

**SOFTWARE/PRODUCT/FINISHING****OVERVIEW**

The seam location is where the material extrusion toolpath starts and ends on each closed part curve. Insight™ software will automatically identify and select a good location for the seam (Figure 1). Use seam control to improve functionality, aesthetics or quality.

- Functionality:
  - Align seams to improve sealing for gas and fluid handling applications.
  - Move seams from critical mating surfaces to improve the fit of parts in an assembly and to preserve assembly tolerance.
- Aesthetics:
  - Move seams from visible surfaces.
  - Move seams to accessible or flat surfaces for easier finishing.
  - Randomize seams on cylindrical parts to improve appearance.
- Quality:
  - Move seams from downward-facing surfaces to avoid blemishes.
  - Move seams from outside corners if build quality suffers due to poor airflow or short duration between layers.

If the default seam location is not satisfactory, you can manually place it in a less conspicuous location or move it nearer to / farther from a particular area or feature (Figure 2). For two of the seam placement options, the orientation of the STL determines seam location.

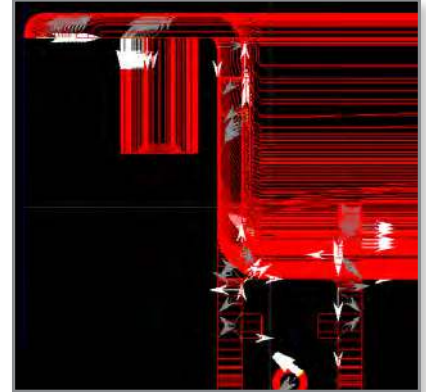


Figure 1: Arrows indicate seam placement with Automatic Seam Control.

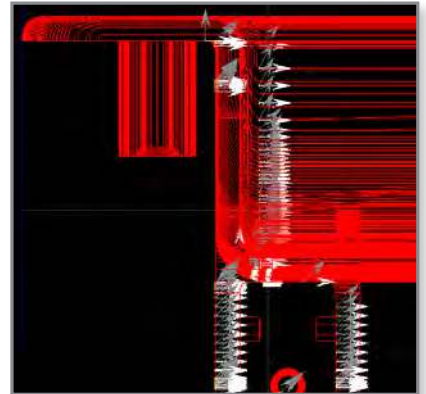


Figure 2: Seam locations (arrows) when using Align To Nearest.

## 1. OPTIONS

### 1.1. *Seam Control* can be applied before or after slicing.

- **Moving Seam Location – Before Slicing:** Before slicing the STL, there are six options for seam placement. The default is **Automatic**. After selecting an option, the seam will be relocated across the entire part.
- **Moving Seam Location – After Slicing:** After slicing, the seam location may be moved either on the slice curve or the toolpath.

**TIP:** It is recommended that any changes to the seam location be checked after supports are generated and adjusted if needed.

### 1.2. *Seam Control* is accessed from the *Toolpaths* menu (Figure 3). The options available in the **Seam placement method** drop-down menu are defined below. In general, the options to **Align** or **Align To Nearest** give you the finest control over your seam location.

- **Align:** This uses the **Reference point** and will pick a new seam location such that it is the closest point on the selected curve to the reference point. Set the location of the **Reference point** using the mouse.
- **Align To Nearest:** This uses the **Reference point** and will locate the seam location on an existing vertex closest to the **Reference point**. This is similar to **Align**, but a new vertex is not inserted on the curve.
- **Random:** This chooses a random location for the seam on each of the selected curves. This is useful for models that have thin walls and are mostly circular.
- **Automatic:** This will re-apply the seam location rules used during the STL slicing. This is useful if you have modified the seam locations and want to return to the default seam locations.
- **Automatic Back-Facing:** Move the seam locations to the back of the part as oriented in the build envelope. The automatic rules are used to determine the location along the back of the model.
- **Random Back-Facing:** Move the seam locations to the back of the part as oriented in the build envelope. The seams are randomly located across the back of the model.

There is an additional checkbox to select the following option, which overrides all other **Seam Control** options.

- **Bypass seam placement method:** Use the part boundary curve start/end points as the seam location.

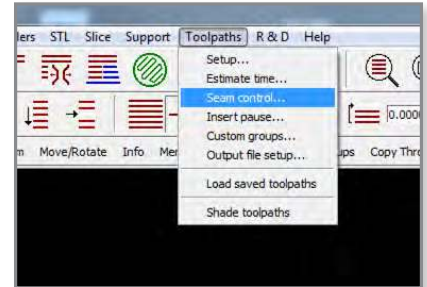


Figure 3: *Seam Control* is found in the *Toolpaths* menu.

## 2. PROCESS

### 2.1. Moving Seam Location - Before Slicing

**STEP 1:** Configure the modeler.

**STEP 2:** Open and orient the STL file.


**STEP 3:** From the *Toolpaths* pull-down menu, select *Seam Control*.

**STEP 4:** Select the desired seam placement method: *Align*, *Align To Nearest*, *Random*, *Automatic Back-Facing*, or *Random Back-Facing* (Figure 4).

**STEP 5:** If you did not select *Align* or *Align To Nearest*, proceed to the next step.

If you selected *Align* or *Align To Nearest*, select a *Reference point* by placing the cursor at the desired location on the displayed STL and click the *left mouse button* (Figure 5).

**STEP 6:** Click **OK** on the *Seam Control* menu to save the selection.

**STEP 7:** Click  to create part curves using the current parameters.

**STEP 8:** Click  to create supports for the current job.

**STEP 9:** Click  to create toolpaths.

**STEP 10:** Verify the seams are in the desired locations. If they are not, proceed to section 2.2 and follow the procedure beginning with step 3.

**STEP 11:** Moving Seam Location-Before Slicing procedure complete.

### 2.2 Moving Seam Location - After Slicing

**STEP 1:** Configure the modeler.

**STEP 2:** Open, orient and slice the STL file.

**STEP 3:** From the *Toolpaths* pull-down menu, select *Seam Control*. An arrow designating the current seam location of each curve or toolpath will appear (Figure 6).

**STEP 4:** Select the new *Seam placement method*.

**STEP 5:** Select the curves or toolpaths for which you would like to generate a new seam location. If you want to generate a new seam location for multiple layers, select the range of layers or select the curves or toolpaths on each layer.

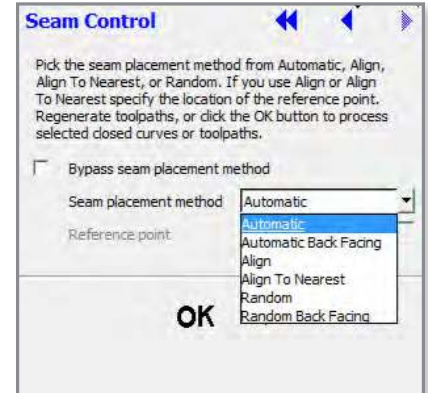


Figure 4: Seam Control menu.

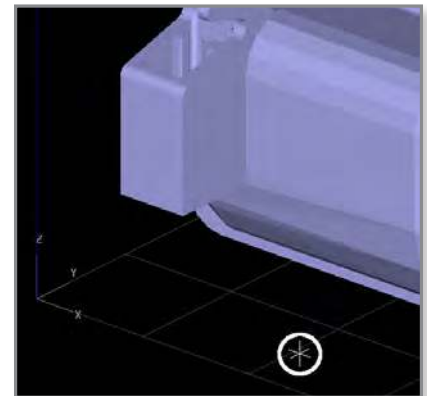


Figure 5: Reference point (circled) for Align and Align To Nearest.

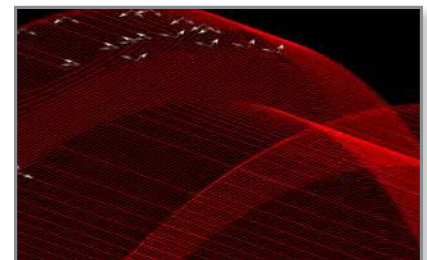


Figure 6: Arrows show the default seam location.


**STEP 6:** If you did not select **Align** or **Align To Nearest**, proceed to the next step.

If you selected **Align** or **Align To Nearest**, select a **Reference point** by placing the cursor on a desired location and clicking the left mouse button once.

**STEP 7:** Click **OK** in the **Seam Control** menu and the arrows will move to the new seam locations (Figure 7).

**TIP:** Viewing the change in seam location is best done from the top-down view.

**STEP 8:** Repeat steps 4 through 7 until all seams are at the desired locations.

**STEP 9:** If seams were moved after toolpaths were generated, new toolpaths will need to be generated by clicking .

**STEP 10:** Click  to create supports for the current job.

**STEP 11:** Click  to create toolpaths.

**STEP 12:** Verify the seams are in the desired locations.

**STEP 13:** Moving Seam Location-After Slicing procedure complete.

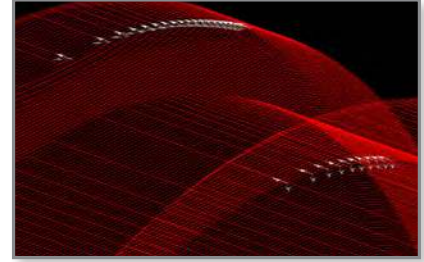


Figure 7: Arrows will move to show the new seam locations.

### 3. TOOLS & SUPPLIES

#### 3.1. Software:

- Insight software (document developed with Insight 9.0)

#### CONTACT:

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