



CNC Rental Program



Rental Program Name: RP-FR-BEA0002

Rental Program Fee: \$6.00

Estimated Cycle Time: VARIES

Blank Dimensions (L x W x D): 11.75" x 5.375" x 6.025"

Tool Requirements:

*Tooling may be purchased from Thermwood by using the provided part numbers.

T1 = .500" dia. endmill cutter	Part # VX01860
T2 = .500" ballnose tool	Part # VX02265
T3 = .125" ballnose tool	Part # CICUX-125-1B
T4 = .250" endmill tool	Part # VX01232

Program Setup:

Below is a sample of what you may see after loading the program. You will need to set a few variables here. Depending on your machine default, values should be entered as either Metric or Imperial.

(9/14/2005)

(**** Please read SETUP sheet before running ****)

(**** Tooling Required ****)

[TOOL_1 = ?]

[TOOL_2 = ?]

[TOOL_3 = ?]

[TOOL_4 = ?]

[ZCLEARANCE=?] (Z Retract Height)

[PERPASS=4] (# of Cutout Passes)

[MAN_TCHANGE\$="NO"] (Manual ToolChange?)

[RAPOVRIDE\$="YES"] (Rapid OverRide?)

SET WASTEBOARD=? (Wasteboard Thickness)

SET ZSHIFT=? (Material Thickness)

G51 X? Y? (0,0 Position)

G09F8 (Tangency Factor)

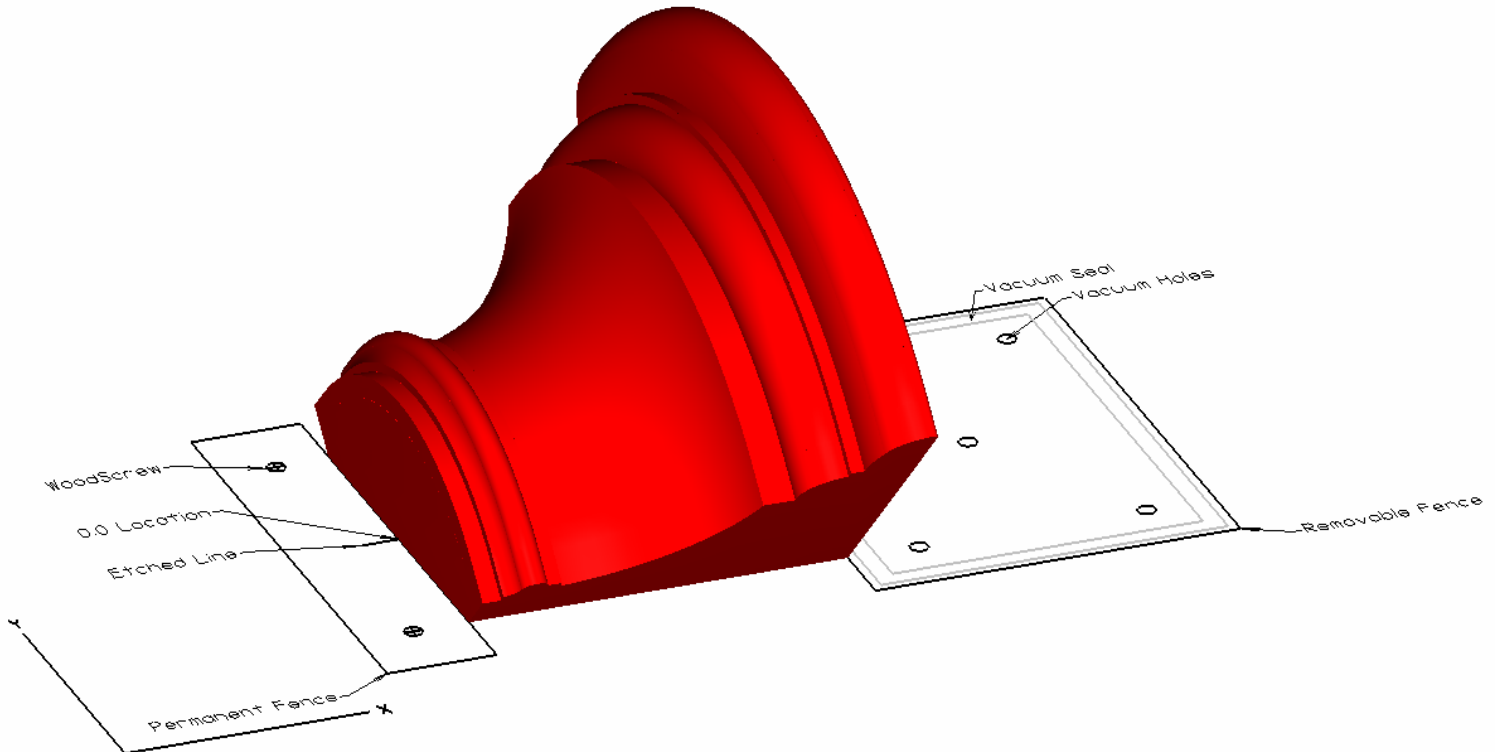
1. Tool numbers will need to be set in the program. Replace the question mark with the tool number you want to use. Be sure all daylight values are correct and set to the spoilboard.
2. The ZCLEARANCE value determines the retract height above the part for indexing.
3. The PERPASS value determines how many perimeter passes you want to cut the part out with. A default value has already been chosen. If your program does not cut out a part, then disregard this value.
4. If your machine does not have an Automatic Tool Changer, and you must change tools manually, then set MAN_TCHANGE\$ to "YES". During a toolchange, the machine will return to the HOME position prompting you to manually change out the tools. Directions will appear on the screen as what to do also.
5. The RAPOVRIDE\$ variable has been set to "YES" allowing you to control rapid movements with the FeedRate Override Knob. Setting this to "NO" will allow the machine to index at rapid speeds.
6. If you use a wasteboard on top of the spoilboard, then you must set the value SET WASTEBOARD accordingly. Otherwise set it to zero.
7. The thickness of material used must be set for SET ZSHIFT. It is recommended to set this as close as possible.
8. Set the fixture position, otherwise known as the 0,0 position. The distance from HOME to the center of the program should be set as G51 X? Y? For

