

A

B

C

D

E

BR

SECTION

BRAKE SYSTEM

CONTENTS

PRECAUTION	3	Rear Brake Tube and Hose	15	BR
PRECAUTIONS	3	Inspection After Installation	15	
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	3	DUAL PROPORTIONING VALVE	17	G
Precaution for Brake System	3	Removal and Installation	17	
PREPARATION	4	Inspection	17	
PREPARATION	4	BRAKE MASTER CYLINDER	18	H
Commercial Service Tool	4	On-Board Inspection	18	
SYMPTOM DIAGNOSIS	5	Removal and Installation	18	
NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING	5	BRAKE BOOSTER	19	I
NVH Troubleshooting Chart	5	On Board Inspection	19	
ON-VEHICLE MAINTENANCE	6	Removal and Installation	19	J
BRAKE PEDAL	6	VACUUM LINES	22	K
Inspection and Adjustment	6	Component	22	
BRAKE FLUID	8	Removal and Installation	22	
On Board Inspection	8	Inspection	22	
Drain and Refill	8	FRONT DISC BRAKE	24	L
Bleeding Brake System	8	Component	24	
FRONT DISC BRAKE	10	Removal and Installation of Brake Pad	24	
Inspection	10	Removal and Installation of Brake Caliper Assembly	25	M
REAR DISC BRAKE	11	Brake Burnishing	26	
Inspection	11	REAR DISC BRAKE	27	N
ON-VEHICLE REPAIR	12	Component	27	
BRAKE PEDAL	12	Removal and Installation of Brake Pad	28	
Removal and Installation	12	Removal and Installation of Brake Caliper Assembly	28	O
BRAKE TUBE AND HOSE	14	Brake Burnishing	29	
Hydraulic Circuit	14	DISASSEMBLY AND ASSEMBLY	30	P
Front Brake Tube and Hose	14	BRAKE MASTER CYLINDER	30	
		Disassembly and Assembly	30	
		FRONT DISC BRAKE	34	
		Disassembly and Assembly of Brake Caliper Assembly	34	

REAR DISC BRAKE	37	General Specification	40
Disassembly and Assembly	37	Brake Pedal	40
SERVICE DATA AND SPECIFICATIONS		Check Valve	40
(SDS)	40	Brake Booster	40
SERVICE DATA AND SPECIFICATIONS		Front Disc Brake	40
(SDS)	40	Rear Disc Brake	41

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000001716907

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.

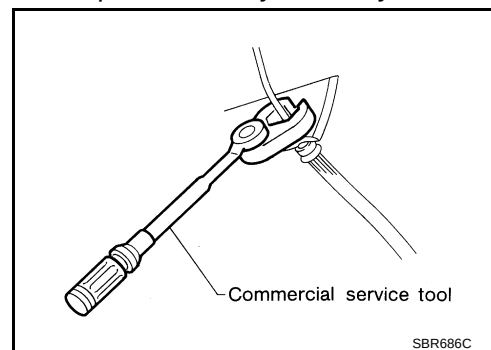
WARNING:

- 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

INFOID:000000001716908

- Refill using recommended brake fluid. Refer to [MA-19. "Fluids and Lubricants"](#).
- Never reuse drained brake fluid.
- Be careful not to splash brake fluid on painted surface of body. If brake fluid is splashed on painted surfaces of body immediately wipe it off with cloth and then wash it away with water.
- To clean or wash all parts of master cylinder, disc brake caliper and wheel cylinder, use new brake fluid.
- Never use mineral oils such as gasoline or kerosene. They will ruin rubber parts of the hydraulic system.
- Use a flare nut wrench when removing a brake tube and use a flare nut torque wrench when installing a brake tube.
- When installing brake tubes and hoses, be sure to check torque.
- Before working, turn ignition switch OFF and disconnect connectors of ABS actuator and electric unit (control unit) or the battery cable from the negative terminal.
- Burnish the new braking 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-26. "Brake Burnishing"](#).



PREPARATION

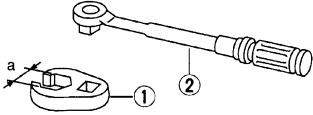
< PREPARATION >

PREPARATION

PREPARATION

Commercial Service Tool

INFOID:000000001716909

Tool name	Description
1. Flare nut crowfoot 2. Torque wrench  S-NT360	Removing and installing brake piping a: 10 mm (0.39 in)/12 mm (0.47 in)
Pin punch Tip diameter: 4 mm (0.16 in) dia.  ZZA0515D	Removing and installing reservoir tank pin

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:000000001716910

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

Reference page		BR-10, BR-28	BR-10, BR-28	BR-10	BR-10, BR-11	BR-10, BR-11	BR-10, BR-11	BR-10, BR-11	BR-11, BR-10	—	BR-34, BR-41	FAX-4, "NVH Troubleshooting Chart"	TM-623, "NVH Troubleshooting Chart", TM-667, "NVH Troubleshooting Chart"	FSU-5, "NVH Troubleshooting Chart" (FSU), RSU-2, "NVH Troubleshooting Chart" (RSU)	WT-4, "NVH Troubleshooting Chart"	WT-4, "NVH Troubleshooting Chart"	FAX-4, "NVH Troubleshooting Chart"	ST-5, "NVH Troubleshooting Chart"
Possible cause and SUSPECTED PARTS		Pads damaged	Pads - uneven wear	Shims damaged	Rotor imbalance	Rotor damage	Rotor runout	Rotor deformation	Rotor deflection	Rotor rust	Rotor thickness variation	WHEEL HUB	DIFFERENTIAL	SUSPENSION	TIRES	ROAD WHEEL	DRIVE SHAFT	STEERING
Symptom	Noise	×	×	×								×	×	×	×	×	×	×
	Shake				×							×		×	×	×	×	×
	Shimmy, Shudder				×	×	×	×	×	×	×			×	×	×		×

×: Applicable

BRAKE PEDAL

< ON-VEHICLE MAINTENANCE >

ON-VEHICLE MAINTENANCE

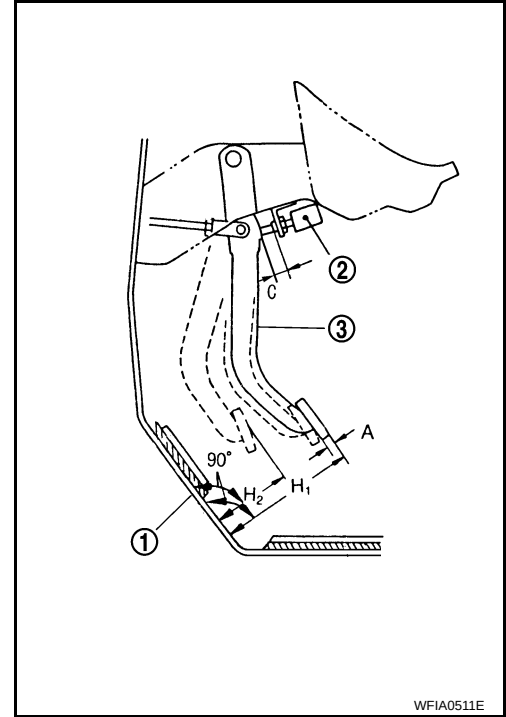
BRAKE PEDAL

Inspection and Adjustment

INFOID:000000001716917

PLAY AND CLEARANCE BETWEEN BRAKE PEDAL AND FLOOR PANEL WITH PEDAL DE-PRESSED

- Check brake pedal play.
- Check brake pedal free height from dash lower panel (1).
- Make an adjustment to the following dimension if value is outside the standard.



WFI/A0511E

Unit: mm (in)

H ₁	Brake pedal free height (from dash panel top surface)	A/T model	172.4 - 182.4 (6.79 - 7.18)
		M/T models	162.3 - 172.3 (6.39 - 6.78)
H ₂	Brake pedal depressed height (under a force of 490 N (50 kg-f, 110 lb-f) with the engine running)	A/T model	98 (3.86) or more
		M/T models	90 (3.54) or more
C	Clearance between brake pedal (3) and the threaded end of stop lamp switch and ASCD switch (2).		0.74 - 1.96 (0.0291 - 0.0772)
A	Pedal play		3 - 11 (0.12 - 0.43)

ADJUSTMENT

BRAKE PEDAL

< ON-VEHICLE MAINTENANCE >

1. Loosen stop lamp switch and ASCD switch by rotating counter-clockwise by 45°.
2. Loosen lock nut on input rod, then rotate input rod to set pedal to the specified height, and tighten lock nut.

CAUTION:

Make sure that the threaded end of input rod stays inside clevis.

Lock nut : Refer to [BR-19, "Removal and Installation"](#) .

3. With the pedal pulled and held by hand, press stop lamp switch and ASCD switch until the threaded ends contact brake pedal lever.
4. With the threaded end of stop lamp switch and ASCD switches contacting brake pedal lever, rotate the switches clockwise by 45° to secure.

CAUTION:

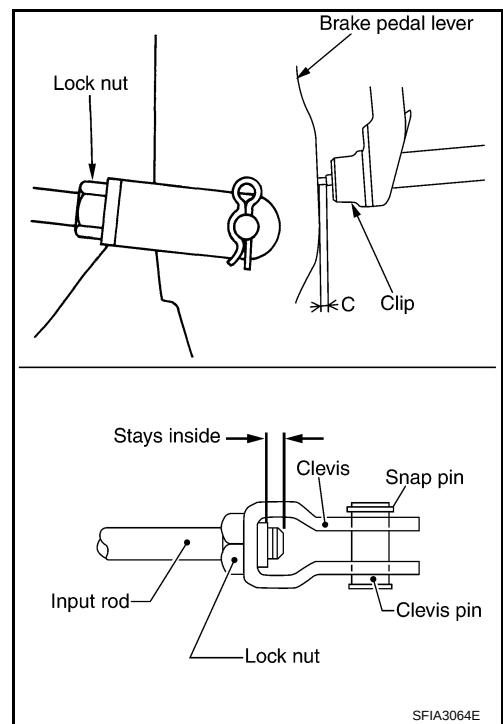
Make sure that the clearance (C) is within the standard. Refer to "Inspection and Adjustment" .

5. Check the pedal play.

CAUTION:

Make sure that stop lamps go off when brake pedal is released.

6. Start engine to check brake pedal depressed height. Refer to "Inspection and Adjustment"



BRAKE FLUID

< ON-VEHICLE MAINTENANCE >

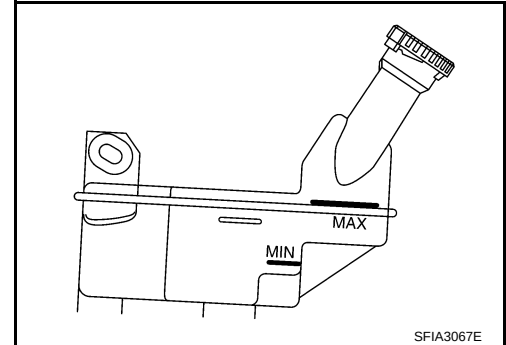
BRAKE FLUID

On Board Inspection

INFOID:000000001716919

CHECKING BRAKE FLUID LEVEL

- Make sure the fluid level in the reservoir tank is within the standard (between MAX and MIN lines).
- Visually check around the reservoir tank for fluid leakage.
- If fluid level is excessively low, check brake system for fluid leakage.
- Release parking brake lever and see if brake warning lamp goes off. If not, check brake system for fluid leakage.



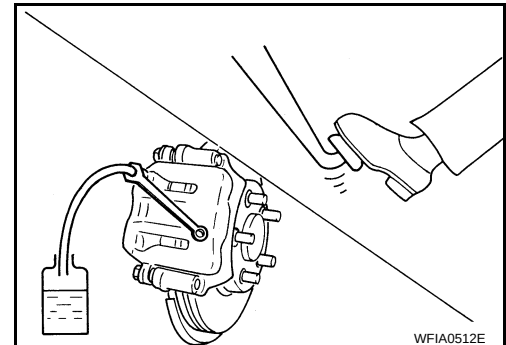
Drain and Refill

INFOID:000000001716920

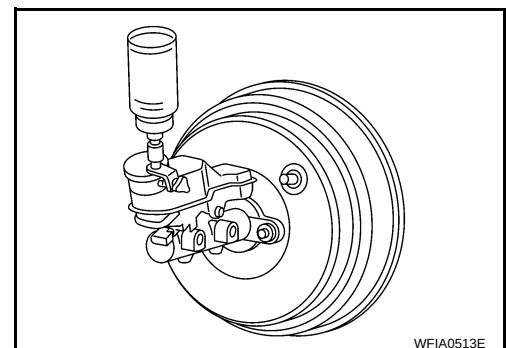
CAUTION:

- Refill using recommended brake fluid. Refer to [MA-19. "Fluids and Lubricants"](#).
- Never reuse drained brake fluid.
- Be careful not to splash brake fluid on painted areas; it may cause paint damage. If brake fluid is splashed on painted areas, immediately wipe them with cloth and wash it away with water.
- Before working, disconnect connectors of ABS actuator and electric unit (control unit) or battery cable from the negative terminal.

