



SERVICE BRAKES

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MARIZAM S. ABDUL KAMIN



GENERAL

SERVICE STANDARD

Standard Value	167 - 172
Brake pedal height mm	0.5 - 1.0
Stop lamp switch outer case to pedal arm clearance mm	10 - 15
Brake pedal free play mm	80 or more
Brake pedal to toeboard clearance mm	0.1 - 0.5
Booster push rod to master cylinder piston clearance mm	7.0 or less
Disc brake dragging force kg	0.4 or less
(Disc brake dragging torque kgm)	
Limit	0.15
Master cylinder to piston clearance mm	1.0
Brake pad thickness mm	11.4
Brake disc thickness mm	0.15
Disc runout mm	1.0
Drum brake lining thickness mm	182
Brake drum inner diameter mm	0.15
Wheel cylinder to piston clearance mm	

LUBRICANTS

	Specified lubricants	Quantity
Brake pedal bushing and brake pedal bolt	Multipurpose grease SAE J310a, NLGI grade #3 or equivalent	Small quantity
Brake booster push rod seal lip	Silicone grease	Small quantity
Brake booster push rod perimeter	Silicone grease	Small quantity
Brake booster push rod body perimeter	Silicone grease	Small quantity
Brake booster reaction disc	Silicone grease	Small quantity
Brake booster bearing and valve body seal lip	Silicone grease	Small quantity
Brake booster diaphragm plate	Silicone grease	Small quantity
Brake booster diaphragm to shell contact surface	Silicone grease	Small quantity
Brake fluid	SAE J1703 (DOT3) or equivalent	As required
Front disc brake		
Piston seal	Rubber grease	Small quantity
Dust boot inner surfaces	Repair kit grease (orange)	Small quantity
Pin boot inner surfaces	Repair kit grease (orange)	Small quantity
Bush inner surfaces	Repair kit grease (orange)	Small quantity
Rear brake pistons, both ends	Repair kit grease (orange)	Small quantity
Rear brake shoe and backing plate contact surfaces	WARREN plastilube 2 Brake grease (yellow) or equivalent	Small quantity
Anchor plates and piston ends	WARREN plastilube 2 Brake grease (yellow) or equivalent	Small quantity

GENERAL



TIGHTENING TORQUE

	kgm
Brake pedal support member and toeboard	
Brake pedal support member and steering support member	0.8-1.2
Brake pedal shaft nut	1.7-2.6
Stop lamp switch lock nut	1.9-2.8
Master cylinder and brake booster	1.9-2.8
Piston stopper bolt	0.8-1.2
Operating rod lock nut	0.15-0.3
Brake booster and pedal support member	1.9-2.5
Fitting	0.8-1.2
Brake line flare nuts	1.5-1.8
Front disc brake	1.3-1.7
Bleeder screws	
Sleeve bolt A and torque member	0.7-0.9
Sleeve bolt B and torque member	2.2-3.2
Caliper assembly and knuckle	2.2-3.2
Discs and hubs	8.0-10.0
Rear wheel cylinders and backing plates	5.0-6.0
Backing plates and rear suspension arm spindles	0.8-1.2
	5.0-6.0

SPECIFICATIONS

Master cylinder	
Type	Tandem type
I.D. mm	20 64
Brake booster	
Type	Vacuum type
Effective dia. of power cylinder mm	155
Boosting ratio [Brake pedal depressing force]	3.0 [at 21 kg]
Proportioning valve	
Split point kg/cm ²	27
Decompression ratio	0.3
Front brakes	
Type	PFS15 type disc
Disc O.D. mm	243
Pad thickness mm	10.0
Disc thickness mm	13
Cylinder I.D. mm	51.1
Clearance adjustment	Automatic
Rear brakes	
Type	Leading-trailing, drum
Drum I.D. mm	180
Brake lining thickness mm	4.3
Cylinder I.D. mm	19.05
Clearance adjustment	Automatic

MARIZAM B. ABDOL RAHIM



GENERAL

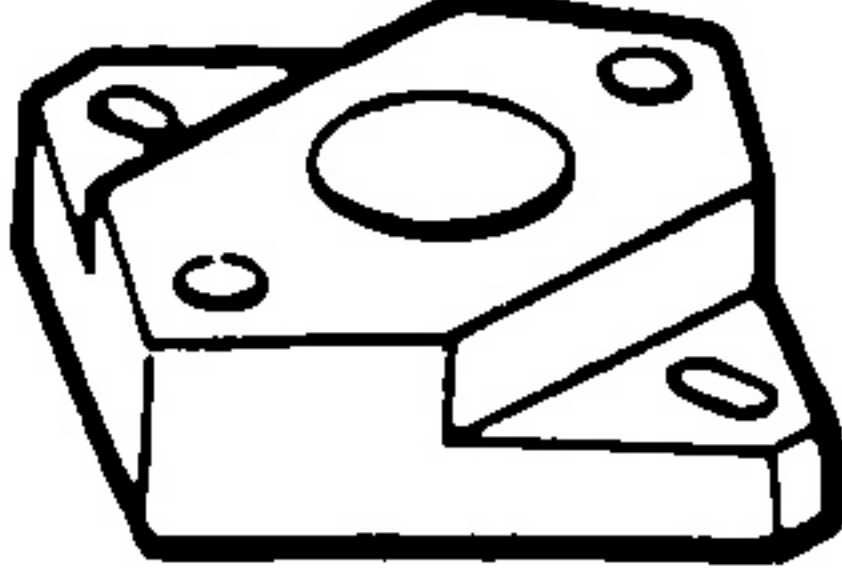
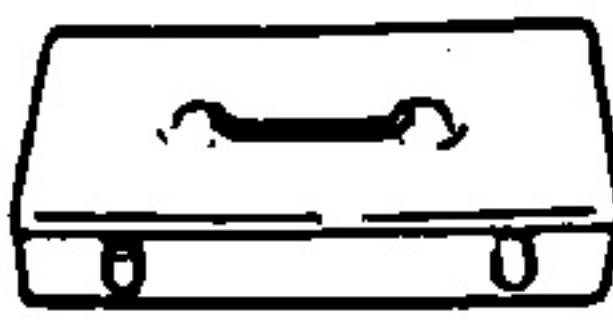
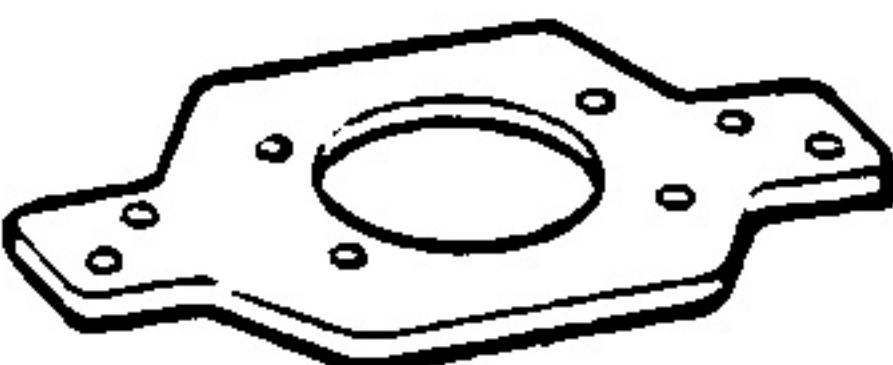
TROUBLESHOOTING

Symptom	Probable cause	Remedy
Noise and shock when brakes applied	Caliper improperly mounted	Correct
	Loose caliper mounting bolts	Retighten
	Unevenly worn or cracked brake disc	Replace
	Seized lining contact surface	Replace
	Excessive caliper to pad assembly clearance	Correct
	Uneven lining contact	Correct
	Broken shoe hold-down pin	Replace
	Lack of grease in sliding parts	Lubricate
	Loose suspension parts	Retighten
Vehicle pulls one side when brakes applied	Difference in left and right tire inflation pressure	Adjust
	Inadequate contact of lining	Correct
	Grease or fluid on lining surface	Replace
	Poor auto adjuster mechanism operation	Correct
Insufficient braking force	Insufficient or deteriorated brake fluid	Replenish or change
	Air in brake system	Bleed the system
	Poor brake booster operation	Correct
	Inadequate contact of lining	Correct
	Grease or fluid on lining surface	Replace
	Poor auto adjuster mechanism operation	Correct
	Vapor lock, mainly due to dragging of pad	Correct
	Clogged brake line	Correct
	Poor proportioning valve operation	Replace
Increased pedal stroke (Reduced pedal-to-floor panel clearance)	Air in brake system	Bleed the system
	Brake fluid leaks from brake system	Correct
	Poor auto adjuster mechanism operation	Correct
	Excessive push rod-to-piston clearance	Adjust
Brake drag	Incomplete release of parking brake	Correct
	Incorrect parking brake adjustment	Adjust
	Deteriorated brake pedal return spring	Replace
	Clogged master cylinder return port	Correct
	Lack of grease in sliding parts	Lubricate
	Malfunction of master cylinder check valve or piston return spring	Replace
	Insufficient push rod to piston clearance	Adjust
Early locking of rear brakes	Malfunction of proportioning valve	Replace

GENERAL



SPECIAL TOOLS

Tool (Number and name)	Use	Tool (Number and name)	Use
MB990750 Brake booster holder 	Disassembly and reassembly of the brake booster	MB990964 Brake tool set 	Pushing-in of the front disc brake piston
MB990749 Lever attachment 		 MB990520 Piston expander  MB990619 - (A) Piston cup installer	Installation of rear wheel cylinder piston cup

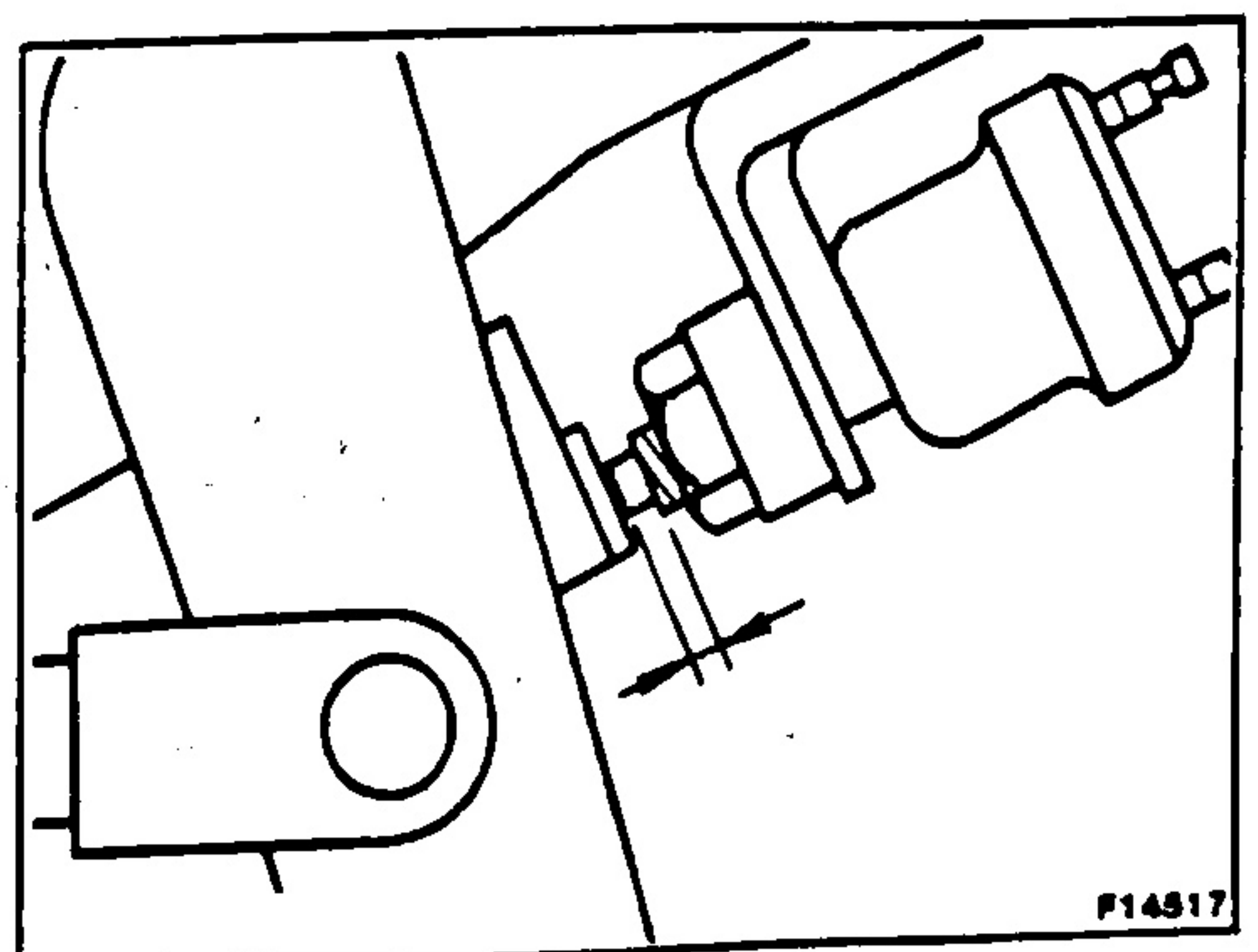
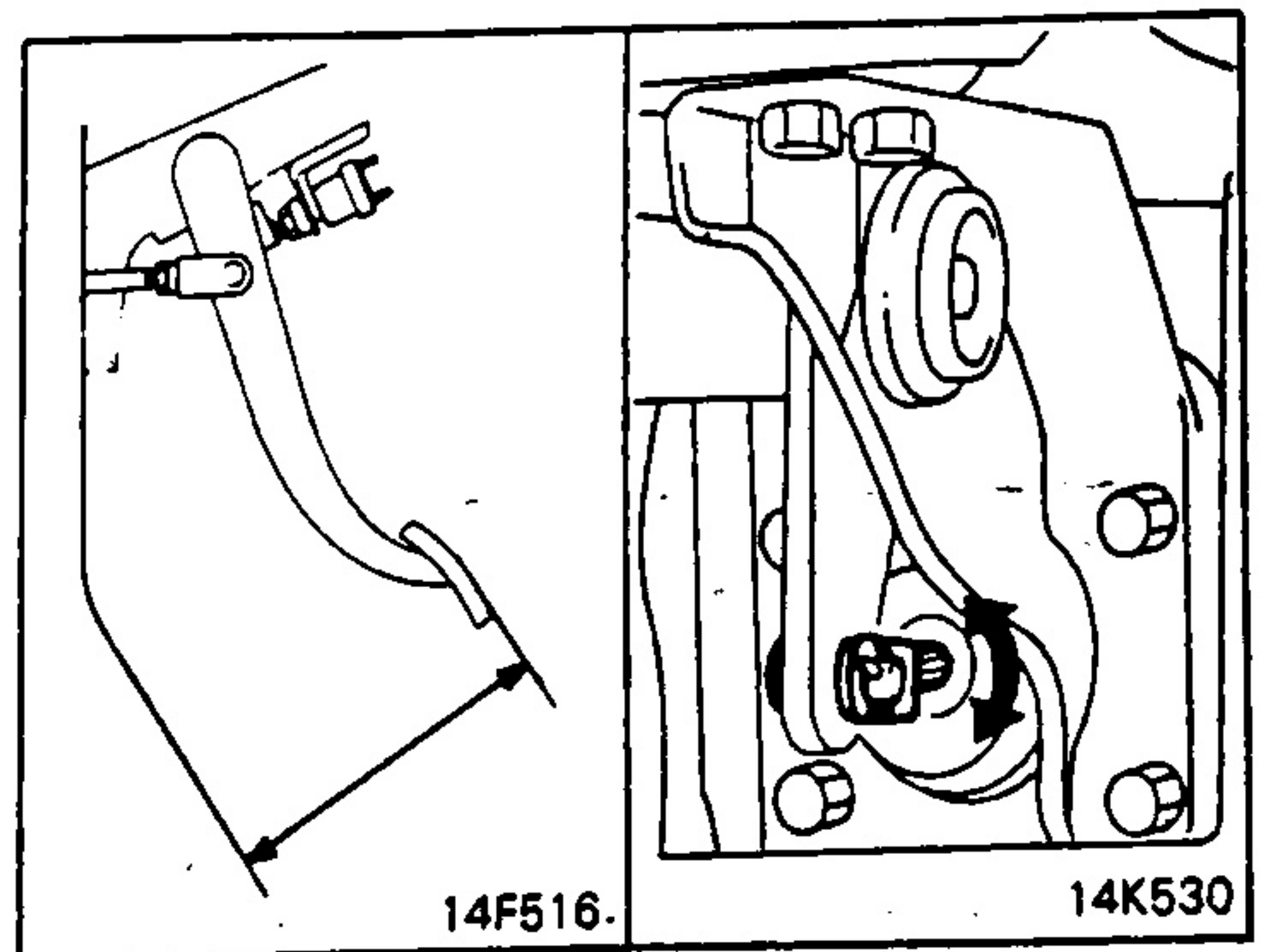
ON-VEHICLE SERVICE

Service Brake Pedal Inspection and Adjustment

Measure the brake pedal height.

If the brake pedal height is not within the standard value, make adjustment by the following procedures:

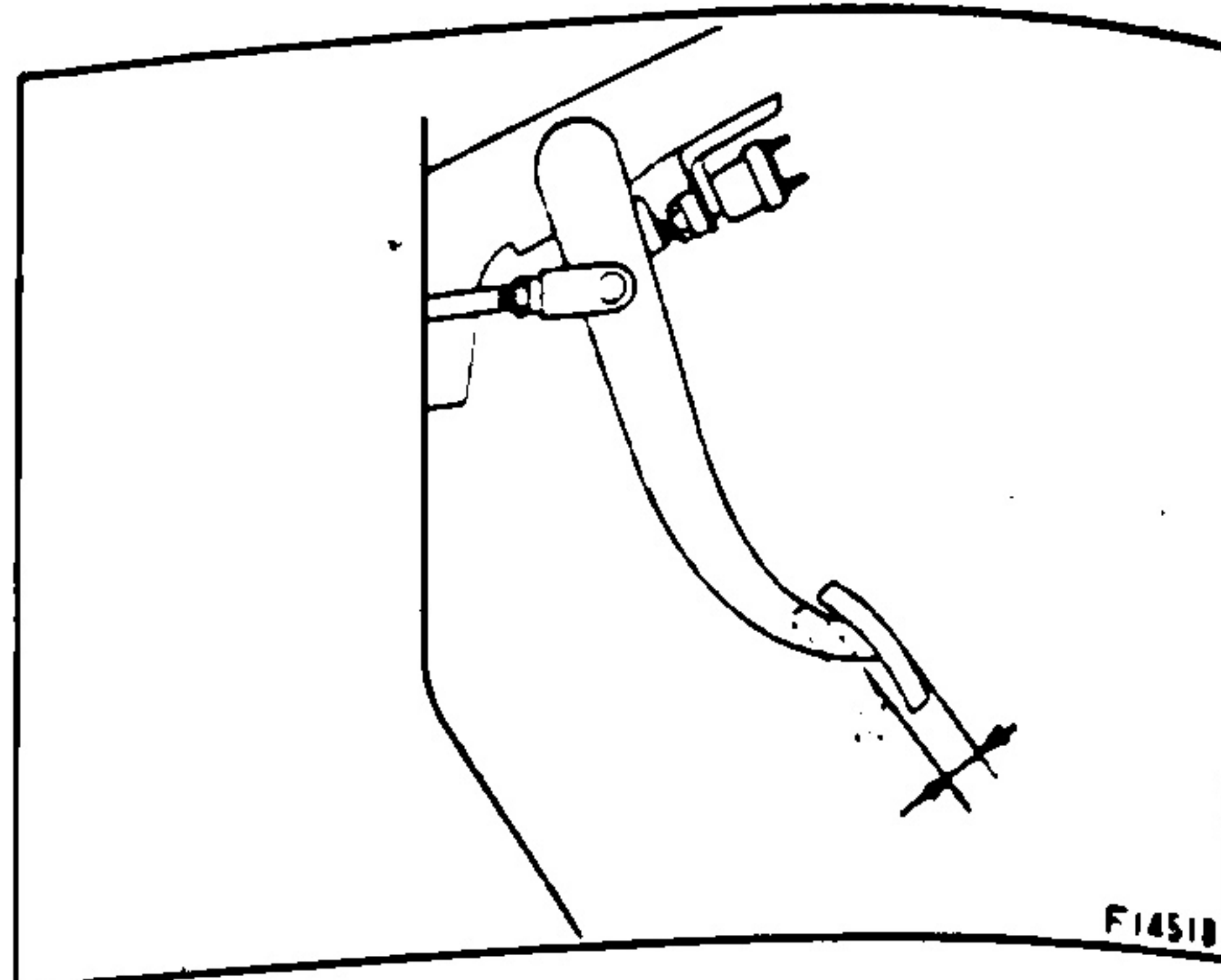
- (1) Move the stop lamp switch to a position where it does not contact the brake pedal arm.
- (2) Adjust the brake pedal height by turning the operating rod with pliers (with the operating rod lock nut loosened).
- (3) Turn the stop lamp switch until the dimension between the outer case of the stop lamp switch and the brake pedal arm reaches the standard value, and then lock the switch in place by using the lock nut.



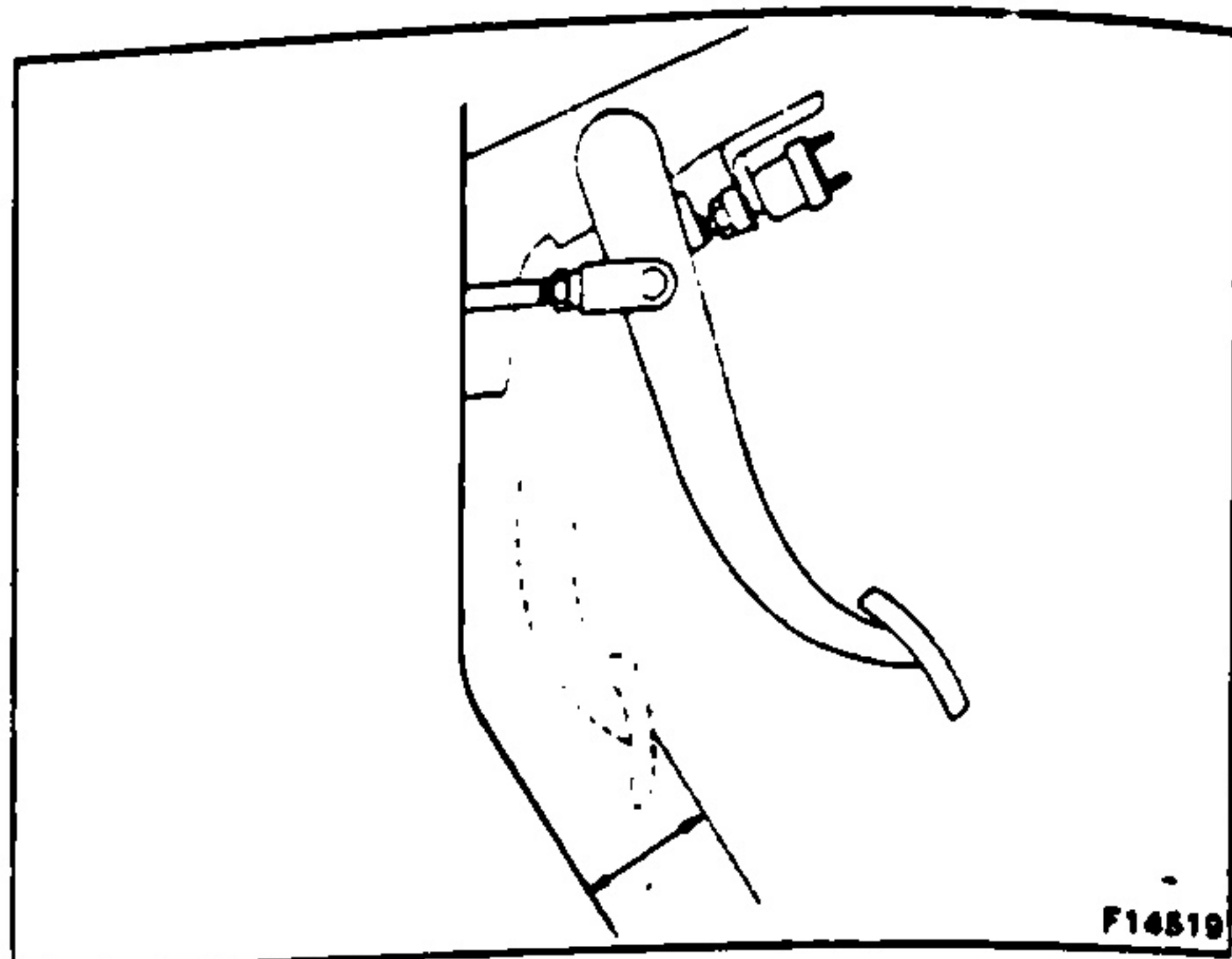


GENERAL

While the engine is stopped, depress the brake pedal two or three times. Thus eliminating the negative pressure from 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.



Start the engine, depress the brake pedal with approximately 50 kg of force, and measure the clearance between the brake pedal and the floorboard.



Brake Booster Operating Test

TEST USING SIMPLE TESTERS

Before performing this test, remove the check valve from the brake booster and check the operation of the check valve (Refer to P.14A-16.)

While the check valve is removed, connect the vacuum hose directly, and then connect a different check valve (IMB238892, etc.) as shown in the illustration.

Prior to the test, connect a vacuum gauge, pressure gauges and foot force gauge as shown in the illustration. Bleed the system.

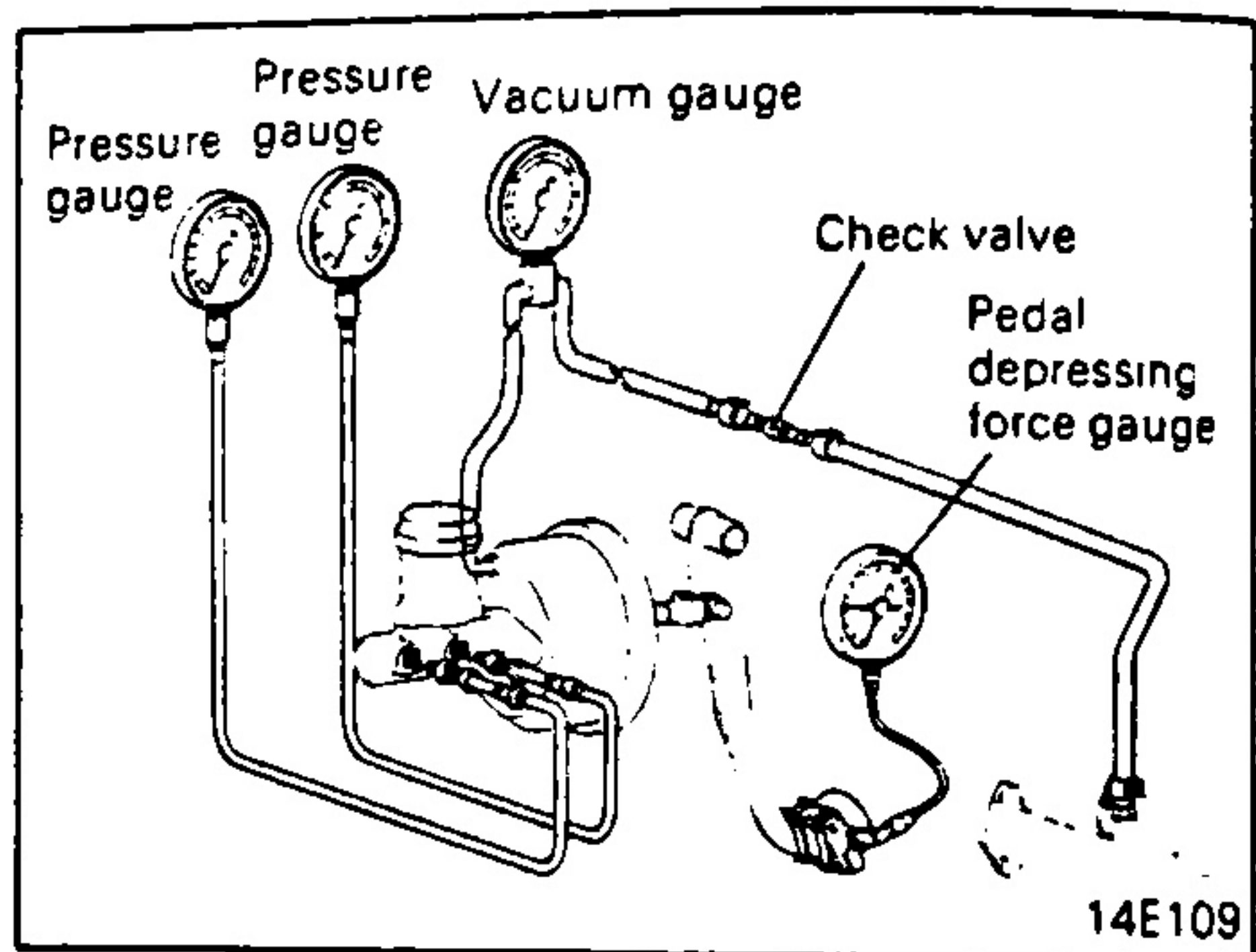
Test 1 — Airtightness Test with No Load

Start the engine.

Stop the engine when the vacuum gauge reaches approximately 0.68 kg/cm^2 .

After stopping the engine, wait approximately 15 seconds, and then measure the decrease in vacuum.

If the pressure decreases 0.03 kg/cm^2 or more, check the check valve, the vacuum hoses, and the brake booster, and make any necessary corrections.



Test 2 — Airtightness Test Under Load

Start the engine.

Depress the brake pedal at a force of approximately 20 kg.

Stop the engine when the vacuum gauge reaches approximately 0.68 kg/cm^2 .

After stopping the engine, wait approximately 15 seconds, and then measure the decrease in vacuum.

If the pressure decreases 0.03 kg/cm^2 or more, check the check valve, the vacuum hoses, and the brake booster, and make any necessary corrections.

GENERAL



TEST WITHOUT A TESTER

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

Test 1

Start the engine.

Run the engine for one or two minutes, and then stop it.

Depress the brake pedal several times at normal foot pressure.

If there is no change in brake pedal stroke between the first time the pedal is depressed and the second and third times, check the check valve, the vacuum hoses, and the brake booster, and make any necessary corrections.

NOTE

If the brake booster is functioning properly, the stroke of the brake pedal should gradually become shorter.

Test 2

Stop the engine.

Depress the brake pedal several times.

Start the engine while maintaining the pedal in the depressed position.

If there is no change in the height of the brake pedal, check the check valve, the vacuum hoses, and the brake booster, and make any necessary corrections.

NOTE

If the brake booster is functioning properly, the brake pedal should move slightly further down.

Test 3

Start the engine.

Depress the brake pedal.

Stop the engine while maintaining the pedal in the depressed position.

Maintain the pedal in the depressed position for approximately 30 seconds.

If there is change in the height of the brake pedal, check the check valve, the vacuum hoses, and the brake booster, and make any necessary corrections.

NOTE

If the brake booster is functioning properly, the height of the pedal remains unchanged.

Brake Booster Characteristics Tests

Just as in the brake booster operating tests, a vacuum gauge, two pressure gauges, and a foot force gauge are used for these tests.

TEST 1 — BOOSTING FUNCTION TEST

Start the engine.

Depress the brake pedal when the vacuum gauge reaches approximately 0.68 kg/cm^2 .

Measure the relationship between the foot force and the brake fluid pressure while maintaining the brake pedal in the depressed position.

If, when the foot force is 10 kg, the brake fluid pressure is not within 25 to 35 kg/cm^2 , correct the brake booster.

If, when the foot force is 30 kg, the brake fluid pressure is not within 55 to 70 kg/cm^2 , correct the brake booster.

TEST 2 — NON-BOOSTING FUNCTION TEST

Stop the engine.

Confirm that the vacuum gauge indicates 0 kg/cm^2 .

Depress the brake pedal, and measure the relationship between the foot force and the brake fluid pressure.

If, when the foot force is 10 kg, the brake fluid pressure is 3 kg/cm^2 or more, correct the brake booster.

If, when the foot force is 30 kg, the brake fluid pressure is 25 kg/cm^2 or more, correct the brake booster.

