

Pro/ENGINEER® Foundation Advantage

T H E E S S E N T I A L 3 D C A D V A L U E P A C K A G E

The Pro/ENGINEER Foundation Advantage Package is the essential 3D CAD solution because it gives you exactly what you need: the industry's most robust 3D product design toolset, in an attractive value package that's easy to use, easy to expand, and easy to afford.

Now, for the same price as basic mid-range 3D design tools, you can have Pro/ENGINEER, the gold standard in 3D CAD.

Never Compromise

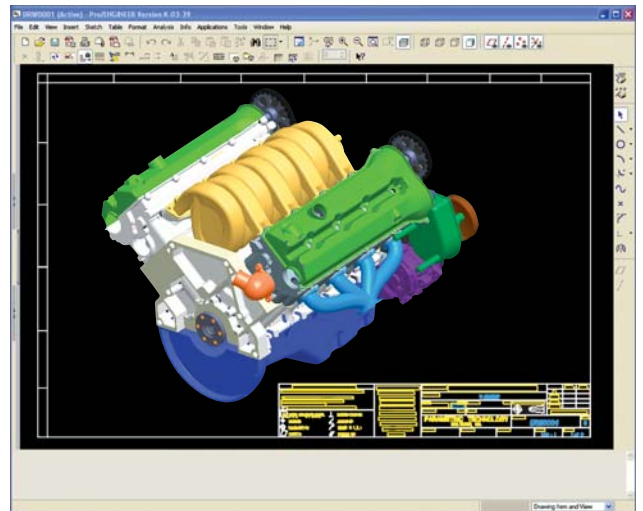
When you compare the performance of Pro/ENGINEER to every other 3D CAD solution, you'll see why it's the choice of more than 500,000 designers and engineers at more than 40,000 companies worldwide. There's simply no better value, quality, or capability—anywhere.

As a design professional, you can't afford CAD tools that compromise your product, process, or productivity. With the Pro/ENGINEER Foundation Advantage Package, you never compromise because you have the exact tools you need to get the entire job done—accurately and quickly.

Easy to Expand, Impossible to Outgrow

The unlimited scalability of Pro/ENGINEER means that you can easily add new users, new modules, and new capabilities as your business and your needs continue to grow, and you'll never have to worry about importing incompatible data or learning a new user interface.

And, since Pro/ENGINEER is an integral part of the PTC Product Development System, your 3D CAD solution will seamlessly connect to PTC's Windchill® solutions for collaborative product design, project management and execution, and digital product data management.



Improve communication and remove ambiguity by adding 3D shaded views to your drawings.

Key Benefits

- Quickly create the highest quality products
- Increase model quality, promote part reuse, and reduce model errors
- Lower your costs by reducing new part number proliferation
- Handle complex surfacing requirements with ease
- Create innovative shapes that are unattainable with other mid-range 3D CAD tools
- Instantly connect to information and resources on the Internet—for a highly efficient product development process

In fact, Pro/ENGINEER will save you more time and give you broader capabilities than any product design software on the market. With the Pro/ENGINEER Foundation Advantage Package you can design parts, build assemblies, sketch sections, produce drawings, construct surfaces, create sheetmetal parts, exchange data, ensure design quality, and connect applications and teams.

Pro/ENGINEER Capabilities

Solid Modeling

- Create precise geometry, regardless of model complexity
- Automatically dimension sketches for fast, easy re-use
- Build robust engineering features such as rounds
- Create part variants using family tables

Detailed Documentation Including 2D and 3D Drawings

- Create 2D drawings according to international standards, including ASME, ISO, and JIS
- Create an associative BOM and associated balloon notes automatically
- Automate the creation of drawings with templates
- Create 3D drawings according to ASME and ISO standards

Technical Surfacing

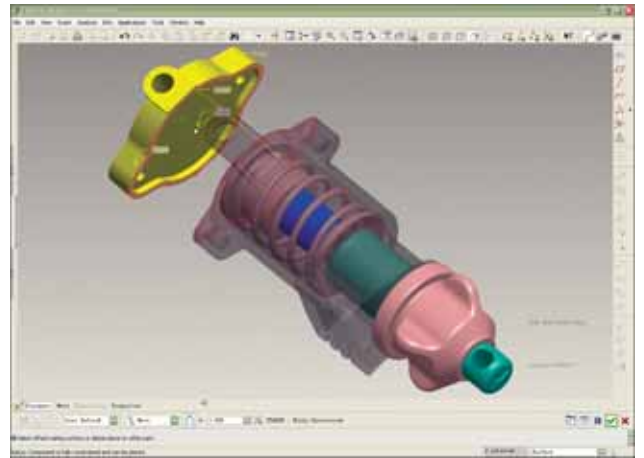
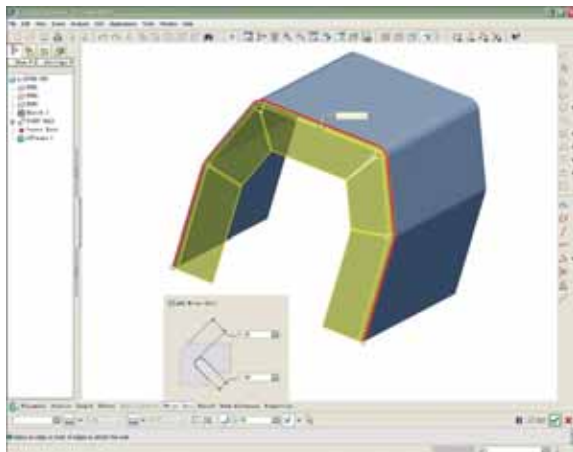
- Develop complex surface geometry using sweeps, blends, extends, offsets, and a variety of other specialized features
- Trim/extend surfaces using tools like extrude, revolve, blend, and sweep
- Perform surface operations such as copy, merge, extend, and transform
- Define complex surface geometry explicitly

