# CAMWorks® Virtual Machine

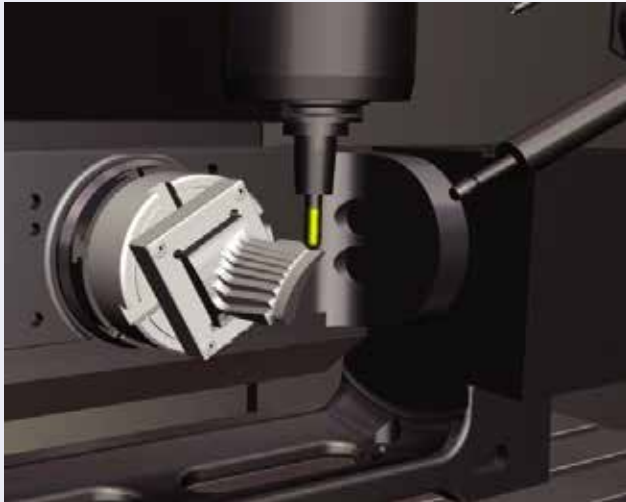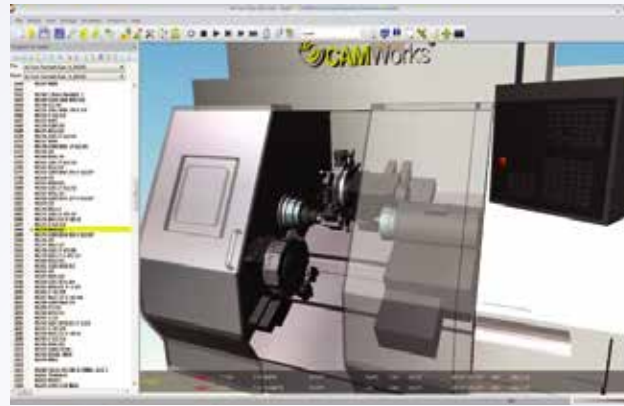## CAMWorks®
### A Geometric Product

## True G-code Machine Simulation!

- **CAMWorks Virtual Machine** uses the latest technology to perform true G-code machine simulation directly from the G-code used for the CNC machine. Unlike other CAM systems that use cutter location (CL) data for machine simulation, CAMWorks Virtual Machine uses the actual G-code to insure precision and accuracy.



- **Full Collision Detection and Avoidance** technology provides the ability to thoroughly check G-code programs for accuracy and avoid costly machine collisions, and programming errors to reduce scrap and improve quality. CAMWorks Virtual Machine will help you to make a good part the first time and every time!



- **Multi-Tasking and Mill-Turn Support** CAMWorks Virtual Machine also includes full support for complex multi-tasking and mill-turn machines including 4 axis dual turret, dual spindle lathes as well as multi axis mill-turn machines with upper milling heads, lower turrets and sub-spindles.

- **Synchronized Simultaneous Machining** with multiple channels using timing codes is also fully supported. Use CAMWorks Sync Manager to synchronize your operations and then simulate them directly from the G-code!

- **Seamless Integration with CAMWorks** means with CAMWorks Virtual Machine the setup time required to use third party verification packages is eliminated and true G-code verification happens seamlessly.

- **Reduce Shop Floor Setup Time** With CAMWorks Virtual Machine dry-runs for program validations are eliminated and set-up time is dramatically reduced.

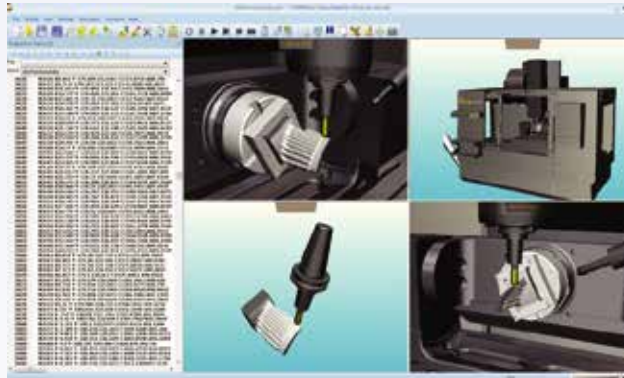Once the program has been simulated directly from the G-code, they are ready to run on the machine.

