Trouble Shooting 2:
Corner Adjusting Early 400 IG Spacer Table Applicators

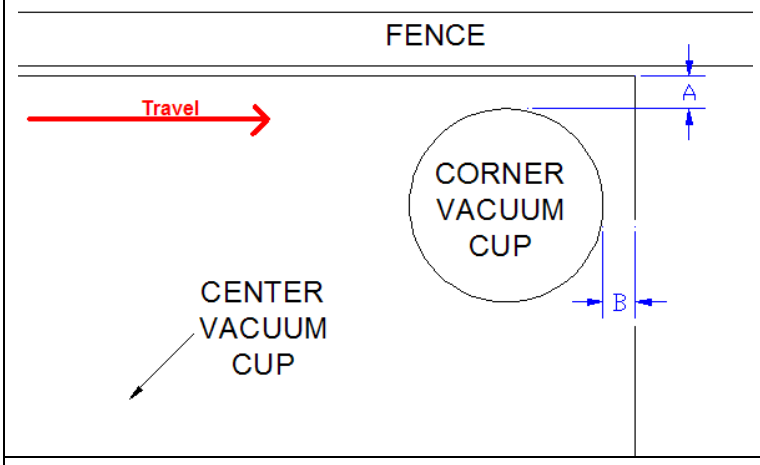
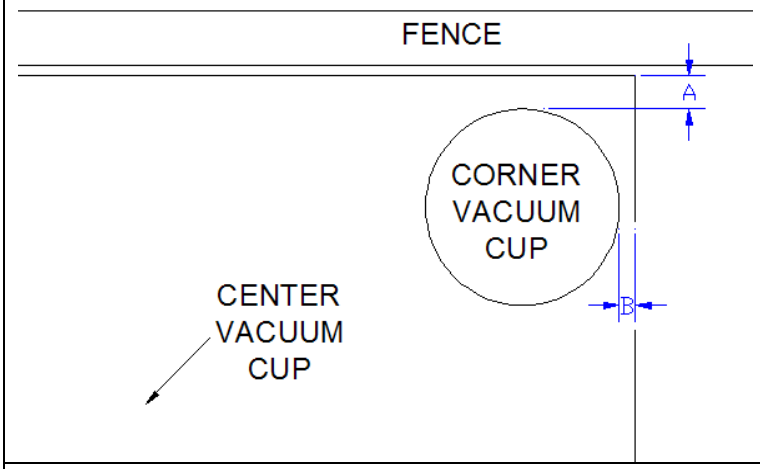
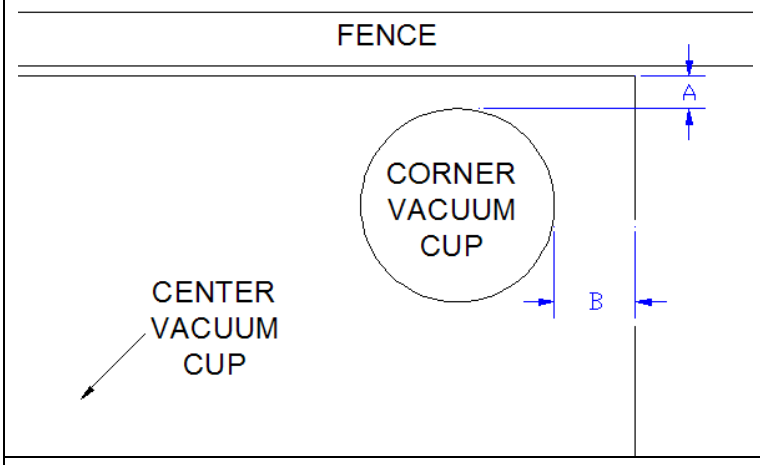
Definitions:
Spacer Width: dimension from sticky side to sticky side. This is how far the two pieces of glass of the final IG unit will be apart from each other.
Spacer Height: Dimension from the smooth surface to the perforated surfaces of the spacer. Standard dimension for this is 3/16" for NXT, although there are rumors of 1/4" & 5/16" values as well. This is the dimension of the blue backer tape that gets pulled off of the sticky side.