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



3. Clean inside of reservoir tank, and refill with new brake fluid.
4. Loosen bleed valve, depress brake pedal slowly to full stroke and then release it. Repeat the procedure every 2 or 3 seconds until the new brake fluid comes out, then close the bleed valve while depressing the brake pedal. Repeat the same procedure for each wheel.
5. Bleed air. Refer to [BR-8. "Bleeding Brake System"](#).



Bleeding Brake System

INFOID:000000001716921

CAUTION:

- While bleeding, pay attention to master cylinder fluid level.
 - Before working, disconnect connectors of ABS actuator and electric unit (control unit) or the battery cable from the negative terminal.
1. Connect a vinyl tube to the rear right bleed valve.
 2. Fully depress brake pedal 4 to 5 times.

BRAKE FLUID

< ON-VEHICLE MAINTENANCE >

- 3. With brake pedal depressed, loosen bleed valve to let the air out, and then tighten it immediately.
- 4. Repeat steps 2, 3 until no more air comes out.
- 5. Tighten bleed valve to specified torque. Refer to [BR-24. "Component"](#) (front disc brake), [BR-27. "Component"](#) (rear drum brake).
- 6. Following the steps 1 to 5 above, with master cylinder reservoir tank filled at least half way, bleed air from the rear right, front left, rear left, and front right brake, in that order.

A
B
C
D
E
G
H
I
J
K
L
M
N
O
P

BR

FRONT DISC BRAKE

< ON-VEHICLE MAINTENANCE >

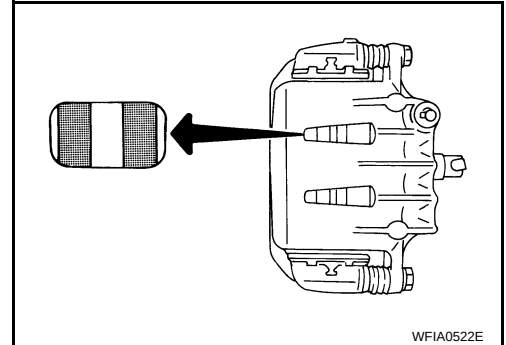
FRONT DISC BRAKE

Inspection

INFOID:000000001717004

PAD WEAR INSPECTION

- Inspect pad thickness through inspection hole on cylinder body. Use a ruler or caliper for inspection if necessary. Refer to [BR-40](#), "[Front Disc Brake](#)".



REAR DISC BRAKE

< ON-VEHICLE MAINTENANCE >

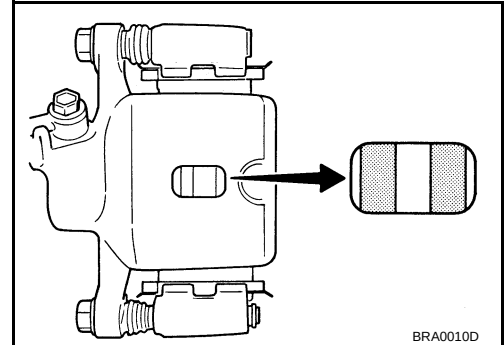
REAR DISC BRAKE

Inspection

INFOID:000000001724674

PAD WEAR INSPECTION

- Inspect pad thickness through inspection hole on cylinder body. Use a ruler or caliper for inspection if necessary. Refer to [BR-41](#), "[Rear Disc Brake](#)".



A

B

C

D

E

BR

G

H

I

J

K

L

M

N

O

P

BRAKE PEDAL

< ON-VEHICLE REPAIR >

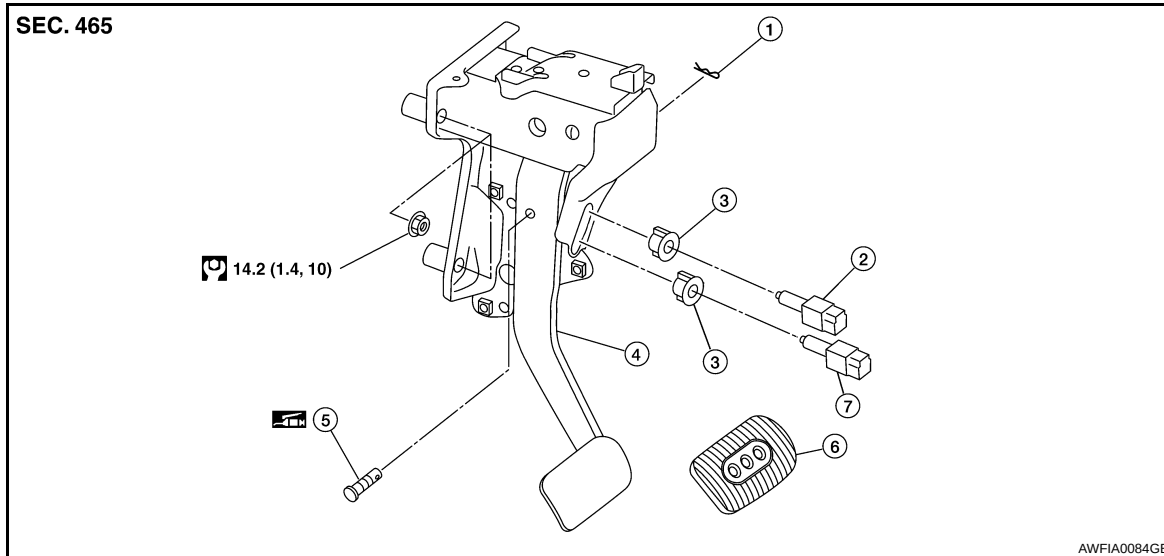
ON-VEHICLE REPAIR

BRAKE PEDAL

Removal and Installation

INFOID:000000001716977

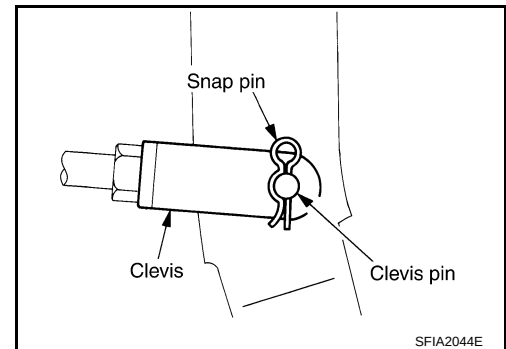
COMPONENTS



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

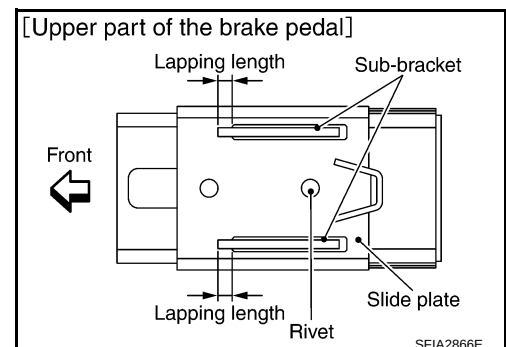
REMOVAL

1. Disconnect accelerator pedal position sensor harness connector.
2. Remove stop lamp switch from brake pedal assembly.
3. Remove snap pin and clevis pin from clevis of brake booster.
4. Remove nuts from brake pedal bracket, and remove brake pedal assembly from vehicle.
5. Remove accelerator pedal from brake pedal assembly.



INSPECTION AFTER REMOVAL

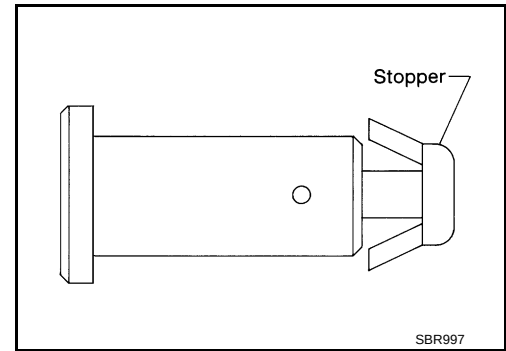
- Check brake pedal upper rivet for deformation.
- Make sure that the lapping length of sub-bracket and slide plate is at least 6.9 mm (0.272 in).
- Check brake pedal for bend, damage, and cracks on the welded parts.
- Replace brake pedal assembly if any non-standard condition is detected.



BRAKE PEDAL

< ON-VEHICLE REPAIR >

- Check clevis pin and plastic stopper for damage and deformation.
Replace clevis pin as necessary.



INSTALLATION

Installation is in the reverse order of the removal.

- After installing brake pedal assembly to vehicle, adjust brake pedal. Refer to [BR-6. "Inspection and Adjustment"](#) .
- After installing accelerator pedal, check accelerator pedal. Refer to [ACC-3. "Removal and Installation"](#) .

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

BR

BRAKE TUBE AND HOSE

< ON-VEHICLE REPAIR >

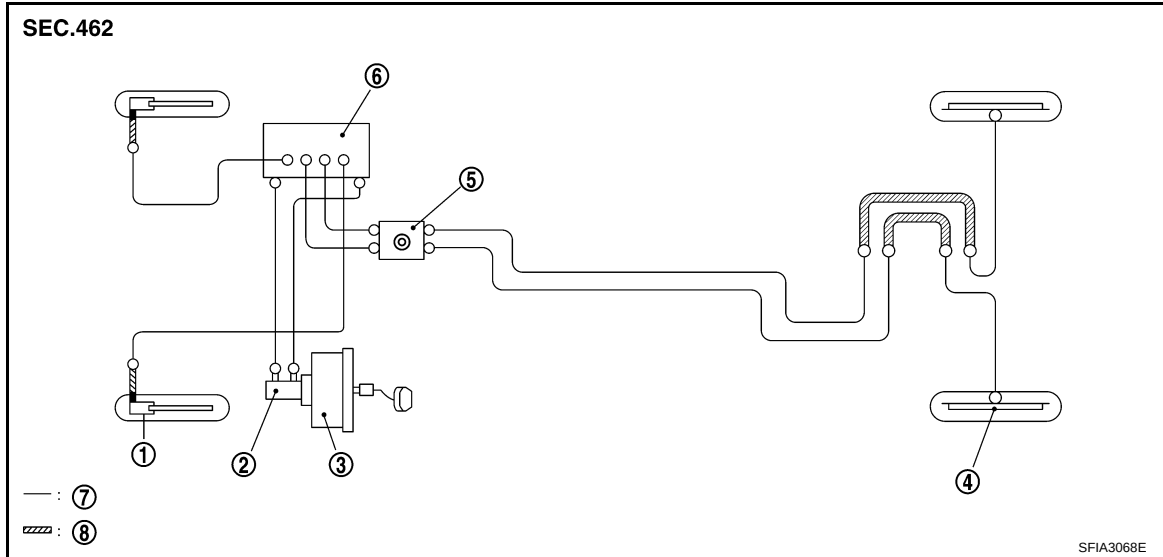
BRAKE TUBE AND HOSE

Hydraulic Circuit

INFOID:000000001716982

NOTE:

LHD shown RHD similar.



- | | | |
|---------------------------------|---------------------------------|---|
| 1. Front disc brake | 2. Brake master cylinder | 3. Brake booster |
| 4. Rear drum brake | 5. Connector | 6. ABS actuator and electric unit (control unit), if equipped |
| 7. Brake tube | 8. Brake hose | |
| Union bolt | Connector bolt | Flare nut |
| 18.2 N.m (1.9 kg-m, 13.0 ft-lb) | 10.0 N.m (1.0 kg-m, 87.0 in-lb) | 16.2 N.m (1.7 kg-m, 12.0 ft-lb) |

CAUTION:

- All tubes and hoses 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.
- Brake tubes and hoses are an important safety part. Always disassemble the parts and retighten their fittings, if a brake fluid leak is detected. Replace applicable part with a new one, if damaged part is detected.
- Be careful not to splash brake fluid on painted areas; it may cause paint damage. If brake fluid is splashed on painted surfaces of body, immediately wipe them with cloth and then wash it away with water.
- Do not bend or twist brake hose sharply, or strongly pull it.
- When removing components, cover brake line connections so that dirt, dust, or other foreign matters do not get in.
- Refill using recommended brake fluid. Refer to [MA-19, "Fluids and Lubricants"](#).
- Never reuse drained brake fluid.

