

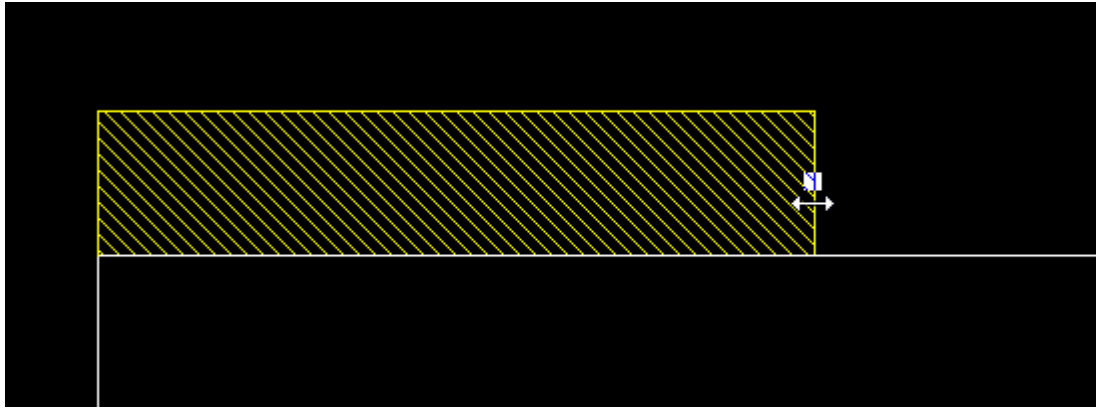
New in cncKad Version 16

- 1 New Punch Features3
 - 1.1 Drag Single Punch3
- 2 New Cutting Features4
 - 2.1 Pierce Type for Point4
 - 2.2 More AutoCut Technology Options5
 - 2.3 Action for Points by Color.....5
 - 2.4 Show Connected Cut5
- 3 New for Combined Machines7
 - 3.1 AutoDrill and Add Drill7
- 4 New in AutoNest8
 - 4.1 AutoShear.....8
 - 4.2 New Items in CAM Tab8
 - 4.2.1 Edit CAM.....9
 - 4.2.2 Manual Cut Sheet9
 - 4.2.3 Adding and Editing MicroJoints10
 - 4.2.4 Manual Order by Flying10
 - 4.2.5 More Options.....10
 - 4.3 Select Sheet According to Working Range11
 - 4.4 Remnants and Sheets with Quantity 012
 - 4.5 Turret Setup with Order of Tools (Including Tool Sequence)13
 - 4.6 Part Lead-In Indicates Destroyed Parts.....14
 - 4.7 Smart Cut16
 - 4.8 Updating Parts in AutoNest.....18
 - 4.9 Set Sheet Offsets in AutoNest Dialog Box22
 - 4.10 AutoNest Places Parts Vertically or Horizontally22
 - 4.11 Cut Sheet Start Corner24
- 5 New in Tubes.....25
 - 5.1 Tube-Specific Set Sheet and Clamps.....25
- 6 New in Simulation26
 - 6.1 Machine Definitions: NC Units, System Origin26
 - 6.1.1 NC General Tab26
 - 6.1.2 Simulation Tab26
- 7 New General Features.....27
 - 7.1 Display Standard Hole Type and Size27

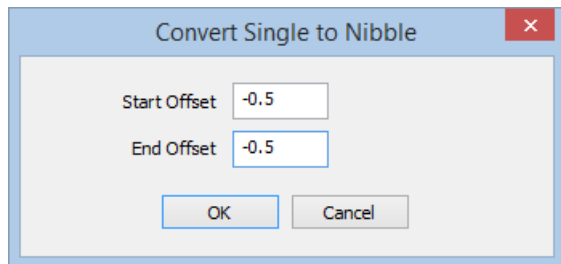
1 New Punch Features

1.1 Drag Single Punch

When you move the cursor to the edge of the punch, the cursor becomes a white arrow. **cncKad** converts the CAM, allowing you to drag the punch in any direction:



The dialog box for defining offsets opens, allowing you to define exact changes:



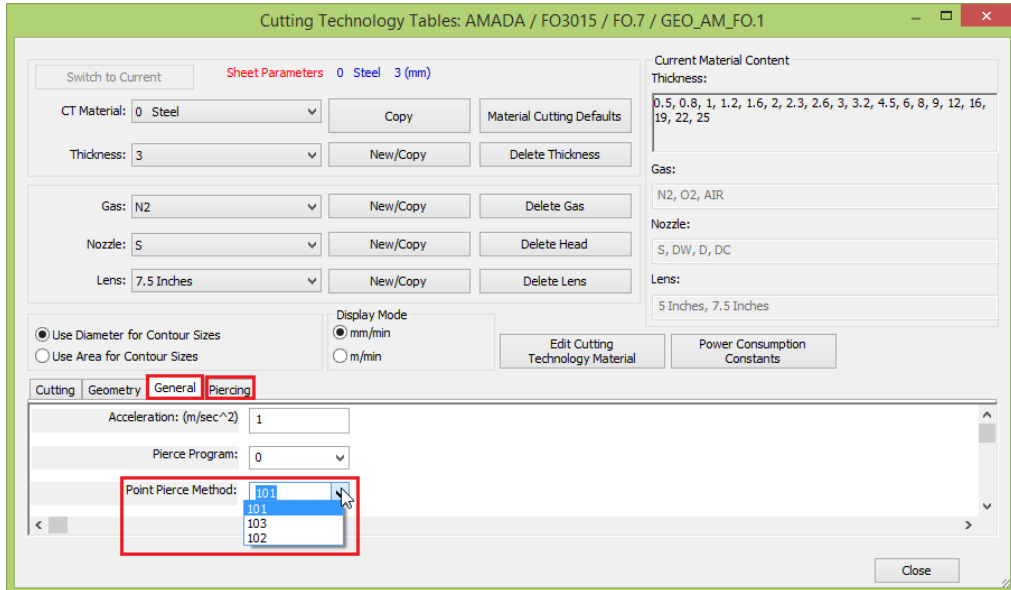
2 New Cutting Features

2.1 Pierce Type for Point

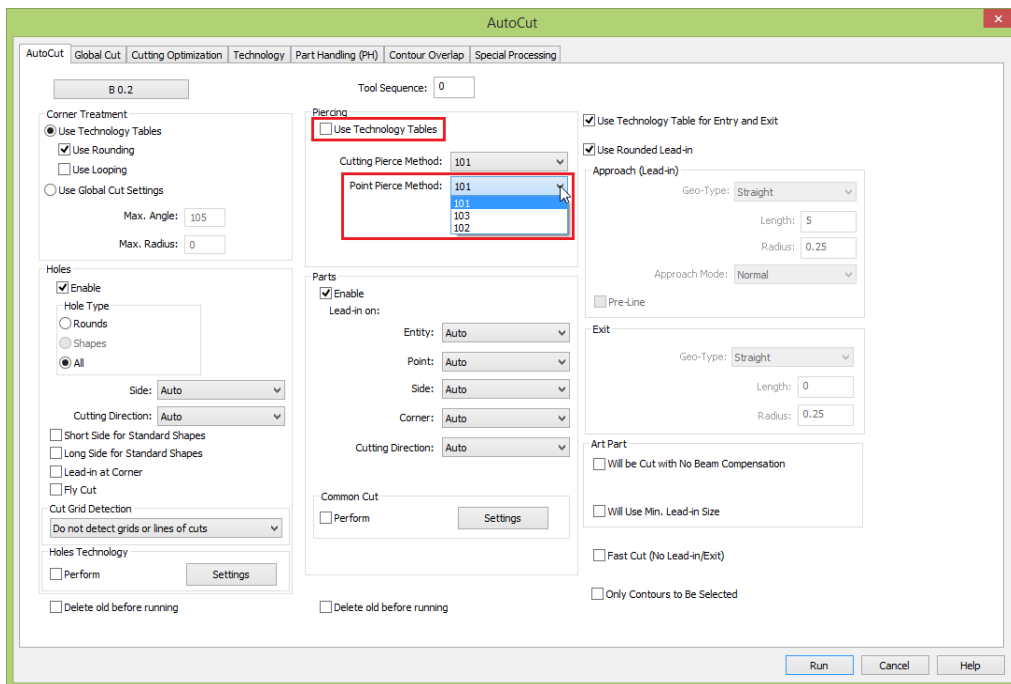
When executing **AutoCut**, **cncKad** now supports a dedicated value for the pierce type that is used for points and undersized holes.

Set the **Point Pierce Method** value in two ways:

- In the **Settings** menu => **Cutting Technology Tables** dialog box, in the **General** tab (which stores a separate value for every set defined in the **Piercing** tab):

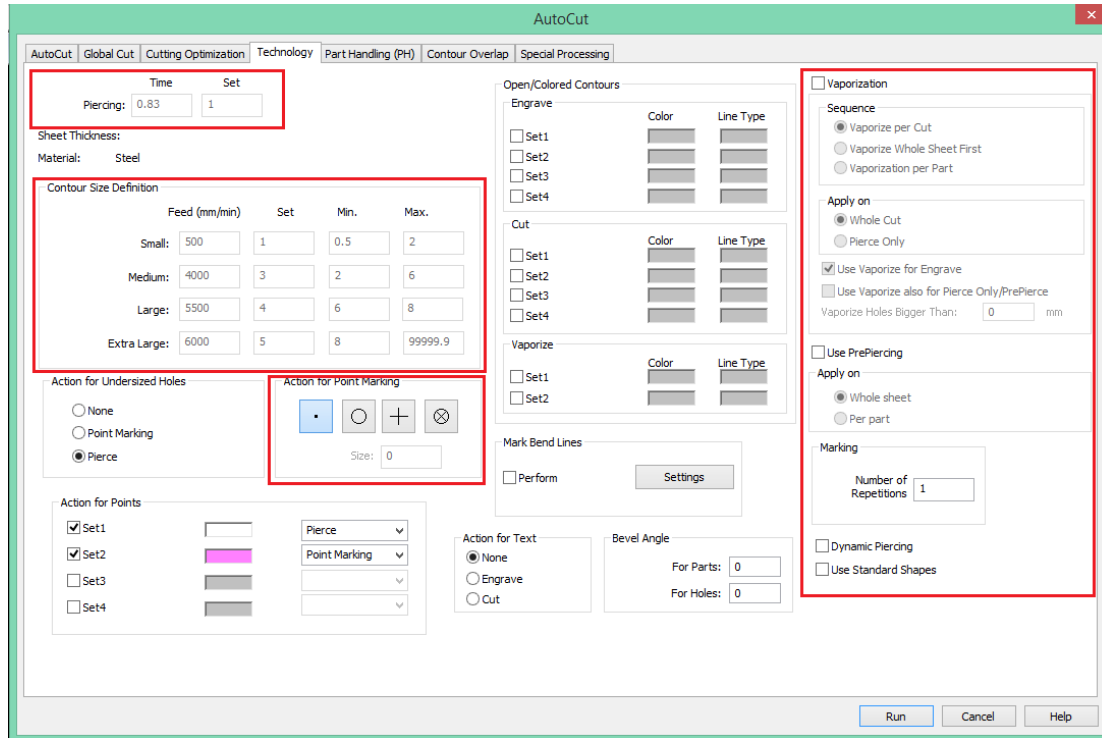


- In the **CAM** menu => **AutoCut** => **AutoCut** tab => **Piercing** section, when **Use Technology Tables** is unchecked (in the same way as for **Cutting Pierce Method**):



2.2 More AutoCut Technology Options

Options and information that were previously only in **Set Sheet and Clamps** -> **Cutting Parameters** can now also be viewed and set in the **CAM** menu => **AutoCut** => **Technology** tab, including piercing time and set, cut feed and set, action for point marking, and vaporization.




