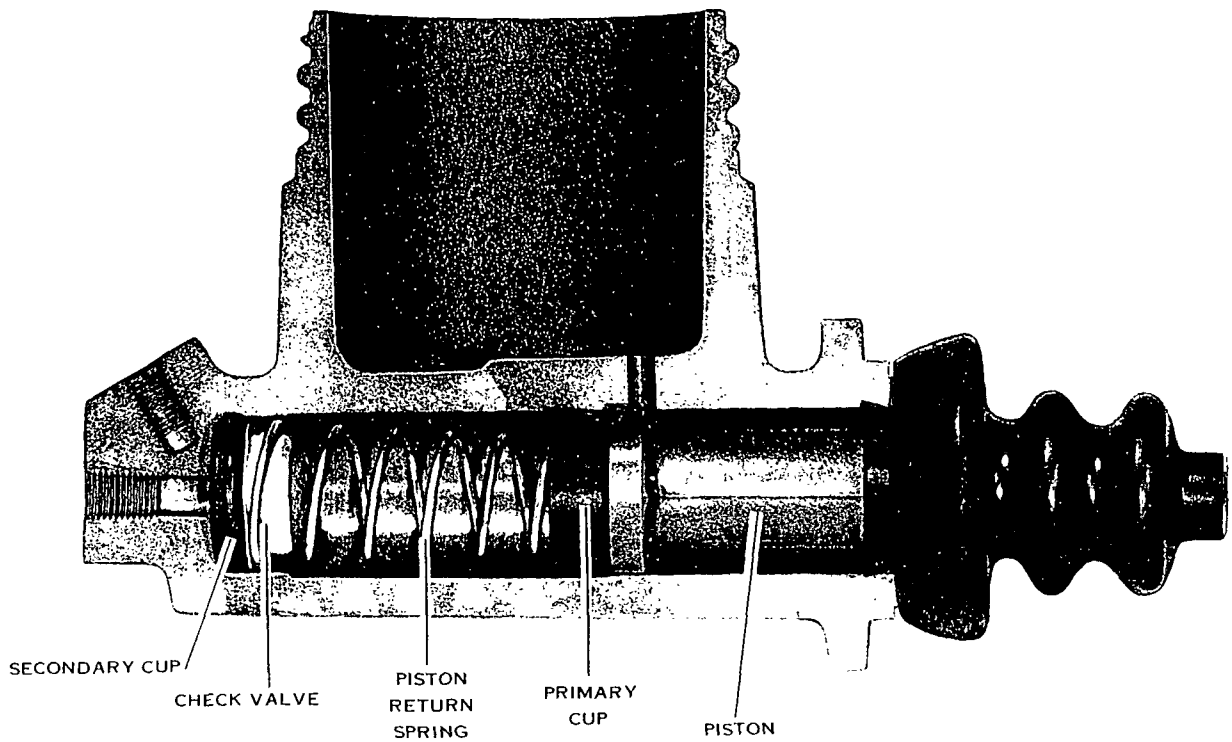
Components of the Hydraulic Brake System

Brake function - the purpose of the hydraulic brake system is to actuate the brake shoes, forcing them into contact with the brake drums in order to create friction and stop the vehicle. The brake system is filled with hydraulic brake fluid of proper specifications which allows it to function properly in today's braking systems.

Master Cylinder

The master cylinder is a form of hydraulic pump operated by the brake pedal. A typical master cylinder consists of a piston with a primary and secondary cup, a check valve, a return spring and a fluid reservoir. When the master cylinder piston is moved forward by the force on the brake pedal, the fluid is forced through the check valve in one direction only by pressing the lips of the rubber cup away from the opening in the check valve, allowing the fluid to flow from the master cylinder into the lines.

The piston return spring is designed with proper spring tension to maintain constant brake system pressure. This is known as residual line pressure. As fluid is forced from the master cylinder through the check valve into the line, this movement of fluid forces the wheel cylinder pistons into contact with the brake shoes. The shoes then expand against the drums. When pressure on the brake pedal is released, the piston return spring starts the return of the cup and piston back to its original position. At this time, the brake shoe return springs pull the brake shoes away from the drums. Fluid will then return from the system to the master cylinder so long as the pressure in the system is greater than the pressure of the piston return spring.



MASTER CYLINDER