



Skycut EV24 with SignMaster Pro

March 21, 2023

- **Do NOT read this entire manual...** unless you want to. But taking the time to familiarize yourself with the organization of the manual and the topics covered can assist you in finding the answers you might need.

It's not practical to print this entire manual because:

- It's a waste of paper and ink if you only ever need certain sections.
- The live links to videos and web sites in the manual will not work.
- This manual will be updated from time to time.
- You cannot search on individual words. Use **Ctrl+F** (or **command+F** on a Mac) to locate all instances of a particular term.

Also:

- Videos of interest can be found at the following link: [Skycut Support Videos](#)

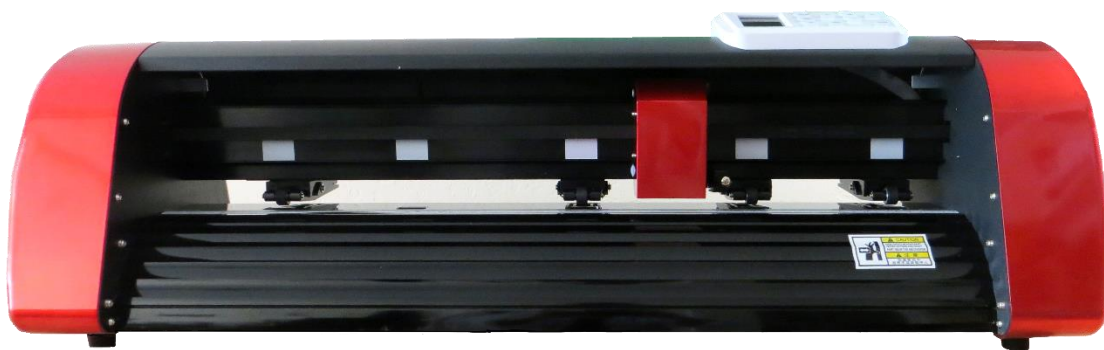


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1. Introduction and Setting Up

1.0 Quick Reference for This Chapter

- How to use the control panel: *Sections 1.9*
- How to adjust the blade holder: *Section 1.7.4*
- Where to position the pinch wheels: *Section 1.8*
- The cutting mat is too sticky (or not sticky enough): *Section 1.7.5*

Important Notes:

- Please read *Section 1.2* regarding safe operation of the Skycut.
- Report any damage or missing contents to your dealer promptly.
- Retain the original box and packing materials in case you ever need to ship your Skycut.

1.1 Support

- Thank you for choosing a Skycut EV24 digital die cutter. Before using a blade in your new cutter, we urge you to practice with the test pen, making sure you understand where shapes will cut.
- If you run into difficulties with the operation of your Skycut, turn off the power and look for a solution in this manual. Note that *Appendix A* is a **Troubleshooting** section. If you continue to have technical questions or issues, please contact your dealer as soon as possible.
- If anything is missing from your order or you have mechanical issues with your Skycut, please contact your dealer as soon as possible. You can also contact Skycut directly using this email address: skycut@skycut.cn.
- For additional information and support with the Skycut, please check out the following:
 - ◇ Skycut web site: <https://www.skycutcutter.com/>
 - ◇ Skycut Facebook page: <https://www.facebook.com/skycutcuttingplotter/>
 - ◇ Skycut Facebook group: <https://www.facebook.com/groups/Skycut>
 - ◇ Skycut YouTube channel: <https://www.youtube.com/channel/UCrPn5hFLbiRNDgccY8iXwoA/videos>
- For SignMaster support, please go to <http://signmaster.software/support/>

1.2 Safety and Warnings

Please be aware of the following safety guidelines when working with the Skycut:

- **Pinch Points:** Keep hands, long hair, loose clothing, jewelry, etc. away from the moving parts.
- **Risk to Children and Pets:** Please supervise children around the cutter when it is in use.
- **Movement and Touching:** Do not move the Skycut itself or touch any circuitry while it is plugged in.
- DO NOT attempt to move the blade carriage while the cutter is powered on.
- DO NOT touch or jam the plotter's track while it is operating.
- DO NOT shake the cutter while it is operating.
- DO NOT cut any materials that have staples or other embellishments attached.

- DO NOT touch the cutter with a magnet. It is safe, however, to cut magnetic materials, such as those used on refrigerators and car exteriors.
- DO NOT allow any liquids to spill or small items to fall into the cutter.
- Mount the EV24 on its included stand or place it on a sturdy and stable table, desk, or trolley.
- Always turn off the Skycut when not in use. Leaving the cutter turned on for extended periods of time can possibly damage the machine.
- Always turn off the Skycut before unplugging or removing the power cable from the wall outlet or power strip.
- Unplug the Skycut from a wall outlet or power strip during an electrical storm or when the cutter will not be used for an extended period of time.
- Transporting: When transporting the cutter, move the pinch wheel levers into the upward position. Remove the blade from the blade holder and cover the tip of the blade with the plastic cap.

1.3 Warranty

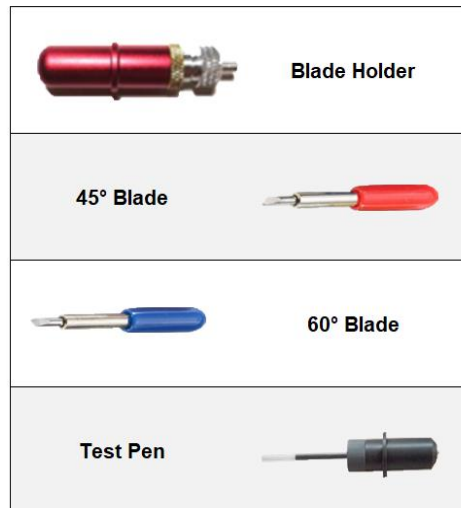
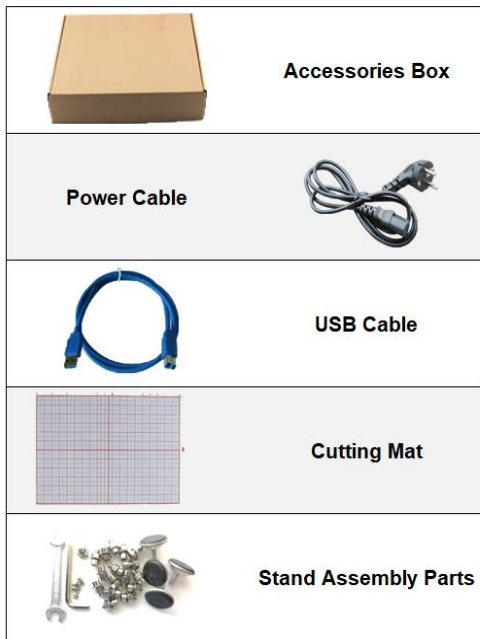
- ***IMPORTANT!*** If your Skycut is damaged during shipment or appears to be defective, your dealer should be notified as soon as possible.
- For additional information regarding your warranty, please refer to your Skycut dealer.
- It is recommended that you **retain the original box with packing materials** in case you ever need to ship your Skycut.

1.4 Unpacking

- Verify that you have received all contents. There is a checklist in *Section 1.05*. Please notify your Skycut supplier immediately if anything is missing.
- Remove all packaging before turning on the Skycut. Currently, the cutter ships with two end cap foam protectors, zip ties on either side of the blade carriage, and tape on either end of the cutting strip. **Be very careful when removing the zip ties – it's best to cut those ties from behind the machine versus in front.** Gently remove the tape at the ends of the cutting strip by rolling the tape away. Do not pull straight up.
- Because the cutting mat must be folded over to fit into the box, it may have become slightly rounded during shipping. Gently and only partially roll the mat in the opposite direction to remove the roundness and place on a flat table to make sure the mat now lies horizontally to the surface. Refer to *Section 1.7.5* for additional instructions on preparing the mat for use.
- Use the enclosed test pen as you experiment and become familiar with operating the Skycut. Place scrap paper on the mat and simply draw shapes rather than cut them. This will prevent possible damage to the blade, mat, and cutting strip as you learn where shapes will cut and the basic operating procedures.

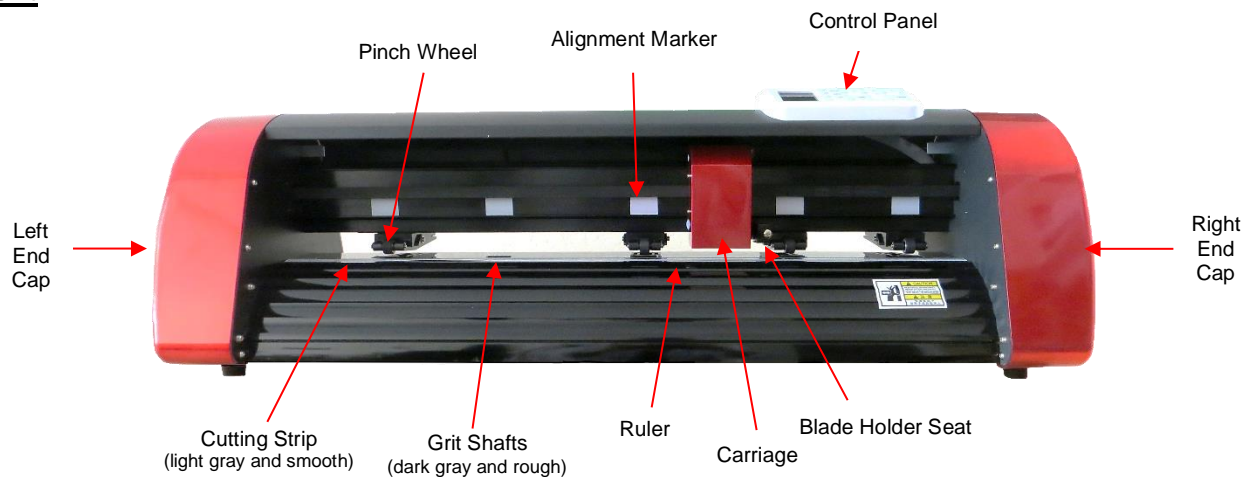
1.5 Contents

- Besides the EV24 cutter and cutter stand, your box should also contain the following items:



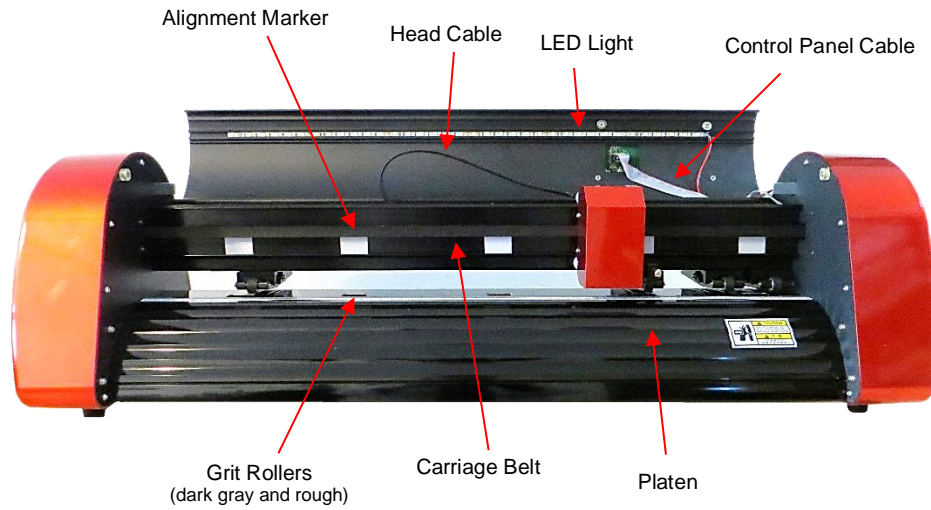
1.6 Parts of the Skycut

Front

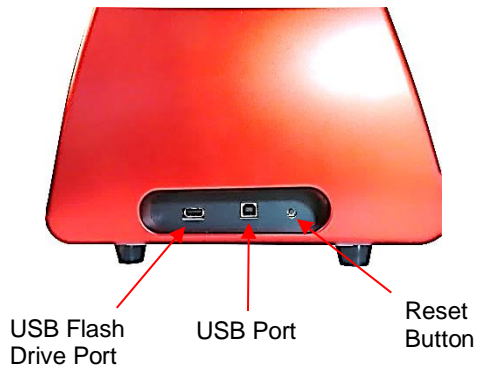


- Alignment Markers: indicate to the user the available positions for the pinch wheels
- Blade Carriage: moves the Blade Holder Seat left and right
- Blade Holder Seat or Jaw: holds the blade holder, test pen, and other accessories
- Control Panel: used to change settings, set up Wi-Fi, cut PLT files, and more
- Cutting Strip: protects a blade when cutting backed materials without using a cutting mat
- Grit Shafts (5 in total on EV24): allow the pinch wheels to grip the mat or material so they can be moved in and out of the cutter during cutting
- Pinch Wheels (4 in total on EV24): grip the mat or material so that the grit shafts beneath will feed the mat or material in and out during cutting
- Ruler: for measuring and aligning rolled materials

Front with Cover Open



Right Side



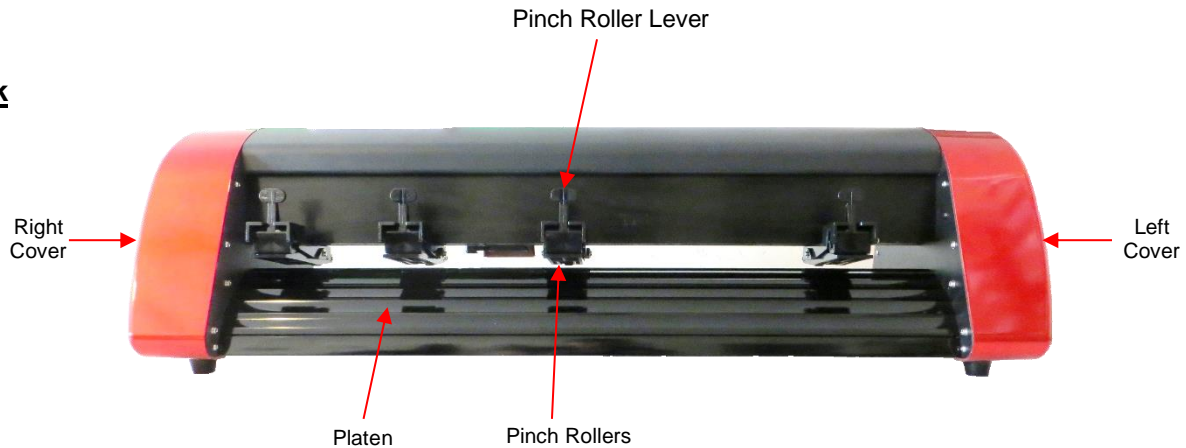
- USB Flash Drive Port: used to load PLT files via control panel for cutting
- USB Port: option to connect computer to Skycut with included USB cable
- Reset Button: used to reset Skycut's cutting buffer (does not reset calibrations)

Left Side



- Power Port: plug power cable into this port
- On/Off Switch: power cutter on or off

Back



- Pinch Wheels (4 on 24" model): grip the mat or material so that the grit shafts beneath will feed the mat or material in and out during cutting
- Pinch Wheel Lever: raises and lowers the pinch wheels

1.7 Accessories

1.7.1 Assembling the Skycut Stand

- If you purchased the optional stand, please refer to this [Video](#) for detailed instructions on assembling the stand and mounting the cutter onto it.

1.7.2 Test Pen

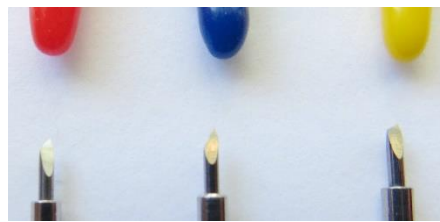
- The test pen is used in calibrating the **Scale** (*Section 3.8*) and is also recommended for test drawing while you are learning where shapes will cut based on various software settings. Note that a small piece of wax needs to be removed from the pen's nib before use. You may also wish to cut off the very top of the pen refill so that it more easily fits into your EV24:



Spring goes over the top of the pen insert and stops at a small ridge on the insert

1.7.3 Skycut Blades

- There are three kinds of blades that fit inside a Skycut blade holder:

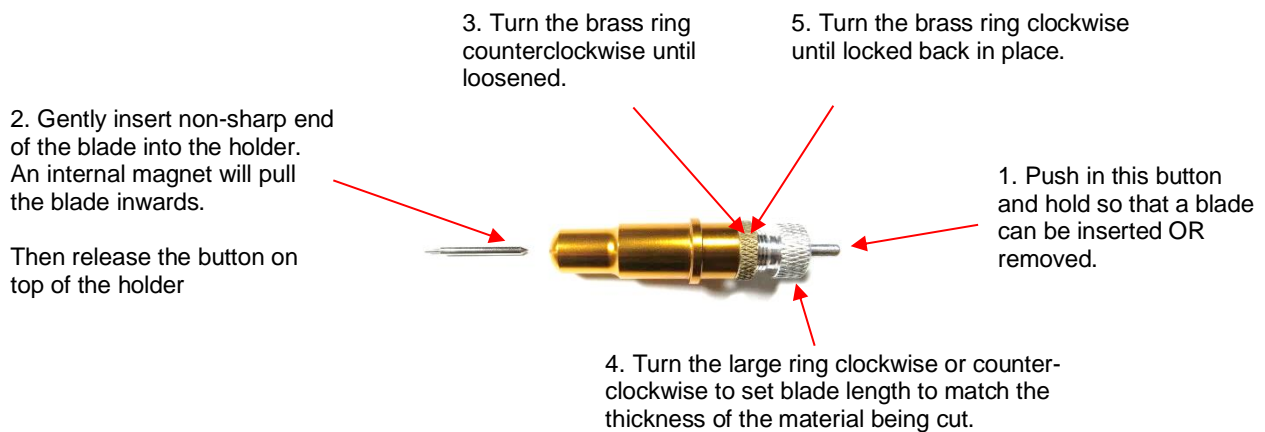


Red Blue Yellow

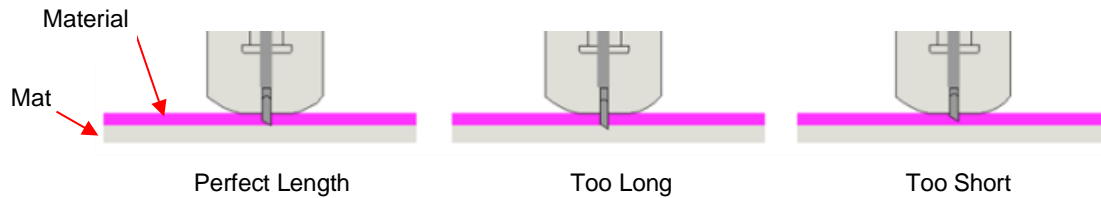
- ◇ The 45° **red** capped blade is suited for cutting thinner materials such as paper, all cardstock types, heat transfer vinyl, and wall/auto/decal vinyl.
 - ◇ The 60° **blue** capped blade is a much longer blade and is well-suited for cutting thicker materials, such as gum paste, craft plastic, craft foam, and rhinestone template material.
 - ◇ Sold separately is the 30° **yellow** capped blade. It is a wide blade and is well suited for cutting thin fabric and window tint film. It has been reported that it also works well with cardstock that has been exposed to humidity.
- Note that the blades all have a cutback on the opposing side of the blade (right side, in the prior photo). This reduces the blade offset value and allows for better detailed cutting of small shapes.

1.7.4 Blade Installation

- The blade must be carefully inserted into the blade holder. Do this over a soft surface (e.g., over a hand towel). It's important to protect the fragile blade. To install, follow the numbered steps as shown:



- The **Blade Length** (also called **Blade Exposure** or **Blade Depth**) is how much blade is exposed at the bottom of the blade holder. For optimal cutting, you want this length to match the thickness of the material or be just a tiny bit longer.
- When setting the **Blade Length** (*Step 4* in the prior photo), hold the blade holder up next to the material before pressing the material to the mat, so that you can more accurately set the length to match the thickness of the material. For very thin materials, like vinyl and thin paper, just the very tip of the blade will be protruding from the bottom of the blade holder. In fact, you should just barely be able to feel it with your fingertip and not be able to see it very well, if at all. Having the blade fully extended will never result in better cutting. In fact, it can cause skewing, tearing of the material, damage to the blade, and damage to the mat or cutting strip.
- A good way to test your blade length is to fold a piece of the material onto itself and then cut a line into the material by hand. Press firmly but not too hard, as more force will not determine if the blade is set to the right length. If the blade cannot cut through the material, you will need to extend the blade. If the blade cuts through the material and cuts into the next layer, you need to retract the blade. If the blade cuts through the material but does not cut into the layer below, you have the perfect length.



- When conducting a test cut, be sure to check your mat (or the top of a backing sheet) for cut lines after the test. You should be able to set the length to get clean cuts but with only fine lines or no lines in the mat or backing sheet. If you do see deep cut lines, retract the blade length $\sim\frac{1}{4}$ of a turn counterclockwise. Repeat your test cut.

1.7.5 Cutting Mat

Tips on Using the Cutting Mat

- Always use a mat to hold the material to be cut unless the material has its own protective backing. For example, vinyl and iron-on transfer both come with a layer that you do not cut. Thus, this backing layer serves as the carrier for cutting. Paper and cardstock do not have a backing, thus they must be cut on the mat.
- ***IMPORTANT!*** A new mat may be too sticky if you are cutting certain products. This can cause difficulty in removing cut items without tearing. Place an old but clean bath towel over the surface of the mat and press with a brayer or rolling pin. Then pull up. Test the stickiness by pressing the palm of your hand in the middle of the mat and lifting. If the mat remains stuck to your hand, repeat until the mat can still be lifted but will release. It should only take a few pressings to greatly reduce the stickiness, as tiny (too small to be visible) fibers from the towel are added to the surface.
- Do not leave the pinch wheels in a down position when the Skycut isn't in use. This warps the plastic sooner, shortening the useful life of the cutting mat.

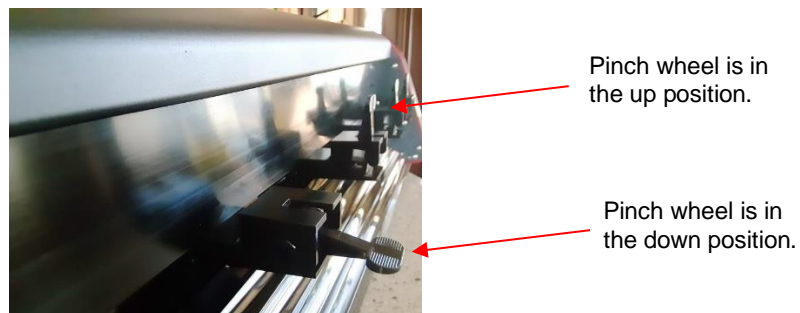
Cleaning and Replenishing the Cutting Mat

- When mats begin to lose their stickiness, they can be washed:
 - ◇ Use a mild dishwashing detergent, warm water, and a soft brush to thoroughly clean the surface. You're not trying to scrub the adhesive but just wet the invisible fibers that have been deposited from your cutting materials and get them released from the glue.
 - Rinse well, shake off excess water, and place sticky side down onto a bath towel.
 - Thoroughly dry the non-sticky side of the mat with another towel.
 - Pull the mat up and the sticky side should now be dry enough for immediate use. Test by making sure the mat will stick to your hand.
- While washing with soap and water should revive the original adhesive, you can add more adhesive if necessary:
 - ◇ Virtually any repositionable adhesive may be used on the cutting mat. Some of the popular choices include: Krylon Easy Tack, Aleene's Tack It Over and Over (view the video at the start of this section), Crafter's Companion Stick and Spray, Zig 2 Way Glue with wide tip, Craft Smart Off 'N On, and Scotch Repositionable Craft Stick. There's another spray adhesive, Scotch Super 77, which does not leave a sticky surface but is excellent for stabilizing paper and cardstock.
 - ◇ If you are cutting thicker materials, such as oil board or styrene, then you may want to experiment with a stronger adhesive and use painter's tape to secure the material to the mat. If you are cutting thin paper, then you may want to experiment with a lighter adhesive.

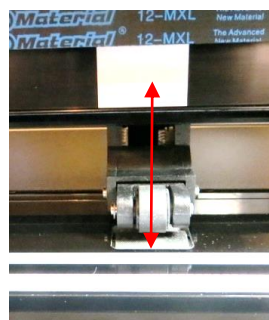
- ◇ With most repositionable adhesives, you can control the tackiness based on the amount applied. Thus, always add a little bit at a time. As mentioned above, if you add too much, just apply a layer or two of cotton fibers by pressing with a bath towel.
- Other reported methods for cleaning mats:
 - ◇ Use a plastic scraper (an old credit card will suffice) to scrape off any random material pieces remaining on the mat after a cut.
 - ◇ For finer particles of paper or lint, you can use a lint roller. Tear off a sheet and then press down and pull up across the surface of the mat to clean in sections. Baby wipes can accomplish the same task.
 - ◇ To completely remove adhesive from the mat, apply Goo Gone, Duck Adhesive Remover, or Avon's Skin So Soft Bath Oil across the surface. Allow a minute to soak in and then scrape off with a sharp metal spatula. Repeat, as necessary, until the mat is thoroughly clean and no longer sticky. Wash, dry, and then add any repositionable adhesive.
- When necessary, the rubber wheels and the grit shafts may be cleaned with isopropyl alcohol or Un-Du. Apply the cleaner to a clean lint-free rag and rub the entire wheel and/or grit shaft until free of adhesive.

1.8 Pinch Wheels

- The levers on each pinch wheel are used to raise the wheels for loading the material and/or mat and lower the pinch wheels for cutting.
- Lift up an individual lever to raise that pinch wheel:



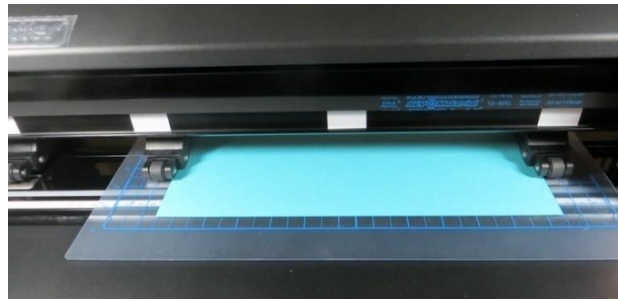
- Note that for a pinch wheel to grip properly, it must be positioned over a grit shaft. To facilitate alignment, note the white rectangles positioned along the horizontal bar behind the blade carriage. With the levers in the up position, slide the pinch wheels along the bar, as needed:



Wheels should be centered over grit shafts which are directly below the white rectangles

- When using the cutting mat, it is recommended that the material be placed in the middle of the mat and the mat placed roughly in the middle of the cutter. Then use the second and fourth pinch wheel locations for two pinch wheels. This keeps the pinch wheels off the material and provides an equal balance while the mat moves in and out during cutting:

Middle two pinch wheels are placed under 2nd and 4th white rectangles

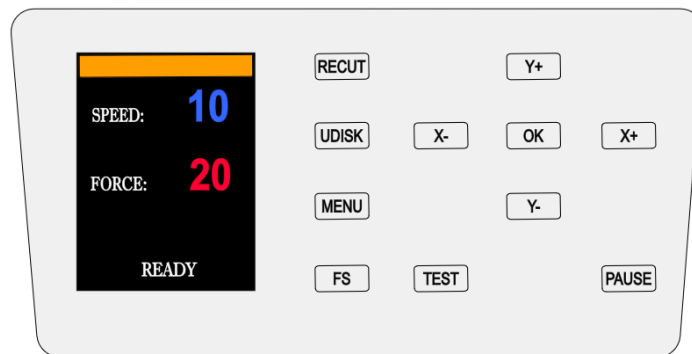


Pinch wheels are approx. the same distance from the outside edges of the cutting mat

- Note that if your material is very wide, then it is fine to have the pinch wheels over the material. However, you may need to be extra careful when removing any cut shapes or waste material in those locations.

