

# Pro/ENGINEER Advanced Assembly Extension (AAX)

## Taking the Complexity out of Large Assemblies

Pro/ENGINEER Advanced Assembly Extension (AAX) enhances the productivity of design teams with capabilities for assembly configuration rules management, top-down assembly design, and assembly process planning. The combination of these powerful tools streamlines the flow of information from design to manufacturing.

### Plan and Manage Large Assemblies

Pro/ENGINEER'S top-down design tools make it easy to plan out the skeleton of the assembly, so that the individual components can be designed in the context of the overall structure. As a result, the complexity of managing the various relationships between components is simplified. Pro/ENGINEER also makes it easy to simultaneously share key geometry features among the multiple design teams. With tools that facilitate planning and collaboration, concurrent engineering is not just possible, but very easy, allowing you to compress your design cycle and get your product to market faster.

### Design-to-Order with Ease

Customizing your product to meet a customer's specific needs, can be an incredible competitive advantage. Unfortunately, the customization process can be consuming and error prone. With Pro/ENGINEER Advanced Assembly Extension, you can design-to-order by driving your design based on specific custom criteria with minimal effort. Even better, all downstream deliverables, such as production drawings and manufacturing information are updated automatically, making customization not just easy and error free, but fast.

### Automatically Enforce Design Standards

Many companies have assembly configuration rules that must be adhered to so that they can maintain and improve their standards of excellence. With Pro/PROGRAM these design rules can be programmed into Pro/ENGINEER to drive the assembly configuration, ensuring that company standards are adhered to with every product that is quoted and sold. Powerful capabilities like this ensure that standards are automatically built into every product which results in greater confidence in the design. This means faster development time at less cost.



Pro/ENGINEER Advanced Assembly Extension simplifies the process of developing complex assemblies

### Plan the Assembly Process

With Pro/ENGINEER Advanced Assembly Extension, manufacturing can begin to outline the assembly process while engineering works on the product's design, permitting early detection of assembly problems. This initial collaboration allows for productive communication between engineering and manufacturing and leads to up front error detection in the product's design. This effectively reduces the number of engineering changes after the product has been released to manufacturing, significantly reducing costs.

### Key Benefits

- Effective control and communication of configuration rules gives you a higher quality design faster and enables you to reuse your product designs in the future.
- Top-down design tools allow you to design the "skeleton model," giving you greater flexibility and control over the entire structure.
- Quickly and efficiently customize product variants according to a customer's unique requirements.
- Support your company's design or build-to-order initiatives to provide better, custom products to your customers faster and at less cost than your competitors.
- Concurrently create assembly manufacturing process instructions, enabling you to detect manufacturing errors sooner.
- Make changes with confidence, knowing that they will be automatically propagated from the design to the manufacturing information.

## Features and Specifications

### Top-Down Design Tools Allow Products to Evolve Naturally

- Plan the framework of an assembly with skeleton models to enable true top-down design.
- Establish skeleton models to enforce using consistent design criterion among all engineers.
- Publish and control contact interfaces between sub-assemblies and components.
- Create one-way associative models, allowing you to inherit the changes from the parent model, with the ability to make changes to the new model.

### Design-to-Order

- Customize products through a web page and automatically generate the drawings.
- Programmatically automate the customization of your product lines based on input parameters.
- Deliver updated and accurate drawings and manufacturing deliverables in record time for a customized product.
- Capture design requirements from customers in spreadsheets, layout tables, or other programming applications, which can drive product configuration.

### Centralized Design Criteria Allows for Complete Control of the Product's Structure

- Improved task distribution minimizes duplicate efforts.
- Enable spatial relationships between components or sub-assemblies to be defined.
- Allows for copying of all types of model geometry including surfaces, edges, curves, and datums across models.

### Global Reference Viewer and Reference Control

- Manage references to prevent future failures.
- Graphical representation of interdependencies provides a clear understanding of how changes will be propagated throughout the model.
- Incorporates design management rules directly into the design.

### Accurately Define the Assembly Process

- Define sequence of events for assembly including step by step drawings and views to detail the process
- Complete documentation of the process including associative manufacturing BOMs for each assembly step
- Color-coded models in drawing steps to distinguish which parts are being assembled and which parts have already been assembled.

## The Pro/ENGINEER Advantage

With Pro/ENGINEER you know that no matter where you make a change in your design, these changes will be propagated throughout all downstream deliverables. Pro/ENGINEER Advanced Assembly Extension has numerous tools that help with the development of large assemblies, and simplify the design process. Pro/ENGINEER's applications are seamlessly integrated allowing you to focus on design and analysis of your product(s) or service(s) – not wasting your time and energy recreating the model to be used for different applications. The integration of Pro/ENGINEER eliminates errors that result from translating or recreating models for another program.