

# New in cncKad Version 17

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# 1 New in Import

## 1.1 AutoCAD 2018

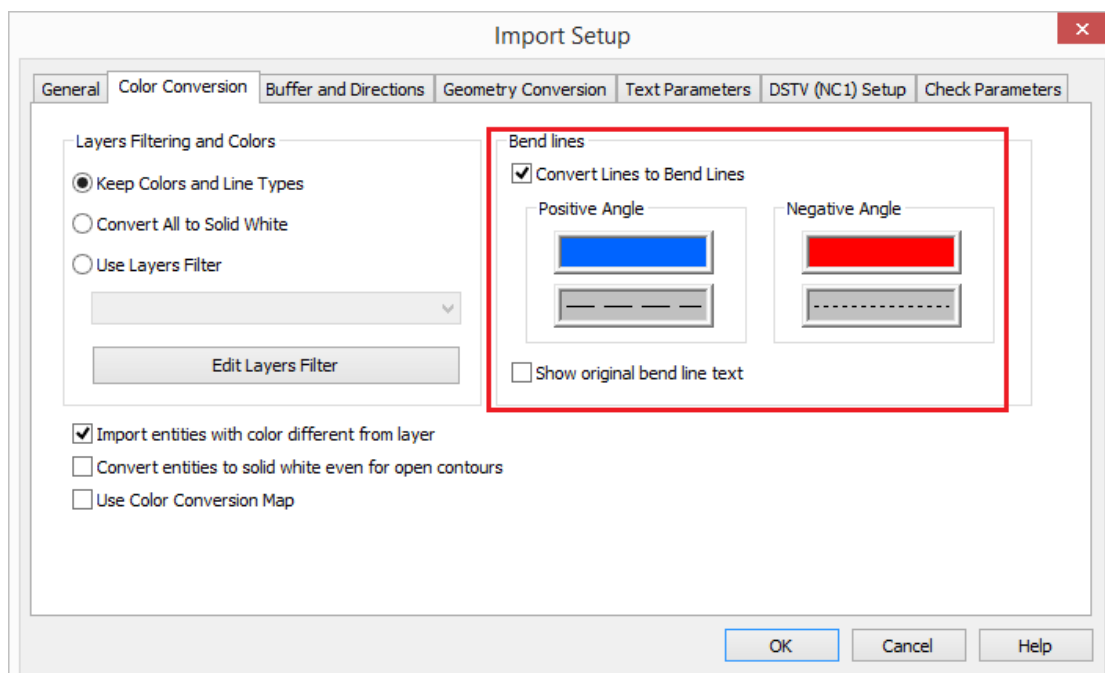
Support for AutoCAD 2018 DXF/DWG file formats.

## 1.2 Detect Bend Line Data by Text Lines

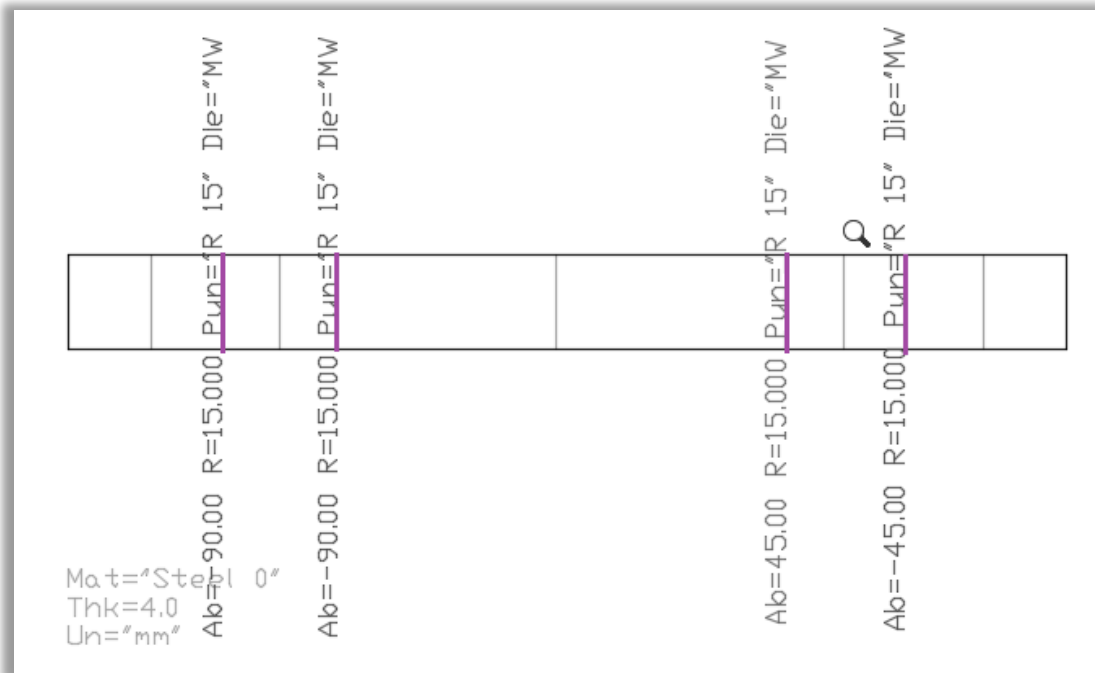
When the DXF has bend lines with text on them describing the bend, the import can recognize these texts and convert the lines to bend lines. This is true for both **cncKad** and **AutoNest**.

To do this:

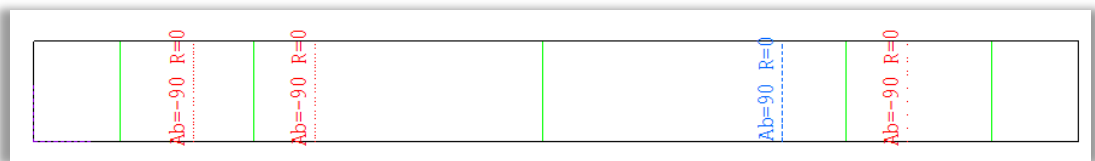
1. In the **Import setup** dialog box => **Color Conversion** tab, select **Convert Lines to Bend Lines**.
2. Deselect **Show original bend line text**.
3. Set the bend line colors for positive angles to **blue** and for negative angles to **red**, as shown.



The DXF initially looks like this:



After import, the part looks like this:



Now, **cncKad/AutoNest** recognize the lines as bend lines; for example, for AutoCut and estimation, or further processing on bending machines.


## 1.3 Open IGES STEP Files

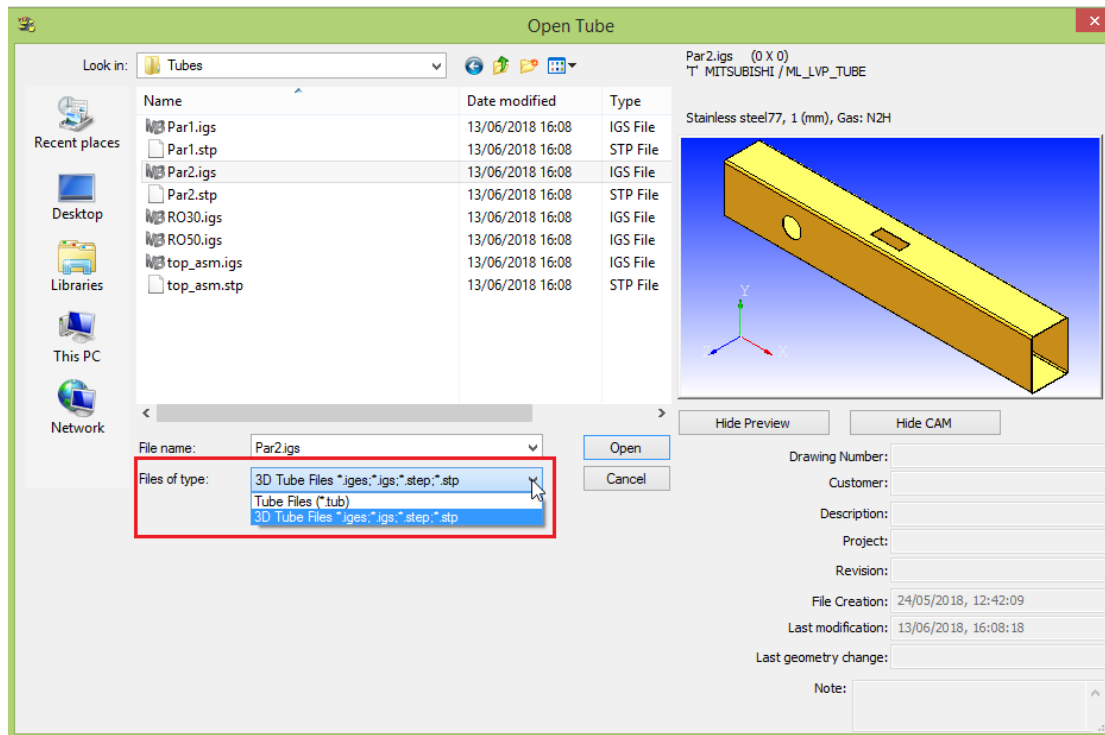
You can now open 3D sheet metal and tube parts (IGES/STEP) directly in **cncKad** and **AutoNest** without going through the import process.

### 1.3.1 3D Tube Parts

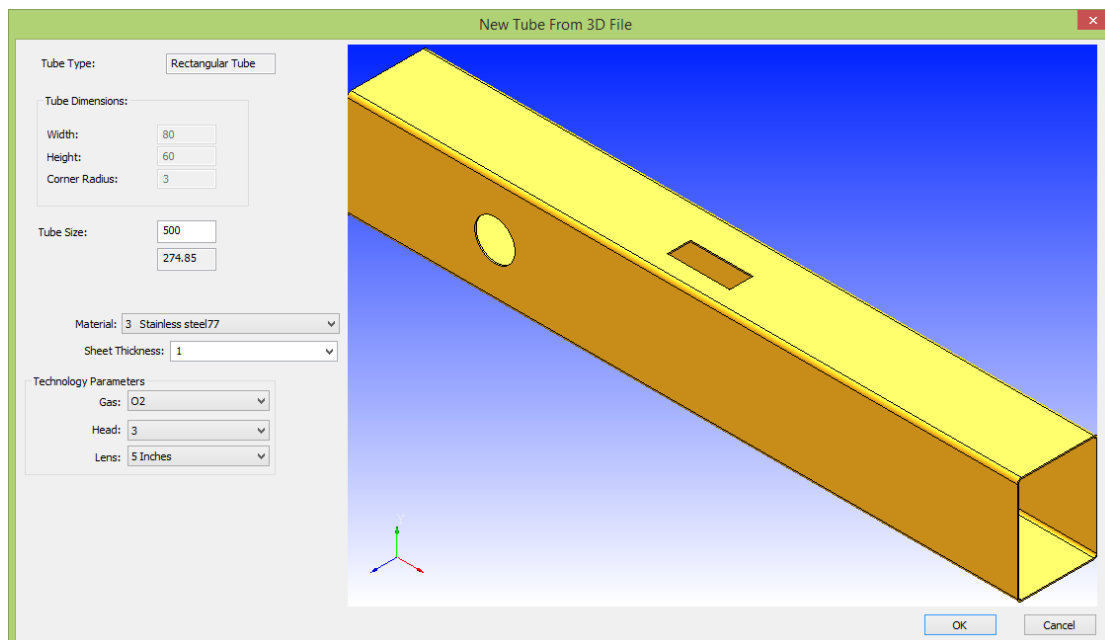
Open 3D tube parts (IGES/STEP) and create a TUB file.

(To open 3D tube files, option 25 must be enabled in your HASP plug.)

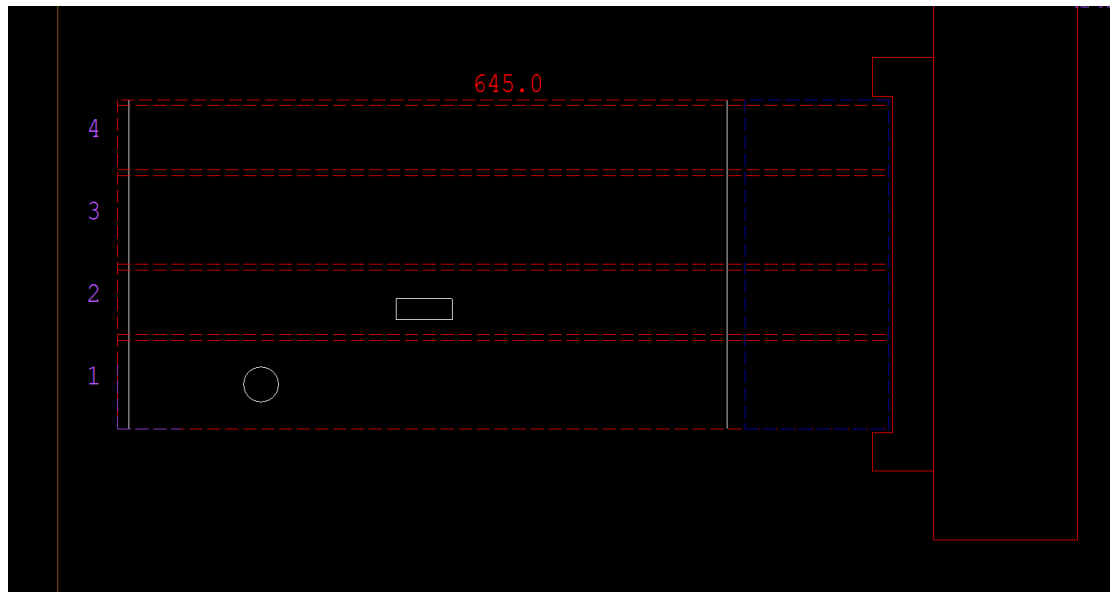
In the **Home** tab, click **Open Tube** . In the **Open Tube** dialog box, select the file type and a file:



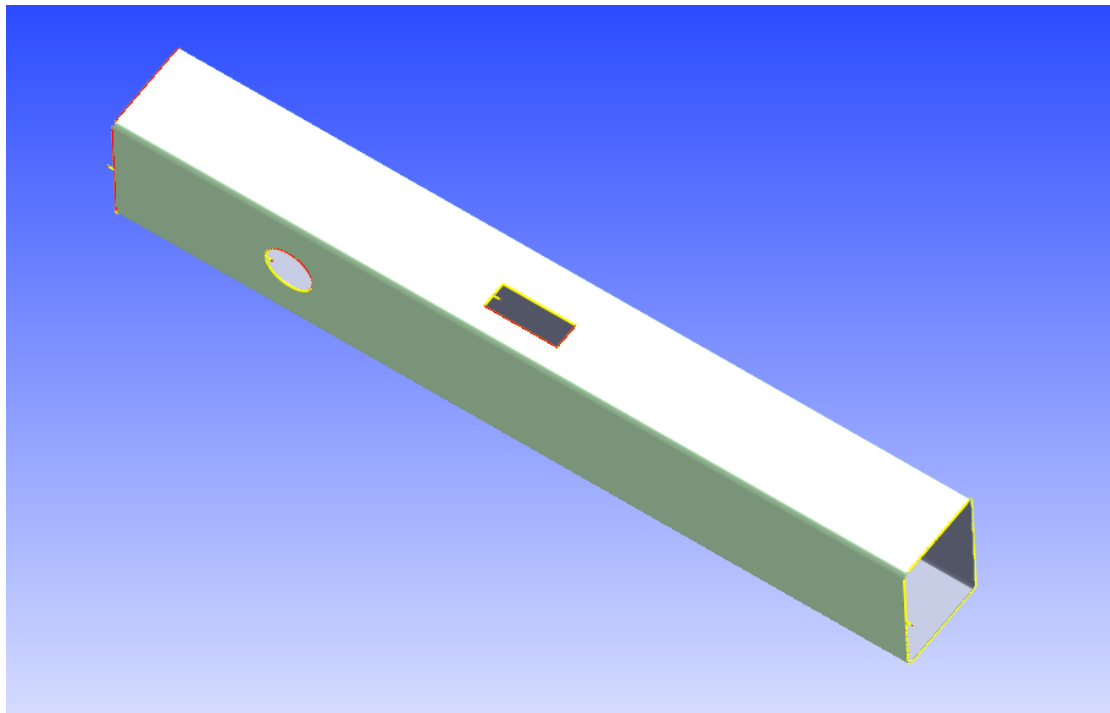
Click **Open**. **cncKad** takes the thickness from the input file and the material from the default settings. Choose the correct material in the dropdown list:



This is how the tube looks in two dimensions:




And in three dimensions:

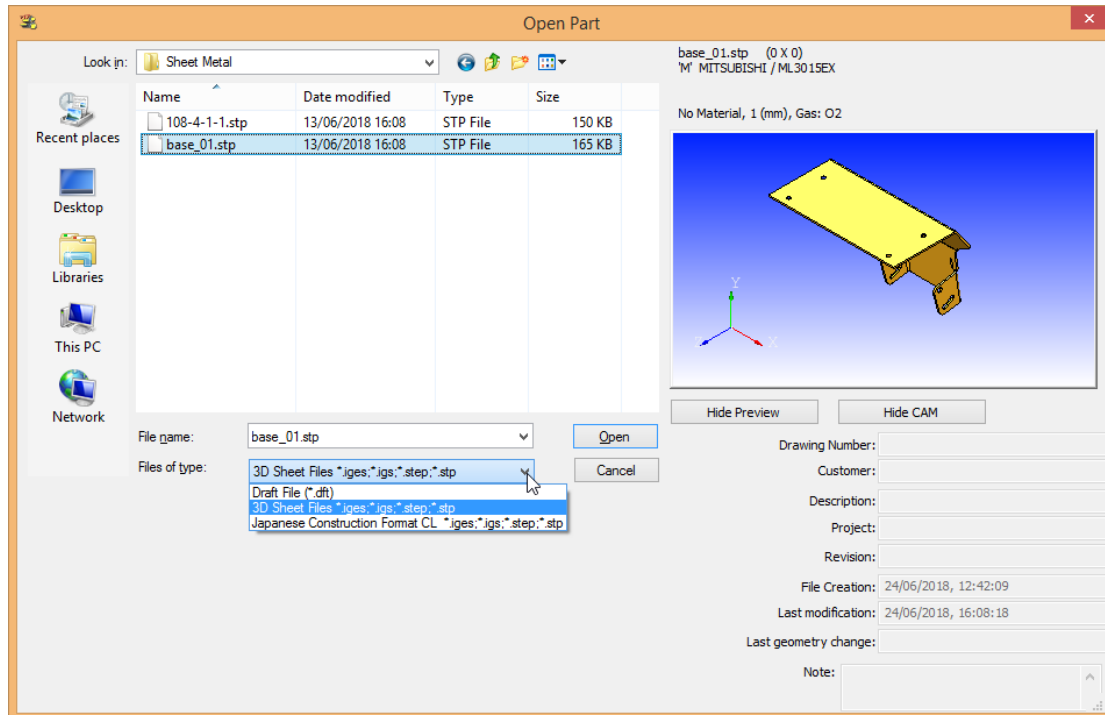


**cncKad** and **AutoNest** save the TUB files automatically in the same folder as the input file.

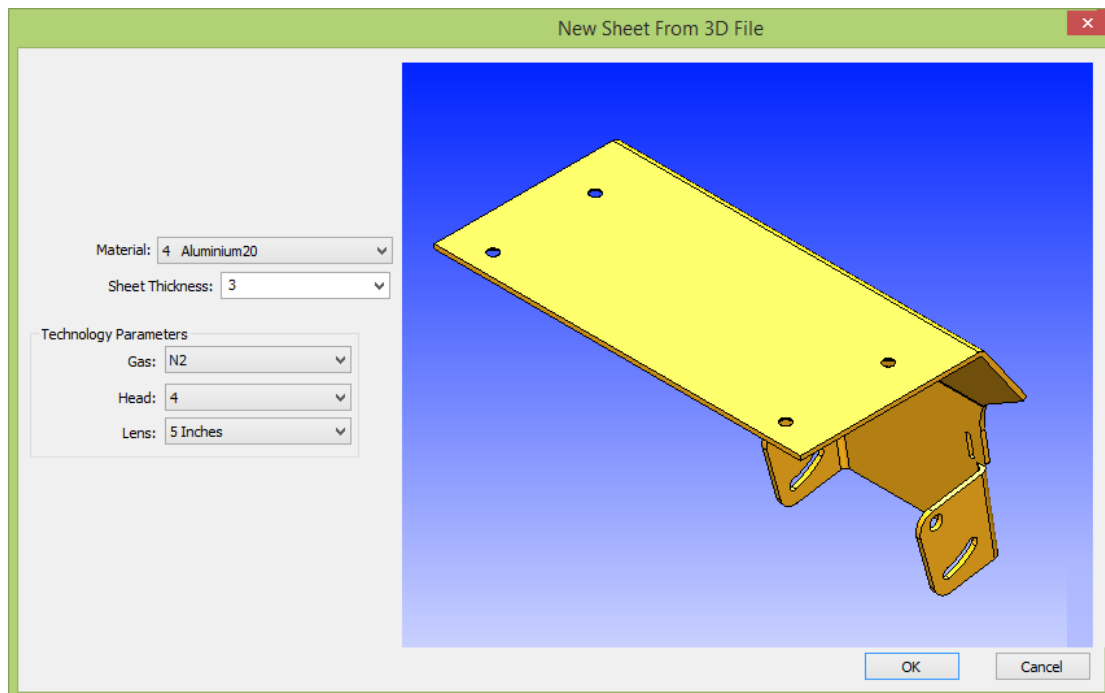
### 1.3.2 3D Sheet Metal Parts

Open 3D sheet metal parts (IGES/STEP) and create an unfolded DFT file.

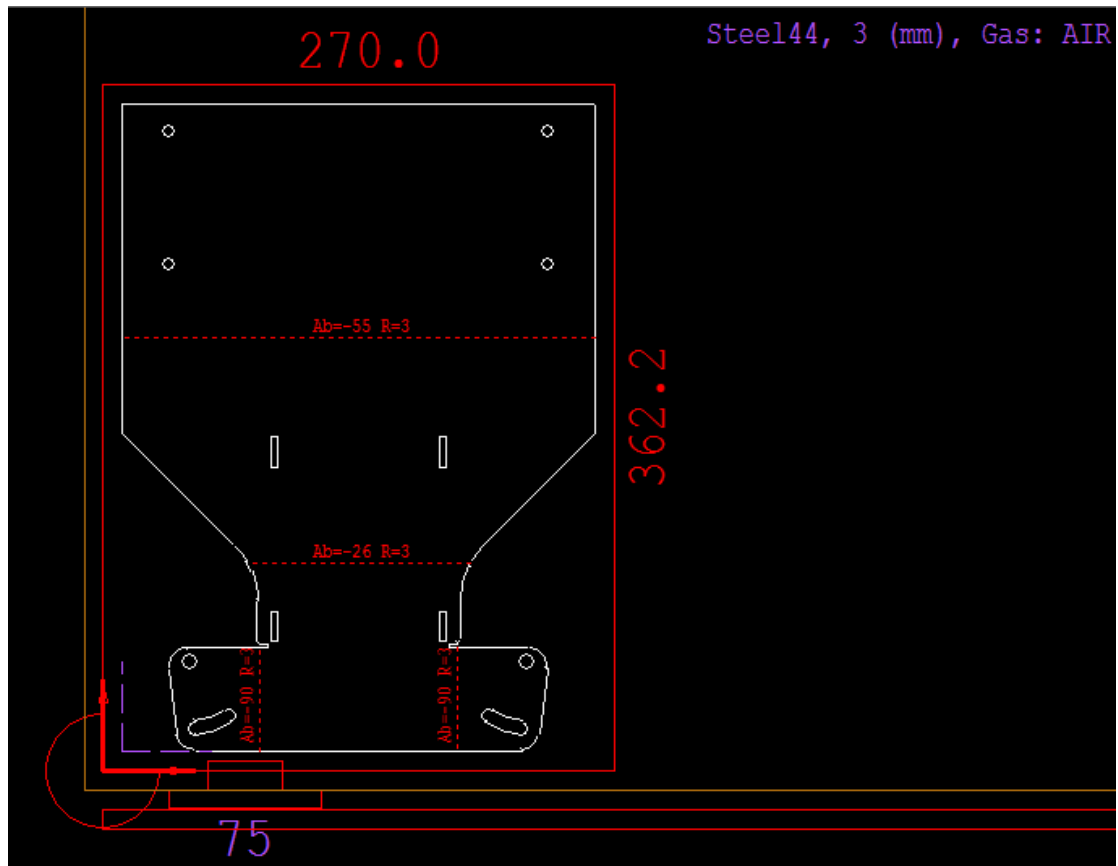
In the **Home** tab, click **Open Part** . In the **Open Part** dialog box, select the **3D Sheet Files** file type and a file:



Click **Open**. **cncKad** takes the thickness from the input file and the material from the default settings. Choose the correct material in the dropdown list:



This is how the part looks in two dimensions:




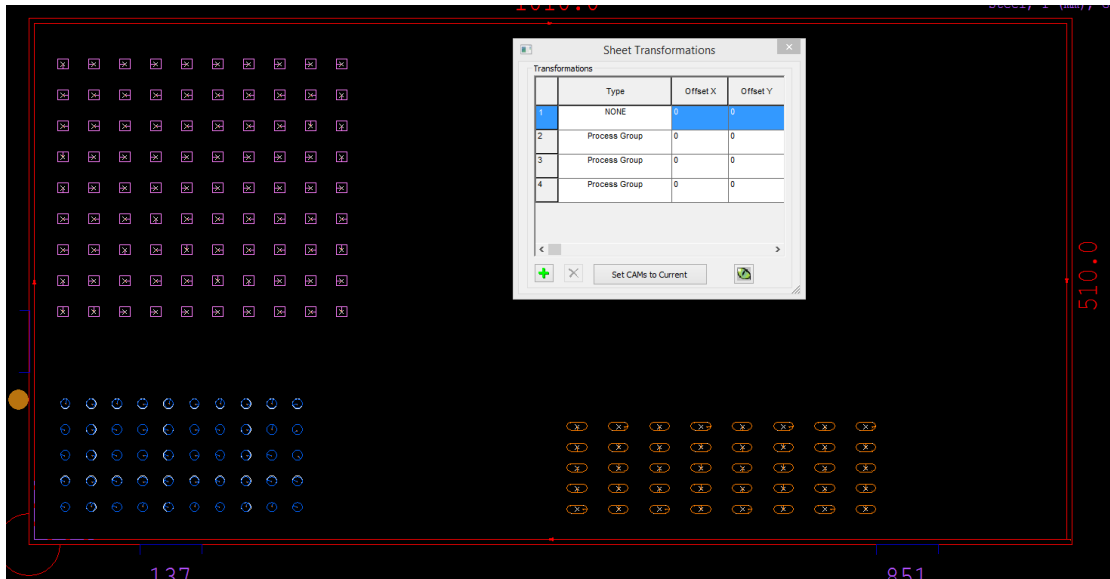


## 2 New in cncKad

### 2.1 Display Processed Groups in Different Colors

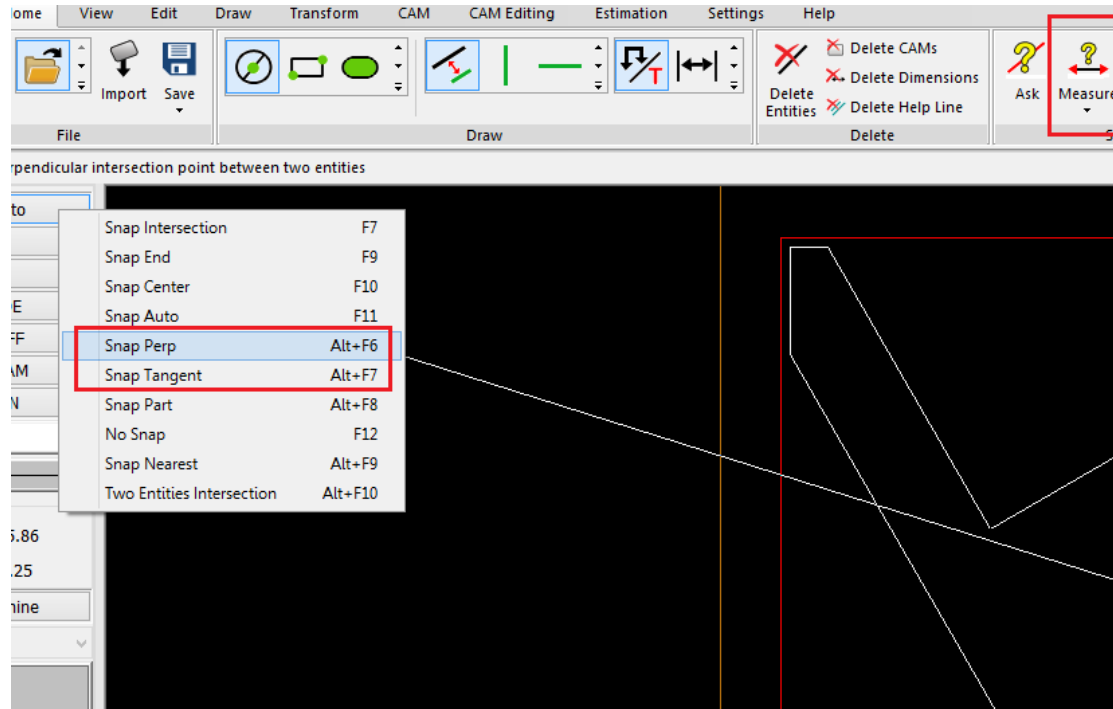
In the **Sheet Transformations** window, when setting the process group, **cncKad** automatically displays the different processed groups in different colors.

