SOLIDWORKS CAM & CAMWorks

	SOLIDWORKS CAM			
	Standard	Professional	Machinist Standard	Machinist Professional
2.5 Axis Milling Plus	✓	✓	✓	✓
AreaClear Roughing, Flat Area and Z Level Finishing	✓	✓	✓	✓
Feature Recognition and Rules Based Machining	✓	✓	✓	✓
Tolerance Based Machining (TBM)	✓	✓	✓	✓
NC Editor with Backplotting Powered by CIMCO	✓	✓	✓	✓
3 Axis Milling - L1		✓		✓
Z-Level Finishing combined cycle for steep/shallow machining		✓		✓
VoluMill 2.5 Axis Roughing		✓		✓
Turning for CNC Lathes		✓		✓
4 & 5 Axis Indexing		✓		✓
Probing		✓		✓
Assembly Document Machining		✓		✓
Multiple CAM Congurations		✓		✓
Sub-Spindle				
Two Trurret Support				
Rotary Milling				
3 Axis Milling - L2				
"Pattern Project, Constant Step, Pencil Milling, Curve Project, and Legacy Rough & Finish Mill"				
Mill-Turn				
3 Axis Milling - L3				
Undercutting, Fillet Machining, and NURB Surface Machining				
Sync Manager for Synchronized Machining				
CAMWorks Virtual Machine Standard				
4 Axis Simultaneous Milling				
5 Axis Simultaneous Milling				
Part Modeling / Import			✓	✓
Assembly Modeling / Import				✓

	CAMWorks®					
	Standard	Milling Standard	Turning Standard	Milling Professional	Turning Professional	Premium
2.5 Axis Milling Plus	✓	✓	✓	✓	✓	✓
AreaClear Roughing, Flat Area and Z Level Finishing	✓	✓	✓	✓	✓	✓
Feature Recognition and Rules Based Machining	✓	✓	✓	✓	✓	✓
Tolerance Based Machining (TBM)	✓	✓	✓	✓	✓	✓
Part Document Machining	✓	✓	✓	✓	✓	✓
NC Editor with Backplotting Powered by CIMCO	✓	✓	✓	✓	✓	✓
3 Axis Milling - L1	✓	✓	✓	✓	✓	✓
Z-Level Finishing combined cycle for steep/shallow machining	✓	✓	✓	✓	✓	✓
VoluMill 2.5 Axis Roughing	✓	✓	✓	✓	✓	✓
Turning for CNC Lathes	✓	✓	✓	✓	✓	✓
4 & 5 Axis Indexing	✓	✓	✓	✓	✓	✓
Probing	✓	✓	✓	✓	✓	✓
Assembly Document Machining	✓	✓	✓	✓	✓	✓
Multiple CAM Congurations	✓	✓	✓	✓	✓	✓
Sub-Spindle	✓	✓	✓	✓	✓	✓
Two Trurret Support	✓	✓	✓	✓	✓	✓
Rotary Milling	✓	✓	✓	✓	✓	✓
3 Axis Milling - L2		✓		✓		✓
Pattern Project, Constant Step, Pencil Milling, Curve Project, and Legacy Rough & Finish Mill		✓		✓		✓
Mill-Turn			✓	✓	✓	✓
3 Axis Milling - L3				✓		✓
Undercutting, Fillet Machining, and NURB Surface Machining				✓		✓
Sync Manager for Synchronized Machining					✓	✓
CAMWorks Virtual Machine Standard					✓	✓
4 Axis Simultaneous Milling						✓
5 Axis Simultaneous Milling						✓
Part Modeling / Import						
Assembly Modeling / Import						

What is SOLIDWORKS CAM?

SOLIDWORKS CAM is a 2.5-axis milling and turning solution that is powered by CAMWorks, SOLIDWORKS CAM will allow users to program in either part or assembly environments. In addition, SOLIDWORKS CAM will also be able to work with configurations of components to expedite the programming process.

SOLIDWORKS CAM Standard

SOLIDWORKS CAM Standard allows users to quickly program individual parts and configurations without leaving the SOLIDWORKS 3D CAD environment. Users have full access to defining rules within SOLIDWORKS CAM to create and build company standards as well as Tolerance Based Machining.

SOLIDWORKS CAM Professional

SOLIDWORKS CAM Professional builds on the capabilities of SOLIDWORKS CAM Standard to increase programming capabilities. The additional features are: Assembly machining, turning, and 3+2 programming to drive four and five-axis machines. These additional features will allow users to define fixtures as well as leverage assembly configurations to program similar parts quickly.

