

Putting the Spark Back in Lizzy



There are many options available today to "light the fire" for your Model T. There have been distributor conversions available for a long time and now, one can even choose to go fully electronic.

The purpose of this column is to assist those who wish to retain the original ignition system in their car yet gain the optimum performance and reliability from that system as it was designed.

The largest improvement that can be made to any original coil is the replacement of the capacitor (or condenser). These are now 80 years old and they ***all leak!*** You may have a coil that appears to work fine but when you check the charge rate of an original condenser it becomes obvious that there is leakage. That coil will benefit greatly from the installation of a new condenser. With good condensers, many T's will start using the hand crank on 'MAG'.

Changing the condenser is a dirty job (but not overly hard) as these things are potted in tar. You must first slide off the cover, which is usually held on with two small nails. After you have carefully dug the old tar away you will need to remove the old condenser and solder in a new one.

Not everyone solders the new ones, I guess you could get by with just twisting the wires together but the best practice would be make the joint electrically sound by soldering it. *Actually, if your going to all this trouble, it would be foolish not to solder them in.*

Not all condensers being sold today by various T vendors are the proper type. Many vendors today are selling the metallized Mylar type capacitors. What is needed in this application is the film foil type. The proper condensers are available from Lang's and Fun Projects.

The basic rule of thumb is this; if you can fit the new condenser in the coil easily it is the wrong type. The large orange drop condenser that is best suited for the T's magneto will not fit without first removing the glass insulator that was located next to the original condenser.

After replacement is complete, re-pot the coil by filling with melted tar. Don't get the tar too hot as it can melt your new solder job! You can use poster board as an insulator in place of the removed glass if you wish. *Just a little marital advice here, do not use the kitchen stove to melt tar! Melt the tar outside in an old coffee can. Nuff Said!*



Proper Condenser for Model T Coils

Now that the messy part is over with, obtain a new set of points and install them. Before installing however, the limiting rivet needs to be reset to only allow roughly .007-.010 travel on the upper point. As received from the vendors these are all way off to the tune of being about .035. I have a special tool to set these and if you're in my neck of the woods I'll gladly reset the rivet for you.

Often the top of the coil needs some attention from years of over tightening of the hardware for the points. You can cut the tabs off of the old points and use them to shim the point under the spacer.

Ensure when setting the point gap that the points contact each other squarely and evenly.

When checking the gap on the points, it is very important that the upper point "follow" the lower point until reaching the limit set by the rivet. If this does not happen the coil will give double sparks on the tester and an early (weaker) spark in the car resulting in uneven timing between cylinders. Ensure the point is tensioned to allow the cushion spring to follow the lower point. When released, the lower point (vibrator) should push the upper point all the way back up.



Typical T Magneto Type Coil Tester

Place the coil into a coil tester and turn the crank approximately 60-90 RPM. Bend the lower point as necessary so the coil draws between 1.2-1.4 amps. There are a couple of things you're looking for here. Look at the sparks occurring between the pointer needle and the test ring. Ideally, you should be seeing sixteen single sparks. Double sparks are an indication that the coil is firing before reaching peak magnetic flux saturation. You will need to add tension to ensure the cushion spring stays in contact just a bit longer with the lower point.

The amperage needle should be steady and not moving. Should the needle be jumping around, the tension still isn't quite right.

Once you have four coils all set to perform identically, it is time to focus attention to other often overlooked items.

You must have a good timer. There are plenty of excellent timers that give wonderful service without having to be cleaned all the time. I like the Anderson as well as an original New Day, others have had good luck with the recently discovered stash of Crystal timers. Choose your poison.

To aid the engine in running smoothly, ensure the front plate is concentric with the cam. If it's off even slightly the cylinders won't fire at an even number of degrees from one another. Three degrees offset at the cam equals six degrees at the crankshaft!

There is a centering tool available for sale and many club members own one. This only takes a few minutes to correct if needed. Borrow a centering tool if you need one as it makes a difference in how well the car runs.

Now that the front plate is centered up, toss the brass shield and felt washers that Ford put in at the cam in the trash and install a modern oil seal.

Finally, turn your attention to the coil box itself. Often a source of trouble as the original wood can allow carbon tracking of the spark behind the thin veneer layer. If your coilbox has the original wood, consider replacing it with either plastic type material or solid hardwood. Most wood kits sold by vendors are B-C grade plywood and tend to cause more problems than they are worth (especially should they ever get wet).

Inspect the wiring harness from the timer to the coilbox for any evidence of chaffing, frayed or broken wires. Replace/repair defective timer harness as necessary. Ensure that the mag post is clean and in good shape.

If you choose to keep your T's ignition original then you owe it to yourself to make it as smooth as can be. It's not that hard to get one right, which is probably better than most of them were within six months after leaving the dealership.

A T running smoothly on coils is something to swear by; one running poorly on coils is usually just sworn at!

If you're going to run coils, make them work for you rather than against. You will enjoy the car more when it runs reliably and smoothly.

Gary