

PREPARING YOUR VEHICLE TO INSTALL YOUR BRAKE SYSTEM UPGRADE

1. Rack the vehicle.
2. If you don't have a rack, then you must take extra safety precautions.
3. Choose a firmly packed and level ground to jack up the vehicle.
4. Chock the rear wheels.
5. Jack the vehicle up and support it with jack stands and secure the pins.
6. Set the parking brake and put the transmission in park if automatic, reverse if manual transmission.
7. The front wheels should be allowed to free hang to relieve tension on the coil springs.

Remember: NEVER rely on jacks to support a vehicle! Always test the steadiness of your stands that are supporting the vehicle before attempting to work on a raised vehicle!

PREPARING YOUR PARTS

1. Locate the spindles and the inner wheel bearings. In order to install the inner bearings on new spindles, often you must remove .0004" from the inner bearing seating diameter. This can be accomplished with 240 grit emery paper and a rotary sanding motion on the spindle. Be sure to sand around the radius of the spindle which avoids flat spots. Continue this operation until the inner bearings can be slid onto the spindle without binding. Remember to use brake parts cleaner to keep all surfaces free of debris. Also use a lubricant such as bearing grease to ease them on. Do not grind or file on the spindle!
2. Pack all bearings with hi-temp wheel bearing grease. A bearing packing tool is ideal for the job. (See Figure 1)
3. Adhere the brake pads into place using disc brake quiet and bend outer brake tabs over calipers accordingly. Let them cure!
4. Mate up each threaded nut with its' designated bolt or threaded surface.
5. Group your kit parts to speed up the installation.
6. Check your quantity of components versus the items list.



COMPONENTS TO INSPECT, REPLACE OR UPGRADE PRIOR TO AND / OR DURING INSTALLATION OF DISC CONVERSION KITS

Tie rod ends and nuts	Adjustment sleeves	Control arm shafts, mounting bolts, & nuts
Control Arms	Idler arm and nut	Pitman Arm and nut
Upper Ball Joints and nuts	Lower Ball Joints and nuts	Shocks and hardware
Residual valves	Metering valves	Proportioning valves
Brake lines	Stainless steel brake lines	Stainless steel hardware

SUGGESTIONS:

- » Take the time to identify any suspect parts that are not included in this kit.
- » Consider making upgrades such as converting to polyurethane bushings, performance shocks, tubular a-arms, etc.
- » Plan any Installation (s) of replacement parts during the various stages of the drum to disc conversion process.

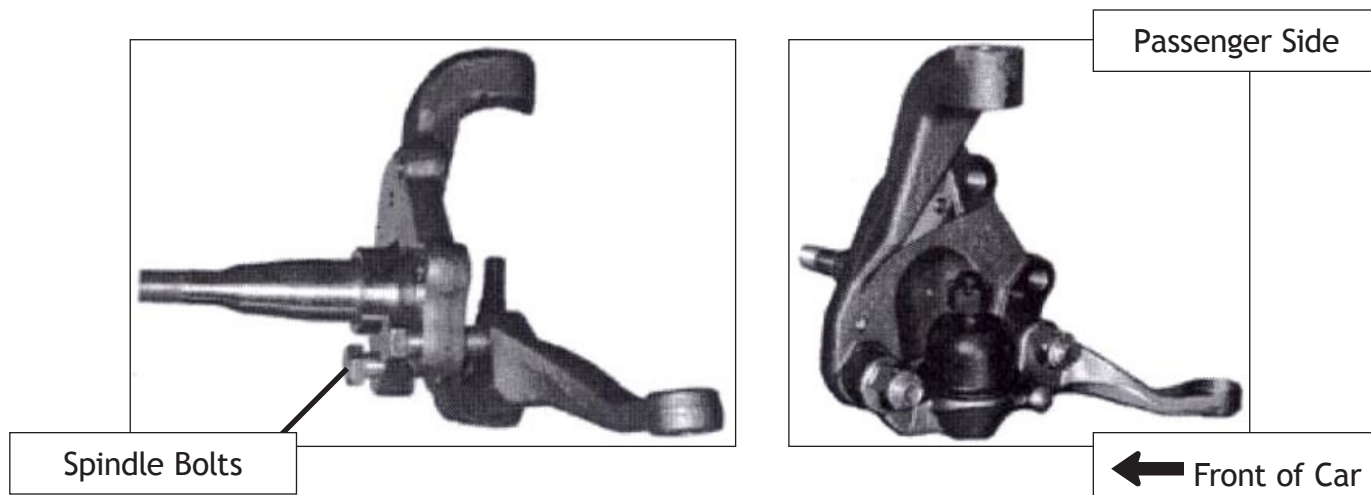
INSTALLATION OF THE DISC BRAKE KIT WILL REQUIRE THE USE OF THE FOLLOWING TOOLS & CHEMICALS:

