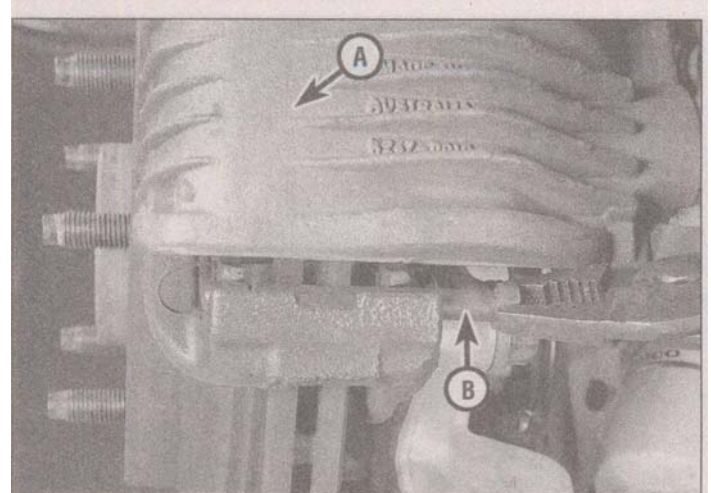
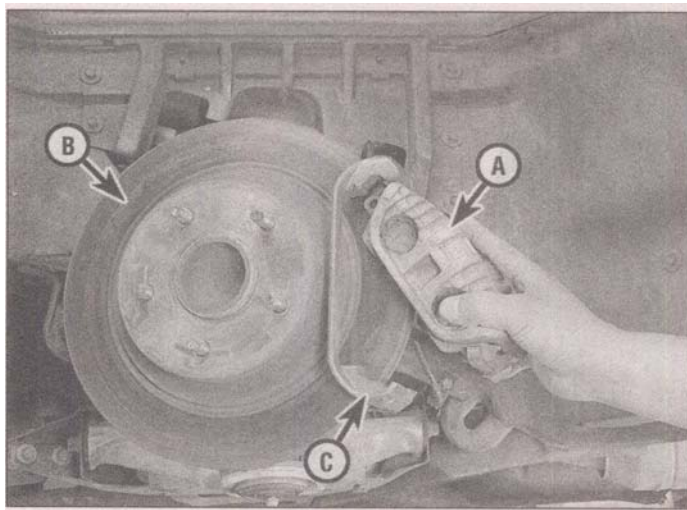


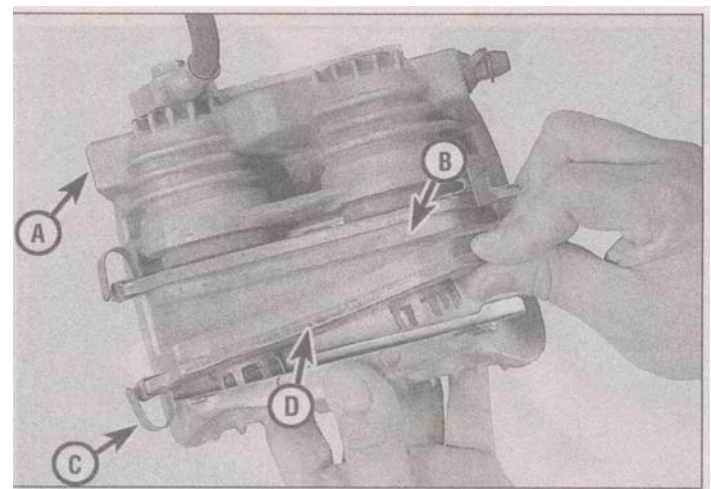
2.13 Use needle-nose pliers to pull the circlip (A) off the retainer pin (B)



2.14 Support the caliper (A) and pull the retainer pin (B) out with pliers



2.15 Lift the caliper (A) off the disc (B) and bracket (C)



2.16 Brake pad mounting details

A Caliper B Inner pad

C Outer pad o Bias spring

5 Once the new pads are in place and a new self-locking bolt has been installed and properly tightened, install the wheel and lower the vehicle to the ground. Note: *If the fluid inlet fitting was disconnected from the caliper for any reason, the brake system must be bled to remove all air as described in Section 13.*

6 Fill the master cylinder reservoir(s) with new brake fluid and slowly pump the brakes a few times to seat the pads against the brake disc.

