

Generator Seminar

by Fred Hauck and Dave Vanable

The generator seminar on November 1, 2008, took place in Nathan Oaks' garage. This developed into a splendid, well attended seminar. Making the drive to Oaks Corners were Fred Hauck, Dean Hauck, Nathan Oaks, Dick Barrett, Don Hosenfeld, Tom and Sue Smith, Walt Hutcowski, Tony Caruso, Paul Kron, Dave Vanable, Ron Ayers and Dick Chape.

Arranged on a picnic table, recycled from dinning room to yard to garage, tools, instruments and generator parts were arranged for expert instruction, all in close proximity to a 1931 Slant Windshield Model A Sedan and numerous instructional fixtures.



Getting ready to disassemble generator



Generator disassembled, identifying parts

Cutaway assemblies of a Model A transmission, Steering column and a Model T transmission were on display. These items and the donuts provided the required "atmosphere" for a successful seminar.

Nathan's Grizzley metal lathe, bench press, armature segment relief machine and "growler" were all involved in the generator rebuild process.

Nate disassembled the generator and showed the items that needed attention, which included just about everything. The field windings did not need to be removed but the commutator needed to be turned in the metal lathe to recreate a flat surface after the many years of brushes riding on it. After that the commutator had to have the spaces between segments cleaned of metal particles. For that operation, Nathan just happened to have a special machine designed to recess the spacers (just picked up at Hershey this year!). The bearings, brushes, spacers and rivets were replaced with new parts.

The growler is named for the noise it makes, as it is powered by 60 cycle AC voltage. It is a transformer that supplies an alternating current (AC) electric magnetic field that will couple to a generator or motor armature. The armature is placed on the growler for the test. It facilitates testing for open or grounded circuits and for continuity between field segments. Fortunately after a few tries Nate's new Cutter had done the trick and the armature was ready.

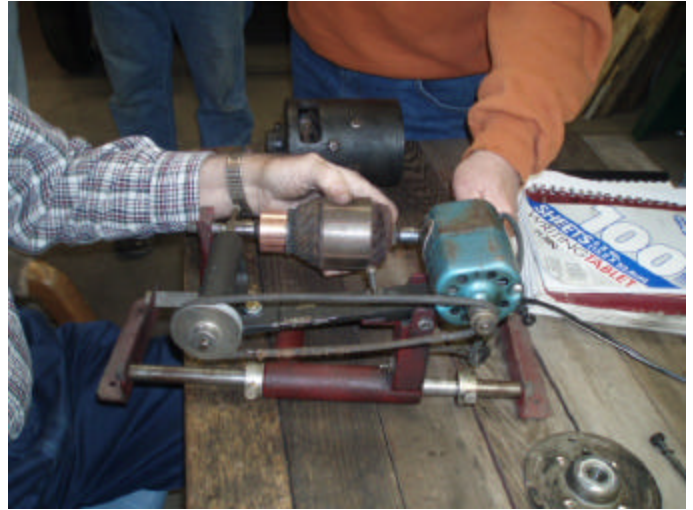
Most folks had to leave before the generator was reinstalled. Dave and Nate managed to create a bit of smoke adjusting the 3rd brush to output the correct 9-10A per the Ammeter. We pulled the generator and took it apart, suspecting that the new internal wire we'd installed was too stiff. Nathan had another part to try, so we installed that and the brush seemed to rest better on the commutator. Reinstalling, this time we used a "real ammeter" to test the current flow and learned that the ammeter was bad, and we'd probably cranked up the generator too much which caused it to smoke a bit. This time, all was well and Dave was able to pass the "lights and horn test."

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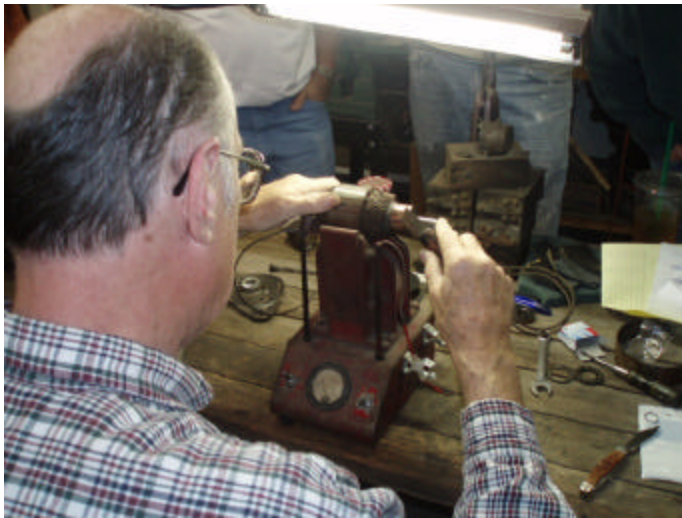
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The pictures tell the story of how Dave Vanable's generator was restored to "good as new" condition.

The club thanks Nathan Oaks for hosting another engineering seminar on the maintenance of the beloved Model A Ford. Thanks to Dave Vanable for providing the needy patient in the form of a worn out generator. Thanks to Dick Barrett for the pictures.



This machine is a small bench saw driven by a sewing machine motor. It was designed to cut into the insulation between segments of the armature to remove metal particles.



Generator armature supported by growler while testing and conditioning commutator.



Cutaway assemblies of a Model A transmission, Steering column and a Model T transmission
Items from past seminars



The "Growler"