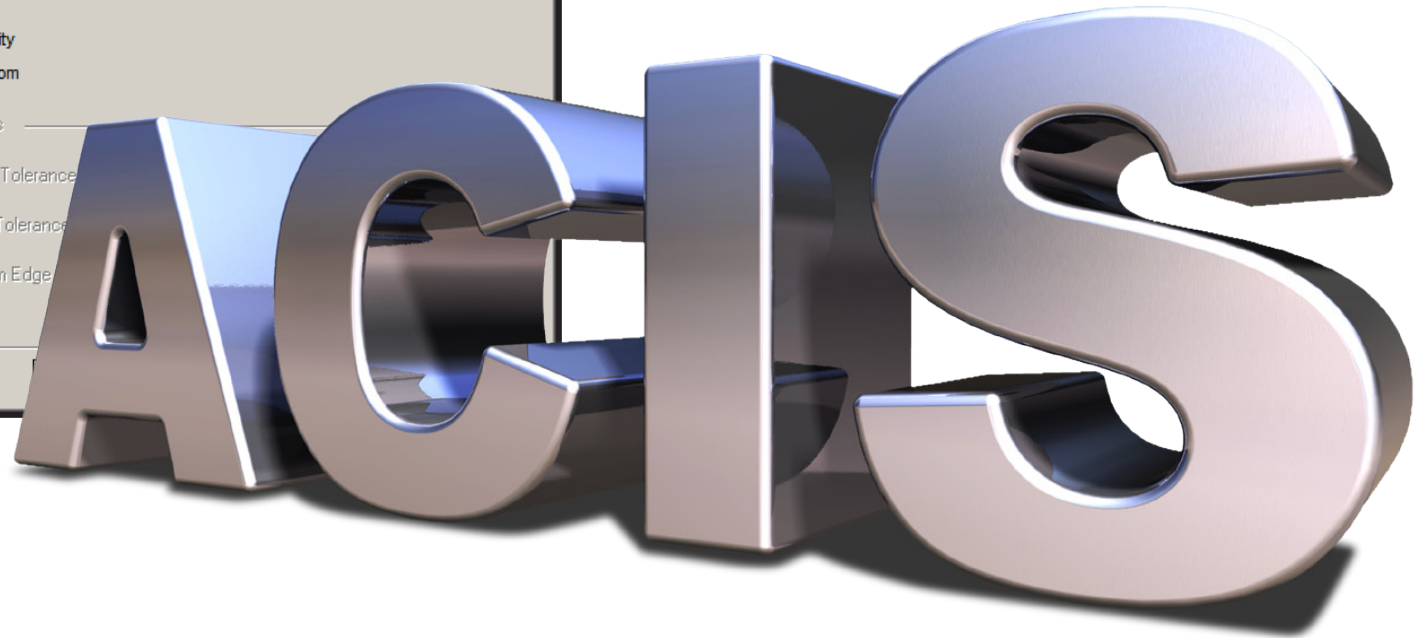
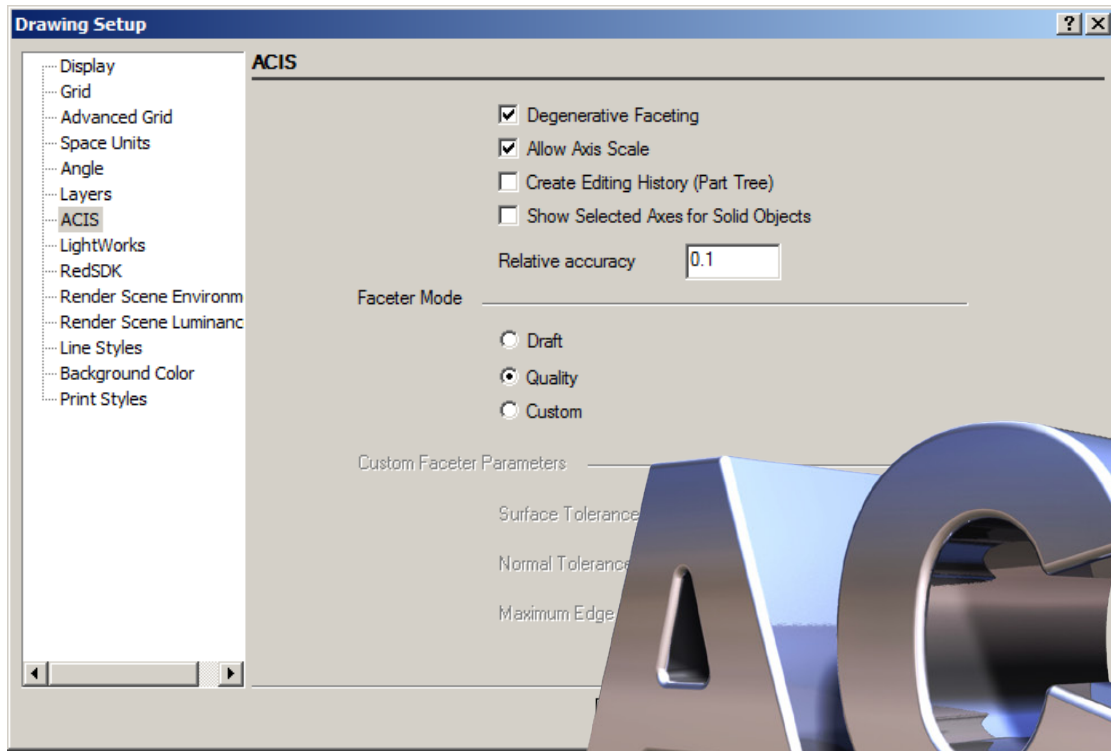