Wheel bearing seal driver	Drum brake tool	Flare wrench set	Wheel chocks
3/8" ratchet drive set	3/8" Allen wrench or socket	Jack stands	Brake spring pliers
Box end wrench set	Ball joint fork	Tire iron	Brake bleeder wrench
Pliers	Screwdriver	Snips	Grease gun
Universal Bearing Packer	Line bending tool	Disc brake quiet	Wheel bearing grease
Ball pein hammer	Disc brake pad spreader tool	Brake Fluid	Brake cleaner
Caliper slide grease	Hand cleaner		

INSTRUCTIONS

1. If you are performing the installation with a jack be sure that the parking brake is set and that the rear wheels are chocked. Support the front of the vehicle with jack stands. Never work on sloping ground.
2. If you're using a lift, raise the vehicle to a comfortable working height.
3. Remove the front wheels.
4. At this point, be sure to place the proper support under the lower control arm. Failure to do so will allow the coil spring to blow out when the spindle is removed which could result in serious Injury and damage to the vehicle.
5. Utilizing a mallet and screwdriver, remove the brake hose clip at the frame bracket by tapping it loose. Disconnect the brake hose from the hard line using the appropriate flare wrenches.
6. Locate the ball joint at the tie rod end and the steering arm. Remove the cotter pin and loosen the ball Joint nut approximately 1/2 off. This allows for a controlled, separation of the tie rod end and the steering arm. Place the ball joint fork between the steering arm and the ball joint. Strike the fork with a mallet until the steering arm and ball Joint separate. Remove the ball joint nut.
7. Repeat the process described in step 6 for the lower and upper ball joint at the spindle. Place the ball joint fork between the spindle and the ball joint.
8. Slowly lower the support and remove the drum brake assembly as a unit.
9. Inspect the ball joints for signs off excessive wear and check to see if the rubber boot is torn. If the ball Joint wobbles excessively or is worn, now is the time for replacement. Clean the ball joints with a rag. Keep the lower ball joint and steering arm assembly because it will be reused in this installation.
10. Take the drum brake assembly to a bench to disassemble it. Remove the dust cover by twisting a screwdriver between the dust cover and the hub. Remove the cotter pin and take off the

- spindle nut. Save the spindle nut and the keyed washer to use on the disc spindle. Remove the bolts that hold the steering arm to the spindle and retain the arm and the bolts to use on the disc spindle. (This requires removing the brake shoes which is easier with a drum brake tool.)
11. Bolt the old steering arm ball joint assembly to the new disc brake spindle as shown below.