To see the colors, click the **CAM Editing** tab => **Edit CAMs** group => **Reposition and Transformation**  :



## 2.2 Measure Allows Snap Perpendicular and Tangent

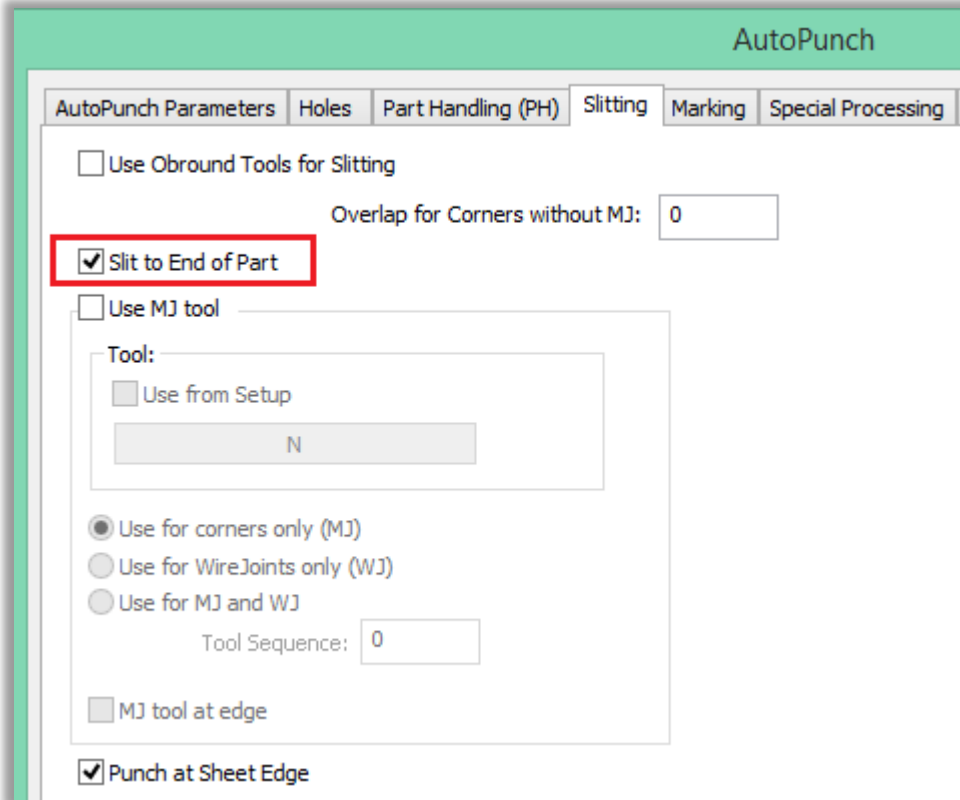
Now, when measuring a distance, you can also select **Snap Perpendicular** and **Snap Tangent** from the snap options:



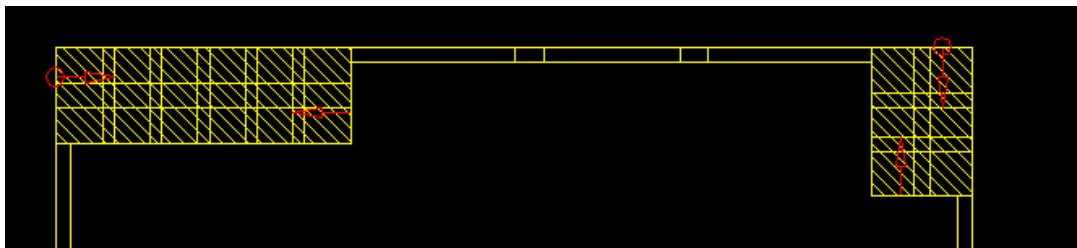
### 3 New Punch Features

#### 3.1 Slit to End of Part

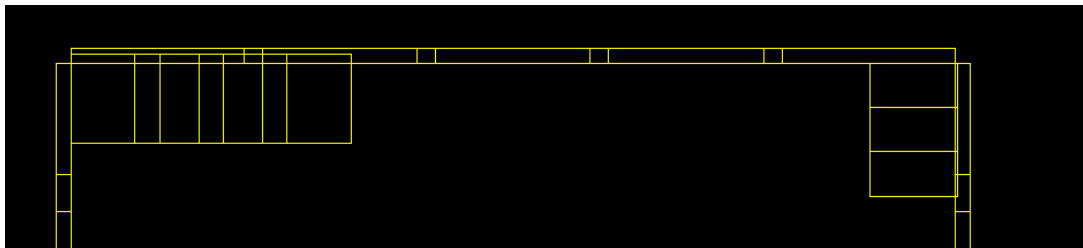
In the **AutoPunch** dialog box => **Slitting** tab, you can now extend the processing length of the cutting tool so that it slits until the edge of the bounding box of the part. In this case, do NOT crunch notches to the slit line.



In this example, when the **Slit to End of Part** option is not checked, there are more hits in the crunched notch:



When the option is checked, there are fewer crunch hits:

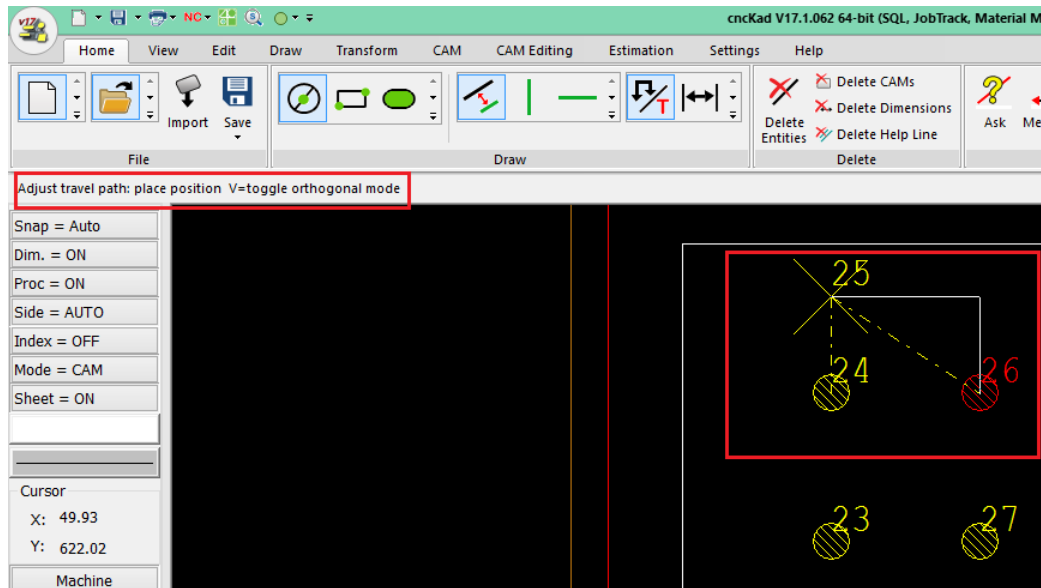


## 3.2 Support Orthogonal Mode when Adjusting Travel Path

When adjusting the travel path for punch, you can now limit the path to orthogonal lines.

Click the **CAM** tab => **Punch CAM** group => **Used Tools**. In the dialog box, click **Order/Travel by Mouse**.

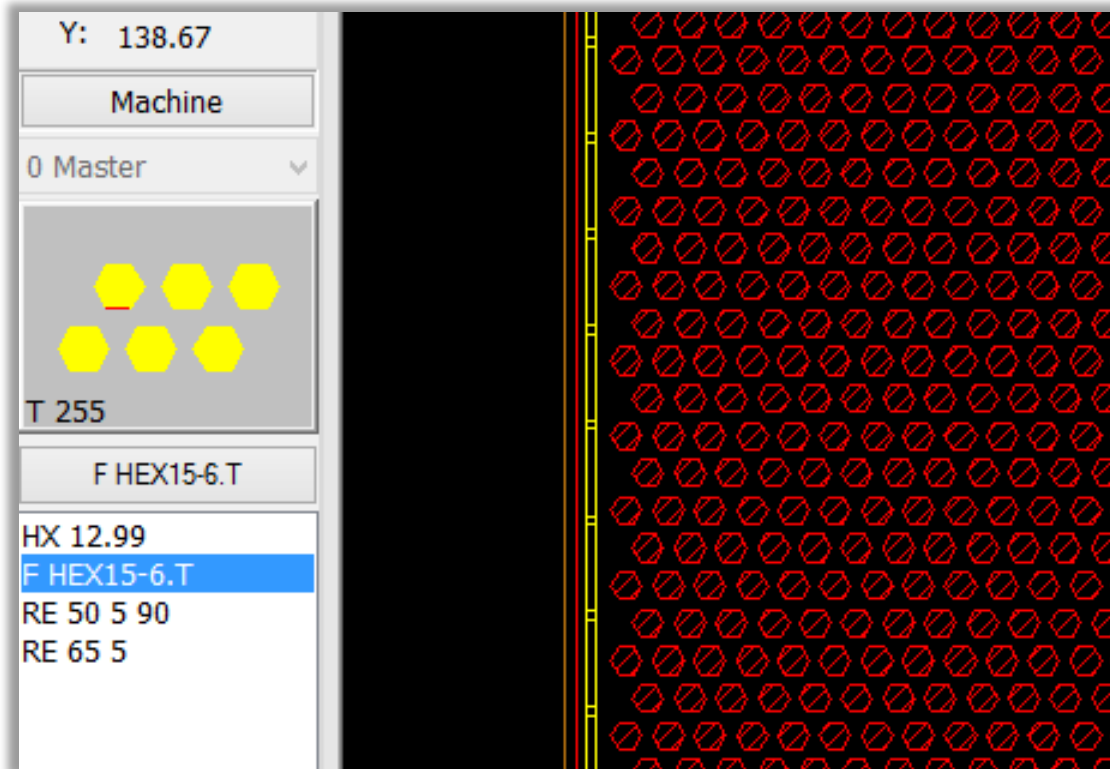
After you press A for travel adjustment, you get the option to press V for orthogonal path creation. This makes it easy to set the travel in only orthogonal lines.



### 3.3 AutoPunch Improved Support for Cluster Tools

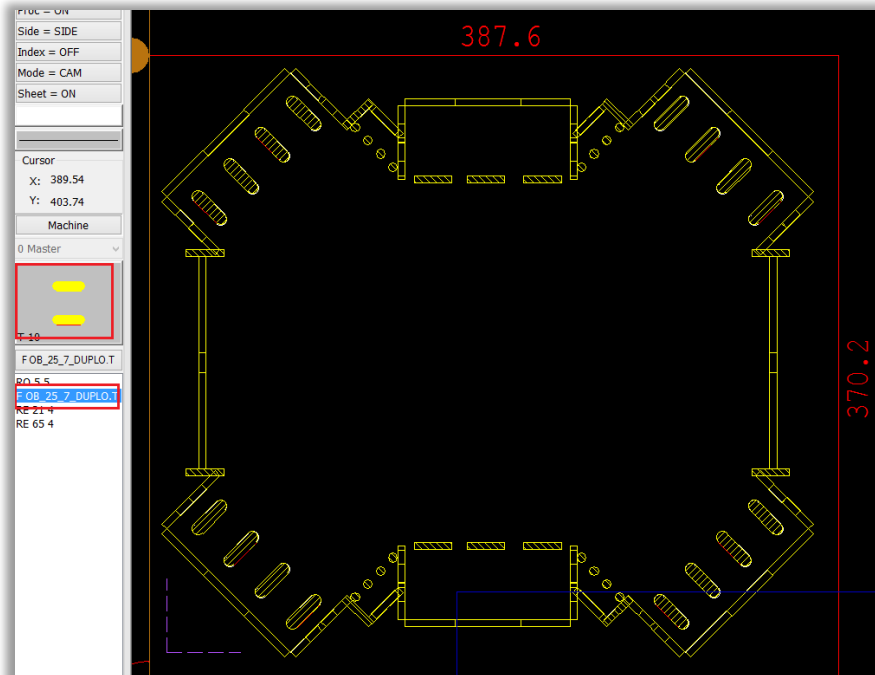
#### 3.3.1 For Non-Round Holes

AutoPunch supports cluster tools with special holes (not round):



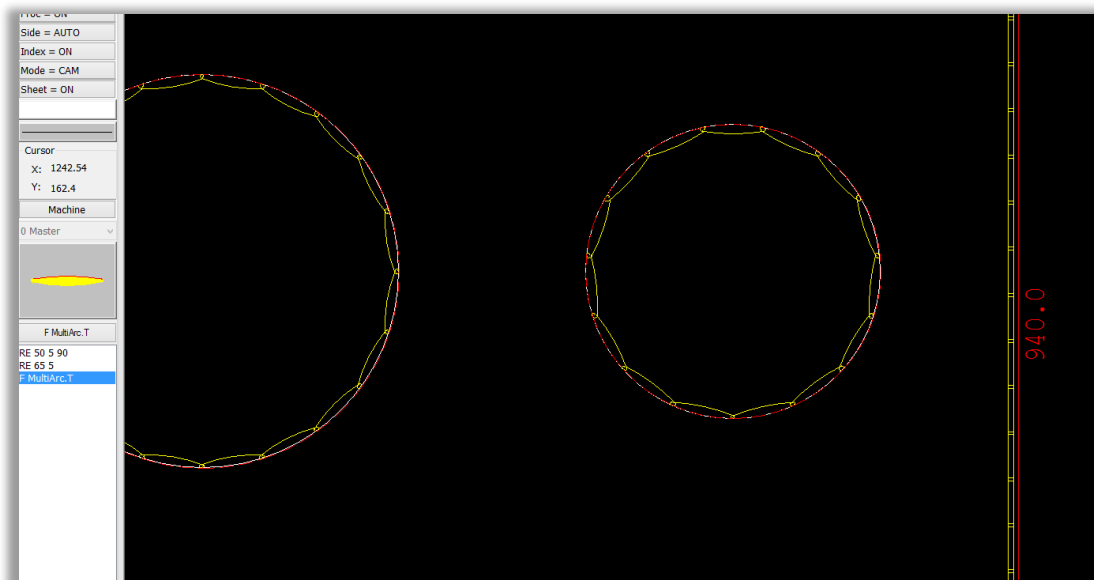
### 3.3.2 For Holes in Directions

Now AutoPunch can use cluster tools for holes in different directions:



### 3.4 Nibble Arcs with Special Tool

You can now nibble arcs using tools that have an edge with the same radius as the arc to tool:

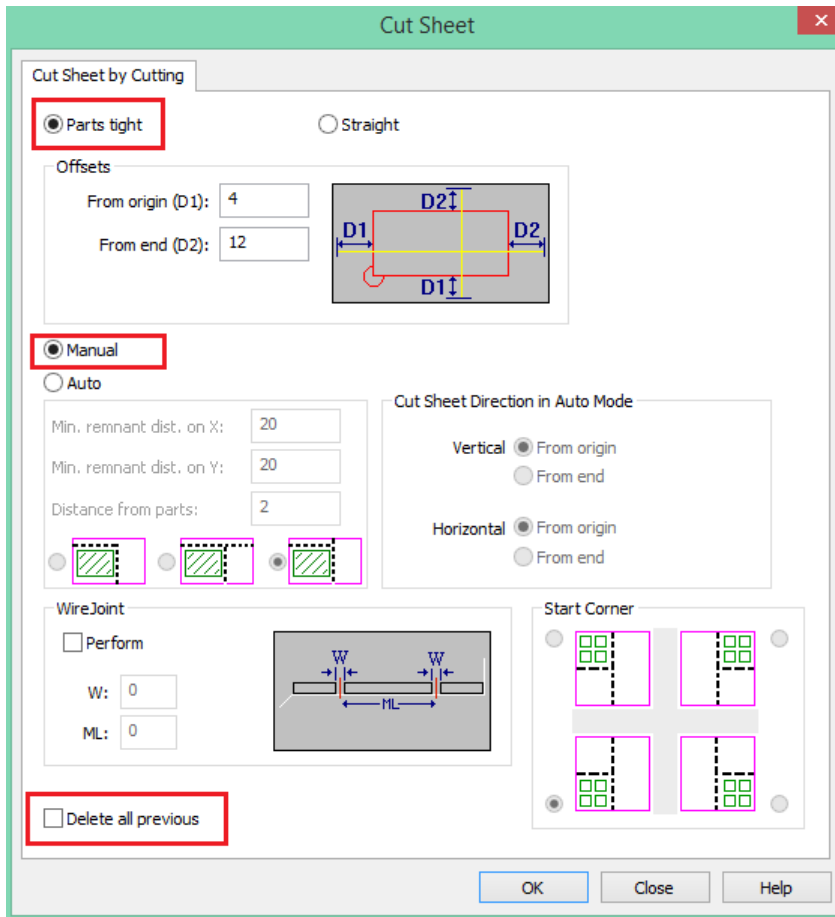


## 4 New Cutting Features

### 4.1 New Options in Add Cut Sheet

You have now two more options to create the cut sheet more flexibly: [add cuts without snap to edge](#), and [multiple sheet cuts](#). Access these options via the **CAM Editing** tab => **Miscellaneous** group => **Cut Sheet**. Check **Manual** and **Parts tight**.

