

# Pro/ENGINEER® Foundation XE

THE ESSENTIAL 3D CAD PACKAGE

**The Pro/ENGINEER Foundation XE (Extended Edition) Package is the essential 3D CAD solution because it gives you exactly what you need: the most robust 3D product design toolset, that is the core of the industry's only scalable product development platform.**

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

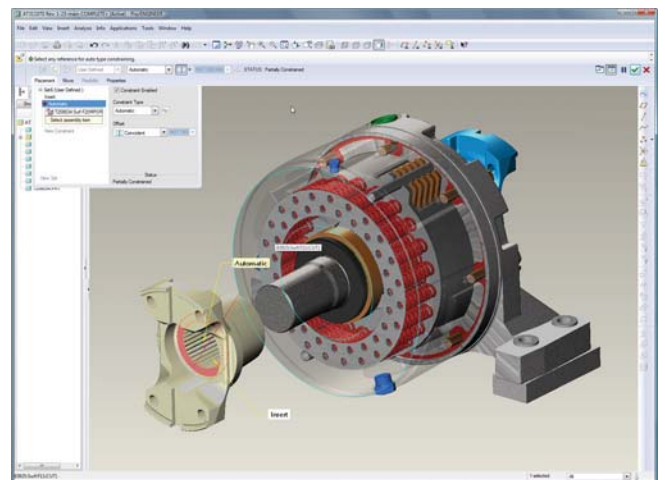
When you compare the power and performance of Pro/ENGINEER to every other 3D CAD solution, you'll see why it's the choice of more than 600,000 designers and engineers at more than 50,000 companies worldwide. There's simply no better value, quality, or capability—anywhere.

As a design professional, you can't afford CAD tools that compromise your product, process, or productivity. With the Pro/ENGINEER Foundation XE, 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 content and process management.



The intuitive user interface streamlines the process of assembling components.

### Key Benefits

- Quickly create the highest quality and most innovative 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 great looking products with 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 3D CAD/CAM/CAE software on the market. With the Pro/ENGINEER Foundation XE 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 Foundation XE

### 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

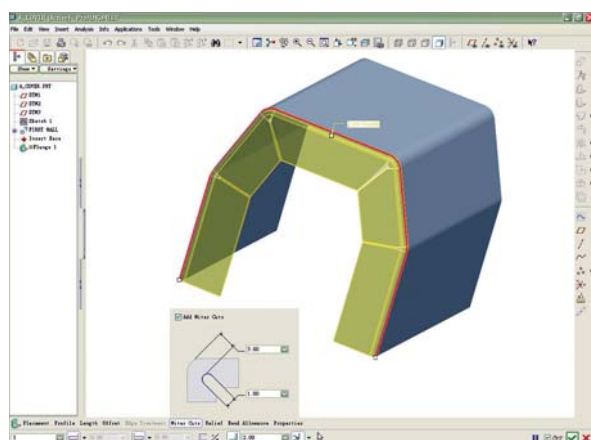
- Develop complex surface geometry using sweeps, blends, extends, offsets, and a variety of other specialized features
- Trim/extend surfaces using tools like extrude, revolve, blend, and sweep
- Perform surface operations such as copy, merge, extend, and transform
- Define complex surface geometry explicitly

#### 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

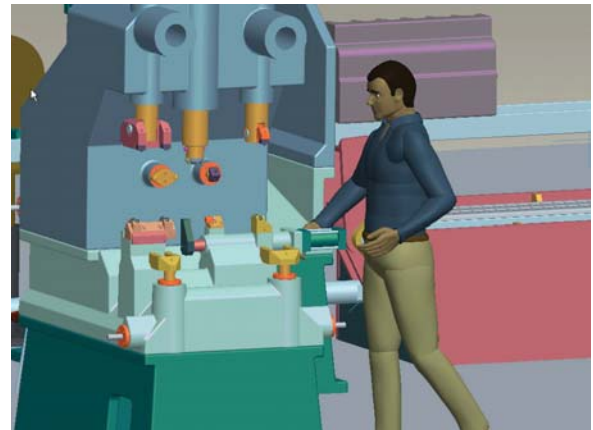
- Create walls, bends, punches, notches, forms, and reliefs using the streamlined user interface
- Automatically generate flat patterns from 3D geometry
- Use a variety of bend allowance calculations to create flat patterns of the designs



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

#### Digital Human Modeling

- Insert and manipulate a digital human inside your CAD model with Manikin Lite capabilities
- Gain valuable insight about interactions between your product and people that manufacture, use and service the product earlier in the design cycle



Manikin Lite capabilities let you insert and manipulate a digital human into your CAD model.

#### 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

#### Analysis Features

- Measure and calculate valuable information from your model including distance, length, angle, mass properties, and volume
- Perform static structural analysis on parts and assemblies with CAE Lite capabilities
- Interoperability with PTC Mathcad, engineering calculation software, lets you integrate Mathcad worksheets with your design to predict behavior, and drive critical parameters and dimensions (Mathcad optionally available)
- Add Microsoft Excel files to your design

