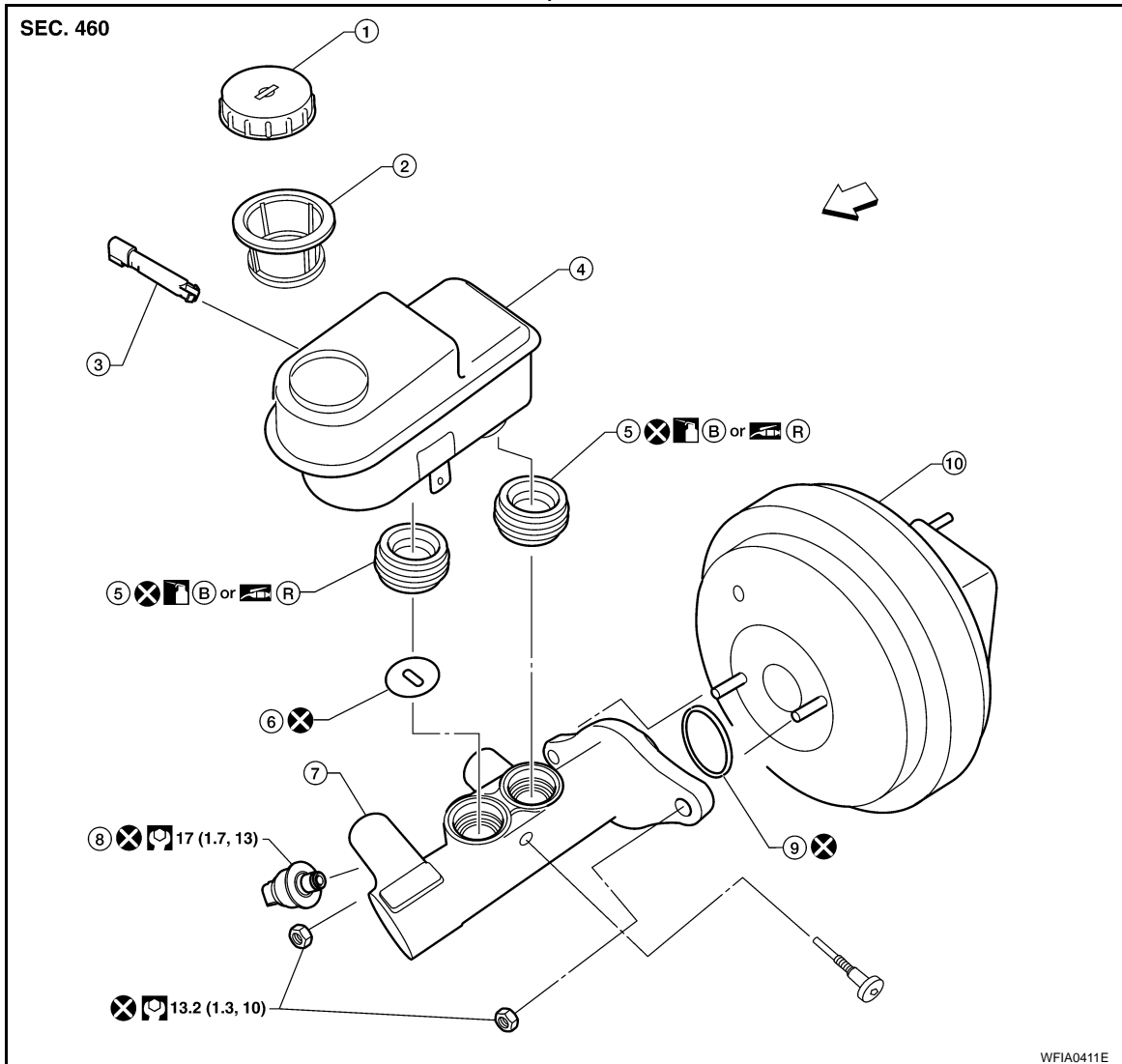
DISASSEMBLY AND ASSEMBLY

BRAKE MASTER CYLINDER

Disassembly and Assembly

INFOID:000000003221023

Components



- | | | |
|---------------------------------|--------------------------|-----------------------|
| 1. Reservoir cap | 2. Strainer | 3. Fluid level sensor |
| 4. Reservoir tank | 5. Grommet | 6. Restriction washer |
| 7. Master cylinder sub-assembly | 8. Fluid pressure sensor | 9. O-ring |
| 10. Brake booster | ← Front | B. Brake fluid |
| R. Rubber grease | | |

DISASSEMBLY

CAUTION:

- Master cylinder cannot be disassembled.
- Remove reservoir tank only when absolutely necessary.

