

## **Cooper Tire - Decrease “Time To Market” with live spindle VTL.**

Ohio, USA

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Cooper Tire, Findlay, OH had to compete for valuable machining time with job shops specializing in tire mold work. It might take over a month to get a mold modified or replaced. After researching other possibilities, they decided to invest in their own mold shop. “We needed the production molds ASAP,” said Dave Grant, Moldmaker, and “With Cooper Tire owning their own shop, the speed to market would be much better.”

That was five years ago and soon they needed more capacity. During the mold plate machining process, one side is machined on a VTL, then the part is flipped over and the other side is machined. Assembly holes are then drilled and tapped vertically and horizontally in the mold plates. Upon considering all the available VTLs, Dave Grant learned of a TOSHULIN SKS, which came with live spindle capability. “A live spindle would eliminate the need to move the part to a another machine for drilling and tapping,” said Dave.

The TOSHULIN SKS 12 VTL has a 49” table diameter with 100 HP drive; the 27 tool changer capacity holds 12 CAT 50 tools, 3 live spindle attachments and 12 turning tools. The live spindle is 25 HP and has a top speed of 3000 RPM. Two live spindle adapters are used for drilling, and the third one is used for tapping. A right angle live spindle attachment on the TOSHULIN VTL drills holes in the side of the tire mold end plate. “The biggest benefit with the TOSHULIN has been the rigidity of the machine,” said Dave Grant. “It gives us longer tool life.” To produce this rigidity TOSHULIN’s base, column and rail are all cast components.

The TOSHULIN has higher HP and RPM than their other VTLs. Higher HP allows larger rough cuts. Higher RPM (up to 500 RPM) allows the turning of smaller diameter holes. Another feature of the TOSHULIN is the self-centering four-jaw chuck. It allows quick positioning of parts, reducing the setup time required, especially for high speed turning. “The combined effect of all the SKS features is immensely improved cycle times,” Dave Grant concluded. “The uptime on this machine has been very good, and Pilsen Imports’ quick response and willingness to help was extraordinary. Now Cooper Tire produces finished molds in only one week after design. And the accuracies in these engraved molds are much better in comparison to cast molds,” Dave Grant concluded.

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