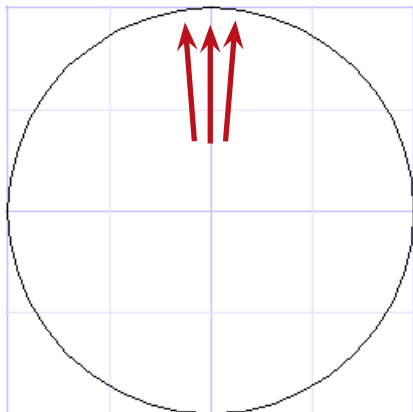
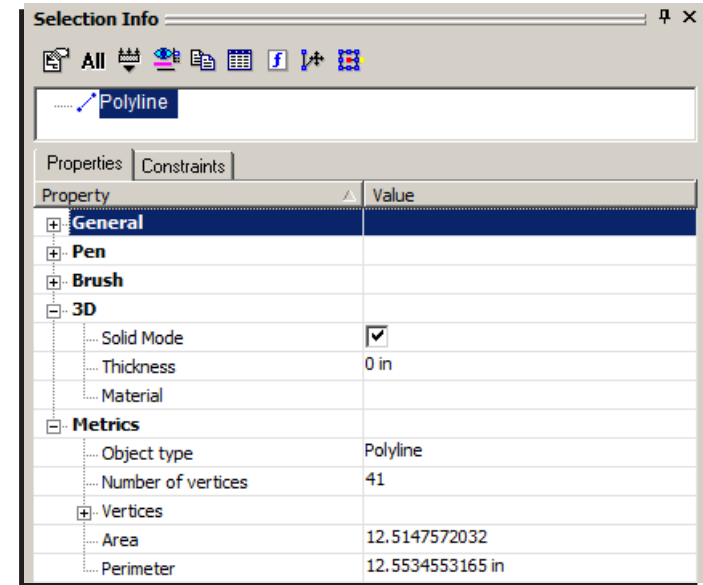
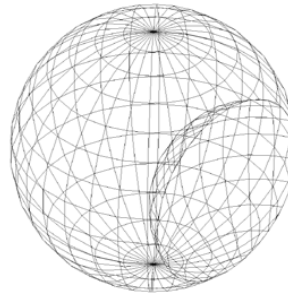
Do you ever wonder what ACIS stands for and how it relates to TurboCAD?