MARIZAM B. MOOL RAHIM

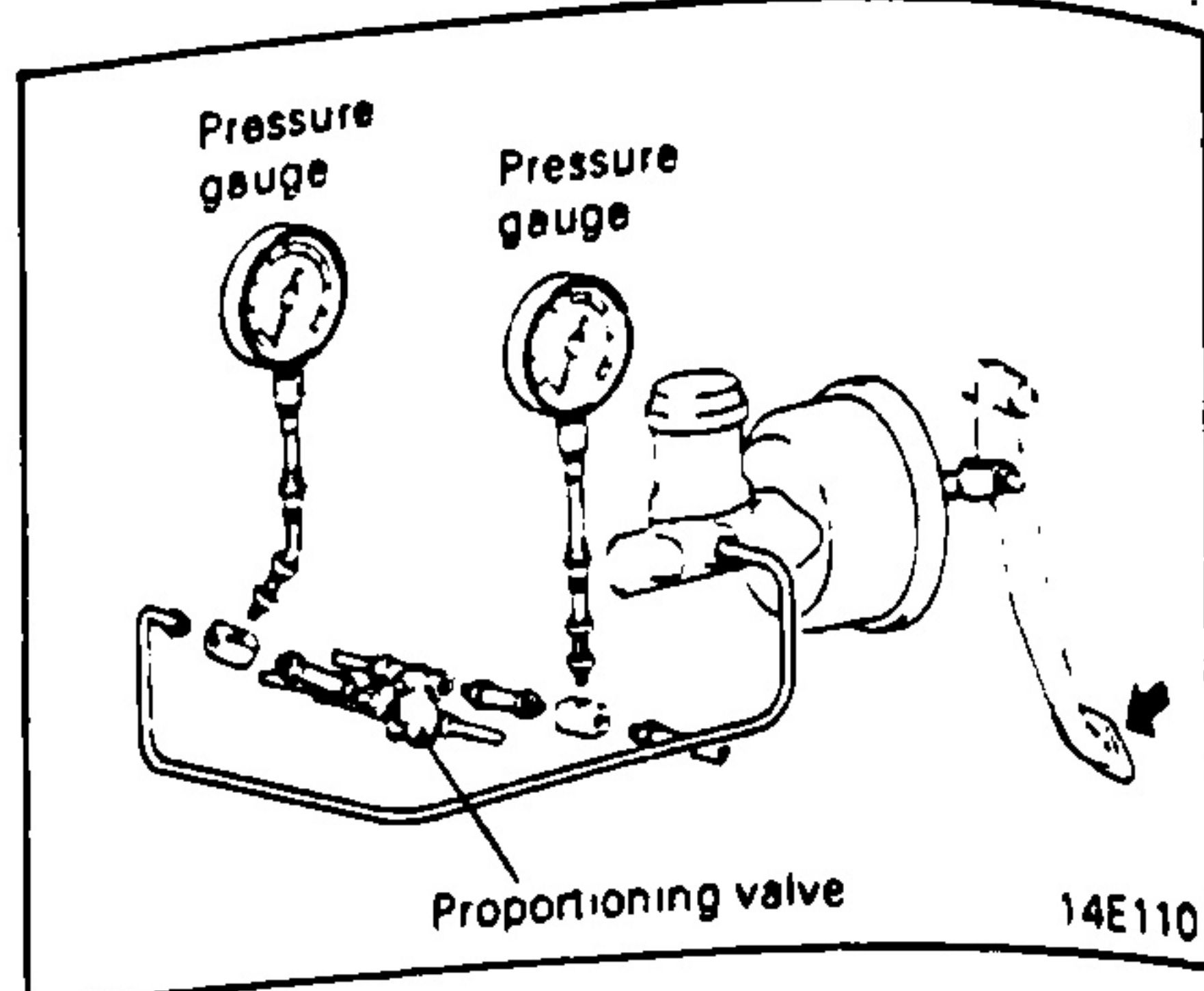


GENERAL

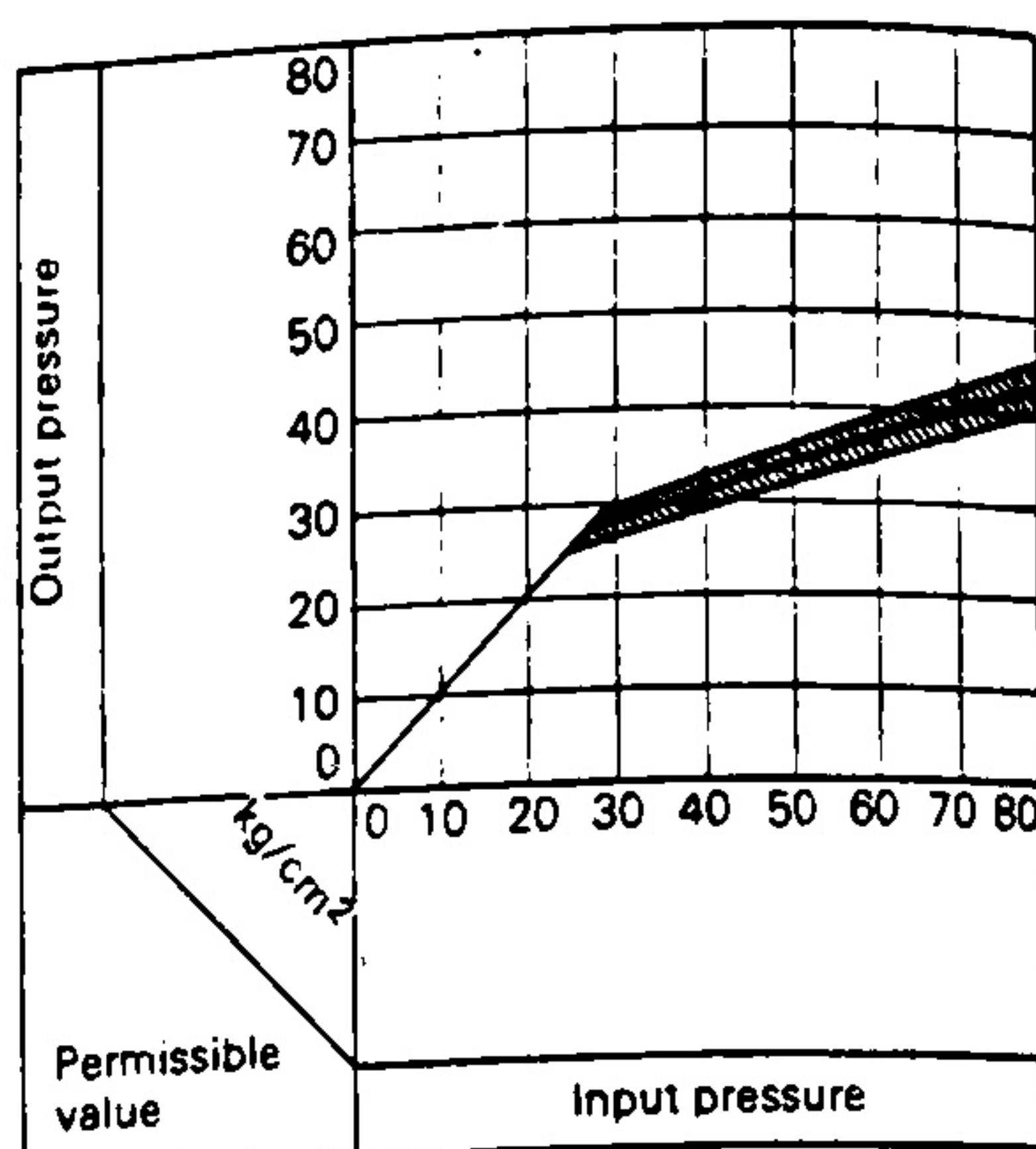
Proportioning Valve Function Test

Connect two pressure gauges, one each to the input side and output side of the proportioning valve.

With the brakes applied, measure the input pressure and the output pressure. If the measured pressures are within the permissible ranges shown in the following tables, the proportioning valve is good.



If the measured pressures are not within the permissible ranges, replace the proportioning valve. Measure both left and right; if the difference between left and right is 4.0 kg/cm^2 or more, replace the proportioning valve.



14U0030

Bleeding

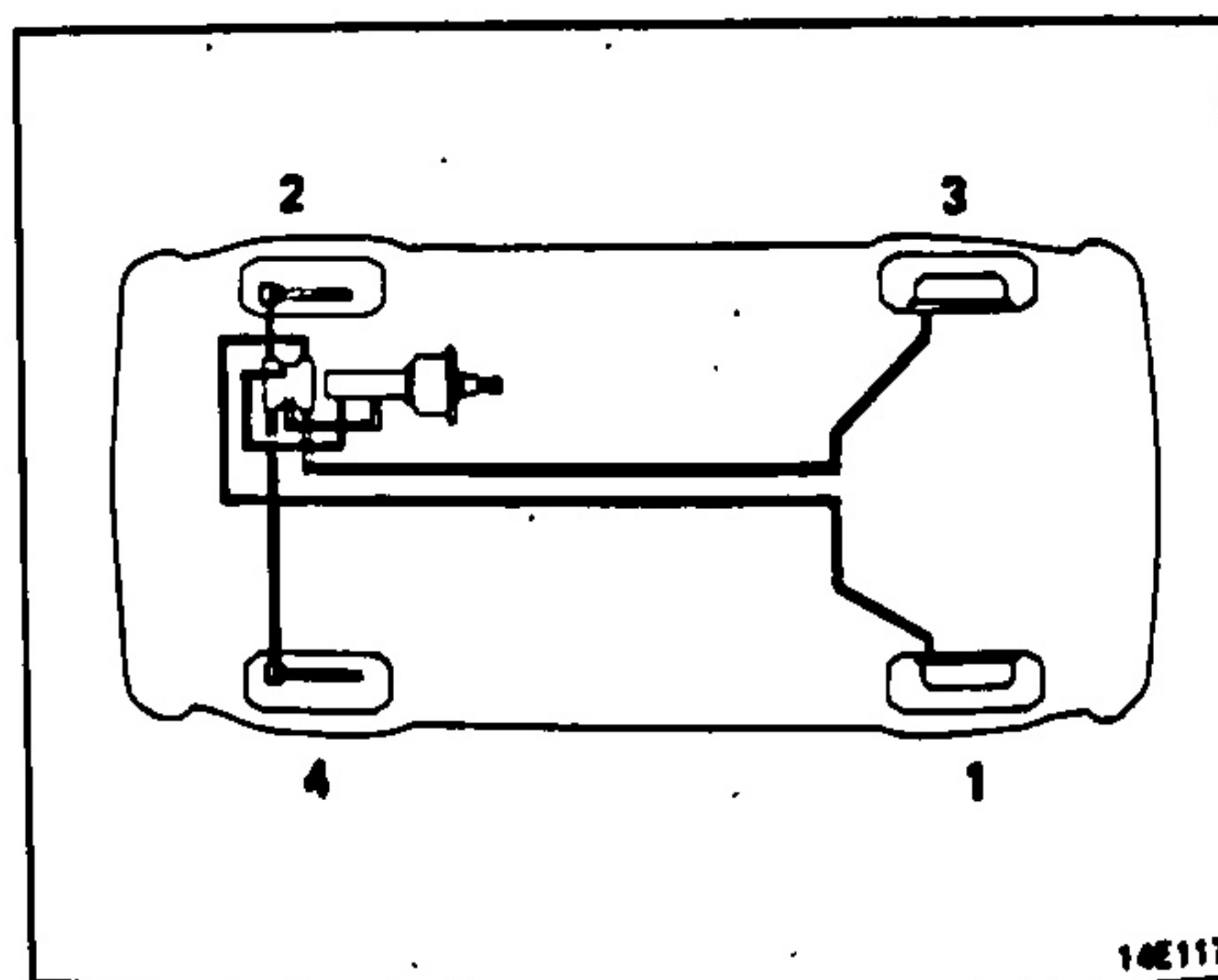
The brake hydraulic system should be bled whenever the brake tube, brake hose, master cylinder or wheel cylinder has been removed or whenever the brake pedal feels spongy when depressed. Bleed the brake system in the sequence shown in the illustration.

Caution

Use the specified brake fluid. Avoid using a mixture of the specified brake fluid and other fluid.

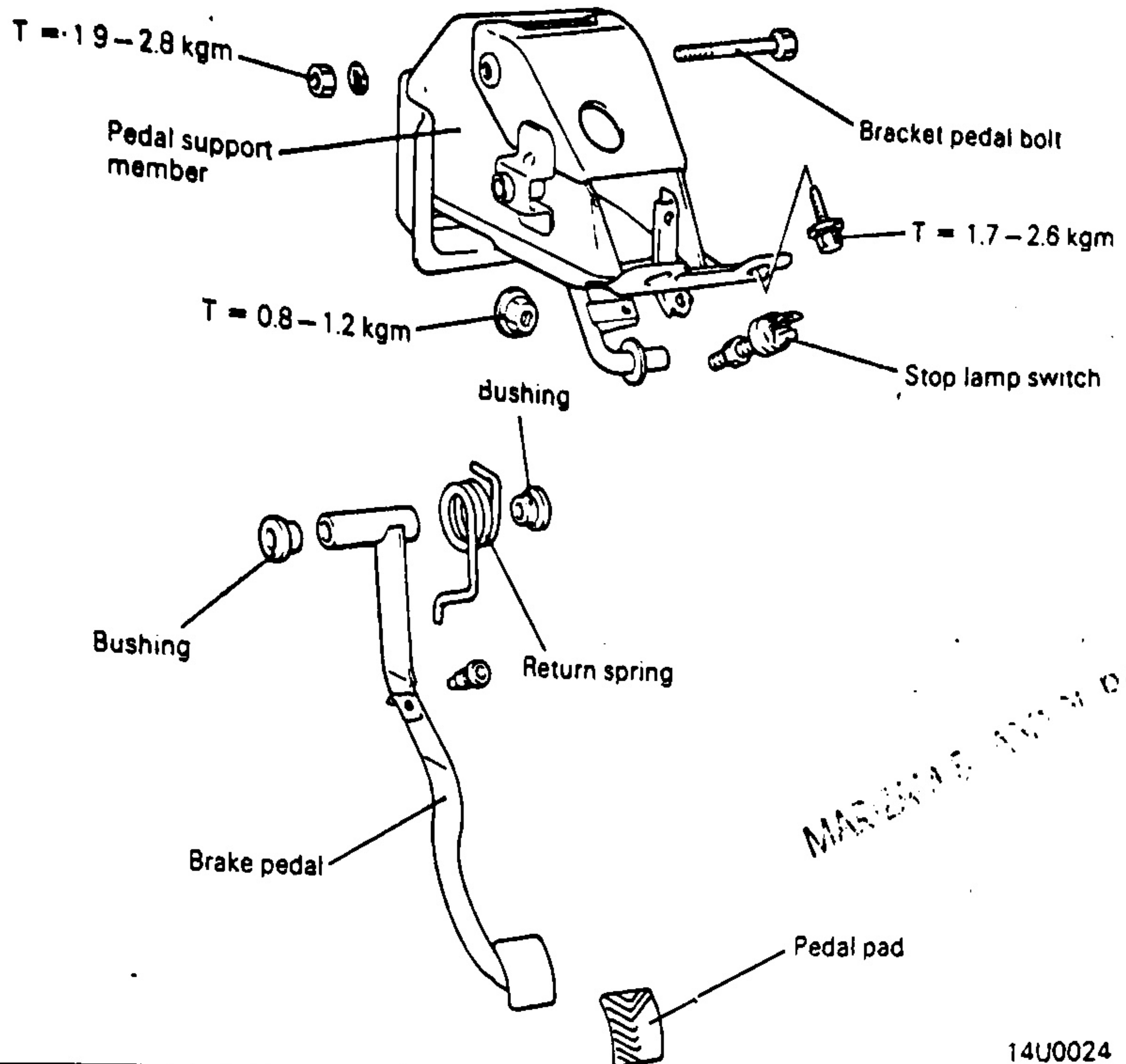
If brake fluid is exposed to the air, it will absorb moisture; as water is absorbed from the atmosphere, the boiling point of the brake fluid will decrease and the braking performance will be seriously impaired. For this reason, use a hermetically sealed 1 lit. or 0.5 lit. brake fluid container.

Firmly close the cap of the brake fluid container after use.



BRAKE PEDAL

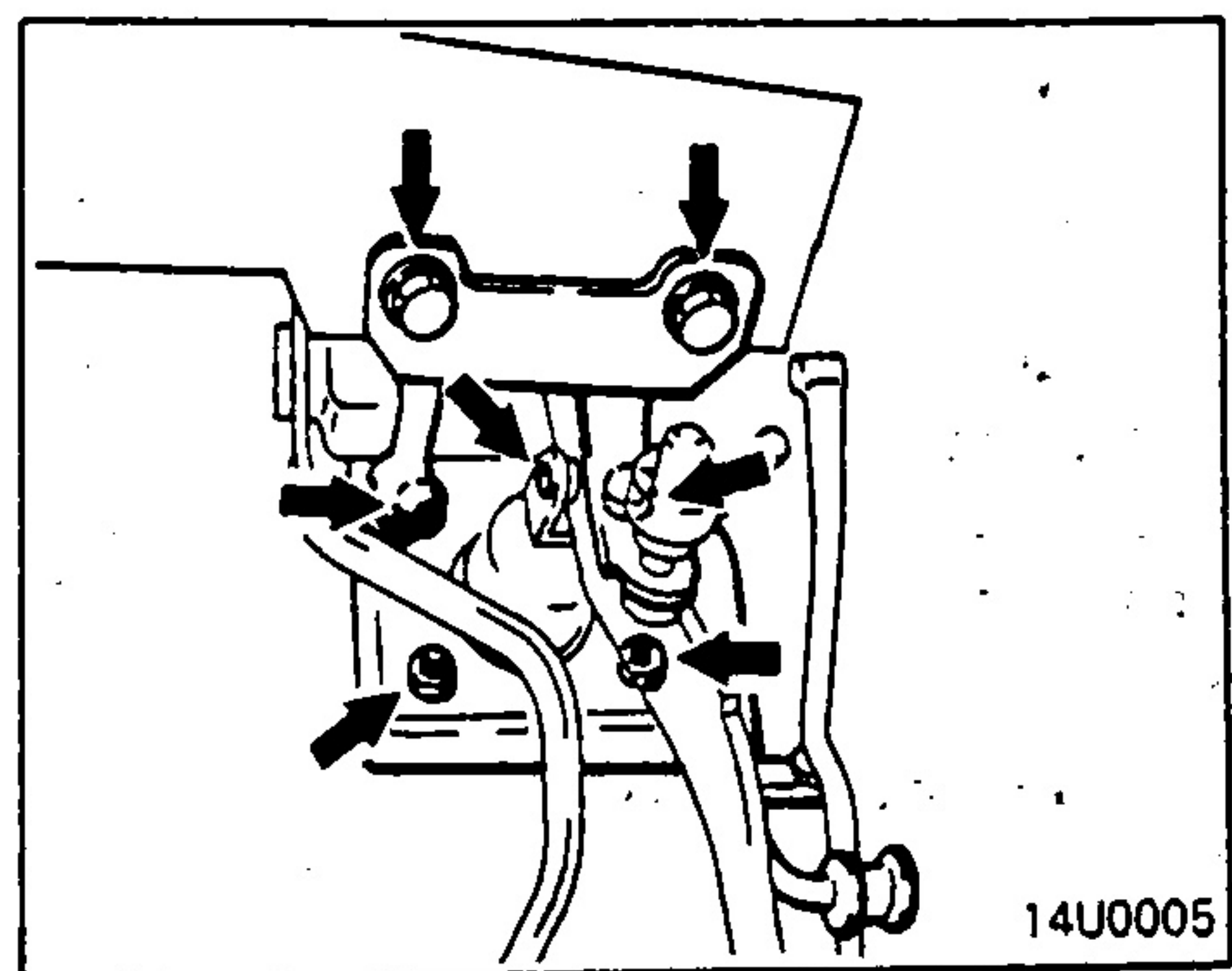
COMPONENTS



14U0024

REMOVAL

Disconnect the stop lamp switch connector.
 Remove the steering column assembly. (Refer to GROUP 13A.)
 Remove the accelerator cable from the end of accelerator pedal.
 Remove the clutch cable from the clutch pedal. (Refer to GROUP 8.)
 Remove the brake booster operating rod from the brake pedal.
 Remove the pedal support member.

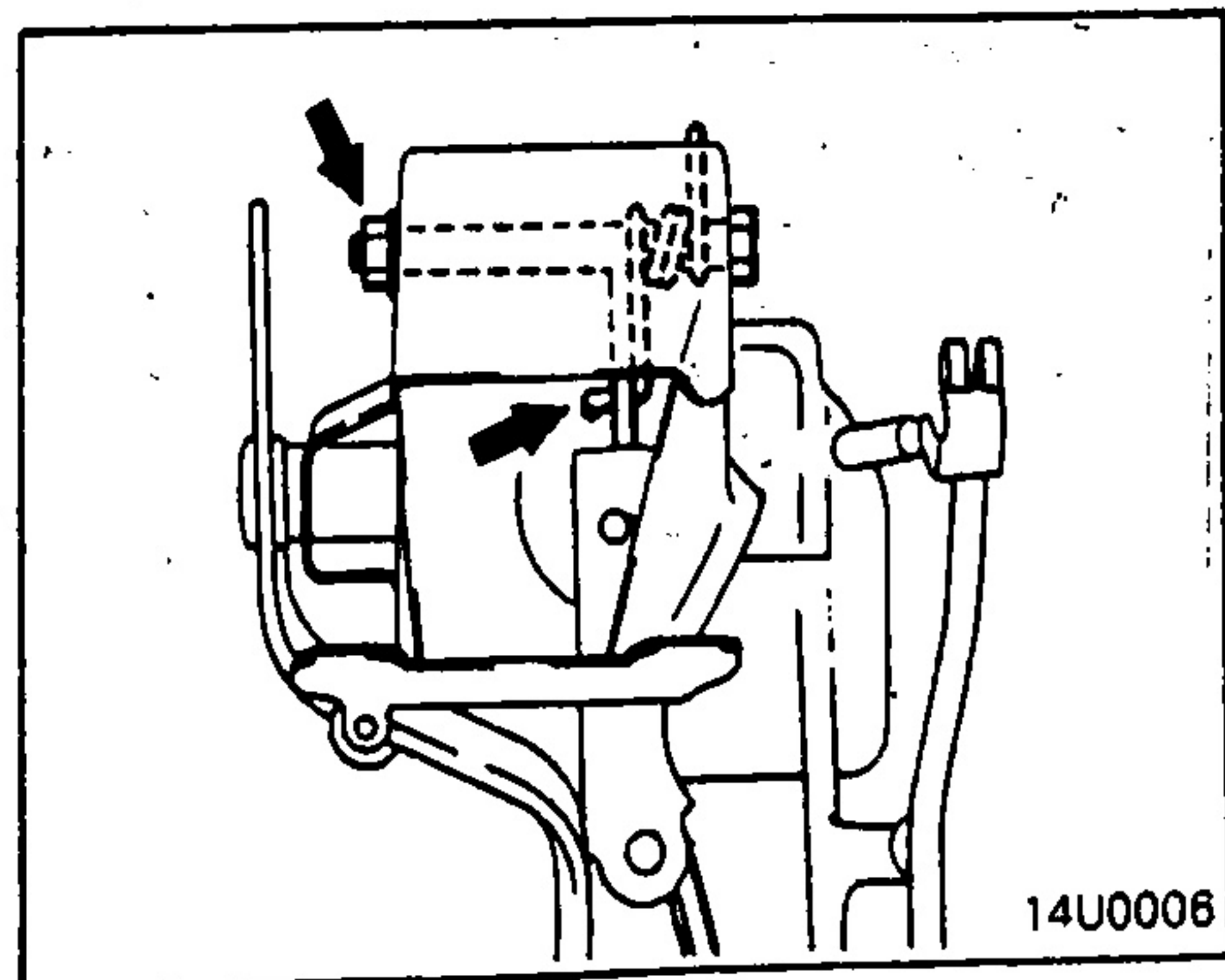


14U0005

Remove the brake pedal from the pedal support member.

INSPECTION

- (1) Check bushings for wear.
- (2) Check stop lamp switch for function.
- (3) Check brake pedal for bend or torsion.
- (4) Check return spring for damage or wear.



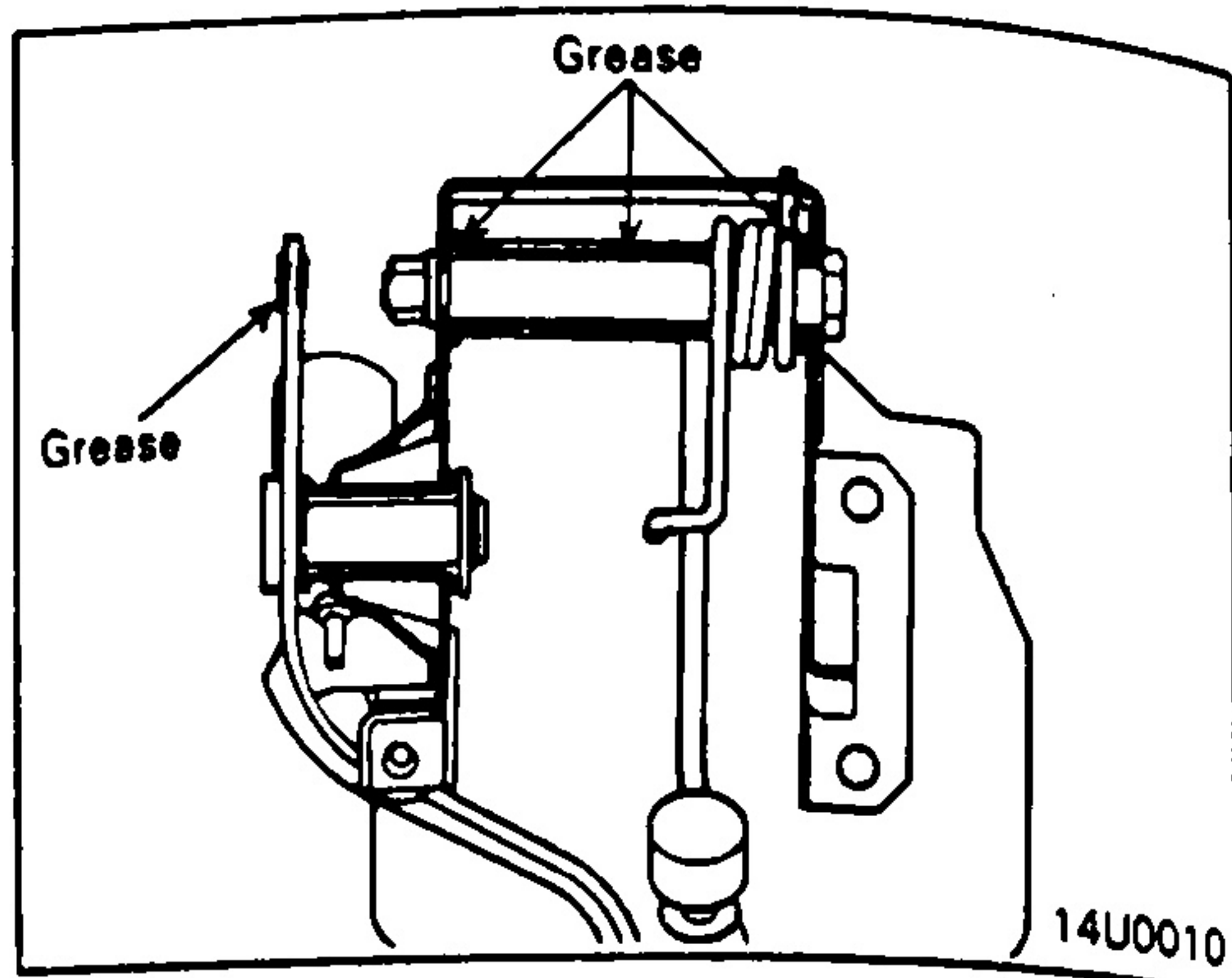
14U0006



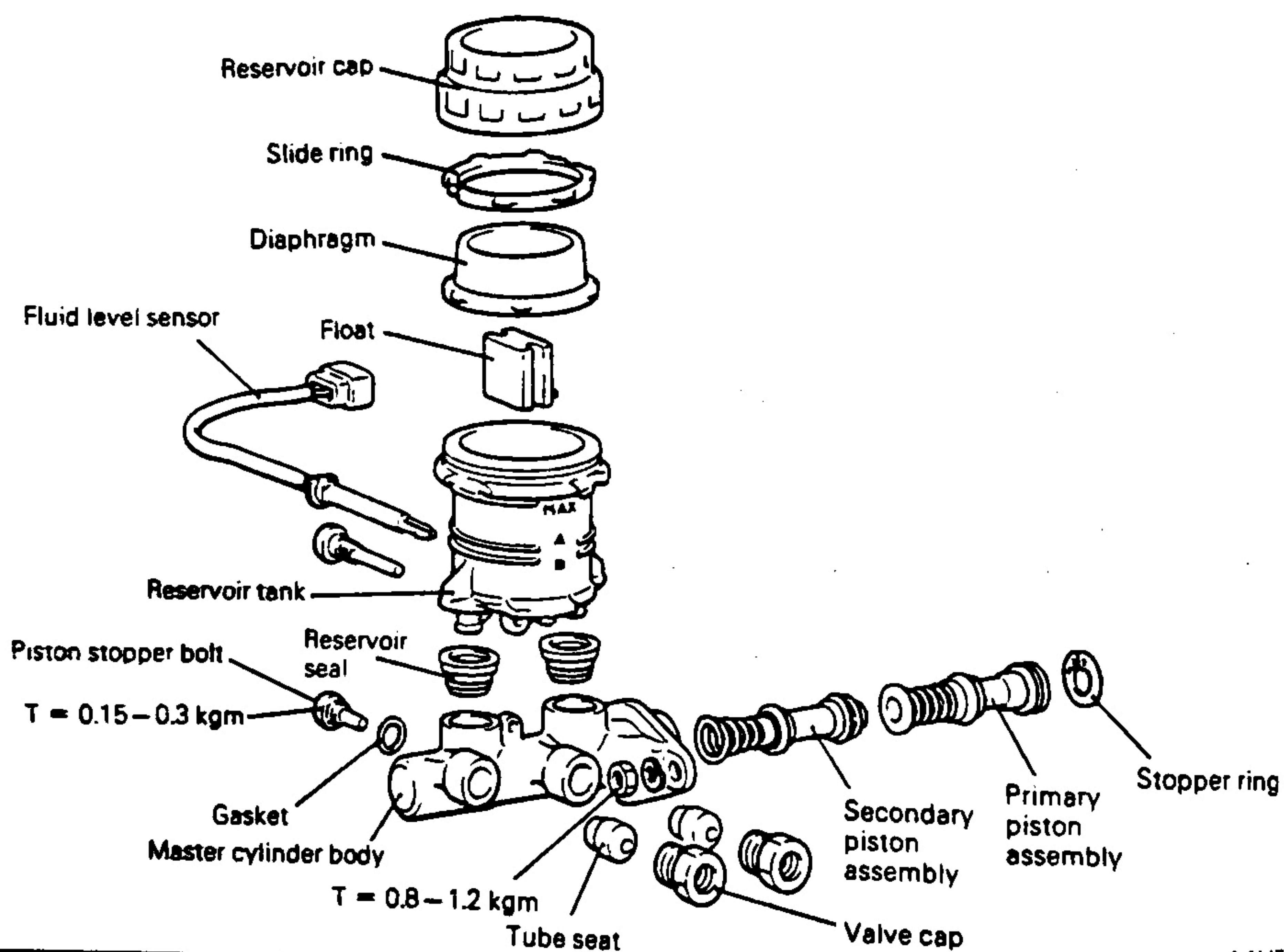
BRAKE PEDAL / MASTER CYLINDER

INSTALLATION

Apply the specified multipurpose grease to the bushings and brake pedal bolt.
After connecting the operating rod and the brake pedal, insert a clevis pin and bend it tightly.

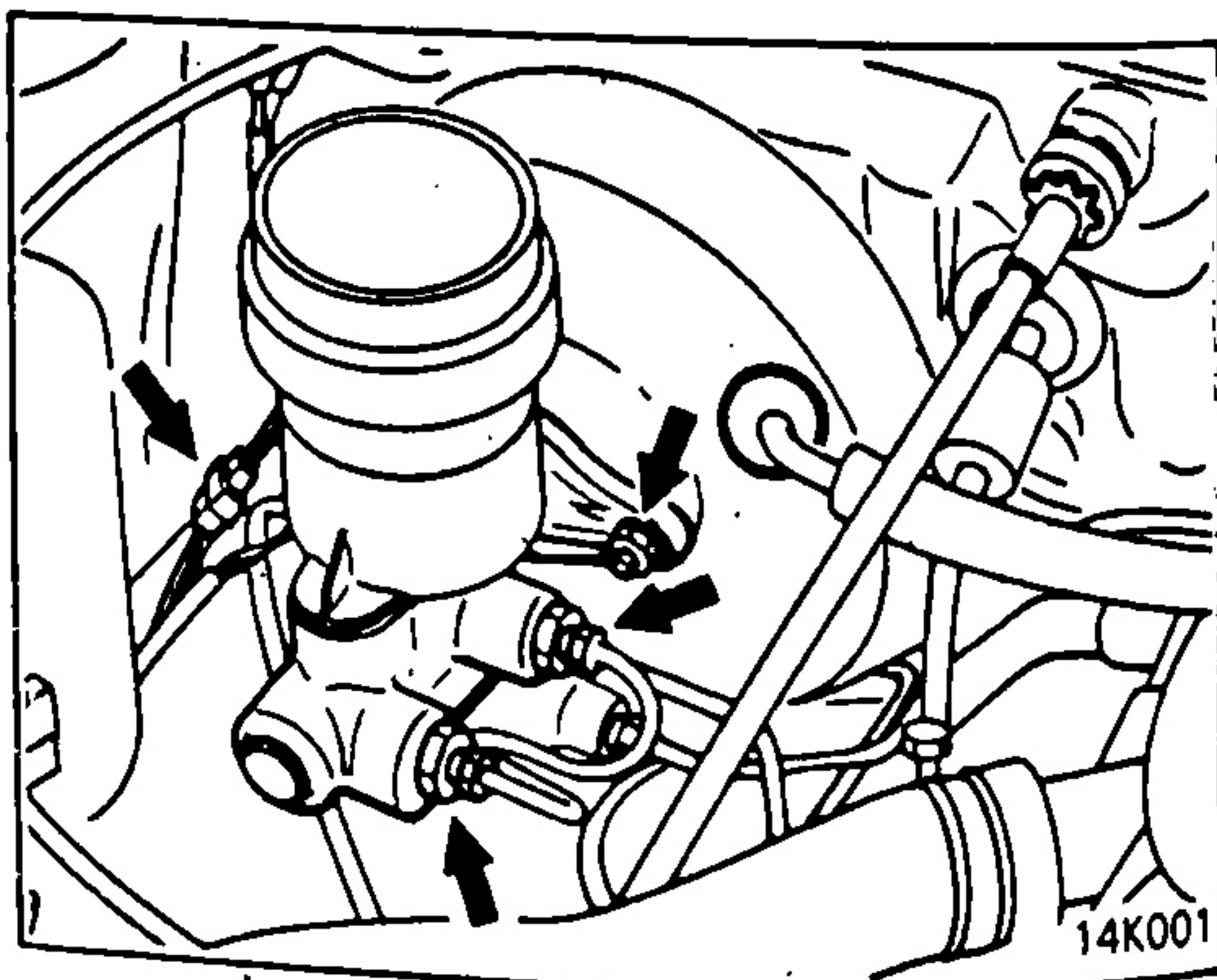


MASTER CYLINDER COMPONENTS



REMOVAL

Remove brake fluid.
Disconnect the harness connector of the fluid level sensor.
Detach the brake tubes from the master cylinder.
Remove the master cylinder from the brake booster.

