

# *A Dead Battery!*

by Tom Endy

## **A common occurrence:**

It's not uncommon for a Model A Ford to incur a dead battery, especially those that are still operating on six volts. Model A's are usually not driven daily and prolonged periods of sitting around tend to run the battery down. It is usually discovered when you climb in to go somewhere. You push on the starter button, and nothing.

## **Modern inconvenience:**

What a lot of Model A hobbyist may not understand is that we the modern day owners may be contributing to this phenomenon. In a modern car when you switch off the ignition it shuts off all the electrical systems in the car, except maybe for the digital clock. In a Model A Ford when you switch off the ignition, at least the original pop out type, all you are switching off is the power that goes to the ignition points. That may have been fine in Henry's day, but stop and think about what a lot of us have done to the Model A Ford to improve on Henry's design.

## **The cutout:**

The cutout used with the generator disconnects the battery from the generator whenever the engine is shut down. Without it the battery would discharge itself through the generator and you would have a dead battery. The cutout has a simple set of contacts that are either open or closed. The problem with the cutout is that the contacts can sometimes become welded shut over a period of time and not open, thus draining the battery when the car is parked. This is highly likely with the poor reproduction cutouts that are on the market. Modern day advancements in electronics provided the world with the diode. The diode is like a switch (sort of) in that it has a high resistance to current in one direction and a low resistance in the other. The low resistance path allows the generator to flow current to the battery to charge it. The high resistance path is supposed to not allow the battery to drain itself through the generator. An abundance of diode mod kits were made available at all the Model A hobby stores. The cutout contacts are replaced with the diode (hopefully in the right polarity) and welded contacts are a thing of the past. However, that high resistance direction is still allowing a small amount of current to flow out of the

battery through the generator to ground. The amount of current is minute, in the milliamps, but over time it draws the battery down. Turning the ignition key off does not shut the circuit off. Only removal of the fuse on top of the starter (if one is installed) will open the circuit and prevent the drain.

## **The alternator:**

Another modern convenience seen on many Model A's today is the alternator. It is much more efficient than the old fashioned generator. You can buy them in either six volt or twelve volt. In fact you can even buy a six-volt positive ground alternator. However, the alternator has six diodes in it and the high resistance path will eventually drain the battery. This arrangement is also not switched off with the ignition key and it sits there and draws a small amount of current from the battery.

## **A failed alternator:**

It is also possible to have an alternator that from all appearances is working fine. You start the car up and the ammeter shows it is charging. However, you can have one or more diodes that are partially shorted. With this situation the current drain from the battery is considerably more and in just a day or so the battery is dead.

## **Good advice:**

Whenever you park your car for the night or any other extended period of time. Pull the fuse out of the holder and stand it on its head in one end of the holder. This way everything except the starter switch is disconnected from the battery and there is no chance that a sneaky diode will ultimately cause you to have a dead battery. 😊