7 Check the fluid level in the master cylinder reservoir(s) one more time and then road test the vehicle carefully before placing it into normal service.

1988 and later models Front brakes

Refer to illustrations 2.13, 2.14, 2.15, 2.16, 2.17 and 2.18

8 The two-piston front disc brake calipers

used on 1988 and later models are similar to the single piston unit used on earlier models except the caliper is retained to the mounting bracket by a pin and circlip and integral clips on the back side locate the pads in the caliper.

9 Remove about two-thirds of the fluid from the master cylinder reservoirs.

10 Raise the front of the vehicle and support it securely on jackstands. Apply the parking brake and block the rear wheels to keep the vehicle from rolling. Mark the relationship of the wheels to the hubs and remove the front wheels.

11 Install two of the lug nuts to retain the brake disc.

12 If necessary, depress the caliper pistons into the bores with a C-clamp

13 Use needle-nose pliers to remove the circlip on the inner end of the caliper retainer pin (see illustration).

14 Withdraw the retainer pin with pliers (see illustration).

15 Lift the caliper off the bracket (see illustration).

16 Detach the pads from the caliper (see illustration).

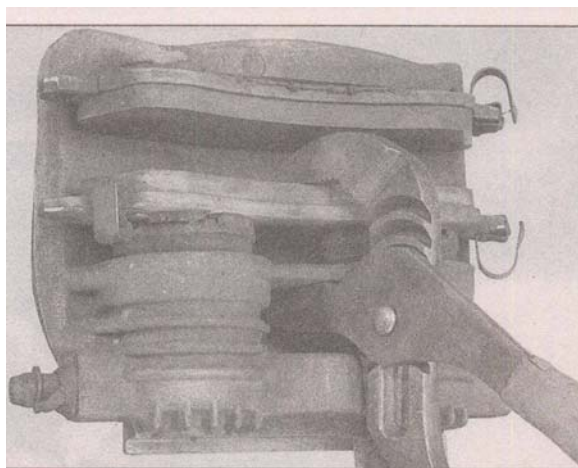
17 Use a C-clamp or large pliers to depress the pistons all the way into the bores (see illustration).

18 Install the new pads, making sure the bias springs are secure (see illustration). 19 Install the caliper. Install a NEW retainer pin and circlip.

Rear brakes

20 The rear disc brakes on 1988 and later models are basically the same as earlier models except the parking brake is a new design. On later models, the parking brake cables actuate the levers on the rear caliper, moving them out and causing the calipers to slide in, forcing the brake pads against the disc.

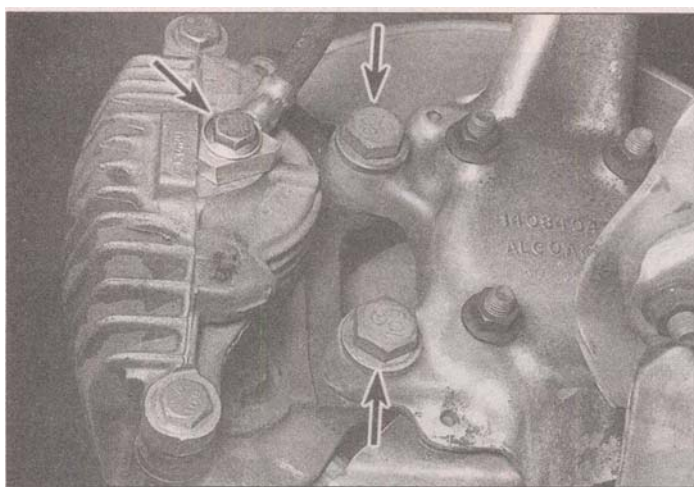
21 Replacement of the brake pads can be accomplished without disconnecting the



