DAIHATSU

ROCKY

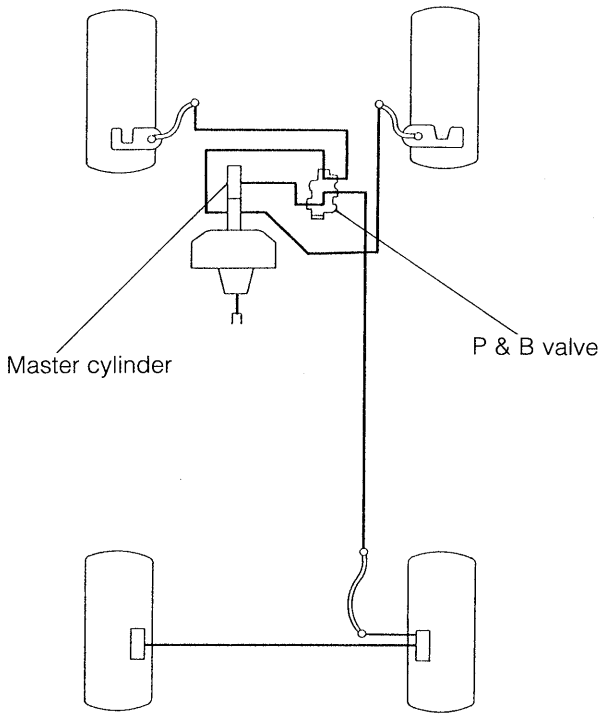
BRAKE SYSTEM

WRU92-BR577

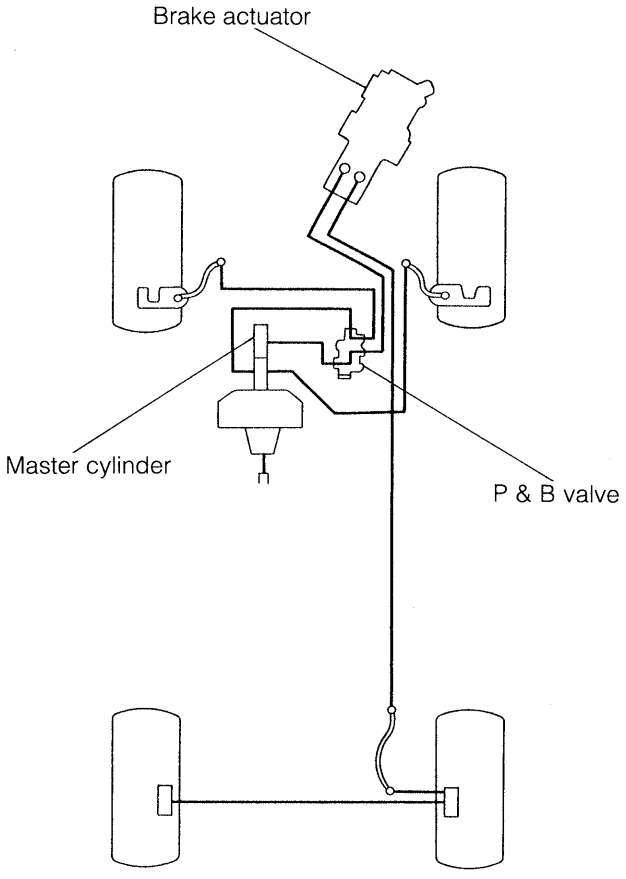
BR

OUTLINE OF BRAKE SYSTEM

1. The brake line employs a conventional piping.
   The brake tube is a double winding steel tube. As corrosion preventive measures, galvanizing plus fluoridate resin coating is applied to the outside of the brake tube.
   The brake line comes in two kinds: One is for those vehicles equipped with the standard brake and the other is for those vehicles equipped with the Rear ABS.
2. On the Full-time 4WD vehicle, the rear-ABS is available as optional equipment. This system prevents the rear wheels from being locked in the event of hard braking application by controlling the hydraulic pressure applied to the wheel cylinders of the rear wheels.



Standard brake

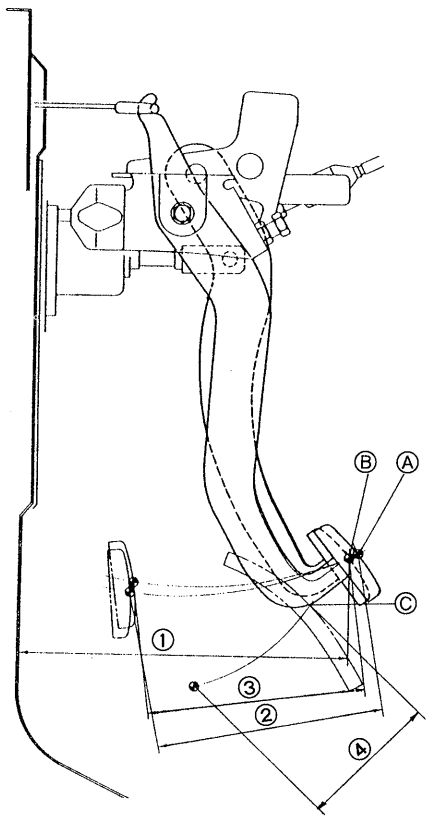


Rear ABS equipped vehicles

WRU90-BR002

PEDALS

All the operating pedals, such as the clutch pedal, accelerator pedal and brake pedal, adopt a hanging type whose pedal fulcrum is provided at the pedal support located upward of each pedal.



(A) Clutch pedal
(B) Brake pedal
(C) Accelerator pedal

① Pedal installation height
② Clutch pedal stroke
③ Brake pedal stroke
④ Accelerator pedal stroke

WRU90-BR003

Pedal-related specifications

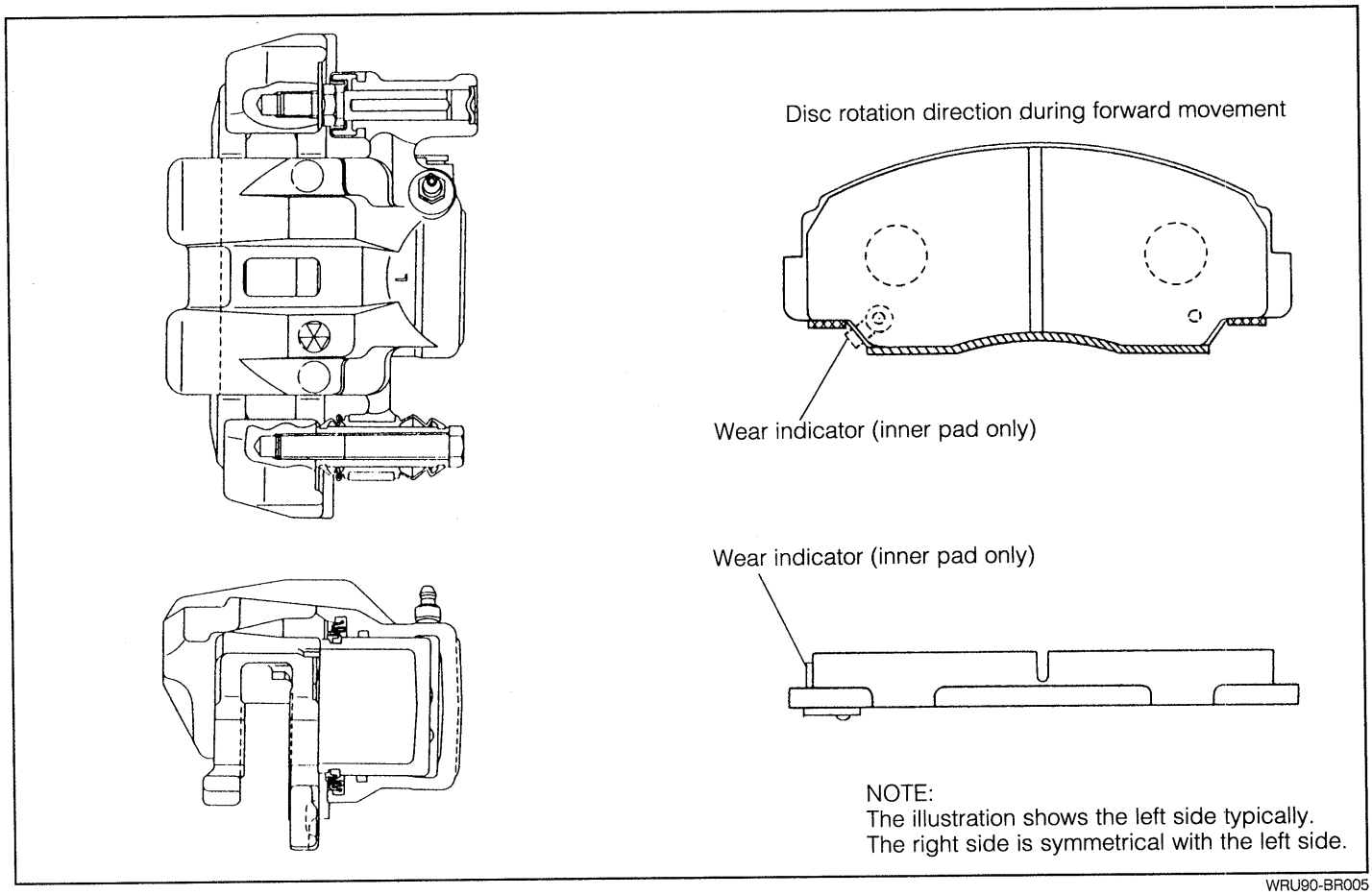
mm (inch)

Pedal installation height	Clutch	219 - 227 (8.622 - 8.937)	Measured with dash board vertical wall as reference. Measured from dash board steel sheet with silencer turned over.
	Brake	211 - 221 (8.307 - 8.701)	
Stroke	Clutch	148 - 156 (5.827 - 6.142)	⟨Accelerator pedal⟩ Adjust in such a way that stopper bolt-to-pedal stopper clearance becomes 0 to 3 mm (0 to 0.118 inch) when throttle valve is opened fully.
	Brake	138 - 148 (5.433 - 5.827)	
	Accelerator	58 - 62 (2.283 - 2.441)	
Pedal free travel	Clutch	18 - 27 (0.709 - 1.063)	⟨Brake pedal⟩ With engine stopped, depress brake pedal strongly several times so that vacuum no longer exists inside brake booster. Measure free travel by pushing pedal lightly with your finger.
	Brake	1 - 3 (0.034 - 0.118)	
	Accelerator	1 - 5 (0.039 - 0.197)	

WRU90-BR004

FRONT BRAKE CALIPERS

For stable braking forces during high-speed running, the disc brake is standard equipment on all models. The brake pad material employs non-asbestos. Furthermore, the brake disc pad has a wear indicator which tells the driver the pad needs replacement (when the remaining thickness of the pad becomes less than 1.5 mm (0.06 inch)).



WRU90-BR005

Disc brake pad specifications

Pad thickness	mm (inch)	9 (0.345)
Lining area	cm^2 ($inch^2$)	48.6 (313.6)
Materials		AK NS101 (Asbestos-free)

WRU90-BR006

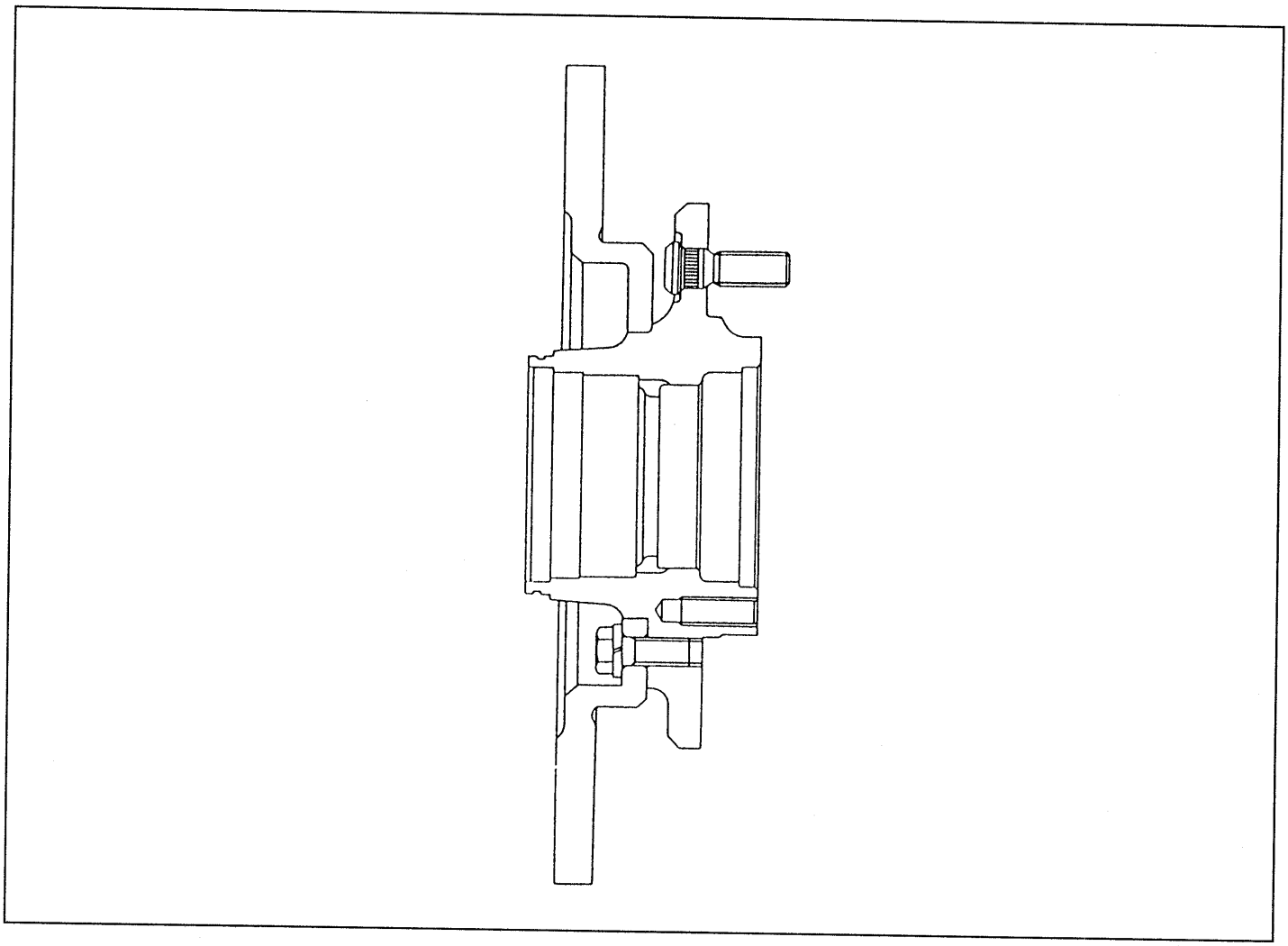
Front brake caliper specifications

Cylinder	Diameter	mm (inch)	53.97 (2.125)
	Area	cm^2 ($inch^2$)	22.89 (3.548)
Brake effective radius		mm (inch)	R115 (R4.528)
Pad	Thickness	mm (inch)	9 (0.354)
	Area	cm^2 ($inch^2$)	48.6 (313.6)
	Materials		AK NS101 (Asbestos-free)

WRU90-BR007

FRONT DISC ROTORS

The front disc rotor employs a solid type disc rotor on all models.



WRU90-BR008

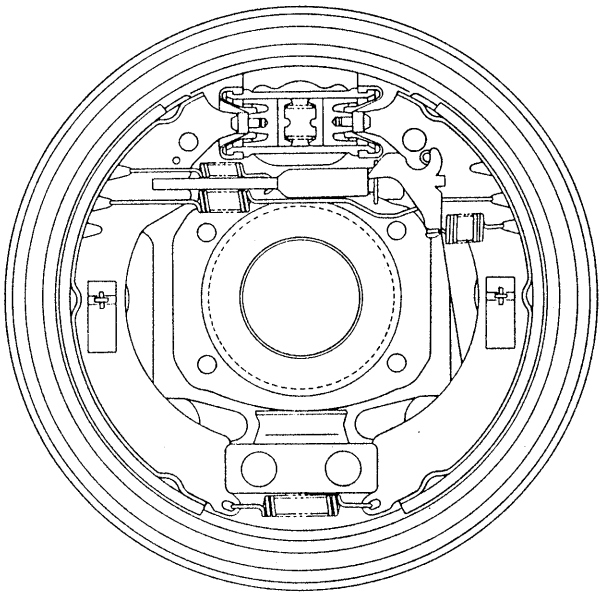
Front disc rotor specifications

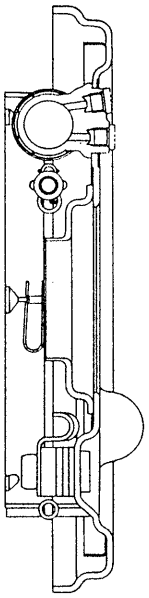
Disc rotor outer diameter	mm (inch)	277 (10.905)
Disc rotor thickness	mm (inch)	12.5 (0.49)

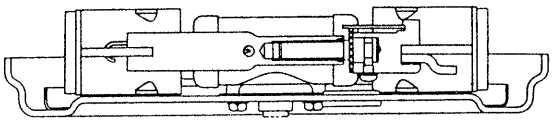
WRU92-BR579

REAR BRAKE

The rear brake is a leading and trailing type, in which the virtually same braking effectiveness can be attained both during the forward and reverse movement of the vehicle.
The parking brake is built inside the rear brake system, where the automatic adjuster of the rear brake shoe functions when the parking brake lever is actuated.







NOTE:
The illustration shows the right side typically.
The left side is symmetrical with the right side except for the wheel cylinder section.

WRU90-BR010

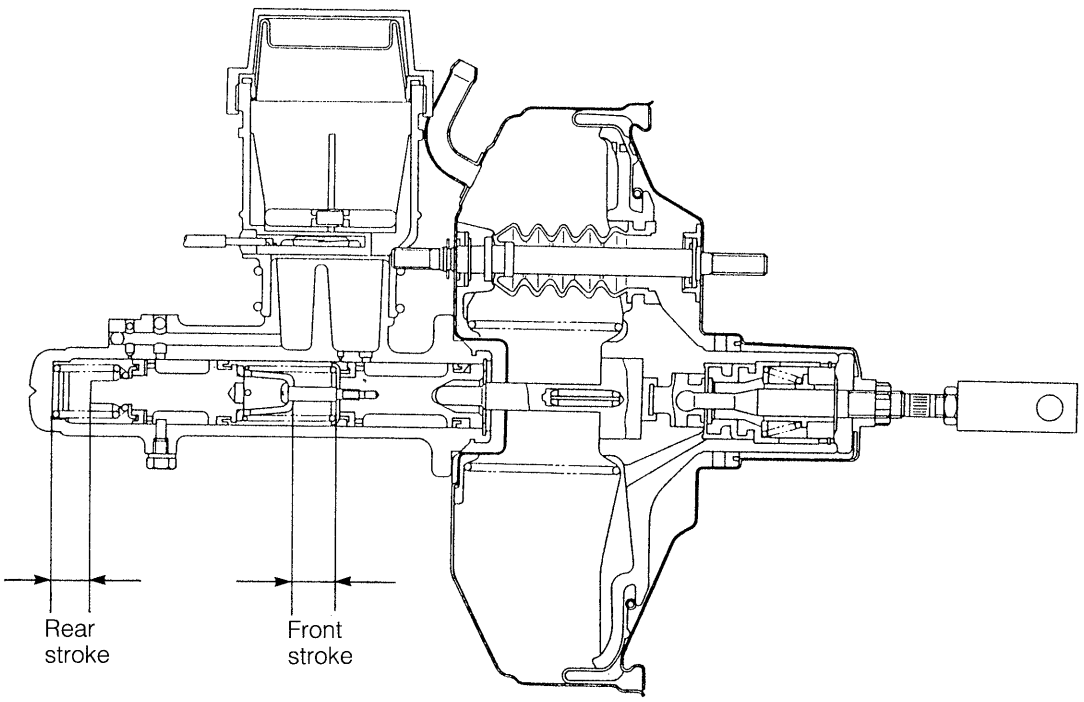
Rear brake specifications

Lining dimensions	mm (inch)	265.9 × 44.0 × 5.0 (10.468 × 1.732 × 0.197)
Lining area	cm^2 ($inch^2$)	117 × 2-pieces × 2-wheels (18.14 × 2-pieces × 2-wheels)
Materials		AK L610 (asbestos-free)
Brake drum inner diameter	mm (inch)	ϕ254 (ϕ10)
Wheel cylinder bore diameter	mm (inch)	ϕ22.22 (ϕ0.875)

WRU90-BR011

BRAKE BOOSTER & MASTER CYLINDER

The brake booster employs a direct acting brake booster having an 8-inch effective diameter in order that the pedal applying force may be reduced during the braking and the braking performance may be improved. The master cylinder is an aluminum alloy tandem master cylinder located inside the engine compartment. The reservoir is a sealed type incorporating a diaphragm. In this reservoir, the brake fluid is shut from the atmosphere, thus preventing deterioration of the brake fluid and improving a reliability.



WRU90-BR012

Brake booster

Diaphragm effective diameter	mm (inch)	203 (8.0)
Effective storke	mm (inch)	31.5 or more (1.240 or more)
Servo ratio		3.5
Jumping amount	kgf (lb)	10 (22.05)

WRU90-BR013

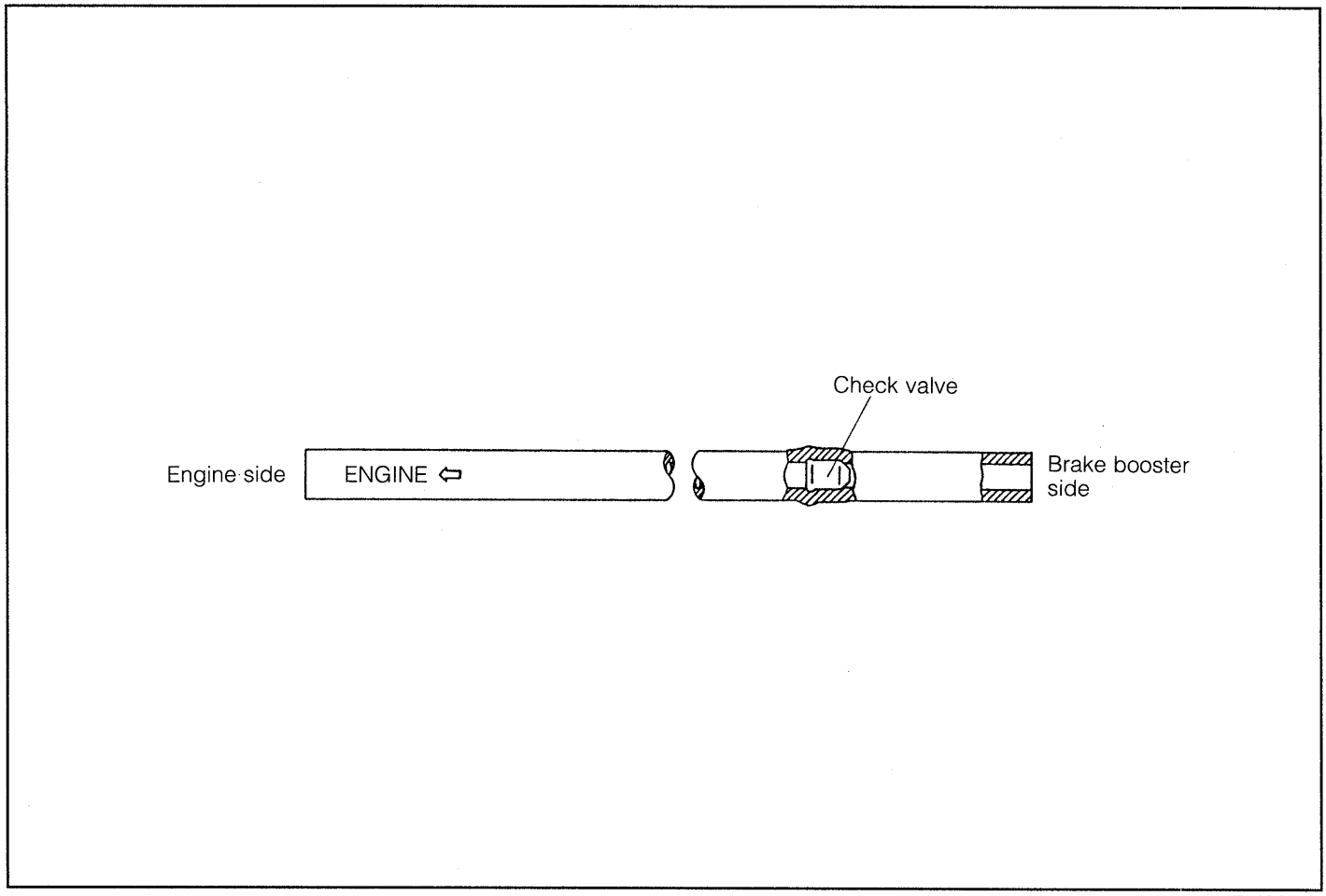
Master cylinder

Stroke	Front	mm (inch)	18.5 (0.728)
	Rear	mm (inch)	11.5 (0.453)
Inner diameter		mm (inch)	22.22 (0.875)
Reserve tank capacity CC (CU.inch)	Front		16 (0.974)
	Rear		12 (0.732)
	Portion shared in common		114 (6.956)

WRU90-BR014

VACUUM HOSE

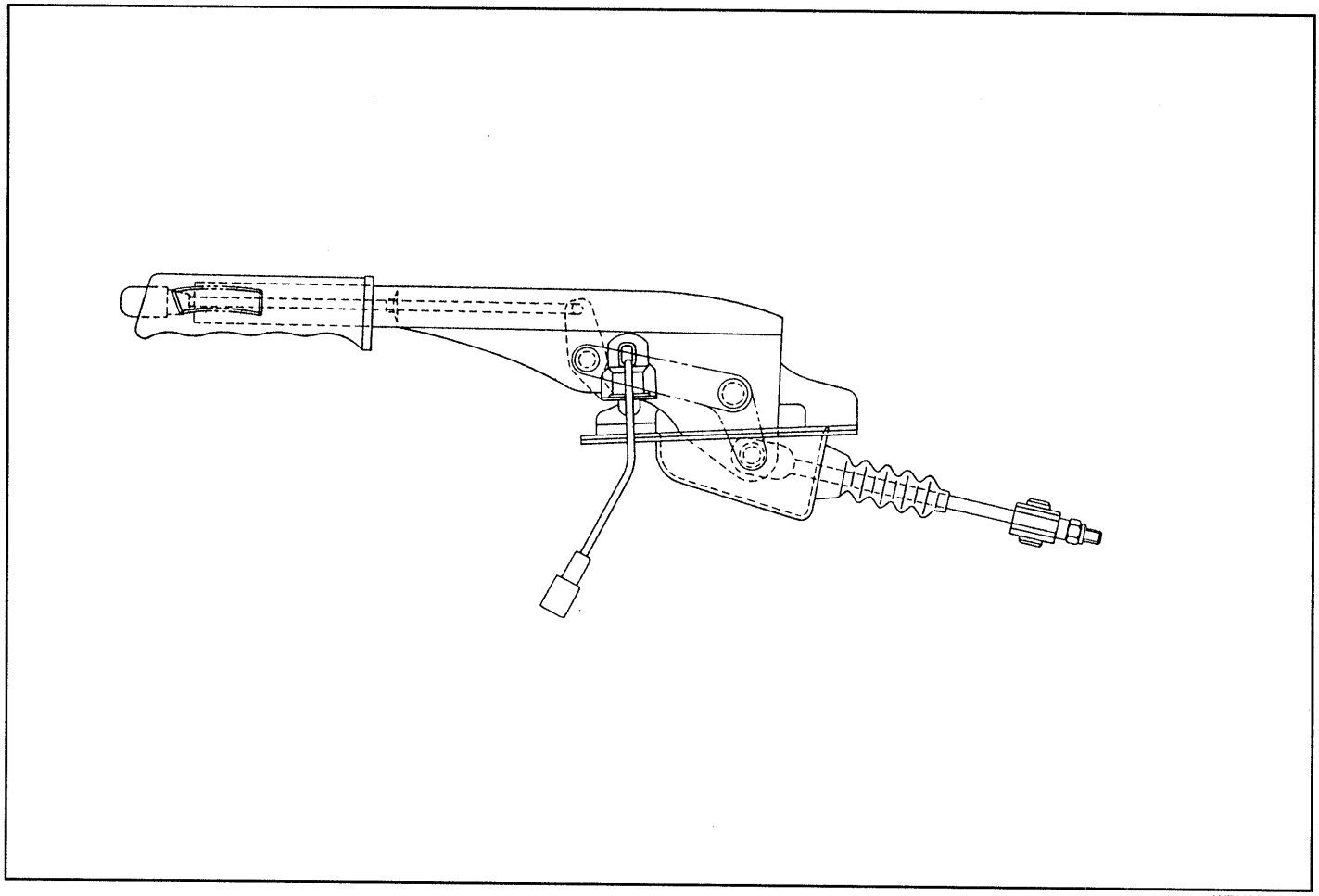
The vacuum hose provided between the engine suction system and the brake booster incorporates a check valve.
The vacuum hose bears a letter "ENGINE ⇐" The arrow headed direction must face toward the engine side.



WRU90-BR015

PARKING BRAKE

The parking brake is a mechanically-operated, rear wheel braking type. The parking brake lever is located at the center between the right and left front seats. The cable adjustment method employs a center lever type which can be adjusted from the under the vehicle.



WRU90-BR016

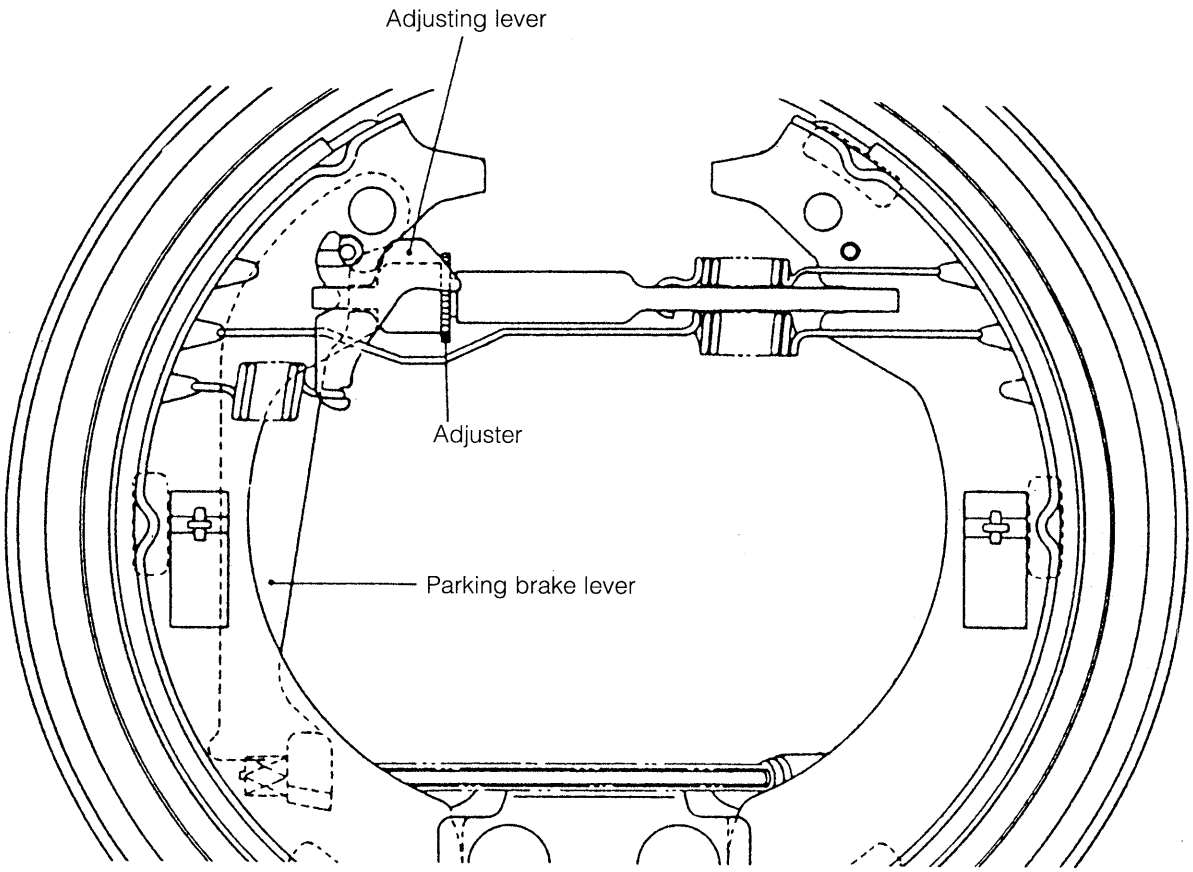
Parking brake specifications

Type			Mechanically-operated, wheel braking type
Braked wheel			Two rear wheels
Lining	Area	cm^2 ($inch^2$)	117 × 2-pieces × 2-wheel (18.14 × 2 pieces × 2-wheel)
	Materials		AK L610 (asbestos-free)
	Dimensions	mm (inch)	265.7 × 44.0 × 5.0 (10.468 × 1.732 × 0.197)
Brake drum inner diameter		mm (inch)	ϕ254 (ϕ10)

WRU90-BR017

Operation of automatic adjuster

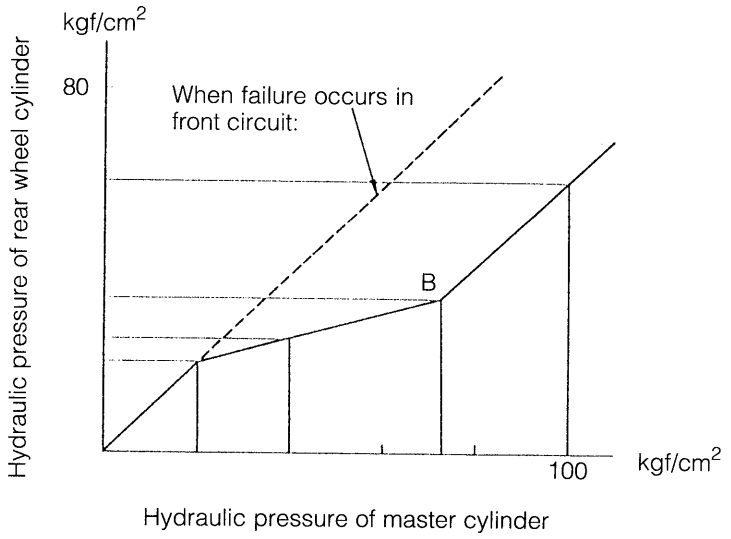
The automatic rear brake shoe clearance adjuster is activated
when the parking brake is operated. As shown in the figure below, the adjusting lever is secured to the parking brake lever.
This adjusting lever holds the adjuster teeth, thus locking it in place. The adjusting lever acts in such a way that it causes the adjuster teeth to advance when the parking brake is applied. If the shoe clearance is normal, the amount of movement of the adjusting lever is not great enough to move one tooth of the adjuster. However, if the lining is worn and the shoe clearance is great, the lever operating angle is great, too. As a result, the amount of movement of the adjusting lever is great enough to cause the adjuster to advance one tooth, thereby maintaining a normal shoe clearance at all times.

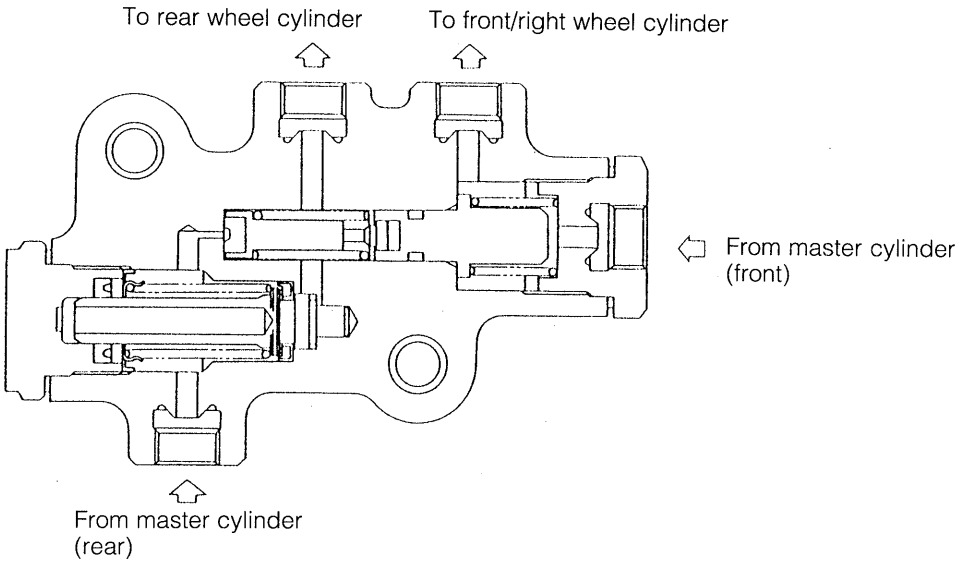


WRU90-BR018

P & B VALVE (PROPORTIONING & BYPASS VALVE)

The P & B valve is provided in the brake line between the front and rear wheel brake systems.
Normally, the P & B valve controls the hydraulic pressure of the rear wheel cylinder and prevents the rear wheels from being locked at an early stage, thus making it possible to assure the vehicle stability during the braking period. However, if any failure should occur in the front brake system, the P & B valve will stop the control of the rear wheels, thereby allowing the master cylinder pressure to be transmitted directly to the wheel cylinders. Consequently, normal braking forces are assured.
Moreover, the proportioning valve adopts a secondary turning point type.
In addition to the normal proportioning valve function, the secondary turning point type proportioning valve has such characteristics that the ratio of the hydraulic pressure for the rear wheels becomes greater again at a middle point (point B in the figure below) in the hydraulic pressure characteristic diagram. This increase in hydraulic pressure is necessary because the braking forces become insufficient for the rear wheels due to greater rear wheel load when the vehicle is under the full loaded state.



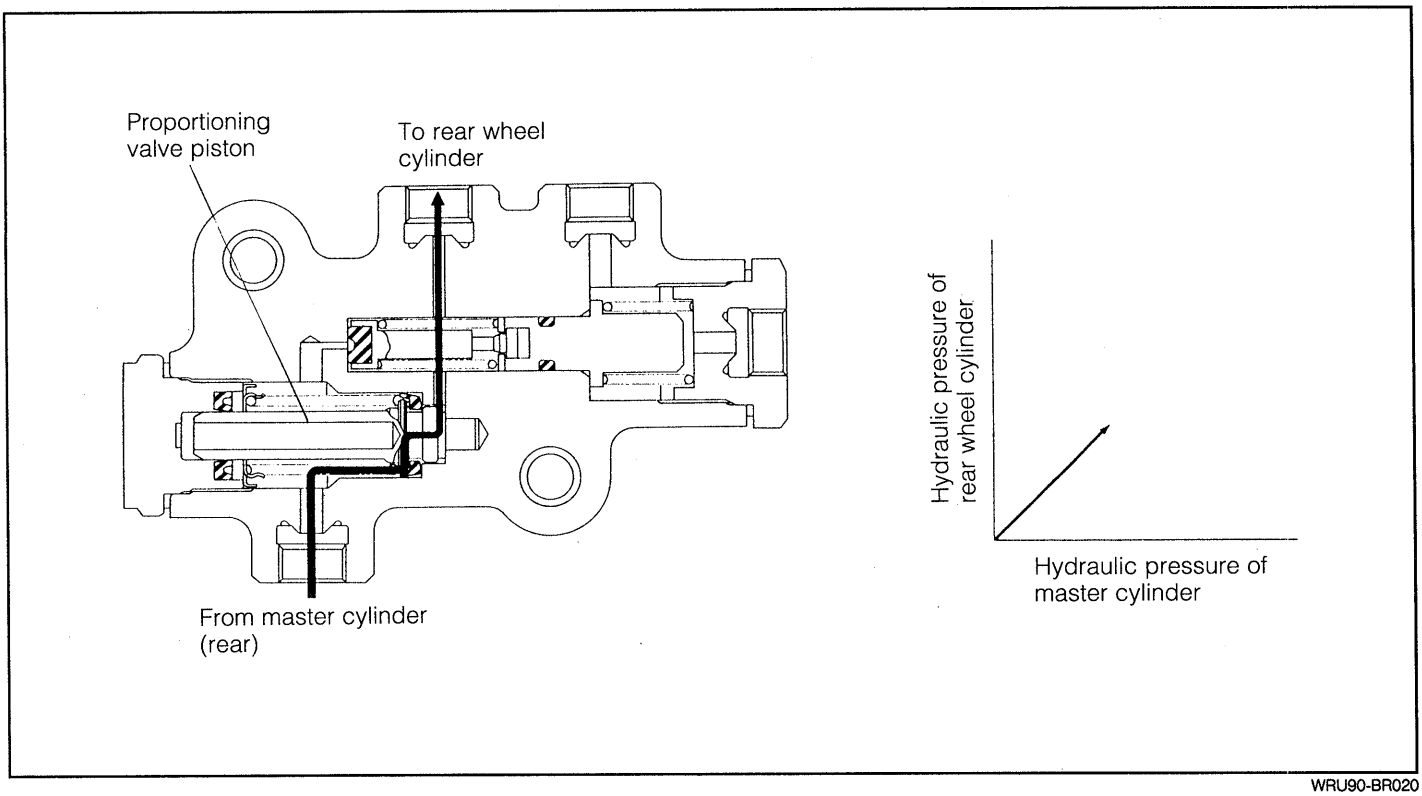


WRU90-BR019

OPERATION OF P & B VALVE

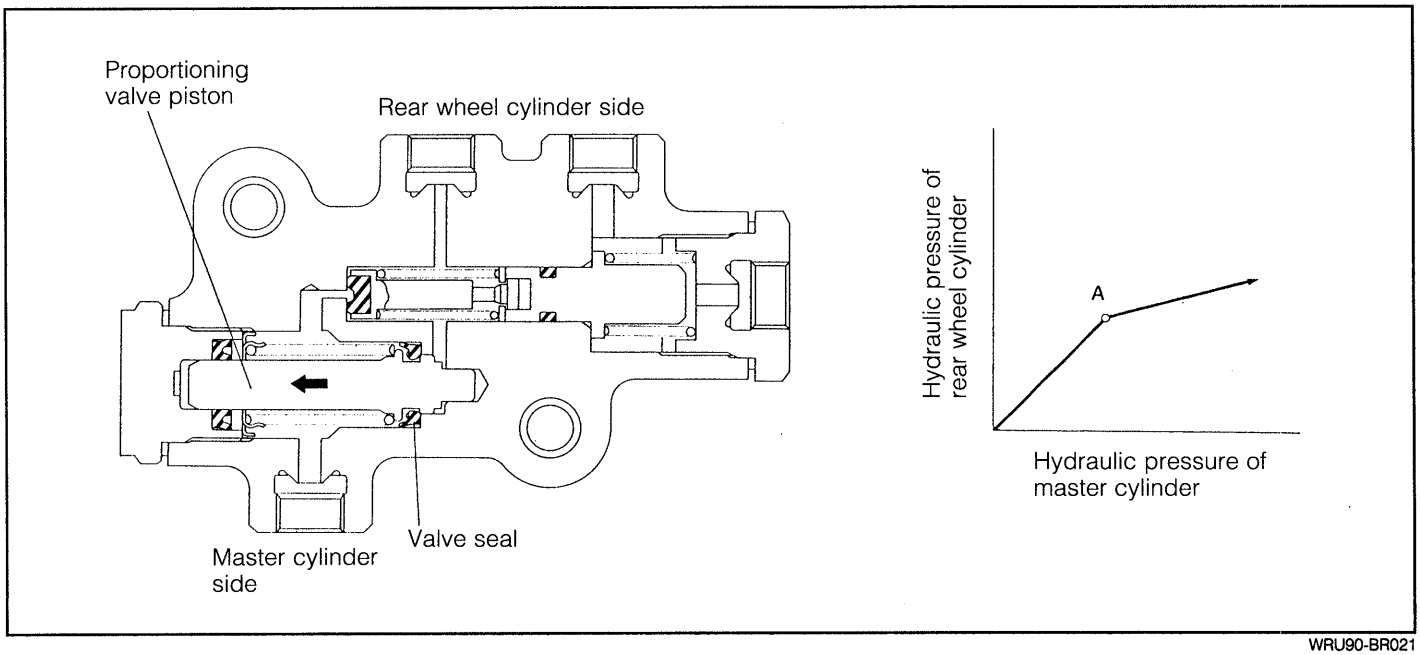
Operation of proportioning valve

1. The hydraulic pressure of the master cylinder is transmitted directly to the rear wheel cylinders, until the proportioning valve piston starts functioning.