This is how the **Cut Sheet** dialog box should look:

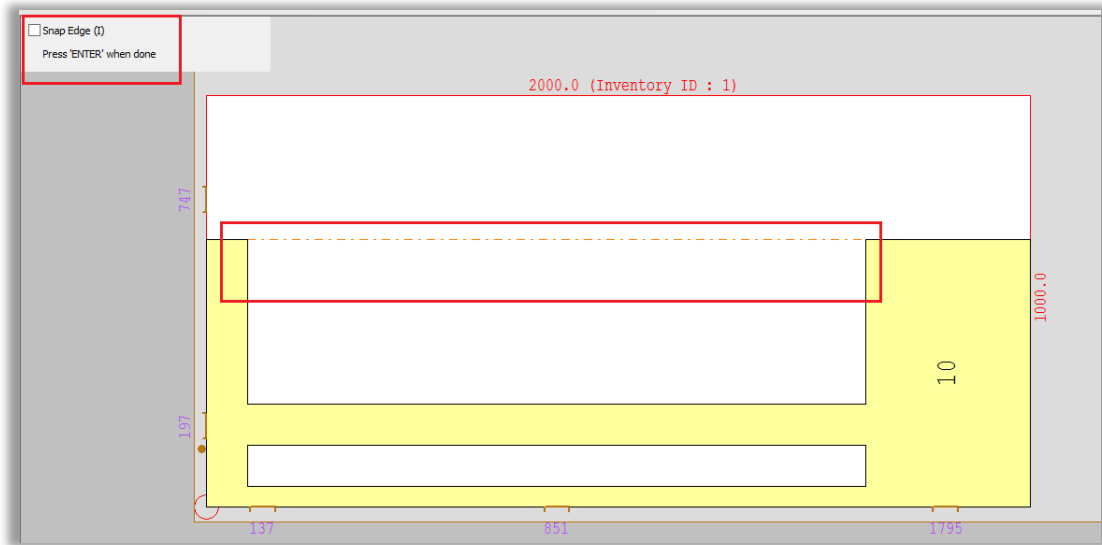


#### 4.1.1 Add a Cut without Snap to Edge

After you click **OK** (in the **Cut Sheet** dialog box), the check box for **Snap Edge** appears on the top left.

When you uncheck **Snap Edge**, you can create a cut sheet between any two points on the sheet by clicking the two points.

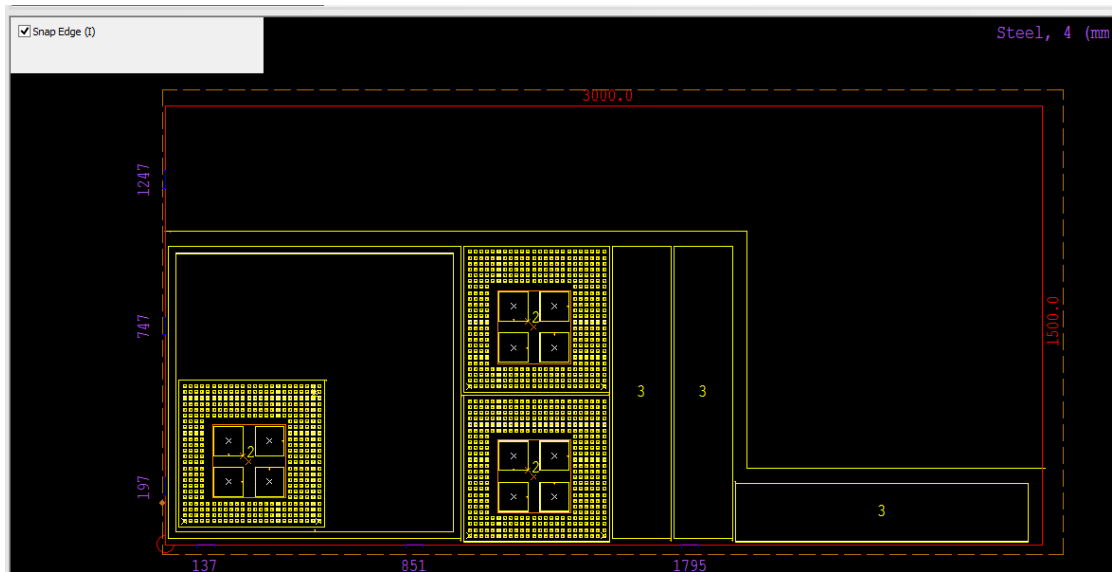
In this case, the cut sheet is between two corners of the notch:



## 4.1.2 Multiple Sheet Cuts

Add cuts to the sheet so there is more than one remnant.

In this example, the remnant would be an odd shape, but you can add a cut to make two rectangular remnants instead:

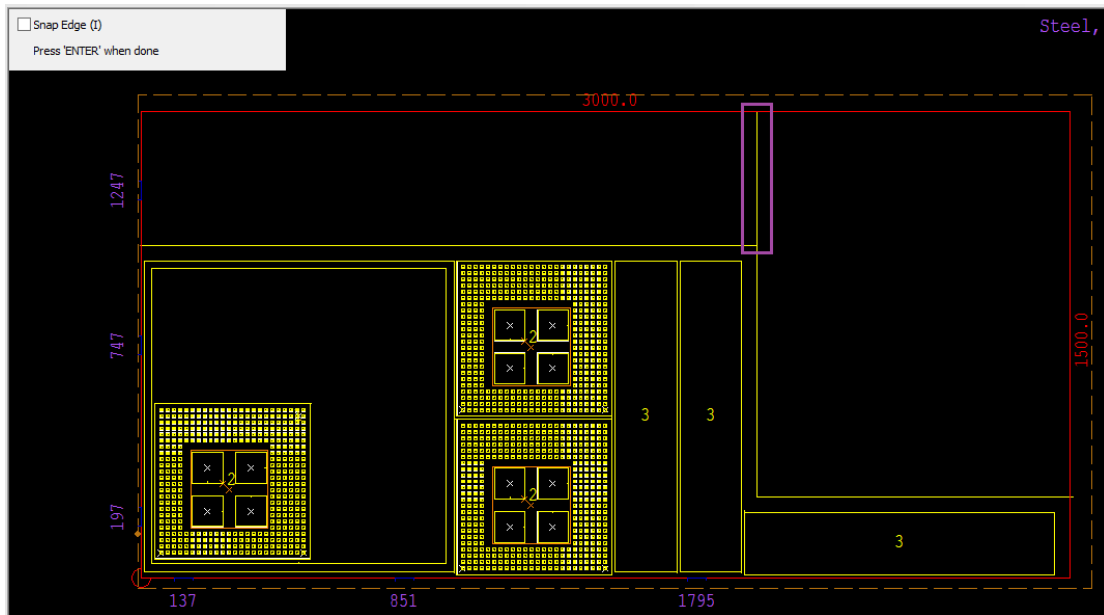


To add a cut:


1. In the **Cut Sheet** dialog box, check **Parts tight** and **Manual**. Uncheck **Delete all previous**. Click **OK**.
2. Click near the point where to add a cut line. **AutoNest** adds the start of a cut line from the sheet edge.
3. Uncheck **Snap Edge** (on the top left).
4. Click the exact point for ending the cut sheet line.
5. Press Enter.



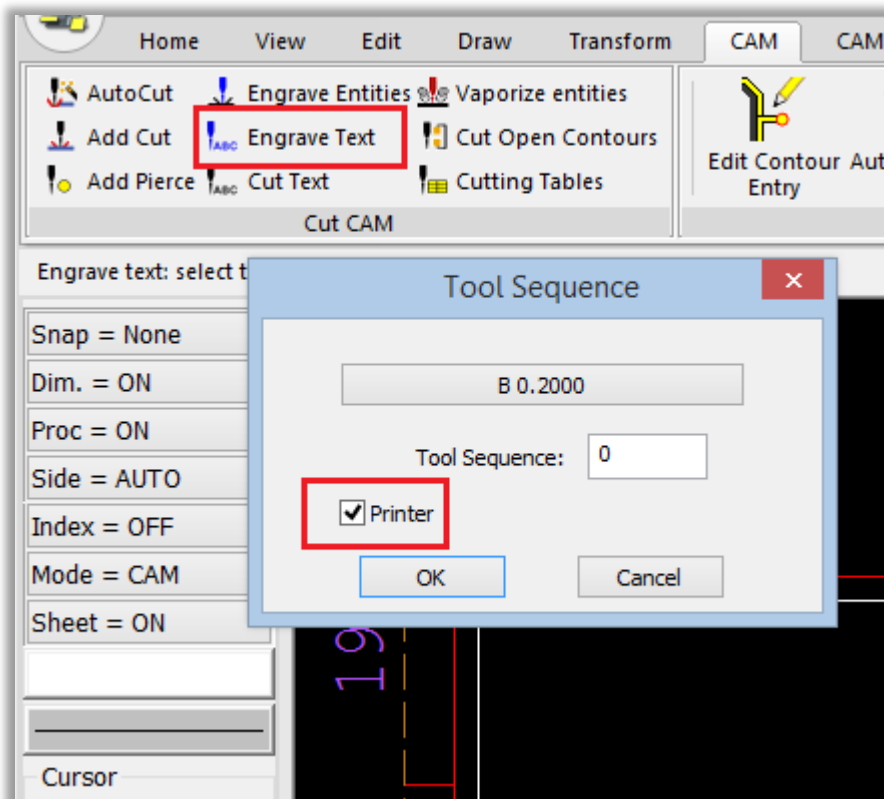
This is the result, showing the additional cut in purple:



## 4.2 Printer Option for Text Engraving

 Only available when there is a printer in the machine.

When you click **CAM => Edit CAM group => Engrave Text**, the **Tool Sequence** dialog box opens. You now have the option to select **Printer**:



## 4.3 Add Free-Hand Cuts

(Only in cncKad.)

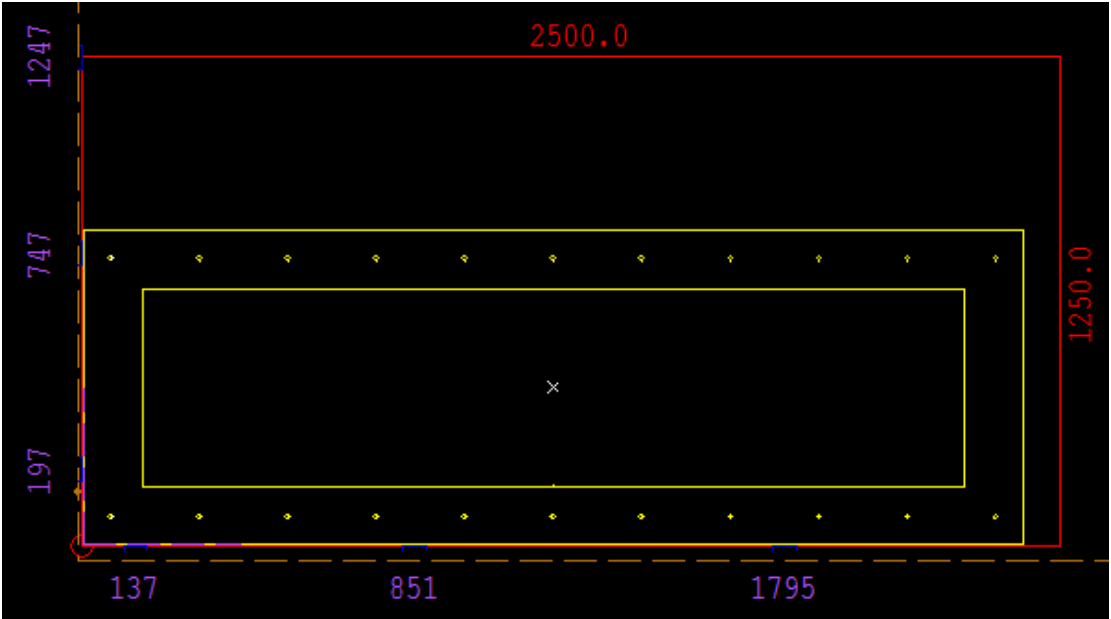
Click the **Home** tab => **Processing** group => **Add Cut**. In the **Add Cut** dialog box, check **Free-hand cut**:

The screenshot shows the 'Add Cut' dialog box with the following settings:

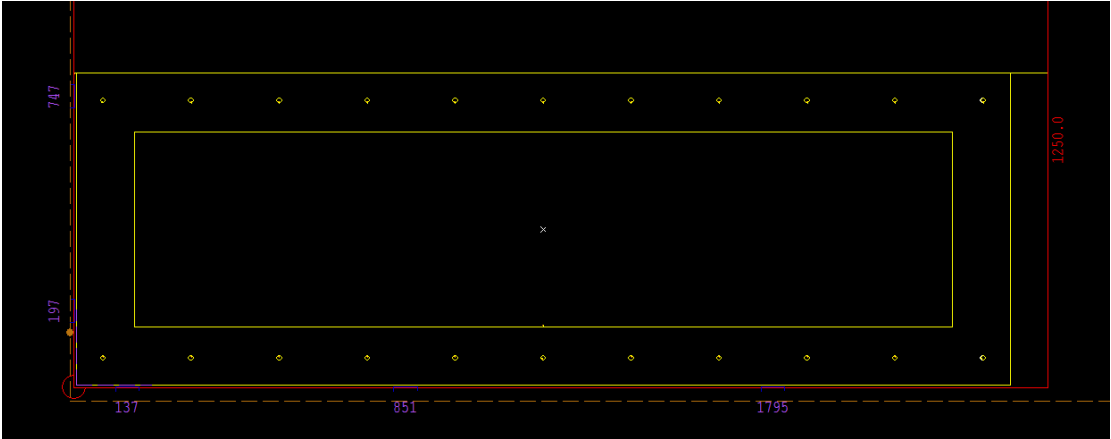
- Parameters** tab is selected.
- Cutting Type:**  Entity,  Chain,  Contour.
- Offsets:** Start: 0, End: 0.
- Contour Size/Cutting Speed:** Contour Size: Auto, Speed: Auto.
- Approach (Lead-in):** Point: End, Geo-Type: Straight, Length: 4, Radius: 0.1, Approach Mode: Normal.
- Pre-Line:**
- Exit:** Geo-Type: Straight, Length: 0, Radius: 0.1.
- Piercing:** Method: None, Tool Sequence: 0, Position: Center.
- Overlap:** Contour Overlap: 0.
- Cutting Direction for Parts:** Auto.
- Cutting Direction for Holes:** Auto.
- Corner:**
- Z Option:**
- Function:**
- Mark:**
- Vaporize:**
- Grid:**
- Bevel Angle:** 0.
- Connect Cuts:**
- Free-hand cut:**  (highlighted with a red box).
- Use Controller Compensation:** Global.

