



Machining

How Kyocera's EZ-Bar System Can Boost Electric Vehicle Suppliers' Bottom Lines

James Langford | May 24, 2022

Manufacturers supplying the intricate parts needed for the auto industry's ramp-up of electric vehicle production are clamoring for specialized cutting tools that deliver larger quantities of Swiss-machined products than ever before, and on a tight timetable. That kind of challenge doesn't faze Kyocera's EZ-Bar.

Precise and easily adjustable, the microbar system is built to handle tasks from boring to internal profiling, small-diameter grooving and small-diameter face grooving, according to engineers with the Japanese conglomerate's precision tools group.

While the EZ-Bar and other microbar systems are used in industries from medical equipment to aerospace, demand for such innovations has been especially keen in the rapidly transforming automotive industry.

The electric vehicles powering onto 21st century highways have structural and mechanical needs that are dramatically different from those of automobiles powered by internal combustion engines that dominated the market for well over a century.

"With electric vehicles, there are fewer big components and more small components with more Swiss machining," says Scott Pettay, national sales manager for Kyocera Precision Tools.

"These tend to be a lot of parts with high production, so squeaking out every little last second makes a big difference in productivity," he adds.

Productivity and timesaving in the industry will only increase in importance, with electric cars accounting for a higher share of global auto deliveries than industry analysts anticipated in 2021, despite production and supply chain challenges.

That share is expected to widen further this year and even more in 2023, according to a *report this month* from global bank ING. In the U.S., adoption of electric vehicles has lagged both China and Europe, but the government has set a goal that they'll make up half of all new passenger-car sales by 2030.

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Kyocera Precision Tools

Even if electric vehicles only grab an American market share of 33 percent by that date, the gain would be **6 million**.

About 52 percent of their value will come from powertrain and electronic components, up from 44 percent in 2015, the consulting firm PwC estimated.

While electric cars won’t need parts such as exhaust systems, valves and engine blocks that relied on conventional cutting tools, there will be demand for other components, such as aluminum battery trays and lightweight rotor shafts that require more flexible equipment, according to the nonprofit SME, formerly known as the Society of Manufacturing Engineers.

With some production runs for some electric vehicle components already as high as 15,000 items, a volume that’s not uncommon for such machined parts, “if you’re able to shave off even a fraction of a second, let alone seconds, then you’re talking about a big, big savings,” Pettay says.

Trimming Production Time

The EZ-Bar system can deliver such savings partly because of its variety of sleeve options, one of which includes through-pipes for coolants used in some types of machining. The tool also comes with either standard or high-precision bars.

Many customers are opting for the coolant-through sleeves for “longevity on the tool itself as well as for chip evacuation,” says Steve Easterday, Swiss applications engineer for Kyocera. “A lot of times, you need coolant to get the chips out of the hole, especially if it’s a blind hole, so there’s an advantage there, too.”



The design of the EZ-Bar's sleeves shortens setup time dramatically because the overhang of the cutting bars inserted into them can be altered by sliding the system's adjusting pins into built-in slots.

Not only do the pins eliminate the need to use rulers for fine-tuning tool length, they also serve the additional purpose of preventing bar rotation during use, an advantage over conventional sleeves that rely solely on positioning screws inserted from above.

That guarantees high repeatability, or avoidance of deviations between parts machined on the same run.

The EZ-Bar system has versatility, too: While it works well on long runs, "it's also a great product for low-volume but high-mix customers, where they're having to change setups quite frequently," says Brian Wilshire, technical center manager for Precision Tools, who's been with Kyocera for 31 years. "It has a universal appeal."

How much does microbar setup affect productivity of high-run jobs in your business? Tell us in the comments below.

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