BRAKES
SERVICE AND PARKING

CONTENTS

GENERAL SPECIFICATIONS

Master cylinder	
Type	Tandem type
I.D. mm (in.)	22.22 (.87)
Brake booster	
Type	Vacuum type
Effective dia. of power cylinder mm (in.)	203.2 (8.0)
Boosting ratio [Brake pedal depressing force]	4.0
Front brakes	
Type	F-type disc
Disc O.D. mm (in.)	255 (10.04)
Disc thickness mm (in.)	20 (.79)
Pad thickness mm (in.)	10.5 (.41)
Cylinder I.D. mm (in.)	53.97 (2.12)
Clearance adjustment	Automatic
Rear brakes	
Type	Leading and trailing shoe type drum
Drum I.D. mm (in.)	254 (10.0)
Lining thickness mm (in.)	4.6 (.18)
Cylinder I.D. mm (in.)	20.64 (.81)
Clearance adjustment	Automatic
Parking brakes	
Type	Mechanical brake acting on rear wheels
Brake engagement	Lever type
Cable routing	V-type

SERVICE SPECIFICATIONS

Standard values	
Brake pedal height mm (in.)	191-196 (7.5-7.7)
Stop light switch outer case to pedal arm clearance mm (in.)	0.5-1.0 (.02-.04)
Brake pedal free play mm (in.)	10-15 (.4-.6)
Brake pedal to floorboard clearance mm (in.)	95 (3.7) or more
Booster push rod to master cylinder piston clearance mm (in.)	0.1-0.5 (.004-.020)
Disc brake dragging force N (lbs.)	74 (16)
Brake shoe outside diameter mm (in.)	253.2-253.5 (9.97-9.98)
Parking brake lever stroke	4-6 clicks
Repair limit	
Brake disc runout mm (in.)	0.15 (.006)
Service limits	
Master cylinder body to piston clearance mm (in.)	0.15 (.006)
Pad thickness mm (in.)	1.0 (.04)
Disc thickness mm (in.)	18.4 (.72)
Lining thickness mm (in.)	1.0 (.04)
Drum I.D. mm (in.)	256.0 (10.08)
Wheel cylinder body to piston clearance mm (in.)	0.15 (.006)

TORQUE SPECIFICATIONS

	Nm (ft.lbs.)
Brake booster to pedal support	8-12 (6-9)
Pedal shaft	25-35 (18-25)
Reservoir stopper bolt	1.5-3.0 (1-2)
Check valve case	40-50 (29-36)
Check valve cap	25-35 (18-25)
Piston stopper	1.5-3.0 (1-2)
Master cylinder to brake booster	8-12 (6-9)
Fitting	15-18 (11-13)
Master cylinder to brake line connector	25-35 (17-25)
Brake line flare nut	13-17 (9-12)
Brake tube to rear axle housing	9-11 (7-8)
Bleeder screw	7-9 (5-7)
Mounting support to knuckle	70-90 (51-65)
Brake disc to hub	50-60 (36-43)
Bearing case to rear axle housing	50-60 (36-43)
Wheel cylinder to backing plate	18-21 (13-15)

LUBRICANTS

	Specified lubricant	Quantity
Brake fluid	DOT 3	As required
Brake pedal bushing and spacer	Multipurpose grease SAE J310a, NLGI#3	Small quantity
Clevis pin and washer	Wheel bearing grease SAE J310a, NLGI #2EP	Small quantity
Brake booster push rod seal lip	Silicon grease	Small quantity
Brake booster push rod perimeter	Silicon grease	Small quantity
Brake booster push rod body perimeter	Silicon grease	Small quantity
Plug plate and stopper plug	WARREN Plastilube 2 brake grease	Small quantity
Caliper bore	Repair kit grease (red)	Small quantity
Dust boot mounting groove in caliper body	Repair kit grease (orange)	Small quantity
Rear brake piston and wheel cylinder	Repair kit grease (orange)	Small quantity
Contact surfaces at shoe assemblies and backing plate	WARREN Plastilube 2 brake grease	Small quantity
Rotating portion of shoe adjuster assembly	WARREN Plastilube 2 brake grease	Small quantity
Clevis pin and bushing and ratchet plate	Multipurpose grease SAE J310a NLGI grade #2EP	As required

Symptom	Probable cause	Remedy
Noise or vibration when brakes are applied	Backing plate or caliper improperly mounted	Correct
	Loose backing plate or caliper mounting bolts	Retighten
	Unevenly worn or cracked brake drum or brake disc	Replace
	Foreign material in brake drum	Clean
	Seized pad or lining contact surface	Replace
	Excessive caliper to pad assembly clearance	Correct
	Uneven pad contact	Correct
	Lack of lubrication in sliding parts	Lubricate
	Loose suspension parts	Retighten
Vehicle pulls to one side when brakes are applied	Difference in left and right tire inflation pressures	Adjust
	Inadequate contact of pad or lining	Correct
	Grease or oil on pad or lining surface	Replace
	Drum eccentricity or uneven wear	Replace
	Incorrect wheel cylinder installation	Correct
	Auto adjuster malfunction	Correct
Insufficient braking power	Low or deteriorated brake fluid	Replenish or change
	Air in brake system	Bleed the system
	Brake booster malfunction	Correct
	Inadequate contact of pad or lining	Correct
	Grease or oil on pad surface	Replace
	Auto adjuster malfunction	Correct
	Overheated brake rotor due to dragging of pad or lining	Correct
	Clogged brake line	Correct
	Blend proportioning valve malfunction	Replace
Increased pedal stroke (Reduced pedal to floor clearance)	Air in brake system	Bleed the system
	Brake fluid leaks	Correct
	Auto adjuster malfunction	Correct
	Excessive push rod to master cylinder clearance	Adjust

Symptom	Probable cause	Remedy
Brake drag	Incomplete release of parking brake	Correct
	Incorrect parking brake adjustment	Adjust
	Worn brake pedal return spring	Replace
	Clogged master cylinder return port	Correct
	Broken rear drum brake shoe return spring	Replace
	Lack of lubrication in sliding parts	Lubricate
	Defective master cylinder check valve or piston return spring	Replace
	Excessive push rod to master cylinder clearance	Adjust
Insufficient parking brake function	Worn brake lining Grease or oil on lining surface Parking brake cable sticking	Replace
	Auto adjuster malfunction	Correct
	Excessive parking brake lever stroke	Adjust the parking brake lever stroke or check the parking brake cable routing

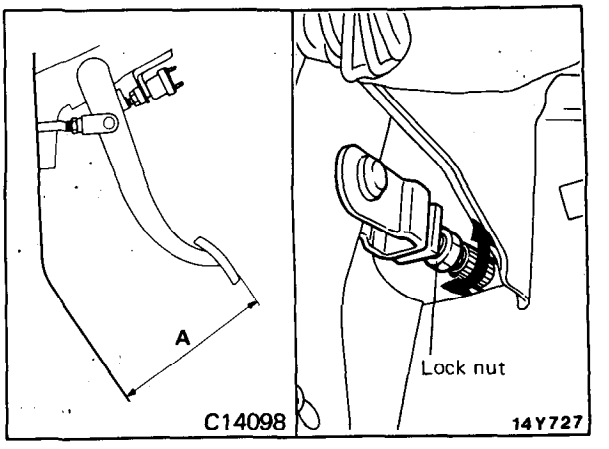
SERVICE BRAKE PEDAL INSPECTION AND ADJUSTMENT

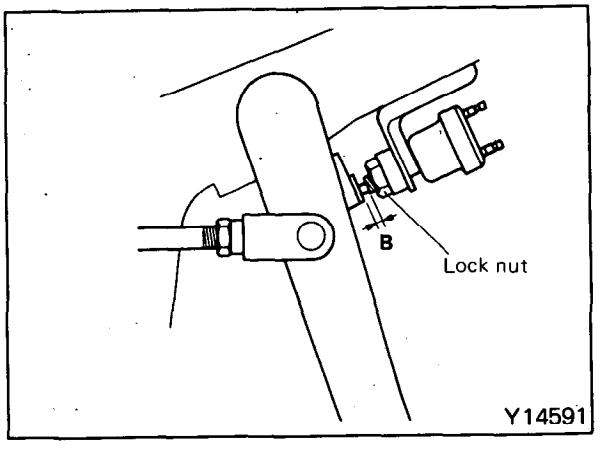
1. Measure the brake pedal height as illustrated.
   If the brake pedal height is not within the standard value, adjust as follows.

   Pedal height (from top of the pedal to floorboard) A
   ..... 191-196 mm (7.5-7.7 in.)

   (1) Move the stop light switch to a position where it does not contact the brake pedal arm.
   (2) Adjust the brake pedal height by turning the operating rod with pliers (with the operating rod lock nut loosened), until the correct clearance is obtained. (14Y727)
   (3) Adjust the stop light switch until the dimension (between the outer case of the stop light switch and the brake pedal arm) agree with the standard value, and then lock the switch in place with lock nut. (Y14591)

   Dimension B ..... 0.5-1.0 mm (.02-.04 in.)

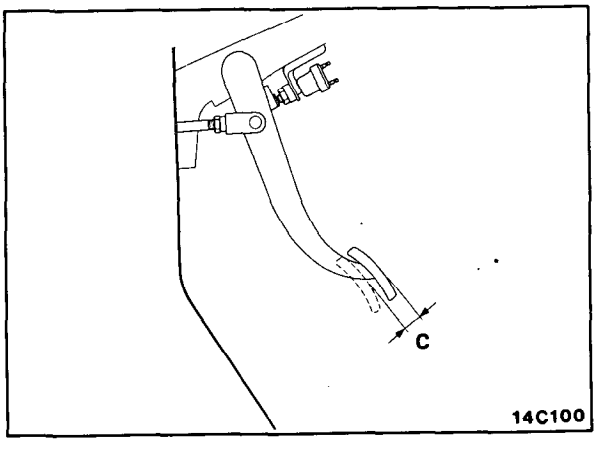




2. While the engine is stopped, depress the brake pedal two or three times. After thus eliminating the vacuum in the power brake booster, press the pedal down by hand, and confirm that the amount of movement before resistance is met (the free play) is within the standard value range.

   Brake pedal free play C ..... 10-15 mm (.4-.6 in.)

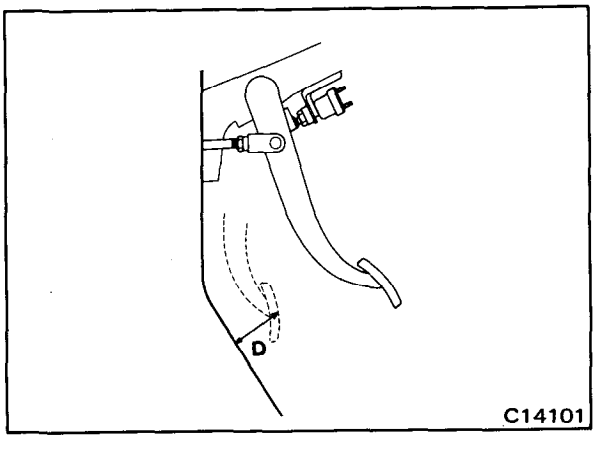
   If the free play is less than the standard value, confirm that the clearance between the outer case of the stop light and the brake pedal is within the standard value.