Pull reservoir tank off master cylinder sub-assembly, then remove grommets from master cylinder sub-assembly body.

ASSEMBLY

CAUTION:

- Never use mineral oils such as kerosene, gasoline during the cleaning and assembly process.
- Do not drop parts. If a part is dropped, do not use it.

BRAKE MASTER CYLINDER

< DISASSEMBLY AND ASSEMBLY >

1. Apply brake fluid or rubber grease to new grommets, then insert into master cylinder sub-assembly. Refer to [GI-26, "Recommended Chemical Products and Sealants"](#).
CAUTION:
Do not reuse grommet.
2. Install reservoir tank onto master cylinder assembly.

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FRONT DISC BRAKE

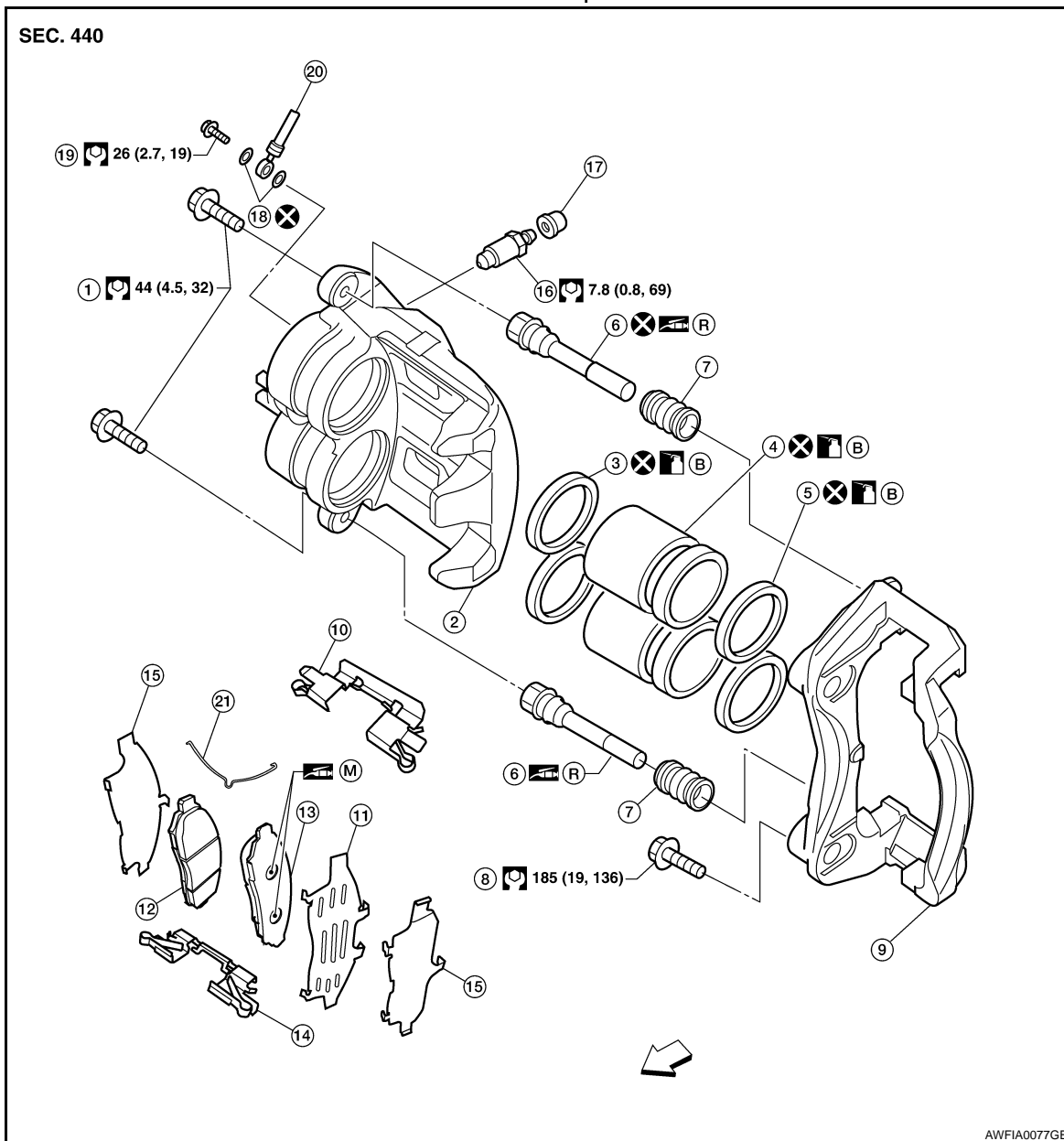
< DISASSEMBLY AND ASSEMBLY >

FRONT DISC BRAKE

Component

INFOID:000000003221024

Front Disc Brake Caliper and Pads



AWFIA0077GB

- | | | |
|------------------------|------------------------|-----------------------|
| 1. Sliding pin bolt | 2. Cylinder body | 3. Piston seal |
| 4. Piston | 5. Piston boot | 6. Sliding pin |
| 7. Sliding pin boot | 8. Torque member bolt | 9. Torque member |
| 10. Upper pad retainer | 11. Outer shim | 12. Inner brake pad |
| 13. Outer brake pad | 14. Lower pad retainer | 15. Shim cover |
| 16. Bleed valve | 17. Cap | 18. Copper washers |
| 19. Union bolt | 20. Brake hose | 21. Pad return spring |
| B. Brake fluid | R. Rubber grease | ← : Front |

WARNING:

Clean dust on caliper and brake pad with a vacuum dust collector to minimize the hazard of airborne particles or other materials.

CAUTION:

FRONT DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

- While removing cylinder body never depress brake pedal because piston will pop out.
