SECTION BR
BRAKE SYSTEM

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000012521892

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

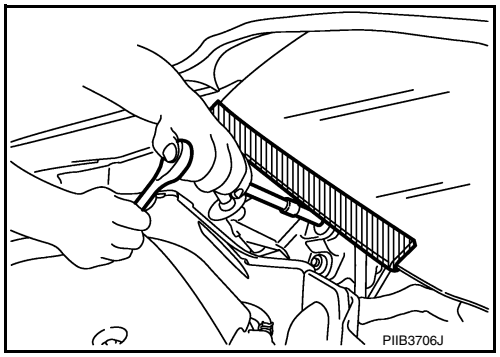
WARNING:

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

Precaution for Procedure without Cowl Top Cover

INFOID:0000000012521893

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc. to prevent damage to windshield.



Precaution for Brake system

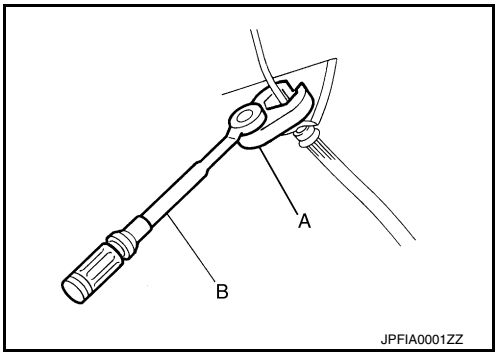
INFOID:0000000012521894

WARNING:

Clean any dust from the front brake and rear brake with a vacuum dust collector. Do not blow with compressed air.

- Brake fluid use refer to MA-15, "FOR USA AND CANADA : Fluids and Lubricants" (United States and Canada) or MA-17, "FOR MEXICO : Fluids and Lubricants" (Mexico).
- Do not reuse drained brake fluid.
- Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.
- Always confirm the specified tightening torque when installing the brake pipes.

- After pressing the brake pedal more deeply or harder than normal driving, such as air bleeding, check each item of brake pedal. Adjust brake pedal if it is outside the standard value.
- Always clean with new brake fluid when cleaning the brake caliper and other components.
- Do not use mineral oils such as gasoline or light oil to clean. They may damage rubber parts and cause improper operation.
- Always loosen the brake tube flare nut with a flare nut wrench.
- Tighten the brake tube flare nut to the specified torque with a crow-foot (A) and torque wrench (B).
- Brake system is an important safety part. If a brake fluid leak is detected, always disassemble the affected part. If a malfunction is detected, replace part with a new one.
- Always connect the battery terminals when moving the vehicle.
- Turn the ignition switch OFF and disconnect the hydraulic booster assembly harness connector or the battery negative terminal before performing the work.
- Check that no brake fluid leakage is present after replacing the parts.
- Burnish the brake contact surfaces after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage.



- Front brake pad: Refer to BR-18, "BRAKE PAD : Inspection and Adjustment".
- Front disc rotor: Refer to BR-18, "DISC ROTOR : Inspection and Adjustment".
- Rear brake pad: refer to BR-20, "BRAKE PAD : Inspection and Adjustment".
- Rear disc rotor: BR-20, "DISC ROTOR : Inspection and Adjustment".

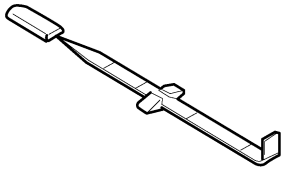
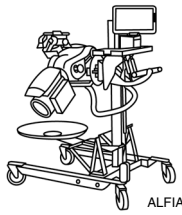
PREPARATION

PREPARATION

Special Service Tools

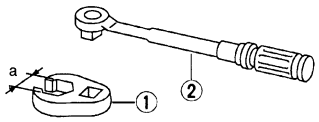
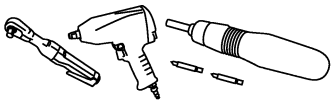
INFOID:0000000012521895

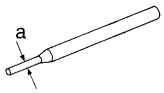
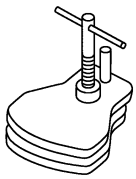
The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (J-46532) Brake height tool  LFIA0227E	Measuring brake pedal height
38-PFM92 (—) Pro-Cut™ PFM Series Lathe  ALFIA0219ZZ	Refinishing rotors

Commercial Service Tools

INFOID:0000000012521896

Tool name	Description
1. Flare nut crowfoot 2. Torque wrench  S-NT360	Tightening brake tube flare nuts **a: 10 mm (0.39 in) / 12 mm (0.47 in)**
Power tool  PIIB1407E	Loosening nuts, screws and bolts

Pin punch  NT410	Removing and installing reservoir tank **a: 4 mm (0.16 in)**
Brake caliper wrench  NNFIA0040ZZ	Return the piston