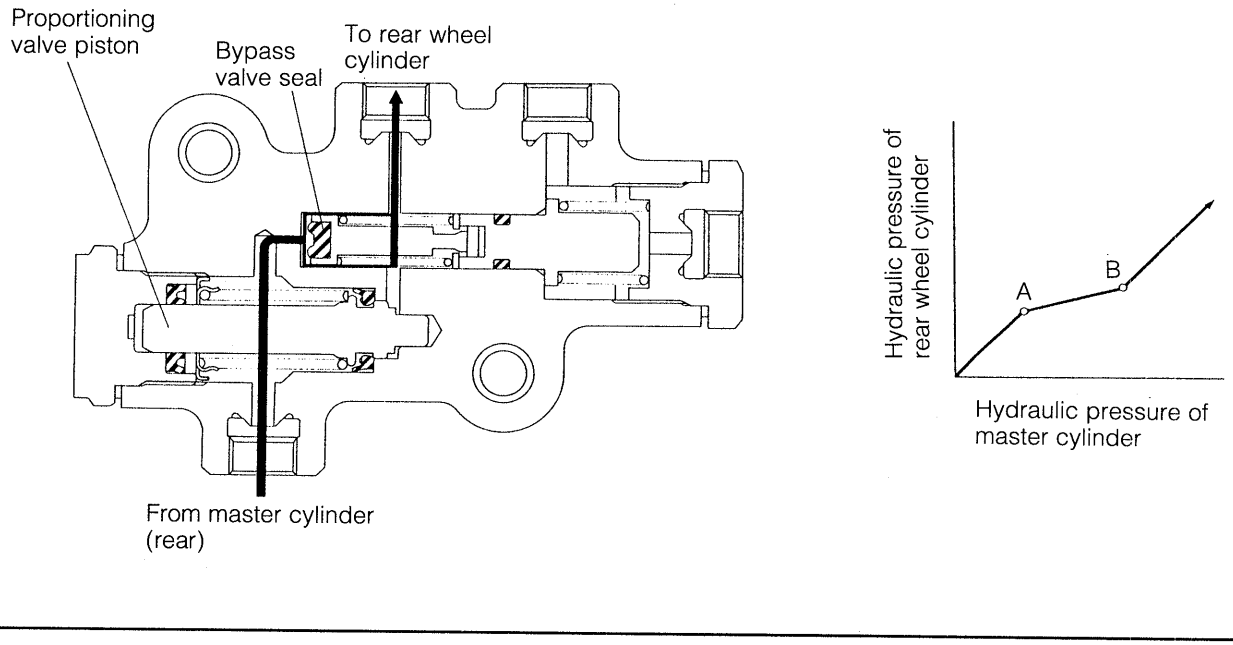
WRU90-BR020

2. When the hydraulic pressure of the master cylinder rises further, the proportioning valve piston moves to the left side, thereby closing between the seal valve and the proportioning valve piston. (Turning point A)
   From this point, the proportioning valve operates under a balanced state between the hydraulic pressure of the master cylinder and the hydraulic pressure at the rear wheel cylinder side. However, the pressure receiving area of the proportioning valve is greater at the rear wheel cylinder than the area at the master cylinder. Consequently, the hydraulic pressure at the rear wheel cylinder is smaller than the pressure at the master cylinder.



WRU90-BR021

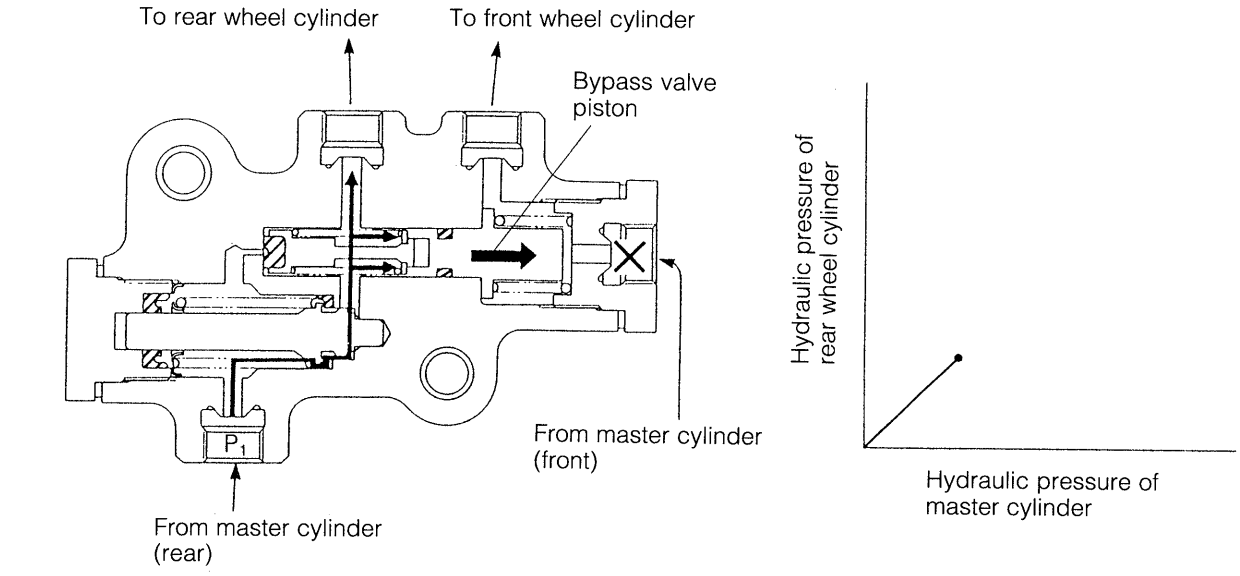
3. The master cylinder pressure is applied to the proportioning valve piston as well as to the bypass valve seal. Hence, when the master cylinder pressure rises above a specified level, the bypass valve seal opens. (Turning point B)
   At a stage where the master cylinder pressure exceeds this level, the master cylinder pressure is applied directly to the wheel cylinders.



WRU90-BR022

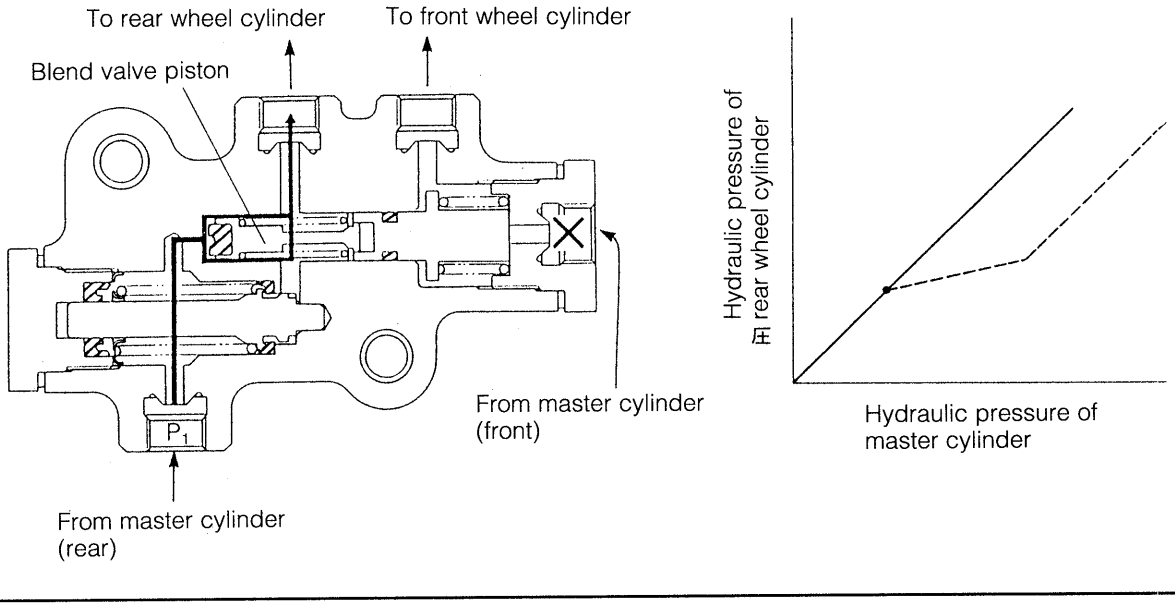
Operation of bypass valve

1. If the front brake system is encountered with a malfunction due to some reasons, the hydraulic pressure acting on the front wheel cylinder drops. Hence, the hydraulic pressure P1 acting on the rear wheel cylinder will overcome the spring tension of the bypass valve, thus allowing the bypass valve piston to start moving toward the right side.
   Since the proportioning valve is still not operating, the master cylinder pressure is applied directly to the rear wheel cylinders.



WRU90-BR023

2. When the bypass valve piston moves toward the right side because of the hydraulic pressure drop of the front wheel cylinder, the blend valve piston is forcibly moved to the right side, thus forming a bypass circuit. Since the proportioning valve is not functioning, the rear wheel cylinder pressure will not be reduced. Consequently, the master cylinder pressure is applied continuously to the rear wheel cylinders. Therefore, no turning point is formed, as indicated in the figure below.



WRU90-BR024

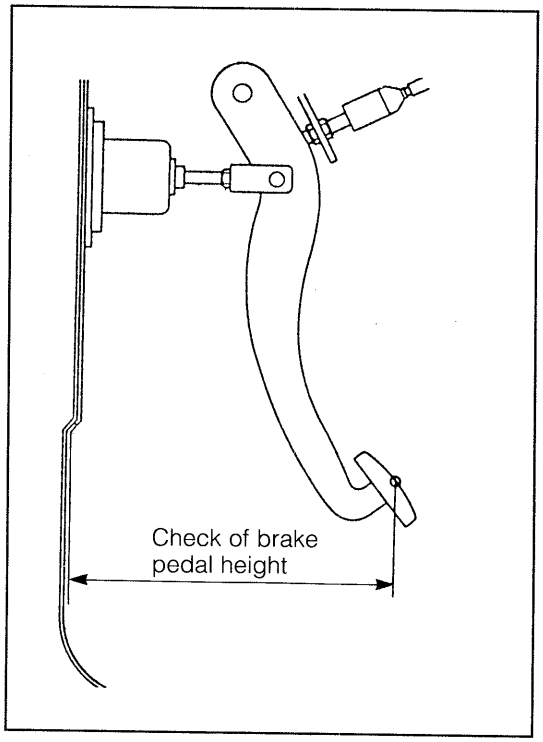
CHECK OF BRAKE SYSTEM

1. Check of brake pedal height

Measure the distance between the center of the pedal applying surface and the dash panel surface which is in parallel to the brake pedal applying center surface. Ensure that the measured value complies with the specifications and that the center of the brake pedal surface is located 47 ± 6 mm (1.85 ± 0.24 inch) higher than that of the accelerator pedal.

Specified Brake Pedal Height: 216 ± 5 mm (8.5 ± 0.2 inch)

If not, adjust the brake pedal height. (See page BR–20.)



WRU92-BR579

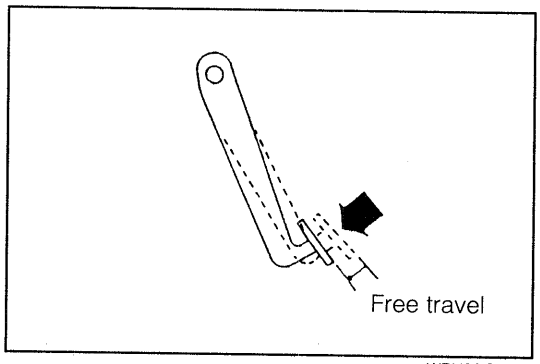
2. Check of brake pedal free travel

(1) After stopping the engine, depress the brake pedal firmly four or five times so that no vacuum may remain in the brake booster.

(2) Measure the brake pedal free travel by pushing the brake pedal lightly with fingers. Ensure that the free travel is with the specifications.

Specified Value: 1 - 3 mm (0.04 - 0.12 inch)

If not, adjust the brake pedal free travel. (See page BR–20.)



WRU92-BR580

3. Check of brake pedal reserve travel

(1) With the engine running at the idling speed and with the parking brake lever released, apply the specified load to the brake pedal. Measure the distance between the center of the brake pedal applying surface and the lower end of the dash panel. Ensure that the distance complies with the specifications.

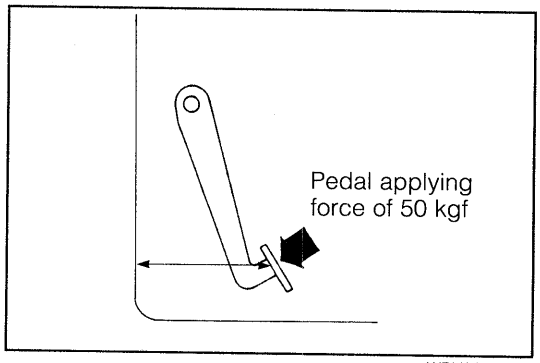
Specified Load: 50 kgf (110.25 lb)

Specified Value: 80 mm or more (3.15 inches or more)

If the measured value is lower than the specified value, check the air bleeding condition and/or check and repair the brake automatic adjustment system.

(2) When the brake pedal is held under the specified load in (1), ensure that the height of the brake pedal applying surface remains unchanged.

If the brake pedal applying surface drops, check the brake fluid for leakage and/or repair the brake fluid leakage, as required. Moreover, perform the brake master cylinder overhauling, as required.

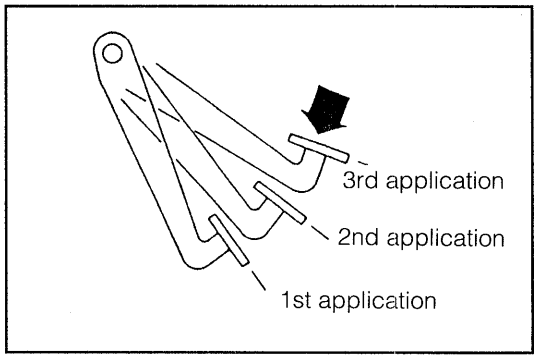


WRU90-BR065

WRU90-BR066

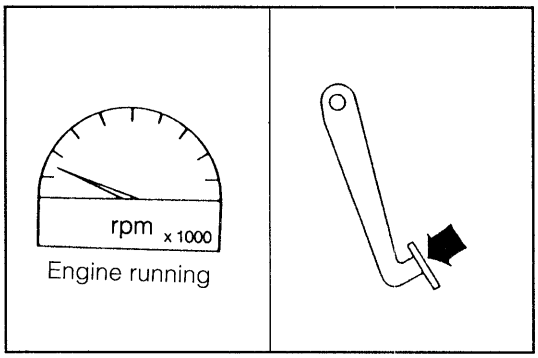
4. Check of brake booster

(1) Check of brake booster air-tight performance
   ① Start the engine. After allowing the brake booster to hold negative pressure, stop the engine.
   ② Depress the brake pedal several times, applying force used during normal brake applications and allowing at least five seconds between each application. Ensure that the position of the brake pedal rises progressively at the second and third applications.



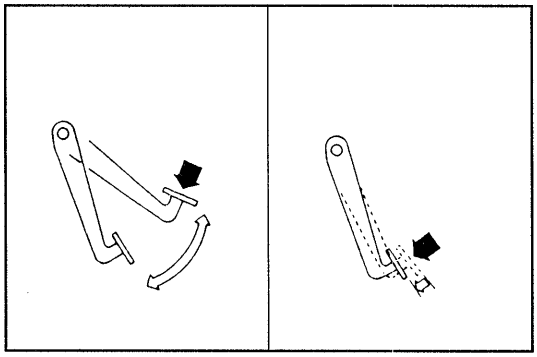
WRU90-BR067

(2) Check of brake booster air-tight performance under loaded condition
With the engine running, depress the brake pedal. While maintaining this condition, stop the engine. Ensure that no change in the pedal height occurs in about 30 seconds.



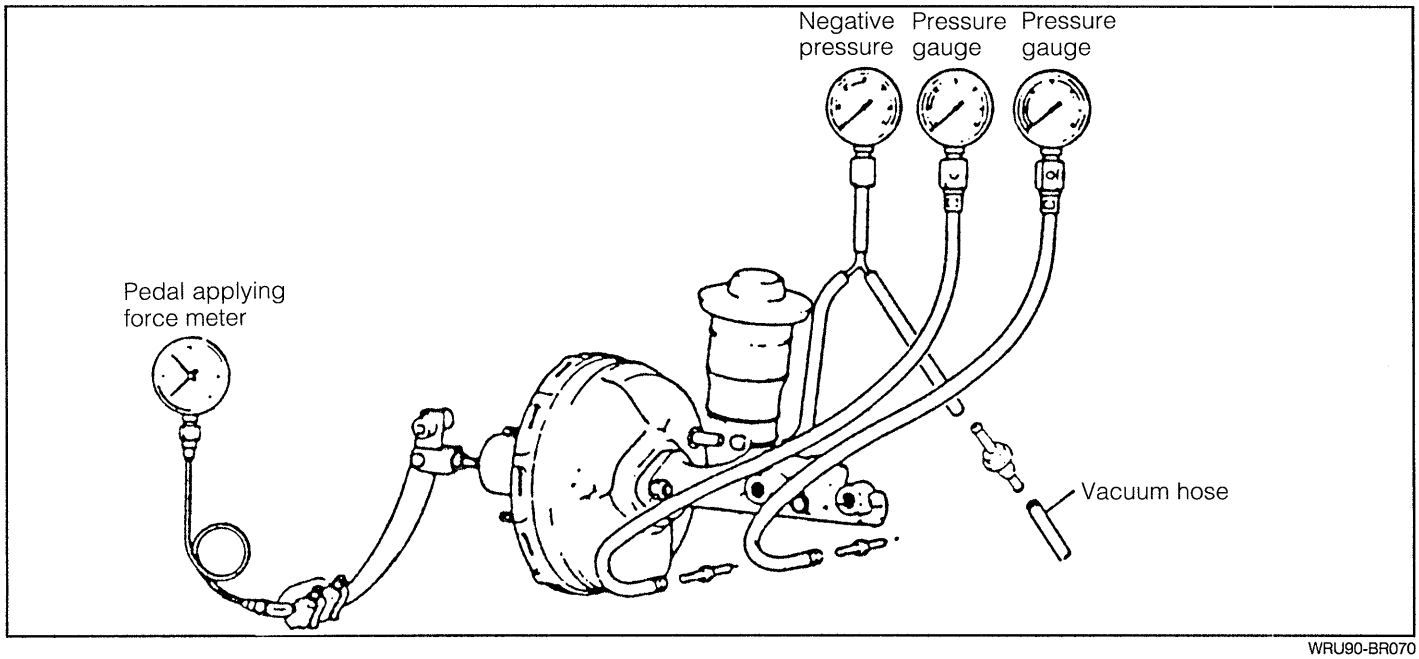
WRU90-BR068

(3) Check of booster operation
   ① With the engine stopped, depress the brake pedal several times, until the brake pedal height will not vary at each application.
   ② With the engine stopped, depress the brake pedal. While maintaining the same applying force, start the engine. If the brake pedal moves in slightly, it indicates that the booster operates satisfactory.


WRU90-BR069

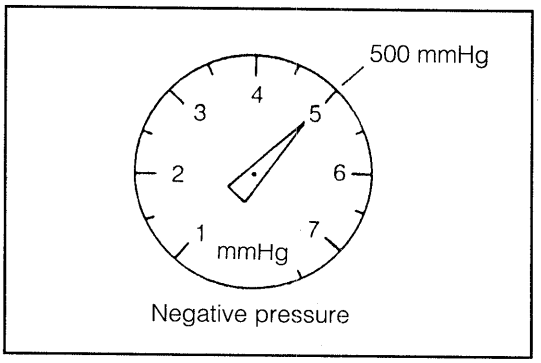
5. Check employing portable brake booster tester

(1) Connect the portable brake booster tester, as indicated in the figure. Perform air bleeding.



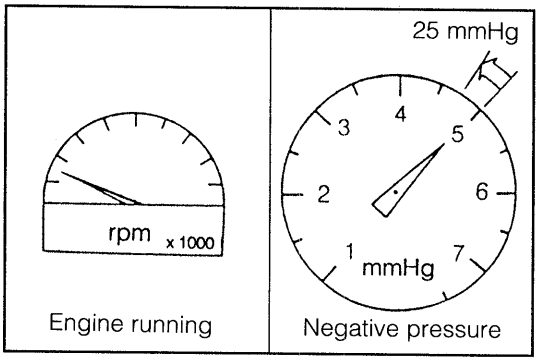
WRU90-BR070

(2) Check of booster air-tight performance
① Start the engine. Apply a negative pressure of 500 mmHg (19.69 inchHg) to the brake booster.
② Stop the engine. Ensure that no negative pressure drops for 15 seconds after the engine has stopped.
If not, check the check valve and brake booster.



WRU90-BR071

(3) Check of booster air-tight performance under loaded condition
① Start the engine.
② Depress the brake pedal with a force of 20 kgf (44.1 lb).
③ Apply a negative pressure of 500 mmHg (19.69 inchHg) to the booster.
④ Stop the engine.
⑤ Ensure that the negative pressure drop does not exceed 25 mmHg (0.98 inchHg) after the engine has stopped.
If not, repair the brake booster.



WRU90-BR072

(4) Check of brake hydraulic pressure
① With the engine stopped, depress the brake pedal several times so that no negative pressure may not apply to the brake booster.
② Ensure that the hydraulic pressure is obtained in accordance with the pedal applying force, as indicated in the right table.
If not, check the air bleeding condition.

Pedal applying force kgf (lb)	Hydraulic pressure kgf/cm² (psi)
10 (22)	0 - 6 (0 - 512)
20 (44)	8 - 18 (114 - 256)
30 (66)	19 - 29 (271 - 412)

WRU90-BR073

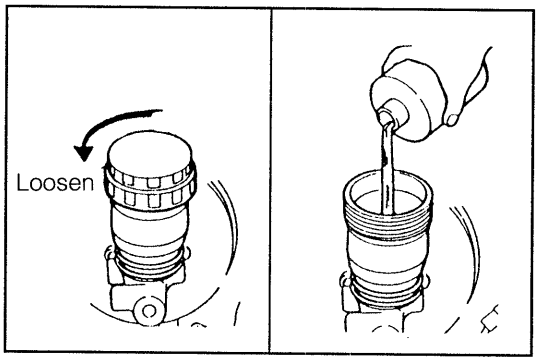
(5) Check of booster operation
① Start the engine.
② Set the booster negative pressure to 500 mmHg (19.69 inchHg). Ensure that the hydraulic pressure is obtained in accordance with the pedal applying force.
If not, repair the brake booster.

Pedal applying force kgf (lb)	Hydraulic pressure kgf/cm² (psi)
5 (11)	6 - 14 (86 - 199)
10 (22)	24 - 34 (342 - 483)
20 (44)	63 - 73 (897 - 1038)
30 (66)	74 - 84 (1053 - 1194)

WRU90-BR074

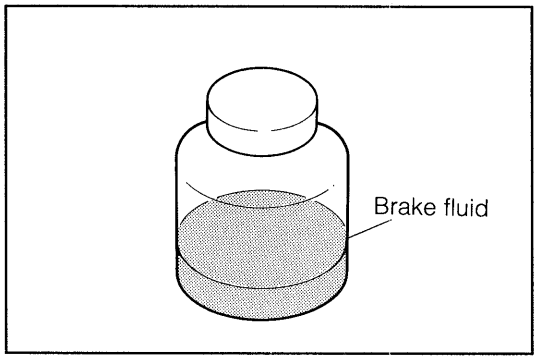
6. Air bleeding of brake system

1. Filling brake fluid
Fill the brake reservoir tank with the specified brake fluid to the full level. Maintain the full level at all times during the brake air bleeding.
Specified Brake Fluid: DOT 3 or SAEJ 1703



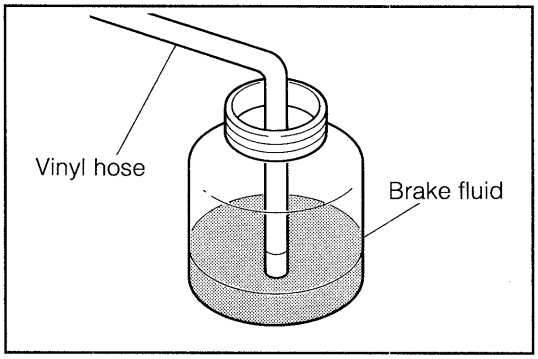
WRU92-BR578

2. Prepare an adequate container for the air bleeding. Fill a small amount of brake fluid in the container.



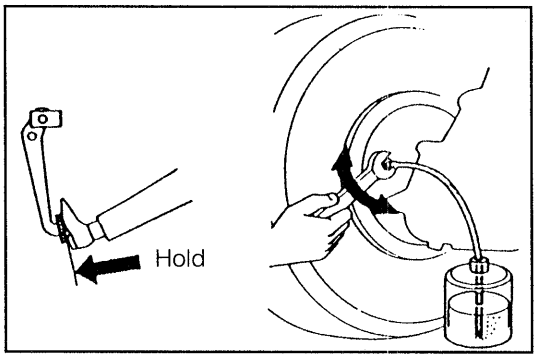
WRU90-BR076

3. Detach the air bleeder cap connect one end of a suitable vinyl hose to the air bleeder plug. Insert the other end of the vinyl hose into the prepared container in such a way that the vinyl hose may be submerged in the brake fluid in the container. Start this air bleeding operation at the brake which is located at the furthermost point from the master cylinder.



WRU90-BR077

4. Air bleeding
   This operation should be performed by two persons.
   (1) One person depresses the brake pedal several times and hold it in a depressed state.
   (2) The other person loosens the air bleeder plug 1/3 through 1/2 turn to bleed the air. Tighten the plug again.

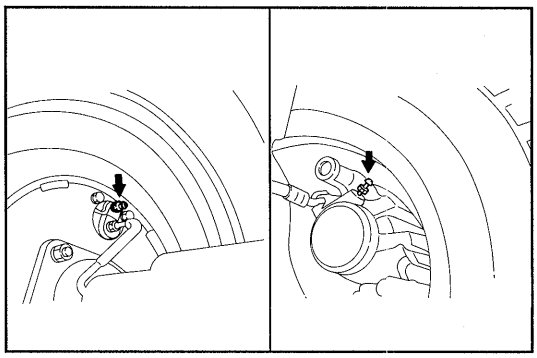


WRU90-BR078

   (3) Repeat the steps (1) and (2), until no air or bubble comes from the air bleeder plug.
   (4) Start the engine. Repeat the steps (1) and (2), until no air or bubble comes from the air bleeder plug. (Rear-ABS equipped vehicle only)

WRU90-BR079

5. Tighten the air bleeder plug to the specified torque.
   Tightening Torque: 0.9 - 1.3 kgf-m (6.5 - 9.4 ft-lb, 8.8 - 12.7 N·m)



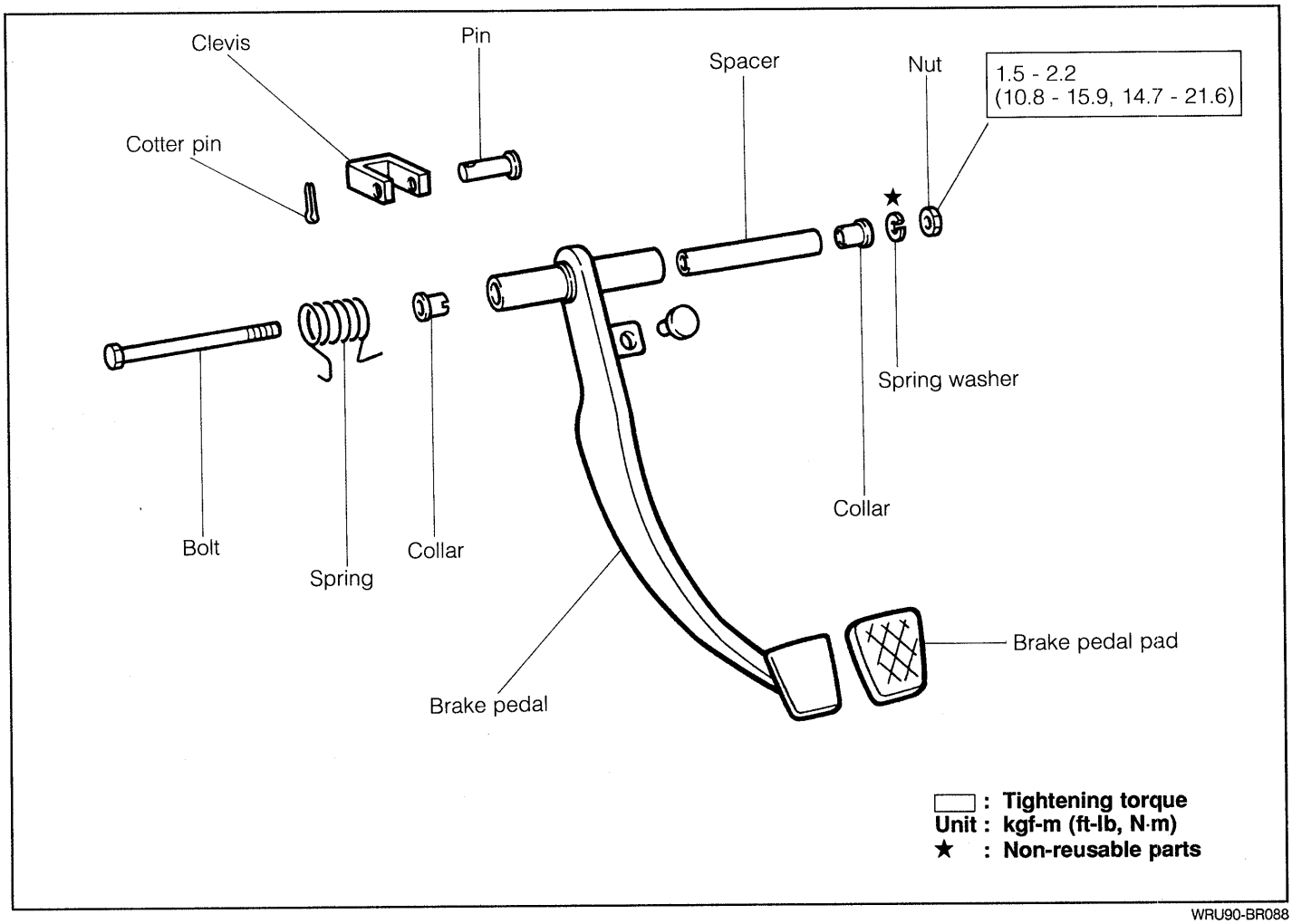
WRU90-BR080

6. Install the bleeder plug cap to the bleeder plug.
7. Perform air bleeding for the other brakes in turn, starting from the step (3).
8. Perform the brake pedal reserve travel check.
(See page BR–15.)

WRU92-BR581

BRAKE PEDAL

COMPONENTS

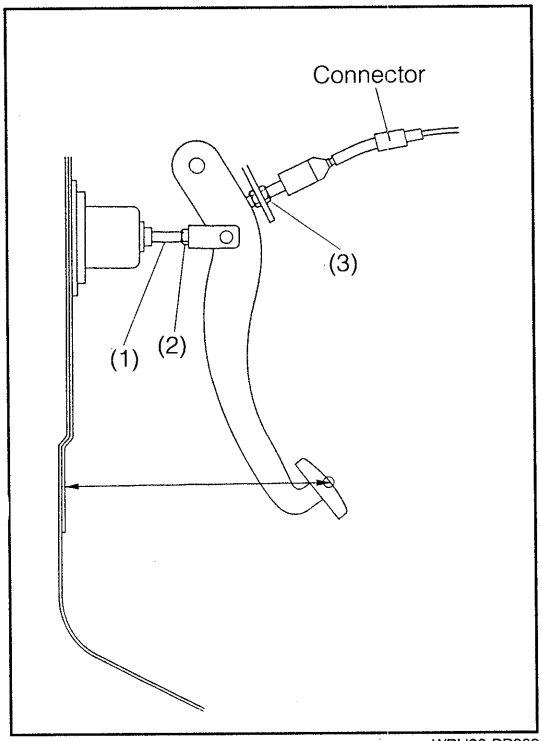


WRU90-BR088

ADJUSTMENT OF BRAKE PEDAL HEIGHT

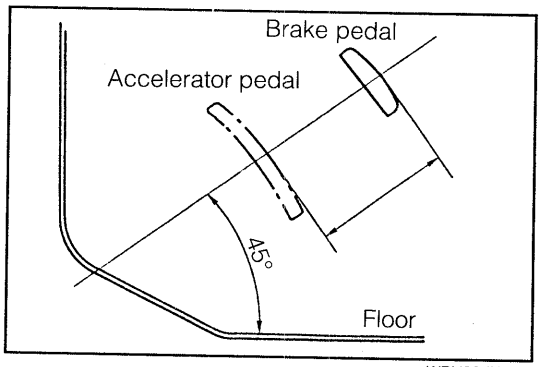
1. Disconnect the connector of the stop lamp switch.
2. Loosen the lock nut (3) of the stop lamp switch.
3. Back off the stop lamp switch.
   NOTE:
   - **Be very careful not to twist the cord by turning it together with the switch.**
4. Loosen the lock nut of the clevis (2).
5. Turn the push rod (1) to adjust the pedal height to the specified height.
   Specified Height: 216 ± 5 mm (8.5 ± 0.2 inches)

   The measurement should be made between the center of the brake pedal applying surface and the dash panel surface which is in parallel to the brake pedal applying center surface.



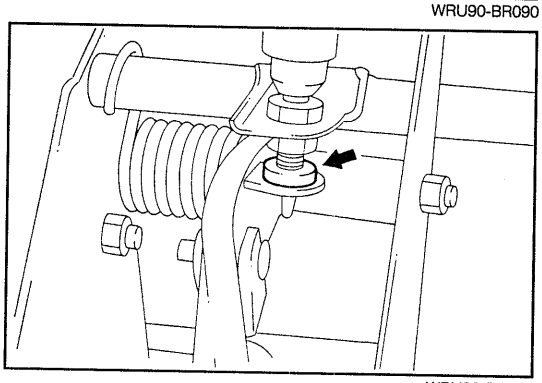
WRU90-BR089

NOTE:
- Adjust the brake pedal height so that the difference in height between the accelerator pedal and the brake pedal may become 47 ± 6 mm (1.85 ± 0.24 inches).



WRU90-BR090

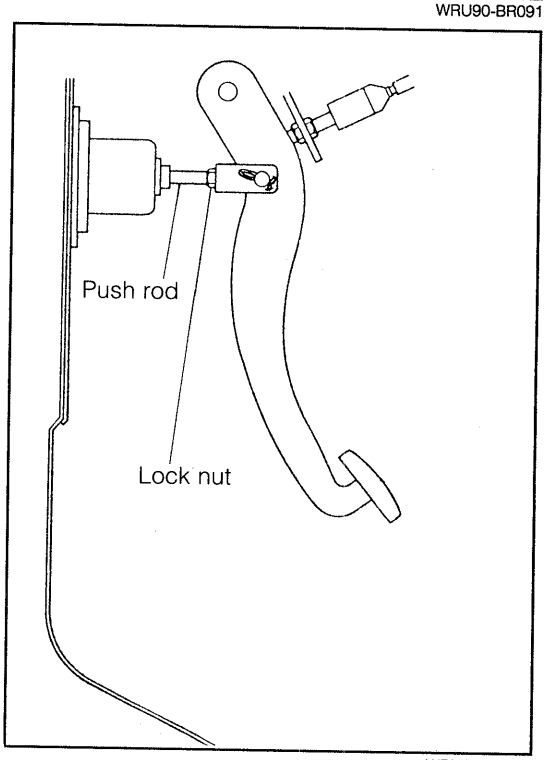
6. Push in the stop lamp switch, until the lower end of the threaded portion is brought into contact with the brake pedal cushion.
7. Tighten the stop lamp switch lock nut.
   Tightening Torque: 1.8 - 3.0 kgf-m (13 - 21.7 ft-lb, 17.7 - 29.4 N·m)


WRU90-BR091

8. Turn the push rod, until the brake pedal free travel becomes the specified value.
   Specified Value: 1 - 3 mm (0.04 - 0.12 inch)

NOTE:
- The free travel represents a mechanical play observed before the brake pedal pushes the push rod of the brake booster.

9. Tighten the clevis lock nut.
   Tightening Torque: 1.3 ± 0.26 kgf-m (9.4 ± 1.9 ft-lb, 12.7 ± 2.6 N·m)



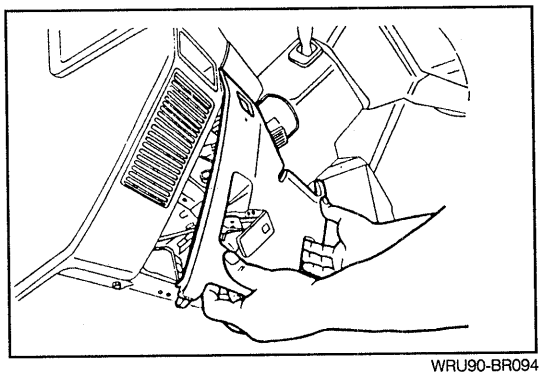
WRU90-BR092

10. Check the brake pedal height. (See the step 5.)
    If the height fails to conform to the specifications, repeat the operation from the step 2 onward.
11. Reconnect the stop lamp switch connector.
12. Depress the brake pedal. Ensure that the stop lamp goes on.
    If not, check and repair the brake lamp system. (See the Body Electrical Section.)

WRU90-BR093

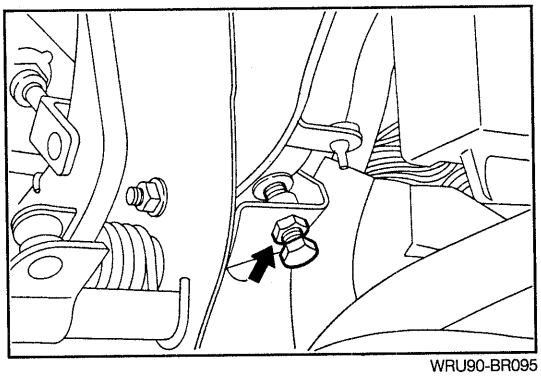
REMOVAL

1. Remove the instrument finish lower panel. (See the Body Section.)



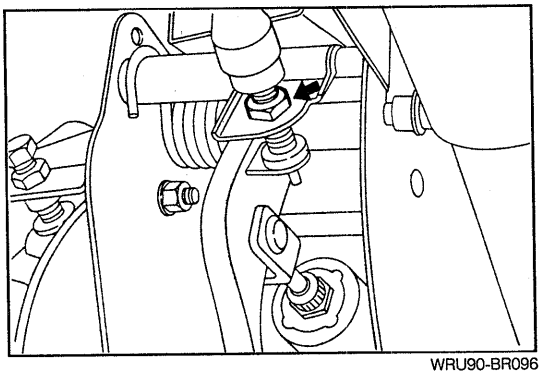
WRU90-BR094

2. Remove the height adjusting bolt for the clutch pedal by loosening its lock nut.



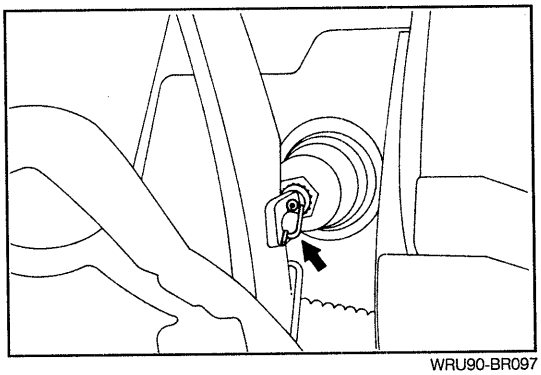
WRU90-BR095

3. Disconnect the connector of the stop lamp switch.
4. Remove the stop lamp switch by loosening its lock nut.



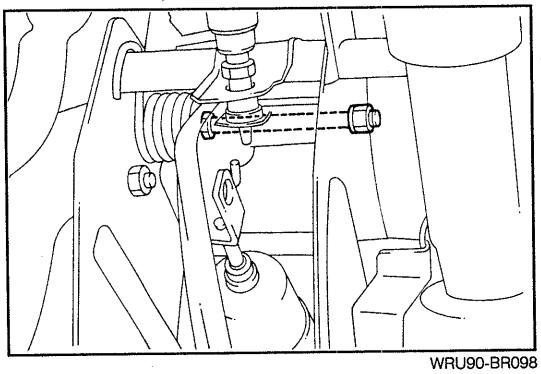
WRU90-BR096

5. Pull out the clevis pin by removing its cotter pin.



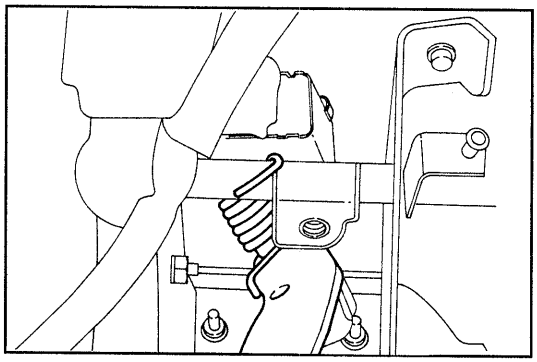
WRU90-BR097

6. Remove the brake pedal set nut and pull out the set bolt.
   NOTE:
   - Before pulling out the set bolt, be sure to align the end surface across the two flat sections of the set bolt with the clutch pedal end surface so that they may not interfere with each other.



