

Nesting:

The nesting feature rearranges objects on the cutting material with the purpose of minimizing wasted material. Objects can be flipped and grouped on the material size as well as rotated to achieve optimum usage of the cutting material.

Torchmate CAD will nest cdl files that have not saved, thus you can practice nesting in cdl format, but once a file has been saved in the cdl format and re-imported the software will not recognize these files. Nesting works well with objects that have a tool path made, and also have existing lead in / outs. When saved in a dxf format, files may be re-imported and rearranged using the nesting feature.

As stated above, the nesting function is used primarily for conservation of space when cutting multiple objects, therefore nesting is not of concern when cutting only one part.

Once your material page is filled with objects, select them all by using your select tool and mouse, or by selecting all using the button on your tool palette. With all the objects selected, click on **Arrange + Nesting** to bring up the Nesting Tool Box. This box helps you to customize your nesting.

The first set of buttons from the left, allow you to position the nesting to start from any one of the four corners of your material page.

To the right of the corner placement two other options exist, these are **Directional Placement**. Choose the direction in which rearranged objects will be spread across the material page.

Next you will notice the button for **Rotation** degree allowable, and **Nesting Border**. Rotation allows incremental rotation of the objects for better placement and organization in utilizing the material space. The object will be stepped through 360 degrees of rotation in order to find the optimum rotation. The increment angle field will indicate the amount of rotation that will occur for each step. For example, if the increment angle is set at 90 degrees, then the object will be rotated as many as 4 times in an attempt to find the optimum rotation for each object, likewise a 20 degree setting will rotate as many as 18 times.

Below Rotation is **Nesting Border**. By default, the objects will be nested to the very edge of the material page. Use the Nesting Border field to indicate a minimum distance that must be maintained between nested objects and the edge of the material page.

Further right, there are two more fields that represent **Clearance Between Objects** and **Error Factor of Clearance**. By default the nested objects will be placed in a tight proximity to one another. Use the clearance between objects field to specify a minimum distance that must be maintained between objects. Error Factor of Clearance refers to approximations made based partly on the magnitude of the objects being nested. In English this means the larger the numeric setting the more processing time will be needed

to arrange consistent spacing between objects. Refer to your guide to select the best setting for your object by the average dimension categories of Fine, Medium, and Course.

The final five buttons are tools, which may be used in combinations to streamline your nesting capabilities.

Allowed Mirrored Parts will flip objects to improve the final placement of objects.

Keep Groups Intact will keep grouped objects together in arrangement of nesting. When this option is inactive grouped objects will be separated allowing better material usage, however it is somewhat awkward for ungrouping them.

Block Nesting limits the rotation to a factor of 90 degrees, thus the border around the material page will be considered to be the absolute edge of the material being cut. **True Shape Nesting** has no such restriction of rotation, which will ignore the boundary area and the actual perimeter of each object will be utilized. Select the button to turn on the Block Nesting, otherwise the True Shape Nesting is the default setting.

Nest Parts in Part's Holes allows smaller objects to be cut out of the waste of other objects.

Select a Shape is an option, which will allow you to nest across a selected shape rather than the material page, which it does by default. Refer to the User Guide for a demonstration and walkthrough of this application.

You may want to practice using combinations of these tools prior to use in actual cutting applications.

- Depending on how much information is given or settings selected, the nesting function may take quite a while to process. I have experienced durations as long as 30 minutes. Be Patient.
- If interior cuts of inside part do not nest, or are removed and nested separately, Make Path on all the copied images prior to running the nesting processes. These copies may not be seen as “a part“ until make path is prescribed.