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:0000000012521897

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

Reference page			BR-18, BR-20	BR-18, BR-20	BR-33, BR-38	BR-18, BR-20, BR-8, BR-9	BR-18, BR-20, BR-8, BR-9	BR-18, BR-20	BR-18, BR-20	BR-18, BR-20	BR-18, BR-20	BR-18, BR-20, BR-8, BR-9	DLN-5 or DLN-18	DLN-34	FAX-4, RAX-4 FSU-5, RSU-4	WT-60	WT-60	RAX-4	ST-5
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	PROPELLER SHAFT	DIFFERENTIAL	AXLE AND SUSPENSION	TIRE	ROAD WHEEL	AXLE SHAFT	STEERING
Symptom	BRAKE	Noise	×	×	×								×	×	×	×	×	×	×
		Shake				×							×		×	×	×	×	×
		Shimmy, Shudder				×	×	×	×	×	×	×			×	×	×		×

×: Applicable

BASIC INSPECTION

FRONT DISC BRAKE

DISC ROTOR

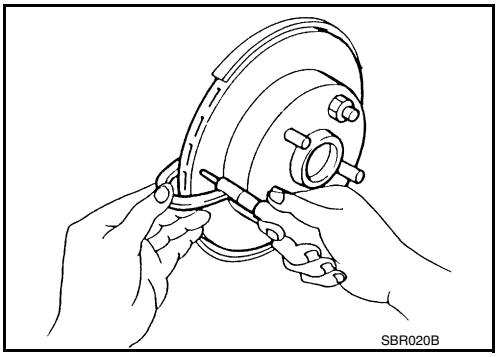
DISC ROTOR : Inspection

INFOID:0000000012830700

INSPECTION

Uneven wear

Check for uneven wear of the disc rotor using a micrometer. Replace the disc rotor if the thickness is below the wear limit. Refer to BR-36, "DISC BRAKE ROTOR : Removal and Installation".



Thickness variation (measured at 8 positions)	**: Refer to BR-47, "Front Disc Brake".**

REAR DISC BRAKE
DISC ROTOR

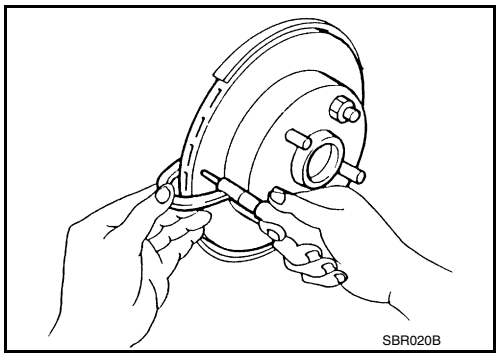
DISC ROTOR : Inspection

INFOID:0000000012830701

INSPECTION

Uneven wear

Check for uneven wear of the disc rotor using a micrometer. Replace the disc rotor if the thickness is below the wear limit. Refer to BR-41, "DISC BRAKE ROTOR : Removal and Installation".



Thickness variation (measured at 8 positions)	**: Refer to BR-47, "Rear Disc Brake".**

PERIODIC MAINTENANCE

BRAKE PEDAL

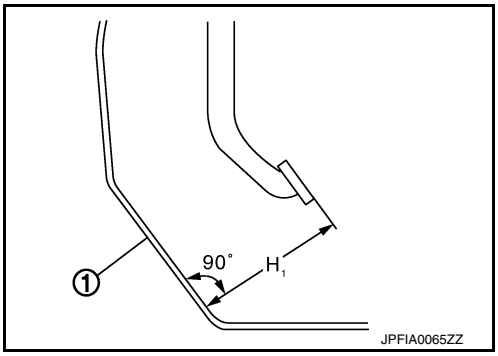
Inspection and Adjustment

INFOID:0000000012521898

INSPECTION

Brake Pedal Height

Check the brake pedal height (H_1) between the dash lower panel (1) and the brake pedal upper surface.

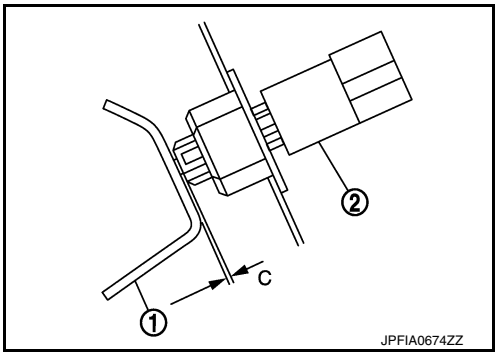


Brake pedal height (H_1) : **Refer to BR-47, "Brake Pedal".**

CAUTION:
Check the height with the floor trim removed.

Stop Lamp Switch and Brake Pedal Position Switch (if equipped)

Check the clearance (C) between the brake pedal bracket (1) and the stop lamp switch and brake pedal position switch (2) (if equipped) threaded end.



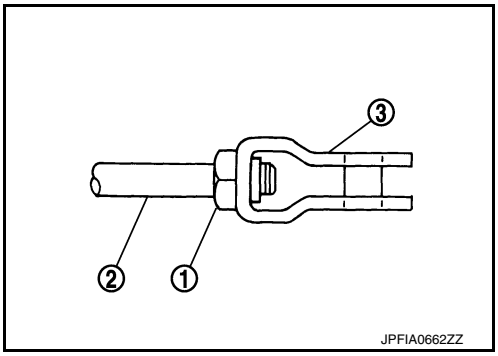
Clearance (C) **Refer to BR-47, "Brake Pedal"**

CAUTION:
The stop lamp must turn off when the brake pedal is released.
NOTE:
Pull the brake pedal pad to make the clearance between the stop lamp switch and brake pedal position switch (if equipped) threaded end and the brake pedal bracket.

