CNC4you

The Shopfloor Journal

1st Edition 2008

Training for Sinumerik:
Insight Guaranteed

Siemens training offers for CNC processing

Sub-contractors: Semlinger feeling the “G” force

Processing cycles for new milling strategies

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CNC4you

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Dear reader,

Highly qualified specialists that manufacture high-tech products, demonstrate problem-solving skills and show initiative are vital to the future of Germany as a center of business activity. A core element of this requirement is the expertise that will secure companies' innovative and competitive edge in the future, too.

At Siemens, we acknowledge our responsibility in this respect by supporting training and development in many ways. We provide help and guidance to users, from basic training through to advancead qualifications for continuing development in the work environment. We offer a variety of training opportunities, in the form of courses at our Siemens Training Centers or at our partners' training facilities, as well as self-study programs, for developing efficient turning or milling techniques and learning how to keep machines running.

When it comes to quality, we're pretty special, too. All our instructors undergo rigorous training and approval processes so you can be sure that the training you receive is state-of-the-art. We run courses with clearly thought-out training concepts and well-designed support materials or self-study media, such as CD-ROMs and Internet-based training, to develop your numerical control skills.

Why not benefit from our experience of more than 20 years of delivering training for trade and industry? Take a look at what we can offer at **www.siemens.com/sitrain**

There's bound to be something that's right for you. We hope you enjoy reading more about training and development in this issue of CNC4you.

Thomas Appel

Head of Business Development Training, Siemens Nuremberg

Expertise: Siemens trainees learning on the machine

ATTRACTIVE TRAINING OFFERS FOR CNC PROCESSING

Insight Guaranteed

The best technology for turning and milling is of little use if the right knowledge is lacking. While the controls and the workshop-oriented software ShopMill and ShopTurn have a very intuitive design, so that users can achieve great results after just a short period of instruction, a certain amount of training is still required. Therefore, Siemens offers a whole range of training courses that help users get the most from their turning and milling machine.

At Siemens, training and education in the CNC field is extremely important. Both trainees and experienced professionals who want to perfect their knowledge through advanced training are intensively supported by Siemens.

Even in vocational colleges, Siemens is dedicated to providing lecturers with knowledge of the latest processing technologies. Special support staff for vocational colleges, technical colleges and universities organize teacher training for this. All teaching institutions can obtain classroom licenses for the CNC training software SinuTrain from these contacts at special rates. Siemens specialists also advise the training institutions on which technologies are best suited to CNC training.

COACHING FOR USERS

Even those who have been in the industry for a while should continue to learn. A wide range of opportunities are available to help staff discover the the latest tips and tricks for processing cycles, making processing more efficient, or to start processing with graphically supported workshop programming, for

Technology in detail

SinuTrain/Jobshop

SinuTrain/Jobshop is the CNC training software for PCs that simulates the control system. It can be used to create NC programs based on the programming language DIN 66025 and to simulate their process flow. The programs can then also be used on an actual machine.

The SinuTrain classroom license enables student and teacher work stations to be connected, so that the trainer can access the individual participants' screens from the trainer work station at any time.

Good for getting started: Computer-based training (CBT) with a virtual machine

example. These options range from learning CD-ROMs or web-based training (WBT) on the Internet for independent study right through to four-day courses on the operation and programming of ShopMill and ShopTurn.

The training courses for ShopMill and ShopTurn, both of which are half theory and half practical exercises on the machine, are offered at six different locations in Germany. In addition to the "headquarters" for ShopMill and ShopTurn in the TAC (Technology Application Center) in Erlangen, Siemens has been able to partner with selected training centers run by the chambers of trade and industrial vocational education centers across Germany, who offer tailored practical training units for CNC processing. Currently, courses are available for CNC users on a variety of topics in Aalen, Lübeck, Hanover, Tuttlingen, Magdeburg and Dortmund.

QUALIFIED TRAINERS

The training partners must meet high standards. All trainers must undergo a certification program and prove that they are able to hold training courses of excellence, both in terms of content and teaching skills. The certification program is repeated every two years to ensure quality.

As Siemens works with regional partners, the courses are located close to users, and as a result, the content can be easily adapted to their needs. Siemens supports training partners by providing training documents and train-the-trainer courses to keep training managers up to date with the latest developments.

SINUMERIK TRAINING

Anyone who wants to familiarize themselves with the world of Sinumerik beyond ShopMill and ShopTurn can find a wide range of possibilities in the special training options offered for Siemens automation technology.