3. Start the engine, depress the brake pedal with approximately 500 N (110 lbs.) of force, and measure the clearance between the brake pedal and the floorboard. (C14101)

   Pedal to floorboard clearance D when pedal is depressed [Pedal depressing force of 500 N (110 lbs.)]
   ..... 95 mm (3.7 in.) or more

   If the pedal to floorboad clearance is less than the standard value, correct it according to the troubleshooting.

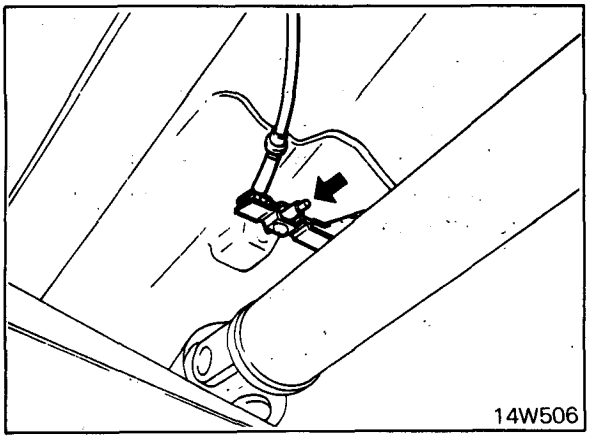


PARKING BRAKE STROKE ADJUSTMENT

1. Pull the parking brake lever with a force of approx. 200 N (45 lbs.), and count the number of clicks.

Parking brake lever stroke	4 - 6 clicks

2. If the parking brake lever stroke is not within the standard value range, pull the parking brake lever repeatedly to adjust the shoe clearance.
3. Adjust the parking brake lever stroke by turning the cable adjusting nut. (14W506)



Caution

1. **If the number of brake lever clicks is less than the standard value, the cable has been tightened excessively, and failure of the automatic adjuster mechanism will result. Be sure to adjust it to within the standard value.**
2. **Overtightening of the parking brake will result in brake drag.**

BRAKE BOOSTER OPERATING TEST (WITHOUT A TESTER)

For simple checking of the brake booster operation, perform the following tests:

(1) Run the engine for one or two minutes, and then stop it. Step on the brake pedal several times with normal pressure. If the pedal depresses fully the first time but gradually becomes higher when depressed succeeding times, the booster is operating properly. If the pedal height remains unchanged each time, the booster is defective.

(2) With the engine stopped, step on the brake pedal several times with the same foot pressure to confirm that the pedal height does not change, and then step on the brake pedal and start the engine. If the pedal moves downward slightly, the booster is in good condition. If there is no change, the booster is defective.

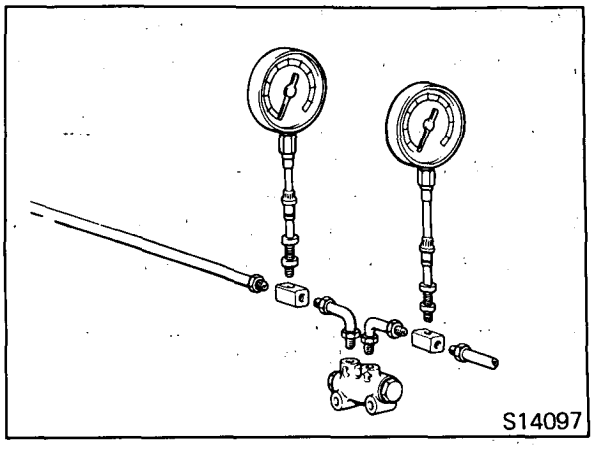
(3) With the engine running, step on the brake pedal and then stop engine. Hold the pedal depressed for 30 seconds. If the pedal height does not change, the booster is in good condition, if the pedal rises, the booster is defective.

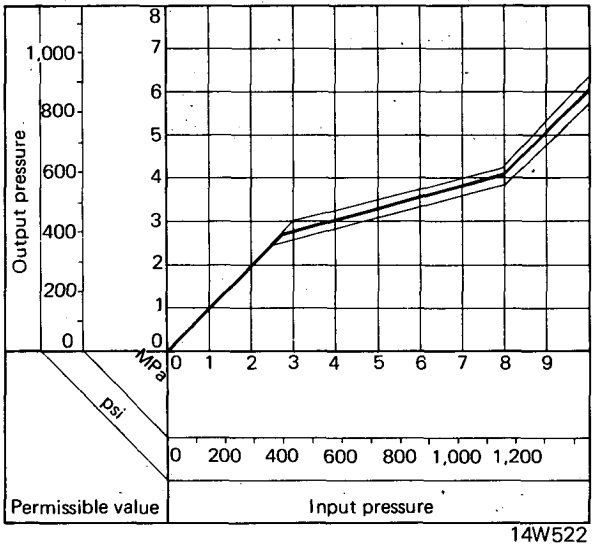
If the above three tests are okay the booster is operating properly.

If one of the above three tests is not okay, the check valve, vacuum hose, or booster is defective.

BLEND PROPORTIONING VALVE FUNCTION TEST

1. Connect two pressure gauges, one each to the input side and output side of the blend proportioning valve, as illustrated. (S14097)
2. With the brakes applied, measure the input pressure and the output pressure. If the measured pressures are within the permissible ranges shown, the blend proportioning valve is functioning properly.
3. If the measured pressures are not within the permissible ranges, replace the blend proportioning valve.
4. Measure both input and output pressure; if the difference between input and output is 0.4 MPa (60 psi) or more, replace the blend proportioning valve.


S14097



14W522

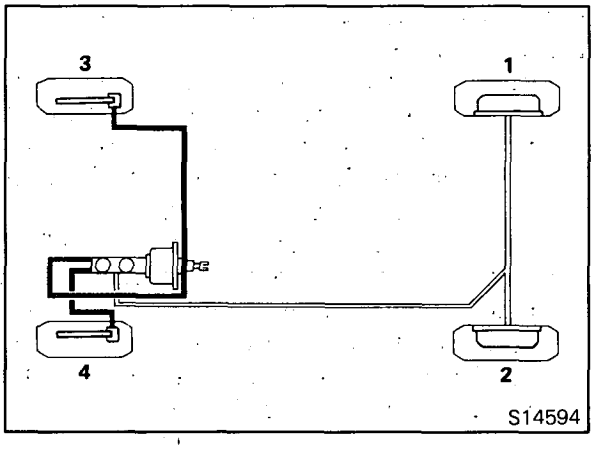
BLEEDING

NOTE

The brake hydraulic system should be bled whenever the brake tube, brake hose, master cylinder or wheel cylinder has been removed or whenever the brake pedal feels spongy when depressed.

Bleed the brake system in the sequence shown in the illustration. (S14594)

Recommended brake fluid	DOT 3



S14594

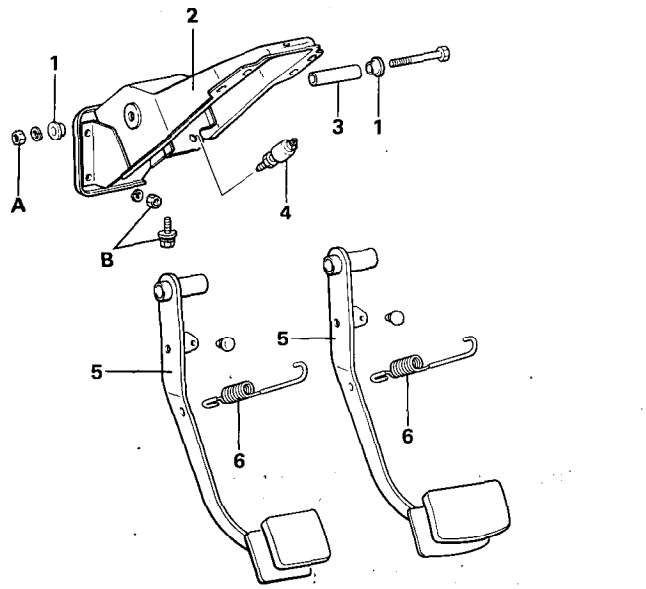
Caution

1. **Use the recommended brake fluid. Avoid using a mixture of the recommended brake fluid and other fluid.**
2. **If brake fluid is exposed to the air, it will absorb moisture; as water is absorbed from the atmosphere, the boiling point of the brake fluid will decrease and the braking performance will be seriously impaired. For this reason, use a hermetically sealed 1 liter (1.06 U.S.qt., 0.88 Imp.qt.) or 0.5 liter (0.52 U.S.qt., 0.44 Imp.qt.) brake fluid container.**
3. **Firmly close the cap of the brake fluid container after use.**

COMPONENTS

1. Bushing
2. Pedal support member
3. Spacer
4. Stop light switch
5. Brake pedal
6. Return spring

	Nm	ft.lbs.
A	25-35	18-25
B	8-12	6-9



Vehicles with a manual transmission

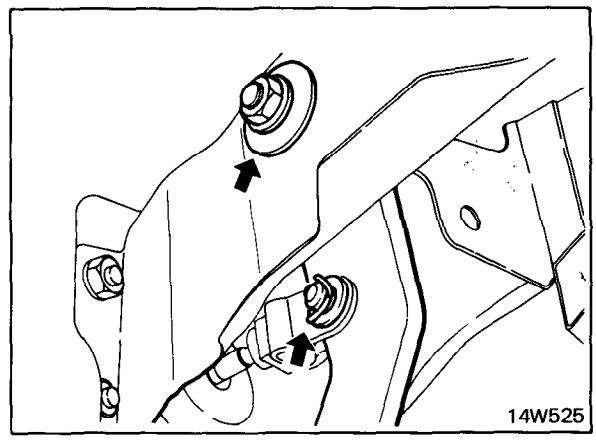
Vehicles with an automatic transmission

14W548

REMOVAL

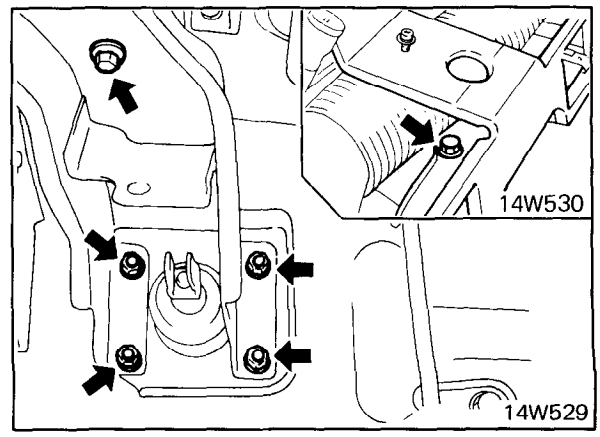
Brake Pedal

1. Remove the return spring and stop light switch.
2. Remove the cotter pin that connects the operating rod of the brake booster to the brake pedal. (14W525)
3. Remove the bolt that attaches the brake pedal to the pedal support member.
4. Remove the brake pedal.



Brake Pedal Support

1. Remove the steering column assembly. (Refer to GROUP 19.)
2. Remove the brake pedal.
3. Remove the pedal support member. (14W530, 14W529)



INSPECTION

1. Check spacer and bushing for wear.
2. Check stop light switch for operation.
3. Check brake pedal for bend or twisting.
4. Check brake pedal return spring for damage.