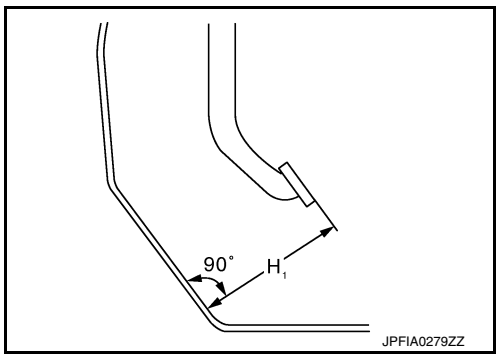
ADJUSTMENT

Brake Pedal Height

1. Disconnect the harness connectors from the stop lamp switch and brake pedal position switch (if equipped).
2. Loosen the stop lamp switch and brake pedal position switch (if equipped) by turning it 45° counterclockwise.
3. Loosen the input rod lock nut (1).
4. Rotate the input rod (2), and adjust the brake pedal to the specified height.
   CAUTION:
   - **Check the height with the floor trim removed.**
   - **The threaded end of the input rod must project to the inner side of the clevis (3).**



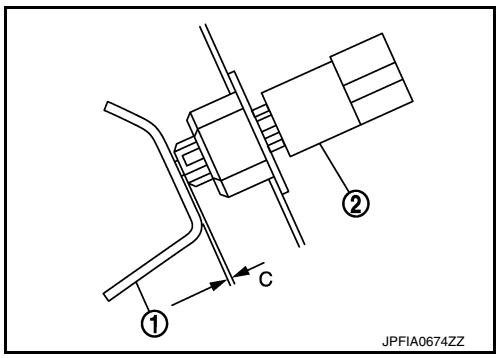
Brake pedal height (H_1) : **Refer to BR-47, "Brake Pedal".**



5. Tighten the lock nut. Refer to BR-28, "Removal and Installation".
6. Adjust the clearance between the brake pedal bracket and the stop lamp switch and brake pedal position switch (if equipped) threaded end after adjusting the brake pedal height.

Stop Lamp Switch and Brake Pedal Position Switch (if equipped)

1. Disconnect the harness connectors from the stop lamp switch and brake pedal position switch (if equipped).
2. Loosen the stop lamp switch and brake pedal position switch (if equipped) by turning it 45° counterclockwise.
3. Press-fit the stop lamp switch and brake pedal position switch (2) (if equipped) until the stop lamp switch and brake pedal position switch hits the brake pedal bracket (1) then rotate stop lamp switch and brake pedal position switch (if equipped) 45° clockwise to lock in position while pulling up on the brake pedal pad slightly.



CAUTION:

- **The clearance (C) between the brake pedal bracket and stop lamp switch and brake pedal position switch (if equipped) threaded end must be within the specified value.**

Clearance (C) : **Refer to BR-47, "Brake Pedal".**

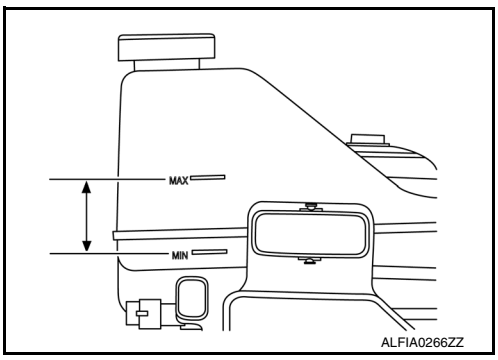
- **The stop lamp must turn off when the brake pedal is released.**

BRAKE FLUID

Inspection

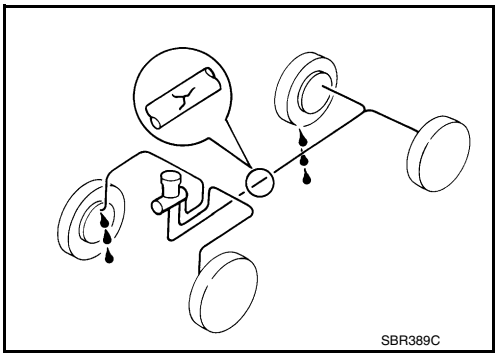
INFOID:0000000012521899

BRAKE FLUID LEVEL



- Check that the fluid level in the reservoir tank is within the specified range (MAX – MIN lines).
  CAUTION:
  Turn OFF the ignition switch and depress the brake pedal 20 times or more to check brake fluid level.
  NOTE:
  Since brake fluid is in the accumulator in pressurized condition, the reservoir tank brake fluid level should be lower than the MAX line.
- Visually check for any brake fluid leakage around the reservoir tank.
- Check the brake system for any leakage if the brake fluid level is extremely low (lower than MIN).
- Check the brake system for brake fluid leakage if the warning lamp remains illuminated even after the parking brake is released.
- Check the reservoir tank for the mixing of foreign matter (e.g. dust) and oils other than brake fluid.

BRAKE LINE



1. Check brake line (tubes and hoses) for cracks, deterioration or other damage. Replace any damaged parts.
   CAUTION:
   Retighten the applicable connection to the specified torque and repair any abnormal (damaged, worn or deformed) part if any brake fluid leakage is present.
2. Depress the brake pedal with a force of 490 N (50 kg-f, 110 lb-f) and hold down the pedal for approximately 5 seconds with the engine running. Check for any fluid leakage.