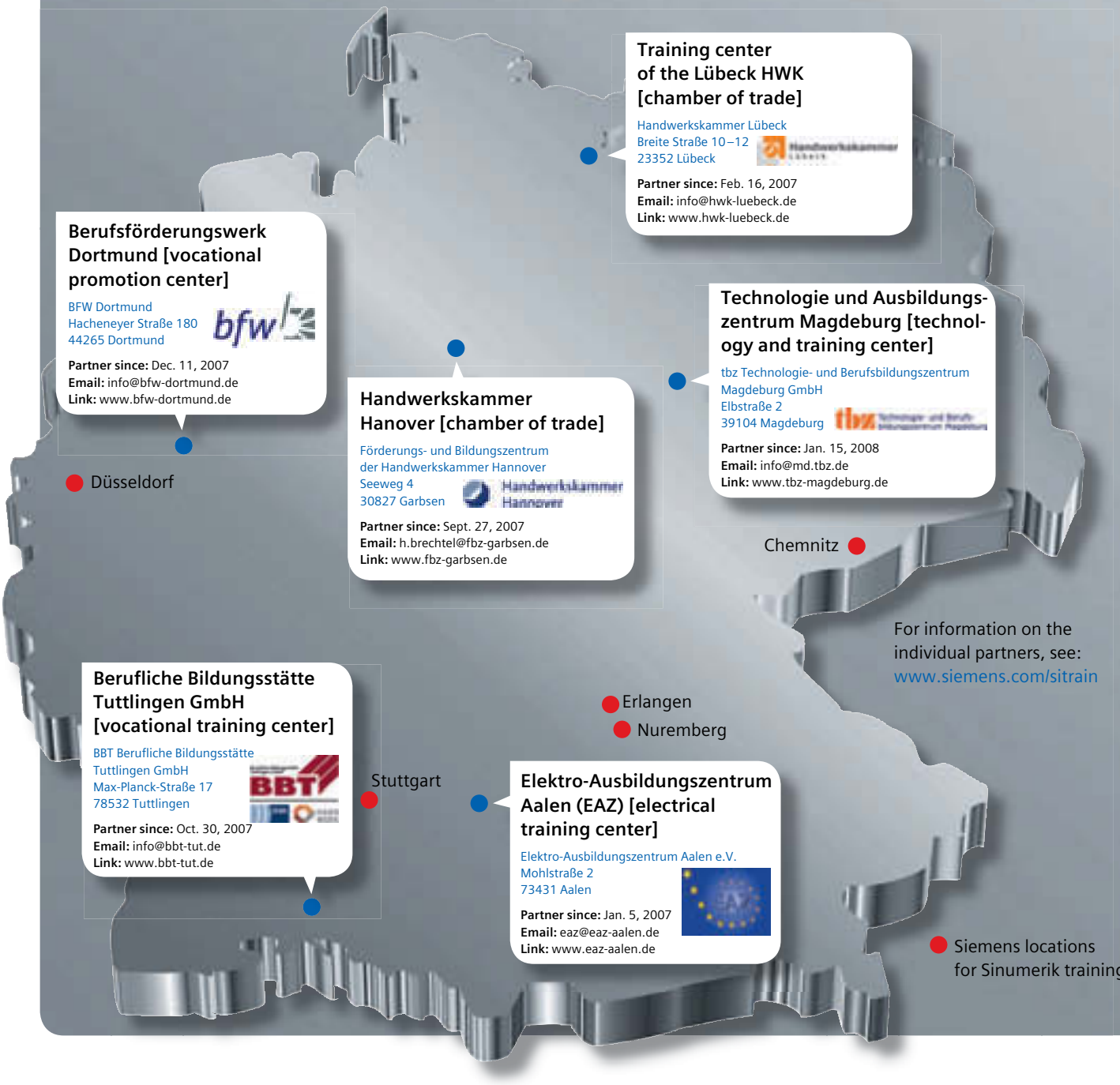
The topics, which are offered in the training centers in Nuremberg, Chemnitz, Düsseldorf and Stuttgart, range from the commissioning and maintenance of a Sinumerik 840D or Sinumerik solution line or programming through to highly-specialized topics such as the programming of measuring cycles.

For more information:
www.siemens.com/sitrain

GERMANY-WIDE TRAINING

Authorized Partners for CNC Training

In order to offer professional ShopMill and ShopTurn training courses on turning and milling machines throughout Germany and not just at the TAC in Erlangen, Siemens is building up a network of training partners. Siemens provides these authorized training partners – for example chambers of trade and vocational training centers – with the training documents, training measures and a broad range of technical knowledge. Currently, agreements have been reached with six training institutions. Further agreements are in the pipeline.



"CLASSROOM" WITH APPRENTICES AT EMO 2007 IN HANOVER

The Cutting-Edge Classroom

Drawing the crowds: Visitors are gripped by the presentation on ShopMill functions

Anyone visiting the Siemens booth at EMO in Hanover (September 2007) could not have failed to notice the Siemens apprentices from Chemnitz in the booth, who were demonstrating the art of programming with ShopMill and ShopTurn to students, trainees and anyone else who took an interest. One conclusion drawn after an exhausting, but eventful week: many people still have no idea what can be done these days with CNC.

The designers of the Siemens booth for EMO 2007 had come up with a novel idea: the apprentices themselves should demonstrate to other young people and to interested adults just how easy it is to turn and mill using workshop programming such as ShopTurn and ShopMill.

In the specially designed "classroom", the young women and men who are training to become machinists at SPE (Siemens Professional Education) in Chemnitz, demonstrated how to program simple workpieces and responded patiently to the many questions.

OVERWHELMING INTEREST

In groups of three, the future machinists demonstrated ShopMill and ShopTurn applications at two PC stations equipped with the latest SinuTrain software and did their best to interpret machining ideas suggested by the visitors using the programs. The popularity and level of interest were overwhelming. At peak times the young millers and turners didn't even have a chance to stop for something to eat.

GROUND TO MAKE UP IN PROGRAMMING

The young turners and millers from SPE Chemnitz were amazed that many of their contemporaries were completely unaware of the new possibilities offered by graphics-based programming with ShopMill and ShopTurn. Many of the people who watched a demo of the Jobshop interfaces in the Siemens booth said that at their technical college they had only ever used DIN ISO or PAL for programming. The thought of how easy programming for CNC can be came as a complete revelation to many people. The same was true for quite a few of their tutors, as well: if they had worked with ShopTurn and ShopMill at all, then it was usually with outdated versions, so they were eager to learn what could be done with the latest version.

