

Review of the ECCT

By Tom Carnegie

OK, I've got a confession to make. I really don't set up my own coils. Not much anyway. I usually have Mark Hutchinson or Mike Robison do it for me. At least the initial set up. They have a better grasp on the intricacies of the upper bridge point drop and such like that. This is an important point, as I will talk about later in this review.

It was thought by the Spokane Montana 500 crew that there was a better way to set coils up than just crank-em-up on the hand cranked coil tester (HCCT). The theory behind the HCCT is that if a coil draws a certain amount of current, and doesn't double spark, then it will operate the same as another coil set up the same way. This is roughly true, but rough ain't good enough for the Montana 500. I and others believe that the four coils should be "balanced". What that means to us is that how much current they pull is of secondary consideration. What is of primary consideration is how long it takes the coils to ramp up and fire. Mark Hutchinson discovered a mechanical way to balance coils that works quite well, but it is dependent on the consistency of the coils being balanced. That is, in order for two coils to be able to be balanced mechanically, they have to have similar core characteristics, the same number of windings, etc. This is not the case on some old coils. They are either made differently, or their characteristics have

changed over the years. I decided that the best way to do the final set up on a coil was to fire it with a fixed shot of current, and take a picture of what happens with an oscilloscope. I noticed that any given coil fired pretty much the same way every time. I called this “fingerprinting” a coil. I would then match up my coils in sets of four with similar fingerprints.

This “fingerprinting” operation with an oscilloscope takes quite a bit of work. As such, I was excited when I heard that Mike Kossor of Mictel had developed a test device that essentially does what I had been doing with the oscilloscope, yet without the scope. It is called the ECCT, which stands for Electronically Cranked Coil Tester. It is extremely handy in as much as it can be used as a stand alone instrument or it can be interfaced with the coil box on your Model T. It also doubles as a condenser checker and can be interfaced with your PC to see additional data. It will show you the current draw of your coil, but the important measurement is the “ramp to fire” time. If you set the “ramp to fire” time to be the same for all four of your coils, you will necessarily have a balanced set. The coils don't have to be electrically or mechanically identical to achieve this result from this tester. It will just happen, if you follow the instructions correctly. This is where I got into trouble, as I alluded to in the first paragraph. I tried to set up a coil that hadn't been properly adjusted as far as the upper point drop was concerned. The readings I got were spurious. After the upper point was adjusted

correctly, all was well.

What were the results that I achieved? Well, to be honest, the coils I tuned up were pretty well tuned to begin with, so they didn't need a bunch of adjusting. Even though, better results were noted on virtually every test of the car when running on battery. This, I believe is where the ECCT shines. Adjusting coils to run well on battery. On magneto, the improvement was not so noticeable. My test protocol was to test a set of coils on a fixed length test run for maximum speed (minimum time) with a stop watch, then adjust the coils with the ECCT and run the same tests again. I spent the better part of a day doing this. When I was done I had put nearly twenty-five miles onto my T testing the coils. All at a quarter of a mile at a time.

I do have one complaint. The tester is turned on with a "soft" switch. I prefer a "hard" switch that actually physically disconnects the battery. It seems to me that "hard" switches extend the battery life. The battery is a normal nine volt battery. I think that there is a learning curve with this tool, as there is with virtually any tool, I suppose. It also seems to me that the more you use it the better and faster you will become at setting up coils. But, is this better than a hand-cranked coil tester? Is it better than other devices on the market made to test coils? The short answer, as far as I'm concerned is "yes". Setting up coils to fire by time is what the hand-cranked coil tester wants to do, the ECCT actually does it.



Image courtesy of MICTEL Inc.