Draining

INFOID:0000000012521900

FRONT BRAKE

CAUTION:
- **If the brake fluid adheres to the brake caliper assembly and disc rotor, quickly wipe it off.**
- **Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.**
- **Do not operate the brake pedal with the reservoir cap removed. Failure to do this may cause a discharge of brake fluid from the reservoir cap opening.**
- **Do not operate the brake pedal excessively during the work procedure.**

1. Turn the ignition switch ON.
2. Connect a vinyl tube to the bleeder valve.
3. Depress the brake pedal and loosen the bleeder valve.
4. Depress the brake pedal several time gradually discharge brake fluid.

REAR BRAKE

CAUTION:
- **If the brake fluid adheres to the brake caliper assembly and disc rotor, quickly wipe it off.**
- **Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.**
- **Do not operate the brake pedal with the reservoir cap removed. Failure to do this may cause a discharge of brake fluid from the reservoir cap opening.**
- **Do not operate the brake pedal excessively during the work procedure.**

1. Turn the ignition switch ON.
2. Connect a vinyl tube to the bleeder valve.

3. Depress the brake pedal and loosen the bleeder valve to gradually discharge brake fluid.
   NOTE:
   Since brake fluid is conveyed by the motor, the brake pedal is not necessarily depressed.

Refilling

INFOID:0000000012521901

FRONT BRAKE

CAUTION:
- **If the brake fluid adheres to the brake caliper assembly and disc rotor, quickly wipe it off.**
- **Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.**
- **Do not operate the brake pedal with the reservoir cap removed. Failure to do this may cause a discharge of brake fluid from the reservoir cap opening.**
- **Do not operate the brake pedal excessively during the work procedure.**
- **Monitor the brake fluid level in the reservoir tank while performing the refilling.**

1. Check that there is no foreign material in the reservoir tank, and refill with new brake fluid.
   CAUTION:
   - **Do not reuse drained brake fluid.**
   - **Do not allow oils other than brake fluid to enter the reservoir tank.**
2. Turn the ignition switch ON.
3. Connect a vinyl tube to the bleeder valve.
4. Depress the brake pedal and loosen the bleeder valve.
5. Depress the brake pedal several times until the refilled brake fluid is discharged and tighten the bleeder valve to the specified torque with the brake pedal depressed. Refer to BR-32, "BRAKE PAD : Exploded View".
6. Bleed the brake system. Refer to BR-13, "Bleeding Brake System".

REAR BRAKE

CAUTION:
- **If the brake fluid adheres to the brake caliper assembly and disc rotor, quickly wipe it off.**
- **Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.**
- **Do not operate the brake pedal with the reservoir cap removed. Failure to do this may cause a discharge of brake fluid from the reservoir cap opening.**
- **Do not operate the brake pedal excessively during the work procedure.**
- **Monitor the brake fluid level in the reservoir tank while performing the refilling.**

1. Check that there is no foreign material in the reservoir tank, and refill with new brake fluid.
   CAUTION:
   - **Do not reuse drained brake fluid.**
   - **Do not allow oils other than brake fluid to enter the reservoir tank.**
2. Turn the ignition switch ON.
3. Connect a vinyl tube to the bleeder valve.
4. Depress the brake pedal and loosen the bleeder valve.
5. Depress the brake pedal several times until the refilled brake fluid is discharged and tighten the bleeder valve to the specified torque with the brake pedal depressed. Refer to BR-37, "BRAKE PAD : Exploded View".
   NOTE:
   Since brake fluid is conveyed by the motor, the brake pedal is not necessarily depressed.
6. Bleed the brake system. Refer to BR-13, "Bleeding Brake System".

Bleeding Brake System

INFOID:0000000012521902

CAUTION:
- **Bleed air in the following order: motor/accumulator assembly → front right brake → front left brake → rear left brake → and rear right brake.**
- **The VDC warning lamp, ABS warning lamp and brake warning lamp turn ON and DTC "C118E" may be detected in self-diagnosis result for "ABS" with CONSULT when the brake pedal is excessively operated, such as air bleeding. This is not a system malfunction because this occurs due to the temporary decrease in accumulator fluid pressure. The system returns to normal condition when the**

accumulator fluid pressure reaches the specified pressure with the ignition switch ON and the VDC warning lamp, ABS warning lamp, and brake warning lamp turn OFF. After these steps, erase self-diagnosis results for "ABS" with CONSULT.

- DTC other than "C118E" is detected: Refer to BRC-44, "DTC Index".

NOTE:

When the ignition switch is ON, the brake warning lamp may turn ON even when the parking brake pedal is released with the brake fluid within the specified level. This indicates the decrease in accumulator fluid pressure.