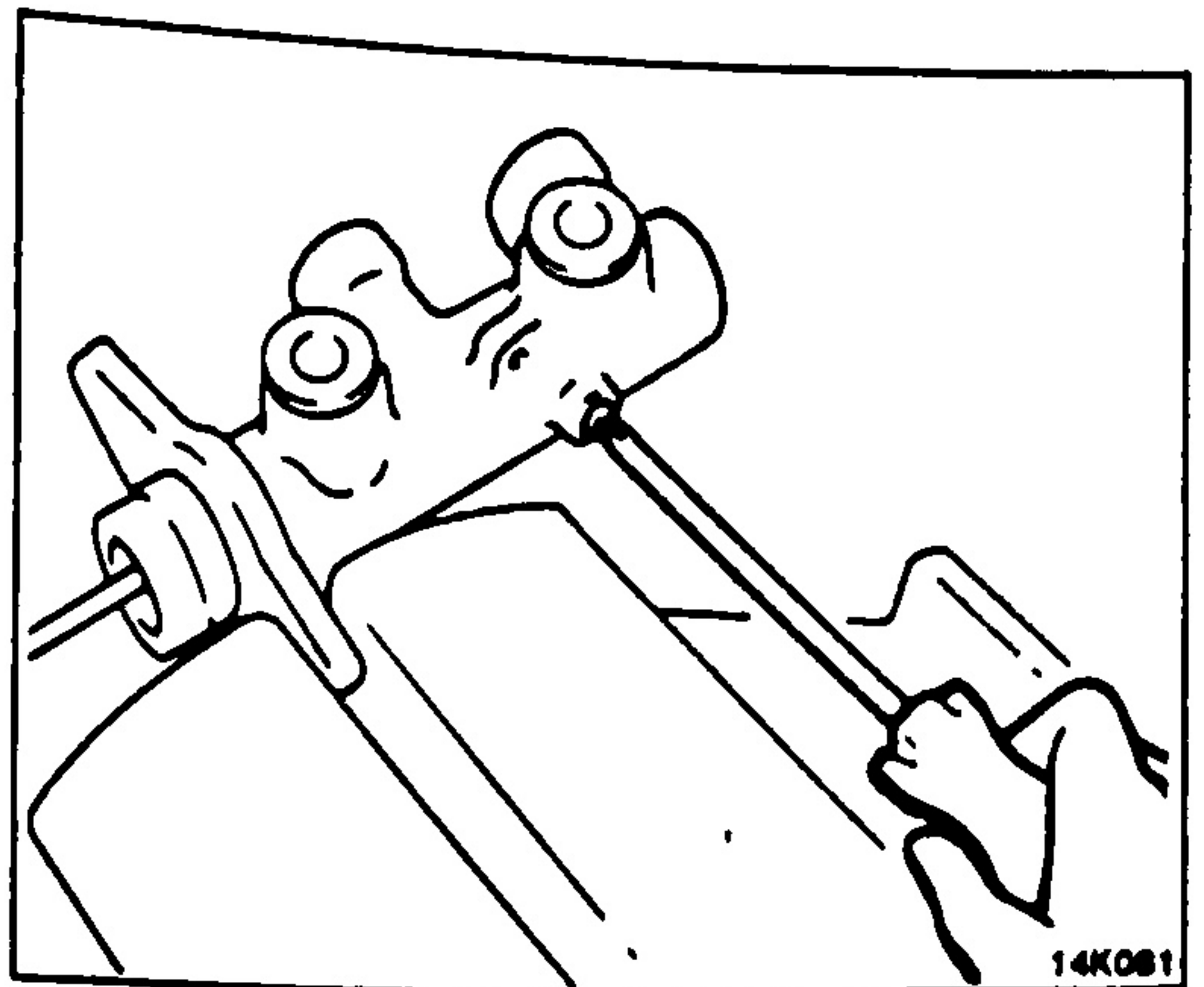


MASTER CYLINDER



DISASSEMBLY

- Remove the reservoir tank.
- Remove the piston stopper bolt while depressing the piston.

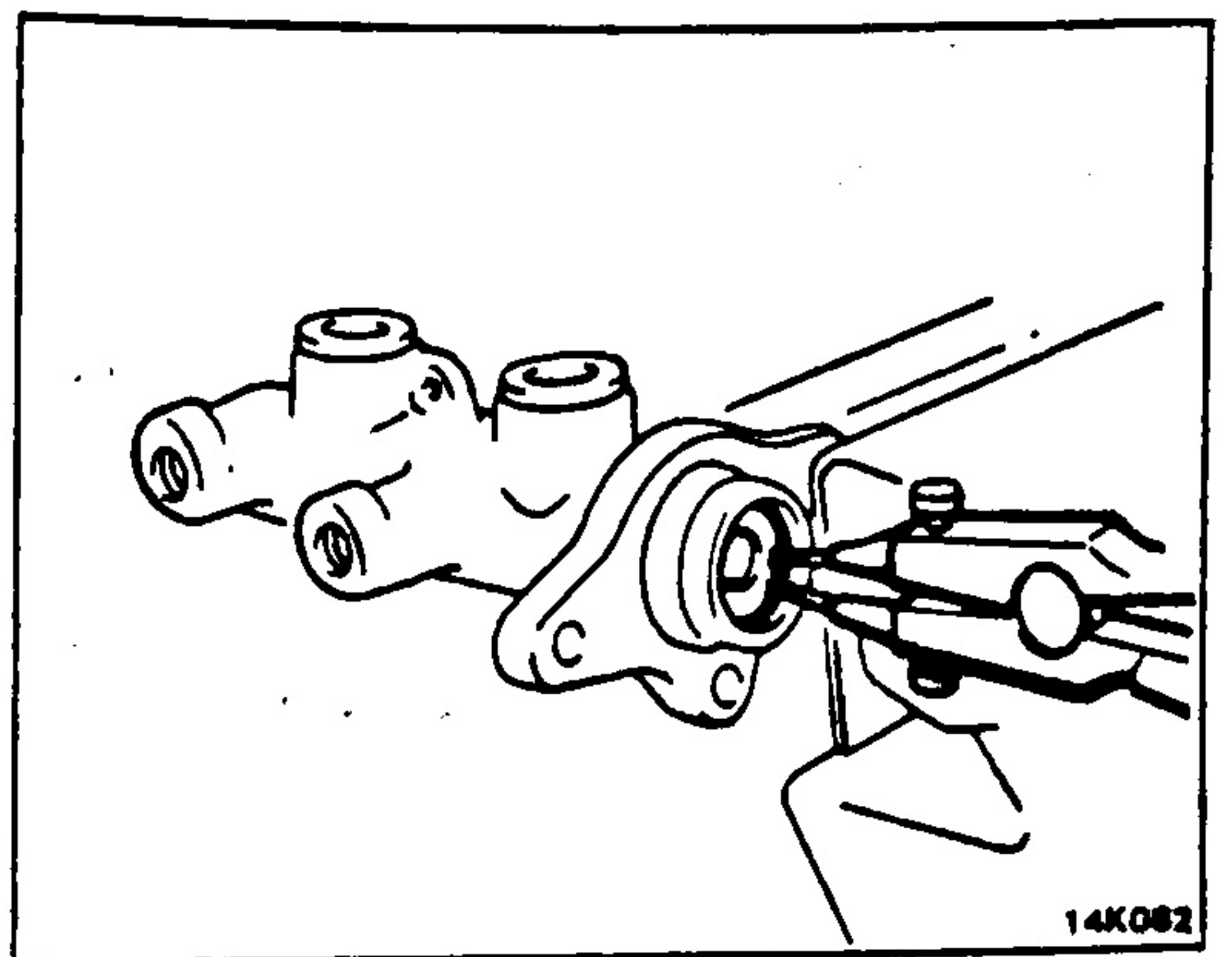


- Remove the piston stopper ring.
- Remove the primary and secondary pistons from the master cylinder body.

Caution

Do not disassemble the primary and secondary pistons.

- Remove the valve caps.
- Remove the tube seats.

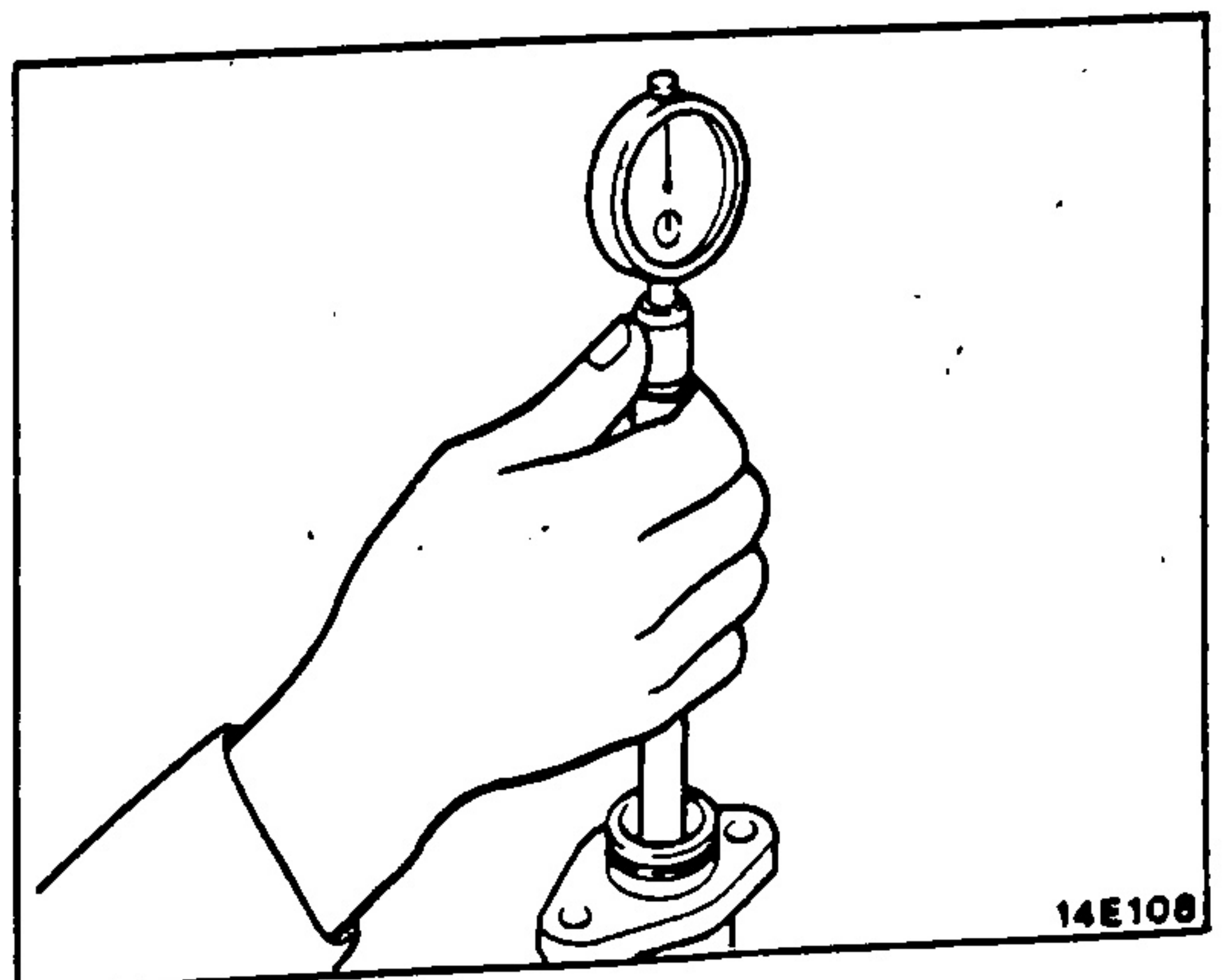


INSPECTION

- (1) Check tube seat for damage.
- (2) Check inner surface of master cylinder body for rust or scars.
- (3) Check primary and secondary pistons for rust, scars, wear, damage or deterioration.
- (4) Check springs of primary and secondary pistons for deterioration.

Clearance between Master Cylinder Inner Diameter and Piston Outer Diameter

Measure the master cylinder inner diameter at three positions (bottom, middle, and top) by using a cylinder gauge. If the clearance between these inner diameters and the piston outer diameter exceeds the limit, replace the master cylinder and the piston assembly.



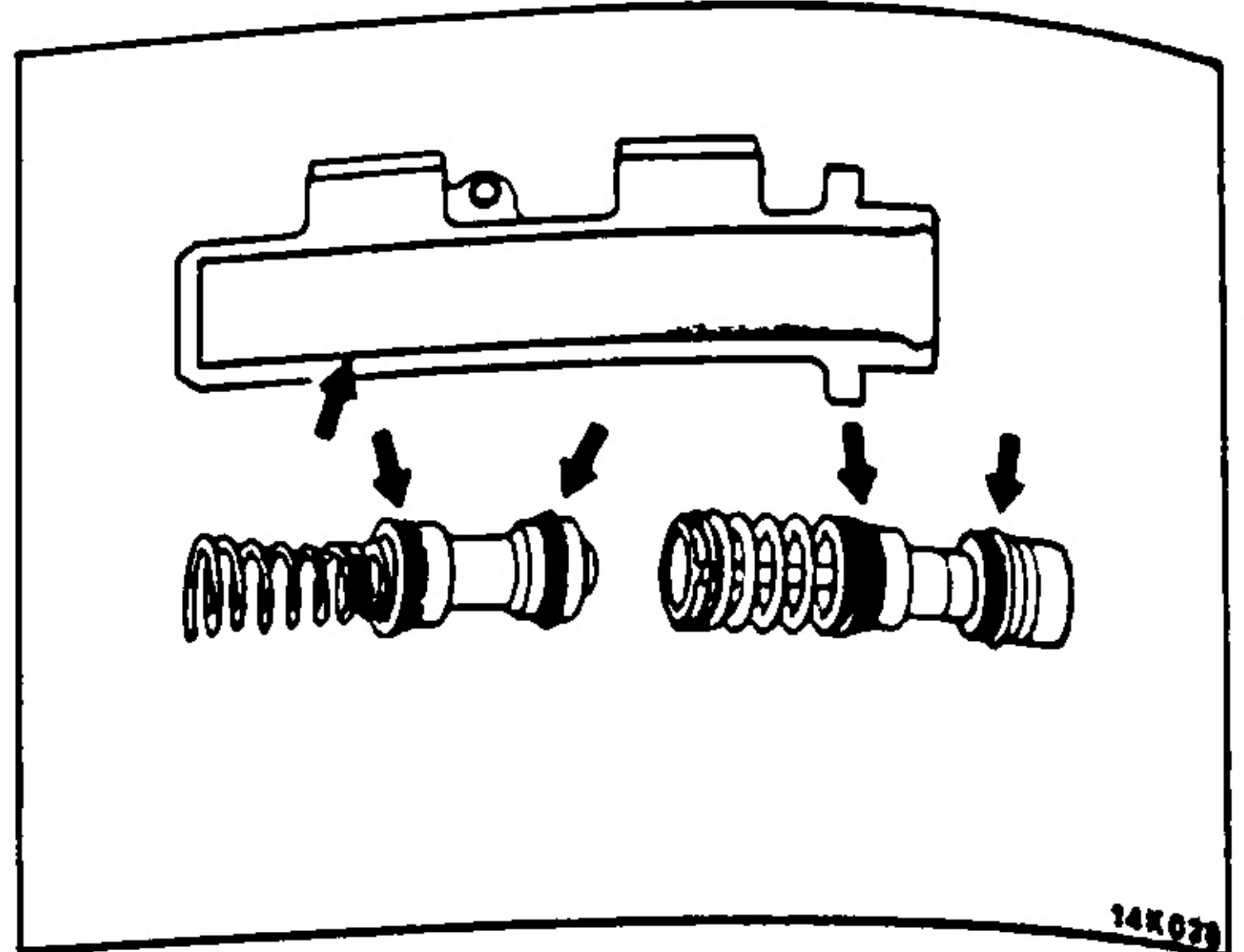
MARIZAH B. ABU RAHIM



MASTER CYLINDER

REASSEMBLY

Apply the specified brake fluid to the inner surface of the master cylinder body and to the entire periphery of the secondary and primary pistons.



INSTALLATION

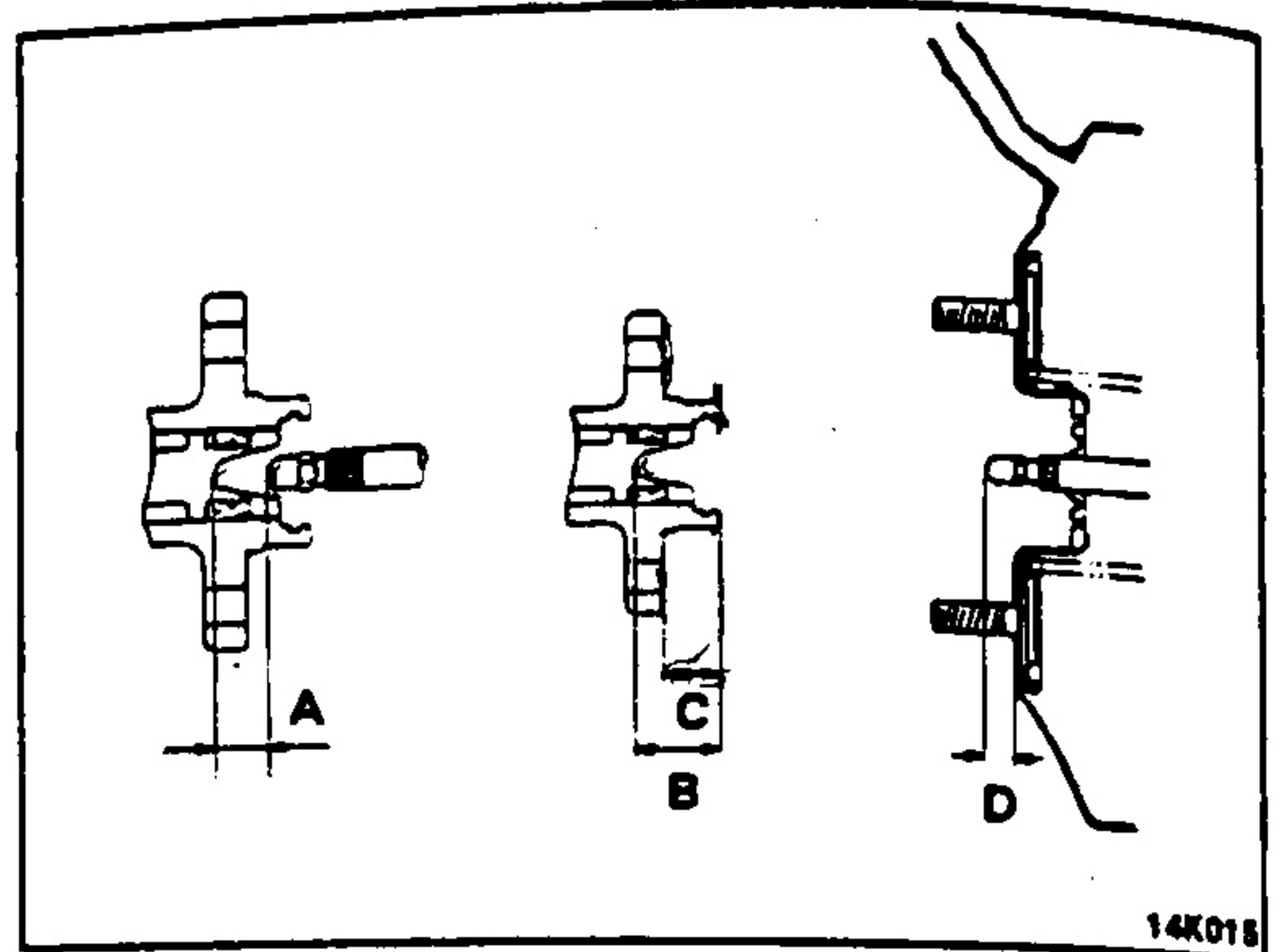
Measure the clearance "A" ($A = B - C - D$) between the brake booster push rod and the primary piston.

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

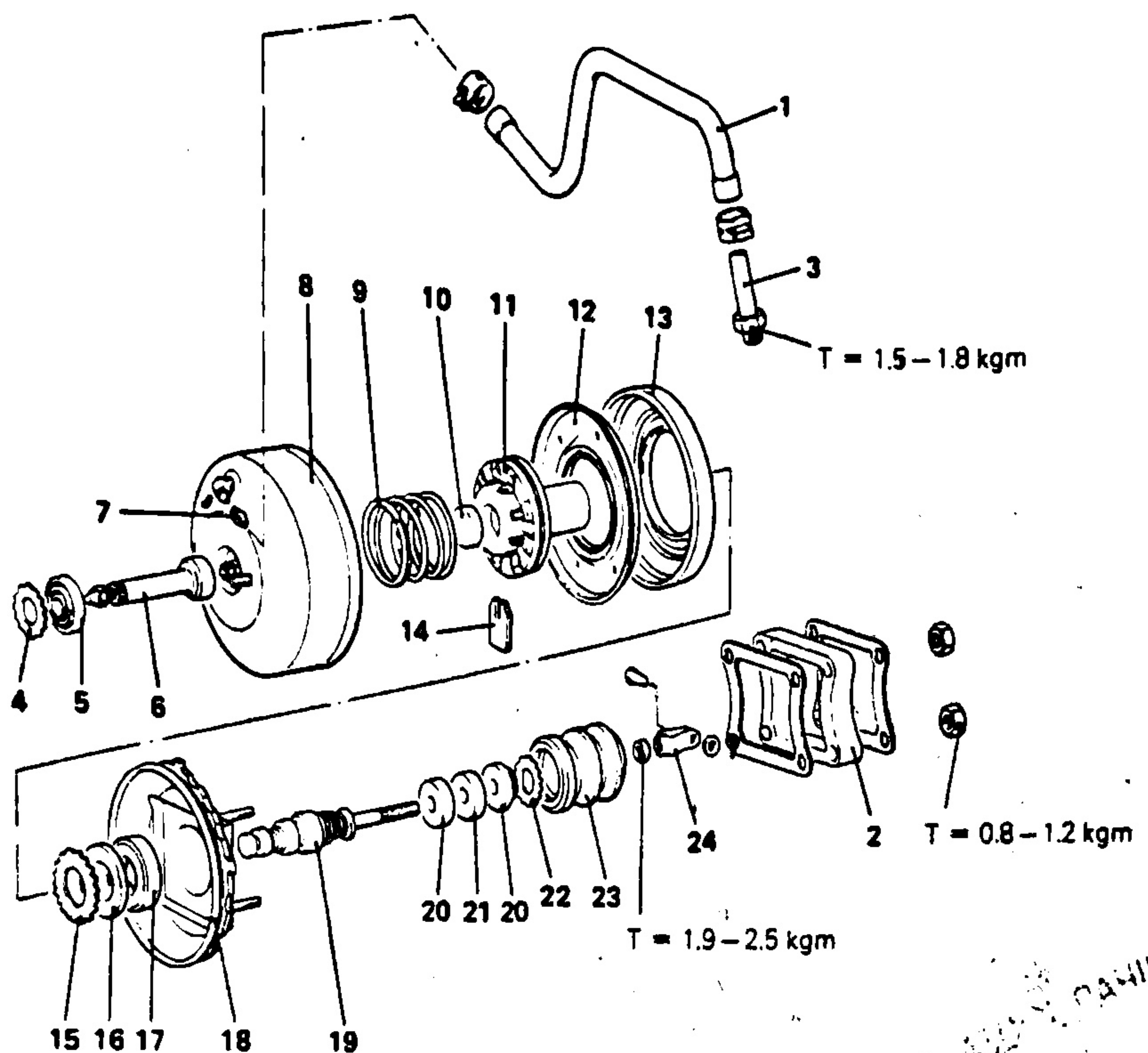
Insufficient clearance may cause excessive brake drag.

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



BRAKE BOOSTER

COMPONENTS



1. Vacuum hose
2. Spacer
3. Fitting
4. Retainer
5. Plate and seal assembly
6. Push rod
7. Check valve
8. Front shell

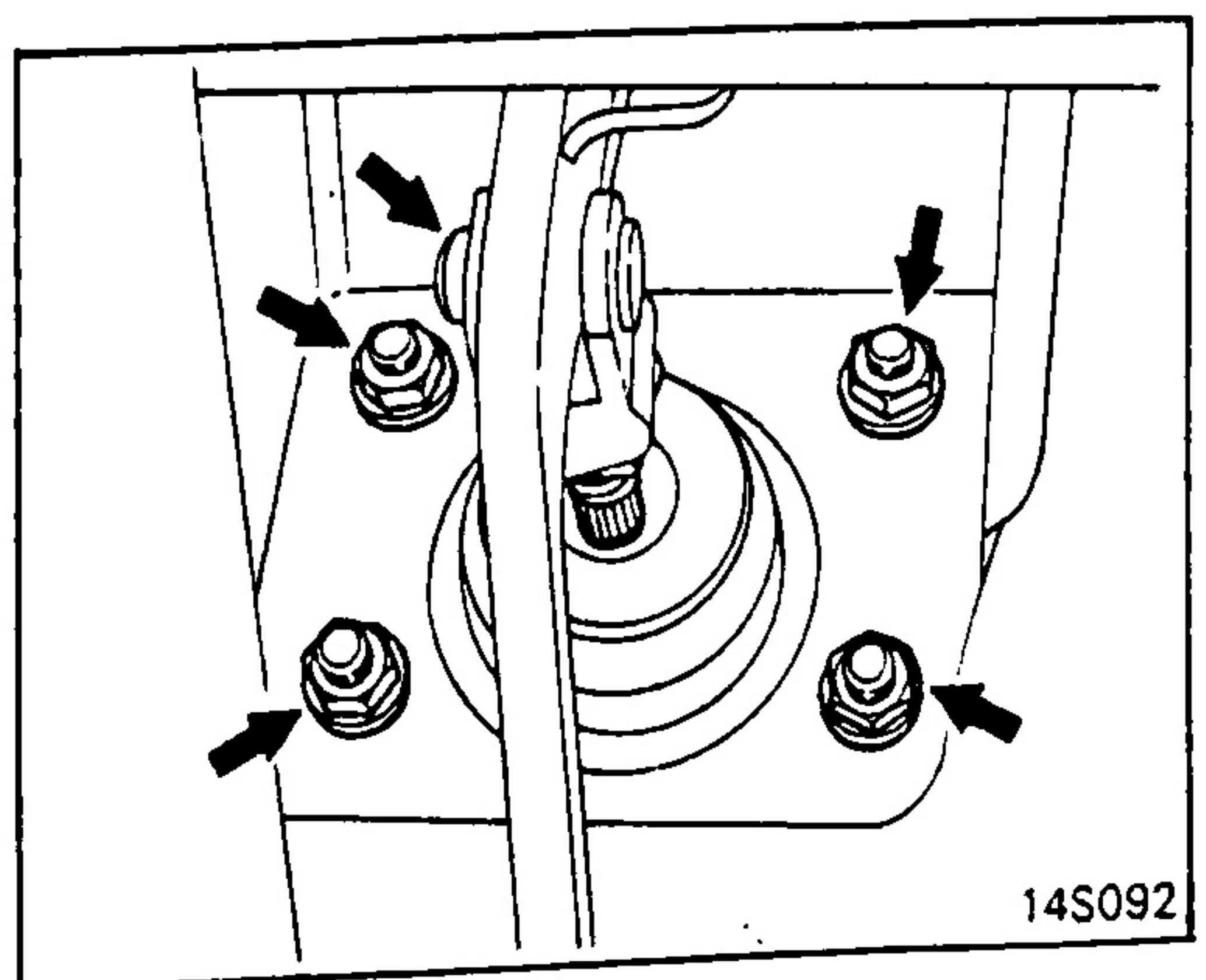
9. Spring
10. Reaction disc
11. Valve body
12. Diaphragm plate
13. Diaphragm
14. Valve plunger stop key
15. Retainer
16. Bearing

17. Valve body seal
18. Rear shell
19. Valve rod and plunger
20. Filter
21. Silencer
22. Retainer
23. Boot
24. Operating rod yoke

14U0017

REMOVAL

Remove the master cylinder. (Refer to P.14A-10.)
 Disconnect the vacuum hose at the booster side.
 Disconnect the operating rod from the brake pedal.
 Remove the brake booster.
 Remove the check valve from the brake booster.



14S092



BRAKE BOOSTER

DISASSEMBLY

Clean the booster body before starting disassembly.

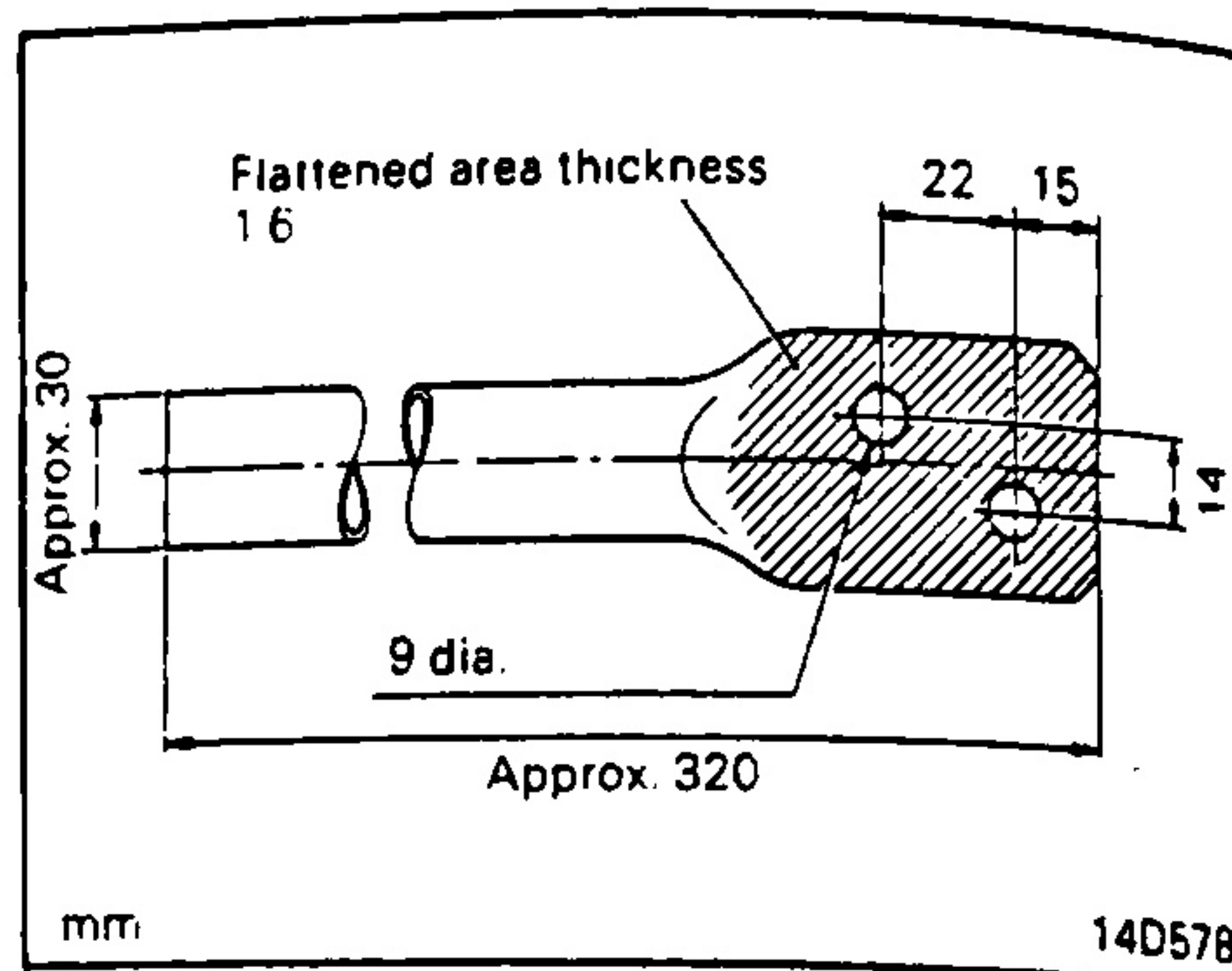
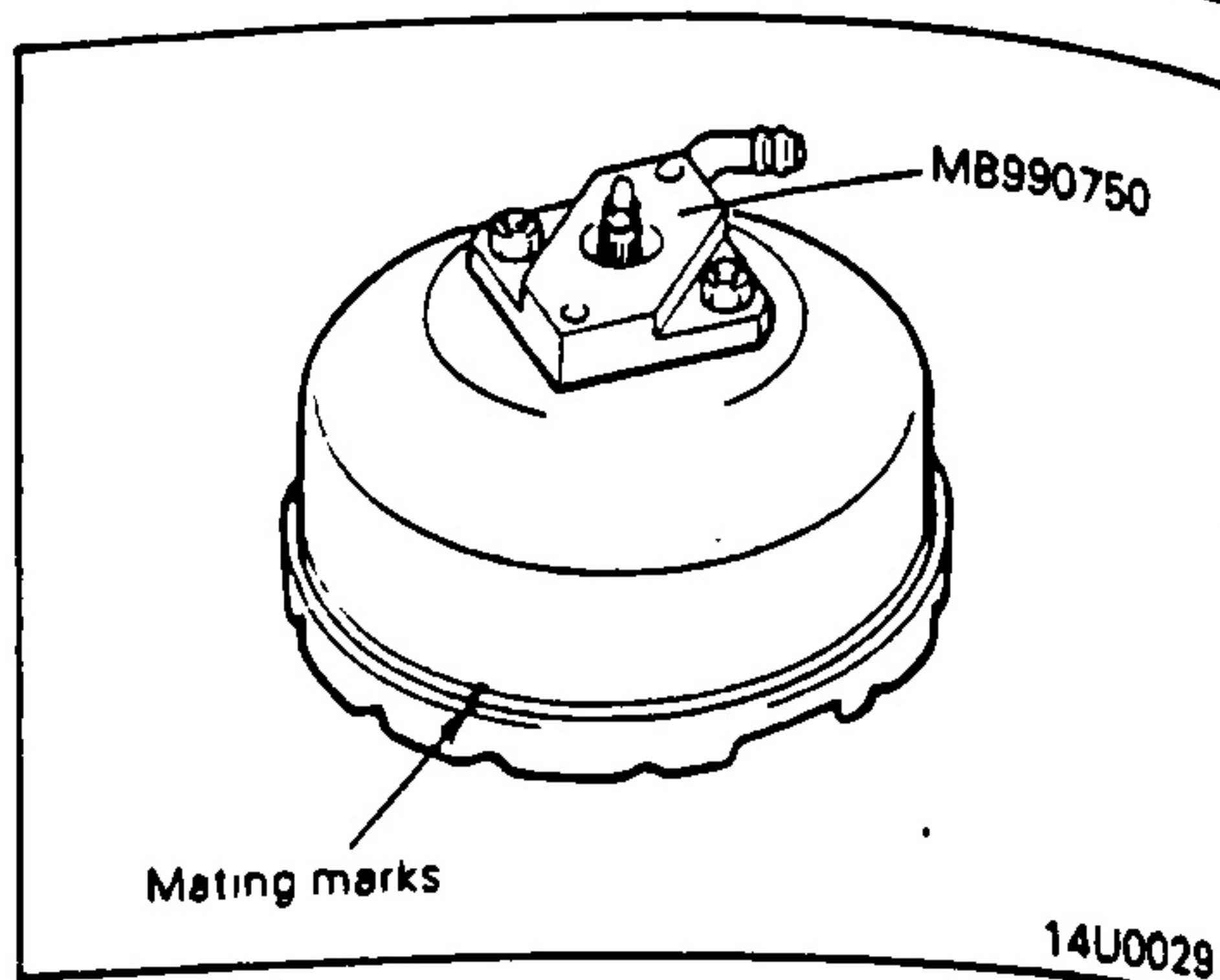
Caution

During disassembly, do not allow dust, dirt, water or other impurities into the brake booster.

Set the special tool to the front shell and hold it in a vice.

