

Introducing... SOLIDWORKS CAM 2024 and CAMWorks 2024!

The TOP *New!* Enhancements in SOLIDWORKS CAM 2024 and CAMWorks 2024!



New! in SOLIDWORKS CAM for 2024

Solid WORKS / CAM Powered by CAMWorks

- New probing Cycles and Probing Options
- Output Options for Bore, Dovetail, Keyway, and User- Defined Tools
- Dynamic Highlighting of Features and Operations
- Specify Cut Depth as Percentage of Flute Length
- Suppress Fillets and Chamfers for VoluMill
- Highlight Faces of Turn Part Models
- Optimize Pecking Option for Condensed Holes
- Improved Options for Condensed Holes
- Define FCS in Turn Assembly Mode



New Probing Cycles & Output Options



New Probing Cycles!



3-point plane Cycle 431



Angle Measurement Cycle 400

≡

New Probing

Output Options!



4th Axis X& Y Measurement Cycle 403



4th Axis Rotation Compensation Cycle 405

New Probing Cycles!

- 3 Point Plane
- Angle Measurement in X Axis
- Angle Measurement in Y Axis
- 4th Axis Measurement in X Axis
- 4th Axis Measurement in Y Axis



Properties

Feed parameters. TechDB ID : 9

Center

Output through : Tip

Comment

Heidenhain Specific Probing Improvements







HCLSoftware

HCL CAMWorks 5

Additional Features in SOLIDWORKS CAM

✓ Additional New! Features for 2024

- Dynamic Selection on Mouse hover
- Define cut depths as % of flute length
- Suppress Fillets & Chamfers for VoluMill
- Highlight recognized faces for Turn Features



Dynamic Highlight of Nodes in the Feature & Operation Tree



Define depth as % of the flute length





Suppress Fillets and Chamfers for VoluMill Operations



Highlight recognized faces for Turn Features

Additional Features in SOLIDWORKS CAM (Cont'd)

✓ Additional New! Features for 2024

- Optimized Pecking Option for Condensed Holes
- Improved Options for Condensed Hole Features
- Define a SOLIDWORKS Fixture Coordinate System in Turn Assembly Mode



Optimized Pecking Option for Condensed Holes



Improved Options for Condensed Hole Features



Display for Number of Cylinders present for Each Condensed Hole



SOUDWORKS File Edit View Insert Tools V	Image: Second and a spindle coordinate system X
Define 👹 Stock Manager Machine 🛃 Setup Extract Machinable Features Sketch Markup Evaluate MBD Dimen	Part
0	low Defined
SOLIDWORKS CAM NC Manager	Onlyin V
Pa Configurations Machine [Turn Single Turret - Inch]	
Stock Manager[6061-T6]	Yi A
Main Spindle [User Defined]	2
→ Turn Setup1 → Face Feature1 [Rough & Finish]	Optime A

Define a SOLIDWORKS Fixture Coordinate System in Turn Assembly Mode

HCLSoftware

What's New in HCL CAMWorks 2024



New! Machine Aware Programming

✓ Create a Digital Twin of the CNC machine

- Full CNC Machine display
- Part model and Stock model
- Workholding and Tooling
- ✓ Options to Display the Machine Components
 - Show or Hide the Machine and/or Housing

✓ Key benefits - Create Programmer awareness of:

- CNC Machine configuration
- Complete setup on the machine
- Any Potential Collisions





New! Machine Aware Programming in Mill-Turn

✓ Digital Twin of the CNC machine including:

- Chuck & Chuck Jaws and/or fixture
- Part Model digital twin of the part
- Stock cylindrical stock, casting, or forging

✓ Complete Tool Assemblies with Tool Blocks

- Dynamically add and remove Tools
- Display of the Active Turret in Step-Thru Simulation
- Hide and Show the CNC machine components

✓ Key benefits - Create Programmer awareness of:

- CNC Machine configuration
- Complete setup with part model, stock, and workholding
- Tooling and turret configurations
- Machining envelope, travel limits, and indexing limits
- Any potential collisions