General Tweaking of 400 Spacer Applicator Table Machine:

Conversion Constants & Gearing Ratios:
Run the Test routine to calibrate feed axis inches per revolution and gearing ratio. This can be reached from the parameter screen.
Make sure that recipe selector matches the spacer you are using.
This "inches per revolution" and gearing ratio are not the same for different spacer widths. They theoretically should be.
[See also adjusting for other problems below.]

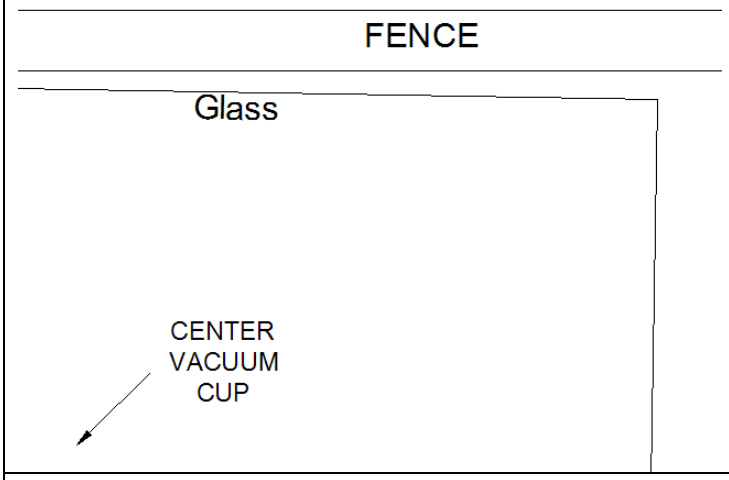
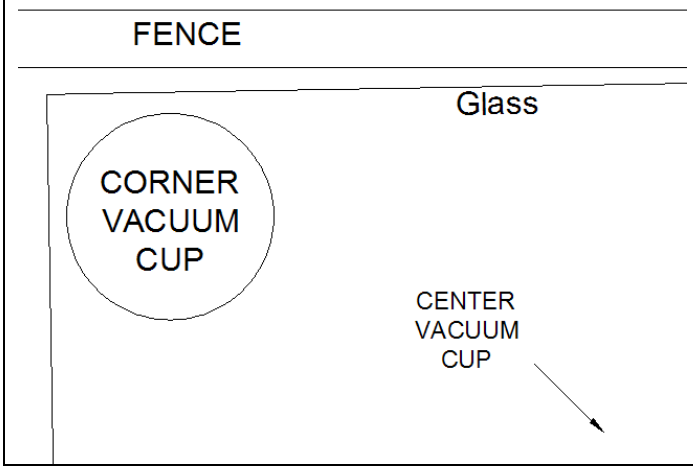
Adjust the feed axis inches per revolution for the feed accordingly until the dispensed value matches the entered values. See Test Routine in Sequence of Operations.
Adjust the gearing ratio so that the length measured is slightly less than the traveled distance (18.000)

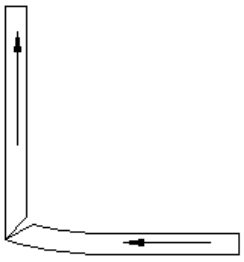
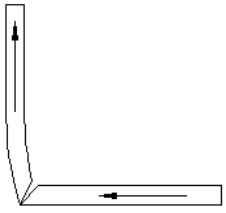
Spinning, Squaring and Alignment:
Proper rotation of the glass is of key importance when setting up the 400 spacer applicator machines.
The machine must be properly squared against the fence by the center cup. If one or the other side is not touching the fence / rollers of the dispenser assembly, it is not properly squared. Nice corners and sides are rather unlikely at this point.
The glass may not square properly because the center cup stalls early, the cup is not allowed to freely rotate or the air-table is not providing enough of an air cushion to allow friction free movement.