Front Brake Tube and Hose

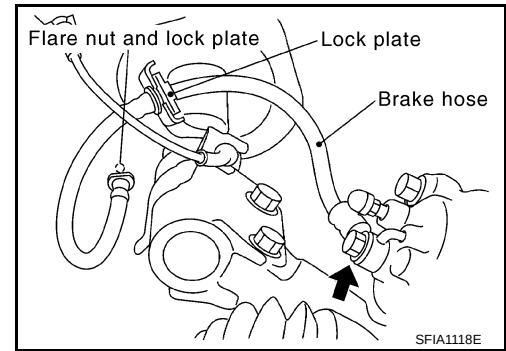
INFOID:000000001716983

REMOVAL

BRAKE TUBE AND HOSE

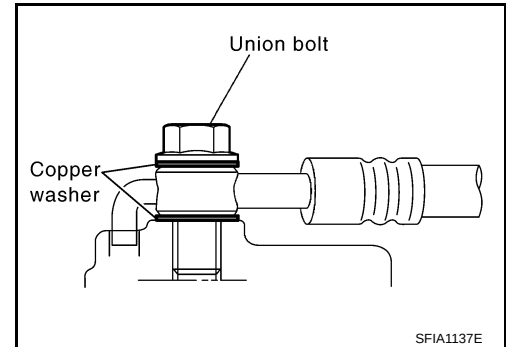
< ON-VEHICLE REPAIR >

1. Drain brake fluid. Refer to [BR-8, "Drain and Refill"](#) .
2. Using a flare nut wrench, remove brake tube from brake hose.
3. Remove union bolt, and remove brake hose from caliper assembly.
4. Remove lock plate, and remove brake hose from vehicle.



INSTALLATION

1. Assemble union bolt and copper washers to brake hose.
2. Position the L-shape metal fitting of the brake hose to the brake caliper assembly positioning hole.
3. Tighten union bolt to the specified torque. Refer to [BR-14, "Hydraulic Circuit"](#) .
4. Connect brake hose to brake tube on vehicle, and temporarily tighten flare nut by hand as much as possible.
5. Secure it with lock plate.
6. Tighten flare nut to the specified torque with a flare nut torque wrench. Refer to [BR-14, "Hydraulic Circuit"](#) .
7. Install brake hose to vehicle, and tighten nuts to the specified torque.
8. Bleed air from brake system. Refer to [BR-8, "Bleeding Brake System"](#) .

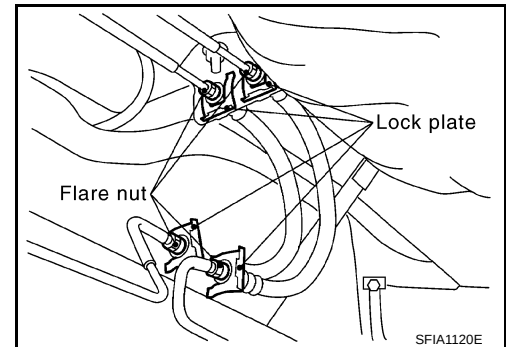


Rear Brake Tube and Hose

INFOID:0000000001716984

REMOVAL

1. Drain brake fluid. Refer to [BR-8, "Drain and Refill"](#) .
2. Using a flare nut wrench, remove brake tube from brake hose.
3. Remove lock plate, and remove brake hose from vehicle.



INSTALLATION

1. Connect brake hose to brake tube on vehicle, and temporarily tighten flare nut by hand as much as possible.
2. Secure it to bracket with lock plate.
3. Tighten flare nut to the specified torque with a flare nut torque wrench. Refer to [BR-14, "Hydraulic Circuit"](#) .
4. Bleed air from brake system. Refer to [BR-8, "Bleeding Brake System"](#) .

Inspection After Installation

INFOID:0000000001716985

CAUTION:

- Always disassemble the parts and retighten their fittings, if a brake fluid leak is detected. Replace applicable part with a new one, if damaged part is detected.
- If leak is detected at the connections, retighten it or replace the damaged part.

BRAKE TUBE AND HOSE

< ON-VEHICLE REPAIR >

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

DUAL PROPORTIONING VALVE

< ON-VEHICLE REPAIR >

DUAL PROPORTIONING VALVE

Removal and Installation

INFOID:000000001726771

Removal

1. Disconnect brake lines from dual proportioning valve.
 - Mark brake lines for installation.
2. Remove dual proportioning valve bolt and dual proportioning valve.
3. Remove two bolts and bracket.

Installation

Installation is in the reverse order of removal.

- When installing brake lines to the dual proportioning valve, tighten to specifications. Refer to [BR-14, "Hydraulic Circuit"](#).

Inspection

INFOID:000000001726772

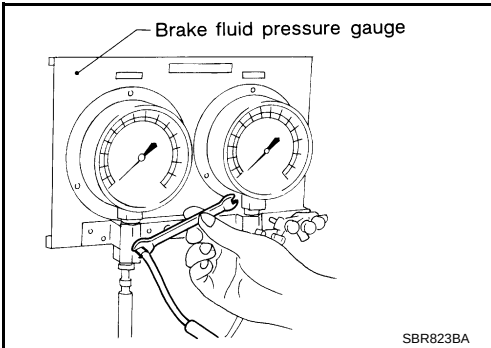
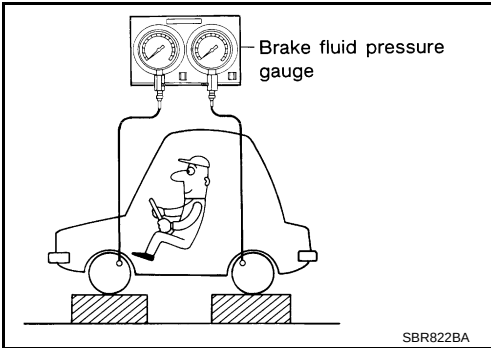
CAUTION:

- Carefully monitor brake fluid level at master cylinder.
- Use the recommended new brake fluid. Refer to [MA-19, "Fluids and Lubricants"](#).
- Be careful not to splash brake fluid on painted areas; it may cause paint damage. If brake fluid is splashed on paint areas, wash it away with water immediately.

1. Connect commercially available brake fluid pressure gauge to air bleeders of front and rear brakes on either LH and RH side.
2. Bleed air from the Tool.
3. Check fluid pressure by depressing brake pedal.

Unit: kPa (kg/cm², psi)

Applied pressure (Front brake)	7,355 (75, 1,067)
Output pressure (Rear brake)	5,099 - 5,492 (52 - 56, 740 - 796)



- If output pressure is out of specification, replace dual proportioning valve.
4. Bleed air after disconnecting the Tool. Refer to [BR-8, "Bleeding Brake System"](#).

BRAKE MASTER CYLINDER

< ON-VEHICLE REPAIR >

BRAKE MASTER CYLINDER

On-Board Inspection

INFOID:000000001716996

LEAK INSPECTION

- Check for leaking in a master cylinder installation surface, a reservoir tank installation surface, and brake tube connections.

Removal and Installation

INFOID:000000001716997

CAUTION:

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

REMOVAL

1. Drain brake fluid. Refer to [BR-8, "Drain and Refill"](#) .
2. Remove battery. Refer to [PG-6, "Removal and Installation"](#) .
3. Remove air duct and air cleaner. Refer to [EM-27, "Removal and Installation"](#) (HR16DE), [EM-154, "Removal and Installation"](#) (MR18DE), [EM-269, "Removal and Installation"](#) (K9K).
4. Disconnect brake fluid level switch harness connector.
5. Using a flare nut wrench, remove brake tube from master cylinder.
6. Remove master cylinder assembly nuts, and remove master cylinder assembly from vehicle..

INSTALLATION

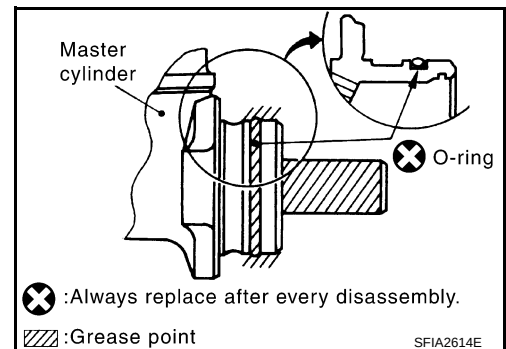
CAUTION:

- Refill using recommended brake fluid. Refer to [MA-19, "Fluids and Lubricants"](#).
- Never reuse drained brake fluid.
- Check if the rod of primary piston has dust or scratches.

1. Install master cylinder to brake booster assembly, and tighten nuts to the specified torque. Refer to [BR-19, "Removal and Installation"](#).

CAUTION:

- Do not damage or strain rod of primary piston.
- Apply silicone grease for O-ring, primary piston rod and to inside of booster.



2. Install brake tube to master cylinder, and temporarily tighten the flare nuts on the brake tube to master cylinder by hand.
3. Install brake tube to brake hose, then tighten flare nut to the specified torque using a flare nut torque wrench. Refer to [BR-14, "Hydraulic Circuit"](#) .
4. Connect brake fluid level switch harness connector.
5. Refill new brake fluid and bleed air. Refer to [BR-8, "Bleeding Brake System"](#) .

BRAKE BOOSTER

< ON-VEHICLE REPAIR >

BRAKE BOOSTER

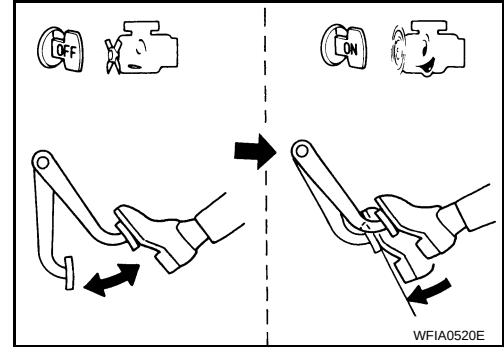
On Board Inspection

INFOID:000000001716999

OPERATING CHECK

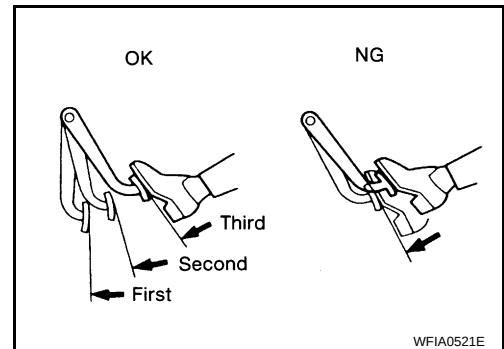
With the engine stopped, change the vacuum to the atmospheric pressure by depressing brake pedal several times at intervals of 5 seconds.

Then with brake pedal fully depressed, start engine and when the vacuum pressure reaches the standard, make sure that the clearance between brake pedal and floor panel decreases.



AIRTIGHT CHECK

- Run engine at idle for approximately 1 minute, and stop it after applying vacuum to booster. Depress brake pedal normally to change the vacuum to the atmospheric pressure. Make sure that distance between brake pedal and floor panel gradually increases.
- Depress the brake pedal while engine is running, then stop engine with brake pedal depressed. The pedal stroke should not change after holding pedal down for 30 seconds.



Removal and Installation

INFOID:000000001717000

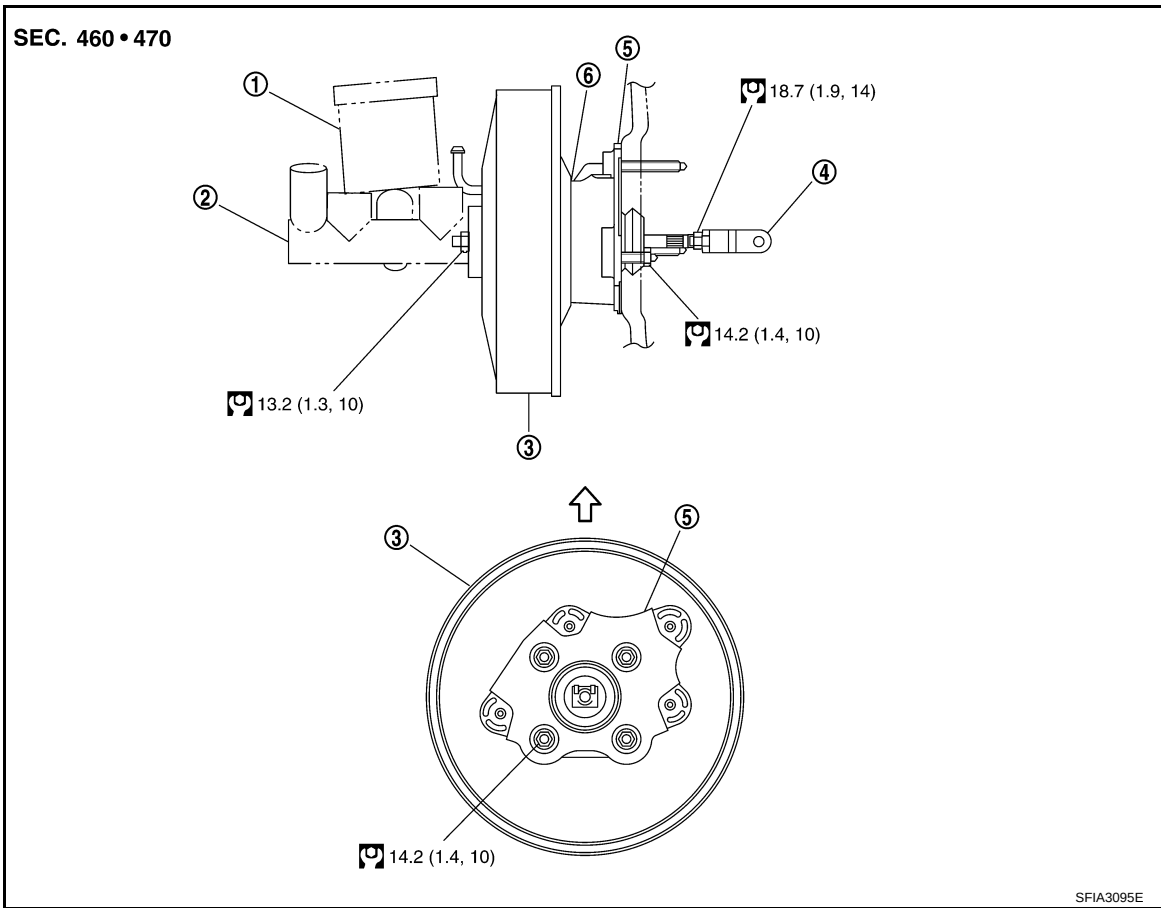
COMPONENTS

NOTE:

BRAKE BOOSTER

< ON-VEHICLE REPAIR >

LHD shown RHD similar.