Many of them were also delighted to leave the booth with a 60-hour SinuTrain CD so that they could try out the new functions again on their own time at home. The young machinists from Chemnitz enjoyed their time in the spotlight at EMO, and they certainly brought home to many of their peers just what can be done with graphics-based CNC programming.

WHAT'S HAPPENING AT THE TAC?

Training and More

Last June (2007), Siemens opened its new Technology and Application Center (TAC) in Erlangen, Germany. Six months later, the assessment and reaction is a positive one.

The application center, which covers an area of 7000 square meters, is well equipped to teach both new recruits and old hands about the latest turning and milling technologies on the shopfloor. Two training rooms with the SinuTrain training software and latest Sinumerik controls, plus a machine hall with two turning machines and three milling machines, await users.

"TASTER COURSE" FOR CUSTOMERS

The advantages of the TAC were demonstrated for the first time at the milling machining seminar, which was held in conjunction with the company Hahn & Kolb. 50 participants wanted to find out about the programming options with ShopMill during the one-day event. Beforehand, experts explained the basics of tools and materials. Participants were impressed with how fast a machine can be run if the right tool is used. For greater efficiency, the group was then split up. While some watched a demonstration on the machine, others were given an introduction to ShopMill and everything related that a user needs to know. After an hour, the groups swapped places. The informative training day ended with a presentation on the production and manufacturing data management tool MCIS and a tour of the facility. At the end of the day, all participants were presented with a certificate. Customers were impressed by the event and the TAC, which offers ideal conditions for hands-on training. Events with technology partners are planned four times a year, and the next event is already in preparation.

VERSATILE EVENT PLATFORM

The TAC is not just suitable for training courses, however, it is also an excellent forum for many other events. From the CNC Arena and partner meetings to the open day for trainees, experienced machine operators and trainees alike are able to gain an insight into the diversity of the Sinumerik world.

After the introductory part, seminar participants were able to try out ShopMill programming on the machine themselves

Machine center in the TAC

- Universal lathe Spinner TC600
- Two-axis lathe Braungart Retrofit
- Three-axis machining center Leadwell V40
- Three-axis machining center Saeilo Contur MMV-660
- Five-axis machining center Huron K2X10 Five

RATIONAL PRODUCTION WITH SHOPMILL FOR SUBCONTRACTORS

Feeling the "G" Force

Sub-contracting almost always means time pressure – even for the customer. This is where regional companies come into their own! Often, because of last-minute planning many details still have to be discussed even after the job has been assigned. This means that you have to be able to "drill down" and be flexible. Shopfloor software for CNC machines is the key to success...

Expert mechanical competence, reliability and flexibility transformed Semlinger Feinmechanik GmbH in Nuremberg from almost nothing into a successful sub-contractor. A key factor in their success was in acquiring their first CNC controlled milling machine. The efficiency of shopfloor production greatly depends on how easily machines can be controlled and operated. According to company owner Karsten Semlinger, "The DMG consultant said that if you're switching from conventional production to 100 % CNC milling, nothing beats Sinumerik together with ShopMill. That was definitely the case for us."

EASY INTRODUCTION

The ShopMill shopfloor software covers each step with symbols and clear descriptions, for example, rough milling contoured pockets, processing residual material, finishing edges or plates. All steps are linked with each other, and with the geometry of the contoured pocket. The machine is operated completely according to the operator's needs for the object and work process, which makes the introduction to CNC production extremely easy. This also ensures that each new employee at Semlinger can be productive. Specialized CNC personnel are difficult to find, so it's important for new employees to become proficient in using the machine itself as quickly as possible. The Jobshop programs offer excellent support with diagrams and graphics to illustrate the process and to show which input does what. Now even ShopMill beginners can complete many everyday tasks in little time such as correcting milling data, changing object measurements or milling several parts from one object without too much programming using the zero offset.

With CNC technology, production has not just become more rational, it has also become possible to process even complex parts or large batches quickly and precisely. Today, Semlinger offers a comprehensive range of services with five CNC machines, all of which use Sinumerik and Jobshop user interfaces covering everything to do with precision machining in 2½D – from single patterns to million-part batches (turning bars). Thanks to the standardized operating method of ShopTurn and ShopMill, employees who work on a drilling machine one minute, and then on a milling machine the next are able to familiarize themselves with the other system quickly.

FLEXIBLE TUNING

For a long time, the sub-contractor has worked both for large industrial customers and for a wide range of medium-sized businesses – placing himself in direct competition with Asia. "In the last few years, we have lost plenty of orders to China", explains company owner Semlinger. "But a lot have come back to us in the meantime." Ever shorter deadlines also pile the pressure on clients in development and production – and with it, the amount of alterations. Manufacturing requirements are often very different for each job. If, for example, a CAD/CAM file for a drilling pattern does not contain any electronically readable object contours, the client needs to be consulted and the part program updated. If the sub-contractor is in Asia and both parties have to communicate in a foreign language, it's difficult to be sure that the changes will be implemented correctly. If just one detail is wrong or something goes wrong during transport, the original cost saving is lost and time is wasted.

In this regard, Semlinger is highly flexible: ShopMill and ShopTurn allow employees to feed information sent by telephone, mail or fax straight into the existing part program in the machine. ISO programs and program-specific processing cycles can be combined in any combination, even line-by-line.

Even information that is taken into account during construction, but not specified in the diagram, can be clearly determined by the integrated contour calculator.