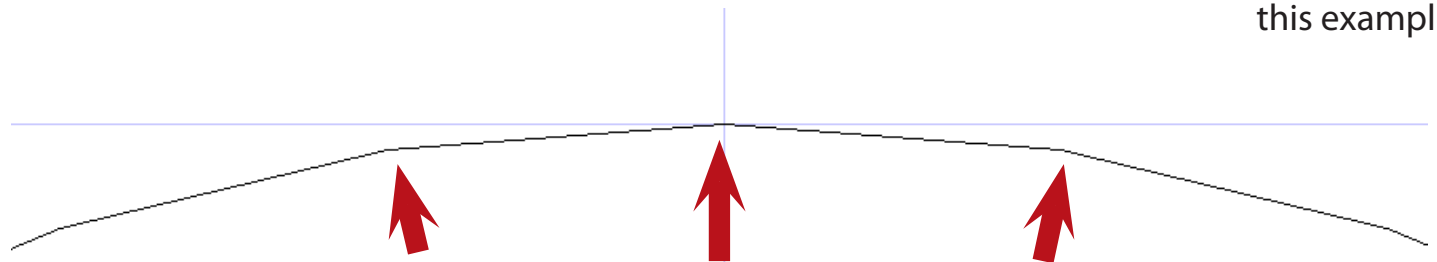
While ACIS is relatively easy to define in general terms - as a geometric modeling engine created by Spatial Corporation, it is the function that is important to the TurboCAD user.

In essence, all objects are a topology of sorts, a collection of facets grouped to create an object. The more facets there are the smoother the outcome (and the more computer calculations there are to perform).

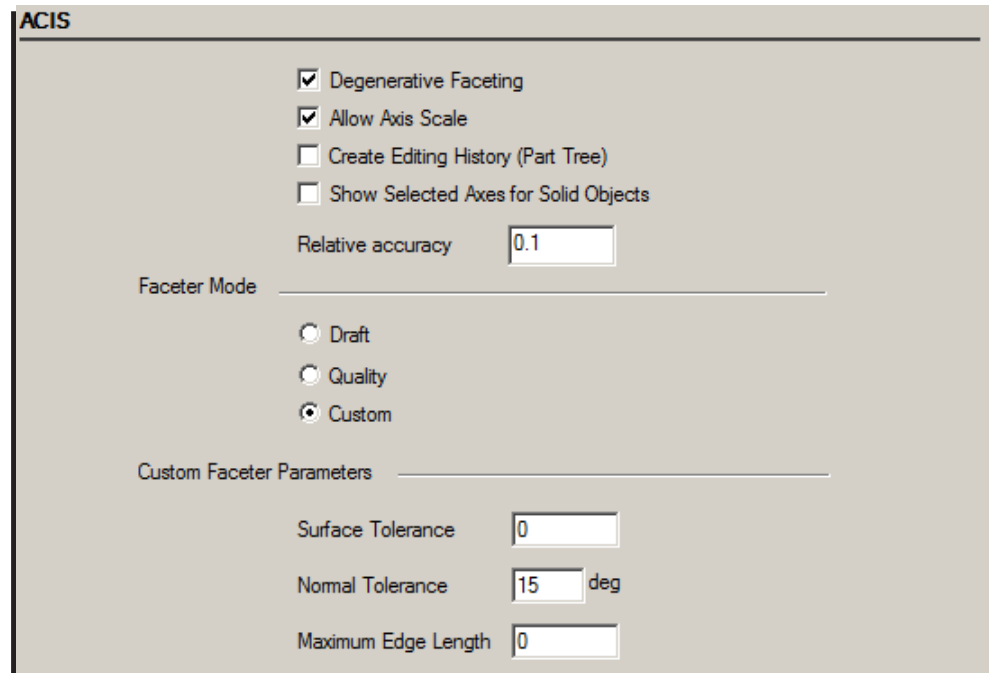
Think of a circle composed of a number of segments. Zoom in on the circle below and note that this one is comprised of 40 line segments.



In actuality, this circle was created with the Polygon tool to make the point about segments. A circle in TurboCAD will have more segments and will not necessarily be as noticeable as they are in this example.



In order to know what ACIS settings to use it is important to know what they mean in terms of the segmenting (faceting), as mentioned on the previous page.



Surface Tolerance specifies the maximum distance between a facet and the true surface.

