

## UNDER THE HOOD: Demystifying How Your Vehicle Works

**ROTORS** – Metal discs, attached to the wheel hub, that rotate with the tire



**CALIPERS** – Housings that fits over the rotor, holding the **pistons** and **brake pads** in place

## What Happens When You Step on the Brakes?

Many people place a lot of importance on having a car that has some get up and go. However, a vehicle's ability to stop is even more essential. Your car's braking system can save your life and the lives of others. How do your car's brakes work exactly? Let's take a look!

### Braking System Parts

**Most of today's cars have disc brakes, which consist of these main parts:**

**Rotors** – Metal discs, attached to the wheel hub, that rotate with the tire

**Brake pads** – Lined metal parts that push into the rotors to create the friction necessary to slow and stop the vehicle

**Pistons** – Cylinders, powered by hydraulic fluid, that move the brake pads into the rotor

**Calipers** – Housings that fits over the rotor, holding the pistons and brake pads in place

### How Do They Work Together?

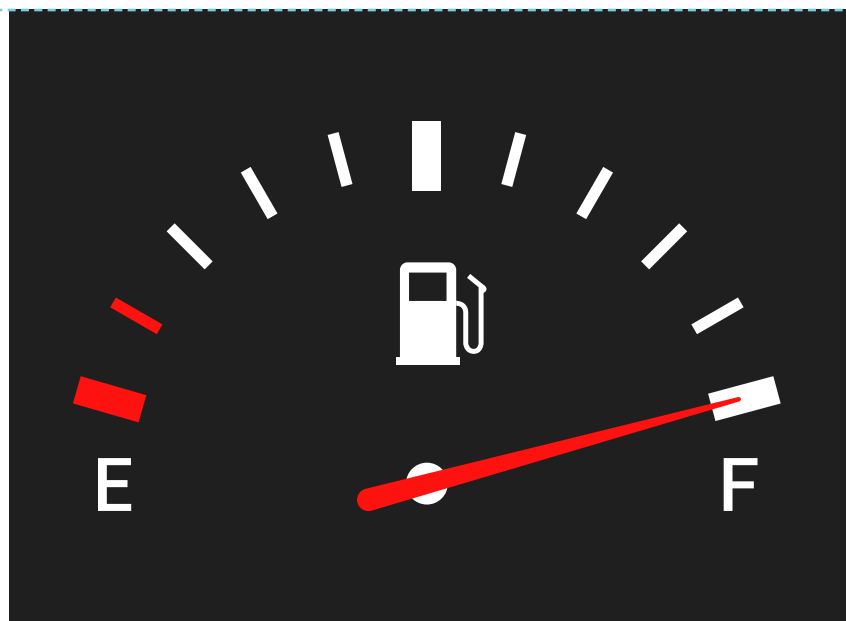
When you step on your brake pedal, hydraulic fluid is released into your car's brake lines, the tubes that carry the fluid to your brakes. The hydraulic fluid transfers the pressure from your foot on the pedal to the pistons in the brake caliper, forcing the brake pads to push against the rotors. The friction produced slows the wheels' rotation, decreasing your car's speed and allowing you to bring it to a stop.

The harder you push on your brake pedal, the more pressure the brake pads will place on the rotors, and the faster your car will come to a halt.

*(con't page 3)*

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- **Sunsets** on Mars are blue.
- There is a **McDonalds** in every continent except Antarctica.
- Most **toilet paper** sold in France is pink.
- **Children tend to grow faster** in the spring.
- Alaska has more **caribou** than people.
- Cats have over **100 vocal cords**. Adult cats only meow at humans, not other cats.