This flexibility in handling manufacturing templates, the ability to implement even last-minute changes quickly, the efficient and unbureaucratic way

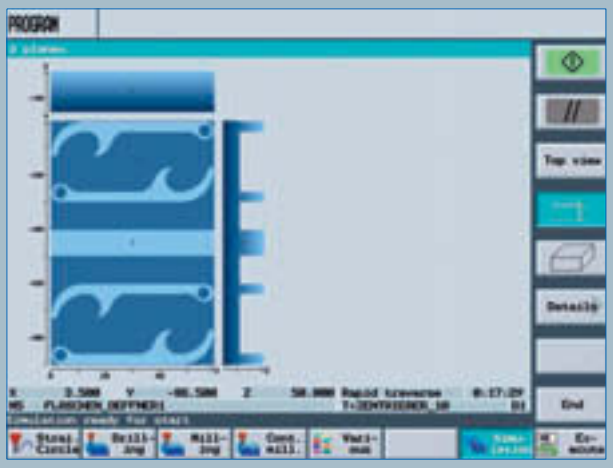
of working and reliability are the most important success factors – and along with price and quality, they are also important to a large number of clients.

FIT FOR THE FUTURE

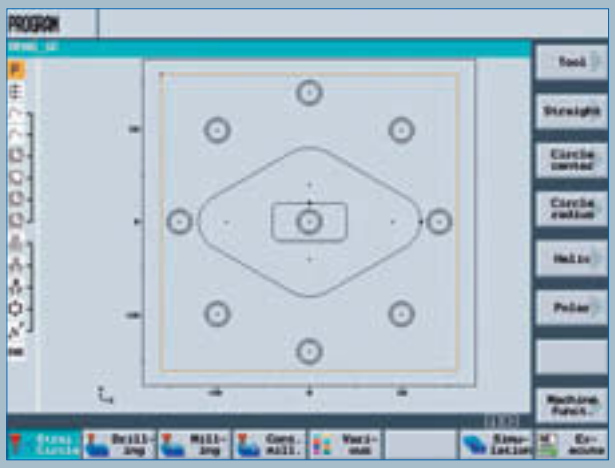
To stay ahead of the game, Semlinger has equipped another milling center with an A-axis, whose programming greatly simplifies the ShopMill swivel cycle. There are also plans to acquire a machine for five-axis machining – with Sinumerik and ShopMill, of course. "Anyone can make simple parts, and many can make them cheaper than us", says Karsten Semlinger in talking about the first step. "But when it comes to greater complexity and higher quality, subcontractors in Germany are extremely competitive. The Sinumerik Jobshop programs help us to manage these challenges easily and confidently in all situations."

For more information:
www.siemens.com/jobshop

Technology in detail



The zero offset significantly reduces programming time, for example when milling several parts from one object. The simulation function in ShopMill shows at a glance whether everything was entered correctly



With the integrated contour calculator, you can enter radii and bevels for example and change them at any time. The dynamic line graphic gives complete control and reliability

The swivel cycle allows you to program work at different tilt angles on the A-axis in absolute measurements. Based on the zero point, the control system automatically calculates the correct tool paths

HIGHER CHIP VOLUME WITH TROCHOIDAL AND PLUNGE MILLING

Fronting up to the Groove...

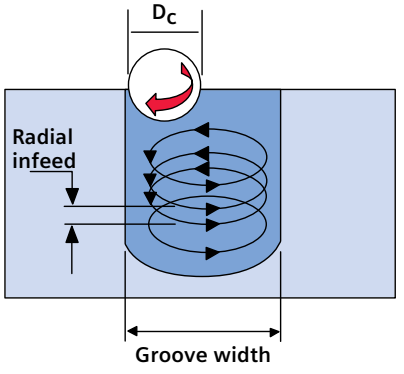
You don't always need the end milling cutter or right-angle milling head to mill open grooves. The new trochoidal and plunge milling strategies, combined with the specially developed trochoidal milling tools from Seco Tools, enable even low-performance machines to achieve a considerable chip volume.

If grooves with a high depth of cut are to be milled on weaker machines, the depth of cut and the feed speed must be drastically reduced, as the machine is otherwise overloaded and vibrates. The result: much longer machining times.

This can be avoided with trochoidal milling. In this process, the continuous rotation of the milling cutter is combined with a linear feed movement. In this way, the required groove width is created with a high depth of cut in a "slab milling process". Shell end mills with inserts and cylindrical carbide milling cutters are used here, among other things, whereby the tool diameter is smaller than the groove width to be created. The low radial infeed leads to a clear reduction in tool and machine load. By increasing the cutting speed and the feed, machining is more economical than with conventional groove milling.

AXIAL DISTRIBUTION OF FORCE THROUGH PLUNGE MILLING

In conventional milling, where one layer is always removed each time, radial forces are mainly applied to the spindle. In the case of high projection lengths and high shear force in particular, this results in considerable bending moments. If large volumes of material then



Path movement for trochoidal milling

have to be removed on thin-walled workpieces, the feed and cutting speed must be reduced, otherwise the vibrations are too great. Plunge milling offers one solution here.

In this procedure, machining does not take place at the perimeter of the tool but on the front side. Machining is carried out through the offset plunging of the tool.

The load is mainly applied vertically on the spindle and workpiece clamping and, therefore, only in the direction of the greatest machine rigidity. As a result, higher cutting values are possible, in particular for unstable machines.