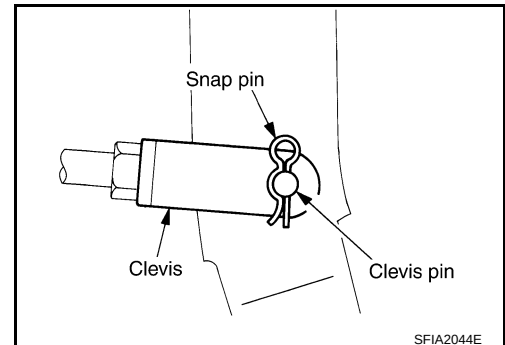
- | | | |
|-------------------|--------------------|------------------|
| 1. Reservoir tank | 2. Master cylinder | 3. Brake booster |
| 4. Clevis | 5. Spacer | 6. Gasket |
| ⇐: Up | | |

REMOVAL

CAUTION:

- Be careful not to splash brake fluid on painted areas such as body. If brake fluid is splashed on painted surfaces of body, wipe them with cloth immediately and then wash it away with water.
- Be careful not to deform or bend brake tubes 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.

1. Remove vacuum hose from brake booster.
2. Remove master cylinder assembly. Refer to [BR-18, "Removal and Installation"](#).
3. Remove snap pin and clevis pin on the clevis of the brake booster, and remove input rod from brake pedal.
4. Remove brake pedal nuts on pedal bracket.
5. Remove between spacer and dash panel nut from dash panel.
6. Remove brake booster and spacer from vehicle.
7. Remove spacer from brake booster.



INSTALLATION

BRAKE BOOSTER

< ON-VEHICLE REPAIR >

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

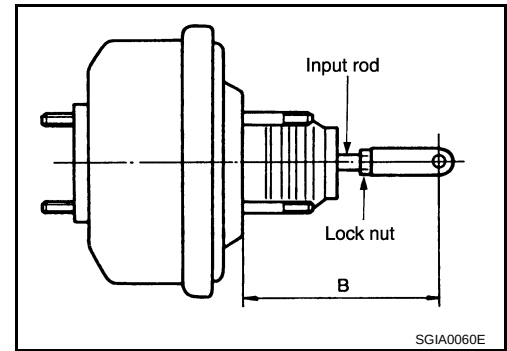
Length "B" : 154 - 161 mm (6.06 - 6.34 in)

2. Install spacer to brake booster and tighten spacer nut (brake booster side) to the specified torque.
3. After adjusting length "B", temporarily tighten lock nut to install brake booster assembly to dash panel. At this time, make sure to install a gasket between brake booster and vehicle.

CAUTION:

Be sure to install the gasket between brake booster and vehicle.

4. Connect brake pedal to clevis of input rod with the clevis pin and snap pin.
5. Install brake pedal bracket nuts and tighten them to the specified torque.
6. Adjust the height and play of brake pedal. Refer to [BR-6, "Inspection and Adjustment"](#).
7. Tighten lock nut of input rod to the specified torque. Refer to "COMPONENTS".
8. Install vacuum hose into brake booster. Refer to [BR-22, "Removal and Installation"](#).
9. Bleed air from brake system. Refer to [BR-8, "Bleeding Brake System"](#).



A
B
C
D
E
BR
G
H
I
J
K
L
M
N
O
P

VACUUM LINES

< ON-VEHICLE REPAIR >

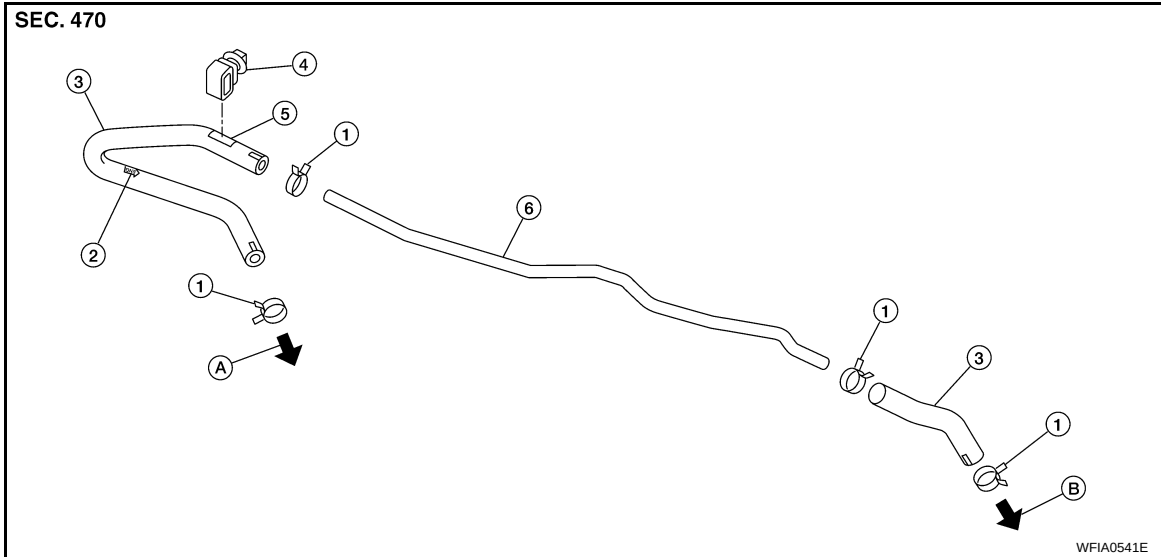
VACUUM LINES

Component

INFOID:000000001717001

NOTE:

LHD shown RHD similar.



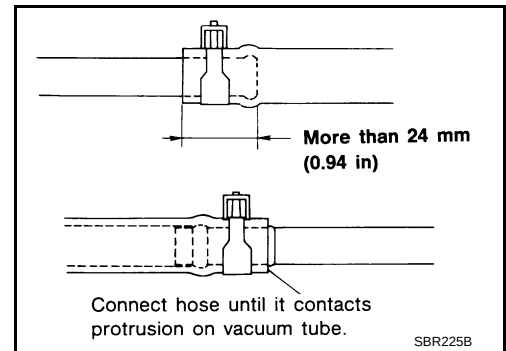
- | | | |
|---------------------|---|---------------------|
| 1. Clamp | 2. Engine side indicator stamp (built-in check valve) | 3. Vacuum hose |
| 4. Clip | 5. Clip position stamp | 6. Vacuum tube |
| 7. To brake booster | A. To intake manifold | B. To brake booster |

Removal and Installation

INFOID:000000001717002

CAUTION:

- Because vacuum hose contains a check valve, it must be installed in the correct orientation. Refer to the stamp or label to confirm correct installation. Brake booster will not operate normally if hose is installed in the wrong direction.
- Insert vacuum hose at least 24 mm (0.94 in).
- Never use lubricating oil during assembly.



Inspection

INFOID:000000001717003

VISUAL INSPECTION

Check for improper assembly, damage and aging.

CHECK VALVE INSPECTION

Airtightness Inspection

VACUUM LINES

< ON-VEHICLE REPAIR >

Use a handy vacuum pump to check.

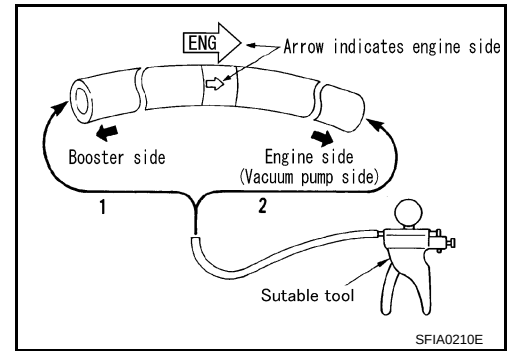
When connected to booster side (1):

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)

When connected to engine side (2):

No vacuum will be applied

Replace vacuum hose with the check valve as a set if damage or deformation is present at the vacuum hose.



A
B
C
D
E
BR
G
H
I
J
K
L
M
N
O
P

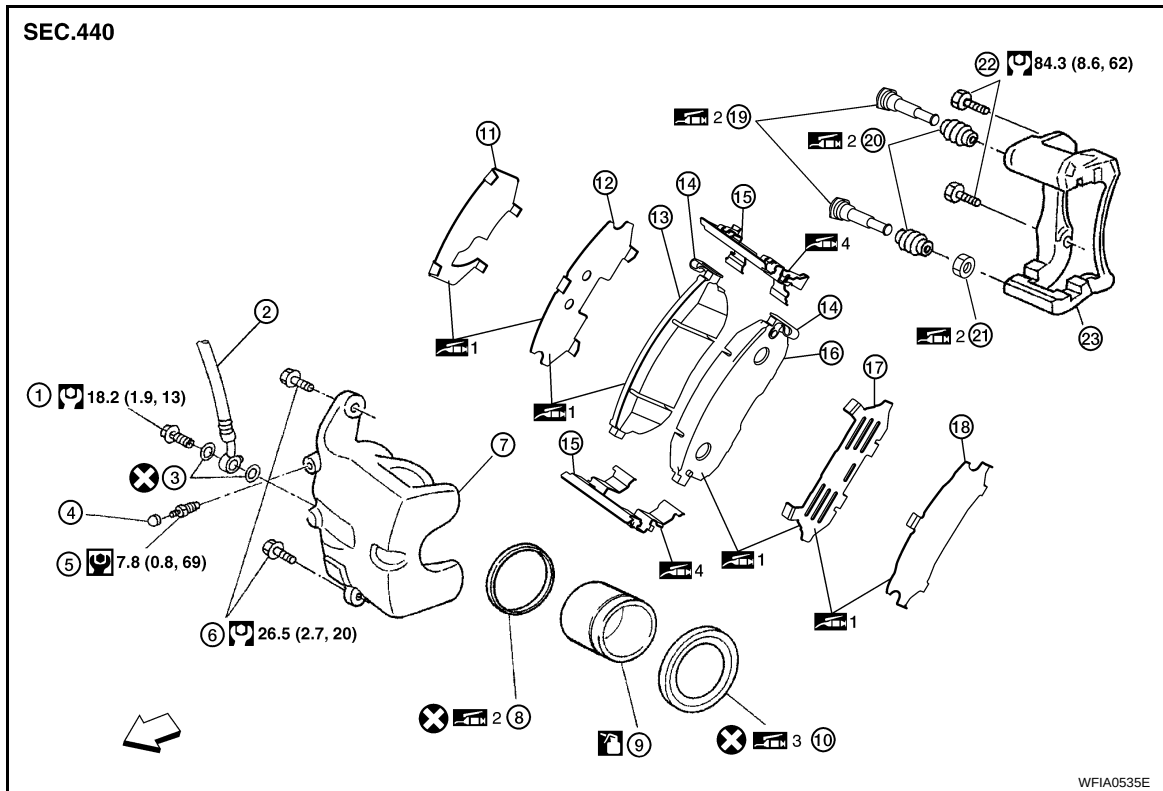
FRONT DISC BRAKE

< ON-VEHICLE REPAIR >

FRONT DISC BRAKE

Component

INFOID:000000001717005



WFIA0535E

- | | | |
|---------------------------------|----------------------|----------------------|
| 1. Union bolt | 2. Brake hose | 3. Copper washer |
| 4. Cap | 5. Bleed valve | 6. Sliding pin bolt |
| 7. Cylinder body | 8. Piston seal | 9. Piston |
| 10. Piston boot | 11. Inner shim cover | 12. Inner shim |
| 13. Inner pad | 14. Pad wear sensor | 15. Pad retainer |
| 16. Outer pad | 17. Outer shim | 18. Outer shim cover |
| 19. Sliding pin | 20. Sliding pin boot | 21. Bushing |
| 22. Torque member mounting bolt | 23. Torque member | ⇐ : Front |



: Brake fluid



1: M-77 grease



2: Rubber grease



3: Polyglycol ether based lubricant



4: M7439 grease

Refer to GI section [GI-3](#) for symbol marks unless shown.

CAUTION:

- Clean dust on caliper and brake pad with a vacuum dust collector. Do not blow with compressed air.
- While removing brake pad or cylinder body, do not depress brake pedal because piston will pop out.
- It is not necessary to remove torque member mounting bolts and brake hose except for disassembly or replacement of caliper assembly. In this case, hang cylinder body with a wire so that brake hose is not under tension.
- Do not damage piston boot.
- If any shim is subject to serious corrosion, replace it with a new one.
- Keep rotor free from brake fluid.
- When replacing brake pad, replace shim with a new one.

Removal and Installation of Brake Pad

INFOID:000000001717006

REMOVAL

1. Remove tires from vehicle.

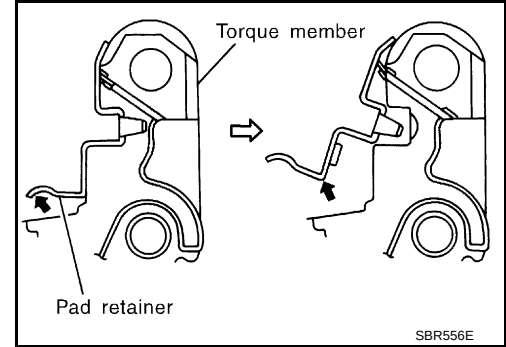
FRONT DISC BRAKE

< ON-VEHICLE REPAIR >

2. Remove sliding pin bolt (lower side).
3. Hang cylinder body with a wire, and remove pads, shims and pad retainers from torque member.

CAUTION:

When removing pad retainer from torque member, lift pad retainer in the direction shown by arrow, so as not to deform it.

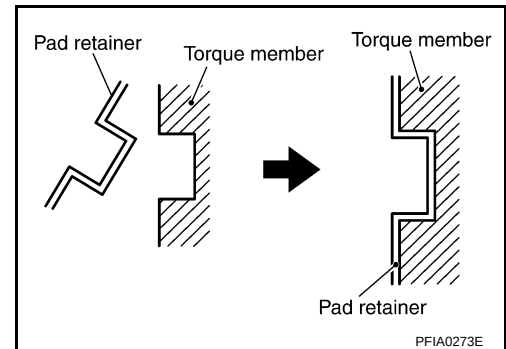


INSTALLATION

1. Apply M-77 grease or equivalent to the shims. Install shims to pads.
CAUTION:
Securely install shims according to mounting direction of pads.
2. Apply M7439 grease or equivalent to pad contact surface on pad retainers. Install pad retainers and pads

CAUTION:

- When installing pad retainer, attach it firmly so that it is not lifted up from torque member, as shown.



3. Install cylinder body to torque member.
NOTE:
Use a disc brake piston tool (commercial service tool) to easily press to piston in.
CAUTION:
Check the brake fluid level in the reservoir tank for fluid level because brake fluid returns to master cylinder reservoir tank when pressing piston in.
4. Install lower sliding pin bolt (lower side), and tighten it to the specified torque. Refer to [BR-24, "Component"](#).
5. Check brake for drag.
6. Install tires to the vehicle.

Removal and Installation of Brake Caliper Assembly

INFOID:000000001717007

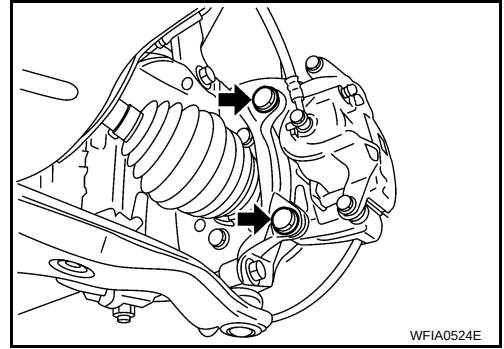
REMOVAL

1. Remove tires from vehicle.
2. Secure disc rotor using wheel nuts.
CAUTION:
Put matching marks on wheel hub assembly and disc rotor, if it is necessary to remove disc rotor.
3. Drain brake fluid. Refer to [BR-8, "Drain and Refill"](#).

FRONT DISC BRAKE

< ON-VEHICLE REPAIR >

4. Remove union bolt, and then remove brake hose from caliper assembly.
5. Remove torque member mounting bolts from torque member, and remove caliper assembly from vehicle.



INSTALLATION

1. Install caliper assembly to vehicle, and tighten mounting bolts to the specified torque. Refer to [BR-24, "Component"](#) .
CAUTION:
Before installing torque member to vehicle, wipe oil and grease on mounting surface of steering knuckle and torque member.
2. Install brake hose to caliper assembly. Refer to [BR-14, "Hydraulic Circuit"](#) .
3. Refill with new brake fluid and bleed air. Refer to [BR-8, "Bleeding Brake System"](#) .
4. Check front disc brake for drag.
5. Install tires to the vehicle.

Brake Burnishing

INFOID:000000001717009

Burnish the new braking surfaces according to following procedure after refinishing or replacing disc rotors, pads, or if a soft pedal occurs at very low mileage.

CAUTION:

- **Be careful of vehicle speed because brake does not operate easily until pad and disc rotor are securely fitted.**
 - **Only perform this procedure under safe road and traffic conditions. Use extreme caution.**
1. Drive vehicle on straight, flat road.
 2. Depress brake pedal with the power to stop vehicle within 3 to 5 seconds until the vehicle stops.
 3. Drive without depressing brake pedal for a few minutes to cool brake.
 4. Repeat steps 1 to 3 until pad and disc rotor are securely fitted.

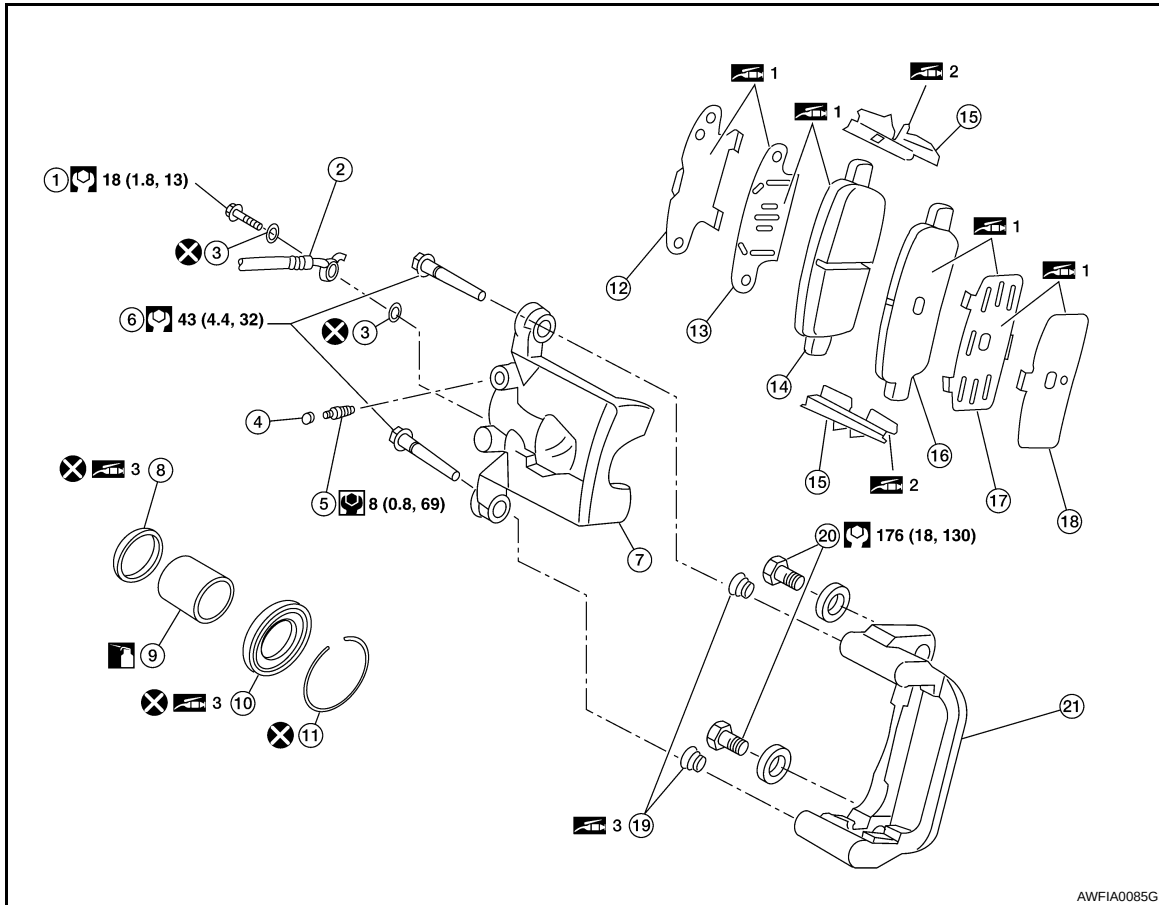
REAR DISC BRAKE

< ON-VEHICLE REPAIR >

REAR DISC BRAKE

Component

INFOID:000000001724666



- | | | |
|----------------------|-------------------------|----------------------|
| 1. Connecting bolt | 2. Brake hose | 3. Copper washer |
| 4. Cap | 5. Air bleeder | 6. Sliding pin |
| 7. Cylinder body | 8. Piston seal | 9. Piston |
| 10. Piston boot | 11. Retaining ring | 12. Inner shim cover |
| 13. Inner shim | 14. Inner pad | 15. Pad retainer |
| 16. Outer pad | 17. Outer shim | 18. Outer shim cover |
| 19. Sliding pin boot | 20. Torque member bolts | 21. Torque member |
- : Front
 : Brake fluid
 1: M-77 grease
 2: M7439 grease
 3: Rubber grease

WARNING:

Clean dust on caliper and brake pad with a vacuum dust collector. Do not blow with compressed air.

CAUTION:

- While removing cylinder body, never depress the brake pedal because the piston will pop out.
- It is not necessary to remove bolts on torque member and brake hose except for disassembly or replacement of the cylinder body. In this case, hang cylinder body with a wire so that brake hose is not under tension.
- Do not damage piston boot.
- Always replace shims and shim covers as a set when replacing brake pads.
- Keep the rotor clean of brake fluid.
- Burnish the brake contact surfaces when refinishing or replacing brake rotors, after replacing pads or linings, or if a soft pedal occurs at very low mileage. Refer to [BR-29, "Brake Burnishing"](#).

REAR DISC BRAKE

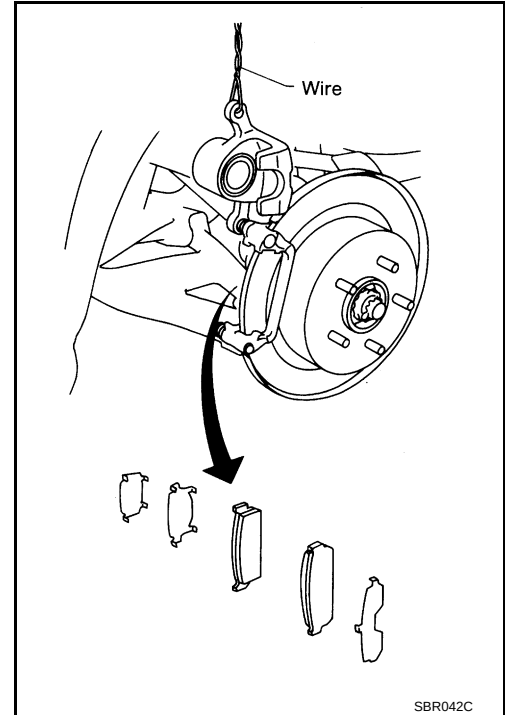
< ON-VEHICLE REPAIR >

Removal and Installation of Brake Pad

INFOID:000000001724667

REMOVAL

1. Remove master cylinder reservoir cap.
2. Remove tires from vehicle with power tool.
3. Remove bottom sliding pin bolt.
4. Hang cylinder body with a wire, and remove pads, pad retainers, shims from torque member.



INSTALLATION

1. Apply M-77 grease or equivalent between pad plate and shim, shim and shim cover, and shim cover and piston. Refer to [MA-19, "Fluids and Lubricants"](#).
2. Attach the inner shim and shim cover to the inner pad, and the outer shim and outer shim cover to the outer pad.
3. Apply M7439 grease or equivalent to pad contact surface of pad retainers.
4. Attach the pad retainers and pads to the torque member.
5. Push the piston in so that the pad is firmly attached and attach the cylinder body to the torque member.

