

**Title:**

Improving Manufacturing Cycle Times Through Machine Tooling

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**Summary:**

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**Keywords:**

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**Article Body:**

Machining center manufacturers are all looking for and touting the ability to reduce part cycle times by offering faster and more efficient machines. That is what the job shop and part production customers of these products demand, because their end-product customers are driving a purchasing philosophy of lower costs per part.

While the choice of a high-speed machining center makes a major difference in operational productivity and part cost, the tooling utilized on that machine can be another dominant factor. The efficiency of such new, special purpose proprietary tooling can even further enhance the output of a horizontal machining center. It can provide a wide degree of flexibility in compressing several machining processes, especially in parts production.

Makino, a global provider of advanced machining technology, says that the use of special-purpose and multifunctional tools, like the SmartTools it manufactures, helps in this process compression. These specially designed and patented tools reduce cycle times as well as production costs, which saves money.

As an example, there are a number of unique, special tools that can reduce the initial capital investment and drive out substantial process time in the machining of engine blocks. Cylinder bores can be finished and honed with a precise closed-loop boring system that automatically compensates for tool wear or thermal distortion and produces exceptional repeatability.

You can also grind bimetallic surfaces utilizing a cubic boron nitride

superabrasive grinding wheel all on a standard machining center.

Machines incorporated with this special, multifunctional tooling will outperform a number of individual specialty-purpose machines when used in an integrated system. Mid- to high-volume parts manufacturers often invest in state-of-the-art machine tool technology, and can further enhance their flexibility and productivity with the use of such special-purpose tooling.

With more and more demand to streamline processes and production cycle times, especially from original equipment manufacturer outsourcing operations, there is a growing need for more valuable and cost-effective solutions for jobs shops and production facilities. And, the solutions exist to allow them to "work smarter."