For more information:
www.siemens.com/sitrain
www.secotools.de

"Open groove" cycle for ShopMill

Together with Seco Tools, Siemens has developed the "open groove" cycle, which enables automatic path generation for trochoidal and plunge milling once a few parameters have been entered.

Cycle for trochoidal milling on open grooves

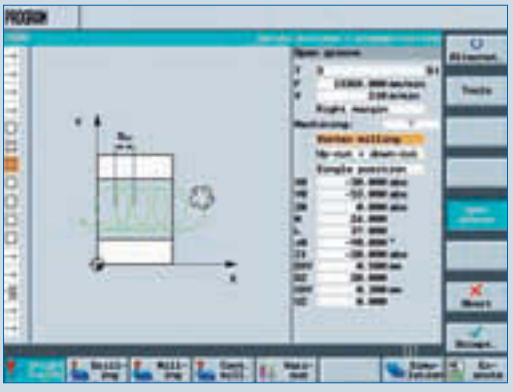
Previously, the NC programs for complex path movement in trochoidal milling were generated by CAM systems. With ShopMill, this milling strategy is now available directly on the control system.

The dimension and position of the groove is queried on the screen. ShopMill uses the parameter details, including the groove width, milling diameter and machining type (rough-work or smoothing) to automatically determine the path movement of the milling cutter. Same direction, counter-direction and – for maximum chip volume for rough-work – a combination of same and counter direction can be selected as the milling direction. Material is removed in both directions of the oscillating movement of the milling cutter. The cutting length of the milling cutter can be set using the infeed depth. As a result, the optimum cutting length is always used.

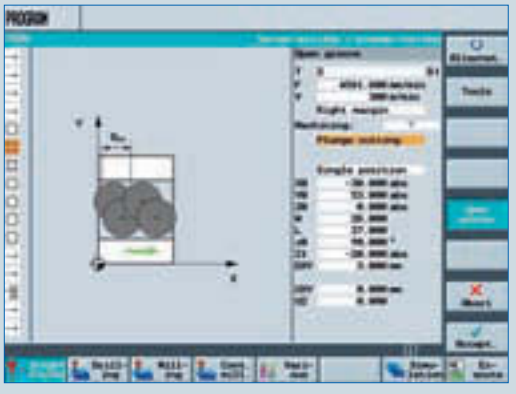
Cycle for plunge milling on open grooves

Plunge milling is ideal for creating deep cavities and grooves with unstable machines and workpieces. In plunge milling, the milling cutter enters the material vertically and pulls back again once it has reached the maximum plunge depth. This upward movement is carried out if possible at less than 45 degrees with a wrap angle for the milling cutter of less than 180 degrees, or otherwise vertically upwards. The plunge operation is continued on alternate sides along the groove.

For plunge milling, as in trochoidal milling, the machining type can be rough-work, smoothing of edge and/or base and pre-finishing. If a lot of residual material remains on the groove walls if rough-work is used, it is beneficial to mill the walls to the finishing overmeasure using pre-finishing. Chamfer machining is used to break the edges after the groove has been milled.



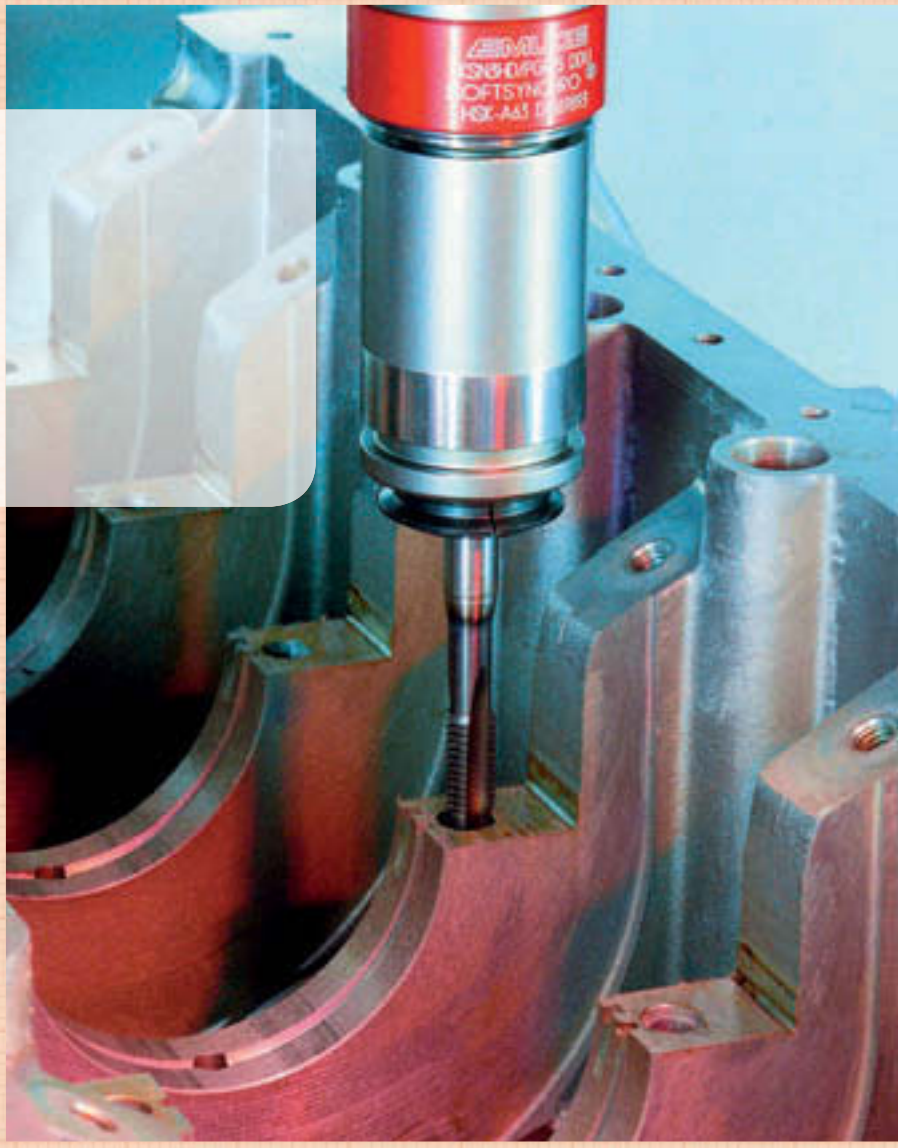
"Open groove" cycle with the trochoidal milling strategy



