

CHAPTER ELEVEN

BRAKES

FRONT BRAKE PAD REPLACEMENT

Refer to **Figure 3**.

1. Remove the speedometer cable set screw and pull the speedometer cable from the speedometer gear-box.
2. Remove the three set screws that retain the disc shroud and maneuver it clear of the brake.
3. Unscrew the pad locating bolt and push the brake caliper against the disc so that the pistons are forced back into their housings to give the maximum amount of clearance.

CAUTION

Clean the top of the master cylinder of all dirt and foreign matter. Remove the cap and diaphragm from the master cylinder and constantly check the reservoir to make sure the brake fluid does not overflow as the pistons are forced back into their housings. Remove fluid, if necessary, prior to it overflowing. Brake fluid will destroy any paint finish on which it is spilled. Wash any spilled brake fluid immediately, using soapy water, and rinse completely.

4. Lift out the brake pads.
5. The pistons should move freely. If they don't and there is evidence of them sticking in the cylinder, the caliper should be removed and serviced as described in this chapter.
6. Clean the pad recess and the end of the pistons with a soft brush. Do not use solvent, a wire brush or any hard tool which would damage the cylinders or pistons.
7. Carefully remove any rust or corrosion from the disc.
8. Lightly coat the end of the pistons and the back of the new pads (not the friction material) with disc brake lubricant.

NOTE

When purchasing new pads, check with your dealer to make sure the friction compound is compatible with the disc

material. Remove any roughness from the backs of the new pads with a fine-cut file; blow them clean with compressed air.

9. Push the caliper pistons in all the way, to allow room for the new pads.
10. Install the antirattle spring and check that the shims are in position.
11. Install the pads, making sure they locate correctly.
12. Apply silicone grease to the pad locating bolt, then install and securely tighten the bolt.
13. Replace and tighten the three set screws that retain the disc shroud.
14. Replace the speedometer drive cable and retain it with the set screw.
15. Place the machine on the centerstand or place wooden blocks under the engine and frame to support it securely with the front wheel off the ground. Spin the front wheel and activate the brake lever as many times as it takes to refill the cylinders in the caliper and correctly locate the pads.
16. Refill the master cylinder reservoir, if necessary, to maintain the correct fluid level. Install the diaphragm and top cap.

WARNING

Use brake fluid from a sealed container clearly marked DOT 3. Other types may vaporize and cause brake failure. Always use the same brand name; do not intermix as many brands are not compatible. Do not intermix silicone-based (DOT 5) brake fluid as it can cause brake component damage leading to brake system failure.

WARNING

Do not ride the motorcycle until you are sure the brakes are operating correctly with full hydraulic advantage. If necessary, bleed the brake system as described in the main body.

FRONT CALIPER

Removal/Installation

Refer to **Figure 3**.

1. Remove the front wheel as described in this supplement.
2. Remove the union bolt and sealing washers securing the brake line to the caliper. Remove the brake line and let the brake fluid drain out into a container. Properly dispose of this brake fluid. To prevent the entry of moisture or dirt, cap the end of the brake line and tie the loose end to the fork slider.
3. Remove the brake disc from the disc cover and caliper assembly.
4. Unscrew the pad locating bolt and remove the brake pads.
5. Pull the caliper assembly out of the caliper bracket.
6. Install by reversing the above procedure while noting the following.
7. Carefully install the brake disc, taking care not to damage the leading edge of the pads.

8. Apply silicone grease to the pad locating bolt, then install and securely tighten the bolt.

9. Install the brake hose on the caliper, with a sealing washer on each side of the union. Install the union bolt and tighten to 25-35 N•m (18-25 ft.-lb.).

