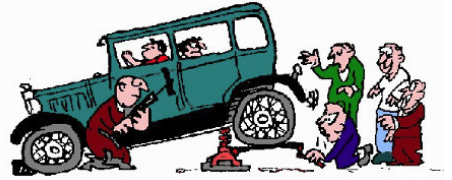




From the Garage

by Paul Hunter



Model A Generators – Part 1 by Tom Wesenberg

The Model A generator was a 5 brush unit, the shape resembling that of the generators used in large hydro-electric plant powerhouses, thus it is commonly referred to as a powerhouse generator. About October 1928 the powerhouse changed to a 3 brush unit and about this same time the Autolite style generator was introduced, but not commonly installed until near the middle of 1929.



The Autolite had a rear ball bearing and the output stud was near the front of the case until March 1930. About March 1930 the rear bearing was changed to a

bushing and the generator output stud was moved to the rear of the case

An ohmmeter can be used to check the generator field windings. The 5 brush powerhouse should read about 3 ohms, the 3 brush powerhouse about 2 ohms and the Autolite style about 1 to 1 ½ ohms. I like to test field coils by using a 6-amp battery charger with an amp meter. A 5 brush powerhouse should show about 2 amps draw across the field windings when 6 volts is applied, the 3 brush powerhouse about 3 amps, and the Autolite about 4 to 5

amps. A growler is needed to test the armature. A good visual inspection can tell much about the generator. Look for frayed insulation and wires, as well as look for thrown solder where the wires connect to the commutator bars. Look for burn spots or uneven wear on the commutator bars and smell the field and armature to see if you can detect a burned smell. You can usually spot the burned insulating varnish on the copper wires.

A voltmeter is handy to test for a poor connection. Set the meter to the lowest DC VOLTS setting and connect the + lead to the most positive side of the connection being tested, and the - lead to the more negative side. For instance, if you are testing the ground brush on the powerhouse you would connect the + lead to the small copper wire coming from the ground brush and connect the - lead to ground. If all connections are good you should show no voltage on the meter. On a couple of powerhouse brush holders, I have found the post holding the ground brush spring had a poor connection to the steel-mounting strap. This is easily fixed by soldering the base of the post to the steel strap of the brush holder. I have also found where the 2 field coils are connected on the Autolite generators; the wires were simply twisted together and not soldered, thus resulting in a poor connection.

The Model A generator is an unregulated generator, meaning the third brush is adjusted for a set output, and a set amperage is going to the battery, whether the battery needs it or not. When an extra load is put on the charging system, by turning on the lights, then the amps are taken from the battery, unless the third brush is adjusted for more output.

Since the generator is unregulated and the output voltage is only held in check by the battery, every part of the charging circuit must be in good working order to prevent runaway high voltage. Starting with the generator, it must have a good ground. The generator output strap to the cutout must be clean and tight. The cutout contacts must be clean for good current flow. The wire leading from the cutout to the terminal box must be good, and the connections inside the terminal box must be clean and tight. The two short wires leading to and from the amp meter must be clean and tight, as well as the special nuts on the ammeter terminals. The wire leading to the starter switch terminal must be clean and tight, finally the battery cable leading from the starter switch back to the battery must be clean and tight, as well as the battery posts and ground connection.



To be continued.....