

Types of Gas - Which is right for your car?

By Jim Alauria

Which type of gas is right for your car? Well, it depends on what kind of car you drive. Each grade of fuel has a purpose and most people are completely shocked when they find out the truth behind the numbers 87, 89 or 93, which are the Octane ratings of the most common fuels found at the pump.

The reason why there are different types of fuel is because there are different types of engines. Twenty years ago when somebody said they had a 4-cylinder engine in their car you might think of great fuel economy but poor acceleration and performance. In today's world that is not the case. In fact, a vehicle that had a 6-cylinder in it 20 years ago would likely have a 4-cylinder in the same model today without compromising any performance.

What's the difference? Compression. And an engine's compression is the reason behind the type of fuel your vehicle requires. Engineers discovered a long time ago that an easy way to boost a vehicle's power is to increase the engine's compression ratio, or how much pressure the engine's internals place on the air and fuel inside before igniting it. If you have a small engine that has great performance like a Honda V-Tech engine, your vehicle would likely need a higher-octane fuel like 93. Octane rating is simply how much pressure the fuel can withstand before it spontaneously ignites. Higher compression engines need the fuel to withstand more pressure in the engine before it ignites. And not just 4-cylinder engines require higher-octane fuel. Some six and eight cylinder engines require it too.

If you put a lower grade fuel in a car that requires 93 Octane fuel, then your engine will sometimes "knock" or "ping". Those noises are a result of the fuel igniting before it is supposed to and will have symptoms of poor performance, poor gas mileage, premature spark plug failure and other engine problems. So the rule is that if your vehicle requires a higher-grade fuel then use the higher-grade fuel. The proper octane fuel will usually be posted near the gas cap or definitely in your owner's manual.

Now on the other hand, if your vehicle doesn't require a higher-grade fuel then you can use any grade of fuel. Common myths are that higher-octane fuels "burn slower" or "clean the engine". Most automotive repair experts believe that the only thing you will get by putting 93 in a vehicle that only requires 87 is a higher price. So my advice is to save the money. The only time you would want to upgrade is if your vehicle's engine is knocking or pinging. And in that case I would recommend consulting your auto repair shop first.

So, if your vehicle requires the high-octane fuel then you are stuck with paying the higher prices. If your vehicle can run off of the lower-grade fuel then take advantage of the savings at the pump. And if you have any questions about the performance of your vehicle then consult your favorite auto repair shop before you try and solve the problem by changing to high-octane fuel.