What is CAMWorks?

CAMWorks uses feature-based machining, so part features are recognized automatically - virtually eliminating repetitive programming tasks and reducing programming time by as much as 90%. CAMWorks captures and stores your best practices so that you are able to later utilize this as a knowledge-base for easier programming.

CAMWorks Standard

CAMWorks Standard is the prefect integrated CNC programming solution for SOLIDWORKS®. CAMWorks Standard combines feature and knowledge based machining, with assembly machining, 4 & 5 axis indexing, advanced rotary milling, and full sub-spindle support for turning into a single easy to use integrated system

St Pro MSt MPro STD MilSt TSt MilPro TPro Pre

2.5 Axis Milling

Includes automatic roughing, contouring (finishing), thread milling and hole drilling, boring, reaming, and tapping cycles. Machining algorithms use the latest toolpath and gouge protection methods to provide fast, error-free toolpaths.

St Pro MSt MPro STD MilSt TSt MilPro TPro Pre

Feature Recognition and Rules Based Machining

Automatic Feature Recognition (AFR) automatically recognizes over 20 types of prismatic features on native SolidWorks part models, reducing programing time by as much as 90% compared to traditional CAM software.

CAMWorks uses rules- based machining to enhance the programming process while leveraging tolerances that were assigned to components. Rules-based machining lets you focus on the critical areas of making a part rather than touching every feature that needs to be machined.

St Pro MSt MPro STD MilSt TSt MilPro TPro Pre

AreaClear Roughing, Flat Area, Z Level Finishing

Area Clearance is the 3-axis roughing operation. This cycle removes the material between the stock or contain area and the selected feature at decreasing Z depth levels by making a series of parallel cuts across the stock, or by pocketing out toward the stock. Depths of cut can be constant or variable.

Flat Area Machining significantly reduces machining and programming planar faces and improves surface finish. A Flat Area operation uses a roughing pattern to remove material on flat faces. Planar faces are automatically located and machined with the appropriate flat tool.

Z Level operation generates Z-level passes from a set of surface contours. Optimal for semi-finishing and finishing of steep walls. Options are available for combination Z Level/Constant Step strategy and helical milling.

CAMWorks Premium

CAMWorks Premium is the ultimate integrated CNC programming solution available for SOLIDWORKS®. CAMWorks Premium combines feature and knowledge based machining, with a full suite of advanced multi-axis (3 through 5 axis) simultaneous milling capabilities and advanced turning and mill-turn capabilities into a single integrated easy to use system. Thanks to it's seamless integration with SOLIDWORKS, the design and manufacturing model become one in the same. All of the CAM data is stored directly inside the SOLIDWORKS part and assembly files and the CAMWorks toolpaths update automatically to design changes

St Pro MSt MPro STD MilSt TSt MilPro TPro Pre

Tolerance Base Machining - TBM

With the introduction of Tolerance Based Machining by CAMWorks, the manual tasks associated to preparing parts with close tolerances, asymmetric tolerances, surface finishes and other drawing annotations for toolpath generation will now be part of the past.

Not only does CAMWorks automatically identify manufacturing features and automatically create toolpaths, CAMWorks will now recognize the tolerances and surface finishes associated with a feature to select the appropriate tools, speeds, feeds, etc… to generate the best toolpath. For the first time, an application that leverages this information to automate and dramatically accelerate the manufacturing process is now available.

Pro MPro STD MilSt TSt MilPro TPro Pre

Assembly Machining and CAM Configuration Support

Assembly mode machining Accurately model your fixtures and clamps to avoid costly crashes with tools, using SolidWorks assembly mode.

Users who are looking to design fixturing or machine a group of parts can create the tables, vises, clamps, or any other holding mechanisms using a SOLIDWORKS assembly. Once the design is complete, programmers can define what components are used for machining and which ones are fixtures.

SOLIDWORKS CAM will automatically make adjustments to the toolpaths to avoid the fixtures. This level of automation allows the programmer to focus on the entire machining process quickly.

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4&5 Axis Indexing - 3+2 Machining

Advanced 3 plus 2 machining support, which gives you the ability to machine various faces of a part, while the software automatically establishes index moves. Multiple machine configurations are supported including rotary tables;rotating and tilting tables; 5 Axis rotating and tilting heads; and horizontal machining centers.

Probing

Pro MPro STD MilSt TSt MilPro TPro Pre

Probing has become an established best practice for maximizing the efficiency, quality, capability and accuracy of machine tools. Standard routines built into modern CNC controls simplify the integration of probing cycles into machining operations. Machine tool probing potentially makes sense at nearly every stage of the machining process.

