This guide is designed to assist with the proper installation and orientation of vinyl material in your USCutter friction feed vinyl cutter. A friction feed cutter utilizes “pinch-rollers” which apply pressure against the vinyl and holds the material tightly against the feed-rollers. The “feed-rollers” underneath the pinch-rollers move the material forward and back through the machine.

**STEP #1: Loading your vinyl material**

Begin by ensuring the pinch-rollers on the cutter are in the up position. You will find the pinch-roller levers in the back of the cutter. Lifting or lowering the pinch-roller lever will engage or dis-engage the pinch-roller.

You will know that the pinch-rollers are in the up position when you can observe a gap between the cutting deck and the rubber wheels of the pinch-roller *(see Figure 2)*. You can change the position of the pinch-rollers by lifting them to the up positions and sliding them along the rail.
Place your vinyl roll on the “roll holders” behind the machine and feed the material into the cutter towards the front. The roll should sit in-between the rollers as pictured in Figure 3. Feed the material out the front a few inches past the carriage and blade-holder, ensuring that the material can easily pull straight from the roll. Adjust the pinch-rollers such that you have at least two near the outer edges of the material.

NOTE: Some vinyl cutters will only cut in-between the center of the two outer-most pinch-rollers. These cutters would include: Copam, ZenCut, Graphtec and Roland or any cutter that “measures” material prior to cutting.

**STEP #2: Feeding (or “jogging”) the material to ensure proper tracking**

Many cutters will have a series of reference lines across the front. These can be used to calibrate proper tracking. Place the cutter into off-line mode or “jog mode”, (see your cutter’s user manual for specific directions) and press the down arrow on the cutter’s menu pad to feed the material out towards you.
The vinyl should feed relatively straight, with only a slight amount of shift or movement to the left or right. A certain amount of shift in the vinyl may be acceptable, depending on the size and type of graphic that you’re cutting as it won’t affect the final production of the graphic. Typically if you can achieve a shift variance of ¼” when feeding the material out 5 feet or more; there is no need to re-adjust the material.

**How to correct improper tracking:**

**STEP #1: Pinch-roller positioning**

If your vinyl shifts drastically to the left or right when feeding, the first thing to check is the pinch-roller positions. Most vinyl cutters will have specific places where the pinch-rollers *cannot* be placed. These positions may or may not be clearly marked. The best method to follow is simply to ensure that the pinch-rollers are placed directly above the knurled part of the feed-rollers. In image *Figure 7*, you can see that there is a “break” in the feed-roller. This break is identified by a white sticker and a pinch-roller will not function properly if placed in this position. In the image you can also see that the pinch-rollers are positioned to the right side of that break and are fully atop the knurled feed roller bar.

In image *Figure 8* shows a pinch-roller placed improperly. The vinyl material would shift dramatically in this scenario, as the material would not be able to move freely in that position. Be sure to observe the feed-rollers prior to placing the material in the cutter to ensure proper placement of your pinch-rollers.
**STEP #2: Correcting the tracking**

Although the vinyl may appear to be loaded squarely, it takes only a slight skew to create a noticeable shift. Feed the material out towards you and pay close attention to which direction the material shifts.

**If the material shifts and feeds more to the right:** Roll the material back to the home origin. Lift the center and right most pinch-rollers but keep the left most pinch-roller down to act as a pivot point. Push the right side of the material back in towards the cutter a small amount, then feed the material back out towards you and test to see if the adjustment has corrected the tracking. Repeat this process until the material is tracking straight enough for your purposes.

**If the material shifts and feeds more to the left:** Roll the material back to the home origin. Lift the center and left most pinch-rollers but keep the right most pinch-roller down to act as a pivot point. Push the left side of the material in towards the cutter a small amount, then feed the material back out towards you and test to see if the adjustment has corrected the tracking. Repeat this process until the material is tracking straight enough for your purposes.
Now that the material is loaded properly and tracking squarely, you should be ready to send a cut!

For your information:

Most vinyl materials have two layers, a Release liner or “backing” and the vinyl itself. The cutter is designed to cut completely through the vinyl without cutting completely through the backing. When loading the material, the vinyl should be facing up. Establishing which side is up should be fairly straightforward with most materials. When cutting heat-transfer vinyl, the backing will be the shiny (glossy) side of the material. Place the clear plastic glossy side down when loading it into the cutter.

The primary rationale for blades of different angles is cutting depth. A lower angle (45 degree) is great for thin materials, while a steeper angle (60 degrees) has a more vertical cutting orientation that penetrates deeper.

An increased amount of blade dragging through the material when cutting fine detail can cause, what they call, vinyl ears (parts lifted up). With minimal blade in the material, a 60 degree blade tends to cause fewer, if any, vinyl ears.

Using a 60 degree blade on everyday cutting is a waste of a blade, technically speaking. Less of the blade's cutting area is used, and blade life is wasted. The more horizontal cutting orientation of the 45 degree blade accurately distributes the cutting task over a larger blade area, and thus last longer (and is cheaper). So use a 45 degree blade always, unless a 60 degree blade is needed for thick or more custom types of cutting, if 45 degrees blades are not available