# The Essential 3D CAD Package

## Data Interoperability

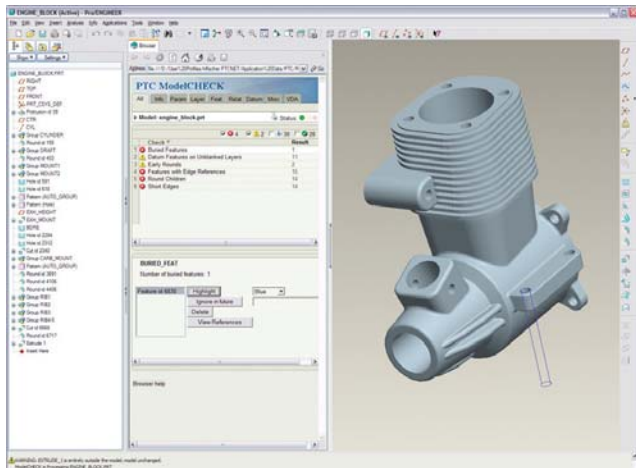
- Kernel support for ACIS,™ Parasolid,™ and Granite®
- Associative Topology Bus™ for cross-release interoperability
- Direct translators for CADD5 and AutoCAD® DWG
- Industry-standard translators: AutoCAD® DXF, IGES, STEP, SET, VDA, ECAD, CGM, COSMOS/M, PATRAN®, and SUPERTAB™ geometry files, SLA, JPEG, 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™ – Design Validation

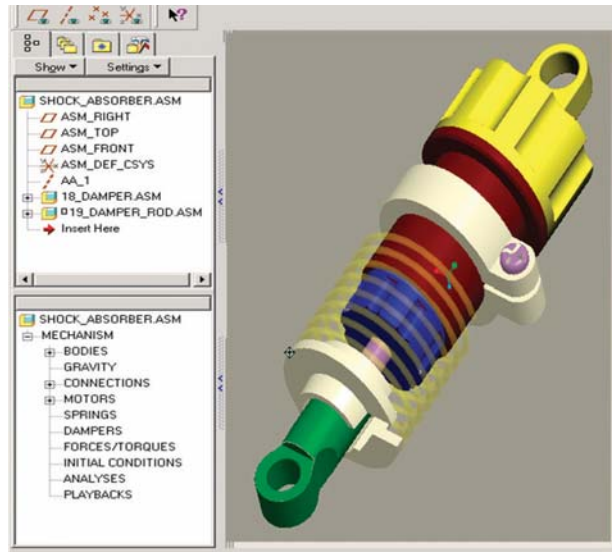
- Automatically identify and fix potentially expensive manufacturing problems early in the design stage
- Ensure compliance with company/industry standards
- Enforce best-practice modeling techniques



Use ModelCHECK to address your quality challenges by monitoring, educating, and deploying company standards and best practices.

## 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



Mechanism Design lets you create mechanical connections and simulate motion on kinematic assemblies.

## Mechanism Design

- Assemble parts and sub-assemblies using true mechanical connections (pin joints, ball joints, sliders) to create a realistically moving 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

## Integrated NC Capabilities

- Create 2 1/2 axis milling programs in less time with integrated CAM Lite capabilities
- Machine prismatic parts with 5-axis positioning
- Control drawing entities with 2D drawing import wizards



Integrated CAM Lite capabilities are easy to learn and use with the icon and dialog driven user interface.

# Pro/ENGINEER Foundation XE

## Web Capabilities

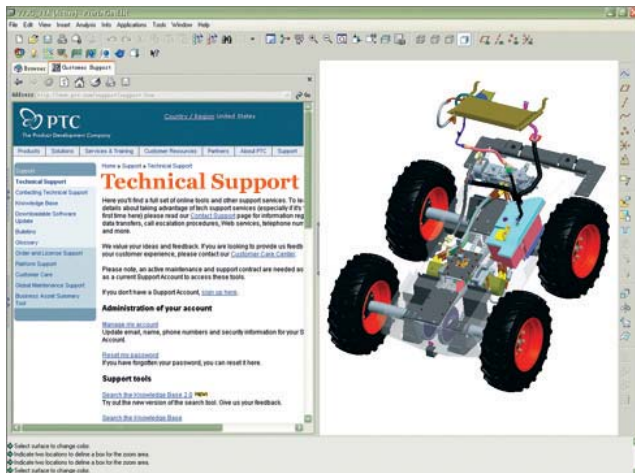
- Enjoy Internet/Intranet support, for fast access to e-mail, FTP, and Web – all from within Pro/ENGINEER
- Query models for interactive XML reports
- Seamlessly connect with PTC's Windchill® solutions, enabling the industry's only truly integral Product Development System

## 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



Web connectivity for information gathering, part catalogs, and optional PDM and collaboration solution access

## 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 or a comprehensive Product Development System that seamlessly connects your extended supply chain, you'll find exactly what you need in a single, fully scalable solution. Choose the package that fits your needs today. As your needs change and grow, you can easily upgrade to the package that is right for you tomorrow which leverages the same powerful platform - this means no data translation and a consistent user experience.

## The Pro/ENGINEER Advantage

The Pro/ENGINEER family of integrated 3D CAD/CAM/CAE solutions delivers a distinct advantage for engineers and designers because Pro/ENGINEER is fully associative. That means any change made to the design is automatically reflected in all downstream deliverables – without any translation of model information. By eliminating data translation, you not only save time, but you also avoid the possibility of translation errors in your design. Pro/ENGINEER packages are the first choice of engineers and designers because no other 3D CAD package offers more power and speed in one scalable platform.

## Platform Support and System Requirements

For more information and system requirements, visit:  
<http://www.ptc.com/partners/hardware/current/support.htm>

For more information about the Pro/ENGINEER Foundation XE Package, please visit: [www.PTC.com/go/proengineerpackages](http://www.PTC.com/go/proengineerpackages)

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