NOTE:

Using a disc brake piston tool (commercial service tool), makes it easier to push in the piston.

CAUTION:

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

6. Install the sliding pin bolt and tighten to the specification. Refer to [BR-27, "Component"](#).
7. Inspect brake fluid level, then install master cylinder reservoir cap.
8. Check brake for drag.
9. Attach the tires to the vehicle. Refer to [WT-6, "Rotation"](#).

CAUTION:

Burnish the brake contact surfaces when refinishing or replacing brake rotors, after replacing pads or linings, or if a soft pedal occurs at very low mileage. Refer to [BR-29, "Brake Burnishing"](#).

Removal and Installation of Brake Caliper Assembly

INFOID:000000001724668

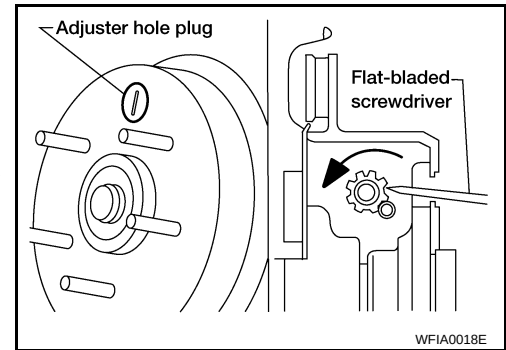
REMOVAL

1. Remove master cylinder reservoir cap.
2. Remove tires from vehicle using power tool.

REAR DISC BRAKE

< ON-VEHICLE REPAIR >

3. Drain brake fluid. Refer to [BR-8, "Bleeding Brake System"](#).
4. Remove connecting bolt and torque member bolts using power tool, and remove cylinder body.
5. Remove caliper and disc rotor. If the disc rotor cannot be removed, remove as follows:
 - Make sure parking brake lever is completely disengaged.
 - Hold down the disc rotor with the wheel nut and remove the adjuster hole plug.
 - Insert a flat-bladed screwdriver through the plug opening and rotate the star wheel on the adjuster assembly in the direction shown to loosen and retract the brake shoes.
 - Prior to removing disc rotor, make alignment mark using a marker between the hub and disc rotor.
 - Remove wheel nut and rotor.



INSTALLATION

CAUTION:

- Refill with new brake fluid. Refer to [MA-19, "Fluids and Lubricants"](#).
- Never reuse drained brake fluid.

1. Install disc rotor.
 - Align marks made during removal on the hub and disc rotor.
2. Install cylinder body to the vehicle, and tighten torque member bolts to the specification. Refer to [BR-27, "Component"](#).

CAUTION:

Before installing cylinder body to the vehicle, wipe off oil and grease on washer seats on axle assembly and mounting surface of cylinder body.

3. Install brake hose to cylinder body and tighten connecting bolt to the specification. Refer to [BR-27, "Component"](#).

CAUTION:

- Do not reuse the copper washer for connecting bolts.
- Securely attach brake hose to protrusion on cylinder body.

4. Add new brake fluid and bleed air. Refer to [BR-8, "Bleeding Brake System"](#).
5. Install master cylinder reservoir cap.
6. Adjust the parking brake. Refer to [PB-4, "On-Vehicle Service"](#).
7. Attach the tires to the vehicle. Refer to [WT-6, "Rotation"](#).

CAUTION:

Burnish the brake contact surfaces when refinishing or replacing brake rotors, after replacing pads, or if a soft pedal occurs at very low mileage. Refer to [BR-29, "Brake Burnishing"](#).

Brake Burnishing

INFOID:000000001724670

Burnish the 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 the 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

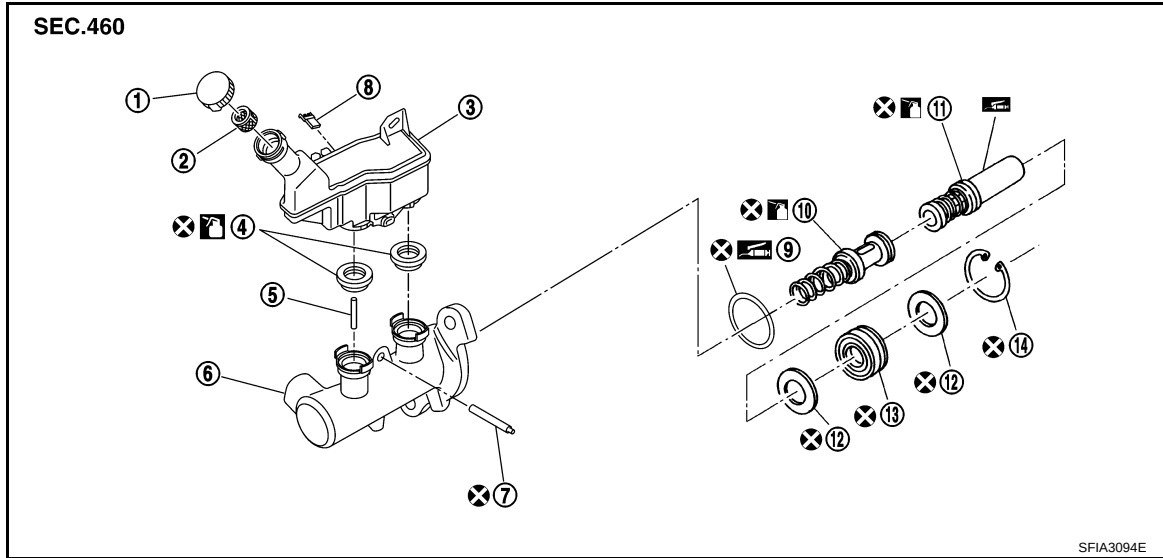
Disassembly and Assembly

INFOID:000000001717016

COMPONENTS

NOTE:

LHD shown RHD similar.



- | | | |
|-------------------------------|---------------------------------------|-------------------|
| 1. Reservoir cap | 2. Oil filter | 3. Reservoir tank |
| 4. Grommet | 5. Piston stopper | 6. Cylinder body |
| 7. Pin | 8. Brake fluid level switch connector | 9. O-ring |
| 10. Secondary piston assembly | 11. Primary piston assembly | 12. Plate |
| 13. Guide assembly | 14. Snap ring | |



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



Brake fluid

Refer to GI section [GI-3](#) for symbol marks unless shown.

DISASSEMBLY

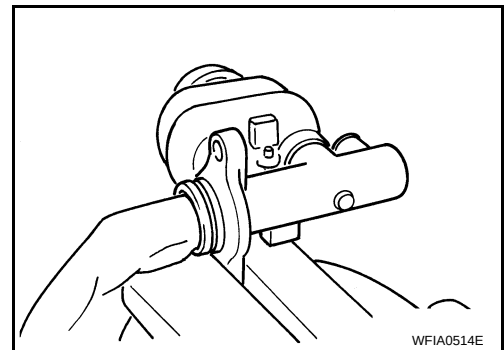
CAUTION:

While working, cover primary piston rod with cloth to prevent it from being damaged.

1. Secure flange of cylinder body in vise as shown.

CAUTION:

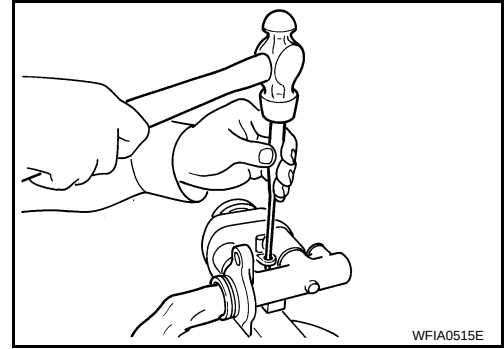
- Use copper plate or cloth to cover flange when securing in vise.
- When securing master cylinder assembly in a vise, be sure not to over-tighten.



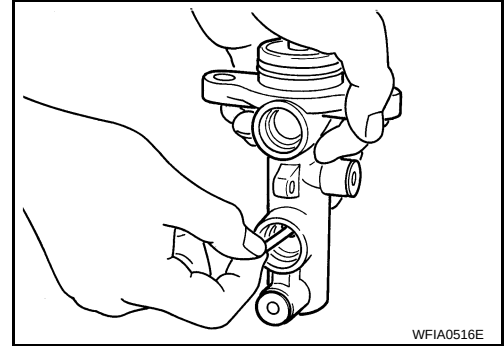
BRAKE MASTER CYLINDER

< DISASSEMBLY AND ASSEMBLY >

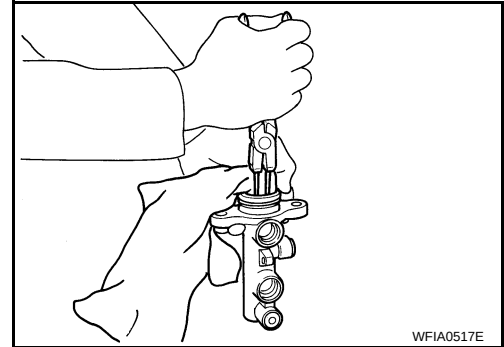
2. Using a pin-punch [commercial service tool: diameter approx. 4 mm (0.16 in)], remove pin from reservoir tank.
3. Remove master cylinder assembly from vise.
4. Remove reservoir tank and grommet from cylinder body.



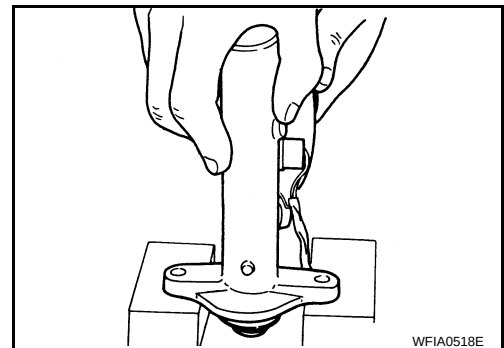
5. While pushing primary piston, remove piston stopper through secondary tank boss hole in the cylinder body.



6. Remove snap ring with pushing primary piston.
CAUTION:
Be careful not to pop out piston.
7. Holding rod of primary piston, remove primary piston assembly, plate and guide assembly by pulling straight to prevent piston cup from being caught by the inner wall of cylinder.
8. Remove plate and guide assembly from primary piston.
CAUTION:
Be careful not to damage rod from the inner wall of plate.



9. Tap flange using a soft block such as wood, and carefully pull secondary piston assembly straight out to prevent cylinder inner wall from being damaged.



INSPECTION AFTER DISASSEMBLY

Cylinder Body

- Check the inner wall of cylinder for damage, wear, corrosion, and pin holes. Replace cylinder body if necessary.

ASSEMBLY

CAUTION:

- Never use mineral oils such as kerosene or gasoline during the cleaning and assembly processes.
- Make sure that there is no foreign material such as dirt and dust on the inner wall of cylinder, piston, and piston cup. Be careful not to damage parts with a service tool when assembling.
- Do not drop parts. If a part is dropped, do not use it.

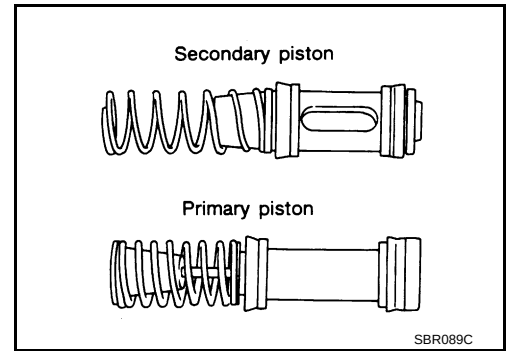
BRAKE MASTER CYLINDER

< DISASSEMBLY AND ASSEMBLY >

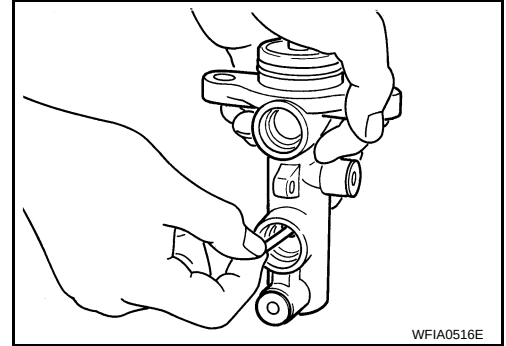
1. Apply brake fluid to the inner wall of cylinder body, primary piston assembly and secondary piston assembly.
2. Insert secondary piston and primary piston assembly into cylinder body in this order.

CAUTION:

- Pay attention to the orientation of piston cup, and insert straight to prevent cup from being caught by the inner wall of cylinder.
- Always replace inner kit as a set.