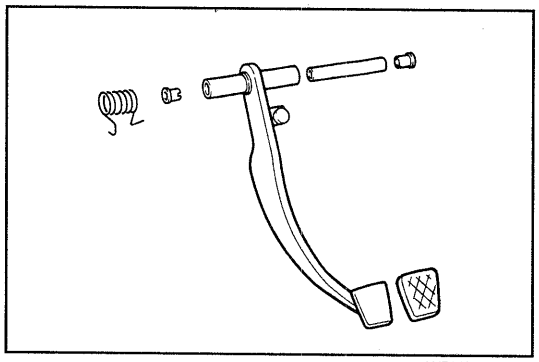
WRU90-BR098

7. Remove the return spring from the pedal bracket while changing the brake pedal angle.



WRU90-BR099

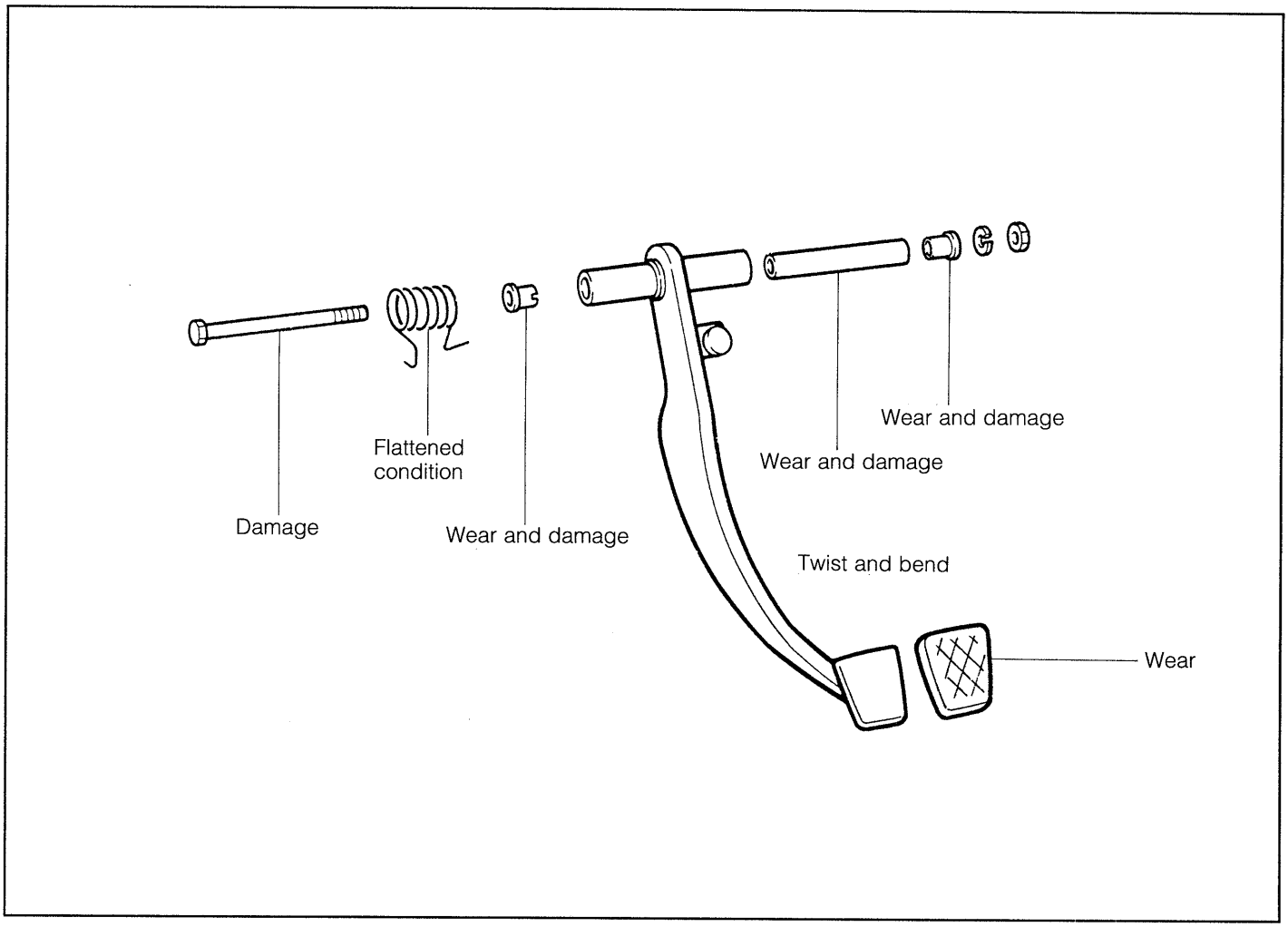
8. Remove the spring, bushes, spacer, cushion and pedal pad from the brake pedal.



WRU90-BR100

INSPECTION

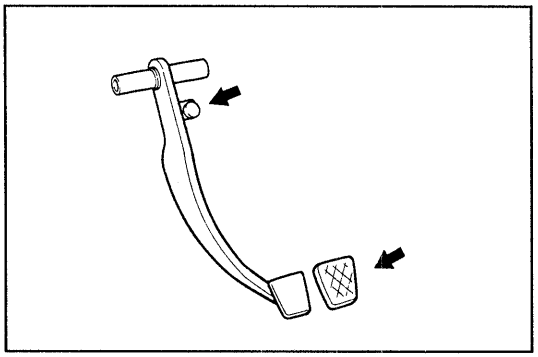
Inspect the following parts and replace any defective part.



WRU90-BR101

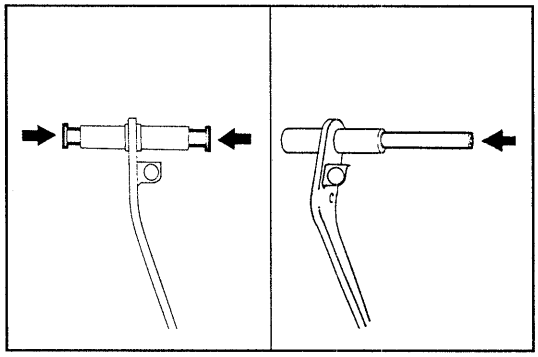
INSTALLATION

1. Install the pedal pad and cushion to the brake pedal.



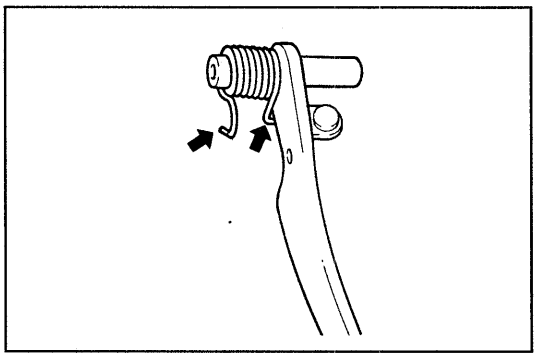
WRU90-BR102

2. Insert the bushes into the brake pedal.
3. Apply a thin film of lithium based MP grease to the spacer. Insert the spacer into the bush.



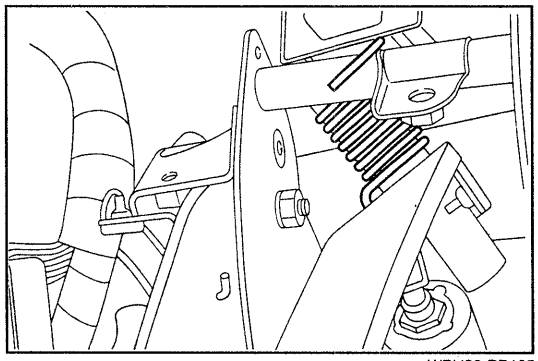
WRU90-BR103

4. Apply a thin film of lithium based MP grease to the supporting section of the return spring. Install the return spring to the brake pedal.



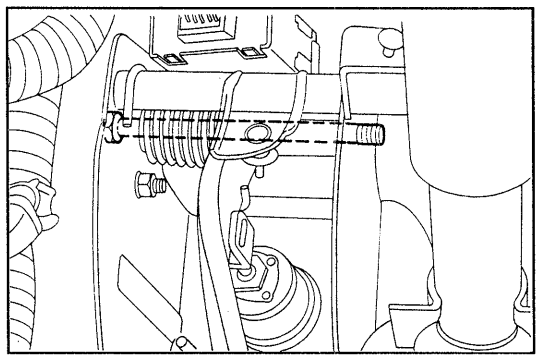
WRU90-BR104

5. Hook the return spring to the pedal bracket.



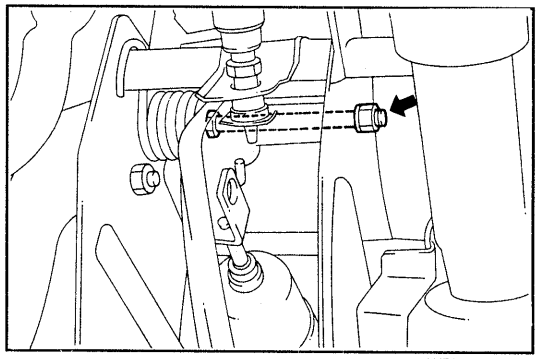
WRU90-BR105

6. With the brake pedal aligned with the attaching hole, insert the attaching bolt.



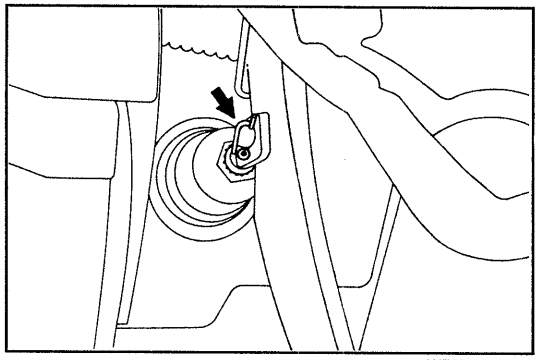
WRU90-BR106

7. Tighten the attaching nut to the installation specified torque.
   Tightening Torque: 1.5 - 2.2 kgf-m (10.8 - 15.9 ft-lb, 14.7 - 21.6 N·m)



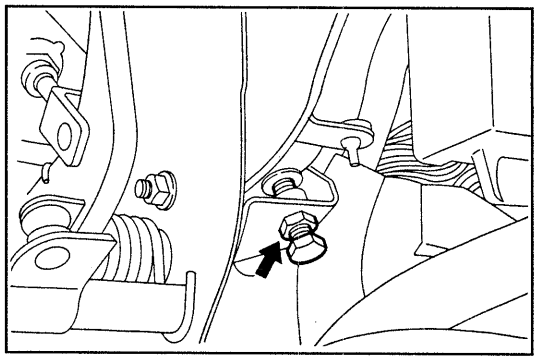
WRU90-BR107

8. Connect the clevis to the brake pedal by means of the clevis pin. Install the cotter pin and bend its legs.
   NOTE:
   - **Be sure to bend the cotter pin beyond 90 degrees.**



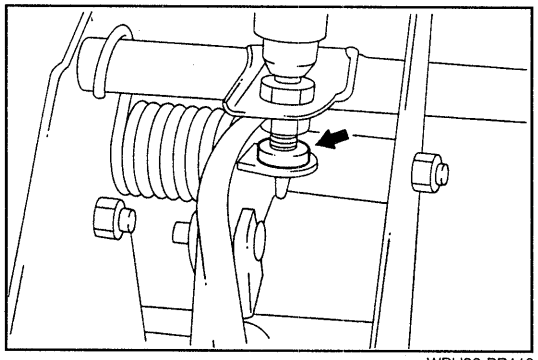
WRU90-BR108

9. Install the clutch pedal height adjusting bolt and nut. Adjust the clutch pedal height.
   (See the Clutch Section.)



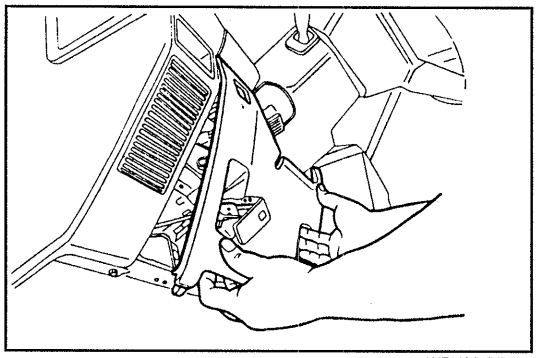
WRU90-BR109

10. Install the stop lamp switch. Adjust the brake pedal height.
    (See page BR–41.)
11. Operate the brake pedal and check to see if any trouble exists.



WRU90-BR110

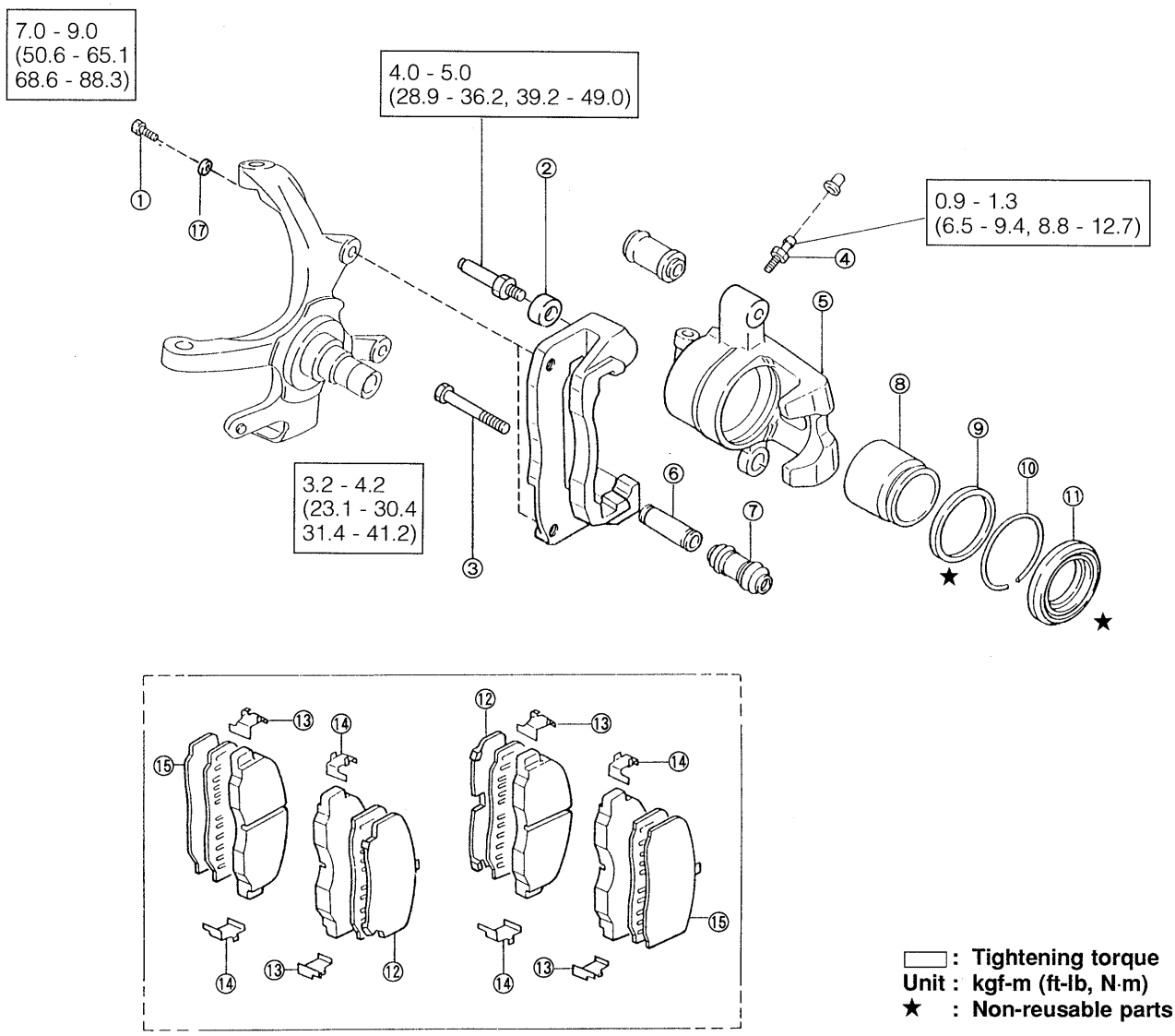
12. Install the instrument finish lower panel.
    (See the Body Section.)



WRU90-BR111

FRONT BRAKE

COMPONENTS

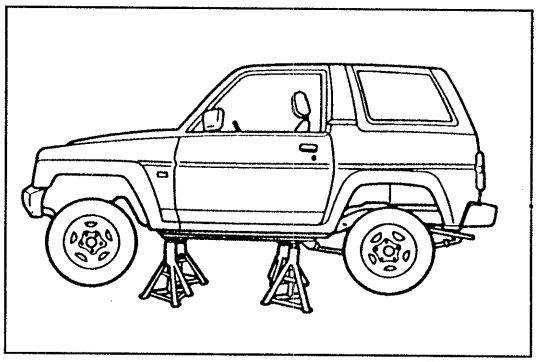


① Bolt
② Boot
③ Bolt
④ Bleeder plug
⑤ Body caliper
⑥ Cylinder slide bush
⑦ Bush dust boot
⑧ Front disc brake piston
⑨ Piston seal
⑩ Set ring
⑪ Cylinder boot
⑫ Antisqueal shim
⑬ Disc brake pad guide plate
⑭ Disc brake pad guide plate No. 2
⑮ Antisqueal shim
⑯ Mounting support
⑰ Washer

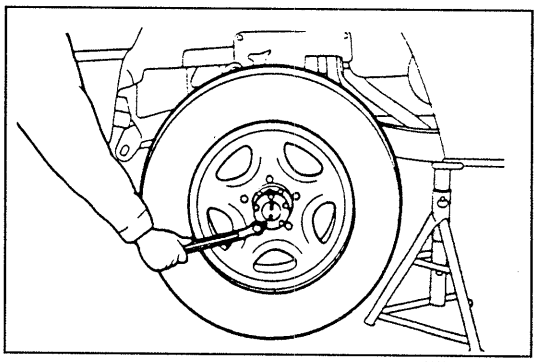
WRU92-BR594

INSPECTION OF BRAKE PAD AND DISC

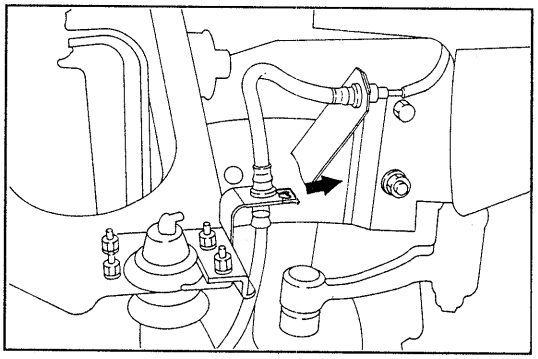
1. Jack up the vehicle and support it with rigid racks.
   (As for the jack-up point and rigid rack supporting position, see GI Section.)


WRU90-BR113

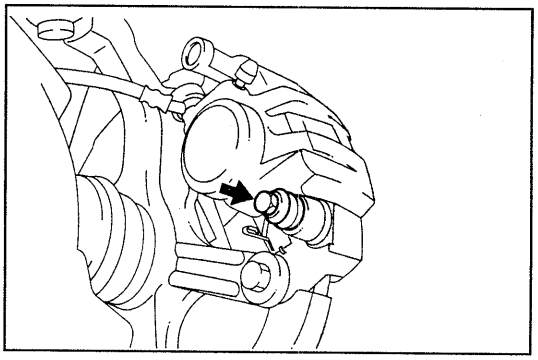
2. Remove the front wheel.
   (See page FS Section.)


WRU92-BR582

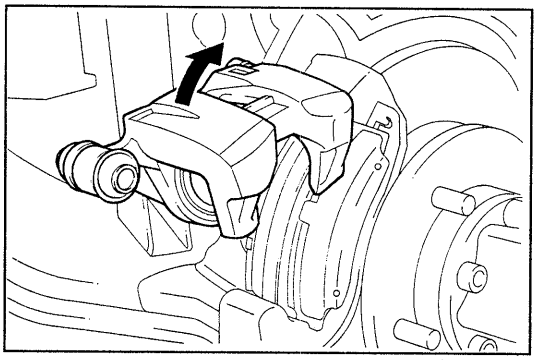
3. Detach the clamp from the brake hose clamp of the upper arm.
   NOTE:
   - Do not reuse the clip.


WRU90-BR553

4. Remove the caliper body attaching bolt.

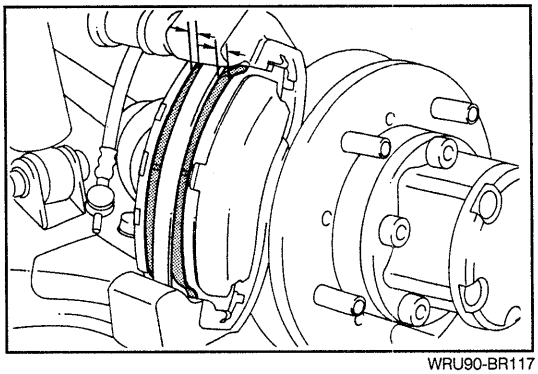

WRU90-BR115

5. Lift the caliper body.

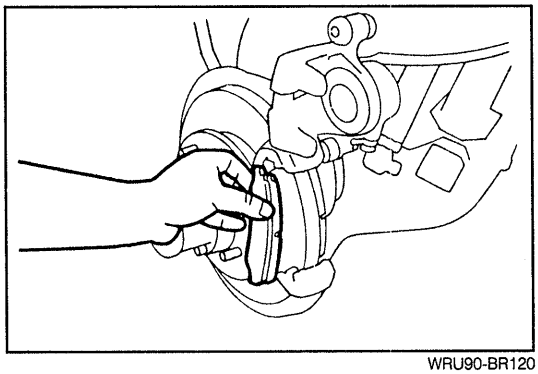

WRU90-BR116

6. Measure the brake pad thickness.
   New Part: 9 mm (0.35 inch)
   Minimum Limit: 1.5 mm (0.06 inch)

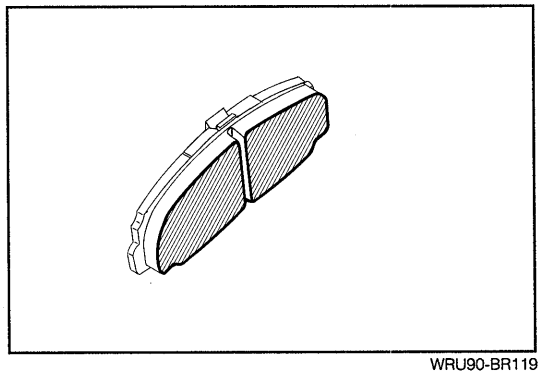
   If the measure value is lower than the minimum limit, replace the brake pad.


WRU90-BR117

7. Inspection of brake pad
   (1) Remove the brake pad.
   NOTE:
   - Be very careful not to disengage the disc brake pad guide plate during this operation.

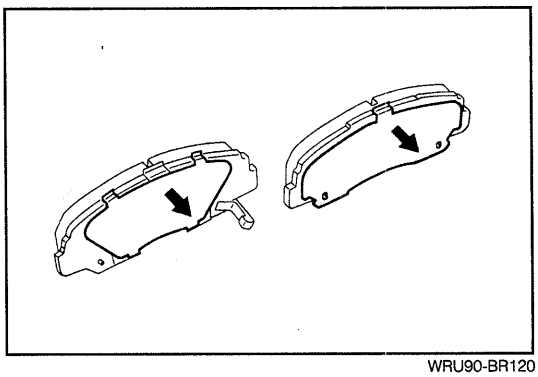

WRU90-BR120

   (2) Inspect the brake pad surface for burning.
   If the brake pad exhibits burning, replace the brake pad.

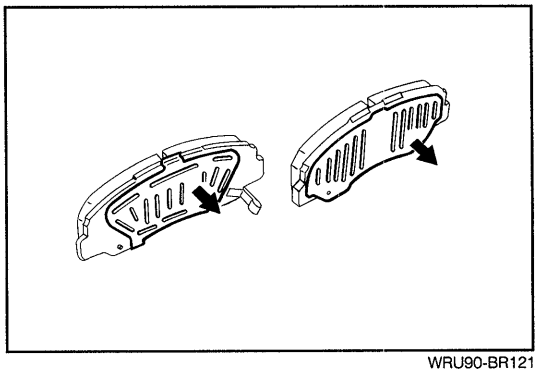

WRU90-BR119

8. Replacement of brake pad
   NOTE:
   - When replacing the brake pad be sure to replace the pads inside and outside for both the right and left sides as a set. This replacement is required so as to prevent the vehicle from pulling to one side on application of brakes.

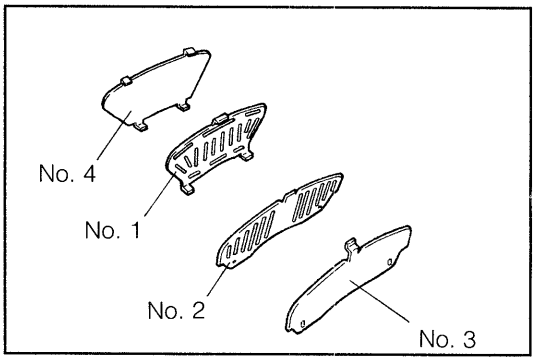
   (1) Remove the antisqueal shims No.3 and No.4 from the brake pad.


WRU90-BR120

   (2) Remove the antisqueal shims No.1 and No.2 from the brake pad.

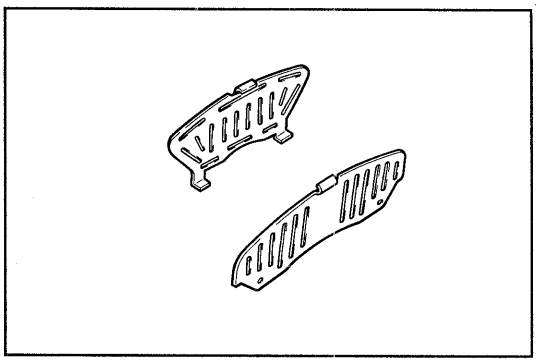

WRU90-BR121

(3) Clean the antisqueal shims No.1, No.2, No.3 and No.4. Inspect them for damage.
Replace any shim which exhibits damage.

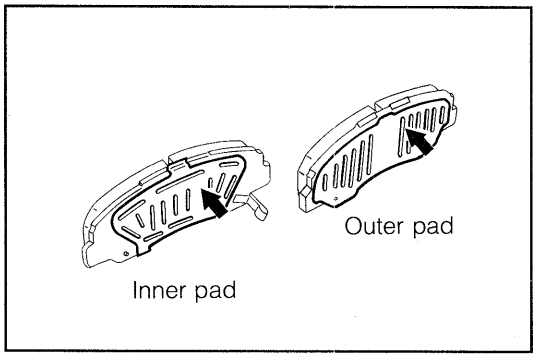


WRU90-BR122

(4) Apply antisqueal grease or pad grease to the both side of antisqueal shims No.1 and No.2.

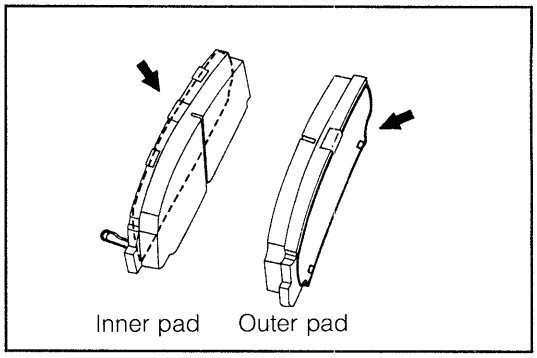

WRU90-BR123

(5) Install the antisqueal shims No.1 and No.2 to a new brake pad.
(6) Apply antisqueal grease or pad grease into the slit of the antisqueal shim.
Filling Amount: **Antisqueal shim No. 1**
0.8 - 1.3 grams (0.03 - 0.046 oz)
Antisqueal shim No. 2
0.6 - 1.1 grams (0.02 - 0.039 oz)



WRU90-BR124

(7) Install the antisqueal shims No.3 and No.4 to the brake pad.

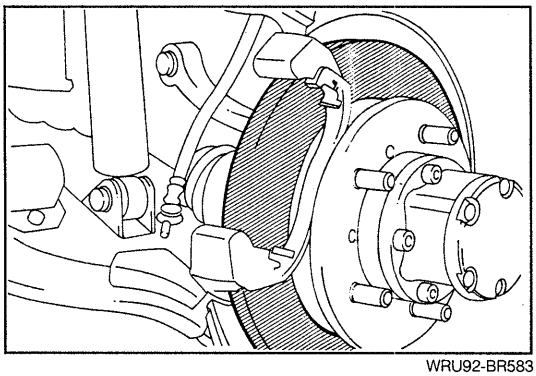


WRU90-BR125

9. Inspection of brake disc
NOTE:
- **Never allow any oil to get to the disc surface.**

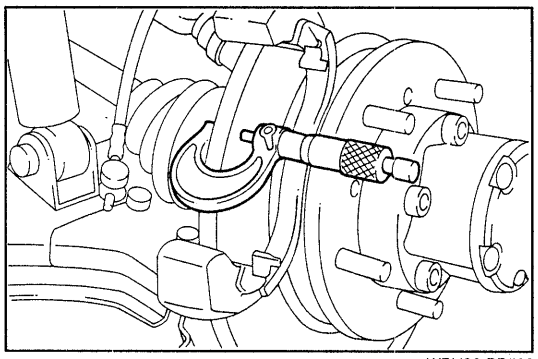
WRU90-BR126

(1) Ensure that the disc surface exhibits no damage, such as abnormal wear and cracks.
If any damage exists on the disc surface, replace the disc. (See page FS Section.)


WRU92-BR583

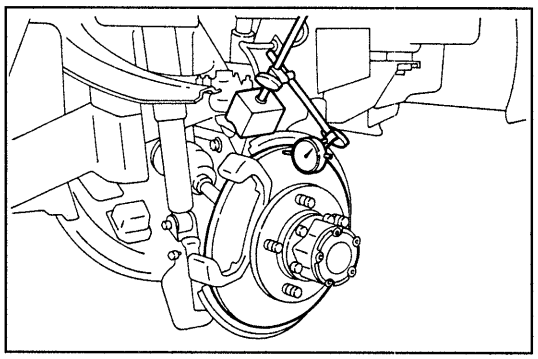
(2) Measure the disc thickness. Ensure that the measured value is above the minimum limit.
New Part: 18.0 mm (0.71 inch)
Minimum Limit: 17.0 mm (0.67 inch)
Difference in disc thickness on the same circumference: Not exceed 0.015 mm (0.0006 inch)

If the measured value is less than the minimum limit, replace the disc. (See page FS Section.)

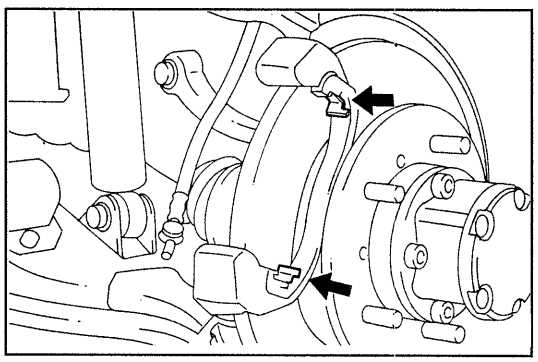

WRU92-BR580

(3) Ensure that the runout of the brake disc is within the allowable limit.
Allowable Runout Limit: 0.15 mm (0.0059 inch)

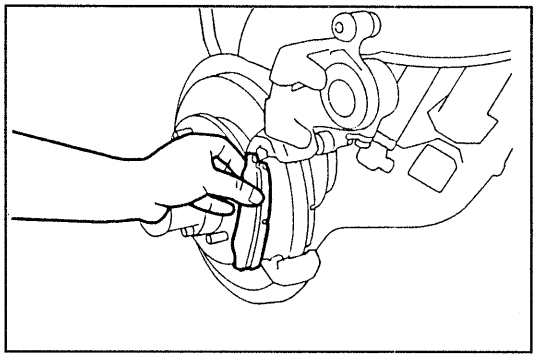
NOTE:
- Measuring point should be point 10 mm (0.39 inch) inward from outer periphery of brake disc.


WRU90-BR554

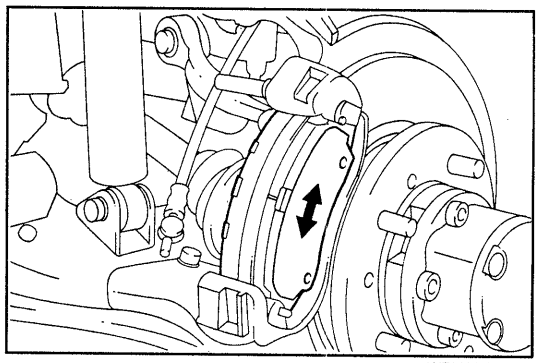
10. Inspection of disc brake pad guide
(1) Ensure that no damage exists on the disc brake pad guide.
If any damage is present, replace the disc brake pad guides.


WRU90-BR129

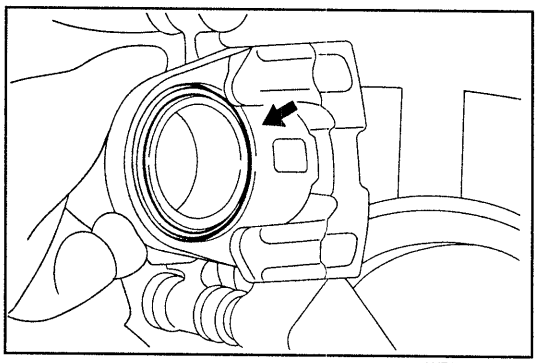
(2) Install the pad to the mounting support.
NOTE:
- The pad equipped with the warner should come at the inside of the vehicle.
- Never allow any oil to get to the pad.


WRU90-BR130

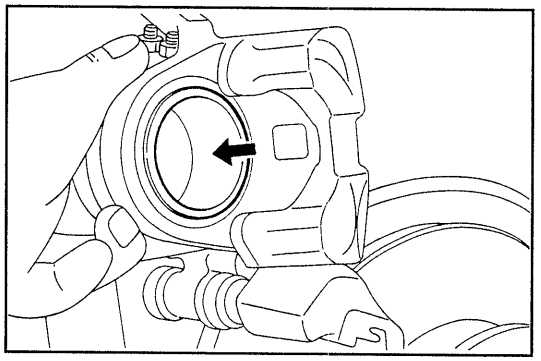
(3) Turn the pad in the rotating direction to ensure that no excessive looseness exists.
If any excessive looseness exists, replace the disc brake pad guides.


WRU90-BR131

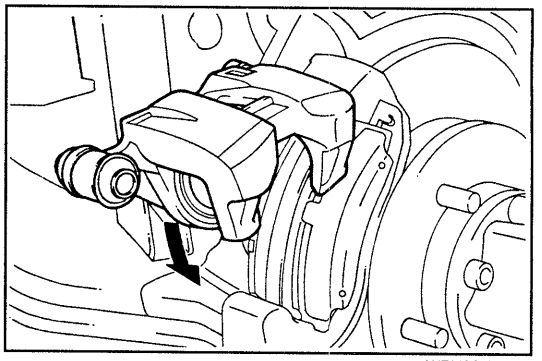
11. Installation of caliper
(1) Inspect the caliper piston for brake fluid leakage.
NOTE:
- If any brake fluid leakage is present, repair the fluid leakage.


WRU90-BR132

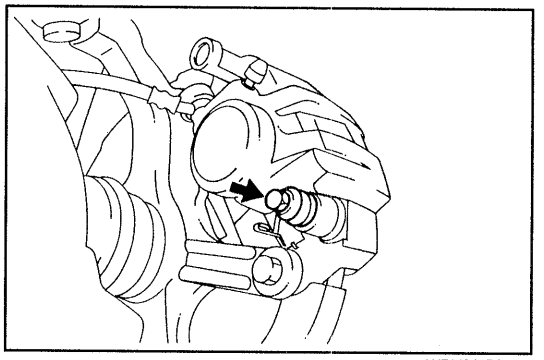
(2) Push the caliper piston to the cylinder side.
NOTE:
- Prior to this operation, drain the brake fluid from reservoir tank, as required, so that no brake fluid overflows from the brake reservoir tank during this operation.


WRU90-BR133

(3) Install the caliper on the brake pad.
NOTE:
- Care must be exercised not to bring the caliper into contact with the antisqueal shims during this operation.

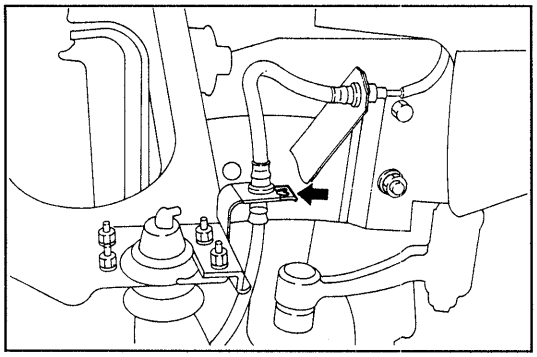

WRU90-BR134

(4) Install the caliper attaching bolt and tighten it to the specified torque.
Tightening Torque: 3.2 - 4.2 kgf-m
(23.2 - 30.3 ft-lb, 31.4 - 41.2 N·m)


WRU90-BR136

12. Connect the brake hose to the upper arm bracket. Install the new clip.
    NOTE:
    - Never reuse the clips.

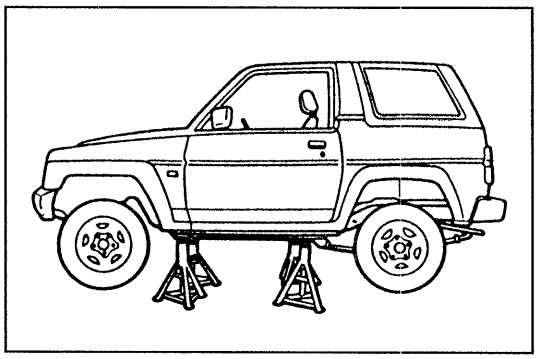
13. Perform brake tests on a brake tester.



WRU90-BR555

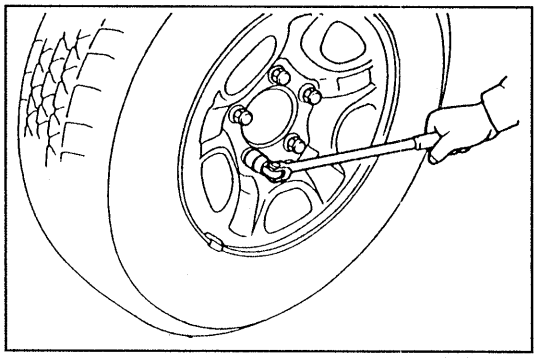
REMOVAL OF BRAKE CALIPER

1. Jack up the vehicle and support it with safety stands. (As for the jacking-up points and supporting points for the safety stands, see GI Section.)



WRU90-BR136

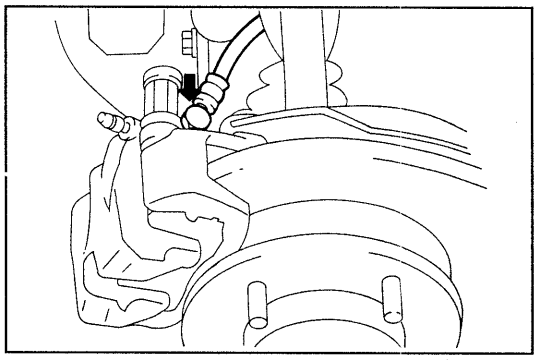
2. Remove the front wheel. (See page FS Section.)
3. Drain the brake fluid of the caliper from the air bleeder plug.



WRU92-BR584

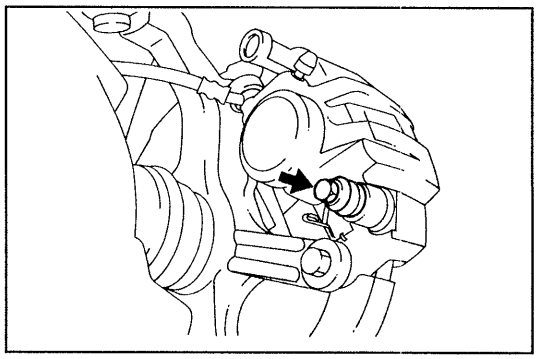
4. Disconnect the brake hose from the caliper.
    NOTE:
    - Since the brake fluid flows out, receive the brake fluid with an adequate container.

    CAUTION:
    - Never reuse the removed gaskets.



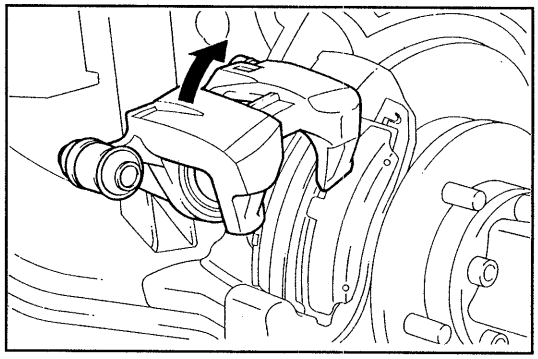
WRU90-BR138

5. Remove the brake caliper attaching bolt.



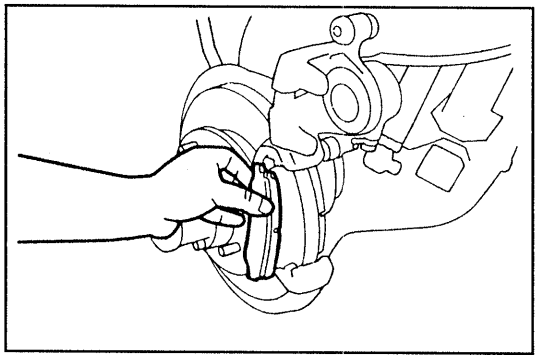
WRU90-BR139

6. Remove the brake caliper from the mounting support pin.



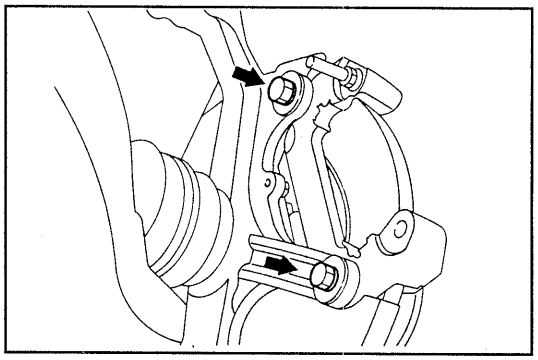
WRU90-BR140

7. Remove the brake pads.



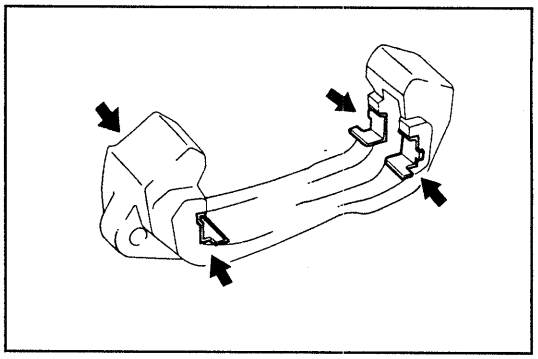
WRU90-BR141

8. Remove the brake mounting support.



WRU90-BR142

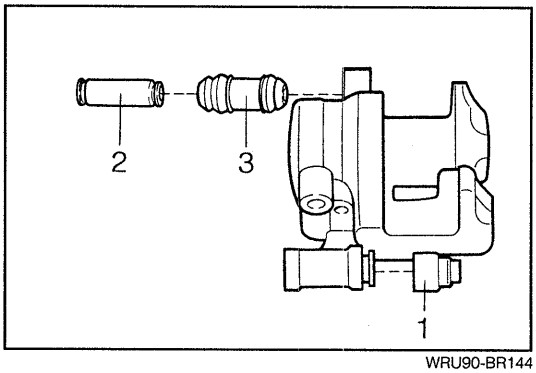
9. Remove the disc brake pad guide plates from the brake mounting support.



