

Contestants:

Thank you for your interest in helping Montana Swimming design a new Specialty License Plate. As you may be aware, the State of Montana has specific requirements to which we must adhere in order to ensure our license plate application is approved. Please find within this document, those areas of the Specialty License Plate Packet provided by the State of Montana which provide the parameters for all submissions in our contest.

Please review the parameters and provide Montana Swimming with your entry which adheres to these requirements. Montana is truly blessed by the quality and quantity of fine artists in our state and Montana Swimming appreciates all contestants taking time from their busy schedules and participating in this contest.

Good Luck to each of you!

Sincerely,

Richard Allen
Financial Vice-Chair, Montana Swimming

Designated Design Areas Available for Specialty License Plates

Refer to the "Specialty License Plate Design Areas" diagram.

1. "Montana" is printed in capital letters. Size of "Montana" is 1 inch high by 6 inches wide, and will be placed at least ¼ inch from the top of the plate to allow for rimming. "Montana" can be moved right or left in any combination within the bolt holes on the plate.
2. Alphanumeric characters will be located in a 2½ high by 8 ½ inch wide area, centered height-wise on the plate. The characters can be moved left or right in any combination, but must be at least 1 ¼ inch from either side of the plate.
3. License plate tabs are located on the bottom right-hand side of the plate and are 1 ¼ inch high by 2 inches wide. Designs may be in this area but the tabs will cover any design.

Overall Design Areas

All areas not specified in items 1, 2 or 3 are available for design; however, any design that is in areas 1, 2 or 3 above must be light in color so as not to conflict with readability of the plate.

This document outlines the artwork, design and production requirements for customers who want to design a 3M TCM digital graphic license plate.

Printing Capabilities

The digital license plate printing process will provide the designer with a better understanding of the purpose of the 3M TCM design specifications. The digital license plate printing process is unique and requires different design specifications than those used in conventional printing.

Medium

All 3M digital license plates are printed on reflective sheeting that is covered with tiny glass reflective beads. The sheeting is not as stable as paper and stretching may occur. This sheeting also has some limits in thermal transfer graphic printing due to the high heat required to transfer the media to the sheeting.

Registration

Registration of each of the four color stations is plus or minus 2 mils (.002) per color. The sheeting has a tick mark used for printer registration. The printer uses a Top-Of-Form (TOF) sensor to read the tick mark and locate the graphic. The registration of the printer to the tick mark is plus or minus .05 inches.

Coverage

The coarseness of the sheeting may cause half-tones over 75 percent tint value to fill in. Half-tones under 5 percent tint value may not print at all. Most images are printed at 60-75 lpi, but some half-tones may have to be printed using 40-55 lpi for optimum coverage and printability. The designer may need to adjust the separation angles, the separation technique and/or dot shape to optimize printing of the design. Thin lines less than 1/32 of an inch may break up or print unevenly.

Colorants

The colorants used for digital license plate printing are resin ribbons manufactured to be UV fade-resistant. These ribbons produce colors that are transparent in order to meet reflectivity standards. The digital license plate printing process does not use the Pantone color match system. For optimum color matching, colors should be selected from the 3M

Digital Graphic License Plate Colors book. Opaque, Metallic and Fluorescent Pantone inks (numbers 801-877) are not available for plate printing.

Design Parameters

Keep the following parameters in mind before starting any license plate design.

Size

The finished plate size for digital license plates is 12 inches wide by 6 inches high. Designs must fit into an 11.4375-inch by 5.4375-inch rectangle with radius corners sized to match the debossing rim of the blanking press. The resulting ¼-inch margin is needed to ensure acceptable finished license plates, given the requirements of the sheeting and the production processes. Bolt holes are .3125 inches in diameter and each are spaced (to bolt hole center) +/- 5.3 inches horizontal and +/- 2.375 inches vertical from the center of the plate.

Line Art

Avoid thin lines under 1/32-inch. Intricate solid shapes are acceptable, but a loss of detail may occur. Design elements (shapes) smaller than .008 x .008 inches and/or .008 inches in any dimension may fail to print.

Color

Typical four-color designs should be designed and set up using the CMY colors only. The fourth color station, typically the black color, will usually be used for a separate spot color for printing the alphanumeric characters. While half-tones and graduated tones can be used, a shift in these tones may result due to the unique properties of the reflective materials, ribbons and printing process.

Due to the excessive heat that could be generated by producing plate designs with large color fill areas, there should be a limited amount of color saturation. If designs with large color fill areas are used, there may be limits on the number of plates able to print at one time. For best results, the following guidelines are suggested:

If the background graphic is to fill the entire 5½ inch by 11½ inch, the tonal value for any one color covering the entire area should not exceed 25 percent.

