So you really want (or have bought) a digital cutter......
By Shelley Mierle, MDM

Digital cutters are very useful for dollmakers. The learning curve, especially at the beginning can be daunting at times.   The information below is provided to give people just starting some additional guidance.

File Types Used by Digital Cutters
Three types of files are useful for creating files that can be imported into cutter software
1. **SVG** "scalable vector graphics" - a universal format that most cutters can use
2. **jpg** - image files, commonly used by digital cameras
3. **png** -portable graphics format

Most of our doll patterns are in pdf or paper format. Therefore in order to use them for designs that can be cut they have to be converted into one of the above three file formats.

Software for Converting Files
Many programs can convert files. I routinely use these two free programs that are very easy to use.

NAPS 2 "Not Another Scanning Program" is free and open source and can scan paper and can also convert pdf files into jpg files. It works with most scanners.
https://www.naps2.com/

Bullzip Printer is another program with a free version that can "print" a pdf file into jpg images
https://www.bullzip.com/products/pdf/info.php

Digitial Cutting Software
Cutters usually come with software that uses a proprietary software file type. This means it will only work on their own brand of machine. Now that cutters have become mainstream, more companies have enabled their software to export SVG files, but this is usually a higher paid level. Some brands will let you download trial versions of their software for free, and it is a good idea to try the software first.

Cricut Design Space
Software for the Cricut Explore Air II and Cricut Maker. The main purpose of this software is to cut images on a Cricut. It does not work on other cutters. It will import SVG's, but will not export them. The software is simple to use, but it is very limited for designing purposes, so most people use other supplementary programs to create original images or patterns.
https://cricut.com/

Silhouette Studio Business Edition is another program I use. This paid program can export SVG files. It is also available in a more limited free version. It is mainly used by owners of the Silhouette digital cutter, but it has some features not available in the Cricut software, and is somewhat more useful for original designs.
https://www.silhouetteamerica.com/software

Sources of Files for Cutters
Numerous websites sell ready made files for cutting machines. Many sites have a few free images. Find sites by searching "SVG files". The websites below are just a sampling of what's available.
Important Note: Many files end up needing to be resized once they are imported into cutter software.

Cricut Access Designs
 https://cricut.com/en_us/cricut-access.html

Silhouette Design Store
Files for Silhouette are available, but for a slightly higher price SVG files are available. Many   great box templates.
https://www.silhouettedesignstore.com/

Etsy has several vendors for SVG files
https://www.etsy.com/market/united_states , find other links for your country.

Templatemaker – website that generates several useful box designs to your exact specifications
 https://www.templatemaker.nl/en/

Graphics Fairy – Free and paid graphics many good for cutting or print and cut.
https://thegraphicsfairy.com/

SVG Cuts – Free and paid SVG files
https://svgcuts.com/

Jennifer Maker – SVG files and tutorials on software and related crafts
https://jennifermaker.com/

There are also several YouTube video tutorials on digital cutters, and several facebook support groups. These groups are often organized by Cutter brand (ie, Cricut, Silhouette, etc.). There are many scrapbook sites with designs and forums.

Some further information about file formats....

Many cutters have a function that enables the importing of JPG and or png files into the software. The software then creates the mathematical coordinates for the cutter files. This process works ok for many designs, but can often result in slightly uneven edges on the cuts. This happens because the import creates too many vector points, especially if the file is low resolution. If you are scanning designs, try to use a high resolution, at least 300 pixels / inch if possible.
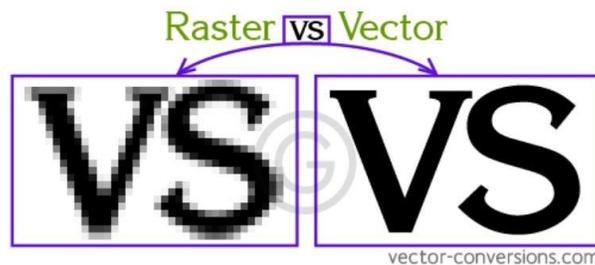
The best cutting files are SVG, "scalable vector graphics" files. They plot designs with just the right amount of vector points. These file must be made in graphics software such as Adobe Illustrator or Inkscape. Some other programs such as machine embroidery software will also export SVG files for cutting. The other advantage of SVG files is that they can be scaled up or down with no loss of quality.

Software for Creating SVG files

There are several graphics programs that can make SVG files. These programs have a high learning curve, and are most frequently used by professional designers.

Adobe Illustrator – subscription based, costly
Inkscape – free
Courses and tutorials are available for both of the above.

Some embroidery programs can export SVG images.