WRU90-BR143

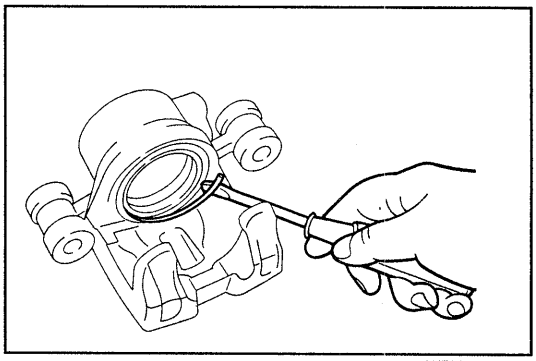
DISASSEMBLY OF CALIPER

1. Remove the rubber boot from the caliper.
2. Pull out the cylinder slide bush.
3. Remove the bush dust boot.

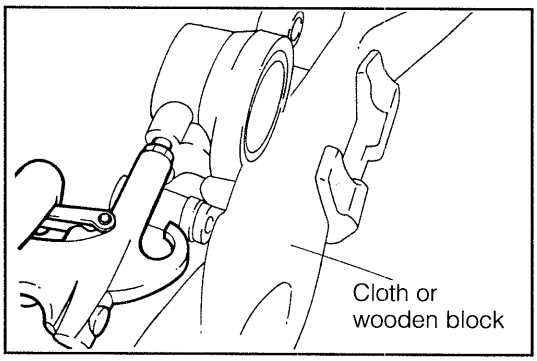


WRU90-BR144

4. Remove the boot set ring.
   CAUTION:
   - Never reuse the removed set ring.

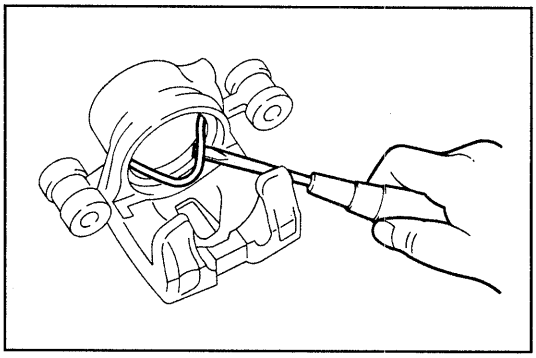

WRU90-BR145

5. Insert a suitable cloth or a wooden block in front of the piston. Then, pull out the piston by applying compressed air from the brake hose connecting section.
   WARNING:
   - Since the piston jumps out strongly when applying compressed air, care must be exercised so that your fingers or the like may not be caught in.
   - Be sure to put on safety goggles when using compressed air.

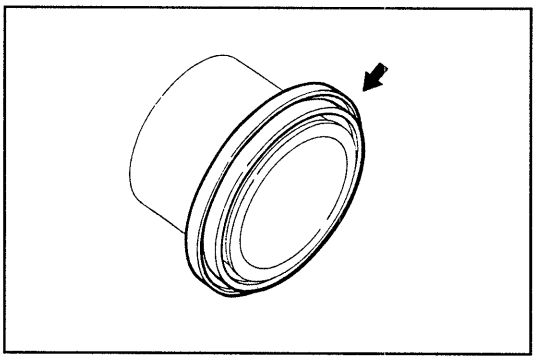


WRU90-BR146

6. Remove the piston seal from the cylinder section.
   CAUTION:
   - Never reuse the removed boot.

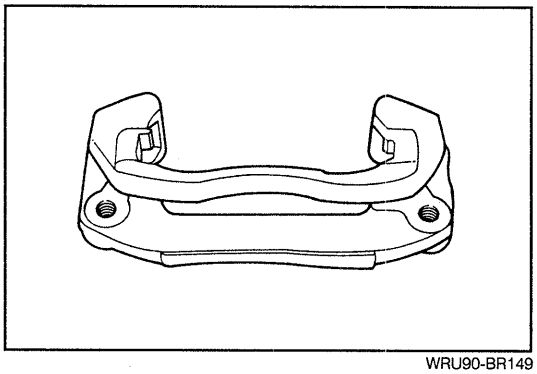

WRU90-BR147

7. Remove the rubber boot from the piston.
   CAUTION:
   - Never reuse the removed boot.

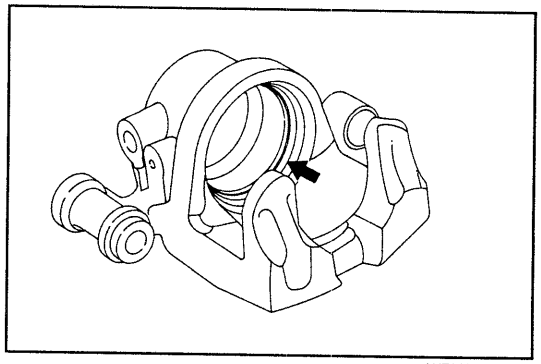

WRU90-BR148

INSPECTION

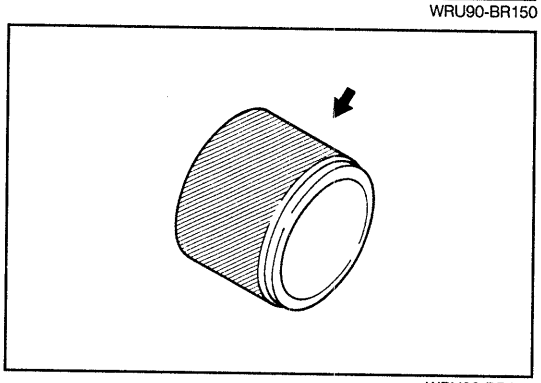
1. Ensure that the mounting support exhibits no damage, such as cracks and/or wear.


WRU90-BR149

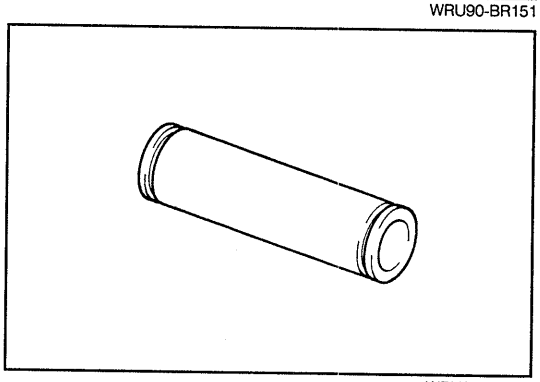
2. Ensure that the caliper exhibits no damage, such as cracks and wear.
3. Ensure that the caliper and inner surface of the piston exhibit no damage, such as rust and/or scratches.


WRU90-BR150

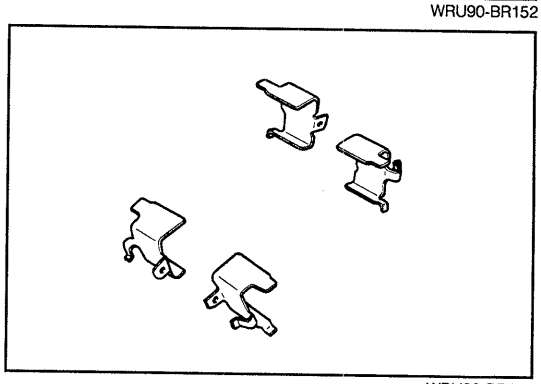
4. Ensure that the piston exhibits no damage, such as rust and/or scratches.


WRU90-BR151

5. Ensure that the cylinder slide bush, bush dust boot and rubber boot exhibit no damage, such as rust and/or scratches.


WRU90-BR152

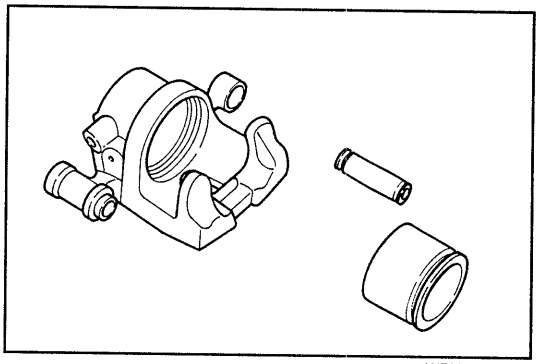
6. Ensure that the pad guide plates exhibit no wear and/or damage.


WRU90-BR153

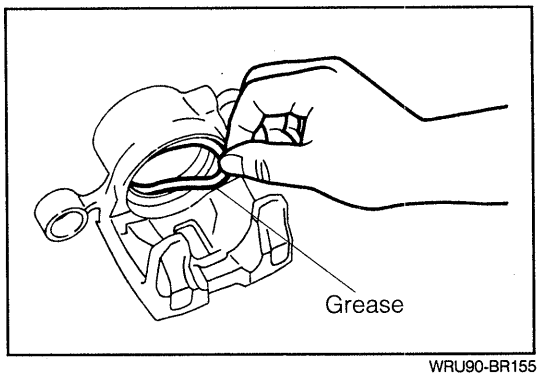
ASSEMBLY OF CALIPER

1. Wash the reassembling parts and dry them with compressed air.

WARNING:
- Be sure to put on safety goggles when using compressed air.


WRU92-BR571

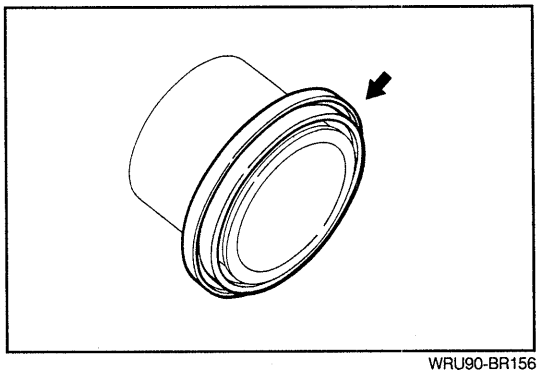
2. Apply rubber grease to the piston seal. Install the piston seal to the cylinder.
   CAUTION:
   - Never reuse the piston seal.
   - Be very careful not to scratch the edge of the piston seal.



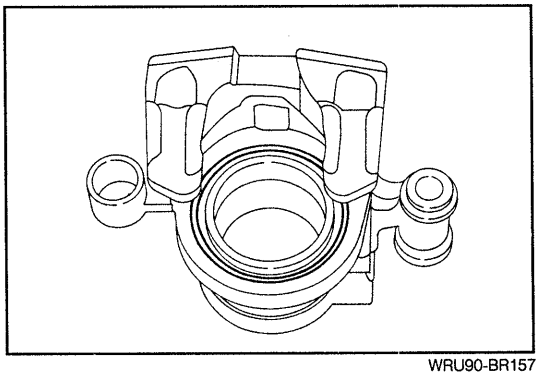
WRU90-BR155

3. Apply rubber grease to the cylinder boot. Install the cylinder boot to the piston.
   CAUTION:
   - Never reuse the cylinder boot.

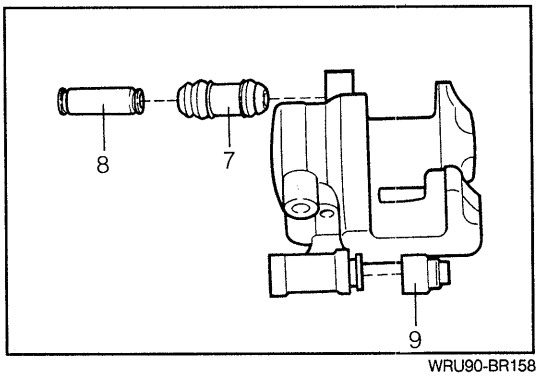
4. Apply rubber grease to the piston sliding surface.


WRU90-BR156

5. Insert the piston into the cylinder.
6. Fit the cylinder boot into the groove at the cylinder side. Fit the set ring into the groove of the cylinder boot.


WRU90-BR157

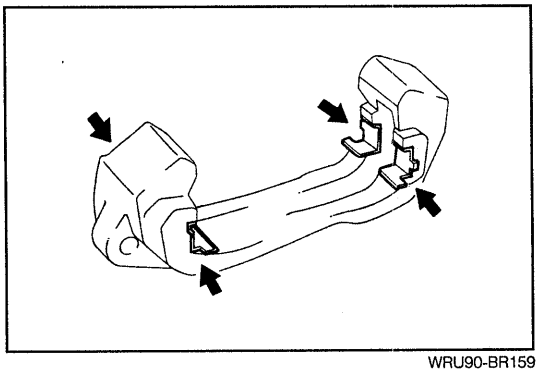
7. Insert the bush dust boot into the caliper.
8. Apply rubber grease to the cylinder slide bush. Insert the cylinder slide bush into the bush dust boot. Then, fit both edge sections of the bush dust boot into the groove sections of the cylinder slide bush.
9. Install the rubber boot to the caliper.



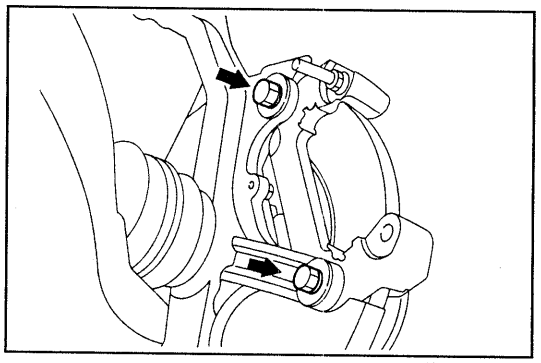
WRU90-BR158

INSTALLATION OF BRAKE CALIPER

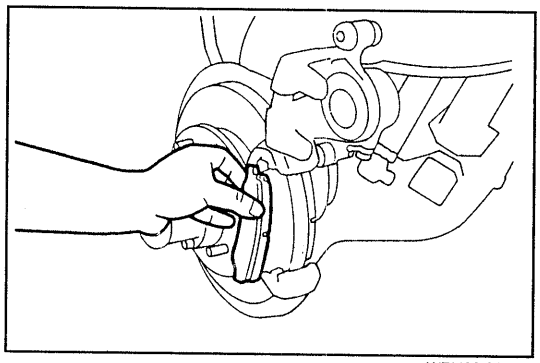
1. Install the disc brake pad guide plates to the brake mounting support.


WRU90-BR159

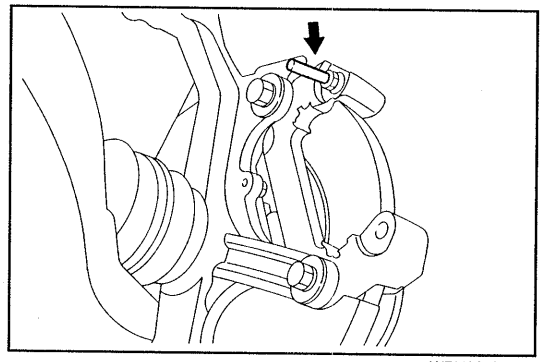
2. Install the brake mounting support to the steering knuckle with new spring washer interposed.
   Tightening Torque: 7.0 - 9.0 kgf-m
   (50.6 - 65.1 ft-lb, 68.6 - 88.3 N·m)


WRU90-BR160

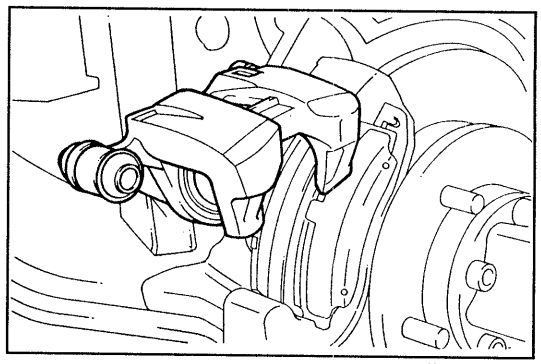
3. Install the brake pad to the brake mounting support.


WRU90-BR161

4. Apply rubber grease to the brake mounting support pin.

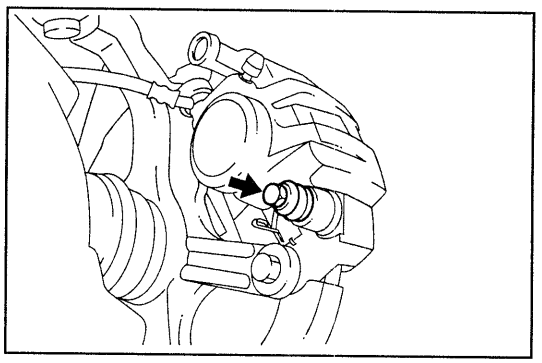

WRU90-BR162

5. Install the brake caliper to the mounting support. Place the mounting support over the brake pad.
   NOTE:
   - Be very careful not to damage the antisqueal shim during this operation.


WRU90-BR163

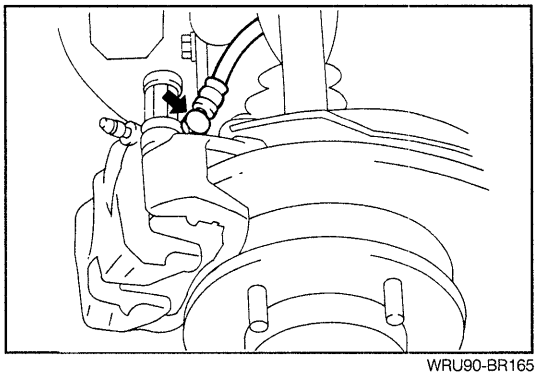
6. Tighten the brake caliper attaching bolts.
   Tightening Torque: 3.2 - 4.2 kgf-m
   (23.1 - 30.3 ft-lb, 31.4 - 41.2 N·m)

7. Ensure that each boot of the caliper exhibits no damage, such as cracks. Also, ensure that no turning-over is present at the fitting section of each boot.


WRU90-BR164

8. Connect the brake hose to the caliper with new gaskets interposed.
   Tightening Torque: 2.1 - 2.7 kgf-m
   (15.2 - 19.5 ft-lb, 20.6 - 26.5 N·m)

   CAUTION:
   - Never reuse the gaskets.



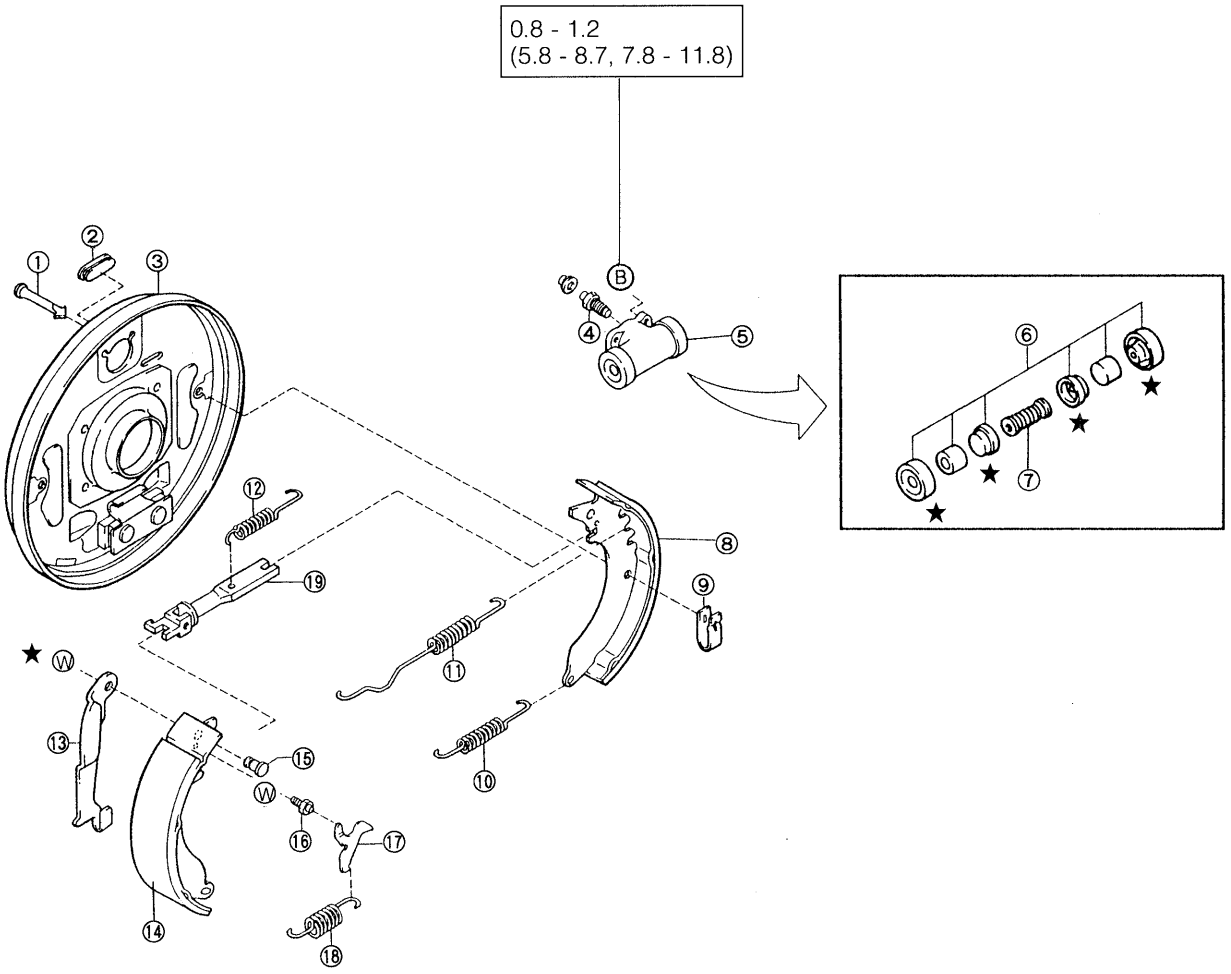
WRU90-BR165

9. Perform brake air bleeding.
   (See page BR–18.)
10. Perform the brake test, using a brake tester.

WRU92-BR593

REAR BRAKE

COMPONENTS



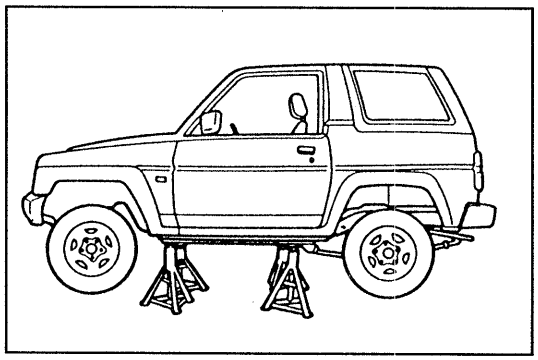
□ : **Tightening torque**
Unit : kgf-m (ft-lb, N·m)
★ : **Non-reusable parts**

① Shoe hold down spring pin
② Hole plug
③ Rear brake backing plate S/A
④ Bleeder plug
⑤ Rear wheel brake cylinder assy
⑥ Rear wheel cylinder cap kit
⑦ Compression spring
⑧ Rear brake shoe
⑨ Shoe hold down spring
⑩ Tension spring
⑪ Tension spring
⑫ Tension spring No. 2
⑬ Parking brake shoe lever S/A
⑭ Rear brake shoe
⑮ Parking brake lever pin
⑯ Bolt
⑰ Automatic adjust lever
⑱ Tension spring
⑲ Parking brake shoe strut

WRU90-BR167

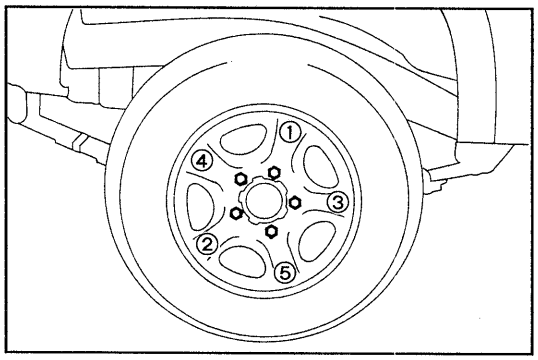
DISASSEMBLY

CAUTION:
- Make sure that no lubricant, such as grease, gets to the brake shoe surfaces.
- When replacing the brake shoe, be sure to replace the leading and trailing shoe for both the right and left side as a set. This replacement required so as to prevent the vehicle from pulling to one side on application of the brakes.



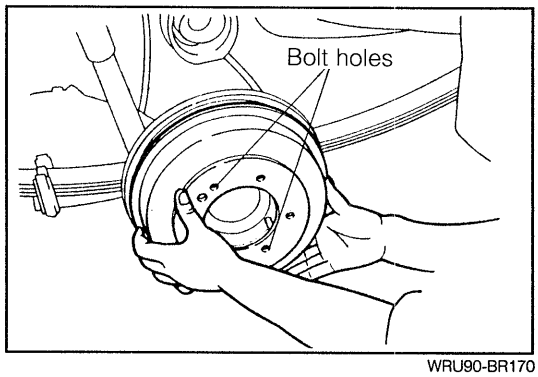
WRU90-BR168

1. Jack up the vehicle and support it with safety stands. (As for the jacking-up points and supporting points for the safety stands, see GI Section.)
2. Remove the rear wheel.
   NOTE:
   - Be sure to loosen the attaching bolts evenly over two or three stages in the sequence indicated in the right figure.



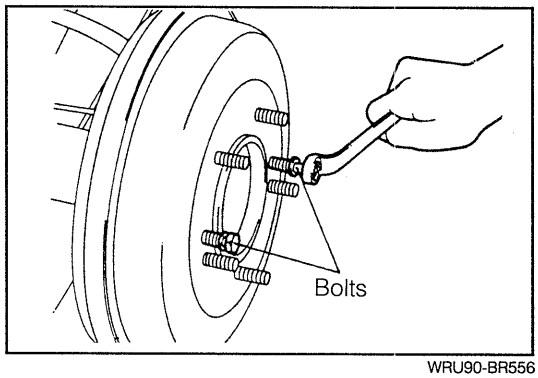
WRU90-BR169

3. Remove the brake drum.
   If any difficulty is encountered in removing the brake drum, install the bolts (M10 × 1.25) to each bolt hole, as indicated in the right figure.



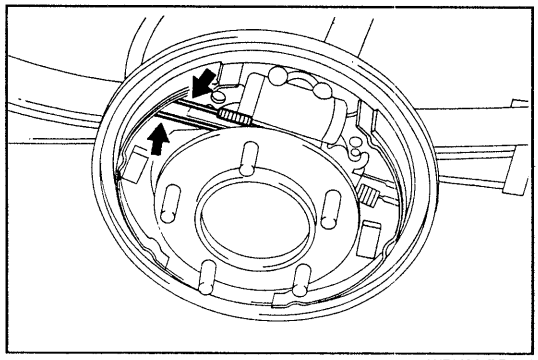
WRU90-BR170

   The brake drum can be detached easily when the bolts are tightened alternately.



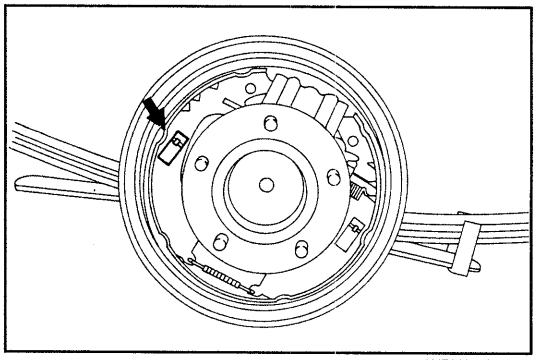
WRU90-BR556

4. Detach the tension springs from the trailing side shoe, using the following SST and remove the tension springs.
   SST: 09921-00010-000



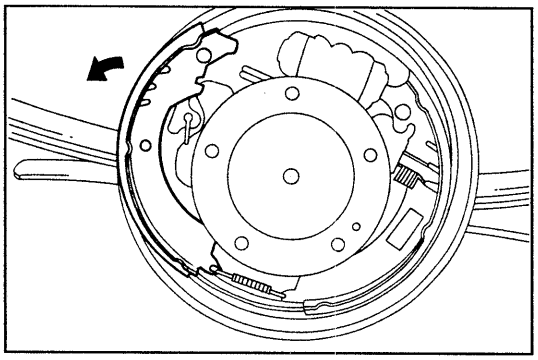
WRU90-BR171

5. Detach the shoe hold down spring pin and hold down spring at the trailing side.



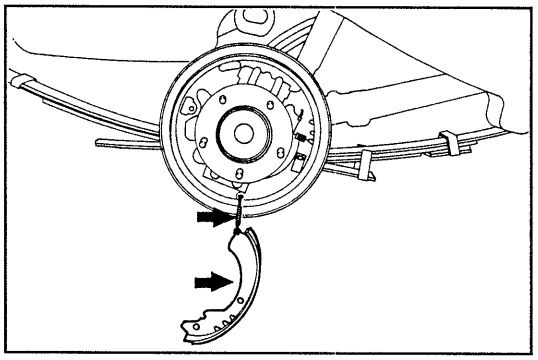
WRU90-BR172

6. Remove the shoe at the trailing side from the backing plate.



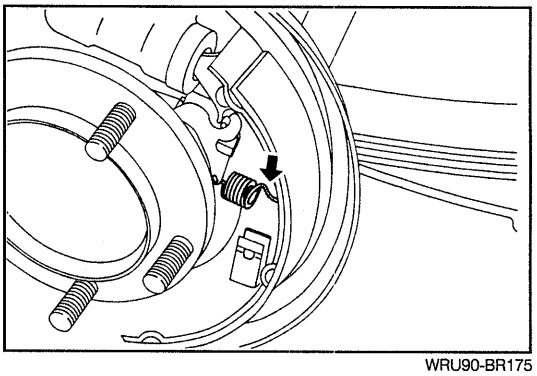
WRU90-BR173

7. Remove the shoe at the trailing side from the tension spring.
8. Remove the tension spring from the shoe at the leading side.



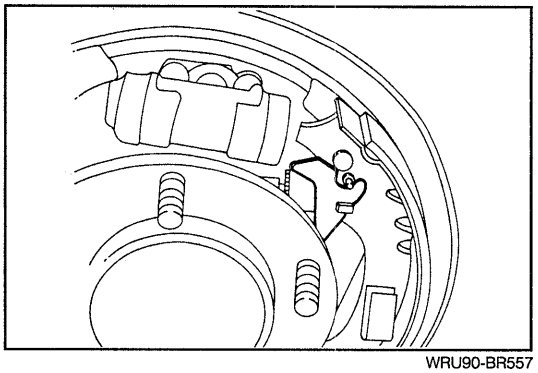
WRU90-BR174

9. Remove the tension spring, using the following SST.
   SST: 09921-00010-000



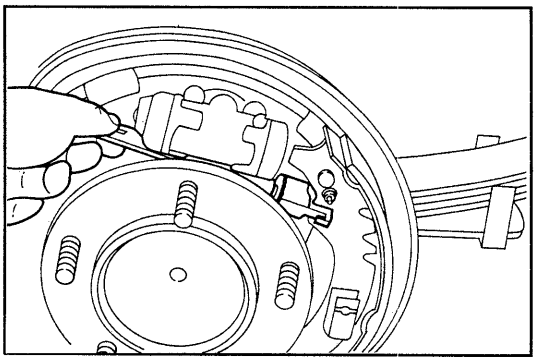
WRU90-BR175

10. Remove the automatic adjusting lever.



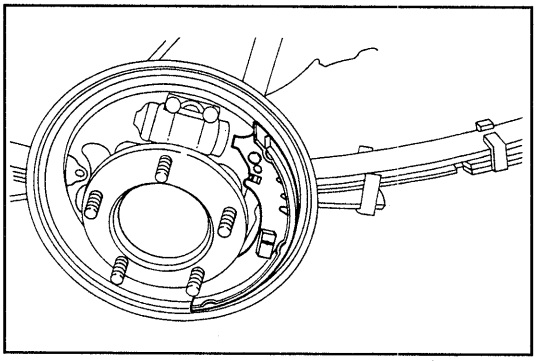
WRU90-BR557

11. Remove the parking brake shoe strut.



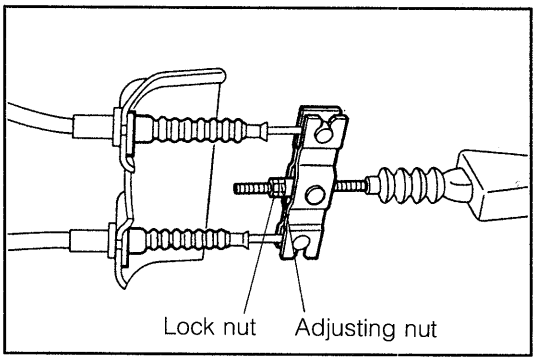
WRU90-BR176

12. Remove the hold-down spring and pin of the leading side shoe.
13. Remove the leading side shoe from the backing plate.



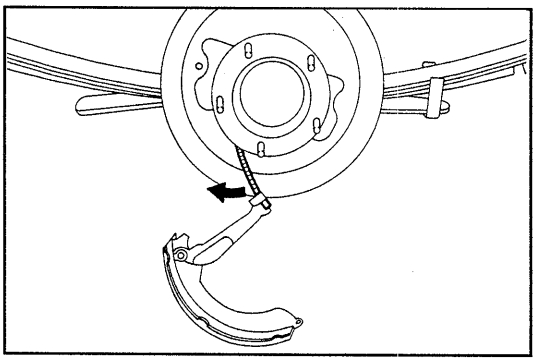
WRU90-BR177

14. Loosen the lock nut of the parking brake lever adjusting nut. Fully loosen the adjusting nut.



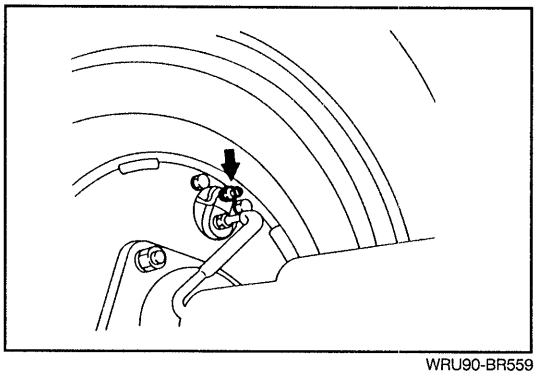
WRU90-BR558

15. Disconnect the parking brake cable from the parking brake shoe lever.



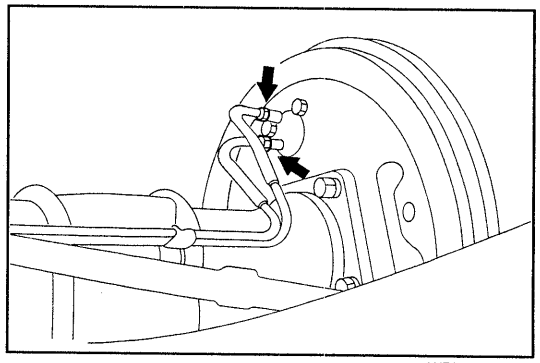
WRU90-BR178

16. Drain the brake fluid by loosening the rear wheel cylinder air bleeder plug.



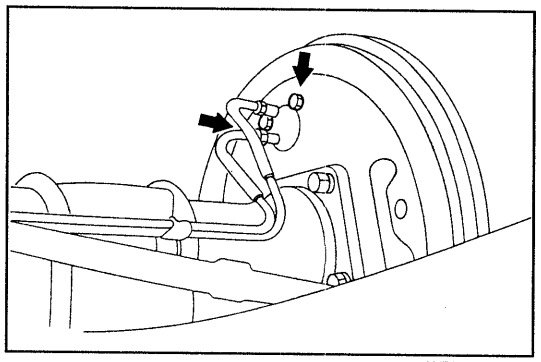
WRU90-BR559

17. Disconnect the brake pipes from the rear wheel cylinder, using a brake pipe spanner.



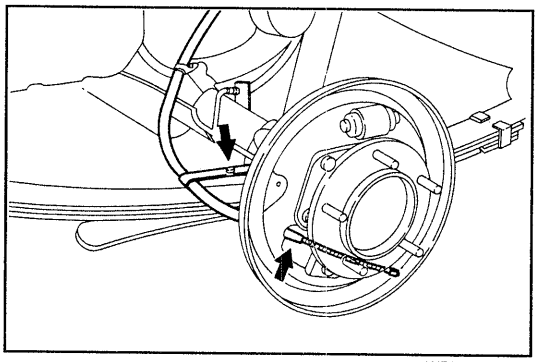
WRU90-BR179

18. Remove the rear wheel cylinder from the backing plate.



WRU90-BR180

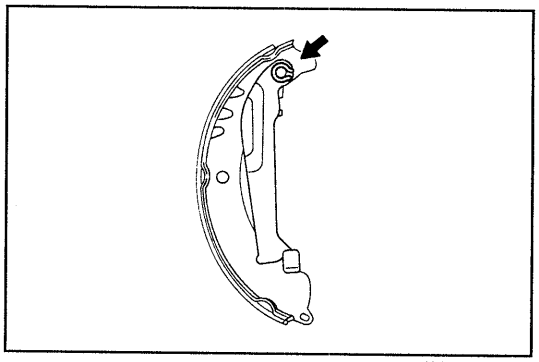
19. Removal of parking brake cable
    (1) Remove the parking brake cable clamp bolt.
    (2) Pull out the parking brake cable from the backing plate by retracting the pawl of the parking brake cable.



WRU90-BR181

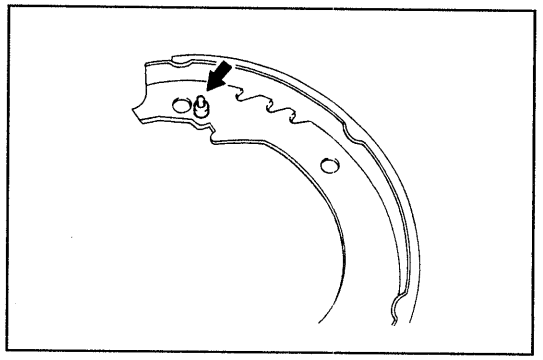
20. Disassembly of leading side shoe
    (1) Remove the "C" washer.
    NOTE:
    - **Never reuse the "C" washer.**

    (2) Remove the parking brake shoe lever and parking brake lever pin.



WRU90-BR184

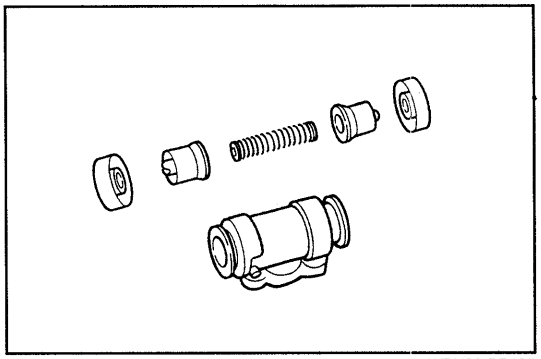
    (3) Remove the washer and automatic adjusting lever pin.



WRU90-BR185

21. Disassembly of rear wheel cylinder
    (1) Remove the wheel cylinder boots.
    (2) Remove the wheel cylinder pistons.
    (3) Remove the piston cup.
    (4) Remove the compression spring.

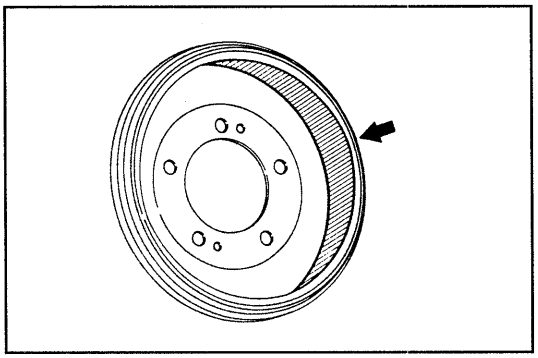
22. Removal of brake backing plate
    (See the Rear Axle section.)



WRU90-BR185

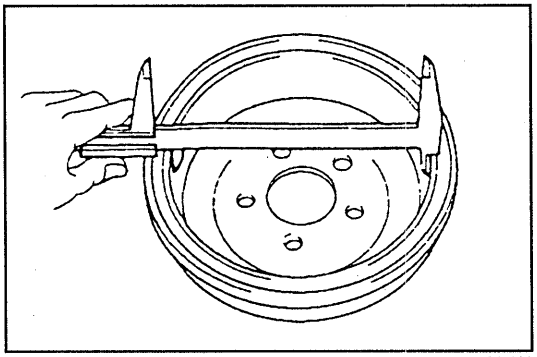
INSPECTION

1. Check of brake drum
    (1) Ensure that the brake shoe contact surface exhibits no defect, such as severe roughness and abnormal wear. If any defect is present, replace the brake drum with a new one.



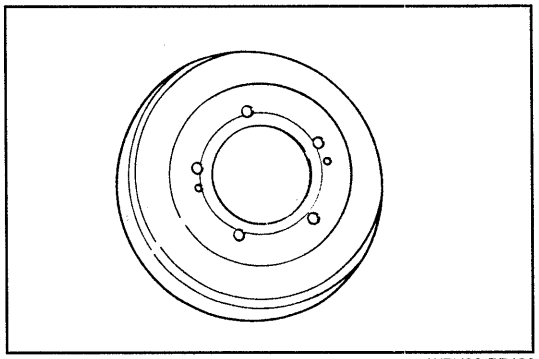
WRU90-BR188

    (2) Measure the inner diameter of the brake drum. Ensure that the measured value is less than the maximum limit. If the measured value is greater than the maximum limit, replace the brake drum with a new one.
    New Part: 254.00 mm (10.0 inches)
    Maximum Limit: 256.00 mm (10.08 inches)



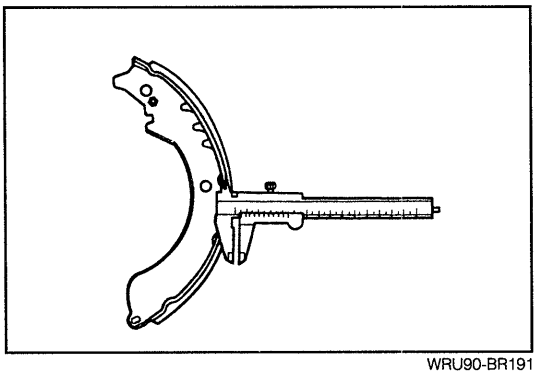
WRU90-BR189

    (3) Ensure that the brake drum exhibits no damage, such as cracks.
    If any damage is present, replace the brake drum.



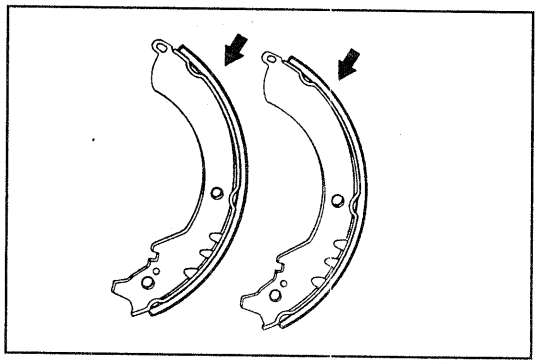
WRU90-BR190

2. Check of brake shoe
    (1) Ensure that the remaining amount of the brake lining exceeds the minimum limit.
    If the remaining amount is less than the minimum limit, replace the brake lining.
    New Part: 5 mm (0.2 inch)
    Minimum Limit: 1 mm (0.04 inch)

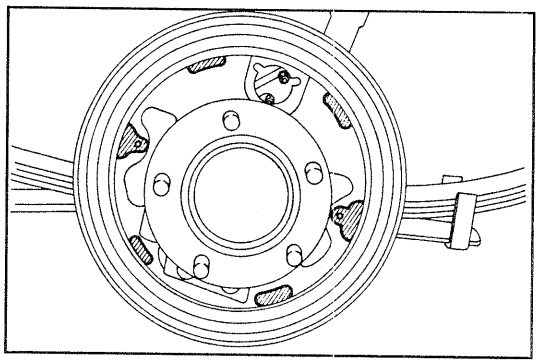


WRU90-BR191

(2) Ensure that each brake shoe contact surface exhibits no defect, such as abnormal wear and/or cracks.
If any defect is present, replace the brake shoe.