The total tonal value of all colors should not exceed 50 percent. This can be found through Adobe PhotoShop. After bringing the design into PhotoShop, select the bilinear image resample and then reduce the size of the image to one pixel. Use the magnify tool to enlarge the pixel. Make sure the image is in CMYK mode. Place the magic wand tool over the pixel and add the percentage values in the Info Box. Any total over 50 percent could be troublesome over extended runs.

The designer should seek to balance the use of color in the design across the license plate. Designs with color on one side of the plate but not on the other side, or uneven color distribution across the plate, could cause ribbon wrinkling during printing.

Graphic Placement and Legibility

Avoid heavy coverage of colorant in the alphanumeric areas. Heavy coverage in these areas reduces legibility for law enforcement. Design elements (text and logos) dark in color should be spaced at least ¼-inch away from the alphanumeric characters.

Trapping

Because of the transparent properties of the thermal transfer ribbons, trapping between colors and half-tones is not recommended.

Computer Capabilities

3M TCM uses Adobe Illustrator and Adobe PhotoShop on both Macintosh and PC computers and CorelDraw on PC computers.

Compatibility

3M TCM accepts Adobe Illustrator, Adobe Photoshop, CorelDraw and Adobe Acrobat files. All placed or parsed bitmap files must be included separately. For Adobe Illustrator files, save in the Illustrator 6.0 .ai format. For Adobe PhotoShop files, save in the .psd format. Save with elements on separate layers and do not flatten before saving. For CorelDraw files, save in the .cdr format and for Adobe Acrobat files, save in .pdf format. Include all placed or embedded bitmaps as separate files. All files, in any format, must have anti-aliasing and color profiles turned off.

If you believe there may be a compatibility issue between your system and 3M TCM's, also send black and white color separation printouts on paper or film, or composite prints, at 100 percent. 3M TCM will scan and recreate artwork to match the original design. Before making products, fill all half-tones 100 percent so that shapes can be clearly delineated. Include a composite print of the design at 100 percent. Specify all fonts used, color call outs and half-tone tint values, if half-tones are used. If photographs are incorporated into the design, please submit. 3M TCM will scan them for placement into the design.

Do not use compression software of any kind for vector files. 3M TCM does not use 3D or CAD software.

Electronic Design

The following guidelines are for customers sending electronic files.

All license plate designs are completed in vector form (Adobe Illustrator or CorelDraw), with places for photographs if any. 3M TCM prefers that customers send original photographs and/or traditional illustrations for scanning and converting to spot color. 3M TCM will accept Adobe PhotoShop files or tiff files of scanned or created material. However, the resolution cannot be increased. Acceptable disk formats are listed below.

Vector Artwork

Fonts, logos, half-tones, gradient fill areas and lines in general should be constructed in a vector drawing program such as Adobe Illustrator or CorelDraw. This makes file sizes small, as well as making editing, trapping and color separation easier.

Convert all fonts to vector form by using Create outlines or convert text to paths according to whatever vector program is being used; or send the True Type Font used in the design on the disk with the design.

Bitmapped Artwork

Bitmapped artwork is any image like a scanned photograph or traditional illustration that is in pixel form, commonly used or created in a paint program like Adobe PhotoShop or Corel Paint. Bitmapped artwork can be successfully incorporated into a license plate design in a variety of ways. Again, 3M TCM prefers that the customer send continuous tone photographs and/or traditional illustrations for scanning, clipping path creation, spot color

conversion, placing and color separating. 3M TCM can accept scanned or created images from the customer with a resolution of 300dpi at 100 percent size. Do not use any anti-aliasing in PhotoShop. This includes tools such as the magic wand, paint bucket, lasso and marquee tools. Anti-aliasing will only result in a blurry image when printed.

3M TCM will scan and convert any line art on paper or film. 3M TCM will not scan half-tones for reuse.

Customers sending in pictures for scanning should keep in mind that photographs and/or illustrations from previously printed materials such as books, magazines and brochures will not scan well due to half-tone dot patterns. Scanning such material may constitute a copyright violation for which the customer, not 3M TCM, will be held liable. Do not send website images or printouts thereof. Website images are typically at the lowest possible image quality and so are not usable.

Since color photographs and illustrations will be converted to CMY and one spot color, this will limit the number of colors to four. The finished result is basically a compilation of monochromatic (single spot color) areas. Save bitmapped artwork in the tiff file format. 3M TCM does not recommend image compression. If image must be compressed, use only LZW compression. JPEG compression permanently degrades the image.

Please include a hard copy or detailed layout for each design. This can be color, black and white laser prints or drawn layouts. Include color call-outs, identify the fonts used and specify half-tone values. This avoids any confusion concerning the design and its elements.

Electronic Disk Formats

Floppy Disks: DS HD 1.4 MB PC formatted

IOMEGA: 100MB ZIP PC formatted

Compact Disk (CD)

Diagram

The following diagram outlines the designated design areas for specialty plates:

