

Pro/ENGINEER® Prismatic and Multi-Surface Milling

CREATE BETTER PARTS—FASTER, WITH OPTIMIZED TOOLPATHS

Intense global competition is driving manufacturing engineers to make a greater contribution towards quality, innovation and speed-to-market. PTC has your solution: Pro/ENGINEER Prismatic and Multi-Surface Milling—the ultimate tool for manufacturing engineers who need to create highly complex parts and better quality products in shorter timeframes.

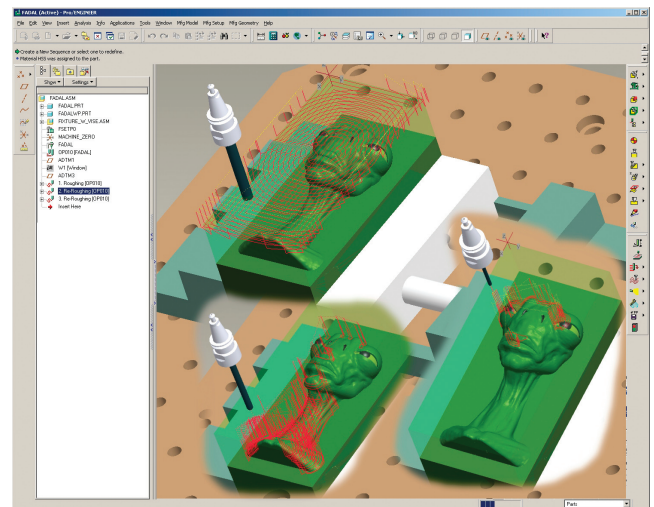
Because of its seamless integration with all Pro/ENGINEER 3D CAD tools, Pro/ENGINEER Prismatic and Multi-Surface Milling dramatically improves your productivity by eliminating data translation between CAD/CAM applications, by automating many programming tasks that can currently take you hours, and by leveraging your 3D models to create an optimal toolpath—quickly and simply.

Key Benefits

- Complete integration of design and manufacturing simplifies the creation of manufacturing components (jig and fixtures) and geometry
- Feature-based and geometry-based programming, for easy adaptability to design changes
- Predictable and reliable machining accelerates delivery of products to customers
- Capture and reuse your machining practices to streamline and standardize manufacturing methodologies
- A complete solution, from design through NC code generation: NC program creation, process documentation, post-processing, and toolpath verification and simulation

A Fully Integrated CAD/CAM Environment

- Complete associativity across applications
- Parametric and feature-based
- Complete product model definition
- 2-axis prismatic part toolpath generation
- Automatic drilling
- Multi-surface 3-axis milling toolpath generation



Roughing and reroughing toolpaths in Pro/ENGINEER.

- Tool library
- Automatic process documentation
- Toolpath verification
- NC Code generation (post-processing)
- Web-based collaborative workspace

Capabilities and Specifications

- Basic assembly functionality
- Detailed drawing and 2D drafting
- Photo-realistic image creation
- Supports family tables for manufacturing part models
- Graphic toolpath generation
- Data Interface: IGES, STEP, VDA, DXF, CADD5
- Compatible with imported data, as well as Pro/ENGINEER solid data
- Tooling library with feed, speed and cutting conditions based on material
- Fully detailed product model (stock, fixtures, tooling)
- Tool gauge checking with all tool shapes
- Ramping, plunging, or helical tool entry and exit
- Automatic shop floor documentation
- Drag-and-drop reordering of toolpaths
- Design modifications automatically propagate to machining information
- Family table part machining: program once and propagate to all instances
- Toolpath editing and manipulation
- Support for toolpath duplication and subroutines

Pro/ENGINEER Prismatic and Multi-Surface Milling

- Holder degouging for roughing and finishing toolpaths
- Automatic workpiece creation
- Cutter radius and tool length compensation
- Multiple fixture offsets control
- Head attachments, such as right angle head
- Multi-tip tools for production machining
- Copy and reuse manufacturing processes with XML Import/Export
- Operation Manager—easily create, review and manage toolpaths
- Remote toolpath processing

2-Axis Milling

- Feature-based milling
- Free-hand machining
- 4- and 5-axis indexing and tool positioning
- Tombstone Machining

3-Axis Milling

- Roughing: Z level, plunge milling
- Reroughing: by previous tool, corner picking, flat surfaces
- Finishing: Z level, parallel planes, isolines, cutlines, projected, slopes
- Rest milling, pencil tracing, engraving
- Automatic corner machining

High-Speed Machining

- Specialized roughing/ reroughing strategies
- Slope-based finishing
- Helical spline approaches and exits
- High-speed, 'friendly' connections

Hole-Making

- Large variety of CYCLE types (ISO/ANSI)
- Thread milling
- Custom cycles definition and simulation
- Automatically apply drilling strategy to hole features

NC Post-Processing

- Graphic NC post-processor generator
- NURBS-based CNC machine tools
- Direct NURBS output
- Interactive, online, context-sensitive help
- Extensive library of machine tools and CNC controls

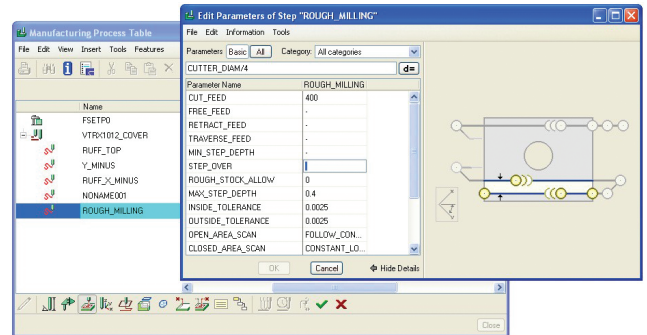
Integrated NC Simulation

- Solid toolpath simulation
- Multi-window display
- Automatic error detection
- Machine kinematics simulation and collision detection

Easy Scalability

Easily expand Prismatic and Multi-Surface Milling to include:

- Pro/ENGINEER Production Machining for 4-axis Wire EDM and 4-axis turning
- Pro/ENGINEER Complete Machining for multi-axis milling (5-axis) and turning



Create NC toolpaths faster in Pro/ENGINEER using a graphical UI for NC parameter definition, and a powerful process manager with easy-to-use dashboard controls.

- Pro/ENGINEER Mold Design for creating molds
- Import DataDoctor in Pro/ENGINEER for data healing
- Pro/ENGINEER Computer Aided Verification for CMM programming and first article inspection
- CATIA direct interface

Platform Requirements

- Microsoft Windows (Vista and XP)
- UNIX platforms (Solaris and HP-UX)

For specific operating system levels, visit:

www.ptc.com/partners/hardware/current/support.htm

The Pro/ENGINEER Advantage

The Pro/ENGINEER family of CAD/CAM/CAE solutions delivers a distinct advantage for manufacturing engineers because every Pro/ENGINEER application is fully associative. That means any change made to the design is automatically reflected in all downstream deliverables—without any translation of model information between applications. By eliminating data translation, you not only save time, but you also avoid the possibility of translation errors in your design. Pro/ENGINEER is the first choice for manufacturing engineers because no other 3D package offers a complete set of native manufacturing applications—from tool and die design to NC programming, production milling, process documentation, post-processing, and toolpath verification and simulation.

Learn more about the entire family of Pro/ENGINEER tools for machining, milling, verification, NC machining simulation and more. Visit www.ptc.com/go/cam

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