

# Front Brakes

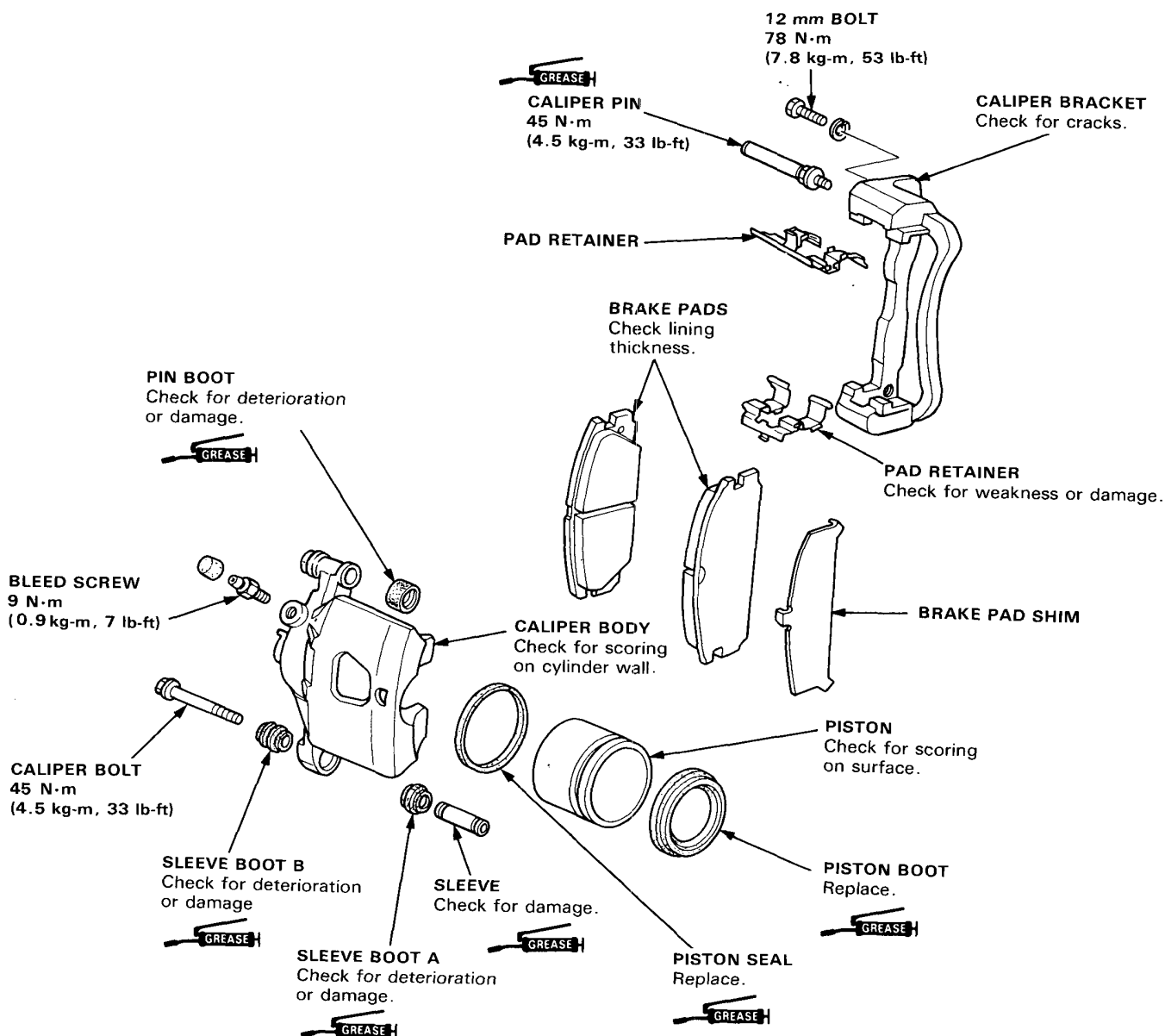
## Inspection

**WARNING** Do not use an air hose to blow the brake assembly clean.

### CAUTION

- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- To prevent spills, cover the hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.

