Newsletter

MASTER TOOL, LLC
Subsidiary Sumitomo Electric Hardmetal Corp.
INNOVATORS OF SPECIAL DESIGN & BUILD TOOLING SYSTEMS
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SUMITOMO
CARBIDE - CBN - DIAMOND

Fig. 1

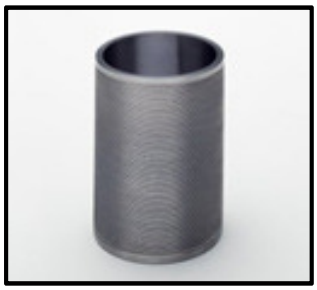

Fig. 2

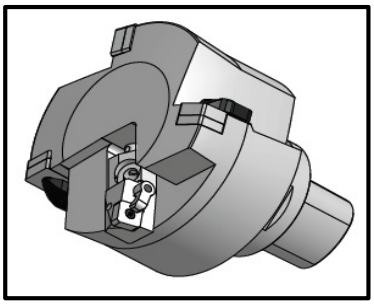

Fig. 3

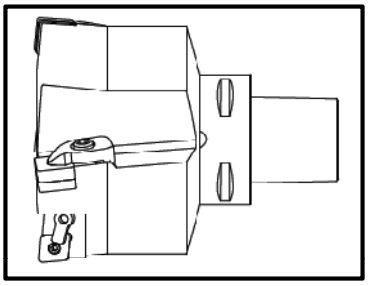

Fig. 4

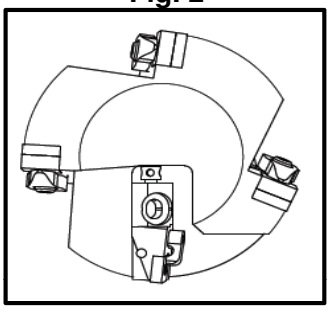

Fig. 5

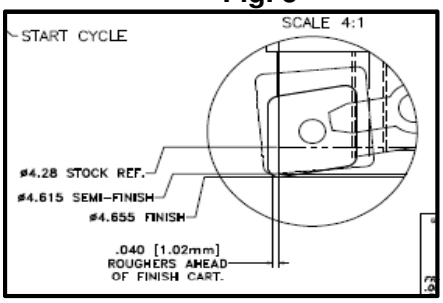

Fig. 6

While most special tool designs lend themselves to rotating tools, there are a few occasions when you can justify stationary (lathe) tools.

Don Johnson, the Sumitomo salesman in the upper mid-west came up with just such an occasion. He has a customer that manufacturers cast iron sleeves that are pressed or cast into cylinder blocks. This company casts the sleeves in one long sleeve (see **Fig. 1**) and then roughs and finishes the I.D. on a bar feed lathe. They then cut the sleeves off to their usable length (see **Fig. 2**).

Their problem was cycle time. Machining the I.D. with a traditional boring bar took too much time from part to part. They asked Don to come up with a faster way to machine the sleeves.

Don and the tool designers at Master Tool came up with a unique idea. They designed a boring head with three (3) fixed pocket SNMG inserts to act as a roughing cut. They then put an adjustable cartridge on the face of the boring tool using a CNMG insert with a wiper to follow the roughing inserts and finish the diameter (see **Figs. 3, 4 & 5**).

The tool designers then provided a cycle diagram to Don's customer to help them program the CNC lathe (see **Fig. 6**). The finishing cartrdige was positioned in such a way that they could program the machine to feed in, back feed out approx. 0.200". This then allowed them to move the finishing insert off the part by 0.005" and then rapid out of the part so there were no withdraw marks on the part.

The result was a cycle time that was three times faster than the traditional way.

Sometimes it just takes **"Thinking out of the box"**.

October-09