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CAM Srl, Bologna, Italy

About Cimatron

Cimatron is the leading provider of integrated, quoting-to-delivery CAD/CAM solutions for the tooling and manufacturing industry. Cimatron is committed to providing tool makers and NC users with comprehensive, cost-effective solutions that streamline manufacturing cycles, enable collaboration with outside vendors, and ultimately shorten product delivery time. Over 8500 customers worldwide in the automotive, consumer plastics, and electronics industries employ Cimatron’s cutting-edge CAD/CAM solutions for manufacturing.

Founded in 1982, Cimatron is publicly traded on the NASDAQ exchange under the symbol CIMT. Cimatron’s subsidiaries and extensive distributor network are located in over 35 countries to serve customers worldwide with complete pre- and post-sales support.

For more information, please visit our web site at:  
www.cimatron.com
A 5-Axis World

There’s no doubt that today’s advanced machining world turns on 5 axes. Allowing the accurate machining of complex shapes, 5-axis machining has long been the standard for aerospace and other advanced manufacturing fields such as:

- Production of impellers & turbine blades
- Production of parts and inlets
- Machining of rubber molds
- Complex machining parts
- Machining of aerospace structural parts
- Machining of patterns and models
- Micro milling

Your customers expect excellent surface quality for very complex parts and short delivery time. To maintain client satisfaction while producing each part individually - you need full control of toolpath definition. And, with complex programming cycles, geometry tweaking is usually required, demanding built-in CAD capabilities for surfaces. Finally, to get it right the first time, you need the confidence of knowing that what you see on the screen is exactly what the machine will produce.

A New World of 5-Axis Control

Now, CimatronE NC 5-Axis Production offers a complete 5-axis solution that puts NC professionals firmly in the 5-axis driver’s seat.

With full user control over every aspect of machining - including tool orientation, clearance area, entries and exits, links between lanes and layers, collision avoidance, and connection motions between operations - CimatronE NC 5-Axis Production gives experts productive tools they need to create highly-efficient, gouge-free toolpaths that produce complex parts with high surface quality.

Full User Control over Automation

CimatronE NC 5-Axis Production lets NC programmers control and re-use every aspect of machining, including:

- Path shape
- Tool orientation
- Entries and exits
- Clearance
- Links
- Connection motions
- Machine limitations

To save programming time when machining a family of parts such as blades, inlets, impellers, etc., CimatronE NC 5-Axis Production includes dedicated wizards as well as ability to save and load user defined machining process templates.

Effective Collision Check

With highly-versatile collision avoidance functionality built-in, CimatronE NC 5-Axis Production allows checking for collision of tool, shank and multi-stage holder against the part, stock, fixtures and the machine - generating safe and smooth tool motions, and featuring:

- User-defined safety margins from stock and fixtures
- Removal of problematic motions
- Retraction of tool along tool-axis or in any direction
- Smooth changing of tool orientation (tilt/lead) to prevent collision

Simulation for No-Surprise Machining

The ability to realistically simulate the machining process, visualizing tool motions in the actual machine environment, is critical for generating efficient toolpaths that will safely run on the first trial. CimatronE NC 5-Axis Production’s advanced simulation module enables:

- Material removal simulation
- Remaining stock simulation
- Machine kinematics simulation including collision detection

A Rich Strategy Library

CimatronE NC 5-Axis Production includes a large library of machining strategies, supports a full range of cutters - including taper, lollipop and slot mill - and enables:

- 5-axis rough cutting - spiral, parallel, plunge milling
- 5-axis finish cutting - parallel, flow-line, penciling, morph between contours and surfaces
- Consideration of actual remaining stock to reduce air cutting
- 5-axis tilting-machine deep cavities with short tools
- 5-axis contour milling and drilling
- 5-axis micro milling for miniature electronic and medical parts

CAD Tools

As part of CimatronE NC, 5-Axis Production includes a robust set of surface creation and editing tools, enabling the user to rapidly prepare geometry for more optimized machining without requiring transfer of data between CAD and CAM systems.
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- Prevents tool and holder collision with part, stock and machine
- Advanced material removal and machine simulations

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