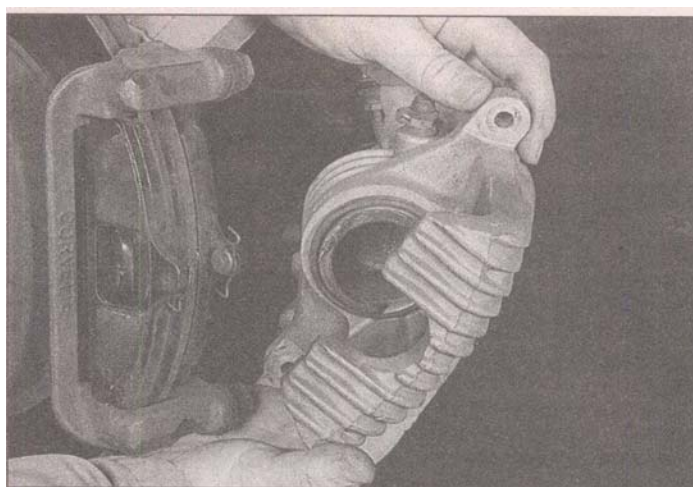
2.17 Squeeze the pistons back into the bores with a large pair of adjustable pliers



2.18 Secure the bias springs onto the new pads



3.2 From the backside of the caliper, the brake hose fitting bolt and the two caliper mounting bracket bolts (arrows) can be seen



3.4 Work the caliper off the brake disc. The pads will probably stay with the brake disc; however, be careful that they do not fall and become damaged

parking brake cables at the levers on the calipers. Caliper removal, however, does require disconnection of the levers, which means disabling the automatic adjuster (see Section 7).

3 Caliper - removal, overhaul and installation

Note: The following procedure applies to both the front and rear calipers. If an overhaul is indicated (usually because of fluid leakage) explore all options before beginning the job. New and factory-rebuilt calipers are available on an exchange basis, which makes this job quite easy. If it is decided to rebuild the calipers, make sure that a rebuild kit is available before proceeding.

Removal

Refer to illustrations 3.2 and 3.4

1 Raise the vehicle and support it securely on jackstands. Remove the wheel.

2 Disconnect the brake hose fitting from the back of the caliper by removing the bolt (see illustration). Have a rag handy to catch fluid spills and wrap a plastic bag around the end of the hose to prevent fluid loss and contamination. Discard the inlet fitting washers; use new ones during reassembly. *Note: If the caliper will not be completely removed from the vehicle - as for a pad inspection or brake disc removal - leave the hose connected and suspend the caliper with heavy wire or a coat hanger. This will save the trouble of bleeding the brake system.*

3 On 1988 and later rear calipers, the parking brake automatic adjuster must be disabled prior to removing the caliper, or anytime the parking brake cables or parking brake lever return springs are disconnected. **Warning: Failure to disable the parking brake automatic adjuster before disconnecting the parking brake system cables or parking brake lever return springs can cause severe personal injury.** Disable the automatic adjuster (see Section 7), remove the lever return spring and disconnect the cable from the

caliper lever and bracket.

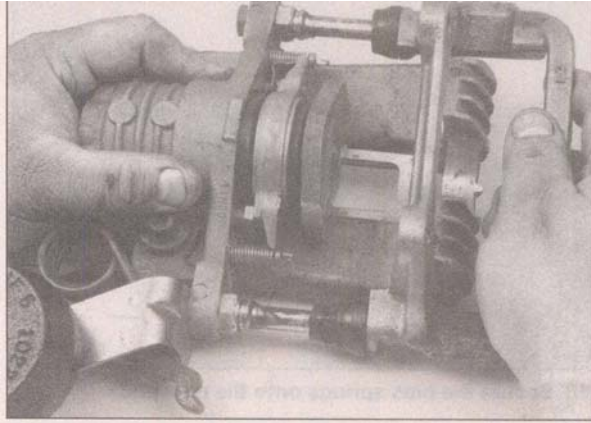
4 Remove the two self-locking bolts that secure the caliper. Discard these also, as new bolts should be used during reassembly. Work the caliper assembly out of the mounting bracket on the brake disc (see illustration). The pads will probably stay with the brake disc, but don't allow them to fall and be damaged.

Overhaul

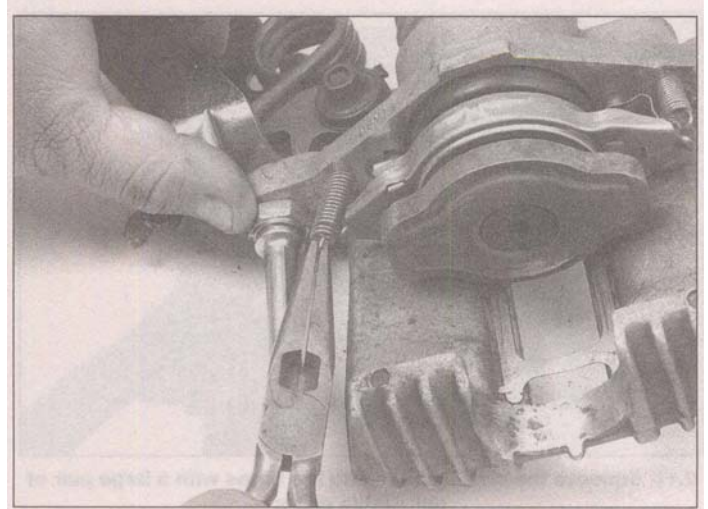
1984 through 1987 (front and rear calipers) and 1988 and later front caliper

5 Place numerous shop towels in the center of the caliper and then force the piston out of its bore by directing compressed air into the inlet opening. Use care when doing this, as the piston could be ejected with some force.

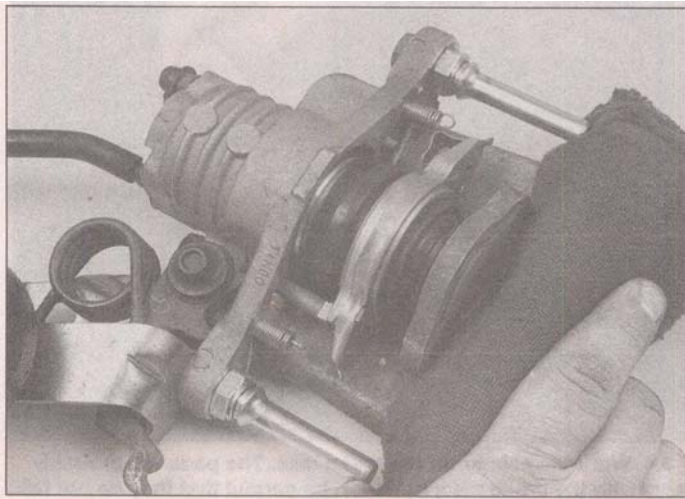
6 Using a wood or plastic tool, remove the rubber piston seal and boot from the caliper bore. Do not use a metal tool, as the bore can be easily damaged.



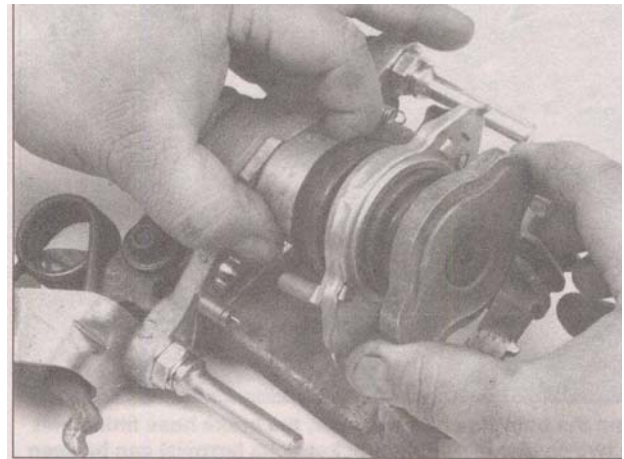
3.19 Remove the anchor bracket



3.20 Remove the springs from each end of the parking brake collar



3.21 Place a wood block or shop rag in the caliper as a cushion, then use compressed air to remove the piston from the caliper (use no more air pressure than necessary to ease the piston out of the bore)



3.22 Remove the clamp rod, actuating collar boot retainers, actuating collar boots, actuating collar and piston as a single assembly

7 Carefully inspect the piston and the bore for score marks, nicks, corrosion and damage of any kind. If any of the above are found, the caliper should be replaced with a new or rebuilt unit.

8 Remove the bleeder valve and rubber cap.

9 Inspect the guide pins for corrosion and damage. Replace them with new ones if necessary.

10 Use clean brake fluid or denatured alcohol to clean all the parts. **Warning:** *Do not, under any circumstances, use petroleum-based solvents to clean brake parts. Allow all parts to dry, preferably using compressed air to blowout all passages. Make sure the compressed air is filtered, as a harmful lubricant residue will be present in unfiltered systems.*

11 Check the fit of the piston in the bore by sliding it into the caliper. The piston should move easily.

12 Install the rubber cap over the bleeder

valve and thread the valve into the caliper. Tighten it securely.

