

Technical Spotlight

Submitted by Ellis Jarrell

Company: Sagittarius Mold Inc.; 110 Park Place Court,
Greenville SC 29607

Machine: Makino EDNC 85

Electrode: POCO EDM-200

Application: Hubcap mold

It takes 20 weeks to build a hubcap mold - from design to parts. This mold will then produce a wheel cover every 30 seconds.

Although Sagittarius Mold doesn't specialize in automotive molds, we produce 5-6 hubcap molds a year for various models of cars. It takes 60 hours to fabricate the two electrodes. This includes machining, polishing and mounting of the electrodes. We polish the electrode because it is much easier to polish graphite rather than steel. We use one electrode per cavity and redress it to make the finishing electrode.

We come off the EDM with a 12 Rmax finish and then go down to a 400 grit polish.

Tunnel Gates

Generally, tunnel gates can be machined on a conventional mill. However, sometimes the required depth and the diameter of hole make it necessary to EDM the tunnel gate.

In the case of a mold for a heat register, the burn required a depth of 1 1/4" at an angle of 45 degrees with a diameter of 0.040". The electrode material was EDM-3 and five electrodes were used to burn three holes. To get a fast metal removal rate, roughing was done in negative polarity. Each tunnel had two rough cuts, semi-finish and finish cuts.