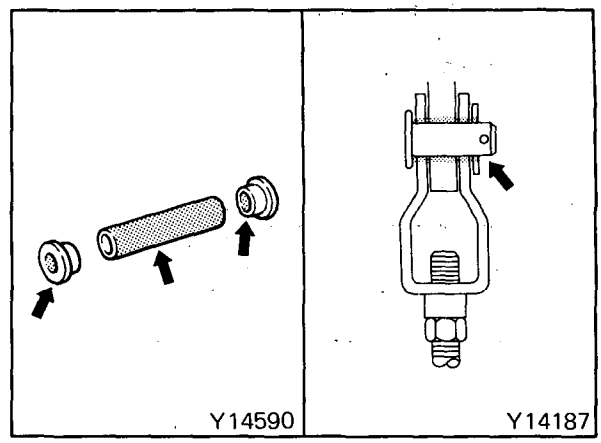
INSTALLATION

1. Apply the specified multipurpose grease to the bushing and the spacer. (Y14590)

   Recommended multipurpose grease .....
   SAE J310a, NLGI grade #3

2. Apply the specified multipurpose grease to the clevis pin and washer. (Y14187)

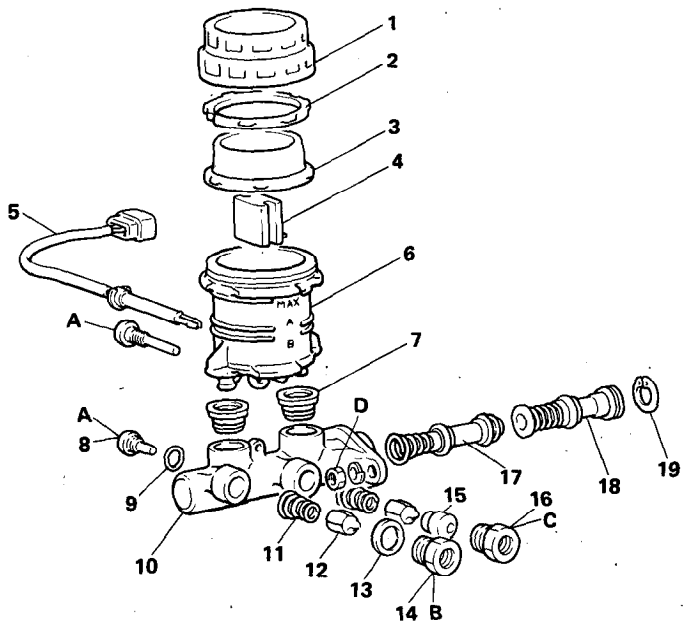
   Recommended multipurpose grease .....
   SAE J310a, NLGI grade #2EP



COMPONENTS

1. Reservoir cap
2. Slide ring
3. Diaphragm
4. Float
5. Fluid level sensor
6. Reservoir
7. Reservoir seal
8. Secondary piston stopper
9. Gasket
10. Master cylinder body
11. Check valve spring
12. Check valve
13. Gasket
14. Check valve case
15. Tube seat
16. Check valve cap
17. Secondary piston
18. Primary piston
19. Piston stopper ring

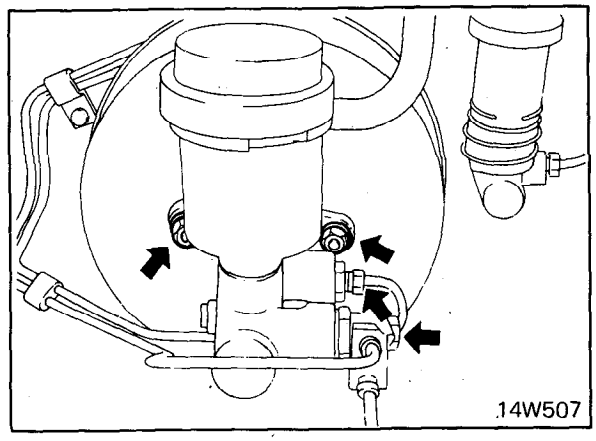
	Nm	ft. lbs.
A	1.5-3.0	1-2
B	40-50	29-36
C	25-35	18-25
D	8-12	6-9



14W547

REMOVAL

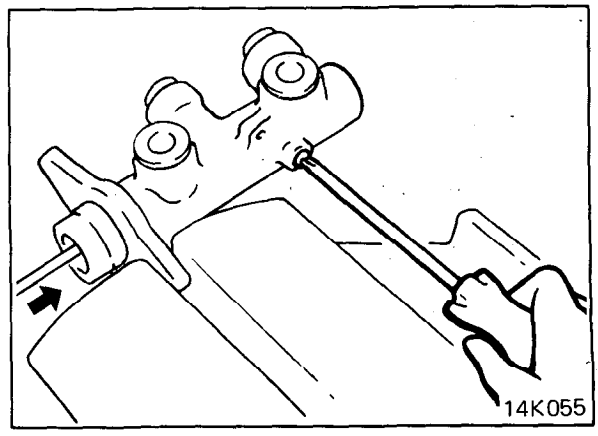
1. Disconnect the harness connector of the fluid level sensor.
2. Detach the brake tubes from the master cylinder. (14W507)
3. Remove the master cylinder from the brake booster. (14W507)



14W507

DISASSEMBLY

1. Remove the reservoir.
2. While depressing the piston, remove the secondary piston stopper. (14K055)

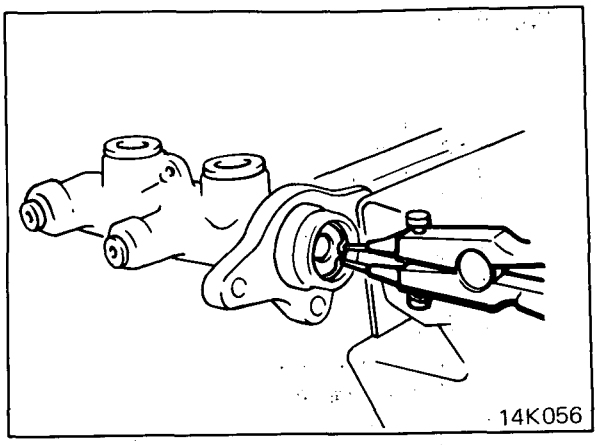


14K055

3. Remove the piston stopper ring. (14K056)
4. Remove the primary and secondary pistons from the master cylinder body.

Caution
Do not disassemble the primary and secondary pistons.

5. Remove the check valve cap and check valve case, and then remove the gasket, the check valves and the check valve springs.



INSPECTION

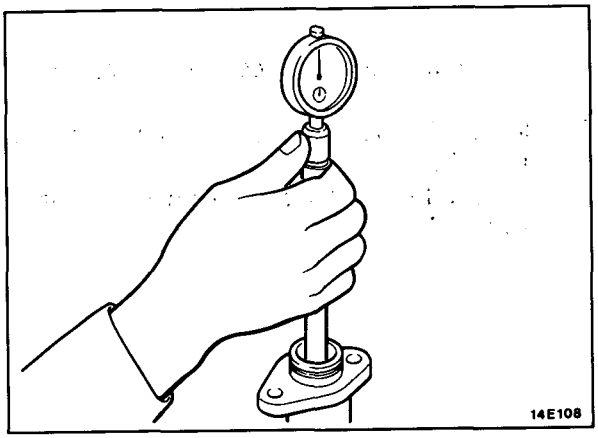
1. Check check valve and check valve spring for deterioration.
2. Check gasket for damage.
3. Check inner surface of master cylinder body for rust or scars.
4. Check primary and secondary pistons for rust, scouring, wear, damage or deterioration.
5. Check primary and secondary piston springs for deterioration.
6. Check the clearance between master cylinder inner diameter and piston outer diameter as follows:

Clearance between Master Cylinder Inner Diameter and Piston Outer Diameter

(1) Measure of the master cylinder inner diameter at three different positions (bottom, middle and top) by using a cylinder gauge. (14E108)

Master cylinder to piston clearance [Service limit]	0.15 mm (.006 in.)

(2) If the clearance between these inner diameters and the piston outer diameter is not less than the service limit, replace the master cylinder and the piston assembly as set.

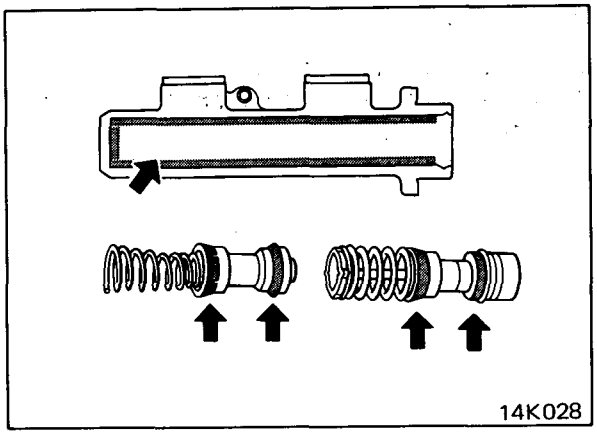


REASSEMBLY

1. Apply brake fluid to the inner surface of the master cylinder body and to the entire periphery of the secondary and primary pistons. (14K028)

Recommended brake fluid	DOT 3

2. Torque parts to specifications during assembly.



INSTALLATION

Bleed the brake system. (Refer to p. 5-8.)

MASTER CYLINDER PUSH ROD ADJUSTMENT

1. Measure the clearance between the brake booster push rod and the primary piston.

Booster push rod to master cylinder piston clearance A (A = B – C – D)	0.1-0.5 mm (.004-.020 in.)

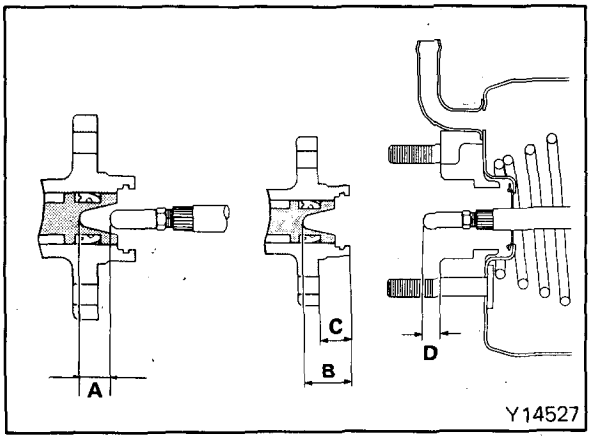
NOTE
If the clearance is not within the standard value range, adjust by changing the push rod length by turning the screw of the push rod.

Caution
Insufficient clearance may cause excessive brake drag.

