Wheels: Steve of West Carrollton asks about the purpose and function of wheel brake cylinders. A service technician recommended that they be replaced because they were leaking. Do you think he needed new wheel cylinders?

Halderman: Yes. Wheel cylinders use the pressure of hydraulic brake fluid to activate the rear drum brakes that are used on many vehicles today (some use disk brakes on the rear). The driver exerts a force on the brake pedal that is transferred to the master cylinder. The master cylinder transfers the force of the driver's foot into hydraulic brake fluid pressure that is applied to all four wheels brakes. Steel and flexible rubber hydraulic lines transfer this pressurized fluid to disc brake calipers on disc brakes or wheel cylinders on drum-type brakes.

The hydraulic pressure inside the drum brake wheel cylinder exerts a force on the piston which contacts the brake shoes which are then pressed against the inside of the brake drums. The wheels are bolted to the brake drum. Therefore, when the brake shoes contact the brake drums, the friction that results, slows and stops the wheels.

A wheel cylinder contains two lip seals, two pistons, and a spring and two dust boots. The two lip seals inside the wheel cylinder are the two critical parts. If these fail, brake fluid will leak from the wheel cylinder.