- **Interactive G-code Editor** provides the user with the ability to edit the G-code and replay the simulation to insure the error has been corrected and a quality part will be accurately machined.

- **Multiple Views and Windows** can be used to view the machine, stock, fixtures, and tooling from various angles while processing the G-code to assist in program prove-out and optimization.



- **Multiple Modules for an Exact Fit** CAMWorks Virtual Machine comes in multiple levels so you can buy only what you need. Three different modules are available including:

- **Standard Simulation** This ultra-affordable, entry level package uses a special extended version of APT-CL to perform machine simulation using on standard set of

machines. The standard version is competitive with, and in fact, exceeds, the machine simulation being offered with other CAM systems.
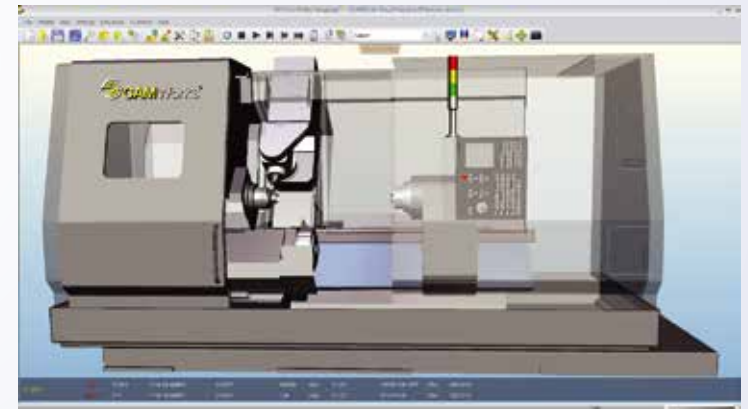
- **Professional Simulation** Provides true G-code simulation of the "in-session" program in CAMWorks. Full collision detection and editing capabilities are also included. This module provides everything required to accurately simulate programs created using CAMWorks.

- **Premium Simulation** Allows true G-code machine simulation from any source. The Premium version is still seamlessly integrated with CAMWorks and will instantly simulate the program currently "in-session" and in addition, the Premium version can be run as a stand-alone system and also allows G-code files from other sources to be opened and simulated.

- **Multiple Turrets and Sub-Spindles** on mill-turn machines are supported as well as synchronized machining using timing codes directly from the G-code programs.



- **Complete Machine Monitoring** Machine components, fixture components, tools, tool holders, stock, and the finished part can all be monitored for interference and the system can stop automatically or report any collision or interference.

- **Error Message Window and Reporting** makes it easy to find and correct errors in the G-code program. Simply click on the error in the message window and the editor instantly

highlights the line in the G-code program that caused the error or collision.

- **Custom Machines and Simulation** Custom machines for any of the modules can be developed either by your CAMWorks reseller or by Geometric .

- **Full Canned Cycle Support** Milling and turning canned cycles are fully supported and simulated directly from the actual G-code canned cycles used for CNC machining.



## About Geometric

Geometric is a specialist in the domain of engineering solutions, services and technologies. Its Geometry Technology Solutions (GTS) business unit develops cutting-edge point productivity solutions that enhance design and improve manufacturing operations. The end-user products from Geometric include CAMWorks®, eDrawings® Publisher, DFMPro, GeomCaliper®, 3DPaintBrush™, CAMWorksXpress® and Glovius®. The key technologies from Geometric are NestLib®, Feature Recognition (FR), GeomDiff and 3DSearchIT®. Geometric licenses these technologies to OEM partners and also designs and implements customized process solutions using these technologies for industrial customers.

For further details about Geometric's GTS business unit, please visit www.geometricglobal.com/products or call +1.480.367.0132

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### CAMWorks

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