- Before reassembling, check that all parts are free of dust and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.
- Do not reuse the drained fluid.
- Coat piston, piston seal, and caliper bore with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.



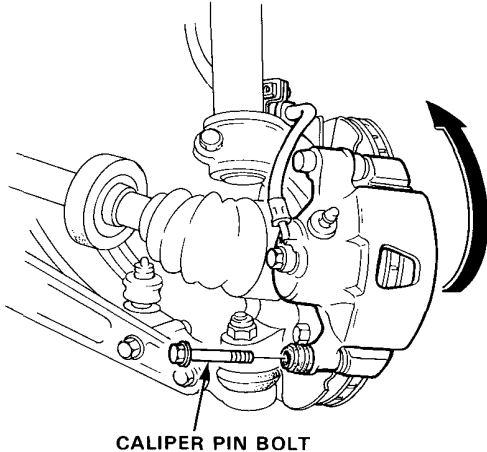
# Brake Pad



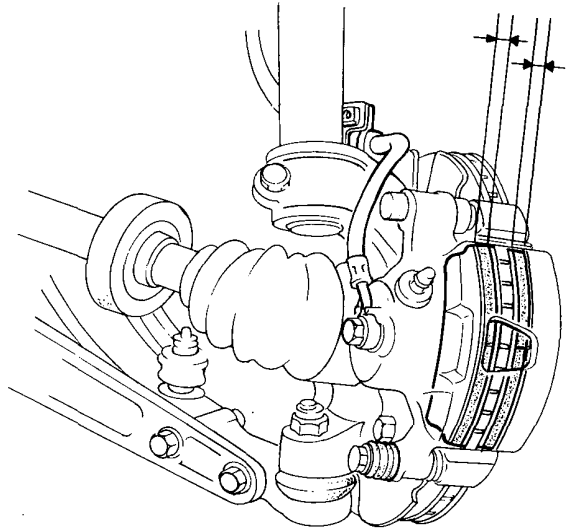
## Inspection/Replacement

**WARNING** Do not use an air hose to blow the brake assembly clean.

1. Remove the front wheels and support the front of car on safety stands.
2. Remove caliper pin bolt and pivot caliper up out of the way.



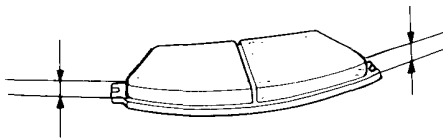
5. If lining thickness is less than service limit, replace both pads as a set.



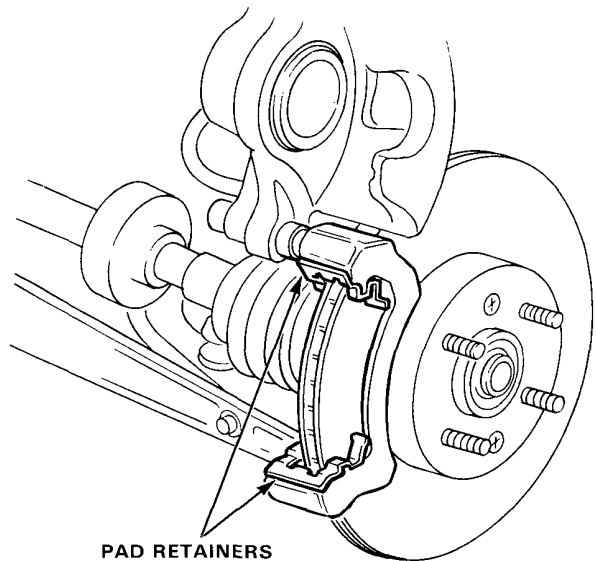
3. Remove the pad shim, pad retainers and pads.
4. Using a vernier caliper, measure the thickness of each brake pad lining.