10. Bleed the brake as described in the main body.

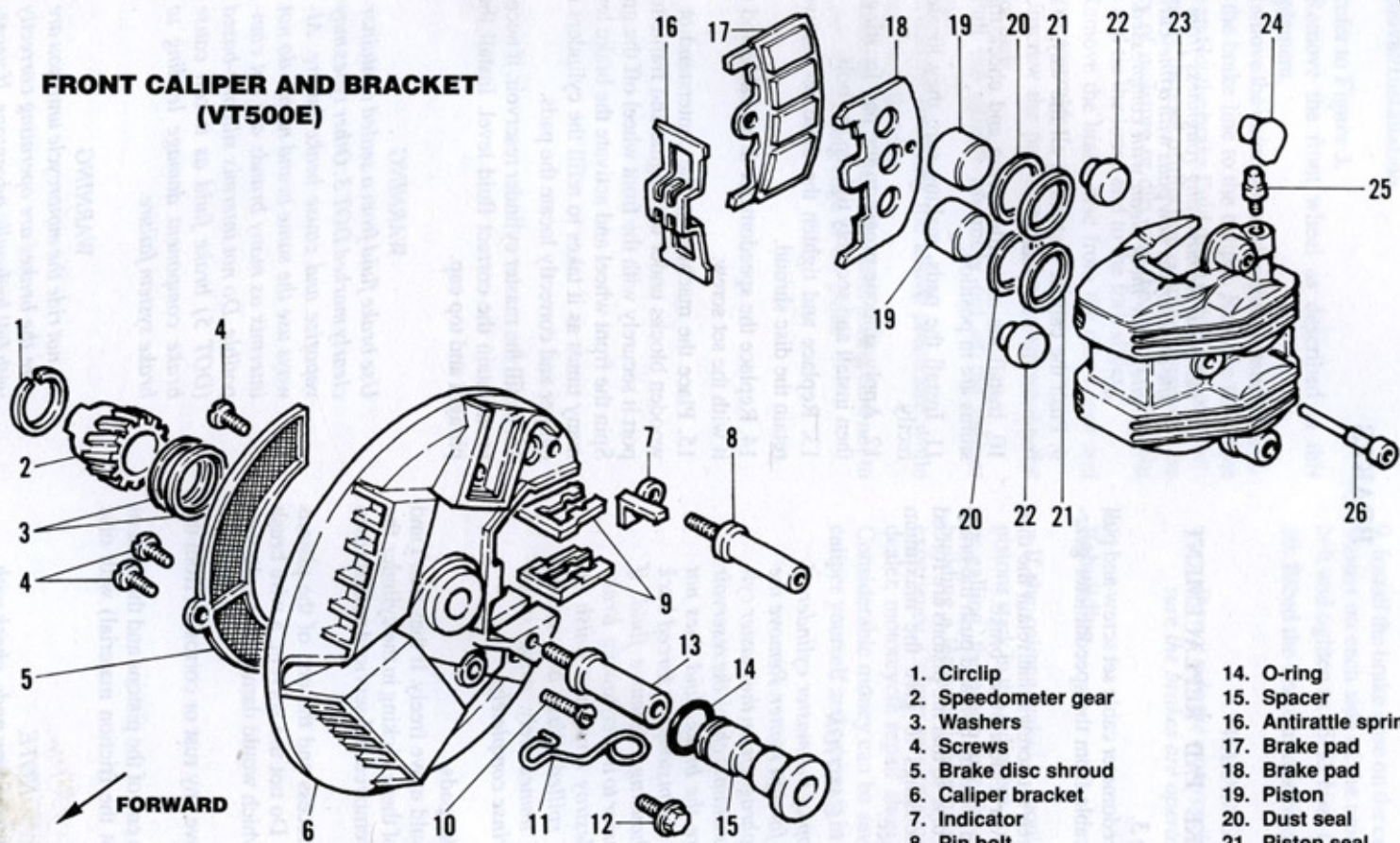
WARNING

Do not ride the motorcycle until you are sure the brakes are operating properly.