Buttons: OK, Cancel, Help.

Click **OK**. To add cut lines, click the start and end points. When you are done, press Enter and Escape. For example, see this drawing:




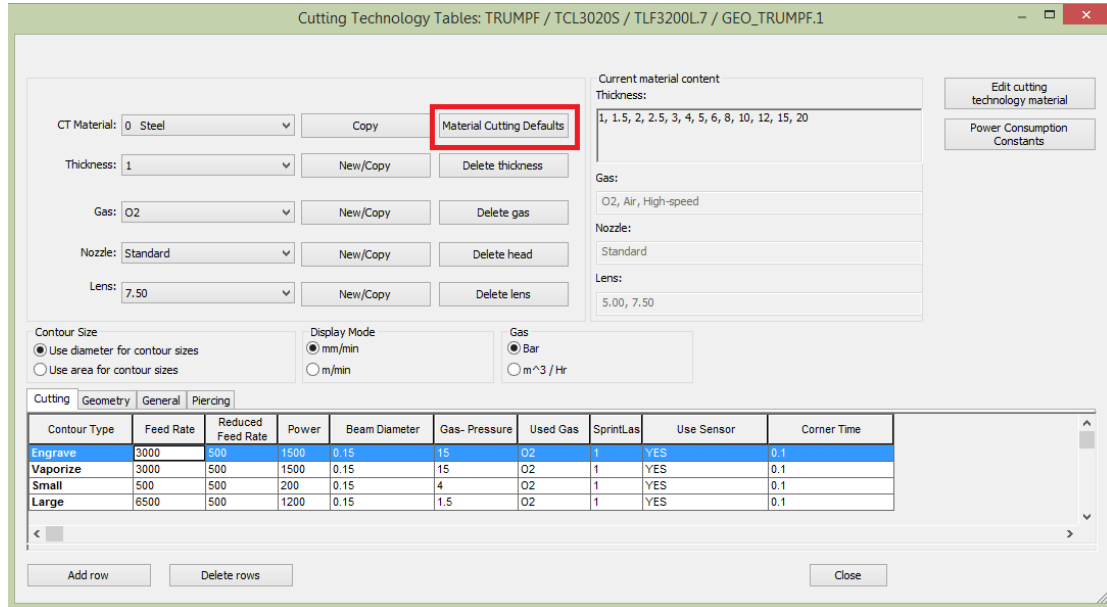
See the extended cut line on the right:



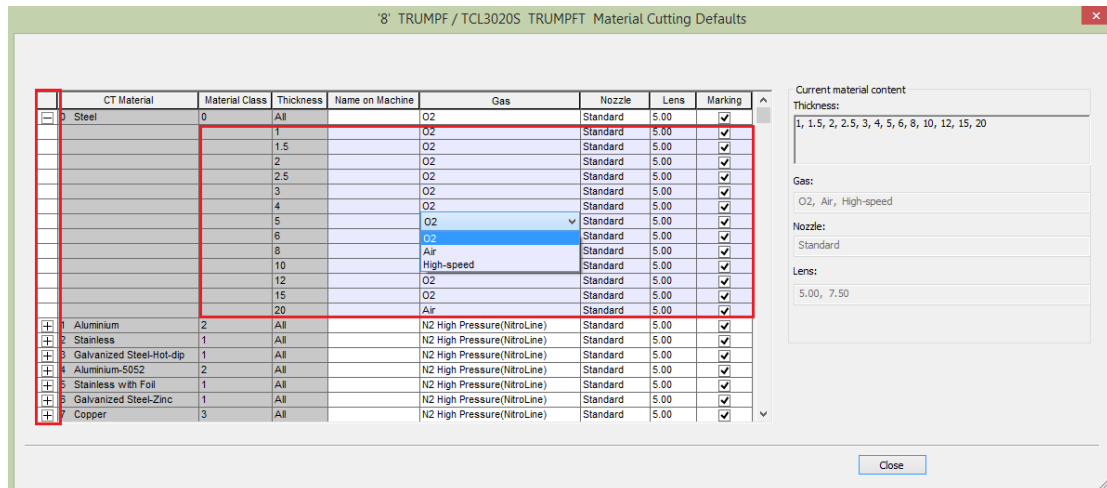
## 4.4 Material Cutting Defaults Supports Thickness

In the **Material Cutting Defaults** you can set different parameters for each thickness.

In the **Home** tab => **Processing** group => **Cutting Tables** , click the **Material Cutting Defaults** button:

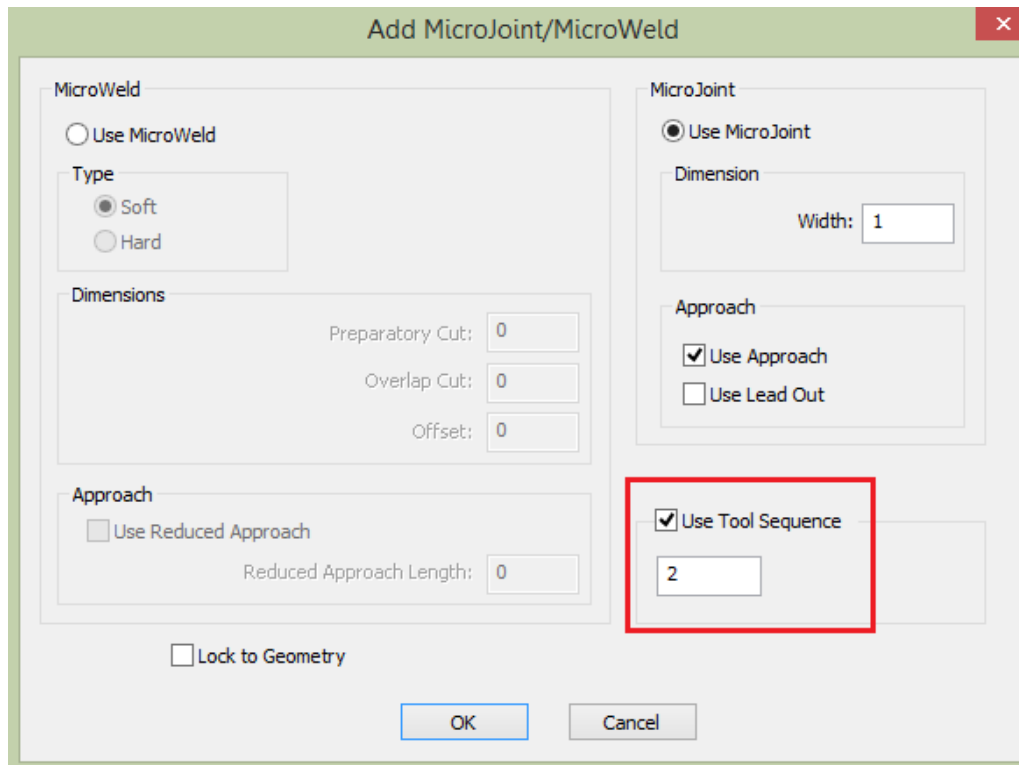


In the **Material Cutting Defaults** dialog box, open the options for a material (by clicking the tiny plus sign on the left), select a thickness row, and change the parameters. For example:

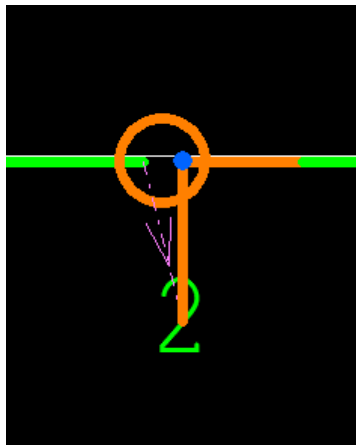


## 4.5 Set Tool Sequence when Adding MJ

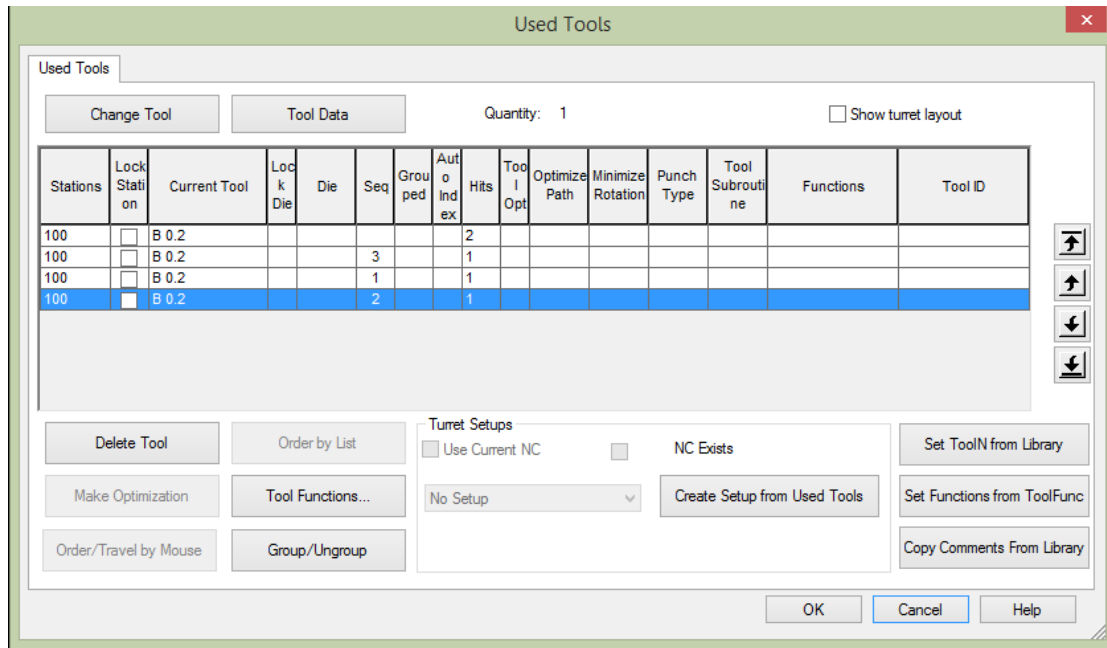
You can split a contour into chains by adding a MicroJoint and giving each section a tool sequence:



View the sequence number on each MicroJoint:



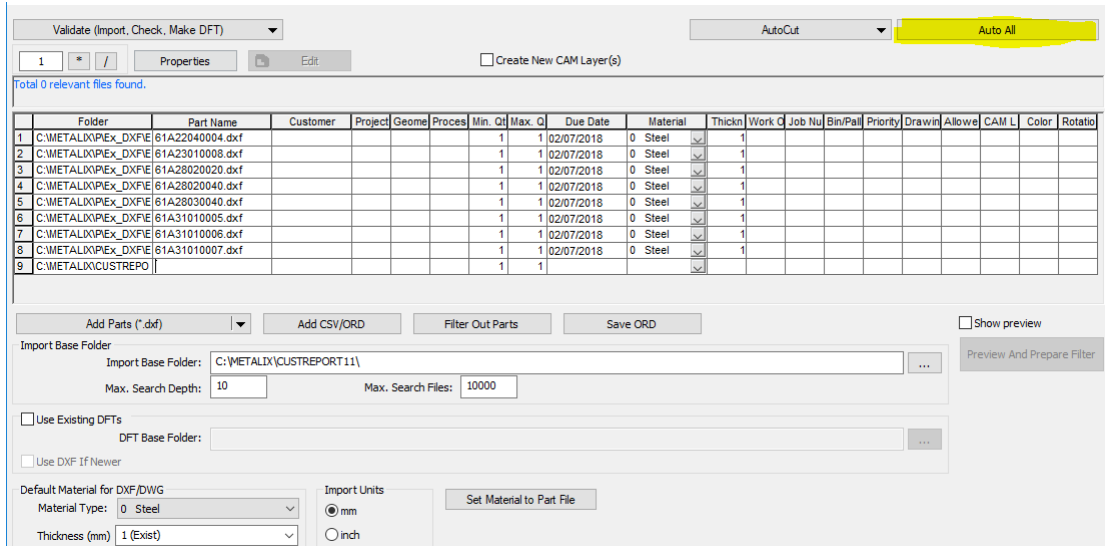
You can now control the order of the cutting in the contour:




## 5 New in AutoNest


### 5.1 Validate and AutoPunch/AutoCut in One Step

Use the new **Auto All** button to validate and automatically punch/cut all in one step:

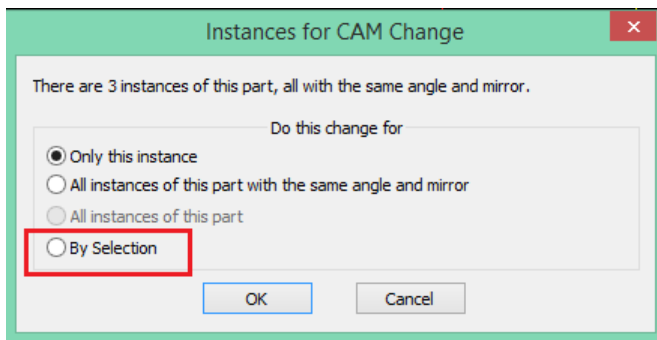


This is possible from the **Create Order** and **Edit/Extend Order** dialog boxes (in the **Home** tab => **Global** group => **Qty. Order** ).

