

GLOBAL SOLUTIONS

GLEASON CORPORATION • KEEPING THE WORLD IN MOTION™



Gleason Cutting Tools' Lean Transformation is helping customers like Ann Arbor Machine keep pace with short lead times on prototype gears.

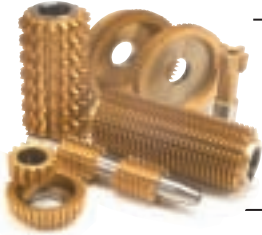
“If we had to wait 8 to 10 weeks for delivery on hobs or shaper cutters, we wouldn't be competitive,” says Ann Arbor Machine Gear Technologies' Rod Wiedmeyer.

Instead, this Dexter, Michigan, USA specialist in prototype manufacturing of precision gears for automotive, truck and off-road application is taking delivery on the latest Gleason Cutting Tools hobs and shaper cutters just two to four weeks after order, giving AAM Gear Technologies a huge competitive advantage, says Mr. Wiedmeyer. “We're producing prototype and runoff parts involving production of hundreds of sun gears and pinions for several of the hottest new transmission programs, so everything depends on delivery,” says Mr. Wiedmeyer. “Working with Gleason Cutting Tools, we are assured that hob or shaper cutter availability won't be the bottleneck.”

Get lean, go faster. Achieving substantial reductions in lead times at Gleason Cutting Tools Corporation, Loves Park, IL, must have seemed like a daunting task when the initiative began in early 2003. After all, how much more efficient could the Gleason facility get? No other company in the industry had invested so much in advanced CNC machinery for both soft and hard machining. The latest technology for heat treat and the application of all the new coatings was up and running productively. Short of spending millions more to add capacity, just how was Bob Phillips, Senior Vice President of Gleason Corporation's Tooling Product Group, going to reach their stated goal of a two week delivery?

“Here we were, like everyone in our industry, quoting deliveries of six weeks or more on products that take only about 10 hours to

manufacture,” Mr. Phillips says. “95% of the time was time waiting in queue. We knew that if we could improve our flow and efficiency, we would ultimately increase our capacity, while at the same time reducing the inherent expense of having excess work in process (WIP). The key was a company-wide commitment to embrace the concepts of Lean Manufacturing.”

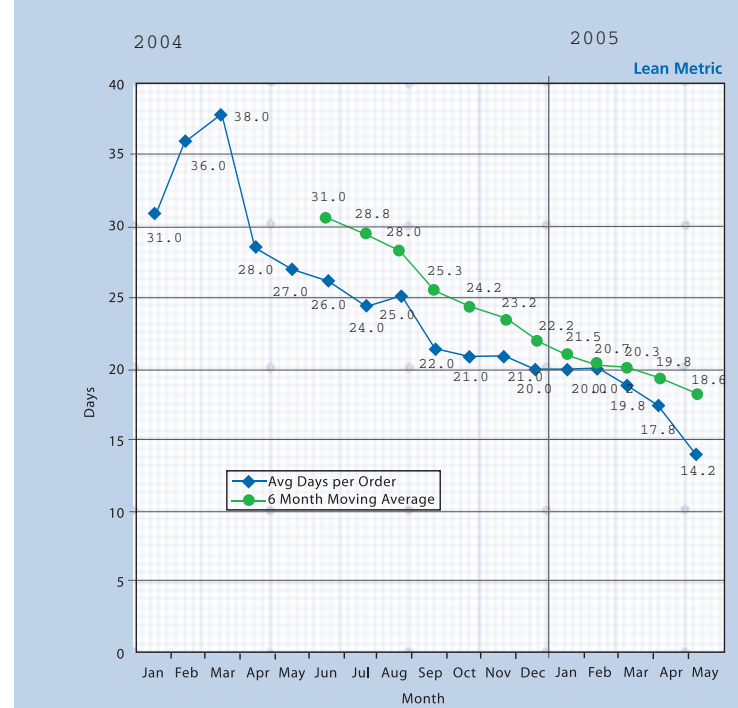


“We’ve been able to get customers out of some tight jams, knowing we can get a cutter in two weeks.”

One of the ultimate objectives of Lean Manufacturing is to eliminate the costly time wasted while product waits to be worked on. In a Lean factory, actual usage by a customer is the driver that creates a demand on the factory to build only the amount of product required. As a result, smaller batches of product flow more swiftly through the factory and reduce waiting time and WIP by an enormous factor. A Lean factory is like a small diameter oil pipeline that can deliver as much volume per minute as a much larger pipe carrying a bigger volume of oil simply because the oil is moving more swiftly in the smaller pipe. As a result, less oil – or work in process – is required in the pipeline to deliver the same results.

Gleason “pulls” product through Kanban system. At Gleason Cutting Tools, Mr. Phillips and his group initiated a Lean Manufacturing system on the shop floor fashioned on the “Pull” or Kanban system, which essentially helped create the “smaller pipeline” scenario. Mr. Phillips explains it this way: “We used to have a lot of

material queued at each of the key work centers. Now we have only enough material queued up to



Tooling Leadtimes

fulfill the request for product from the following operation. That following operation, then, is producing what's requested by the next operation and so on, all the way up stream through heat treat and hard machining. This ‘pulling’ of product in a continuous flow from the preceding operation only as needed to fulfill a customer like Ann Arbor's requirements very quickly reduced our WIP and wait time. Now, product spends only about 10 days in process from cutoff to shipment. The difference is now we have our backlog and primary queue positioned at cutoff (the first operation in the production process, where bar stock for a given tool is cut to the desired length). Our capacity has been increased, and our backlog decreased, with virtually no impact on shop floor or office operations. Instead, we reduce the backlog prior to cut off.”

End result? “When the cutter gets here a few weeks after order, I know I’ll be able to use it,” concludes Mr. Wiedmeyer. “It provides a comfort factor that I haven't found anywhere else.”

Gleason

Gleason Corporation

1000 University Avenue
Rochester, NY 14607-1282 USA
Tel: 585-473-1000
Fax: 585-461-4348

Gleason Cutting Tools CORPORATION

1351 Windsor Road
Loves Park, IL 61111 USA
Tel: 815-877-8900
Fax: 815-877-0264

Gleason Works Ltd.

Plymbridge Road
Estover
Plymouth PL6 7LQ England
Tel: +44 1752 739 661
Fax: +44 1752 724 429

Gleason-HURTH

Maschinen und Werkzeuge GmbH
Moosacher Straße 42-46
D-80809 München Germany
Tel: +49 89 35401 0
Fax: +49 89 35401 640