2. Make sure that the brake pedal free play is within the standard value range.

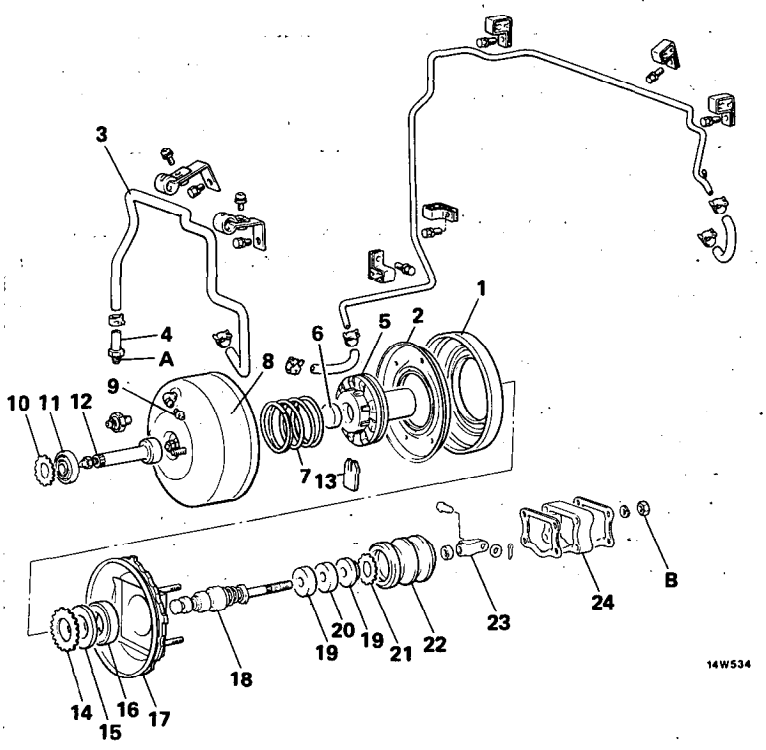
Brake pedal free play	10-15 mm (.4-.6 in.)

3. Torque all parts to specifications during assembly.



COMPONENTS

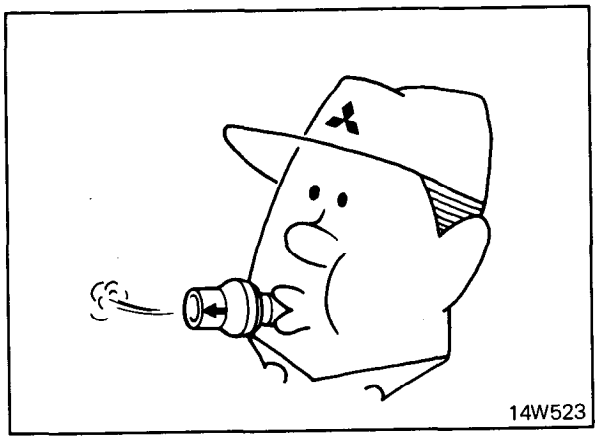
1. Diaphragm
2. Diaphragm plate
3. Vacuum hose
4. Fitting
5. Valve body
6. Reaction disc
7. Spring
8. Front shell
9. Check valve
10. Retainer
11. Plate and seal assembly
12. Push rod
13. Valve plunger stop key
14. Retainer
15. Bearing
16. Valve body seal
17. Rear shell
18. Valve rod and plunger
19. Filter
20. Silencer
21. Retainer
22. Boot
23. Operating rod yoke
24. Spacer



	Nm	ft. lbs.
A	15-18	11-13
B	8-12	6-9

INSPECTION

Check check valve operation as follows. (14W523)
(1) Blow into the check valve.
(2) If the air passes through when you blow from the booster side, but not when you blow from the engine side, the check valve is functioning properly.



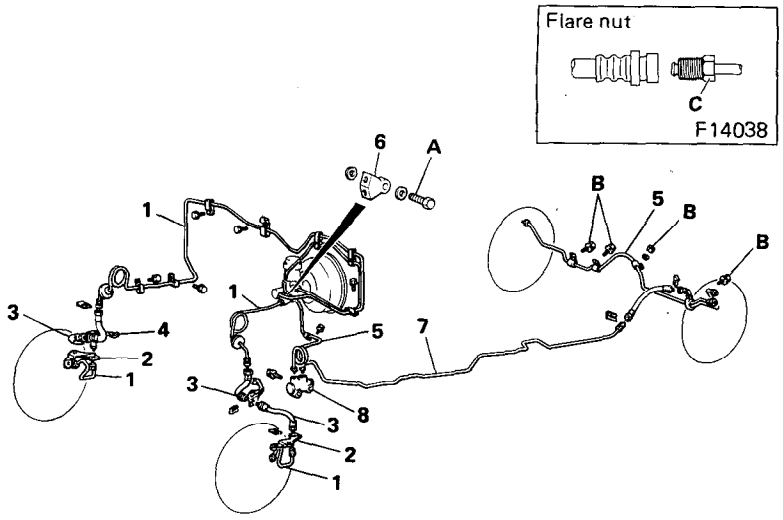
INSTALLATION

1. Check the booster push rod to master cylinder piston clearance. (Refer to p. 5-13.)
2. Install the check valve, being careful that the direction of installation is correct.
3. Fasten the vacuum hose securely to prevent air leaks from the connections.
4. After bleeding, adjust the brake pedal. (Refer to p. 5-6.)
5. Confirm that the brake booster operates properly. When installing the vacuum hose fitting, apply semi-drying sealant to its threaded portion and tighten it to the specified torque.

Tightening torque . . . . . 15-18 Nm (11-13 ft.lbs.)

COMPONENTS

1. Front brake tube
2. Brake hose bracket
3. Brake hose
4. Brake hose support
5. Rear brake tube
6. Connector
7. Main brake tube
8. Blend proportioning valve (B.P.V.)



	Nm	ft. lbs.
A	25-35	17-25
B	9-11	7-8
C	13-17	9-12

14W541

INSPECTION

1. Check brake tubes for cracks, crimps and corrosion.
2. Check brake hoses for cracks, damage and leakage.
3. Check brake tube flare nuts for damage and leakage.

INSTALLATION

1. Install the brake hoses, being careful not to twist them.
2. The brake tubes should be installed away from sharp edges, weld beads or moving parts.
3. Tighten the connections to the specified torque.

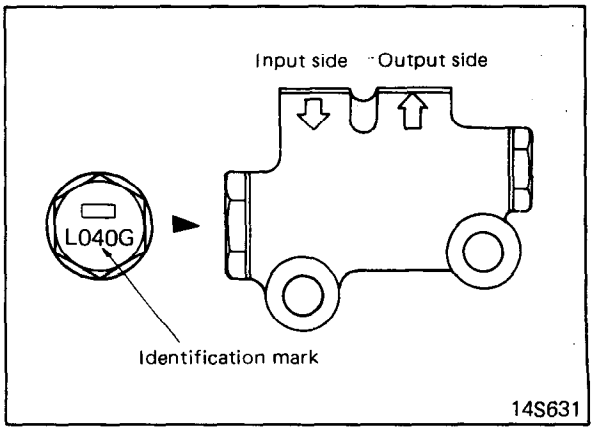
Flare nuts tightening torque . . . . . 13-17 Nm (9-12 ft.lbs.)

BLEND PROPORTIONING VALVE (B.P.V.)

Connect the brake tubes in accordance with the arrows marked on the B.P.V. body. (14S631)

Caution

1. **Do not disassemble the B.P.V. since its performance depends on the preset load of the spring.**
2. **Use only a B.P.V. which is marked L040G. (14S631)**

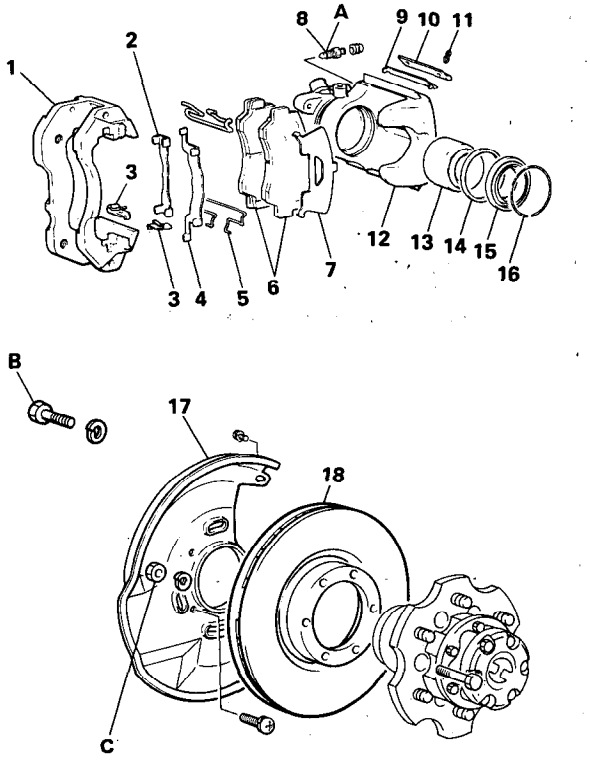


14S631

COMPONENTS

1. Mounting support
2. Inner pad clip
3. Pad clip B
4. Outer pad clip
5. Anti-rattle spring
6. Pad assembly
7. Outer shim
8. Bleeder screw
9. Plug plate
10. Stopper plug
11. Spigot pin
12. Caliper body
13. Piston
14. Piston seal
15. Piston boot
16. Boot ring
17. Dust cover
18. Brake disc

	Nm	ft.lbs.
A	7-9	5-7
B	70-90	51-65
C	50-60	36-43



14S660

BRAKE PAD INSPECTION

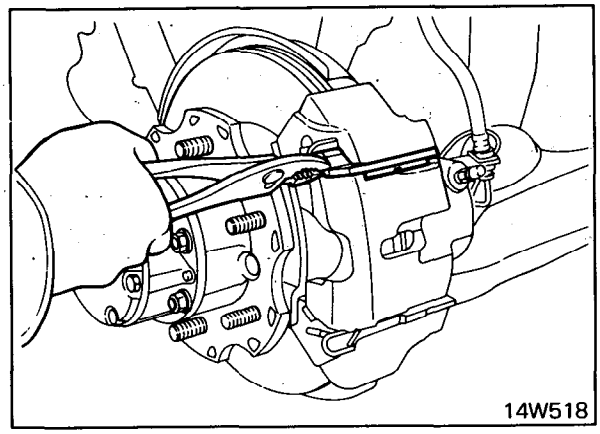
1. Check the pads for wear.
2. If the pad thickness is less than the service limit, replace the pads.

Brake pad thickness [Service limit] . . . . . 1 mm (.04 in.)