### 5.2 Select Instances by Click or Window

When changing CAM for an instance (for example, in the **CAM** tab => **Edit CAM** ) there is now an option for **By Selection**. To apply the changes, either:

- Click the instances using the mouse
- Draw a window by dragging the mouse



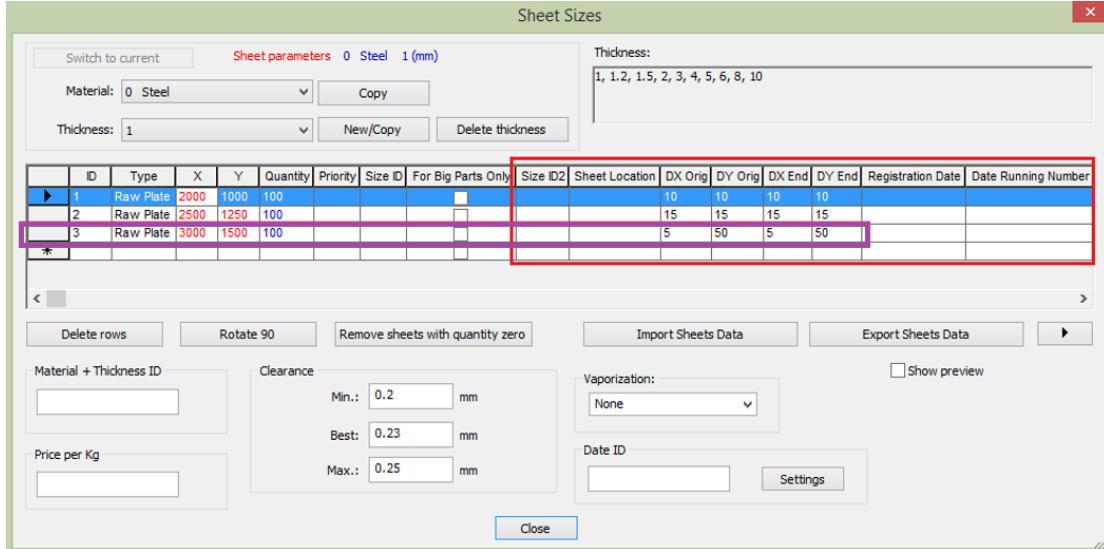
### 5.3 Define Offsets and Other Items in Sheet DB

In the sheet database, you can determine more parameters:

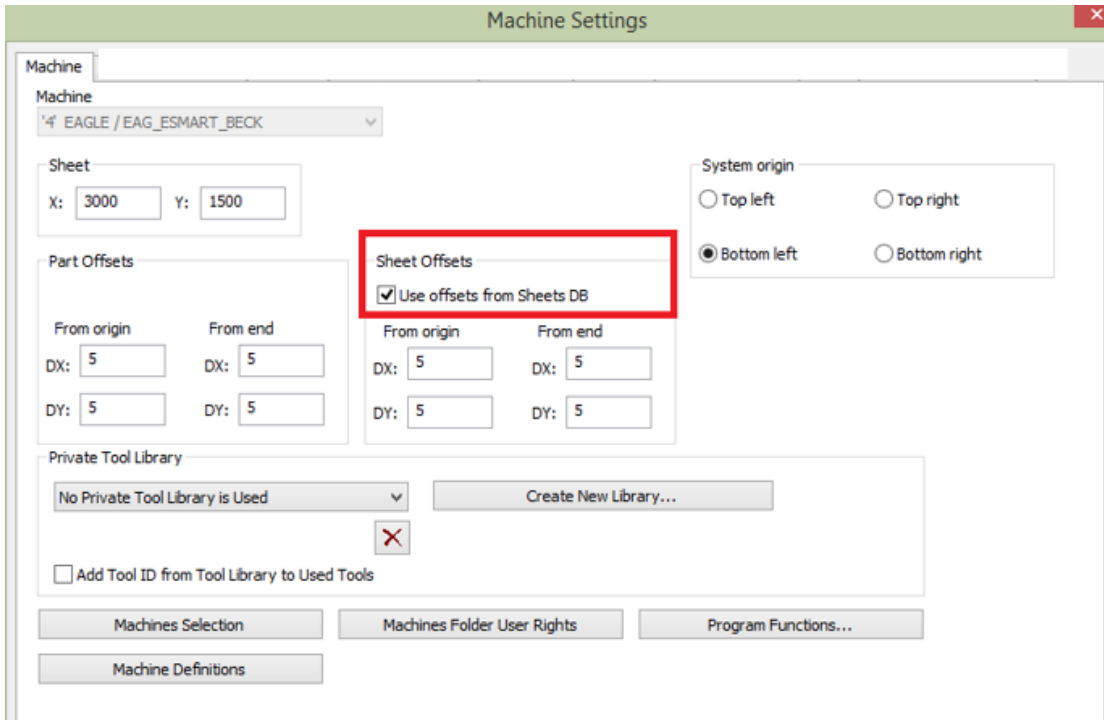
- **Size ID2** – A secondary size ID.
- **Sheet Location**

- **DX Orig, DY Orig, DX End, DY End** – The offset of the SubNests from the edges of the sheet
- **Registration Date**
- **Date Running Number**

See the new columns in the **Sheet Sizes** dialog box (in the red box):

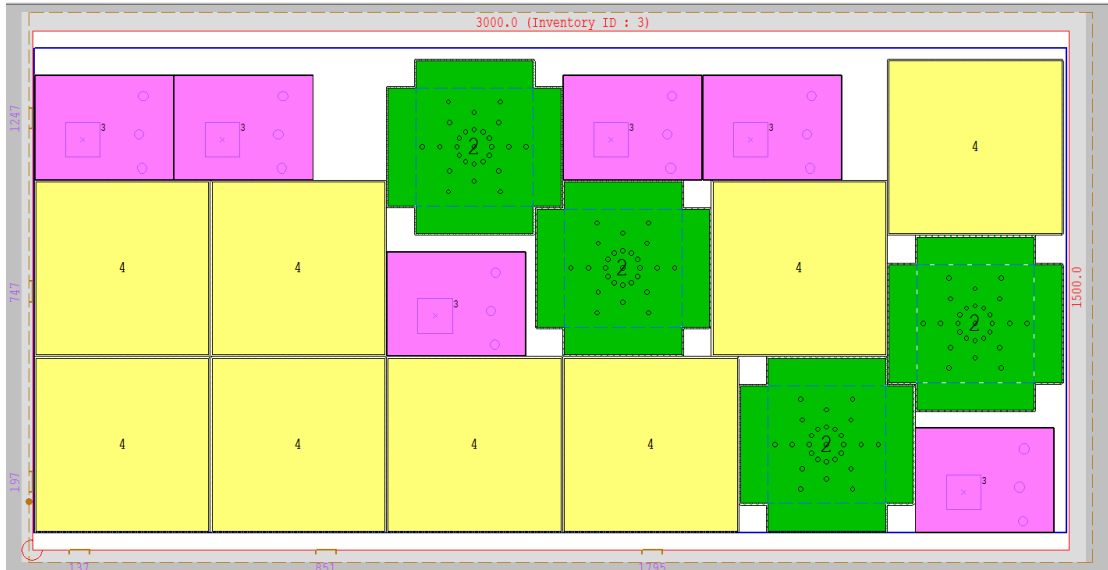


You can set specific offsets for every sheet size by checking **Use offsets from Sheet DB** in the **Settings => Machine Settings => Machine** tab:



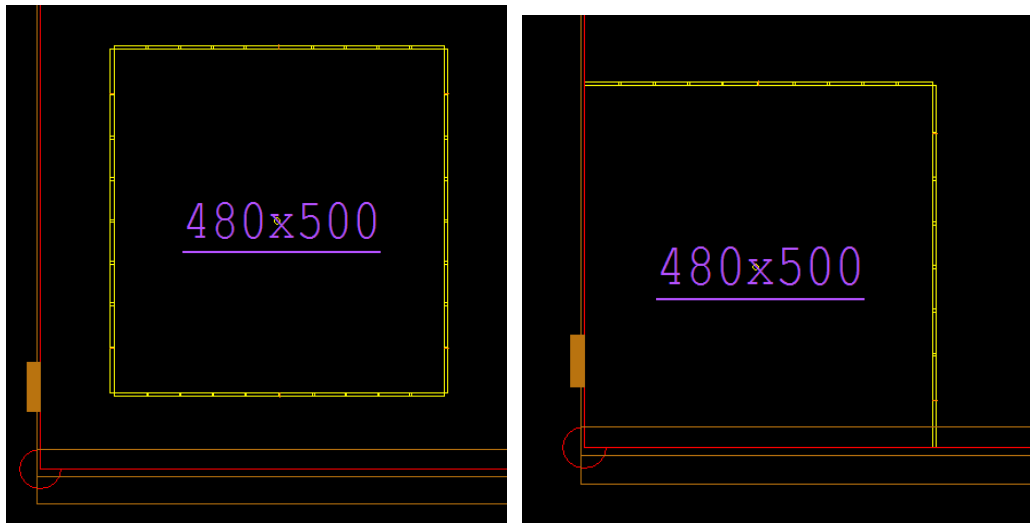


**AutoNest** sets the offsets according to the data in the sheet database. In this example, the offset on X is **50** and the offset on Y is **50** (see the values outlined in purple in the dialog box above):



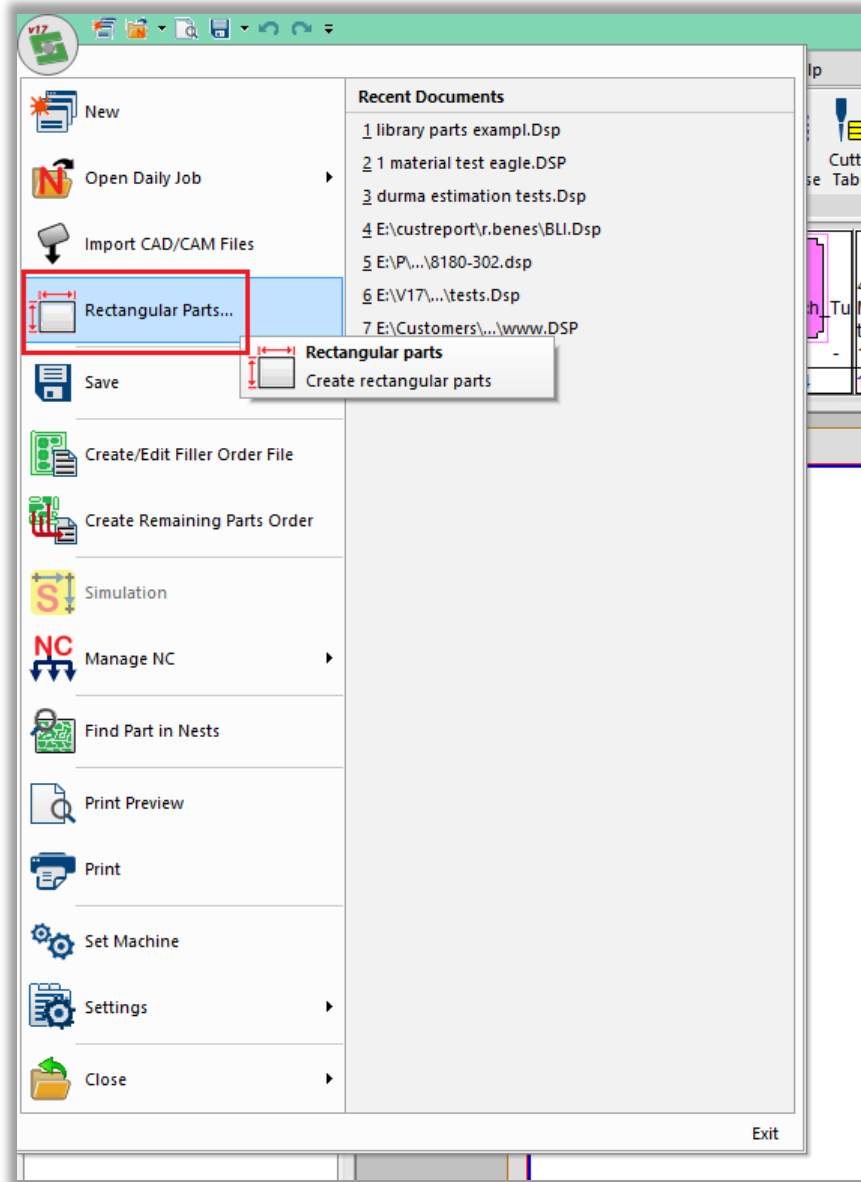
## 5.4 Support Dynamically Removing Punches on Sheet Edge

When placing a part on the edge of the sheet, **AutoNest** automatically removes the punches that are on the edge of the sheet:

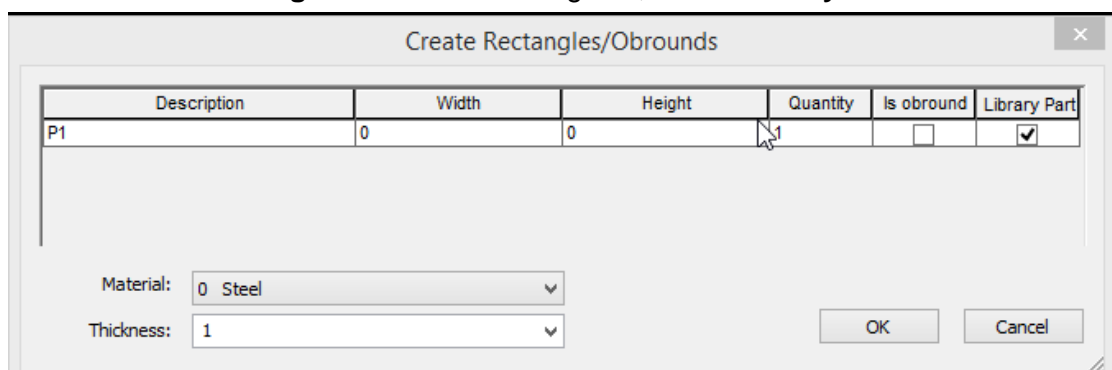


## 5.5 Support Library Parts in Rectangular Part Dialog Box

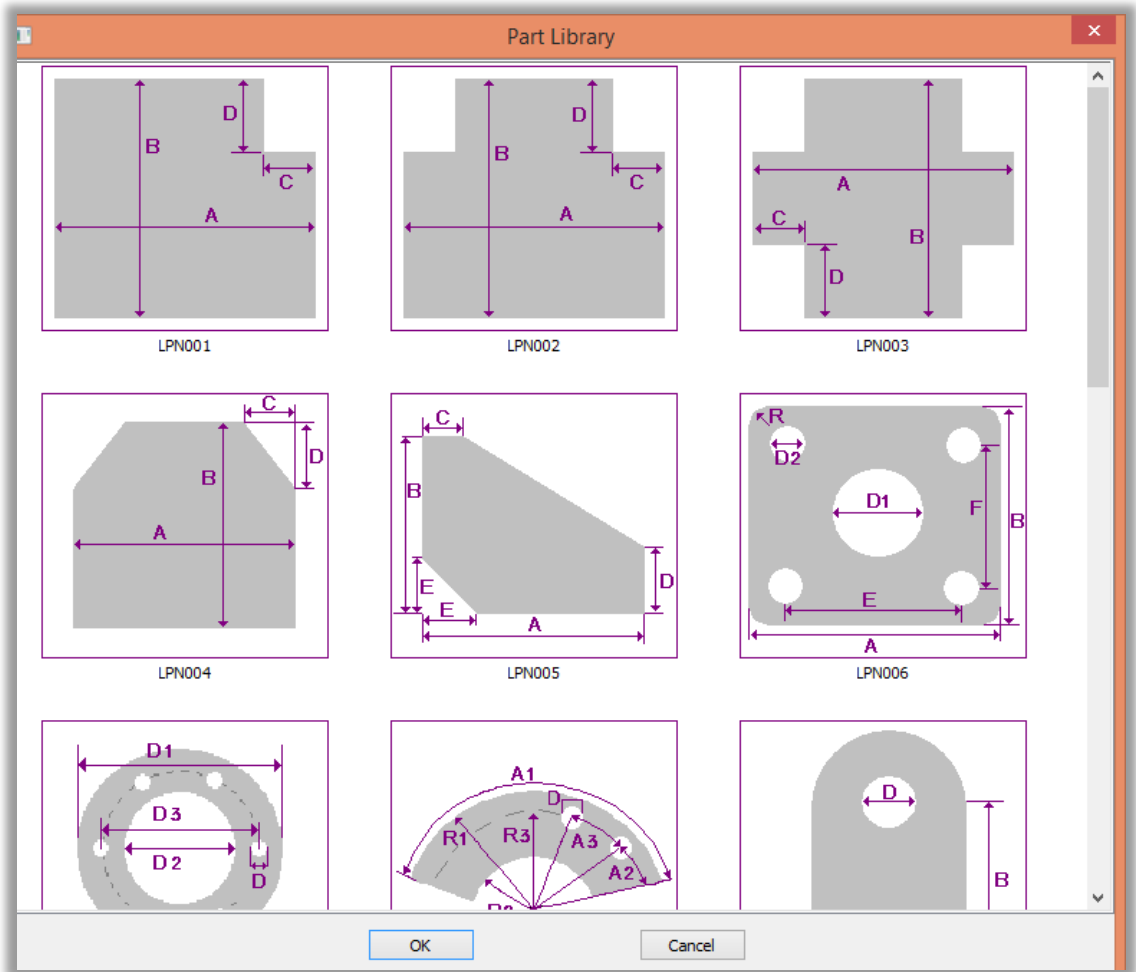
1. Click the application button  => **Rectangular Parts:**



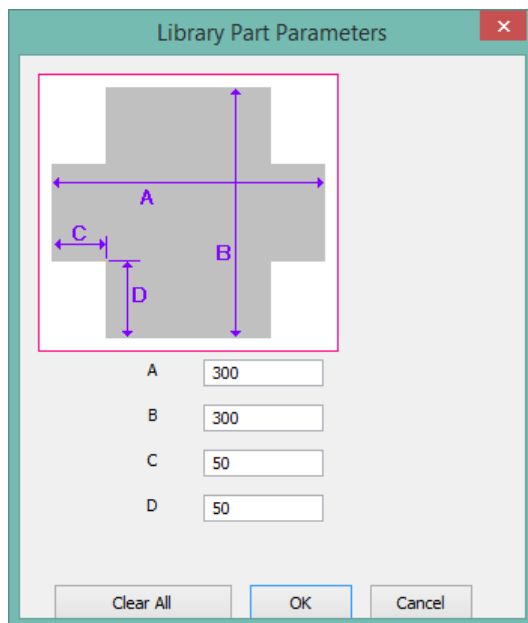
2. In the **Create Rectangles/Obounds** dialog box, check **Library Part:**



The **Part Library** opens:

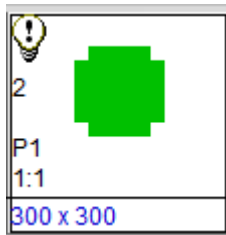


3. Select a part and click **OK**. In the **Library Part Parameters** dialog box, define the dimensions:



4. Click **OK** twice.

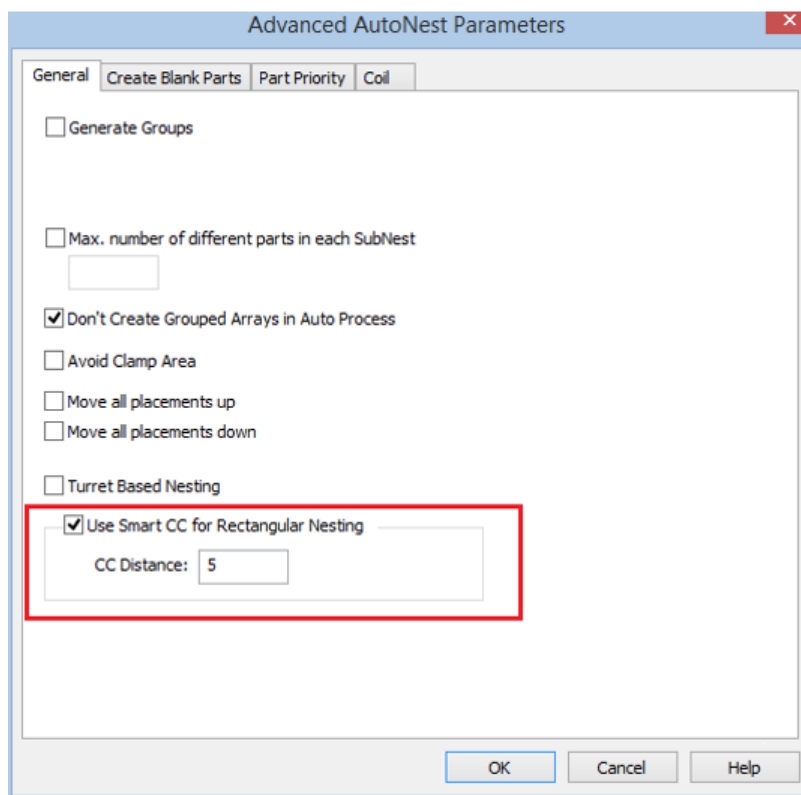
The part appears in the Parts bar:



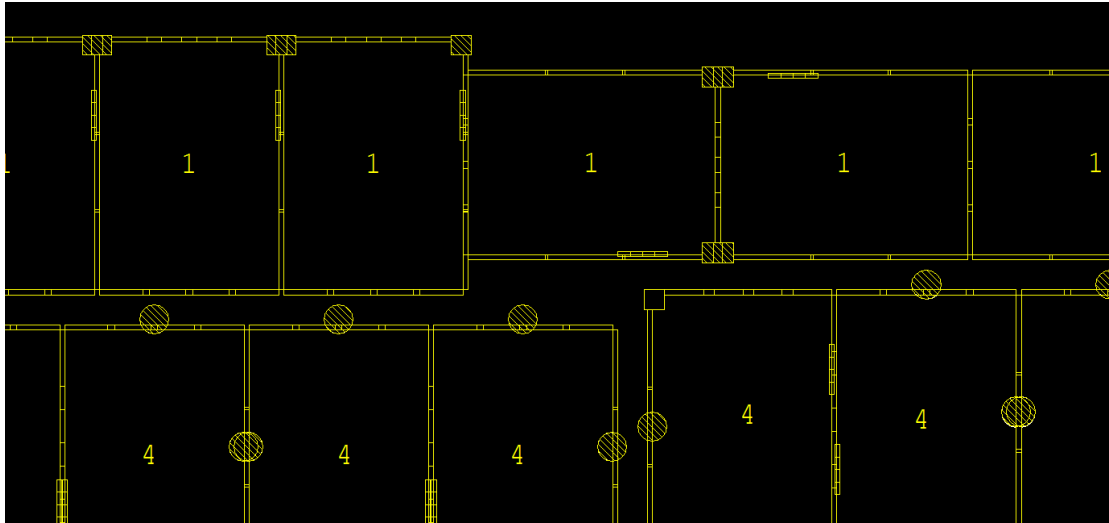
## 5.6 Smart Common Cuts for Rectangular Nesting

When nesting punch parts with common cuts, **AutoNest** takes the punching tools into account so the parts will not be destroyed.

**CC Distance** is the width of the tool:



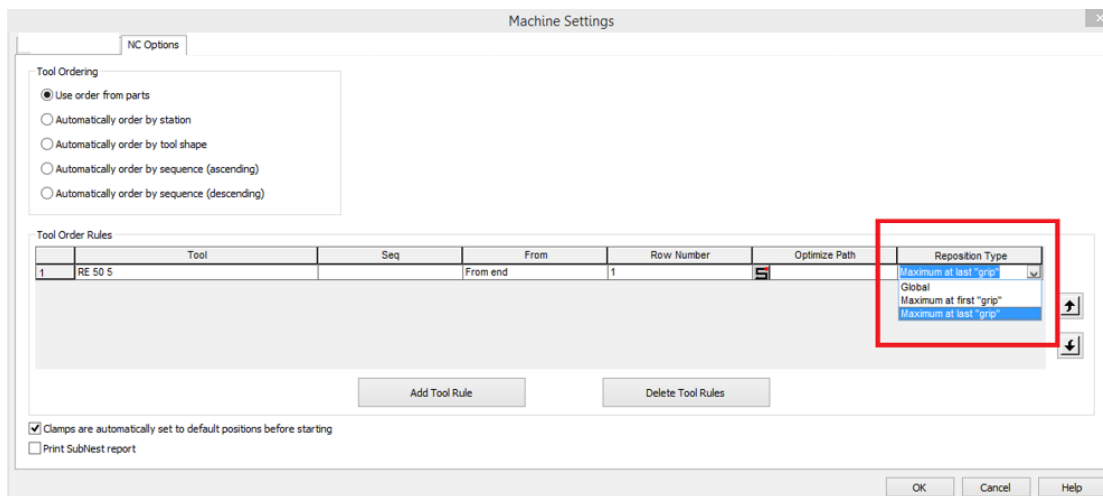
If the parts have tooling that extends beyond the rectangular outlines, **AutoNest** places the parts so other parts are not destroyed:



## 5.7 Select Tool Reposition Type in Tool Order Rule

 Only relevant for punch and combination machines.

You can now choose the tool reposition type when defining the order of tools. Click **Settings => Machine Settings => NC Options** tab. Make your selection in the **Reposition Type** column:

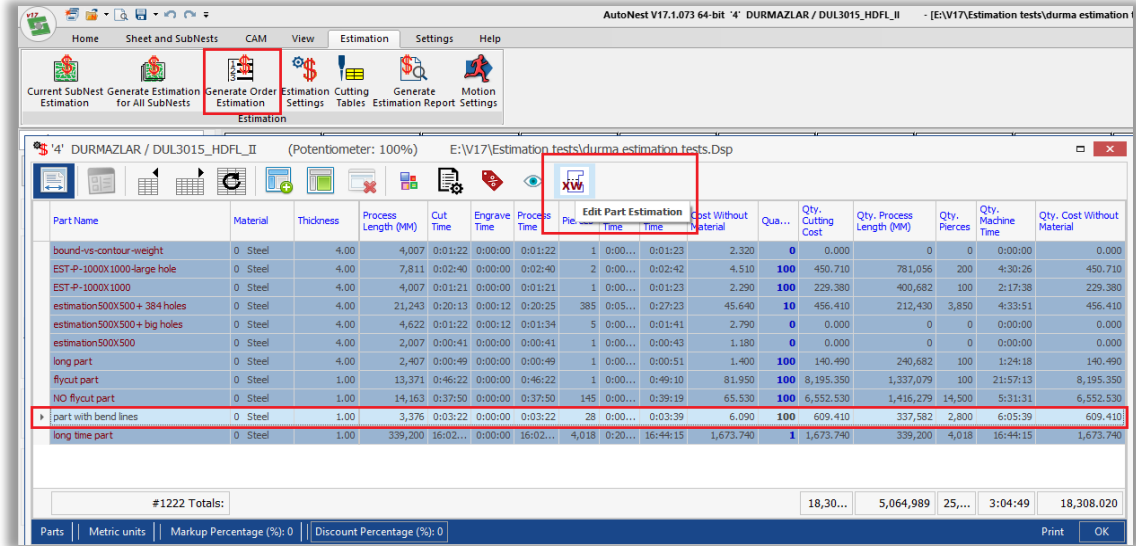


# 6 New in Estimation

## 6.1 Extra Work and Fixed Costs for Parts in Reports

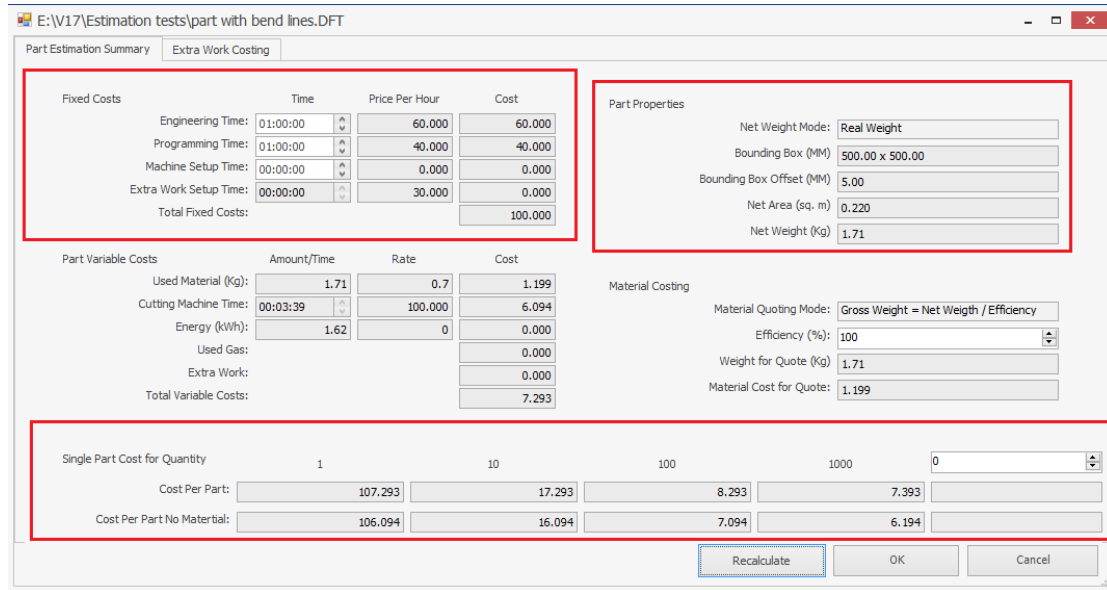
A dialog box in the Daily Job estimation viewer allows editing the estimation for a single part. This includes extra work and fixed costs (e.g., engineering time).

To access a part's estimation click **Generate Order Estimation**, then highlight a part and click the **Edit Part Estimation** button:

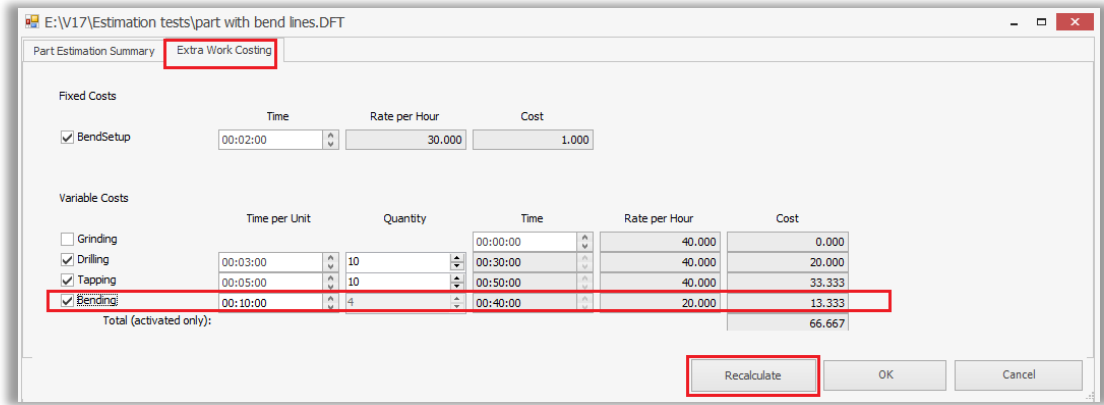


In the **Part Estimation** tab, you can see all the part information and also set the fixed costs. This also works as a calculator; to see how the fixed costs affect the cost per 1,10,100,1000 parts or you can set a specified quantity.

You can see the way the weight, efficiency, and material costs are calculated:



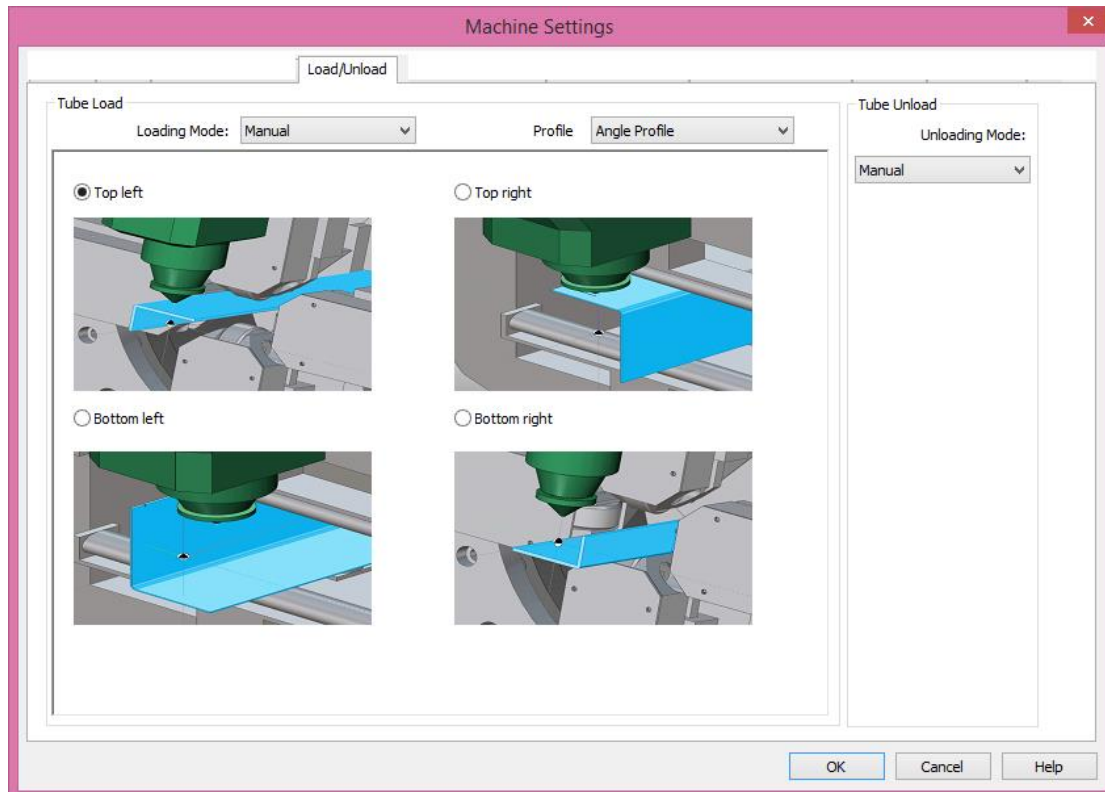
In the **Extra Work Costing** tab, you can set the **cncKad** estimation to be identical to the **AutoNest** estimation:



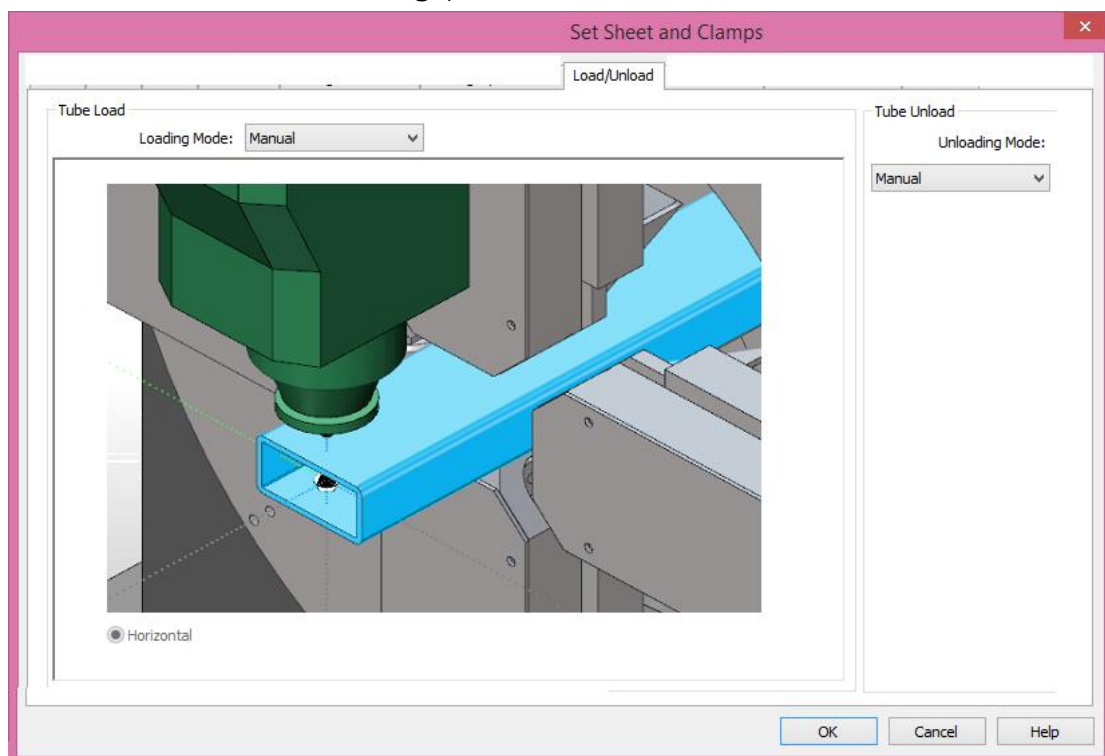
## 7 New in Tubes

### 7.1 New Tube Load/Unload Dialog Boxes

In the **Settings** tab => **Machine Settings**, there is a new tab called **Load/Unload**:



You can also see the new tab in **Home** => **Sheet, Clamps** (showing the option you selected in the **Machine Settings**):





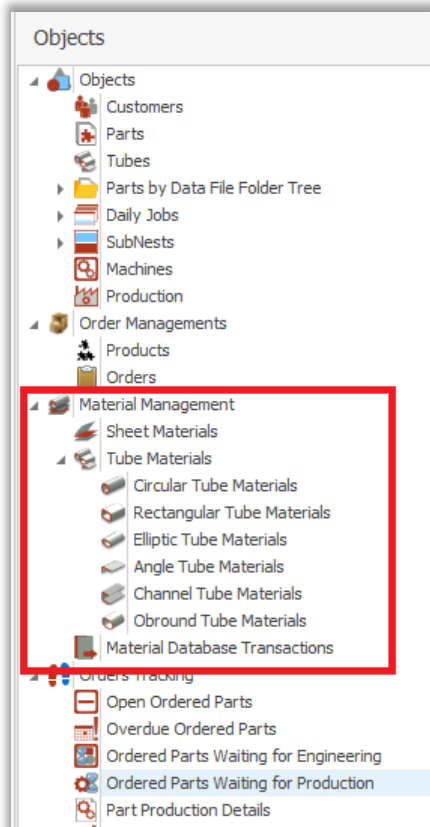
## 8 New in JobTrack

### 8.1 Material Management

In **JobTrack** you can manage all aspects of your sheets warehouse.

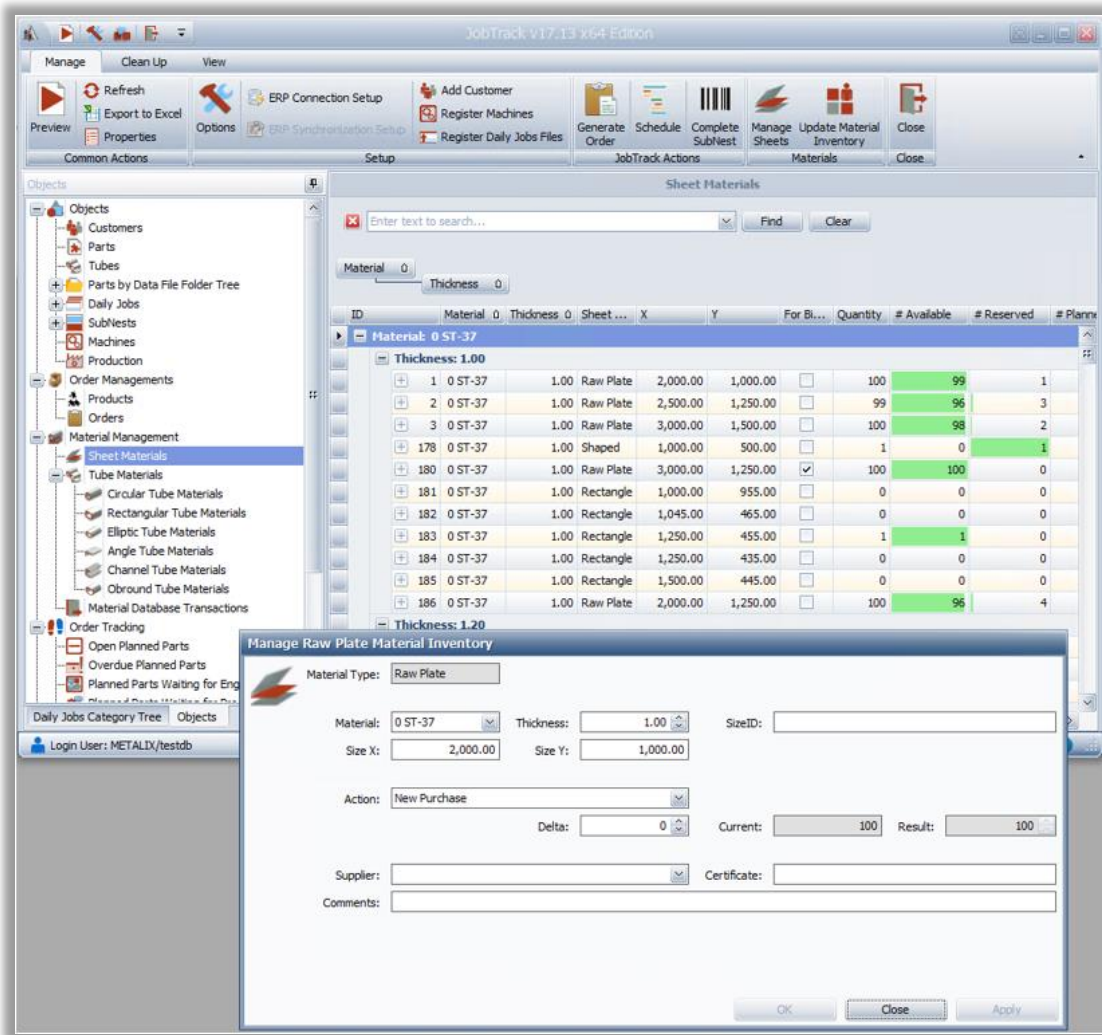
! For more information, contact **Metalix** technical support.

**JobTrack** adds the material management to the **Objects** tree:



All the changes in the sheet database are done from **JobTrack** or automatically by sending SubNests to production or reporting them as produced.

Because **JobTrack** can be installed on computers that do not have **cncKad**, the warehouse manager can directly update the sheet and tubes inventory.



## 8.2 Schedule

**JobTrack** allows you to schedule your SubNests on a calendar, per machine. Each machine has its own column on the calendar. The schedule dialog box allows the operator to report the SubNest production start and end times.

Clicking a SubNest displays its preview.

The screenshot displays the JobTrack v17.22 x64 Edition software interface. At the top, the window title is "JobTrack v17.22 x64 Edition" and the main menu is "Schedule SubNests". The interface includes a toolbar with "Refresh", "Edit", "Delete", "Split", "Open Daily Job in AutoNest", and "Reminder: None". The main area shows a calendar for June 18, 2018 (Monday) and June 19, 2018 (Tuesday). A detailed appointment window for "2018-06-17A012 - Appointment" is open, showing machine details, sheet specifications, start/end times, and a "Finish Production" button. A large red text overlay "2000.0 (Inventory ID : 28)" is visible over a diagram in the appointment window. Below the calendar is a table of "Unscheduled SubNests".

SubNest ID	SubNest Name	Machine	# Sheets to Sche...	Estimation	Material	Thickness	Size X	Size Y	# Sheets	# Produced
128	2018-04-17D013	AMADA::PEGA 368	1	00:06:20	0 ST-37	1	2500	1250	1	0
122	2018-04-17D007	AMADA::PEGA 368	1	00:04:54	0 ST-37	1	2000	1250	1	0
145	2018-04-17D030	AMADA::PEGA 368	1	00:05:05	0 ST-37	1	3000	1500	1	0
140	2018-04-17D025	AMADA::PEGA 368	1	00:06:57	0 ST-37	1	2500	1250	1	0

## 9 New in Coil Machines


### 9.1 Support Nesting by Part Order

For coils, **AutoNest** can perform the nesting according to the original part order. This means:

1. Take the first part and place it on the sheet.
2. Go to the next part, and if it fits, add it to the current SubNest. If it doesn't fit, start a new SubNest.

This method means that part order is more important than efficiency.

To set this parameter:

1. Click the **Home** tab => **Automatic Nesting** group => **AutoNest** .
2. In the **Start/Continue AutoNest** dialog box, click **Advanced** => **Coil** tab. Select **Nesting by Part Order**.