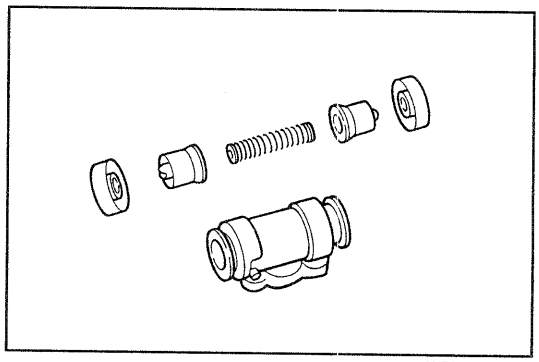

WRU92-BR572

3. Check of brake backing plate
(1) Ensure that the brake shoe contact surface exhibits no abnormal wear.
(2) Ensure that the backing plate exhibits no damage, such as bend.
If any defect is present, replace the backing plate.
(See the Rear Axle section.)

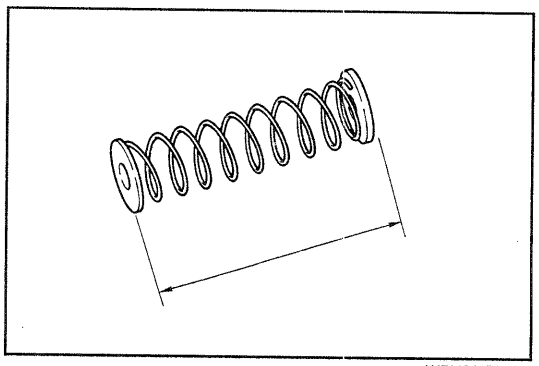

WRU90-BR193

4. Check of wheel cylinder
CAUTION:
- Never reuse the cups and boots.

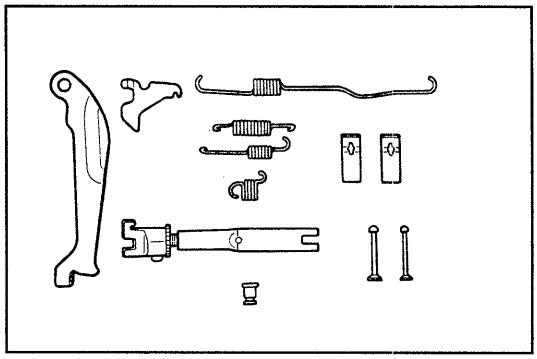
(1) Ensure that the inner surface of the wheel cylinder exhibits no rust and/or scratches.
If any rust or scratch is present, replace the wheel cylinder.
(2) Ensure that no rust or scratch is present at the piston-to-cylinder contact surface and cup-to-cylinder contact surface. Also, ensure that the brake shoe contact surface exhibits no abnormal wear.
If any rust or scratch is present, replace the piston.
(3) Ensure that the compression spring exhibits no damage, such as flattened condition.
If any damage is present, replace the compression spring.


WRU92-BR573

(4) Ensure that the free length of the compression spring is within specified value.
Specified Value: 57 ± 1.5 mm (2.24 ± 0.059 inches)


WRU90-BR195

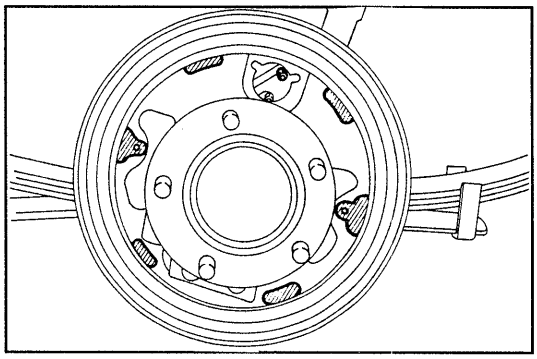
5. Check of related parts
   (1) Ensure that the tension springs exhibit no damage, such as wear and/or flattened condition.
   (2) Ensure that the parking brake strut exhibits no wear and rust. Also, ensure that the screw turns smoothly.
   (3) Ensure that each of the levers, pins and so forth exhibits no damage, such as wear.
   If any defect is present, replace the defective parts.


WRU92-BR574

ASSEMBLY

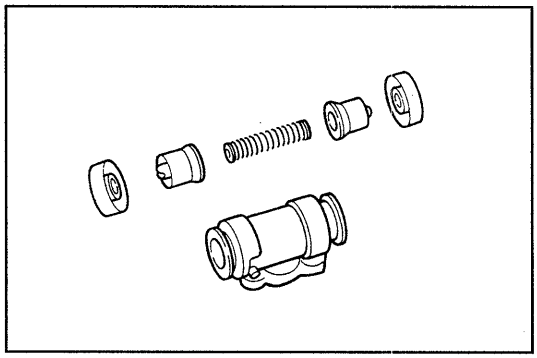
CAUTION:
- **Make sure that no lubricant, such as grease, gets to the brake shoe surfaces.**

1. Clean the backing plate.

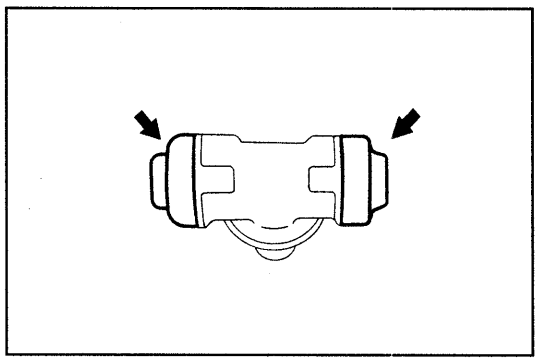

WRU90-BR197

2. Installation of wheel cylinder
   (1) Thinly apply rubber grease to the pistons and cup. Assemble the pistons and cup to the cylinder together with the compression spring.

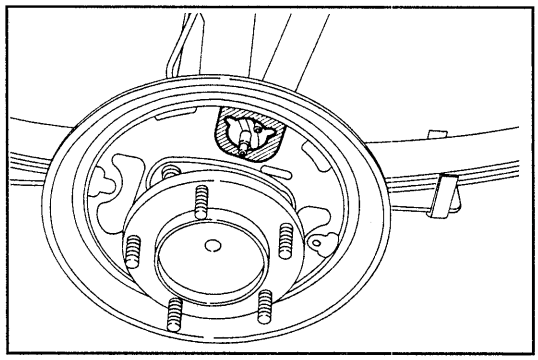
CAUTION:
- **Make sure that the cup is installed in the correct direction. The cup should be assembled in such a way that the protruding surface of the cup faces toward the piston side.**


WRU90-BR198

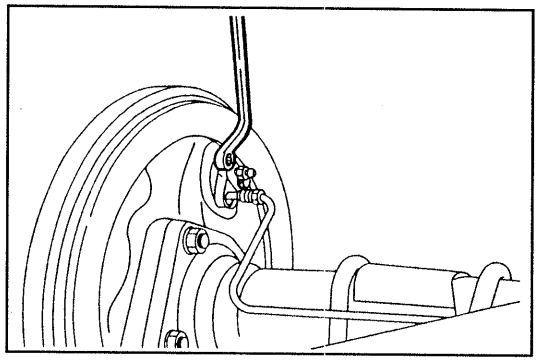
   (2) Install the boot to the cylinder. Assemble the boot to the piston.


WRU90-BR199

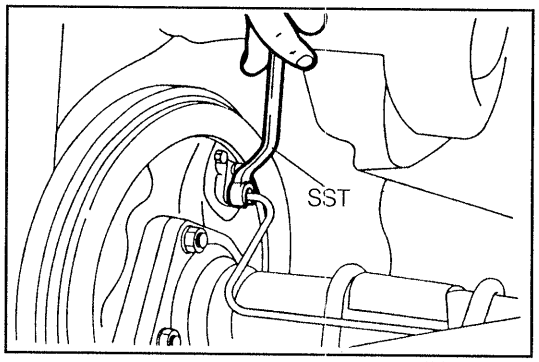
   (3) Apply the Three Bond 1105B to the wheel cylinder installation surface of the backing plate.


WRU90-BR200

(4) Install the wheel cylinder to the backing plate.
Tightening Torque: 0.8 - 1.2 kgf-m (5.8 - 8.7 ft-lb, 7.8 - 11.8 N·m)

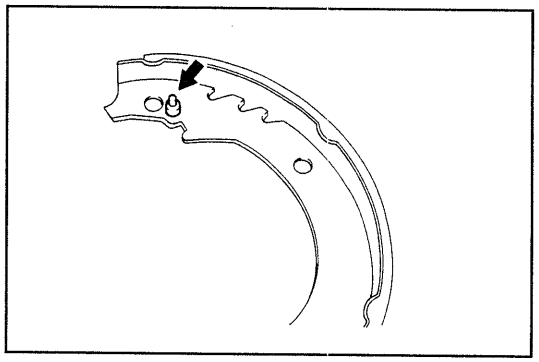

WRU90-BR201

(5) Connect the brake tube to the wheel cylinder.
Tightening Torque: 1.3 - 1.8 kgf-m (9.4 - 13.0 ft-lb, 12.7 - 17.7 N·m)

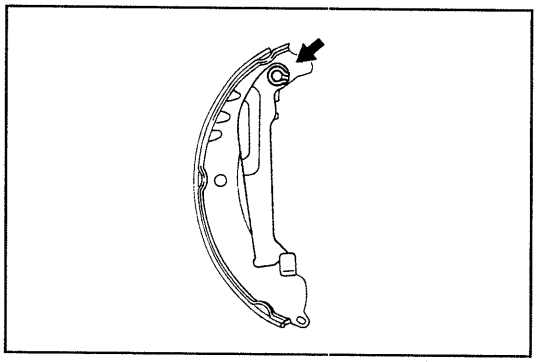


WRU90-BR202

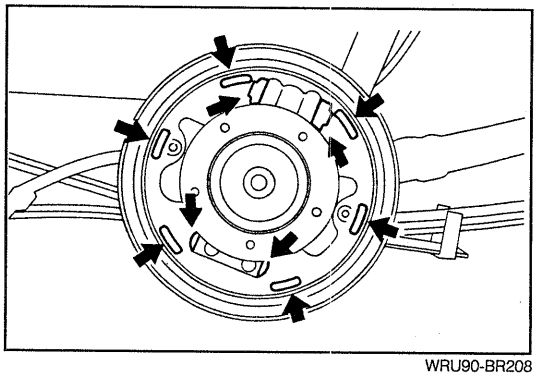
3. Assembly of shoe at leading side
(1) Install the washer and automatic adjusting lever pin.
Tightening Torque: 0.26 - 0.5 kgf-m (1.88 - 3.62 ft-lb, 2.55 - 4.9 N·m)


WRU90-BR203

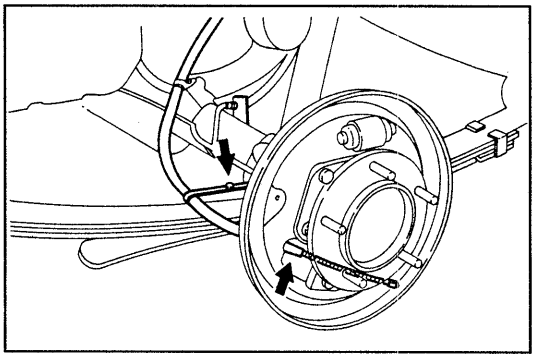
(2) Thinly apply brake grease to the parking brake lever pin. Install the parking brake lever pin to the shoe.
(3) Install the parking brake lever to the pin.
(4) Install a new "C" washer to the parking brake lever pin. Bend the "C" washer by means of pliers, until both ends of the "C" washer come in contact with each other.


WRU90-BR204

4. Assembly of brake shoe at leading side
(1) Apply a thin film of brake grease to the shoe contact surface of the backing plate.
(2) Apply a thin film of brake grease to the pawl section of the wheel cylinder piston.


WRU90-BR208

(3) Connect the parking brake cable to the backing plate.
(4) Install the cable clamp.

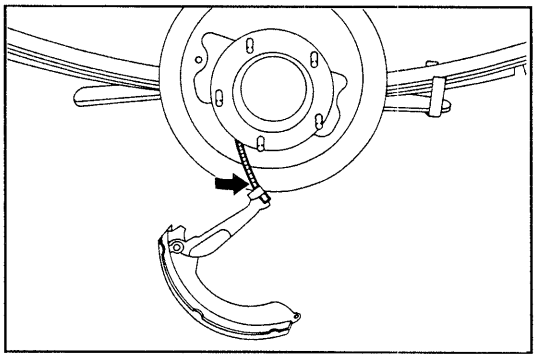


WRU90-BR209

(5) Connect the parking brake cable to the parking brake lever.

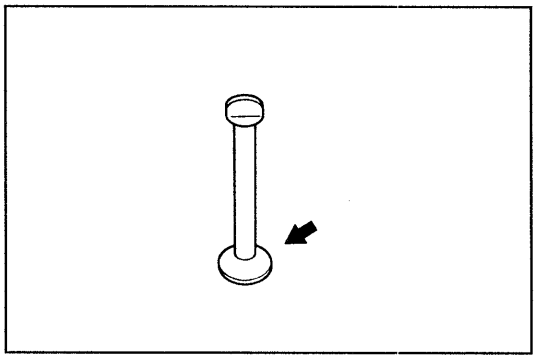
NOTE:

- Be very careful not to bend the parking brake cable by applying undue force to it.



WRU90-BR210

(6) Apply the Three Bond 1105B® to the head section of the hold down spring pin.

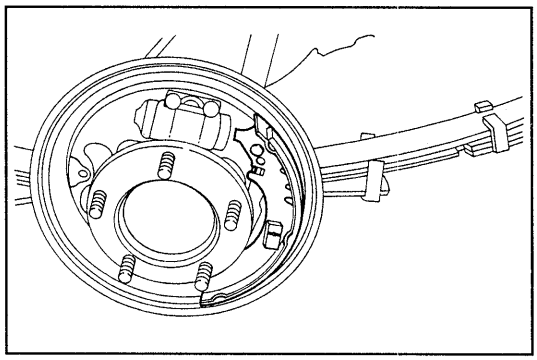


WRU90-BR211

(7) While holding the shoe toward the backing plate, install the shoe to the backing plate by means of the shoe hold down spring pin and shoe hold down spring.

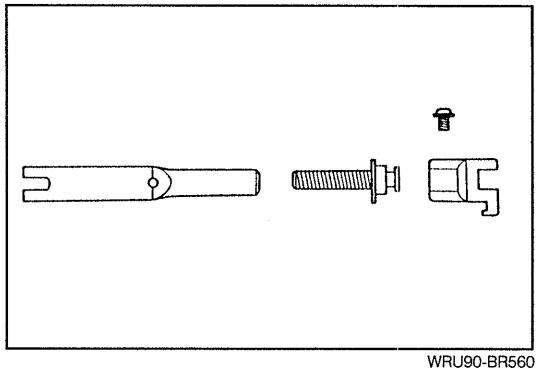
NOTE:

- Make sure that the head of the shoe hold down spring pin is positively fitted into the groove of the shoe hold down spring.



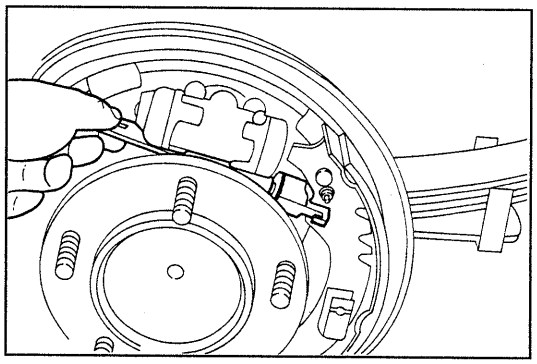
WRU90-BR212

(8) Disassemble the parking brake shoe strut. Apply a thin film of brake grease to each sliding section. Assemble the parking brake shoe strut.
Tightening Torque: 0.26 - 0.4 kgf-m
(1.9 - 2.9 ft-lb, 2.6 - 3.9 N·m)



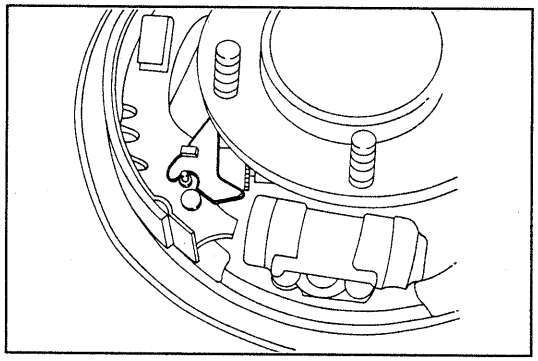
WRU90-BR560

(9) Connect the parking brake shoe strut to the shoe.



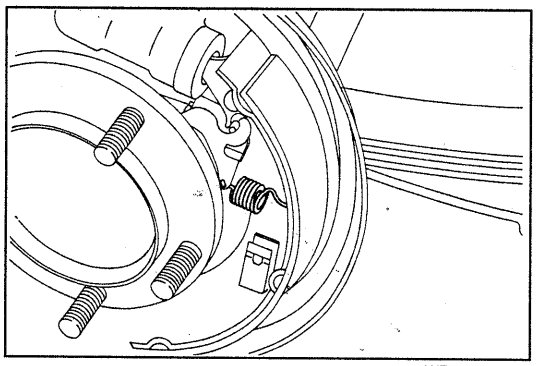
WRU90-BR561

(10) Apply brake grease to each contact surface of the automatic adjusting lever. Install the automatic adjusting lever to the shoe.



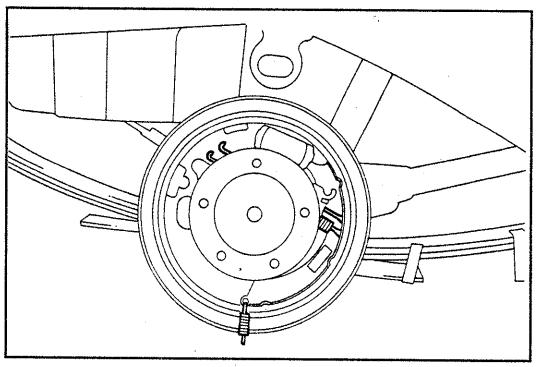
WRU90-BR562

(11) Install the tension spring, using the following SST or a suitable lever.
SST: 09921-00010-000



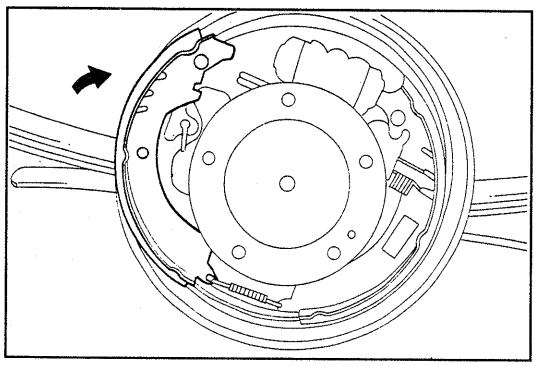
WRU90-BR563

5. Installation of shoe at trailing side
(1) Install the tension spring to the shoe at the leading side.
(2) Install the shoe at the trailing side to the tension spring.



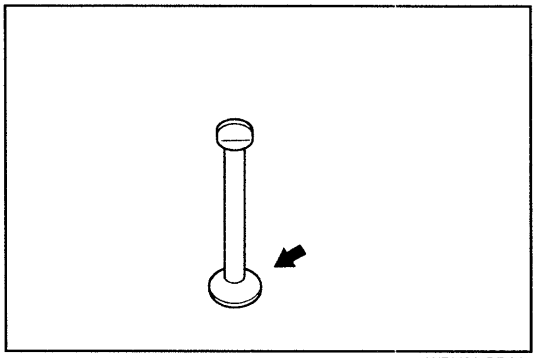
WRU90-BR213

(3) Lift the shoe at the trailing side over the backing plate.



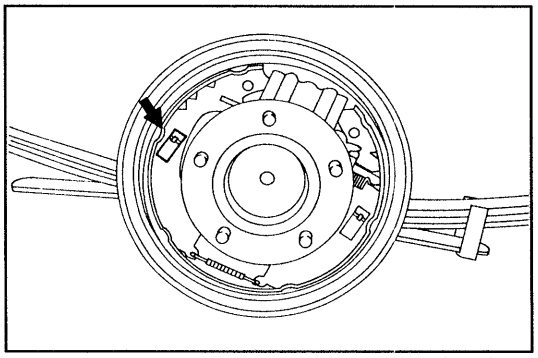
WRU90-BR214

(4) Apply the Three Bond 1105B® to the head section of the shoe hold down spring pin.



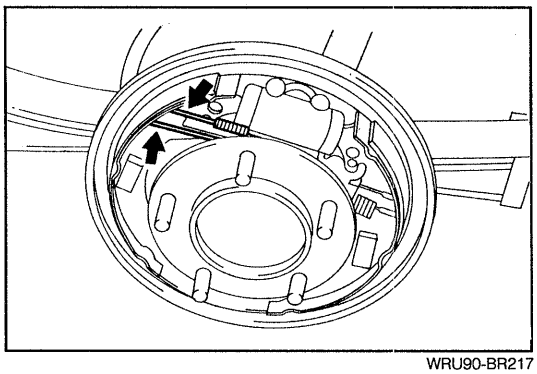
WRU90-BR215

(5) While holding the shoe at the trailing side toward the backing plate, install the shoe to the backing plate by means of the shoe hold down spring pin and shoe hold down spring.



WRU90-BR216

(6) Install the tension springs.



WRU90-BR217

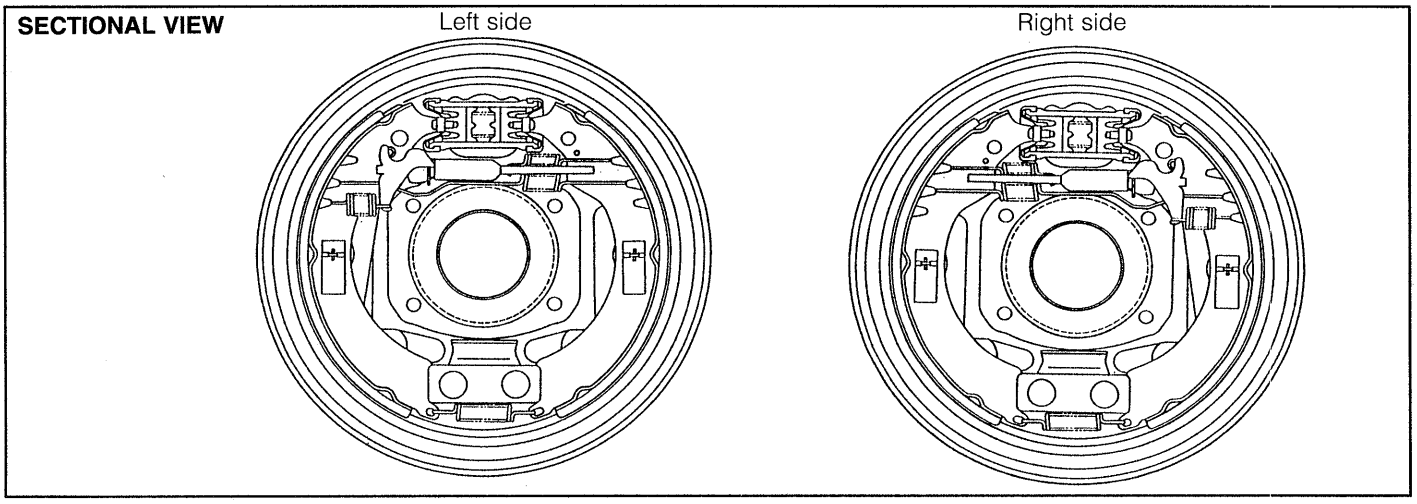
6. Inspection

Be sure to perform the following inspection to assure safe running.

(1) Ensure that the rear brake is mounted correctly as indicated in the figure below.

WARNING:
If the rear brake is not mounted correctly, it may cause brake failure during the running or parking brake failure.

SECTIONAL VIEW



WRU90-BR218

(2) Inspect that lubricant, such as oil or grease, gets on the surface of the rear brake drum or brake lining. If any lubricant gets on the surface, remove the lubricant, using abrasive paper.

WARNING:
- If any lubricant gets on the surface of the rear brake drum or the brake lining, it may cause inadequate braking.

(3) Check that the rear wheel cylinder and brake tube attaching sections are tightened to the specified torque. Inspect the attaching sections for brake fluid leakage.

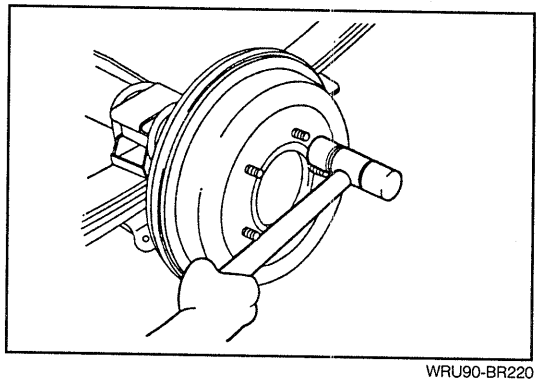
WARNING:
- If the brake tubes are not installed correctly, it may cause brake failure.

7. Installation of brake drum.
Attach the brake drum to the axle shaft. Tap the brake drum lightly into the axle shaft, using a plastic hammer or the like.

WARNING:
- If any lubricant, such as grease or oil, gets on the inner surface of the brake drum, be sure to wipe it off.
- Failure to observe this warning may cause inadequate braking.

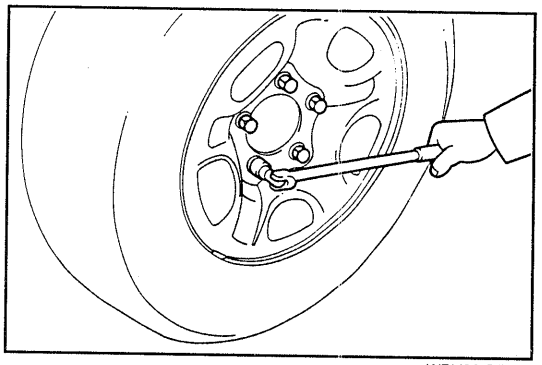
NOTE:
- When assembling the axle shaft, never apply impact strong enough to produce traces inside the bearing. Moreover, be very careful not to damage the oil seal provided at the housing end.
- If paint was removed during the installation, be sure to apply chassis black to such areas to prevent rust formation. However, no paint should be applied to the threaded portions.

WRU92-BR575



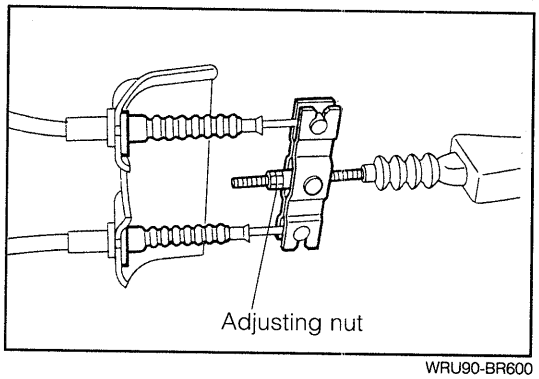
WRU90-BR220

8. Install the wheel. Tighten the attaching bolts to the specified torque evenly over two or three stages in the sequence indicated in the right figure.
Tightening Torque: 9.0 - 12 kgf-m
(65.1 - 87.0 ft-lb, 88.3 - 118 N·m)



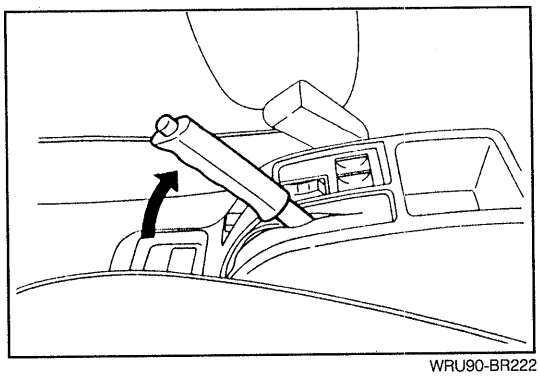
WRU90-BR221

9. Tighten the parking lever adjusting nut about halfway.



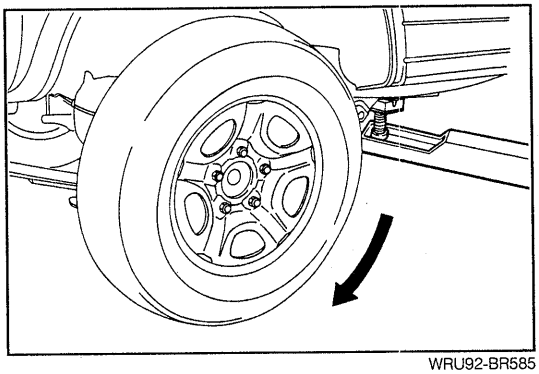
WRU90-BR600

10. Repeat the pulling/returning operation of the parking brake lever, until no clicking noise is emitted from the brake drum.



WRU90-BR222

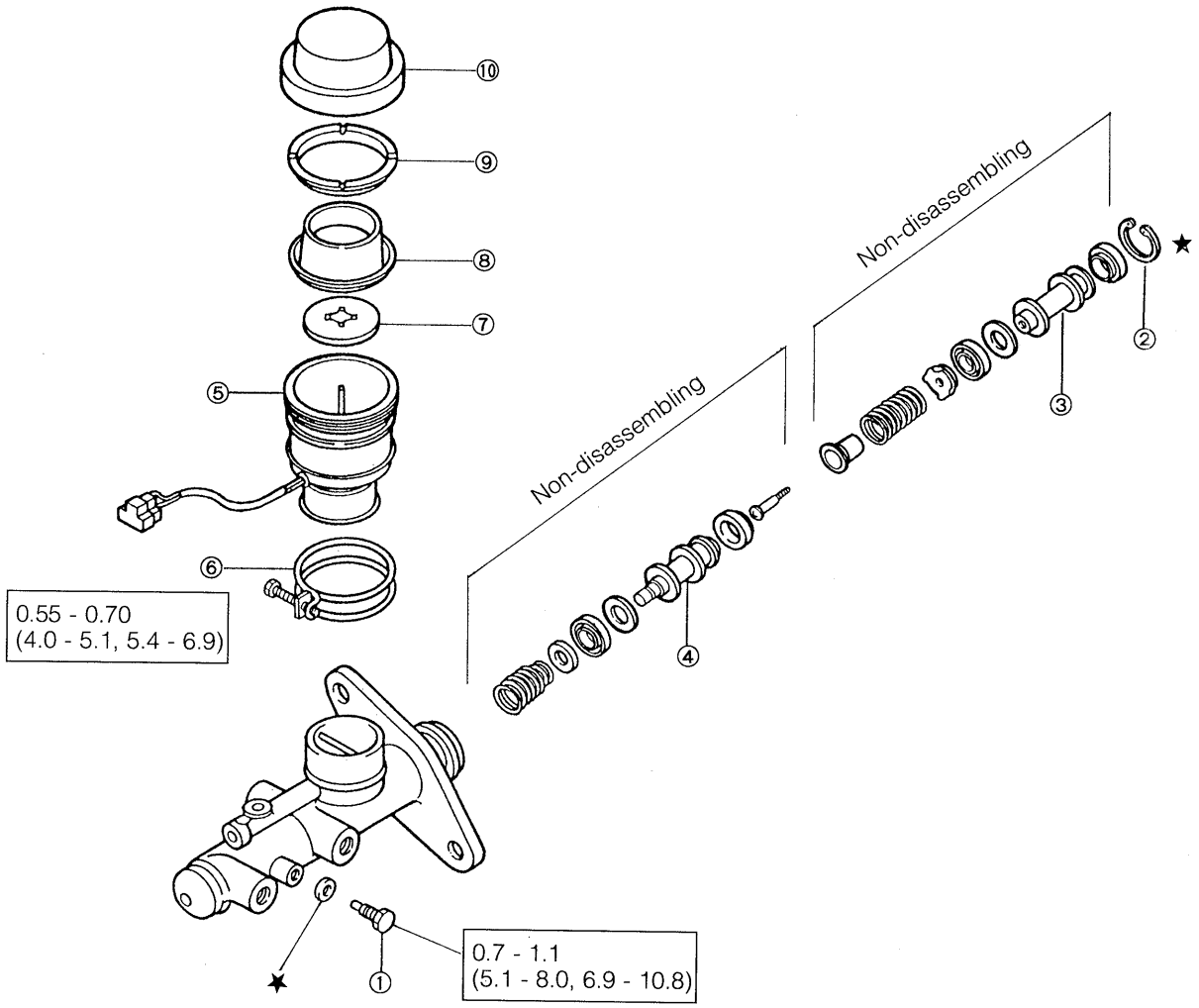
11. Turn the wheel. At this time, ensure that the brake is not dragging.
12. Perform brake air bleeding.
    (See page BR–18.)
13. Perform the brake fluid leakage check.
    (See page BR–15.)
14. Perform the brake test, using a brake tester.
15. Adjust the height of the parking brake lever.
    (See page BR–80.)



WRU92-BR585

BRAKE MASTER CYLINDER

COMPONENTS



□ : **Tightening torque**
Unit : kgf-m (ft-lb, N·m)
★ : **Non-reusable parts**

① Set bolt
② Snap ring
③ Piston master cylinder No.1
④ Piston master cylinder No.2
⑤ Hose clamp
⑥ Master cylinder reservoir subassembly
⑦ Master cylinder reservoir float
⑧ Reservoir diaphragm
⑨ Spacer
⑩ Reservoir filler cap

WRU90-BR224

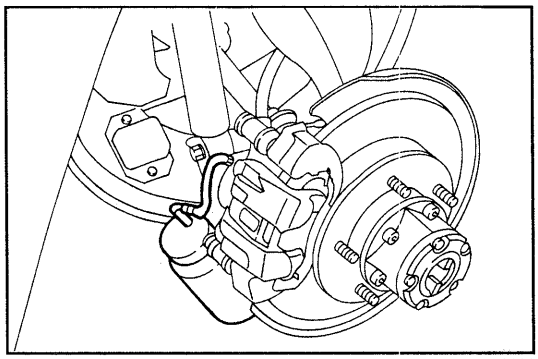
REMOVAL

CAUTION:

- If the brake fluid is spilled inadvertently over the paint-finish surface of the vehicle, quickly wipe off the brake fluid. In addition, wipe the affected area, using white gasoline or the like.

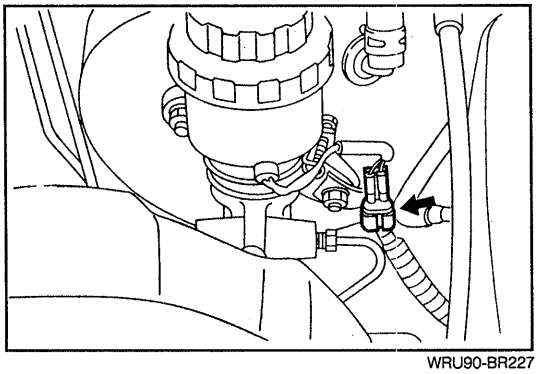
WRU90-BR225

1. Drain the brake fluid from the rear and front wheel cylinder.



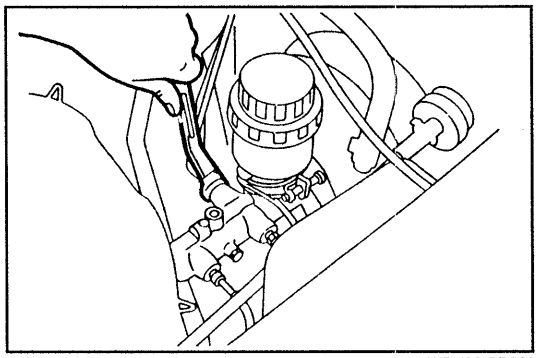
WRU90-BR226

2. Disconnect the brake fluid level switch connector.



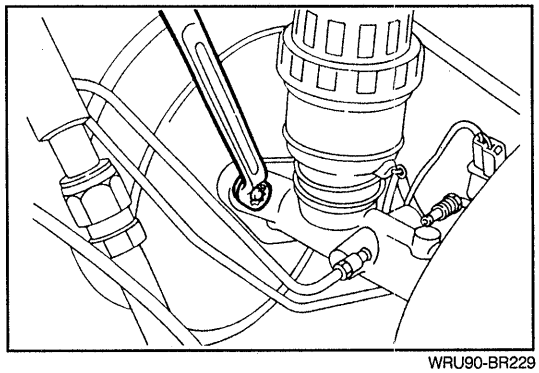
WRU90-BR227

3. Disconnect the brake tubes from the master cylinder, using a flare nut wrench.



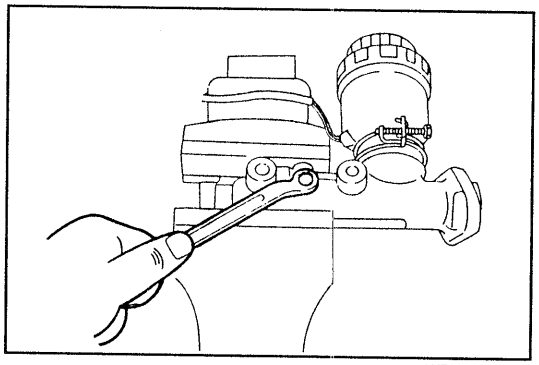
WRU90-BR228

4. Remove the brake master cylinder from the brake booster by removing the brake master cylinder attaching nuts.

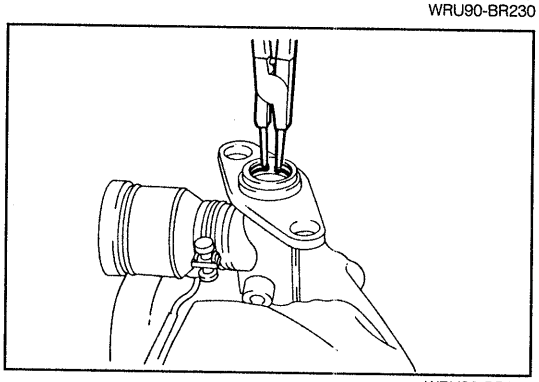


WRU90-BR229

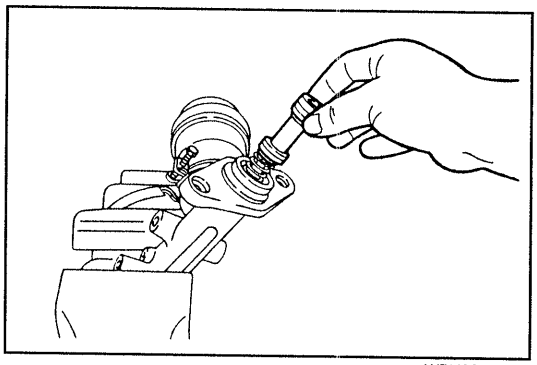
5. Remove the piston set bolt.
   NOTE:
   - Do not apply excessive force when installing the cylinder to a vise.


WRU90-BR230

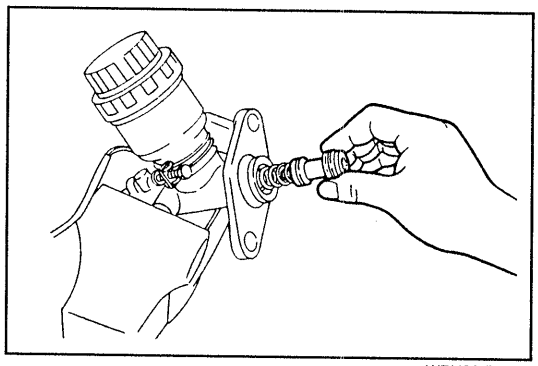
6. While holding the piston by hand, remove the snap ring.


WRU90-BR231

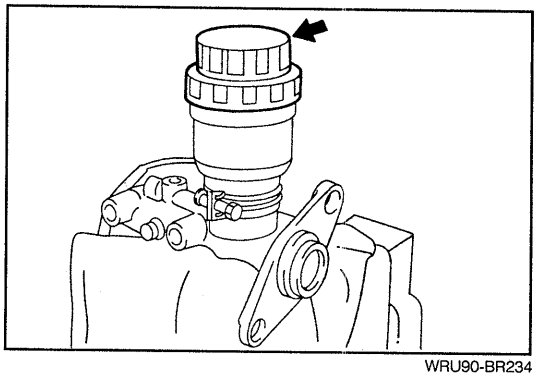
7. Remove the brake master cylinder piston No.1.


WRU90-BR232

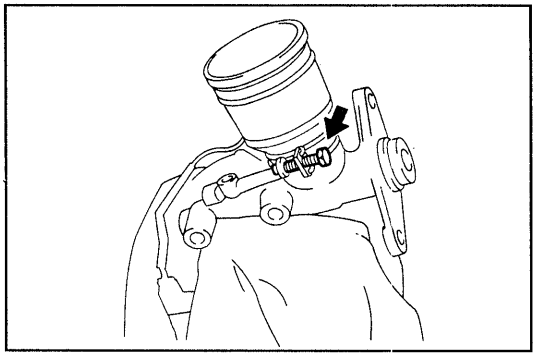
8. Remove the brake master cylinder piston No.2 by blowing air from the brake pipe connecting hole.


WRU90-BR233

9. Remove the reservoir filler cap. Take out the float.

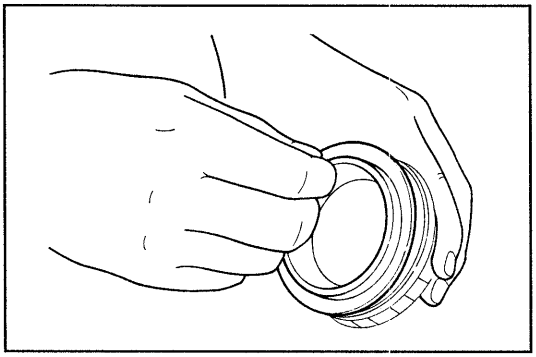

WRU90-BR234

10. Remove the reservoir tank by loosening the reservoir tank hose clamp.



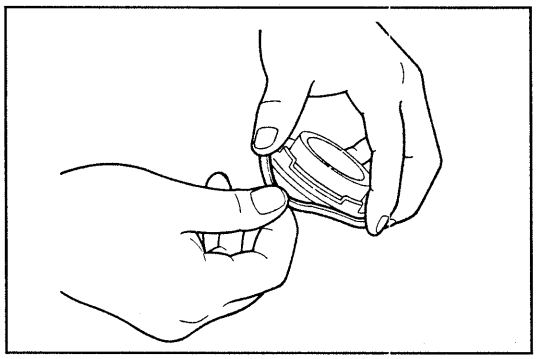
WRU90-BR235

11. Remove the spacer together with the reservoir diaphragm from the reservoir filler cap.



WRU90-BR564

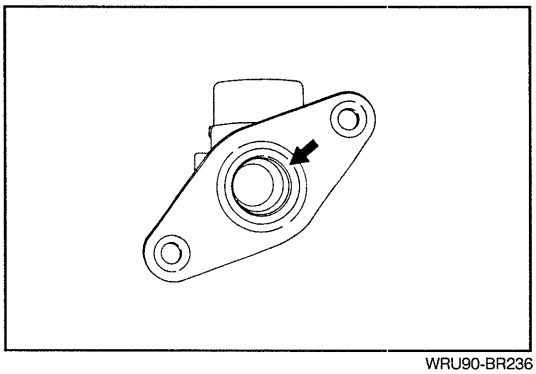
12. Remove the reservoir diaphragm from the spacer.



