

A Hidden Repo Fault

by Tom Endy

Rebuilding Model A distributors is a fun part of the hobby for me. I can't walk past old nasty rusty cores at swap meets. I usually come away with five or six. I won't pay more than \$5 each for them. At the last swap meet in San Diego I came away with seven candidates for rebuild. One I later found cracked around the upper bushing after I got it apart. That's why \$5 is tops.

The distributors made in 1931 are rarer, but there are still ample around. The 1931's have a bridge across the area where the two cap clamps attach. The casting is also a little more robust.

Each distributor I rebuild is carefully taken apart and examined for cracks in the area of the bushings. After degreasing and bead blasting new bushings are installed along with a new shaft and collar. A new quality condenser, a new lower plate with the correct multi-strand lower wire is installed. I also install the condenser with the correct screw and thick fiber washer. Everything else is used parts.

The correct condenser screw and thick fiber washer are very important to prevent the tab on the lower plate from shorting to the casting. I mount the fiber washer to the tab with magic glue for easy installation.

The used parts I use are the top plate, the points, the point block, the spring, the cam, the cap clamps, the oiler, and all the screws and washers. All this hardware is from 30 years of collecting cores at swap meets. A little bead blasting, some cleanup of selected parts and the distributor performs as Henry ordered

Care must be taken orienting the lower wire and the connector where the lower wire attaches to the points. This is an area prone to shorting out. A test after final assembly is to connect an ohm meter with one lead attached to the casting and the other lead to the arm of the points. The meter should show a direct short until you open the points with your finger. The short should then disappear. Rotate the spark advance arm through its normal arc with the points still held open and there should be no short. This little test indicates all is well.

During the rebuilding of the latest batch of distributors I ordered all the new replacement parts from my favorite well known quality supplier. The last to be rebuilt was a 1931. When I did the final test with an ohm meter it was shorted with the points open. I checked the lower wire and connector and re-positioned it a little; it was still shorted. I removed the spring; still shorted. I removed the condenser and the short went away. The conclusion: the new condenser was shorted out. Not so, the condenser checked out ok. I checked it on a condenser checker and it had the correct micro farads. What could be the fault? It was only shorted when the condenser was installed.

After much inspection and analyzing I came to the conclusion that when the condenser was installed it pushed the tab on the lower plate forward and it contacted a protrusion on the inside of the casting on the left side of the window where the tab and fiber washer locate. The protrusion appeared more pronounced on this particular casting.

The length of the new condenser was measured and it was found to be slightly longer in overall length than several of the old condensers removed from several of the cores. The extra length was about 3/32". My conclusion is that the extra length pushed the tab on the lower plate forward enough to contact the protrusion on the inside of the casting.

The problem was remedied by using a Dremel to grind off some of the protrusion material on the inside of this distributor housing. This resolved the problem. The condenser that is slightly longer than the originals then installed without shorting out the points.

One must consider that this distributor housing had been in service for 86 years with more than likely numerous different condenser replacements. Therefore the problem lies with the new condenser being slightly too long to operate with some castings.



The 1931 casting is more robust. Note the protrusion on the left side of the window where the lower plate tab and the fiber washer at the end of the condenser reside. This is where the tab on the lower plate can short out with an extra-long condenser.



An earlier condenser on the left removed from a distributor core measures 2 $\frac{1}{32}$ " in overall length. The condenser on the right recently purchased measures 2 $\frac{1}{8}$ in overall length.



The 1931 distributor has a bridge across the area where the two cap clamps attach.



A common problem found with many distributor cores is that the attach points for the cap clamps is broken off. This damage does not usually occur when the distributor is in service on the car. It occurs when removed and someone drops it on the ground. Bridging the clamp attachment added extra strength.