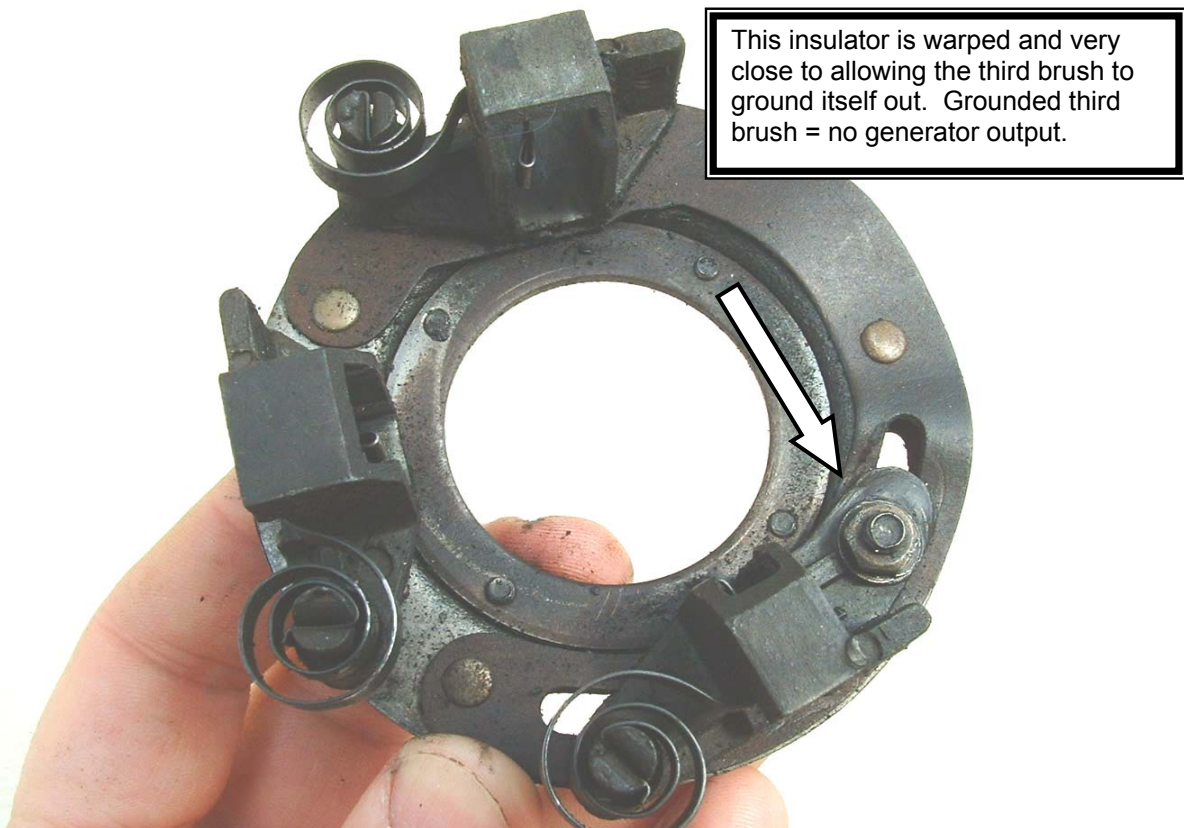


Repairing the Model T Generator Brush Holder

Many times, a Model T generator will quit working as the insulators in the brush holder assembly have decided that 80 some years of service is enough. At this point, you must either fix it yourself or send it off to be repaired. The accepted practice in the past was to take a new paper insulator and cut only the bad portion out and replace that portion. While this is still a valid repair, there is a permanent repair that requires basically the same effort and will cost you \$6 vice \$3.



Most vendors now carry the new style insulator that is made from electrical grade fiberglass. These are excellent quality, require no cutting or fitting to install as they fit right out of the box. These are not as susceptible to cracking from over tightening the third brush like the old brittle paper ones when making a generator adjustment.

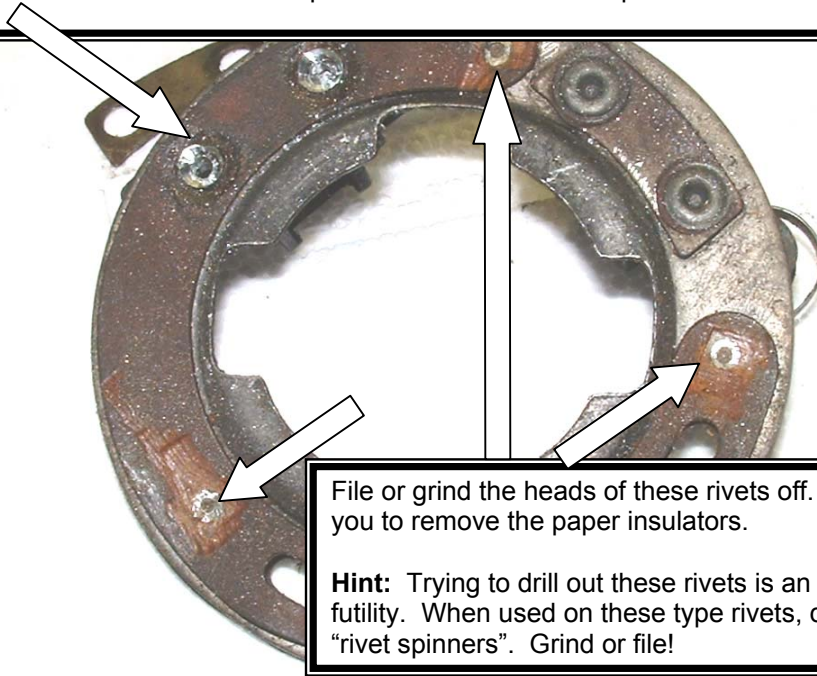
To replace these, you will need to remove the end cap from the generator. This is also a good time to inspect the rear bearing; inspect/replace brushes, and clean up the commutator as required. After removing the end cap, remove the four screws and washers securing the brush holder to the end cap.

Before going any further, remove the third brush and the attaching bolt, washer, and nut. With the third brush removed, take the retaining ring out (this is the ring that the four screws secure themselves into).

The remaining instructions are for the most part in easy to follow picture format with notes where necessary.

In the picture below, I drilled the two riveted portions of the insulated brush using a #36 drill bit. Be very careful to ensure the bit is going straight, a drill press works great. Once you have drilled these with the #36 bit, use a larger bit to drill the head off so the rectangular washer can be removed.

The small drill bit is the right size to accept a 6/32 tap. Drilling the heads off after drilling the tap holes also creates a counter sink, which is important. After the heads are drilled off, remove the brush holder. Tap both holes with a 6/32 tap and set it aside.



File or grind the heads of these rivets off. This will allow you to remove the paper insulators.

Hint: Trying to drill out these rivets is an exercise in futility. When used on these type rivets, drills become "rivet spinners". Grind or file!

Once you have the insulated brush off, remove and discard the old paper insulators from both sides. Clean up the pieces that will be reused. I cleaned mine using electrical contact cleaner and wiped them all clean using a rag. If you are repairing a brush holder that is corroded, a quick blasting with glass beads or a visit to the wire brush might be in order.