WRU90-BR565

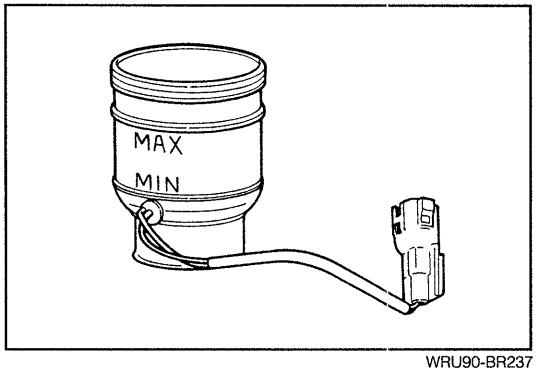
INSPECTION

1. Check of master cylinder
   (1) Ensure that the inner surface of the master cylinder exhibits no scratches.
   (2) Ensure that each part of the master cylinder exhibits no damage, such as deformation.



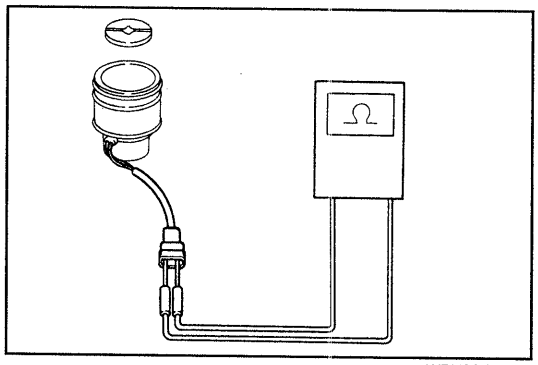
WRU90-BR236

2. Check of reservoir tank
   (1) Ensure that the reservoir tank exhibits no damage, such as cracks.



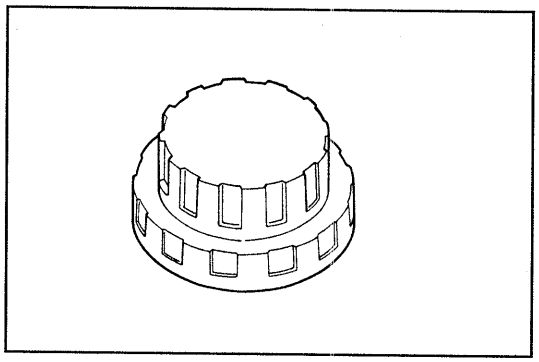
WRU90-BR237

(2) Ensure that continuity exists between the terminals of the connector when the float is put in the reservoir tank. Also, ensure that no continuity exists when the float is taken out from the reservoir tank.
If not, replace the reservoir tank.

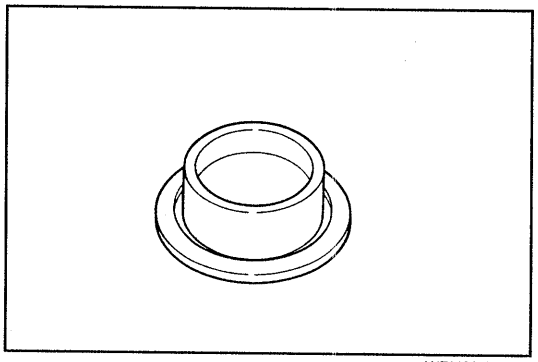


WRU90-BR238

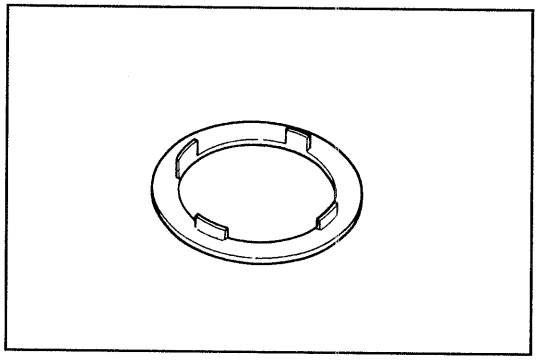
3. Inspection of reservoir tank cap
(1) Ensure that the reservoir tank exhibits no damage, such as cracks.


WRU90-BR566

(2) Ensure that the reservoir diaphragm exhibits no damage, such as cracks and holes.

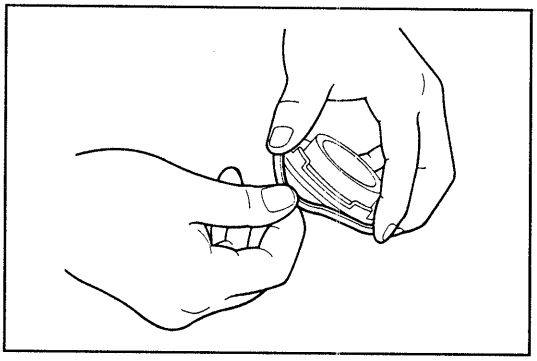

WRU90-BR567

(3) Ensure that the spacer exhibits no damage, such as cracks.

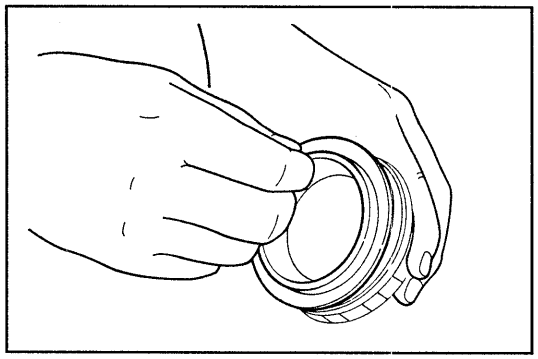

WRU90-BR568

ASSEMBLY

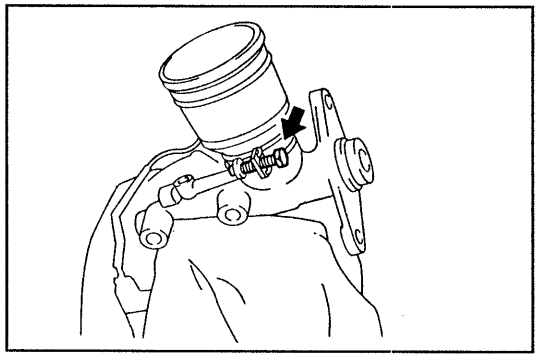
1. Install the reservoir diaphragm to the spacer.
NOTE:
- **Be sure to fit the reservoir diaphragm to the recessed section of the spacer.**


WRU90-BR569

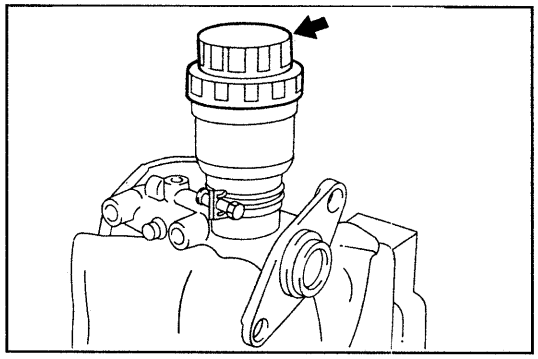
2. Install the spacer together with the reservoir diaphragm to the reservoir tank cap.
   NOTE:
   - Fit the pawl section of the spacer into the reservoir tank cap securely.


WRU90-BR570

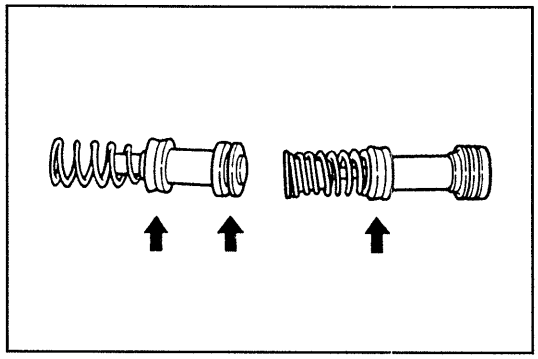
3. Install the reservoir tank to the master cylinder. Tighten the clamp.
   Tightening Torque:
   0.55 - 0.70 kgf-m (4.0 - 5.1 ft-lb, 5.4 - 6.9 N·m)


WRU90-BR239

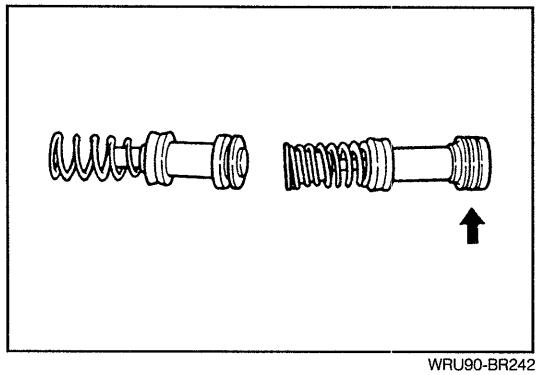
4. Insert the float in the reservoir tank. Install the reservoir tank cap.


WRU90-BR240

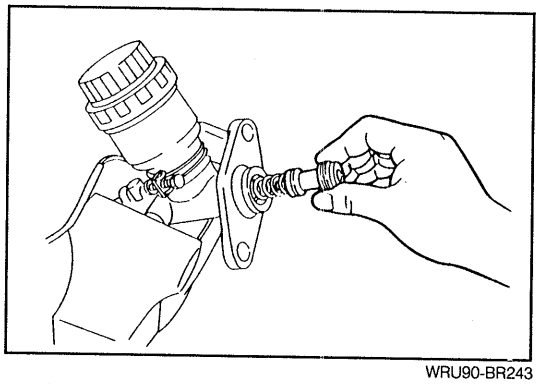
5. Apply brake fluid to the piston cups indicated in the right figure.


WRU90-BR241

6. Apply rubber grease to the piston cups indicated in the right figure.

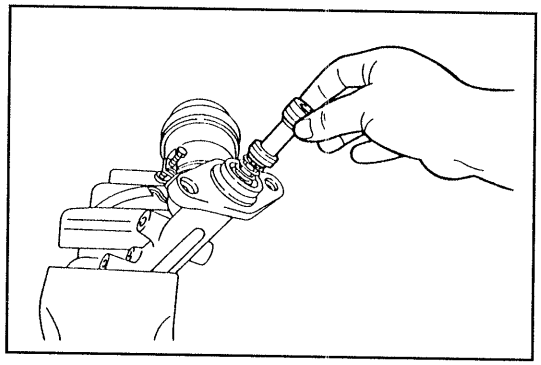

WRU90-BR242

7. Insert the piston No.2 into the master cylinder.



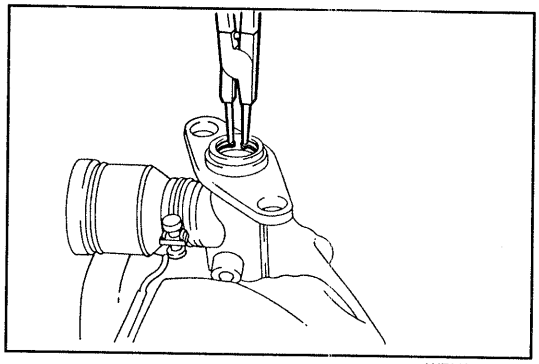
WRU90-BR243

8. Insert the piston No.1 into the master cylinder.



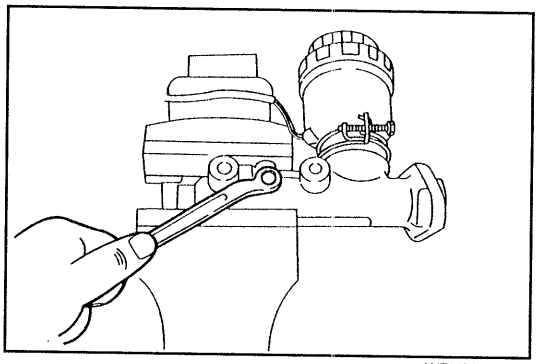
WRU90-BR244

9. While holding the piston No.1 by hand, install a new snap ring.
   NOTE:
   - **Never reuse the snap ring.**



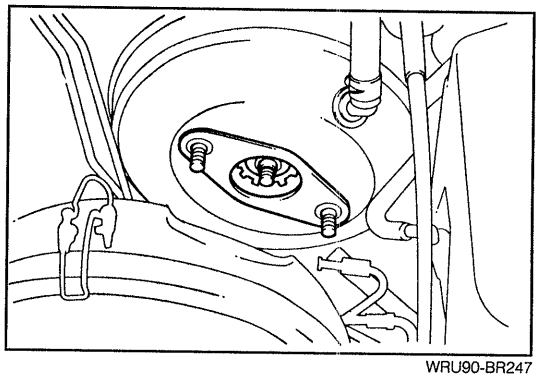
WRU90-BR245

10. Install the set bolt to the master cylinder with a new gasket interposed.
    Tightening Torque:
    0.7 - 1.1 kgf-m (5.1 - 8.0 ft-lb, 6.9 - 10.8 N·m)



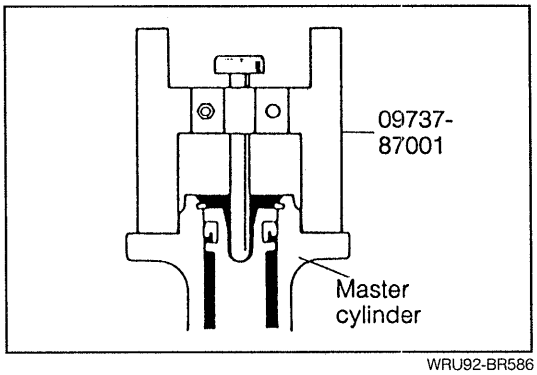
WRU90-BR246

11. Ensure that the gasket at the brake booster side exhibits no damage.
    If any damage is present, replace the gasket.



WRU90-BR247

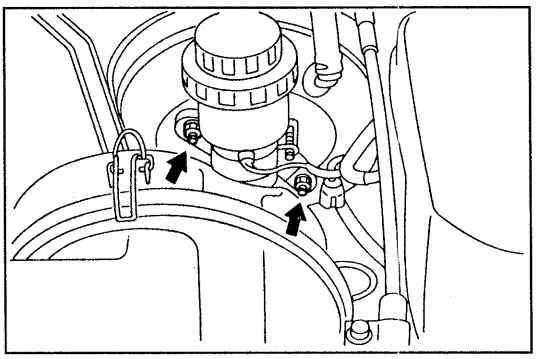
12. Adjust the clearance between the brake booster push rod and the master cylinder.
(See page BR–75.)



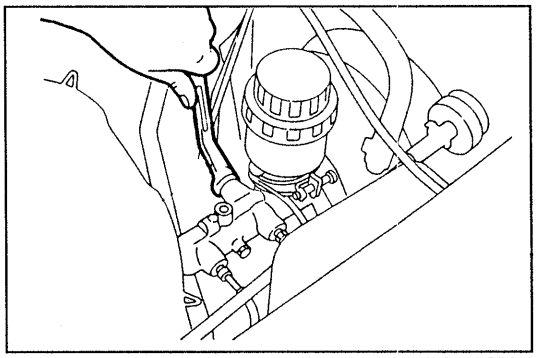
WRU92-BR586

13. Install the master cylinder to the brake booster. Tighten the attaching nuts evenly to the specified torque over two or three stages.
Tightening Torque: 1.04 - 1.56 kgf-m
(7.52 - 11.3 ft-lb, 10.2 - 15.3 N·m)

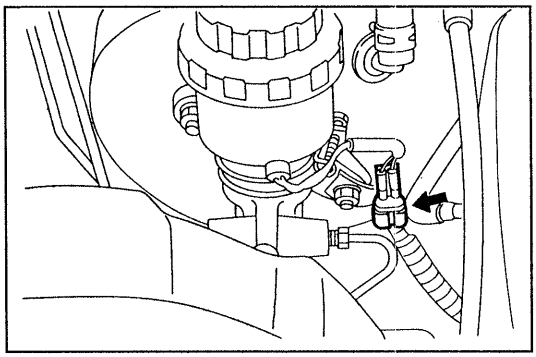
NOTE:
- The installation section at the vehicle exterior side should be tightened together with the connector bracket of the brake fluid level switch.


WRU90-BR249

14. Connect the brake tubes to the master cylinder. Tighten the flare nut to the specified torque, using a flare nut wrench.
Tightening Torque: 1.3 - 1.8 kgf-m
(9.4 - 13.0 ft-lb, 12.7 - 17.7 N·m)

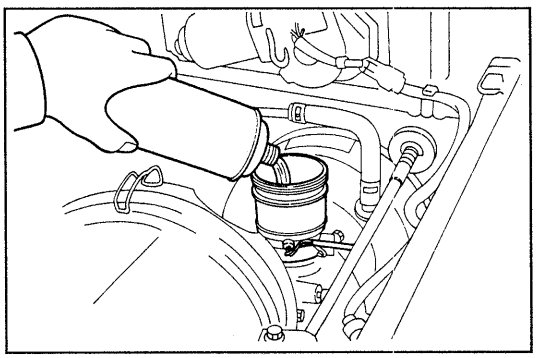

WRU90-BR250

15. Reconnect the brake fluid level switch connector.


WRU90-BR251

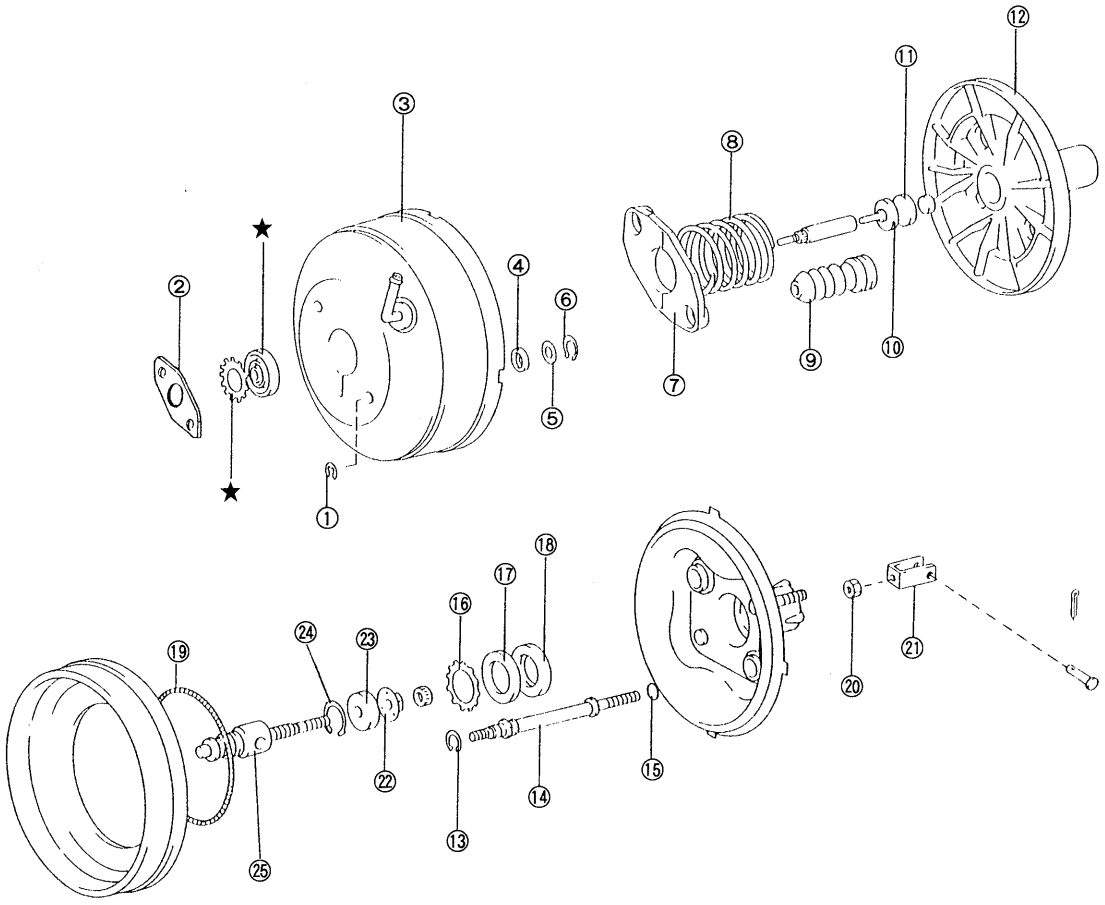
16. Fill brake fluid to the reservoir tank.
Specified Brake Fluid: DOT 3 or SAEJ - 1703

17. Perform air bleeding.
(See page BR–18.)
18. Ensure that no brake fluid leakage is present.
19. Check and adjust the brake pedal height.
(See page BR–20.)


WRU92-BR587

BRAKE BOOSTER

COMPONENTS



★ : **Non-reusable parts**

① "E" ring
② Gasket
③ Booster body
④ Tie rod seal
⑤ Seal plate
⑥ Snap ring
⑦ Spring retainer
⑧ Booster spring
⑨ Tie rod boot
⑩ Reaction ring
⑪ Reaction rubber
⑫ Booster piston
⑬ Snap ring
⑭ Tie rod
⑮ "O" ring
⑯ Bush stopper
⑰ Bush
⑱ Piston seal
⑲ Diaphragm band
⑳ Nut
㉑ Clevis master cylinder push rod
㉒ Booster operating rod adjusting nut
㉓ Element
㉔ Booster piston stop ring
㉕ Poppet valve complete

WRU90-BR253

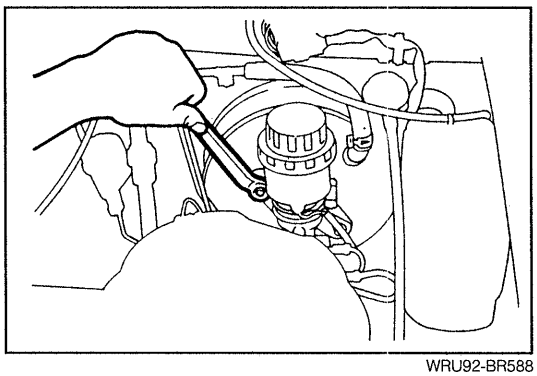
REMOVAL

NOTE:

- If any brake fluid gets on the painting surface, immediately wipe off the brake fluid and wash the painting surface with water.

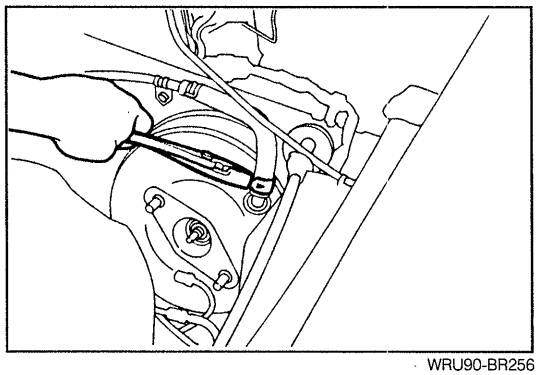
WRU90-BR254

1. Remove the master cylinder.
   (See page BR–54.)



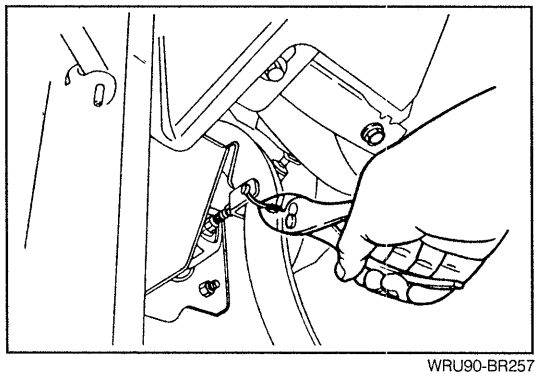
WRU92-BR588

2. Disconnect the brake booster hose from the brake booster.



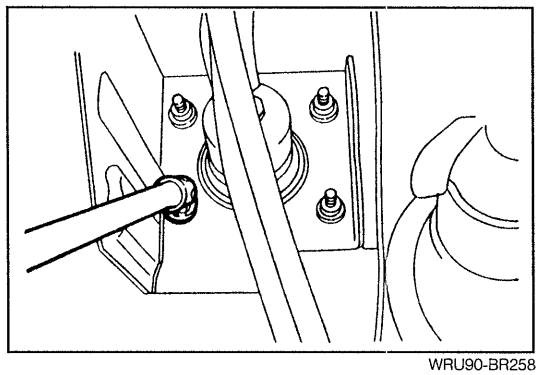
WRU90-BR256

3. Remove the cotter pin. Remove the clevis pin.



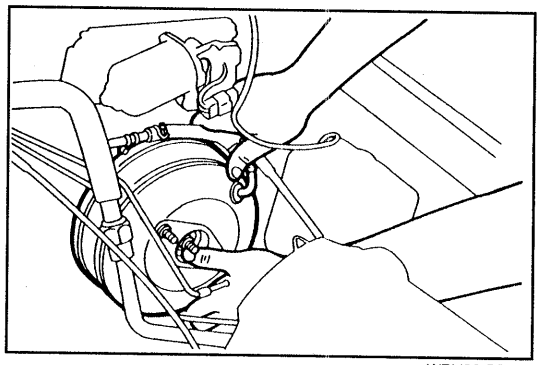
WRU90-BR257

4. Remove the brake booster attaching nuts.

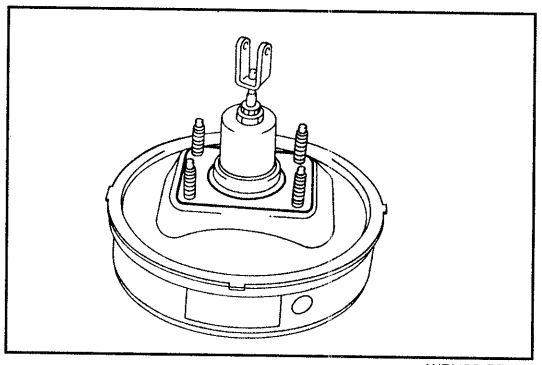


WRU90-BR258

5. Remove the brake booster from the dash panel.
   CAUTION:
   - Be very careful not to damage the brake tubes.

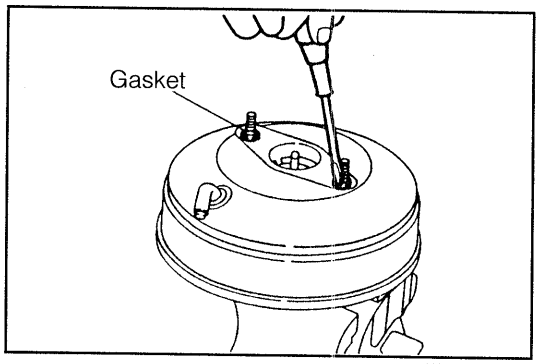

WRU90-BR259

6. Remove the gasket from the brake booster.


WRU90-BR260

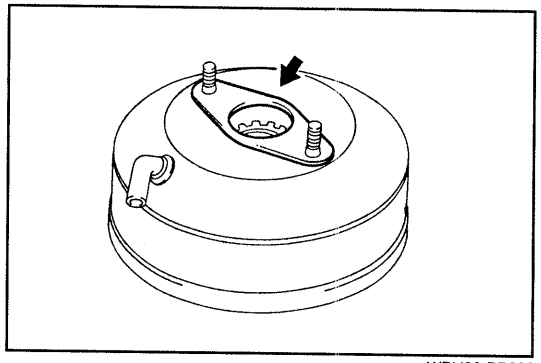
DISASSEMBLY

1. Remove the "E" ring.
   NOTE:
   - Never reuse the "E" ring.



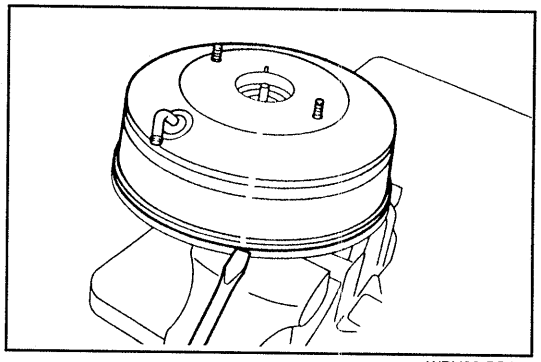
WRU90-BR261

2. Remove the gasket.
   NOTE:
   - Never reuse the gasket.

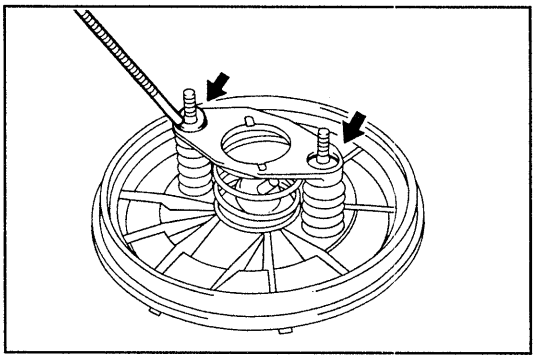

WRU90-BR262

3. Remove the booster body from the booster housing, using a standard screwdriver or the like.
   NOTE:
   - Be very careful not to deform the booster body and booster housing.

4. Remove the booster piston rod.

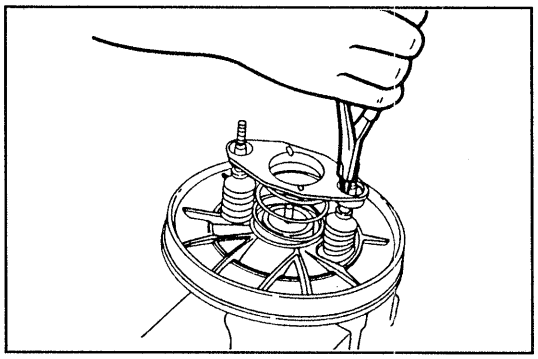

WRU90-BR263

5. Remove the tie rod seal, using a standard screwdriver or the like.
   NOTE:
   - Never reuse the tie rod seal.

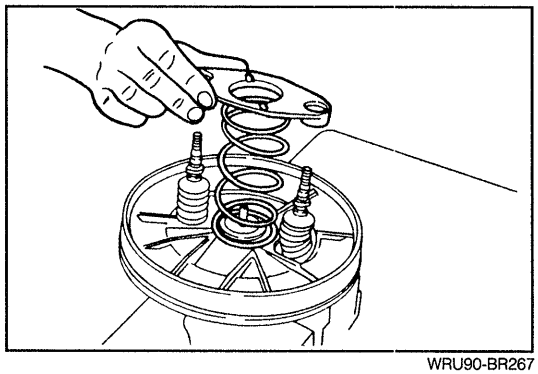

WRU90-BR264

6. Remove the tie rod seal plate, using a magnet finger or the like.

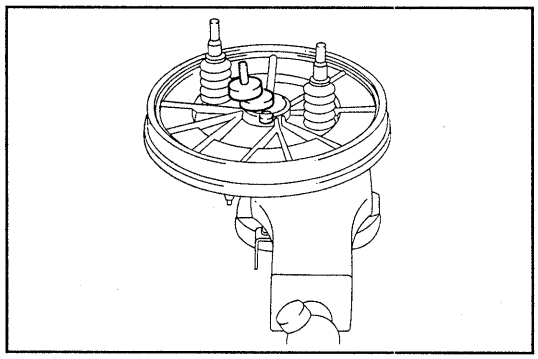
7. While holding the spring retainer, remove the snap rings.


WRU90-BR266

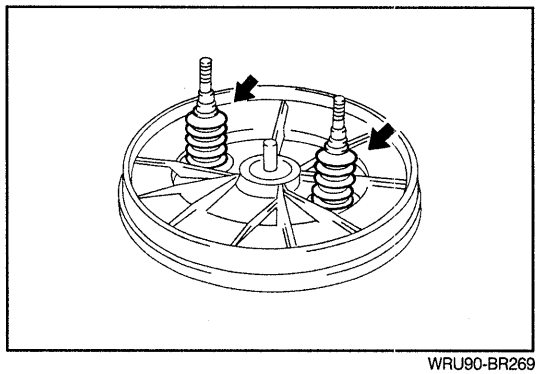
8. Remove the spring retainer and booster spring from the booster piston.


WRU90-BR267

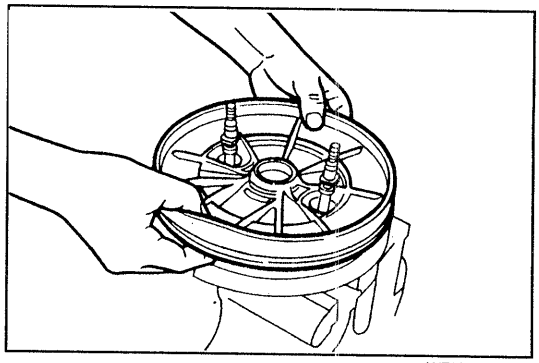
9. Remove the reaction ring, rubber and reaction plate.


WRU90-BR268

10. Remove the tie rod boot from the tie rod and piston.

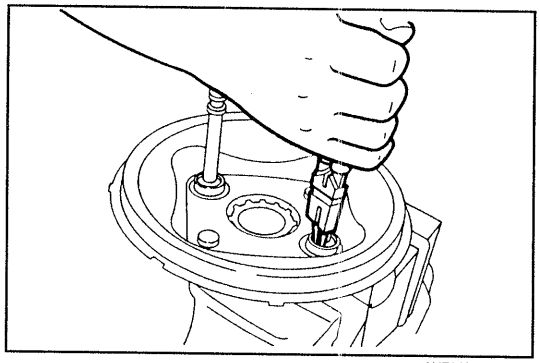

WRU90-BR269

11. Remove the booster piston from the booster housing.



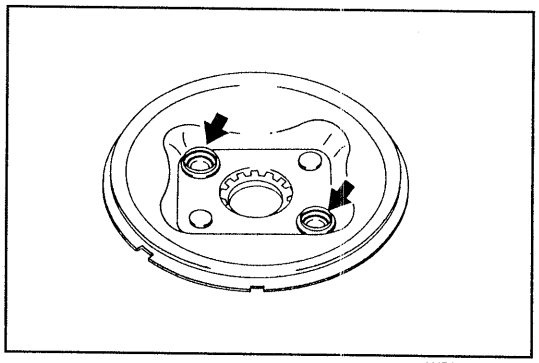
WRU90-BR270

12. Remove the snap rings. Remove the tie rod from the booster housing.



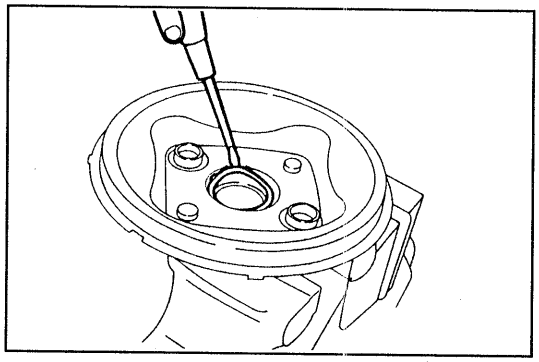
WRU90-BR271

13. Remove the "O" ring from the booster housing.
    NOTE:
    - Never reuse the "O" ring.



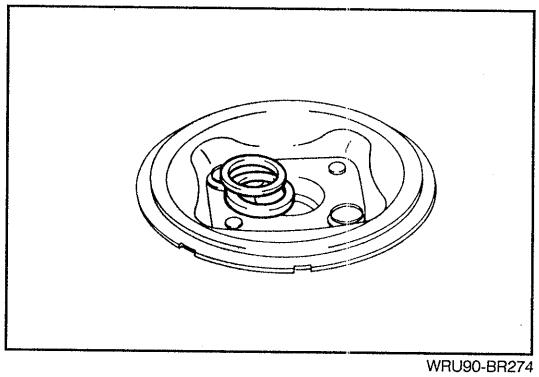
WRU90-BR272

14. Remove the bush retainer.
    NOTE:
    - Never reuse the bush retainer.



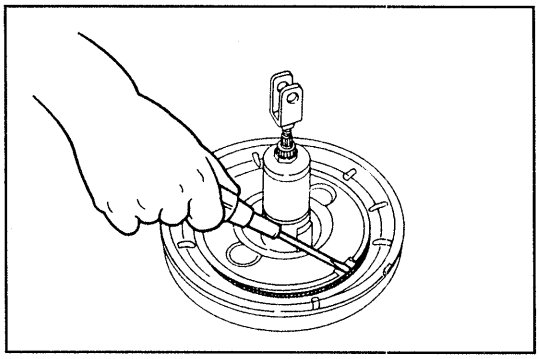
WRU90-BR273

15. Remove the bush and piston seal from the booster housing.
    NOTE:
    - Never reuse the piston seal.



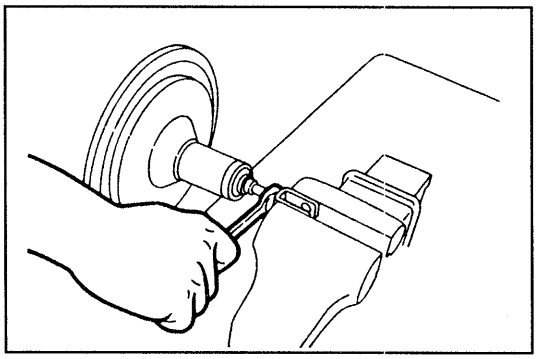
WRU90-BR274

16. Remove the diaphragm band. Remove the diaphragm.



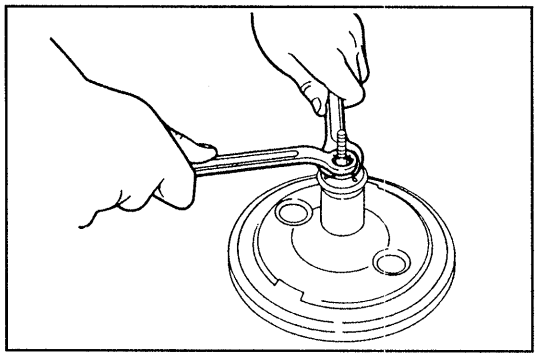
WRU90-BR275

17. Loosen the lock nut. Remove the clevis and lock nut.



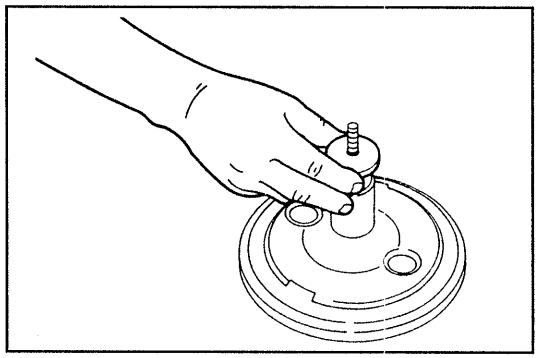
WRU90-BR276

18. Loosen the lock nut. Remove the lock nut and adjusting nut.



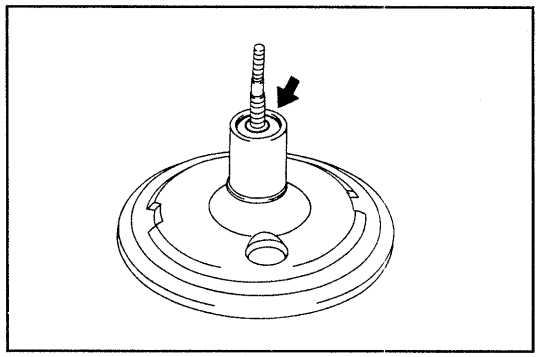
WRU90-BR277

19. Remove the element from the booster piston.



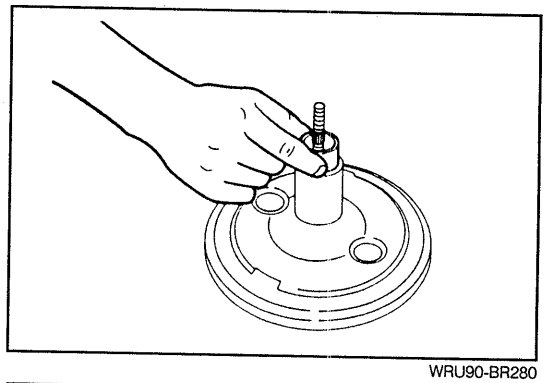
WRU90-BR278

20. Remove the booster piston stop ring.



WRU90-BR279

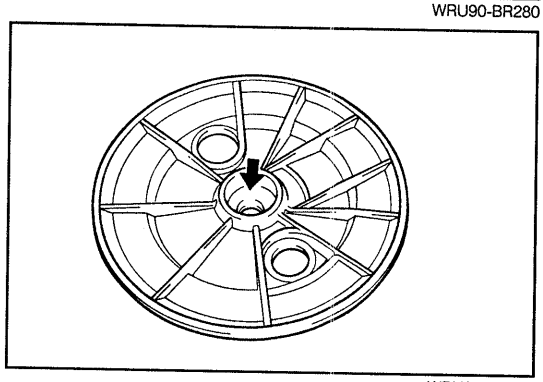
21. Remove the poppet valve assembly from the booster piston.



WRU90-BR280

NOTE:

- If any difficulty is encountered in drawing out the poppet valve, lightly tap the poppet valve from the back side of the piston with a suitable rod interposed.

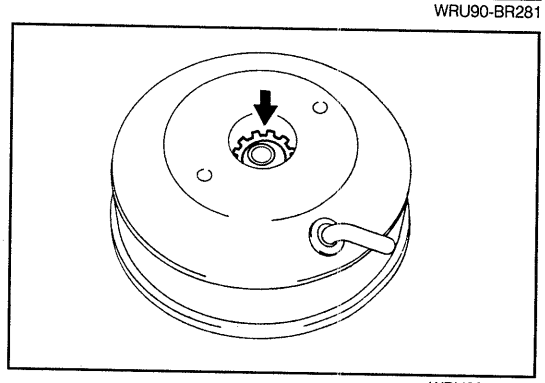


WRU90-BR281

22. Remove the circular internal ring from the booster body.

NOTE:

- Never reuse the circular internal ring.