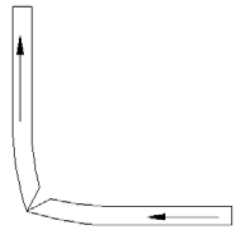
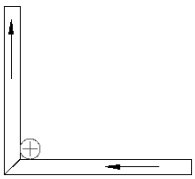
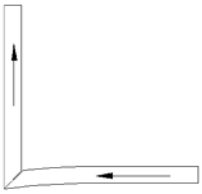
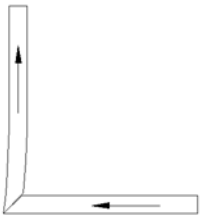
	The corner cup must be the same distance from both sides of the glass when it stops in each of the three rotate corners. "A" & "B" should measure the same. "A" is physically fixed but "B" is adjustable by various parameters & settings.
	If dimension B is less than A, increase the Neg Corner Cup Offset and/or adjust the Neg Registration Offset. If the cup is too close to the edge of the glass (B), the glass will pull away from the fence (rollers) at the end of rotating. The spacer inset will be too small and the corner will not be square.
	If dimension B is greater than A, decrease the Neg Corner Cup Offset and/or adjust the Neg Registration Offset. If the corner cup is too far from the edge of the glass (B), the glass will dig into the fence and break or the next rotate corner will be away from the fence after rotating.
Question: How do you adjust dimension "A"?	You do not. It is physically set.

The distance from the edge of the glass to the cup may be measured by a caliper.

This correct positioning must be confirmed before attempting other parameter adjustments.

	If the glass does not come up flush to the fence after a rotate, the spacer will not only be off, but it will continue to get worse after more rotations. This must be corrected before bothering with anything else. Make sure the corner cup is well located before the rotate starts (see above). Make sure the corner cup is not slipping. Make sure the glass isn't bouncing off of the fence (if so, try lengthening the decel). Check axis home values. Tweak offsets internal to the program.
	The glass can pull away from the fence (rollers) after rotation at the final position of the Center Cup after rotate. This is bad. Make sure the corner cup is well located before the rotate starts (see above). Make sure the fence / rollers are square. Check to see if oblong squaring assist w/ center cup drive is not too aggressive.

	If the bend in the corner is on first side of corner, increase the knife offset for that side.
	If the bend in the corner is on the second side of the corner, decrease knife offset.

	The bend will likely cover both sides after some adjustment. The corner will should be square and straight before the applicator takes off from the corner. However, as the applicator takes of, it will (generally) pull the spacer as it travels generating the resulting bend on both sides. We'd like to see the first side curved a little more than the second: let's say 70/30. Now, increase the Corner Dispense Amount value (Parameter screen #4) until the corner is square AFTER the applicator moves on.
	Hey, that looks pretty good!
	If the corner sticks out (is long on the second side of the corner), begin decreasing the Corner Dispense Amount parameter. The corners should now be absolutely perfect. They're not on closer inspection, but they should be.
	Should the corner stick out (the first side is long), decrease the corner cut knife offset. Also, you may try decreasing the Corner Dispense Amount value and see if that helps as well.
	If both sides are bowed inward, I don't know; start over. Also, possibly re-check the conversion constant.

Adjusting for Other Problems:
There are other items that may fail to create quality spacer corners.

If an entire corner is bad, the spacer weaves in and out in lazy curves within about 6” of the corner, it is likely that the spacer is not stuck down well to the glass. Replace spacer with spacer with freshly peeled tape and / or adjust down-pressure of roller wheel.

The spacer has some elasticity to it and may shrink over time, pulling in the corners a bit. This will take some time to happen (an hour to days). There is no current solution for this nor is one in the pipeline.

Question:
I want to change the spacer inset from the edge of the glass. What settings do I adjust?
You don’t. It’s all physically set by the assembly of the dispensing head. There is no adjustment.

Servo References, Zeros and You:

The **Drive (X) Axis** is measured from the center f the pivot cup to the center of the Center Cup (that is, where the path of Center Cup travel meets the path of Corner Cup travel).

The **Center Cup** position is measured from the center of the Center Cup to the fence.

Setting the Home Positions correctly is critical to complete rotations.