



**در این قسمت بخش جدید اضافه شده به نرم افزار
CNC CAD 9.0 قرار داده شده است**

جهت آموزش عملی نرم افزار CNC CAD
(متالیکس) و دانلود سایر فایل های آموزشی با
شماره ۰۹۱۳۳۲۱۰۳۹۸ تماس حاصل فرمائید.

New in cncKad version 9.0

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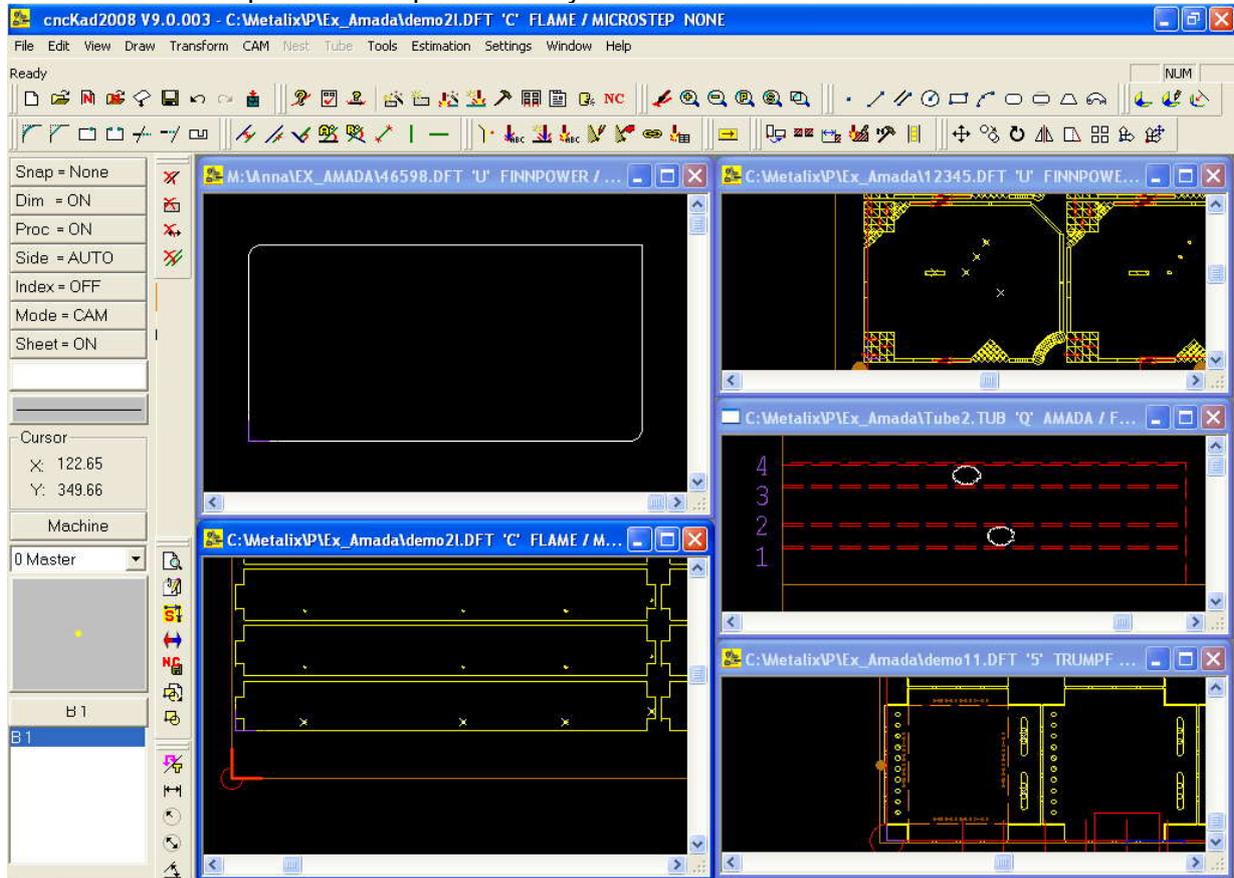
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1 New General Features

1.1 cncKad is Now an MDI Application

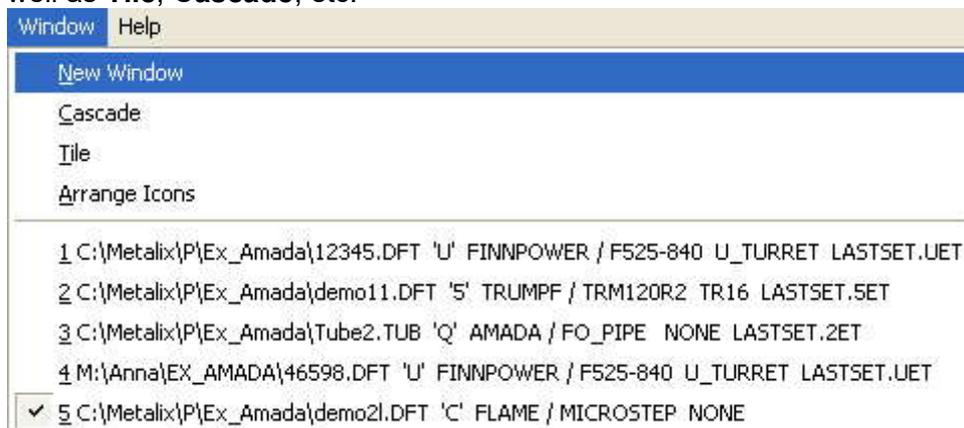
➡ **MDI** is an acronym for Multiple Document Interface.

