



Will Your Brakes Stop You Safely Every Time?

Your brakes are one of the most important safety features on your vehicle. Without them, you have no way of stopping. Brakes allow you to lock down your car and keep it from moving, especially the emergency brake. Brakes are found on just about anything with wheels, including vehicles, trains, airplanes, and even non-motorized devices like wheel chairs, walkers and shopping carts.

Most people know what brakes are and how important they are... but many have no idea how brakes actually work. While the concept is fairly simple, the actual science behind brakes is quite interesting.

Basically, brakes dissipate the kinetic energy built up by your vehicle's forward motion. The faster your car is going, the more energy the brakes have to use to stop it. This isn't a simple formula, either—twice the speed doesn't equal twice the power. Instead it's four times the power.

Higher speeds also increase the distance it takes for your vehicle to stop. The faster you're driving, the more space you need to come to a complete stop. This is one of the many reasons for speed limits.

In most braking systems, the energy of your vehicle's forward motion is lost when you brake—it is transformed into heat from the friction of your tires against the pavement.

However, there is a type of braking called regenerative braking. This system actually takes the energy and stores it in a capacitor or other device. It's then changed into a current by the alternator and stored in the battery. This type of braking can keep batteries powered for much longer than normal.

So how do car brakes actually work? Well, when you press on the brake pedal, a fluid carries the force of your foot down to the actual brakes on your car. This fluid also multiplies the force from your foot to make it strong enough to stop the car. Without multiplying the force, there's no way you could stop a fast-moving car—even standing on the brake pedal with all of your weight wouldn't be enough to do it.

The force from the liquid is then sent down to the brake pads, which are inside the wheel. The pads squeeze against the wheel, causing friction and slowing the wheel's rotation. This is the point at which the kinetic energy is transformed into heat and lost. This also means that there must be some sort of vent around the brake pad in order to keep the heat from building up.

Over time, of course, your brake pads are going to wear down. That is how they are designed. When they do, you'll start to hear a screeching sound that is the actual metal of the pad pressing against the metal of the wheel. When you hear this, it's important to get your brake pads replaced as soon as possible since this can actually cause your car to not stop as quickly – or not at all!

It's so important to have your brakes checked regularly. Your life and the lives of your loved ones and others depend on properly working brakes.

If you feel a sponginess when you apply your brakes or hear a grinding sound, like metal against metal, call us at 940-382-1691 or [click here](#) to set up an appointment for a brake inspection by our ASE Certified technicians.

Mention this article and we'll give you 10% off of our regular inspection price.

We look forward to keeping you and your family safe on the road!

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