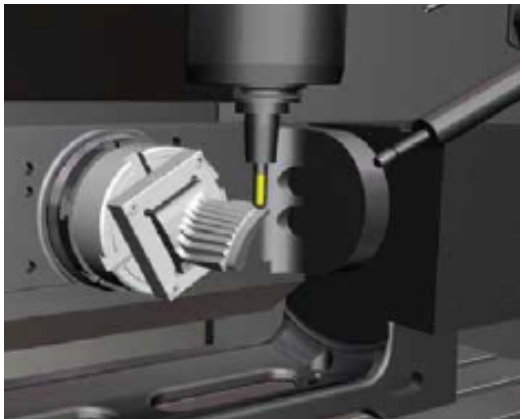


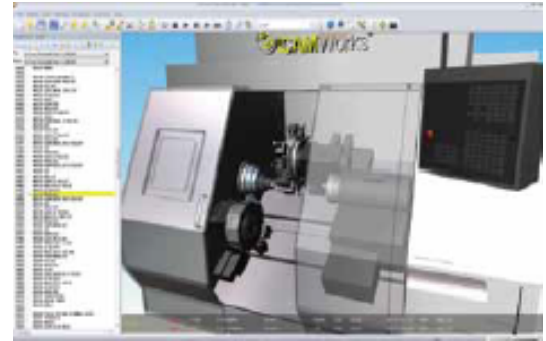
# CAMWorks Virtual Machine

## 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.

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