Turning for CNC Lathes

Pro MPro STD MilSt TSt MilPro TPro Pre

CAMWorks Turning software for CNC Lathe machines allows for automatic roughing, finishing, grooving, threading, cutoff and single point cycles. Start working easily and efficiently with a suite of tools that automate Feature Recognition and the generation of toolpaths based on a user-defined technology database.

CAMWorks Turning provides fast, error-free cutting using standard inserts for both front and rear turret configurations and toolpath, as well as simulation and post processing support for sub-spindles.

MilSt TSt MilPro Tpro Pre

Dual Turret and Sub-Spinal Programming

New Sub-Spindle Operation Builder allows for easy sub-spindle or tailstock positioning. Custom sub-spindle operations can be created, modified and saved for later use

Rotary Milling

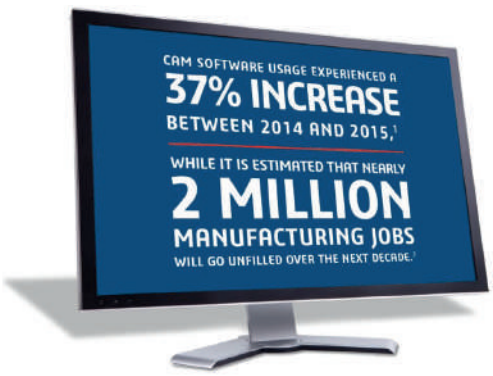
MilSt TSt MilPro Tpro Pre

Supports cutting wrapped features defined from cylindrical faces or edges where the axis of the faces/edges is coincident with the 4th axis or turn axis (in a Mill-Turn environment). Is included automatically with any mill-turn or multi-axis milling seat (4 or 5 Axis milling)

Part modeling and import

MSt MPro

SOLIDWORKS Machinist Standard provides a Part modeling environment allowing you to work seamlessly with SOLIDWORKS Part files and import several neutral file formats. This connectivity makes easy to work with customers and vendors to collaborate on the manufacturing process.



VoluMill 2.5 Axis Roughing

Pro MPro STD MilSt TSt MilPro TPro Pre

CAMWorks® VoluMill™ is an ultra-high performance toolpath generator for rough milling operations that outperforms every other toolpath technology available. Using VoluMill, the cycle times for rough milling operations are dramatically reduced by creating more efficient toolpaths and tool life can be extended by as much as 10 times!

TSt MilPro TPro Pre

Mill-Turn, Advanced Multi - Tasking Machining

Provides a programming solution for mill-turn or multi-tasking machines. Mill-turn machines are capable of performing turning and milling operations in a single setup that can increase accuracy, reduce part handling, and increase production.

Sync Manager for Synchronized Machining

TPro Pre

Synchronization – a graphical means of displaying an unlimited number of channels, with scrolling code in a choice of formats, time displays and with functions to add wait and sync codes. The Synchronization Manager is directly linked to the internal postprocessor and runs from posted output for the greatest accuracy.

CAMWorks Virtual Machine Standard

TPro Pre

An affordable, entry-level edition that 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.

4&5 Axis Simultaneous Milling

Pre

CAMWorks 4/5 Axis simultaneous machining programming software allows the user to create toolpaths across complex shapes that could not be machined on 3 Axis machines. This includes high-performance automotive port finishing, impellers, turbine blades, cutting tools, 5 Axis trimming, and undercut machining in mold and die making. CAMWorks 4 Axis simultaneous machining is designed for complex rotary applications such as camshafts, extrusion screws and blades.

Assembly modeling and import

MPro

SOLIDWORKS Machinist Professional provides SOLIDWORKS CAM Professional capabilities with SOLIDWORKS Parts and Assemblies to allow the user the ability to import and design fixtures and other manufacturing components used in the machining process.

	ALL SHOPS	TOP SHOPS	OTHER SHOPS
High-Speed Machining	46.6%	54.1%	44.7%
Hard Tuming	34.3%	32.4%	34.8%
Hard Miling	28.7%	27.0%	29.1%
Large-Part Machining	27.0%	35.1%	24.8%

ASSOCIATE Mechanical Design SOLIDWORKS
PROFESSIONAL Mechanical Design SOLIDWORKS
EXPERT Mechanical Design SOLIDWORKS
AUTHORIZED Reseller SOLIDWORKS
CERTIFIED Advanced Services Provider SOLIDWORKS
CERTIFIED Training & Support Provider SOLIDWORKS
CERTIFIED Documentation Services Provider SOLIDWORKS

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