- It is not necessary to remove bolts on torque member and brake hose except for disassembly or replacement of cylinder body. In this case, hang cylinder body with a wire so as not to stretch brake hose.
- Do not damage piston boot.
- Burnish brake contact surface after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage. Refer to [BR-11, "Brake Burnishing"](#).

Disassembly and Assembly of Brake Caliper

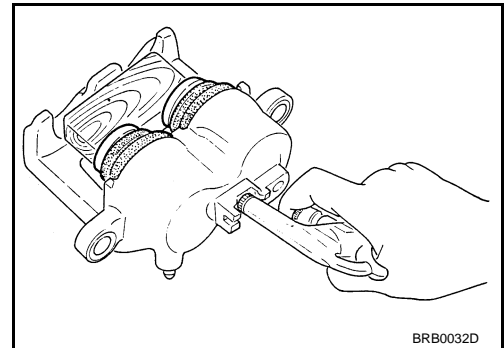
INFOID:000000003221025

DISASSEMBLY

1. Remove sliding pin bolt, and then remove the pad, shim, shim cover, and pad retainer from the torque member.
2. Remove sliding pins and sliding pin boots from torque member.
3. Place a wooden block as shown, and blow air from union bolt mounting hole to remove pistons and piston boots.

CAUTION:

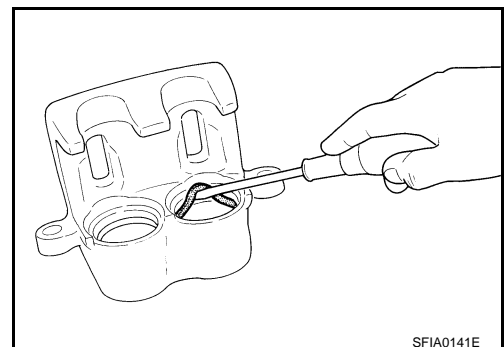
Do not get your fingers caught in piston.



4. Remove piston seal from cylinder body, using a suitable tool.

CAUTION:

- Be careful not to damage cylinder inner wall.
- Do not reuse piston seal.



CALIPER INSPECTION

Cylinder Body

CAUTION:

- Use new brake fluid for cleaning. Do not use mineral oils such as gasoline or kerosene. Refer to [MA-12, "Fluids and Lubricants"](#).
- Check inside surface of cylinder for score, rust, wear, damage or foreign materials. If any of the above conditions are observed, replace cylinder body.
- Minor damage from rust or foreign materials may be eliminated by polishing surface with a fine emery paper. Replace cylinder body if necessary.

Torque Member

Check for wear, cracks, and damage. If damage or deformation is present, replace the affected part.

