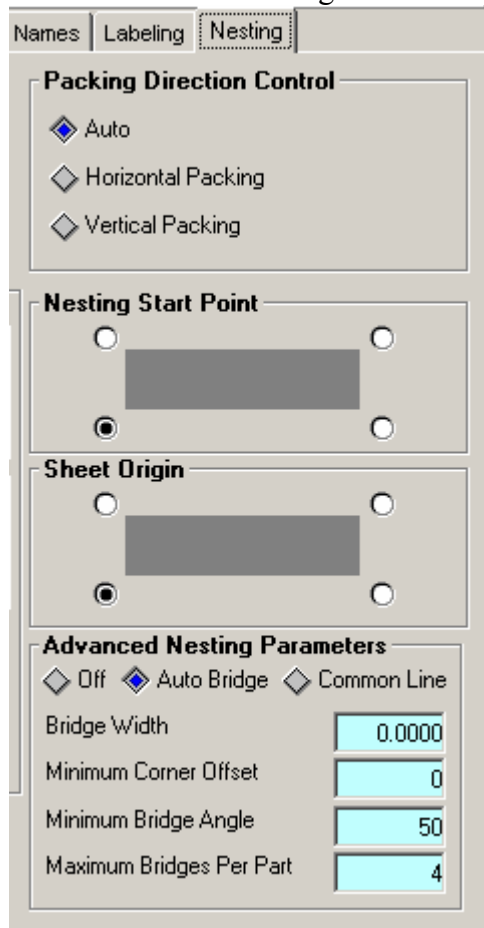


Advanced nesting

Tool stay down nesting

- 1) In the Router-CIM Automation job, pick the nesting tab
And check the Auto bridge box:



The screenshot shows the 'Nesting' tab in the Router-CIM Automation software. The 'Packing Direction Control' section has 'Auto' selected. The 'Nesting Start Point' and 'Sheet Origin' sections have the bottom-left corner selected. The 'Advanced Nesting Parameters' section has 'Auto Bridge' selected, and the following values are entered: Bridge Width (0.0000), Minimum Corner Offset (0), Minimum Bridge Angle (50), and Maximum Bridges Per Part (4).

- 2) Generally, there is no need to adjust any of the parameters make certain the settings look as above.
- 3) The Cut cycle should be Heli-Lead Center with no offsetting.
- 4) In your DOIT file, do not cut the outside part layer.
- 5) The DOIT file needs a knowledge to layer association to cut the tool stay down geometry created by Autonest. **You must make a knowledge called STAYDOWN and associate it to a layer called STAYDOWN.** This one knowledge will be used to cut all materials in your job.

- 6) If you need a different knowledge for each material in your job, you can make a layer / knowledge association formatted like this:

Knowledge name: MATERIAL CODE+STAYDOWN

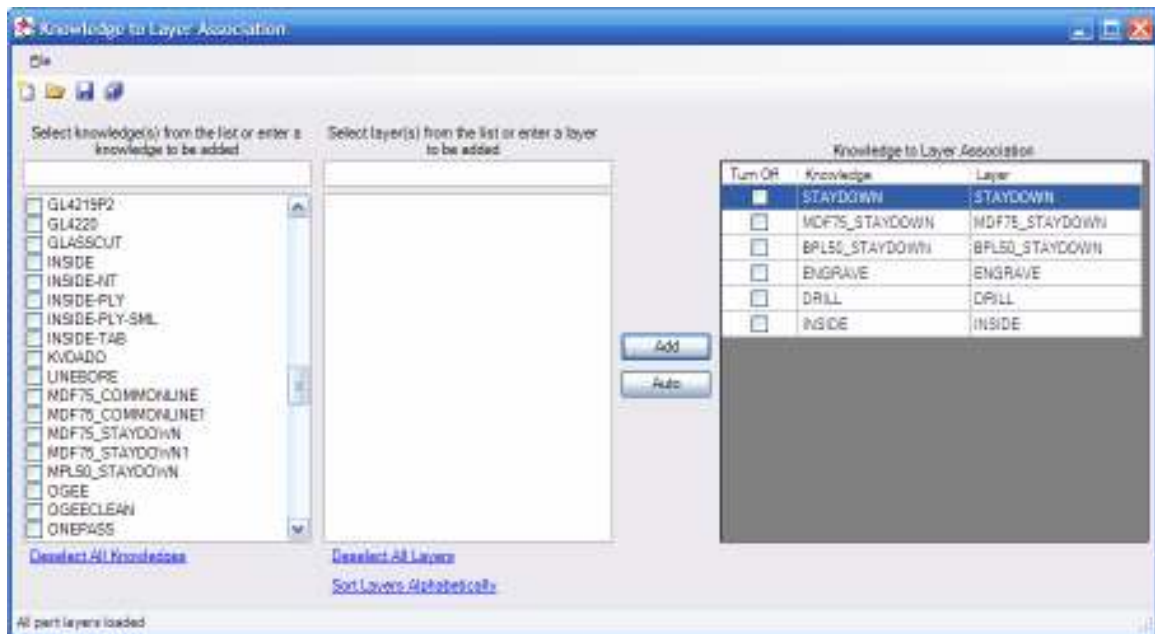
Layer name: MATERIAL CODE+STAYDOWN

As an example, The $\frac{3}{4}$ MDF material has a material code of MDF75_ and parts on this material will use a knowledge called MDF75_STAYDOWN and their stay down geometry will be on a layer called MDF75_STAYDOWN. The tool radius in this knowledge is used as the offset for part nesting. Other knowledges can cut this layer as well but the stay down geometry can only be cut on center and cannot be offset.

Parts in the same job on different materials will need a knowledge / layer association that matches the MATERIAL CODE+STAYDOWN format.

Here is an example doit file for a job that can have parts on MDF75_ and BPL50_ materials. The primary knowledges are MDF75_STAYDOWN and BPL50_STAYDOWN.

If you have parts on other materials, they will be cut using the regular STAYDOWN knowledge because they do not have a knowledge associated with the material code.



- 7) Small part cutting can still be used by making a knowledge that cuts the outside geometry and has a lower rank than the staydown knowledge. The small part cutting knowledge would be cutting the SML outside part layer.

Common line cutting

- 1) In the Router-CIM Automation job, pick the Nesting tab
And check the Common line box:

The screenshot shows the 'Nesting' tab in the Router-CIM Automation software. The interface includes several sections:

- Packing Direction Control:** Radio buttons for 'Auto' (selected), 'Horizontal Packing', and 'Vertical Packing'.
- Nesting Start Point:** A diagram showing a rectangular part with four radio buttons at the corners. The bottom-left corner is selected.
- Sheet Origin:** A diagram showing a rectangular sheet with four radio buttons at the corners. The bottom-left corner is selected.
- Advanced Nesting Parameters:** Radio buttons for 'Off', 'Auto Bridge', and 'Common Line' (selected). Below are four input fields:
 - Bridge Width: 0.0000
 - Minimum Corner Offset: 90
 - Minimum Bridge Angle: 50
 - Maximum Bridges Per Part: 2

- 2) The DOIT file needs a knowledge to layer association to cut the common line geometry created by Autonest. **You must make a knowledge called COMMONLINE and associate it to a layer called COMMONLINE.** This one knowledge will be used to cut all materials in your job.
- 3) If you need a different knowledge for each material in your job, you can make a layer / knowledge association formatted like this:
Knowledge name: MATERIAL CODE+COMMONLINE
Layer name: MATERIAL CODE+COMMONLINE

As an example, The $\frac{3}{4}$ MDF material has a material code of MDF75_ and parts on this material will use a knowledge called MDF75_COMMONLINE and their common line geometry will be on a layer called MDF75_COMMONLINE. The tool radius in this knowledge is used as the offset for part nesting. Other knowledges can cut this layer as well but the common line geometry can only be cut on center and cannot be offset.

Parts in the same job on different materials will need a knowledge / layer association that matches the MATERIAL CODE+COMMONLINE format.

If you have parts on other materials that do not have a knowledge associated with the material code, they will be cut using the regular COMMONLINE knowledge.

- 4) The tool diameter in this knowledge is used as the bridge width for part nesting.
- 5) Small part cutting can still be used by making a knowledge that has a lower rank than the Common line knowledge and it cuts the SML outside part layer.