



# Spark Plugs

## Customer Education Sheet

The spark plugs are responsible for igniting the air/fuel mixture that your vehicle's engine runs on. They are aptly names, as they are literally a plug that makes a spark!

### Symptoms of Bad Spark Plugs

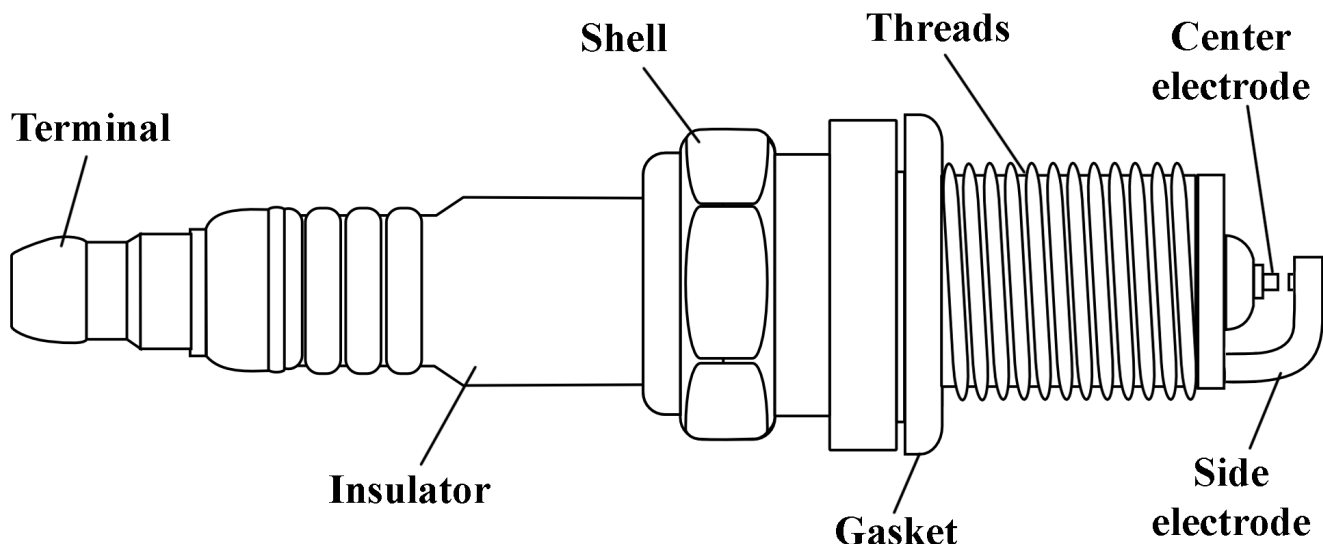
Over time, spark plugs get dirty, burned up, or wear out. This can cause the vehicle to run poorly or misfire, which may or may not cause the check engine light to come on. The engine may also run rough at idle, lack power, hesitate, have poor acceleration, or use more fuel than it used to.

### Checking Spark Plugs

Usually, people request a tune-up when they notice their vehicle doesn't run as good as it used to. While bad spark plugs are a common cause of this, it's important that the vehicle is diagnosed correctly as there are plenty of other things (besides bad spark plugs) that can cause a vehicle to run poorly. A shop will usually remove a spark plug to check it, and the condition of one plug is a very good indicator of the condition of the rest of them. If a spark plug is in very poor condition, this can sometimes be seen without even removing it – for example, if the rust-colored “ring of death” can be seen on the insulator.

### What if New Spark Plugs Don't Fix it?

In some cases, new spark plugs may not fix all of your vehicle's running issues. Even though the spark plugs were bad, if the vehicle has been running poorly for a long time there could be other components that had failed in the meantime. If this is the case, the shop should call you



after replacing the spark plugs if they then find other issues that need to be addressed. It's not always efficient for a shop to keep checking out everything else that could possibly cause your vehicle to run poorly if they've found that your spark plugs are definitely bad.

### **Cost to Replace Spark Plugs**

All spark plugs should be replaced at the same time. The cost to replace spark plugs varies by vehicle and whether or not other components, such as ignition wires or coils, need to be replaced. In some cases a shop can tell you upfront that you need the wires replaced, but in other cases they may not know until they try to remove them. This can happen if the wires visually look good, but come apart when trying to take them off. This isn't unusual. Also, many vehicles have the coils mounted directly over the plugs and thus do not have ignition wires.

### **Replacing Coils**

If a vehicle has multiple coils and one fails, the shop will likely recommend that you change all of them. This is because if one failed, the others will likely fail in the near future.

### **What if I Keep Driving My Vehicle When it Needs Spark Plugs?**

Spark plugs wear out slowly over time. A shop will usually tell if they need to be replaced in the future, near future, or if you need to replace them now. Driving a vehicle that needs spark plugs in the future won't hurt it, assuming the plugs have not failed yet and you have them replaced before that happens. Driving a vehicle that is misfiring or running poorly because of failed plugs (or for any other reason) can cause the vehicle to use more fuel than it should and/or can damage the catalytic converter, which is expensive. Over time, driving a vehicle with a severe misfire can also lead to engine damage.

### **Parts of an Ignition System**

1. ECM (engine control module)
2. Ignition wires
3. Spark plug
4. Distributor
5. Ignition coil

Not all vehicles have ignition wires or a distributor. Some have a single coil, while others have multiple. Also, the exact location of these parts will vary by vehicle.

