



Photo: Smith's Machine

Sinumerik 840D CNCs fully control the operation of DMG machines at Smith's

■ **Smith's Machine, Cottondale, Alabama, USA**

Metal Milling in Alabama

Family company competes with the best to supply auto manufacturers.

Alabama seems like an unusual place for German machine tools and German automobiles to meet. But in the town of Cottondale is a metal machining company competing with the best in the world to supply the Mercedes Benz US car manufacturing operation along with other major OEMs. Smith's Machine was founded in Cottondale in 1974 and currently has 30 staff operating more than a dozen DMG machine tools with Sinumerik 840D CNCs in highly controlled work cell environments. Smith's Machine produces CNC machined bar stock and castings for the automotive, HVAC, agricultural, marine and mining industries and is now tackling the high specification defense and aerospace markets with the recent acquisition of a five-axis DMG 80U.

Specialized work cells

At the heart of the shop's operation are specialized work cells for dedicated long runs, comprising of DMG Twin mill/turn centers, fed by robotic parts handlers. All machine movements are controlled by

Sinumerik 840D CNCs for twin spindle, twin turret bar feed, four-axis turning and four-axis milling on castings. The CNCs incorporate the Siemens ShopMill and ShopTurn software suites for graphical programming, DIN/ISO programming, full machining simulation, machine setup and tool management. The HMI controls offer a virtually unlimited number of options in the cycles and control planes enabling Smith's to run nearly all the advanced features on the machine tools themselves. Operators are able to revise programs while running and implementing changes on the fly.

Fast setup

The Sinumerik 840D control has been utilized by Smith's to enable fast setup of the DMG Twin machines. Offset tables are generated and stored locally on the machine together with user-defined RG variables such as stock size, part projection, transfer information and load/unload cycles. To set up a new production run, all that is required is to change the collets/jaws and bar feeder and call up the RG program and offsets. To create programs offline Smith's Machine uses Sinumerik ShopMill and ShopTurn software. These programs save time setting up at the machine with simple operator prompts for determining workpiece zero points and tool lengths.

Tim Smith, joint owner of Smith's Machine comments "Overall, these cells have not only made us more competitive in automotive, but they are also helping us remain so. Automotive is one of our most lean manufacturing market segments, so we see our future in multi-function machine tools and greater use of the robotic cells." ■

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