2.3 Action for Points by Color

Now you can set different actions for points according to their color in the **AutoCut** -> **Technology** tab.

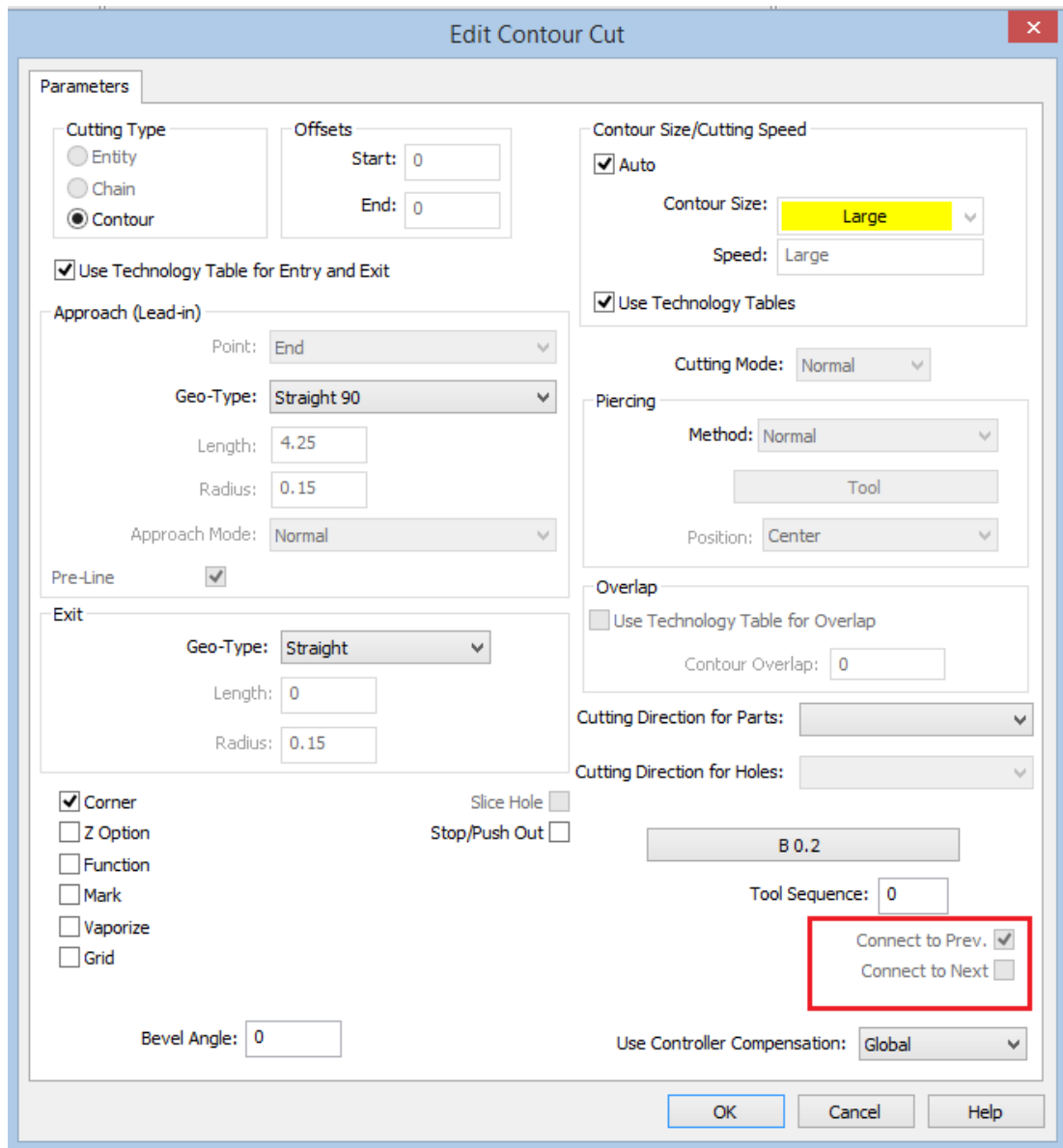
In this example, white points will be pierced and pink points will be marked:



2.4 Show Connected Cut

When using **Connect 2 Cuts**  to make a continuous cut, it is now possible when editing the cut to see if the cut is connected, and if so, whether it connects to the previous cut, next cut, or both.

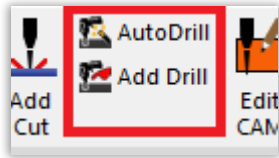
See it in the **Edit Contour Cut** dialog box:



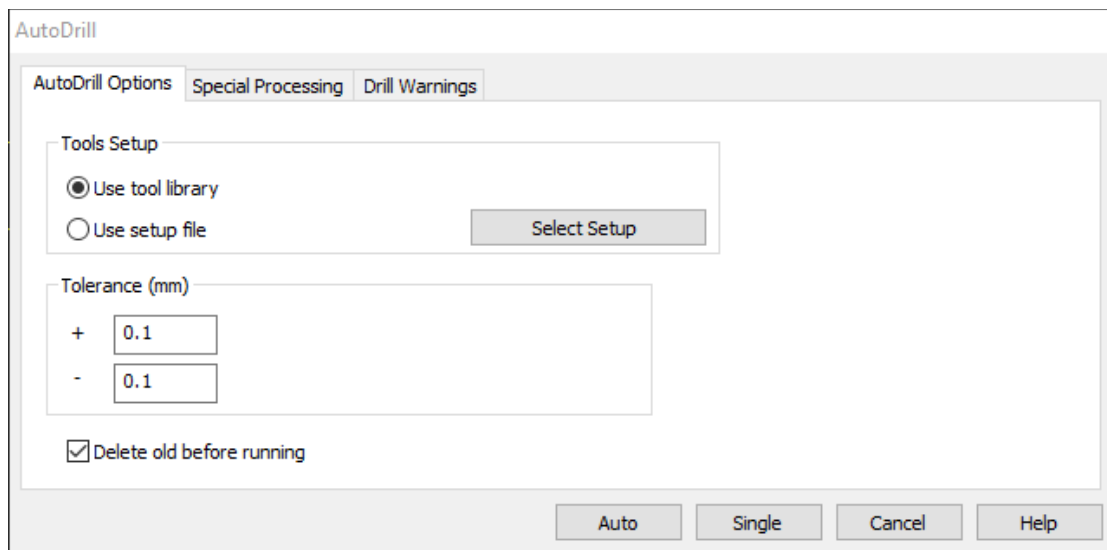
3 New for Combined Machines

3.1 AutoDrill and Add Drill

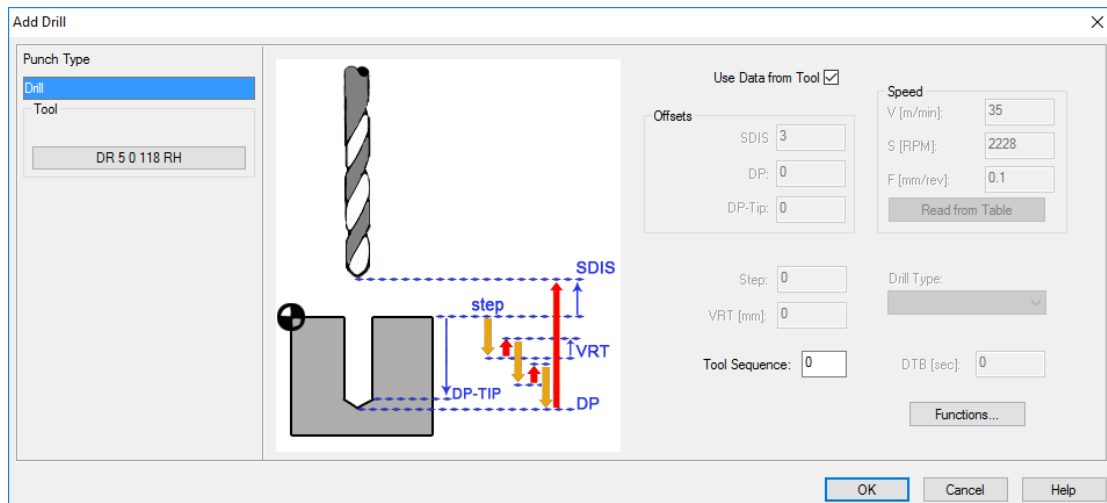
cncKad now includes these GUI items specifically for drilling.



Auto Drill dialog:




Add Drill dialog:

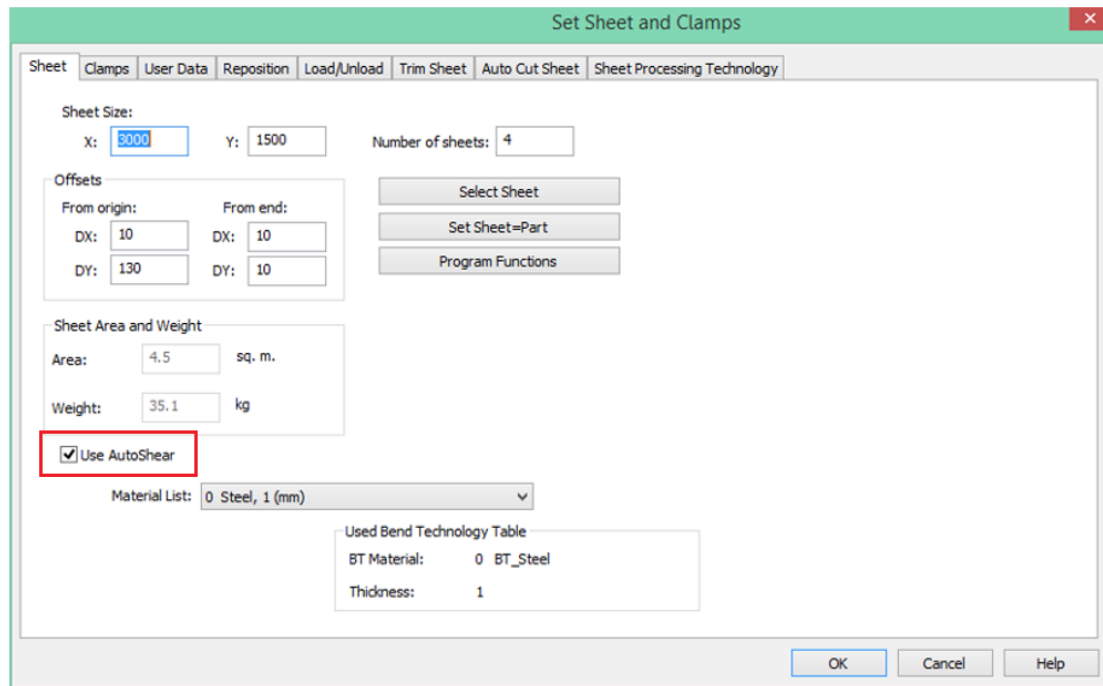


4 New in AutoNest

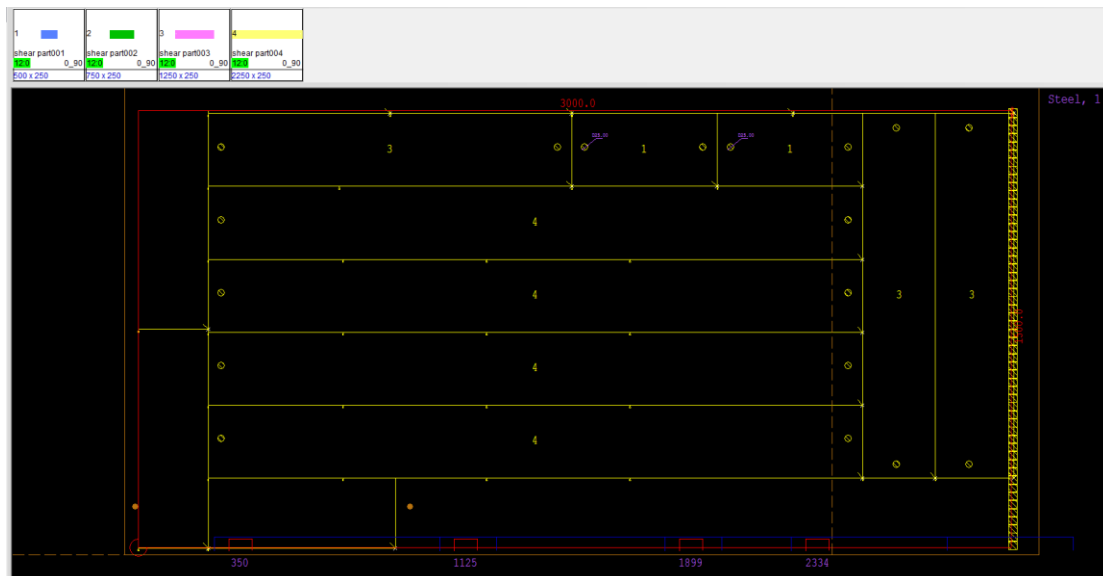
4.1 AutoShear

 This function is available only for shear and punch-shear machines.