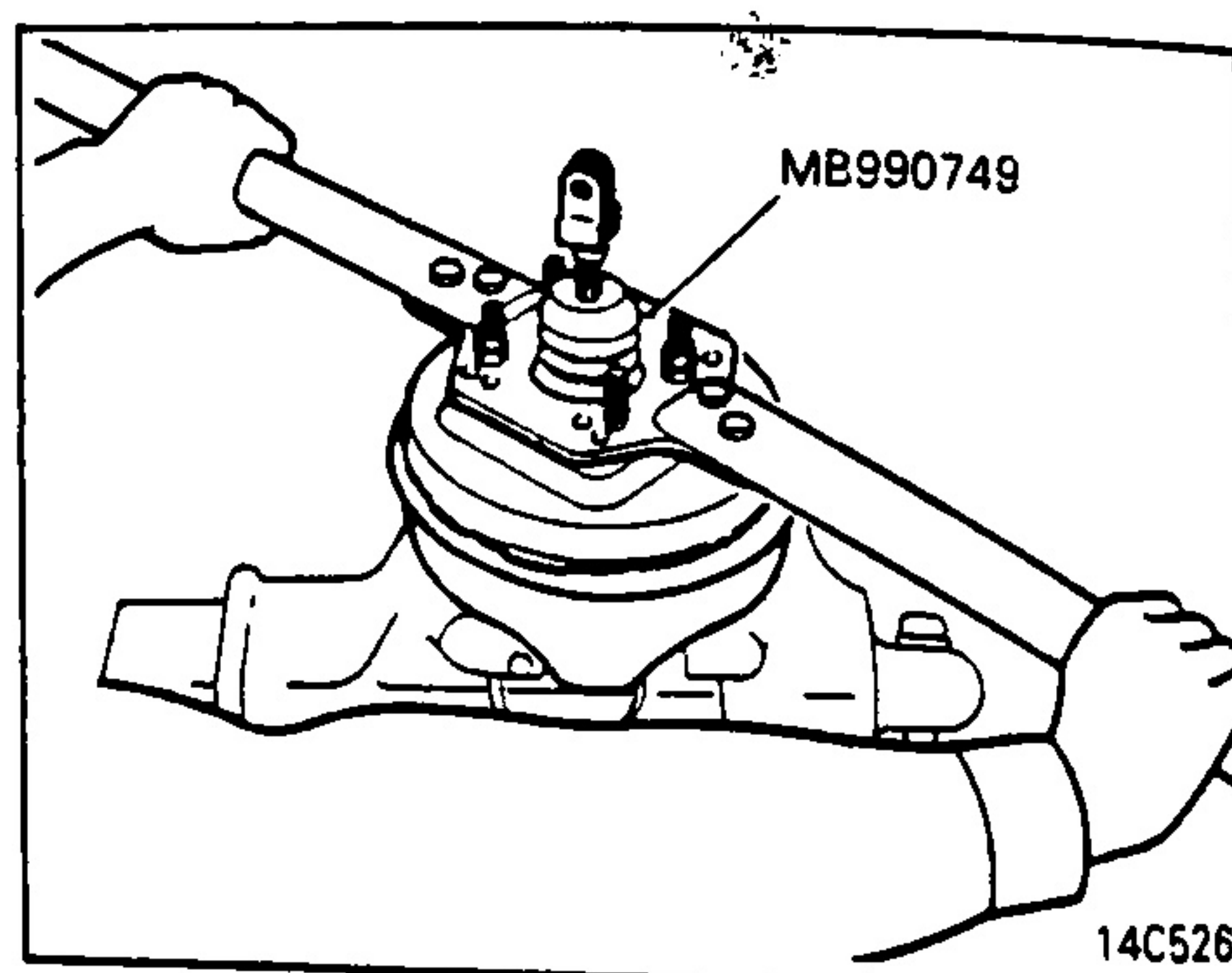
Make the mating marks on the front and rear shells.

Make two arms of steel pipe as shown in the illustration, and attach the arms to the special tool with suitable bolts.

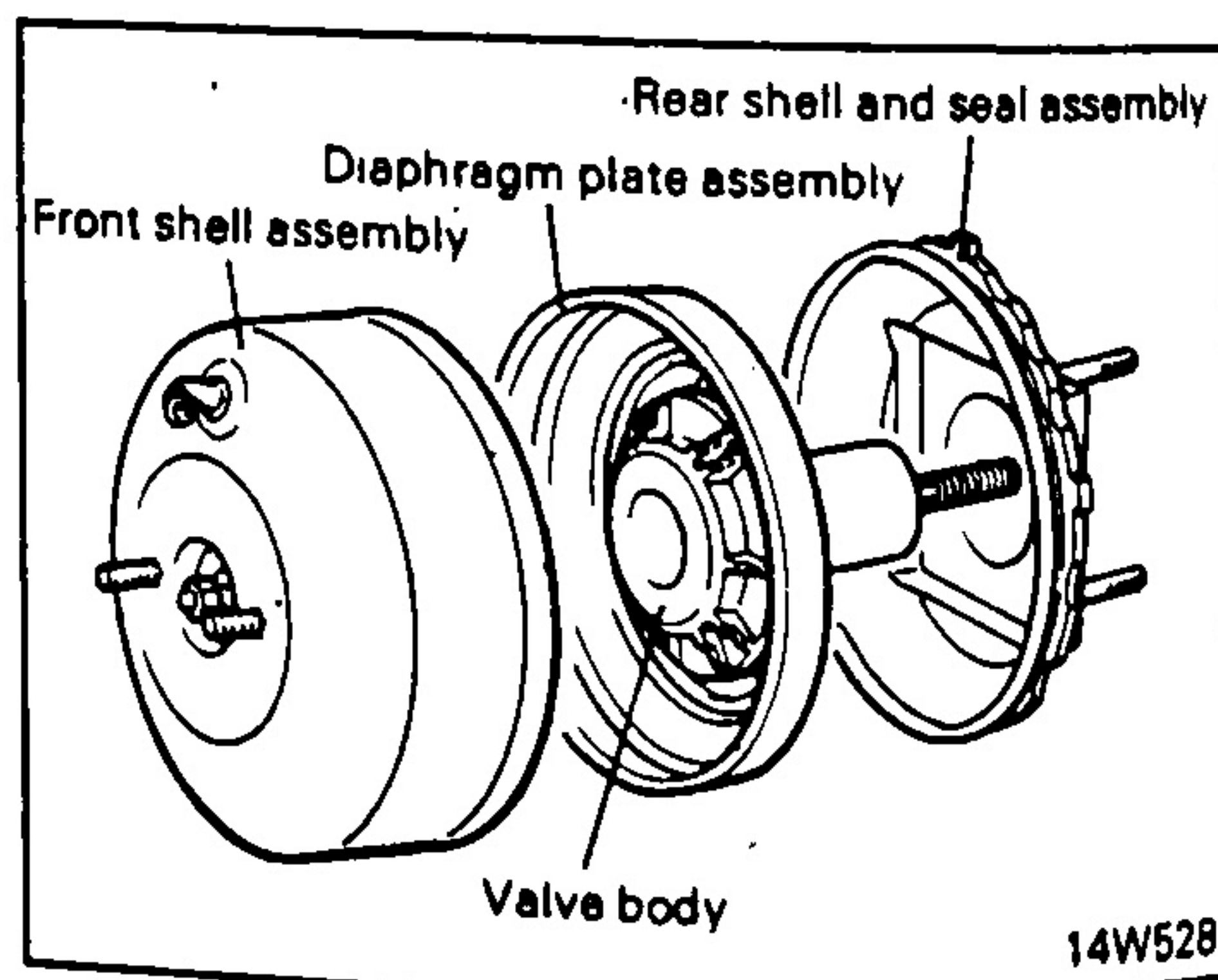


Set the special tool to the rear shell.

Rotate the special tool counterclockwise to remove the rear shell.



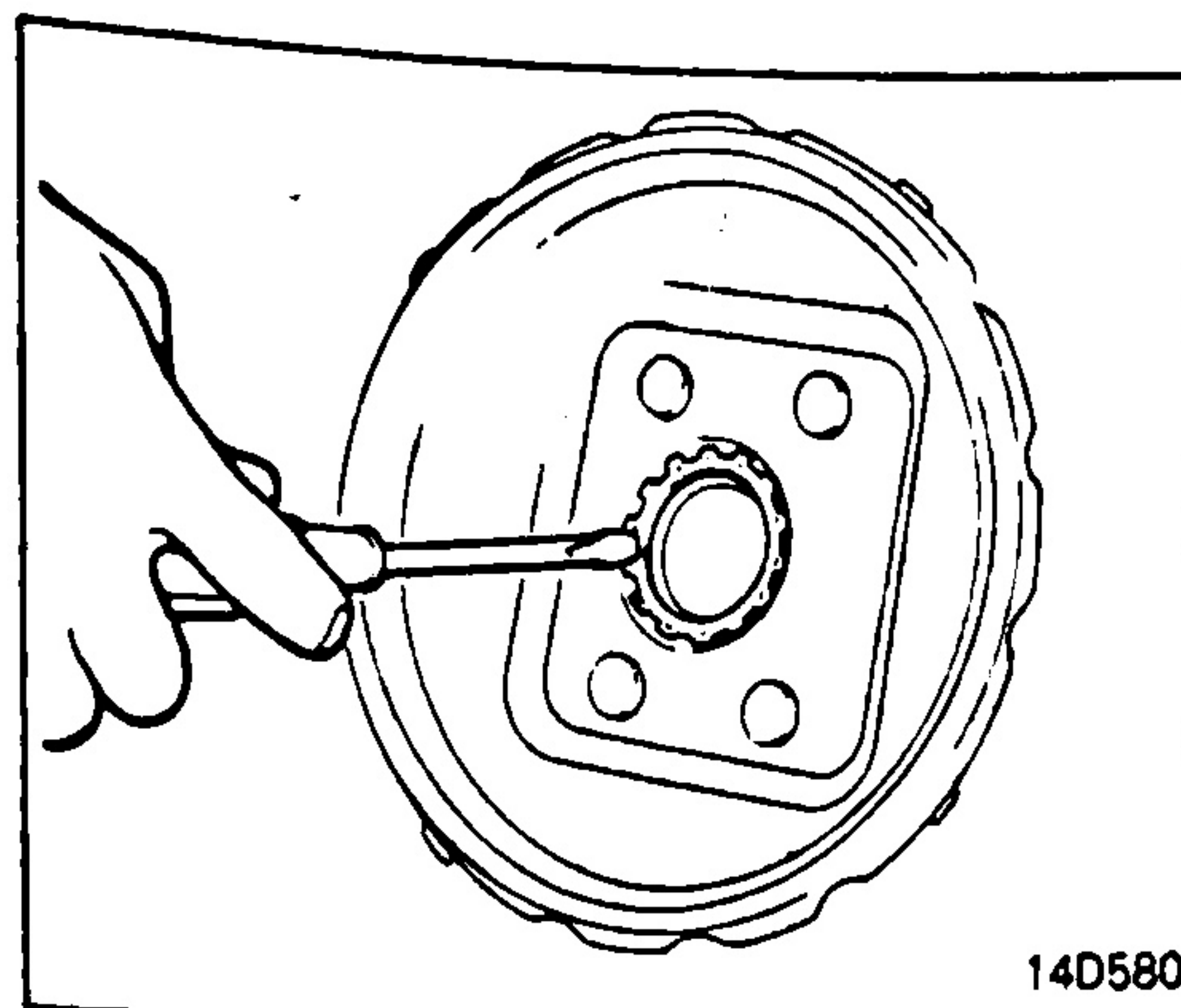
The brake booster can be disassembled as shown in the illustration.



BRAKE BOOSTER



Remove the retainer, and then take out the bearing and valve body seal from the rear shell.
Remove the retainer, and then take out the plate and seal assembly, and the push rod from the front shell.

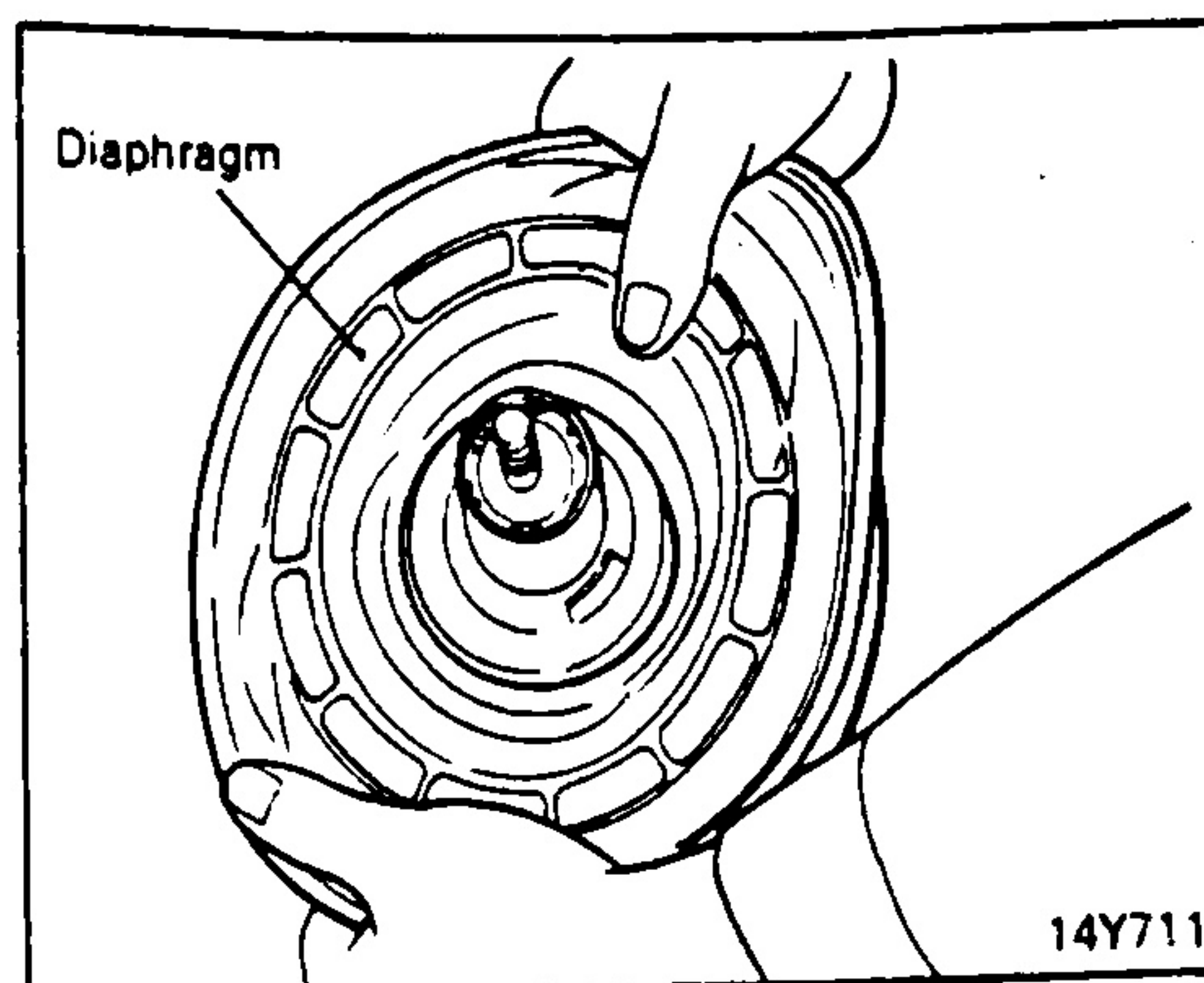


Disassemble the diaphragm plate and valve body assembly by the following procedures:

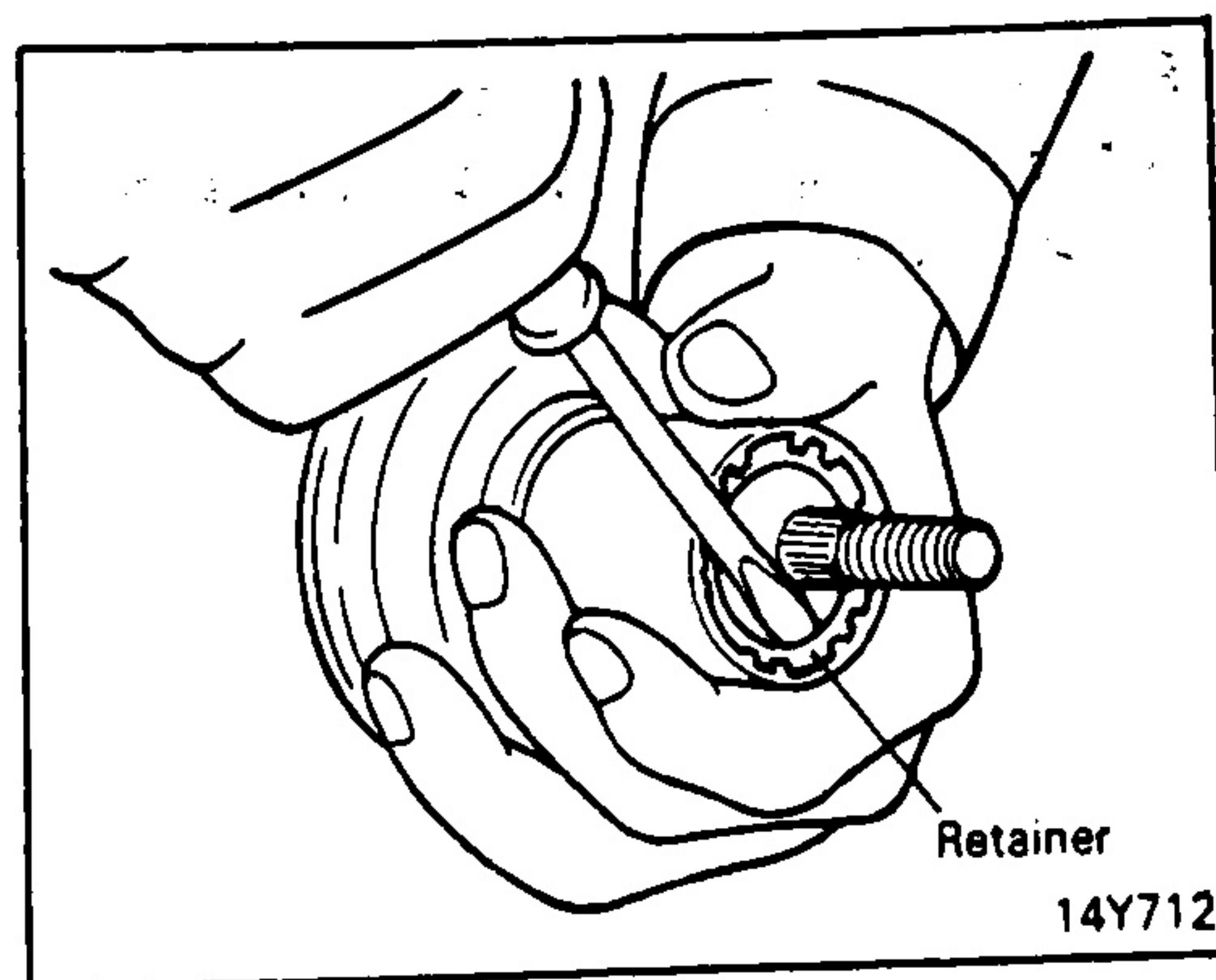
- (1) Pull off the diaphragm from the diaphragm plate.

Caution

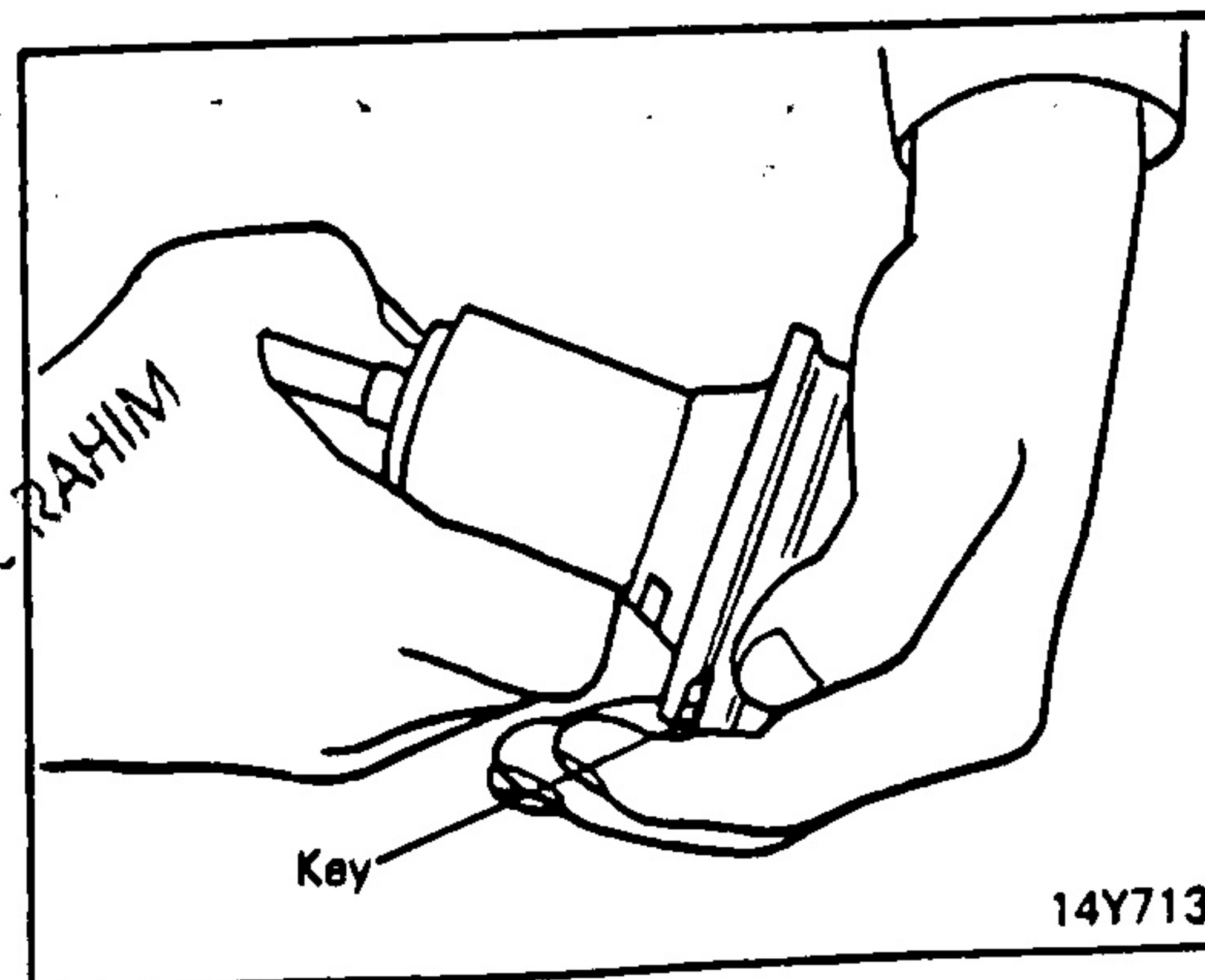
The valve body, being made of plastic, should be carefully handled. Do not drop it or subject it to impact.



- (2) Remove the retainer from the valve body.



- (3) Remove the valve plunger stop key while pushing the valve rod and plunger assembly.
- (4) Slowly pull out the valve rod and plunger assembly.
- (5) Push out the reaction disc.



MARIZAM B. ABDOL RAHIM

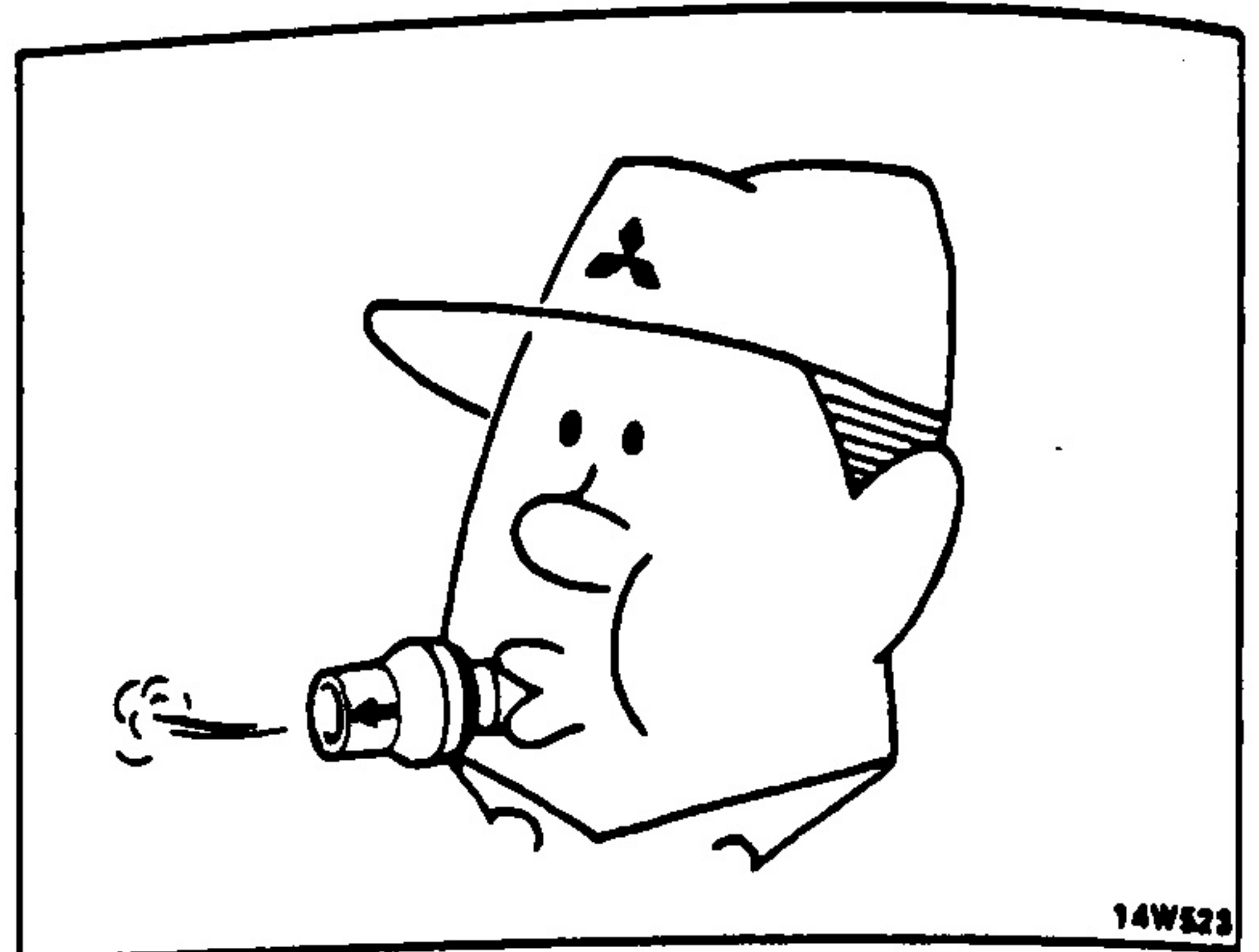


BRAKE BOOSTER

INSPECTION

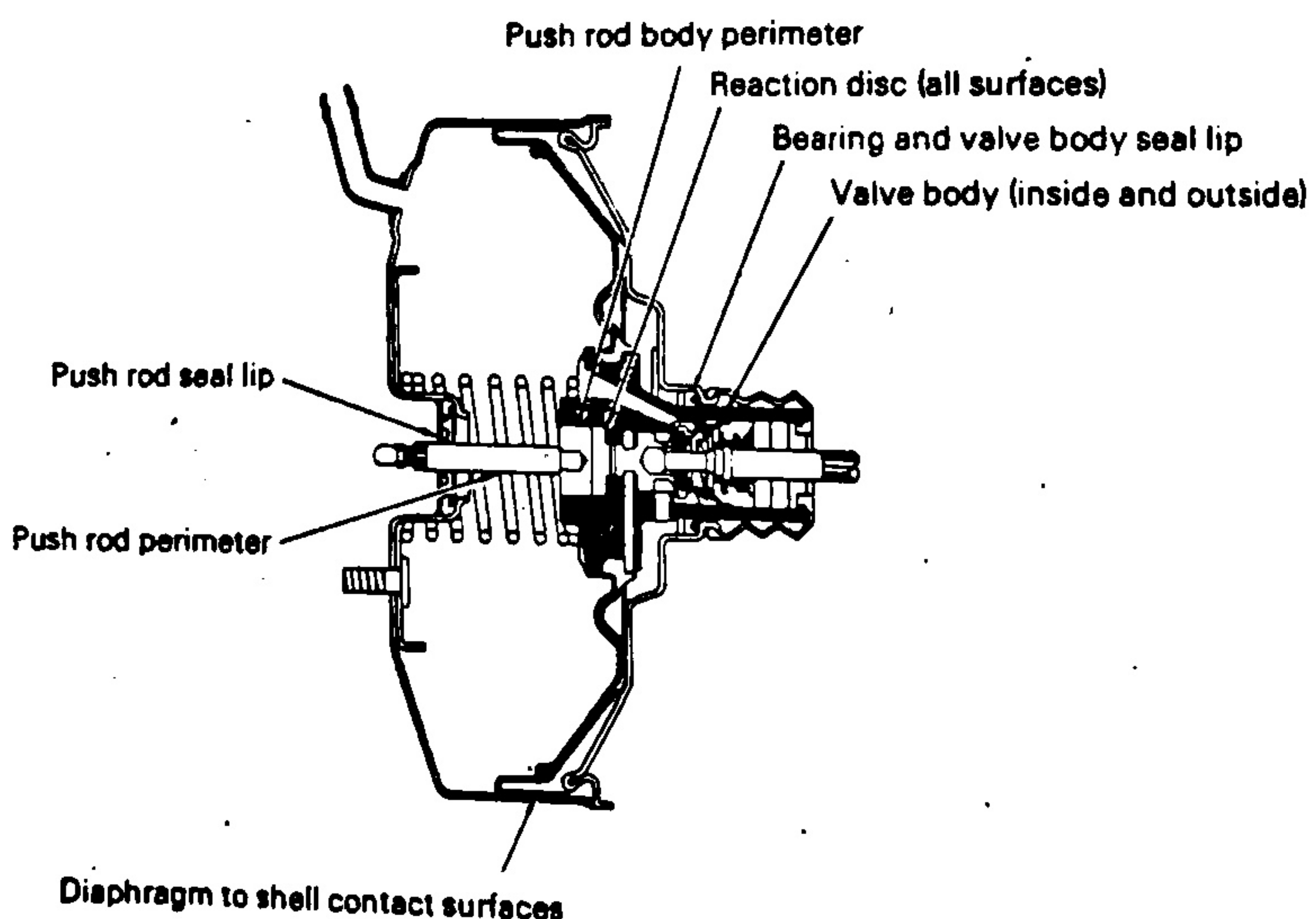
- (1) Check plate or seal assembly for wear.
- (2) Check push rod for bend or damage.
- (3) Check front shell or rear shell for deformation, cracks or damage.
- (4) Check spring for deterioration.
- (5) Check valve body for damage or cracks.
- (6) Check diaphragm for damage.
- (7) Check bearing or valve body seal for wear.
- (8) Check valve rod or plunger for wear, bend or damage.
- (9) Check air silencer filter or silencer for clogging.
- (10) Check boot for cracks or damage.
- (11) Check the check valve for operation.

Blow into the check valve. 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.



REASSEMBLY

Coat the following points with the specified grease:



14W527

BRAKE BOOSTER / BRAKE LINE



NOTE

Do not stain the diaphragm with grease.

Mount the diaphragm plate to the valve body, and then push the diaphragm securely into the groove in the valve body. Confirm that the valve body, the diaphragm plate, and the diaphragm are securely assembled.

INSTALLATION

Check the booster push rod-to-master cylinder piston clearance.
(Refer to P.14A-12.)

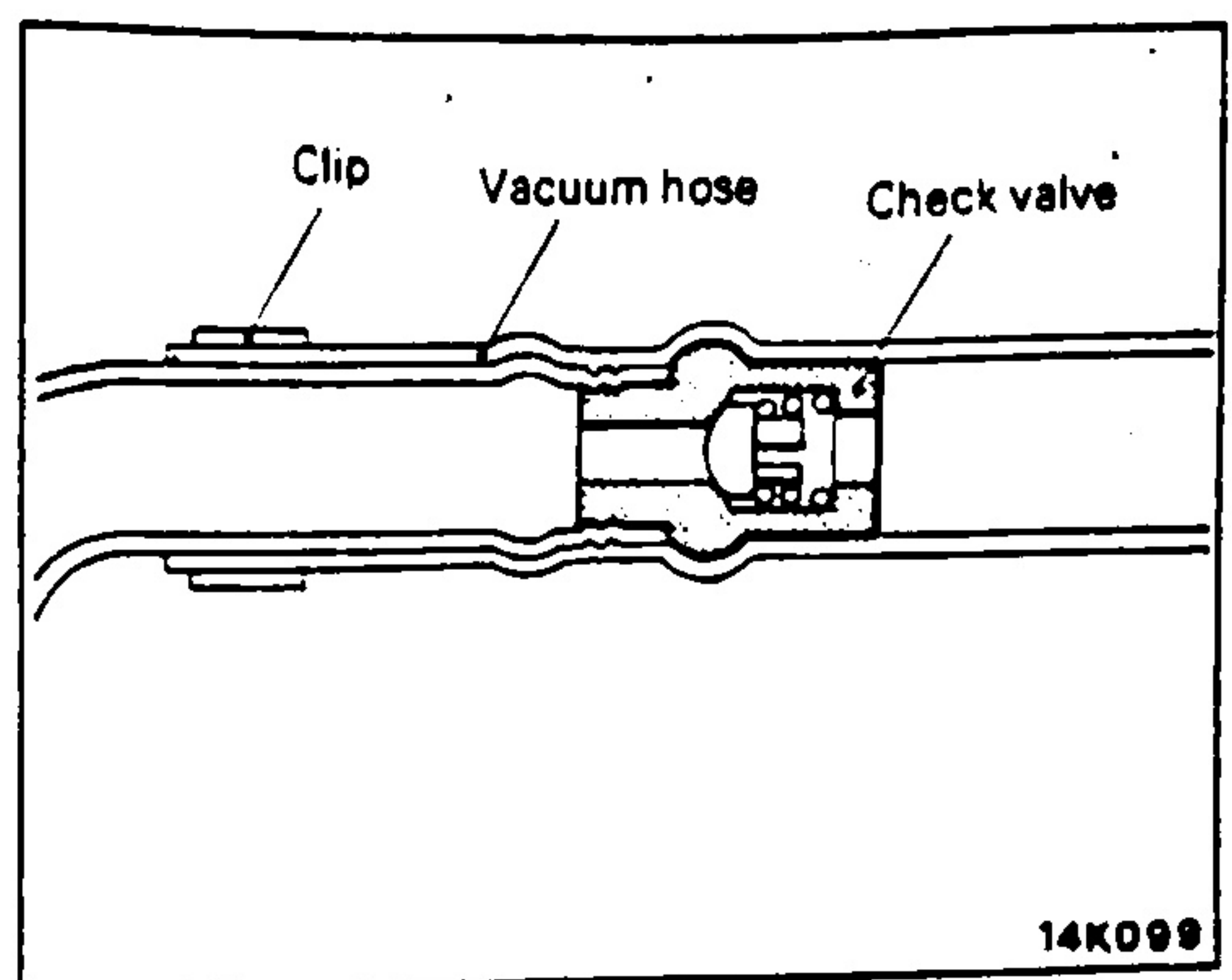
When installing the fitting, apply semi-drying sealant to its threaded portion and tighten it to the specified torque.

