NCG CAM Solutions Ltd.

Company Newsletter

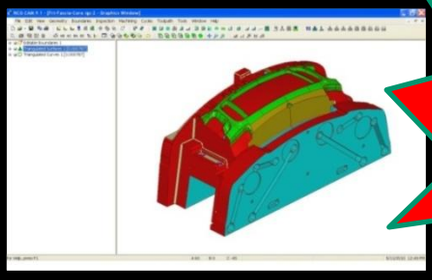
Winter 10 / Spring 11

NCG CAM – What's New in Version 10

The **NCG CAM** kernel was first written 14 years ago and was one of the first CAM systems to utilise multi-threading capabilities. Parallel processing improves the use of CPU's further still, by significantly speeding up calculation time already improved by multi-threading.

Almost all PC's today will be dual core, if not quad core and so support parallel processing. Basically, this means that your PC could support between 2 and 8 CPU's in one form or another.

NCG CAM now utilises this parallel processing facility. For example, when calculating rest finishing passes, rather than using a single processor, **NCG CAM** will spread the calculation among all the available processors.



***Above** – Core side of an injection mould tool for a car facia*

Eg: Rest Finishing

300% faster with 4 processors!

400% faster with 8 processors!!

Benchmarks show significant improvement in calculation times, especially on big parts like the automotive one above.

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Agie Charmilles in UK, Bundle NCG CAM Software With Their Mikron CNC Machine Tool Range

GF Agie Charmilles is a market leader in the sales and support of advanced, high-performance machines, including the Mikron High Speed (HSM) range. Their machine tool technologies are used extensively in the aerospace, defence, medical, oil/gas, power generation and motorsport sectors...to name but a few.

Their customers in the UK and Ireland are numerous and diverse and include many blue-chip OEMs, Tier 1 and Tier 2 companies, precision component subcontractors and precision mould tool and die-makers.

Agie Charmilles has recently partnered with NCG CAM Solutions in the UK, to bundle **NCG CAM** with their Mikron machine tool range.

+GF+ AgieCharmilles

By partnering with **NCG CAM**, Agie Charmilles can offer the following benefits to users of Mikron machines:

- ✓ Provide added value as can also advise and supply **NCG CAM** software, so the customer has a single source supplier
- ✓ **NCG CAM** is written for high speed machines, so reduces cutter wear too, saving customers money
- ✓ **NCG CAM** is very easy to use, so the training required by users is minimal
- ✓ Post-processors are readily available

"Agie Charmilles UK company mission is to provide our customers with the most innovative solutions to their problems on the market, which means to create highly efficient, accurate and reliable production solutions. We are helping our customers in producing competitive products and in the time line the market needs which makes them more profit - to realise it more efficiently by introducing advanced production equipment and software, including NCG CAM." says Stephen D. Burrows, Product Manager - Milling & Laser, GF Agie Charmilles.

NCG CAM solutions will be holding a global reseller event at Agie Charmilles, Coventry in July 2011, to preview the launch of **NCG CAM** v11.0 with live cutting of the new fine finish machining on a Mikron HSM 400U LP machine tool .

NCG CAM Events

Machsoft Co. Ltd

Intermold Thailand
June 2010
Thailand

บริษัท
แมชซอฟท์

****Exhibiting in 2011 ****
23 – 26 June 2011
BITEC, Bangkok, Thailand

Revo Trading Open House at Kobayashi Machine Co., - www.kkmt.co.jp
November 2010
JAPAN

REVO サポート

Demonstration Version Available to Download

A demonstration version of NCG CAM software, is available to download.

The demonstration version of **NCG CAM** has unlimited usage and while there are restrictions to the machining output, it can also be used in its basic form as a ***FREE*** .iges viewer.

http://www.ncgcam.com/demorequest.html

NCG CAM Solutions Ltd.
ON
YouTube

Also see NCG CAM in action on You Tube

http://www.youtube.com/user/NCGCAMSolutionsLtd

NCG CAM – What's New in Version 10

Adaptive Area Clearance
Adaptive area clearance eliminates full width cuts using a concept similar to trochoidal milling.