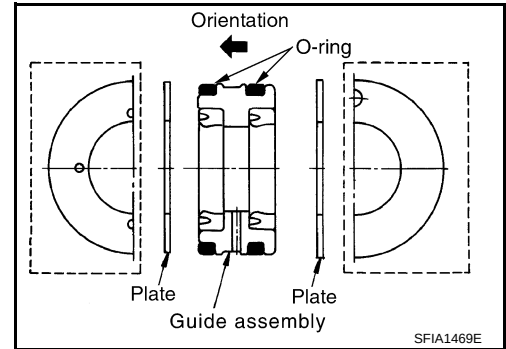
3. Set the slit of secondary piston towards the piston stopper mounting hole of cylinder body while pushing in the primary piston. Then install the piston stopper through the slit of secondary piston.



4. Insert plate and guide assembly into cylinder body.

CAUTION:

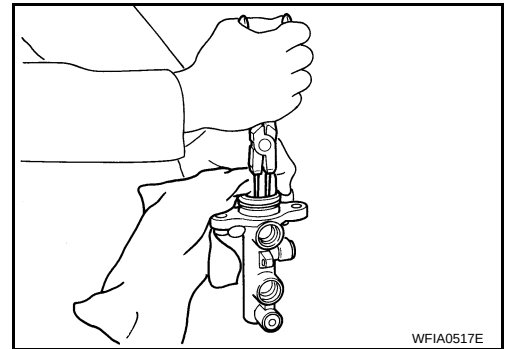
- Be careful not to damage rod of primary piston.
- Pay attention to the orientation of guide assembly.
- Do not drop O-ring.
- Be careful the guide and/or plate are not inserted at an angle to cylinder inner wall.



5. Be careful not to damage rod of primary piston with the cloth. Then insert snap ring to cylinder body while pushing primary piston.

CAUTION:

Make sure that snap ring is securely engaged in cylinder body inner diameter groove.



6. Apply brake fluid to a grommet, and press it into reservoir tank to install.

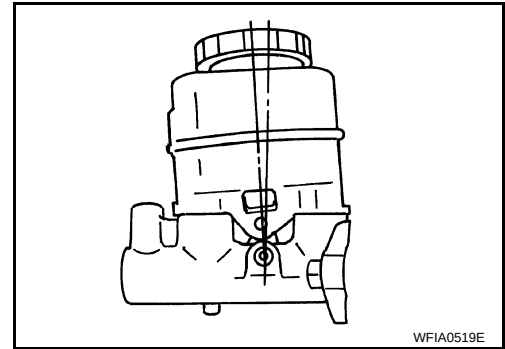
BRAKE MASTER CYLINDER

< DISASSEMBLY AND ASSEMBLY >

7. Install reservoir tank to cylinder body.

CAUTION:

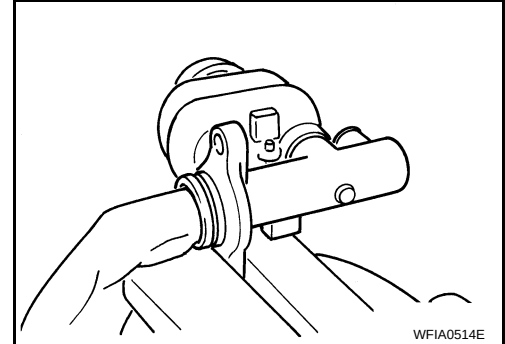
Pay attention to the orientation of reservoir tank. Make sure reservoir tank is fully seated on master cylinder.



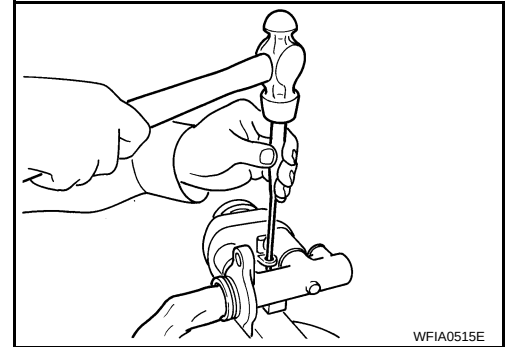
8. Secure flange of cylinder body in vise as shown.

CAUTION:

- Use copper plate or cloth to cover flange for securing in the vise.
- When securing master cylinder assembly in a vise, be sure not to over-tighten.
- Be sure to secure the flange part with the brake tube installation side of cylinder body facing up (chamfered pin insert hole of cylinder body facing up).



9. Using a pin punch [commercial service tool: diameter approx. 4 mm (0.16 in)], insert the reservoir tank pin into the pin hole.



A

B

C

D

E

BR

G

H

I

J

K

L

M

N

O

P

FRONT DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

FRONT DISC BRAKE

Disassembly and Assembly of Brake Caliper Assembly

INFOID:000000001717023

NOTE:

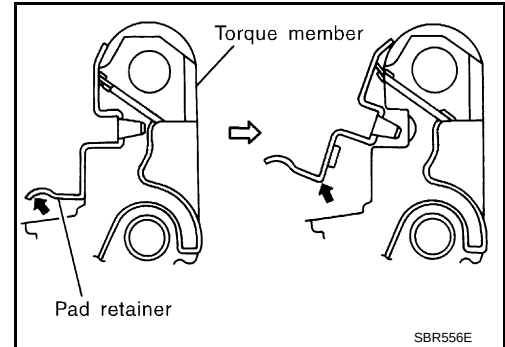
Do not remove torque member, brake pads, shims and pad retainers, when disassembling or assembling cylinder body.

DISASSEMBLY

1. Remove caliper assembly from vehicle. Refer to [BR-25, "Removal and Installation of Brake Caliper Assembly"](#).
2. Remove sliding pin bolts from cylinder body, and remove pads, shims and pad retainers from torque member, if necessary.

CAUTION:

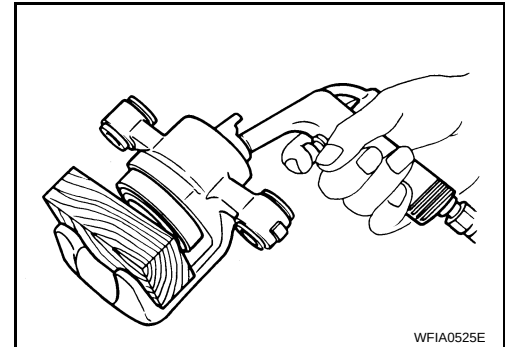
When removing pad retainer from torque member, lift the pad retainer in the direction shown by arrow, so as not to deform it.



3. Remove sliding pins and sliding pin boots from torque member.
4. Place a wooden block as shown, and blow air from union bolt mounting hole to remove piston and piston boot.

CAUTION:

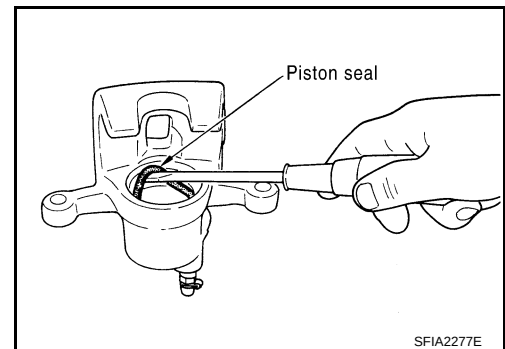
Do not get fingers caught in the piston.



5. Remove piston seal with a flat-bladed screwdriver.

CAUTION:

Be careful not to damage the inner wall of cylinder.



INSPECTION AFTER DISASSEMBLY

Cylinder Body

Check the inner wall of cylinder for corrosion, wear, and damage. Replace cylinder body as necessary.

CAUTION:

Clean cylinder body using new brake fluid. Never use mineral oils such as gasoline or kerosene.

Torque Member

Check for wear, cracks, and damage. Replace torque member as necessary..

Piston

Check piston surface for corrosion, wear, and damage. Replace piston as necessary.

CAUTION:

The piston sliding surface is plated. Do not polish with sandpaper.

Sliding Pin, Sliding Pin Bolt, and Sliding Pin Boot

FRONT DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

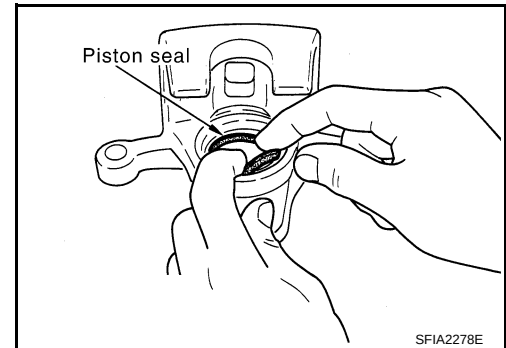
Check sliding pins, sliding pin bolts and sliding pin boots for wear, damage, and cracks. Replace applicable part as necessary.

ASSEMBLY

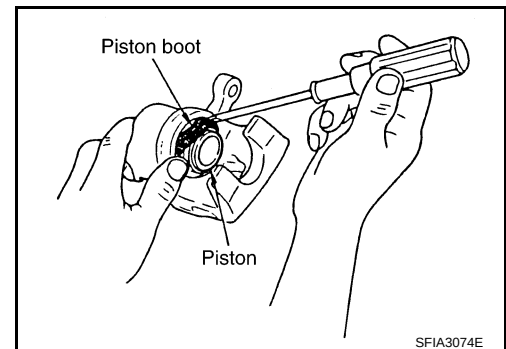
CAUTION:

When assembling, use only specified rubber lubricant.

1. Apply polyglycol ether based lubricant to new piston seal and install them to cylinder body.



2. Apply rubber grease to piston boot and apply brake fluid to piston. Cover the piston end with piston boot, and install cylinder-side lip on piston boot properly into groove on cylinder body.

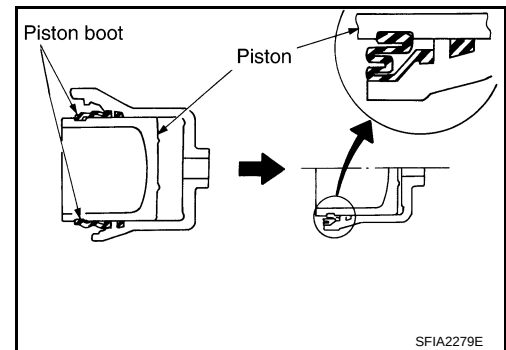


3. Press piston into cylinder body by hand to assemble piston-side lip on piston boot properly into a groove on piston.

CAUTION:

Press piston evenly and change pressing point to prevent inner wall of cylinder from being rubbed.

4. Install sliding pins and sliding pin boots to the torque member.



5. If pads, shims and pad retainers were removed, install them to torque member. Refer to [BR-24, "Removal and Installation of Brake Pad"](#) .
6. Install cylinder body to torque member.
7. Install sliding pin bolts.
8. Install caliper assembly to vehicle. Refer to [BR-25, "Removal and Installation of Brake Caliper Assembly"](#) .
9. Tighten sliding pin bolts to specified torque. Refer to [BR-24, "Component"](#) .

DISC ROTOR INSPECTION

Visual Inspection

Check surfaces of disc rotor for uneven wear, cracks, and serious damage. Replace applicable part as necessary.

Runout Inspection

1. Using wheel nuts, secure disc rotor to wheels hub 2 or more positions.

FRONT DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

2. Using a dial indicator, check runout.

CAUTION:

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

Runout limit : 0.04 mm (0.0016 in) or less
[Measured at 10.0 mm (0.394 in) inside the disc edge]

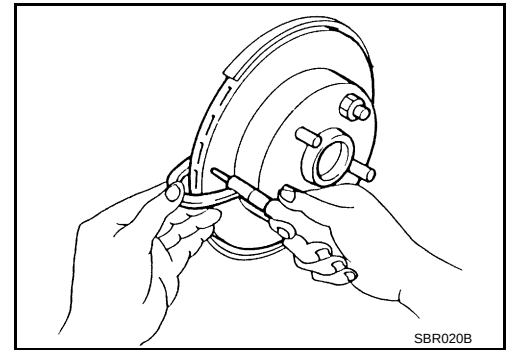
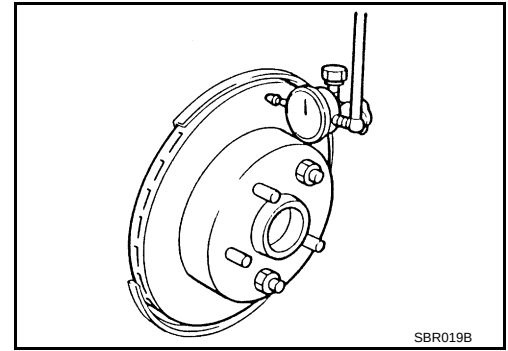
3. If runout is outside the limit, find the minimum runout point by shifting the mounting positions of disc rotor and wheel hub by one hole.

Thickness Inspection

1. Using a micrometer, check thickness of disc rotor. If thickness is outside the standard, replace disc rotor.

Standard thickness : 24.0 mm (0.945 in)
Repair limit thickness : 22.0 mm (0.866 in)
Maximum uneven wear : 0.02 mm (0.0008 in)
(measured at 8 positions) or less

2. If runout is still out of the specification, grind rotor with on-car brake lathe ("MAD, DL-8700", "AMMCO 700 and 705" or equivalent) until runout becomes within the specified limit.



