Pro/ENGINEER® Interactive Surface Design Extension

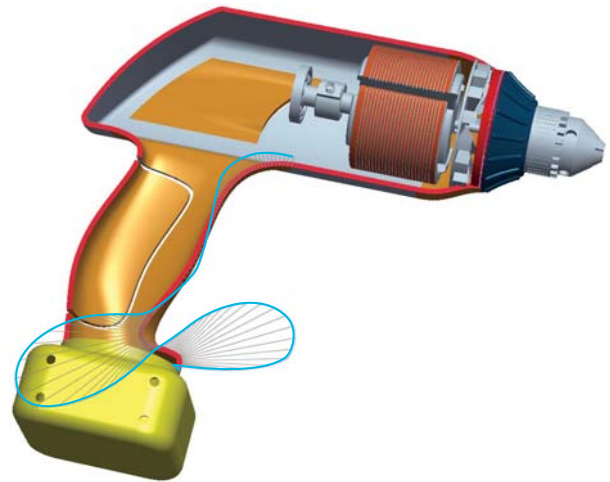**FREE-FORM SURFACING FOR RAPID AND EXTREME PRODUCT DESIGN**

Pro/ENGINEER Interactive Surface Design Extension (ISDX) delivers the ultimate integration of 3D design and engineering. By combining the power of parametric modeling with the flexibility of free-form surfacing, you can now create complex, free-form curves and surfaces directly within a single, intuitive, and interactive design environment.

Pro/ENGINEER Interactive Surface Design combines industry leading free-form surfacing tools within the parametric modeling environment of Pro/ENGINEER. Designers and engineers can create conceptual designs and free-form surfaces while having the ability to model the specific engineered components essential in every successful product.

This unique environment allows designers and engineers to not only utilize the power of free-form surfacing, but to also leverage rich functionality such as behavioral modeling, drafting, simulation and manufacturing from within a single application, making Pro/ENGINEER the ultimate solution for product design.

Key Benefits

- Build free-form geometry at any point in the design, using as many or as few constraints as desired, for maximum design flexibility

- Focus on adding value to your design, not on transferring and interpreting data

- Easy to learn and use, to quickly define curves and surfaces resulting in a faster ROI

- Full associativity allows the surfaces and curves to instantly adapt to design changes, reducing product development time

With the ability to create free-form surfaces and to perfect curvature, you have the tools to design great looking products.

Features and Specifications

Curve Creation
- Create 3D curves by specifying interpolation or control points in one or more views
- Set up references dynamically by snapping to any object
- Create planar curves referencing a plane or radial to another curve
- Create Curve-on-Surface (COS); Sketch-on-Surface; Project-on-Surface
- Create style curve copies of imported or native Pro/ENGINEER curves/edges
- Copy curves proportionally
- Offset COS

Curve Edit
- Move control points dynamically or numerically
- Edit multiple curves simultaneously
- Interactively delete or change references to any object
- Modify tangent constraints dynamically or numerically
- Connect curves and surfaces with positional, tangent, and curvature continuity
- Add interpolation or control points, interactively
- Extend dynamically, with or without constraints
- Delete individual points or curve segments
- Combine and split curves
- View dynamic curve and surface analysis
- Change curve types from free to planar or COS
- Unlink curves and individual points from references

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Surface Creation
- Share and manage assembly design data efficiently using predefined skeleton model interfaces
- Define and automate the enforcement of design rules, ensuring that only appropriate relationships are created within the context of the design, so they can be reused easily
- Develop unique sequence steps to provide models, views and separate BOM listings for each step of the assembly process

Surface Edit
- Regenerate surfaces in real time
- Make automatic surface connections
- Reshape surfaces by editing the defining curves
- Add or remove multiple internal curves in two directions
- Replace boundary curves/edges to redefine surface shape
- Change surface types between boundary, loft and blend while maintaining all references
- Trim surfaces

Connections
View surface connections interactively to define the following:
- G0 Positional
- G1 Tangent
- G2 Curvature continuous
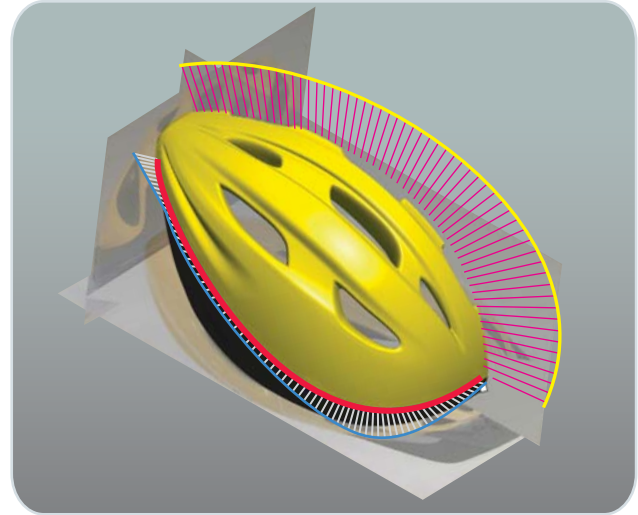- Establish leader/follower relationships (G1 or G2)

Modeling Environment
- Import images and scale accurately to modeling environment to use as underlays
- Work within a four-view window
- Reference defining geometry such as points, planes, axes, curves, surfaces and solids
- Create reference geometry asynchronously while modeling
- Work directly off imported geometry, facets and sample data
- Drive model changes through parametric modifications
- Optimize designs using Pro/ENGINEER Behavioral Modeling (available separately)
- Benefit from downstream use for additional geometry creation, engineering, simulation and manufacturing

Scan Tools
Includes entry-level tools for transforming imported surfaces, quilts, triangulation data or raw data into manufacturable models.
- Import, generate and filter raw data
- Import geometry, including curves, surfaces and faceted data
- Create and modify curves
- Heal geometry manually or automatically (part of Pro/ENGINEER Foundation Advantage Package)
- Collapse geometry from later features into the style feature (part of Foundation Advantage Package)

Pro/ENGINEER Interactive Surface Design is a highly intuitive and flexible free-form surfacing tool that allows you to develop compelling design variations quickly.

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

Platform Requirements
- Microsoft Windows (XP, 2000)
- UNIX platforms (Solaris, HP-UX, Linux)

For specific operating system levels, visit:
www.ptc.com/partners/hardware/current/support.htm

The Pro/ENGINEER Advantage
With Pro/ENGINEER associativity, you can rest assured that no matter where you make a change in your design, your changes are instantly propagated throughout all downstream deliverables. Pro/ENGINEER Interactive Surface Design provides all the free-form surfacing capabilities you need to quickly and easily sculpt curves and style multiple surfaces. It's the ideal solution for maximizing your product's aesthetic appeal and for quickly creating complex geometry all within a single Pro/ENGINEER environment!