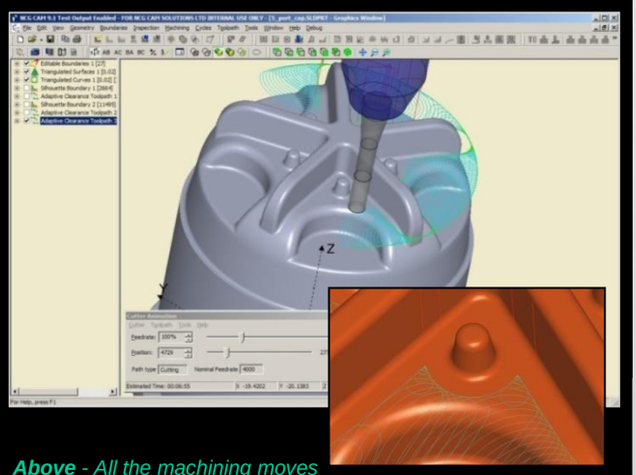
This unique cutting technique is aimed towards high speed machining with solid carbide cutters. It provides the ability to safely cut using the full length of the flute at the optimum cutting speed for the material and part. Tool wear is spread evenly, cutting more on the flute than the bottom of the cutter, reducing deflection and the potential for vibration by maintaining a constant load on the cutter. The technique is particularly suitable for cutting hard materials and also some electrode manufacturing. The strategy automatically adjusts the toolpath for efficient and safe machining, improving cutting conditions and allowing more consistent and possibly higher machining speeds to be maintained.

As well as significantly improving tooling life, adaptive area clearance can reduce machining time by an average of 25% over conventional roughing as the machine uses the full flute length of the cutting tool, and the machine runs at the optimum speed without exceeding its limits at an isolated point.

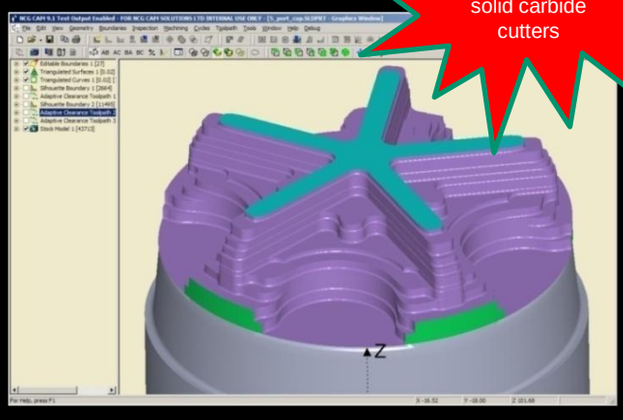
The linking order is very important, so the linking is done at the same time as the passes are calculated.

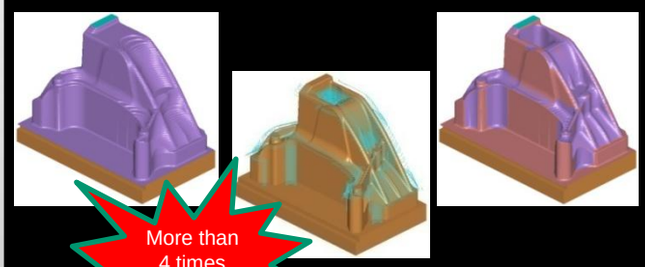
After each level has been cleared using all the flute length, additional passes can be made to reduce the size of the terraces on the 3D form.

These additional passes will be either profile or clearance passes as required, depending on the material remaining or the shape of the part.



***Above** - All the machining moves have lead in/out arcs to maintain a smooth machine motion. The cutting moves are also smooth, flowing profiles without sudden changes of direction*





Rest Roughing
A new, highly optimised algorithm for calculating the rest roughing is now included in **NCG CAM** V10. This new algorithm gives a speed improvement of more than 4 times across a wide range of example parts. Speed improvements are greater still on some larger jobs.

Rest Finishing Performance
Recent improvements to **NCG CAM** have made the rest finishing complete in 50% of the time, when supporting tool-holders.

Combined with the use of parallel processing, the speed increase is even greater.

Benchmarks show a speed increase by up to 10 times can be seen, when comparing with **NCG CAM** V9 running on a 8 processor PC.

Chyuan Lih Industrial Company Advance to CAM Software with Ease, Using NCG CAM

Chyuan Lih Industrial Company was established in 1990 in Samutprakarn, Thailand, to produce polystyrene moulds (EPS, EPO), for various packaging solutions. Moulds tools are created and the designs are moulded in-house to customers requests. There are two further sites in China.

Chyuan Lih Industrial Company were looking to progress to utilise CAM software for the first time and so were looking for software that was easy to use. They decided to purchase **NCG CAM** software.

Since implementing NCG CAM, Chyuan Lih have seen the following results:

- ✓ Toolpaths, especially the roughing, are reliable and very quick to generate.
- ✓ **NCG CAM** is easy to use and has an intuitive user interface.
- ✓ Training of additional staff is no longer an issue, as **NCG CAM** is so easy to use.