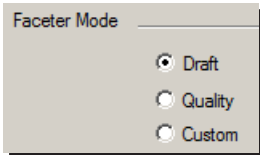
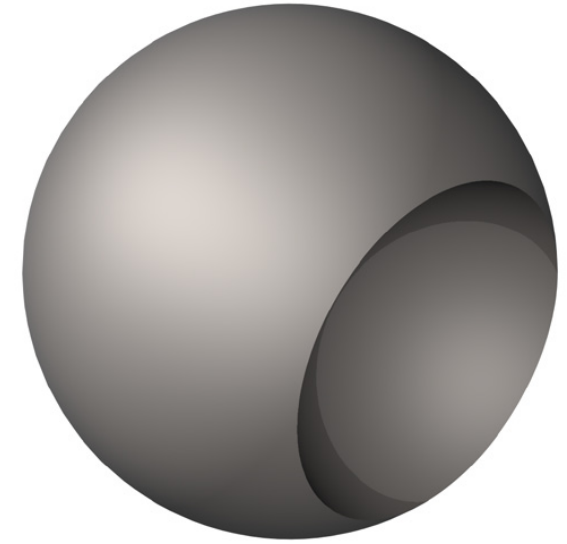
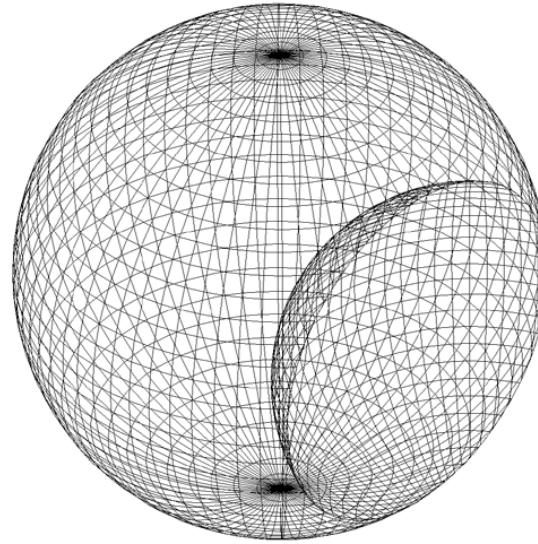
Normal Tolerance specifies the maximum normal deviation (in degrees) allowed between two normals on two adjacent facet nodes.

TurboCAD default values are supposedly 15 for DRAFT mode (Don thinks it is 12) and 5 for QUALITY mode.

Maximum Edge Length specifies the maximum length of a side of a cell in object space. Since a facet cannot be larger than the cell, this determines the maximum size of the facet.

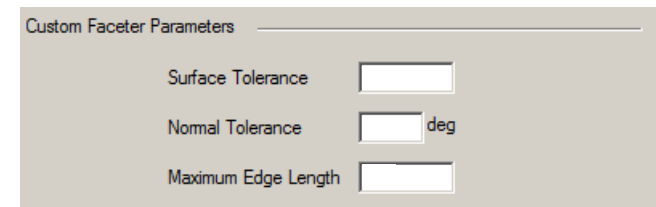
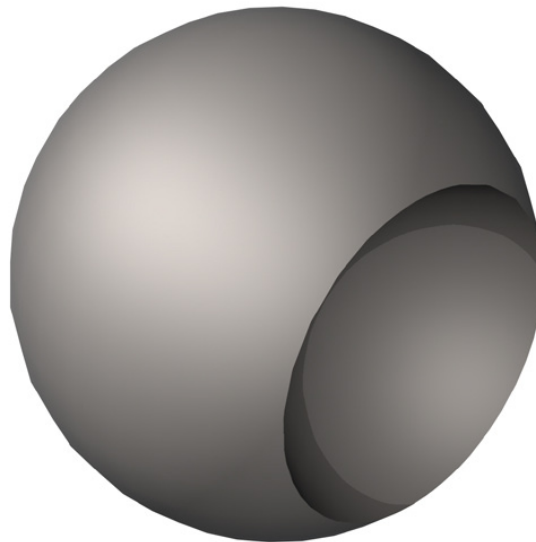
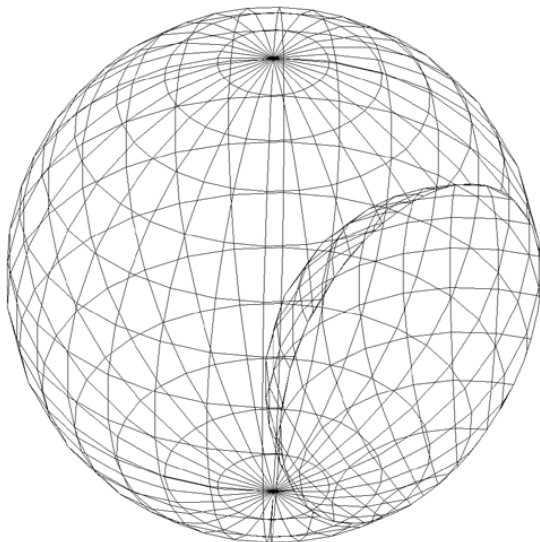
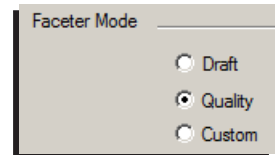
The default value is 0.0 (Both for DRAFT and QUALITY modes), meaning this parameter is ignored.

