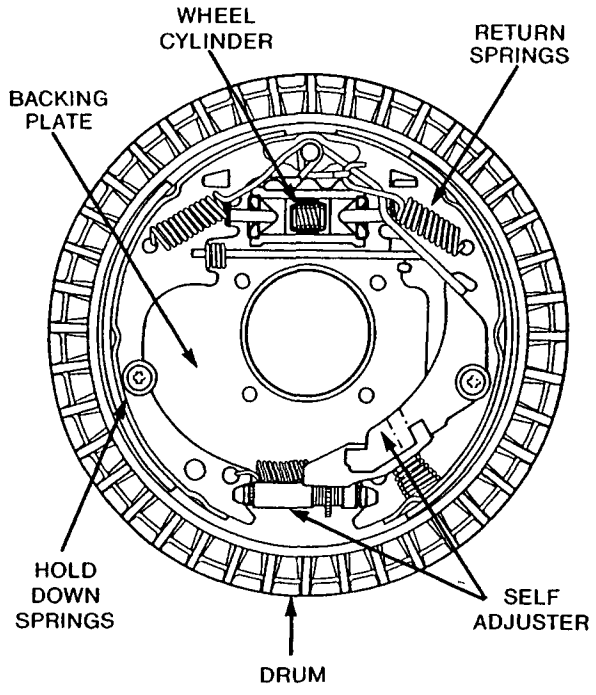
OBJECTIVES

When you complete this chapter on drum brakes, you will be able to:

- Identify the components of the drum brake on a diagram.
- Explain why the components are important to proper braking efficiency and how they should be maintained.
- List the probable cause of a drum brake problem when given the symptoms and explain the proper solution.
- Explain how each of the self-adjusting mechanisms works and the difference between the mechanisms used by different manufacturers.

THE DRUM BRAKE

Since the drum brake was introduced more than fifty years ago, various changes and improvements have made it smoother operating, more dependable, and easier to service. Some of the changes include: automatic adjustment, finned drums, improved dust boot designs, sintered iron pistons, cup expanders, direct action pistons, mounting clips, heavy duty return springs, and improved rubber components in the wheel cylinder cups and boots.

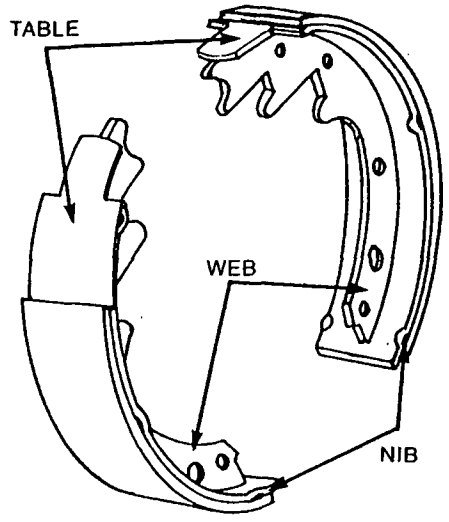


(Figure 37) The major components of the drum brake.

Most drum brakes are similar in design. The brake shoes, wheel cylinder and all of the parts except the brake drum mount on the backing plate. The brake drum either mounts on a spindle and is centered on bearings, or it is mounted on an axle flange.

BRAKE SHOES AND LININGS

An automotive brake shoe is made of two pieces of stamped metal, the table and the web, arc-welded together. The web, made of heavy gauge metal, transmits the wheel cylinder's mechanical force to the table. The web's shape and drilled holes are designed so that the brake hardware anchors the shoes to the backing plate.



(Figure 38) The Automotive Brake Shoe

The table is arched and welded to the center of the web. Many shoes have nibs or indented places along the edge of the table. The nibs rest against the backing plate ledges and keep the shoes from chattering and hanging up.

The brake linings may be held to the table by either of two methods: (1) rivets or (2) a bonding agent or cement. There are no real comparative advantages or disadvantages to either method of attaching linings; however, bonded linings are more rigid and have a longer life than riveted linings. (A riveted lining must be replaced when it is worn to less than 1/32 of an inch above the rivets. A bonded lining must be replaced when it is worn to less than 1/16 of an