12. Now assemble the caliper bracket to the spindle with the 1 1/2" bolts supplied with the spindles.

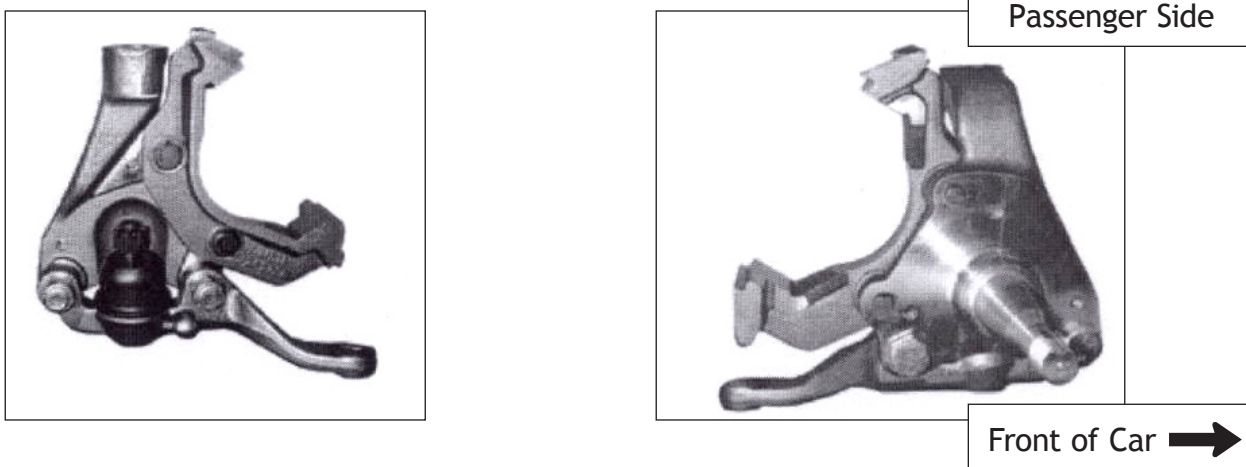
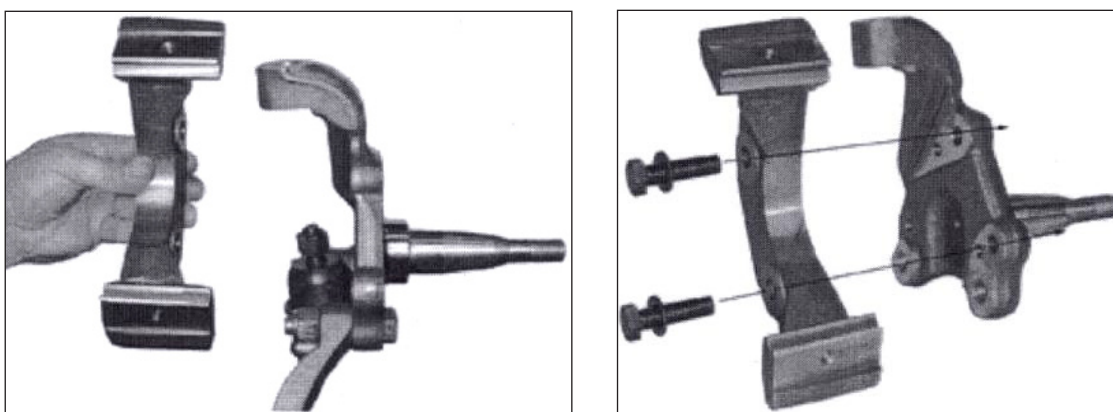
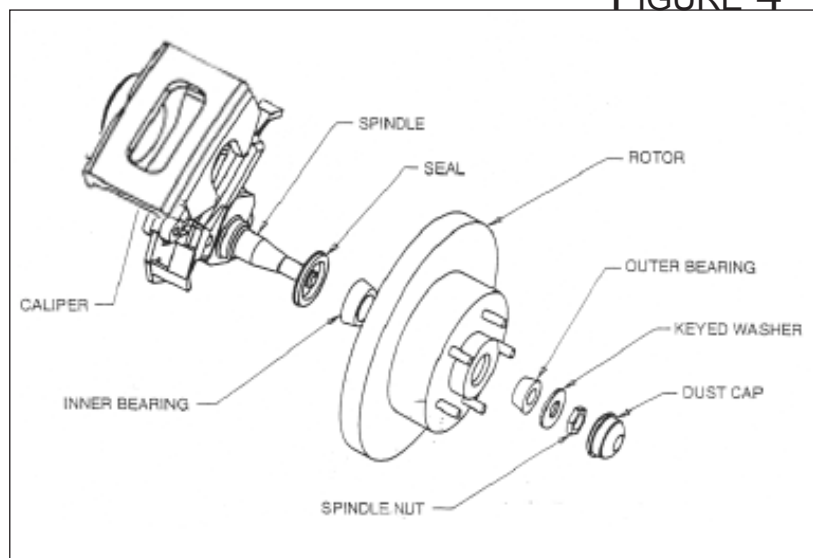
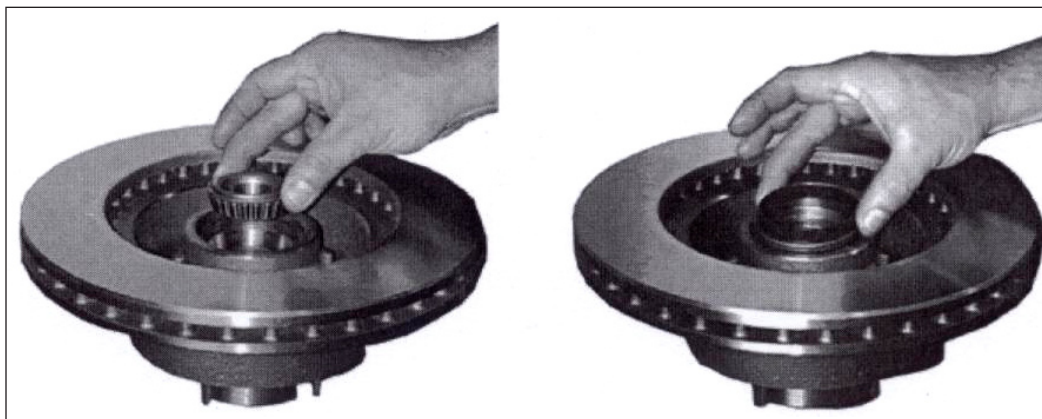