Piston

Check piston for score, rust, wear, damage or presence of foreign materials. Replace if any of the above conditions are observed.

CAUTION:

Piston sliding surface is plated, do not polish with emery paper even if rust or foreign materials are stuck to sliding surface.

Sliding Pins, and Sliding Pin Boots

FRONT DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

Check sliding pin and sliding pin boot for wear, damage, and cracks. If damage or deformation is present, replace the affected part.

CAUTION:

Trailing/upper sliding pin must be replaced at each service.

ASSEMBLY

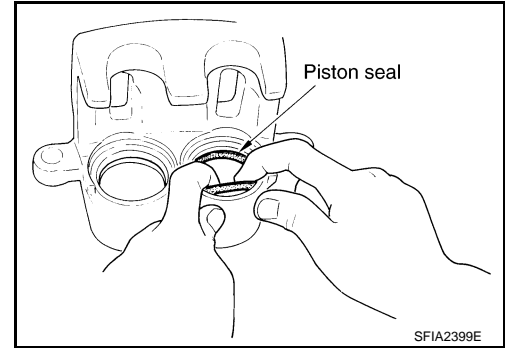
CAUTION:

Do not use NISSAN Rubber Grease (KRE00 00010, KRE00 00010 01) when assembling.

1. Apply clean brake fluid to new piston seal and insert seal into groove on cylinder body.

CAUTION:

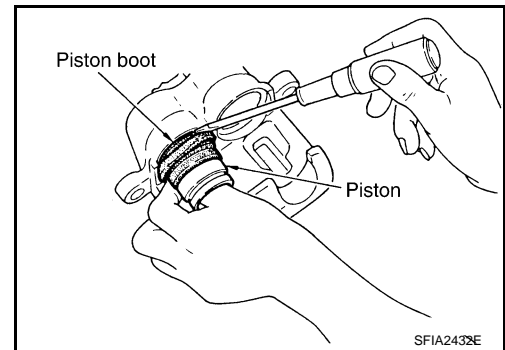
Do not reuse piston seal.



2. Apply clean brake fluid to piston boot. Cover the piston end with piston boot, and then install cylinder side lip on piston boot securely into a groove on cylinder body.

CAUTION:

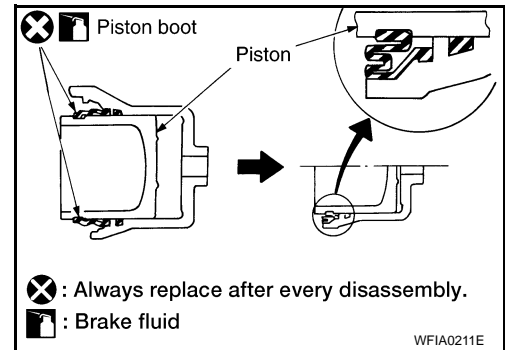
Do not reuse piston boot.



3. Apply brake fluid to piston, then install piston into cylinder body and insert piston boot side lip into groove of piston as shown.

CAUTION:

Press the piston evenly to prevent damage to cylinder wall.



4. Insert into cylinder body by hand and insert piston boot piston-side lip into piston groove.

CAUTION:

Press piston evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.

5. Install sliding pins and sliding pin boots to torque member.

CAUTION:

Trailing/upper sliding pin must be replaced at each service.

6. Install cylinder body. Tighten sliding pin bolt to the specified torque. Refer to [BR-25, "Component"](#).

DISC ROTOR INSPECTION

Visual Inspection

Check surface of disc rotor for uneven wear, cracks, and serious damage. If any of them is detected, replace applicable part.

Runout Inspection

1. Fix disc rotor to wheel hub in two or more positions, using wheel nuts.

FRONT DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

2. Inspect runout using a dial gauge. [Measured at 10 mm (0.39 in) inside the disc edge.]

Runout limit (on vehicle) : 0.05 mm (0.0020 in)

NOTE:

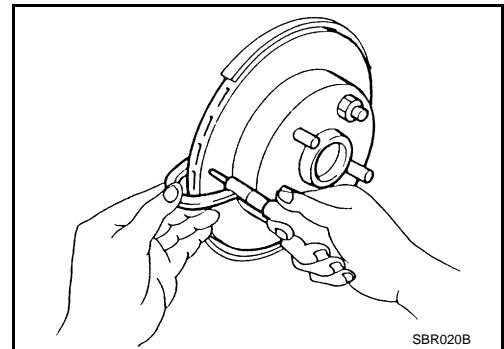
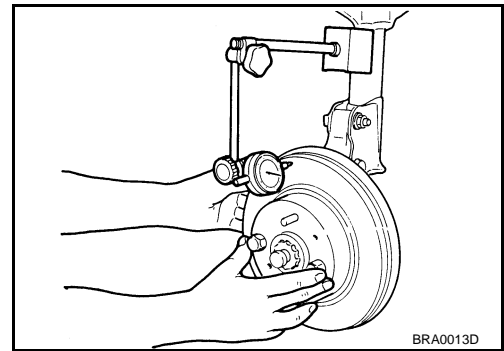
Make sure that wheel bearing axial end play is within the specifications before measuring runout. Refer to [FAX-5. "On-Vehicle Inspection and Service"](#).

3. If runout is outside the limit, find the minimum runout point by shifting mounting positions of disc rotor and wheel hub by one hole.
4. If runout still out of specification, turn rotor with on-car brake lathe.

Thickness Inspection

Using a micrometer, check thickness of disc rotor. If thickness is either at or below the wear limit, or exceeds maximum uneven wear, replace disc rotor.

Standard thickness : 28.0 mm (1.102 in)
Repair limit thickness : 26.0 mm (1.024 in)
Maximum uneven wear : 0.015 mm (0.0006 in)
(Measured at 8 positions)