REAR DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

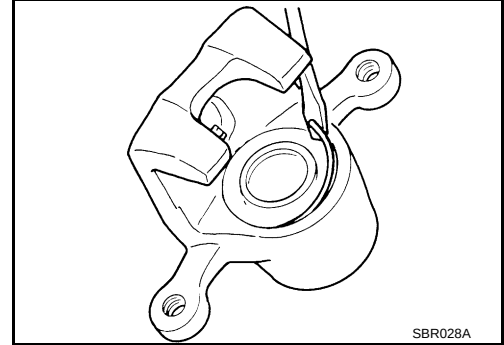
REAR DISC BRAKE

Disassembly and Assembly

INFOID:000000001724669

DISASSEMBLY

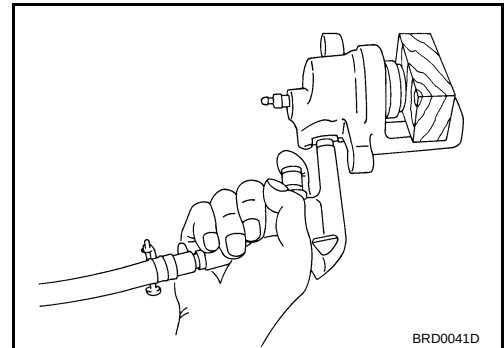
1. Remove the sliding pin bolt, and then remove the pad, shim, shim cover, and pad retainer from the torque member and cylinder.
2. Remove sliding pin boot from torque member.
3. Remove the retaining ring from the cylinder body using a screwdriver or suitable tool, as shown.



4. Place a wooden block as shown, and blow air from connecting bolt mounting hole to remove pistons and piston boots.

WARNING:

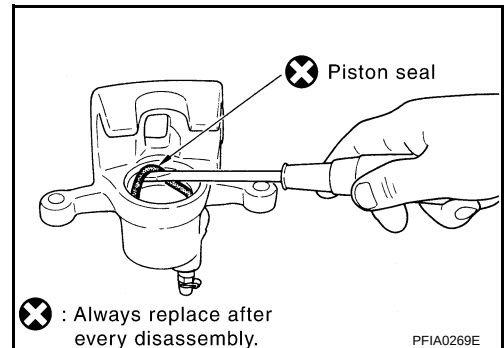
Do not place your finger in front of piston.



5. Remove piston seals from cylinder body using a screwdriver or suitable tool, as shown.

CAUTION:

Be careful not to damage cylinder inner wall.



CALIPER INSPECTION

Cylinder Body

CAUTION:

- Use new brake fluid to clean. Never use mineral oils such as gasoline or kerosene.
- Check inner wall of cylinder for corrosion, wear, and damage. If any non-standard condition is detected, replace cylinder body.
- Minor flaws caused by corrosion or a foreign material can be removed by polishing the surface with a fine sandpaper. Replace the cylinder body, if necessary.

Torque Member

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

Piston

CAUTION:

REAR DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

Since the piston surface is plated, do not repair using sandpaper.

Check piston surface for corrosion, wear, and damage. If any non-standard condition is detected, replace applicable part.

Sliding Pin Bolts and Sliding Pin Boots

Check that there is no wear, damage, or cracks in the sliding pin bolts and sliding pin boots, and if there are, replace them.

ASSEMBLY

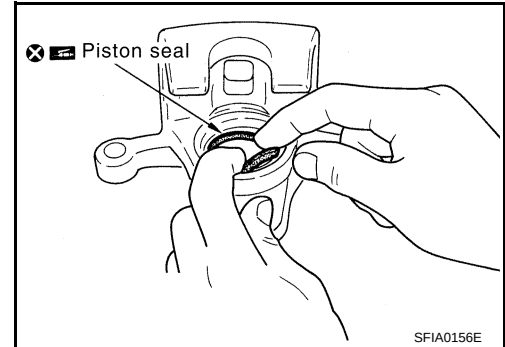
CAUTION:

Do not use Nissan Rubber Grease (KRE00 00010 or KRE00 00010 01) when assembling.

1. Apply a rubber grease to the piston seal and attach to cylinder body.

CAUTION:

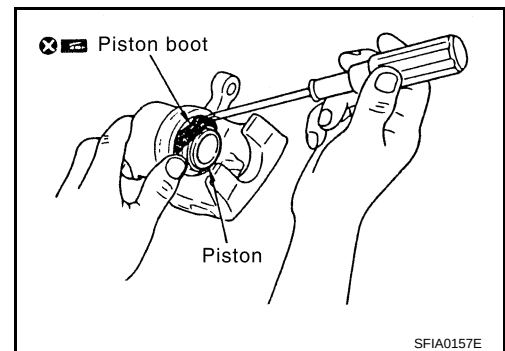
Do not reuse the piston seals.



2. Apply brake fluid or rubber grease to the piston boot, place it on the piston, and firmly insert the piston boot cylinder-side lip into the cylinder body groove.

CAUTION:

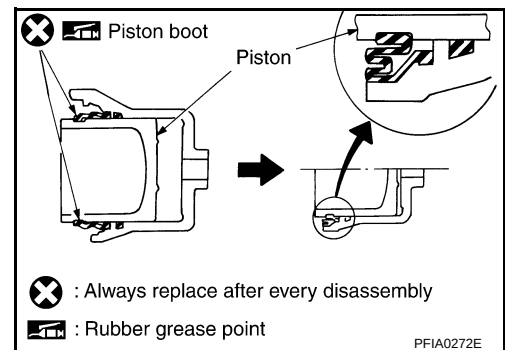
Do not reuse the piston boot.



3. Apply a brake fluid to the piston, insert into the cylinder body by hand and firmly attach the piston boot piston-side lip into the piston boot.

CAUTION:

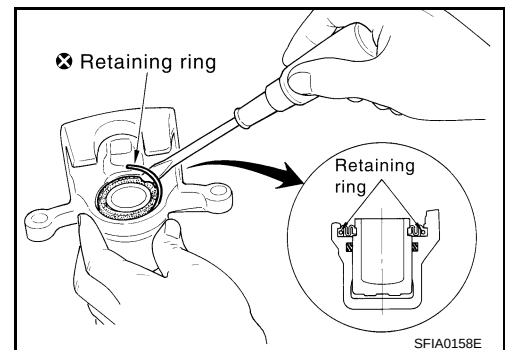
Press the piston evenly and vary the pressing point to prevent cylinder inner wall from being rubbed.



4. Fix piston boot with retaining ring.

CAUTION:

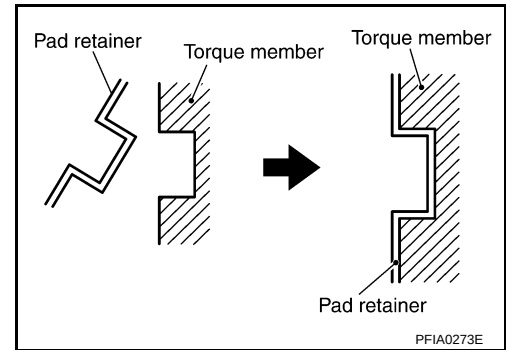
- Make sure the boot is firmly in the cylinder body groove.
- Do not reuse the retaining ring.



REAR DISC BRAKE

< DISASSEMBLY AND ASSEMBLY >

5. Attach the sliding pin bolt and sliding pin boot to the torque member.
6. Apply PBC (Poly Butyl Cuprysil) grease or silicone-based grease to the rear of the pad and to both sides of the shim, and attach the inner shim and shim cover to the inner pad, and the outer shim and outer shim cover to the outer pad.
7. Attach the pad retainer and pad to the torque member.
CAUTION:
When attaching the pad retainer, attach it firmly so that it does not float up higher than the torque member, as shown in the figure.
8. After assembling shims and shim covers to pad, install it to the torque member.
9. Install cylinder body. Tighten sliding pin bolts to the specified torque.



DISC ROTOR INSPECTION

Visual Inspection

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

Runout Inspection

1. Using wheel nuts, fix disc rotor to the wheel hub in two or more positions.
2. Inspect runout using a dial gauge.

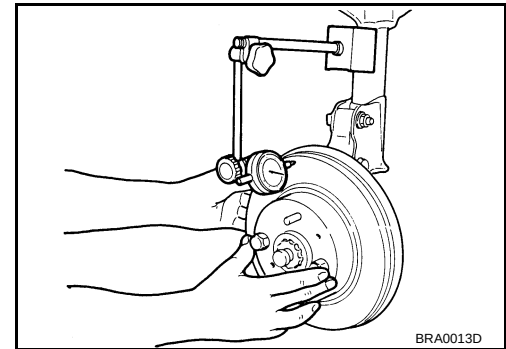
Measurement position : At a point 10 mm (0.39 in) from outer edge of the disc.

Runout limit (with it attached to the vehicle) : 0.07 mm (0.0028 in) or less

CAUTION:

Before measuring, make sure the axle endplay is 0 mm (0 in).

3. If runout is outside the limit, find the minimum runout point by shifting mounting positions of the disc rotor and wheel hub by one hole.



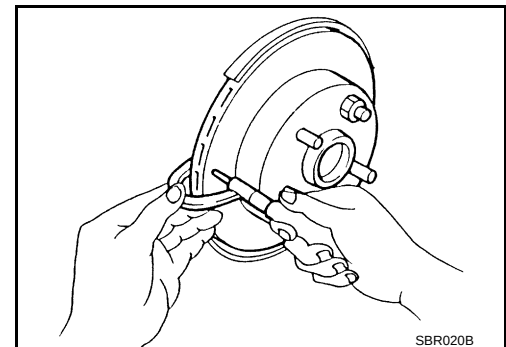
Thickness Inspection

Using a micrometer, check thickness of the disc rotor. If thickness is not within specification, replace disc rotor.

Standard thickness : 9.0 mm (0.350 in)

Minimum thickness : 8.0 mm (0.310 in)

Maximum uneven wear (measured at 8 positions) : 0.015 mm (0.0006 in) or less



SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specification

INFOID:0000000001716911

Front brake	Brake model	CLZ25VA
	Cylinder bore diameter	57.2 mm (2.252 in)
	Pad Length × width × thickness	125.6 mm × 46.0 mm × 9.5 mm (4.945 in × 1.811 in × 0.374 in)
	Rotor outer diameter × thickness	280 mm × 24.0 mm (11.02 in × 0.945 in)
Rear brake	Brake model	—
	Cylinder bore diameter	34.93 mm (1.375 in)
	Pad thickness	8.5 mm (0.335 in)
	Rotor outer diameter × thickness	292 mm × 9.0 mm (11.50 in × 0.354 in)
Master cylinder	Cylinder bore diameter	22.22 mm (0.875 in)
Control valve	Valve model	Electric brake force distribution
Brake booster	Booster model	C255
	Diaphragm diameter	255 mm (10.04 in)
Recommended brake fluid		Refer to MA-19 .

Brake Pedal

INFOID:0000000001716912

Unit: mm (in)

Brake pedal free height (from dash panel top surface)	A/T model	172.4 - 182.4 (6.79 - 7.18)
	M/T models	162.3 - 172.3 (6.39 - 6.78)
Brake pedal depressed height [under a force of 490 N (50 kg-f, 110 lb-f) with the engine running]	A/T model	98 (3.86) or more
	M/T models	90 (3.54) or more
Clearance between brake pedal lever and the threaded end of stop lamp switch		0.74 - 1.96 (0.0291 - 0.0772)
Pedal play		3 - 11 (0.12 - 0.43)

Check Valve

INFOID:0000000001716913

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
--	--

Brake Booster

INFOID:0000000001716914

Vacuum type

Vacuum leakage [at vacuum of - 66.7 kPa (- 500 mmHg, - 19.69 inHg)]	Within 3.3 kPa (25 mmHg, 0.98 inHg) of vacuum for 15 seconds
Input rod installation standard dimension	154 - 161 mm (6.06 - 6.34 in)

Front Disc Brake

INFOID:0000000001716915

Unit: mm (in)

Brake model		CLZ25VA
Brake pad	Standard thickness (new)	9.5 (0.374)
	Repair limit thickness	2.0 (0.079)

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

Disc rotor	Standard thickness (new)	24.0 (0.945)
	Repair limit thickness	22.0 (0.866)
	Runout limit	0.04 (0.0016)
	Maximum uneven wear (measured at 8 positions)	0.02 mm (0.0008 in) or less

Rear Disc Brake

INFOID:0000000001716916

Unit: mm (in)

Brake model		—
Brake pad	Standard thickness (new)	8.5 (0.335)
	Repair limit thickness	2.0 (0.079)
Drum	Standard thickness (new)	9.0 (0.354)
	Repair limit inner diameter	8.0 (0.315)
	Runout limit	0.07 (0.0028)
	Maximum uneven wear (measured at 8 points)	0.015 (0.00006)