When you check the **Use AutoShear** option in the **Set Sheet and Clamps** dialog box, **AutoNest** automatically adds the shear when running NC:



And this is the result:

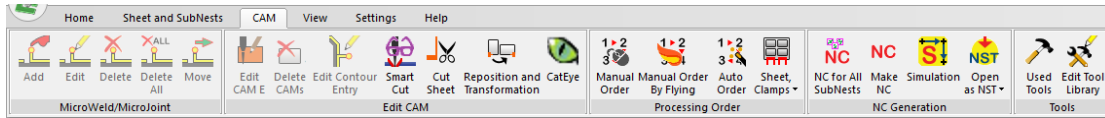


4.2 New Items in CAM Tab

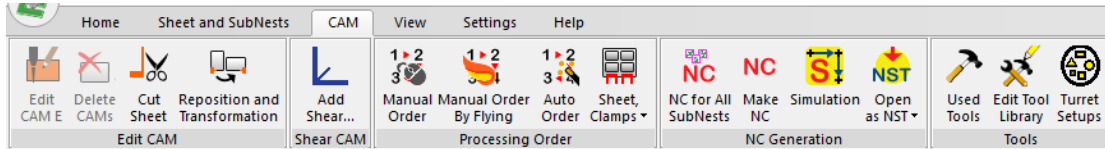
There are now many CAM options and commands in **AutoNest**.


The commands are shown according to the machine type.

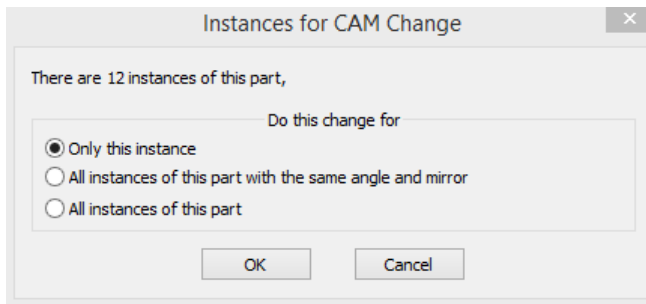
For cutting machines:



For punch and punch-shear machines:



- Some of these options are only active when working in **Tooling View** 
- When editing the CAM of a part (like in **Edit Cam**, **Delete Cam**, **Edit Entry**, etc.), the following dialog box appears:




Determine if this change will be applied only to the current instance of the part, only to instances with the same angle and mirror, or to all instances.

4.2.1 Edit CAM

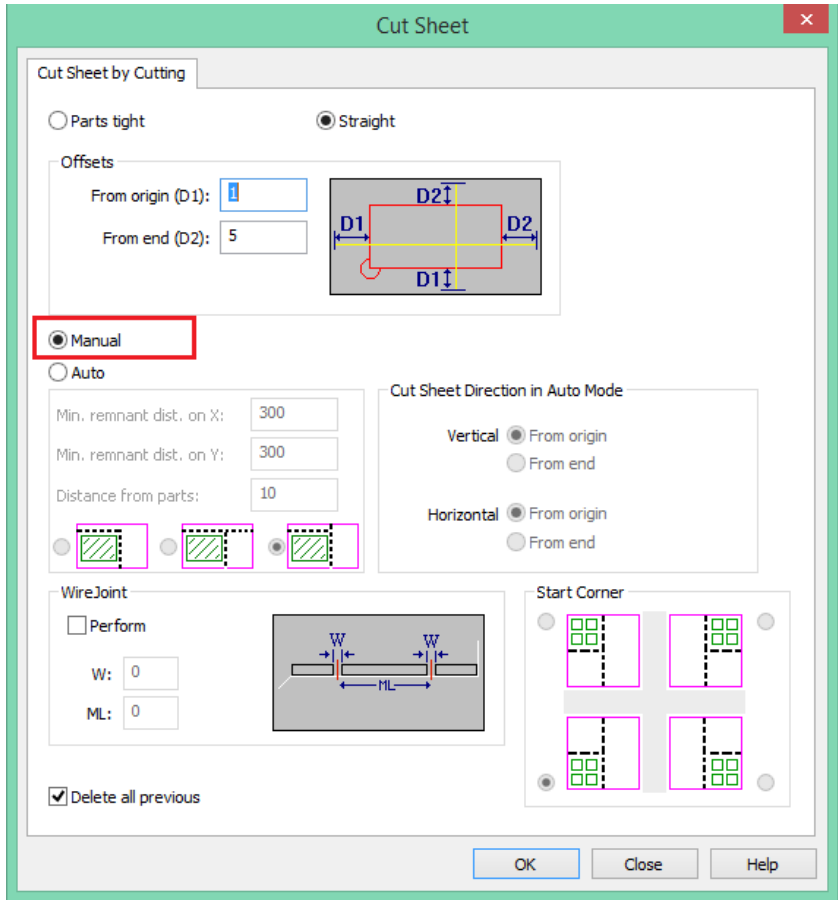
You can now edit the CAM when using both cutting and punch machines .

Click the **Edit CAM** command and select a processed entity (line, arc, circle, or contour). The **Edit Contour Cut** or the **Edit Punch: On Entity** dialog box opens, according to your machine.

4.2.2 Manual Cut Sheet

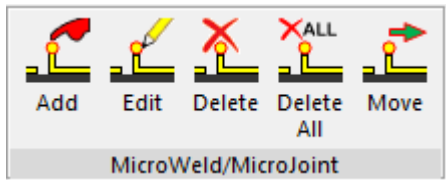
You can now manually add the cut sheet in **AutoNest** .

It is identical to **cncKad**.



4.2.3 Adding and Editing MicroJoints

All the options for manually adding and editing MicroJoints that were available in **cncKad** are now also enabled in **AutoNest**:




4.2.4 Manual Order by Flying

In the **CAM** tab, clicking **Manual Order by Flying**  allows you to set the part order by hovering over the parts with the mouse. You do not need to click each part.

4.2.5 More Options

These options are also available in **AutoNest**, and they work the same way as in **cncKad**:

- **Delete CAMs** 
- **Edit Contour Entry**
- **Auto Order**
- **Reposition and Transformation**

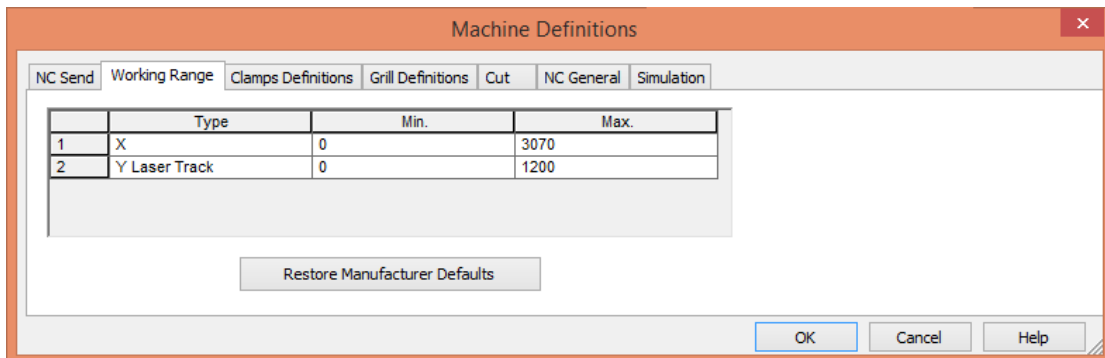
- **CatEye**
- **Add Shear**
- **Manual Order**
- **Tool Library**
- **Turret Setup**

4.3 Select Sheet According to Working Range

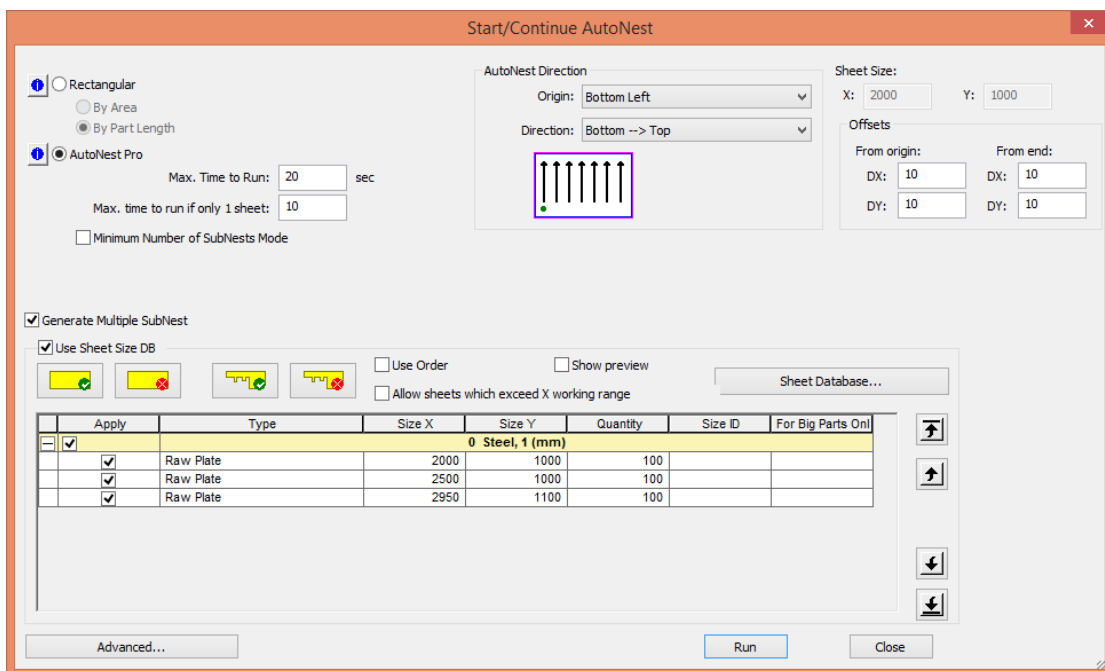
When running **AutoNest** from the sheets database, only sheets whose Y dimension does not exceed the Y working range are displayed and can be selected.

In addition, **AutoNest** shows sheets that exceed the X working range only if you have set the machine to reposition and checked the **Allow Sheets which exceed X working range** option.