### Break Pad Thickness:

Standard: 10 mm (0.39 in)  
Service Limit: 1.6 mm (0.06 in)



6. Clean the caliper thoroughly; remove any rust, and check for grooves or cracks.
7. Install the pad retainers.



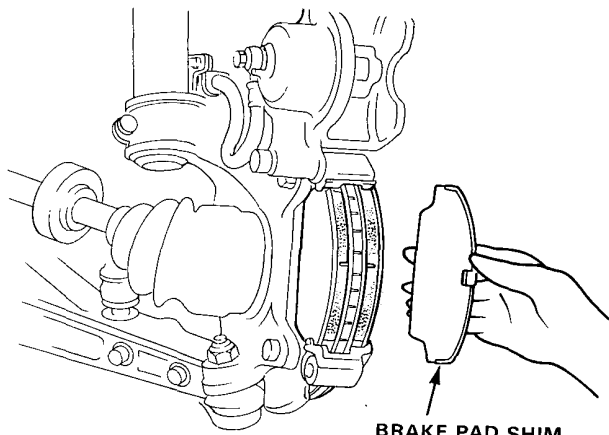
NOTE: Measurement does not include pad backing thickness.

(cont'd)

## Brake Pad

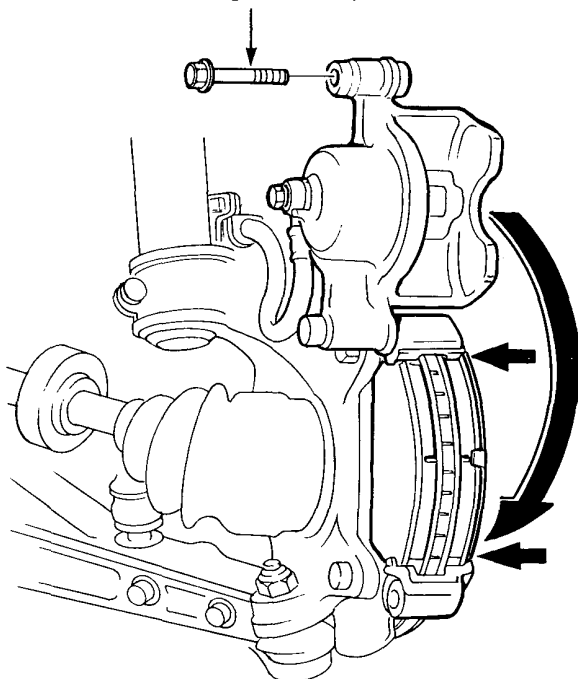
### Inspection/Replacement (cont'd)

8. Install the brake pads and shim with the shim on the outside.



9. Push in the piston so that the caliper will fit over the pads.
10. Pivot the caliper down into position, then install the caliper pin bolt and tighten to 45 N·m (4.5 kg-m, 33 lb-ft).

**CALIPER PIN BOLT**  
45 N·m  
(4.5 kg-m, 33 lb-ft)



11. Depress the brake pedal several times to make sure the brakes work, then road-test.

## Brake Caliper

### Disassembly

#### CAUTION:

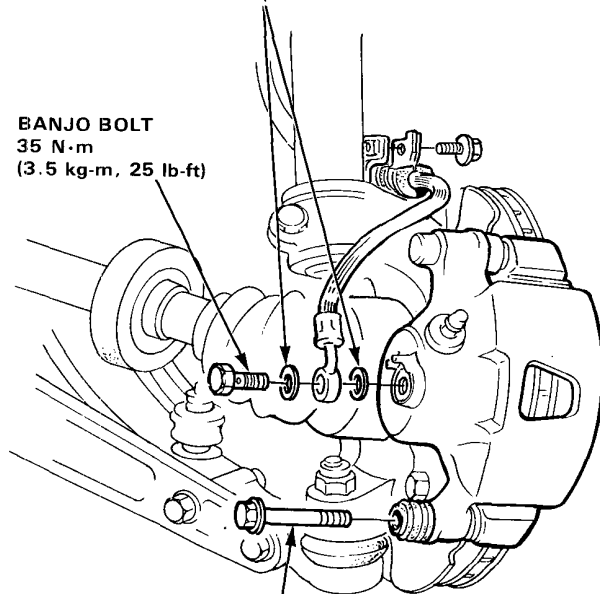
- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- To prevent spills, cover the hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Use only new clean brake fluid.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.