"*We find NCG CAM to be very fast to use and easy to learn*." says Mr. Puttaluk, Mould Shop Manager.

NCG CAM Enables Numatic International Ltd to Increase CNC Prototyping Capacity by 70 %

Located in Chard in the southwest of England, Numatic International Ltd, manufacture an extensive range of domestic, commercial and industrial cleaning Products. The site occupies an area of more than 10 hectares and operates continuously, producing over 20,000 products per week.

Design and development is carried out in a well-equipped R&D Department, with state-of-the-art CAD-CAM systems and Rapid-Prototype modeling facilities.

Numatic International Ltd was looking for an easy to use CAM software package for their prototyping department, that was compatible with SolidWorks and their XYZ and Maka machine tools.

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Since purchasing **NCG CAM**, Numatic have seen many benefits, including:

- ✓ Easily able to expand from using just in the prototyping department, to also using in the tool room.
- ✓ Increase of 70% in the use of CNC machining capacity and a dramatic increase in the complexity of the models.
- ✓ Reduced time for model prototyping, going straight from CAD to **NCG CAM**.
- ✓ Able to easily program for our 3 axis and 5-axis machine using **NCG CAM**.

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"*In Chard, the designs are developed and manufactured using the latest computerised technology, including* ***NCG CAM*** *in the R&D department. Rigorous testing plus our years of experience ensure efficient operation and a long working life for the product …. a Numatic hallmark. In R&D product designers use the latest tools and equipment to ensure rapid product development and short lead times to production.****"*** says Warren Eaton, Research and Development, Systems Analyst.

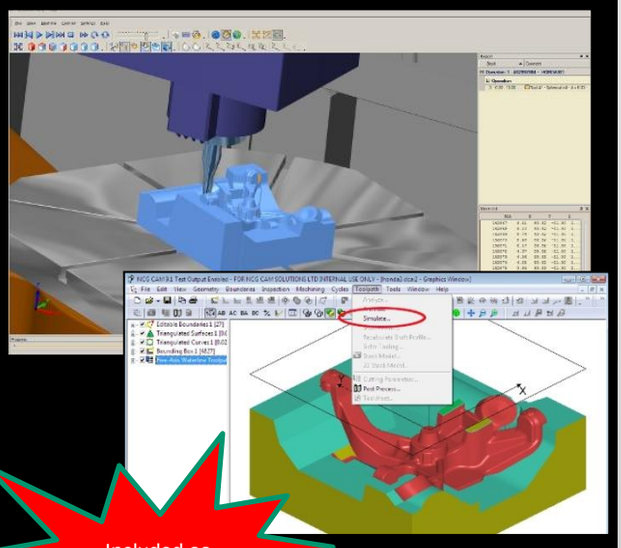
NCG CAM – What's New in Version 10

Machine Tool Simulation – 5-axis Module
The machine tool simulation allows the user to simulate the machine movement. This is generally very important for 5-axis toolpaths, where it is often difficult to visualise the real position of the machine when animating the toolpath. By running the toolpath through the machine simulation, you can be sure there will be no collision between the machine head and the bed/table of the machine.

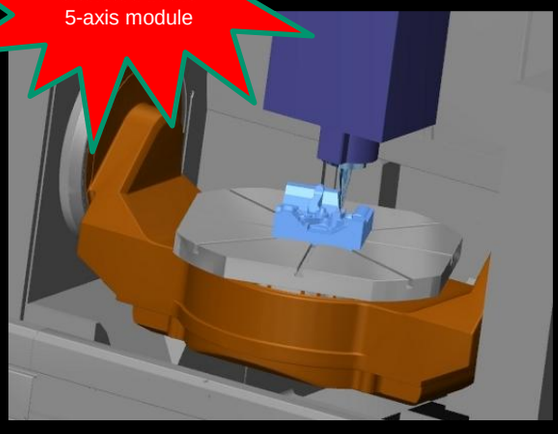
Like the toolpath animator the user can control the simulation speed, zoom in/out. Should there be a collision, it will be highlighted graphically and a dialogue is displayed to inform the user.

First of all, the basic machine needs to be modelled up. The simulation will then check that the head of the machine will not collide with the work piece or bed of the machine tool.
The machine tool simulation is also able to simulate the stock being removed pass by pass.

The machine tool simulation is included in the 5-axis add-on module as standard.