1.9 Control Panel

- When you first power on the EV24, the following **SPEED** and **FORCE Screen** or **Home Screen** will be displayed after several seconds:

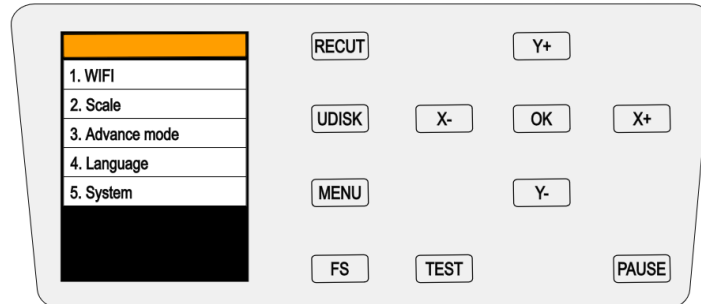


- The functions of the buttons on this control panel are:
 - ◇ **RECUT:** Recuts the last completed job which is stored in the EV24's memory.
 - ◇ **UDISK:** Opens the **UDISK** window allowing access to files on a USB thumb drive plugged into the EV24's USB Flash Drive port. Files must be saved in .PLT format to appear in the menu (See *Sections 2.2.3 and 2.2.4* for details).
 - ◇ **MENU:** Opens a menu of additional functions (See *Section 1.9.1* for details). It can also be pressed in other modes to return to the **SPEED** and **FORCE Screen**.
 - ◇ **FS:** Press this button once and the **SPEED** and **FORCE** settings will light up indicating you are in **FS** set mode. The **X-** and **X+** buttons can now be used to change the **SPEED**. The **Y-** and **Y+** buttons can be used to change the **FORCE**. (See *Sections 3.3.1 and 3.3.2*).
 - ◇ **TEST:** Press the **TEST** button to cut a small square. This is recommended to ensure a clean cut is achieved with the current settings before proceeding with a cut job.
 - ◇ **PAUSE:** Pressing this button will pause the cutting process in case any changes need to be made. Pressing again will resume the cut.
 - ◇ **X** and **Y** and **OK** buttons are used in the following ways:
 - The **X-** and **X+** buttons move the carriage left and right, while the **Y+** and **Y-** buttons move the grit rollers. This allows you to start cutting anywhere on the media (i.e., establish an origin).
 - As mentioned above, these same buttons will change the **SPEED** and **FORCE** settings when the **FS** button has been activated. Pressing **OK** (or repressing **FS**) will then deactivate **FS** mode.

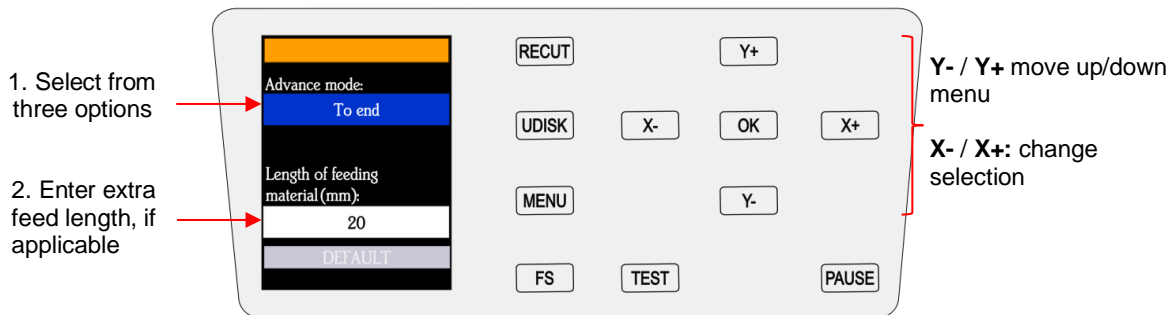
- In some of the other control panel screens, the **X** and **Y** buttons will be used to select other options and the **OK** button will accept these options or changes in settings.

1.9.1 Menu

- Pressing the **MENU** button provides access to the following five options:



- ◇ **WIFI:** Connect the EV24 to your home or office router for wireless connectivity (refer to *Section 2.2.2*).
- ◇ **Scale:** This setting is used to input the sizing calibration (refer to *Section 3.8*).
- ◇ **Advance mode:** Three options for where the blade holder moves at the end of a cut:



- **To Start:** return the blade holder to the origin (the location immediately before the cut was started)
- **To End:** advance the blade holder to the top of the completed cut with the option to move an additional distance (or retract)
- **To Left:** advance the blade holder to the left of the completed cut with the option to move an additional distance (or retract)
- ◇ **Language:** This screen offers a choice of three languages: Mandarin, English, and Spanish. You can choose one of these for the language in which all settings and menu communication are displayed.
- ◇ **System:** This screen displays hardware and firmware versions, Baud rate, and other settings that should need no adjustment unless directed by a Skycut technical representative.

1.10 Maintenance

Skycut machines do not require any kind of lubrication or routine checks. However, here are a few things to keep in mind for successful operation of your cutter:

- Keep the pinch wheels clean. Depending on the adhesive being used on the cutting mat, it's possible for the pinch wheels to become sticky and pick up small pieces of cardstock or other material being cut. This can lead, in some cases, to the mat skewing or ruining materials during subsequent cuts. To clean the pinch wheels, use a lint-free cloth and an adhesive remover such as isopropyl alcohol or Un-Du to clean the pinch wheels thoroughly.

- Keep the grit shafts clean. Equally important as the pinch wheels, the grit shafts beneath the cutting mat should also be free of adhesive and tiny bits of material. They can be cleaned the same way as the pinch wheels. Note: Do not pour cleaner onto a grit shaft. Instead, dab some adhesive remover onto a lint-free cloth and then use the damp cloth to clean the shafts. You can also use tweezers to remove any material or adhesive that is stuck to a shaft.
- Keep the cutting mat clean and sticky. As mentioned in the *Section 1.7.5*, the cutting mat can be washed with soap and water to remove small invisible pieces of material which are reducing the tackiness of the cutting mat. After drying, you can add more repositionable adhesive, if needed.
- Check your blade holder, as needed. If suddenly you cannot get a clean cut, check the blade holder for any tiny slivers of material that may have been caught up by the blade and fed up inside the blade holder.
- If you cut vinyl or other backed materials regularly, you may need to replace the cutting strip at some point. You will be able to tell based on seeing deep cuts in the strip and an inconsistency in the cutting. Contact your dealer for information on obtaining a replacement.

1.11 Other Useful Tools and Supplies

- The following list has items you may or may not need while enjoying your Skycut. These are suggestions based on twelve years of collecting information from other cutter owners:
 - ◇ Brayer or Rolling Pin: (1) to apply lint from a towel onto an overly sticky mat (2) to press materials evenly onto a mat for cutting
 - ◇ Post-It Notes: (1) for setting blade/tool tip height above a material (2) for draw and cut applications
 - ◇ Old Fluffy Bath Towel: (1) to dry a washed mat (2) to apply an invisible layer of lint onto an overly-sticky mat
 - ◇ Dishwashing Soap: (1) to remove visible and invisible fibers from the mat, thus renewing the adhesive (2) to clean the mat well before adding more adhesive
 - ◇ Soft Brush: (1) to gently remove waste scraps during the washing of a mat. Refer to *Section 1.7.5*.
 - ◇ Artist Palette Knife: (1) to gently remove cut shapes from a mat (2) to scrape off small waste pieces from a mat
 - ◇ Blue Painter's Tape: (1) to tape around the edges of thicker materials that might slip during cutting
 - ◇ Repositionable Adhesives: (1) to add more adhesive to a cutting mat (most any brand or type can be used, provided it is repositionable). Refer to *Section 1.7.5* for suggestions and instructions.
 - ◇ Adhesive Removers: (1) to completely strip a cutting mat of adhesive (2) to disarm adhesive long enough to remove large scraps of material that will not peel off
 - ◇ Lint-free Cloth: (1) for dusting off your cutter and cleaning pinch wheels and grit shafts
 - ◇ Awl or Paper Piercer (or other sharp pointed tool): (1) to pick or lift out a test cut to verify results
 - ◇ Stabilizers: A stabilizer is an adhesive material that is applied to the bottom of the material you are cutting so that cleaner cuts can be achieved. The stabilizer works in one or more of the following ways – (1) provides firmer contact with the cutting mat (2) provides a final layer that does not need to be cut if the stabilizer will be removed after cutting (3) prevent some slightly-elastic materials from being stretched by the blade. Recommended stabilizers include freezer paper, Thermo-web Heat n' Bond, and Steam-a-Seam 2.
 - ◇ Double-sided Tape: (1) For securing metal tags or charms to the cutting mat for engraving
 - ◇ Non-slip Shelf Liner: (1) To place under cardstock and other material when embossing

2. SignMaster

2.0 Quick Reference for This Chapter

- How to download and set up SignMaster: *Section 2.1*
- How to set up communication between a computer and Skycut: *Section 2.2*
- How to use the USB Flash Drive feature: *Section 2.2.3*

2.1 Installing the Software

2.1.1 Installing SignMaster from a Download

- Once you have purchased a registration for SignMaster, the software can be downloaded from the following link. It's important to use this link so that the Skycut will be installed as the cutter of choice. You will need your **Product Serial Number** that was sent to you. Since you'll also need this number every time you update the software, keep this number in a safe place.

<https://signmaster.software/smc.htm>

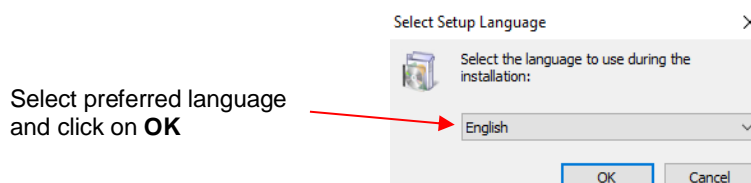
- Note where the file will be saved on your computer so that you can later browse to that folder and launch the .exe file which has been downloaded. Follow the steps in the following *Section 2.1.2*, starting with *Step (4)*.

2.1.2 Installing SignMaster from a CD

- (1) Remove the CD from the case and insert into the CD ROM drive on your computer.
- (2) The downloaded file is in .exe format, thus ready to launch.
- (3) If Windows Autorun does not initiate a welcome screen, use Explorer to locate and click on the DVD drive letter for your computer. Double click on the *Welcome* file and the following window will open:

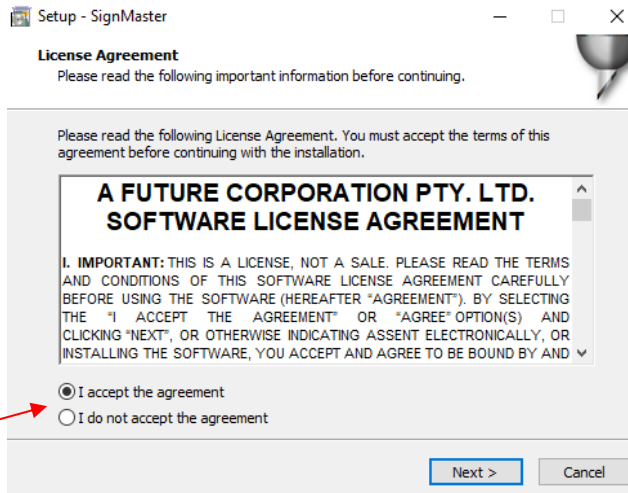


- (4) Click on **Install Software** and wait for the installation program to open. Select the language you prefer:



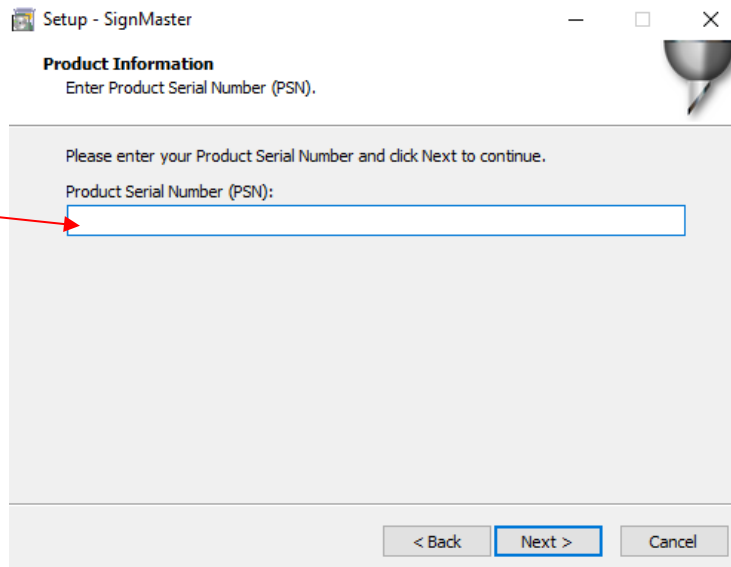
- (5) Read and accept the license agreement:

Read the agreement, click on the accept option and click on **Next**



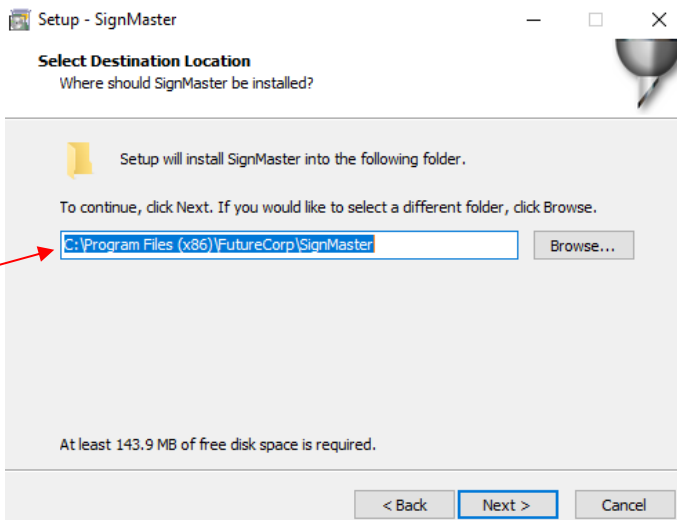
- (6) Enter the **Product Serial Number** which should have been sent to you by email when you purchased SignMaster. Note that since you will need this same number any time you update the software, keep it in a safe place:

Enter the 20-digit **PSN** provided when you purchased SignMaster and click on **Next**

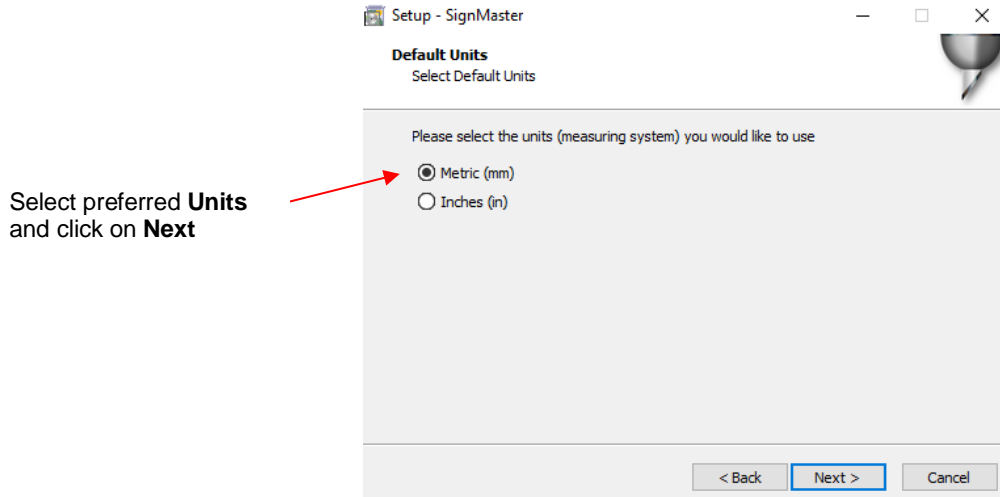


- (7) Read and accept a second license agreement and then verify the destination for installing SignMaster:

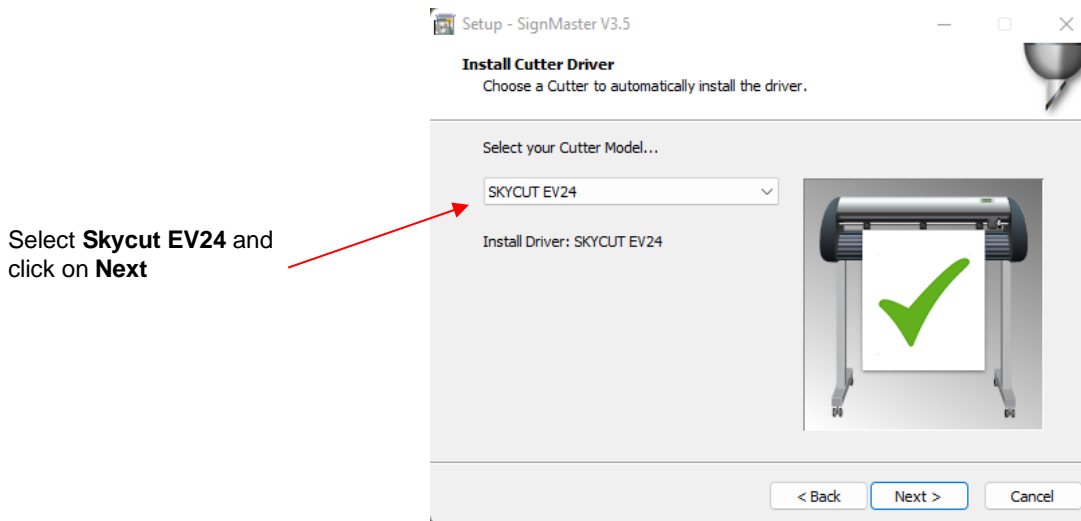
Note where the program will be installed and click on **Next**



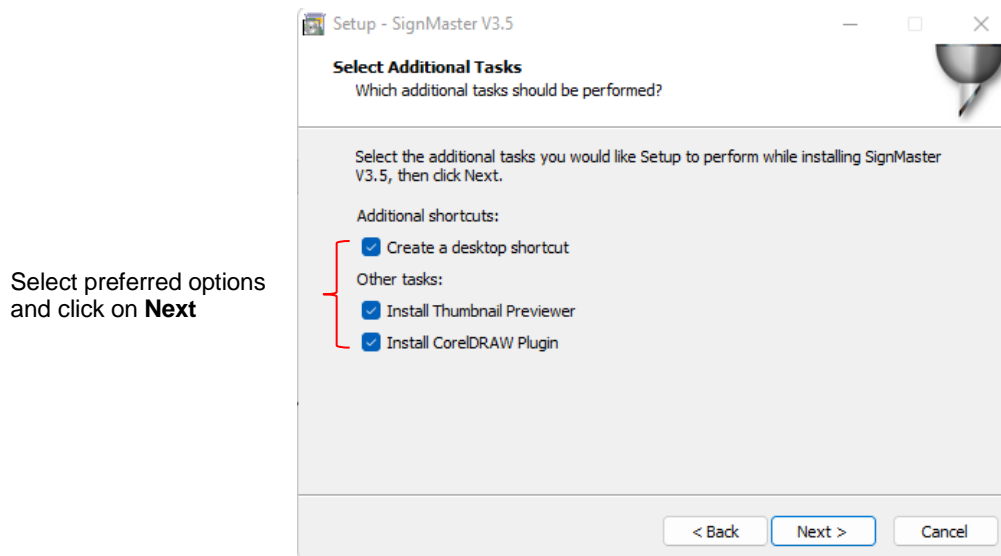
(8) Select your preferred **Units** but note that it can easily be switched once the software is open:



(9) Select **Skycut EV24** (or the model you have purchased) from the drop-down menu:



(10) In the next window, you'll have the option to create a desktop icon and install a thumbnail previewer. Both are recommended.



(11) At this point, files will be extracted and installed. Wait for the **Installation Complete** message and click on **OK**:



(12) Then the final **Finish** message will appear and you can choose to open SignMaster or wait:



- If you run into any issues installing or activating the program, please visit this link:

<http://www.iifuture.net/faq/index.php?action=show&cat=44>

- You may wish to periodically visit the link provided for SignMaster at the beginning of *Section 2.1.1* to download and install any new updates.

2.2 Connecting the Skycut to Your Computer

- Place your Skycut on a sturdy horizontal surface. If using the cutting mat, be sure to allow enough free room in both the front and the back for the mat to extend during cutting.
- Powering On:
 - ◇ Plug the power cord into a wall outlet or power strip. Connect the power cord to the Skycut on the left side end cap.
 - ◇ Turn on the power using the power button that is also on the left side end cap. After several seconds, the light inside the Skycut will turn on and the blade carriage will do a slight jog.
- You have four options for sending files and information from your computer to the Skycut:
 - ◇ **Direct USB** using the included USB cable **Video**
 - ◇ **Wi-Fi** – adding the Skycut to a home/office network that is also accessed by your computer **Video**
 - ◇ **Wireless Standalone** – connecting wirelessly to your computer
 - ◇ **UDISK** - Exporting PLT files from SignMaster onto a USB flash drive and then loading those files using the control panel on the Skycut. **Video**

- Review the information in the following table to understand the differences between these options. Note that implementing any of these options does not preclude you from changing to another one, as needed.

Connection Options for the Skycut

Option	USB	Wireless to Network (Wi-Fi)	Wireless Stand-Alone	UDISK (USB Flash Drive)
Description	The Skycut is connected to the computer via a USB cable	The Skycut is wirelessly connected to a network router	The Skycut is wirelessly connected to the computer.	Files are saved in PLT format from design software to a USB flash drive
Requirements	USB cable (included)	Wireless network router and knowledge of router's name and password	Computer must have wireless capability	USB flash drive
Pros	Easy to install; Reliable and fast form of communication.	Skycut can be located anywhere within range of the router; Other computers can cut to the Skycut	Skycut can be located anywhere within range of the computer; Other computers can cut to the Skycut	Skycut can be located anywhere
Cons	Skycut is physically connected to the computer; Cannot be accessed by other computers at the same time	Requires more steps to set up; Some routers may require setting changes in order to work with the Skycut	Computer is now connected to the Skycut, thus no <u>wireless</u> access to the Internet or to other wireless devices	More steps due to saving and then loading the file; Cannot adjust size and certain cut settings once saved

- The following sections present what steps are required for three of the connections. For **Wireless Stand-alone**, which is not commonly used, refer to *Appendix B*. If you run into connectivity issues with any of these options, please contact your dealer.

2.2.1 USB Connection



- Plug the small square end of the USB cable into the right end cap of the EV24. Plug the USB end into an available USB port on your computer.
- In SignMaster, click on the **Cut, Plot & Engrave Tools** icon (6th from the left on the upper middle task bar) and select Vinyl Spooler. In the window which opens, click on the Connection tab.
- Verify that Skycut EV24 (or the model you have purchased) is selected under **Current Cutter**. If not, select it from the drop-down menu. Under **Port Type**, select **Direct USB Port**. In the drop-down menu next to **USB Port**, select an option that contains the word "skycut":

Should read **Skycut EV24** (or the model you have purchased)

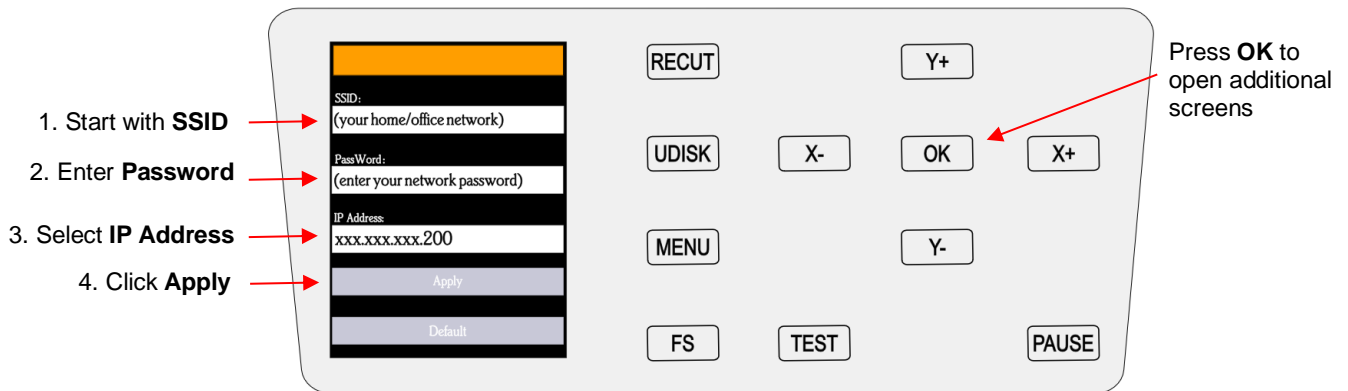
Select **Direct USB Port**

Look for and select an option with "skycut" in the name

- If a USB Port option cannot be located, verify the connection at both the cutter and on the computer. Once connected, click on **Done** at the bottom of the window.

2.2.2 Connecting the EV24 to a Wi-Fi Network Video

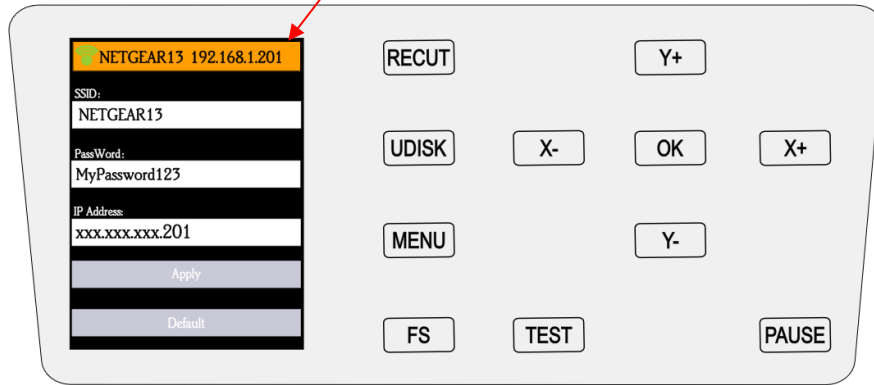
- For initial setup using the Wi-Fi option, you may need to place the cutter in the same room or in close proximity to the Wi-Fi router. This will create a stronger connection and faster Wi-Fi network configuration. Once the connection is set, you can move the cutter around within the limits of your router's coverage area.
- You will need the name of the network and the password.
- On the control panel, press the **MENU** button, select **WIFI**, and press **OK**. The following screen appears, although initially yours will have more blank fields:



- Work in order downwards, starting with **SSID**:
 - (1) Use the **Y** buttons to highlight **SSID** in blue. Then press **OK** and the EV24 will begin scanning for available networks. This may take a minute before a menu of networks appears. Select the network you wish to use (should match what your computer is using) and press **OK**.
 - (2) Use the **Y-** button to move down to **Password** and press **OK**. A screen resembling a keyboard will appear. Use the **X** and **Y** buttons to move to appropriate keys in order to enter your network's password, pressing the **OK** button to add a character to the display of your password. Note that the **AB** key will toggle to upper case keys, if needed. The button in the lower right will delete the last character showing. When your correct password appears in the display, move to the **OK** key, and press it.
 - (3) Use the **Y-** button to move down to **IP Address**. The first three sets of values will be obtained from your network but will continue to be displayed with the letter "x." Use the **X+** or **X-** buttons to set the last digits of the **IP Address** you wish to use. Press **OK**.
 - (4) Use the **Y-** button to move down to **Apply** and press **OK**. Wait a minute or two and the **IP Address** will then appear in the orange strip at the top of the display. Your **EV24** is now a connected device on your network.