1. Remove the banjo bolt and disconnect the brake hose from the caliper.
2. Remove the caliper pin bolt, then remove the caliper.

NOTE : Avoid damaging the splash guard.

Replace.

**BANJO BOLT**  
35 N·m  
(3.5 kg-m, 25 lb-ft)



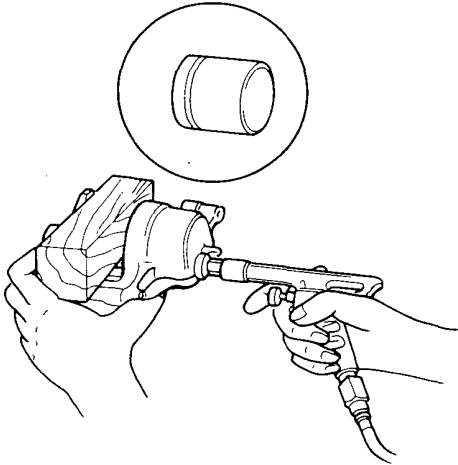
**CALIPER PIN BOLT**  
45 N·m  
(4.5 kg-m, 33 lb-ft)



3. Place a wooden block or shop rag in the caliper opposite the piston, then carefully remove the piston from the caliper by applying air pressure through the brake line hole.

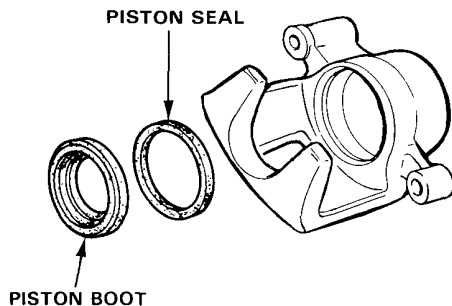
**WARNING**

- Do not place your fingers in front of the piston.
- Do not use high air pressure.



4. Remove the piston boot and piston seal.

**CAUTION:** Take care not to damage the cylinder.

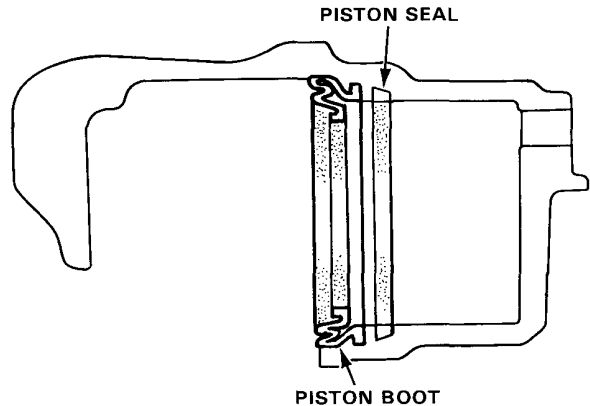


## Reassembly

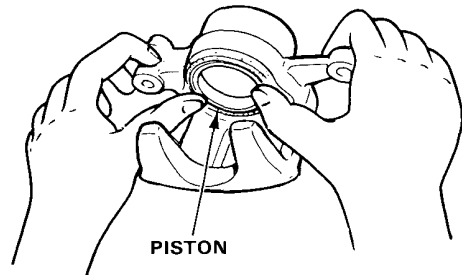
**CAUTION:**

- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- To prevent spills, cover the hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Use only new clean brake fluid.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.