BRAKE PAD REPLACEMENT

Removal

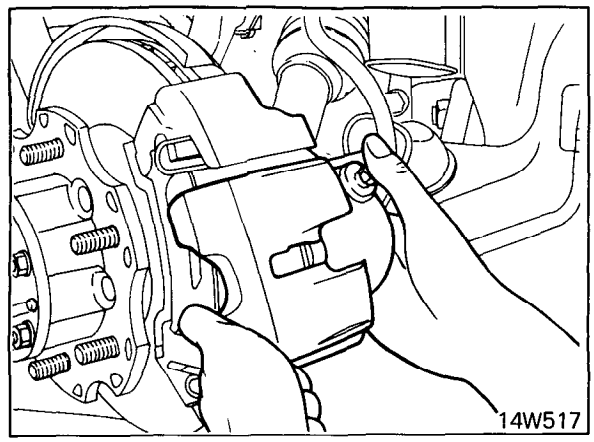
1. Remove the spigot pins.
2. Remove the stopper plugs and remove the plug plates. (14W518)



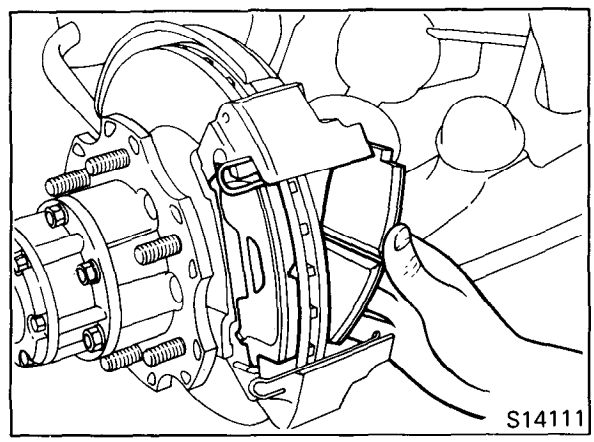
14W518

3. Remove the caliper body by moving it upward or downward at an angle.

NOTE
Support the front brake assembly by suspending it with wire or other suitable means in such a manner so that the brake hoses are not twisted.

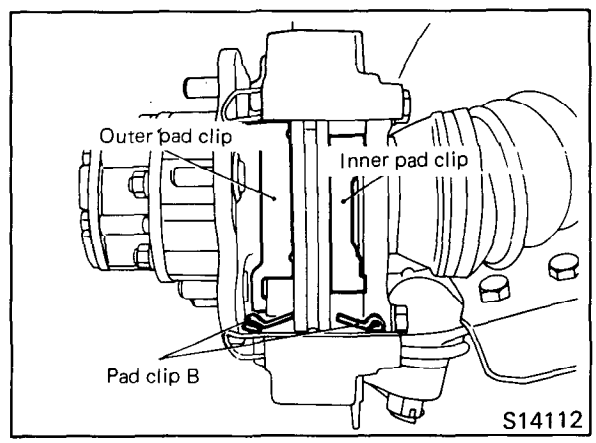


4. Remove the pad, outer shim, pad clips and anti-rattle springs from the mounting support.

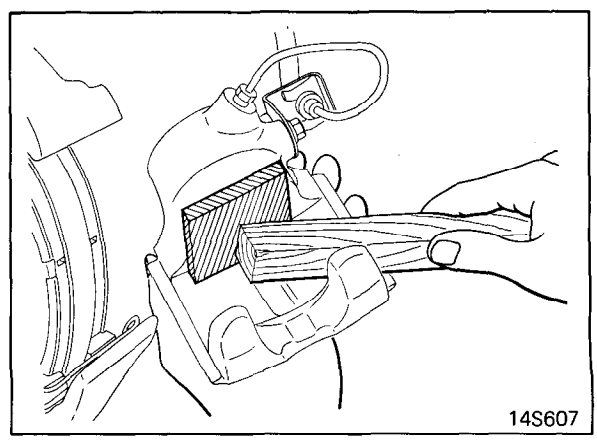


Installation

1. Install the anti-rattle springs, pad clip B, inner pad clip and outer pad clip onto the mounting support. (S14112)
2. Install the pads together with the outer shim.

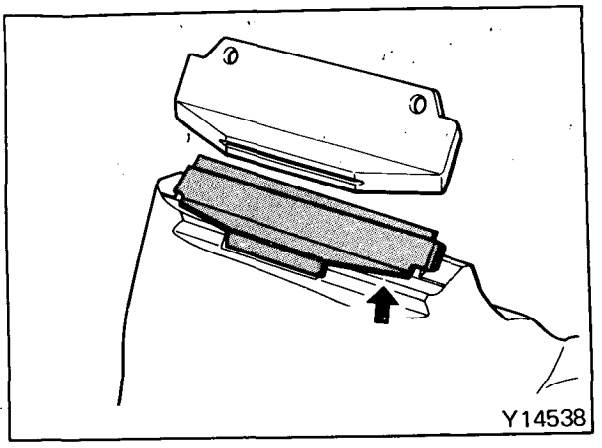


3. Bottom the piston into the caliper bore.



4. Apply a thin coat of the specified brake grease to the plug plate and stopper plug contact surface.

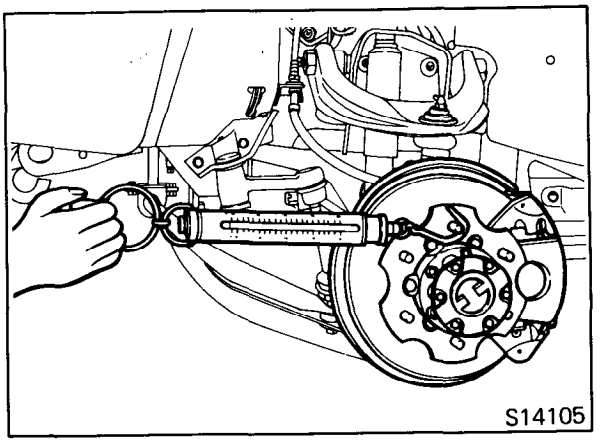
Recommended brake grease	Plastilube 2 brake grease



BRAKE DRAG INSPECTION

1. Start the engine and depress the brake pedal for 5 seconds.
2. Turn the engine off.
3. Rotate the brake disc a few revolutions.
4. Use a spring scale as illustrated to measure the brake drag. (S14105)
5. Remove the brake pads and use the spring scale to measure the rotational force.
   The difference between brake drag and rotational force should not exceed the standard value.

Brake drag	74 N (16 lbs.)

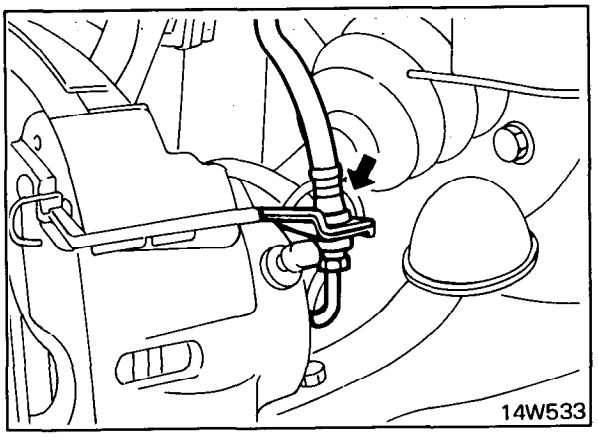


NOTE
If the difference exceeds the standard value, remove the caliper body and disassemble it. Check the piston and seal for deterioration, corrosion, dirt or scoring.

FRONT BRAKE ASSEMBLY

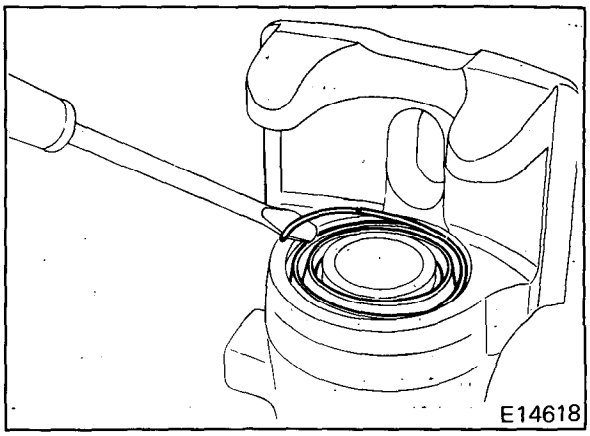
Removal

1. Disconnect the brake tube.
2. Remove the caliper body.
3. Remove the brake hose bracket from the caliper body. (14W533)
4. Remove the mounting support.



Disassembly

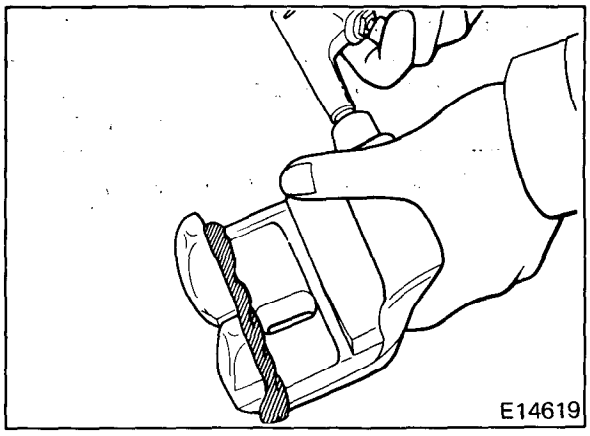
1. Remove the boot ring from the caliper body.


E14618

2. Remove the piston and dust boot by applying compressed air through the brake hose fitting hole.

Caution

1. **Place a rag in front of the piston to catch it when it comes out, and slowly increase the amount of compressed air being applied behind the piston.**
2. **Be sure to keep your fingers away from the front of the piston during removal.**

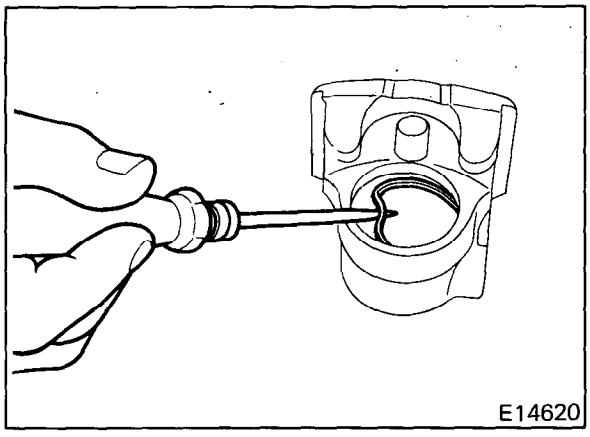

E14619

3. Remove the piston seal. (E14620)

Caution

Be careful not to damage the caliper bore. The piston seal must be replaced with a new one.

4. Clean the caliper bore with alcohol or brake fluid.


E14620

Inspection

1. Check mounting support for cracks.
2. Check caliper body for cracks or rust of cylinder portion.
3. Check piston for rust.
4. Check piston seal for wear or deterioration.
5. Check piston boot for cracks or deterioration.