## Fill it to the Top?

Recently, I was getting gas at a Sheetz and became aware of the person next to me trying to “top off” their tank, which was obvious by how many times the nozzle shut off. This is a really bad idea, which can needlessly lead to a check engine light and a trip to the shop. The reason for the check engine light is that raw fuel can flood the evaporative emission (EVAP) system causing the malfunction light to illuminate when the car’s computer runs its self test. The EVAP system prevents raw fuel vapors from venting to the atmosphere when the car is shut off. When the car is shut off, fuel vapors are absorbed by the media in the EVAP canister and metered back into the engine when the car is restarted. Until a balance is reached the computer reduces the volume of fuel from the injector nozzles because it is mixing in fuel from the canister. If the canister is flooded, the computer sets a fault code and you are heading to the shop for a problem that is totally preventable. Always pull the nozzle out of the tank when it shuts off and don’t try to get that last little bit in. It could cost you big time. PJ

**This is a really bad idea, which can needlessly lead to a check engine light and a trip to the shop.**



- **Boanthropy** is the psychological disorder in which patients believe they are a cow.

- A study from Harvard University finds that having no friends can be just **as deadly as smoking**. Both affect levels of a blood-clotting protein.

From <https://parade.com/1019661/marlynliiles/wtf-facts/>



## What Happens When You Step on the Brakes? (con't)

### How Can You Tell if Something's Wrong With Your Brakes?

Over time, the heat and stress generated when braking causes some braking system components to wear out.

#### Symptoms of possible brake problems include:

**Squealing or grinding sound**—The material around brake pads wears away eventually, causing a metal wear indicator within the pad to rub against the rotor. The effect is a not-so-pleasant, high-pitched squealing sound. When this auditory assault begins, it's usually time to replace the brake pads.

**Unusual soft and spongy feeling**—If your brake pedal feels “off”—with a sort of lowness or sponginess when you press it with your foot—it could be a sign that you have a leak in the hydraulic system or contaminated brake fluid.

**Shakiness**—A pulsating or shaky brake pedal may indicate that your brake’s rotors have warped and need to be replaced.

#### Other warning signs that your brakes may need servicing are:

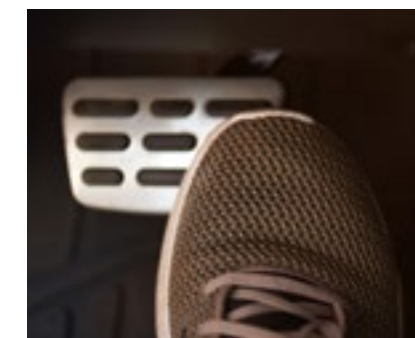
- You feel your car pulling to one side when you hit the brake pedal.
- You need to pump brakes to make them work.

- You notice brake fluid leaking around your wheels.
- Your braking system warning light turns on.

### How Should You Care for Your Brakes?

Your car’s manual should have a recommended brake maintenance schedule. The frequency of how often parts need to be repaired or replaced will depend on your vehicle’s make and model, your driving habits, and the condition of your car’s tires.

Generally, a car’s brake pads will need to be replaced after approximately 50,000 miles, but keep in mind some may wear out sooner. Brake rotors usually last between 30,000 to 70,000 miles. Brake fluid, the lifeblood of your braking system, should be checked at least once each year. Calipers and pistons—unless they are damaged in an accident or experience a mechanical problem—will usually last your vehicle’s lifetime.



### Don't Take Your Brakes for Granted

Well-maintained brakes can go miles toward ensuring your safety when driving. If you have questions about getting your car’s brake system on a maintenance schedule or if you’ve noticed that your brakes aren’t working the way they should, give us a call!

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# JACKIE'S KORNER KITCHEN

## Corn and Cucumber Salad with Basil and Chives

- 3 cups cooked corn, cut from cob (about 5 medium ears)
- 1 ½ cups cucumber, peeled and seeded (about 1 large cucumber)
- ½ cup fresh basil, chopped
- ¼ cup fresh chives, chopped
- 2 tablespoons mayonnaise
- Kosher salt and freshly ground pepper to taste

1. Place the corn in a mixing bowl.
2. Chop the cucumber into pieces that are roughly the same size as the corn kernels, and add to bowl.
3. Add the remaining ingredients and toss lightly to incorporate. The small amount of mayo will mix with the milkiness of the fresh corn and create a light, flavorful dressing.

From <https://fountainavenuekitchen.com>



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