To see the mesh-like look, Draw form-building edges is checked under Display and Degenerative Faceting is unchecked under ACIS.

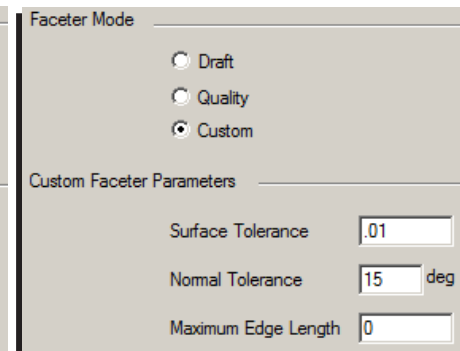
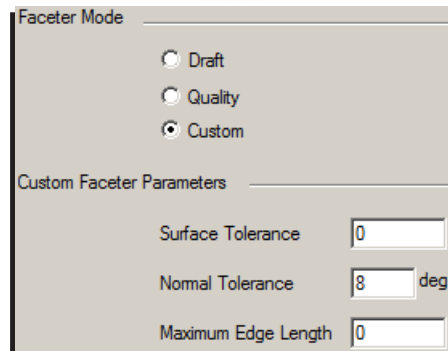
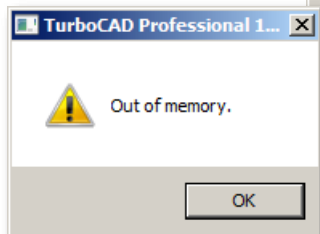
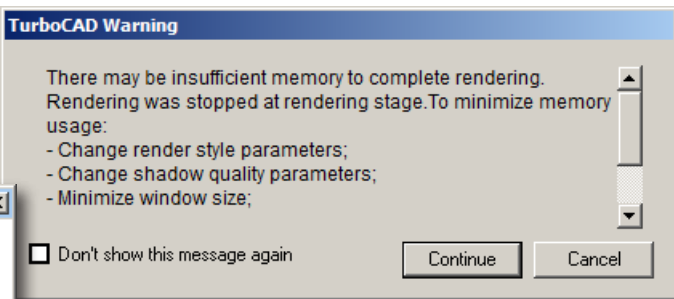
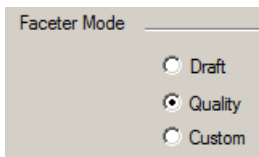
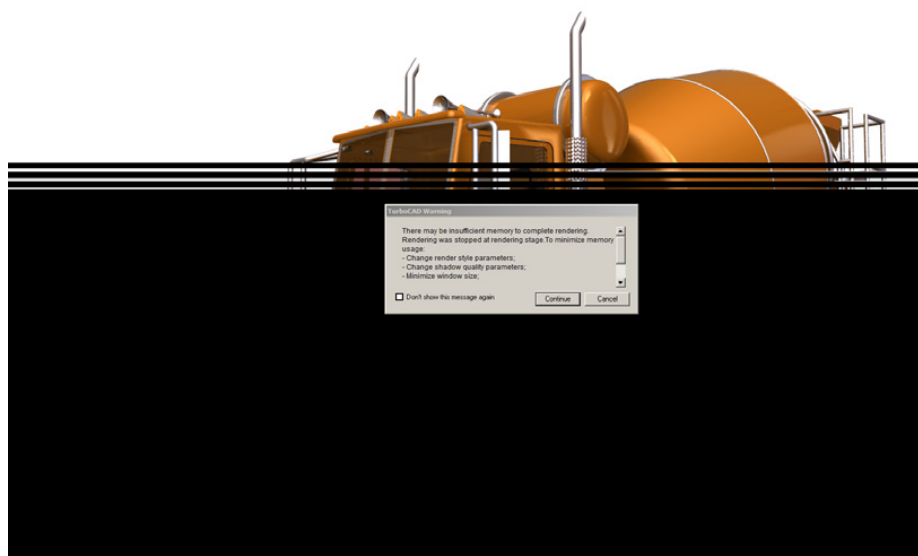