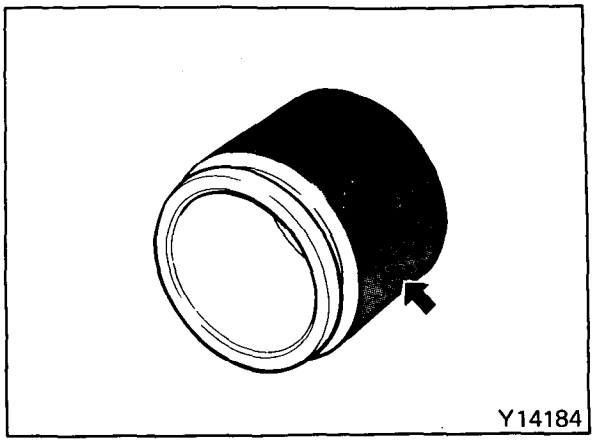
Reassembly

1. Apply the specified brake grease to a new piston seal and install the seal to the cylinder.

Recommended brake grease	Repair kit grease (red)

2. Apply the brake fluid to the outside surface of the piston and slowly insert the piston by hand, taking care not to twist it. (Y14184)

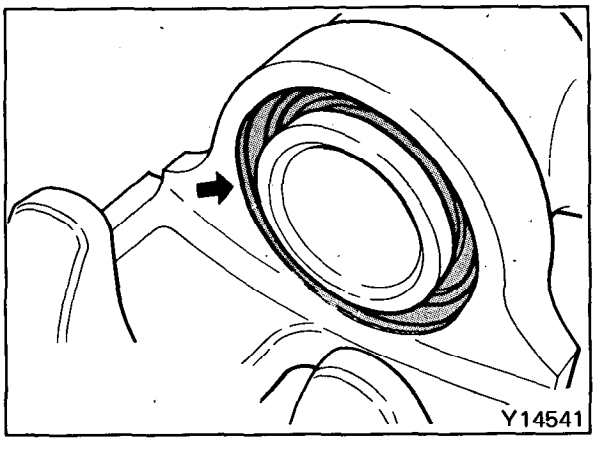
Recommended brake fluid	DOT 3



3. Apply the specified brake grease to the piston boot mounting groove in the caliper body. (Y14541)

Recommended brake grease	Repair kit grease (orange)

4. Install the piston boot and retain it with the boot ring.



Installation

1. Bleed the air from the caliper.
2. Check the brake drag. (Refer to p. 5-18.)

BRAKE DISC

Inspection

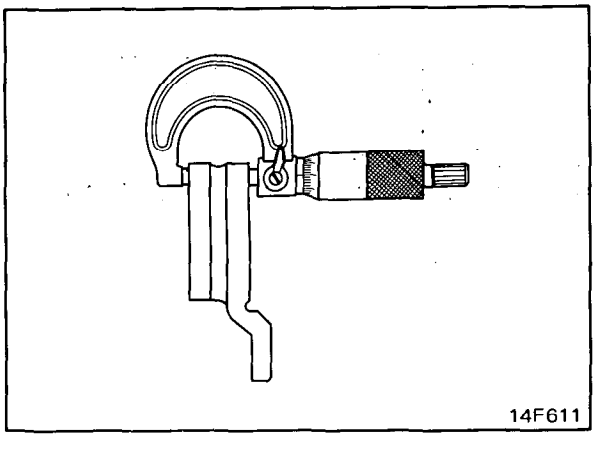
BRAKE DISC WEAR

If the brake disc thickness becomes less than the service limit, replace the disc. (14F611)

Disc thickness [Service limit]	18.4 mm (.72 in.)

BRAKE DISC DAMAGE

Replace the brake disc if necessary.



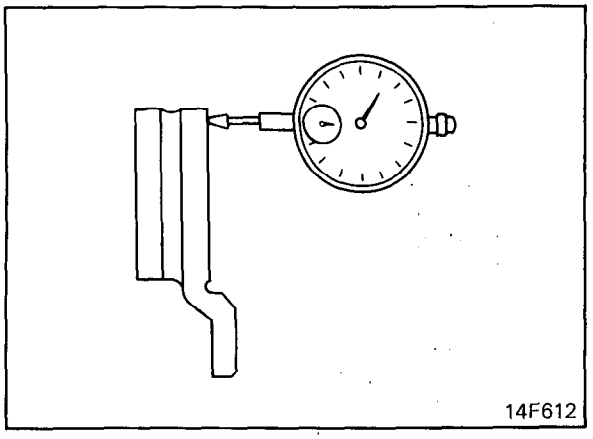
BRAKE DISC RUNOUT

1. If the brake disc runout exceeds the repair limit, change its position on the hub and/or retorque evenly. (14F612)

Disc runout [Repair limit]	0.15 mm (.006 in.)

2. Check the runout again, and if it cannot be corrected, resurface the brake disc. (14F612)

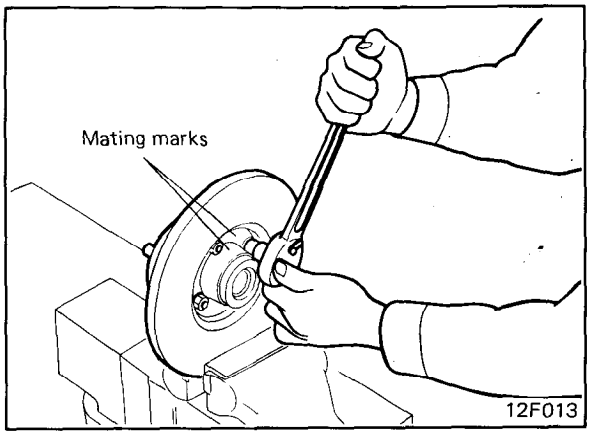
Thickness of brake disc [Service limit]	18.4 mm (.72 in.)



Caution
Do not grind the brake disc beyond the service limit.

Removal

1. Remove the front brake assembly and use wire to support it.
2. Remove the front hub assembly from the knuckle.
3. Make mating marks, and then disassemble the brake disc from the hub. (12F013)



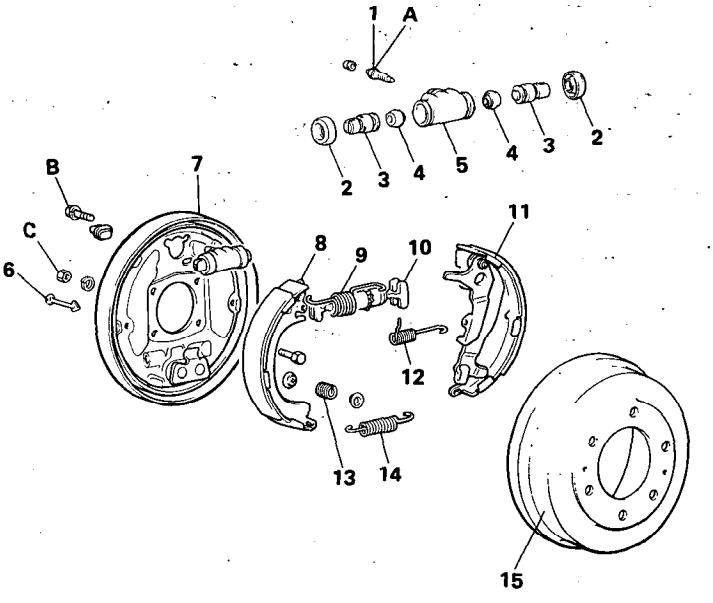
Installation

1. Align the mating marks and assemble the brake disc to the hub.
2. Check the brake dragging torque. (Refer to p. 5-18.)
3. Torque all parts to specifications during assembly.

COMPONENTS

1. Bleeder screw
2. Wheel cylinder boot
3. Wheel cylinder piston
4. Piston cup
5. Wheel cylinder body
6. Shoe hold-down pin
7. Backing plate
8. Shoe and lining assembly
9. Shoe return spring
10. Brake shoe adjuster
11. Shoe and lever assembly
12. Adjusting spring
13. Shoe hold-down spring
14. Shoe retainer spring
15. Brake drum

	Nm	ft. lbs.
A	7-9	5-7
B	18-21	13-15
C	50-60	36-43

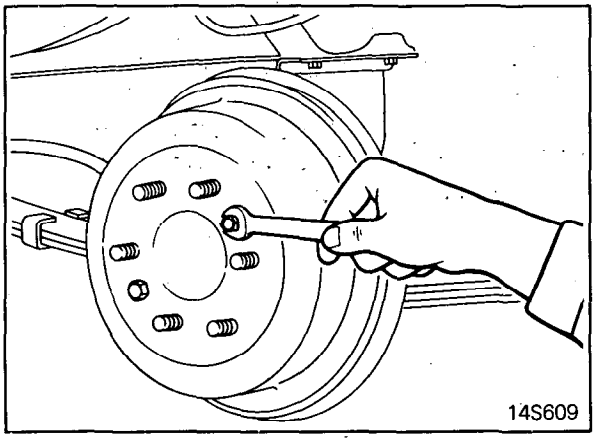


14W535

REMOVAL

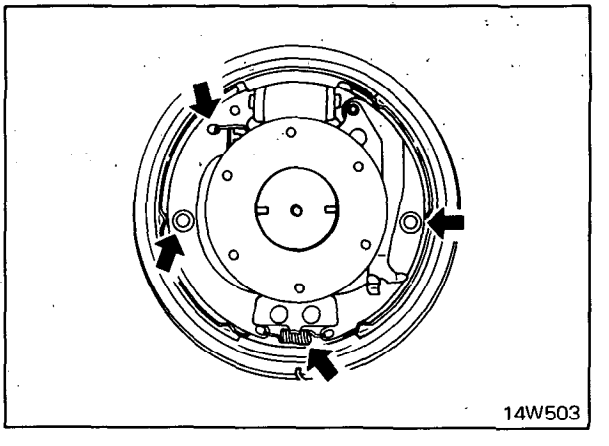
1. Remove the brake drum.

NOTE
If it is hard to remove the brake drum, install two bolts (M8 x 1.25) into the threaded holes provided in the drum flange surface. (14S609)



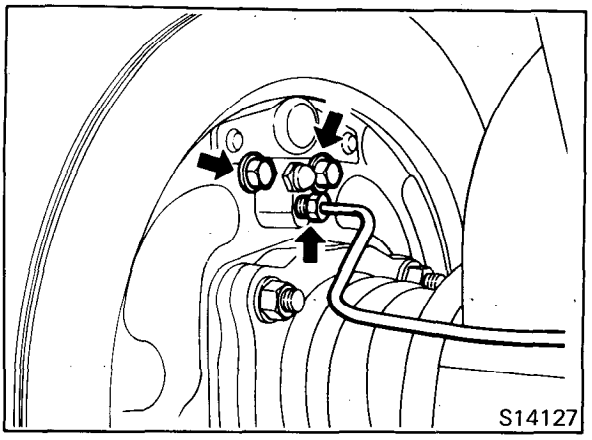
14S609

2. Disconnect the parking brake cable from the shoe and lever assembly.
3. Remove the shoe return spring, shoe retainer spring and shoe hold-down pin, and remove the shoe and lining assembly and the shoe and lever assembly. (14W503)



14W503

4. Disconnect the brake tube, remove the wheel cylinder mounting bolts and remove the wheel cylinder. (S14127)
5. Disconnect the parking brake cable from the backing plate. (Refer to p. 5-28.)
6. Disconnect the bearing case from the axle housing end. (Refer to GROUP 3.)
7. Remove the axle shaft toward you together with the backing plate. (Refer to GROUP 3.)
8. Remove the backing plate from the axle shaft.


S14127

INSPECTION OF BRAKE LINING AND BRAKE DRUM WEAR

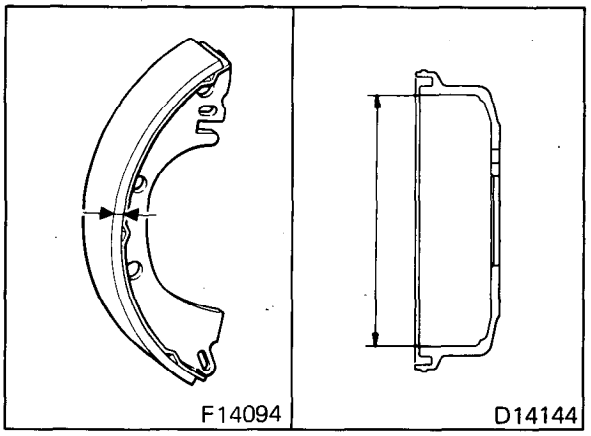
1. Measure the wear of the brake lining at the place worn the most. (F14094)

Brake lining thickness [Service limit]	1.0 mm (.04 in.)

2. Use a caliper gauge to measure the inside diameter of the brake drum. (D14144)

Brake drum inside diameter [Service limit]	256 mm (10.08 in.)

3. If the brake lining or brake drum wear exceeds the service limit, replace the parts.

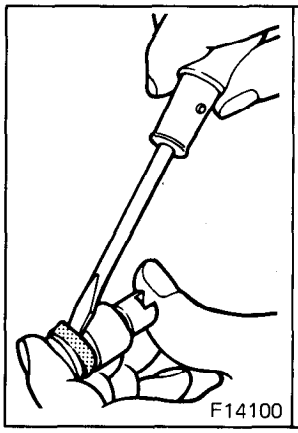

F14094

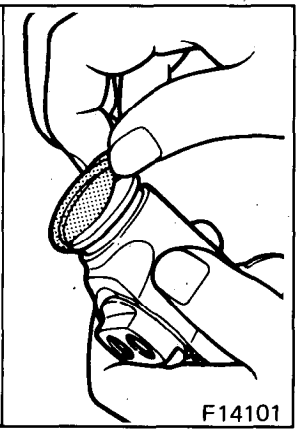
D14144

WHEEL CYLINDER PISTON CUP REPLACEMENT

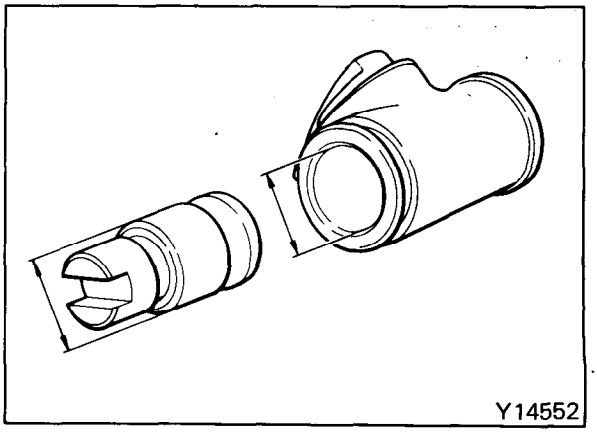
1. Remove the wheel cylinder to backing plate retaining bolt.
2. Detach the wheel cylinder boot and remove the piston assembly. (F14100)
3. Remove the piston cup from the piston. (F14101)

Caution
If the piston cup is removed, it must be replaced with a new one.

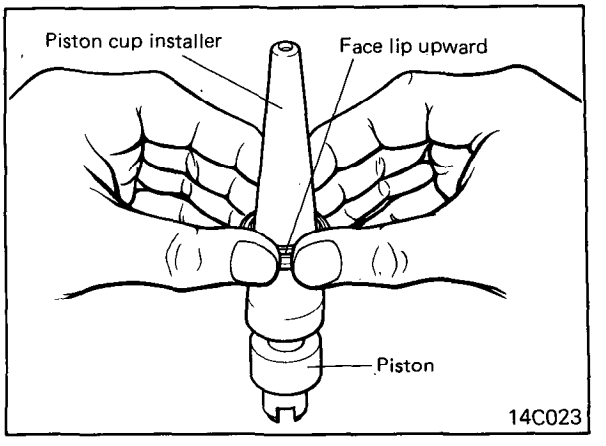

F14100


F14101

4. Check the following points, and if there is any abnormality, replace the entire wheel cylinder assembly.
   (1) Check the piston and wheel cylinder walls for rust or damage.
   (2) Check the clearance between the cylinder and the piston. (Y14552)


Y14552

5. Use alcohol or the brake fluid to clean the wheel cylinder and the piston.
6. Apply the brake fluid to the piston cup and the piston cup installer. (14C023)



Caution
The repair kit must be used to replace the piston cup and the wheel cylinder boot.

7. Set the piston cup on the piston cup installer with the lip of the cup facing up, fit the cup onto the piston cup installer, and then slide it down the outside of the tool into the piston groove. (14C023)

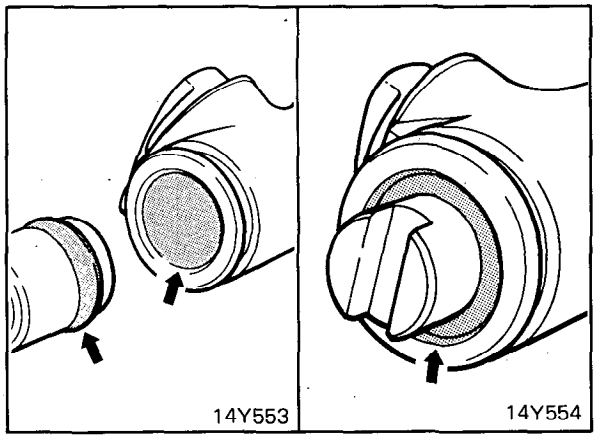
Caution
In order to keep the piston cup from becoming twisted or slanted, slide it down the tool slowly and carefully, without stopping.

8. Use the brake fluid to clean the cylinder wall and the piston.

Recommended brake fluid	DOT 3

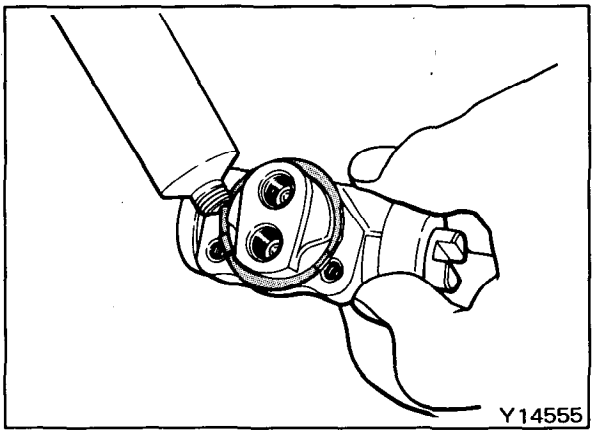
9. Apply the brake fluid to the wheel cylinder walls and the piston cup, and then install the piston assembly. (14Y553)
10. Apply a sufficient amount of grease to both ends of the piston, and then install the boots. (14Y554)

Recommended brake grease	Repair kit grease (orange)



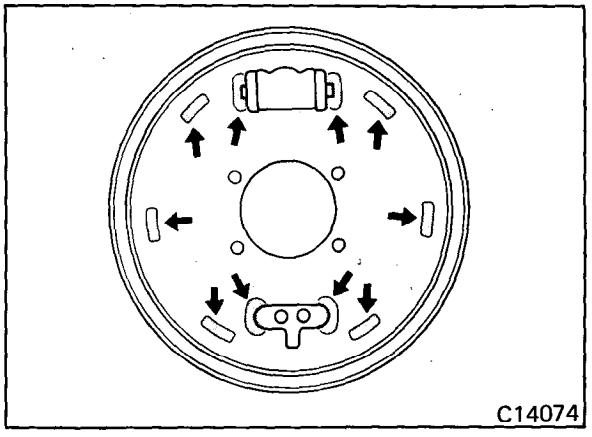
INSTALLATION

1. Apply drying sealant to the wheel cylinder assembly attaching surface before installation to the backing plate.



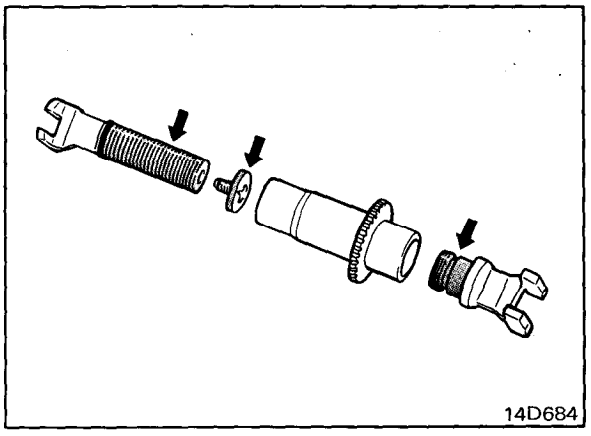
2. Apply the specified brake grease to the contacting surfaces of the shoes, backing plate, anchor plate and wheel cylinder piston ends.

Recommended brake grease .....
WARREN Plastilube 2 brake grease



3. Apply the specified brake grease to the rotating portion of the shoe adjuster and verify that it turns lightly.

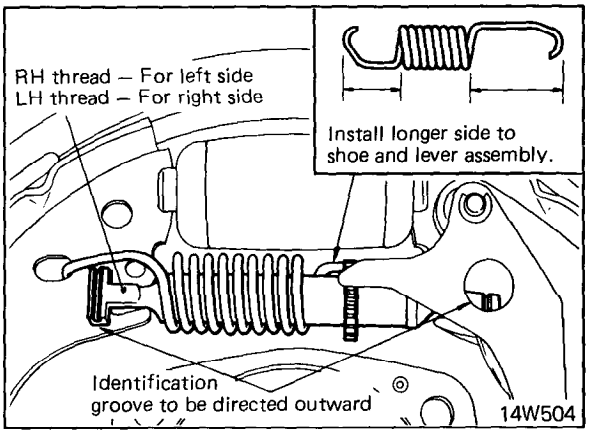
Recommended brake grease .....
WARREN Plastilube 2 brake grease



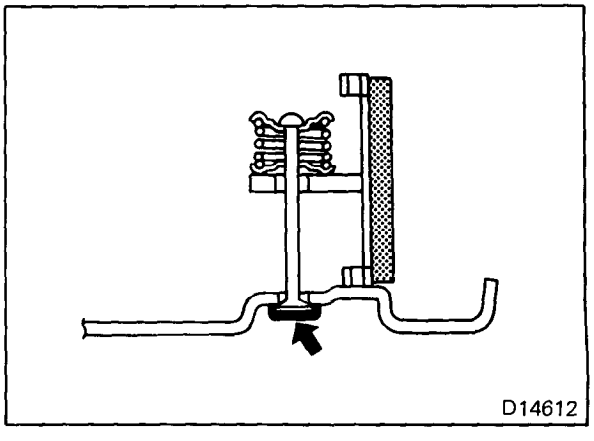
4. Attach the brake shoe adjuster and shoe return spring and install the shoe and lining assembly and the shoe and lever assembly. (14W504)

Caution
Note the differences between right and left brake shoe adjusters and between right and left shoe return springs and install them in the correct position.
The shoe return spring should first be installed to only the shoe and lever assembly.

5. After the shoe hold-down pin and shoe retainer spring have been installed, install the shoe return spring to the shoe and lining assembly.