Rebuilding

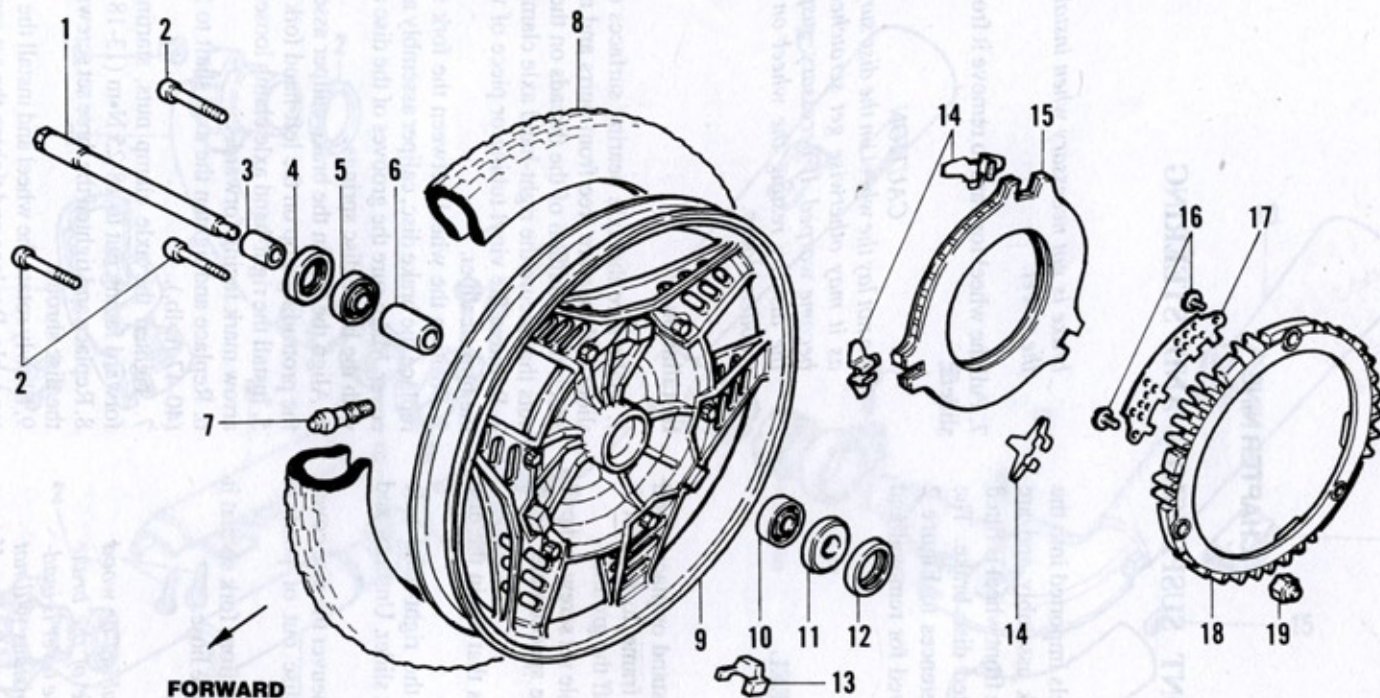
If the caliper leaks, it should be rebuilt. If the pistons stick in the cylinders, indicating severe wear or galling, the entire unit should be replaced. Rebuilding a leaky caliper requires special tools and experience. Caliper service should be entrusted to a dealer, motorcycle repair shop or brake specialist. Considerable money can be saved by removing the caliper yourself and taking it in for repair.

FRONT CALIPER AND BRACKET (VT500E)



- | | |
|------------------------------|-----------------------|
| 1. Circlip | 14. O-ring |
| 2. Speedometer gear | 15. Spacer |
| 3. Washers | 16. Antirattle spring |
| 4. Screws | 17. Brake pad |
| 5. Brake disc shroud | 18. Brake pad |
| 6. Caliper bracket | 19. Piston |
| 7. Indicator | 20. Dust seal |
| 8. Pin bolt | 21. Piston seal |
| 9. Shims | 22. Boot |
| 10. Screw | 23. Caliper |
| 11. Speedometer cable holder | 24. Cap |
| 12. Bolt | 25. Bleeder screw |
| 13. Pin bolt | 26. Locating bolt |

FRONT WHEEL AND HUB (VT500E)



1. Front axle
2. Bolts
3. Spacer
4. Grease seal
5. Wheel bearing
6. Spacer
7. Valve stem

8. Tire
9. Wheel
10. Wheel bearing
11. Retainer
12. Grease seal
13. Balance weight

14. Brake disc springs
15. Brake disc
16. Screws
17. Disc cover shroud
18. Disc cover
19. Nut