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REAR DISC BRAKE

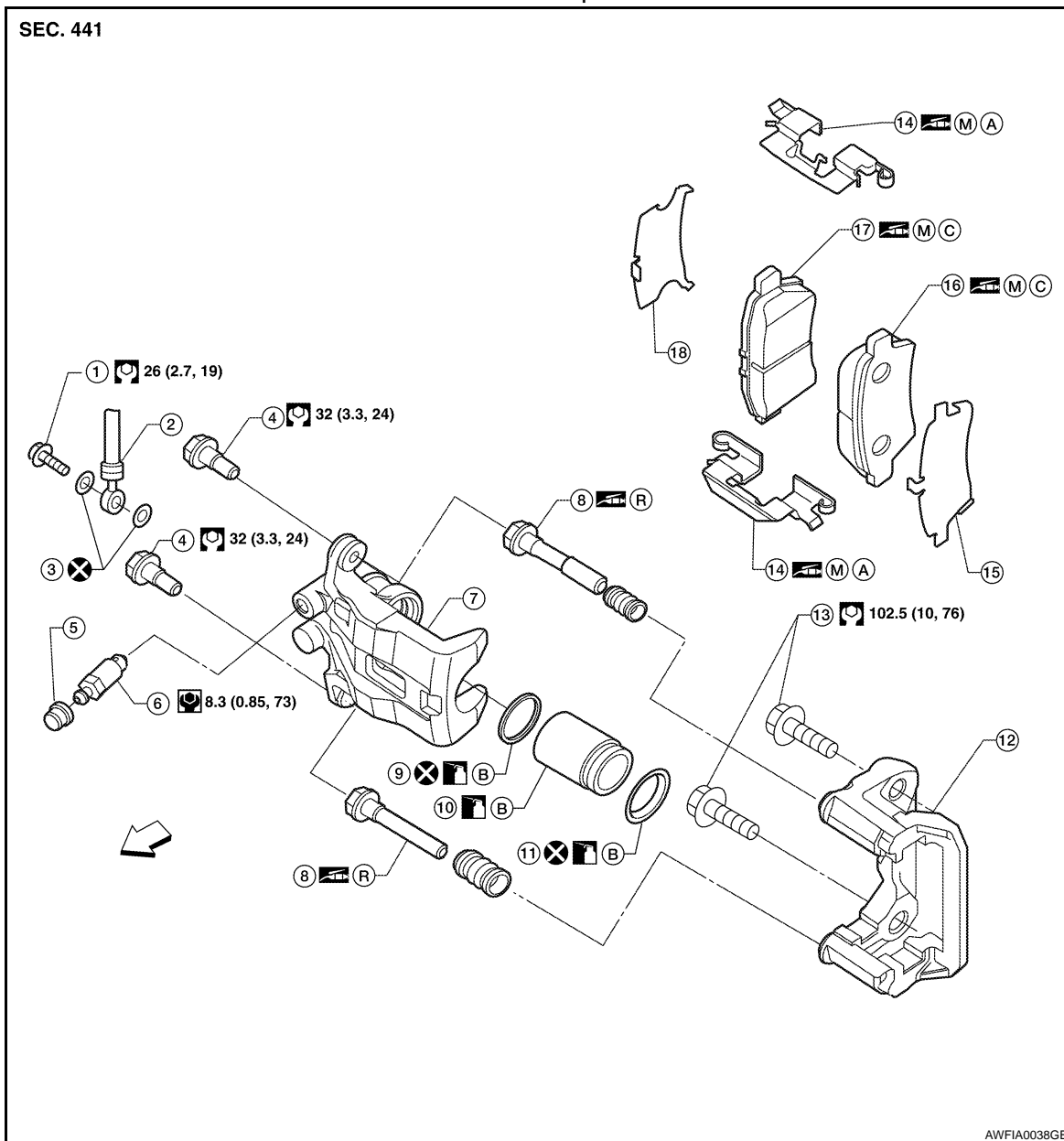
< DISASSEMBLY AND ASSEMBLY >

REAR DISC BRAKE

Component

INFOID:000000003221026

Rear Disc Brake Caliper and Pads



AWFIA0038GB

- | | | |
|---|---------------------|-------------------|
| 1. Union bolt | 2. Brake hose | 3. Copper washers |
| 4. Sliding pin bolt | 5. Cap | 6. Bleed valve |
| 7. Cylinder body | 8. Sliding pin | 9. Piston seal |
| 10. Piston | 11. Piston boot | 12. Torque member |
| 13. Torque member bolt | 14. Pad retainer | 15. Outer shim |
| 16. Outer brake pad | 17. Inner brake pad | 18. Inner shim |
| A. Molykote 7439 refer to BR-13 for application areas | B. Brake fluid | C. Molykote 77 |
| R. Rubber grease | ⇐ : Front | |

WARNING:

Clean dust on caliper and brake pad with a vacuum dust collector to minimize the hazard of airborne particles or other materials.

REAR DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

CAUTION:

- While removing cylinder body, never depress brake pedal because piston will pop out.
- It is not necessary to remove bolts on torque member and brake hose except for disassembly or replacement of cylinder body. In this case, hang cylinder body with a wire so as not to stretch brake hose.
- Do not damage piston boot.
- Burnish brake contact surface after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage. Refer to [BR-14, "Brake Burnishing"](#).

Disassembly and Assembly of Brake Caliper

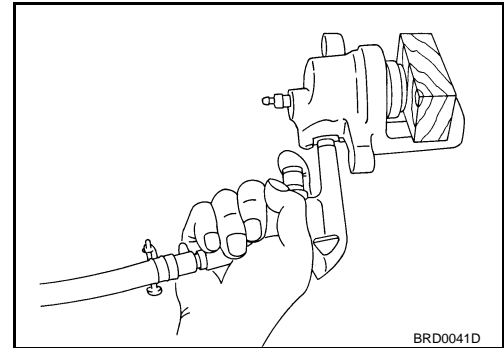
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DISASSEMBLY

1. Remove pads from cylinder body.
2. Remove sliding sleeve and boot from cylinder body.
3. Place a wooden block as shown, and blow air from union bolt hole to remove piston and piston boot.

CAUTION:

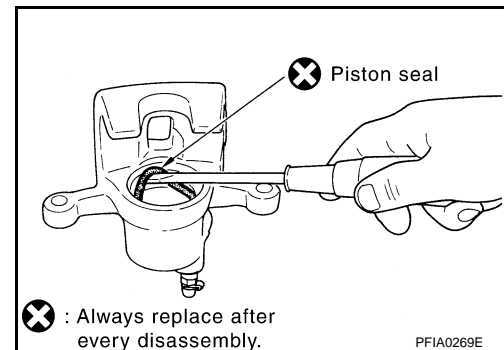
Do not get your fingers caught in piston.



4. Remove piston seal from cylinder body, using a suitable tool.

CAUTION:

Be careful not to damage cylinder inner wall.



CALIPER INSPECTION

Cylinder Body

CAUTION:

- Use new brake fluid to clean. Do not use mineral oils such as gasoline or kerosene.
- Check inside surface of cylinder for score, rust wear, damage or foreign materials. If any of the above conditions are observed, replace cylinder body.
- Minor damage from rust or foreign materials may be eliminated by polishing surface with a fine emery paper. Replace cylinder body if necessary.