Revolutionary “Warp” Technology

- Make global deformations of selected geometry in 3D
- Dynamically scale, stretch, bend, and twist models
- Apply Warp to geometry imported from other CAD tools

Sheetmetal Modeling

- Create walls, bends, punches, notches, forms, and reliefs using the streamlined user interface
- Automatically generate flat patterns from 3D geometry
- Use a variety of bend allowance calculations to create flat patterns of the designs



The intuitive user interface streamlines the process of assembling components.

Weld Modeling and Documentation

- Define joining requirements
- Extract valuable information from the model, such as mass properties, clearances, interferences, and cost data
- Easily produce complete 2D weld documentation

Assembly Modeling

- Enjoy robust, fast assembly modeling performance
- Create simplified representations ‘on-the-fly’
- Share lightweight, yet fully accurate model representations using the unique Shrinkwrap™ tool
- Use AssemblySense™ to embed fit, form, and function knowledge to create assemblies quickly and correctly

AutobuildZ®—Turn 2D Drawings into 3D Models

- Create parametric, full-feature 3D designs from 2D drawings using the AutobuildZ conversion wizard
- Automatically create associative, detailed drawings of the 3D design
- Control drawing entities with 2D drawing import wizards

When creating multiple walls, Pro/ENGINEER automatically includes appropriate relief cuts to avoid overlapping geometry, allowing you to quickly create the desired geometry in a single feature.

The Essential 3D CAD Value Package

Data Interoperability

- Kernel support for ACIS™, Parasolid™ and Granite®
- Associative Topology Bus™ cross-release interoperability
- Direct translators for CADDs and AutoCAD® DWG
- Industry-standard translators: AutoCAD® DXF, IGES, STEP, SET, VDA, ECAD, CGM, COSMOS/M, PATRAN®, and SUPERTAB™ geometry files, SLA, JPEG, TIFF, RENDER, VRML

Imported Data Repair

- Dramatically reduce the time and effort required to clean up imported or legacy design data
- Collapse imported geometry, for better surface management, using the constraint manager

ModelCHECK™-QA Tool

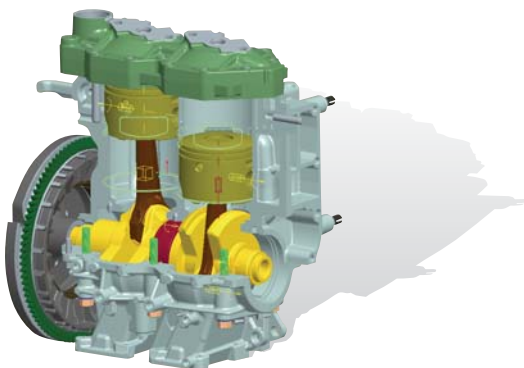
- Automatically identify and fix potentially expensive manufacturing problems early in the design stage
- Ensure compliance with company/industry standards
- Enforce best-practice modeling techniques

Mechanism Design

- Assemble parts and sub-assemblies (pin joints, ball joints, sliders) quickly to create a mechanism assembly
- Drag the mechanism through its motion envelope, preventing interference and detecting clashes

Design Animation

- Create assembly/disassembly animations directly from the modeling environment
- Reuse models easily, with the option to include mechanism simulation



With the mechanism analysis tool, you can animate your assembly to check for collisions and determine how it will behave as it goes through its full range of motion.



Save time and money by creating photorealistic images of your product in its actual environment early in the design process, rather than waiting until you build a physical prototype.