MOTOR/ACCUMULATOR ASSEMBLY

CAUTION:

- **If the brake fluid adheres to the brake caliper assembly and disc rotor, quickly wipe it off.**
- **Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.**
- **Do not operate the brake pedal with the reservoir cap removed. Failure to do this may cause a discharge of brake fluid from the reservoir cap opening.**
- **Do not operate the brake pedal excessively during the work procedure.**
- **Monitor the brake fluid level in the reservoir tank while performing the air bleeding.**
- **Bleed air in the following order: motor/accumulator assembly → front right brake → front left brake → rear left brake → and rear right brake.**

1. Turn the ignition switch OFF.
2. Depress the brake pedal 20 times or more.
3. Check that there is no foreign material in the reservoir tank, and refill with new brake fluid.
   CAUTION:
   - **Do not reuse drained brake fluid.**
   - **Do not allow oils other than brake fluid to enter the reservoir tank.**
4. Turn the ignition switch ON.
   NOTE:
   The motor is activated and automatically stops.
5. Turn the ignition switch OFF.
6. Depress the brake pedal 20 times or more.
   NOTE:
   The pressure loss in the accumulator results in a large brake pedal stroke. In addition to this, the brake pedal depression becomes lighter in initial stage.
7. Repeat steps 4 to 6 for 5 times.
8. Turn the ignition switch ON to check that the time between motor activation and automatic stop is less than 18 seconds. If the time is 18 seconds or more, repeat from Step 4 to 8.

FRONT BRAKE

CAUTION:

- **If the brake fluid adheres to the brake caliper assembly and disc rotor, quickly wipe it off.**
- **Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.**
- **Do not operate the brake pedal with the reservoir cap removed. Failure to do this may cause a discharge of brake fluid from the reservoir cap opening.**
- **Do not operate the brake pedal excessively during the work procedure.**
- **Monitor the brake fluid level in the reservoir tank while performing the air bleeding.**
- **Bleed air in the following order: motor/accumulator assembly → front right brake → front left brake → rear left brake → and rear right brake.**

1. Turn the ignition switch OFF.
2. Depress the brake pedal 20 times or more.
   NOTE:
   The pressure loss in the accumulator results in a large brake pedal stroke. In addition to this, the brake pedal depression becomes lighter in initial stage.
3. Check that there is no foreign material in the reservoir tank, and refill with new brake fluid.
   CAUTION:
   - **Do not reuse drained brake fluid.**
   - **Do not allow oils other than brake fluid to enter the reservoir tank.**
4. Turn the ignition switch ON.

5. Connect a vinyl tube to the bleeder valve.
6. Depress the brake pedal and loosen the bleeder valve.
7. Repeat steps 1 to 6 until all of the air is out of the brake line and tighten the bleeder valve to the specified torque with the brake pedal depressed. Refer to BR-32, "BRAKE PAD : Exploded View".
8. Check that no drag feel is present for the front disc brake. Refer to BR-35, "BRAKE CALIPER ASSEMBLY : Inspection Brake Caliper Assembly and Disc Rotor".
9. Check each item of brake pedal. Adjust it if the measurement value is not the standard. Refer to BR-10, "Inspection and Adjustment".

REAR BRAKE

CAUTION:

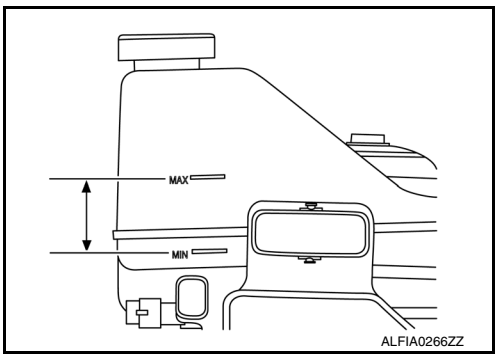
- **If the brake fluid adheres to the brake caliper assembly and disc rotor, quickly wipe it off.**
- **Do not spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface.**
- **Do not operate the brake pedal with the reservoir cap removed. Failure to do this may cause a discharge of brake fluid from the reservoir cap opening.**
- **Do not operate the brake pedal excessively during the work procedure.**
- **Monitor the brake fluid level in the reservoir tank while performing the air bleeding.**
- **Bleed air in the following order: motor/accumulator assembly → front right brake → front left brake → rear left brake → and rear right brake.**

1. Turn the ignition switch OFF.
2. Depress the brake pedal 20 times or more.
   NOTE:
   The pressure loss in the accumulator results in a large brake pedal stroke. In addition to this, the brake pedal depression becomes lighter in initial stage.
3. Check that there is no foreign material in the reservoir tank, and refill with new brake fluid.
   CAUTION:
   - **Do not reuse drained brake fluid.**
   - **Do not allow oils other than brake fluid to enter the reservoir tank.**
4. Turn the ignition switch ON.
5. Connect a vinyl tube to the bleeder valve.
6. Depress the brake pedal and loosen the bleeder valve.
7. Depress and hold the brake pedal depression to discharge 100 cc of brake fluid before tightening the bleeder valve to the specified torque. Refer to BR-37, "BRAKE PAD : Exploded View".
   NOTE:
   Since brake fluid is conveyed by the motor, the brake pedal is not necessarily depressed.
8. Release the brake pedal.
9. Repeat steps 1 to 8 until all of the air is out of the brake line and tighten the bleeder valve to the specified torque with the brake pedal depressed. Refer to BR-37, "BRAKE PAD : Exploded View".
10. Check that no drag feel is present for the rear disc brake. Refer to BR-40, "BRAKE CALIPER ASSEMBLY : Inspection Brake Caliper Assembly and Disc Rotor".
11. Check each item of brake pedal. Adjust it if the measurement value is not the standard. Refer to BR-10, "Inspection and Adjustment".

BRAKE FLUID LEVEL ADJUSTMENT AFTER AIR BLEEDING

1. Turn the ignition switch OFF.
2. Depress the brake pedal 20 times or more.
   NOTE:
   The pressure loss in the accumulator results in a large brake pedal stroke. In addition to this, the brake pedal depression becomes lighter in initial stage.

3. Adjust brake fluid level to the reservoir tank MAX line.
   CAUTION:
   Do not adjust with the ignition switch ON.
4. Turn the ignition switch ON.
5. Check that the reservoir tank brake fluid level is 4 – 12 mm (0.16 – 0.47 in) lower than the MAX line.
   NOTE:
   Since brake fluid is in the accumulator in pressurized condition, the reservoir tank brake fluid level should be lower than the MAX line.



HYDRAULIC BOOSTER ASSEMBLY

Inspection

INFOID:0000000012521903

OPERATION CHECK

1. Turn the ignition switch OFF.
2. Depress the brake pedal 20 times or more.
   NOTE:
   The pressure loss in the accumulator results in a large brake pedal stroke. In addition to this, the brake pedal depression becomes lighter in initial stage.
3. Check that the brake fluid level in the reservoir tank is within the specified range. Refer to BR-12, "Inspection"
4. Position the shift selector in P range to release the parking brake.
5. Turn the ignition switch ON to check the time between motor activation and motor stop.

Motor operating time : 18 seconds or less

6. After the motor is stopped, check that the ABS warning lamp and the VDC warning lamp in the combination meter are OFF when the engine is started.
7. Stop the engine (ignition switch OFF).
8. Turn the ignition switch ON and depress the brake pedal 4 to 5 times to check the time between motor activation and motor stop.

Motor operating time : 2 – 11 seconds

9. Turn the ignition switch OFF. Turn the ignition switch ON again. Check that the VDC warning lamp turns ON when the brake pedal is depressed 15 to 20 times.
10. Check that the VDC warning lamp turns ON when the brake pedal is depressed 15 to 20 times after the lapse of 120 seconds or more after the ignition switch is turned ON again.
11. Perform the self-diagnosis for “ABS” with CONSULT and erase self-diagnosis results.

FUNCTION CHECK

1. Turn the ignition switch OFF.
2. Depress the brake pedal 20 times or more.
   NOTE:
   The pressure loss in the accumulator results in a large brake pedal stroke. In addition to this, the brake pedal depression becomes lighter in initial stage.
3. Turn the ignition switch ON with the brake pedal depressed to check that the clearance between the brake pedal and the dash lower panel decreases.

FRONT DISC BRAKE

BRAKE PAD

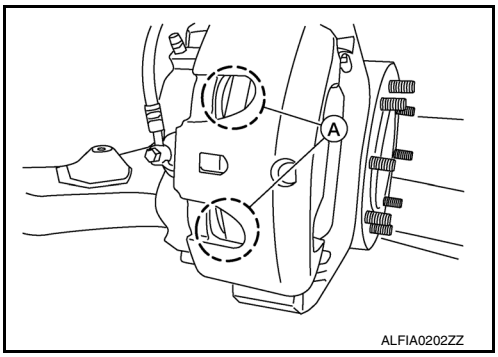
BRAKE PAD : Inspection and Adjustment

INFOID:0000000012521904

INSPECTION

Check the thickness of brake pad using the inspection hole (A) on brake caliper assembly. Check using a scale if necessary.

Wear thickness : Refer to BR-47, "Front Disc Brake".



ADJUSTMENT

CAUTION:

- **Burnish contact surfaces between pads and disc rotor according to the following procedure after refinishing the disc rotor or replacing brake pads, or if a soft pedal occurs at very low mileage.**
- **Be careful of vehicle speed because the brakes do not operate firmly/securely until pads and disc rotor are securely seated.**
- **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 for a few minutes to cool the brakes.
4. Repeat steps 1 to 3 until pad and disc rotor are securely seated.

DISC ROTOR

DISC ROTOR : Inspection and Adjustment

INFOID:0000000012521905

INSPECTION

Appearance

Check surface of disc rotor for uneven wear, cracks, and serious damage. Replace it if necessary. Refer to BR-34, "BRAKE CALIPER ASSEMBLY : Removal and Installation of Brake Caliper Assembly and Rotor".

Runout

1. Secure the disc rotor to the wheel hub and bearing assembly with wheel nuts (2 points at least).
2. Check the wheel bearing axial end play before the inspection. Refer to RAX-6, "Removal and Installation".
3. Inspect the runout with a dial indicator to measure at 20 mm (0.79 in) inside the disc edge.

Runout : Refer to BR-47, "Front Disc Brake".

4. Find the installation position that has a minimum runout by shifting the disc rotor-to-wheel hub and bearing assembly installation position by one hole at a time if the runout exceeds the limit value.
5. Refinish the disc rotor if the runout is outside the limit even after performing the above operation. When refinishing, using Tool.

