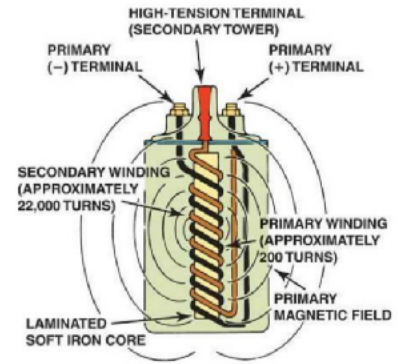


The Old School Ignition Coil



Sometime we encounter events that cause us to consider just how these old vehicles work. Recently I came across a friend who was broke down along side the road. This beautiful Street Rod would run for a while then quit altogether. After it sat a while, it would run but not for long. Earlier that day the car had overheated. That is what has prompted me to write this article.

Proper Spark is one of the three fundamental items necessary to sustain proper engine operation. Eliminate Fuel, Compression or Spark and you find yourself dead in the Water.

Over the years there have been a number of different approaches to eliminate the inherent limitations of the Coil but I am going to concentrate on the Old School, one Engine one Coil format. This is what we typically see in old Cars and Hot Rods. Anything else you can let your local Car Dealer pick your pocket.

There are basically four different kinds of "Old School Coils". You have 6 Volt, 12 Volt and those who have an internal Resistor and those that do not. I mention this because adding a Resistor to a coil that already has one can cause problems and not adding one where it is needed will do the same. It's important to know how your Coil is configured.

The benefit of Hind Sight is that it is often 20-20 and looking back it is much easier to see what happened. It is easy to understate how much work the coil is doing, for every revolution the engine is turning the coil is performing 4, 6, or 8 operations. Inevitably this process produces heat and to dissipate this heat the coil is immersed in a fluid that conducts the heat from the windings out to the case. Conversely, if you heat the coil you can transfer heat from the engine into the Coil. This may damage the internal windings or cause a rupture which will result in a loss of the fluid required to control the buildup of heat. Either condition can cause a loss of Spark, and you may be dead in the water.

So how do you know when your Coil has failed?

A loss of Spark.
Coil is too hot to touch.
Fluid found at or near the Coil.
Engine quits when warm.

Unfortunately the most common method for installing a Coil is to mount it on top of the engine near the Distributor. It's easy, quick and they often have a convenient mounting point cast into the Intake Manifold. Unfortunately this makes the Coil susceptible to any heat the engine produces. Overheated motor, overheated Coil, it's that simple!

Not so obvious is the fact that the line connecting the Coil to the Distributor is also carrying a high voltage due to the collapsing field. I mention this in passing since I once had a problem when the insulation on that wire broke down causing a sever miss. It took a while to sort that all out.

In conclusion I would highly recommend a spare Coil be added to your on board spare parts. These old school ignition parts are becoming a part of Automotive History and becoming harder to get. You just can't walk into your location parts house and expect to find them on the shelf. Who knows, a spare Coil just may save you having to be Towed some day. JB