13 Lubricate the new piston seal with silicone grease or clean brake fluid. Position the seal in the caliper bore groove, making sure that the seal does not twist.

14 Using silicone grease or clean brake fluid, lubricate the piston and the caliper bore.

15 Install the piston boot over the end of the piston with the fold of the boot facing out. Push the piston into the caliper and seat the boot in the groove in the bore. Push the piston all the way to the bottom of the bore. Check to make sure the boot is properly seated in the groove around the piston and in the caliper bore groove.

16 Lubricate the guide pins with silicone grease and place new boots over them.

17 Install the guide pins in the mounting bracket, seating the boots properly in the grooves in the pins and bracket.

1988 and later rear caliper

Refer to illustrations 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 3.25, 3.30, 3.31, 3.32, 3.34, 3.35 and 3.36

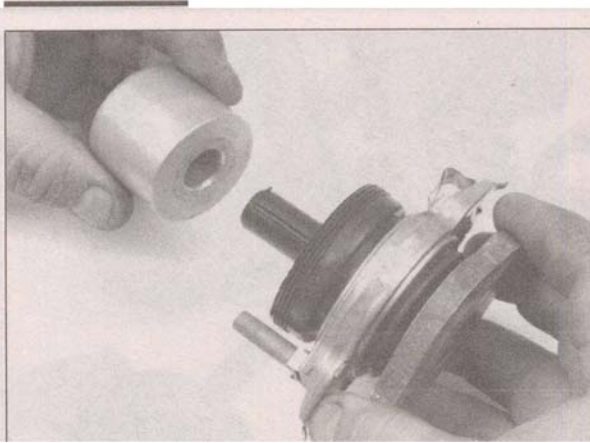
Note: *Purchase a brake caliper overhaul kit for your particular vehicle before beginning this procedure.*

18 Clean the exterior of the brake caliper with brake system cleaner (never use gasoline, kerosene or any petroleum-based cleaning solvents), then place the caliper on a clean workbench.

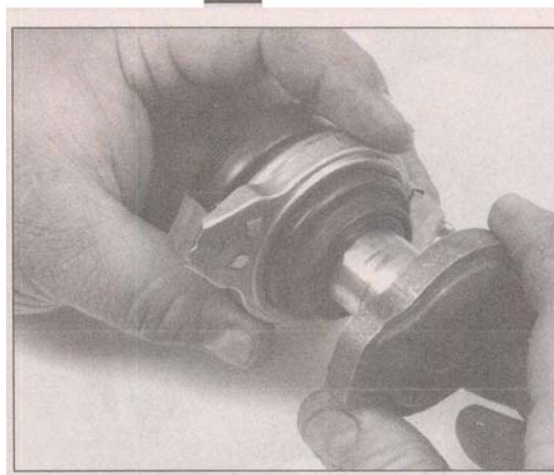
19 Remove the anchor bracket (see illustration).

20 Remove the parking brake collar return springs (see illustration).

21 Place a wood block or shop rag in the caliper as a cushion, then use compressed air to remove the piston from the caliper (see illustration). Use only enough air pressure to ease the piston out of the bore. If the piston



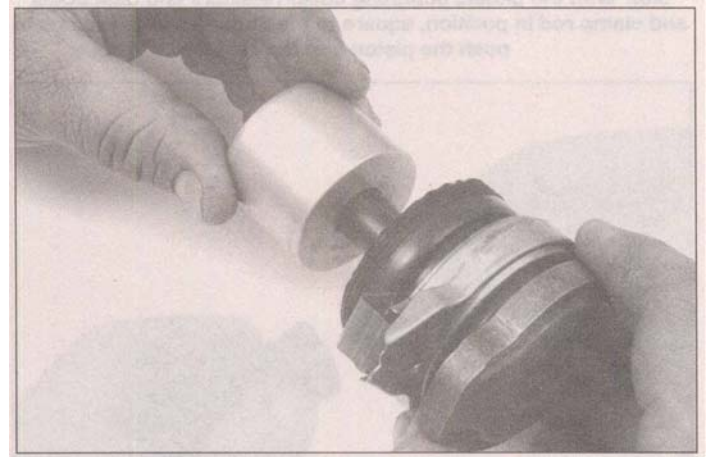
3.23 Slide the piston off the clamp rod bushing