Torque Member

Check for wear, cracks, and damage. If damage or deformation is present, replace the affected part.

Piston

CAUTION:

- Piston sliding surface is plated, do not polish with emery paper even if rust or foreign materials are stuck to sliding surface.
- Check piston for score, rust, wear, damage or presence of foreign materials. Replace if any of the above conditions are observed.

Sliding Pin Bolts and Sliding Pin Boots

Make sure there is no wear, damage, or cracks in sliding sleeve and sliding sleeve boots, and if there are, replace them.

REAR DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

ASSEMBLY

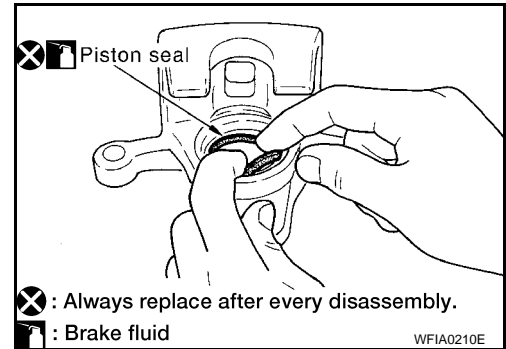
CAUTION:

Do not use NISSAN Rubber Grease (KRE00 00010, KRE00 00010 01) when assembling.

1. Apply clean brake fluid to new piston seal and insert into groove on cylinder body.

CAUTION:

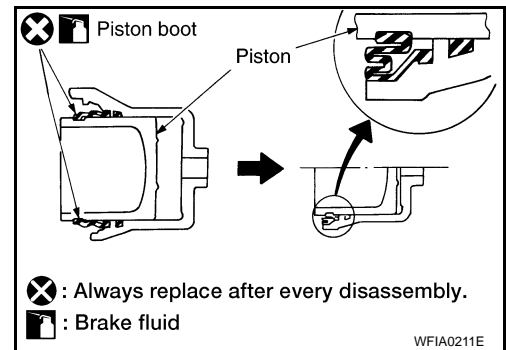
Do not reuse piston seal.



2. Apply brake fluid to piston and to piston boot, then install piston boot into piston groove.

CAUTION:

Do not reuse piston boot.



3. Insert into cylinder body by hand and insert piston boot piston-side lip into piston groove.

CAUTION:

Press piston evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.

4. Install sliding boots and sleeves to cylinder body.

DISC ROTOR INSPECTION

Visual Inspection

Check surface of disc rotor for uneven wear, cracks, and serious damage. If any non-standard condition is detected, replace applicable part.

Runout Inspection

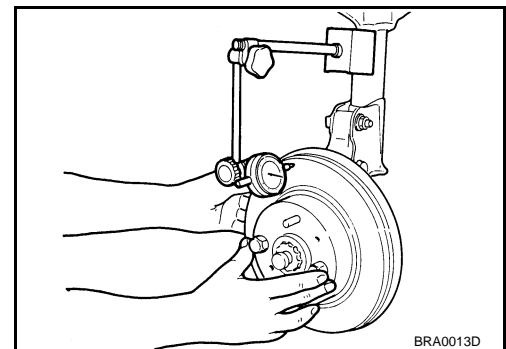
1. Install disc rotor to wheel hub in 2 or more positions, using wheel nuts.
2. Inspect runout using a dial gauge. [Measured at 10 mm (0.39 in) inside disk edge.]

Runout limit (on vehicle) : 0.05 mm (0.0020 in)

NOTE:

Make sure that wheel bearing axial end play is within the specification before measuring runout. Refer to [RAX-13. "Removal and Installation"](#).

3. If runout is outside the limit, find the minimum runout point by shifting mounting positions of disc rotor and wheel hub by one hole.
4. If runout still out of specification, turn rotor with on-car brake lathe.



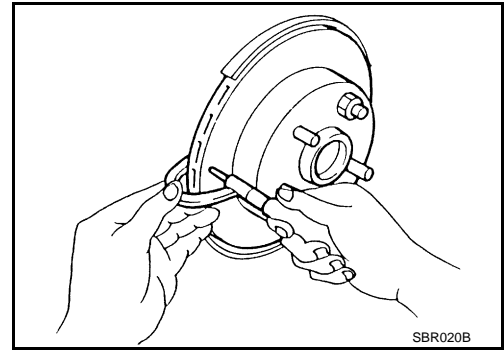
Thickness Inspection

REAR DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

Check thickness of disc rotor, using a micrometer. If thickness is either at or below the wear limit, or exceeds maximum uneven wear, replace disc rotor.

