

## Electronic Parking Brakes Practice Safety When Servicing the System

When servicing the rear brakes on a vehicle equipped with an electronic parking brake, are you taking the required safety steps to prevent personal injury? Failure to take the precautionary safety measures may result in severe damage to the hands and fingers.

### FLASHBACK OF YEARS PAST

The year was 1968, and I was a student in training at an automotive tech school. I had just been given an assignment that involved a complete brake restoration on a 1965 Corvette equipped with four-wheel disc brakes. At this time, this braking arrangement was unfamiliar territory. The vehicle had been in storage and the calipers were oozing brake fluid, which had contaminated the friction. A complete tear-down and reseal would be necessary.

With the calipers removed and placed on the repair bench, I was struggling with the removal of the pistons from the four-piston caliper arrangement. A more experienced student approached me and offered some assistance. Claiming a quicker method of removing the pistons from the calipers, he proceeded to apply 100 psi of air pressure to the brake line port in one caliper assembly. The pistons dislodged from the caliper quickly and with much force. Unfortunately, his hands and fingers were not in the clear.

His screams were excruciating, and his mangled fingers were a mess. Once the screaming, swearing and foul language subsided...I thanked him for the service tip and assured him the lesson would never be forgotten. Electronic parking brakes can inflict the same discomfort.

### ELECTRONIC PARKING BRAKES

Instead of the conventional mechanical operated parking brake system, many new vehicles are coming equipped with an electronic parking brake (EPB). On some applications the system utilizes an electric motor and gear mechanism mounted on the brake caliper to apply pressure on the piston during parking brake application. Some systems utilize an electric motor that controls cables to accomplish the same. The vehicle manufacturers promote this as a space saver and to eliminate the potential of cable damage

due to rust, frozen or broken cable encounters.

When servicing vehicles equipped with an EPB system, you must follow the vehicle manufacturer's service procedure to put the system in the service mode to prevent injury to the technician or damage to the vehicle due to unexpected parking brake application. The vehicle manufacturers warn that some service actions may result in unexpected parking brake deployment.

Two service steps are required when performing maintenance on the EPB system:

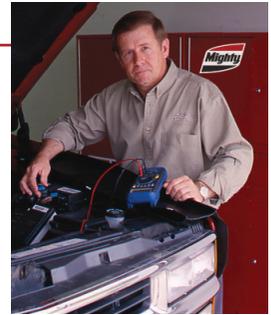
- 1) **Activation...** which places the EPB system in the service or maintenance mode.
- 2) **Deactivation...** which returns the system to normal EPB operation.

Hypothetically, the procedure may require a sequence of depressing and releasing the EPB switch with the ignition switch in both the on/off position with the accelerator pedal depressed. Refer to the vehicle manufacturer's recommended procedure for activation and deactivation of the system prior to servicing the rear brakes.

### AUTOMATIC PARKING BRAKES

Some vehicles are equipped with an automatic EPB system that applies the parking brake when the transmission is placed in the park position. On this system some service steps must be taken by the technician to prevent the parking brake from applying. If not, it will prevent the technician from removing the rear calipers from the rotors. On some systems the procedure requires holding the EPB switch in the down position while turning the ignition switch to the off position. Other systems may require the use of a scan tool to place the calipers in the service mode and to reinitialize them. Follow the vehicle manufacturer's service procedure for that specific vehicle or system when servicing the rear calipers or replacing the disc pads.

In addition, a dead battery presents a problem for the vehicle owner and the tow truck operator, Some systems have mechanical over-rides, while others require battery voltage to disengage the EPB system.



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