FIGURE 4



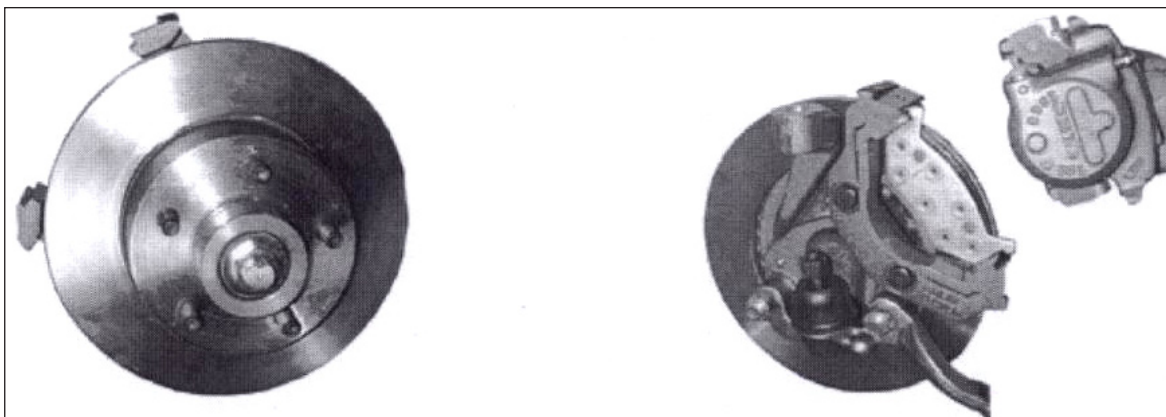
13. Now install the inner bearing (the larger bearing) and bearing seal into the rotor as shown below. Carefully tap the bearing seal into place securely with a small hammer or large socket. Be sure to grease the bearings before installing.