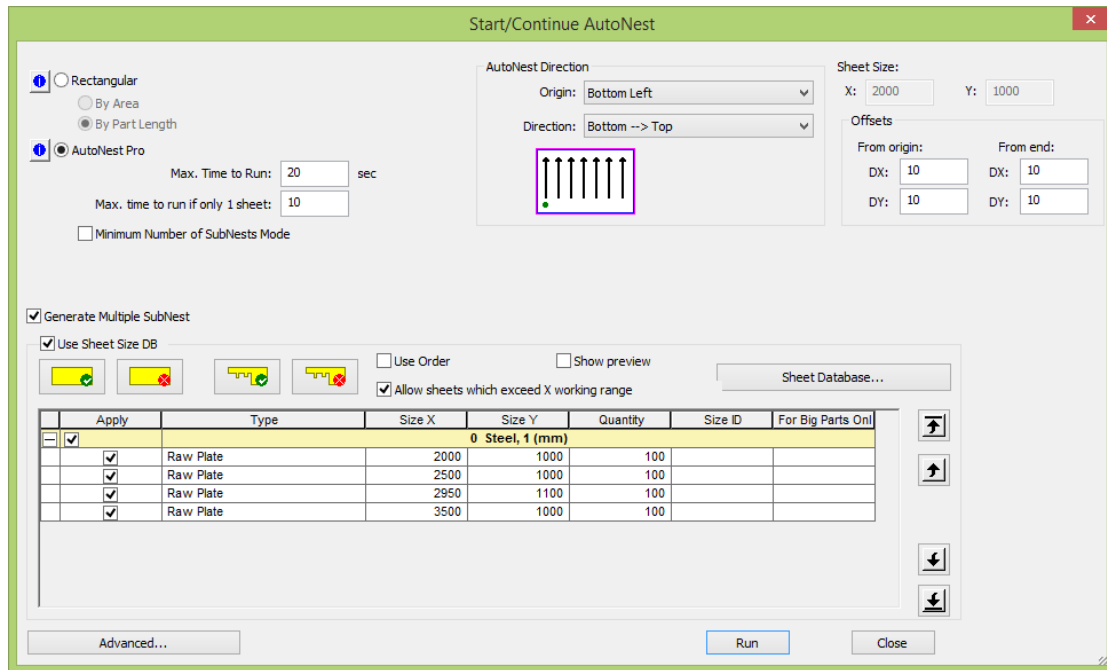
For example, if the working range is set to **3070 x 1200** (in the **Settings** tab => **Machine Settings** => **Machine Definitions** button):



In **Start/Continue AutoNest**, check **Use Sheet Size DB** and see which sheets are available:



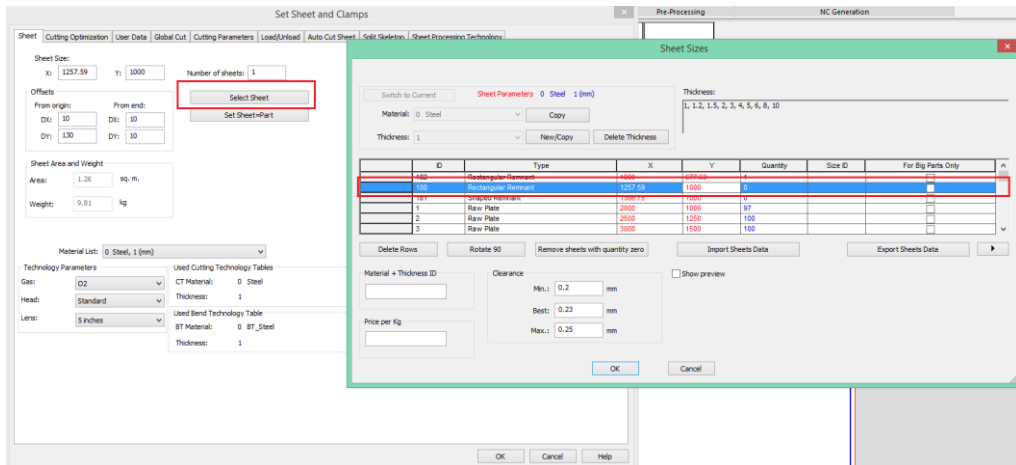
When you check **Allow Sheets which exceed X working range**, more options are possible:



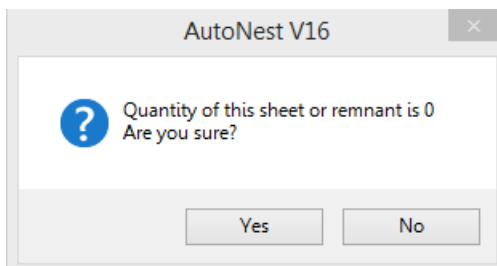
4.4 Remnants and Sheets with Quantity 0

AutoNest warns you in two ways when the quantity is zero for a particular sheet or remnant:

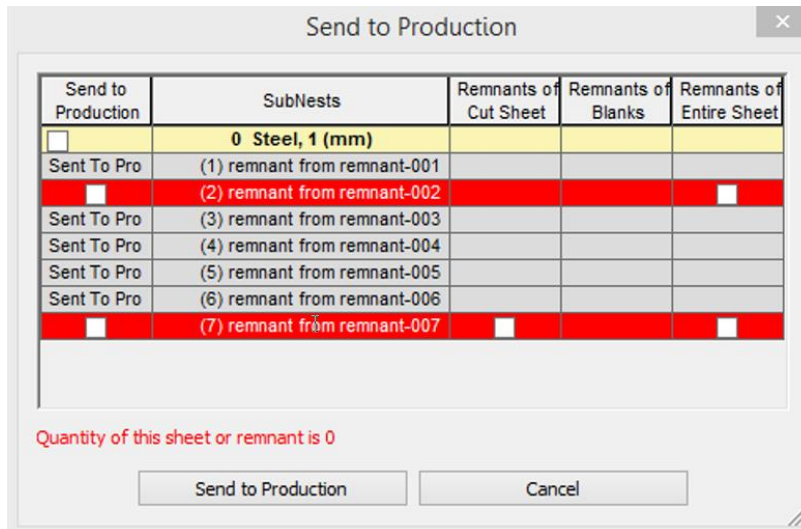
- In the **Set Sheet and Clamps** dialog box, when you select a remnant or sheet that has a quantity of 0:



With this message:

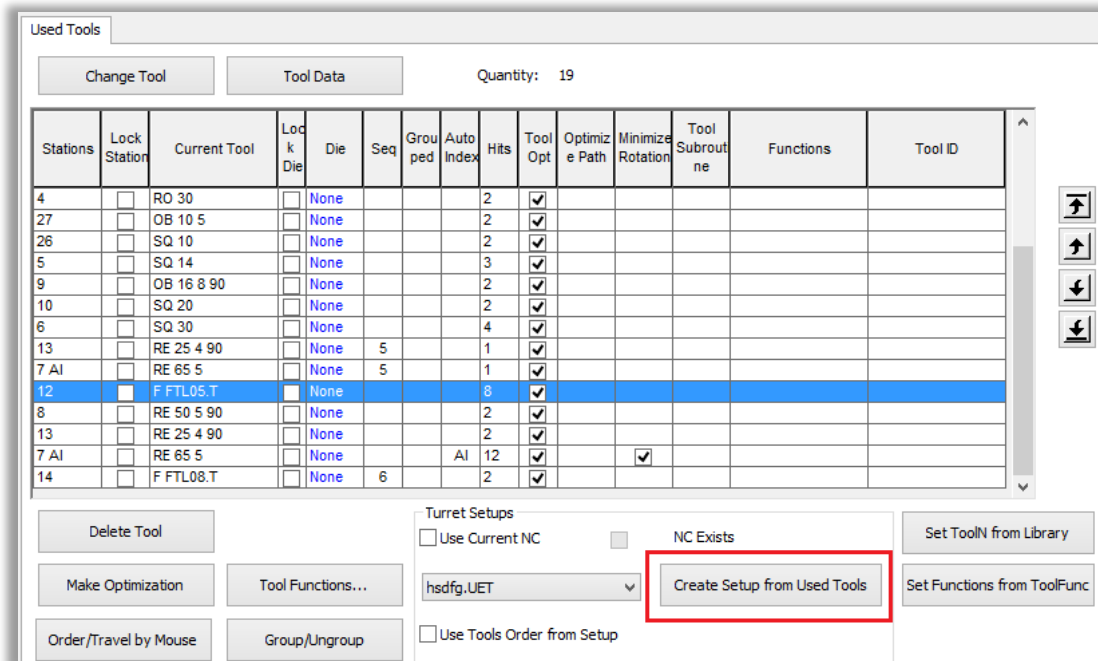


- When you send to production a SubNest that is on a sheet or a remnant with a quantity of **0**, it is shown like this:

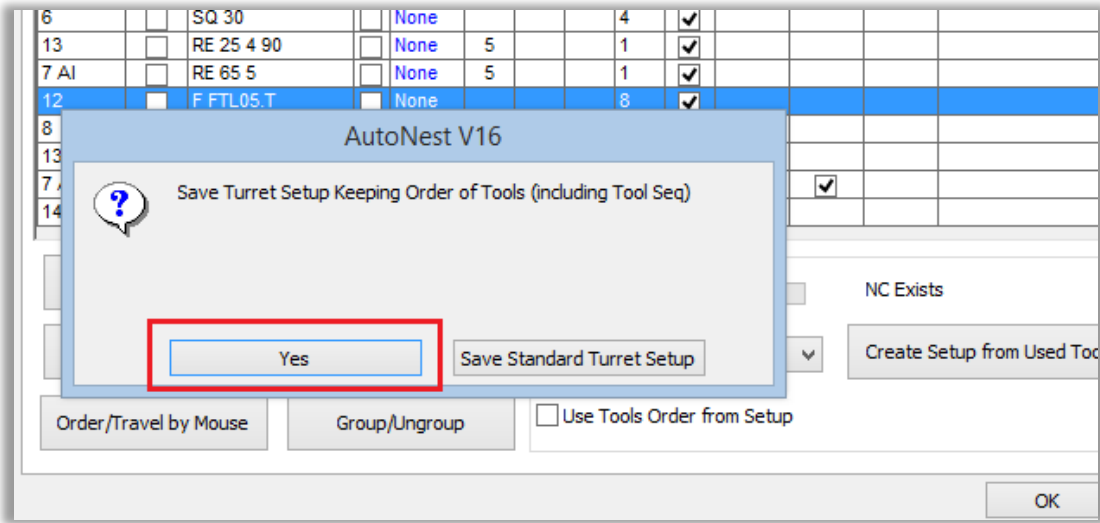


4.5 Turret Setup with Order of Tools (Including Tool Sequence)

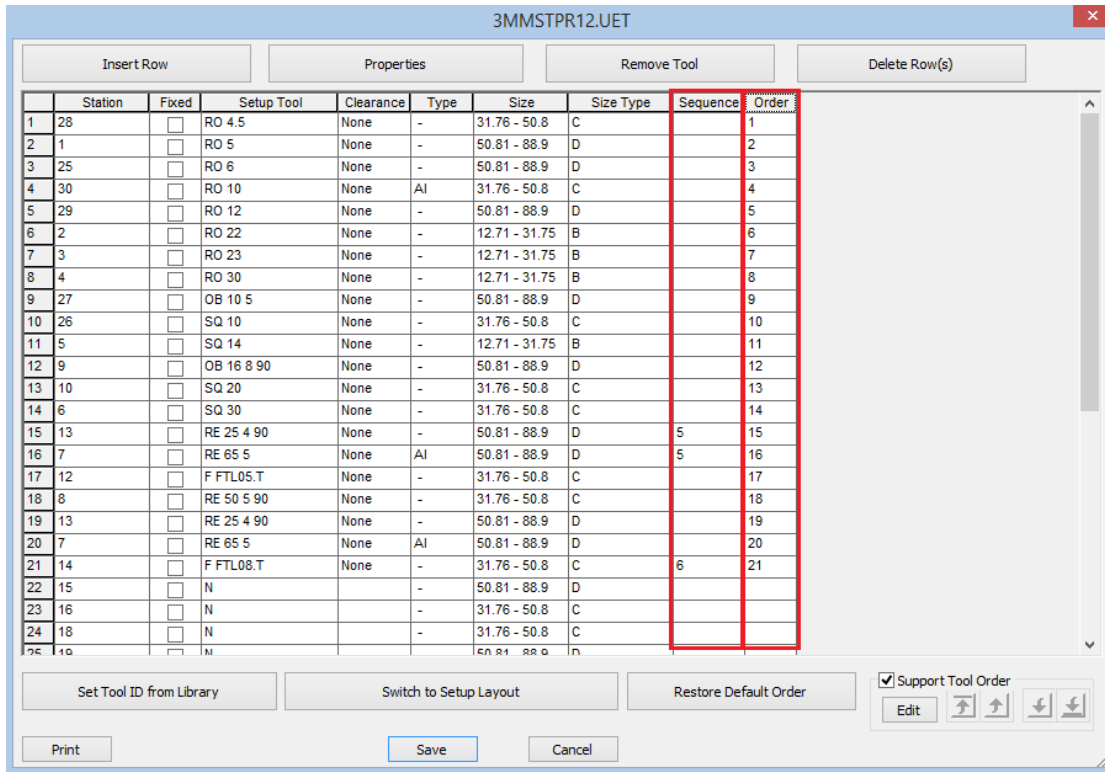
To create a setup with an order and all tool sequences, you create a temporary SubNest that includes one instance of every part with the same material and thickness. In this way, in the **Used Tools** dialog box you can see all the tools that participate in this order:



AutoNest then asks if to keep the tool order:



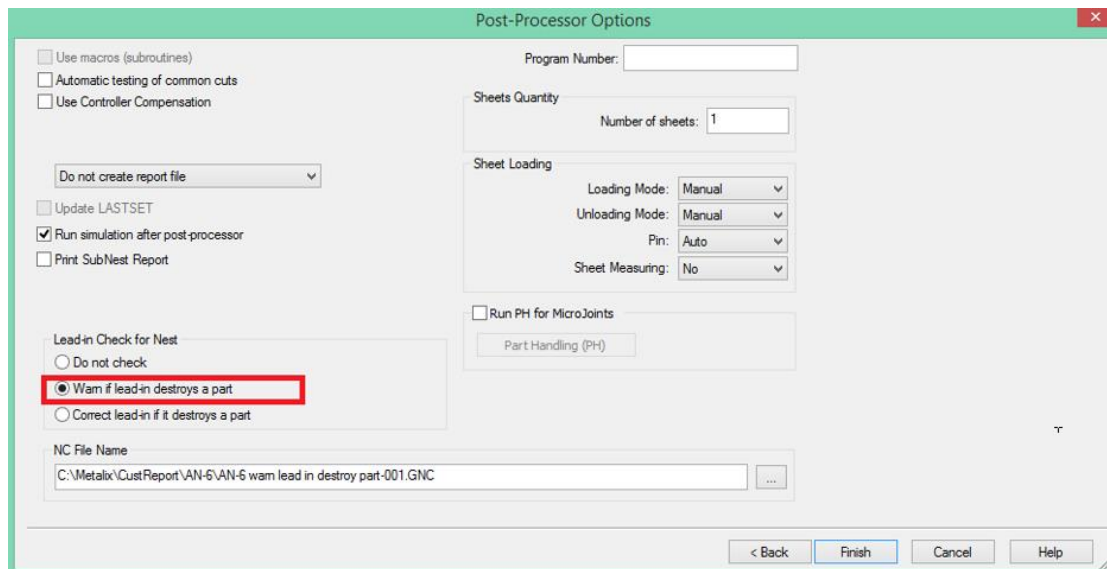
In **Settings => Turret Setups** you can see the setup created with the sequences and the order of the tools:



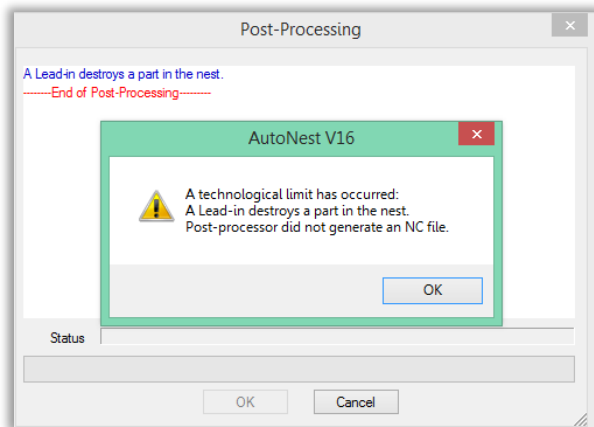
4.6 Part Lead-In Indicates Destroyed Parts

When testing for lead-in that destroys parts, **AutoNest** can indicate which part is causing the problem.

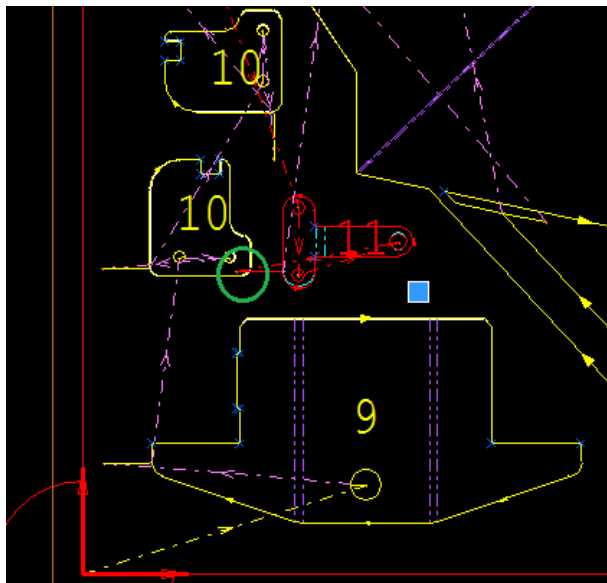
To make this possible, select the **Warn if lead-in destroys a part** option when running NC:




You will see this warning:




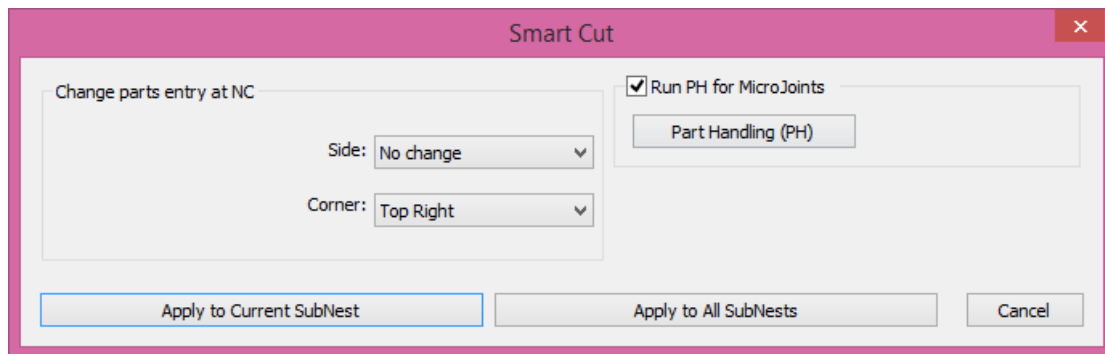
In this case **AutoNest** does not create the NC. The part whose lead-in is destroying another part or is outside the sheet is outlined in red:



4.7 Smart Cut

 This section is only relevant for laser machines.

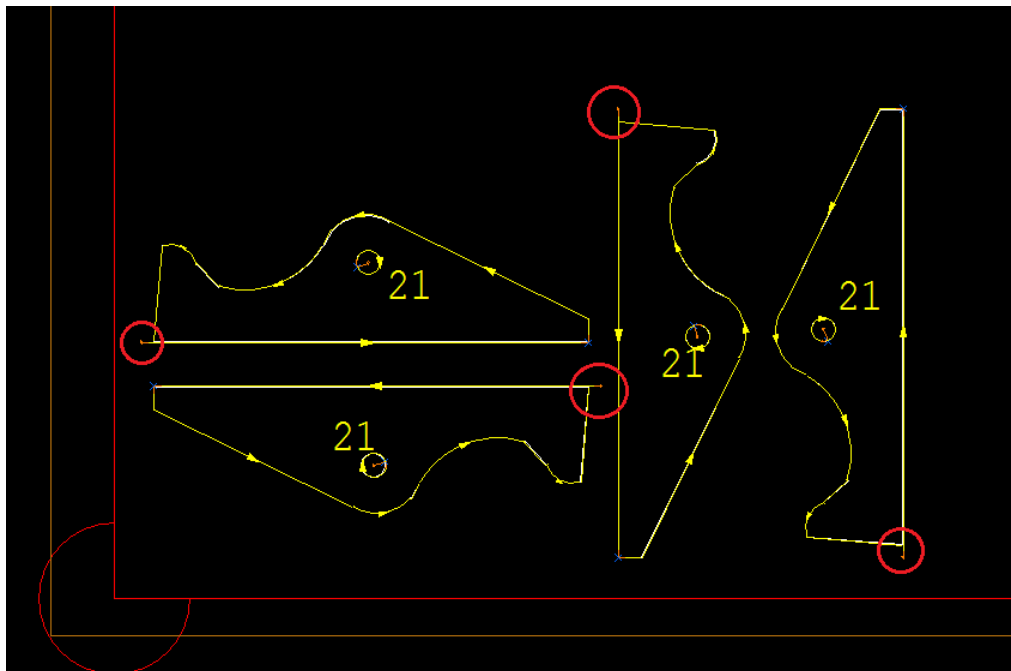
Smart Cut  (from the **CAM** tab) allows you to apply automatic changes to SubNests. The dialog box looks like this:



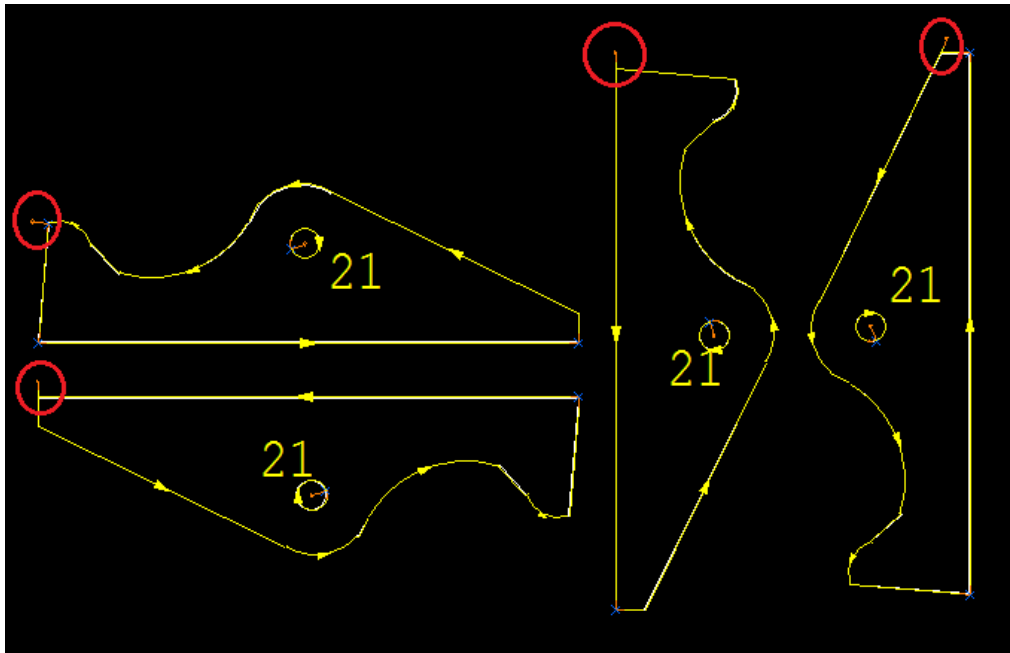
Smart Cut has two functions:

- The **Change parts entry at NC** option changes the part entry point for current the SubNest or all SubNests. Select an option from the **Side** or **Corner** dropdown lists.

