

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.

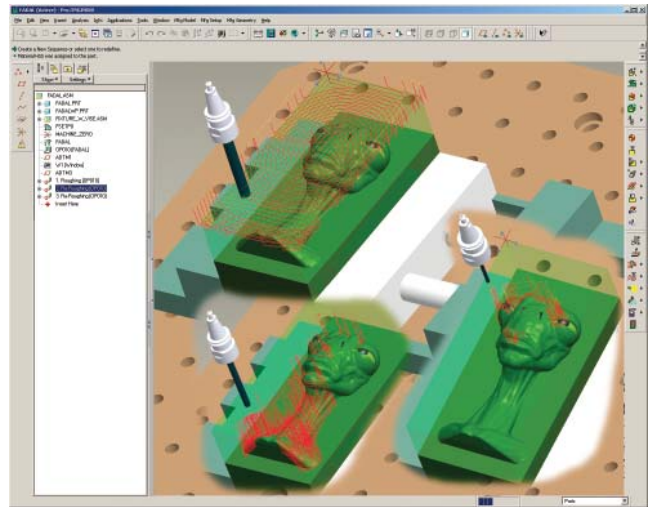
Because of its seamless integration with all Pro/ENGINEER 3D CAD tools, Pro/ENGINEER Prismatic and Multi-Surface Milling dramatically improves your productivity by eliminating data translation between CAD/CAM applications, automating many programming tasks that can currently take you hours, and leveraging 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 re-roughing toolpaths in Pro/ENGINEER.

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

Features and Specifications

- Basic assembly functionality
- Detailed drawing and 2D drafting
- Photo-realistic image creation
- 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 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 subroutines

Pro/ENGINEER Prismatic and Multi-Surface Milling

Features and Specifications (cont.)

- 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

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
- Interactive, online, context-sensitive help
- Extensive library of machine tools and CNC controls

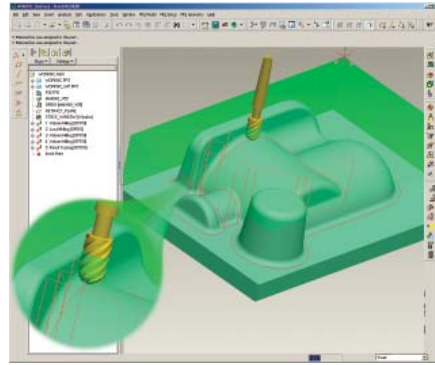
Integrated NC Simulation

- Solid toolpath simulation
- Multi-window display
- Automatic error detection

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
- Pro/ENGINEER Mold Design for creating molds
- Import Data Doctor for data healing



Pencil Trace machining with Pro/ENGINEER.

- Pro/ENGINEER Computer Aided Verification for CMM programming and first article inspection
- CATIA Direct Interface

Language Support

- English, German, French, Italian, Spanish, Japanese, Chinese (Simplified and Traditional) and Korean

Platform Requirements

- Microsoft Windows (XP, 2000 and NT 4.0)
- UNIX platforms (Solaris, HP-UX, Linux)

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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