Distributor Roadside Seminar

(revised 2010)

by Tom Endy

A spare distributor:

On any long club tour sooner or later one of the Model A's will pull over to the side of the road and up will come the hood. The first component to be attacked is the distributor, and it is probably the most likely source of the problem. For this reason it makes sense to carry a spare distributor with you that has been rebuilt with the points already set, and most important, **tested on the same running car**. It is a lot easier to swap out the distributor than to be standing along side the road fooling around trying to determine what's wrong with it and to attempt to change out numerous parts. You **do not** have to reset the timing as long as you do not disturb the cam screw and you are installing it in the same car it was tested on.

Distributor failure:

The three most likely things that tend to go wrong with a distributor are (1) the condenser failing, (2) the lower plate wire breaking or shorting, or (3) the point gap closing up.

The points:

The point gap should be the first thing to check and they can be easily set without changing the distributor. Points tend to close up as the rubbing block wears. This is especially true on a new set of points. The points will close up considerably during the first 100 miles, until a glaze is worn into the rubbing block. So if you just installed new points before starting out on the big tour, be prepared to have to reset them sometime soon. After that you only need to reset that at about 1,000-mile intervals. Points are set at .018 to .022, so be sure to carry a set of feeler gauges with you.

Henry's wayward wire:

The wire that connects the upper and lower distributor plates together is also prone to break and/or short out. The arrangement wasn't one of Henry's better ideas. The wire is supposed to be a very flexible 80-strand wire to be able to better withstand the constant movement imposed by the driver's use of the spark advance lever. Most distributors by now do not have the proper wire installed, and even with the proper wire, they will still eventually break due to the constant flexing. Be wary of the "modern" lower plates being offered by most suppliers. They will eventually fail (after about 1,000 miles) because of the constant sparking and erosion of the contacting parts. Bratton sells the correct 80-strand wire and is really the only best solution.

The condenser:

The condenser is usually the first thing everyone wants to replace. I have seen countless numbers of them replaced over the years, but I have only seen one that actually failed. Many years ago era condensers were susceptible to failure due to heat, and in the present day due to inherent poor quality. The condenser is located in close proximity to the exhaust manifold where it is extremely hot under normal conditions. If your engine becomes over heated due to high ambient temperatures and/or running out of water, or driving around with the spark handle all the way up you could do damage to the condenser. The poor quality of many condensers on the market is the bigger problem though. Look at the end of the condenser where the strap is attached. If it has a 1\4" round circle and is soldered on to the base of the condenser, don't use it. Temperatures can get high enough to melt the solder. Look for a condenser that has the strap stake welded on, they will have three small dots on the strap where it attaches to the base of the condenser. These are the better quality condensers. Bratton's Antique Auto stocks them.

Roadside distributor replacement:

It is never a good idea to break the torque on any one of the 14 head bolts as it can cause the head to warp and allow water to leak into the oil pan. Unfortunately Henry came up with a fool proof anti-theft scheme that works very well even in the modern day, but involves one of the head bolts. An armored cable from the ignition switch to the distributor protects the integrity of the wire carring power to the points. The cable has a clamp around it and is bolted to the #8 head bolt making it difficult to remove the distributor to insert a hot wire. It is not a good idea to break the torque on the #8 head bolt either out on the road or in your garage. A prudent thing to do is to remove and discard the clamp and allow the cable to be free. You also need to put a spacer under the nut of the #8 stud to take up the space vacated by the clamp. The #8 stud is slightly longer than the other studs. With this arrangement it is an easy task to replace the distributor along side the road without risking creating more problems by inducing a warp in the head.

Distributor tools and support:

A couple of other items that are a must besides the spare distributor is a cam wrench, part number A12210-W. They sell for about $1 at most any Model A Ford supply house. The other item is a small inspection mirror, like a dentist uses. After you think you have located the timing mark, check with your mirror to see if the hole in the timing gear is really on the mark. One last consideration is the type of distributor shaft installed. There are two types, a long shaft and two short shafts. My recommendation is to install only the short shaft when rebuilding a distributor. The short shaft requires that another short shaft of similar length be installed down in the engine block. The second shaft is easy to install; just drop it down the hole in the engine block and rotate it with a screw driver until it locks in the slot. The two-shaft arrangement provides some amount of U-joint action which is easier on the distributor shaft bushings. It's also a good idea to carry an extra short engine shaft with you (part number A12249). This is in case a fellow club member breaks down, he needs to borrow your spare distributor, and the one in his car has the long distributor shaft installed. You will also have to reset the timing if you install your spare on someone else's car.☺