Tool number : 38-PFM92 (—)

CAUTION:

- **Check in advance that the thickness of the disc rotor is wear thickness + 0.3 mm (0.012 in) or more.**

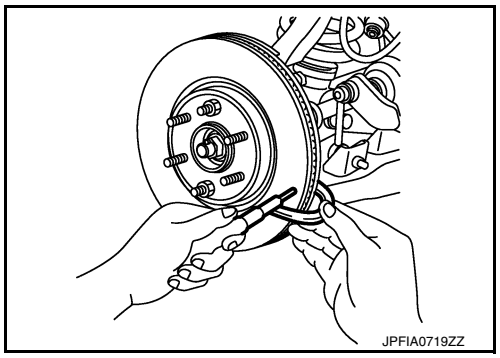
- **If the thickness is less than wear thickness + 0.3 mm (0.012 in), replace the disc rotor. Refer to BR-34, "BRAKE CALIPER ASSEMBLY : Removal and Installation of Brake Caliper Assembly and Rotor".**

Wear thickness : Refer to BR-47, "Front Disc Brake".

Thickness

Check the thickness of the disc rotor using a micrometer. Replace the disc rotor if the wear thickness is below the limit. Refer to BR-34, "BRAKE CALIPER ASSEMBLY : Removal and Installation of Brake Caliper Assembly and Rotor".

Wear thickness : Refer to BR-47, "Front Disc Brake".



ADJUSTMENT

CAUTION:

- **Burnish contact surfaces between pads and disc rotor according to the following procedure after refinishing the disc rotor or replacing brake pads, or if a soft pedal occurs at very low mileage.**
- **Be careful of vehicle speed because the brakes do not operate firmly/securely until pads and disc rotor are securely seated.**
- **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 for a few minutes to cool the brakes.
4. Repeat steps 1 to 3 until pad and disc rotor are securely seated.

REAR DISC BRAKE

BRAKE PAD

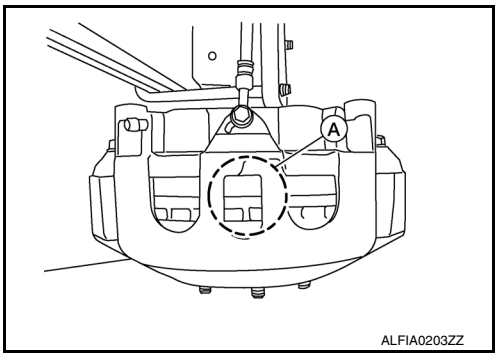
BRAKE PAD : Inspection and Adjustment

INFOID:0000000012521906

INSPECTION

Check the thickness of brake pad from the inspection hole (A) on brake caliper assembly. Check using a scale if necessary.

Wear thickness : Refer to BR-47, "Rear Disc Brake".



ADJUSTMENT

CAUTION:

- **Burnish contact surfaces between pads and disc rotor according to the following procedure after refinishing the disc rotor or replacing brake pads, or if a soft pedal occurs at very low mileage.**
- **Be careful of vehicle speed because the brakes do not operate firmly/securely until pads and disc rotor are securely seated.**
- **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 for a few minutes to cool the brakes.
4. Repeat steps 1 to 3 until pad and disc rotor are securely seated.

DISC ROTOR

DISC ROTOR : Inspection and Adjustment

INFOID:0000000012521907

INSPECTION

Appearance

Check surface of disc rotor for uneven wear, cracks, and serious damage. Replace it if necessary. Refer to BR-47, "Rear Disc Brake".

Runout

1. Secure the disc rotor to the wheel hub and bearing assembly with wheel nuts (2 points at least).
2. Check the wheel bearing axial end play before the inspection. Refer to FAX-8, "Wheel Bearing".
3. Inspect the runout with a dial indicator to measure at 20 mm (0.79 in) inside the disc edge.

Runout : Refer to BR-47, "Rear Disc Brake".

4. Find the installation position that has a minimum runout by shifting the disc rotor-to-wheel hub and bearing assembly installation position by one hole at a time if the runout exceeds the limit value.
5. Refinish the disc rotor if the runout is outside the limit even after performing the above operation. When refinishing, using Tool.

Tool number : 38-PFM92 (—)

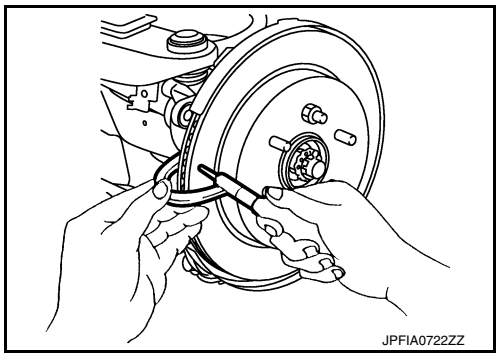
CAUTION:

- **Check in advance that the thickness of the disc rotor is wear thickness + 0.3 mm (0.012 in) or more.**
- **If the thickness is less than wear thickness + 0.3 mm (0.012 in), replace the disc rotor. Refer to BR-47, "General Specification".**

Wear thickness : Refer to BR-47, "Rear Disc Brake".

Thickness

Check the thickness of the disc rotor using a micrometer. Replace the disc rotor if the wear thickness is below the limit. Refer to BR-39, "BRAKE CALIPER ASSEMBLY : Removal and Installation of Brake Caliper Assembly and Rotor".



