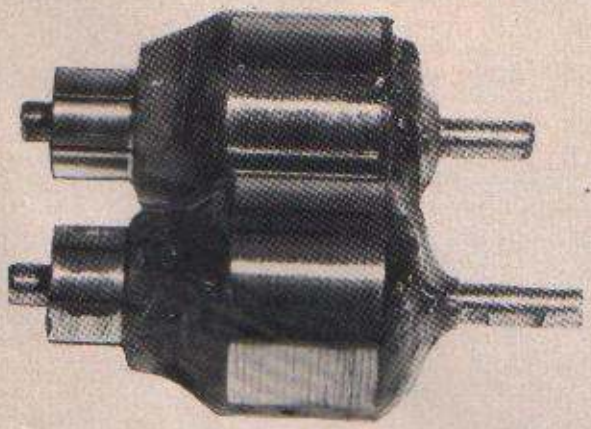
3) *If the car has been run, check the brushes to make sure they are seating their full width on the commutator. The car we are running is powered by a Ram 850-857 6 volt motor, but we are using the Pittman DC85A brushes. It is necessary to slightly bend the brush arm to make sure it seats fully on the commutator. This is very important, so take your time and do it right. Also the brushes should seat in the middle of the commutator, not hanging over the edge or riding against the staked edge. Properly positioned, it will take about three runs to seat a new set of brushes. If the car you are tuning is powered by a Ram 850 or 857, make sure the motor is installed in the car with the brushes on the left hand side of the car. This is very important. The armatures are wound so that in one direction of rotation the commutators are advanced and in the other direction retarded.*

4) *I use a commutator grinder that I built with the help of Jim Rhoden, who is a machinist and fellow drag racer. Jim made the fixture that holds the armature. The commutator end shaft rides in an A.B.E.C. class 7 stainless shielded 5/16 inch ball bearing. The other end of the shaft rides in a precision ground shaft mounted in two close-tolerance roler type bearings.*



6) *The upper commutator has just been ground. Notice the clean sharp edges. The lower commutator has been run. Notice the dark area at the trailing edge. You cannot get peak performance from your car when the commutator looks like this. A fresh commutator will improve your car's e.t. from .05 to .10 quicker. While tuning, you might have to make many runs without grinding commutator.*

5) *I grind the commutator in each fuel class car before each drag meet. I realize this will not be possible for everyone to do, but it has become necessary here, due to the keen competition in this area. Inquire around, and you should be able to find someone with a precision lathe who could do this for you. If you have made quite a few runs on your car you'll be surprised at what a fresh commutator will do for the car's performance.*

7) *Let's check that pickup to make sure there is no bind in it. The pickup arm must be free. It should also be very lightly spring loaded to make sure the stranded copper pickup makes good contact all the way down the strip. The car on a perfect run will carry the front end about ¼-inch off of the track for ten feet or more, that's the reason for a free swinging spring loaded pickup. Make sure you have a stop so pickup is ¼-inch below tires.*