

Pro/ENGINEER Prismatic & Multi-Surface Milling

Create better parts, faster with optimized toolpaths

With global competition nothing short of intense, companies are now expecting manufacturing engineers to contribute more towards quality, innovation, and speed-to-market. PTC has your solution: Pro/ENGINEER Prismatic and Multi-Surface Milling Option—the ultimate tool for manufacturing engineers who need to create highly complex parts and better quality products in ever-tightening timeframes.

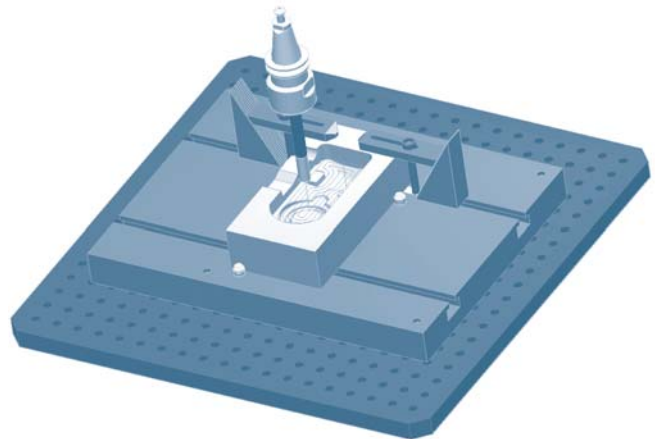
Because of its seamless integration with Pro/ENGINEER 3D CAD tools, the Prismatic and Multi-Surface Milling Option dramatically speeds your work in multiple ways: eliminates data translation between CAD/CAM applications, automates many programming tasks that can currently take you hours, and leverages your 3D models to create an optimal tool path—quickly and simply. It contains all of the essential requirements for Prismatic and Multi-Surface Milling including:

Key Features and Benefits

- Complete integration of design and manufacturing—simplify the creation of manufacturing components (jig and fixtures) and geometry
- Feature-based and geometry based programming—easy adaptability to design changes
- Predictable and reliable machining results—uninterrupted delivery of products to customers
- Ability to capture and re-use your machining practices—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



Toolpath simulation of a high speed roughing sequence in a mold cavity

- Multi-surface 3-axis milling toolpath generation
- Tool library
- Automatic process documentation
- Toolpath verification
- NC Code generation (post-processing)
- Web-based collaborative workspace

General Capabilities

- Feature-based, parametric part design
- Basic assembly functionality
- Detailed drawing and 2D drafting
- Photo realistic images
- Mechanism creation and simulation
- 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 gouge 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, propagate to all instances
- Toolpath editing and manipulation
- Support for subroutines
- 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 re-use manufacturing processes with XML Import/Export
- Operation Manager—an efficient way to create, review and manage toolpaths
- Remote toolpath processing

2-Axis Milling

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

3-Axis Milling

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

High-Speed Machining

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

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

- Integrated with Pro/ENGINEER Expert Machinist
- Graphic NC post-processor generator
- Tangential arc fitting
- NURBS-based CNC machine tools
- Interactive, online, context-sensitive help
- Extensive library of machine tools and CNC controls included

Integrated NC Simulation

- Solid toolpath simulation
- Multi-window display
- Automatic error detection
- Ability to slice model and view inside part

Easy Scalability

Easily expand the Prismatic and Multi-Surface Milling option to include other Pro/ENGINEER modules, including:

- Production Machining Option for 4-axis Wire EDM and 4-axis turning
- Complete Machining Option for multi-axis milling (5-Axis) and turning
- Mold Design Option to create molds
- Import Data Doctor for data healing
- NC Verification Option to simulate post-processed (NC codes) data
- NC Optimization Option to optimize feed rates
- NC Machine Simulation for complete kinematics simulation
- Computer Aided Verification for CMM programming and first article inspection
- CATIA Direct Interface

Complete Family of Production Tools

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

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