### Laser Cutting Technical Information

#### Using Adobe Illustrator or CS3

-Our maximum sheet size is 17.875" x 31.875". If you use conventional drawings, please provide a list of what is cut and what is scored and we will be happy to provide Outline Vector artwork for cutting purposes. If you use Adobe Illustrator or CS3, please provide your files using the following guidelines for fast and accurate service.

-Draw all parts using continuous, non-overlapping, joined Lines, using no regions, traces, blocks or external references. Erase all unused, duplicate, or overlapping lines. The laser will cut or score in the same place twice otherwise and yield an undesirable result.

-Set up layers with RGB top-bar colors using "cut" for all lines to be cut through the material, and "score" for all layers associated with scoring or engraving. You may want to name layers "score-thin" and "score-thick" for different score depth.

-Typical Layer names:

120-Acrylic-cut (set layer manager color to "255,0,0 red")

120-Acrylic-Score-It (set layer manager color to "cyan")

120-Acrylic-Score-md (set layer manager color to "magenta")

120-Acrylic-Score-dk (set layer manager color to "blue")

120-Acrylic-Etch (set layer manager color to "white")

-Set line weights for all lines to hairline thickness or "0.010"

-Name your file with the thickness and material desired. You may also want to number them in larger jobs.

Example: 010br-02.dwg for the second file of 0.010" Bristol board single ply, or 120acrylic-04.dwg for the fourth job of acrylic in the example above.

-The width of the laser beam varies from 0.008" to 0.010" depending on material. For high tolerance work, Use the "offset" command 0.004" to 0.005" on cutout shapes only.

-Size your file with a rectangle no larger than 31.875" (X-axis) by 17.875" (Y-axis). This will be the maximum part size you can cut.

-Group all parts on the page no closer than the thickness of the material you are cutting Example: 0.120" spacing for 1/8" material, 0.060" spacing for 1/16" material (0.035" spacing for all materials 1/32 and under).

-Digital files can easily be sent to us through our website or email. Files must be saved using .ai or .eps extension, in PC format. By following the above guidelines, you will maximize laser efficiency while minimizing our CAD time. However, if your time does not permit, we will be happy to adjust your files for you. Charges are based on Computer Operator time to adjust your file.



zoyes east inc. 1280 Hilton Road., Ferndale, MI 48220 1.800.939.9930 www.Zoyes.com

# Laser Cutting Technical Information

#### Using AutoCAD 2008

-Our maximum sheet size is 17.875" x 31.875". If you use conventional drawings, please provide a list of what is cut and what is scored and we will be happy to provide CAD artwork for cutting purposes. If you use CAD based programs, please provide your files using the following guidelines for fast and accurate service.

-Draw in X and Y plane in the World Coordinate System. 3-dimensional relief is achieved by laminating parts together. Set up your drawing in Model-Space.

-Draw all parts using continuous, non-overlapping, joined Poly-Lines, using no regions, traces, blocks or external references. Erase all unused, duplicate, or overlapping lines. The laser will cut or score in the same place twice otherwise and yield an undesirable result.

-Set up layers with top-bar colors using "cut" for all lines to be cut through the material, and "score" for all layers associated with scoring or engraving. You may want to name layers "score-thin" and "score-thick" for different score depth.

-Typical Layer names:

120-Acrylic-cut (set layer manager color to "red")

120-Acrylic-Score-It (set layer manager color to "cyan")

120-Acrylic-Score-md (set layer manager color to "magenta")

120-Acrylic-Score-dk (set layer manager color to "blue")

120-Acrylic-Etch (set layer manager color to "white")

-Name your file with the thickness and material desired. You may also want to number them in larger jobs.

Example: 010br-02.dwg for the second file of 0.010" Bristol board single ply, or 120acrylic-04.dwg for the fourth job of acrylic in the example above.

-Set line weights for all lines to "O."

-Set Units to decimal, using the highest possible decimal factor.

-Scale drawing to 1:1. If you are drawing at full size, use the Scale command, select all of your parts and type in the scale factor.

Example: 1/8" = 1'0" is 1/96 scale, or 0.0104166" scale factor.

-The width of the laser beam varies from 0.008" to 0.010" depending on material. For high tolerance work,

Use the "offset" command 0.004" to 0.005" on cutout shapes only.

-Size your file with a rectangle no larger than 31.875" (X-axis) by 17.875" (Y-axis). This will be the maximum part size you can cut. Use 0,0 as the lower left corner.



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# Laser Cutting Technical Information

-Group all parts on the page no closer than the thickness of the material you are cutting Example: 0.120" spacing for 1/8" material, 0.060" spacing for 1/16" material (0.035" spacing for all materials 1/32 and under).

-Purge all unused drawings, blocks or layers before you send the file.

-We accept files for AutoCAD 2008 and lower using .DWG file extension, .DXF files, and Freehand V.8.0 and lower, all in DOS or Windows format. Digital files can easily be sent to us through our website or email. By following the above guidelines, you will maximize laser efficiency while minimizing our CAD time. However, if your time does not permit, we will be happy to adjust your files for you. Charges are based on Computer Operator time to adjust your file.

Tax and Shipping not included. Local Delivery is \$40.00. Shipping Cost is based on final weight of packaging.

Please send all current and up-to-date files for our use, making note of areas that require our direct attention. Once we begin the job, all files will be used for laser cutting. Some areas of the file, such as tight text, small mesh patterns, or other items below 1/16'' may be too small for the laser to cut or engrave into the material selected, and will need to be omitted based on our standards. You may also increase or overstep certain details to be increased in size for design

emphasis. The general rule of thumb is to design parts that are approximately the same width as the thickness of material used. For instance, use 1/8" thick aerial font (approximately 1" high letters) for 1/8" acrylic letters.

Prices are based on 2D AutoCAD or Adobe Illustrator data. Discounts are available on a per-project basis for sheet arrangement and file setup data, which is subject for review before discount amount is determined.