□

Note the
IP Address



- (5) Note the complete **IP address** at the top of the window. You will be entering this same **IP address** in the software you use for cutting.
- (6) If you need to reset or change networks, move to the **DEFAULT** option and press **OK**. After a minute, this will reset the settings and enable you to change the network.
- (7) Before connecting the EV24 to your computer using a Wi-Fi connection, you must verify that your computer is also connected to the same network. To do this, locate and launch the network icon for your computer:

On a PC:

Click on the **Network** icon.
(usually in lower right corner)

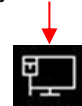



On a Mac:

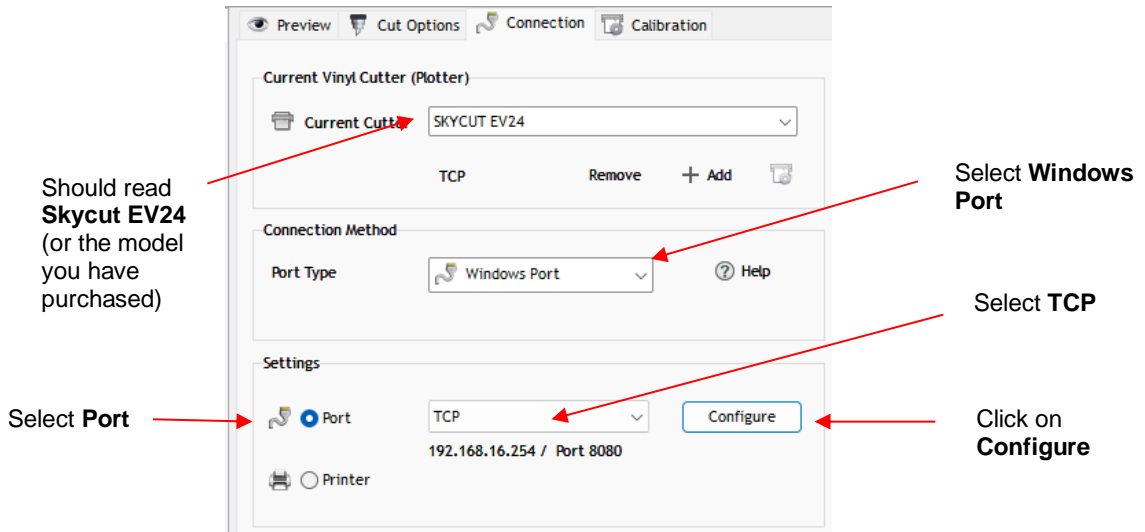
Click on the **Network** icon.
(usually in upper right corner)



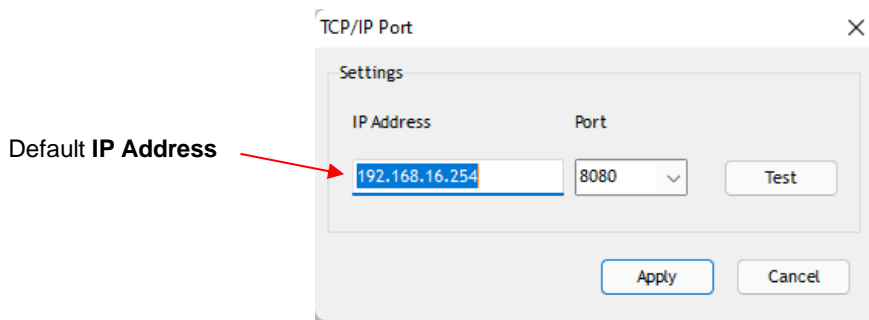
If you are connected via
Ethernet, your network icon
may look like this.



- (8) A menu of available networks will appear. Select the network used for the EV24 setup and, if needed, enter the network password. Wait a bit for the connection to be made and the menu should indicate you are now connected to that network.
- (9) In SignMaster, click on the **Cut, Plot & Engrave Tools** icon  (6th from the left on the upper middle task bar) and select **Vinyl Spooler**. In the window which opens, verify that **Skycut EV24** is selected under **Current Cutter**. If not, select it from the drop-down menu. Under **Port Type**, select **Windows Port**. Mark the option for **Port** and select **TCP** from the drop-down menu:

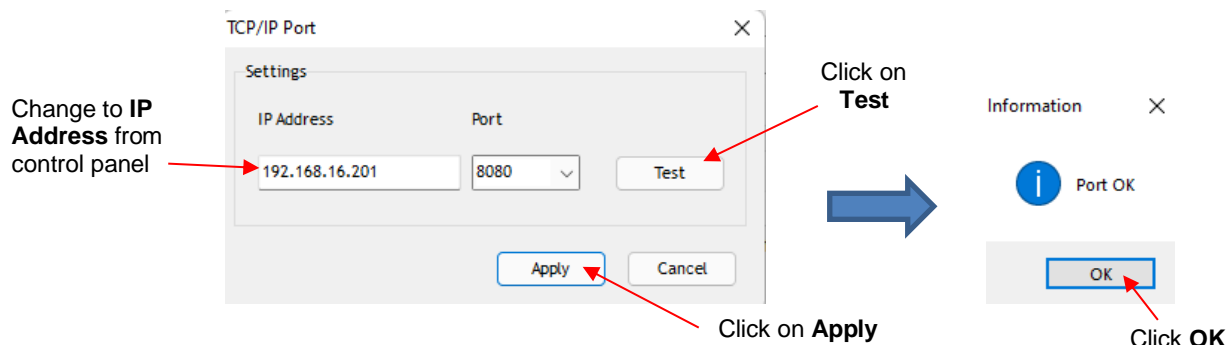


(10) Click on **Configure** and the following window opens:

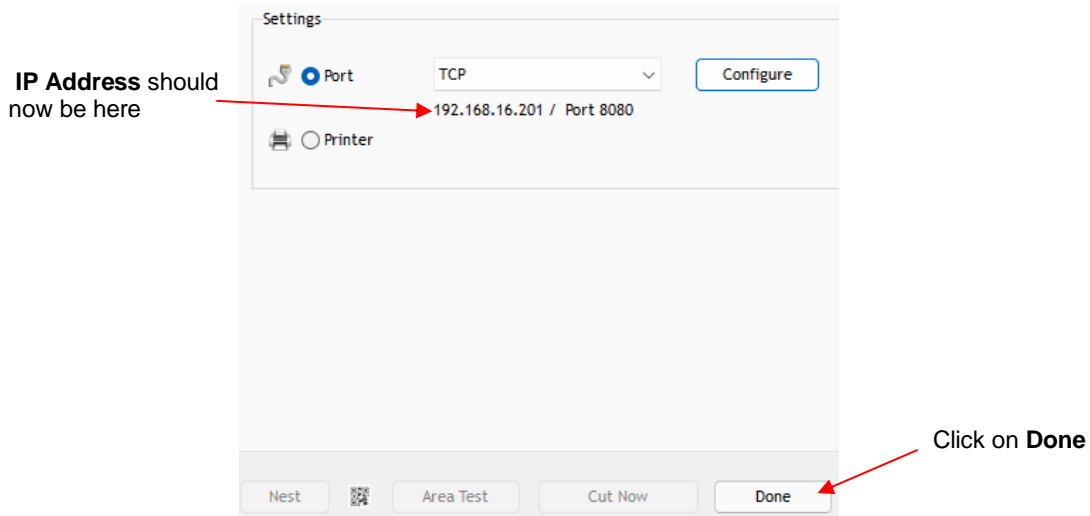


(11) Change the **IP Address** to the one you set up on the Skycut control panel. Click on **Test**. A **Port OK** message should pop up. If the test fails, confirm the **IP Address** you entered and try again. Additional troubleshooting for Wi-Fi connections can be found in *Appendix A1*.

(12) Once **Port OK** is displayed, click on **OK** and then click on **Apply**.




(13) The **IP Address** should now appear in the **Vinyl Spooler** window:

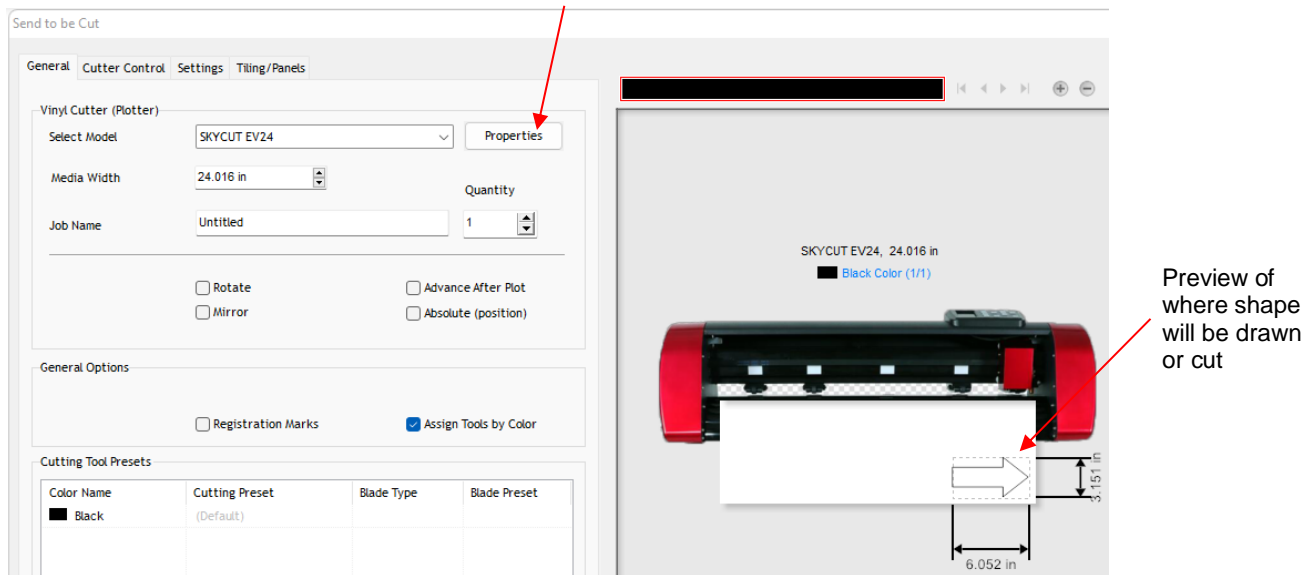


(14) Click on **Done**.

2.2.3 USB Flash Drive Video

- With a USB Flash Drive connection, you will normally follow the steps presented in this section. If you are new to SignMaster and/or to your Skycut, it is recommended that you go to *Section 2.3* now to learn how to insert the mat and test pen, adjust settings on the control panel, and set up a test design. Then, when you are ready to cut, return to this section.
- Design or open a file in SignMaster. After making any changes to the design, click on the **Cut, Plot & Engrave Tools** icon  (6th from the left on the upper middle task bar) and select **Send to Cutter**. The following window opens:

Click on **Properties** to open **Vinyl Spooler** window



- Click on the **Properties** button to open the **Vinyl Spooler** window. The **Cut Options** tab should automatically be selected. Verify that the **Pen Tool** is selected (assuming this is your first time testing your Skycut). Also verify that the force and speed settings are not marked. At the current time, it is recommended that you always do these settings on the Skycut's control panel, instead:

Select **Cut Options** tab

Pen drawing: leave unchecked; **Cutting**: Check and enter settings

Uncheck all three of these settings

SKY-CUT EV24

Media Size

Media Width: 24.016 in [Poll Media]

Media Length: 0.000 in [Slice Media]

Cut in Strips

Cutting Options

Preset Mode: [Edit Presets]

Blade Offset: 0.35 [Calibrate]

Overcut: 1.00

Blade type: Pen Tool

Additional Options

Tool Select: Default [Primary]

Cutting Force: 50 g

Cutting Speed: 250 mm/s

Travel Speed: (5) 250 mm/s

Cutting Options

Advance after plot [Area Tests]

Nest [Area Test] Cut Now Done

Pen drawing: select **Pen Tool** Cutting: select blade type from menu

Click on **Done**

- ***IMPORTANT:*** For initial testing of your Skycut, it is highly recommended that the test pen be used until you know, with certainty, where shapes will draw.
- Click on the **Connection** tab and verify that **Skycut D24** is selected under **Current Cutter**. If not, select it from the drop-down menu. Under **Port Type**, select **Windows Port**. Mark the option for **Port** and then select **U_Disk** from the drop-down menu:

Select **Connection** tab

Should read **Skycut EV24** (or the model you have purchased)

Select **Port**

Current Vinyl Cutter (Plotter)

Current Cutter: SKY-CUT EV24 [U_Disk] [Remove] [+ Add]

Connection Method

Port Type: Windows Port [Help]

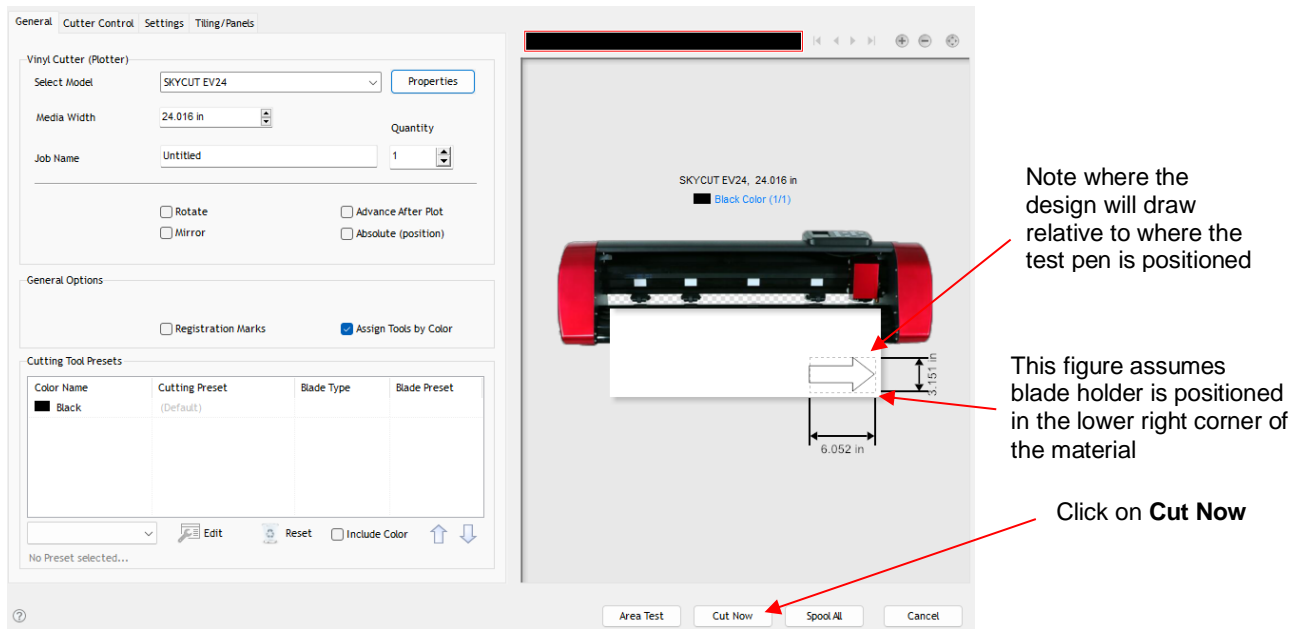
Settings

Port [U_Disk]

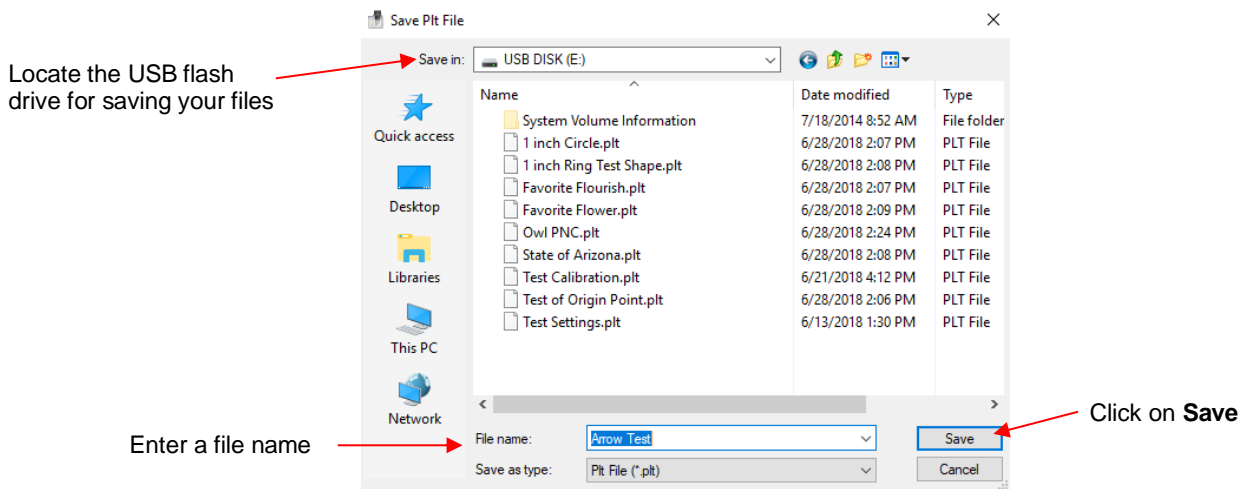
Select **Windows Port**

Select **U_Disk**

- Click on **Done** at the bottom of the **Vinyl Spooler** window and you will be returned to the **Send to be Cut** window. More about the settings on the left side of the window will be covered in *Section 3.3*. For now, just note where your shape will draw relative to the material and how to initiate the exporting of the PLT file:



- Insert a USB flash drive into your computer and allow Windows to find it. Note the drive letter assigned by Windows.
- Click on **Cut Now** and a **Save PLT File** window opens because earlier you had changed the connection type to **U_Disk**. Browse to locate the USB flash drive you plan to use and name your PLT file:



- Once the file is saved, eject the flash drive from your computer. Proceed to the next section.

2.2.4 Loading and Cutting a .PLT File from the USB Drive

- Insert the flash drive into the right endcap of the Skycut.
- On the control panel, press the **FS** button and change the **FORCE** and **SPEED** settings if you did not elect to send them within the .PLT file (refer to *Section 3.3.1*). Perform a test cut, if needed.

- ***IMPORTANT:*** Once the PLT file has been selected, cutting will begin immediately! Thus, make sure the media is inserted and aligned in the cutter, the pinch wheels are down, and the blade is positioned at the desired location for the origin.
- Press the **UDISK** button on the control panel. The EV24 will browse the contents of the installed USB thumb drive and display all readable .PLT files. Note that if there are folders on the drive, highlight the folder and press the **OK** button to display that folder's contents. Use the **X-** button to exit from a folder.
- Once you have the desired PLT file highlighted, press **OK** to begin the cut:

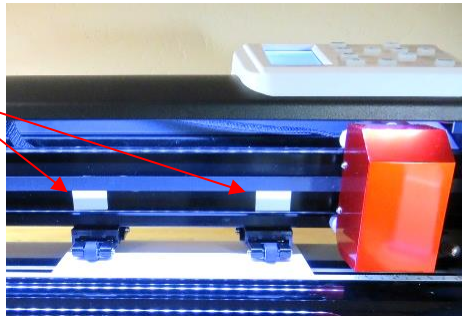
2.3 Test Draw Shapes

- New owners tend to be VERY eager to try out their Skycut. It's important to test your cutter to ensure that data is being sent properly from your computer to the cutter. The following sections will allow you to do some testing with the pen tool. But note that **the following steps are for DRAWING, not cutting**. Before inserting the blade holder into your cutter, please read the following *Sections 1.7.4, 1.7.5, 3.1, 3.2, and 3.3*.

2.3.1 Setting up the EV24 for Test Drawing

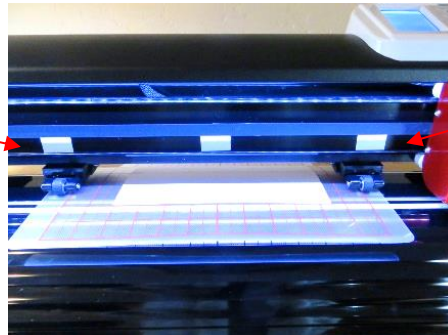
- Besides testing the communication, it is also very important to understand where shapes will cut based on various available options in the software. This is partially addressed in the next few sections; complete details are covered in *Section 3.2.2*.
- Before setting up a file for testing, if you are new to the software, watch an introductory video to become familiar with the basics. **Video**
- You have two options when using the test pen:
 - ◇ Insert a sheet of paper directly into the cutter. Make sure the paper is past the ruler so that it doesn't catch when feeding the paper forward:

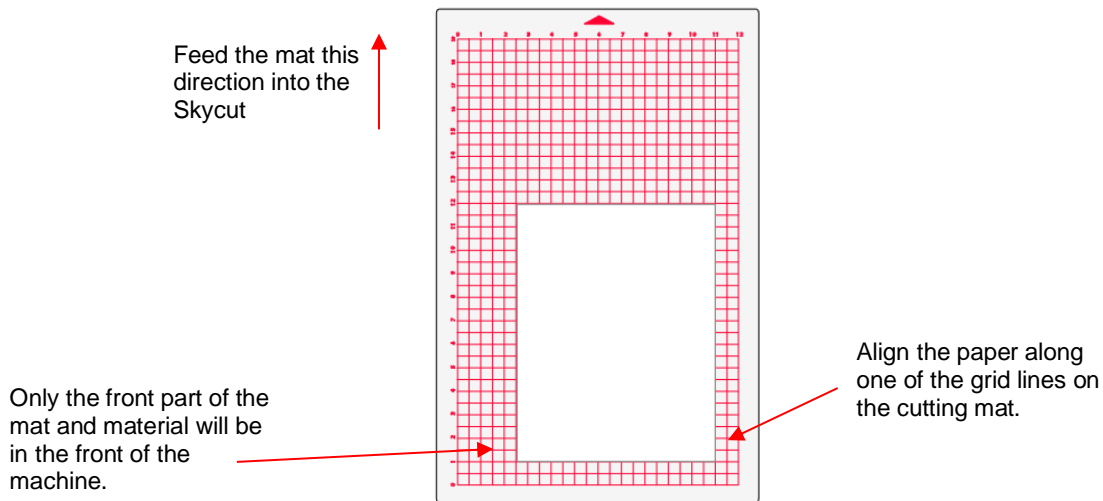
Observe how pinch wheels are centered with white rectangles



- ◇ Or...Place the paper onto the cutting mat and then insert the cutting mat into the cutter:

Observe how pinch wheels are centered with white rectangles

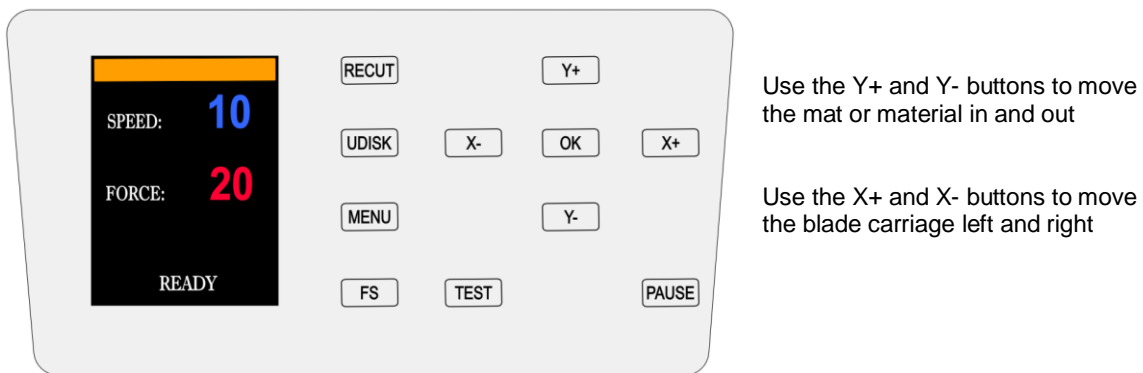




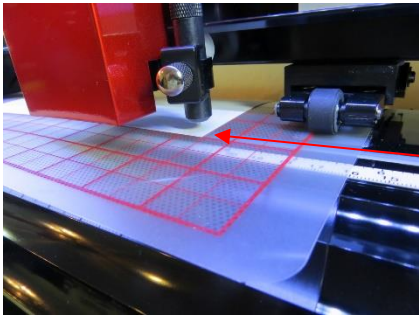
- Use any of the horizontal markings at the front of the Skycut (such as the ruler) to align the mat so that it's straight. Lower the pinch wheels in the back. Most of the mat and the paper should now be behind the cutter, not in the front.
- Before installing the test pen, make sure the pen will write by scribbling on scrap paper. Note that you will probably need to remove a tiny bit of wax on the end of the pen nib. Then follow these steps:
 - ◇ Loosen the screw on the blade holder seat.
 - ◇ Insert the test pen allowing it to freely rest on top of the paper.
 - ◇ Before tightening the front screw, raise the test pen up a little bit (~ 1/8" or several mm). You don't want the pen still touching the paper but you also don't want the pen too high above the paper either.
 - ◇ Tighten the front screw to lock in the test pen. Be careful not to push down on the blade holder seat while tightening.

IMPORTANT! This is NOT the recommended method for loading the blade holder into the cutter. This is presented as a quick way to insert the test pen so that it is in a good position for drawing. The instructions for inserting the blade holder are covered in *Section 2.1.3*.

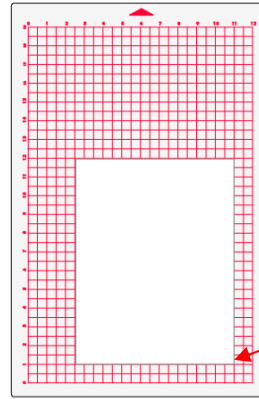
- The arrow keys on the Skycut's control panel will always be used to set the origin for cutting:



- ◇ Click on the buttons or the arrow keys on your keyboard to move the head left or right and the mat in and out. The goal is to have the tip of the pen close to the lower right corner of the paper:



Move pen tip to this corner of the paper



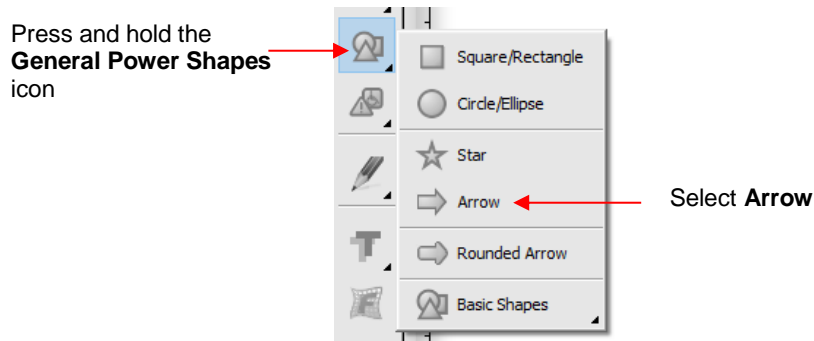
Feed the mat or material this direction into the Skycut

Move the pen tip to this corner of the paper

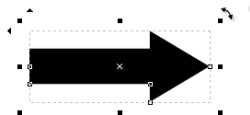
◇ Once the pen tip is near the lower right corner, you are ready to proceed with the test.

2.3.2 Test Drawing

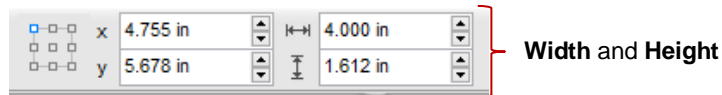
- In SignMaster, on the left side tool panel, press and hold the **General Power Shapes** icon and, from the drop-down menu, select the **Arrow** option:




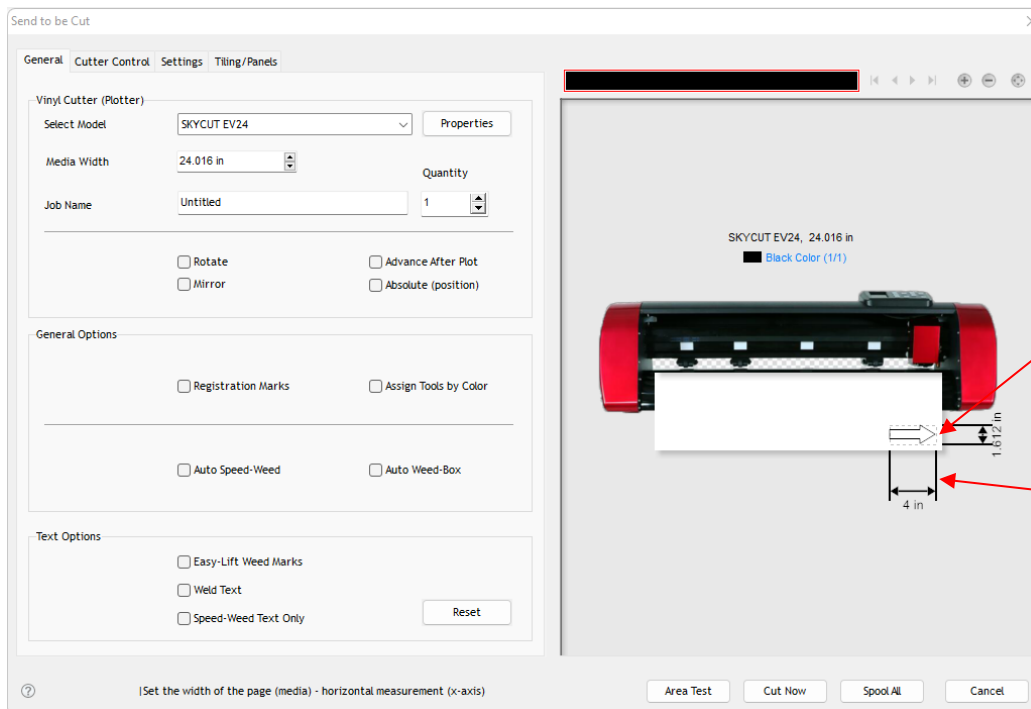
- Press and hold the left mouse button and drag the mouse in the **Drawing Area** to create the arrow shape. In this test, it doesn't matter where you place the arrow on SignMaster's **Drawing Area**, as it will be drawn at the origin you set on the machine.