moldings, this should be the distance from HOME to the corner of the molding, closest to Home.

9. G09F8 is a tangency factor. This has been preset and may be adjusted if needed.

Fixturing the Part:

This part requires special fixturing and flipping operations. The fixturing will require permanent and removable fences along with conventional vacuuming and seal. Below is a pic to demonstrate the layout;



The rental program contains several choices to cut the fences, seal, and rem. fences. Once you have the rental program set-up and a fence screwed to the table, press START and choose option 0 to machine the permanent fence and groove for the .25” seal. You may want to dry run it first so you know where to place the screws on the permanent fence. Be sure to have your vacuum table turned on!

Once you have your seal inserted into the groove and vacuum holes drilled, we can machine the removable fence. Place an oversized piece on top of the seal and choose option 4.

Machining the Part:

To begin machining, locate the blank centered into the permanent fence. The LENGTH of the blank should run along the Y-AXIS. Push the removable fence into the blank, then turn vacuum on. The removable fence should prevent the blank from twisting or moving while machining. It's important to choose option 2 to begin machining the back-side of the Part.

Once the back has been machined, flip the part to begin machining the other side. Once again, center the blank up against the permanent fence. Push the removable fence into the part and turn vacuum on. You may now choose option 3 to machine the front-side of the Part. Adjust feedspeeds as necessary to help prevent the part from moving by using the FeedRate OverRide Knob.

Additional Comments:

- Due to the wide variety of tooling types, scaling, material, etc, you may need to adjust the FeedRate Override Knob accordingly. Optimal speeds have already been preset.
- If the scaling option at the Thermwood Control is used, part quality may be reduced requiring more sanding. We recommend scaling between 40% and 200% for most parts.
- Smaller parts with tough cuts may require a "skin" to be left to prevent part movement. Parts requiring a "skin" to be left have been pre-programmed. Scaling at the Thermwood Control will not affect "skin" thickness.

If you have any questions or concerns, feel free to contact us at (800) 533-6901.

Thank you for your interest.