3.24 Separate the clamp rod from the actuating collar boot retainers and actuating collar boots



3.25 Use a wood or plastic tool to remove the piston seal from the bore



3.30 Lubricate the clamp rod bushing with the supplied lubricant, then slide the piston onto the clamp rod bushing

is blown out, even with the cushion in place, it may be damaged. *Warning: Never place your fingers in front of the piston in an attempt to catch or protect it when applying compressed air - serious injury could occur.*

22 Remove the clamp rod, actuating collar boot retainers, actuating collar boots, actuating collar and piston as a single assembly (see illustration).

23 Slide the piston off the clamp rod bushing (see illustration).

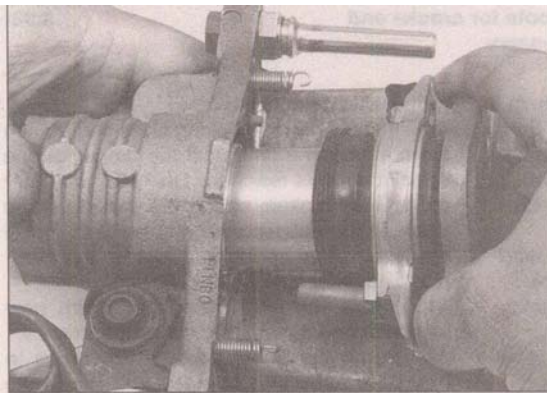
24 Separate the clamp rod from the actuating collar boot retainers and actuating collar boots (see illustration).

25 Use a wooden or plastic tool to remove the piston seal from the bore (see illustration).

26 Carefully check the caliper bore for score marks, nicks, corrosion and excessive wear. Light corrosion may be removed with crocus cloth; otherwise, replace the caliper housing with a new one.

27 Clean all parts not included in the caliper repair kit with clean brake fluid or brake system cleaner. Do not, under any circumstances, use petroleum-based solvents.

28 Use compressed air to dry the parts and



3.31 Lubricate the piston bore with brake fluid, then place the assembled piston, actuating collar retainers and dust boots and clamp rod into the caliper I 9 assembly

blowout all the passages in the caliper housing and pleeder valve.

29 Lubricate the new piston seal with clean brake fluid and install it in the caliper bore groove. Make sure that the seal is not twisted.

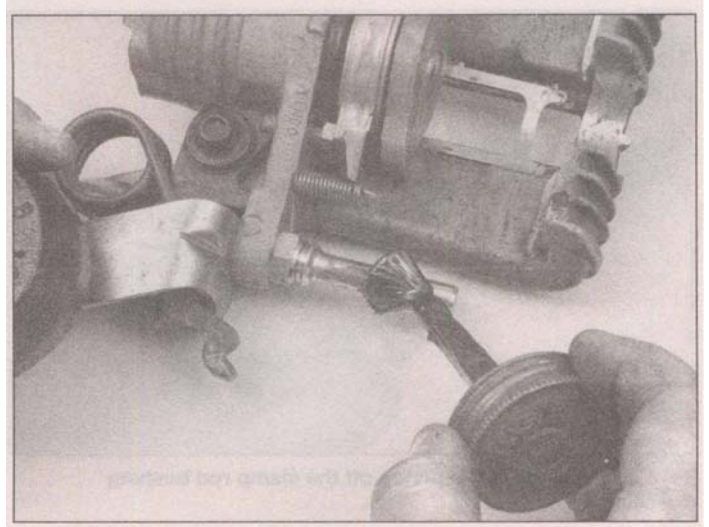
30 Lubricate the clamp rod bushing and clamp rod with the liquid lubricant supplied in the overhaul kit, then slide the piston onto the

clamp rod bushing (see illustration).