"Open groove" cycle with the plunge milling strategy

FASTER PRODUCTION
OF INSIDE THREADS

A Better Thread



With modern tools and the right control software, inside threads can now be produced both with and without chips. Experts differentiate between conventional tapping, cold-forming tapping (thread forming) and thread milling. Find out what's best…and when.

During tapping, threads are cut into pre-drilled holes with screw taps manually or by machine. This procedure can be used for practically all areas of application and materials.

Cold-forming taps are used for the chipless, machine creation of standard threads. In contrast to tapping, the thread is not created by cutting out material, but by cold forming. The material is pressed into the required profile without interrupting the fiber orientation of the inside thread.

With the development of computer-controlled machine tools, thread milling was introduced as an additional procedure. The thread is milled into the hole through the specific superimposing of the circular and feed motion of the milling tool with its pivoting.

THE "CLASSIC" METHOD: TAPPING

In the tapping process, the material is taken off step-by-step in a continuous cut. Tapping comes up against its limits with materials with a hardness of more than 60 HRC and deep threads for which problems arise with dimensional accuracy through to tool breakage because of poor chip removal.

CHIPLESS: COLD-FORMING TAPPING

Cold-forming tapping is used for materials with a strength of less than 1200 N/mm² and a stretch at break of more than 8 percent. In the chipless process, the thread is created by a step-by-step re-forming process and, thanks to cold-forming, achieves higher static and dynamic strength in combination with a very good surface quality.

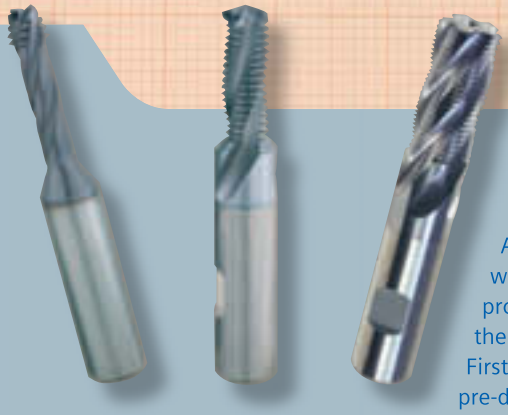
Disadvantages of cold-form tapping are the high torques compared to conventional tapping and the need for high-quality lubricants.

PRODUCTIVE AND PRECISE: THREAD MILLING

Thread milling is suitable for almost all materials and offers the greatest flexibility and productivity of all the procedures. The thread flanks are machined cleanly and there is no axial miscut. For hard-to-machine materials, thread milling is the best method – and not just because if the tool breaks it can be removed easily. There are restrictions relating to the thread depth, which can generally be no more than three times the thread diameter. But whatever method is used, one thing is certain: with the thread cycles in ShopTurn and ShopMill, programming is quick and easy.

For more information:
www.siemens.com/sitrain
www.emuge.de

Technology in detail



Cycles for the production of inside threads

Programming for inside threads is complex, because a large number of technology values need to be taken into consideration. Programming can be carried out quickly and easily with ShopTurn and ShopMill thread cycles.

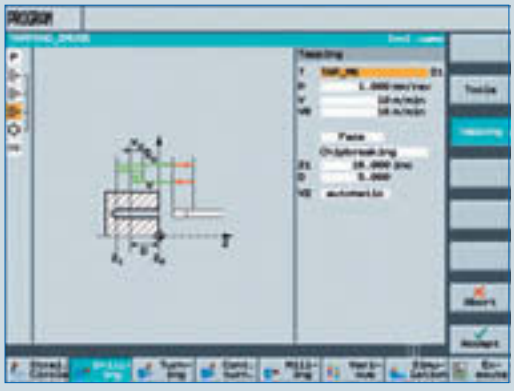
In these cycles, the required tool, die gradient, thread depth, cutting speed and the procedure-specific technology parameters are queried.

The procedure-specific parameters take account of the individual characteristics of the manufacturing process e.g. whether, in conventional tapping, the thread is to be produced in a single cut or via swarf milling. The characteristic must be selected on the screen, and the program code, e.g. for the backward movement and change in direction of rotation for swarf milling, is automatically created by ShopTurn or ShopMill. As a result, programming can be carried out quickly and accurately and without expert knowledge for the conventional/cold-forming tapping, thread milling and drill thread milling thread cycles.