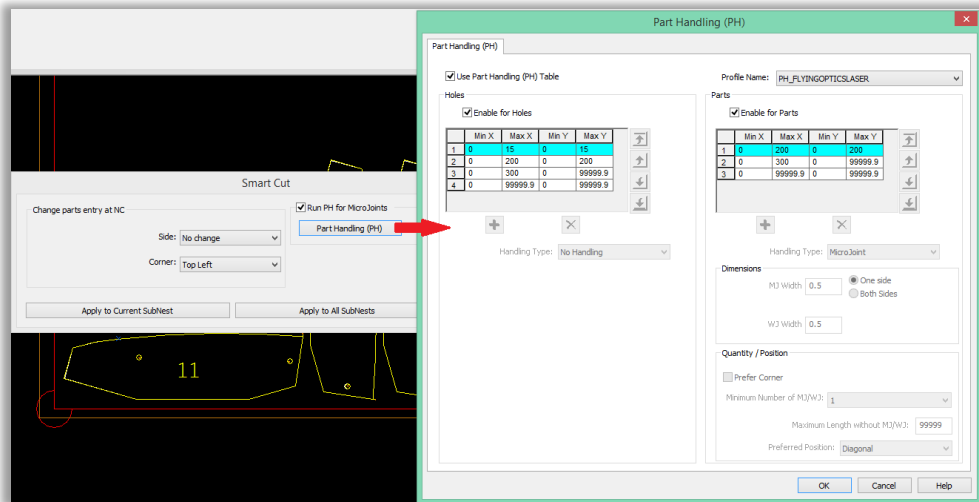
The example shows four instances of a part. The entry points are highlighted with red circles:



After you run **Smart Cut** with the **Top Left** corner option, **AutoNest** positions all the entry points at the top left corner, regardless of the part's orientation:



- The **Run PH for MicroJoints** option automatically adds MicroJoints to the current SubNest or all SubNests:



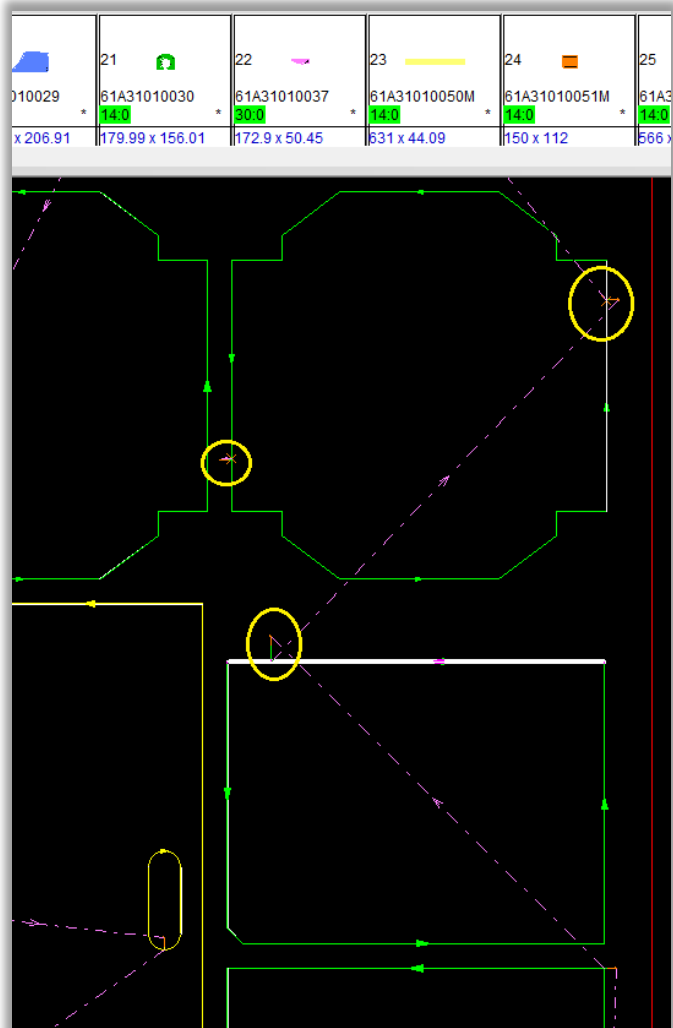
You can edit the Part Handling table before running **Smart Cut**.

- When showing only one SubNest for the material+thickness combination, if you select **Apply to All SubNests**, **AutoNest** applies it only to the SubNest of the shown material+thickness.

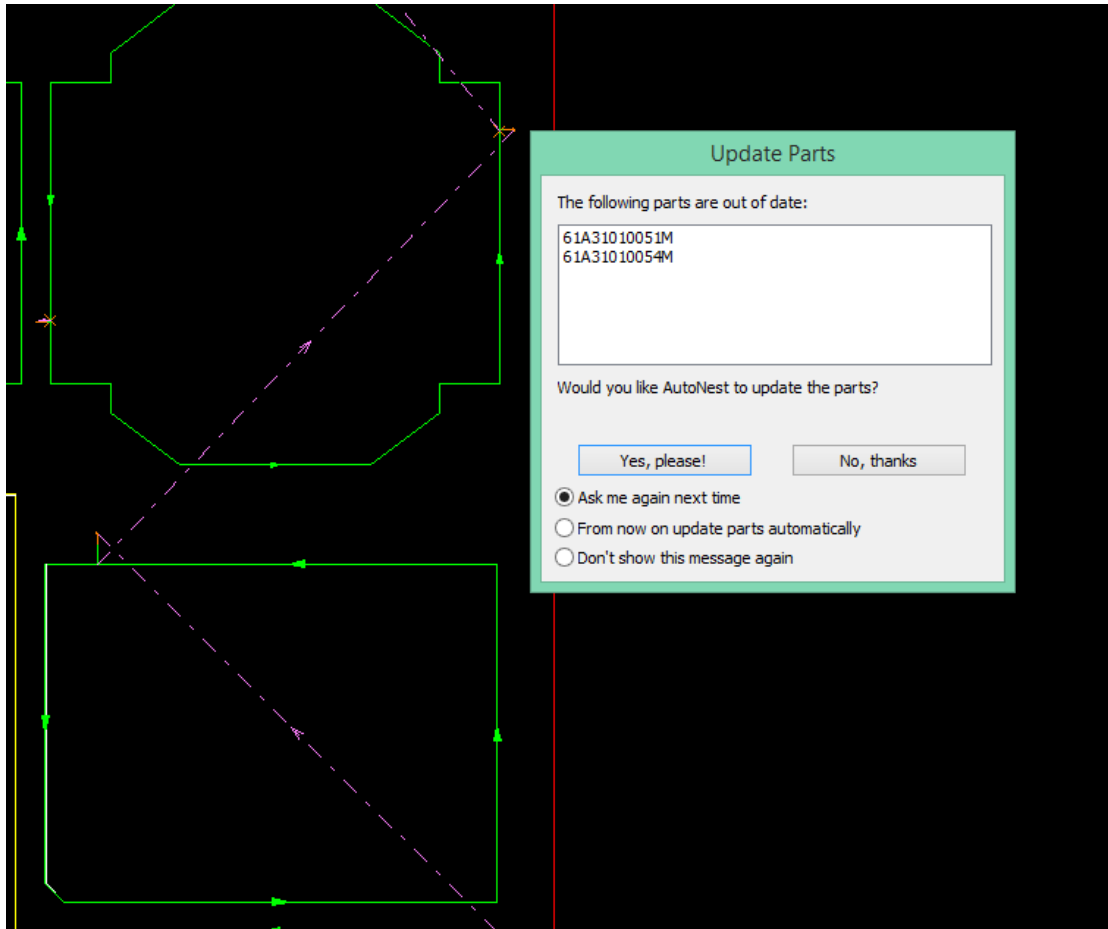
if all the materials are shown, **AutoNest** adds the MicroJoints according to each material's PH parameters.

4.8 Updating Parts in AutoNest

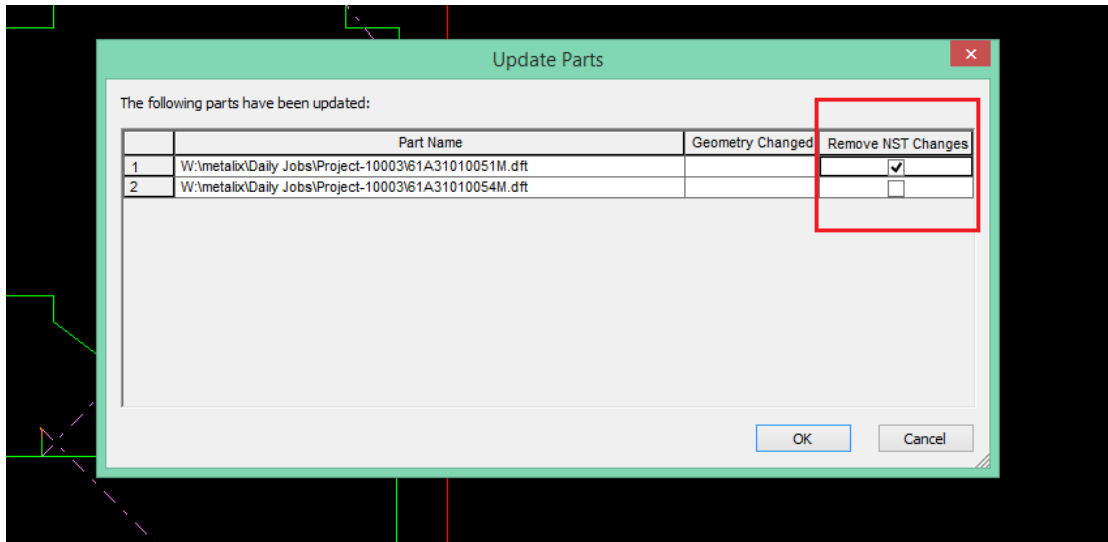
You can now change the CAM in the SubNest. For example, modify the lead-in position or add MicroJoints:



If you change the CAM in the part, when you return to **AutoNest** you will get a request to update the part(s):