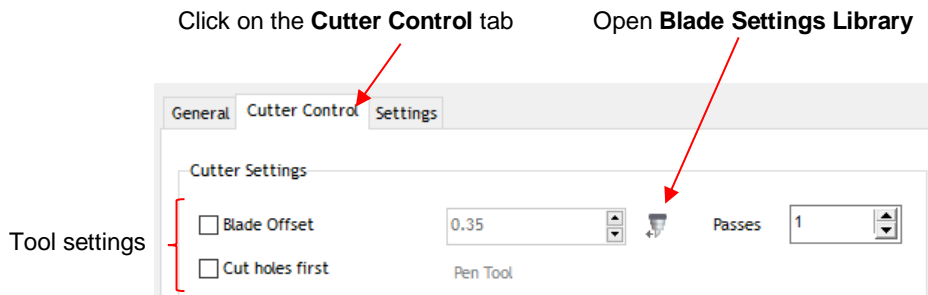
- If you wish to resize the arrow, either drag one of the square handles around the selected arrow or, in the settings above the **Drawing Area**, change the **Width** or **Height**, if desired:



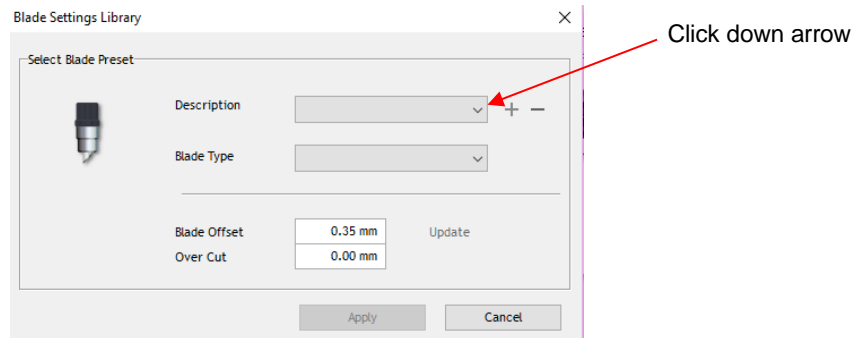
- At this point, if you plan to export this file to a USB flash drive, rather than cut directly to the Skycut from SignMaster, please go to *Section 2.2.3* for instructions.
- After making any changes to the design, click on the **Cut, Plot & Engrave Tools** icon  and select **Send to Cutter**. The following window opens. More about the settings on the left side of the window will be covered in *Section 3.3*. For now, just note where the shape will cut relative to the material:



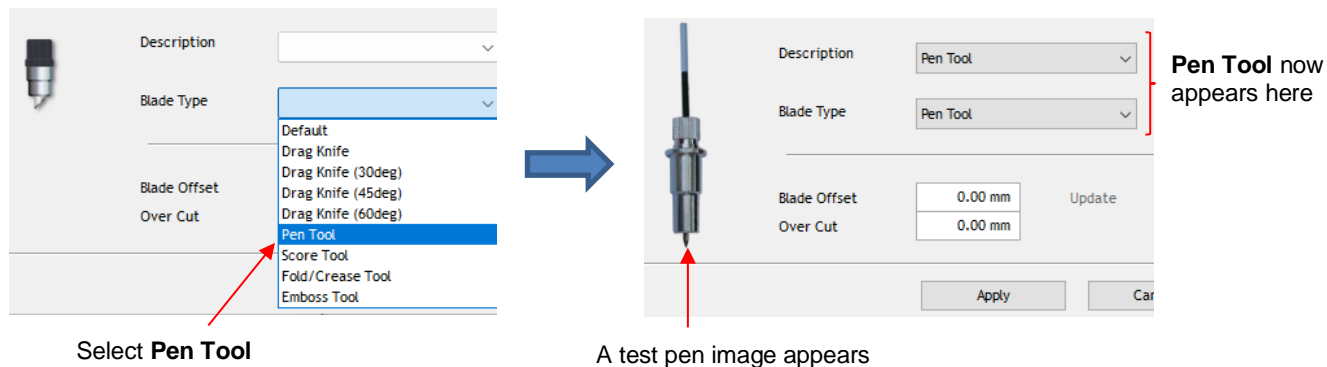
- Before executing the cut/draw process, the **Pen** tool will be selected. Click on the **Cutter Control** tab and the following settings will be displayed:



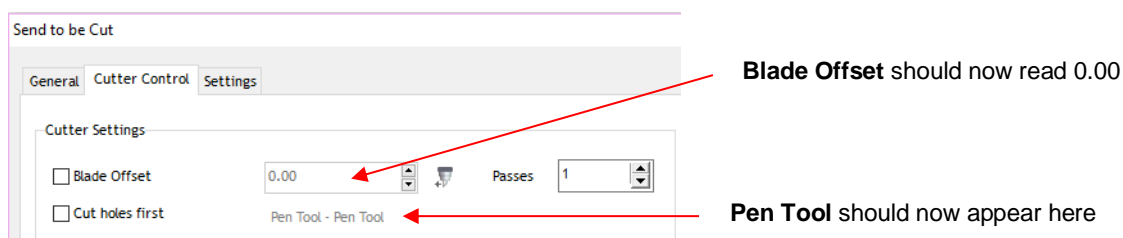
- Click on the small icon  to left of **Passes** and the **Blade Settings Library** opens:



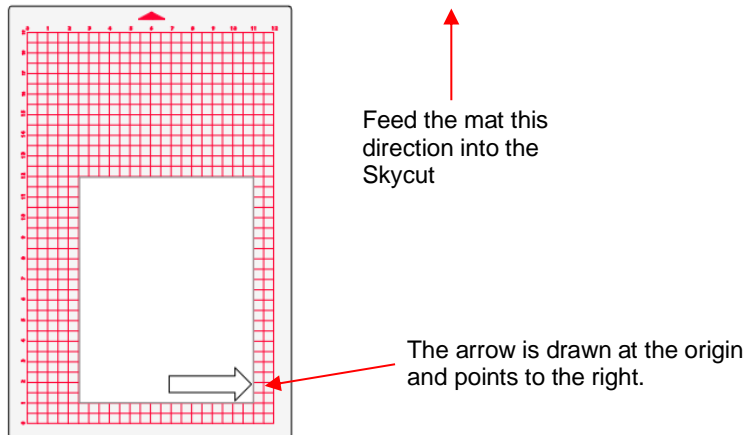
- To switch to the test pen, click the down arrow to the right of **Description** and select **Pen Tool**:



- Click on **Apply** and the **Cutter Settings (Tool settings)** will update showing a 0.00 setting for **Blade Offset** (more about this setting is covered in *Section 3.3.3*):

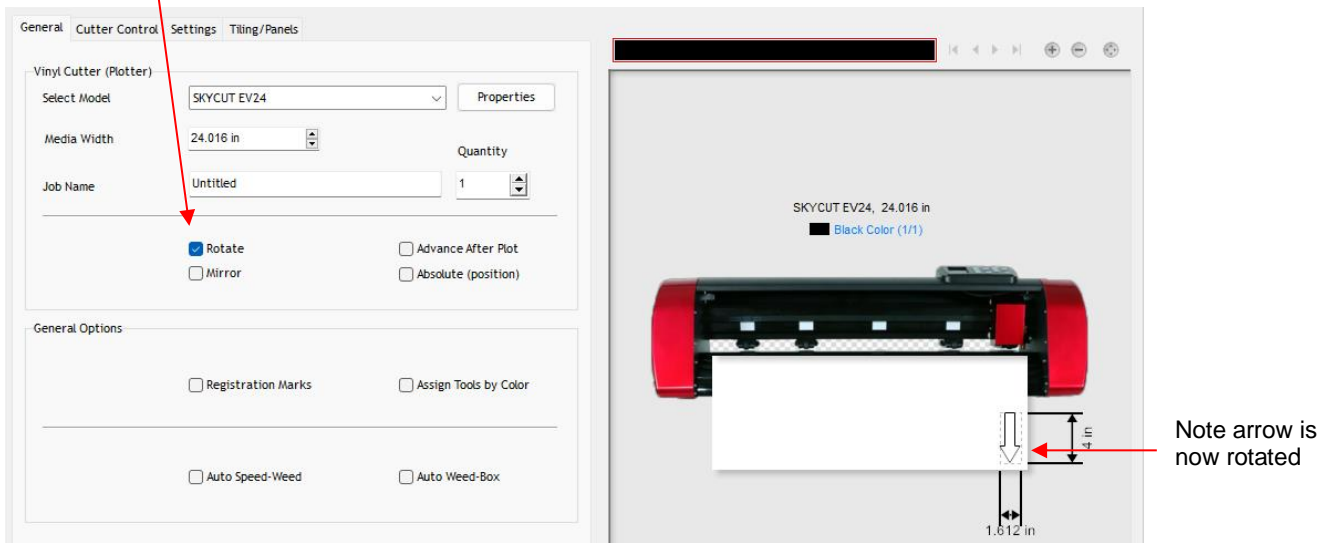


- Click on **Cut Now** and the Skycut will draw the arrow on your paper:

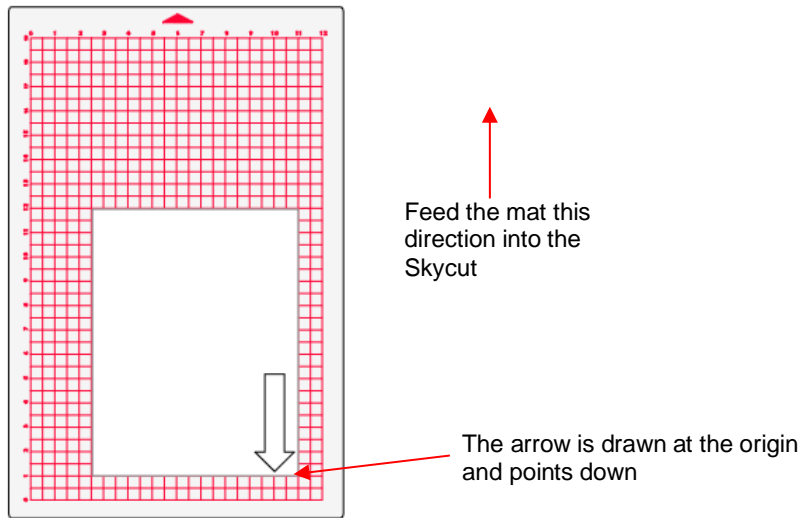


- To draw again, return to the cut window and choose a different origin. Practice moving the origin to different locations. If you want to have the arrow draw in a **Landscape** orientation, then mark the **Rotate** option. You will see the arrow rotate in the **Preview**:

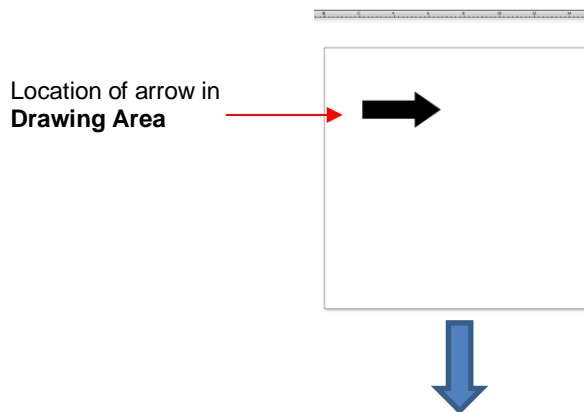
Check Rotate



- Cutting with this setting results in the arrow pointing downwards as shown in the prior preview window:

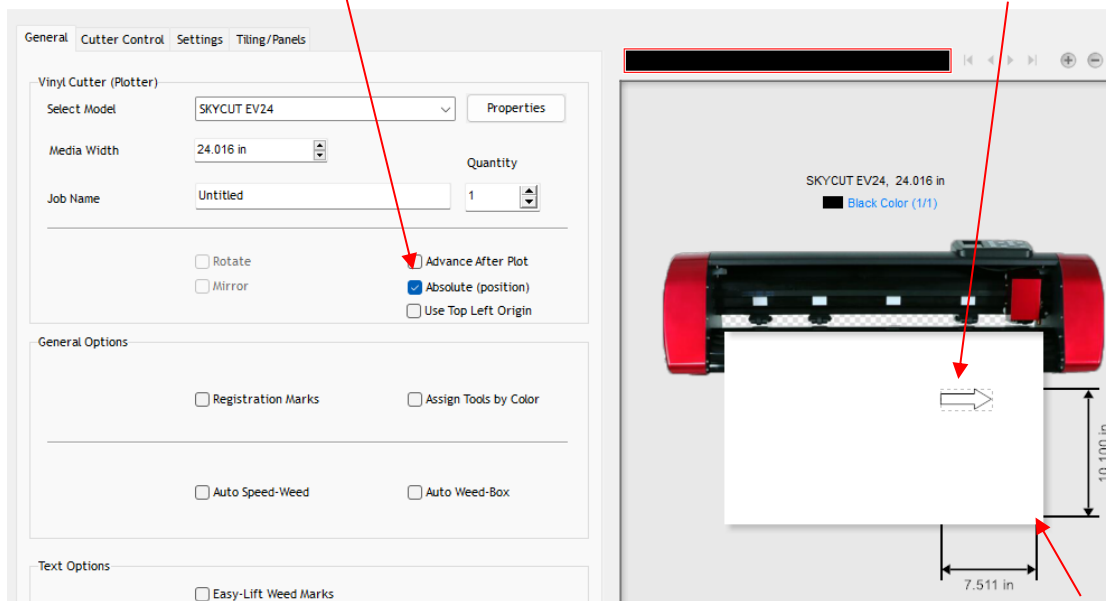


- If you want the arrow to draw where you have it located on the **Drawing Area** in SignMaster's main screen, versus at the origin, then you need to mark the option called **Absolute (position)** in the same **Send to be Cut** window:



Check **Absolute (position)**

Arrow will now draw
in this location



Test pen is still positioned in lower right corner of material before drawing

- Set the origin in the lower right corner of the mat's grid and then place the paper in the correct location on the mat to correspond to where the shape is positioned in SignMaster. Refer to *Section 3.2.2* for more details on controlling where images will cut.

IMPORTANT: Please read *Section 3.1* before cutting!

3. Cutting

3.0 Quick Reference for this Chapter

- How to *properly* mount the blade holder: *Section 3.1.3*
- How to control which shapes get cut: *Section 3.2.1*
- How to control where shapes get cut: *Section 3.2.2*
- Understanding **Blade Offset** and **Overcut**: *Section 3.3.3* and *Section 3.3.4*
- How to add weeding lines to a cut: *Section 3.6.2*
- Checklist before cutting: *Section 3.7*
- How to get shapes to cut to precise dimensions: *Section 3.8*
- How to know which settings to adjust to solve cutting issues: *Section 3.9*

The Most Common New Owner Mistakes:

- Too much blade is exposed on the blade holder (material is lifting up and/or tearing) - refer back to *Section 1.7.4*
- The blade holder or test pen haven't been properly mounted - refer to *Section 3.1.3*
- The pinch wheels are not properly positioned (material or mat is sliding around or bunching up during the cut) – refer back to *Section 1.8*
- Failing to do a test cut (recommended cut settings are not working) – refer to *Section 3.1.5* and *3.9*
- Not practicing enough with the test pen and paper (shapes are not cutting in the correct locations) – refer to *Section 3.2.2*

3.1 What You Need to Understand About Cutting

IMPORTANT: Please read all of 3.1!!!

3.1.1 You Have To Make Mistakes

- To be a successful owner of a Skycut, you need to keep in mind a few factors:
 - ◇ The key to becoming successful at cutting is to do a lot of it.
 - ◇ You're going to make mistakes. This is normal and part of the process of mastering a cutter.
 - ◇ Read all of *Sections 3.1 and 3.2*.
 - ◇ Perform test cuts before cutting large projects. It prevents wasted material and preserves your valuable time.

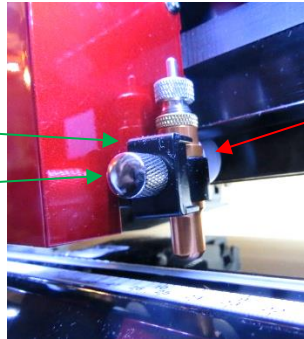
3.1.2 Record Your Successes

- As you have successful cuts, take note of the settings you just used, such as **Force**, **Speed**, blade type, number of passes, brand of material, etc. There is a blank form in *Section 3.10* that you can print and use to record your results. There are also suggested settings for common materials at the end of this chapter. Use these as starting guides but remember that your results may vary based on the many factors which can affect cutting.

3.1.3 Installing the Blade Holder, Test Pen, or Accessory Tools

- The gold blade holder has a rim around the outside that will, when cutting most materials, rest on the lower part of the blade holder seat. When inserting the blade holder, loosen the front screw and the clamp should then move back a bit to permit the blade holder to drop down:

With the front screw loose, the black clamp can be moved back just a bit to allow the blade holder to drop down.



The outer rim on the blade holder is resting on the lower part of the blade holder seat

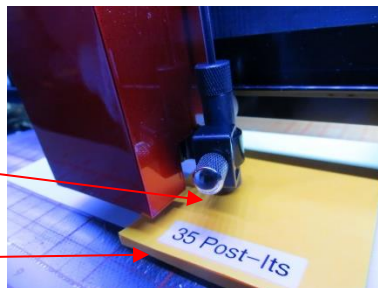
- The **Blade Height** is the distance from the tip of the blade to the top of the material you are about to cut. Thus, in the photo above, you can see that there are several millimeters of **Blade Height** which is important for two reasons:
 - ◇ You do not want the blade dragging across the material when the blade holder is moving from the origin to the first shape to cut (or between shapes).
 - ◇ More force is applied when there is a drop distance for the blade holder to start cutting. This is also referred to as “punch room” and provides more consistent cutting across the width of the machine.
- When using the test pen or an accessory tool without a rim, you’ll need to insert the tool using a spacer on top of the material. A stack of 35 Post-It notes or 35 sheets of regular copy paper work well.

◇ The recommended method for loading the test pen or another accessory:

- Place the spacer on top of the material, with the material loaded into the Skycut.
- Loosen the screw on the blade holder seat and insert the tool so that the tip of the tool is touching the top of the spacer:

Pen tip just touches top of spacer

Spacer is on top of material which is on top of mat




- Now tighten the front screw carefully making sure you are NOT pushing down on the blade holder seat. Once tight, remove the spacer. You should feel the tool gently scratching the top of the spacer.
- This distance will provide the tool some “punch room” to give extra force and more consistent results.

3.1.4 Adjust the Speed, Force, and Number of Passes Based on the Material and Shapes

- Using correct cut settings is equally important as the type of blade, blade length, and blade height. Refer to *Section 3.3* for details about each setting.

3.1.5 Perform Test Cuts!

- You have two options:
 - (1) Perform the built-in test cut on the Skycut itself using the **TEST** button on the control panel.
 - (2) Select any basic shape and size it to be around 0.3" – 0.5" (~ 8 mm – 13 mm):
 - I personally like using a design with an internal shape, such as a ring. You can then easily see if the blade is cutting into the mat (or into the backing sheet on rolled materials) when you lift out the cut shape and observe where the internal shape cut. To locate a ring, click on the **General Power Shapes** icon  on the left side **Tool Panel** and go to **Basic Shapes>Basic**.
 - When cutting intricate shapes, use a small letter or a shape with lots of sharp turns for testing. For a rhinestone project, use a small portion of your rhinestone pattern as a test.
- There is a flow chart in *Section 3.9* which will help you determine which settings to change when test cutting a material.

3.1.6 Keep the Cutting Mat Clean and Sticky

- Press your materials evenly to the mat. Consider using a brayer both before AND after cutting. Repressing the material after cutting can greatly aid in weeding the cut shapes from the waste.
- When necessary, tape thicker materials to the mat to keep them from slipping during the cut.
- If you cut a range of materials, you might need more than one mat so that you can use stickier mats for certain materials.
- Refer back to *Section 1.7.5* for information on cleaning the cutting mat and adding more adhesive.

3.1.7 Don't Get Frustrated, Get Help!

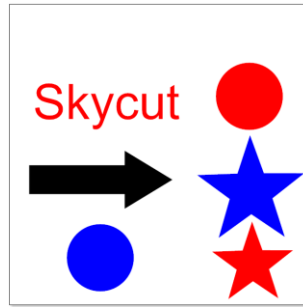
- Besides having your own Skycut dealer as your first line of contact, there are other resources where you can ask questions and get answers. Utilize the resources listed in *Section 1.1*.

3.2 Choices Before Cutting

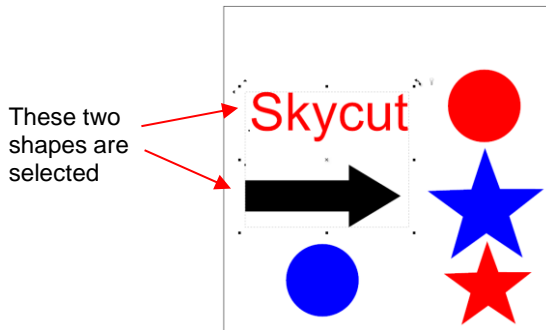
- There are a number of factors under your control for cutting:
 - ◇ What shapes to send to the cutter: *Section 3.2.1*
 - ◇ Where the shapes will be cut from the material: *Section 3.2.2*
 - ◇ What tool(s) will be used for cutting (or drawing, scoring, engraving, etc.): *Section 3.2.3*
 - ◇ What settings will be used: *Section 3.2.4*

3.2.1 Controlling Which Shapes Will Cut

- There are three ways to control whether a shape will be cut or ignored. In explaining these options, the following shapes have been added to the **Drawing Area**. Note that this file (called *Controlling What Cuts*) is shared in a zip file [available here](#).

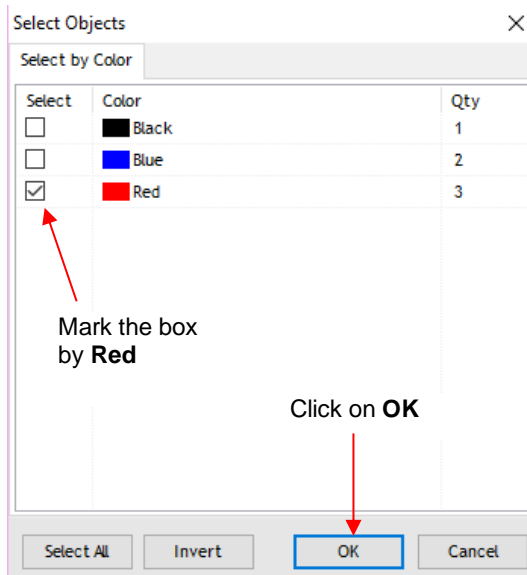


- ◇ Option 1: If no shapes are pre-selected, then all shapes will be sent to cut. However, if you pre-select, for example, only the “Skycut” and the arrow, then only those shapes will appear in the **Send to be Cut Preview**:

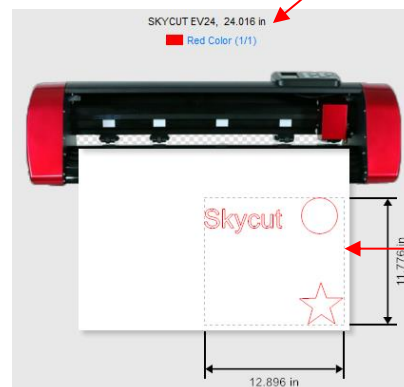


Only those two shapes appear in **Preview**

- A more common practice is to select all objects of one color and only have those shapes sent to cut. To do this, go to **Edit>Select by>Color** (or use the shortcut key “S”) and the following window will open where you can, for example, mark **Red** to be selected. Then the **Preview** will only have “Skycut”, the red circle, and the red star present:

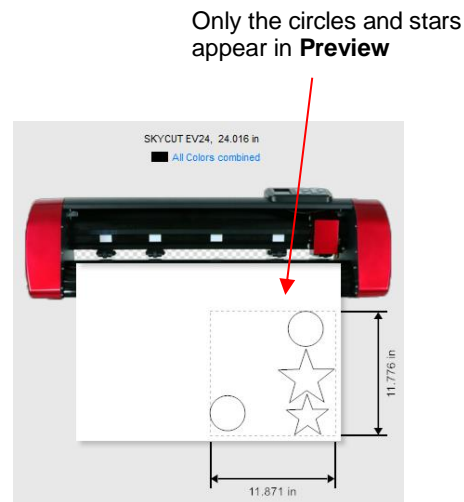
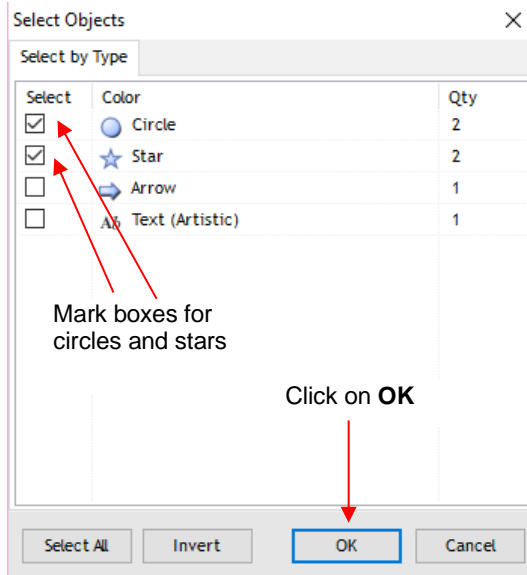



It's also noted here that only red shapes are selected

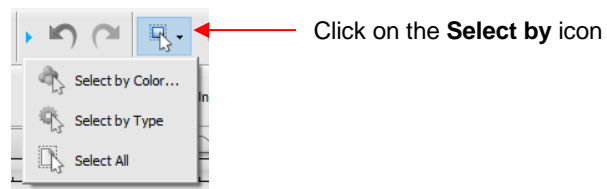


Only the red shapes appear in **Preview**

- Along the same lines, you can select all objects of type and only have those shapes sent to cut. To do this, go to **Edit>Select by>Object Type** (or use the shortcut key “O”) and the following window will open where you can, for example, mark **Circle** and **Star**. Then the **Preview** will only have circles and the stars present:

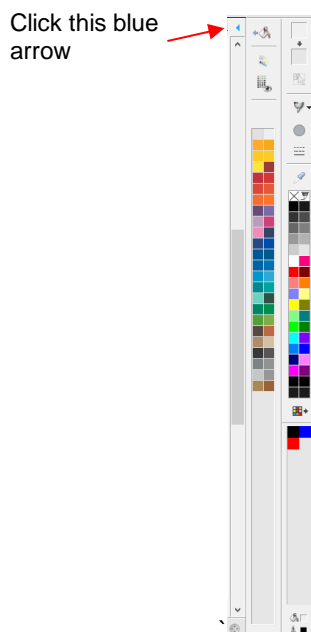


- Note that the icon at the top of the screen:  will open a menu where you can then access the same **Select by Color** or **Select by Type** options:

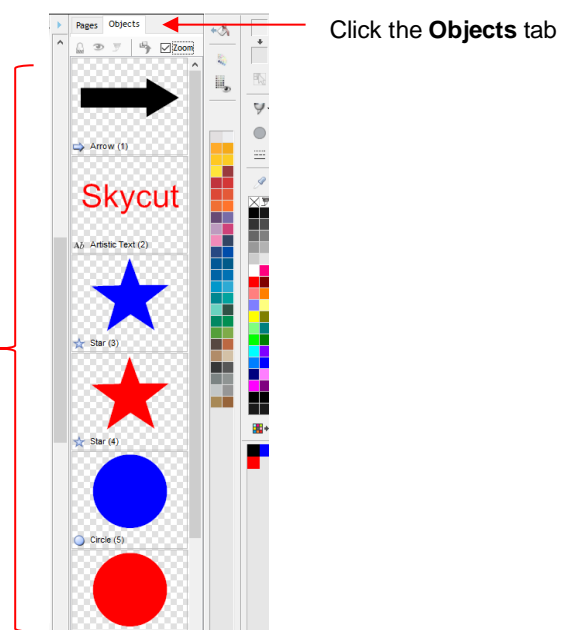


◇ Option 2: Mark shapes not to be cut on the **Objects** tab of the **Page Thumbnail Viewer**:

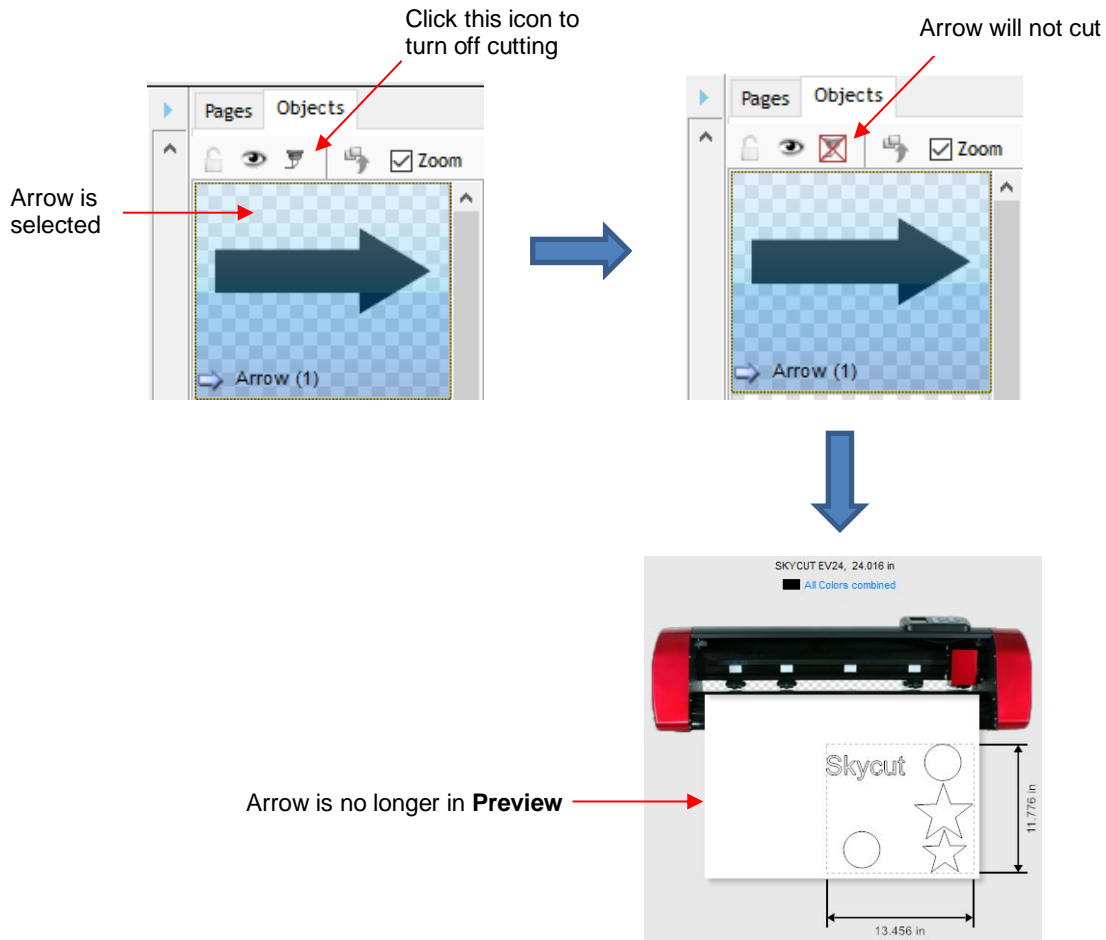
- To access the **Objects** tab, click on the small icon to the left of the palette:



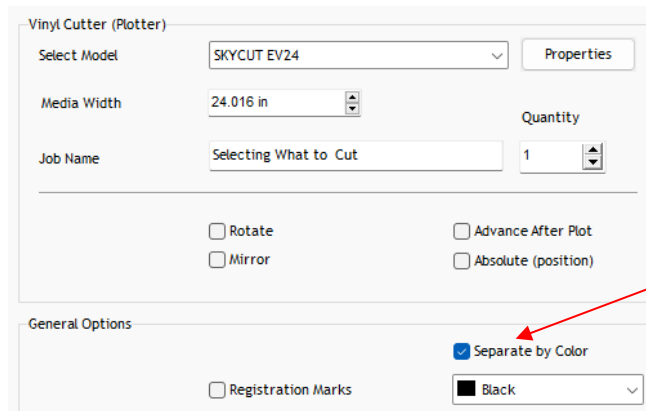
All of the shapes appear in a list



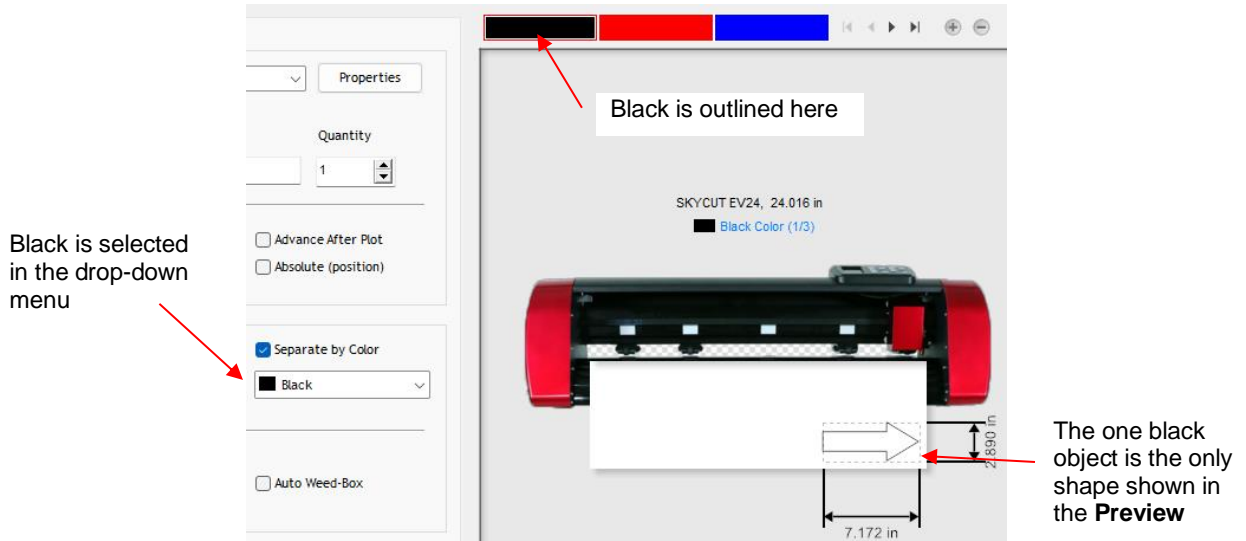
- Select a shape, such as the arrow. On the **Object** tab, it can then be set not to cut:



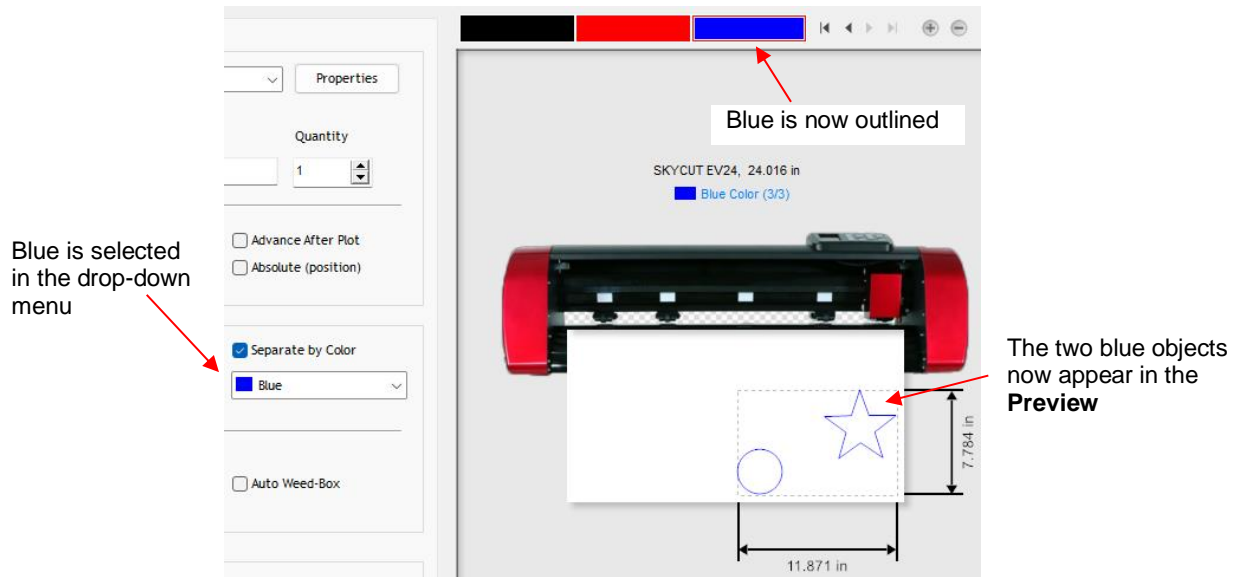
- ◇ Option 3: Cutting can be controlled by color from within the **Send to be Cut** window. Click on the **Separate by Color** option and a drop-down menu will appear:



- In the **Preview** window, shapes with the current color from the menu appear. Also, the color is selected at the top:



- Switching to blue changes the window accordingly:

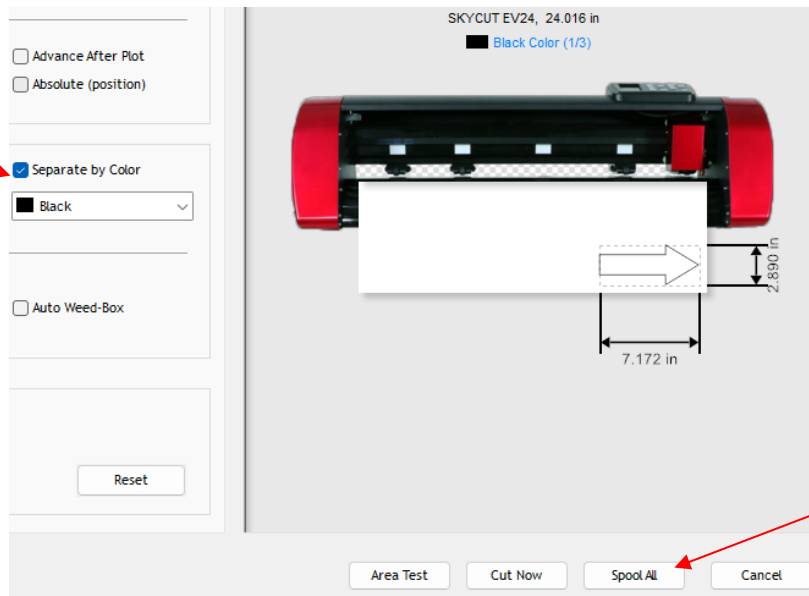


- Note that you can also change colors by clicking on those colored rectangles above the preview.

◇ Option 4: Select the colors in the **Vinyl Spooler** window.

- In the **Send to be Cut** window, again click on the **Separate by Color** option. Then, click on **Spool All**:

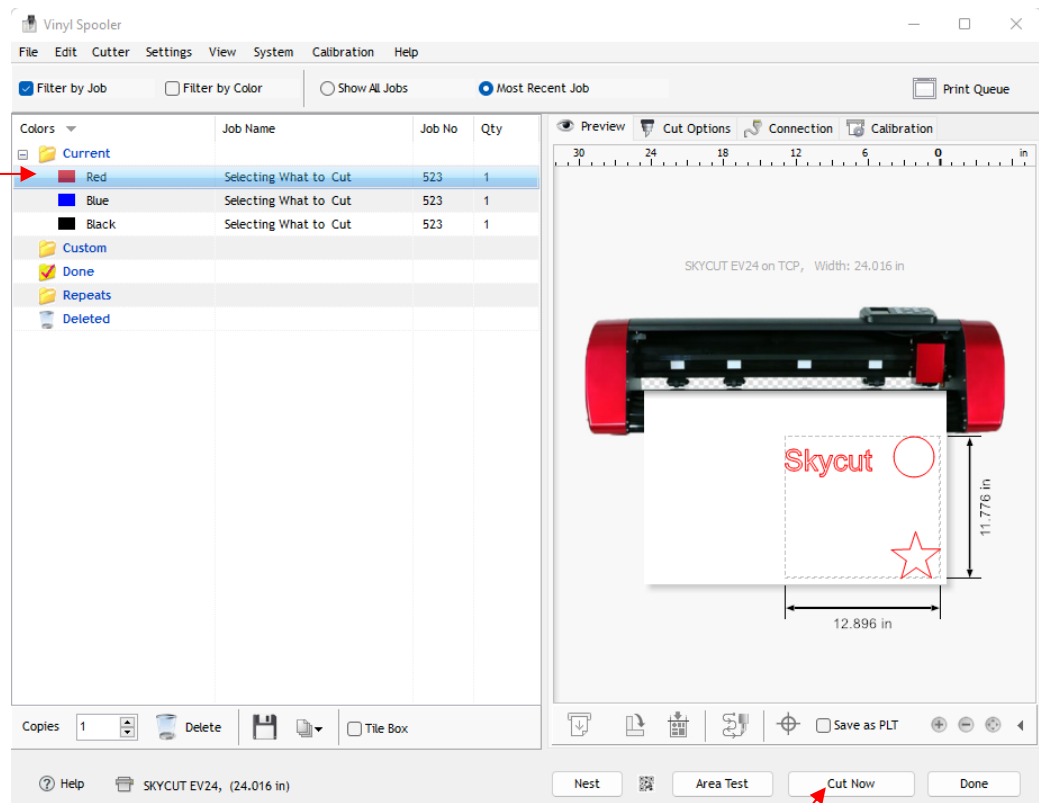
Enable **Separate by Color**



Click on **Spool All**

- In the **Vinyl Spooler** window, the job will appear at the top and queuing of each color will begin. In this example, *Red* is at the top of the menu and the red shapes appear in the **Preview**. Click on **Cut Now** to cut those shapes. Otherwise, click on either *Blue* or *Black*:

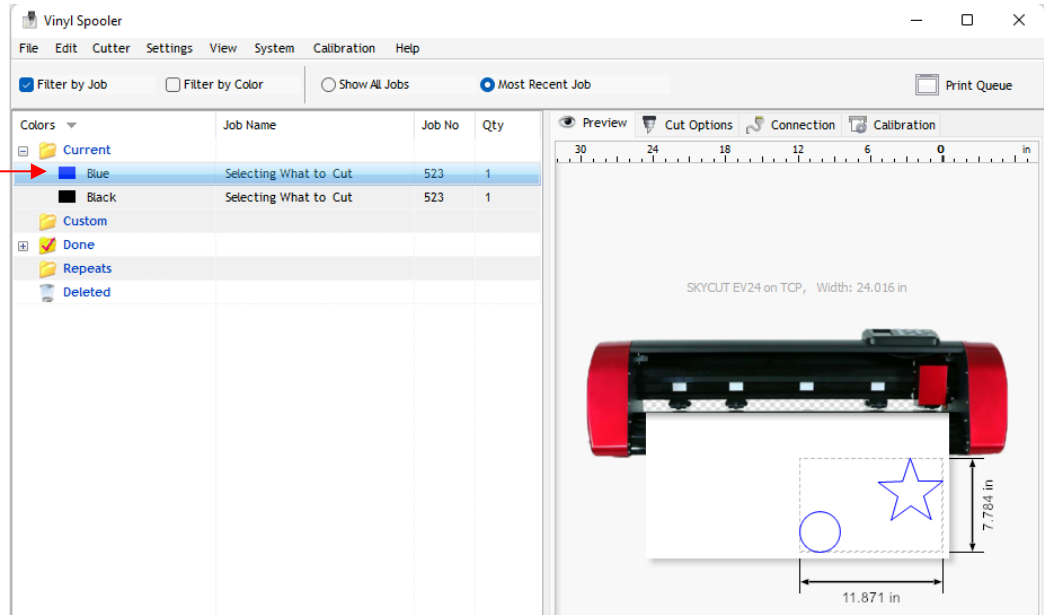
Red is queued up to cut first. Either cut the red shapes or select another color.



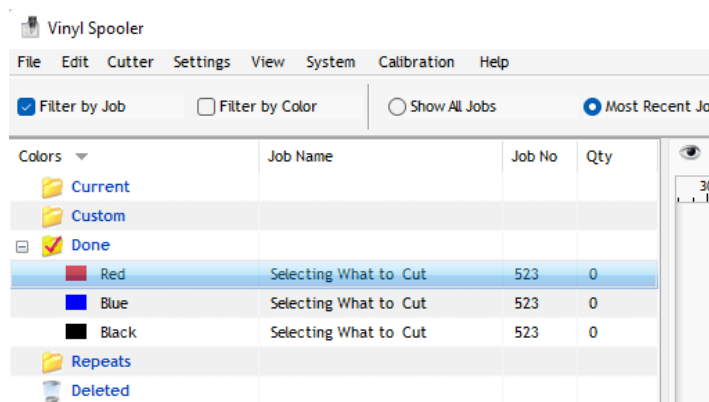
Click on **Cut Now** to proceed with cutting

- After the red shapes are cut, it will no longer be in the menu. The next color (*Blue*) will be selected and you can again choose to cut that color or select the third color (*Green*):

Blue is queued for cutting. Or select Black, if desired.

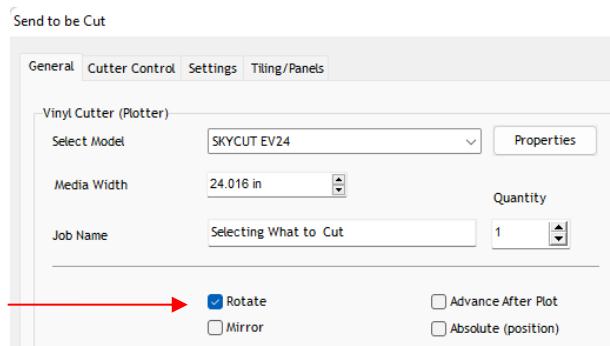


- After the last color is completed, the job is moved to the **Done** folder and can be repeated at any time:



3.2.2 Controlling Where Shapes Will Cut

- This was briefly covered in *Section 2.3.2* where the **Rotate** and the **Absolute (position)** options were introduced.
 - ◇ **Default:** Moves the shapes to align with the origin you have set based on the blade tip.
 - ◇ **Absolute (position):** Cuts the shapes where they are positioned on the **Drawing Area**.
- You can also rotate a design for cutting, relative to how it appears on the **Drawing Area**:
 - ◇ To rotate the project, go to **Send to be Cut** and mark the **Rotate** option:



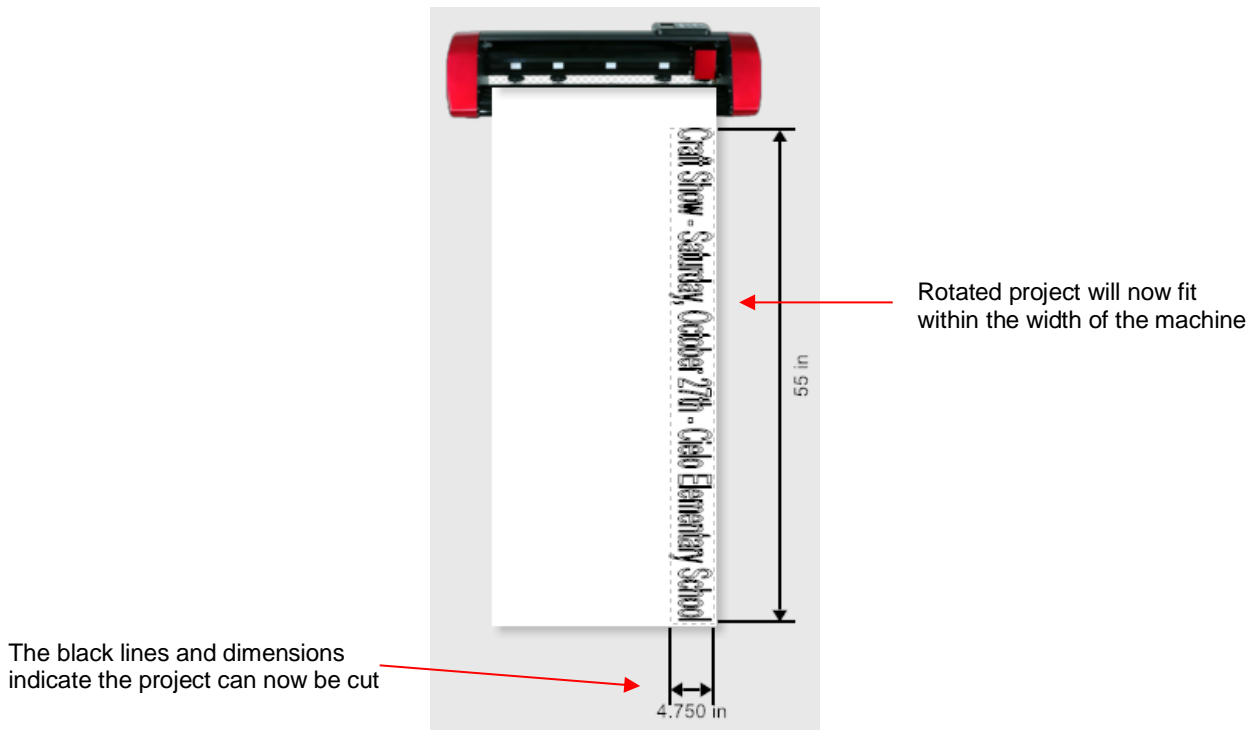
- ◇ For example, in a project with long text, it is more convenient to view and edit the text in a left-to-right orientation:



- ◇ However, when you then send this project to the **Preview** window, you will observe that it is too wide to cut from left to right on your Skycut:

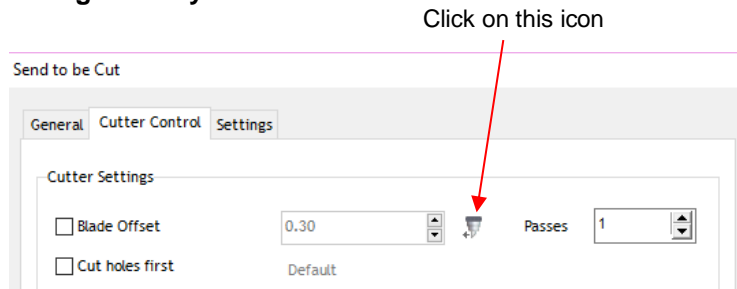


- ◇ Marking the option for **Rotate** will then rotate the design and allow the project to cut:

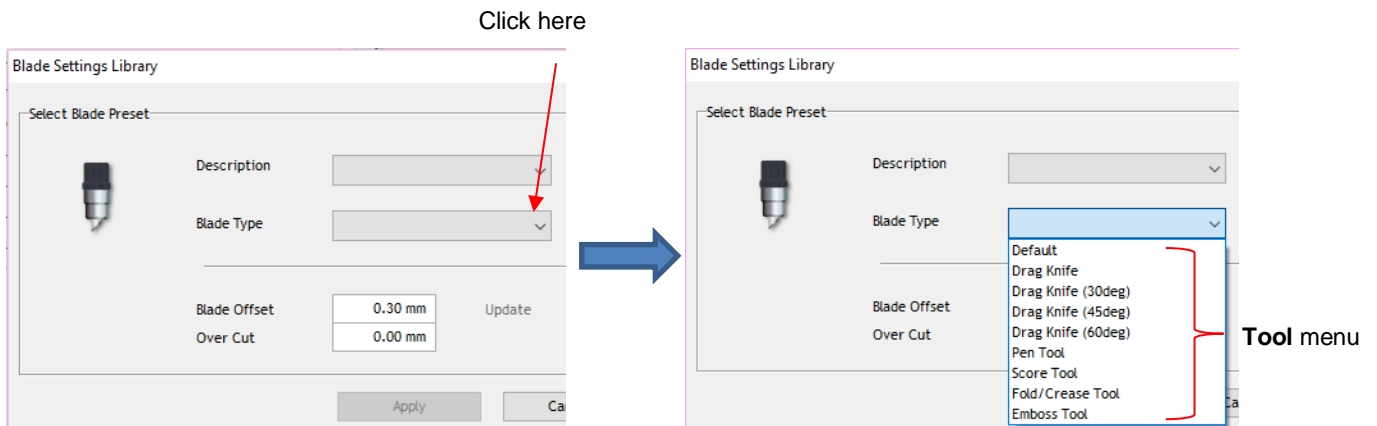


3.2.3 Selecting the Tool to be Used for Cutting

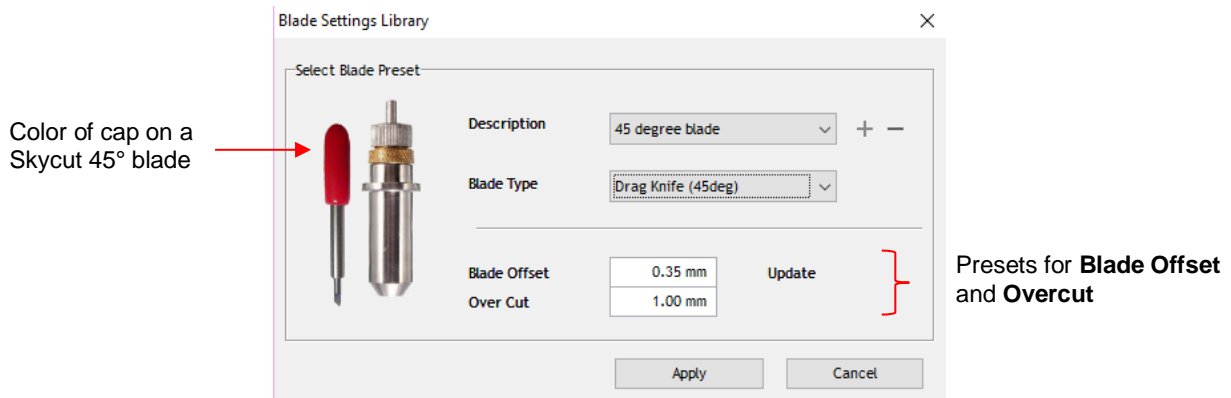
- To select the tool you'll be using, open the **Send to be Cut** window, select the **Cutter Control** tab, and click on the **Open Blade Settings Library** icon:



- The **Blade Settings Library** window will open. Click on the down arrow to the right of **Description** where you can access a drop-down menu for the **Blade Type**:



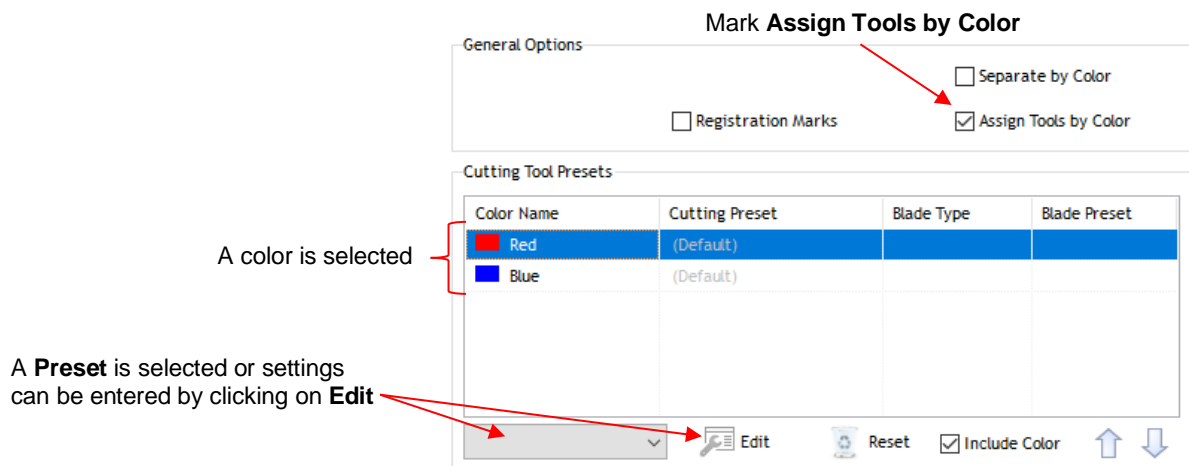
- Select one of the options, such as **45 degree blade**, and an image of the blade, its **Blade Offset** and **Overcut** settings will be displayed. These settings are assigned as a **Preset**:



- Sections 3.3.3 and 3.3.4 will explain **Blade Offset** and **Overcut** settings. Section 3.4 will explain how to modify these settings, if needed and save as a **Preset**.

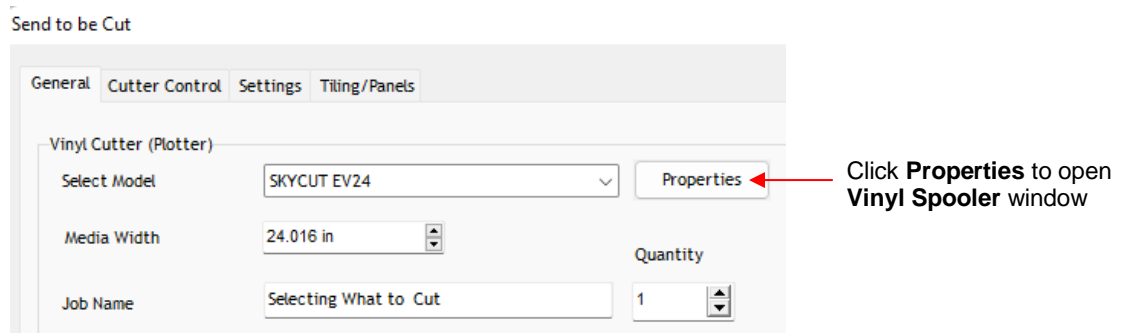
3.2.4 Determining the Cut Settings

- There are three locations in SignMaster where **Cut Settings** can be selected:
 - ◇ **Send to be Cut>Cutter Control** tab (which was covered in Section 2.3)
 - ◇ **Send to be Cut>General** tab (with **Assign Tools by Color** enabled)
 - ◇ **Vinyl Spooler>Cut Options** tab
- **Send to be Cut>General**
 - ◇ Use this location when you need to assign different settings to different layers of your project. For example, let's say you wanted to use the embossing tool to score lines in a popup card, followed by cutting out the card itself. Or, another example would be using the test pen to draw a design and then cutting a contour around it. Under **General Options**, **Assign Tools by Color** is marked and then, below that in the **Cutting Tool Presets** section, individual colors can be highlighted and cut settings assigned by selecting a **Preset** or by clicking on **Edit**:

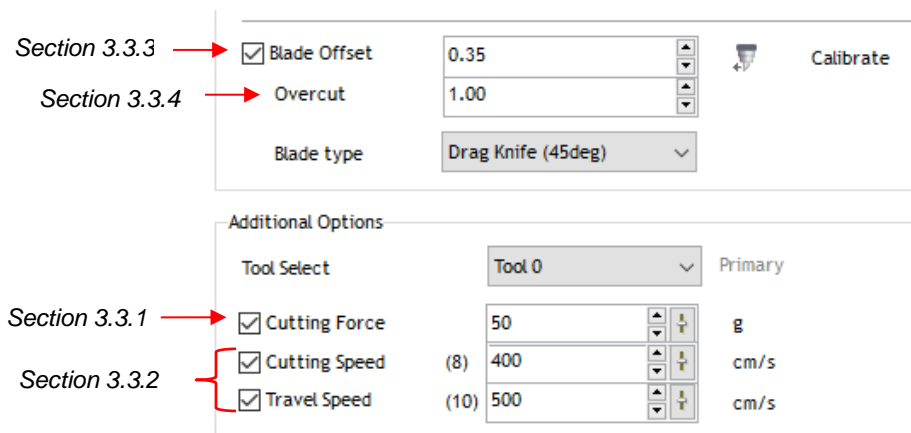


- **Vinyl Spooler>Cut Options**

- ◇ Use this option as an alternative to entering settings via the **Cutter Control** tab. It can be accessed from the **Properties** button in the **Send to be Cut** window:



- ◇ In the **Vinyl Spooler** window, click on the **Cut Options** tab and the cut settings are located in the lower section of that window:

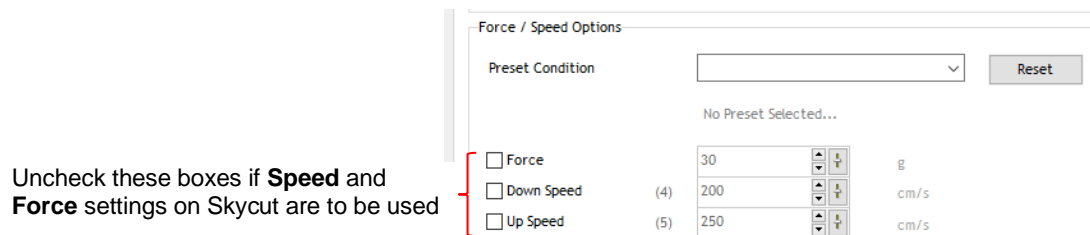


- These settings should be understood thoroughly, as you will be adjusting them often as you change materials or as your blade dulls over time. Note the prior screenshot shows the section number to go to for more information.

3.3 Cut Settings

- Before presenting the various settings, note that the **Force** and **Speed** settings can be set on the control panel itself. In order to cut from SignMaster and use the settings on the Skycut, uncheck these boxes in either of the two places where the settings can be made:

- ◇ **Send to be Cut**>**Cutter Control** window:



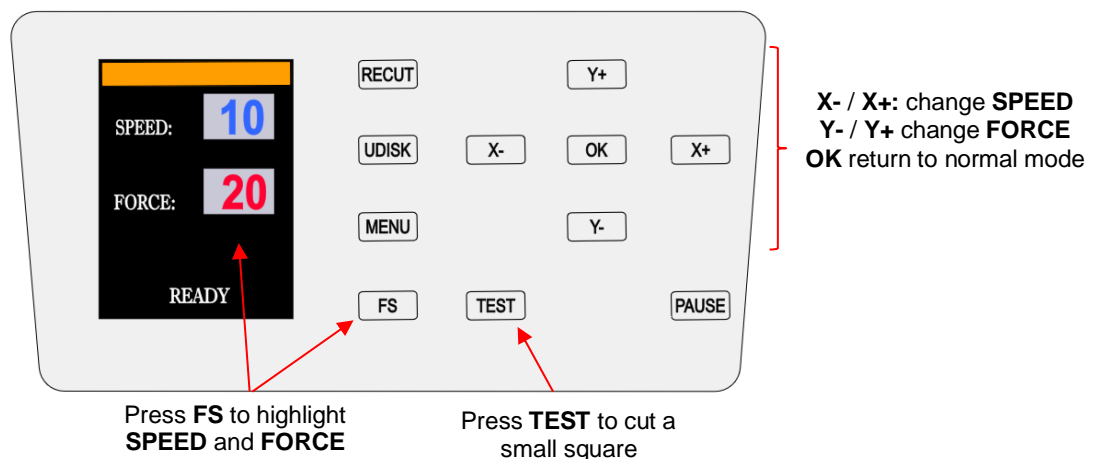
- ◇ **Vinyl Spooler**>**Cut Options** window:

Uncheck these boxes if **Speed** and **Force** settings on Skycut are to be used

Additional Options			
Tool Select		Tool 0	Primary
<input type="checkbox"/> Cutting Force		30	g
<input type="checkbox"/> Cutting Speed	(4)	200	cm/s
<input type="checkbox"/> Travel Speed	(5)	250	cm/s

3.3.1 Force

- **Force** (also called **Pressure**) ranges from 30 to 160 where the maximum of 160 represents ~2000g of cutting force. If it is set too low, the material cannot be cut. In fact, it is recommended that the minimum setting is always 30 or higher. However, if it is set too high, you will get bad cutting (even incomplete cutting at times) and tearing of the material. Always perform small test cuts before cutting your actual project and make adjustments in order to get a clean test cut before proceeding with your larger cut.
- Dull blades will need more force than new blades, thus anticipate increasing the force over the life of the blade.
- When cutting materials that can use either blade, the 45° blade (red cap) will need a little more force than the 60° blade (blue cap), because of the extra contact with the material being cut.
- As noted earlier, **Force** can be set on the Skycut control panel instead. Press the **FS** button and then set the **FORCE** to the desired level using the **Y+** and **Y-** buttons. Conclude by pressing **OK** or the **FS** button again:



3.3.2 Cut Speed and Up Speed

- **Cut Speed** (also called **Down Speed**) is how fast the blade travels while it is in the “down” or cutting position. **Up Speed** (also called **Travel Speed**) is how fast the blade travels while in the “up” position, such as when it is moving from the origin to the location of the first shape to cut or when moving from one cut shape to begin cutting another.
- The Skycut has 13 speed settings ranging from “snail’s pace slow” to “insanely fast.”
 - ◇ The settings from 1 through 4 are the slow speeds and should be used when cutting dense difficult materials, such as chipboard, craft plastic, styrene, and balsa.
 - ◇ The settings from 5 through 8 are medium speeds and should be used for easy-to-cut materials, such as cardstock, vinyl, iron-on transfer, and rhinestone template material.
 - ◇ The settings from 9 through 12 are the fast speeds and are useful for engraving, embossing, and drawing. You may, however, find that some materials will cut well at the faster speeds.

- **Cut Speed** is usually more important to control since the blade may need more contact time with a particular material. **Up Speed** can usually be left quite high.
- On the Skycut control panel, there is only a single speed setting, thus the **Up Speed** and **Cut Speed** are the same and referred to as **SPEED**. This can be adjusted by pressing the **FS** button and then using the **X-** and **X+** buttons alter the **SPEED** to the desired level. Then press the either the **OK** button or the **FS** button again.

3.3.3 Blade Offset

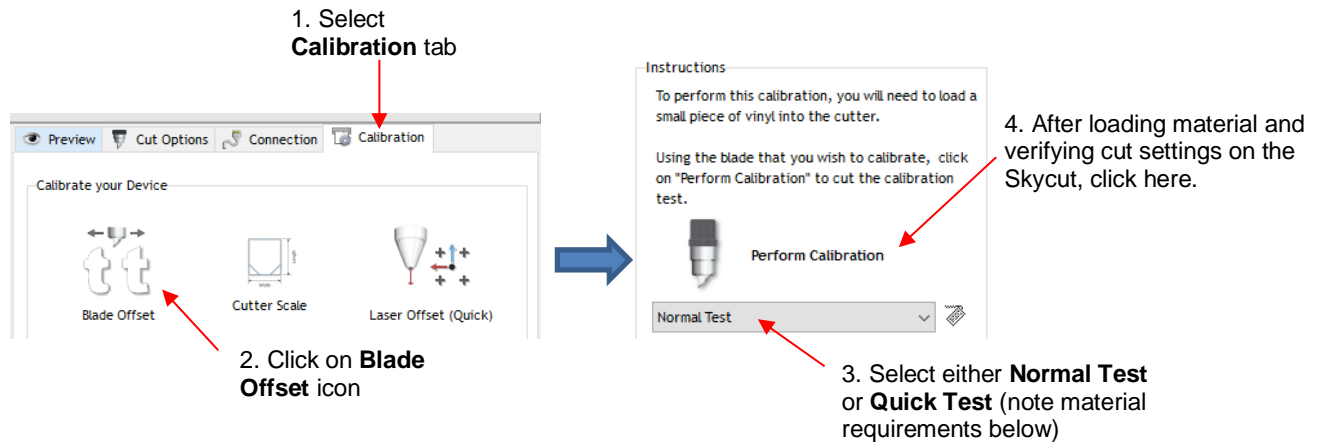
- **Blade Offset** is the horizontal distance from the center of the blade shaft to the tip of the blade. A pen or engraving tool has an offset of 0 because the tip is centered with the center of the pen/engraving tool shaft. But a blade is different:



- If you set the **Blade Offset** to 0 when cutting with a blade, corners will be rounded. On the other hand, if it is set too high, bubbles will be cut on sharp corners:



- Currently it is recommended that a **Blade Offset** of between 0.25 – 0.35 be used for each of the three types of Skycut blades. Any time you order new blades, check for the recommended **Blade Offset** on the packaging. However, it's not unusual for blades to be slightly off-spec. Based on cutting a rectangle or square, increase or decrease the **Blade Offset** in increments of 0.1 or smaller until the shape has perfectly square corners.
- Alternatively, SignMaster has two built-in **Blade Offset** calibration routines which can be used to determine the best **Blade Offset** setting for the current blade in use. Here are the steps to access either one:
 - ◇ Select the material you want to use for testing, such as vinyl, paper, or cardstock. Note how much material will be needed for the test you select and add a few inches to these dimensions:
 - **Normal Test:** Width: ~9" (354 mm) Height: ~3.5" (89 mm)
 - **Quick Test:** Width: ~4.5" (114 mm) Height: ~1" (25 mm)
 - ◇ Install the blade you wish to calibrate into the blade holder and mount the blade holder in the Skycut. Enter appropriate settings in SignMaster or on the Skycut control panel. Test cut a small shape to make sure the settings are correct.
 - ◇ Go to the **Vinyl Spooler** window, click the **Calibrations** tab, and select **Show Calibration Tools**.
 - ◇ Click on the **Blade Offset** icon and a new window opens:



- ◇ In both tests, the instructions on the screen will guide you on how to enter the best result and then will display the recommended **Blade Offset** to use. This new **Blade Offset** value will then be updated in the cut settings. Instructions on how to add this setting as a **Preset** are covered in *Section 3.4*.

3.3.4 Overcut

- **Overcut** is related to **Blade Offset** in that it isn't needed when using a pen, embosser, engraver, and so forth, because the tips of those tools are aligned with the center of the tools themselves. However, leaving **Overcut** at 0 when using the blade holder will result in large shapes not quite closing:



Overcut is too low:
paths do not close

- In some cutting programs, **Overcut** is not a separate setting but rather automatically calculated and applied based on the **Blade Offset** entered. However, in SignMaster, you can enter an actual **Overcut** setting and should do so any time a blade is used.
- In general, the blade type doesn't greatly affect the **Overcut** required. Try using 1.00 mm. In the event you cut a large closed shape, like an 8" circle, you may find that you'll need to increase **Overcut** to 2.00 mm.

3.3.5 Passes

- The **Passes** setting causes each individual path to be cut the set number of passes before the blade moves to the next path to cut. This is better than just repeating the entire cut as each repeated pass is cut with the blade held down throughout the repeated passes, resulting in cleaner cutting.
- In general, when increasing **Passes**, the **Force** setting can be decreased. For example, you may find a cardstock that requires a **Force** of 55 to cut in a single pass will only need a **Force** of 45 if cutting in two passes.
- **Passes** is recommended in the following situations:
 - ◇ Cutting thicker denser materials, such as chipboard, where multiple passes allow the blade to progressively "carve" through the material
 - ◇ Cutting certain fibrous materials, such as fabric, where a second pass will ensure that all of the fibers have been cleanly cut
 - ◇ Cutting intricate or detailed shapes (such as script titles) from certain materials, such as heavy or textured cardstock, where a single pass may leave certain spots not cleanly cut

◇ Cutting rhinestone template material where a second pass results in much cleaner weeding of the cut circles

- There are two different methods for setting **Passes**, depending on if you're doing a regular cut or if you are utilizing **Assign Tools by Color**.

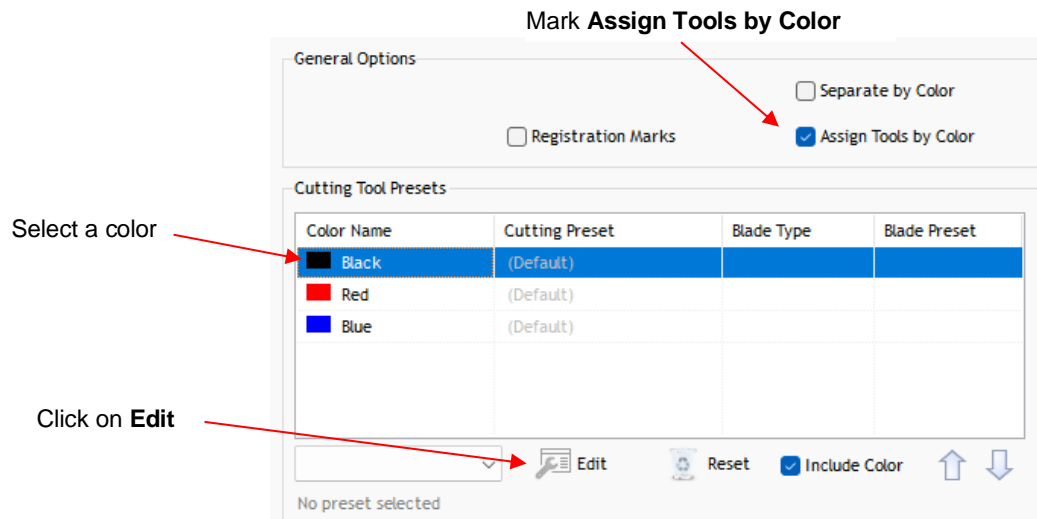
◇ Regular Cutting (**Assign Tools by Color** is not activated)

- You will find a **Passes** setting in the **Send to be Cut** window, under the **Cutter Control** tab:

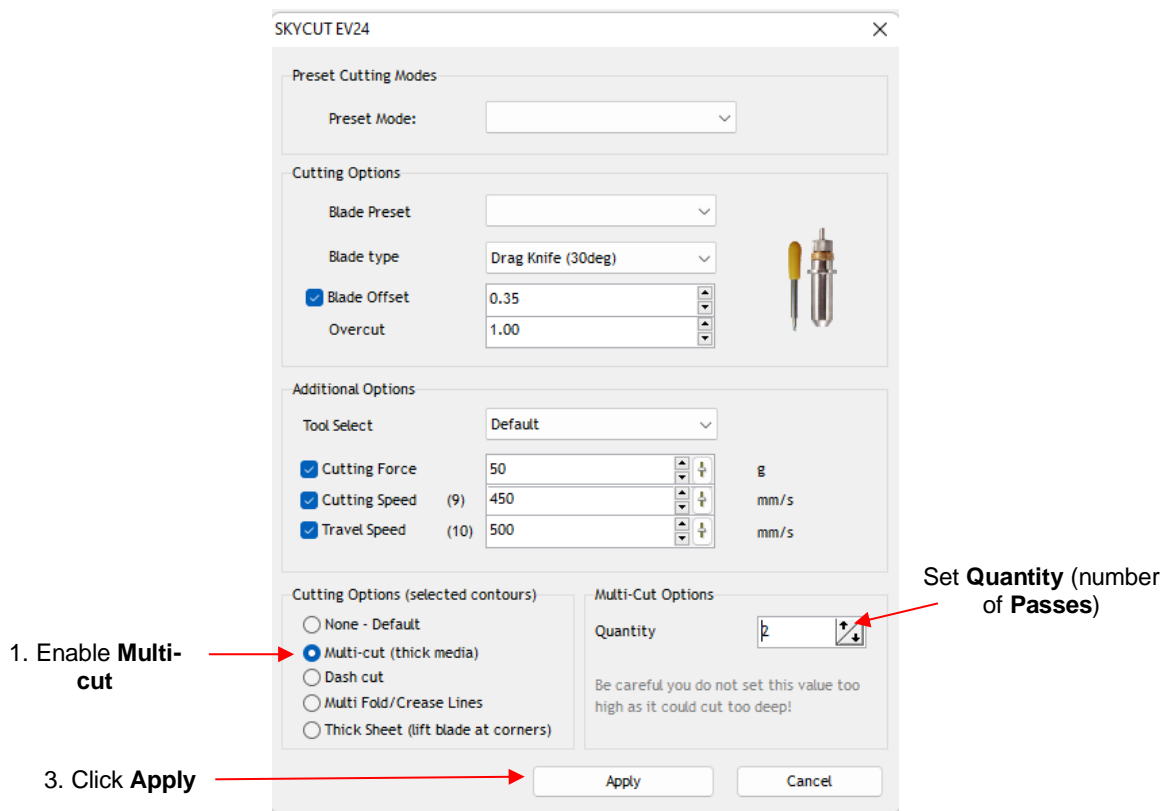


◇ Using Assign Tools by Color

- As noted in *Section 3.2.4*, **Assign Tools by Color** allows you to enter different settings based on the color of the shape to be cut.
- Select a color and click on **Edit**:



- The following window opens where **Multi-cut** can be enabled and the desired number of **Passes** entered:

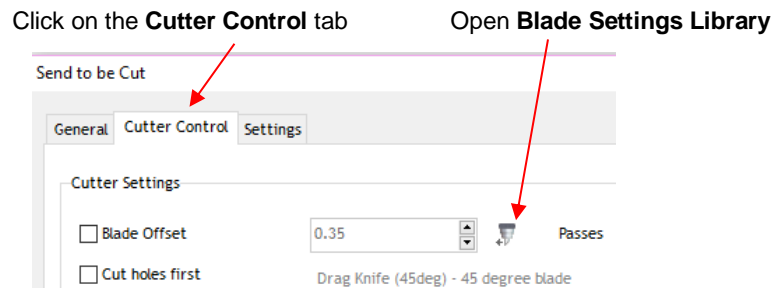


3.4 Presets

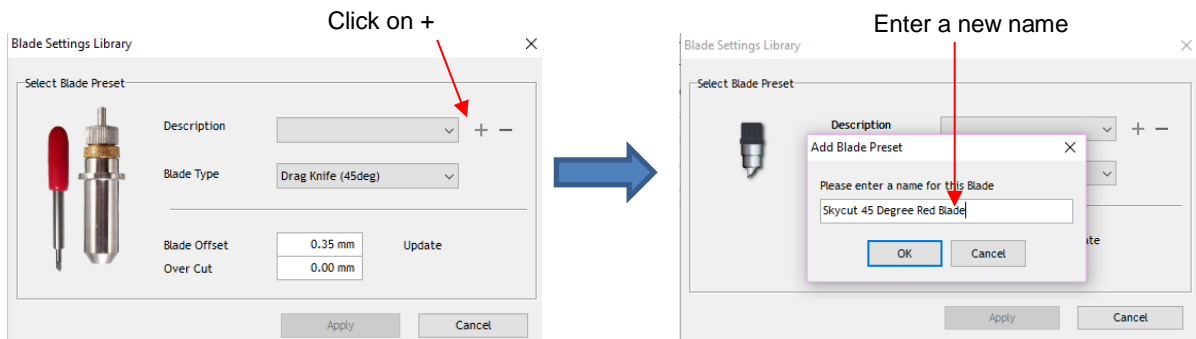
- Presets allow you to save your settings for a particular blade type or material.

3.4.1 Saving a Preset for a Blade Type

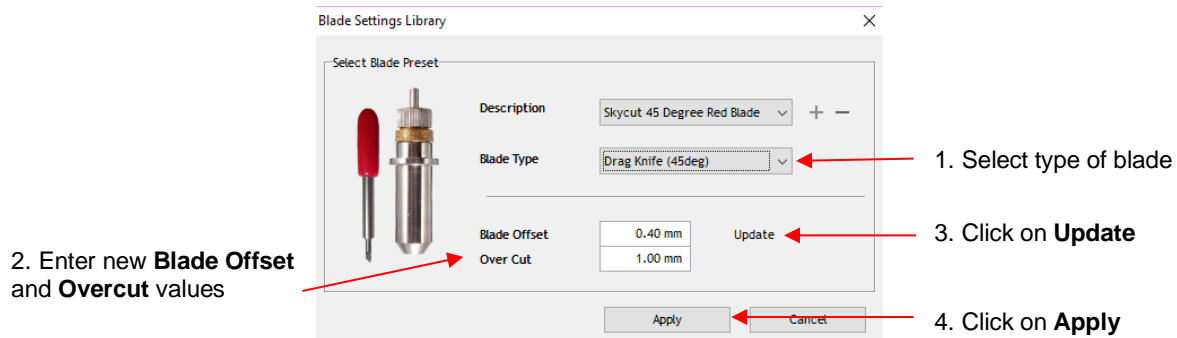
- Let's say you conducted the calibration for **Blade Offset** in *Section 3.3.3* and determined it to be 0.40 for your red capped blade. To save this setting as a preset, use the following steps:
 - ◇ Go to the **Send to be Cut>Cutter Control** window and click on the icon to the right of **Blade Offset** to open the **Blade Settings Library**:



- ◇ In the **Blade Settings Library**, click on the **+** icon to the right of **Description** and a window will open where you can enter the name for your new preset:



- ◇ Click on **OK** and then select which blade type you are using for this new preset Enter the new **Blade Offset** and **Overcut** values. Then click **Update**:

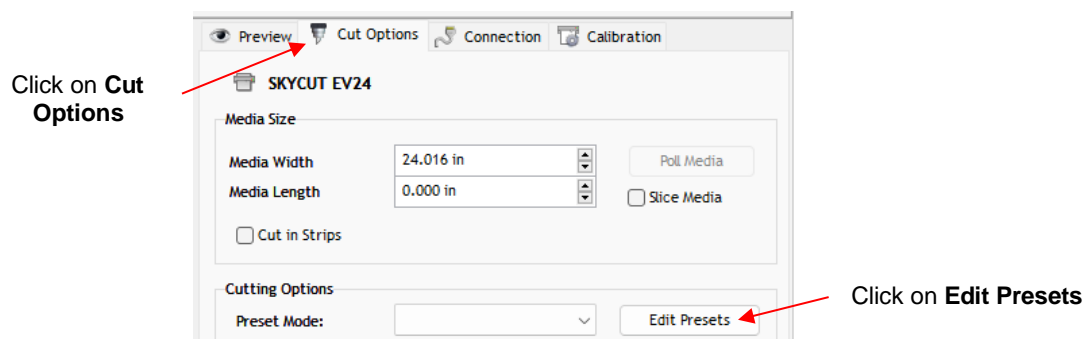


- ◇ Click on **Apply** to close the **Blade Settings Library**. The new preset will now be available for selection in the **Description** menu.

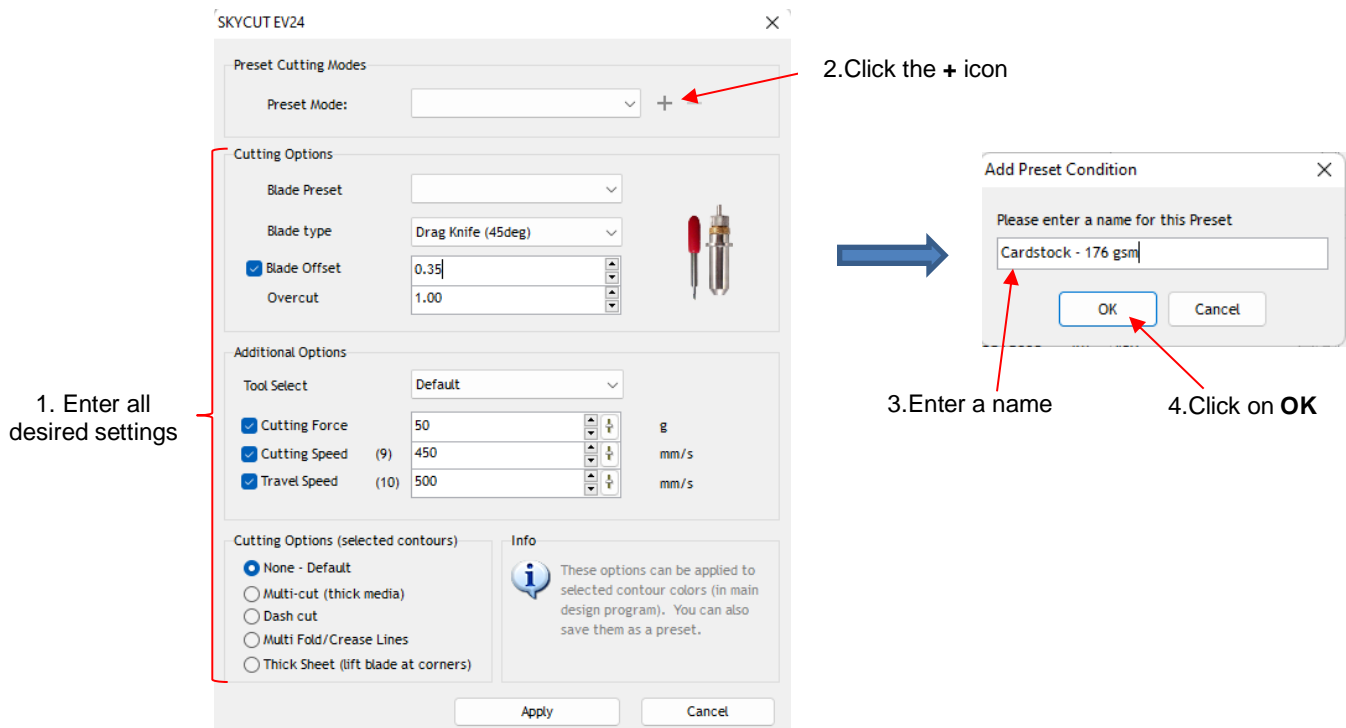
- If you need to delete a preset, select it from the **Description** menu and click on the “-“ icon to the right.

3.4.2 Saving a Preset for a Material

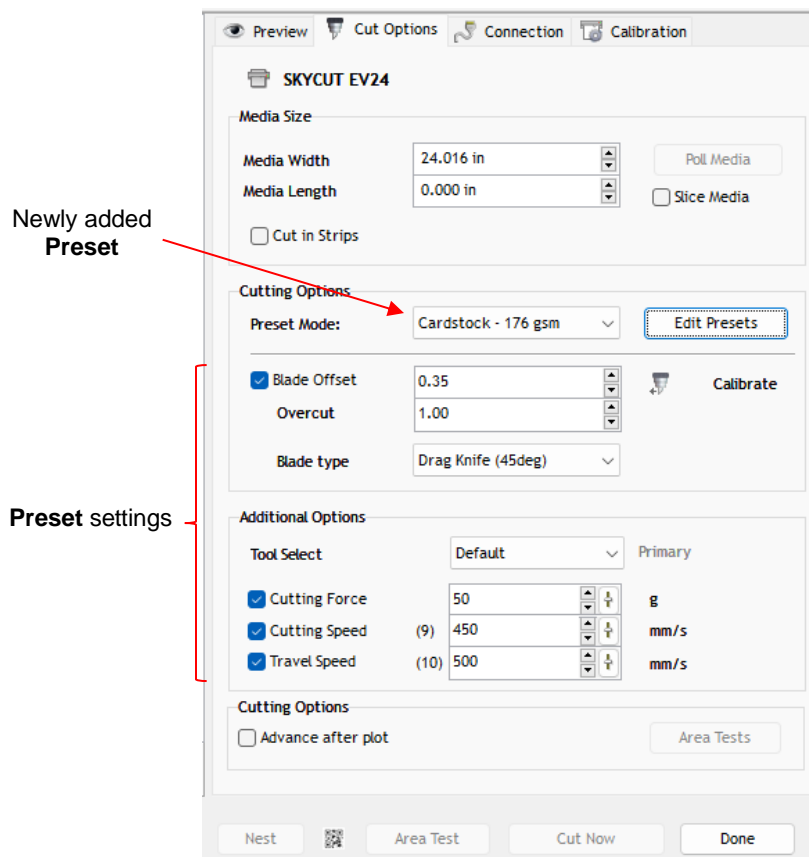
- SignMaster allows you to save settings with a custom name for quicker access in the future.
- Go to the **Vinyl Spooler** window, click on the **Cut Options** tab, and click on **Edit Presets**:



- The following window opens where you can enter the settings, click the **+** icon, and name the **Preset** :



- The new **Preset** will appear under **Preset Mode** with the saved settings displayed. Click on **Done** to close the **Vinyl Spooler** window or **Edit Presets** if you wish to add more at this time.

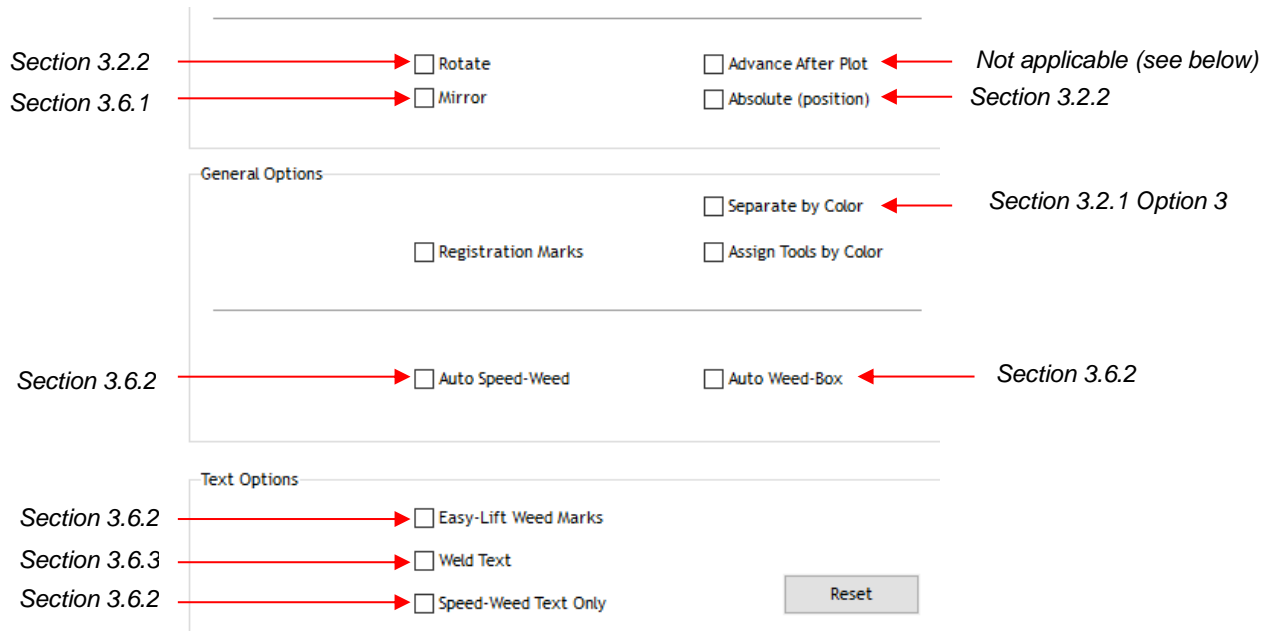


3.5 Setting the Origin before Cutting

- Setting an origin is an important part of managing your material cost and controlling where your project will cut. Setting the origin consists of using the **X** and **Y** buttons to move the blade tip to a specific point on the cutter's X axis (left-to-right on the platen) and advance the media forwards or backwards.
- Once you have positioned the blade in a specific point over the media (typically close to the bottom right corner of the material), your origin is defined and you do not need to press anything before cutting.
- ***IMPORTANT!*** The Skycut EV24 has a maximum cutting width of 24 inches. If you move the head too far to the left to begin the cut and your project is wide, you may exceed the left side limit and cutting will stop at that point with no option but to abort.

3.6 Other Cut Setting Functions

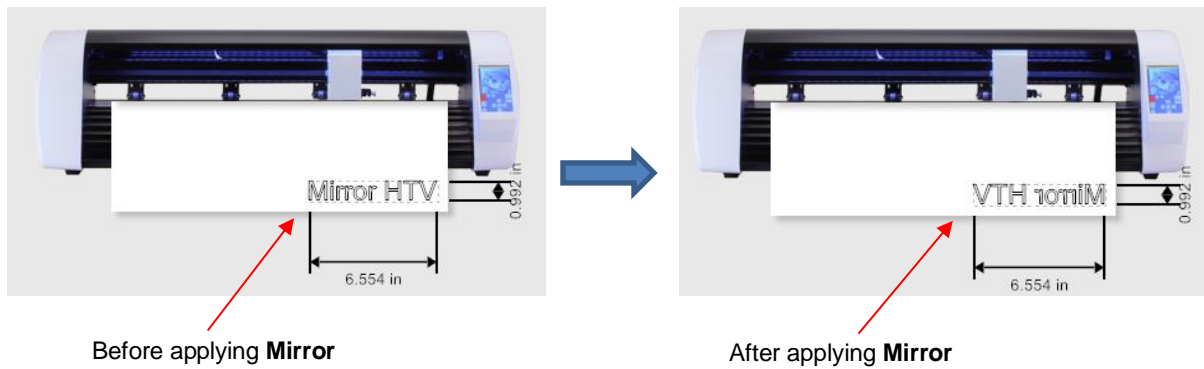
- There are other functions and features available in the **Send to be Cut** window that may be useful depending on your application. Some have already been covered. Some will be covered in this section. Others will be covered in later parts of this manual. Note the section numbers for reference:



◇ The **Advance After Plot** function is performed on the Skycut's control panel. Refer to *Section 1.9.1*.

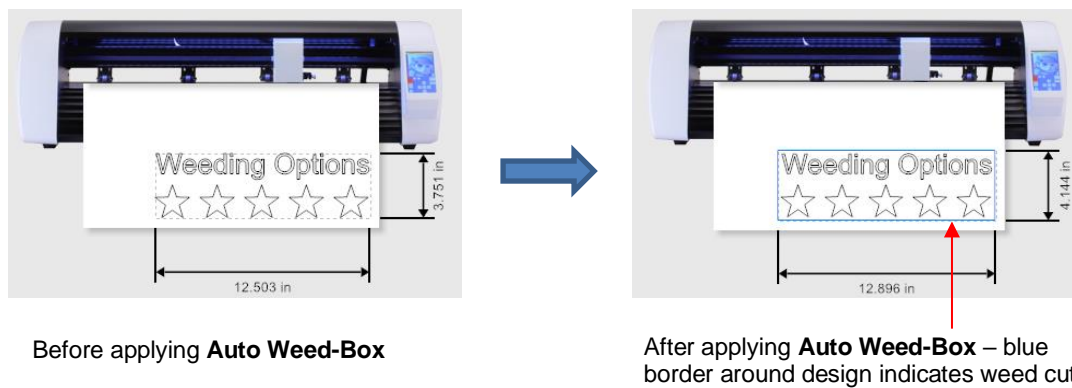
3.6.1 Mirror

- Checking the **Mirror** option will apply a horizontal mirror to the shape (s) before cutting. This is useful in applications such as:
 - ◇ Cutting HTV in which the material is placed faced down so that the heat protection layer is not penetrated by the blade
 - ◇ Cutting vinyl to be applied to the inside of a car or home window but primarily viewed from outside of the window
 - ◇ Cutting certain non-homogenous paper materials in which cutting upside down yields cleaner results

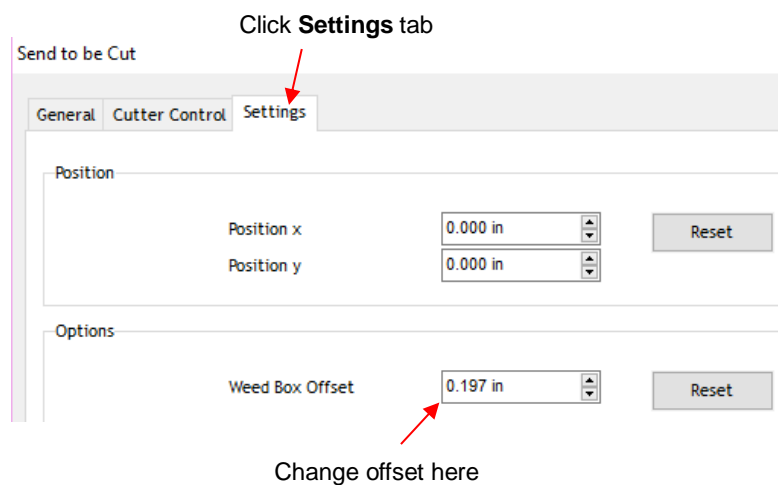


3.6.2 Weeding Options

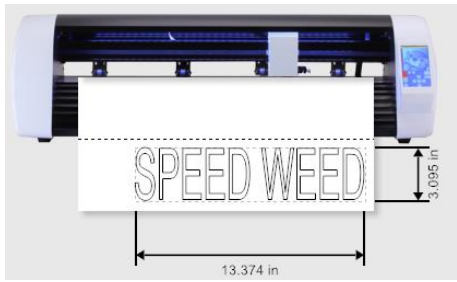
- For those cutting vinyl and HTV, the weeding options in SignMaster are worth noting.
 - ◇ **Auto Weed-Box:** Marking this option places a single weed box around the entire project:



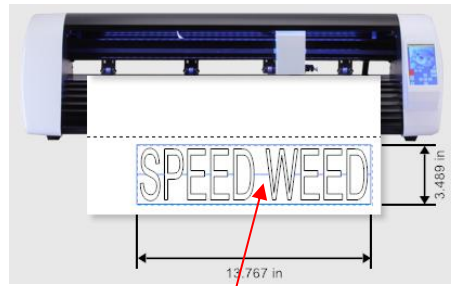
- Note: to change the size/offset of the weed box around the design, click on the **Settings** tab and adjust, as desired:



- ◇ **Auto Speed-Weed:** Marking this option places a single weed box around the entire project with an additional horizontal weed line through the middle:

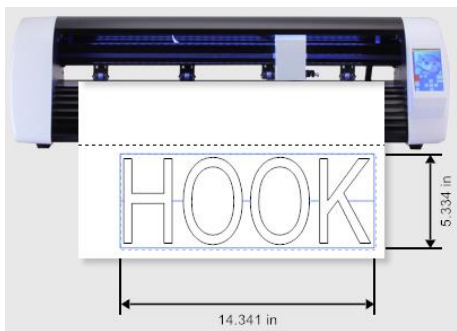


Before applying **Auto Speed-Weed**

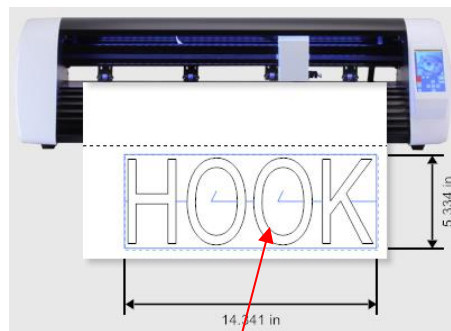


After applying **Auto Speed-Weed** – blue weed box plus horizontal weed cut in the middle

- ◇ **Easy-Lift Weed Marks:** Marking this option adds hooked lines to shapes with internal paths to make it easier to lift with a weeding tool:



Before applying **Easy-Lift Weed Marks**

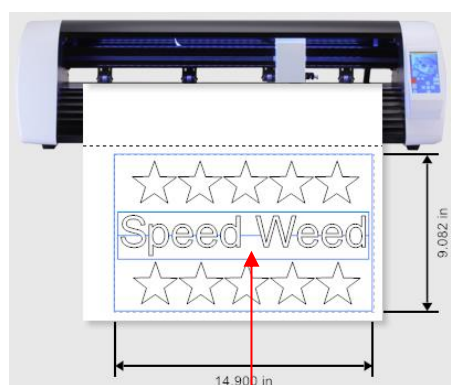


After applying **Easy-Lift Weed Marks** – hooked cuts are added to internal shapes for easy lifting during the weeding process

- ◇ **Speed-Weed Text Only:** Mark this option when your design has a combination of both text and other shapes so that only the text will have **Speed Weed** applied:



Before applying **Speed-Weed Text Only**




After applying **Speed-Weed Text Only** – text object has additional weed box plus horizontal cut through the middle

3.6.3 Weld Text

- For script fonts, the **Weld Text** option will remove overlap between letters so that a word will cut as one object. For example, if you go to **View>Wireframe**, you can see the overlap that will be cut when a script font is used:

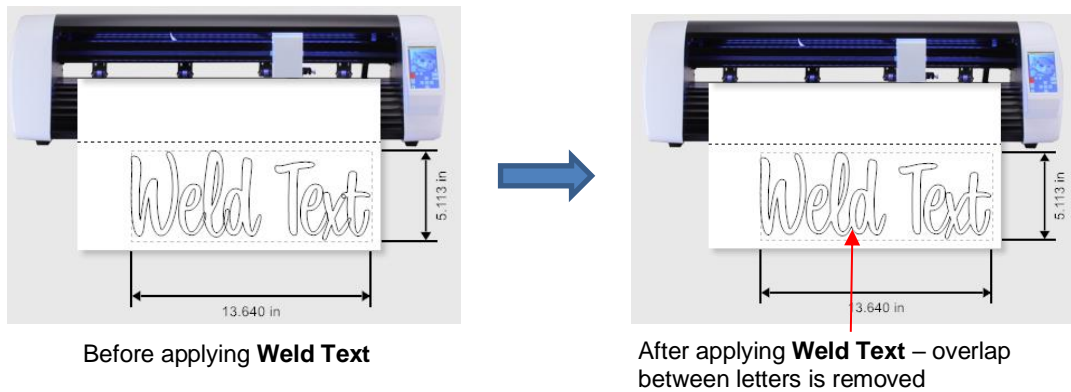
Weld Text

- You have the option to select the letters and apply the **Weld** function under the **Shaping and Welding**

Tools , thus removing overlap between letters:

Weld Text

- This, however, means you cannot change the font used or alter the spacing of the letters, etc., without applying **Undo**. Therefore, the **Weld Text** option allows you to cut the text as if the **Weld** function has been applied:

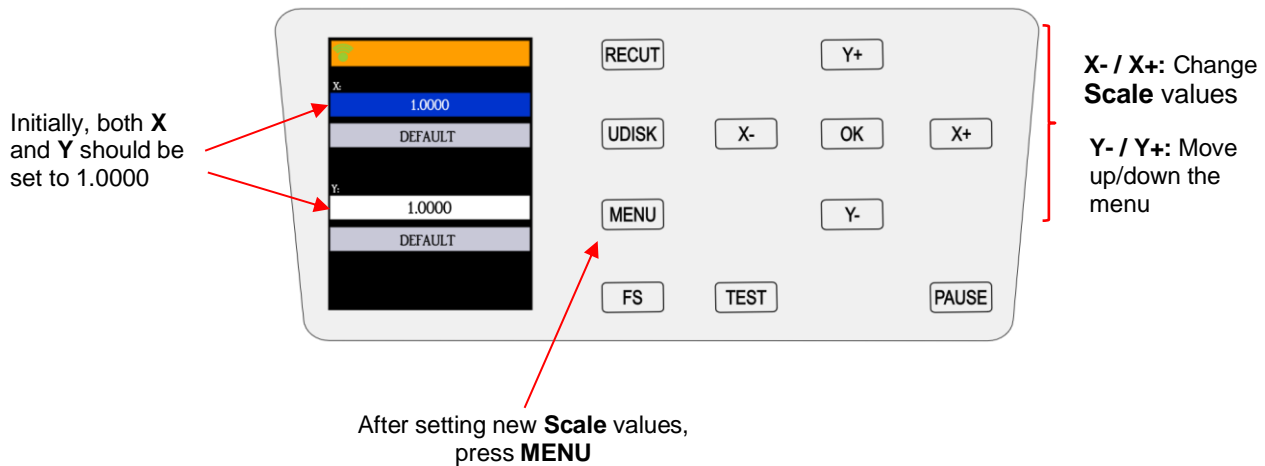


3.7 Important Checklist Before You Cut!

- Do you have your material on the mat and the mat inserted into the Skycut? (Note: materials with a backing sheet, such as vinyl and iron-on transfer do not require a mat for cutting)
- Have you selected pinch wheels positions that are roughly the same distance from the outside edges of the cutting mat (or material, if not using the mat)?
- Are the pinch wheels in use centered over grit shafts (located below the white rectangle labels)?
- Have you set the blade length/exposure based on the thickness of the material you are cutting?
- Do you have the blade holder firmly mounted in the blade holder seat?
- Have you set the **Origin** (location of the blade tip) at the bottom right corner of your material (or wherever you need the origin to be)?
- Have you set the **Force**? And the **Speed**? Do you need to do a test cut?
- Have you selected the correct **Blade Offset** for the blade you are using?
- Do you see the correct shapes in the preview window?
- Do you need to select **Rotate**, **Mirror** or **Absolute (Position)** options? Do you know, with confidence, where your shapes are going to cut?
- Do you need to apply any weeding options?

3.8 Scale Calibration

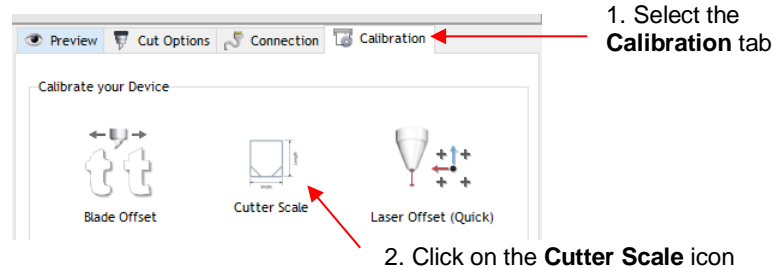
- If you were to cut out any particular shape, for example, a 10" x 10" square, you might find that it actually measures 9-15/16" x 10-1/32". It will be very close to 10" x 10" but perhaps just slightly smaller or larger in either or both dimensions. Now this might be perfectly acceptable for the type of cutting you do. Therefore, it may not even be necessary to do this particular calibration. However, if you do want to make sure your shapes are cut precisely to scale, the following procedure will allow you to calibrate your Skycut.
- The calibration process can be conducted in inches, cm, or mm. Both mm and inches will be presented here. In general, it is recommended that mm be used, however, if you do not have a metric ruler, then you can use inches instead.
- Before beginning this calibration, make sure the **Scale** setting on the Skycut itself is still set to 1.0 and 1.0. On the control panel, go to **MENU>Scale**. The following window opens where you can verify that the current **X** and **Y Scale** values are both set to 1.0000:



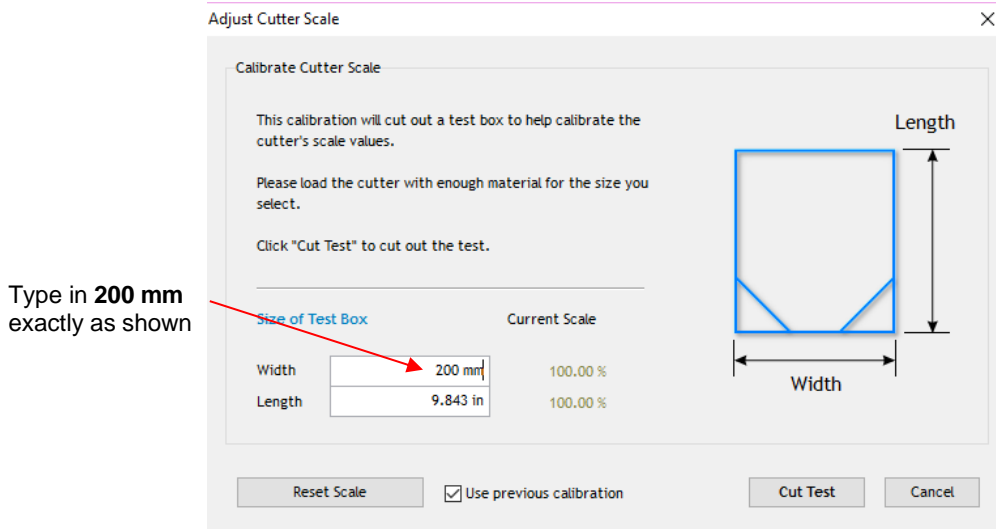
- Return to the main screen. Then pick one of the two following sections and follow the instructions.

3.8.1 Scale Calibration Using Millimeters for Measurement

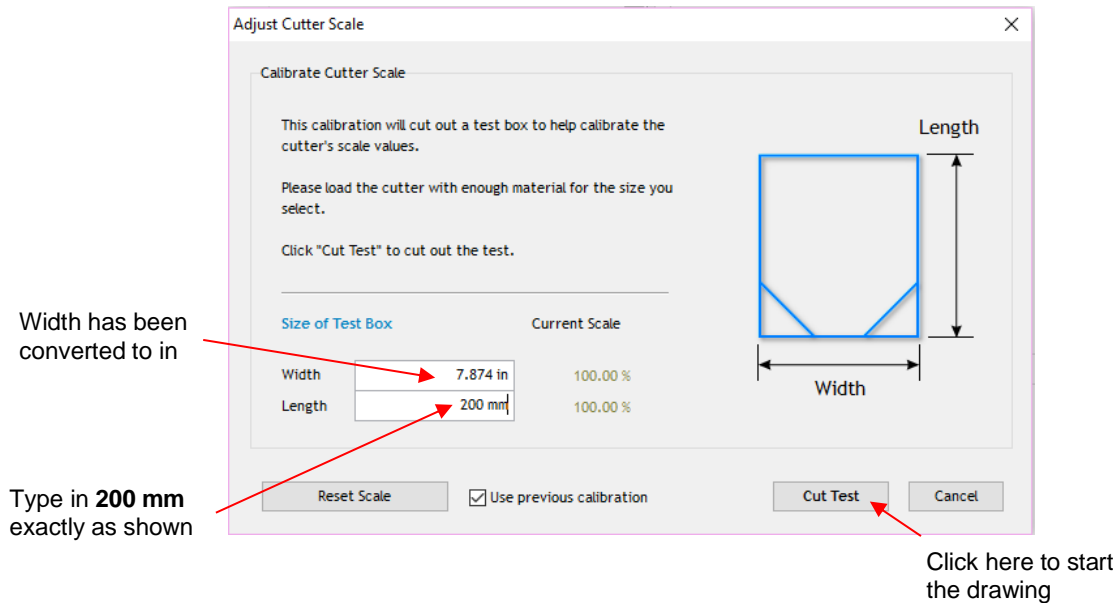
- SignMaster has a built-in resolution routine which can be used to easily perform this calibration:
 - ◇ Go to the **Vinyl Spooler** window and select the **Calibration** tab.
 - ◇ Click on the **Cutter Scale** icon:



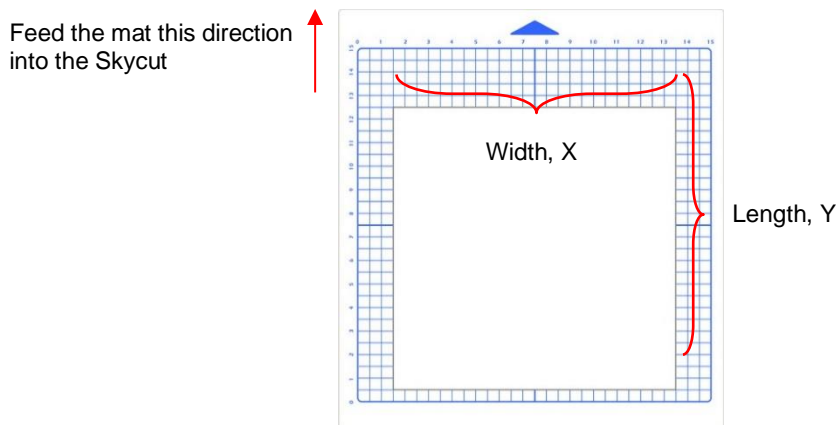
- ◇ A new window opens where you can enter the dimensions of a square or rectangle to draw with the test pen. It is highly recommended that the dimensions be at least 200 mm. Note that in the current version of SignMaster, the display in this window is always in inches. However, you can enter values in mm by typing in "mm" after the number as shown:



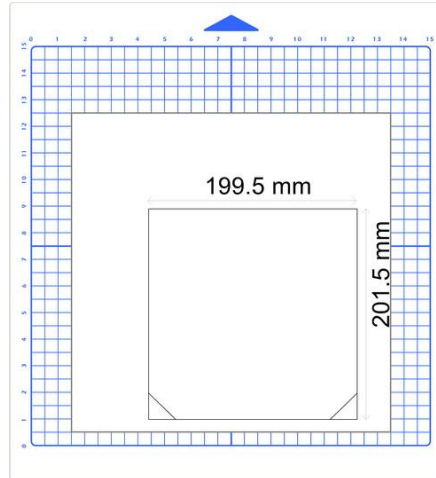
- ◇ Press the tab key and the 200 mm will be automatically converted into inches. Repeat with **Length**:



- ◇ On the Skycut, load a sheet of paper and insert the test pen. Move the test pen to the lower right corner of the paper. Make sure you have proper settings for drawing and click on **Cut Test** to have the shape drawn.
- ◇ Using a mm ruler, carefully measure the **Width** (left-to-right) and the **Length** (top-to-bottom) that drew:



- ◇ Write these measurements onto your sheet:



- ◇ These values can now be entered into the same **Width** and **Length** fields, again adding “mm” after each number as shown:

Calibrate Cutter Scale

After cutting the test box, you will need to accurately measure the Width and Length and enter these values in the area below.

Once you have entered the measured values, click "Update" to apply the scale calibration.

Size of Test Box Enter measured values here...

Width	199.5 mm	100.25 %
Length	7.874 in	100.00 %

Enter actual **Width** and add “mm”

Calibrate Cutter Scale

After cutting the test box, you will need to accurately measure the Width and Length and enter these values in the area below.

Once you have entered the measured values, click "Update" to apply the scale calibration.

Size of Test Box Enter measured values here...