HCL CAMWorks

New! Tool Blocks in CAMWorks 2024

✓ CAMWorks 2024 will now display Tool Blocks

- Tool Blocks can now be defined in the TechDB
- Tool Blocks defined in CAMWorks Virtual Machine will be listed in the TechDB
- Tool Blocks are saved with the station number

✓ Key benefits:

- Tool Blocks are saved along with Tools
- When a Toolcrib is saved in TechDB, associated Tool Blocks are also saved
- When a Toolcrib is used for another program, the associated Tool Blocks will be included



=	C	Turn Too	ling > Tool block	3			Metric Inches	
Mill	Id	Active	Tool Block file	=	New Save Copy Delete	1		
<u></u>	1	4	OD_NKM0151905		Tool blocks- ID: 1			
Turn	2	4	OD_0532000		Activ	e : 🗹		_
	3	~	C6-131-105-1500M		Tool block file	0D_NKM0151	905	
S Mill.Turn	4	1			Commen	t: None		
	5	*			Descriptio	n: None		
	6	4						
C EDM	7	4						
Turn Tooling								
E Feed / Speed								

New! Multi Axis (5 Axis) Roughing

✓ 5 Axis Toolpaths for Roughing

- Uniform roughing of features with irregular floors
- Options for the roughing toolpaths to follow the floor or ceiling... or morph between the two
- Tool normal is kept perpendicular to the floor/ceiling

✓ Supported tool types:

- Flat end mills
- Tapered flat and tapered ball end mills
- Bullnose end mills
- Ball end mills

✓ Key benefits:

- Quick & easy way to define a 5 Axis roughing cycle
- Collision checking against part and in-process stock
- Stock-based rest roughing
- Undercut machining options



New! Multi Axis (5 Axis) Finishing

✓ 5 Axis Toolpaths for Curved Walls and Floors

- Automated solution for finishing curved walls and floors
- Automatic tool tilting creates collision-free toolpaths
- Options for the finish toolpaths to follow the floor or ceiling... or morph between the two

✓ Supported tool types:

- Ball-nose and Bull-nose end mills
- Tapered ball end mills
- Barrel tools for optimized finishing with large step-overs

✓ Key benefits:

- Easy to learn and use
- 5 Axis simultaneous machining
- Collision-free toolpaths
- Optimized engagement control
- Reduce cycle time using efficient barrel tool finishing



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All New! VoluTurn for Rough Turning

✓ VoluTurn for High-Speed Rough Turning

- Automatic collision avoidance for tool, holder, and assembly
- Uni-directional or bi-directional cutting patterns with constant or variable depths
- Fully utilize the inserts and prevent notch formation
- Efficient repositioning between cuts

✓ Key benefits

- Easier on machine smooth, flowing motion
- Extends tool life eliminates over engagement and dwells
- Predictable tool life distributes wear evenly on inserts
- Reduced machining loads material entry and exit is always smooth, circular, and tangential no sharp corners



Additional Features in CAMWorks 2024

✓ Additional New! Features

- Dynamic Selection on Mouse hover
- Highlight recognized faces for Turn Features
- Combine linear holes and Avoid pecking through the air
- Top & Bottom Driving points for Keyway, Dovetail, Bore and User defined tools
- 2.5 axis Operations Define cut depths as % of flute length
- VoluMill Check/Avoid the entire part for collision
- Bottom to Top cutting in Contour Operation
- Turning Programming using subspindle at the start
- Multi-Axis Tilt tool by Contact point
- And More!



VoluMill – Check/Avoid the entire part



Option to start programming of Turn and Mill-Turn parts in the sub-spindle

ool F/S Contour NC	Feature Options Leader	Advanced Posting	Optimize		
Side parameters					
Allowance :	0in 🔹				
Settings	Corners.		\sim		
Chamfer		1		1	
Chamfer machining					-
Angle	90deg				
Length:	Oin 🗘				/
Clearance :	0.025in			/	/
Feature Edge :	Apex				-
Feature Edge :	Apex -				A.
Feature Edge : Cut method	Арек				A. A.
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Bottom to Top Machining



New Side Tilt Type dropdown List for Muti-axis Mill Operations

HCL CAMWorks



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