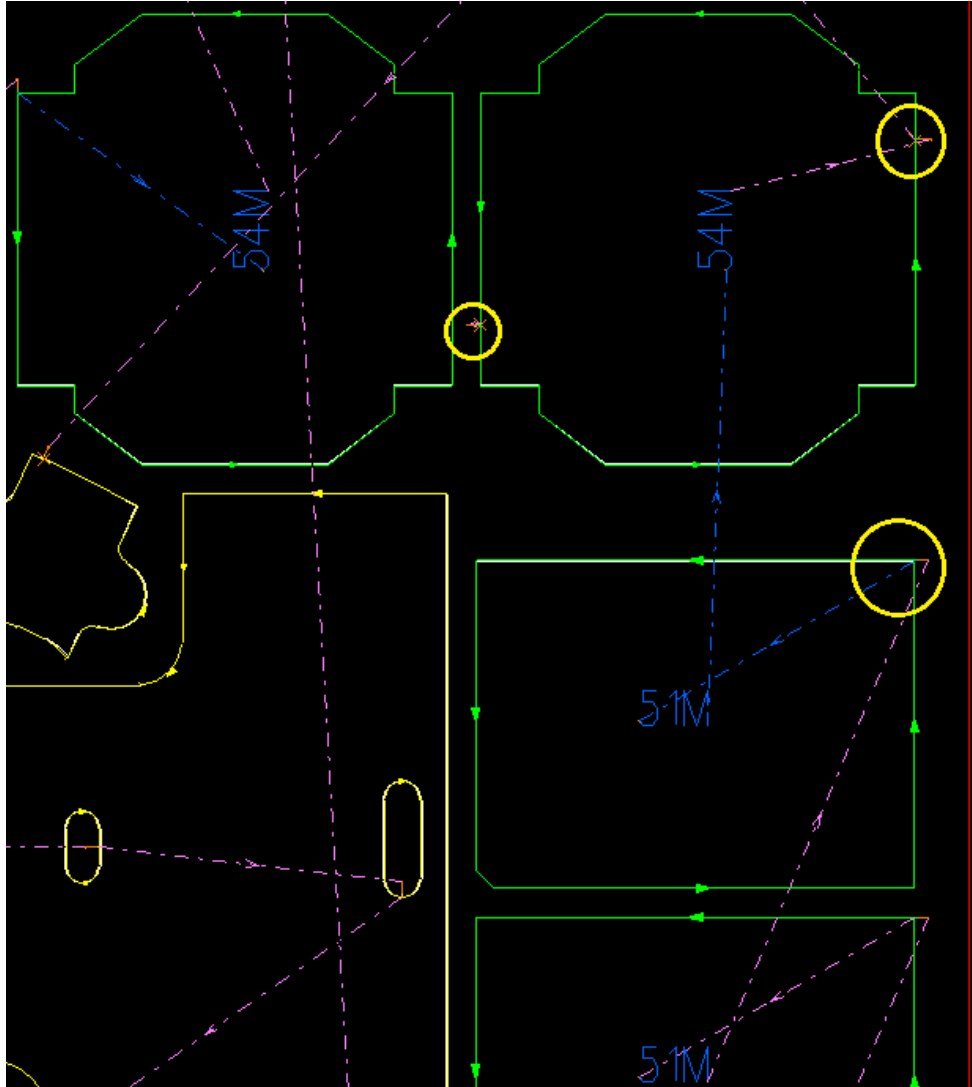
There is a **Remove NST Changes** option:



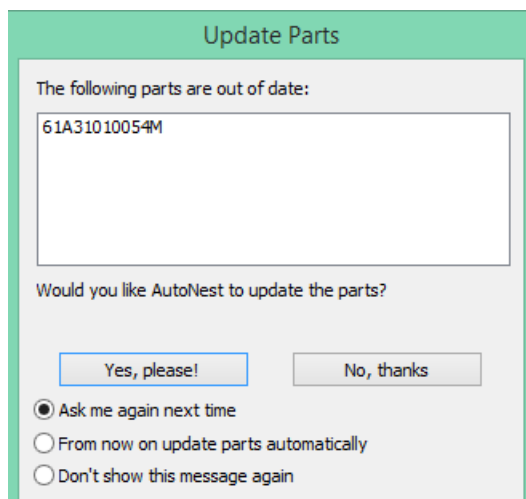
When you check the option, **AutoNest** only updates the (line, circle, or arc) entities with no NST changes from the part.

In the example shown:

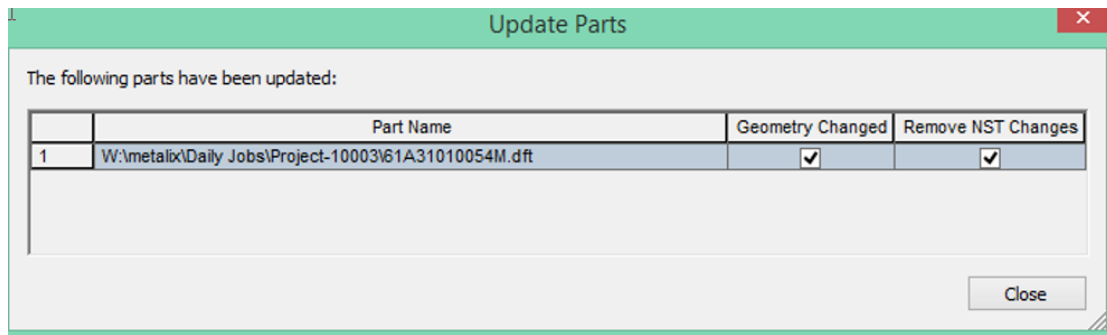
- In the 61A31010054M part instance, the MicroJoints added in the SubNest were not removed.
- In the 61A31010051M part instance, the lead-in was updated to how it is in the part.



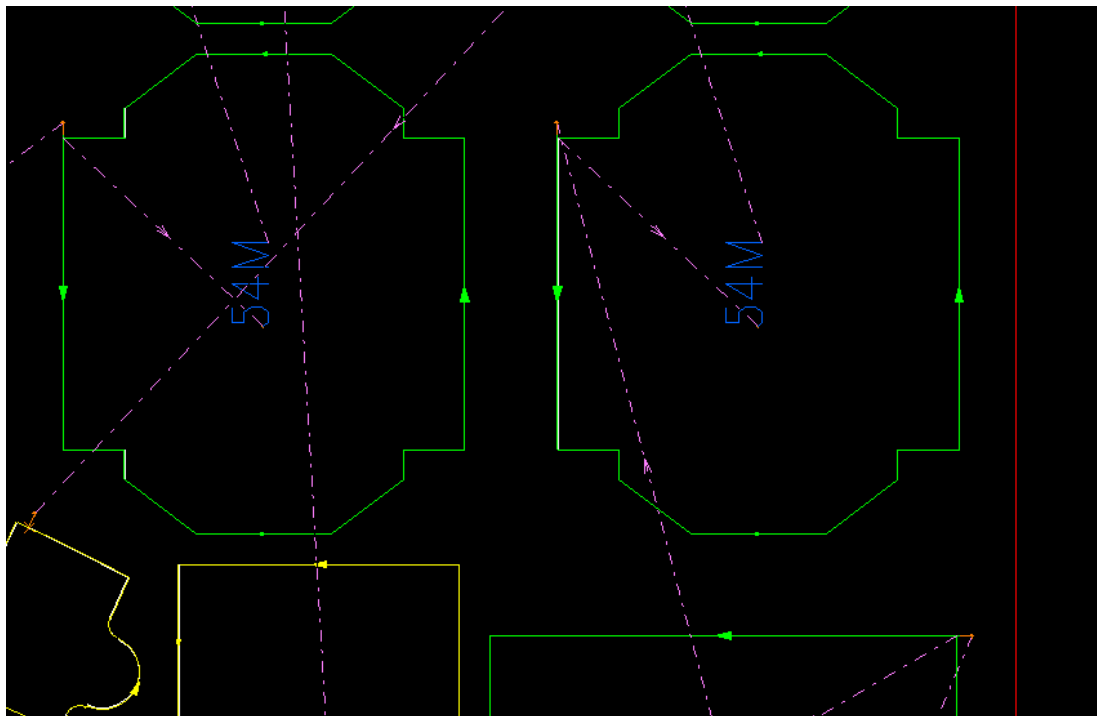
When you change the geometry, you get the following message:



You do not have an option to keep the changes to the SubNest. **AutoNest** simply informs you of the changes:

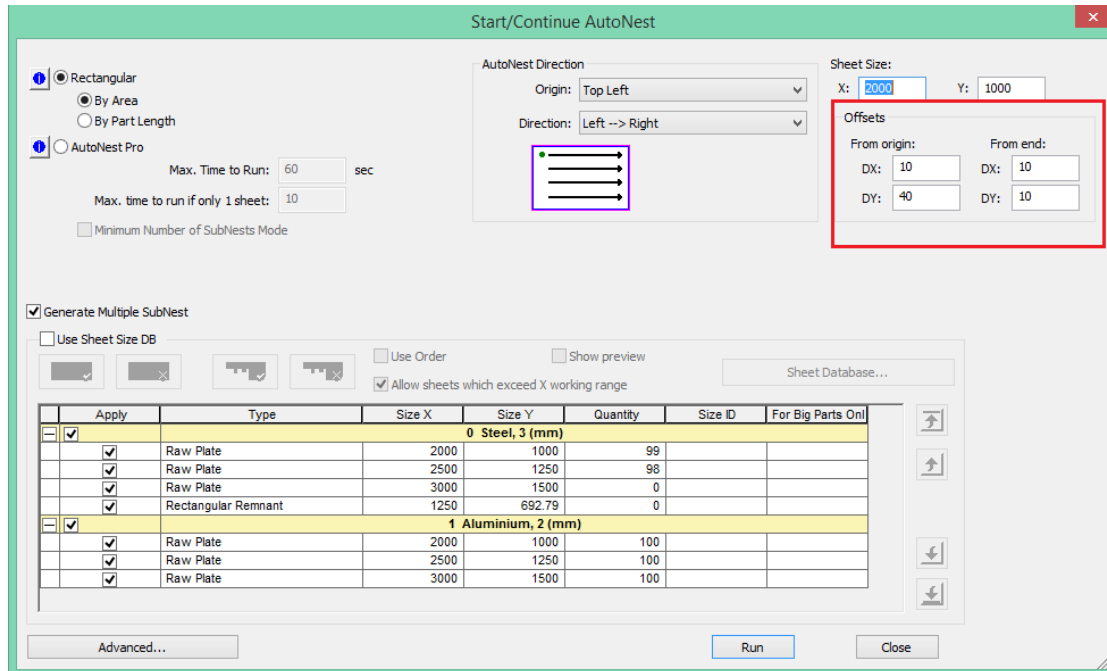


After changing the part dimensions, the SubNest changes (to the two MicroJoints) are not kept:



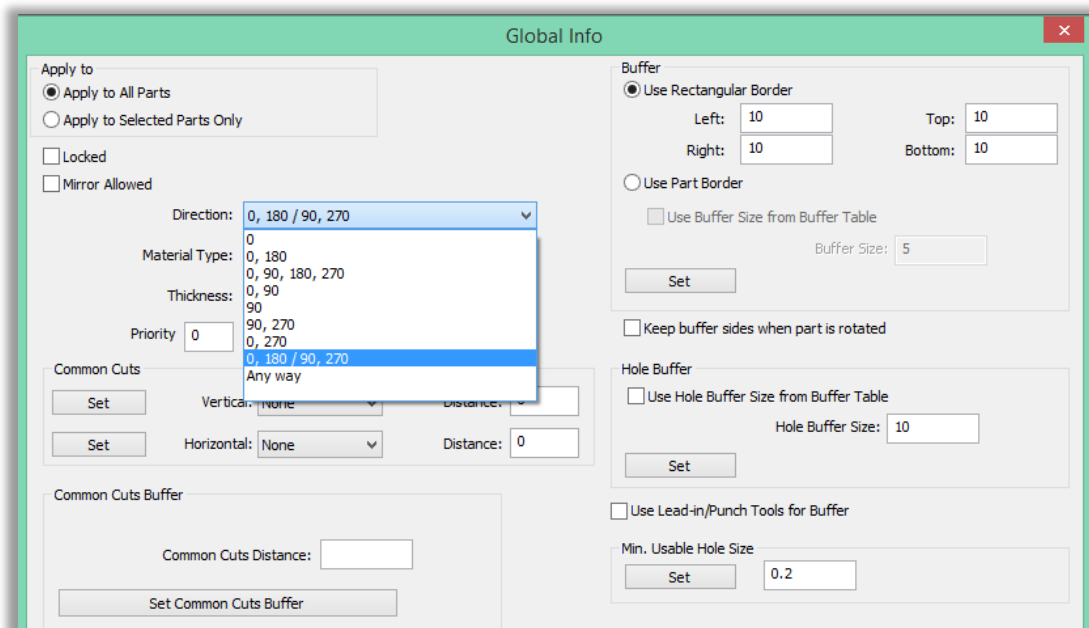
4.9 Set Sheet Offsets in AutoNest Dialog Box