Wear thickness : Refer to BR-47, "Rear Disc Brake".

ADJUSTMENT

CAUTION:

- **Burnish contact surfaces between pads and disc rotor according to the following procedure after refinishing the disc rotor or replacing brake pads, or if a soft pedal occurs at very low mileage.**
- **Be careful of vehicle speed because the brakes do not operate firmly/securely until pads and disc rotor are securely seated.**
- **Only perform this procedure under safe road and traffic conditions. Use extreme caution.**

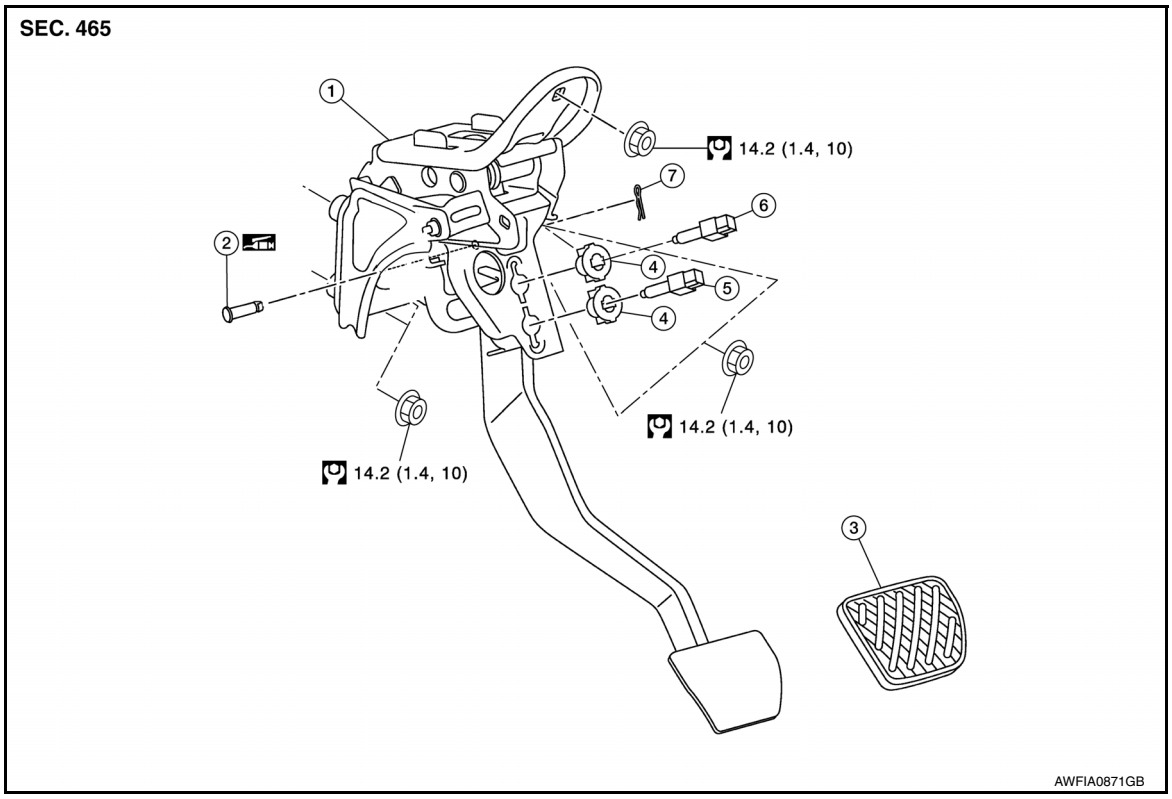
1. Drive vehicle on straight, flat road.
2. Depress brake pedal with the power to stop vehicle within 3 to 5 seconds until the vehicle stops.
3. Drive without depressing brake for a few minutes to cool the brake.
4. Repeat steps 1 to 3 until pad and disc rotor are securely seated.

REMOVAL AND INSTALLATION

BRAKE PEDAL

Exploded View

INFOID:0000000012521908



1. Brake pedal assembly
2. Clevis pin
3. Brake pedal pad
4. Clips
5. Stop lamp switch
6. Brake pedal position switch (if equipped)
7. Snap pin

Removal and Installation

INFOID:0000000012521909

REMOVAL

1. Remove the instrument lower panel LH. Refer to IP-18, "Removal and Installation".
2. Disconnect the harness connectors from the stop lamp switch and brake pedal position switch (if equipped).
3. Rotate the stop lamp switch and the brake pedal position switch (if equipped) counterclockwise to remove.
4. Remove the snap pin, and then remove the clevis pin from the clevis of brake booster.
5. Remove the brake pedal assembly.
   CAUTION:
   Secure the hydraulic booster assembly so it will not drop into engine compartment or contact other parts.
6. Perform inspection after removal. Refer to BR-23, "Inspection and Adjustment".

INSTALLATION

Installation is in the reverse order of removal.

- Apply the multi-purpose grease to the clevis pin and the matching faces.
- Install the brake pedal assembly and hydraulic booster assembly nuts, and tighten it to the specified torque. Refer to BR-22, "Exploded View".
- Perform adjustment after installation. Refer to BR-10, "Inspection and Adjustment".