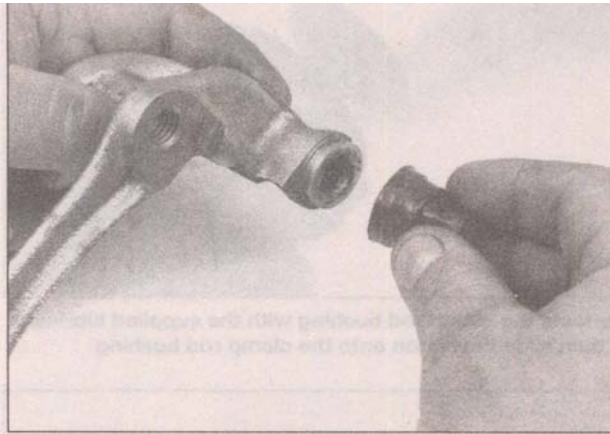
31 Also lubricate the bead of the actuating collar, actuating collar boot and the boot's groove in the caliper with the same liquid lubricant. Lubricate the piston bore with brake fluid, then place the assembled piston, actuating collar retainers and dust boots and clamp rod into the caliper assembly (see illustration).



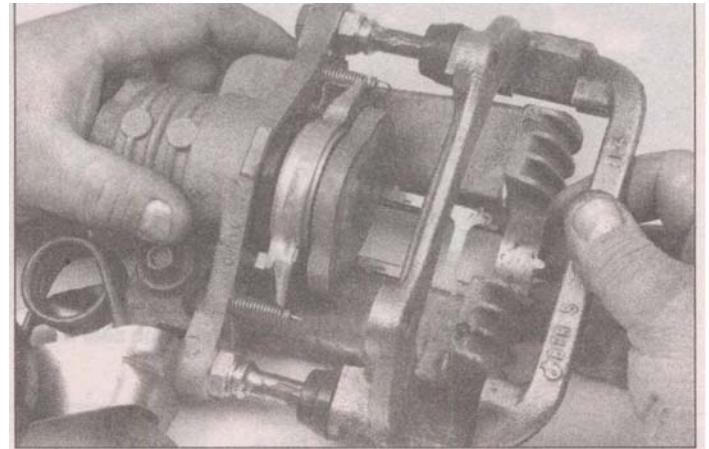
3.32 With the piston, actuating collar retainers and dust boots and clamp rod in position, square to the bore, use your thumbs to push the piston into the caliper



3.34 Lubricate the caliper guide pins with high-temperature grease



3.35 Inspect the guide pin boots for cracks and replace as necessary



3.36 Install the caliper anchor bracket

32 With the piston, actuating collar retainers and dust boots and clamp rod in position, square to the bore, use your thumbs to push the piston into the caliper (see illustration).

33 Install the parking brake collar return springs.

34 Lubricate the caliper guide pins with high temperature grease (see illustration).

35 Inspect the guide pin boots for cracks. Replace as necessary (see illustration).

36 Install the caliper anchor bracket (see illustration).

37 Install the brake pads (see Section 3). 38 Install the bleeder valve.

Installation

39 Install the caliper over the brake disc and into the mounting bracket. The brake pads should be in place against the brake disc at this time. Refer to Section 2 for more information and illustrations concerning

proper pad positioning.

40 Install new self-locking bolts and tighten them a little at a time until the proper torque specification is reached. On 1988 and later model rear brakes, attach the parking brake cable to the caliper lever and bracket, install the lever return spring and restore the automatic adjuster (see Section 7).

41 Install the inlet fitting bolt (with new washers) and tighten it to the proper torque.

42 Pump the brake pedal a few times to bring the pads into contact with the brake disc.

43 Bleed the brakes as described in Section 13. This is not necessary if the inlet fitting was left connected to the caliper. On 1988 and later model rear brakes, adjust the parking brake clearance.

44 Install the wheel and lower the vehicle. Test the brake operation carefully before placing the vehicle into normal service.

4 Brake disc - inspection, removal and installation

Refer to illustrations 4.3 and 4.4

Note: The following information applies to both the front and rear brakes.

Inspection

1 Raise the vehicle and support it securely on jackstands. Remove the wheel and hold the brake disc in place with two lug nuts.

2 Visually inspect the brake disc surface for score marks and other damage. Light scratches and shallow grooves are normal after use and are not detrimental to brake operation. Deep scoring - over 0.015-inch (0.38 mm) - requires brake disc removal and refinishing by an automotive machine shop. Be sure to check both sides of the brake disc.