You can now configure offsets for the sheet in the **Start/Continue AutoNest** dialog box:

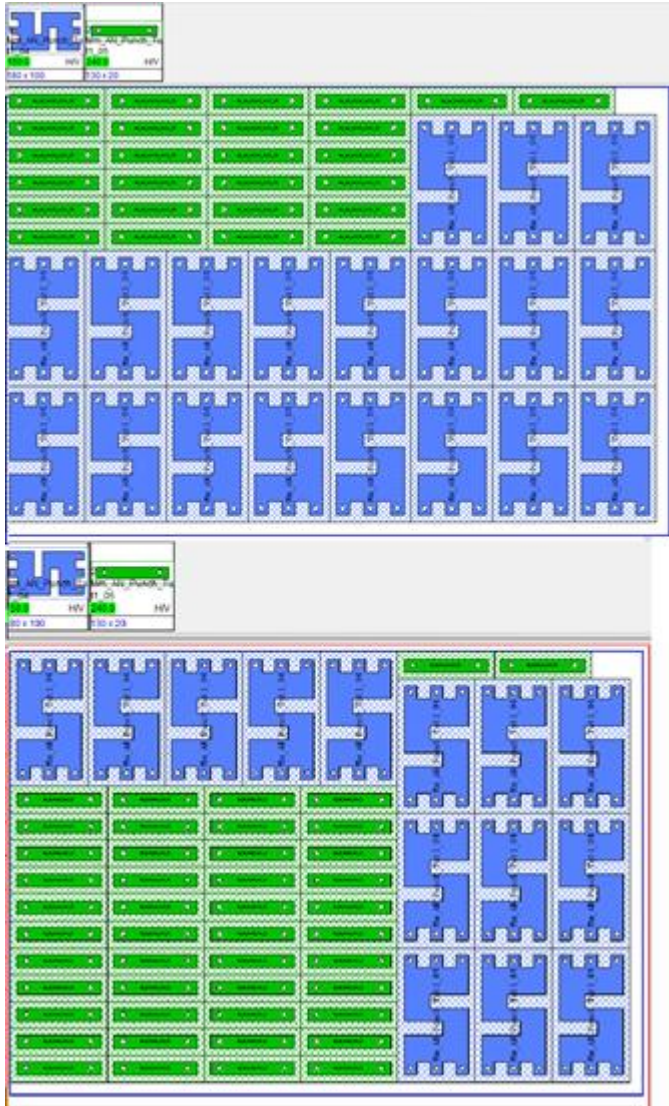


4.10 AutoNest Places Parts Vertically or Horizontally

There is a new direction option in the **Global Info** dialog box: **0,180 / 90,270**:

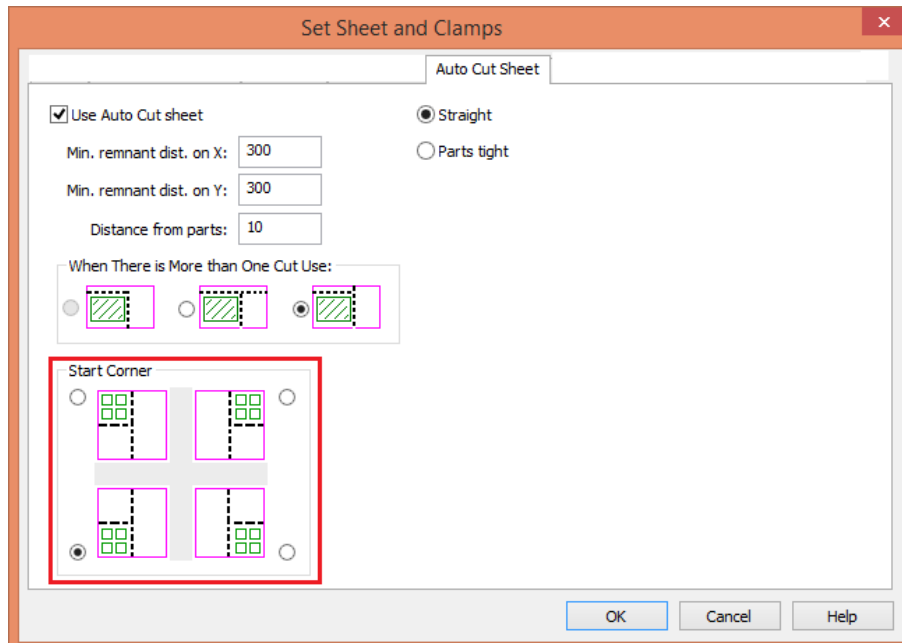


When you select this option, **AutoNest** places each part consistently: either vertically or horizontally:



4.11 Cut Sheet Start Corner

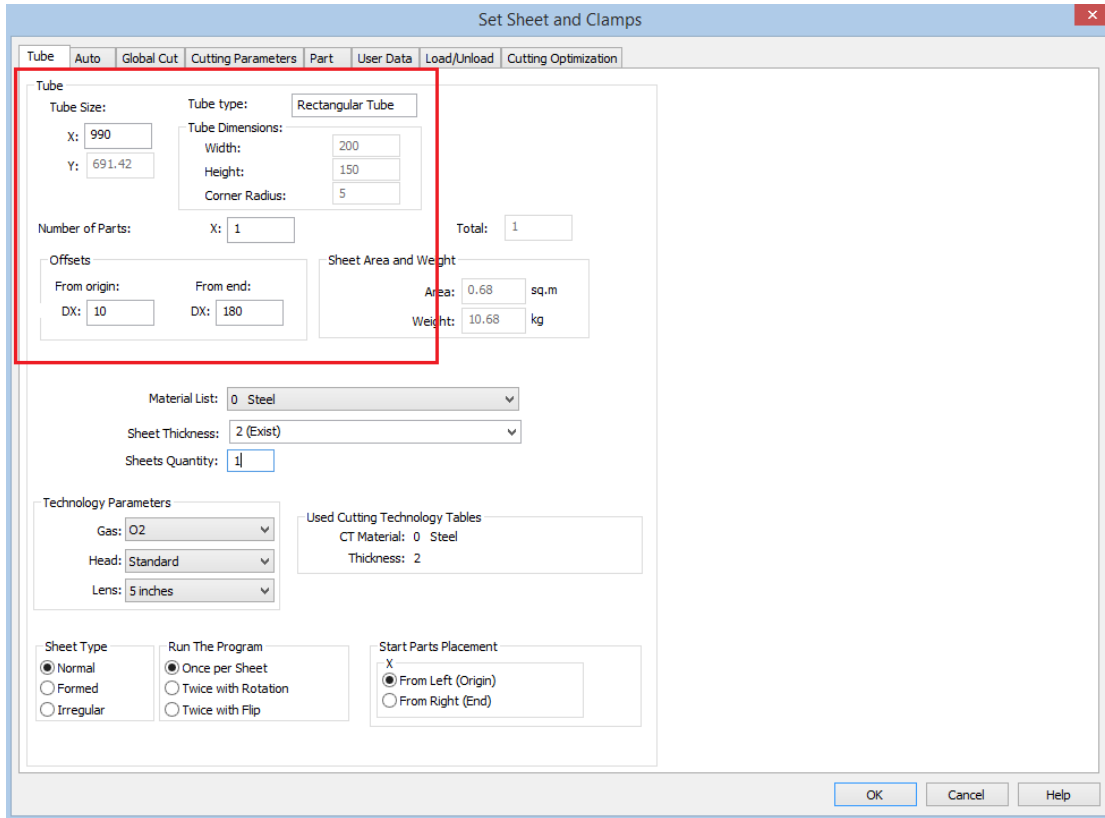
You can now differentiate between the sheet origin and the corner where cutting should start. Set the corner where cutting starts in the **Set Sheet and Clamps** dialog box => **Auto Cut Sheet** tab:



5 New in Tubes

5.1 Tube-Specific Set Sheet and Clamps

The **Set Sheet and Clamps** dialog box now contains a tube-specific tab; the **Tube** tab:



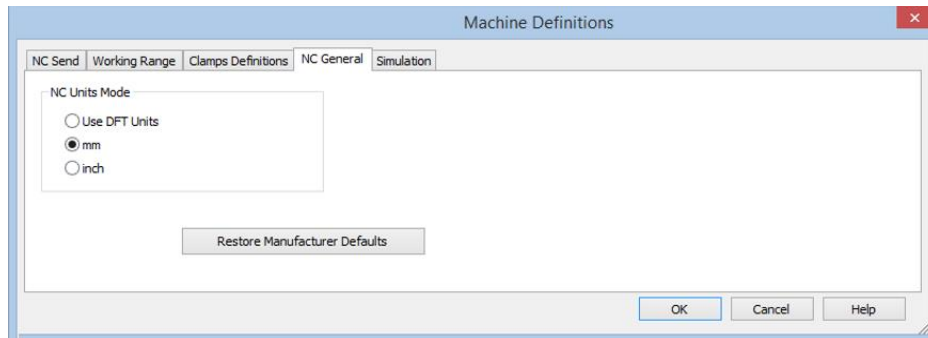
6 New in Simulation

6.1 Machine Definitions: NC Units, System Origin

The **Machine Definitions** dialog box has two new tabs.

6.1.1 NC General Tab

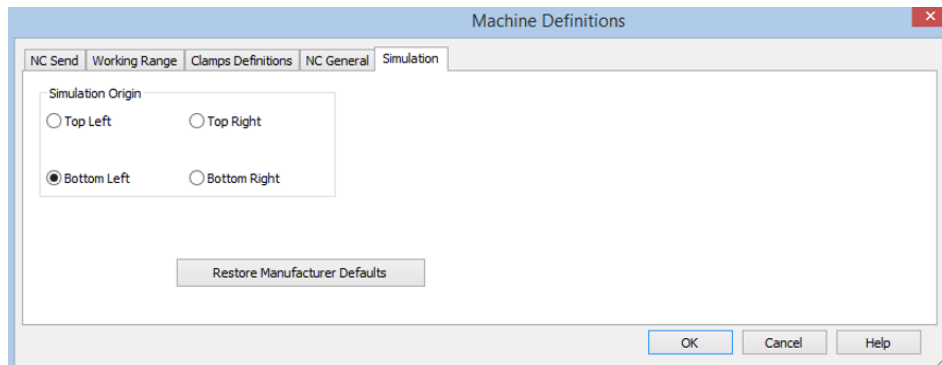
cncKad allows you to set the mode for NC units in the new **Machine Definitions => NC General** tab:



The default values are taken from the MDL file. You can always revert to the default by clicking the **Restore Manufacturer Defaults** button.

6.1.2 Simulation Tab

cncKad allows you to set the simulation system origin in the new **Machine Definitions => Simulation** tab:



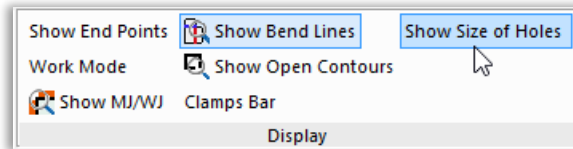
The default values are taken from the MDL file. You can always revert to the default by clicking the **Restore Manufacturer Defaults** button.

7 New General Features

7.1 Display Standard Hole Type and Size

In **cnKad** it is now possible to display the shape type code and the size for all the standard holes in the part. This is controlled by a new option in the **View** tab =>

Display group: **View/Show Size of Holes**:



This is the result:

