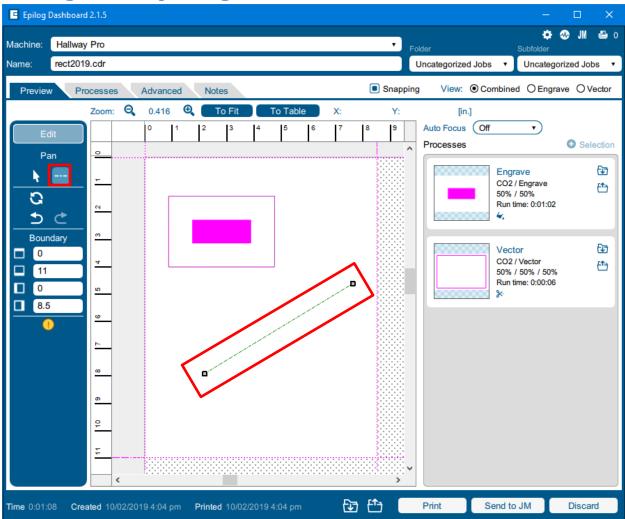
# **Construction Lines**

Introduced in Version 2.1.5

#### **Creating and Manipulating Construction Lines**

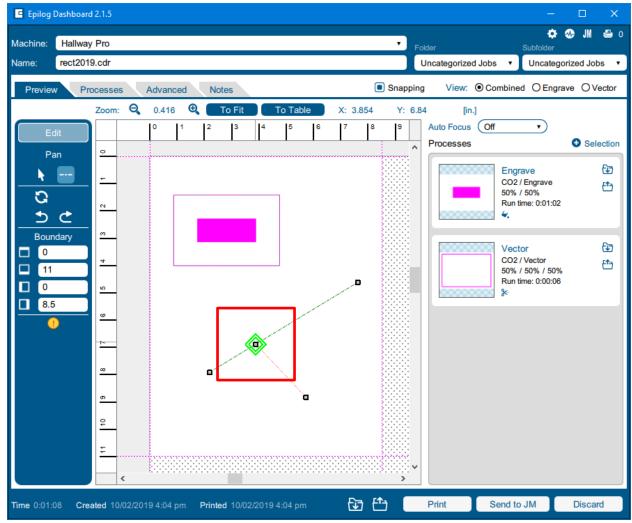


Construction lines can be created using the new construction line tool in the preview toolbar. After enabling the construction line tool, simply click and drag across the screen to make a new construction line.

Once a construction line has been created, it can be modified by grabbing an end node. This will move that node while keeping the other node in the same place. Alternatively, grab somewhere else along the line to move the entire line.

Deleting the construction line is as simple as selecting the construction line (or one of its nodes) and then pressing the delete button.

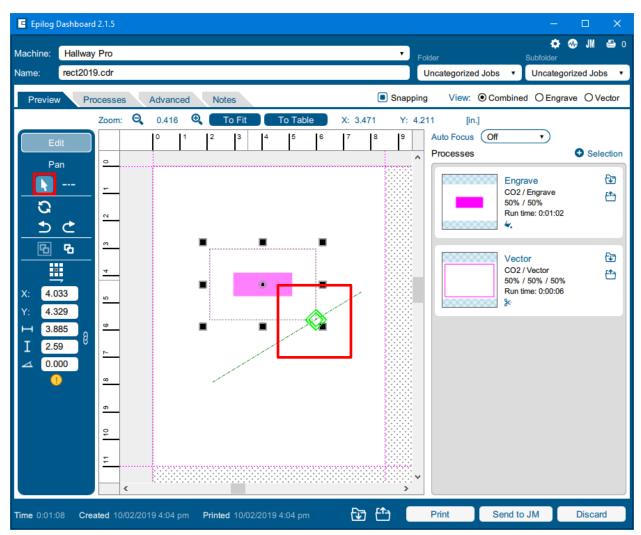
## **Snapping Construction Lines**



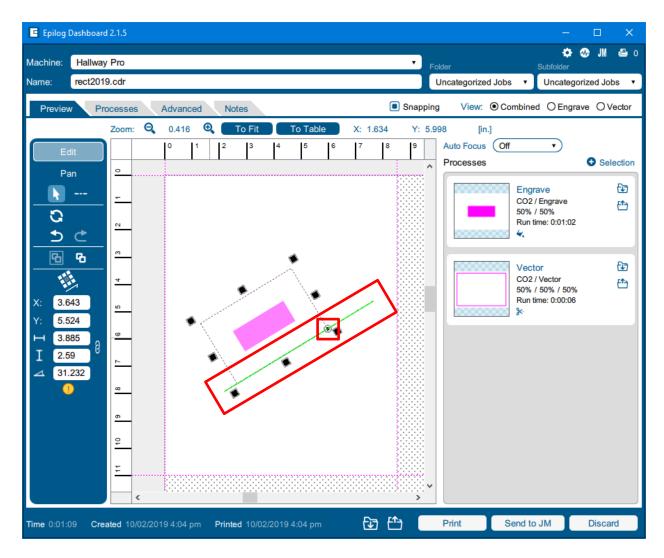
To make placement of other construction lines easier, the user should know that construction lines will snap to each other. If the user grabs the end node of a construction line and moves it near another construction line, it will snap to points along that line with a preference to snap at the end points, the midpoint, and anywhere that two construction lines intersect.

Similarly, when creating a new construction line, the second point will snap along existing construction lines. Normally, the first point will not snap to existing construction lines because clicking near an existing line will move or manipulate that object. To get around this, hold down the alt key. Holding the alt key will disable moving and manipulating construction lines, allowing the first point of a new construction line to snap.

### **Snapping Selected Objects**

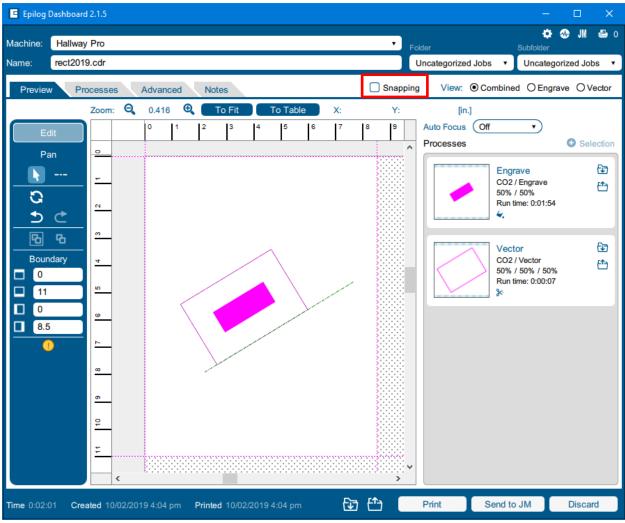


Artwork can also snap to construction lines. To do this, switch back to the default selection tool. Grab one or more objects and move the selection near the construction lines. The corners, midpoints, and center of the selection will snap to points along the construction lines. As with snapping construction lines, the selection will have a preference to snap to endpoints, midpoints, and intersections of construction lines.



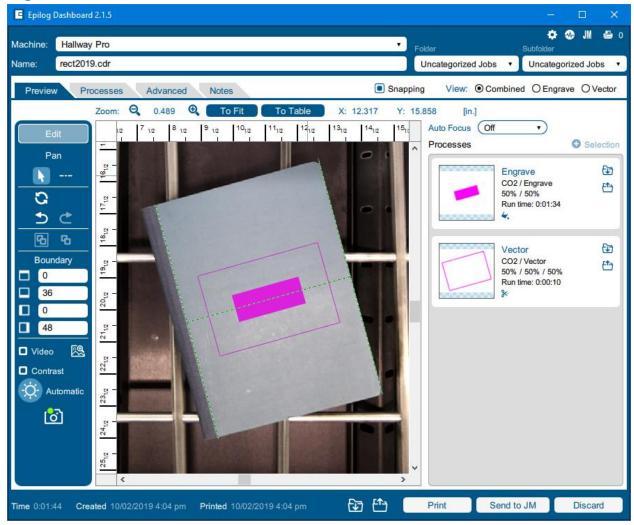
Similarly, the selection will snap to construction lines while rotating. In order for this to happen though, the rotational center must be snapped to a point along a construction line. This will automatically happen after snapping the selection to a construction line with the caveat that the rotational center resets to the center of the selection each time that the selection is reset.

# **Turning Off Snapping**



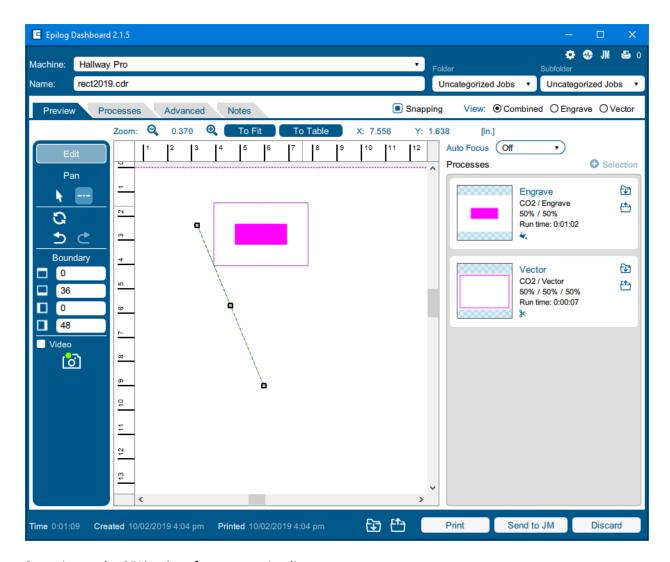
Snapping can be turned off by unchecking the "Snapping" checkbox just above the job preview area.

#### **Tips and Tricks**



Moving and aligning objects to the center point of your material:

- 1. Draw two construction lines along the vertical edges of your material
  - a. This will also work if you draw along the horizontal edges instead
- 2. Draw a construction line connecting the midpoints of the lines from step 1
  - a. Remember to hold alt to get the starting point of the construction line to snap
- 3. Move the artwork so that the center of the selection snaps to the midpoint of construction line from step 2
- 4. Rotate the artwork until it snaps to the construction line from step 2



Snapping to the 25% point of a construction line:

- 1. Draw a construction line from the star of an existing construction line to the midpoint of that line
- 2. Move the artwork until it snaps to the midpoint of the construction line from step 1