

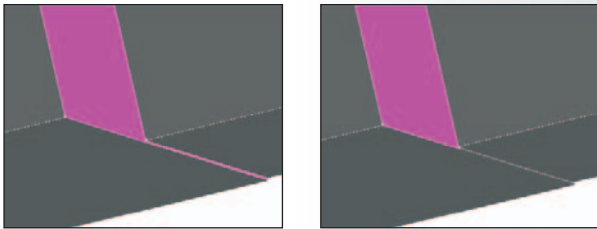
# GAMBIT 2.4 Just Around the Corner

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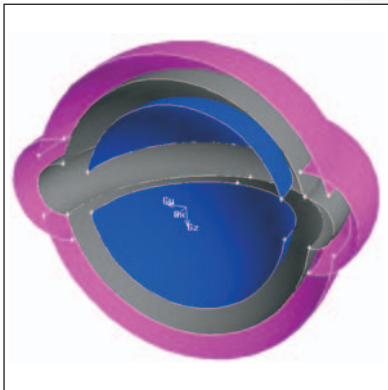
**THE UPCOMING RELEASE** of GAMBIT, planned for early 2007, continues to take advantage of the new CAD Connection capabilities (see the following article), making it possible to start GAMBIT directly from the CAD package while working on the CAD model.

GAMBIT 2.4 continues to expand on geometry operations with a new face-offset function which allows volumes with finite thickness to be created more easily. Real face- and volume-splits are enhanced to include a split-by-location option. A tolerant option has been introduced to Boolean operations. A new partial-sliver-face removal feature further strengthens the suite of GAMBIT cleanup tools.

In the area of meshing, prism layers are now smoother, linked meshes are easier to manipulate, and size function- and edge-meshing more exact. For example, copy-linked meshes can now be connected for easy conversion from periodic to full domain setup. GAMBIT also makes use of the new TGrid technology for improved tetrahedral meshing quality and stability. ■



A geometry before (left) and after (right) partial-sliver-face cleanup



The new face-offset tool is illustrated above; starting with the original face (gray), inward (blue) and outward (pink) offsets are shown

# Using CAD

**THERE HAS BEEN A SIGNIFICANT TREND** in recent years for companies to bring engineering analysis forward in their design processes. In doing so, it has become increasingly important for these organizations to directly utilize their investment in production CAD geometries. Similarly, the need for CFD providers to offer direct connections to CAD has become critical. Unfortunately, the suitability of many, if not most production CAD models for CFD or CAE analysis remains a problematic issue. The problems are minimized if the geometries:

- are simple assemblies, consisting of prismatic geometry with no fasteners and very few rounds or fillets, for example
- are void of clearances or interference fits, typical of bearings, snap rings, inadvertent interferences (mistakes), or clearances for sliding fits for assembly or welding
- do not contain parts that are not relevant to the CFD solution