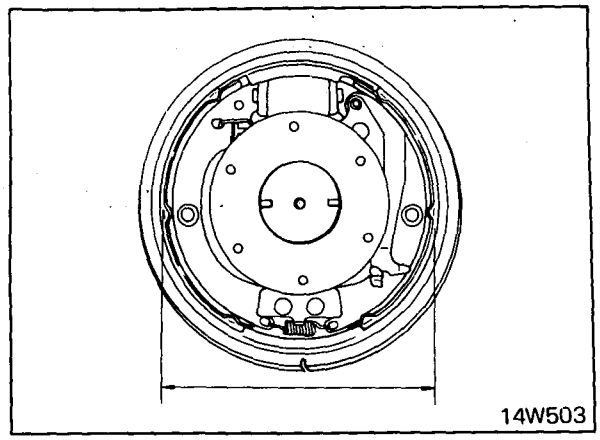


6. Apply a drying sealant to the shoe hold-down pin hole of the backing plate.



7. Turn the brake shoe adjuster to adjust the outer diameter of the brake shoes to the standard value.

Brake shoe outer diameter	253.2-253.5 mm (9.97-9.98 in.)

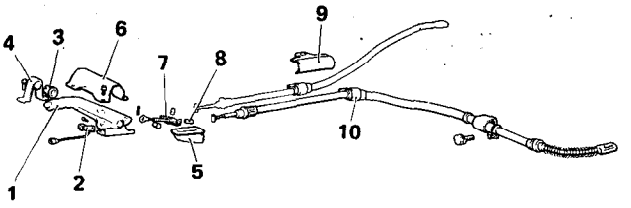


NOTE
Adjusting the outer diameter of brake shoes to the standard value will also facilitate adjustment of the shoe clearance. (14W503)

8. Check to ensure that the parking brake cable is loose before installing the brake drum.
9. Pull the parking brake lever repeatedly to adjust the shoe clearance. (Refer to p. 5-29.)
10. Adjust the parking brake lever stroke. (Refer to p. 5-7.)
11. Torque all parts to specifications during installation.

COMPONENTS

1. Parking brake lever assembly
2. Parking brake switch
3. Bushing
4. Stay
5. Dust boot
6. Parking brake shaft cover
7. Equalizer
8. Cable adjuster
9. Parking brake heat protector
10. Parking brake cable

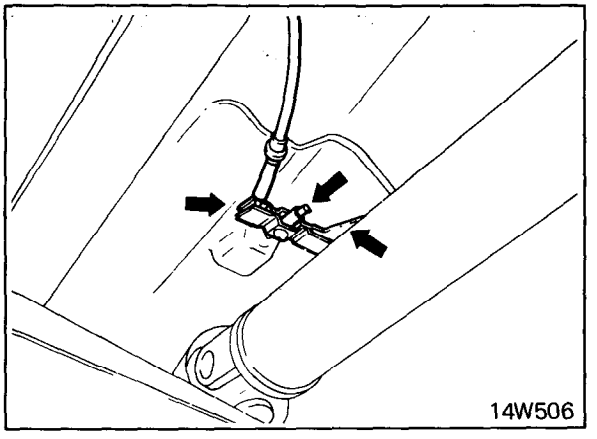


14W521

REMOVAL

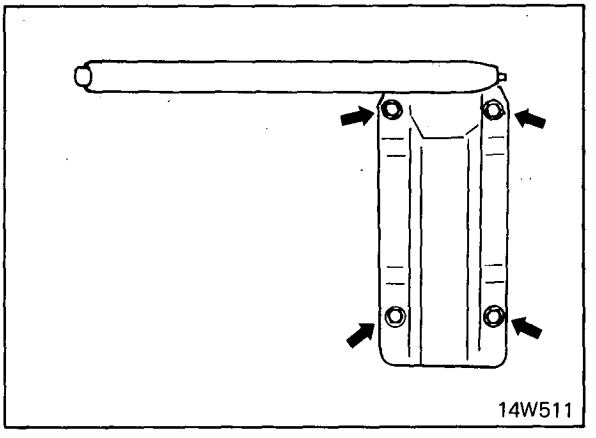
Parking Brake Lever

1. Loosen the parking brake lever.
2. Loosen the cable adjuster from under the vehicle and disconnect the parking brake cable and equalizer. (14W506)
3. Disconnect the parking brake switch connector.



14W506

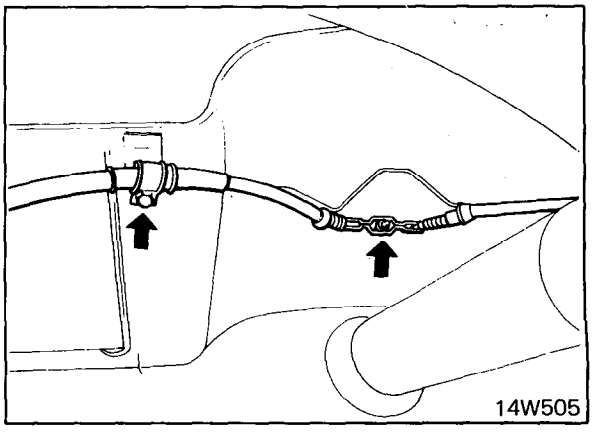
4. Remove the parking brake shaft cover mounting bolts. (The parking brake shaft cover is fasten to the stay together with the ratchet plate.)



14W511

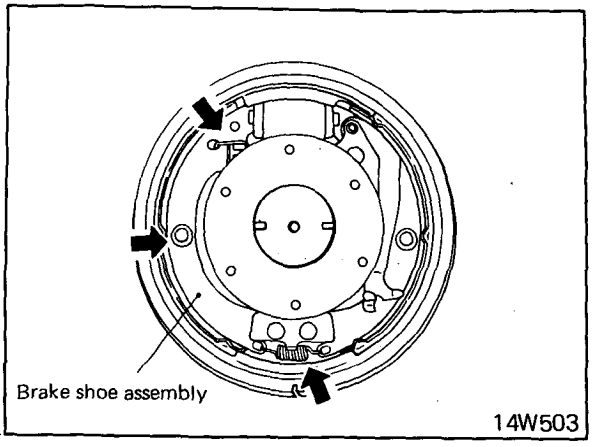
Parking Brake Cable

1. Loosen the parking brake lever.
2. Remove the parking brake cable clamps from the leaf spring and floor panel. (14W505)
3. Loosen the cable adjusting nuts and disconnect the parking brake cables from the equalizer.

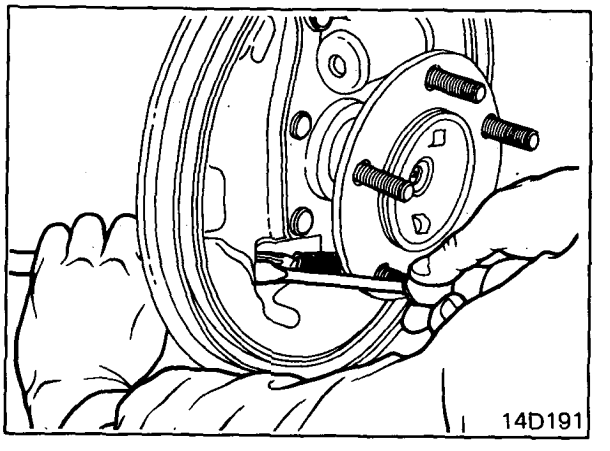


14W505

4. Remove the rear brake drum and disconnect the rear end of the parking brake cable from the shoe and lever assembly.
5. Remove the shoe return spring, shoe retainer spring and shoe hold-down pin, and then remove the brake shoe assembly. (14W503)



6. Using a screwdriver, draw out the parking brake cable from the backing plate.



INSPECTION

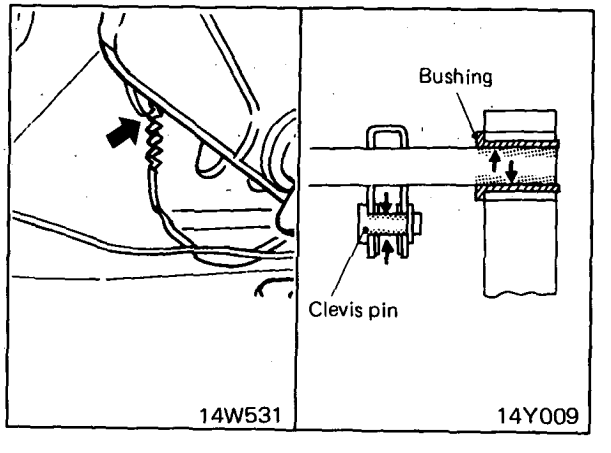
1. Check bushing for wear.
2. Check parking brake switch for malfunction.
3. Check parking lever latch for wear.
4. Check parking brake cable for damage and rough operation.

INSTALLATION

Parking Brake Lever Assembly

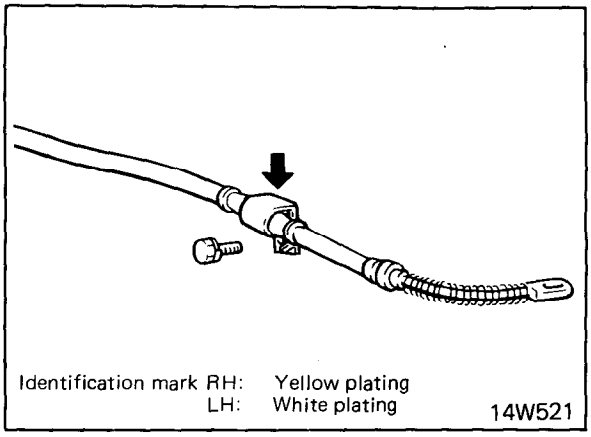
Apply the specified multipurpose grease to the clevis pin, bushing and ratchet plate.

Recommended multipurpose grease	SAE J310a, NLGI grade #3



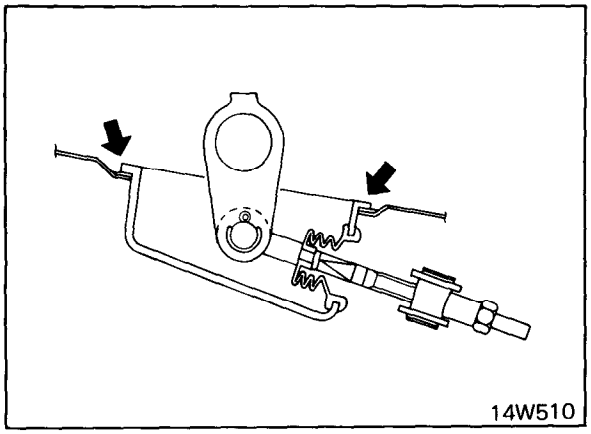
Parking Brake Cable

1. Before installation of the parking brake cable, check the identification mark made on the clip of the parking brake cable.



2. Apply drying sealant to the grommet. (14W510)
3. After the cable adjuster has been temporarily tightened, repeatedly pull the parking brake lever until its stroke becomes constant to adjust for proper shoe clearance.
4. Adjust the parking brake lever stroke to the standard value with the cable adjuster.

Parking brake lever stroke	4-6 clicks



5. Release the parking brake lever, remove the brake drum, and check to ensure that the brake lever adjuster is touching the shoe. (14W509)

Caution

If the parking brake cable is pulled too far, the adjuster lever will not fit the adjuster, resulting in faulty operation of the brake shoe adjuster.