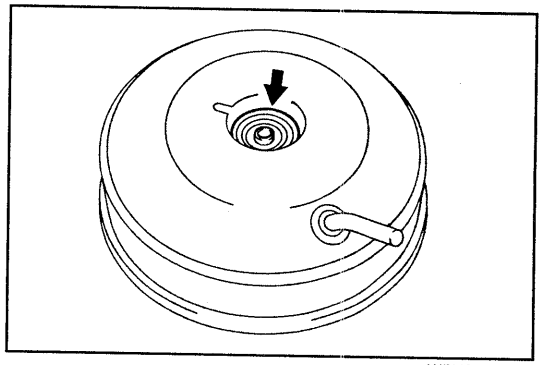


WRU90-BR282

23. Remove the booster plate and seal from the booster body.

NOTE:

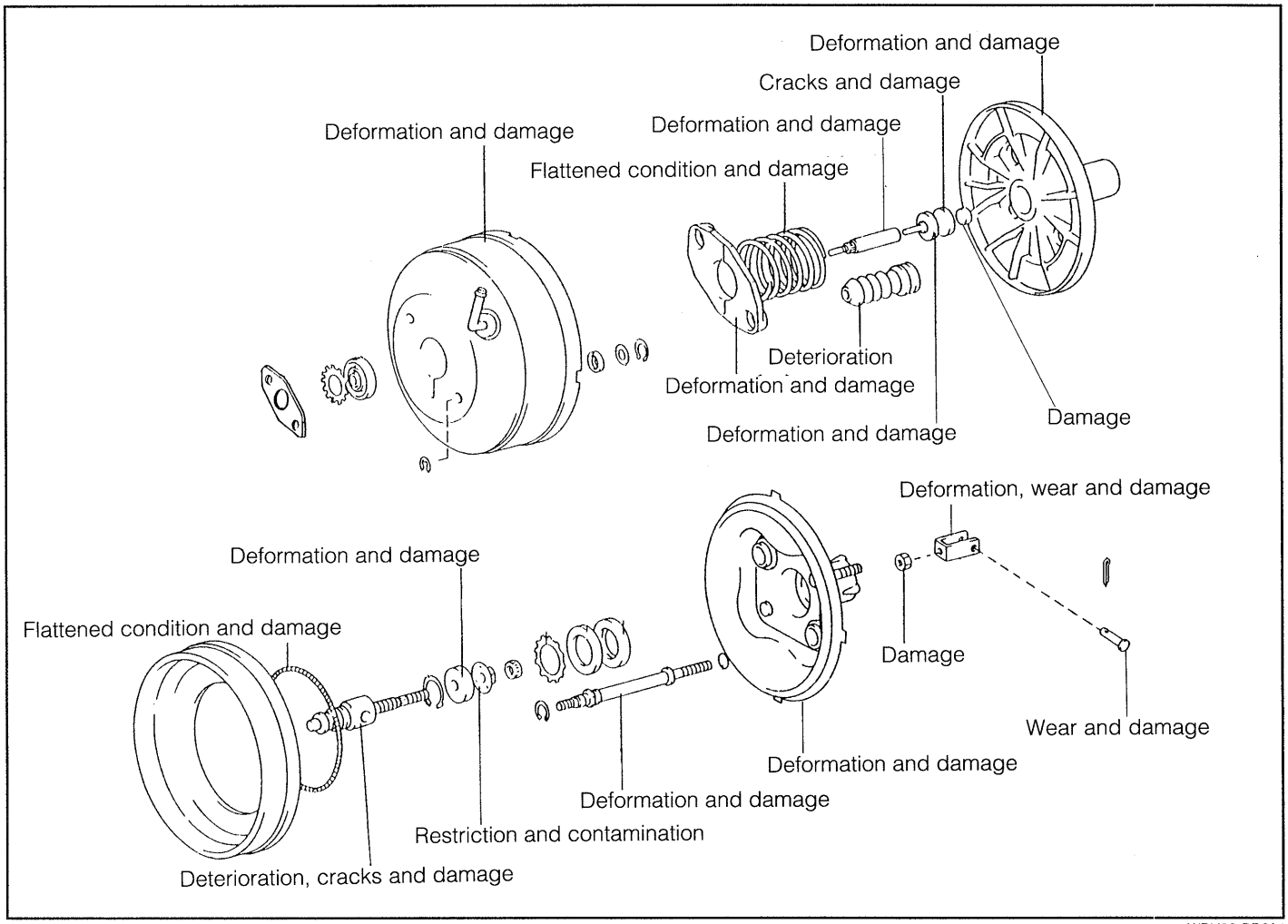
- Never reuse the booster plate and seal.



WRU90-BR283

INSPECTION

Check the following parts. Replace any defective parts.



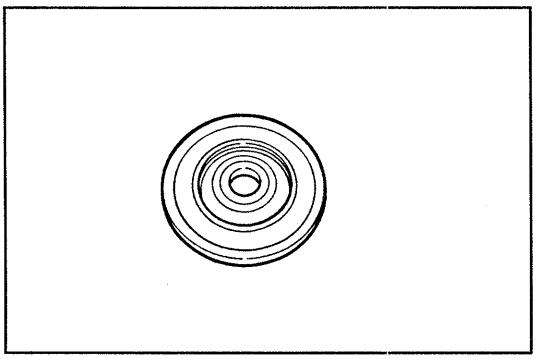
WRU90-BR284

ASSEMBLY

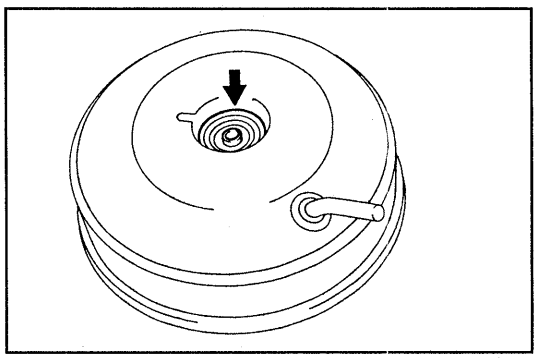
NOTE:

- **Be sure to use the silicone grease furnished in the gasket kit.**

1. Thinly apply silicone grease to the inner surfaces of the booster plate and seal.
   NOTE:
   - **Be sure to use a new booster plate and seal.**
   - **If silicone grease has been already applied to those new parts, it is unnecessary to perform this step.**
2. Install the booster plate and seal to the booster body.

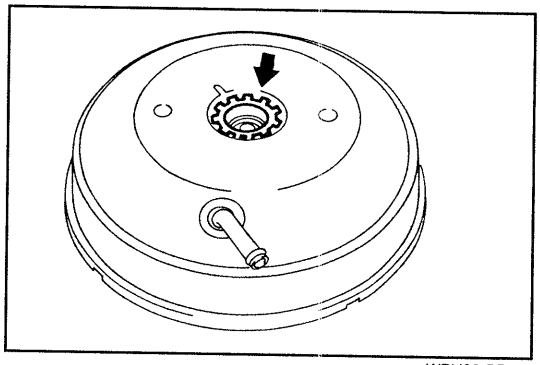


WRU90-BR285



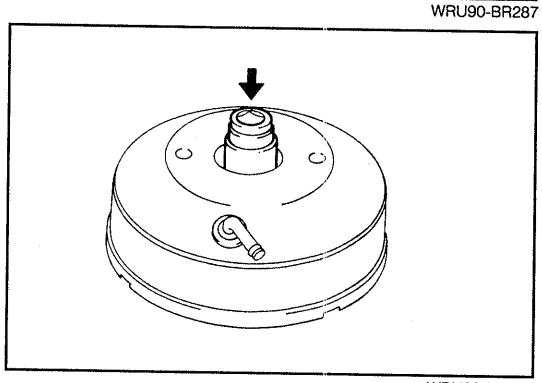
WRU90-BR286

3. Place the circular internal ring on the booster body.



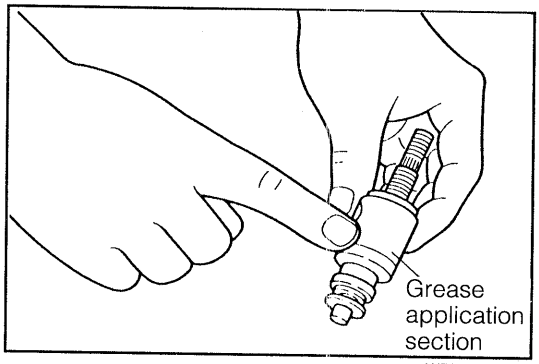
WRU90-BR287

4. While applying a box wrench having a suitable outer diameter on the circular internal ring, press the circular internal ring into the booster body.



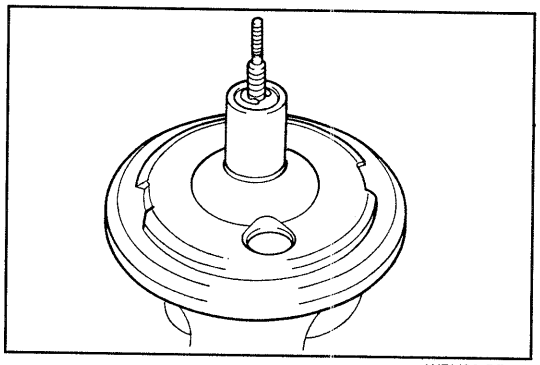
WRU90-BR288

5. Thinly apply silicone grease to the poppet valve at the section indicated in the right figure.



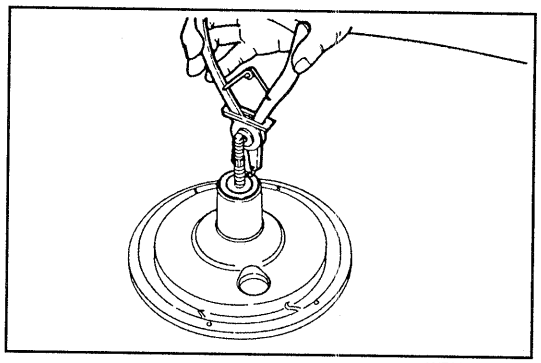
WRU90-BR289

6. Insert the poppet valve into the piston.



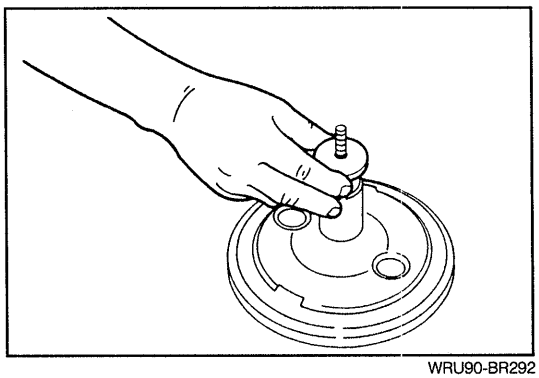
WRU90-BR290

7. While pushing the booster piston stop ring toward the poppet valve, install the booster piston stop ring to the piston.
NOTE:
   - Make sure that the stop ring is securely fitted into the groove of the piston inner surface.



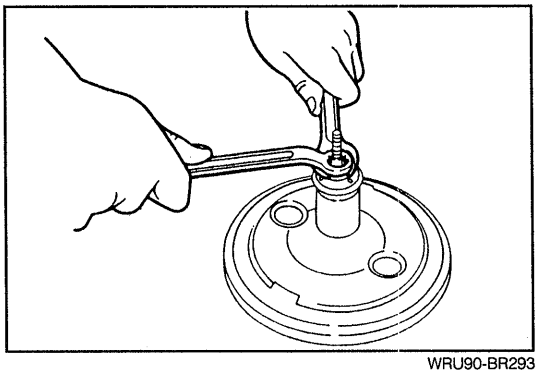
WRU90-BR291

8. Install the element to the booster piston.



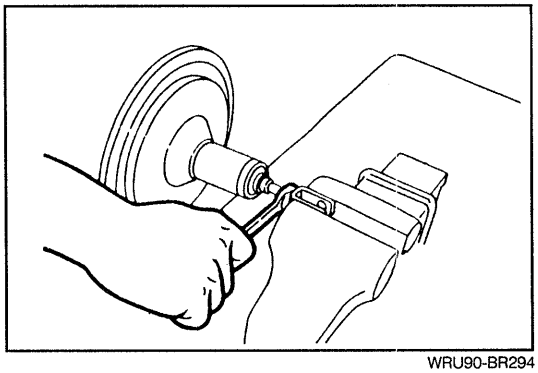
WRU90-BR292

9. Install and temporarily tighten the lock nut and adjusting nut.



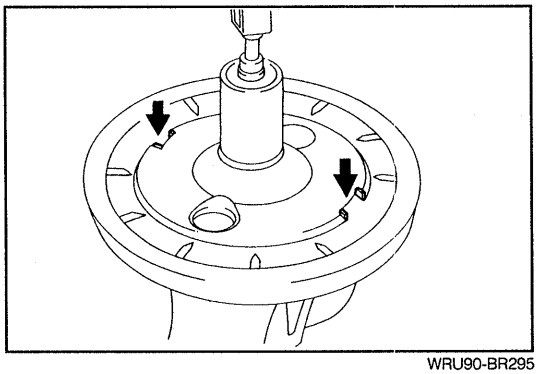
WRU90-BR293

10. Install and temporarily tighten the lock nut and clevis.



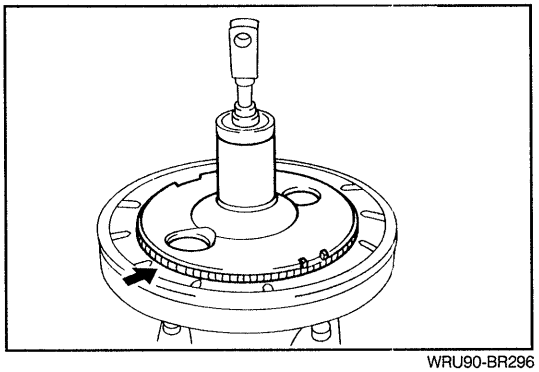
WRU90-BR294

11. Install the diaphragm to the piston while aligning the diaphragm with the cut-out section.



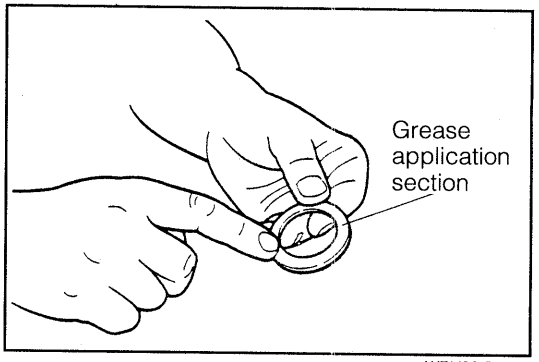
WRU90-BR295

12. Install the diaphragm stopper to the diaphragm in such a way that its connection may not be aligned with the cut- out section.



WRU90-BR296

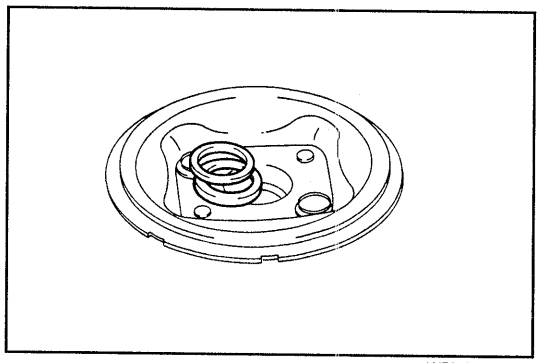
13. Thinly apply silicone grease to the piston seal.



WRU90-BR297

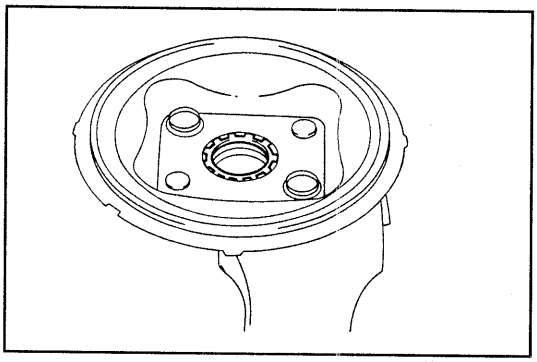
14. Install the piston seal to the booster housing.
    NOTE:
    - Be sure to use a new piston seal.

15. Install the bush to the booster housing.



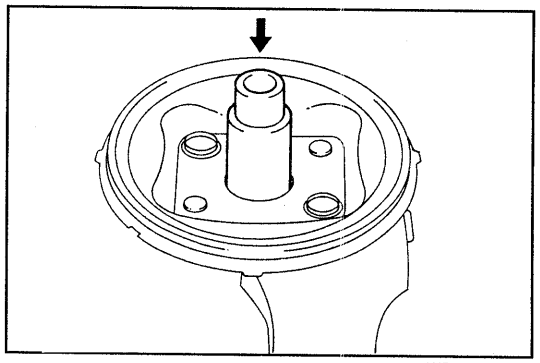
WRU90-BR298

16. Lightly fit the bush retainer to the booster housing.



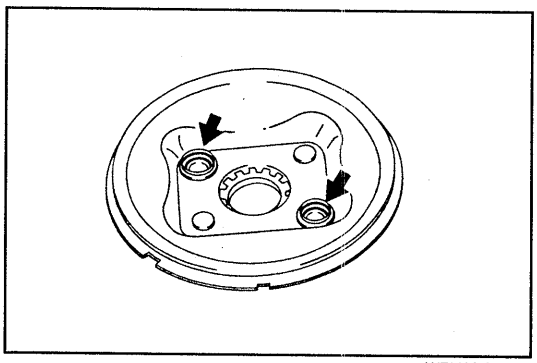
WRU90-BR299

17. Press the retainer into the booster housing, using a box wrench having a suitable outer diameter or the like.



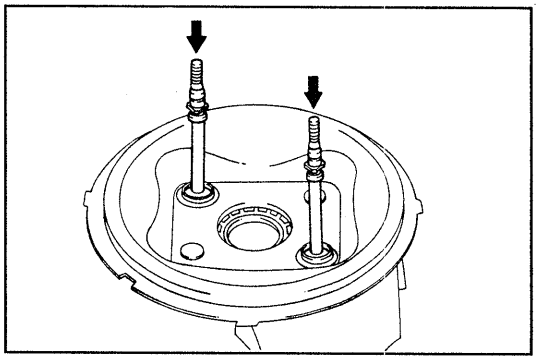
WRU90-BR300

18. Install the "O" ring to the booster housing.



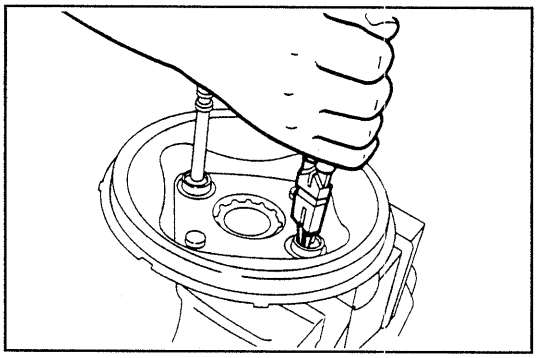
WRU90-BR301

19. Install the tie rod to the booster housing.



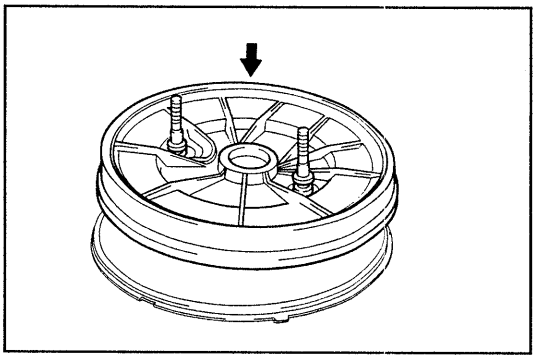
WRU90-BR302

20. Secure the tie rod to the booster housing with a snap ring.
    NOTE:
    - Be sure to use a new snap ring.
    - Make sure that the snap ring is securely fitted into the groove section of the booster housing.



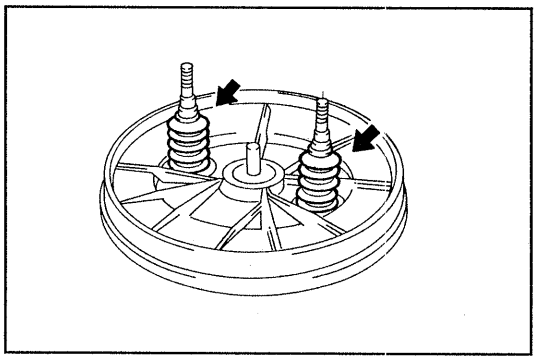
WRU90-BR303

21. Install the booster piston to the booster housing while aligning the protruding section of the diaphragm with the cut-out section of the booster housing.



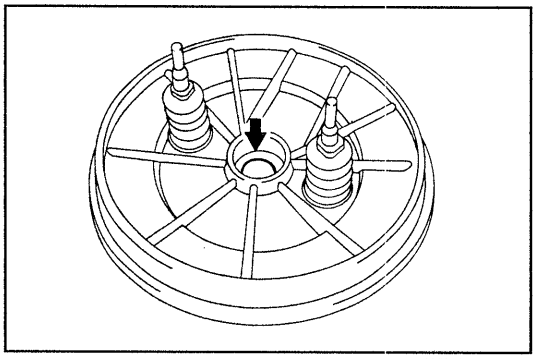
WRU90-BR304

22. Assemble the tie rod boot to the tie rod and piston.



WRU90-BR305

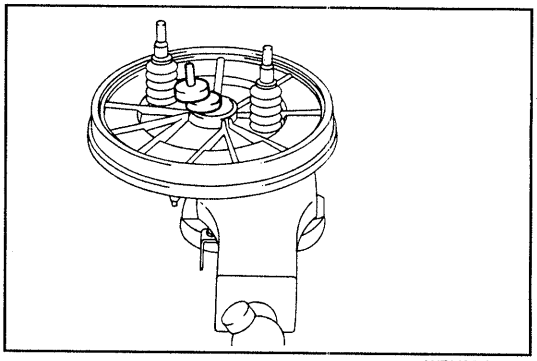
23. Install the reaction plate to the booster piston.
    NOTE:
    - The reaction plate should be assembled in such a way that the recessed side may come at the piston side.



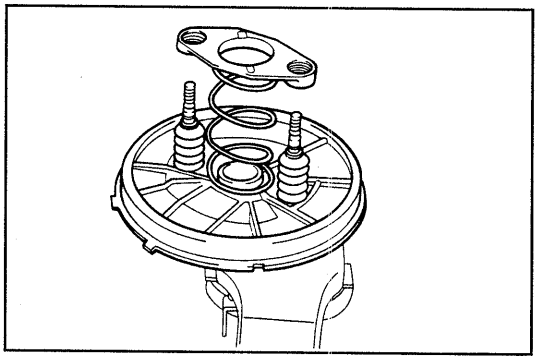
WRU90-BR306

24. Thinly apply silicone grease to the rubber surface.
    NOTE:
    - **Never reuse the rubber.**

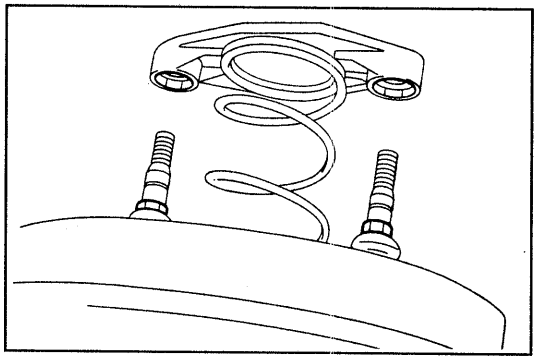
25. Install the rubber and reaction ring to the booster piston.


WRU90-BR307

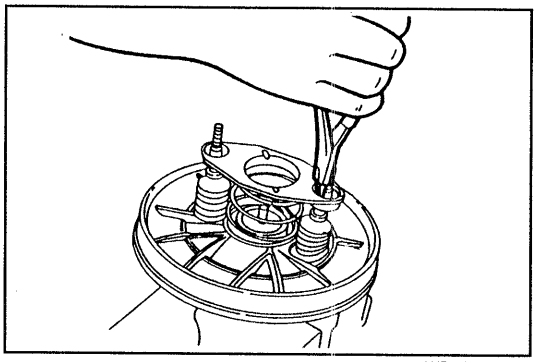
26. Place the booster spring and retainer on the piston.


WRU90-BR308

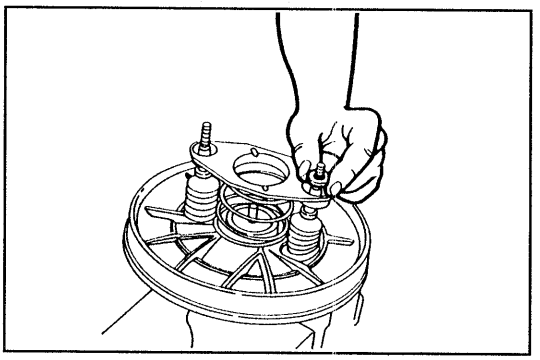
27. Align the recessed section of the retainer with the direction of the tie rod connecting section.


WRU90-BR309

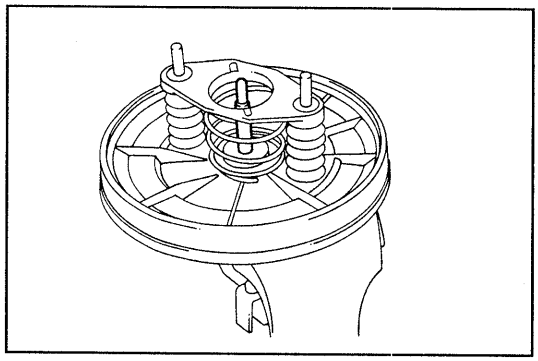
28. While holding the retainer, install the snap ring.


WRU90-BR310

29. Install the tie rod seal plate to the tie rod section.
30. Thinly apply silicone grease to the tie rod seal. Install the tie rod seal to the tie rod section.
    NOTE:
    - **Make sure that the lip surface of the oil seal faces upward.**

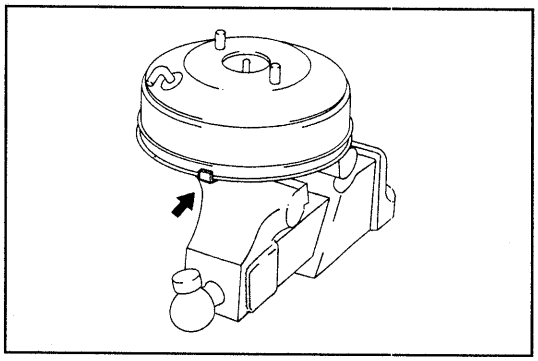

WRU90-BR311

31. Apply a small amount of silicone grease to the forward end of the reaction ring shaft.
32. Install the booster piston rod. Apply a small amount of silicone grease to the forward end of the booster piston rod.



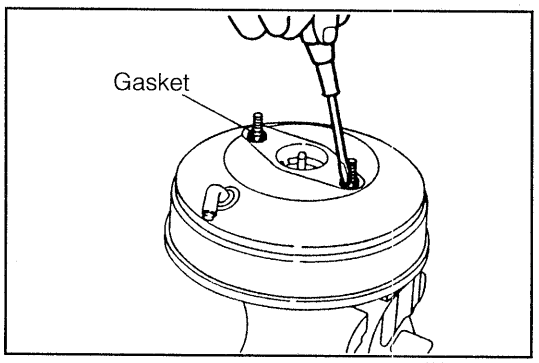
WRU90-BR312

33. Install the booster body to the booster housing while aligning the cut-out section.
    NOTE:
    - Slowly and completely fit the booster body with the housing.



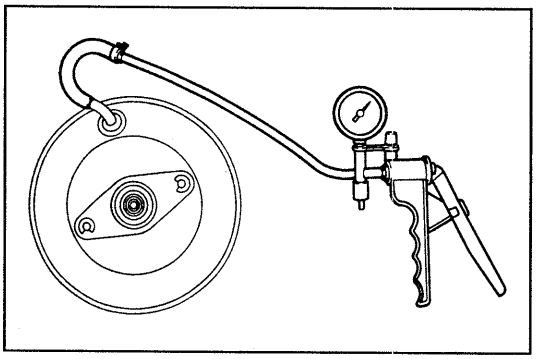
WRU90-BR313

34. Install the gasket to the booster body.
35. Install the "E" rings.
    NOTE:
    - Be very careful not to damage the gasket.



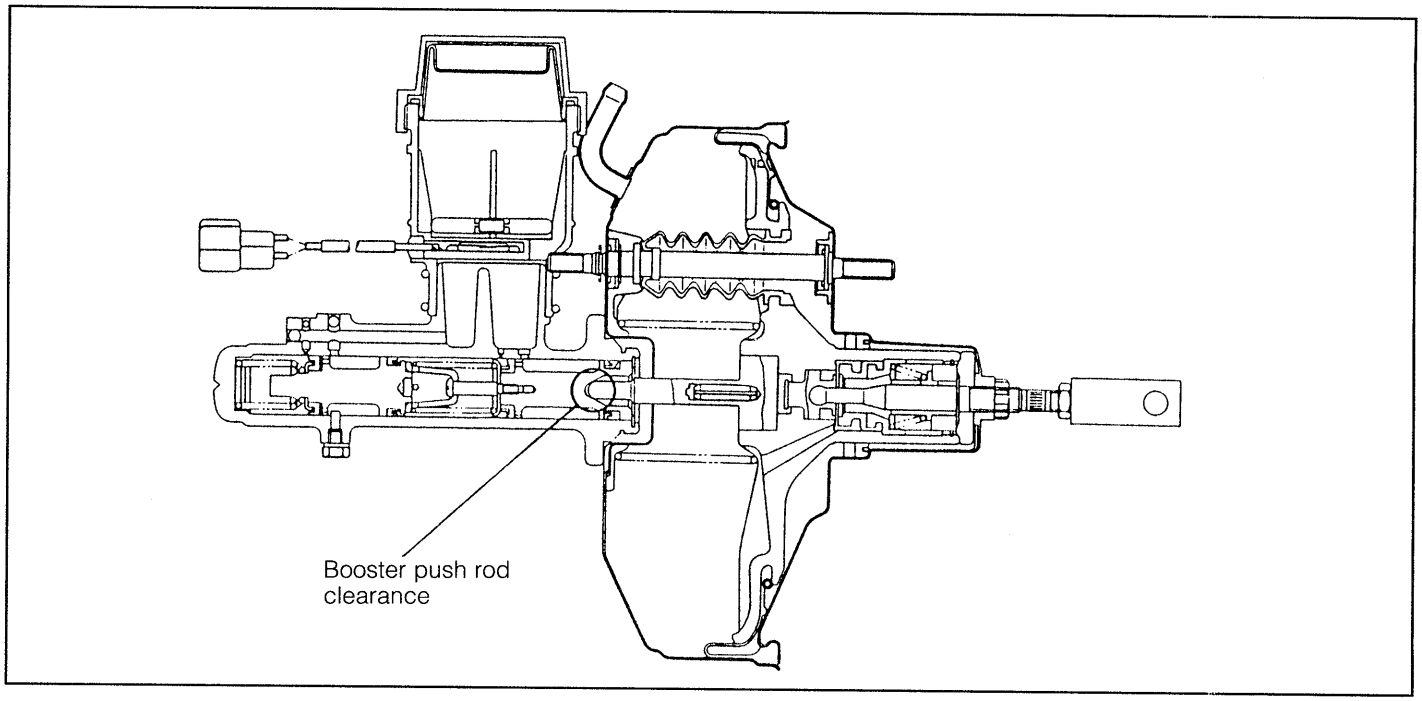
WRU90-BR314

36. Apply negative pressure to the brake booster, using a Mity-Vac. At this time, ensure that no air leakage is present.



WRU90-BR315

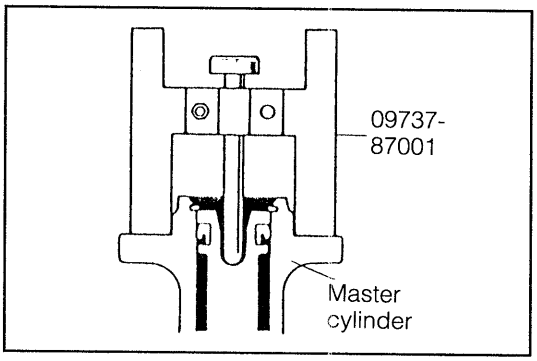
ADJUSTMENT OF PUSH ROD CLEARANCE



WRU90-BR316

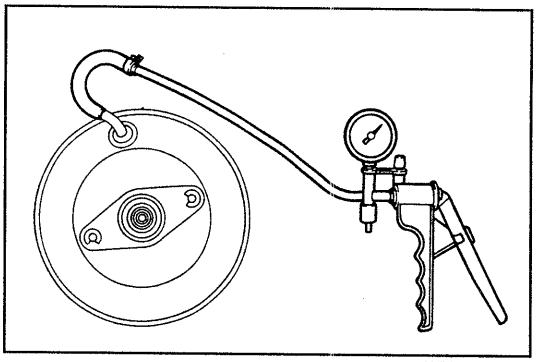
1. Place the following SST on the master cylinder. Adjust the central rod of the SST so that it may contact with the bottom of the piston.
   SST: 09737-87001-000

   CAUTION:
   - Be very careful not to allow the SST or rod to tilt. Failure to observe this caution may lead to brake malfunctioning.



WRU90-BR317

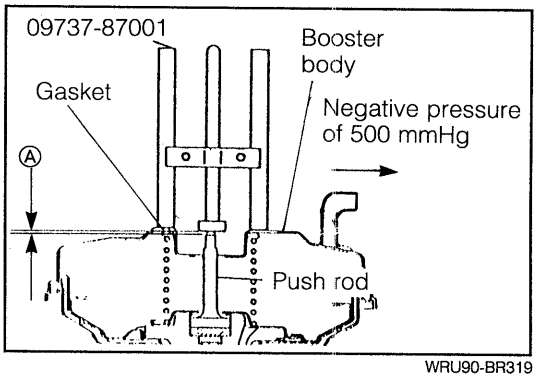
2. Apply a negative pressure of 500 mmHg (19.7 inch Hg) to the brake booster, using a MityVac or the like.



WRU92-BR576

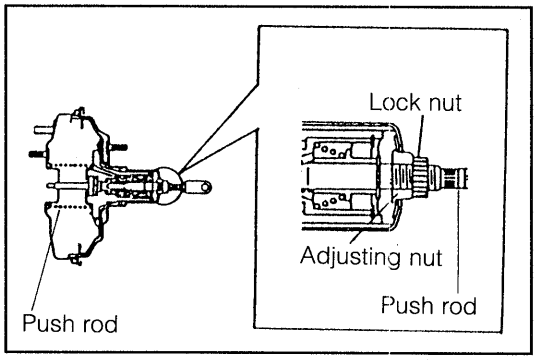
3. Place the SST which was adjusted at the step 1 on the brake booster in a turned-over state, as shown in the right figure. Ensure that the clearance between the push rod and the SST is zero.
   If not, adjust the push rod height.
   NOTE:
   - This operation should be performed with the gasket installed.

   CAUTION:
   - Be very careful not to allow the SST or rod to tilt. Failure to observe this caution may lead to brake malfunctioning.



WRU90-BR319

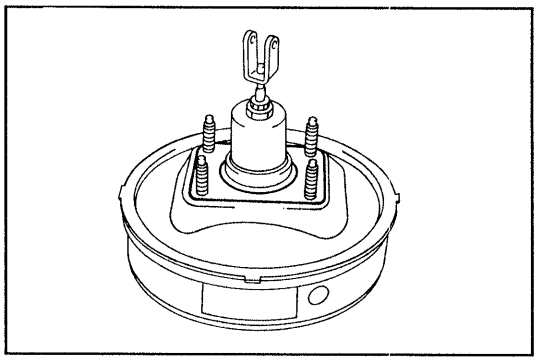
4. Adjustment of push rod height
   Loosen the lock nut. While preventing the push rod from turning, turn the adjusting nut, until the push rod height becomes the same height as at the step 3.
5. Tighten the lock nut, while preventing the adjusting nut from turning.
   Tightening Torque: 2.08 - 3.12 kgf-m
   (15.1 - 22.5 ft-lb, 20.4 - 30.6 N·m)



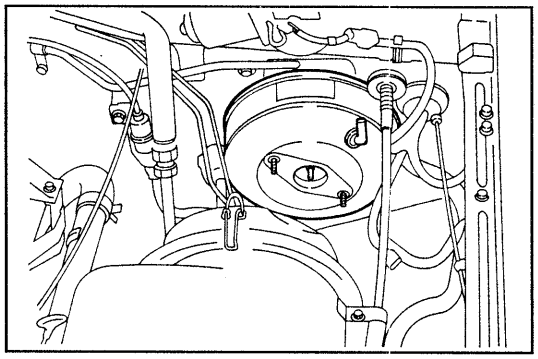
WRU90-BR320

INSTALLATION

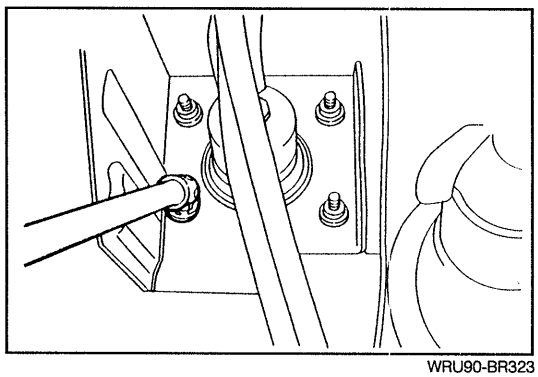
1. Install a new gasket to the dash panel installation surface of the brake booster.


WRU90-BR321

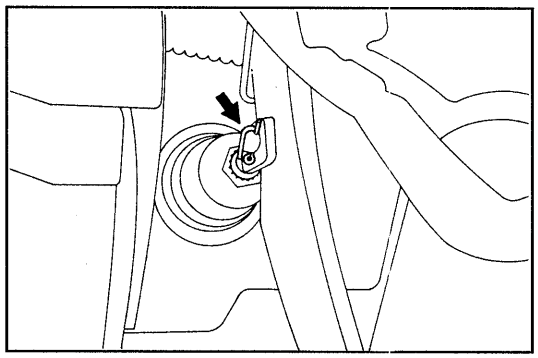
2. Install the brake booster to the dash panel in such a way that the brake booster hose connection may be positioned as indicated in the right figure and that the clevis may be incorporated into the brake pedal.
   NOTE:
   - Be very careful not to deform the brake pipe.


WRU90-BR322

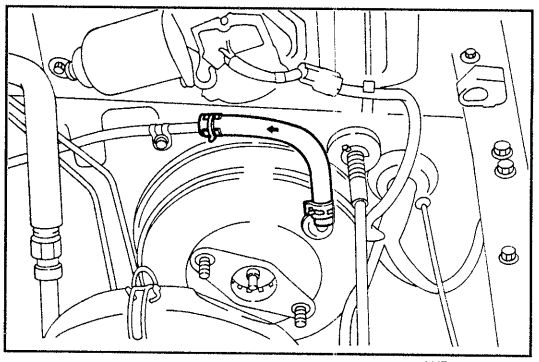
3. Tighten the brake booster attaching nuts.
   Tightening Torque: 1.0 - 1.6 kgf-m
   (7.2 - 11.6 ft-lb, 9.8 - 15.7 N·m)


WRU90-BR323

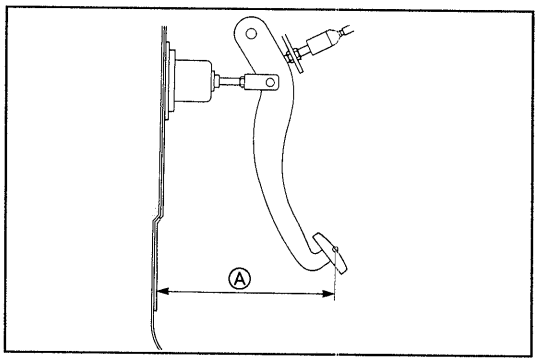
4. Connect the clevis to the brake pedal by means of the pin. Install the cotter pin to prevent the pin from dropping.
   NOTE:
   - Be sure to bend the cotter pin beyond 90 degrees.
   - Be sure to apply chassis grease to the pin.


WRU90-BR324

5. Connect the brake booster hose to the brake booster as indicated in the right figure. Install a new hose band.
   CAUTION:
   - The hose should be connected in such a way that the arrowheaded direction may face toward the engine side. Failure to observe this caution may lead to booster malfunctioning.
   - Be sure to insert the hose up to the bottom of the spool at the inner side.
   - Be sure to install the hose band between the spools.

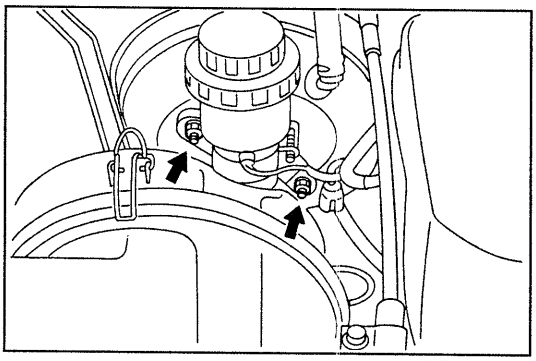

WRU90-BR325

6. Adjust the brake pedal height.
   (See page BR–20.)



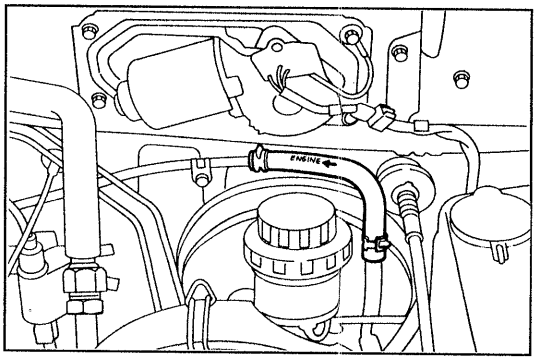
WRU92-BR589

7. Install the master cylinder.
   (See page BR–60.)
   CAUTION:
   - Prior to the installation of the master cylinder, be sure to adjust the brake booster push rod clearance.


WRU92-BR590

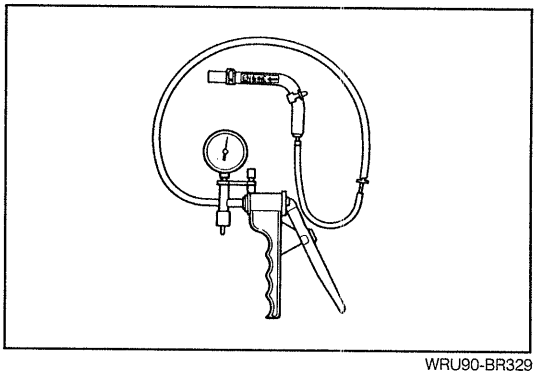
CHECK OF CHECK VALVE

1. Remove the booster vacuum hose bands. Remove the booster vacuum hose.



WRU90-BR328

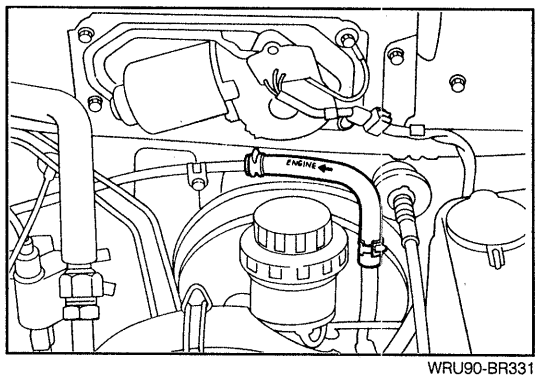
2. Connect a MityVac to the booster vacuum hose as indicated in the right figure. Apply negative pressure. Ensure that negative pressure is applied and the applied pressure is maintained.
   If not, replace the booster vacuum hose.


WRU90-BR329

3. Blow air into the booster vacuum hose from the booster side. Ensure that air continuity exists.
   If not, replace the booster vacuum hose.