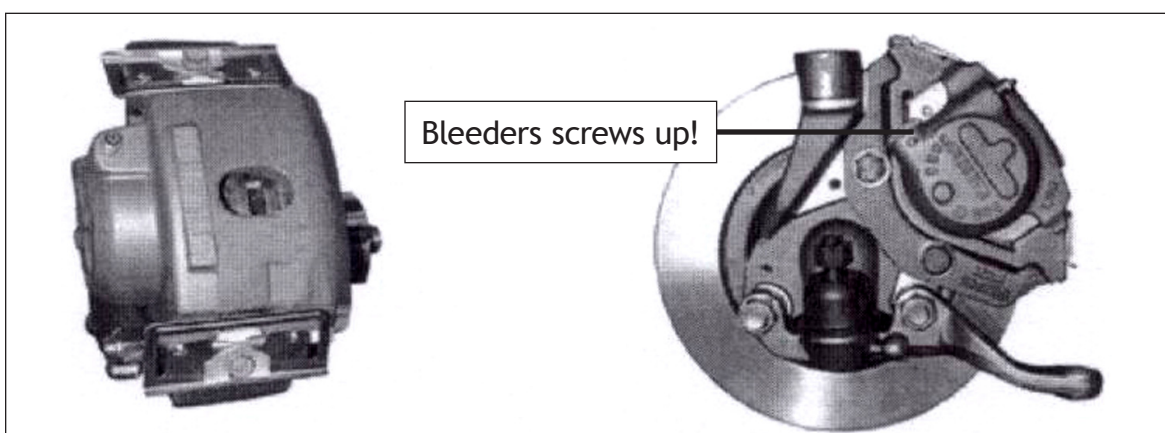
Tech Advisory: 60's used left hand thread wheel studs on the driver side, change studs if necessary

14. Install the rotor onto the spindle followed by the outer bearing. Re-use the old spindle nuts and washers. Tighten the spindle nut until the rotor does not spin freely and then back off the nut slightly until the rotor spins freely but does not wobble. Secure with cotter pin. Install the dust cap.

15. After the spindle is on the rotor place the inboard disc pad into the caliper cradle. Grease the caliper slides. Now drop the caliper onto the cradle with the outboard pad on the other side of the rotor so the pads sandwich the rotor between them. (See detailed Single Piston Sliding Caliper instructions on the next page)



16. Secure the caliper to the bracket with the supplied clips as shown. The larger clip goes on first followed by the smaller clip.



17. The assembled spindles will be bolted to the vehicle in reverse of the removal of the drum spindles. Attach the pre assembled disc kit onto the lower control arm bolt. Snug the nut. (check the service manual for the specified torque value) Add the cotter pin.
18. Pop on the new upper ball-joint boot- or the old one if you didn't destroy it and raise the control arm until the tension is removed from the shock so you can get the upper and lower ball joints in without stress. Again, remember the torque specs and the cotter pins. Connect the tie rod and the new brake hoses that came with the kit. Run the hoses to the frame and connect to the hard line where the drum hoses were attached. Remember this: you will need to get a wheel alignment.

SINGLE PISTON SLIDING CALIPER

"O" RING INSTALLATION

The "O" ring, packaged in hardware kits, prevents the rattle by limiting the end movement of the caliper. It is installed as follows:

1. Before inboard shoe or caliper is installed, place the "O" ring around the adapter upper way as shown in this illustration.
2. Install inboard pad in the adapter.
3. Lower the caliper into the adapter upper way so that the "O" ring is compressed into the chamber and end clearance area. Rotate the caliper down and move it into place on the adapter lower way.
4. Install the retaining plates with the inboard shoe anti-rattle springs on top of the plates, underneath the bolt heads. Torque retaining bolts to 200 inch pounds.

NOTE: The "O" ring may break after the vehicle has returned to service. This should be of no concern, as the portion of the "O" ring which is effective in eliminating rattle will remain in place between the caliper and adapter.