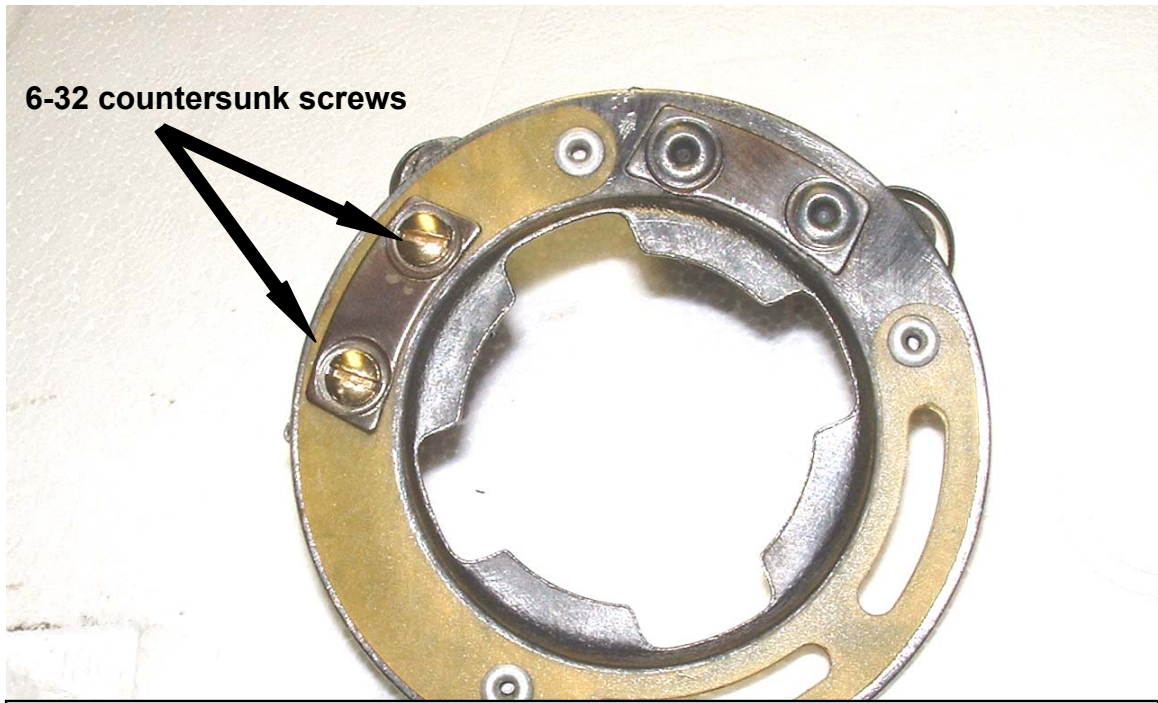


Back side.

Front side / brush side.

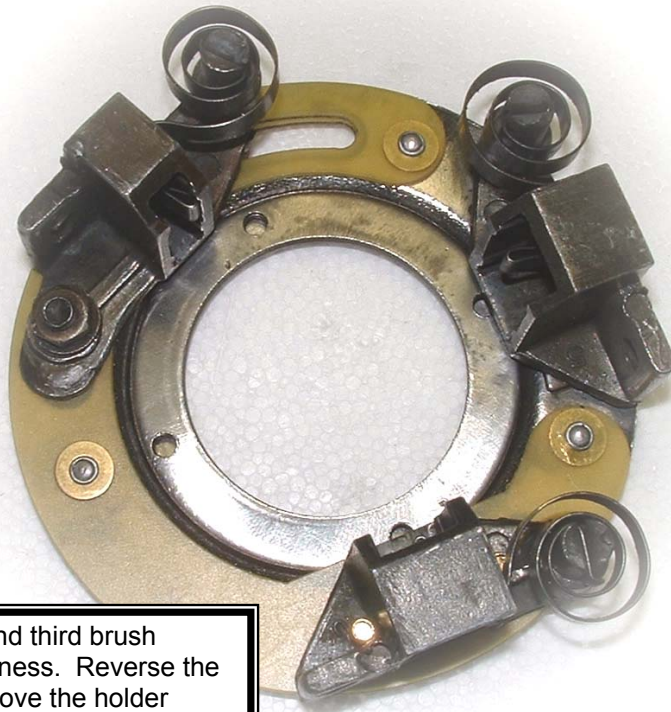
Assemble the two insulators to the brush holder as shown below. I used 1/8 X 1/8 aluminum pop rivets and #6 washers. The pop rivets go in from the back, the washer goes over the end of the rivet on the front side. To safety the pop rivets, either drive the mandrel or pin portion out or crimp the rivet with vise grips





6-32 countersunk screws

Install insulated brush and the square retaining washer that was retained after removal. If your particular brush holder didn't have this square retainer, use two thin #10 flat washers. Secure using #6-32 countersunk screws.



Install the retainer ring and third brush holder and you're in business. Reverse the steps that you did to remove the holder assembly and put the generator back together.