

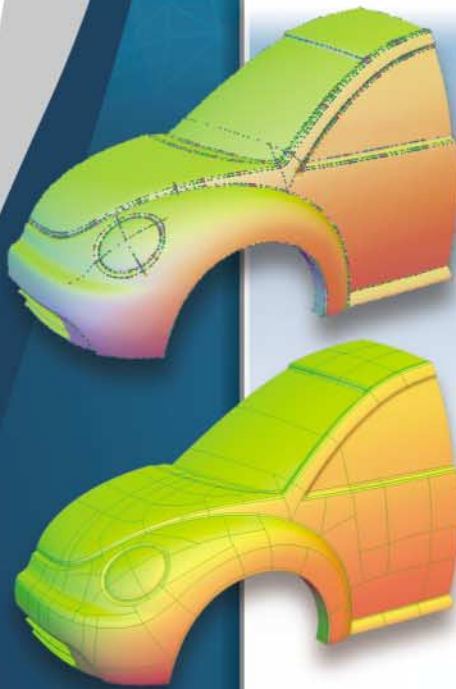


PolyWorks®

PolyWorks/Modeler™ Delivers a New Rapid Surfacing Paradigm

9

PolyWorks/Modeler™ Version 9 offers major improvements to its rapid surfacing toolbox, including **fully automatic surfacing** and **feature-constrained automatic surfacing**. With these spectacular enhancements, PolyWorks now offers the widest spectrum of surfacing strategies for quickly bringing digitized industrial, artistic, or natural parts into a CAD environment. Major improvements include:

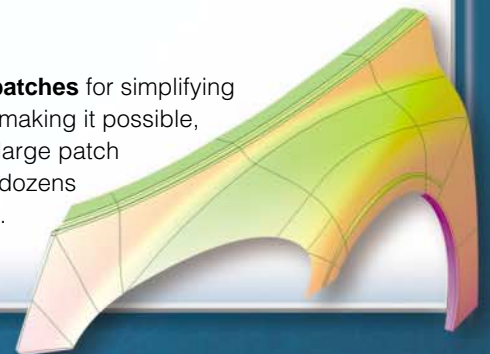


Automatic surfacing

- PolyWorks offers an automatic curve layout tool that **tracks the natural curvature lines within minutes** all over the input polygonal mesh in order to delimit the boundaries of NURBS patches.
- The tracking algorithm **self-detects incorrect patches** and removes them.
- Users can then directly create the missing curves in order to finalize their curve network and fit a NURBS surface.
- For high-quality NURBS surfaces, users can **constrain the surfacing process by predefining curves** such as boundary and feature curves. These curves can be extracted by a 1-click tracking tool, imported from CAD, or digitized with a probe.
- PolyWorks NURBS surfaces **contain a smaller number of patches**, which makes them more suited for further manipulation in CAD/CAM software.

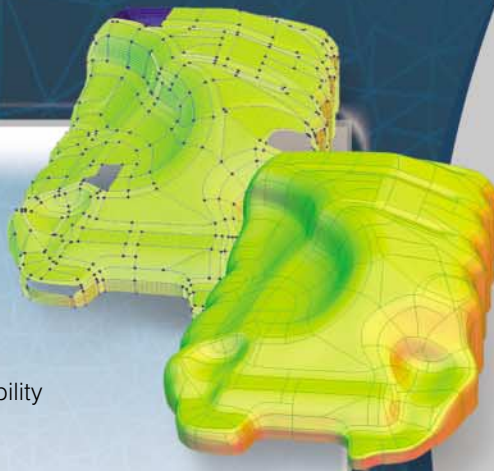
Increased flexibility

- PolyWorks now supports **triangular patches** for simplifying the definition of the patch layout and making it possible, along with **T-junctions**, to connect a large patch to many small ones, without creating dozens of unnecessary quadrilateral patches.



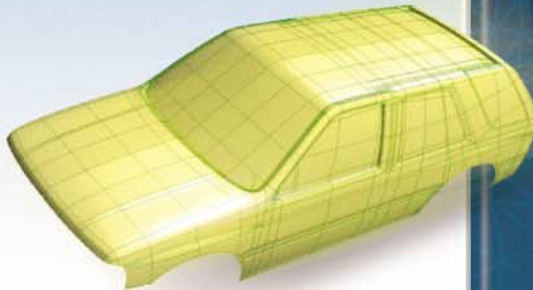
Continuity and rigidity

- PolyWorks offers a **rigidity factor** for mimicking either a flexible material (such as plastic) or rigid material (sheet metal).
- For each boundary, PolyWorks gives the possibility to specify G0, G1, or **G2 continuity**.



Symmetry plane

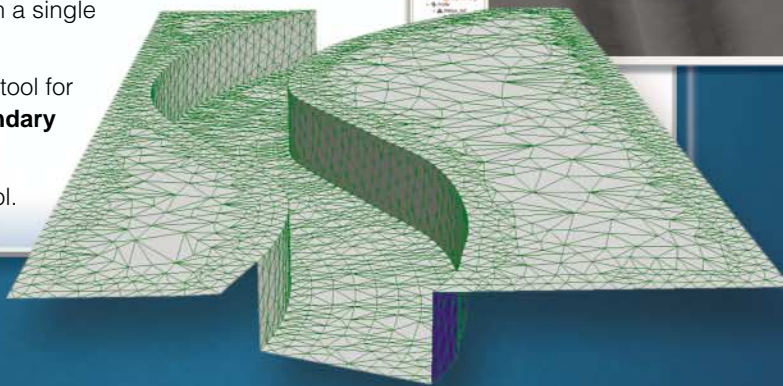
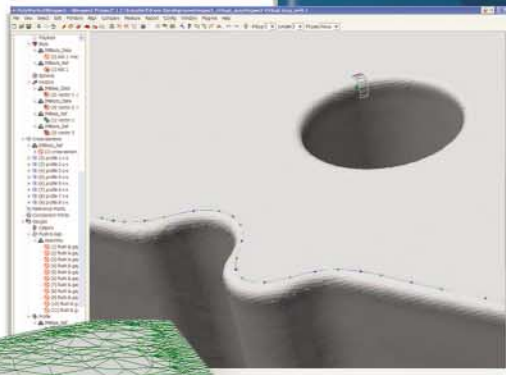
- PolyWorks can now fit NURBS surfaces that are perpendicular to a symmetry plane in order to mirror them and ensure **G1 continuity at the mirror plane**.



New tools for polygonal meshes and curves

PolyWorks also offers a wide array of new polygon editing tools including:

- New capabilities for **editing multiple polygonal models** at once;
- **Boolean operations** for combining polygonal models;
- Improved **automatic hole-filling method** for handling more complex configurations;
- **Reconstruction of grooves** in polygonal meshes;
- Powerful **feature-tracking technology** for tracking fillet center curves, fillet tangent curves, or theoretical edge curves based on a single mouse click;
- Quick and easy tool for **extracting boundary curves**;
- **Curve offset** tool.



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