When the hose clip on the brake booster side is installed, fix it on the brake booster pipe and do not bring it into contact with the check valve.

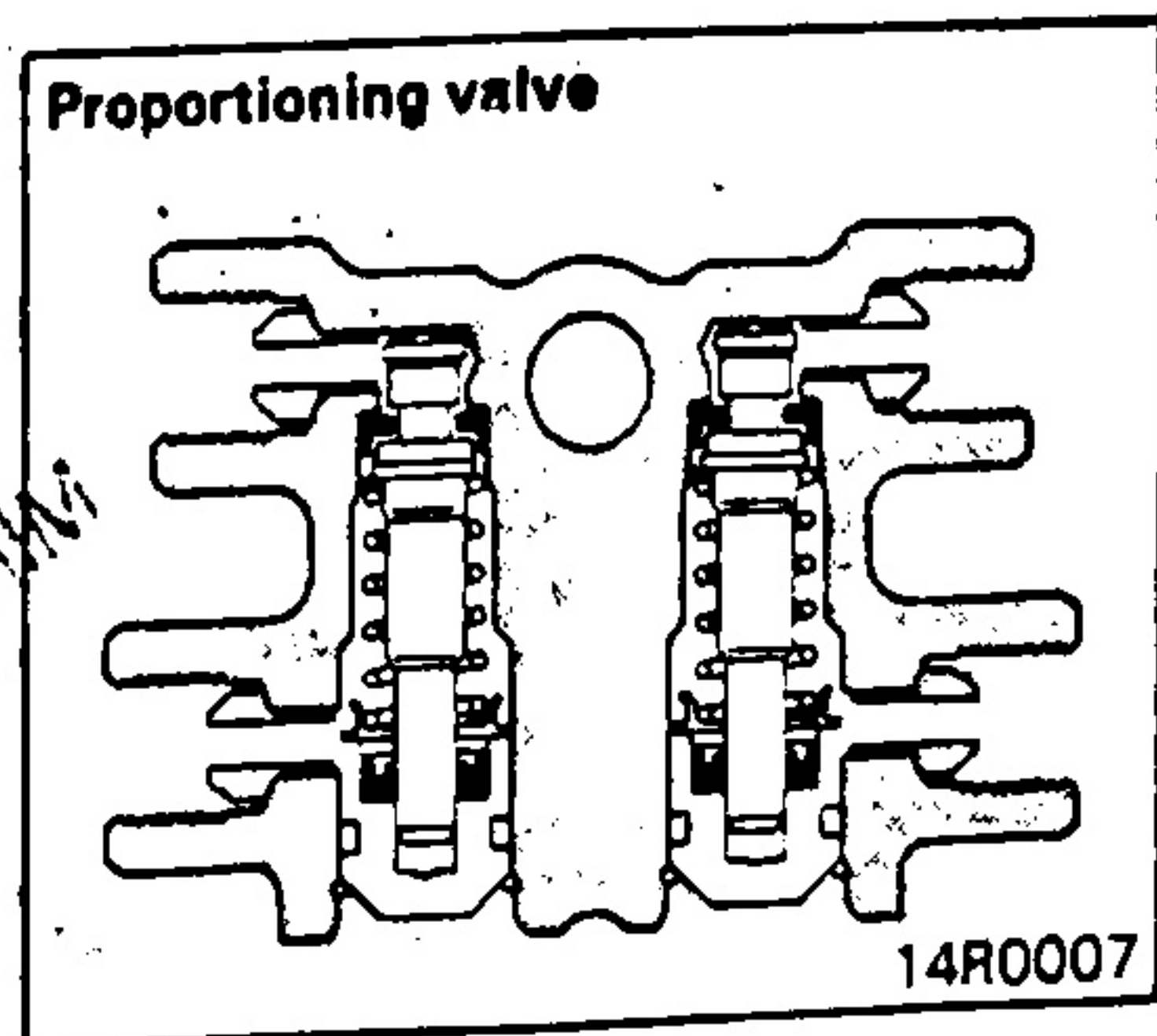
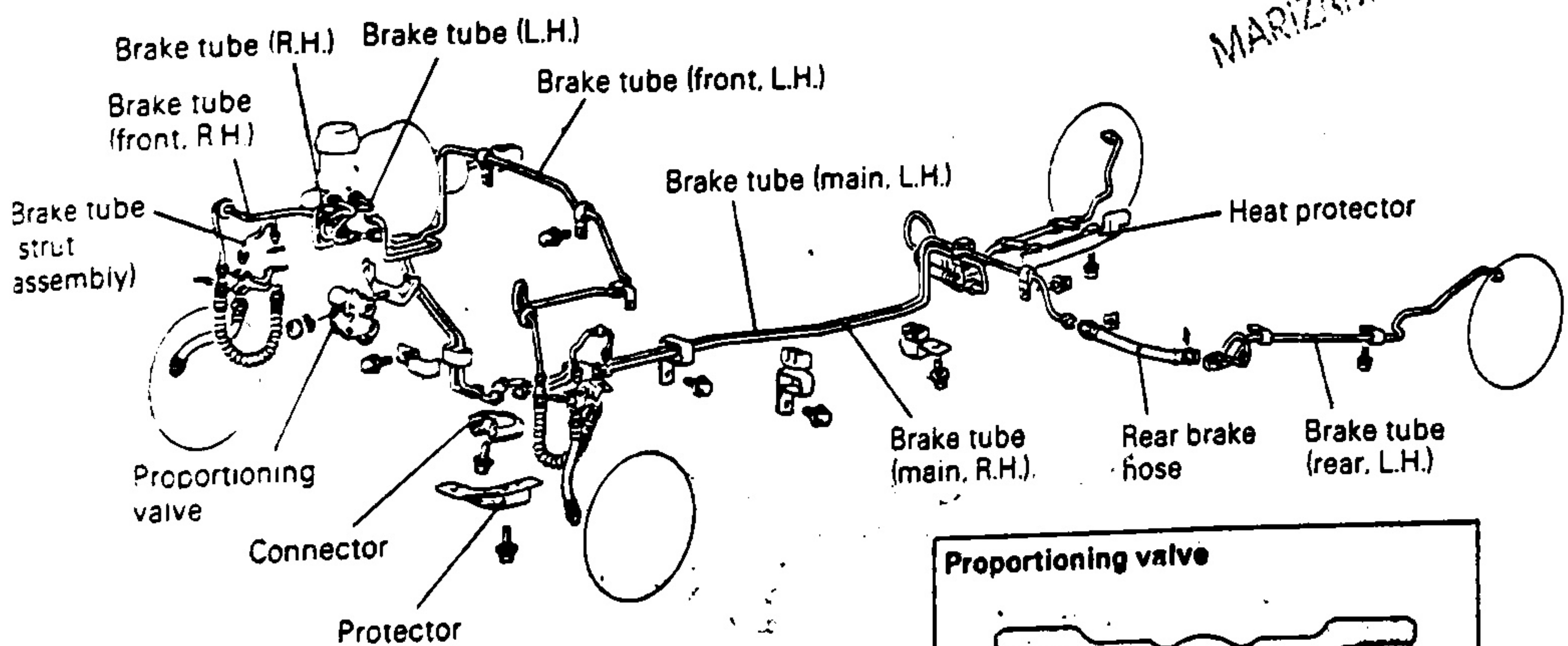
Fasten the vacuum hose securely to prevent air leaks from the connections.

After bleeding, adjust the brake pedal. (Refer to p.14A-5.)

Confirm that the brake booster operates properly.



BRAKE LINE COMPONENTS



Brake hose flare nut: 1.3 – 1.7 kgm

14U0011



BRAKE LINE / FRONT DISC BRAKES

INSPECTION

- (1) Check the brake tubes for cracks, breakage or corrosion.
- (2) Check the brake hoses for cracks, damage, leakage or ooze.
- (3) Check the brake tube flare nuts for damage or leakage.

INSTALLATION

Install the brake hoses without twisting them. The brake tubes should be installed with care so as not to interfere with edges or weld beads, and should be clamped securely.

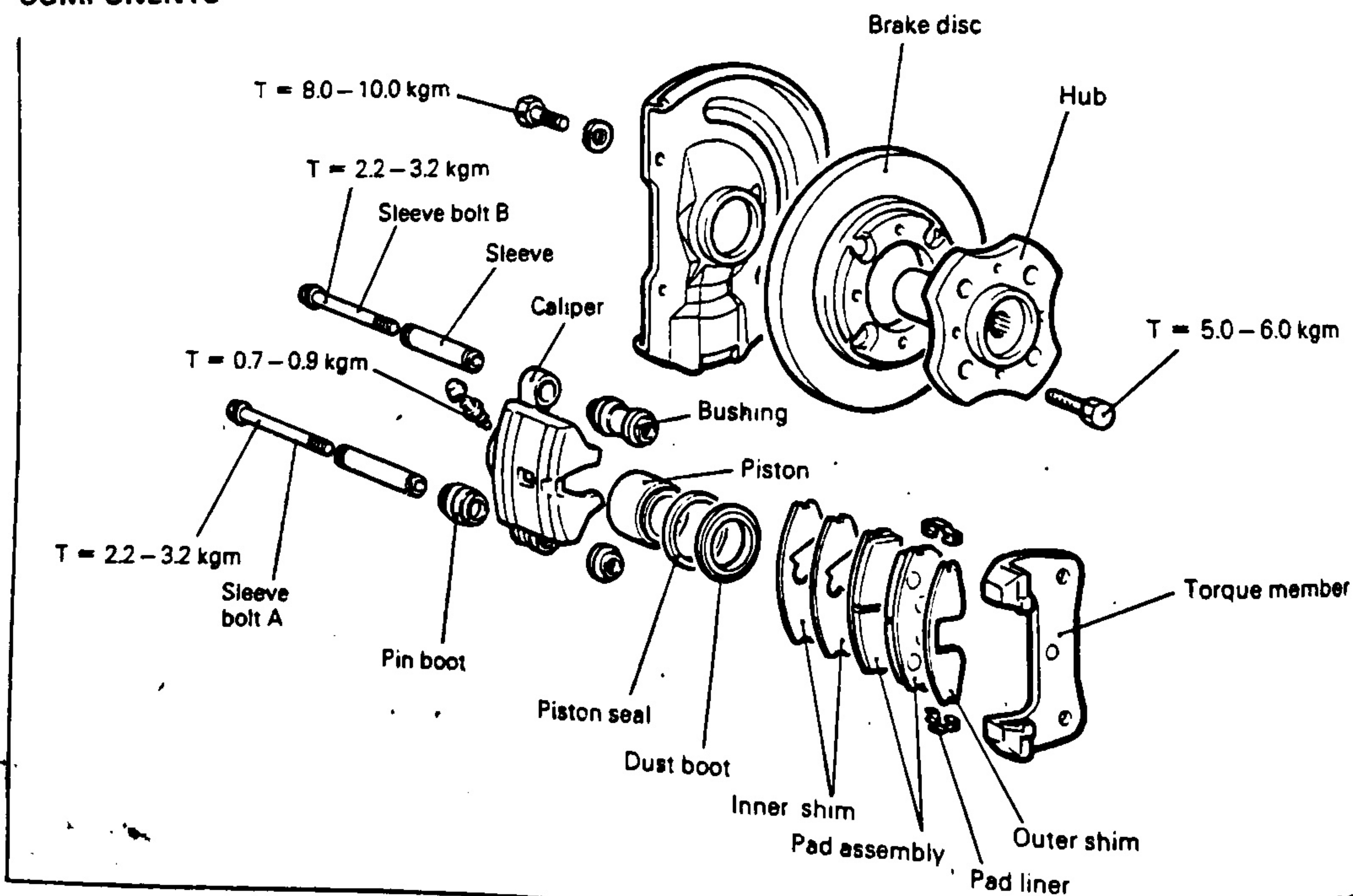
PROPORTIONING VALVE

Caution

Do not disassemble the proportioning valve, because its performance depends on the set load of the spring.

FRONT DISC BRAKES

COMPONENTS



14U0002

FRONT DISC BRAKES



INSPECTION

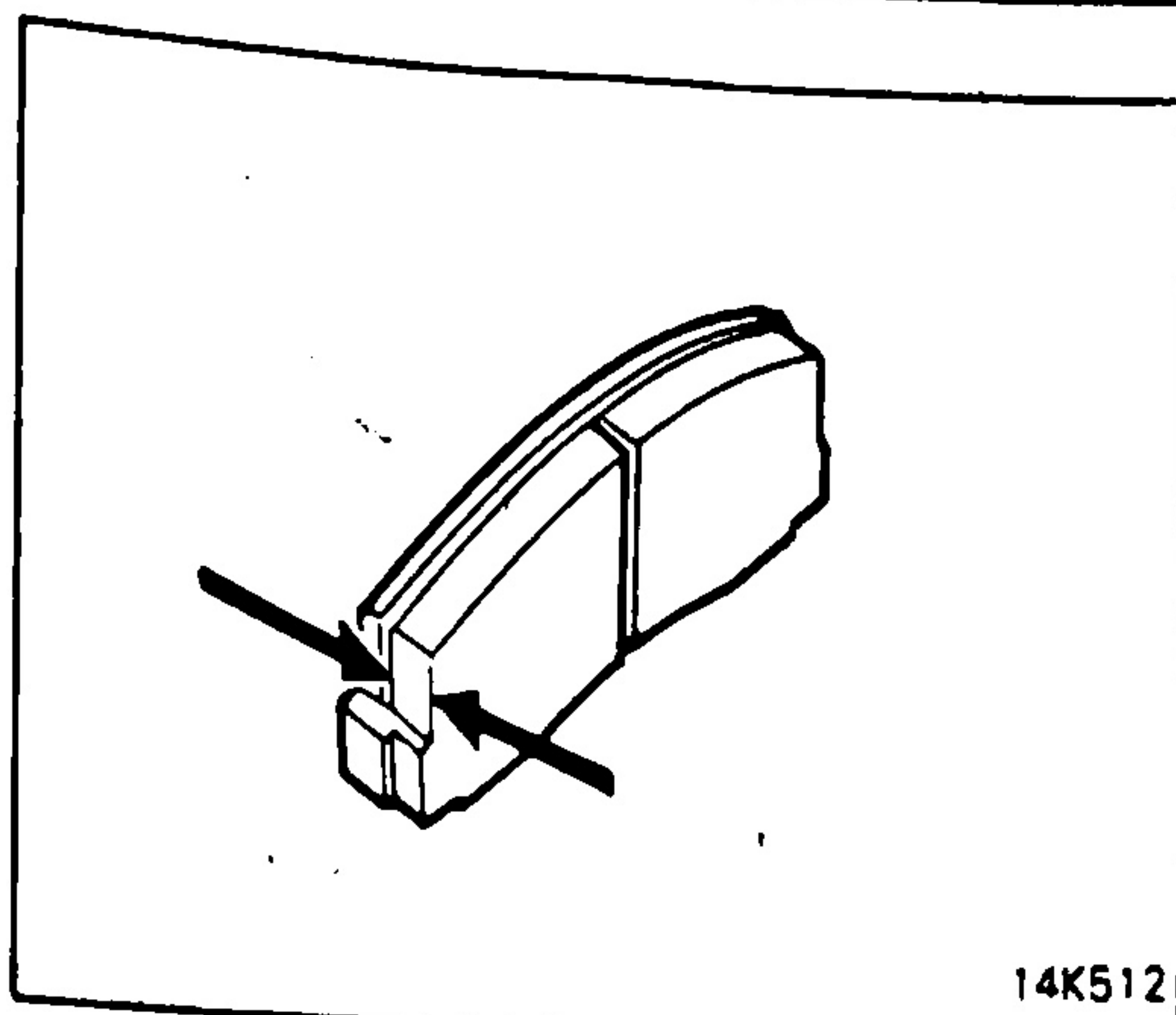
Pad Assembly Inspection

WORN PAD ASSEMBLIES

If the pad assemblies are worn beyond the limit, replace them.

DEFORMED PADS, DAMAGED METAL BACKING, AND/OR OIL ON THE LININGS

Replace the pad assemblies if necessary.



14K512

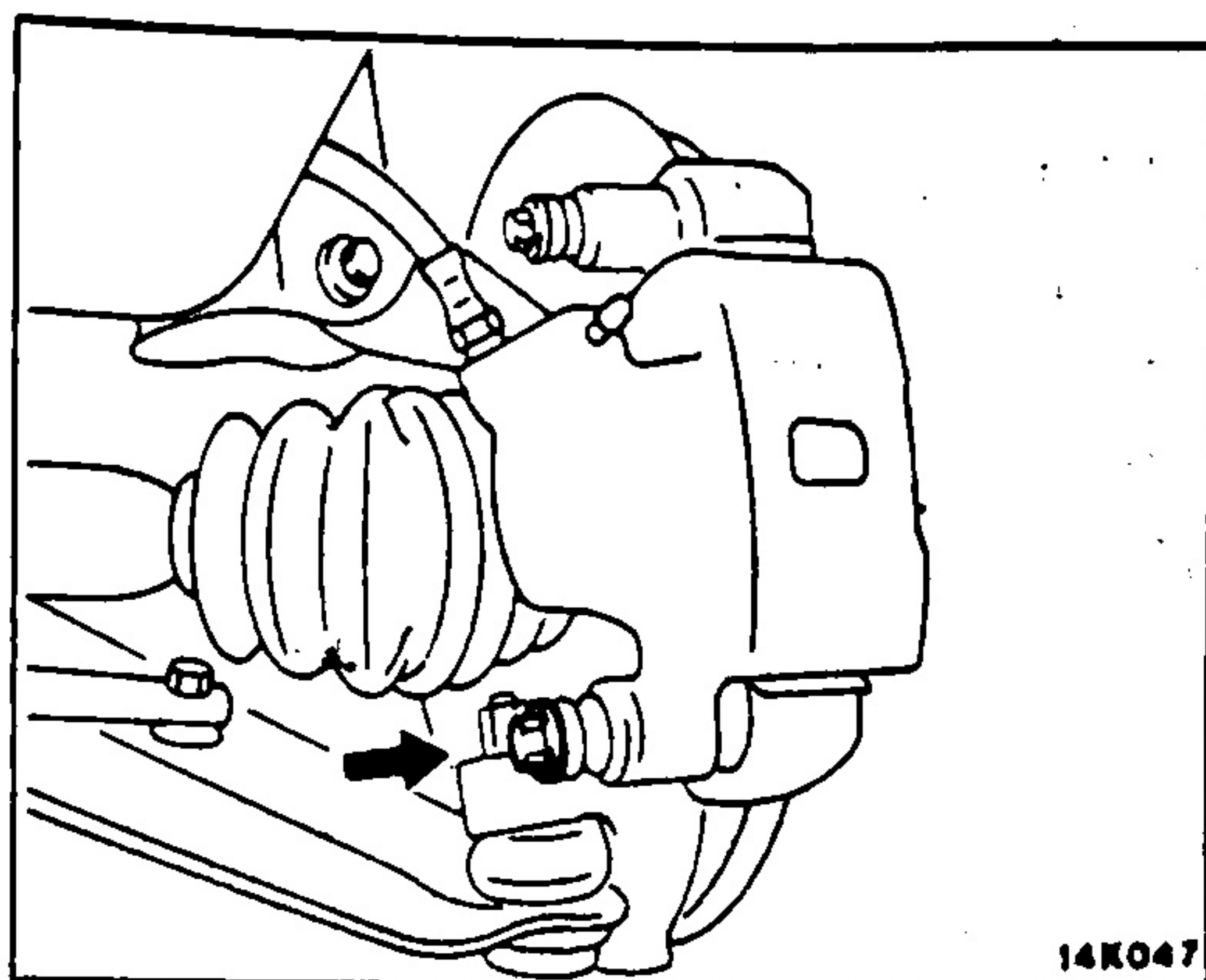
Pad Assembly Replacement

Remove the sleeve bolt A, and then lift the caliper assembly upward.

Caution

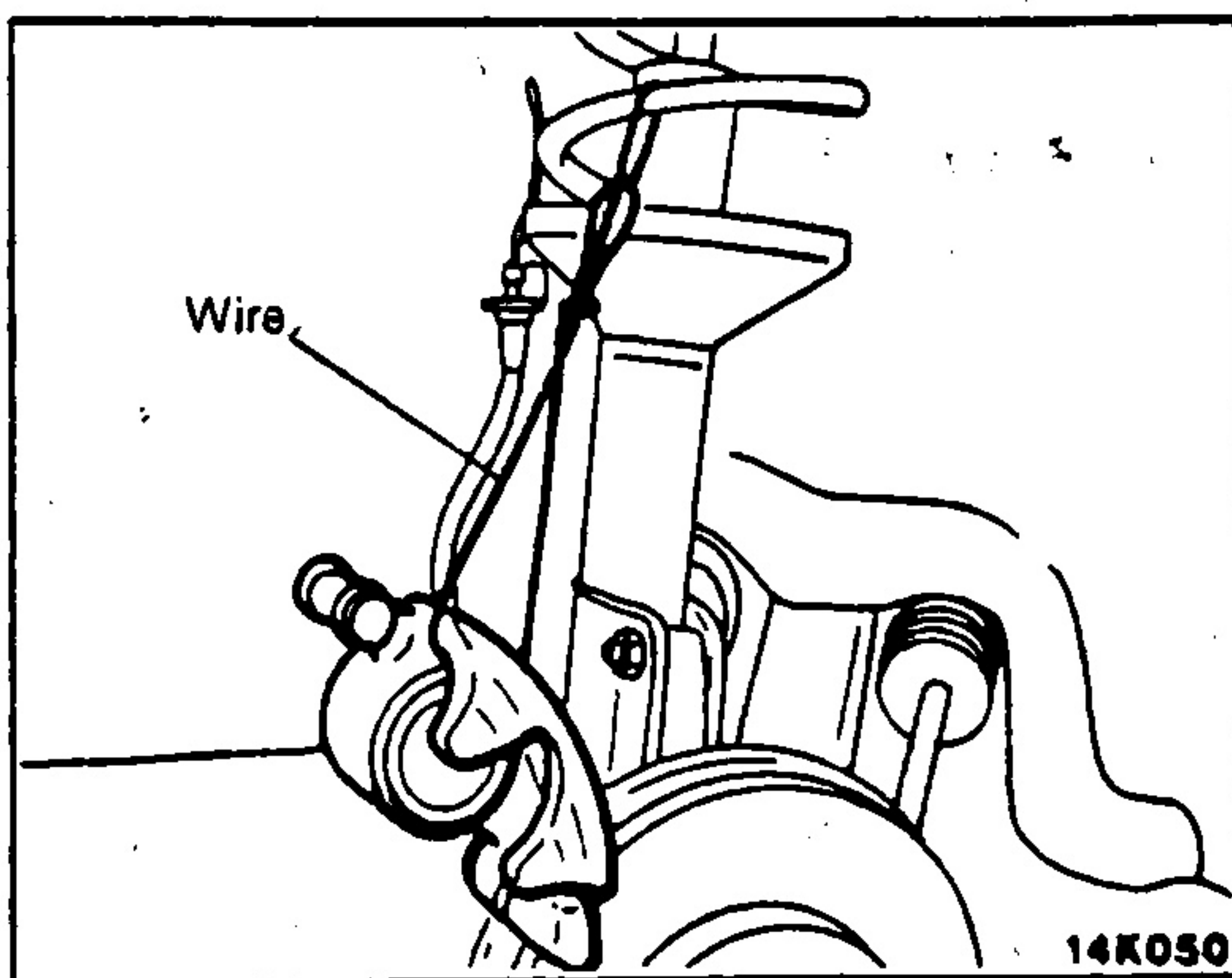
There is a coating of special grease on the sleeve bolt.

Be careful that this grease is not removed, and that no dirt adheres to the bolt.



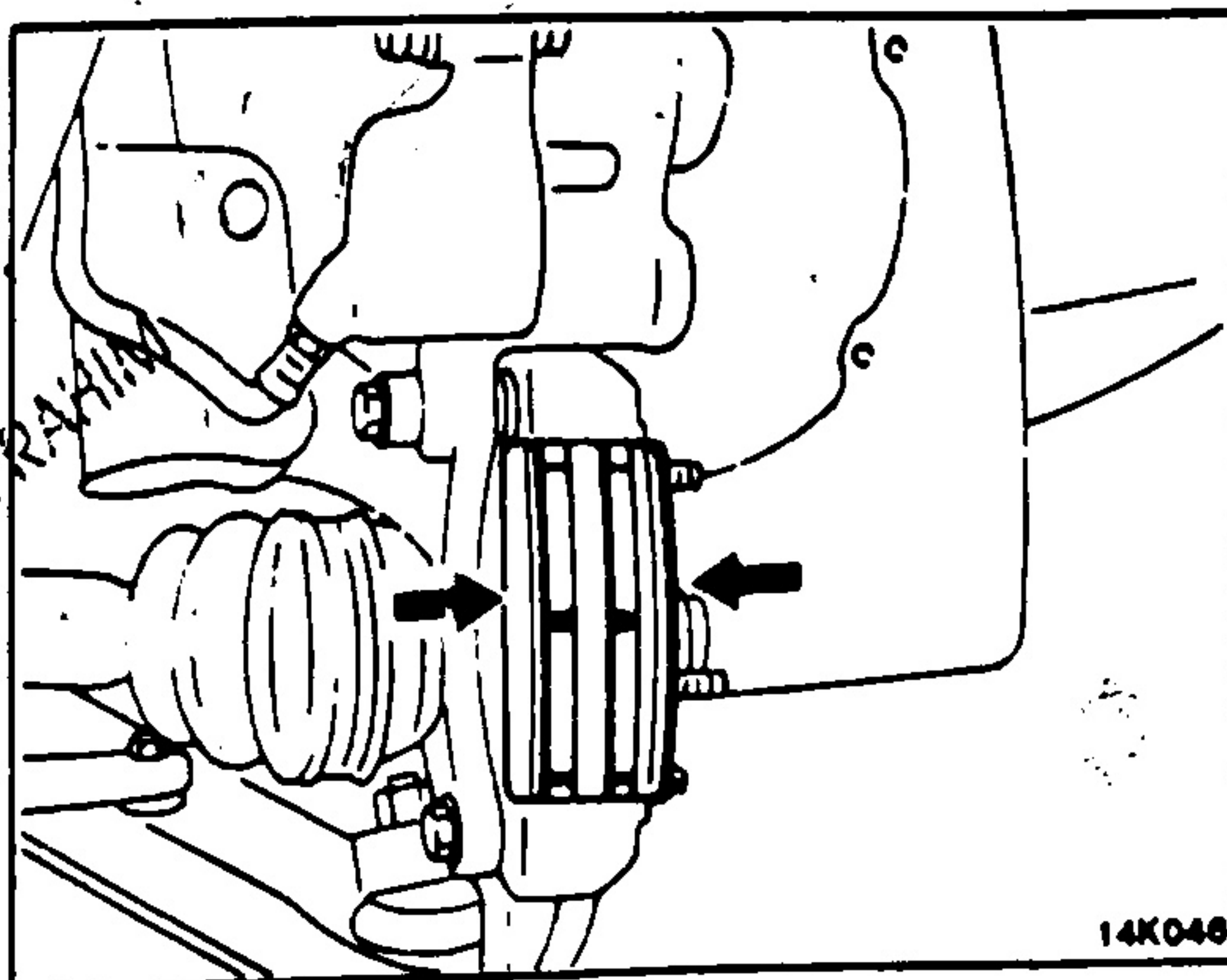
14K047

Support the raised caliper assembly with wire, etc., to prevent it from falling.



14K050

Remove the inner shim(s), the outer shim, and the pad assembly from the torque member.
Remove pad liners.



14K048

MARIZAM 8. ASDOL RAYIM



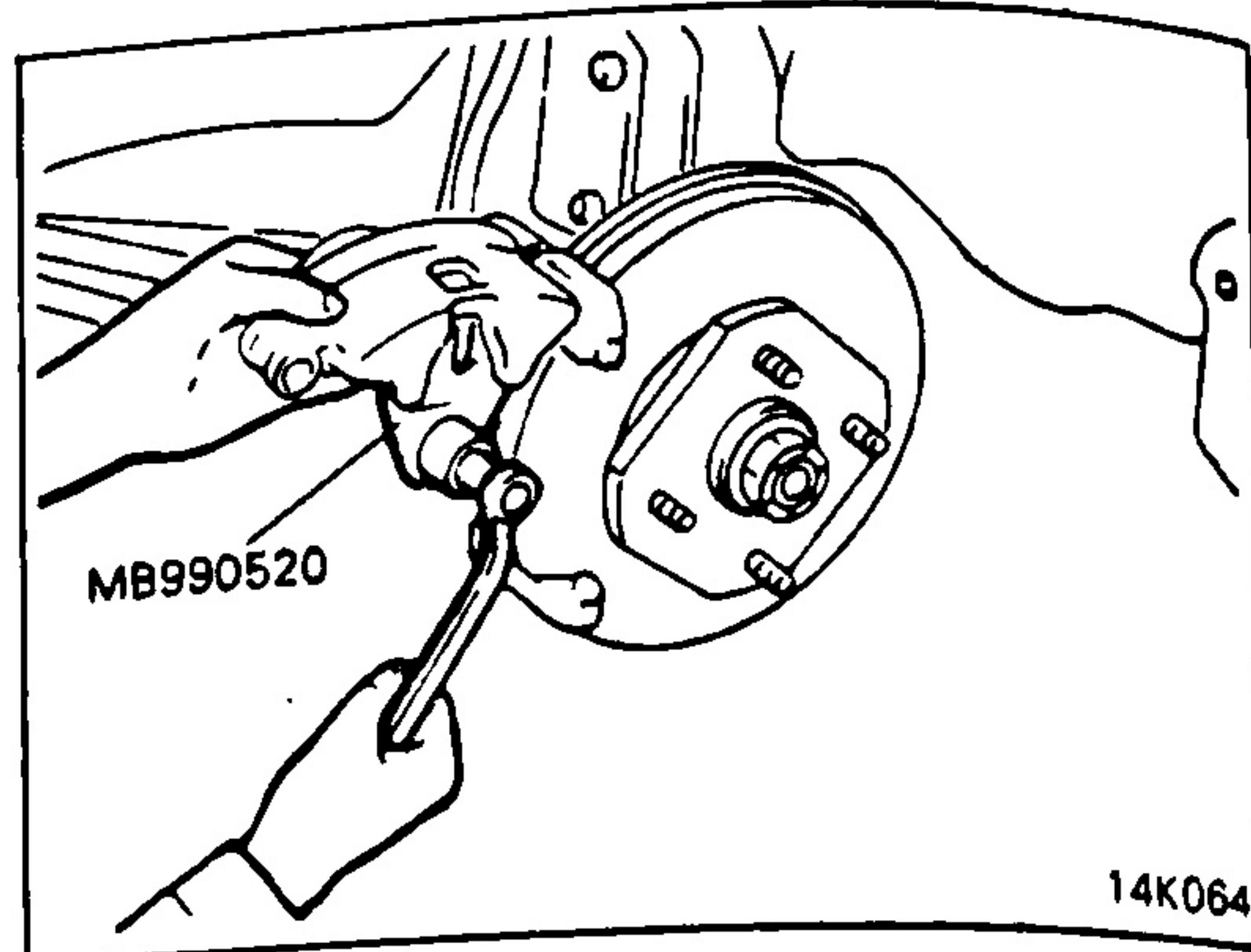
FRONT DISC BRAKES

Use the special tool to press the piston toward the cylinder.

NOTE

Before setting the special tool, clean the piston.

Make sure that the dust boot is not dislocated from the piston.



Install pad liners, the pad assembly, the inner shims, and the outer shim onto the torque member.

Caution

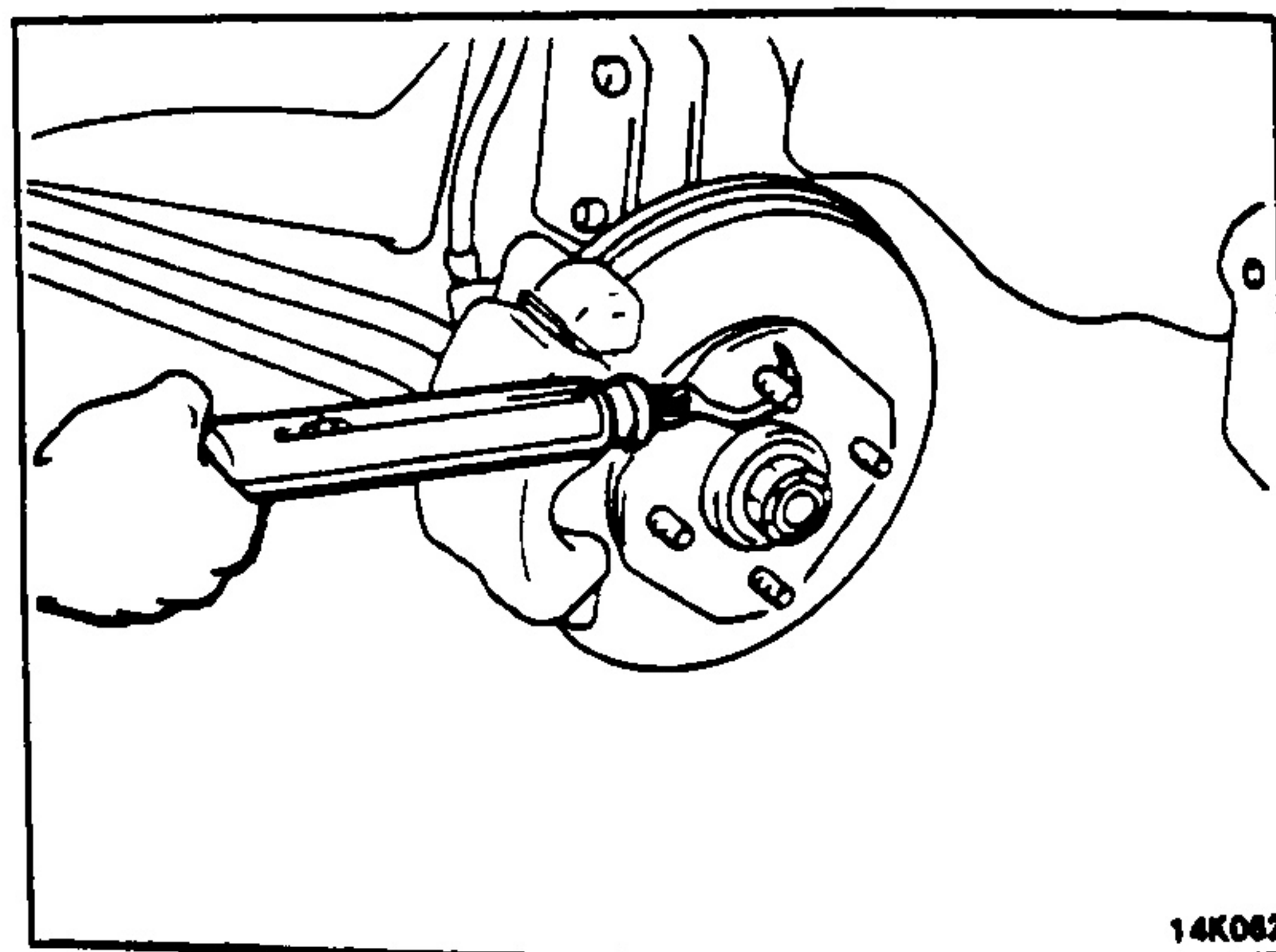
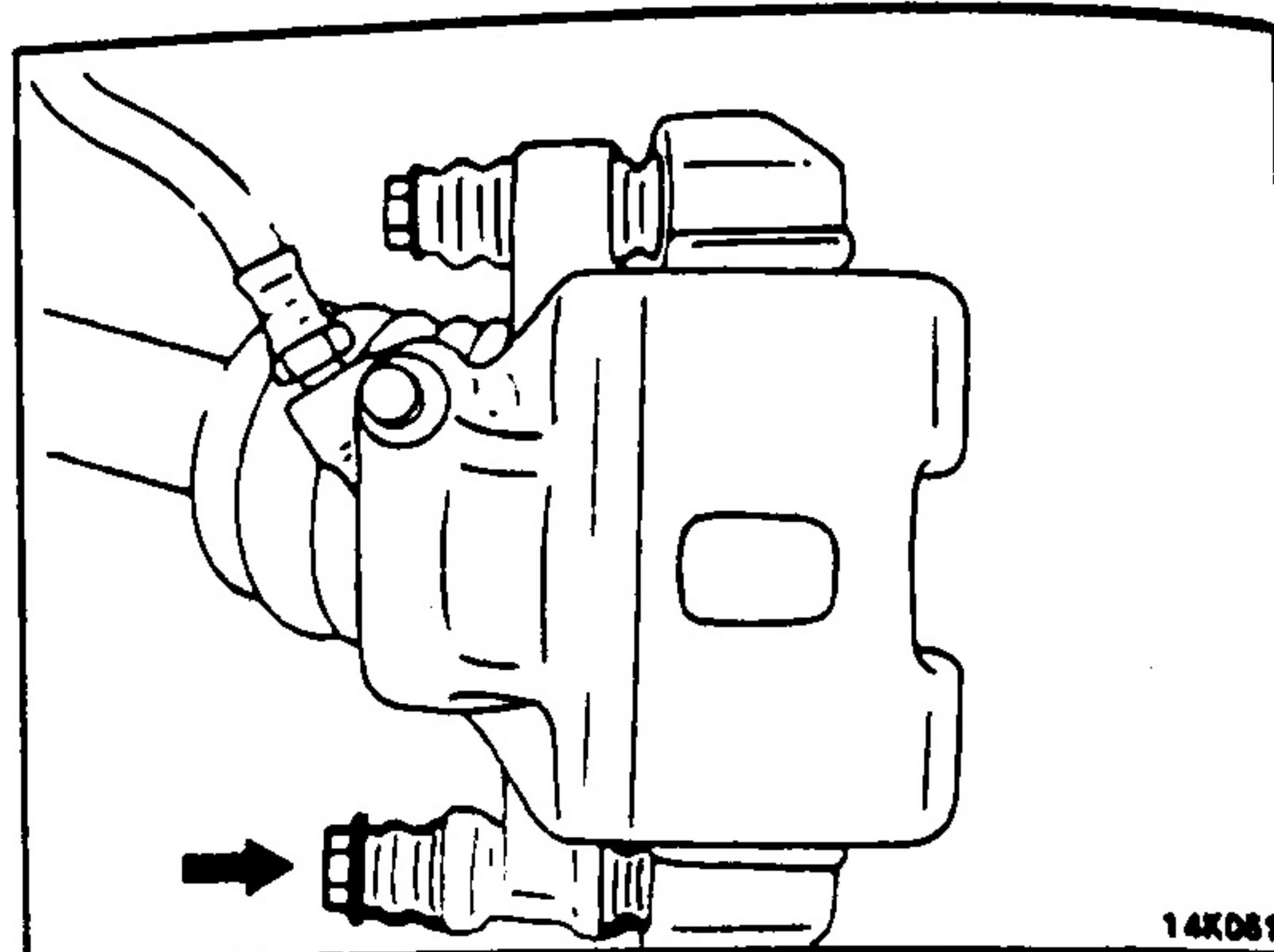
The pad assemblies should be replaced as sets (inner and outer) for both the left and right wheels at the same time.

Lower the caliper assembly, and install the lower sleeve bolt A.

Measure the brake drag by starting the engine, maintaining the brake pedal in the depressed position for approximately 5 seconds while the vehicle is not moving, and then rotating the disc ten revolutions in the forward direction and using a spring balance to measure the brake drag in the forward direction.

Next, remove the brake pads and measure in the forward direction again.

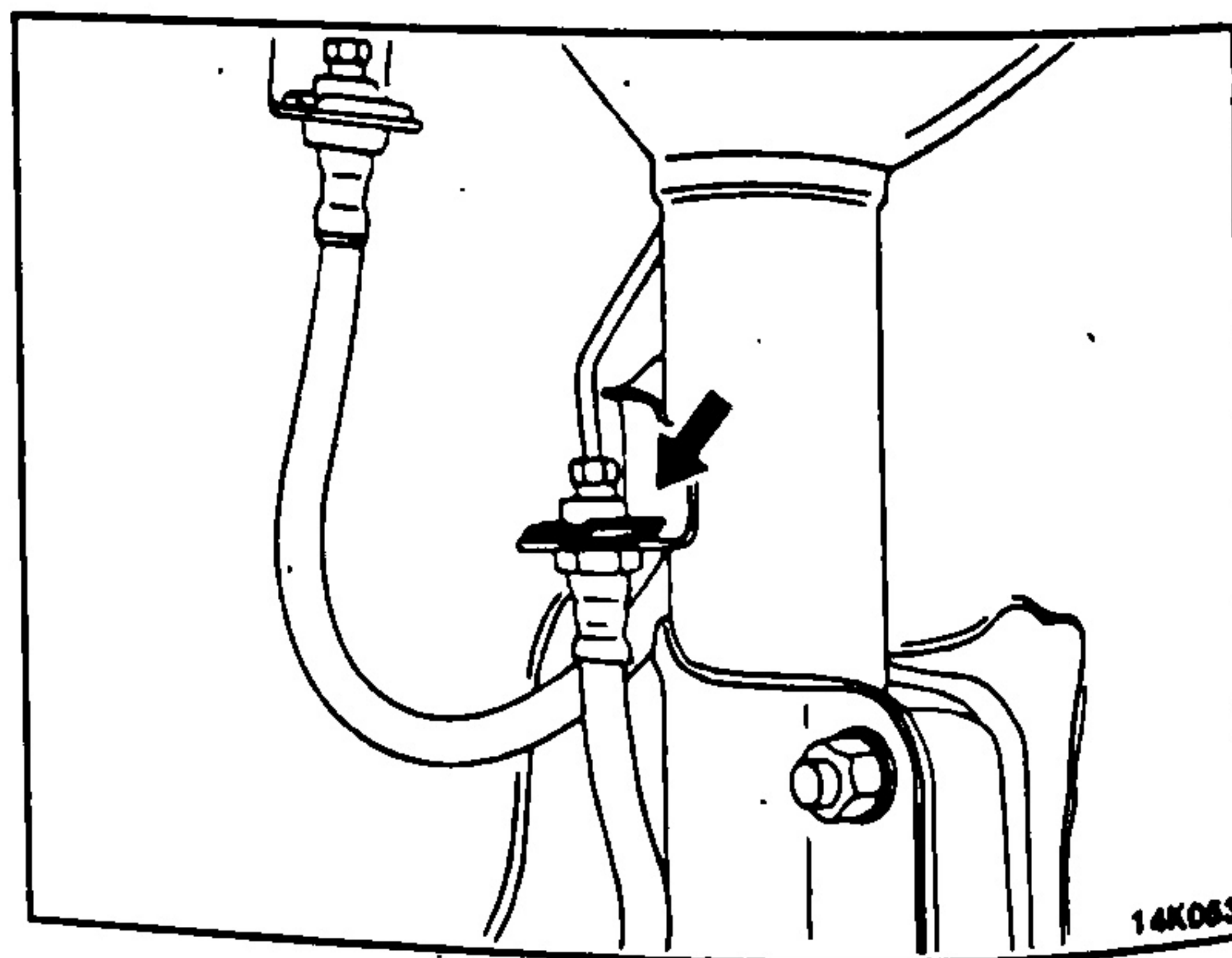
If the difference between the measured value obtained while the brake pads are mounted and that obtained while they are removed exceeds the standard value, disassemble the caliper assembly, and check for dirt and/or corrosion on the sliding part of the piston, and also for deterioration of the piston seal.



FRONT BRAKE ASSEMBLY

Removal

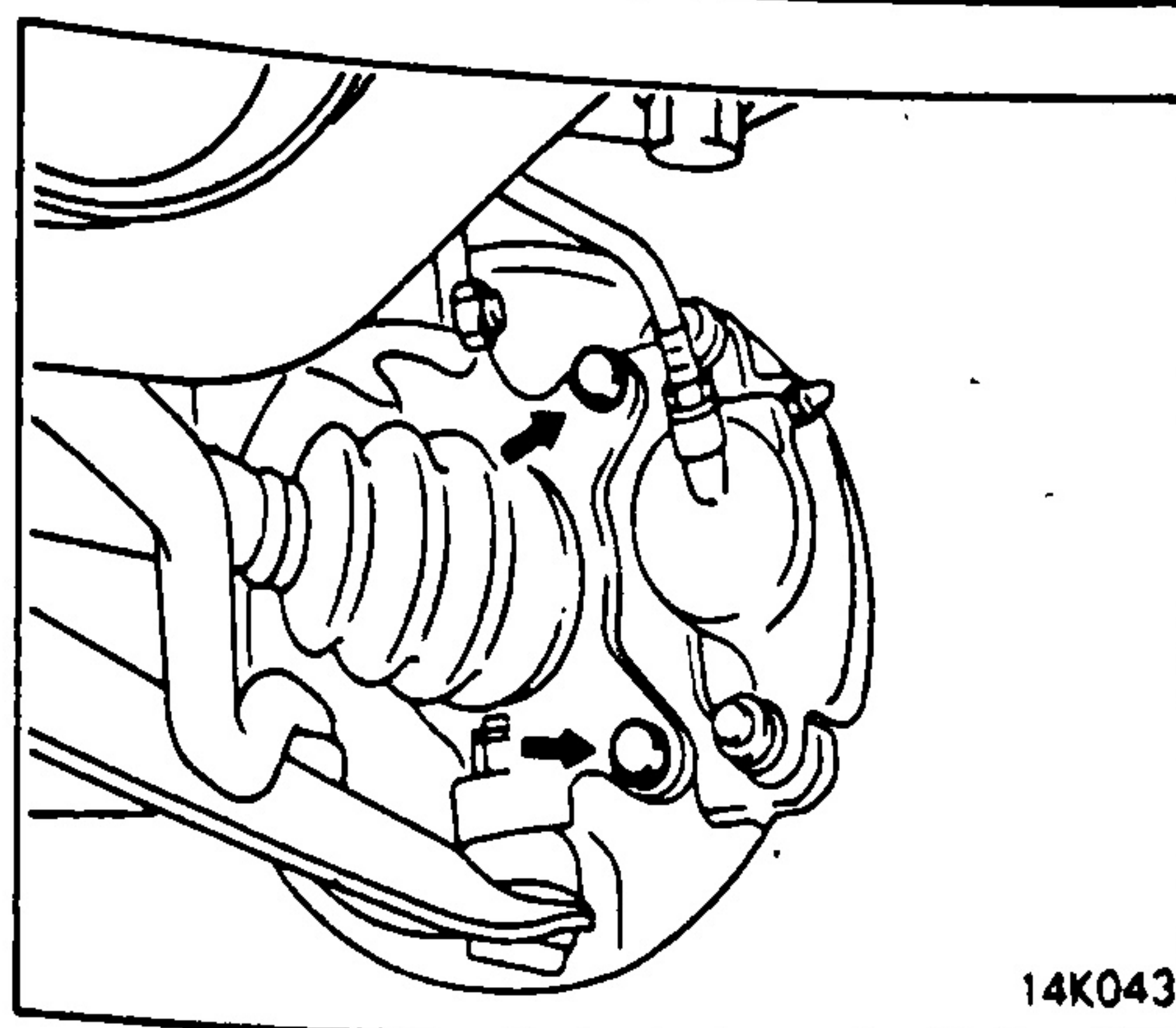
Remove the strut brake hose clips, and then remove the brake hoses.



FRONT DISC BRAKES



Remove the front brake assembly.



14K043

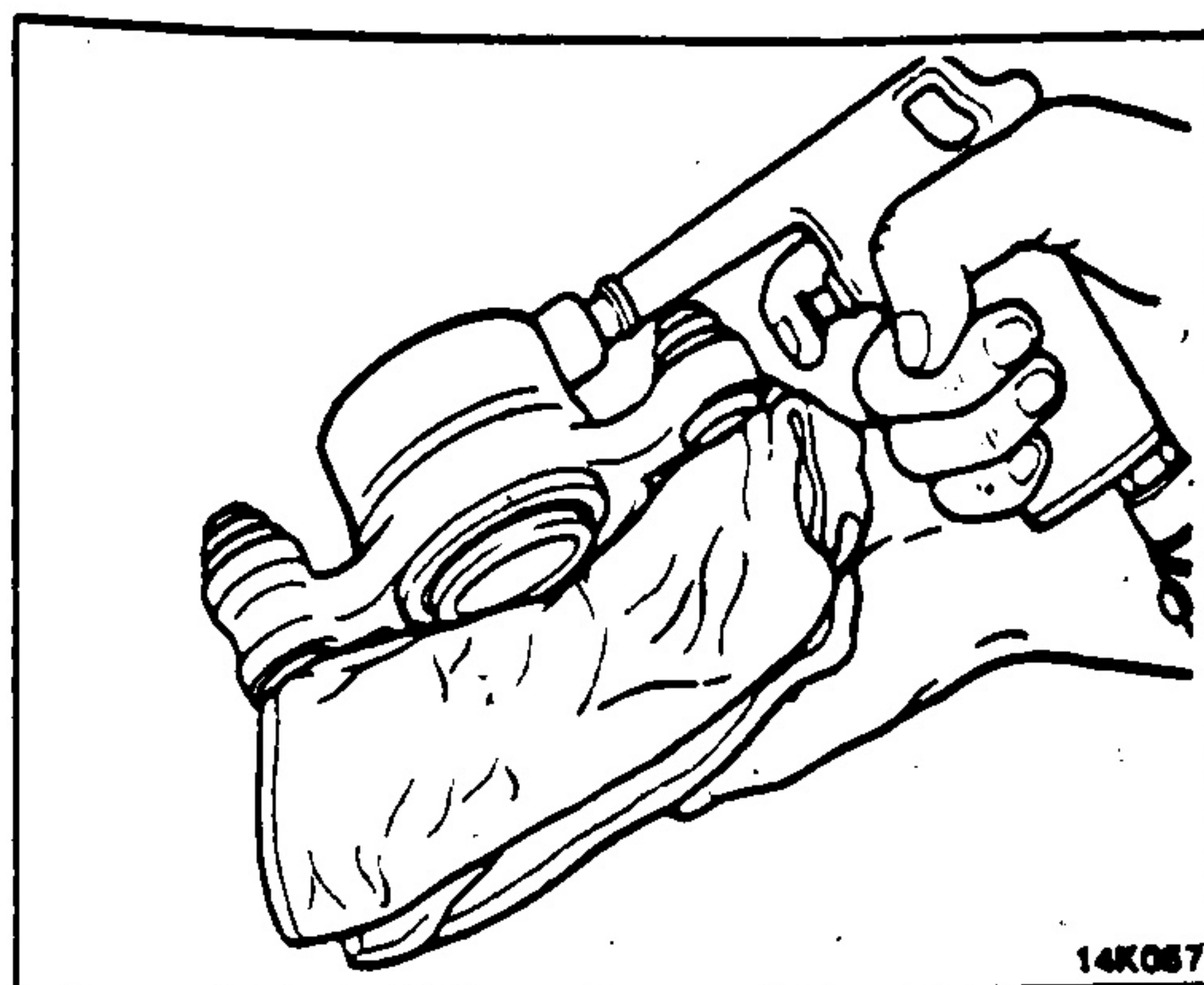
Disassembly

Remove the caliper assembly from the front brake assembly.

Wrap a cloth, etc., around the outer side of the caliper assembly, and then blow in compressed air through the brake hose connecting ports to remove the piston and the dust boot.

Caution

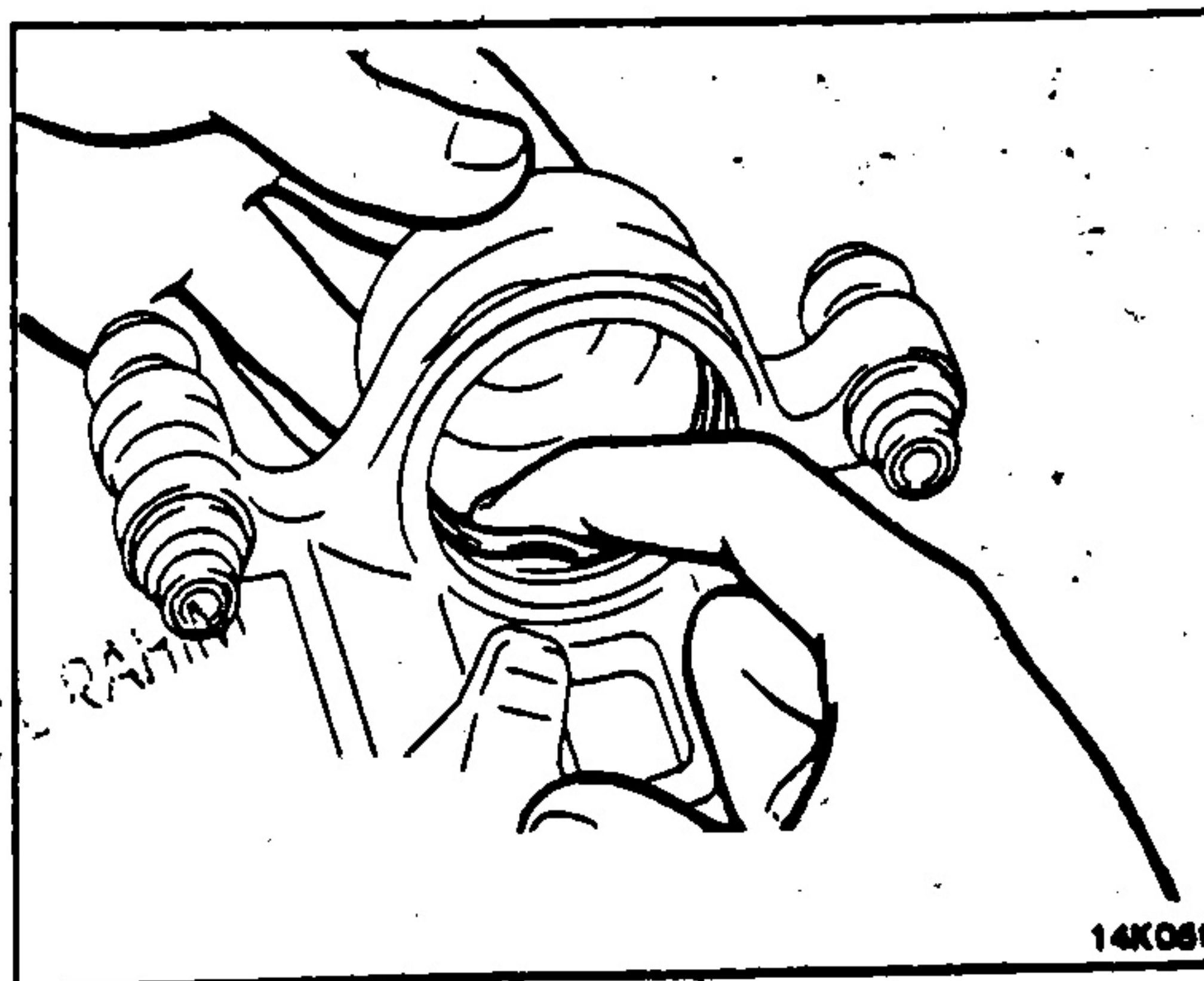
If the compressed air is blown in too quickly or at too high a pressure, the piston may fly out; use the compressed air gradually.



14K057

Remove the piston seal, being careful not to scratch the cylinder walls.

Use trichloroethylene, alcohol or the specified brake fluid to clean the piston surfaces and the cylinder walls.



14K059

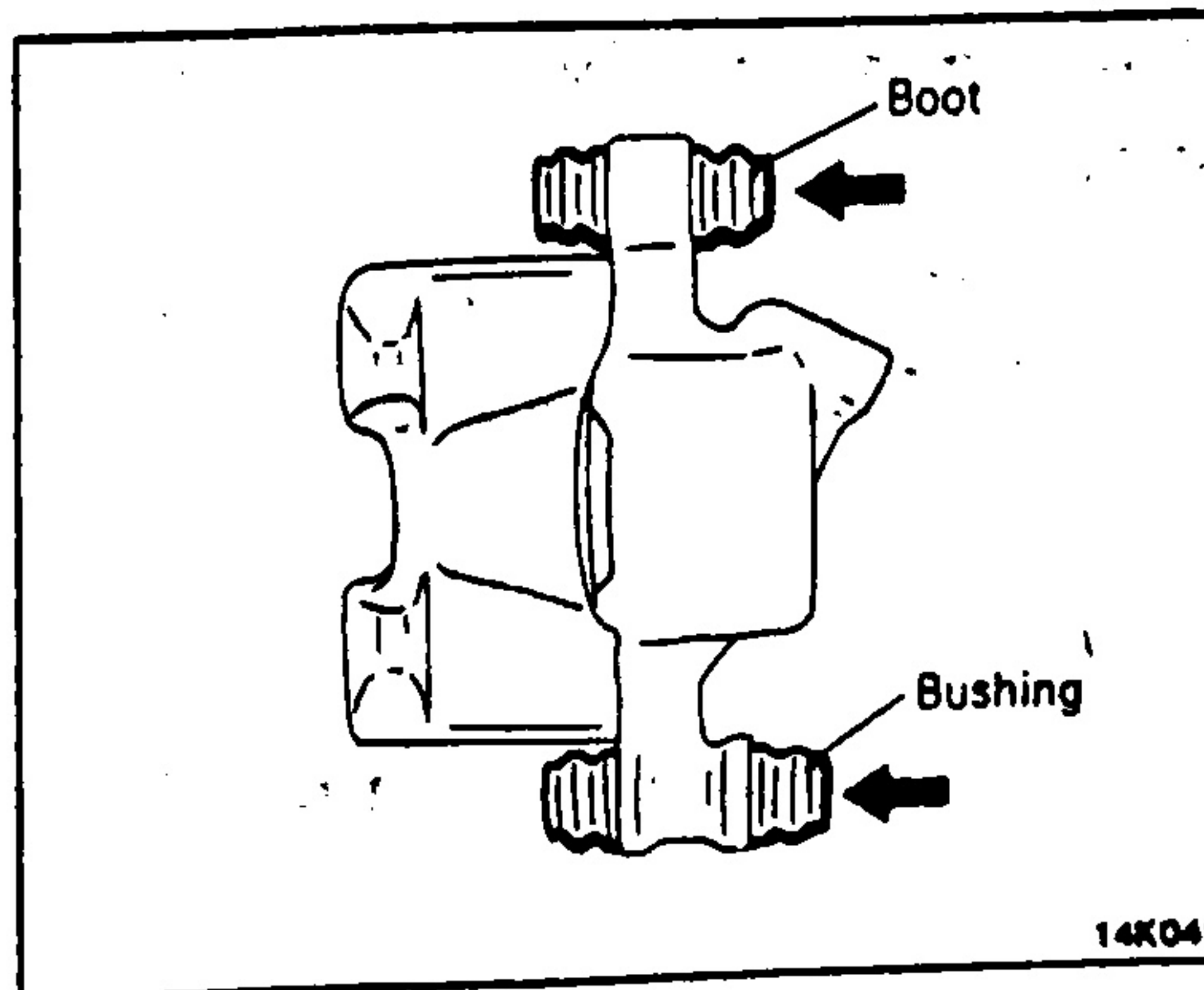
Remove the bushing and boot from the caliper assembly.

Inspection

- (1) Check the cylinder for wear, damage and/or rust.
- (2) Check the piston for wear, damage and/or rust.
- (3) Check the caliper assembly and/or sleeve for wear.

Caution

The dust boot, piston seal, bushing and boot must all be replaced with new parts.



14K049



FRONT DISC BRAKES

Reassembly

Apply the specified brake fluid to the cylinder walls.

Apply an even coat of the specified grease to the piston seal, and then install the seal in the cylinder.

Insert the piston into the cylinder carefully so that it is not twisted.

Apply the specified grease to the dust boot, and then install the boot on the piston.

Install the dust boot to the cylinder.

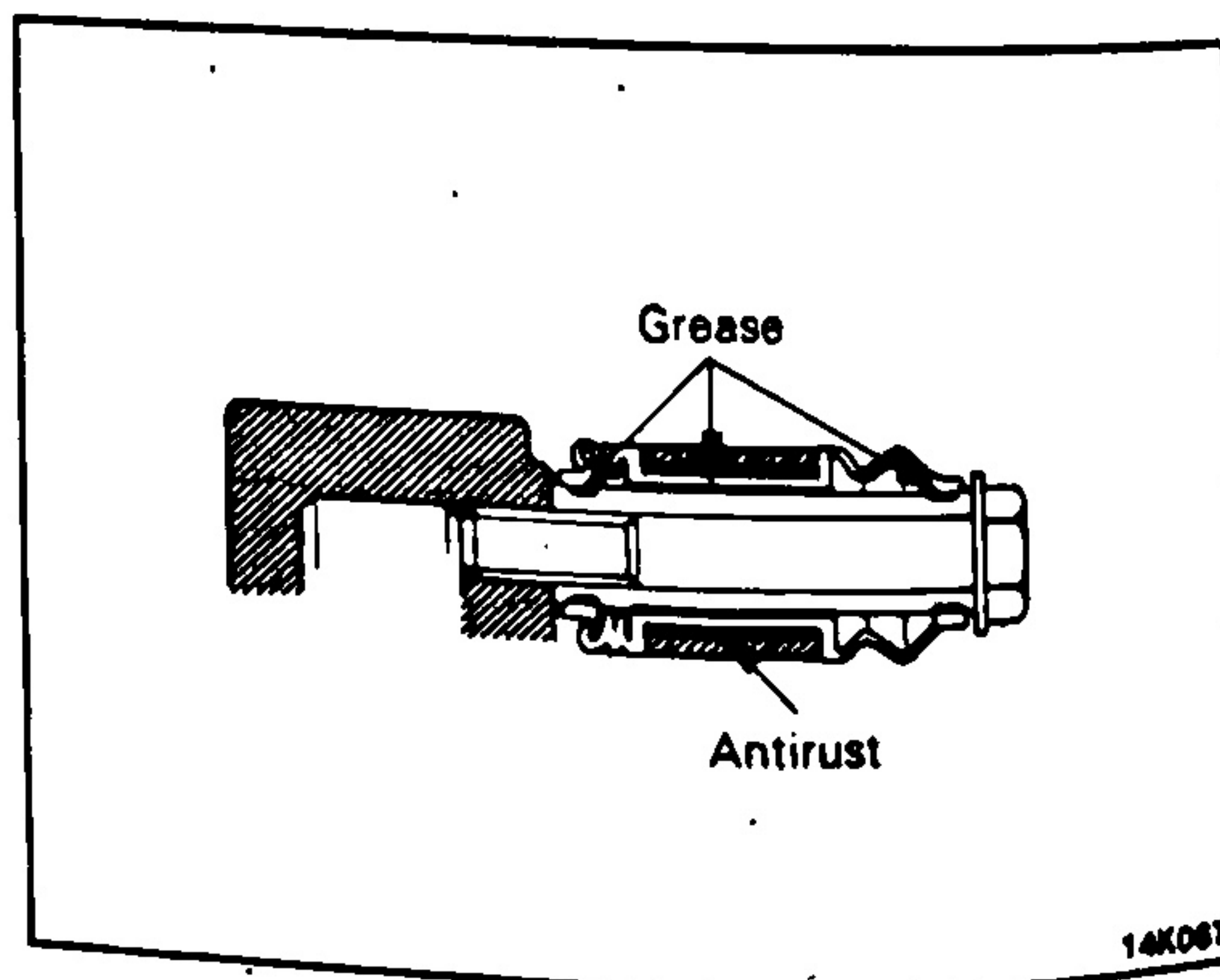
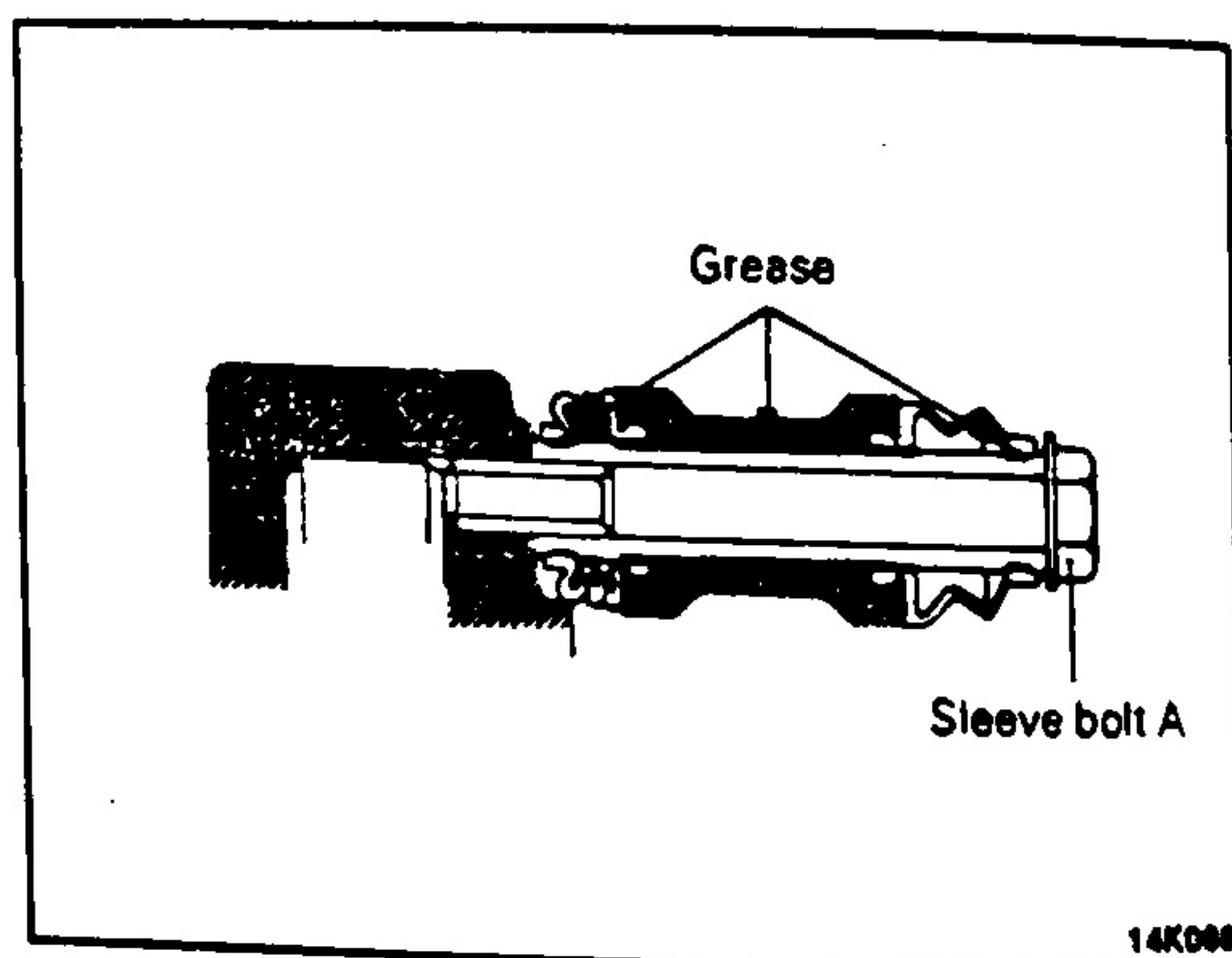
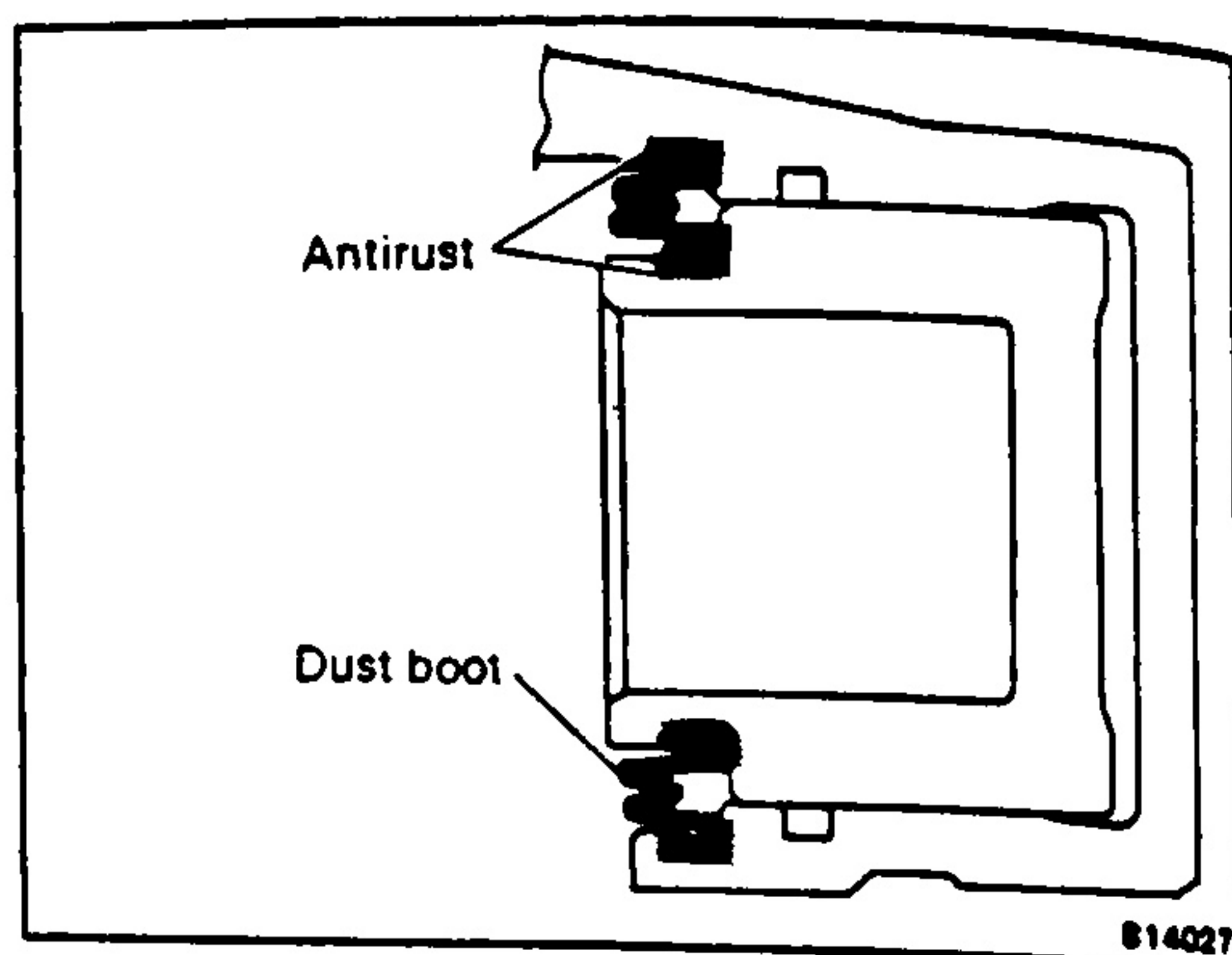
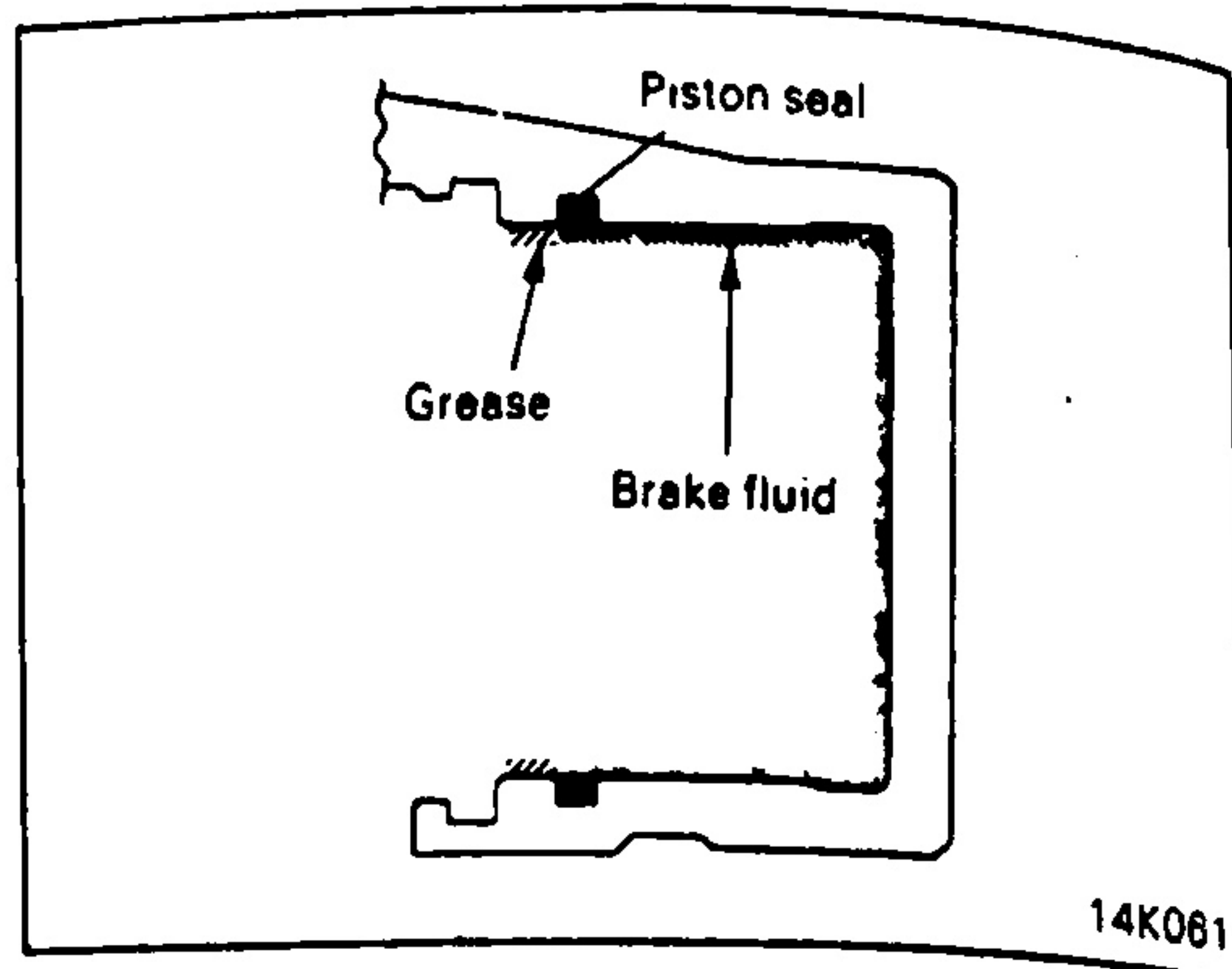
Install the caliper assembly to the torque member. Apply grease contained in the repair kit to the internal surfaces of the sleeve boot hole and pin boot.

Apply specified antirust to the caliper hole in the external surface of the bushing and apply specified grease to the internal surface of the bushing. Apply specified antirust to the threads of sleeve bolts A and B and install the bolts to the torque member.

Installation

Bleed air.

Check the brake for dragging torque. (Refer to P.14A-20.)



FRONT DISC BRAKES



BRAKE DISC

Inspection

BRAKE DISC WEAR

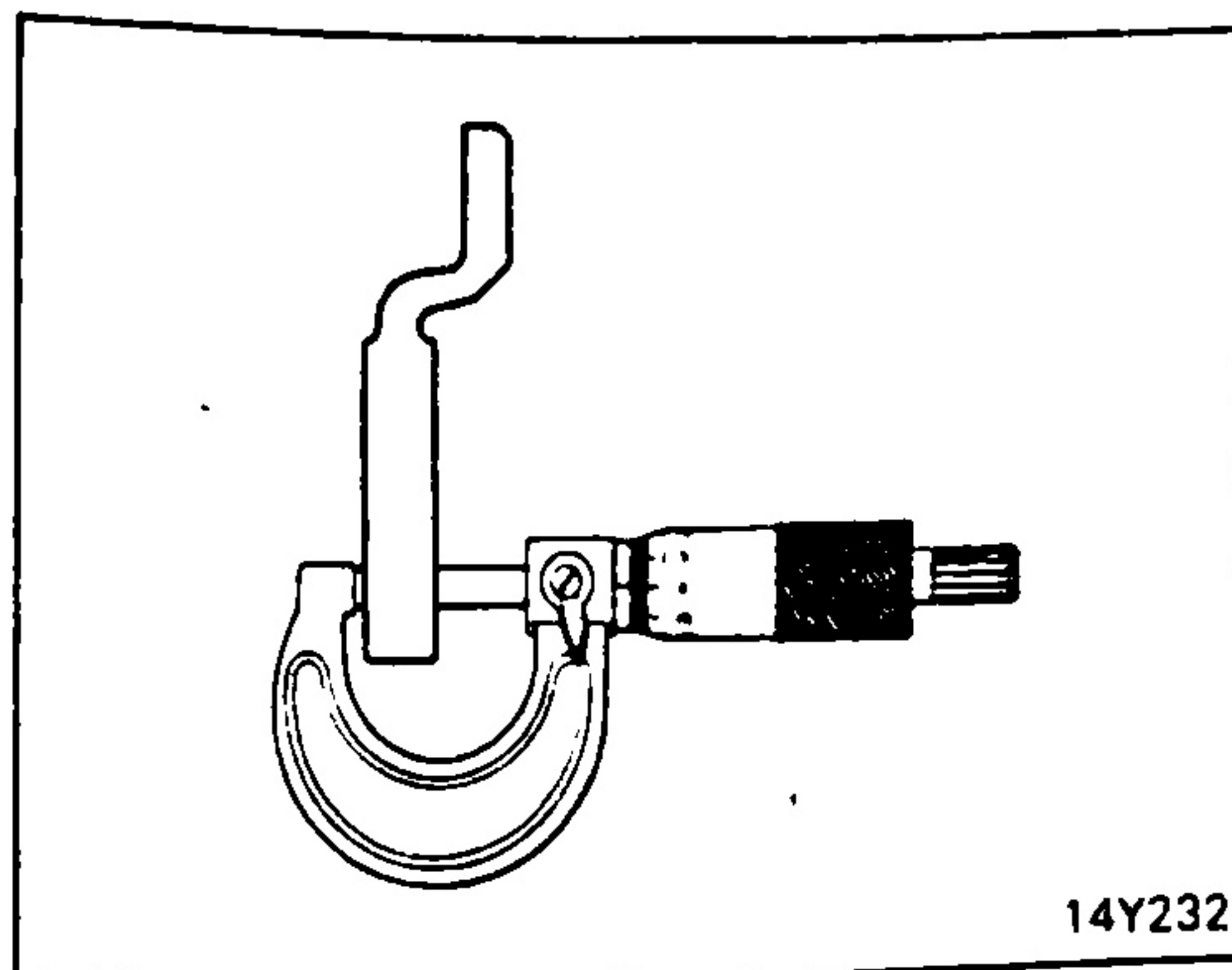
If the brake disc wear exceeds the limit, replace the disc.

BRAKE DISC DAMAGE

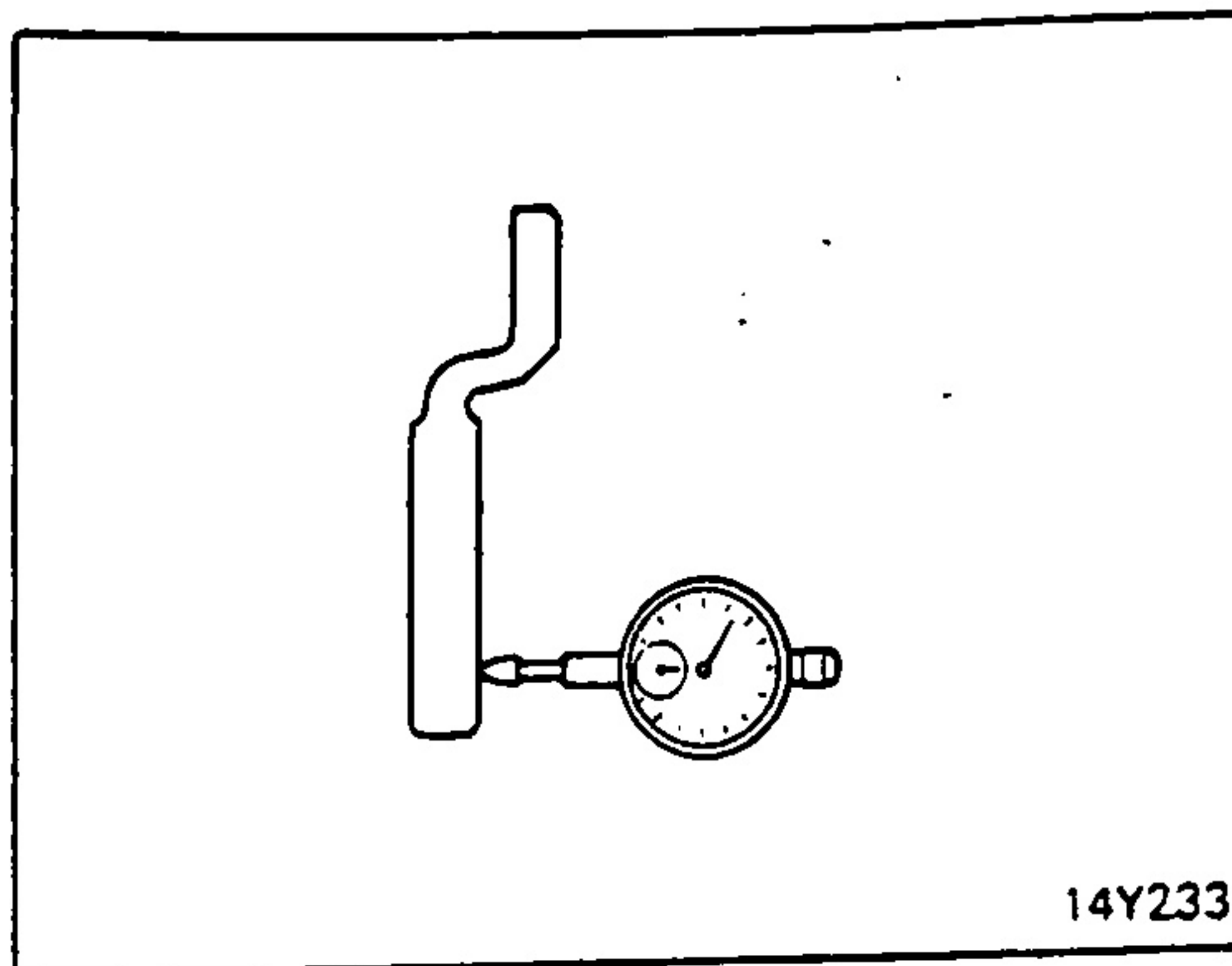
Replace the brake disc if necessary.

BRAKE DISC RUNOUT

If the brake disc runout exceeds the limit, change the position at which it is tightened to the hub or adjust the tightening torque to be even. Check the runout again, and, if it cannot be corrected, replace the brake disc.



14Y232



14Y233

Removal

Remove the front brake assembly, and use wire to support it.

Remove the drive shaft from the hub. (Refer to GROUP 11A.)

Remove the knuckle and hub together as an assembly. (Refer to GROUP 11A.)

Disassemble the knuckle and hub assembly. (Refer to GROUP 11A.)

Secure the disc in a vice.

Caution

When securing the brake disc in a vice, do not secure it directly; use copper or aluminium plates.

Make mating marks, and then disassemble the brake disc and the hub.

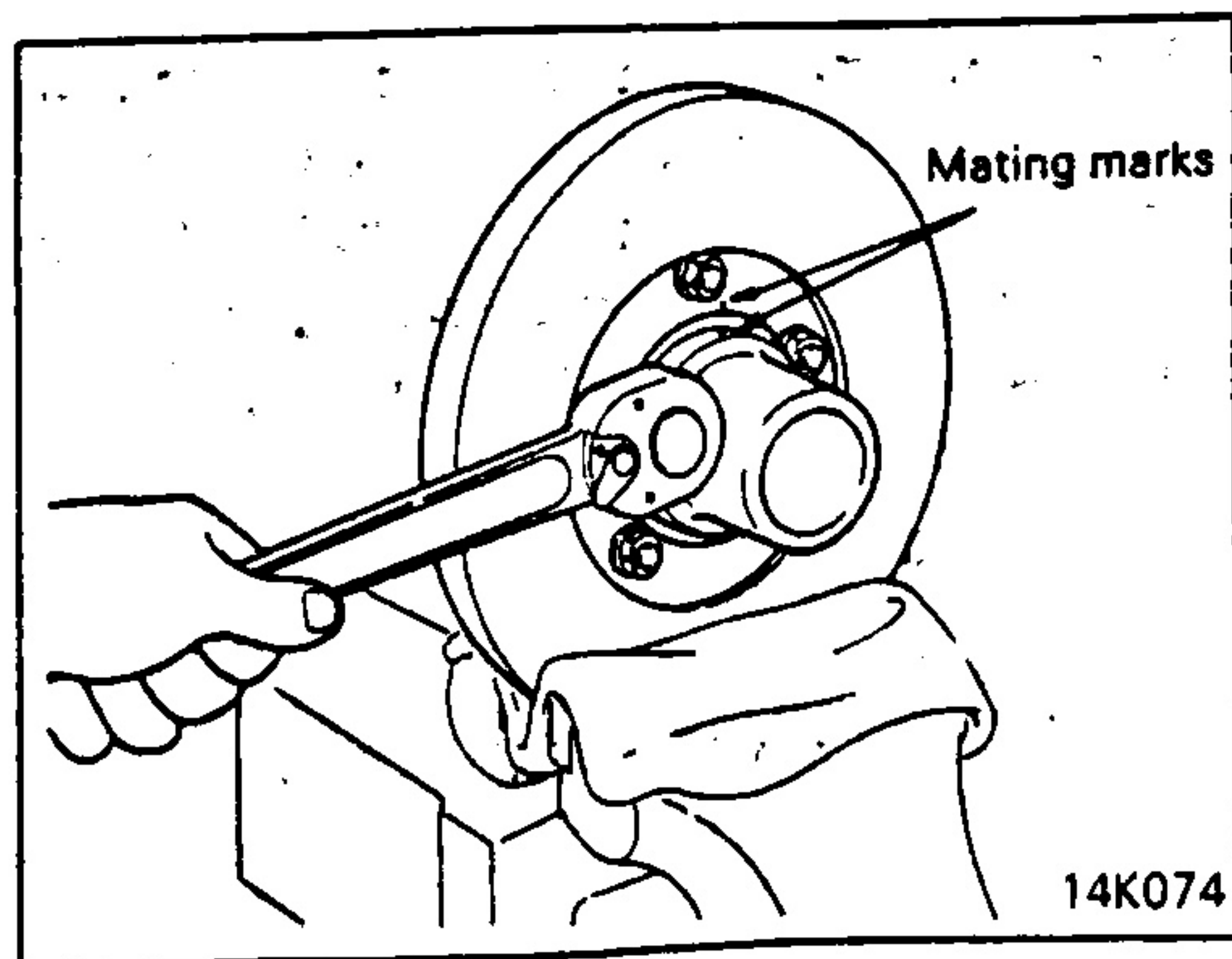
Installation

Aligning the mating marks, assemble the brake disc and the hub. (Refer to GROUP 11A.)

Bleed the air out. (Refer to P.14A-8.)

Check the brake drag torque. (Refer to P.14A-20.)

MARIZAM B. ABDOL RAHIM

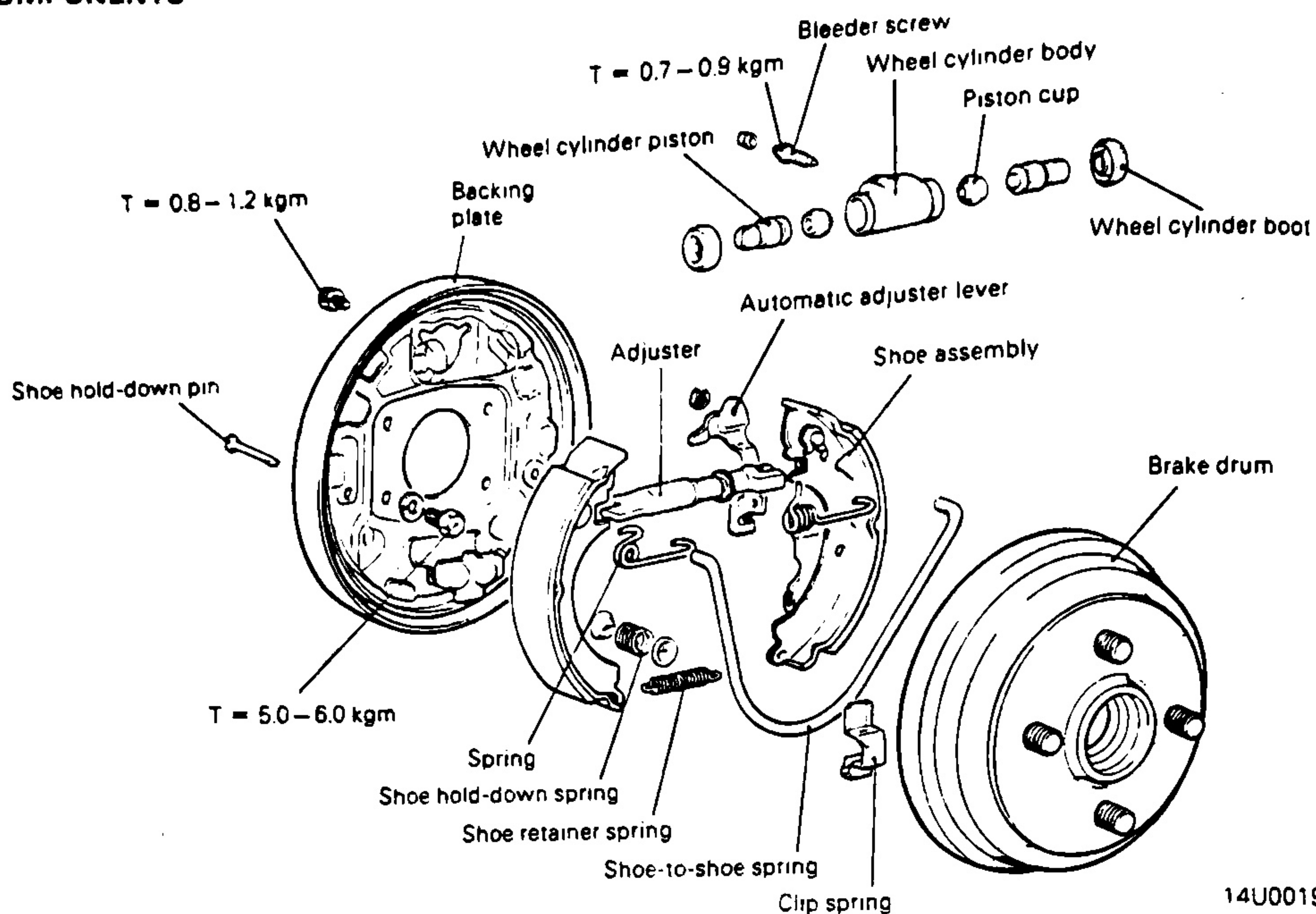


14K074



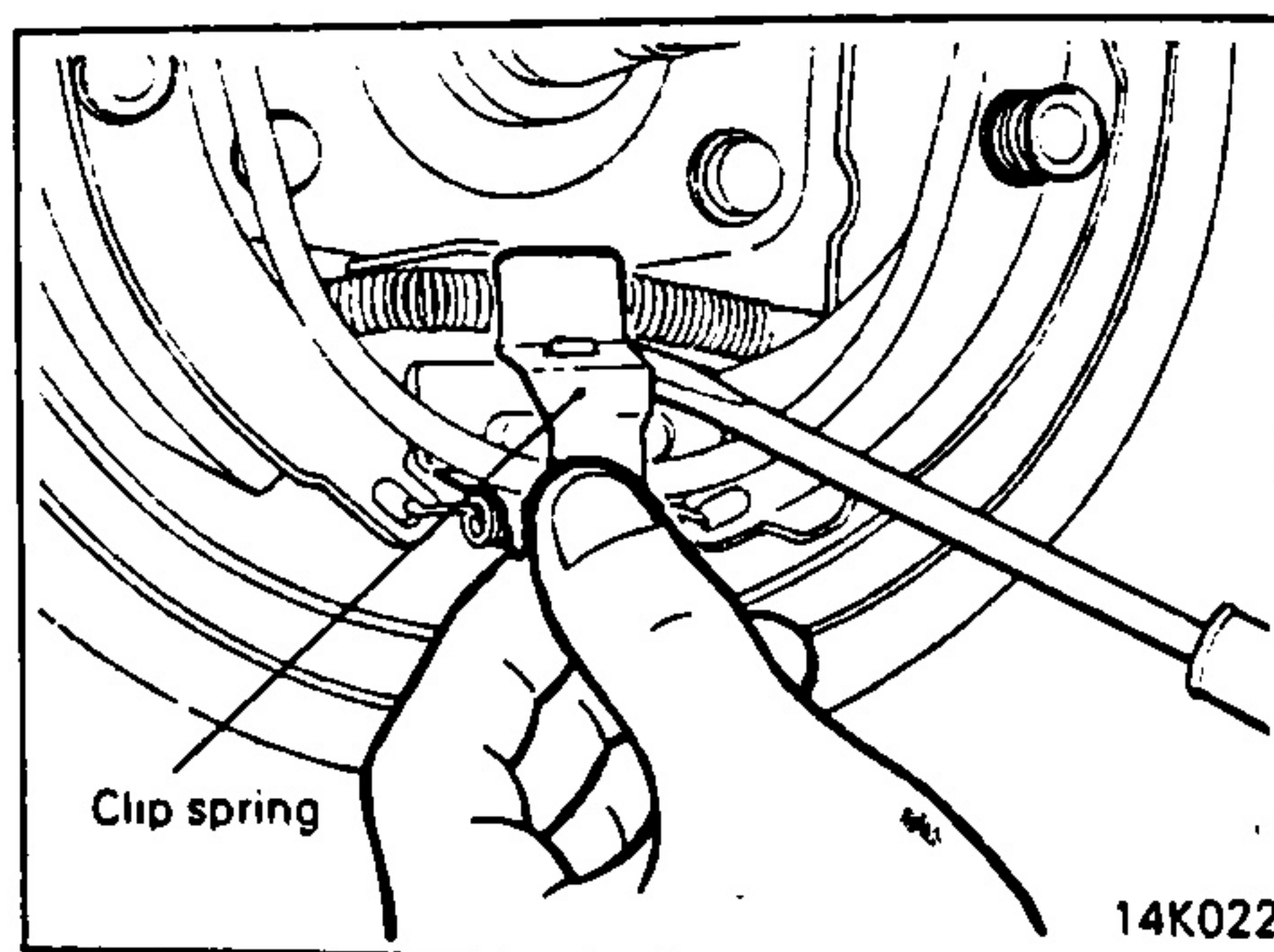
REAR DRUM BRAKES

COMPONENTS

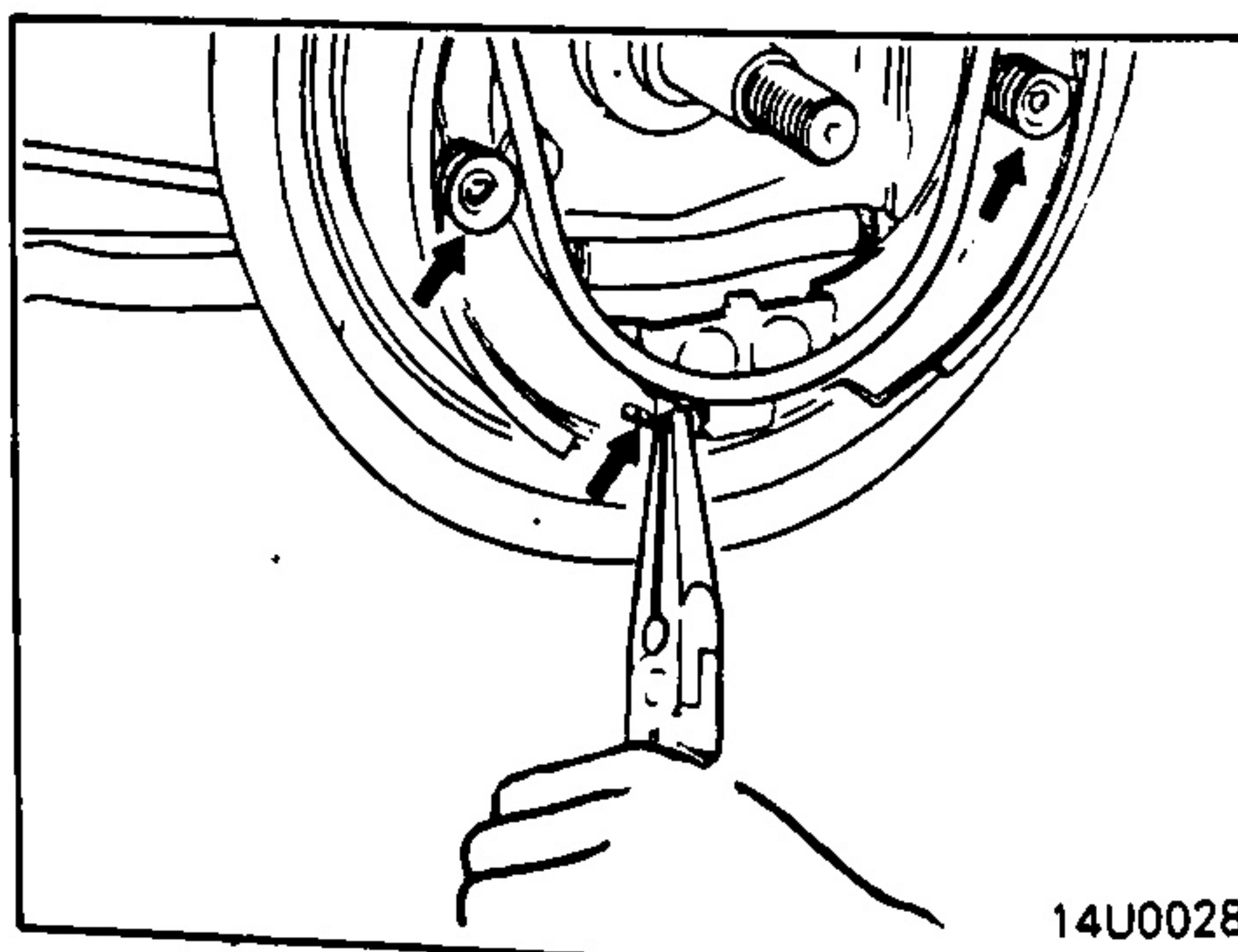


REMOVAL

Remove the brake drum
Remove the clip spring.



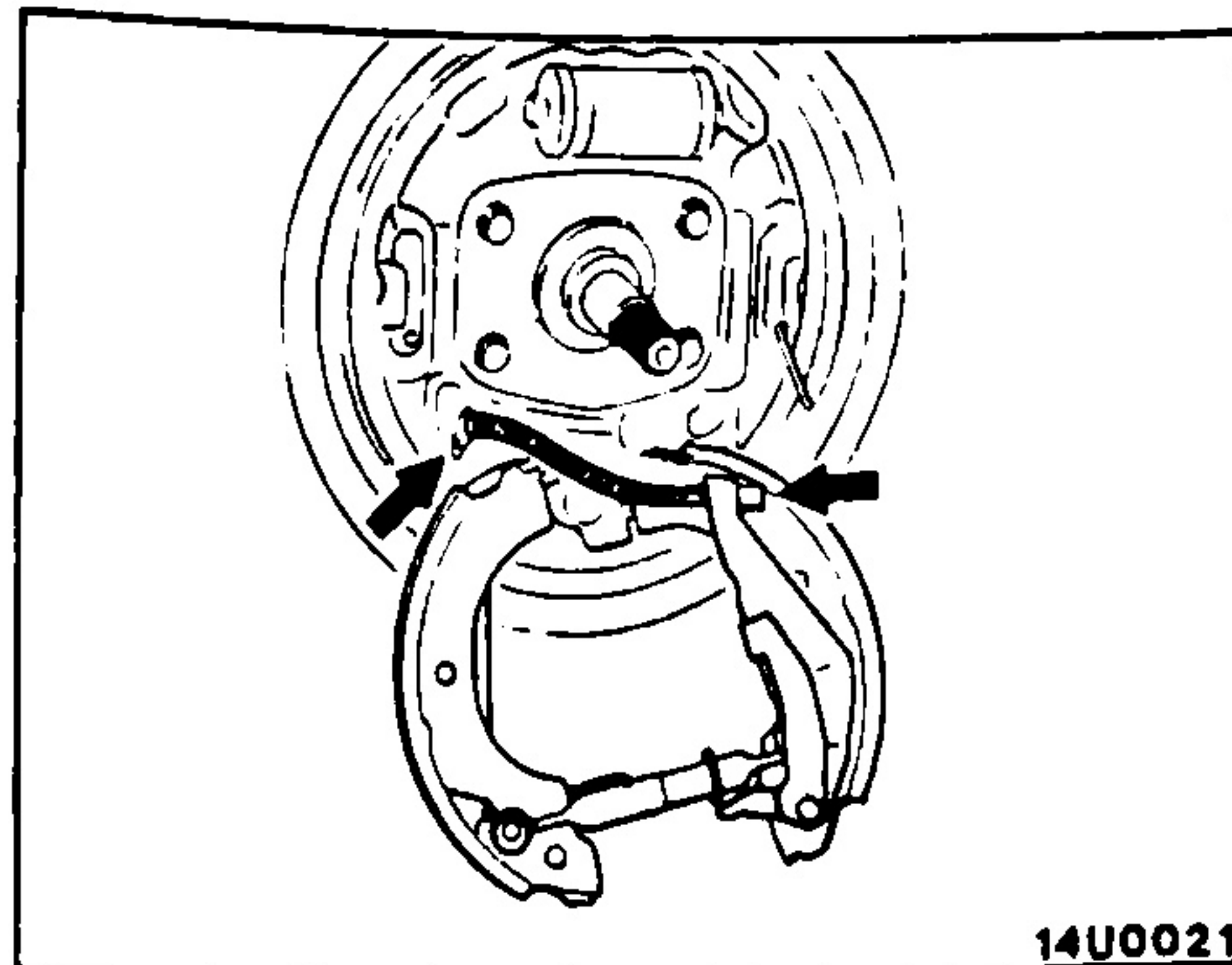
Remove the shoe hold-down spring and the retainer spring.



REAR DRUM BRAKES

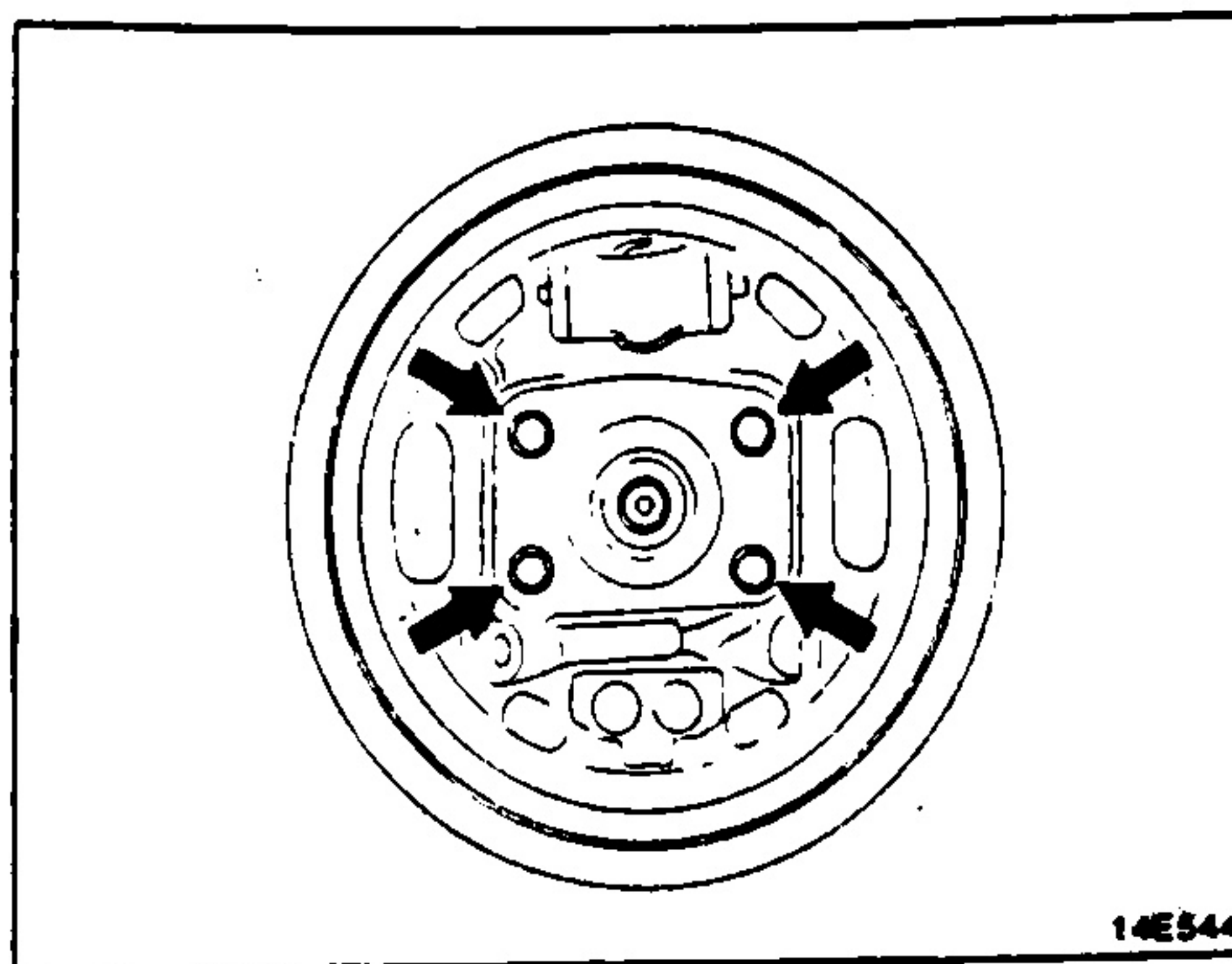


Remove the shoe-to-shoe spring, and then remove the shoe assembly together with the adjuster.
Remove the snap ring of the parking brake cable at the backing plate.



14U0021

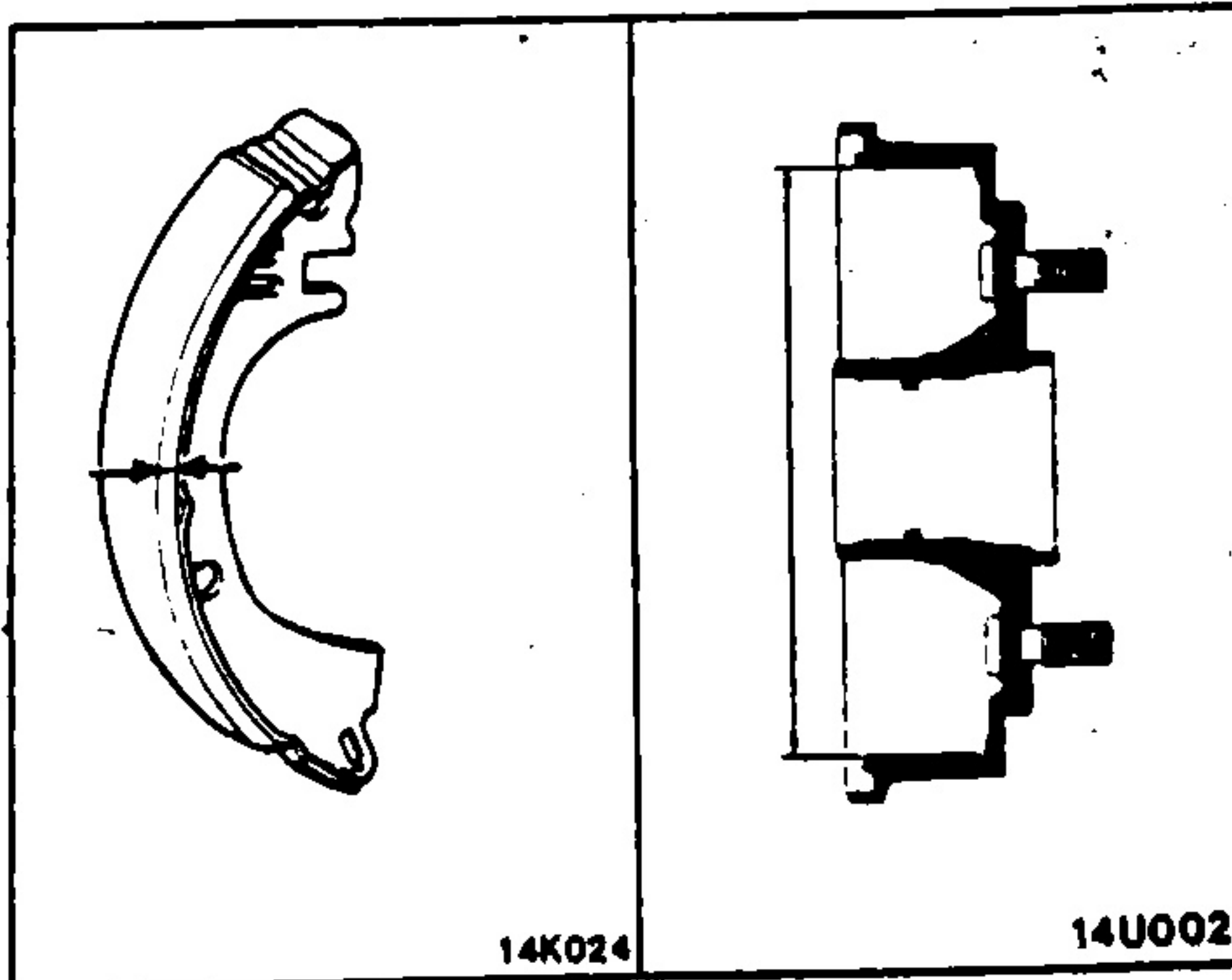
Remove the brake tube from the backing plate and remove the wheel cylinder assembly together with the backing plate.
Remove the wheel cylinder assembly from the backing plate.



14E544

BRAKE LINING AND BRAKE DRUM WEAR INSPECTION

Measure the wear at the brake lining at the place worn the most.
Use a caliper gauge to measure the inner diameter of the brake drum.
If the brake lining or brake drum wear exceeds the limit, replace the parts.

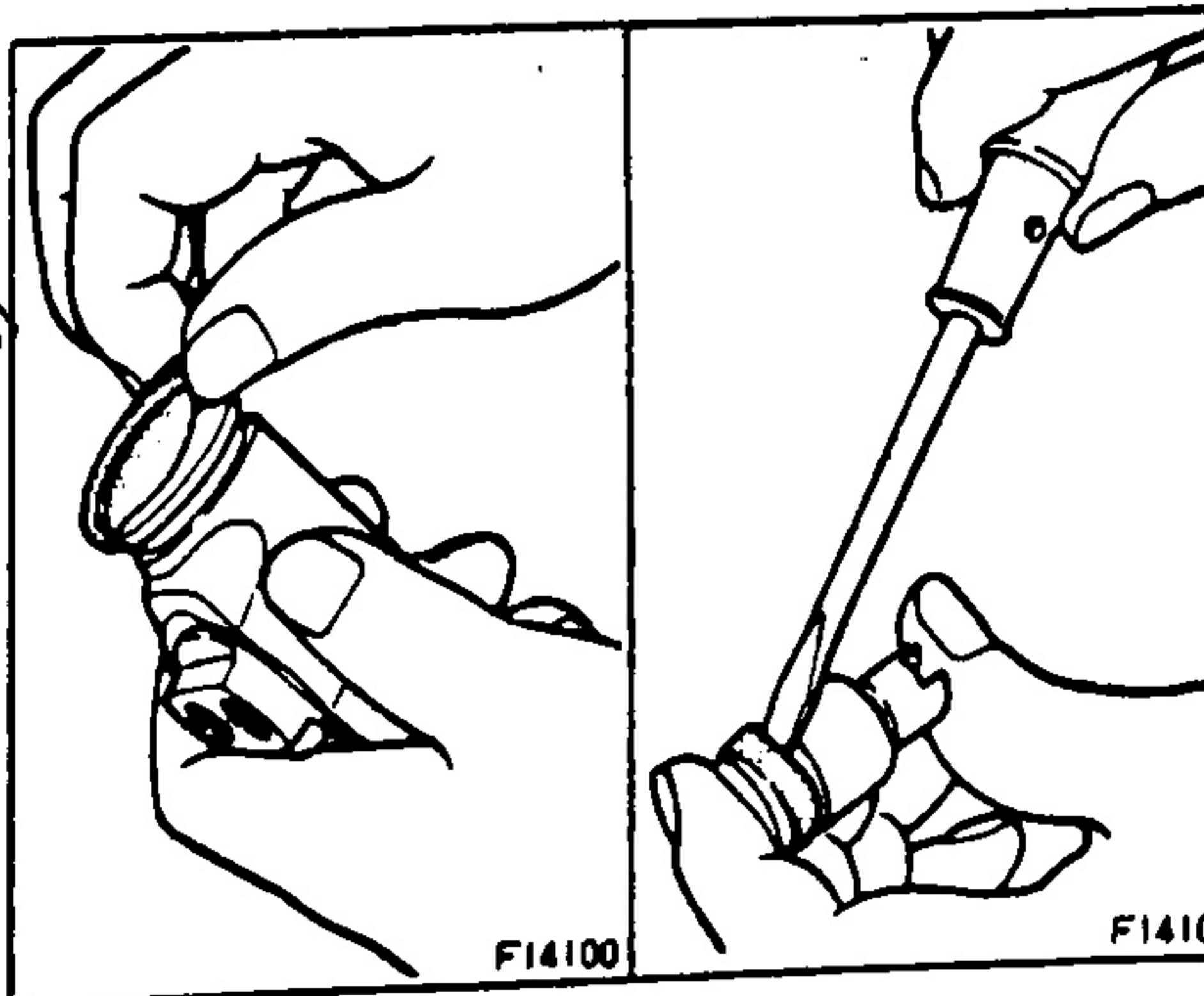


14K024

14U0023

PISTON CUP REPLACEMENT

Detach the wheel cylinder boot, and remove the piston assembly.



F14100

F14101

MARIZAM B. ABDOL RAHIM



REAR DRUM BRAKES

Check the following points, and, if there is any abnormality, replace the entire wheel cylinder assembly

- (1) Piston and wheel cylinder walls for rust or damage
- (2) Clearance between the cylinder and the piston

Remove the piston cup from the piston.

Caution

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

Use trichloroethylene, alcohol or the specified brake fluid to clean the wheel cylinder and the piston.

Apply the specified corrosion prevention agent contained in the repair kit to the piston cup and the special tool.

Caution

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

Set the piston cup on the special tool with the lip of the cup facing up, fit the cup onto the special tool, and then slide it down the outside of the tool into the piston groove.

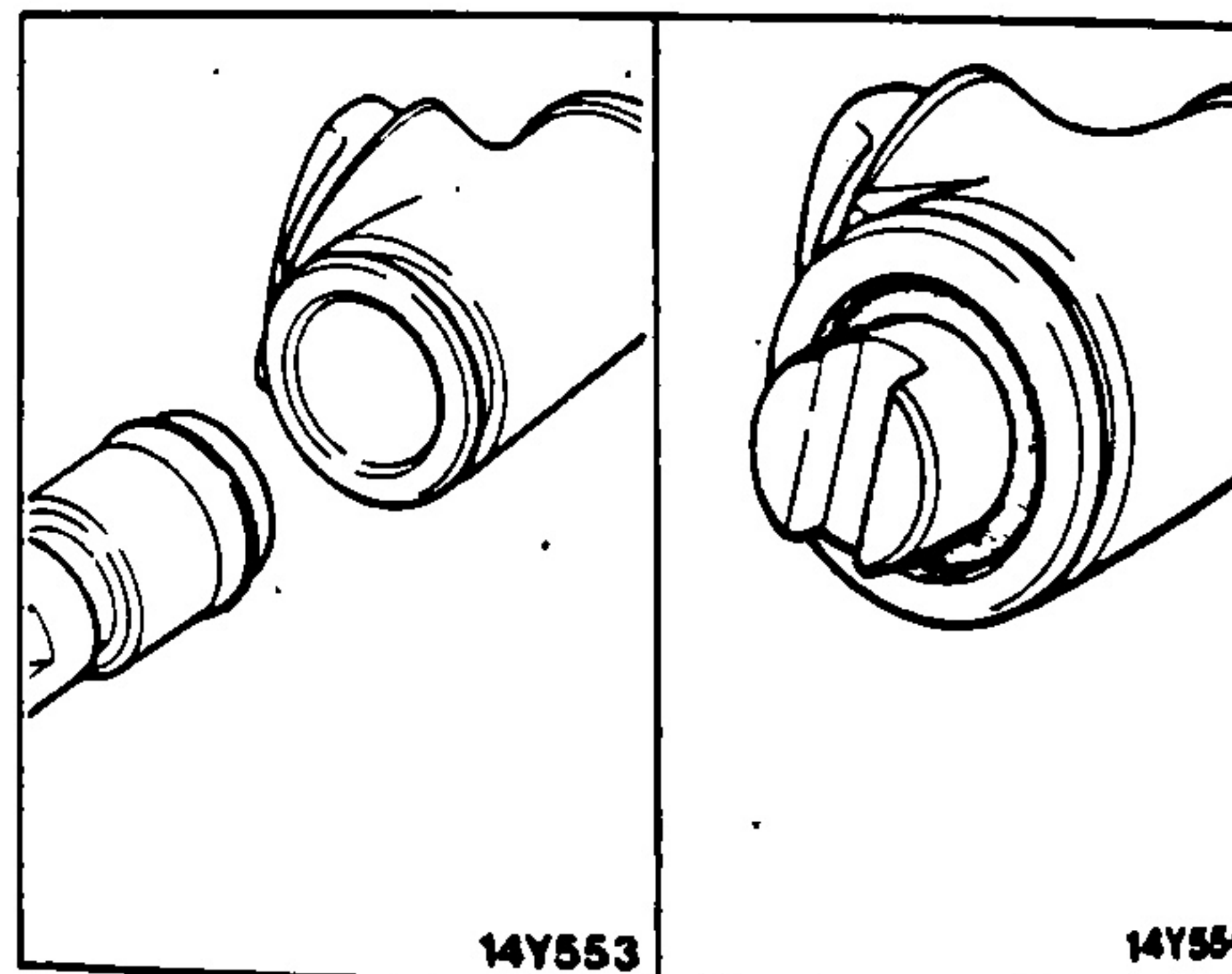
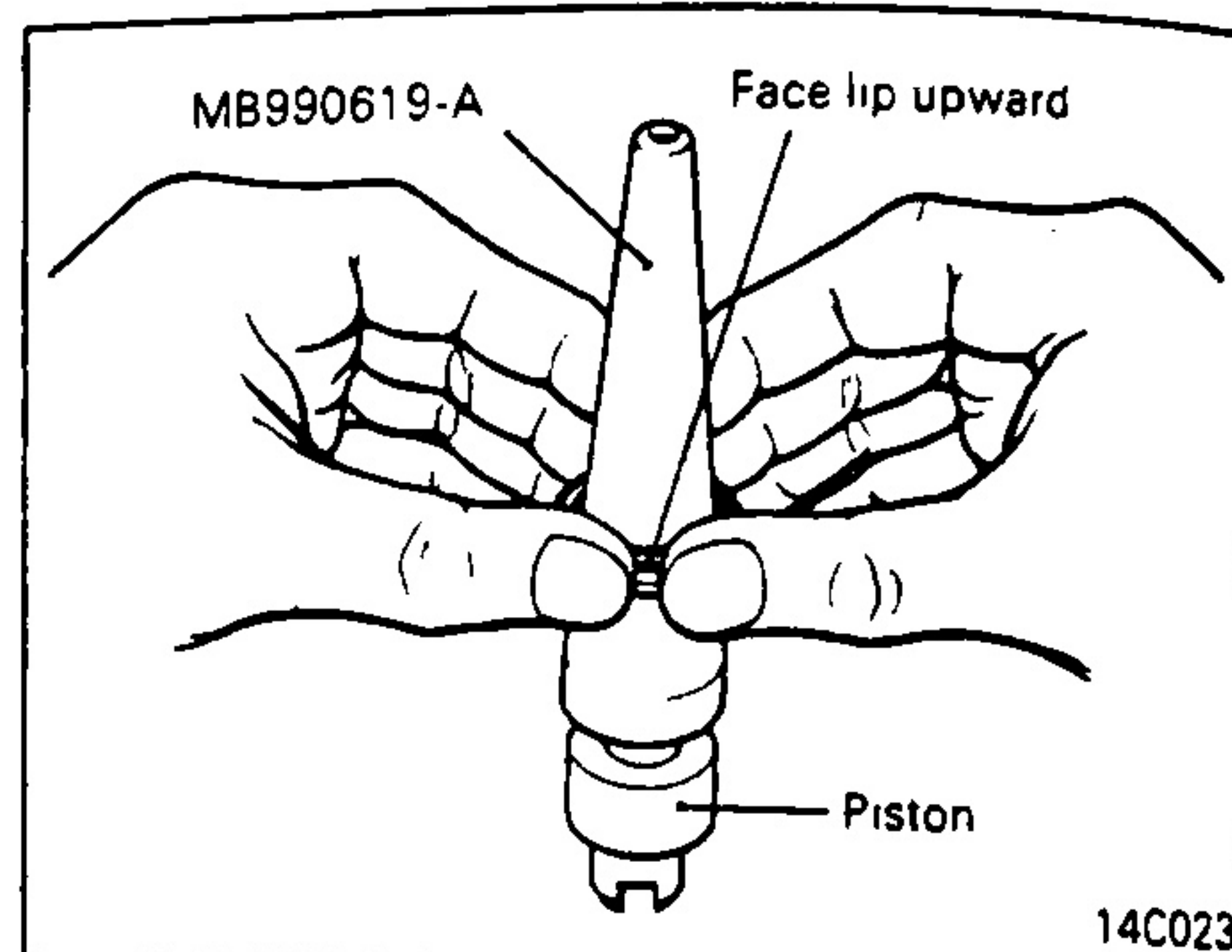
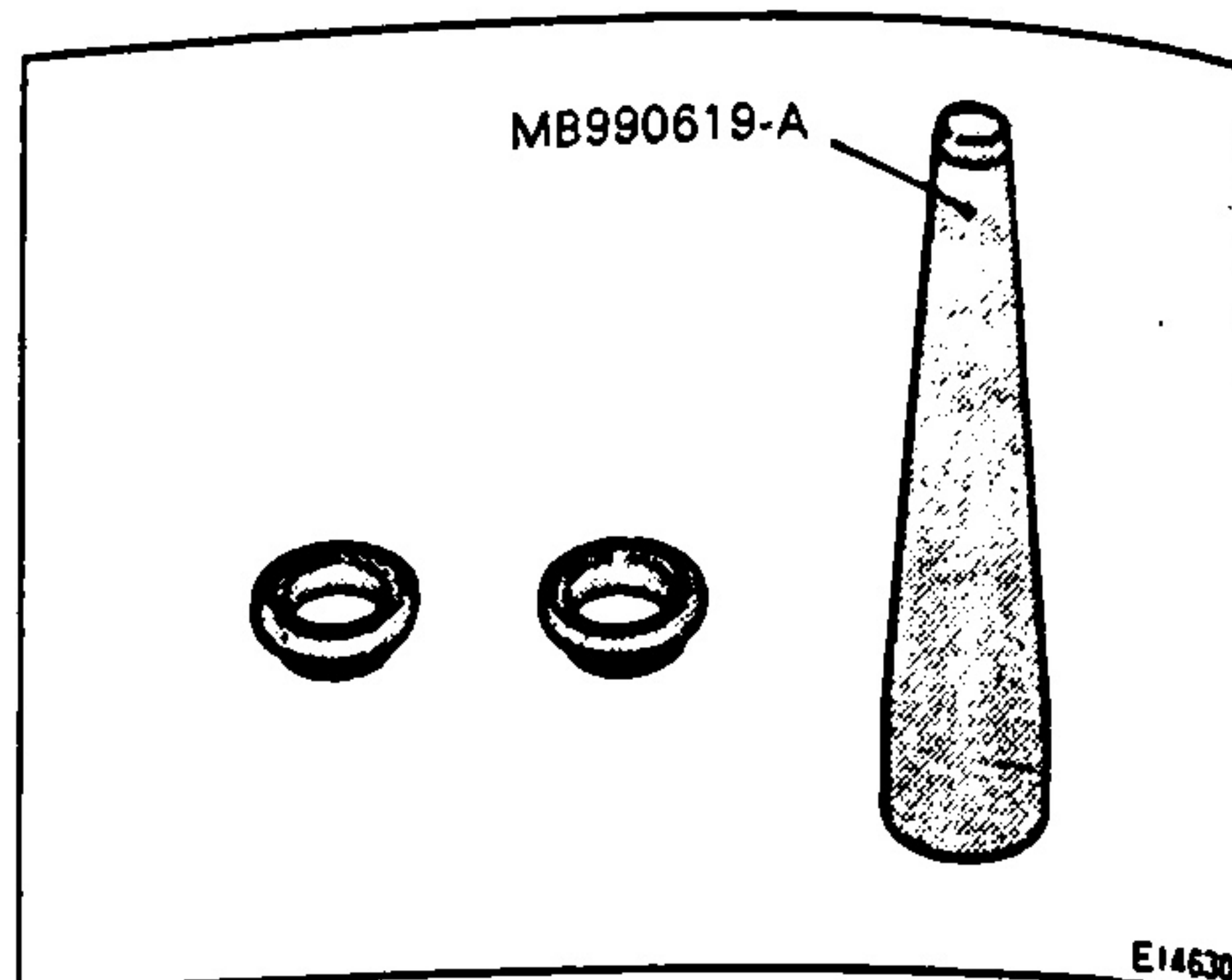
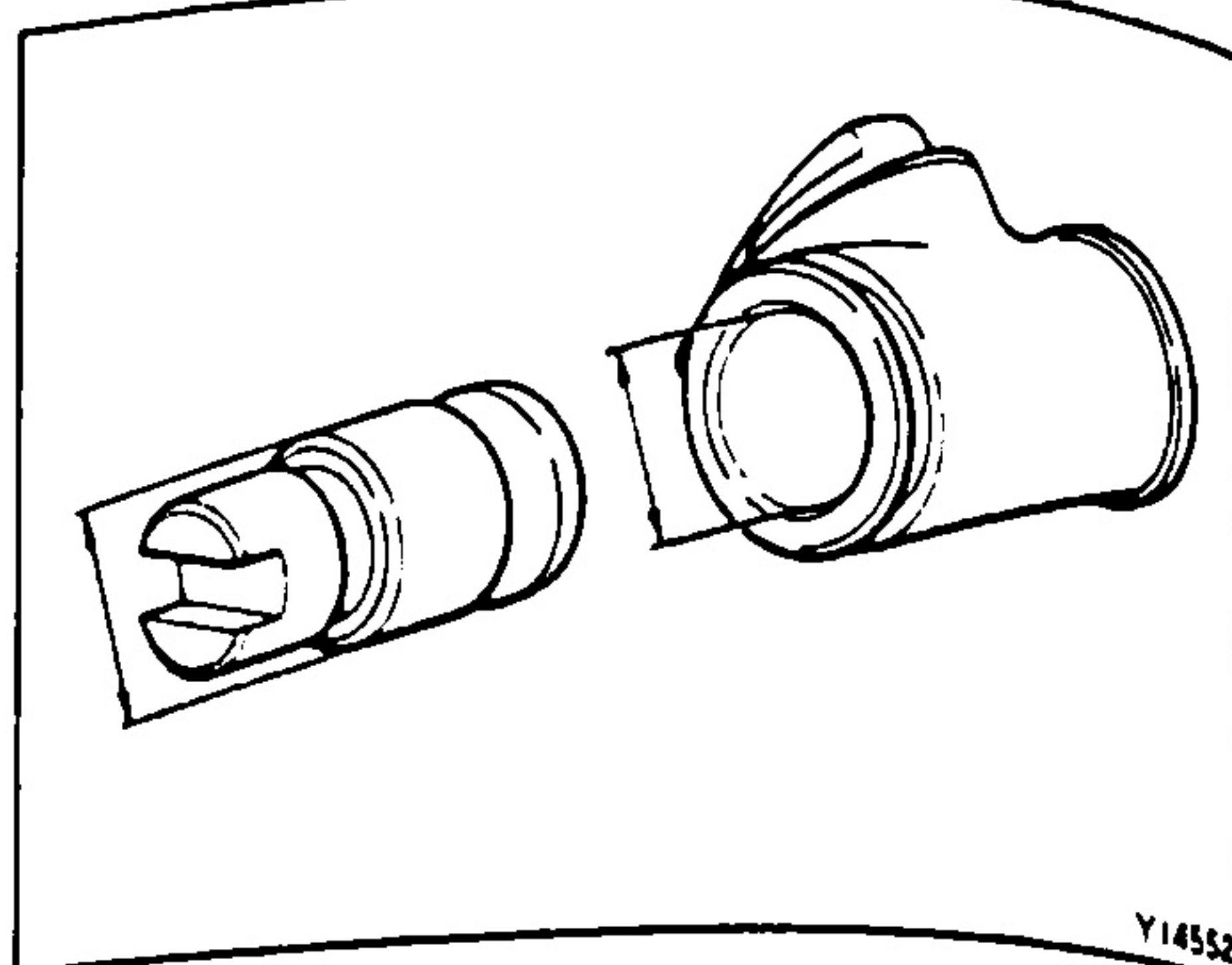
Caution

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

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

Apply the specified corrosion prevention agent contained in the repair kit to the wheel cylinder walls and the piston cup, and then install the piston assembly.

Apply a sufficient amount of the specified grease to both ends of the piston, and then install the boots.

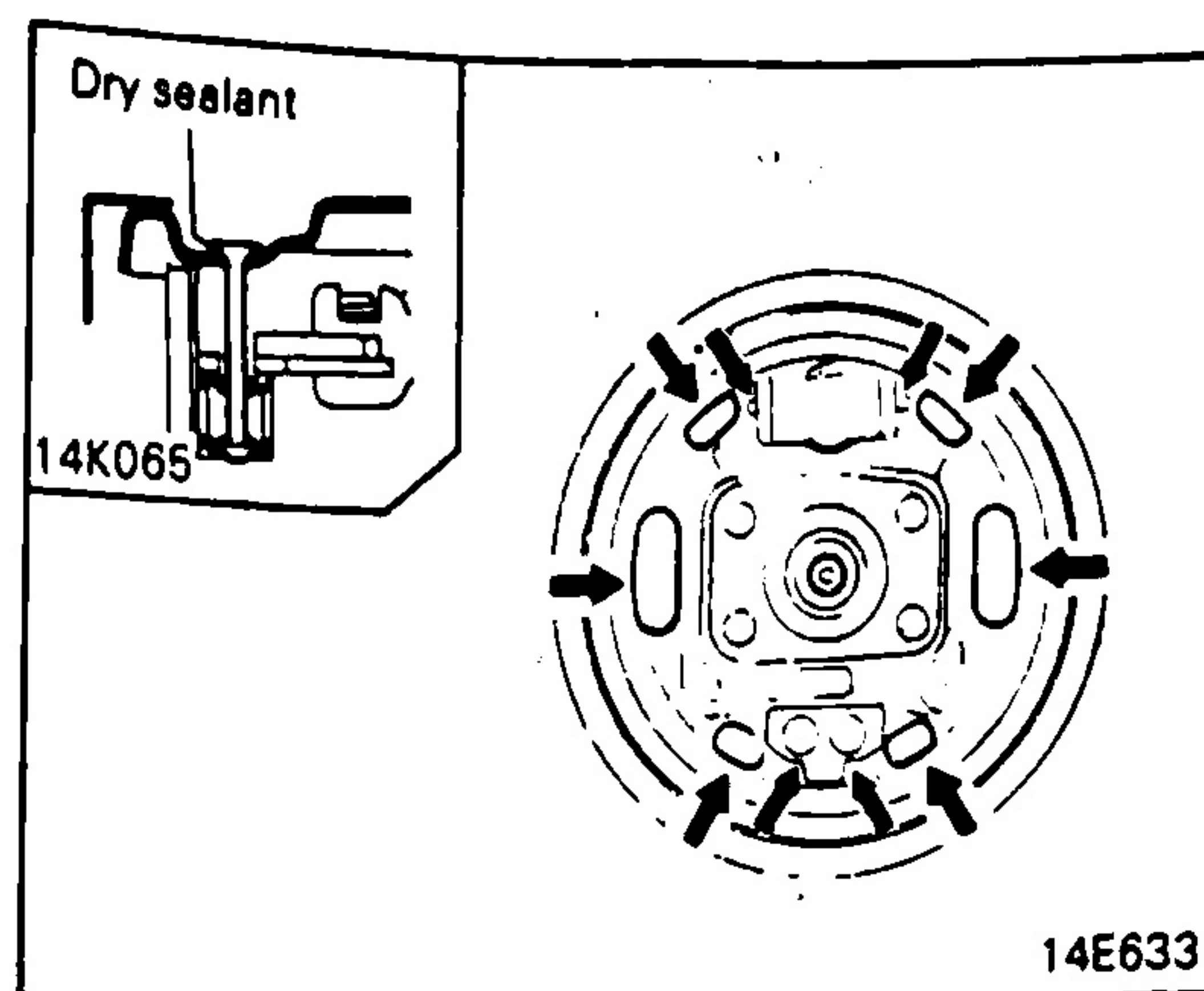


REAR DRUM BRAKES



INSTALLATION

Apply the specified grease to the contact surfaces of the shoe and the backing plate, the anchor plate, the wheel cylinder, and the end of the piston. Apply dry sealant to the mounting surface of the shoe hold-down pin.



Install the brake shoes, and then adjust the shoe outer diameter to the specified measurement by turning the adjuster screw.

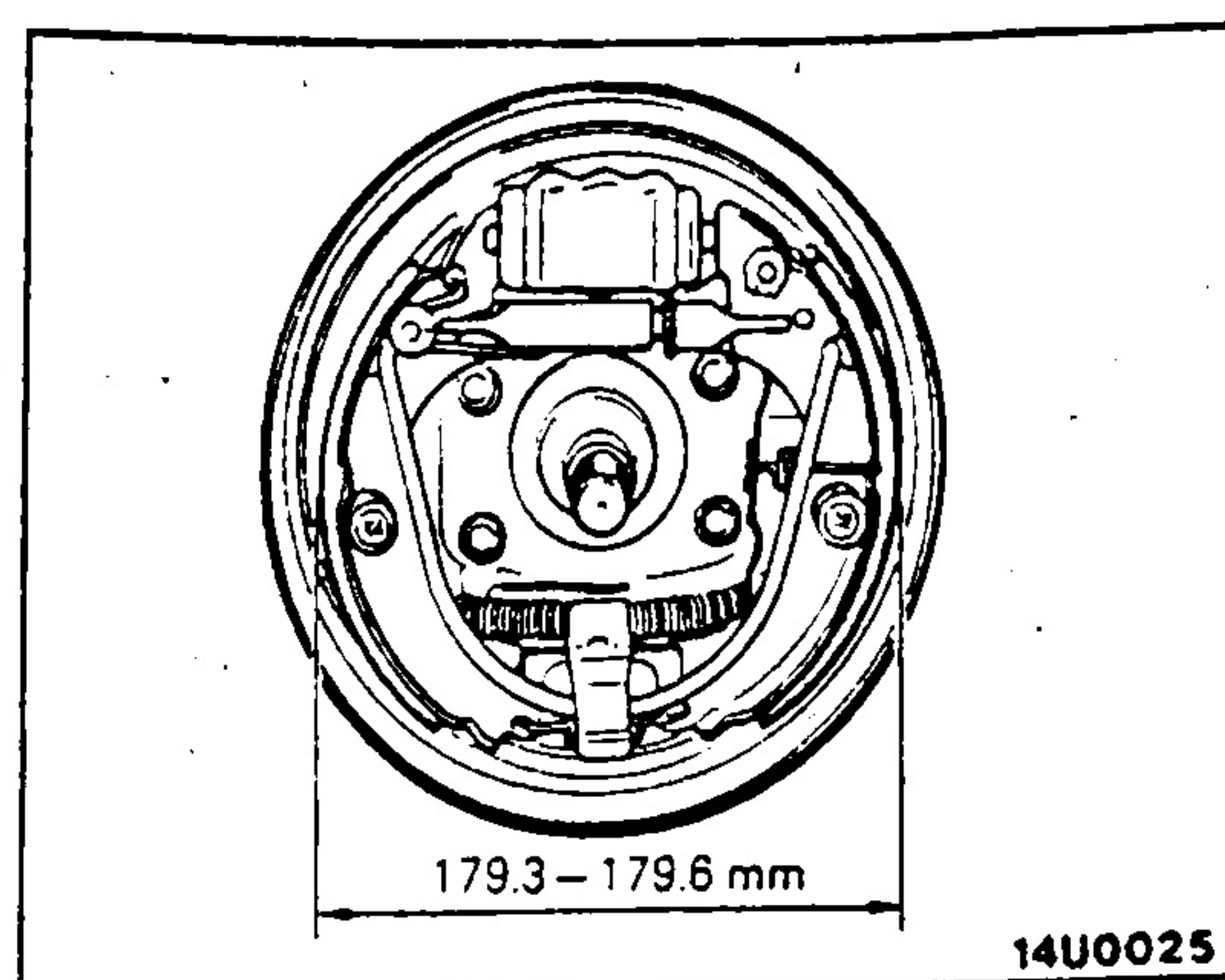
Caution

Release the parking brake lever and confirm that the parking brake cable is not pulling the lever inside the brake. If the lever is being pulled by the cable, the automatic shoe clearance adjustment will not function.

Install the brake drum. (Refer to GROUP 12B.)

Pull back the parking brake lever and depress the brake pedal alternately, and adjust the shoe clearance.

Adjust the parking brake lever.



MARZAH 3 ... DI BAHIM