Real-Time Photorendering

- Create accurate, photorealistic images of products quickly, while rendering even the largest assemblies
- Make dynamic geometry changes while maintaining photorealistic effects like shadows, reflections, textures, and transparency

Web Capabilities

- Enjoy Internet/Intranet support, for fast access to e-mail, FTP, and Web—all from within Pro/ENGINEER
- Query models for interactive XML reports
- Seamlessly connect with PTC's Windchill® solutions, enabling the industry's only true integrated Product Development System
- Communicate using secure instant messaging, online chat, and file sharing

Complete Library of Parts, Features, Tools, and More

- Download predefined parts and symbols

J-Link Programmatic Interface

- Customize the Pro/ENGINEER user interface to serve your specific needs

Platform Support and System Requirements

For more information and system requirements, visit:

<http://www.ptc.com/partners/hardware/current/support.htm>

Pro/ENGINEER Packages

| Foundation Advantage Package | Flex Advantage Package | Flex3C Package |
|------------------------------|------------------------|----------------|
|------------------------------|------------------------|----------------|

The Right Solution – Without Compromise

Pro/ENGINEER is simple to learn and use, and is available in a variety of packages designed to meet your company’s specific needs.

Whether you need a cost-effective 3D CAD system that contains all the basic design capabilities (Pro/ENGINEER Foundation Advantage), or more advanced capabilities such as simulation and analysis tools (Pro/ENGINEER FlexAdvantage), or a comprehensive Product Development System (Pro/ENGINEER Flex3C) that seamlessly connects your extended supply chain, you’ll find exactly what you need in one of the packages in this chart.

Pro/ENGINEER Foundation Advantage Package
The Essential 3D CAD Value Package

The essential tools that today’s engineers need to create winning products

Pro/ENGINEER FlexAdvantage Package

Powerful 3D CAD, Plus a Choice of Performance Option

For engineers who need the world’s best design tools, plus powerful assembly creation and management capabilities

Pro/ENGINEER Flex3C Package
What You Need to Deliver Winning Products

What manufacturers need to Create great products, Collaborate across the value chain, and Control projects, processes, and data

For more information about the Pro/ENGINEER Foundation Advantage Package, please visit

www.PTC.com/go/fap

| | Foundation Advantage Package | Flex Advantage Package | Flex3C Package |
|---|------------------------------|------------------------|----------------|
| 3D Detail Design /Part Modeling | | | |
| Model quality assurance with PTC’s ModelCHECK | ● | ● | ● |
| Solid, sheetmetal, and weld modeling | ● | ● | ● |
| Support for 3D drawings and annotations per new ASME Y14.41 standard | ● | ● | ● |
| 3D cabling design | | | ● |
| 3D piping design | | | ● |
| Surfacing | | | |
| Advanced parametric surfacing | ● | ● | ● |
| Global modeling and warp surface modification | ● | ● | ● |
| Interactive surface design for creating complex surfaces, G2 continuity | | ⊙ | ● |
| Assembly Modeling | | | |
| Embed form, fit, and function knowledge with AssemblySense™ | ● | ● | ● |
| Flexible models: single BOM entry for multiple geometry states | ● | ● | ● |
| Simplified representations and Shrinkwrap™ to protect intellectual property and reduce file size | ● | ● | ● |
| Advanced assembly with top-down design, process planning, design for manufacturability, 2D associative process sheets | | ● | ● |
| Interoperability and Data Exchange | | | |
| Incorporation of Web services for native Web connectivity | ● | ● | ● |
| Imported data repair | ● | ● | ● |
| Multi-platform support including Windows/Linux/Solaris/HP-UX | ● | ● | ● |
| Support for all major standards such as STEP/IGES/DXF/STL/VRML, AutoCAD DWG, DXF (import of 3D with associated 2D) ACIS import/export, Parasolid import/export* | ● | ● | ● |
| Simulation | | | |
| Real-time photorendering | ● | ● | ● |
| Design animation with movies, motion envelopes, and interference checking | ● | ● | ● |
| Mechanism kinematics design with click-and-drag animation | ● | ● | ● |
| Mechanism dynamics simulation of force, velocity, acceleration, torque | | ⊙ | ● |
| Structural and thermal simulation | | ⊙ | |
| Behavioral modeling for advanced product design and optimization | | | ● |
| Collaboration and Project Management | | | |
| Peer-to-peer design conferencing for sharing 3D CAD designs in real time | | | ● |
| Secure project workspace for collaboration with global team members | | | ● |
| Project management and execution: control action items, milestones, deliverables | | | ● |
| Digital Product Data Management and Process Control | | | |
| Enterprise product data management** | | | ● |
| CAD workgroup product data management** | | | ● |
| Automated change management process*** | | | ● |
| Configuration management*** | | | ● |

* Support for import and export of CATIA V4, CATIA V5 and UG, including PTC’s patented Associative Topology Bus™ compatibility and support for I-DEAS import can be purchased separately.
 ** Pro/ENGINEER Flex3C package comes with a choice of Windchill PDMLink or Pro/INTRALINK
 *** Available only with Windchill PDMLink

● Available in Package
 ⊙ Performance Option:
 Choose 1 of the 3 Options



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