Machining

Tooling Matters: Boost Productivity by Saving One Second of Cycle Time

Don Sears | Apr 16, 2018

Tiny, fractional gains in machining time might seem negligible, but when you take a closer look, they can make a huge difference—even for small to midsize shops. Look at what happens when you can gain one extra second of cycle time.

In today's manufacturing environments, the mantra is to maximize output: Produce more parts in the same amount of time—or in less time. Can you really make more parts per hour? In conditions with the right tools and temperatures, with the right work holders, tool holders, metalworking fluids and the right speed and feed rates, it is very possible. Of course, you have to account for all the factors that adversely affect production runs such as part quality and defects, the frequency of tool changeovers, machine setup and ***maintenance***.

"Cutting tool manufacturers have introduced incredibly robust ***carbide grades***, coatings and geometries in recent years, and there's simply no way to increase machine output unless you're using them," writes Kip Hanson, a writer, author and manufacturing consultant, in the Better MRO article "***Is It Time to Embrace High-Performance Machining***?" Hanson goes on to explain how advanced tools "may have longer tool life and can help reduce total cost of ownership by requiring less replacement and labor to maintain."

Whether you are officially running a high-performance machining operation or simply need to fill more orders for an important customer in a time of high demand, every second counts. Dive into our infographic to see the time-gaining and cost savings possibilities when reducing machining ***cycle time*** from 31 seconds to 30 seconds with a more productive tool or technique.

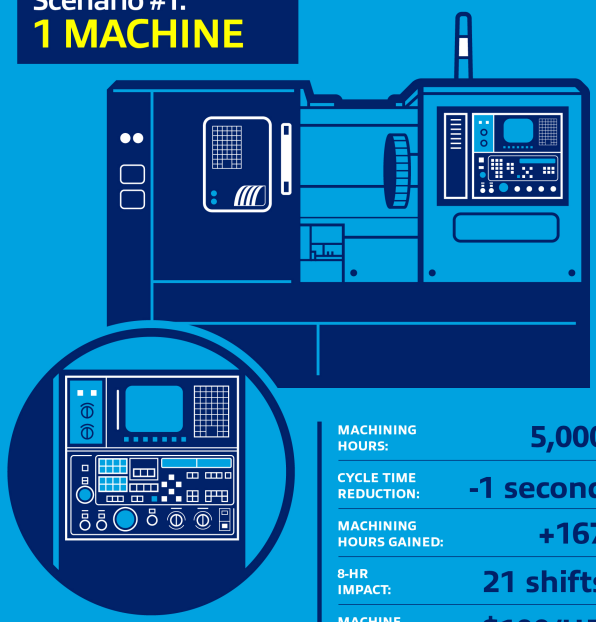
Want to learn more about tooling choice, cycle time and productivity? See below the graphic.

Tooling Matters:

Boost Productivity by Saving One Second of Cycle time

Use these three machining scenarios to gain a better understanding of the productivity gains and cost savings of choosing a tool that reduces cycle time from 31 seconds to 30 seconds. We take a closer look at one, five and 10 machines assuming the same machine burden rate and cost.

Scenario #1: 1 MACHINE



MACHINING HOURS:	5,000
CYCLE TIME REDUCTION:	-1 second
MACHINING HOURS GAINED:	+167
8-HR IMPACT:	21 shifts
MACHINE BURDEN RATE:	$100/HR
TOTAL SAVINGS:	$16,700

Scenario #2: 5 MACHINES

MACHINING HOURS:	25,000
CYCLE TIME REDUCTION:	-1 second
MACHINING HOURS GAINED:	+833
8-HR IMPACT:	104 shifts
MACHINE BURDEN RATE:	$100/HR
TOTAL SAVINGS:	$83,300

Scenario #3: 10 MACHINES

MACHINING HOURS:	50,000
CYCLE TIME REDUCTION:	-1 second
MACHINING HOURS GAINED:	+1667
8-HR IMPACT:	208 shifts
MACHINE BURDEN RATE:	$100/HR
TOTAL SAVINGS:	$166,700

SOURCES: Getting More from Your CNC Machines; CNC Concepts, Inc.

Spotlight on Tooling

Here are the top articles on the choice of tools and productivity on Better MRO:

Get Lean: Choose Better Tools, Compress Time, Deliver On Time

How to Slash Cycle Times When Cutting Metal

Ask an Expert: How Do You Measure the Value of Tooling?

Tooling Costs: Time to Move Past Purchase Price

How to Maximize Machine Productivity with Tool Holders

Overcoming the Top Technical Challenges in Metalworking

Learn How to Push Your 5-Axis Machine's Output

Lean Manufacturing: Improving TPM With OEE Calculations and Methods

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