Mazak Case Study

Multi-Tasking Satisfies Customer Demands at Reduced Costs

Accommodating a good customer challenged Butler Gear Co. Inc. (Butler, WI) to expand their operation by offering contract machining. Butler, founded in 1960 by Hilton Treuden, and managed by his sons Tom and Lee, accepted the job as it already had the capability to hob, grind, wire EDM, broach, and shape gears up to 96″ in diameter.

The shop's initial approach was to create a three-machine cell containing two lathes and a vertical machining center. The contract parts required turning in a 4-jaw chuck, then moving to a second lathe with a 3–jaw chuck. Finally, parts were fixtured in the VMC for drilling and milling. Butler began with lot sizes of 25 to 275 pieces with very short lead times, but demands soon escalated by the customer requesting lots of three to five pieces. Keeping track of various tooling, fixtures, and special jaws quickly handicapped Butler's ability to maintain precision tolerances for just a few pieces and remain cost-effective.

The solution was to purchase a Mazak Integrex 400SY multi-tasking machine tool. The machine is equipped with a 15" 4-jaw chuck on the main spindle and a 12" 3-jaw chuck on the opposed spindle. A 20 Hp rotary tool spindle and Y-axis travel allows Butler to drill, tap, and mill slots and keyways to precision tolerances, while the part never leaves the machine. A 40-tool magazine carries almost every mill, drill, and turning tool needed for a family of parts, greatly reducing setup time.

ISO9002 certification means tracking quality is a top priority. A Renishaw touch probe confirms part orientation and tracks quality during machining. Patrick Pratt, manufacturing supervisor, says, "We don’t see ourselves ever buying anything but another multi-tasking machine again. Reduced setup costs and improved throughput on the Integrex means we deliver quality parts when customers need them.”