If set to Custom it would read 0, 12, 0
Note segmenting

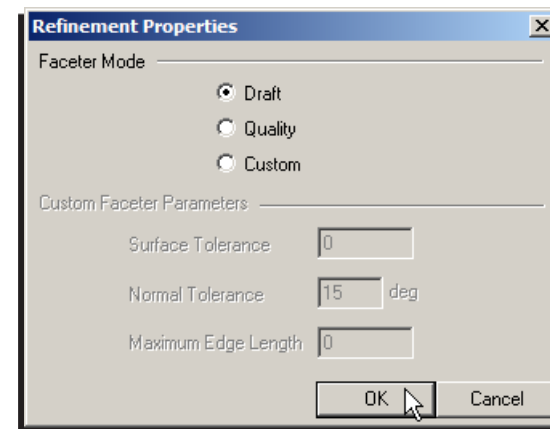
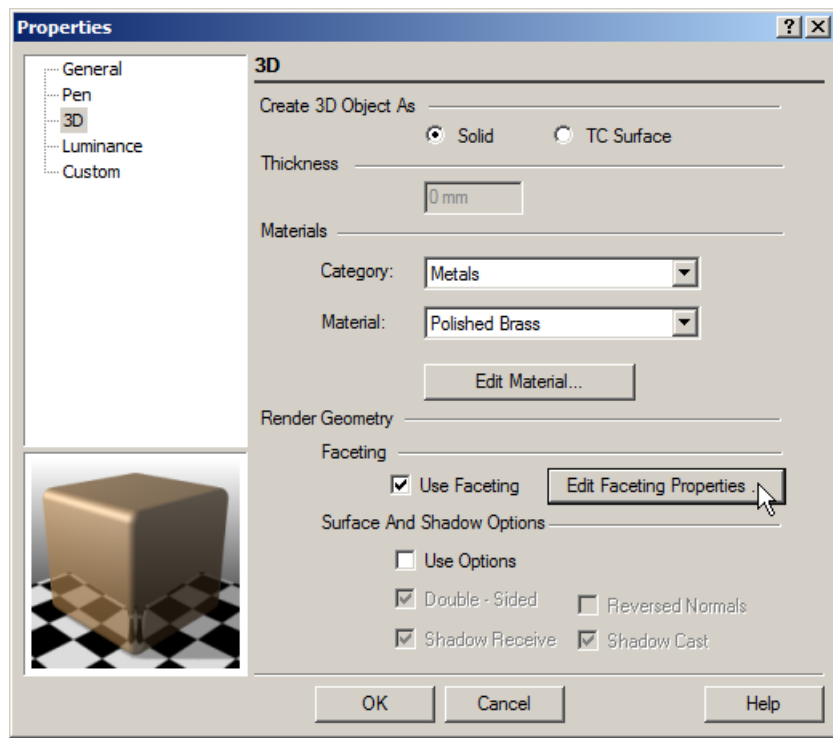
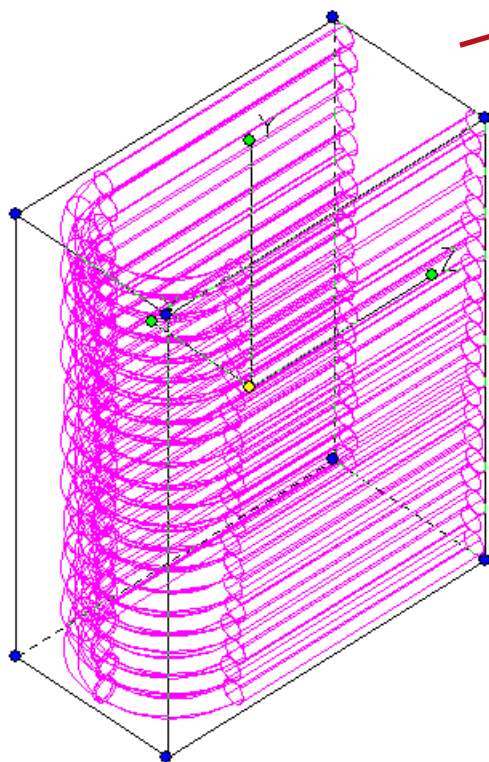
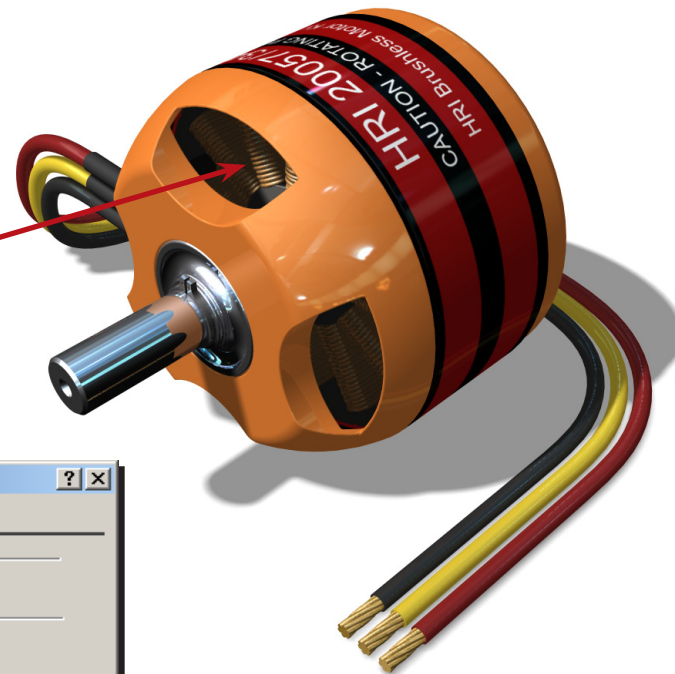
If set to Custom it would read 0, 5, 0
Much smoother result



