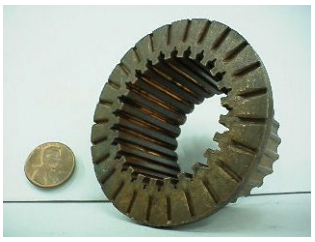
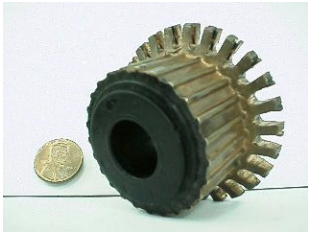
The copper slug process was a production line to press armature commutators for use on new and rebuilt auto starters

The process started with a tube of copper about 20 feet long, 2 inches in diameter with a .25 inch wall. This tube was feed into and auto loading auto lathe that would turn the I.D. and then cut the tube off making a ring with a length approximately .7 inch's long. (Left).



The ring would be picked up and placed in a high frequency annealer for about 6-10 seconds until it was glowing cherry red. It was then dropped into a quench that contained water and a mixture of a soapy die release agent. Once the part was cooled in the quench tank a conveyer at the bottom of the tank would advance the parts out of the quench tank. The parts were then conveyed to an auto loader that would put the soaped part into a 200 ton press where it would cold form the copper ring into a copper part (left)



The part would be potted with a bakelite like material. Winding bar slots were punch pressed into the part and this would then be pressed onto a rebuilt or new starter armature shaft.(LEFT) The windings would be welded or soldered to the commutator and then machined to proper tolerances which also separated each of the commutator bars.

Coming Soon
Pictures of the production panels

Last Updated on 4/12/2004
By Len Averyt
Email: Techknowman@techknowman.com