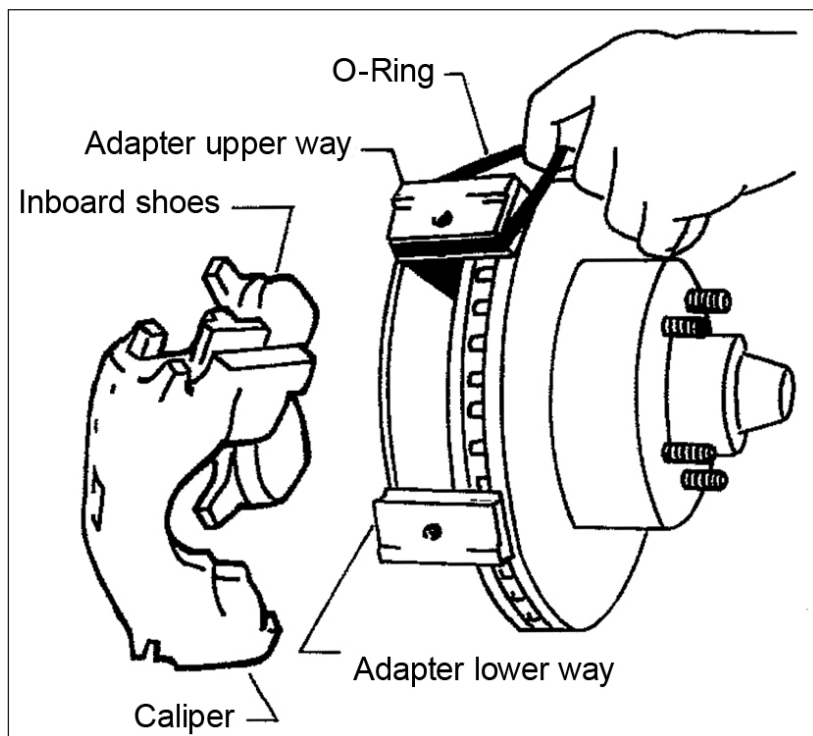
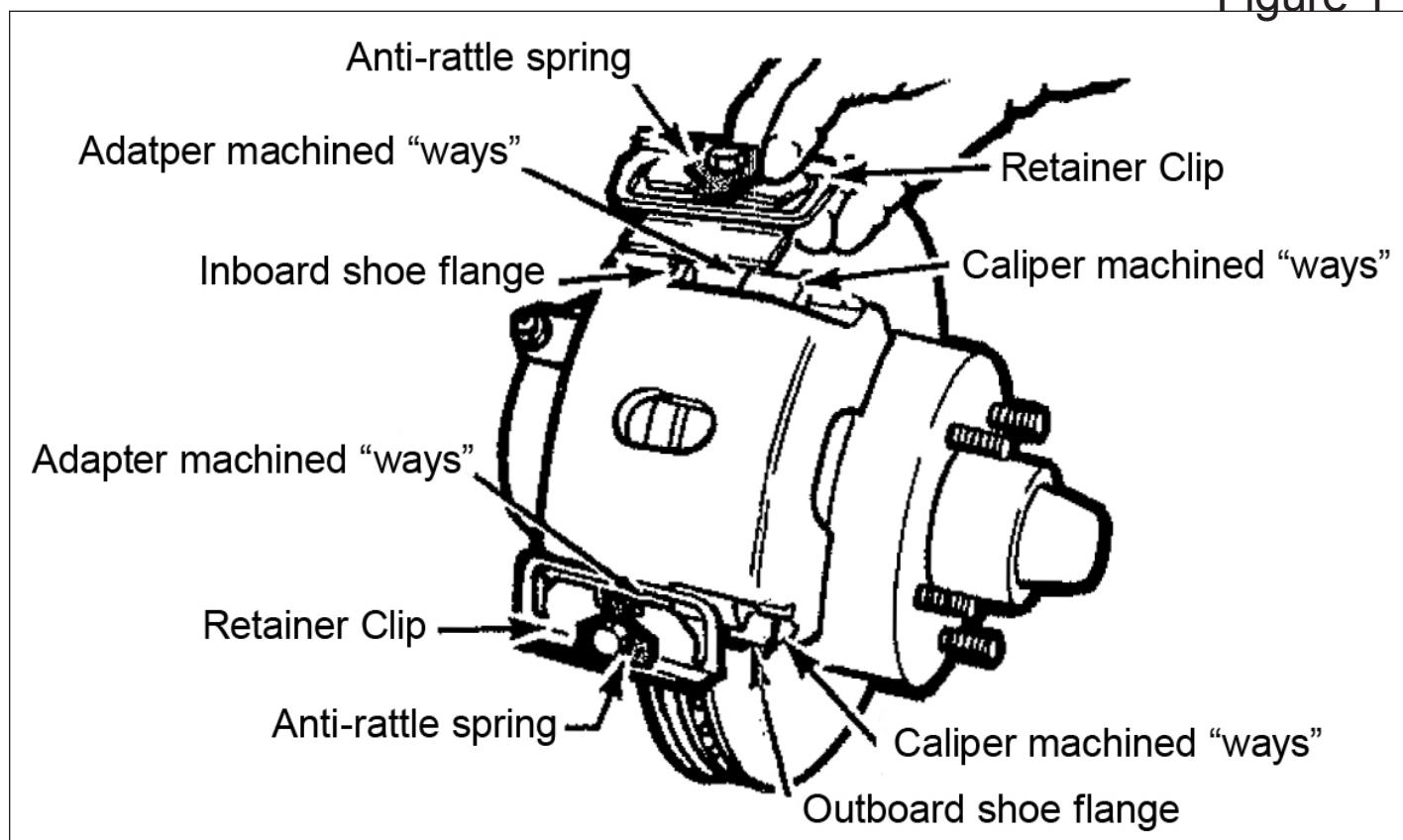


Figure 1



CALIPER REMOVAL

1. Remove wheel and tire assembly.
2. Remove caliper retaining clips and anti-rattle springs (Fig. 1, previous page)
3. Remove caliper from disc by slowly sliding caliper assembly out and away from rotor.
4. Remove inboard shoe from adapter.
5. Remove outboard shoe by prying between shoe and caliper fingers.
6. To remove piston, support caliper assembly on upper control arms on shop towels to absorb any hydraulic fluid loss. Carefully depress brake pedal to hydraulically push piston out of bore (brake pedal will fall away when piston has passed bore opening) Prop brake pedal to any position below the first inch of pedal travel to prevent loss of brake fluid.
7. Disconnect flexible brake hose from caliper.

CALIPER DISASSEMBLY

8. Mount caliper in a vise equipped with protector jaws. Caution: Excessive vice pressure will distort caliper.
9. Remove and discard boot and seal. Use pointed wood or plastic stick to remove seal as metal tool may scratch piston bore or burr edge of seal groove.

CLEANING AND INSPECTION

10. Check piston bore for scoring and pitting. Bores with light scratches or corrosion can be corrected with crocus cloth. Deep scratches or scores may be removed by honing providing diameter of bore is not increased more than .002". Replace caliper if not within specification or is cracked.
11. Inspect piston. Replace if pitted, scored or plating is severely worn.
12. Clean caliper and piston with alcohol or brake fluid and blow dry. If caliper was honed, carefully clean seal and boot grooves and flush with clean brake fluid. Wipe dry with clean, lintless cloth. Repeat flushing, until clean cloth shows no sign of discoloration.
13. Remove any rust or corrosion from machined surfaces of caliper or adapter.
14. Clamp caliper in vise with protective jaws.
15. Coat new piston seal and piston bore with brake assembly fluid and install seal in groove in bore.
16. Coat new boot with brake assembly fluid and install in caliper. Slide finger around inside of boot to make sure it is fully seated.
17. Plug high pressure inlet to caliper, then coat piston with brake assembly fluid. With fingers spreading boot, work piston into boot and press down on piston. The entrapped air below piston will force boot around piston and into its groove as piston is depressed. Remove plug and carefully push piston down until it is bottomed. (Fig. 2)
18. Install new outboard shoe. No free play should exist between brake shoe flanges and caliper fingers. (Fig. 3)