Linking of work steps

As a rule, separate work steps, which are individually programmed, are needed for the production of inside threads. First, the hole is centered, and pre-drilled and the inside thread is then created by drilling, milling or cold-form tapping. If a workpiece contains several identical inside threads, the work steps must be reprogrammed for each position. To reduce the programming work involved, sub-programs can be created, which are then called for the various positions.

With ShopTurn and ShopMill, programming can be carried out even more efficiently in the work schedule. All work steps are programmed just once and then linked via a position pattern. This means that programming for centering, drilling and tapping is created just once and then applied to all positions of the pattern. Configurable cycles for lines, hole circles, grids, frames and any positions are available as position patterns.



Tapping cycle in ShopTurn

Linked work schedule with hole circle position pattern for tapping

SINUTRAIN – TRAINING SOFTWARE

From Diagram to Part – As easy as ABC

The new version of SinuTrain does not only offer standardized programming control, but also realistic handling of machine tools, which significantly improves the effectiveness of the CNC training.

New SinuTrain version 7.3 at a glance

- Conversion of license disks to USB sticks
- ShopMill and ShopTurn software versions 7.2
- JOG mode for manual axis work
- New position patterns
- Support of variables for engraving

The standardized controlling training software can be installed on a PC or laptop to provide simple instruction in milling with ShopMill or turning with ShopTurn. The overall software package for CNC control systems in the Sinumerik family contains a fully identical user interface for Sinumerik controls, a graphical simulation, and training examples, allowing students to fully internalize the steps they will be using on the shopfloor every day.

The standardized training keypad for turning and milling is easily connected via the USB interface, and allows trainees to learn how to operate and program the machines in a very realistic environment.

NEW FUNCTIONS MAKE LIFE EASIER

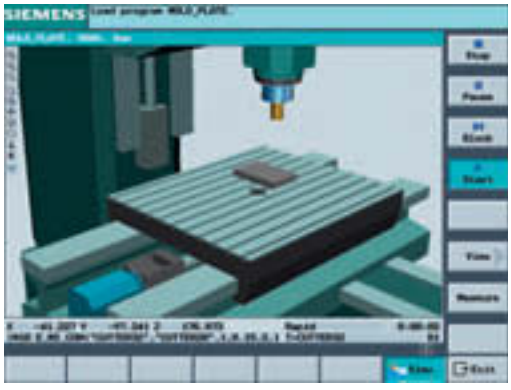
With the new SinuTrain version 7.3, data from compatible software versions and corresponding SinuTrain machine customization can be imported via USB stick and implemented on the machine. The new functional upgrades to ShopMill and ShopTurn are now also available for SinuTrain. The new position patterns and templates, variables for batch sizes and dates in engraving processes are great examples of shopfloor-style programming. There is also a JOG function, which allows the manual axis method to be implemented in SinuTrain.

VIRTUAL MACHINE FOR TRAINING SINUTRAIN VERSION 6.3

If no machines can be acquired for training, the optional virtual machine for training from SinuTrain version 6.3 is the cost-effective solution. The simulated material removal during cutting demonstrates the process from raw part to finished object.

The integrated collision simulation is particularly useful in helping students to detect errors in the programming or machine set-up and identify conflicts. This saves money because it makes conflicts easier to avoid on the real machines and it means that expensive repairs are not necessary.

With the integrated collision simulation, errors can be identified in the programming or machine set-up



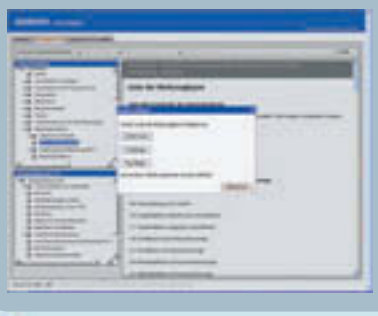
The virtual machine for training allows realistic handling with machine tool

USER-SPECIFIC DOCUMENTATION WITH MY DOCUMENTATION MANAGER

Fast and Flexible Configuration

At EMO, Siemens presented My Documentation Manager, a new tool for all Motion Control customers. Machine manufacturers, end customers and users can put together their own document packages for specific application scenarios via the Internet. Drag and Drop can be used to compile the right content for a task from all the stored A&D documentation to create a user-specific document package, e.g. for programming or operation. This user-created information can be stored locally as a PDF or as XML (and in the future as RTF/Word) for linking with one's own documents.

A table of contents, index, list of sources, legal and safety information are automatically created and enhanced for the newly configured documentation. An added highlight: by means of an automatic notification function, users are informed of updates for the documents they have put together and can, therefore, quickly adapt their packages in accordance with new software and hardware.



For turning, milling, grinding or nibbling: with My Documentation Manager, machine manufacturers and operators can compile individual user manuals for specific MC topics on the web

For more information:
www.automation.siemens.com/docconf

TOP!

FIRE PROTECTION SYSTEM SINORIX AL-DECO STD

Effective Fire Protection

Oil-cooled machine tools can catch fire relatively easily. This is due to a combination of specific factors: oxygen in the machine tool operating room, high temperatures caused by high speeds, and the inflammability of the oil coolant.

The Sinorix al-deco STD fire protection system helps first to limit the consequences of a fire, and second enables data to be prepared that can be extremely valuable in clarifying cases of fire. To detect a fire, a linear, tube-shaped sensor with pressure of approx. 12 bar is inserted inside the machine tool in the fire hazard area. This sensor breaks open at a temperature of approx. 120 degrees Celsius. The pressure then escapes and extinguishing measures are triggered automatically. At the same time, the emergency-off switch on the machine tool is activated. The system offers comprehensive and complex functions such as long-term recording of operating data, recording of the device history directly on the machine tool and reading of data via a USB interface. For central extraction of the oil mist, it is also possible to fit the machine with a ventilation shut-off valve that is connected to the fire extinguishing system. If a fire starts, this is closed and CO_2 is also blown in, which assists the extinguishing process in the machine.

If a fire is detected, extinguishing measures are started immediately

Machine tools can be retrofitted with Sinorix al-deco STD at any time. The fire protection systems are used successfully by many renowned Swiss watch manufacturers, for example.

For more information:
www.siemens.com/buildingtechnologies

WorldSkills: "A Once-in-a-Lifetime Opportunity"

Tim Hertrich interviewed by application engineer Karl-Heinz Engels

It's the taking part that counts: Among more than 1000 competitors from 50 countries in 40 disciplines at the 39th International Skills Competition in the Japanese city of Shizuoka were Tim Hertrich from Siemens Professional Education (SPE), Berlin, and Tobias Binder from Chiron. The trainees were the first German WorldSkills competitors ever in the CNC Turning (Hertrich) and CNC Milling (Binder) categories.

During the four-day competition last November, Tim Hertrich, for example, had to turn two aluminum workpieces and two steel workpieces in just 4½ hours each. The fact that the results did not quite live up to expectation was partly due to the fact that Tim Hertrich had just eight weeks preparation time to learn how to program parts using Mastercam software and to turn parts – most of it in his own time. Competitors from other countries, which have been attending the event for years, were professionally prepared and had all the necessary tools and resources to hand. The Swiss competitors had even bought a competition machine eight months earlier.

Tim Hertrich took his defeat sportingly. When interviewed by application engineer Karl-Heinz Engels at the first Siemens Apprentice Day at TAC Erlangen, he encouraged members of the audience to train for the next WorldSkills competition, to be held in Calgary in 2009: "It's a once-in-a-lifetime opportunity, so take it!"

More information:
http://www.worldskills.org/site/public/index.php
http://www.skillsgermany.de/start.php?file=home.htm

First Apprentice Day in Erlangen, Germany

NEW

The first Apprentice Day in the new Technology and Application Center (TAC) in Erlangen brought together the best Siemens trainees from Berlin, Chemnitz, Erlangen and Nuremberg, their instructors, as well as apprentices from HWK Karlsruhe, along with their trainer Hans-Peter Moser. In the "hands-on" part of the event, the apprentices in the group were given short tasks involving the programming of turned and milled parts. Their solutions were then discussed as a group. Finally, Tim Hertrich, a competitor at last year's WorldSkills in Japan, along with the head of the TAC Erlangen, Karsten Schwarz, and the application engineer Karl-Heinz Engels, encouraged the apprentices to take part in the planned Siemens qualifying rounds for the forthcoming SkillsGermany competitions in a bid to represent Germany at the next WorldSkills 2009 event in Calgary.

After lunch, for a little light relief, the apprentices watched the German bobsled film "Schwere Jungs" ("Heavyweights"). The final highlight was a tombola with lots of prizes and an interview and autograph session with Sandra Kiriasis, the Olympic women's bobsled champion and several-time German, European and World Champion.

Concentrating on solving turning and milling tasks: apprentices at the TAC

CNC-Arena Members' Meeting

The fifth CNC-Arena members' meeting took place in November at the TAC Erlangen. CNC-Arena is an independent online community **(www.cnc-arena.de)** for everything that has to do with CNC technology. Impressed by the technology and organization, more than 80 participants (mainly machine operators and machining experts) were given an update on Sinumerik news and trends. You can find out more about the meeting on the CNC4you website, including a picture gallery and video and audio interviews with attendees.

www.siemens.com/sitrain

CNC Superstar Named

The winner of the "Sinumerik Search for the CNC Superstar" competition is the Carl Severing Technical College for metallurgy and electrical engineering. Students at the Carl Severing Technical College in Bielefeld were delighted with their prize, a weekend trip for two, including hotel accommodation, to the German Touring Car Championship at the Nürburgring in July, which Norbert Schirbel accepted on behalf of the class. The Carl Severing Technical College won the competition with its graduation project of a central locking system for the classic E-type Jaguar. Karsten Schwarz (in the photo, right), head of the Technology and Application Center Erlangen, presented the prize to the lucky winners.

Everyone is a Big Boss

The Big Boss belt buckle from last June's CNC4you has proved a great hit. At the Karlsruhe Handwerkskammer training academy (chamber of crafts and trades), the apprentices from the Stadtwerke Karlsruhe and the Eckerle Group in Ottersweier programmed and milled the belt buckle with eagerness and enthusiasm. Together with their instructor, independent trainer Hans-Peter Moser from the training academy, the apprentices are clearly thrilled with their success.

Sandra Kiriasis Still on Course for Success

Since winning every competition last year with her bobsled team, Sandra Kiriasis has continued her winning streak this season, too. In Cortina d'Ampezzo, she won her third successive world championship and is heading for her sixth overall World Cup on the run.

At a roadshow in summer 2007, Sandra Kiriasis reported on her project with Siemens to mill the runners on the champion bobsled. The roadshow drew enthusiastic audiences in Chemnitz, Remscheid and Pliezhausen and at the Siemens booth at EMO 2007 in Hanover. At the TAC in Erlangen, Kiriasis once again talked about her successes, as seen here in conversation with Karsten Schwarz, head of the TAC (center) and application engineer Wolfgang Reichart.

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