1. Clean the piston and caliper bore with brake fluid and inspect for wear or damage.
2. Apply brake cylinder grease to the new piston seal, then install the piston seal in the cylinder groove.
3. Install the piston boot.



4. Lubricate the caliper cylinder and piston with brake fluid, then install the piston in the cylinder with the dished end facing in.



5. Reinstall the caliper in the reverse order of removal.
6. Fill the brake reservoir up and bleed the brake system.

# Brake Disc

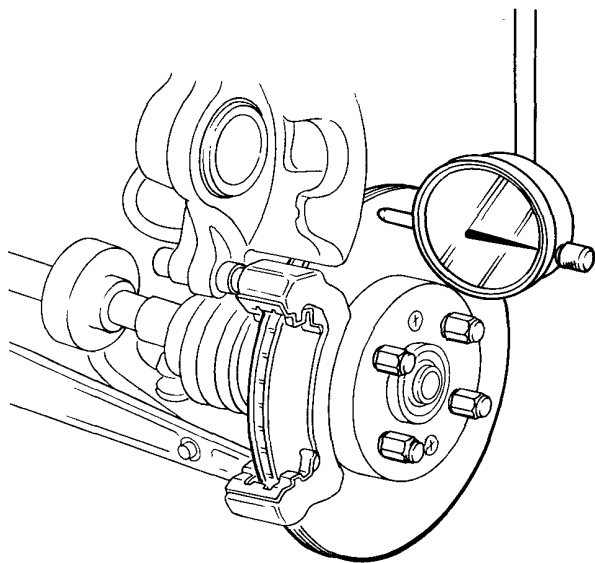
## Run-Out

1. Remove the front wheels, and support the front of the car on safety stands.
2. Remove caliper pin bolt, then pivot the caliper up out of the way on the caliper pin, and remove the pads and pad retainers.
3. Inspect the disc surface for grooves, cracks, and rust. Clean the disc thoroughly and remove all rust.
4. Use the lug nuts to hold the disc securely against the hub, then mount a dial indicator as shown.

### Brake Disc Runout:

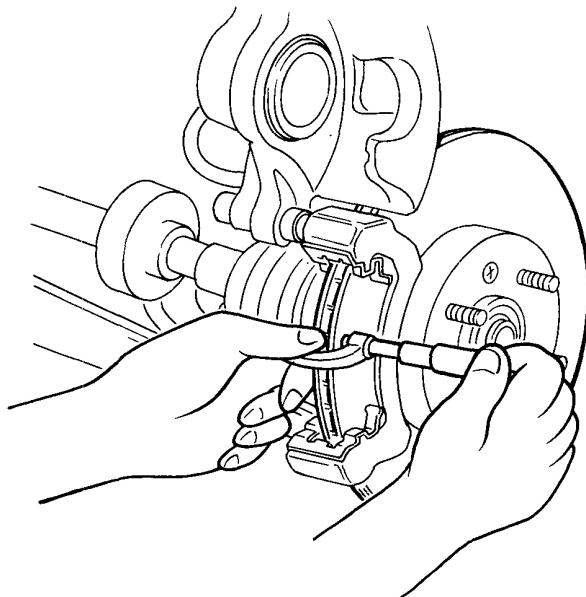
**Service Limit: 0.1 mm (0.004 in.)**

5. If the disc is beyond the service limit, remove it and install a new one.



## Thickness and Parallelism

1. Remove the front wheels, and support the front of car on safety stands.
2. Move the caliper and pads out of the way as described in the preceding column.
3. Using a micrometer, measure disc thickness at eight points, approximately 45° apart and 10 mm (0.39 in.) in from the outer edge of the disc.



### Brake Disc Thickness:

**Standard: 19 mm (0.75 in.)**

**Max. Refinishing Limit: 17 mm (0.67 in.)**

### Brake Disc Parallelism:

The difference between any thickness measurements should not be more than 0.015 mm (0.0006 in.).

4. If the disc beyond the limits for thickness or parallelism, remove it and install a new one.