Figure 2

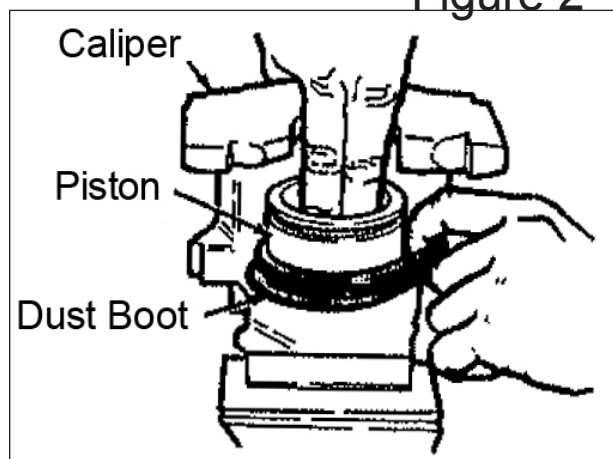
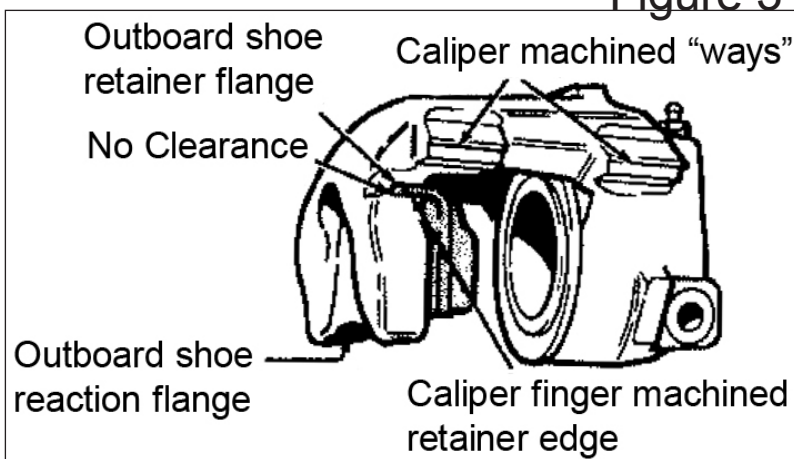


Figure 3



CALIPER ASSEMBLY

If free play is evident, remove shoe from caliper and bend flanges (Fig. 4) to create slight interference fit to eliminate all vertical free play which might cause shoe rattle. Install by snapping shoe into place with fingers or with "C" clamp using old pads over new lining and across caliper fingers (Fig. 5).

19. Install new inboard shoe in position on adapter with shim "flanges" in the caliper "ways".

20 Carefully slide caliper into position in adapter and over disc. Align caliper on machined ways of adapter. Be careful not to cut or pull dust boot from its groove as the piston and boot slide over the Inboard shoe.

21 Install anti-rattle springs and retaining clips and torque retaining screws to 180 inch-pounds.

NOTE: The inboard anti-rattle spring must always be installed on top of the retainer spring plate.

22 Reinstall brake hose and unblock brake pedal.

23 Fill master cylinder reservoir, if necessary, with clean disc brake fluid and bleed the hydraulic system. Check for fluid leaks under maximum pedal pressure

Figure 4

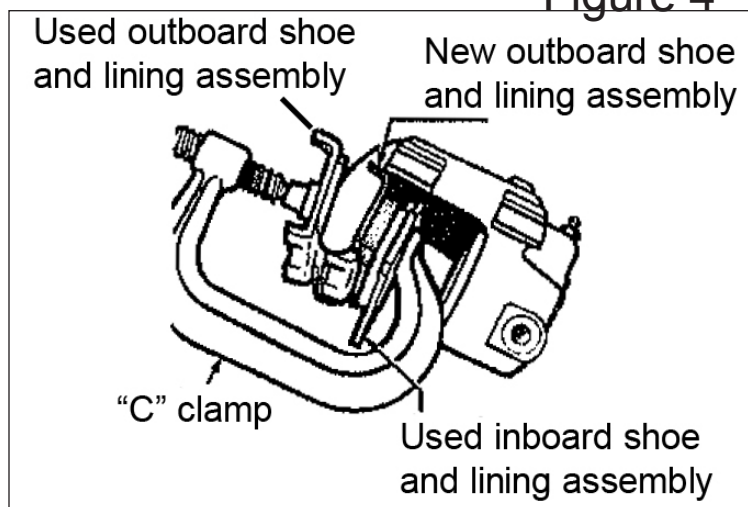


Figure 5

