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 ensure precision and accuracy.

- **FullCollision Detection and Avoidance** technology provides the ability to thoroughly check G-code programs for accuracy to 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 setup time is dramatically reduced. Once the program has been simulated directly from the G-code, it’s ready to run on the machine.

- **Interactive G-Code Editor** provides you with the ability to edit the G-code, then replay the simulation to ensure 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 with program prove-out and optimization.

- **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.

- **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.

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

- **ACTUAL G-CODE**
Directly from the G-code.

Synchronize your operations and then simulate them supported. Use CAMWorks Sync Manager to multiple channels using timing codes is also fully synchronized simultaneously machining turrets, and sub-spindles mill-turn machines with upper milling heads, lower dual turret, dual spindle lathes, as well as multi-axis multi-tasking and mill-turn machines including 4-Axis Virtual Machine also includes full support for complex programs for accuracy to avoid costly machine programs for accuracy to 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 provides the ability to thoroughly check G-code location (CL) data for machine simulation, CAMWorks simulation directly from the G-code used for the CNC technology to perform true G-code machine uses the latest CAMWorks with machining using timing codes directly from the actual G-code canned cycles used for canned cycles are fully supported and simulated full canned cycle support: program prove-out and optimization angles while processing the G-code to assist with multiple views and windows part will be accurately machined ability to edit the G-code, then replay the simulation interactive G-code editor the G-code, it's ready to run on the machine. Once the program has been simulated directly from the actual G-code canned cycles used for eliminated and setup time is dramatically reduced. Virtual Machine dry-runs for program validations are and true G-code verification happens seamlessly to use third party verification packages is eliminated CAMWorks Virtual Machine, the setup time required seamless integration with CAMWorks means with machine simulation being offered with other CAM systems.

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:

- **Standard Simulation**: This ultra-affordable, entry level package uses a special extended version of APT-CL to perform machine simulation using a standard set of machines. The standard version is not only competitive with, but actually 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 within CAMWorks and will instantly simulate the program currently “in-session.” In addition, the Premium version can be run as a stand-alone system, allowing G-code

**CAMWorks Modules are available in a variety of bundles or combinations:**

- 2.5-Axis Mill
- 3-Axis Mill
- Multi-Axis Machining
- Mill Turn
- 2- and 4-Axis Turning
- Wire EDM
- CAMWorks VoluMill™
- CAMWorks Virtual Machine

**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 480.367.0132

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**CAMWorks**

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