WRU90-BR330

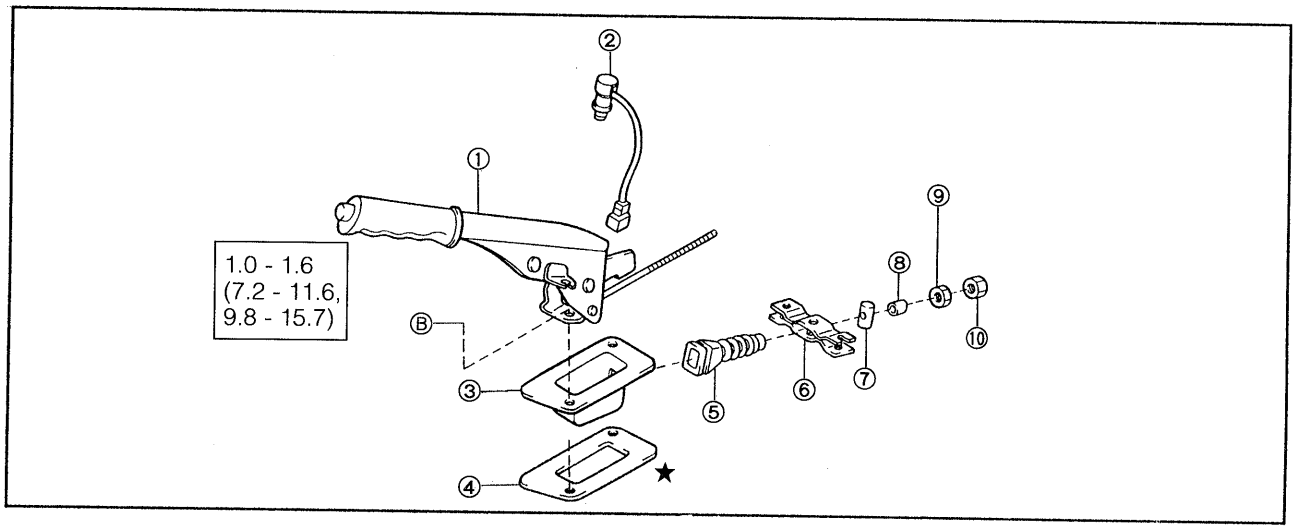
4. Connect the brake booster hose as indicated in the right figure. Install new hose bands.
   CAUTION:
   - The hose should be connected in such a way that the arrowheaded direction may face toward the engine side. Failure to observe this caution may lead to booster malfunctioning.
   - Be sure to insert the hose up to the bottom of the spool at the inner side.
   - Be sure to install the hose band between the spools.

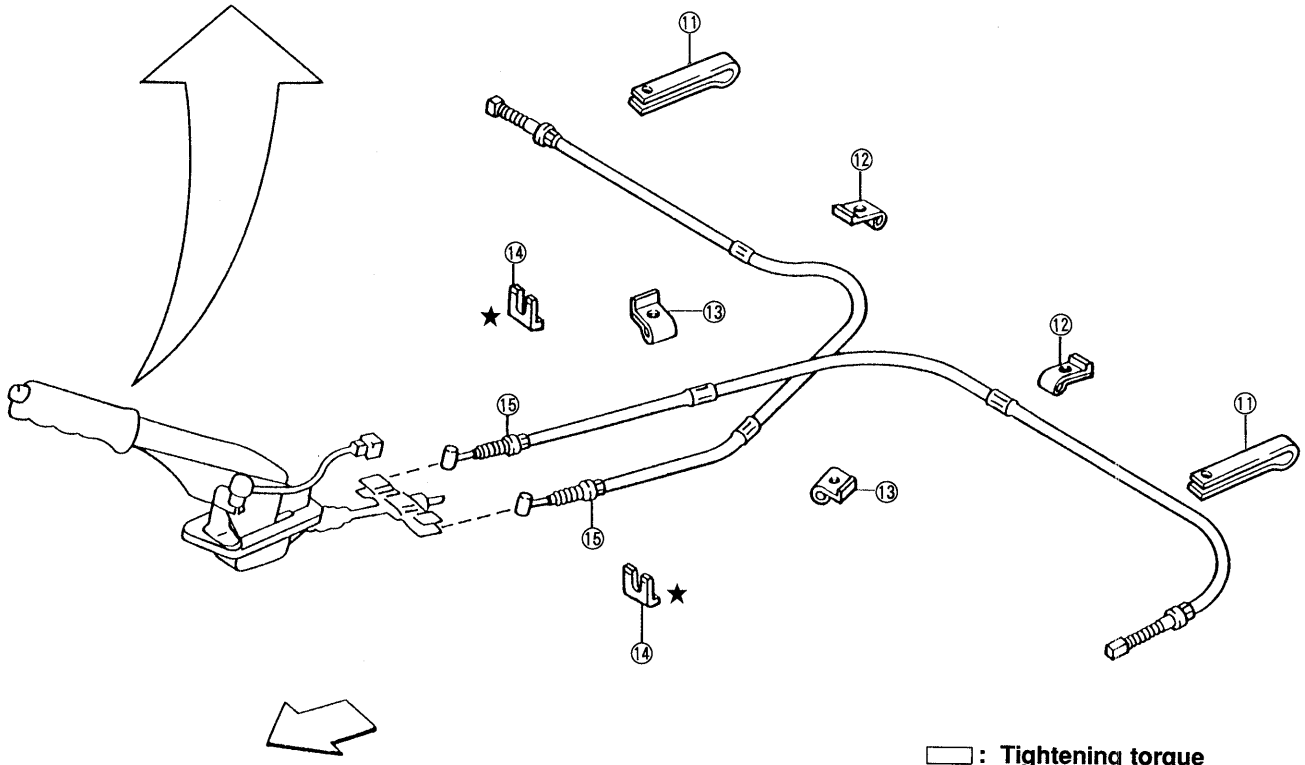


WRU90-BR331

PARKING BRAKE

COMPONENTS





□ : Tightening torque
Unit : kgf-m (ft-lb, N·m)
★ : Non-reusable parts

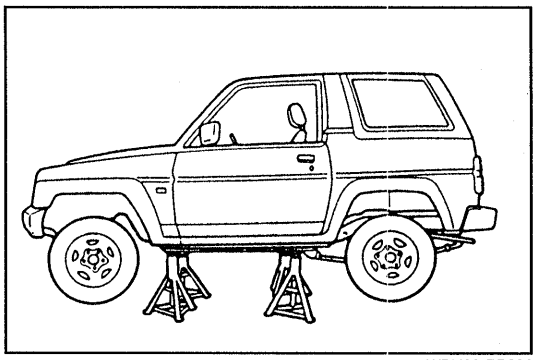
① Parking brake control handle assy
② Parking brake switch
③ Parking brake hole shield
④ Parking brake lever dust cover
⑤ Parking brake dust cover
⑥ Parking brake equalizer
⑦ Parking brake plunger pin
⑧ Collar
⑨ Nut
⑩ Nut
⑪ Clamp
⑫ Clamp
⑬ Clamp
⑭ Clamp
⑮ Parking brake cable assy

WRU90-BR332

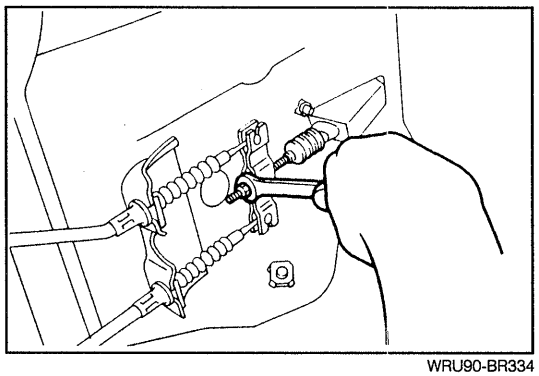
REMOVAL

CAUTION:
- Be very careful not to damage the cable.
- Be sure not to deform the cable by applying undue force to it.

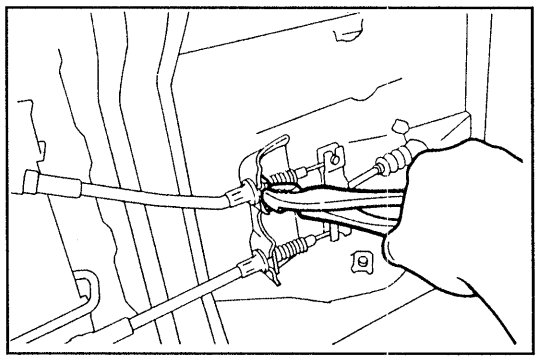
1. Jack up the vehicle and support it with safety stands. (See GI Section.)


WRU90-BR333

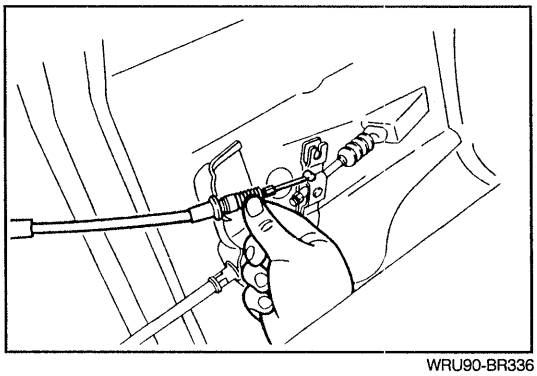
2. Loosen the lock nut of the parking brake lever adjusting nut.


WRU90-BR334

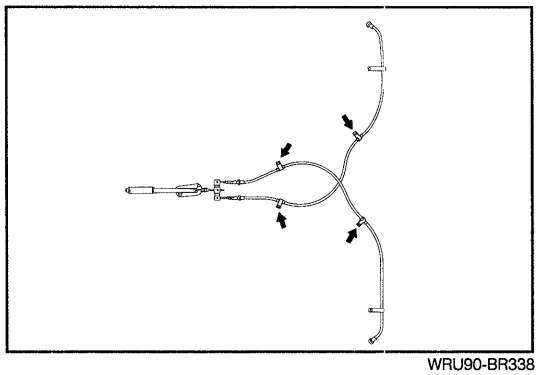
3. Remove the lock nut and adjusting nut.
4. Remove the collar.
5. Detach the cable clamp clip.
   NOTE:
   - Do not reuse the clip.


WRU90-BR335

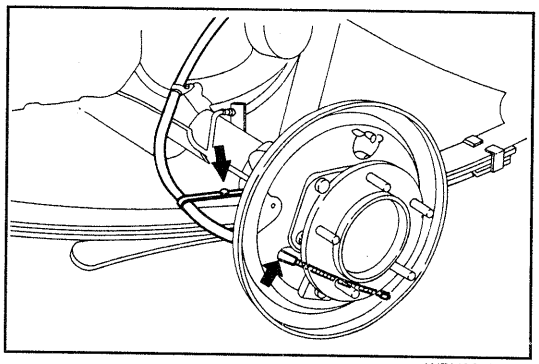
6. Disconnect the parking brake cable from the bracket and remove it from the equalizer.
7. Pull out the parking brake plunger from the equalizer. Remove the parking brake plunger pin.


WRU90-BR336

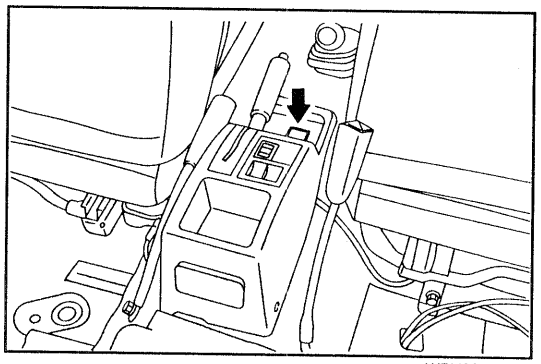
8. Remove the parking brake cable clamps and bolts.


WRU90-BR338

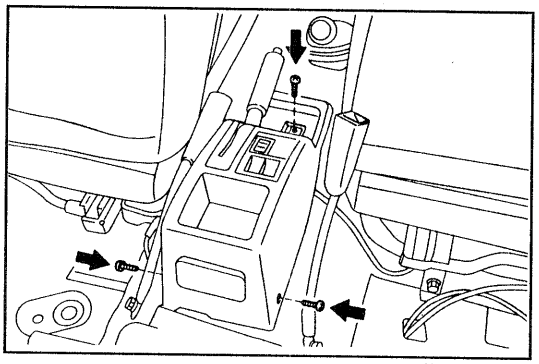
9. Disconnect the parking cable from the brake backing plate. (See the Rear Brake section.)


WRU90-BR339

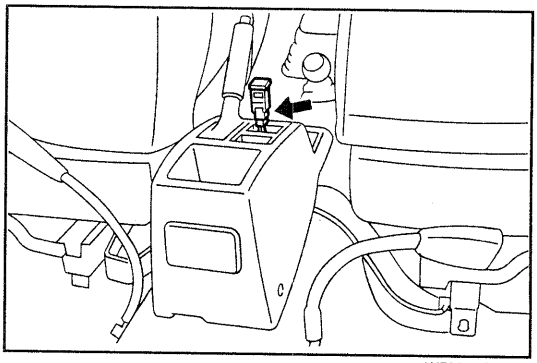
10. Removal of console box
(For details, see the Body section.)
(1) Remove the box hole cover, using a small-sized standard screwdriver or the like.


WRU90-BR340

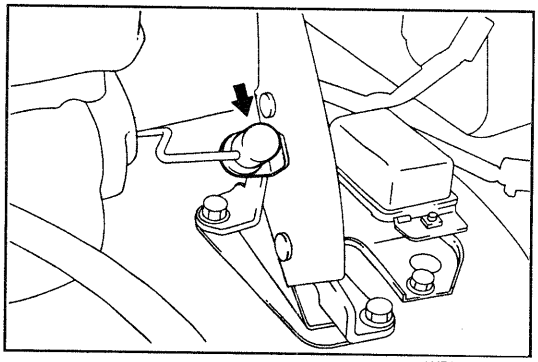
(2) Remove the console box attaching screws.


WRU90-BR341

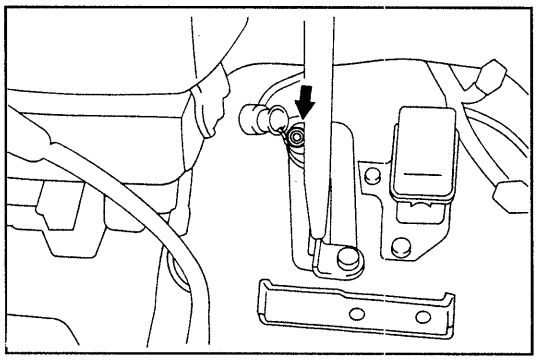
(3) Lift the console box and disconnect the connectors of the door lock control switch and/or the power window. (On vehicles so equipped)
(4) Remove the console box.


WRU90-BR342

11. Remove the rubber cap of the parking brake lever switch from the switch.

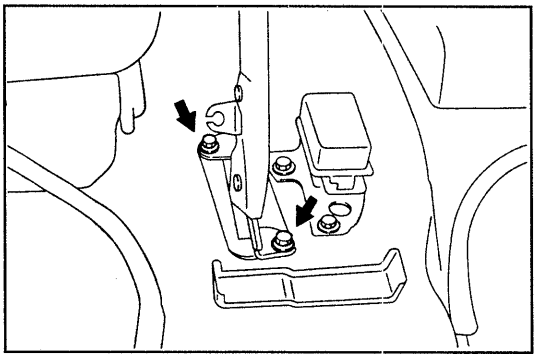

WRU90-BR343

12. Push the parking brake lever switch to release the lock section. Then, remove the parking brake lever switch from the parking brake lever.



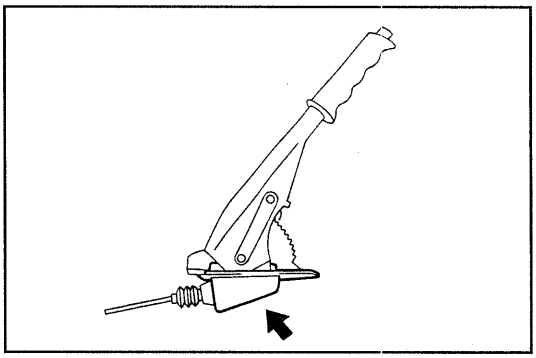
WRU90-BR344

13. Remove the attaching bolts of the parking brake control handle. Then, remove the parking brake control handle from the vehicle.



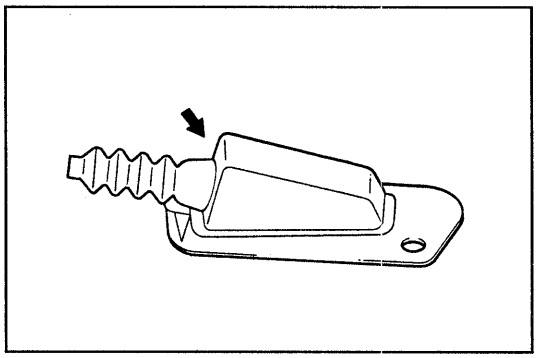
WRU90-BR345

14. Remove the parking brake lever dust cover from the parking brake control handle.



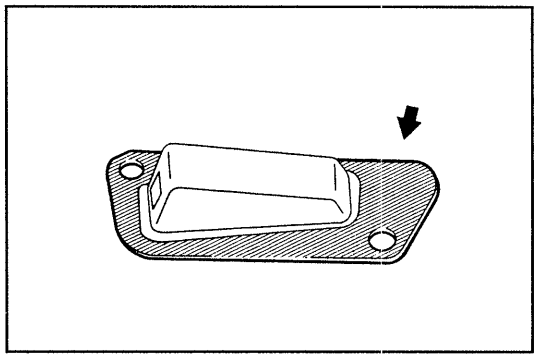
WRU90-BR346

15. Remove the parking brake dust cover from the parking brake lever dust cover.



WRU90-BR347

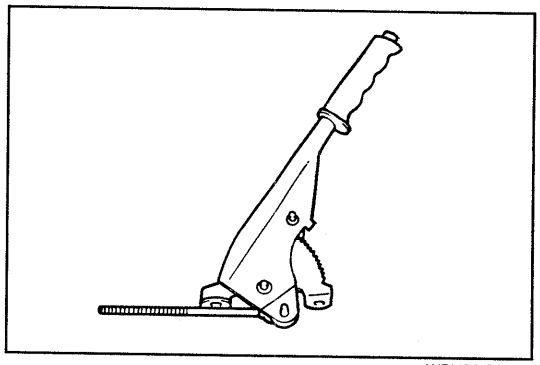
16. Remove the parking brake hole shield from the parking brake lever dust cover.



WRU90-BR348

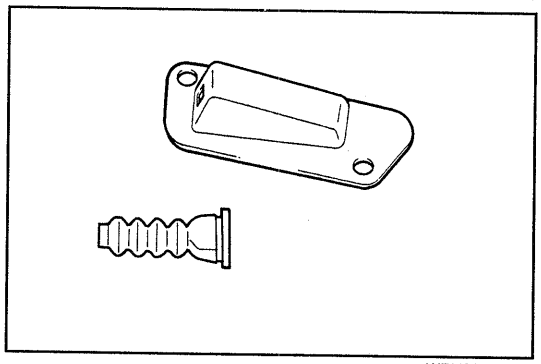
INSPECTION

1. Check of parking brake control lever
   (1) Ensure that the sector and pawl sections exhibit no wear or deformation.
   (2) Ensure that the pawl for the rack operates smoothly, interlocking with the release button.
   (3) Ensure that the screw section exhibits no damage.
   (4) Ensure that each staking section exhibits no excessive play.
   (5) Ensure that the lever section exhibits no damage, such as deformation.



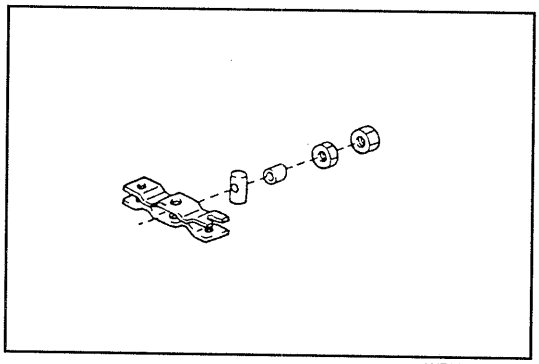
WRU90-BR349

2. Inspection of parking brake lever dust cover
   Ensure that the parking brake lever dust cover exhibits no damage, such as cracks.
3. Inspection of parking brake dust cover
   Ensure that the parking brake dust cover exhibits no damage, such as wear and cracks.



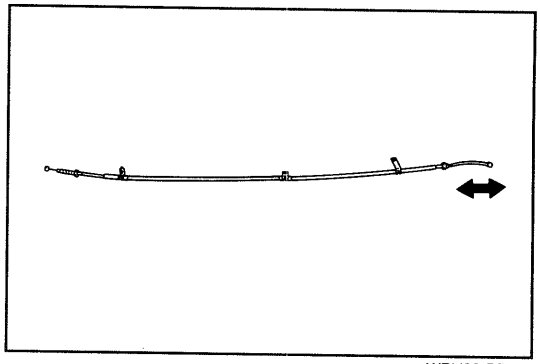
WRU90-BR350

4. Ensure that no damage, such as wear, is present at the parking brake equalizer, parking brake plunger pin, collar, adjusting nut and lock nut.
   Replace any defective part.



WRU90-BR351

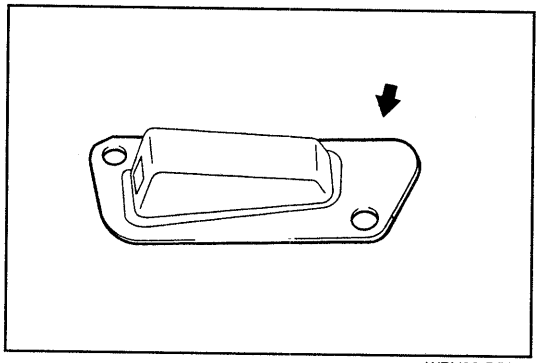
5. Check of parking brake cable
   Ensure that the parking brake cable and rubber boot exhibits no damage, such as wear, cut and deformation. Also, ensure that the inner cable operates smoothly.



WRU90-BR352

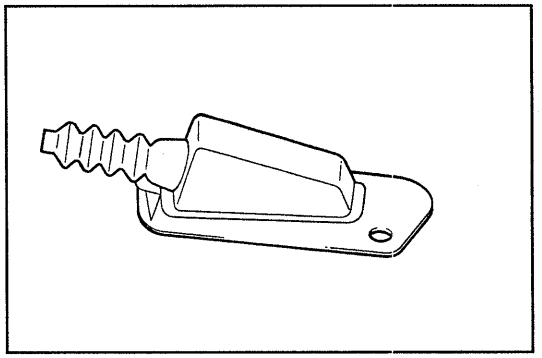
INSTALLATION

1. Install the parking brake hole shield to the parking brake lever dust cover.



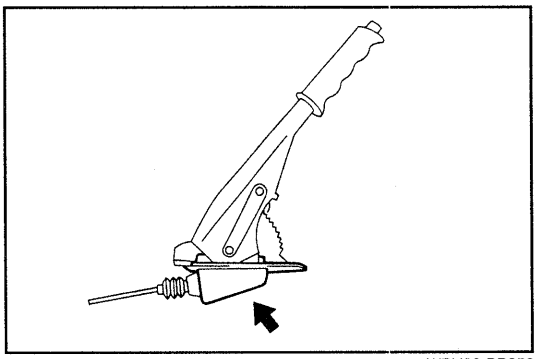
WRU90-BR354

2. Assemble the parking brake dust cover to the parking brake lever dust cover.



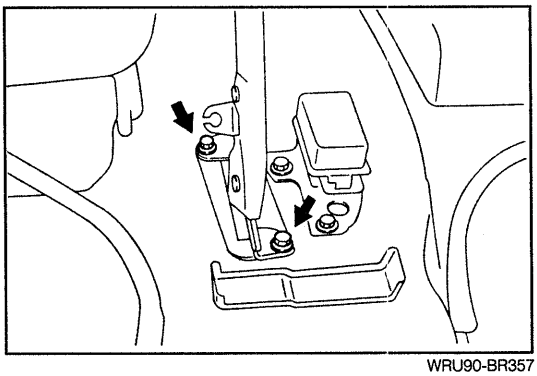
WRU90-BR355

3. Insert the parking brake lever dust cover through the parking brake control handle.



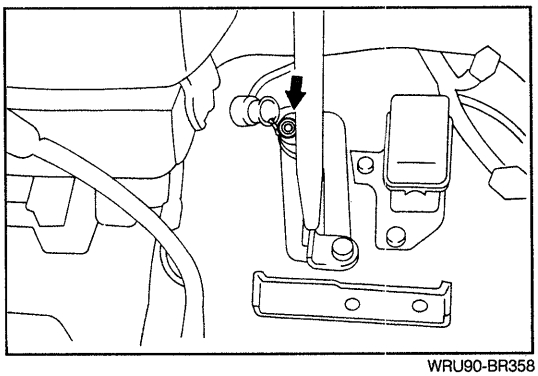
WRU90-BR356

4. Install the parking brake control handle to the floor panel. Tighten the attaching bolts to the specified torque.
   Tightening Torque: 1.0 - 1.6 kgf-m (7.2 - 11.6 ft-lb, 9.8 - 15.7 N·m)



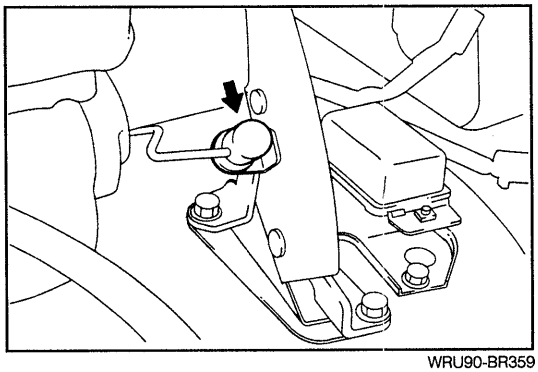
WRU90-BR357

5. Insert the parking brake switch into the parking brake lever.



WRU90-BR358

6. Put the rubber cap of the parking brake lever switch over the switch.

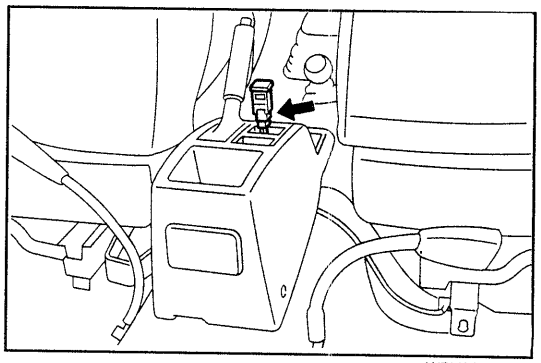


WRU90-BR359

7. Installation of console box
   (1) Install the console box through the parking brake lever.

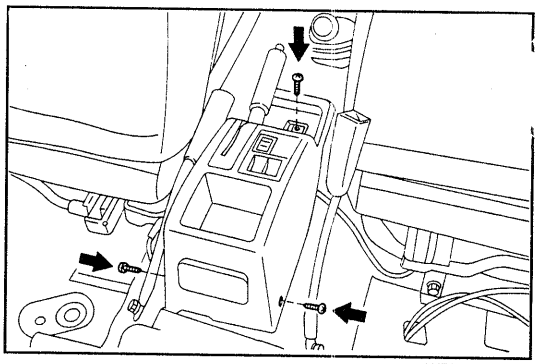
WRU90-BR360

   (2) Reconnect the connectors of the door lock control switch and/or power window control switch. (On vehicles so equipped only)



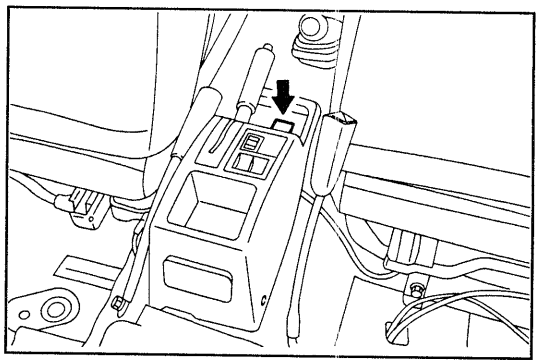
WRU90-BR361

   (3) Install the console box and tighten the attaching screws.



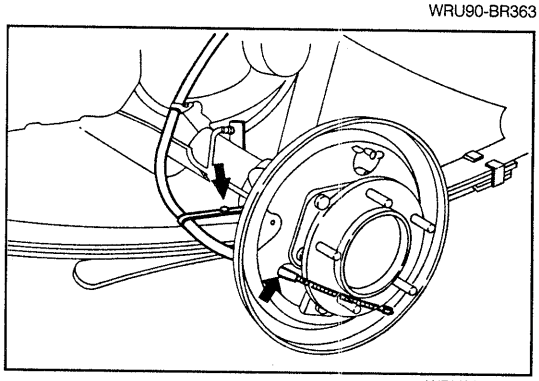
WRU90-BR362

   (4) Install the console box hole cover.



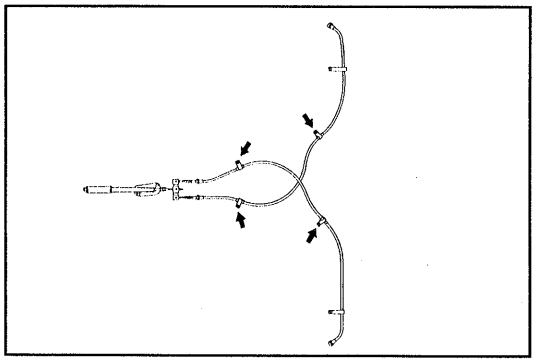
WRU90-BR363

8. Install the parking brake to the brake backing plate. (See the Rear axle section.)



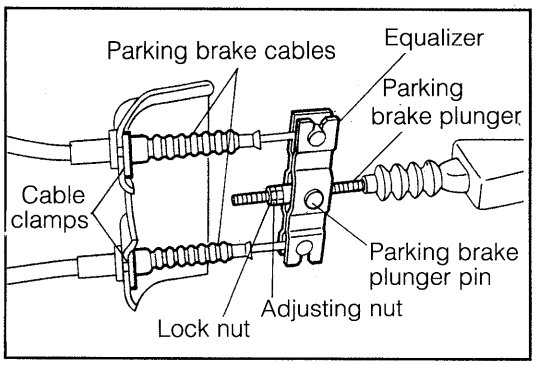
WRU90-BR364

9. Secure the parking brake cable clamps by installing the attaching bolt.
   NOTE:
   - The cable clamp should be installed in such a way that the gap between the parking brake cable and the fuel tank protector becomes at least 20 mm (0.79 inch).



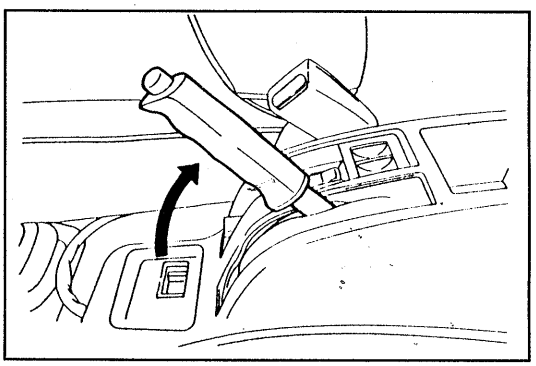
WRU90-BR365

10. Connect the parking brake cable to the equalizer.
11. Install the parking brake plunger pin to the equalizer. Pass the parking brake plunger in place.
12. Install the adjusting nut and lock nut to the plunger.
13. Insert the parking brake cable to the bracket. Clamp the parking brake cable with new cable clamp clips.
    NOTE:
    - Never reuse the cable clamp clips.



WRU90-BR367

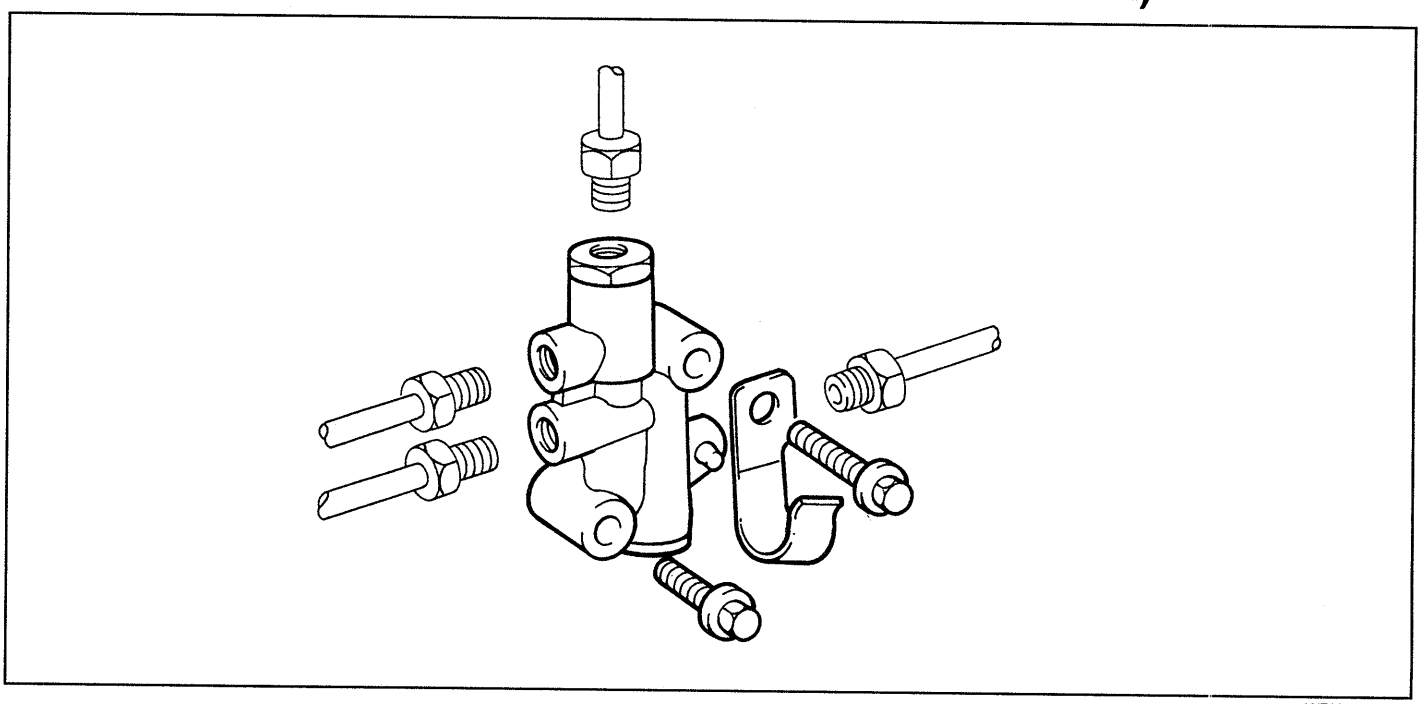
14. Remove the slack of the parking brake cable by pulling the parking brake lever with a force of around 30 - 40 kgf (66.15 - 88.2 lb).
15. Adjust the adjusting nut so that the working travel of the parking brake lever may become the specified value when the lever is pulled with a force of 25 kgf (55 lb).
    Specified Working Travel of Parking Lever:
    4 - 6 notches
    (with an operating force of 25 kgf (55 lb) applied)



WRU90-BR367

16. While preventing the adjusting nut from turning, tighten the lock nut to the specified torque.
    Tightening Torque: 0.4 - 0.7 kgf-m
    (2.9 - 5.1 ft-lb, 3.9 - 6.9 N·m)

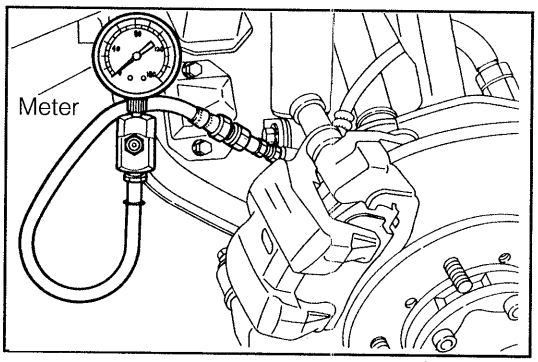
P & B VALVE (PROPORTIONING AND BY-PASS VALVE)



WRU90-BR368

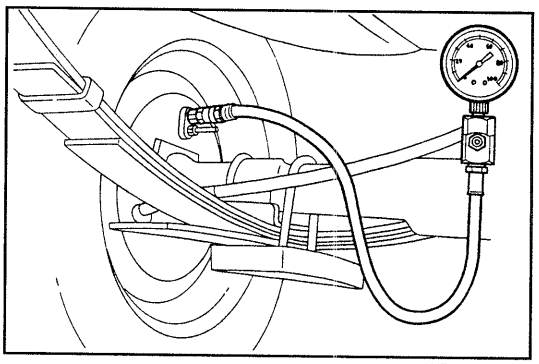
INSPECTION

1. Connect a suitable brake hydraulic pressure gauge to the front wheel brake. Perform air bleeding.
   NOTE:
   - **Be sure to follow the manufacturer's instructions of the brake hydraulic pressure gauge during the connection.**



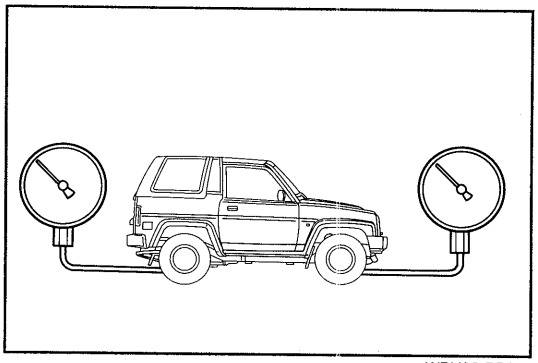
WRU90-BR369

2. Connect a suitable brake hydraulic pressure gauge to the rear wheel brake. Perform air bleeding.
   NOTE:
   - **Be sure to follow the manufacturer's instructions of the brake hydraulic pressure gauge during the connection.**



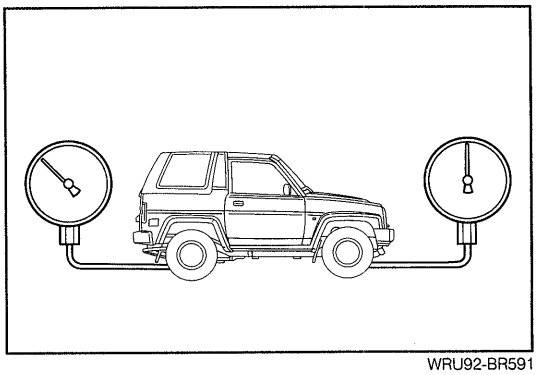
WRU90-BR370

3. With the brake pedal depressed, set the reading of the hydraulic pressure gauge installed to the front wheel brake to 10 kgf/cm^2. Ensure that the hydraulic pressure gauge installed to the rear wheel brake registers almost the same hydraulic pressure as that applied to the front wheel.
   If not, replace the P & B valve.



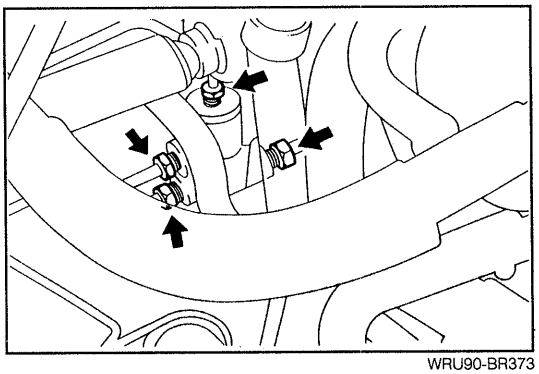
WRU90-BR371

4. Apply a hydraulic pressure of 30 kg/cm^2 or more to the front wheel brake by depressing the brake pedal. Ensure that the hydraulic pressure applied to the rear wheel brake is lower than that applied to the front wheel.
   If not, replace the P & B valve.
5. Remove the brake hydraulic pressure gauge. Perform air bleeding.
   (See page BR–18.)

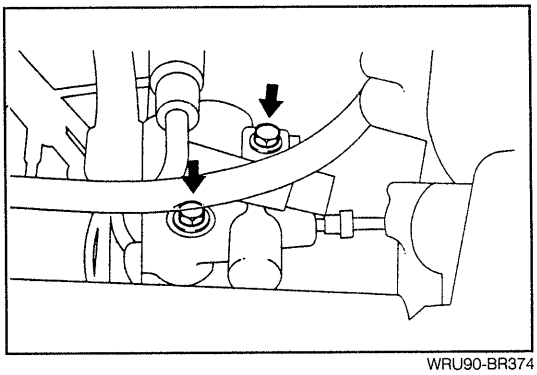

WRU92-BR591

REMOVAL

1. Drain the brake fluid from the front and rear brake bleeder plugs.
2. Remove the brake pipe from the P & B valve.


WRU90-BR373

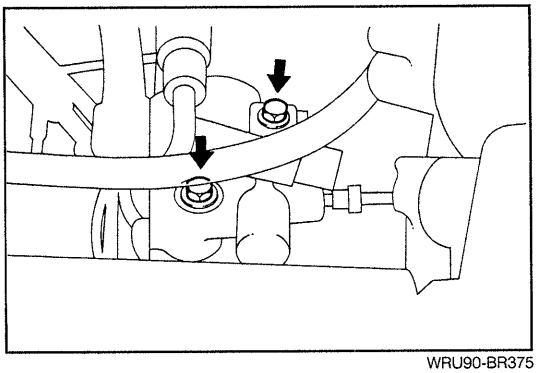
3. Remove the P & B valve by removing the P & B valve attaching bolts.


WRU90-BR374

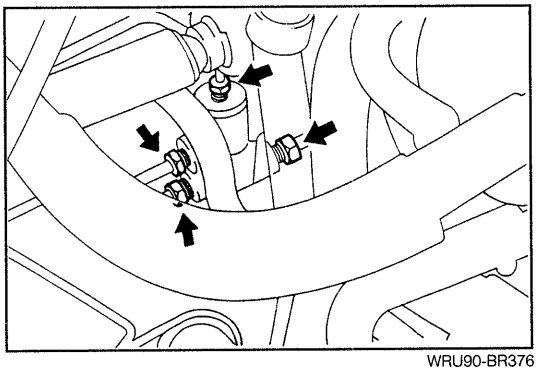
INSTALLATION

1. Install the P & B valve and tighten the attaching bolts.
   Tightening Torque: 0.6 - 1.0 kgf-m
   (4.3 - 7.2 ft-lb, 5.9 - 9.8 N·m)

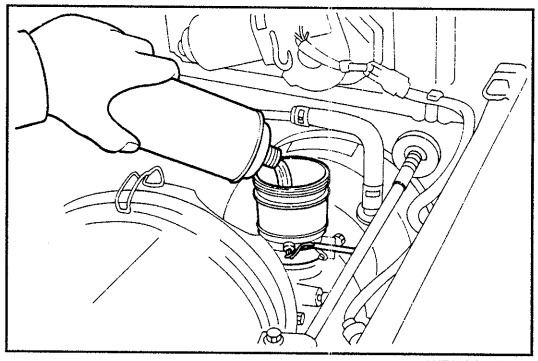
   NOTE:
   - On air conditioner-equipped vehicles, be sure to tighten the drain hose clamp together with the valve.


WRU90-BR375

2. Connect the brake pipes to the P & B valve.
   Tightening Torque: 1.3 - 1.8 kgf-m
   (9.4 - 13.0 ft-lb, 12.7 - 17.7 N·m)


WRU90-BR376

3. Fill brake fluid to the master cylinder. Perform air bleeding. (See page BR–18.)
4. Perform the brake fluid leakage test.
5. Perform the in-vehicle inspection.
6. Perform the brake test on a brake tester.



WRU92-BR592