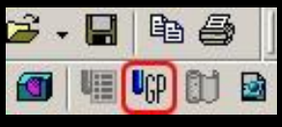
Included as standard in the 5-axis module

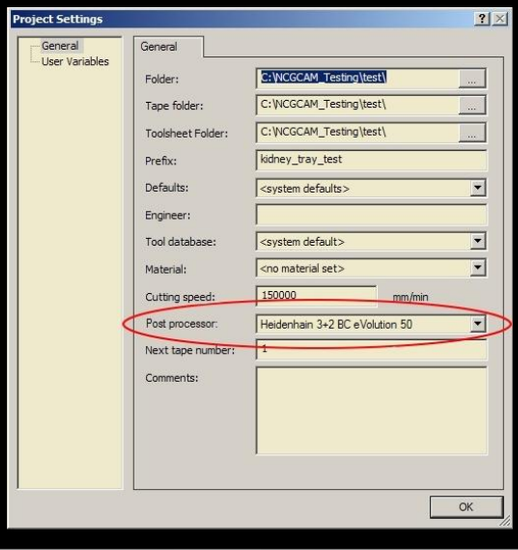


Machine Tool Simulation – 3-axis Module

An option is also now available to have machine tool simulation for 3-axis and 3+2 axis toolpaths. This is a chargeable add-on option to the base module.

Save 'post processor' Standard in Project Setting
A new toolbar button allows quick switching between the macro post processors and and the GPost post-processors.





Improvements for Toroidal Cutters
Significant performance improvement for Z constant passes (Waterline, Area Clearance etc) with toroidal cutters, particularly those with small corner radii compared to the cutters diameter.

Improve Machining Time Estimate

Extend the 'Selected Same Colour'

This will allows 'Selected Same Colour' to append to an existing selection list.

Save Classic Tool Sheet as Default

Edit Name of Folder to be Created in Parameter Page

3D Stock Model Performance Improvement

More Coolant Options
To accommodate machines with through spindle / through tool coolant options.

About NCG CAM Standalone 3D HSM CAM Software

NCG CAM HSM CAM software is a stand-alone CAM system that integrates with existing CAD and CAM systems, including Pro/ENGINEER and SolidWorks.

NCG CAM boasts many innovative features. It is suitable for all types of forms, creating an optimised, smooth cutter motion for HSM machining, while helping to extend tool life, minimising wear on the machine tool and producing parts with excellent surface finish.

NCG CAM has a very user-friendly interface, with a typical learning curve of just 1 day required to machine a live job. It is perfect for the high-speed machining of moulds, dies, prototypes and precision surface machining.

SOFTWARE FEATURES:

✓ Very user friendly interface – making it suitable for even occasional users
✓ **NCG CAM** offers many advanced 3D machining routines, rest roughing & 3 + 2 capabilities for all toolpaths, simultaneous 5-axis add-on module available
✓ Fast and efficient roughing strategies, including core roughing
✓ Advanced drilling routines – includes automatic hole detection and / or user defined holes
✓ All machining routines are fully gouge protected for both the cutter and the tool holder

KEY BENEFITS:

✓ Stand alone CAM software that is compatible with ***ANY*** other CAD package
✓ Extremely easy to use with just 1 day training required to machine a live job Ideal for shop-floor programming
✓ All post-processors are written in-house
✓ Powerful 3D machining
✓ Toolpaths are optimised for HSM machining
- Increased efficiency
- Reduced wear on machine
- Extended tooling life

Saves time and money !!

About NCG CAM Solutions Ltd

Established in Cambridge, UK, **NCG CAM Solutions Ltd** provides CAM software solutions, offering all the tools needed to manufacture prototypes, models, moulds, dies, patterns and finished products. Our specialist area is 3D HSM CAM with our product **NCG CAM**.

All of our staff have a wealth of CAM experience, having worked in the CADCAM and engineering industry for many, many years. This includes our support team, who have actually worked on the shop-floor using CAM software on live jobs, so are able to provide an excellent back up and support service for the software.

Since establishing in June 2009, NCG CAM Solutions Ltd have a rapidly growing global reseller base, with resellers for NCG CAM in UK, Germany, Spain, Benelux, Slovenia, Slovakia, Hungary, Czech Republic, Romania, Bulgaria, Serbia, Croatia, Poland, Norway, Turkey, South Africa, India, Russia, Taiwan, China, Japan, Korea, Thailand, Australia, Brazil, Mexico, Canada and across USA.

To contact a reseller, for more product information, or to download a demonstration version of **NCG CAM** visit the company's website www.ncgcam.com . Alternatively contact Estelle Dunsmuir for more information – estelle@ncgcam.com or call +44 (0)1223 863911 / +44 (0)1353 699840.

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DEPO CAM