Standard thickness	: 18.0 mm (0.709 in)
Wear limit	: 16.0 mm (0.630 in)
Maximum uneven wear (measured at 8 positions)	: 0.015 mm (0.0006 in)



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SERVICE DATA AND SPECIFICATIONS (SDS)

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SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specification

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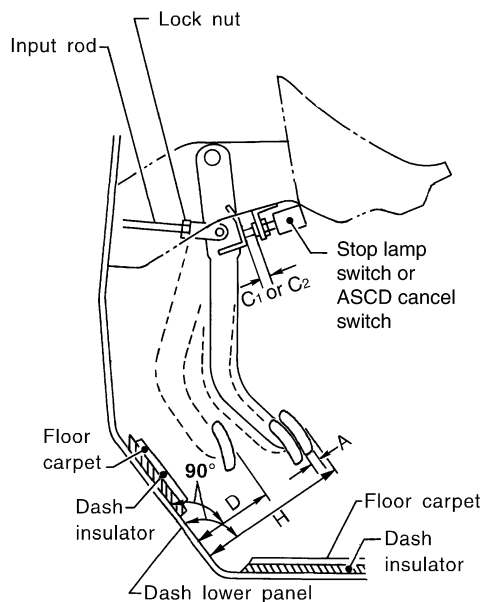
Unit: mm (in)

Front brake	Brake model	CLZ33VB
	Rotor outer diameter × thickness	296 × 28 (11.654 × 1.102)
	Pad Length × width × thickness	111.0 × 73.5 × 10.0 (4.73 × 2.894 × 0.394)
	Cylinder bore diameter (each)	46.4 (1.83)
Rear brake	Brake model	CLZ14VB
	Rotor outer diameter × thickness	308 × 18 (12.126 × 0.709)
	Pad Length × width × thickness	83.0 × 33.0 × 11.0 (3.268 × 1.299 × 0.433)
	Cylinder bore diameter	38.1 (1.50)
Control valve	Valve model	Electric brake force distribution
Brake booster	Booster model	C215T
	Diaphragm diameter	215 (8.46)
Recommended brake fluid		Refer to MA-12, "Fluids and Lubricants" .

Brake Pedal

INFOID:000000003221029

Unit: mm (in)



WFIA0160E

Free height "H"	182.1 - 192.1 (7.17 - 7.56)
Depressed pedal height ("D" [under a force of 490 N (50 kg, 110 lb) with engine running])	105 - 115 (4.13 - 4.53)
Clearance between pedal stopper and threaded end of stop lamp switch and ASCD switch "C1" or "C2"	0.74 - 1.96 (0.029 - 0.077)
Pedal play "A"	3 - 11 (0.12 - 0.43)

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

Brake Booster

INFOID:000000003221030

Unit: mm (in)

Input rod installation standard dimension	150 (5.91)
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Check Valve

INFOID:000000003221031

Vacuum leakage [at vacuum of -66.7 kPa(-500 mmHg, -19.69 inHg)]	Within 1.3 kPa (10 mmHg, 0.39 inHg) of vacuum for 15 seconds
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Front Disc Brake

INFOID:000000003221032

Unit: mm (in)

Brake model	CLZ33VB	
Brake pad	Standard thickness (new)	10.0 (0.394)
	Repair limit thickness	2.0 (0.079)
Disc rotor	Standard thickness (new)	28.0 (1.102)
	Repair limit thickness	26.0 (1.024)
	Maximum uneven wear (measured at 8 positions)	0.015 (0.0006)
	Runout limit (with it attached to the vehicle)	0.05 (0.0020)

Rear Disc Brake

INFOID:000000003221033

Unit: mm (in)

Brake model	CLZ14VB	
Brake pad	Standard thickness (new)	11.0 (0.433)
	Repair limit thickness	2.0 (0.079)
Disc rotor	Standard thickness (new)	18.0 (0.709)
	Repair limit thickness	16.0 (0.630)
	Maximum uneven wear (measured at 8 positions)	0.015 (0.0006)
	Runout limit (with it attached to the vehicle)	0.05 (0.0020)