Width	7.854 in	100.25 %
Length	201.5 mm	100.00 %

Enter actual **Length** and add “mm”

- ◇ After entering each number, the scaling percentage is automatically calculated:

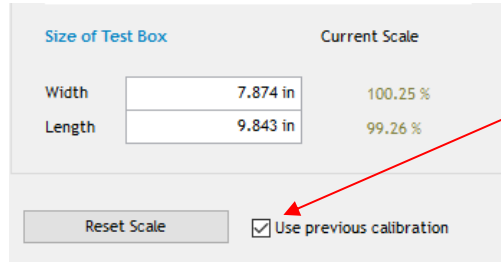
Calculated **Scale** values

Size of Test Box	Enter measured values here...	
Width	7.854 in	100.25 %
Length	7.933 in	99.26 %

Reset Scale **Update** Cancel

Click on **Update**

- ◇ Click on **Update** and a prompt window will ask if you want to **Apply Scale Adjustment**. Click on **Yes** and you'll be back in the **Vinyl Spooler** window. To verify the scaling, again click on **Cutter Scale** and repeat the same steps. Make sure you leave your new scale factors in place by having the following option marked:



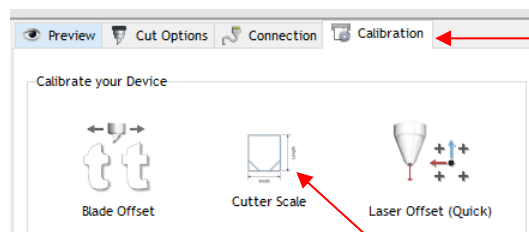
Leave this checked for each repeated test

- ◇ Once your test rectangle is drawing at the correct size, the calibration process is complete.

3.8.2 Scale Calibration Using Inches for Measurement

- SignMaster has a built-in resolution routine which can be used to easily perform this calibration:

- ◇ Go to the **Vinyl Spooler** window and select the **Calibration** tab. Click on the **Cutter Scale** icon:

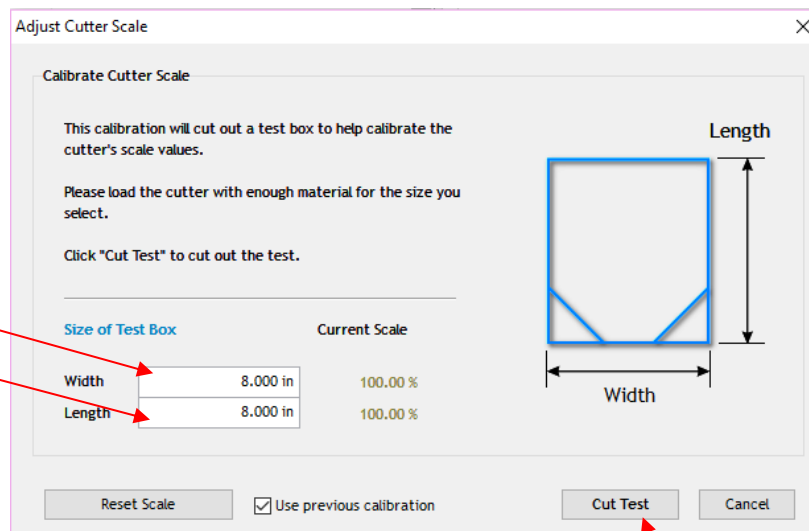


1. Select the **Calibration** tab

2. Click on the **Cutter Scale** icon

- ◇ A new window opens where you can enter the dimensions of a square or rectangle to draw with the test pen. It is highly recommended that the dimensions be at least 8 inches:

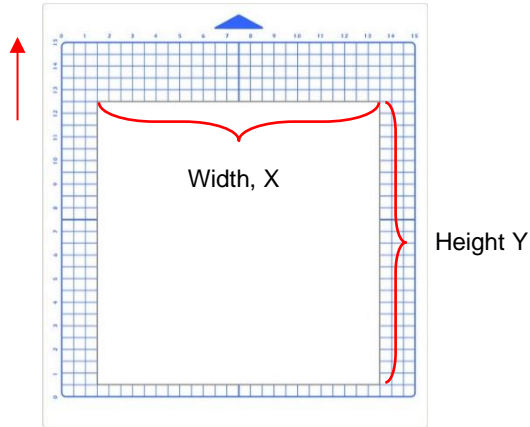
Enter **Width** and **Length** to use for test shape



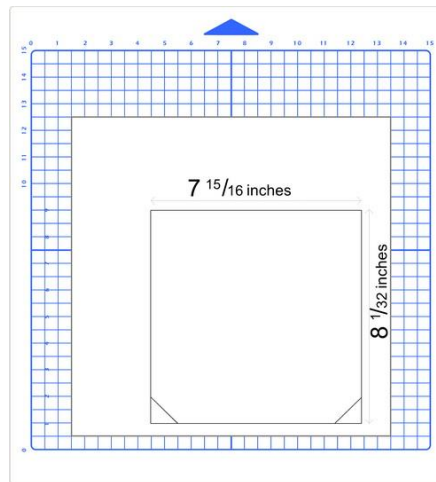
Click here to start the drawing

- ◇ Load a sheet of paper and insert the test pen. Move the test pen to the lower right corner of the paper. Make sure you have proper settings for drawing and click on **Cut Test** to have the shape drawn.
- ◇ Using a ruler, carefully measure the **Width** (left-to-right) and the **Height** (top-to-bottom) that drew:

Feed the mat this direction
into the Skycut



- ◇ Write these measurements onto your sheet:



- ◇ Convert the measurements to decimals and enter these values into the same **Width** and **Length** fields. After entering each number, the scaling percentage is automatically calculated:

Calibrate Cutter Scale

After cutting the test box, you will need to accurately measure the Width and Length and enter these values in the area below.

Once you have entered the measured values, click "Update" to apply the scale calibration.

Size of Test Box Enter measured values here...

Width	<input type="text" value="7.938 in"/>	100.79 %
Length	<input type="text" value="8.031 in"/>	99.61 %

Reset Scale

Update

Cancel

Length

Width

Enter actual **Width**
and **Length**

Calculated **Scale**
values

Click on **Update**

- ◇ Click on **Update** and a prompt window will ask if you want to **Apply Scale Adjustment**. Click on **Yes** and you'll be back in the **Vinyl Spooler** window. To verify the scaling, again click on **Cutter Scale** and repeat the same steps. Make sure you leave your new scale factors in place by having the following option marked:

Size of Test Box		Current Scale
Width	<input type="text" value="7.874 in"/>	100.25 %
Length	<input type="text" value="9.843 in"/>	99.26 %

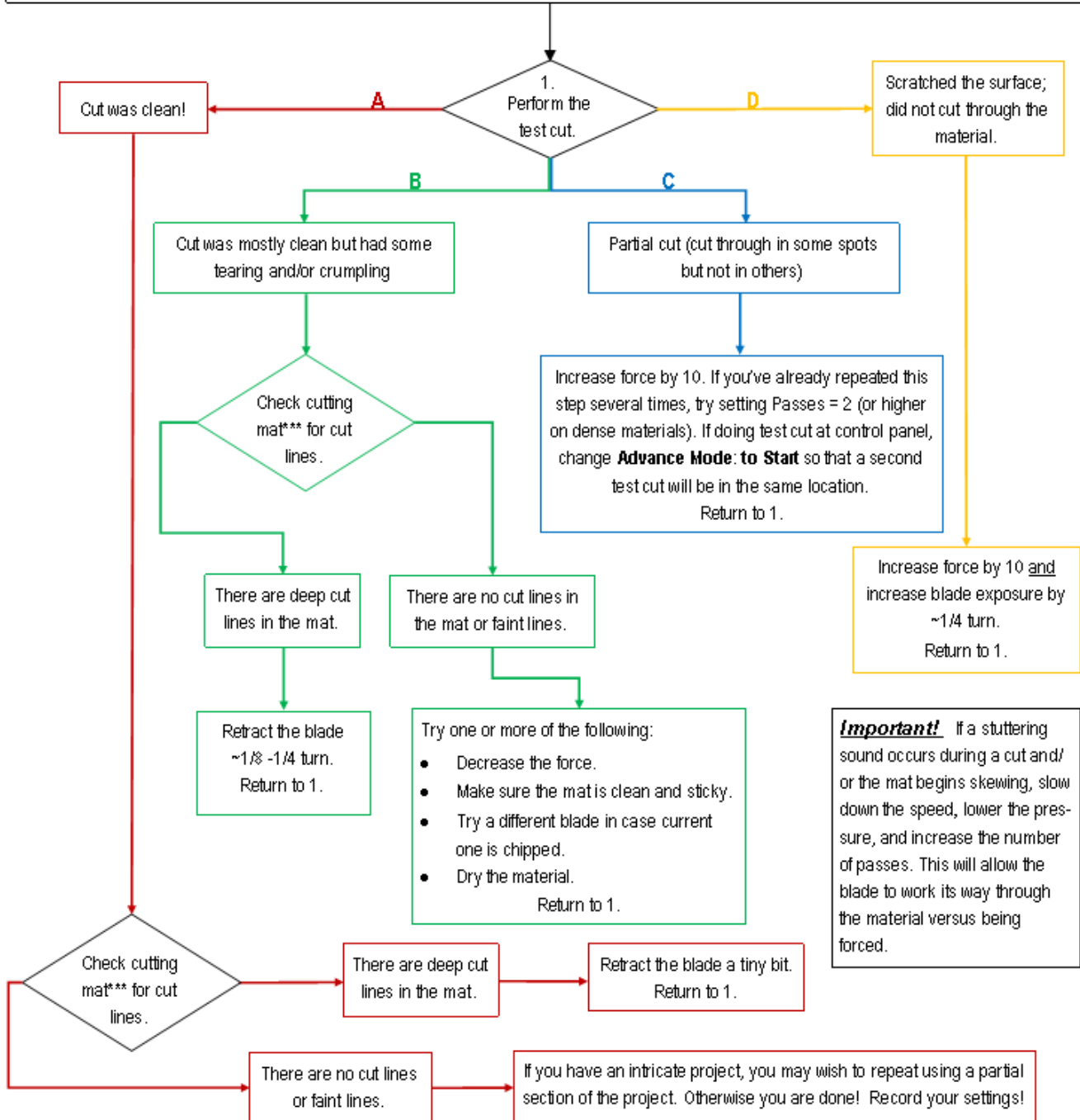
Use previous calibration

Leave this checked

- ◇ Once your test rectangle is drawing at the correct size, the calibration process is complete.

3.9 Test Cutting Flow Chart for the Skycut

- Select a small test shape. You can use the built-in test on the Skycut but a better shape is one with a small internal shape as it allows you to more easily check to see if the blade is cutting into the backing sheet or cutting mat.
- Start with conservative Force and Speed. Refer to a similar material in the *Suggested Settings Table* in Section 3.9
- Set the origin in the lower right corner of the material and proceed with Step 1 below. Based on the cut, follow Path **A**, **B**, **C**, or **D** based on the result of the test cut. Read each box along the path and make changes accordingly. Return to Step 1 and repeat the test cut. Eventually, you should end up at the last box on Path **A**.



*** or backing sheet, such as with vinyl

3.10 Settings Form for Cutting Materials

<u>Material</u>	<u>Material Brand or Source</u>	<u>Blade</u>	<u>Force</u>	<u>Speed</u>	<u>Blade Offset</u>	<u># Passes</u>	<u>Other Comments</u>

3.11 Suggested Settings for Various Materials

IMPORTANT: These settings should be used for the initial test cut only. Adjustments may be necessary based on the condition of the blade, variations in the material, humidity, condition of the cutting mat, blade tip height, etc. Refer to *Section 3.9* for a guide to adjusting settings for optimizing the test cut.

Note: Speed settings are based on the number in parentheses in the **Cutter Control** tab.

Material Type	Material Brand/Source	Blade	Passes	Force	Speed	Other Comments
Cardstock: light	Light 65 lb (~176 gsm) Recollections	R	1	35	8	
Cardstock: medium	Medium: Textured Bazzill	R	1	40	8	Blade tip ht = 40 Post It notes
Cardstock: heavy	Accent Opaque 270 gsm (100 lb cover)	R	1	75	5	
Chipboard: cereal box	0.018" (0.4 mm)	B	1	50	5	Alt 2 passes at 40
Chipboard	0.022" (0.5 mm)	B	2	75	5	
Chipboard	0.03" (0.76mm)	B	2	95	5	
Chipboard	0.06" (1.5mm)	B: left R: right	3: on both	75: on both	1: on both	Duplicated image- right side cut / half-blade exposure; left side cut at required blade exposure; Blade tip ht = 20 Post It notes
Clay	Use a clay press (or pastry machine) to make clay thin	B	1	11	10	Make sure pinch wheels will not cross over the clay. Blade holder mounted on top of black seat.
Copy Paper	Most any brand	R	1	30	8	
Fabric - Cork	embroiderygarden.com	B	2	40	5	Blade tip ht = 25 Post It notes; use an extra sticky mat and taped around edges. Brayered well.
Faux Leather	~ 1.2 mm thick from Art of Fabric Folding (on Etsy)	B	1	50	6	Extra sticky mat w/ material upside down. (mirror imagem, as needed)
Faux Leather	AOUXSEEM 1 mm (available on Amazon)	B	2	50	8	Extra sticky mat w/ material upside down. (mirror imagem, as needed)
Foam - Plain	2 mm	B	2	25	10	
Foam - Glitter	Foamy - 2 mm	R	2	15	10	
Magnet	Marietta Magnetics - 0.02" (0.5mm) (20 mil)	B	2	90	8	
Magnet	0.035" (0.9mm)	B	2	50	3	Alt 1 pass at 85
Magnet	Marietta Magnetics - 0.02" (0.5mm) (20 mil)	B	2	90	8	

Material Type	Material Brand/Source	Blade	Passes	Force	Speed	Other Comments
Tracing Paper	Helix Vellum Paper	R	1	30	8	
Vinyl - Heat Transfer	Siser EasySubli - with the mat	R	1	30	8	Cut on the mat
Vinyl - Heat Transfer	Siser Glitter - Gold - No cutting mat	R	2	35-40	7	2 passes makes it easier to weed, also slight scratch cut in the backing layer
Vinyl - Heat Transfer	Siser Glitter - Gold - with the mat	R	2	45-50	7	2 passes makes it easier to weed, also slight scratch cut in the backing layer
Vinyl - Wall (no mat)	Vinyl - Oracal 631 - yellow	R	1	25	8	
Vinyl - Wall (on mat)	Vinyl - Oracal 631 - yellow	R	1	30	8	
Vinyl - Waterproof	Papilio	R	1	30	8	

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- The latest updates to these settings can be found [at this link](#).

Appendix A Troubleshooting FAQ's

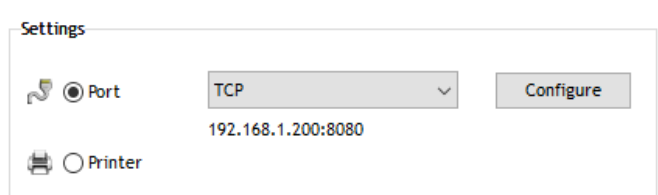
A1 Communication Issues

I cannot get the Skycut to power on.

- Make sure the power cable is securely plugged into the Skycut's port on the left side and securely plugged into a wall socket or a power strip.
 - If it still fails, check the wall socket or power strip with another device, such as a table lamp.
 - If you still cannot get the Skycut powered on, contact your dealer.
-

I cannot get Wi-Fi to work with my Skycut.

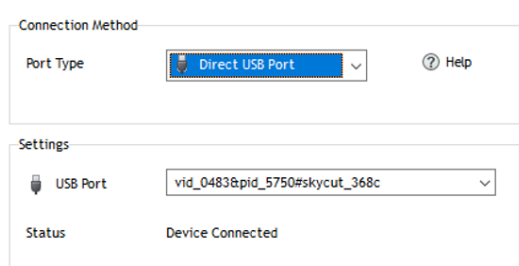
- Set the Skycut close to the router when performing the initial setup presented in *Section 2.2.2*. After establishing communication, you can test how far the Skycut can be located from your router.
- In SignMaster's **Vinyl Spooler** window, under the **Connection** tab, make sure you have selected **TCP** and entered the same **IP address** you selected during setup on the Skycut's control panel:



- Make sure your computer is connected to the same router as your Skycut.
 - Verify that SignMaster is the selected software on the control panel under **Set>Sys Information**.
 - If the number you see on the control panel orange strip reads 192.168.16.254, you have NOT connected to your router. That is the default **IP address** for a stand-alone connection. You need to repeat the scan procedure and make sure you see the correct **IP Address** appear.
 - Some routers will not accept 200 or higher as an **IP Address** assignment. Try 151 instead.
 - Some routers assign the same name to both the 2.4G and 5G networks and because the Skycut's Wi-Fi chip only works on 2.4G, you might need to rename your 2.4G network to a different name.
-

I cannot get USB to work with my Skycut.

- Unplug/replug the USB cable at both the computer and at the Skycut.
- In SignMaster's **Vinyl Spooler** window, under the **Connection** tab, make sure you have **Direct USB Port** selected under **Port Type** and the **Status** says **Device Connected**. If not, repeat the instructions in *Section 2.3.1*.



- Try a different USB port on your computer.
 - Verify that SignMaster is the selected software on the control panel under **Set>Sys Information**.
 - Try a different USB cable.
-

A2 Operating Issues

My mat is rotating when the Skycut starts to cut!

- Two pinch wheels need to be gripping the mat. Move the mat either left or right so that it is under two outer pinch wheels and the pinch wheels are aligned under white arrows. Refer to *Section 1.08*.
 - Make sure you are not trying to force the blade to cut too deeply and/or too quickly through a thick/dense material like chipboard or craft plastic. Slow the speed, decrease the **Force**, and use more passes.
-

My vinyl isn't feeding evenly while cutting. It starts bunching up on the inside of the end cap.

- Even if you feel the vinyl is aligned properly at the start of the cut, a slight "out of alignment" error will become more pronounced with a long cut. When you first drop the pinch wheels, use the arrow keys to feed the vinyl for the length of the cut to make sure it is feeding straight. If not, then about half-way through the length of the vinyl needed, lift the pinch wheels and realign the vinyl. Continue testing the alignment until you can verify that the vinyl is sufficiently aligned for the entirety of your project.
-

The pinch rollers are not tight enough to hold the vinyl I'm cutting. The vinyl is slipping and rotating when I start the cut.

- The pinch wheels need to be over grit shafts (the dark gray rough areas along the revolving shaft. The white rectangles will help you align the pinch wheels in correct locations. Also, use outside locations versus having, say, one pinch on the far right of the vinyl and a second pinch wheel only in the middle.
-

I hear a terrible stuttering sound when trying to cut chipboard (or other thick dense material).

- That can be a symptom of forcing the blade to cut too deeply and/or too quickly through the chipboard. Slow the speed, decrease the **Force**, and use more passes.
-

The Skycut stopped during a cut.

- If the Skycut stops with the head over on the left side of the cutter, you have most likely exceeded the cutting range. Several things to consider:
 - ◇ Check the width (**W**) of your project (or the height **H** if in **Landscape** mode). It cannot exceed 24”.
 - ◇ Check how far you are moving the head to the left when setting the origin. If your project is 21” and you moved the head more than 3” to the left, you will send the cut out of range and the cutter will stop.
 - If the Skycut stops and the head is not located near the left side:
 - ◇ Make sure it's not a communication issue.
 - ◇ You may have exceeded a buffer limit. Try reducing the number of nodes. Select the shapes and go to **Curves>Node Editing>Reduce Nodes (Object)**.
-

A3 Cutting/Drawing Issues

I'm getting some stray cuts added, as if the cutter is going a bit crazy.

- Extra stray cuts can occur anywhere, including sharp V-shaped cuts jutting outside the borders of the project. These are referred to as random cuts and are difficult to diagnose. But based on experiences reported by owners of professional vinyl cutters, here are some possible causes to check:
 - ◇ Bad or defective USB cable
 - ◇ Cutter is plugged into a power strip that isn't rated highly
 - ◇ Static electricity (many vinyl pros recommend grounding cutters to prevent random cutting due to static)
 - ◇ Unknown cause – sometimes a quirk in the file might cause something strange to happen such as a stray cut or a sudden stoppage. Try altering the file in some way, such as reducing nodes.
-

My shapes are drawing (cutting) off the material. What am I doing wrong?

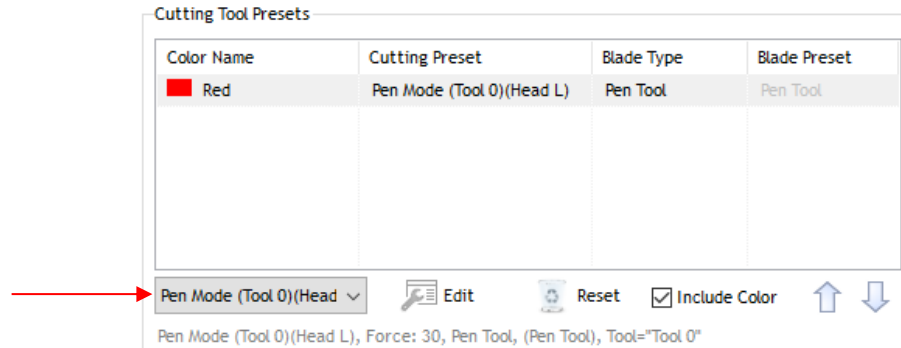
- When setting the origin, make sure you are using the tip of the blade as the reference point and set the tip inside the corner of the material (not too close to an outside edge).
 - Verify that the preview window in SignMaster matches where you expect the shapes to cut as you view the material loaded into the Skycut itself.
-

When drawing with the test pen), I have extra lines being drawn.

- Make sure you raise the pen in the blade holder seat on the Skycut before tightening the screw. The blade holder seat needs to be able to drop the tool down when it reaches the spot to start the shape. Otherwise, the tool tip will be dragging across the material from the origin to where the shape will begin and then back to the origin at the end of the “cut”.
-

I'm drawing with a pen and there are bubbles at the corners.

- For perfect corners when using a pen, go to the **Send to be Cut** window and select **Pen Mode** so that **Blade Offset** is set to 0. You do not need an offset for pens (or other tools like embossers and engravers).



My cut started out fine but by the end of the cut, it's not cutting through the material.

- Make sure the blade holder housing doesn't have any bits of material inside of it.
- Make sure the screw on the blade holder seat is hand-tight so that the blade holder isn't slipping upwards during the cut.
- Make sure the cutting mat is clean and sticky and the material is pressed down completely, so that the material remains stabilized during the cut.
- Make sure the blade isn't cutting too deep into the mat. This can sometimes cause the material to be pulled up and away from the mat as the blade releases from the plastic it is cutting.
- Try increasing the Force by ~ 5 – 10.

My cut is clean in some places but not in others. Why am I not getting consistent cutting?

- Make sure your material is pressed firmly onto a clean and sticky mat (assuming you are cutting a material such as paper or cardstock).
- Your material may require two passes if it's not homogenous or if it is heavily textured. Sometimes intricate shapes also cut better with two passes.
- Also, if the material has been exposed to humidity, then it will become difficult to cut in one pass. You can dry both paper and cardstock using a blow dryer or in a very low-temperature oven.
- If you are cutting vinyl without a cutting mat, check the cutting strip to make sure it is still in good condition.

I have the outside edges of my chipboard completely taped but I'm not getting clean cuts, even after lots of passes.

- Taping the edges prevents shifting of the chipboard but it's not enough for stabilizing. You need to thoroughly press the entire surface of the chipboard onto a clean and sticky mat. Using a brayer is recommended.

I am getting a lot of tearing in my cuts.

- A number of things can cause tearing so work through this check list:
 - ◇ Too much blade is exposed. If you see cut lines in your mat or the backing sheet, shorten the blade exposure. You should only be cutting through the material itself.
 - ◇ The blade is chipped. Try a different blade.
 - ◇ The paper is not adhered well to the mat. Make sure the mat is clean, sticky, and the paper is pressed smoothly and evenly on the surface.
 - ◇ You may be using too much **Force**. Try reducing it and doing test cuts.
 - ◇ You may have too many nodes in the shape. Select the shapes and go to **Curves>Node Editing>Reduce Nodes (Object)**.
 - ◇ The material itself may be subject to tearing, especially on intricate cuts. Also, if the cardstock has been exposed to humidity, then the moisture in the material can make it difficult to cut cleanly. You can dry paper and cardstock using a blow dryer or in a very low-temperature oven.
-

I'm cutting very small lettering and the letters are a bit distorted.

- Verify that you are using the correct **Blade Offset**.
 - Try slowing down the cut. Small lettering needs slower speed.
-

My cut shapes are not the same dimensions as what they are set to in SignMaster.

- Perform the calibration procedure shown in *Section 3.8*.
-

My shapes are not completely cutting out. They are still attached to the waste part of the material.

- Make sure you have set an appropriate **Overcut** setting.
 - Make sure the mat is not skewing during the cut. This can happen if even one of the pinch wheels is no longer centered under a white arrow. It can also happen if the speed and/or pressure is set too high.
-

My cardstock is not cutting all the way through. I have the blade all the way out and using the maximum force.

- Please refer to *Section 1.7.4*. It's important to only have as much blade exposed as is necessary to penetrate the cardstock. You may also need to raise the blade tip height (*Section 3.1.3*). Reduce your force back to suggested values for the material you are cutting and do a test cut.
 - Do not use more force than is needed. If the cardstock is cutting through about 90% of the cut, then increase **Passes**. Some cardstocks do better with a second pass at a lower force.
-

Appendix B: Wireless Stand-Alone Connection

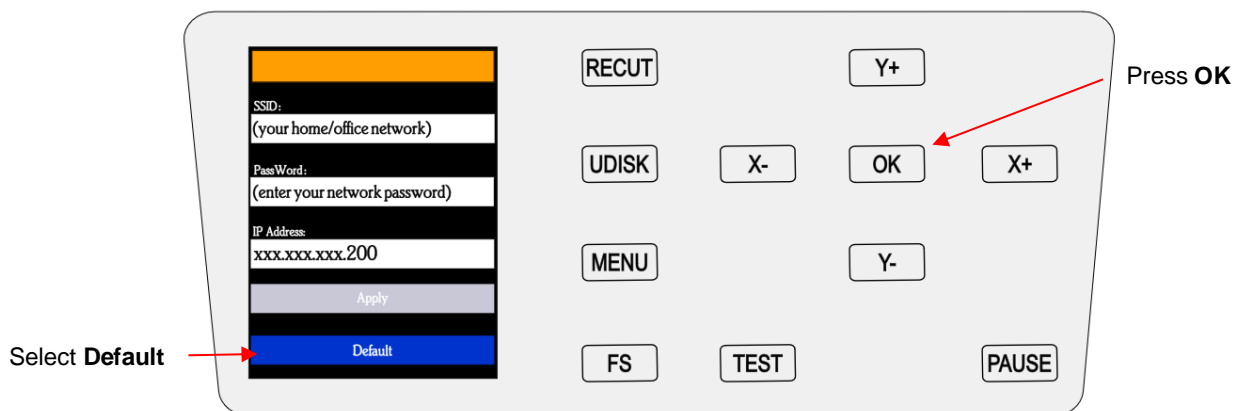
- It's usually best to connect the Skycut while it is next to the wireless computer. Once connectivity is established, you can then experiment to see how far from the computer the Skycut can be located.
- There are two situations to consider before getting started. If you are not sure which applies to your Skycut, then select *B* and go to that section first.
 - A. The Skycut has never been set up wirelessly to a network.
 - B. The Skycut has previously been connected to a wireless network.

A. The Skycut has never been set up wirelessly to a network

- Power on the Skycut and wait for the light to come on. In the orange strip on the control panel, it should read either "Hi-Link" or "Cutter", followed by some alphanumeric characters and then the IP Address: 192.168.16.254. If something else is shown there, proceed to *Section B*.
- On your computer, open your list of available networks. In the list, you should see one with this type of name format.
- Select that network and enter the following **Network Key** when prompted: 12345678
- Proceed to *Step 9* in *Section 2.2.2*. Remember that your computer will not have access to the Internet or other network devices while in **Wireless Stand-alone** mode.

B. The Skycut has previously been connected to a network

- On the control panel, press the **MENU** button, select **WIFI**, and press **OK**. Use the **Y-** button to move down to highlight **Default** and press **OK**.



- Wait a minute or two and the default **IP Address** will then appear in the orange strip at the top of the display.
- On the control panel, select **Set** and then select **Wifi**. The **Wifi screen** will appear:



- To reset the Skycut so that it will be found as an available network, press and hold the **Default** button for 3 seconds. Release and you should see then see the **Apply** button displaying **Wait**. In a minute the **Apply** should return and you can then proceed back to A and use the same procedure as if the Skycut was never set up on a network.