Embird Studio is a machine embroidery program that can create and export SVG files. It is the main program I use to draw my own designs. Then I import the SVG files into Design Space. This program is costly but if you already are using it for embroidery the SVG export function is a nice bonus. Embird is an excellent machine embroidery program, and far less costly than many others.
https://www.embird.net/

Importing, Sizing and Resizing files

When designs are imported into cutter software they often need to be sized. If you have a paper image, measure the image as if it is in a bounding box, ie, pretend there is a rectangle that touches the widest part of the length and width. Look at the "Size" boxes in the menu at the top. Leave it locked if you want the same ratio, and enter the measurement you need for one side. Due to the need for decimals, it is much easier to work in metric. If you don't have a paper copy of a design, most electronic patterns include a measurement benchmark such as an inch or cm square. Resize your image until your square is the appropriate size.

Imported files often have all the pieces in a group and the bounding box will include all the pieces. When this happens, resize first, then separate the pieces. If you need to resize or scale again, group the pieces again before that operation. In the picture below of an imported SVG file all the pieces are bounded in a group. To separate the pieces you need to either ungroup, or in some cases slice the pieces.
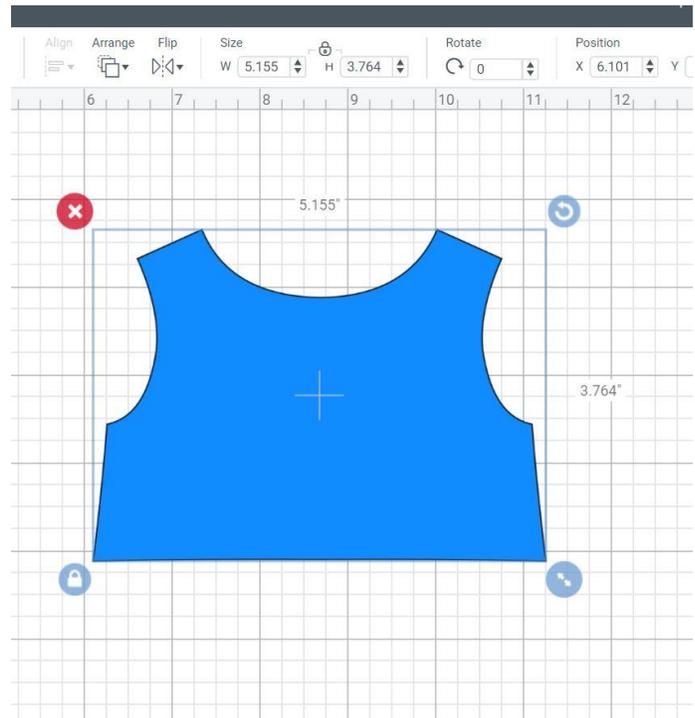
If you need an enlargement or reduction of a shape, I calculate it and then change the number in the sizing box. Vector files maintain quality when enlarged or reduced.

I did not know anyone else with a cutter, so I have learned how to do things through tutorials, help forums, and a large dose of trial and error. One of my favourite sayings is "You can only learn a little bit more than you already know." As you increase your skills the learning gets easier and faster, and eventually using the cutter becomes almost as easy as going to your sewing machine.
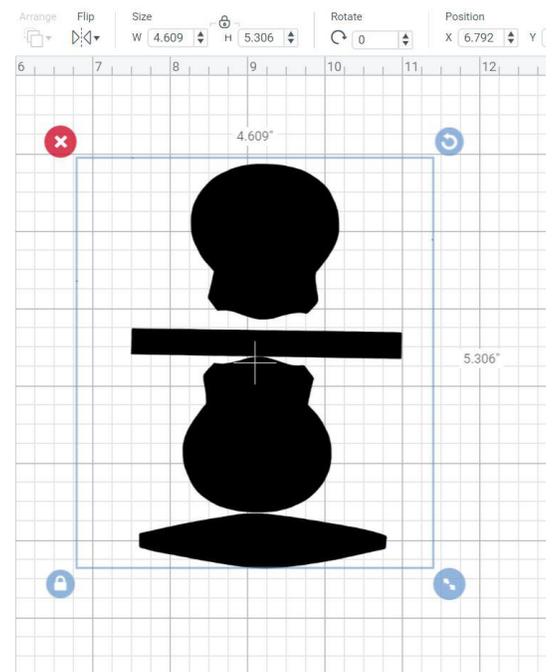
Here are some "dolly" files to try:

In Cricut Format:

Copy the link into your browser. You need to have a Cricut Design Space account.

Cartridge pleating template.
https://design.cricut.com/#/design/179438720

Modern doll inner sole and upper – sized for 14 inch doll
https://design.cricut.com/#/design/198701129

Heels for 14.5 inch fashion doll – assemble your stack depending on the height you want. You may not need all of them.
https://design.cricut.com/#/design/180134972