



TiNi AEROSPACE TURNS TO SWISS ST 26 AND PARTMAKER FOR PROTOTYPE MACHINING

Northern California-based Specialist Aerospace Manufacturer takes the plunge into Swiss.



Richard Cosman, the Tornos CNC Swiss programmer at TiNi Aerospace, has had great success with PartMaker in programming parts on the company's new Swiss ST 26.

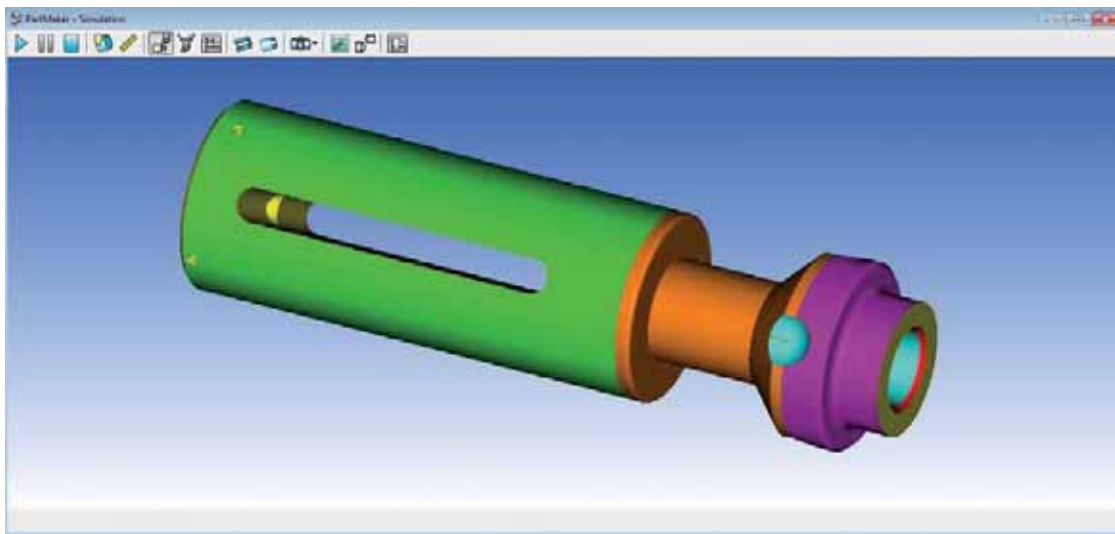
Located in the technology hub of the United States, in Northern California's Silicon Valley, TiNi Aerospace is an innovative specialty manufacturer of mechanical release devices for the aerospace industry. TiNi's products are used in a broad range of aerospace applications, but primarily for helping aerospace manufacturers test their products strength. TiNi's products can be used in place of single use pyrotechnic testing mechanisms.

Historically, TiNi has outsourced much of its machining work to shops in the Bay Area, but more recently decided to bring some its parts appropriate for Swiss applications in house specifically for the purpose of being able to turnaround small lot sizes for use in their own internal R&D and testing efforts. TiNi chose to make their first Swiss-machine a

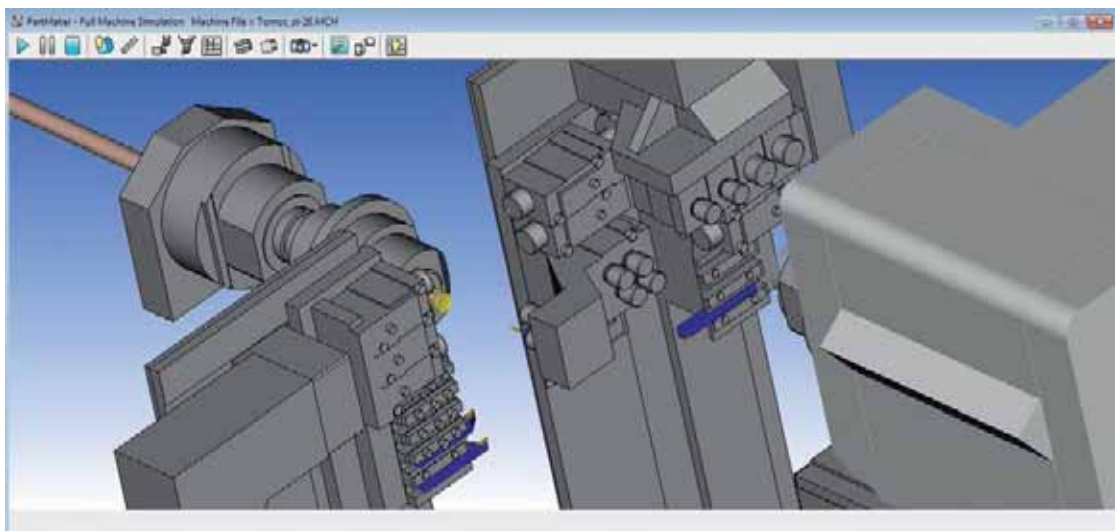
Swiss ST 26 based on the combination of functionality to price that it offered against other machines on the market. To better harness the power of the Swiss ST 26, TiNi chose to invest in Delcam's PartMaker SwissCAM to tackle the programming of titanium bolts it makes in small lot sizes to support its own R&D efforts.

PartMaker SwissCAM is a CAD/CAM system specifically dedicated to automating the programming of Swiss-type lathes. PartMaker SwissCAM supports the full line of Tornos Swiss-type lathes, including machines programmed with the TB-Deco software and standard ISO G-code programs. The developer of PartMaker and Tornos has been partnered since 2005 when PartMaker became the first off-line CAM system to integrate with TB-Deco.

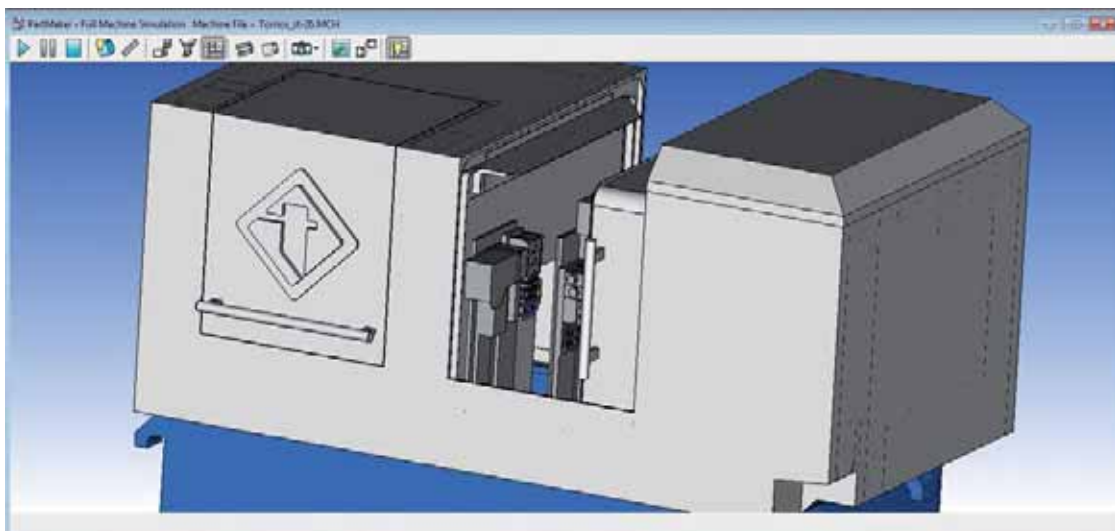
Presentation



The part above is a latch part used in one of TiNi Aerospace's unique mechanical release devices.



PartMaker's Full Machine Simulation is based on actual solid models of the Swiss ST 26, thus providing a photorealistic machine simulation to the user assuring his program will run error free and without collisions.



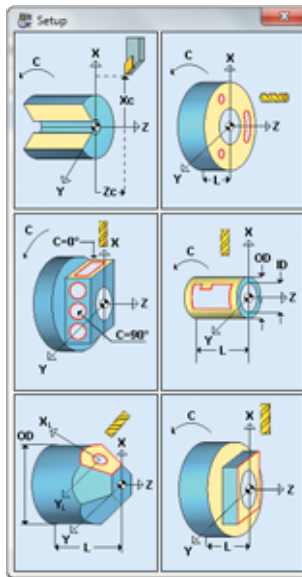
PartMaker's Full Machine Simulation allows the user to see the entire machine housing or just inside of the machine.

"The challenge we have is achieving tight tolerances at short volumes. We don't have a long production run to dial our process in. Everything is slightly different than the previous job," says company Operations Manager David Bokaie. "PartMaker has worked amazingly well in helping us manufacture our designs on the Swiss ST 26."

"Particularly being new to Swiss and given the capability of the Tornos machine, PartMaker really helps us tap into what the machine can do for us," continues Bokaie.

New to Swiss, Ease of Use

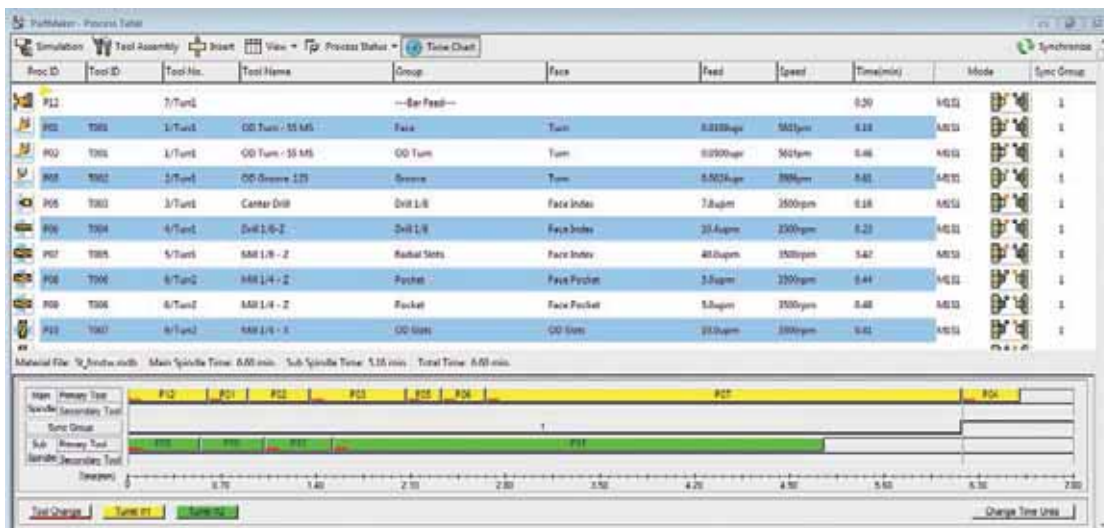
As the Swiss ST 26 was TiNi's first Swiss-type lathe, it was imperative that they chose a programming platform suited to the task of programming the machine productively and intuitively. PartMaker applies two patented technologies in automating the programming of the Swiss ST 26. The first of these patented technologies is called "Divide and Conquer." PartMaker's Divide and Conquer programming approach lets the user break a complex part with a number of turned and milled features such as the ones manufactured by TiNi Aerospace.



PartMaker SwissCAM applies a patented Divide and Conquer programming strategy to automate the programming of parts with a number of Turned and Milled features such as the ones manufactured by TiNi Aerospace.

ware does the synchronization automatically. If the user tries to synchronize operations the machine cannot achieve, the software will provide a warning. Once the optimization is completed, PartMaker displays a graphical time chart indicating the degree of overlapping that has been achieved.

"PartMaker is really easy to use, the learning curve has been awesome," says Richard Cosman, TiNi's CNC programming responsible for programming the Swiss ST 26 .



PartMaker's Patented Visual Synchronization approach allows TiNi Aerospace programmers to optimize the cycle time of parts being machined on their Swiss ST 26.

Presentation



Faster Programming, Better Cycle Times

With introduction of the combination of the Swiss ST 26 and PartMaker into their manufacturing process, TiNi has been able to program quickly and achieve better cycles times.

"PartMaker helps us produce a good part the first time which means a lot faster turnaround. Parts we previously would have to do in two setups, we are spitting out in half the time" says Cosman.

TiNi has also been impressed with the quality of the technical support provided on PartMaker. Both Cosman and Bokaie note that PartMaker's technical is both highly responsive and expert. In business in which "failure is not an option" according to Bokaie, this superior level of responsiveness has been particularly helpful to TiNi in meeting the high demands it has of its products.

"The support I have received from PartMaker has been incredible. If I ever have problem, their support team is right there with solution," states Cosman.

Collaborating for a Solution

Much of the success TiNi has enjoyed with PartMaker can be attributed to the close cooperation between Delcam and Tornos engineers. Tornos provides the developers of PartMaker a great deal of information that helps them develop robust programming solutions for Tornos machines. This has particularly been the case of the Swiss ST 26, which is a relatively new machine in the Tornos line-up. By working together proactively, Tornos and PartMaker engineers were able to assure the PartMaker solution for the Swiss ST 26 was robust before putting it into customers hands. Additionally, Tornos supplied PartMaker actual solid models of the ST 26 which PartMaker incorporates into its Full Machine Simulation technology. Since PartMaker's Full Machine Simulation is based on actual solid models of the ST 26 provided by Tornos, PartMaker users are able to achieve an almost virtual reality-like simulation of a part cutting on the ST 26 offline at their PC before sending the CNC to the machine. This realistic level of simulation combined with a robust post processor for the ST 26, makes PartMaker SwissCAM a very powerful, reliable and easy to use programming platform help users program their Swiss ST 26 more productively. PartMaker's ease of use and strong technical support assures users they will become productive quickly.



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