Using Custom Faceter Mode settings can help a user get a project to render when Quality Faceter Mode on a complex model runs out of memory and Draft look less that adequate. It has been found that just changing one setting is enough to make all the difference in the world. Changing Surface Tolerance or Normal Tolerance to something between Draft and Quality is the thing to do. Segmenting is not noticeable if a near quality setting is used.



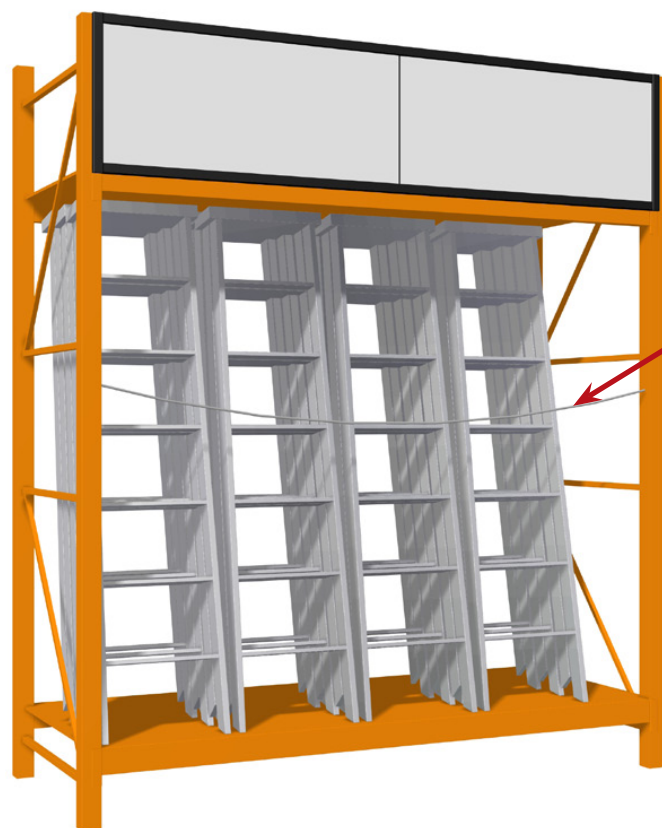
New to V18 is the ability to set Render Geometry for individual objects in a drawing. As such, a user may adjust those items that are somewhat hidden to have fewer facets than those that are in the forefront. Effectively lessening the number of calculations required to render a scene.



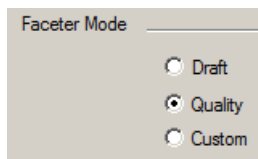
The new ability to set Render Geometry for individual objects in a drawing also works in reverse to what was illustrated on the previous page.

If Quality faceting is not high enough for an object then the faceting can be increased for specific parts.

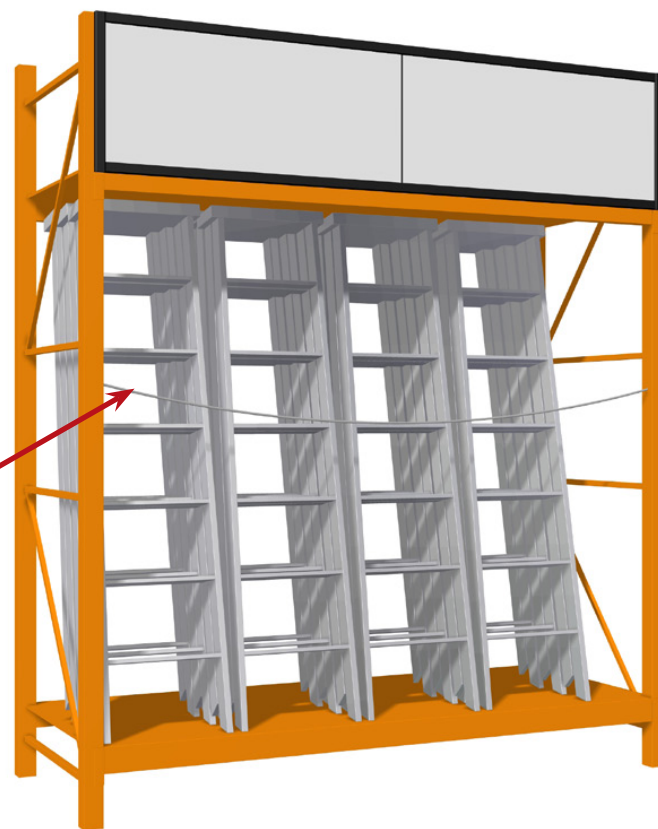
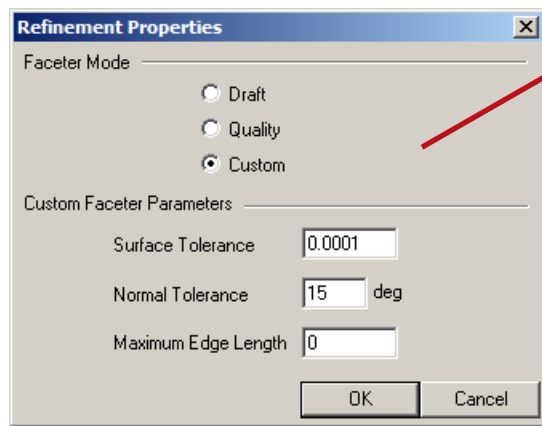
The difference will only be visible when rendered.



Both rendered Quality



Segmented even in Quality but not when Surface Tolerance was reduced.



If you found this TurboCAD tip helpful, please consider purchasing a full Textual Creations TurboCAD project tutorial that will lead you through an entire project, keystroke by keystroke. You won't be disappointed! Visit the [Textual Creations Shopping Page](#)