This means that it possible to open as many files as needed in main **cncKad** window:

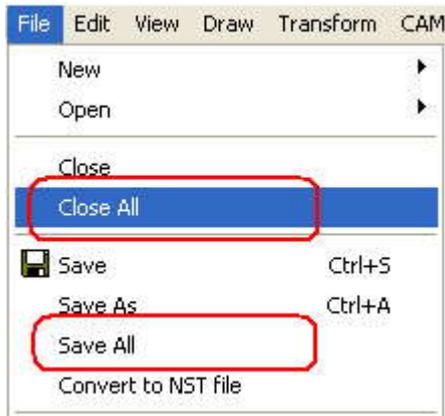


➡ You can switch between the windows using the **ALT+Tab** shortcut.

In addition to that, you can switch between the open parts from the new **Window Menu**, as well as **Tile**, **Cascade**, etc:



There are also new features in **File Menu**, allowing you to **Save/Close** not just one window, but all of the windows at the same time:

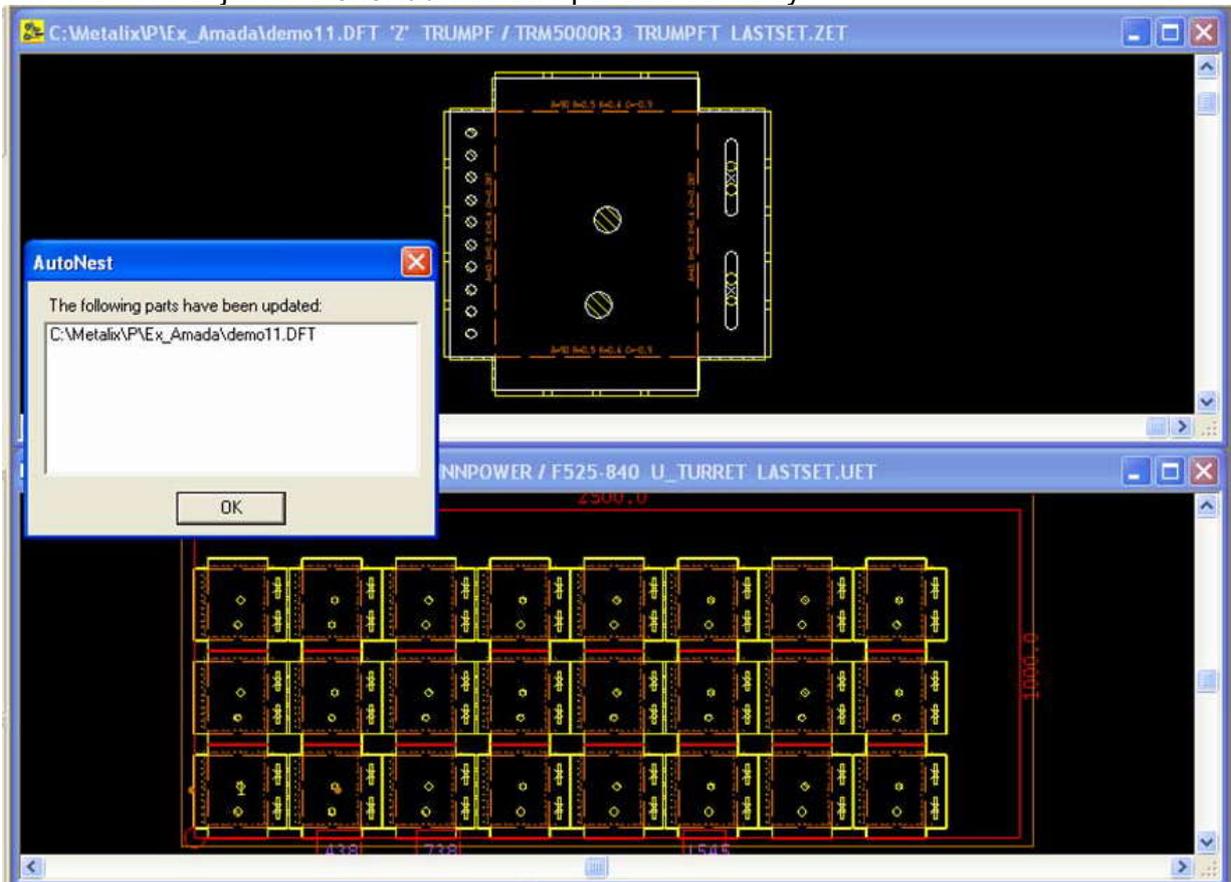


This feature is useful for instance when you work with nests and you want to edit some parts.

For example:

We added two circles to the part below, saved it and switched to a nest (open at the same time) which includes this part.

We immediately receive a message saying that the parts in the nests were updated – and all this was done in just one **cncKad** window opened on our tray!

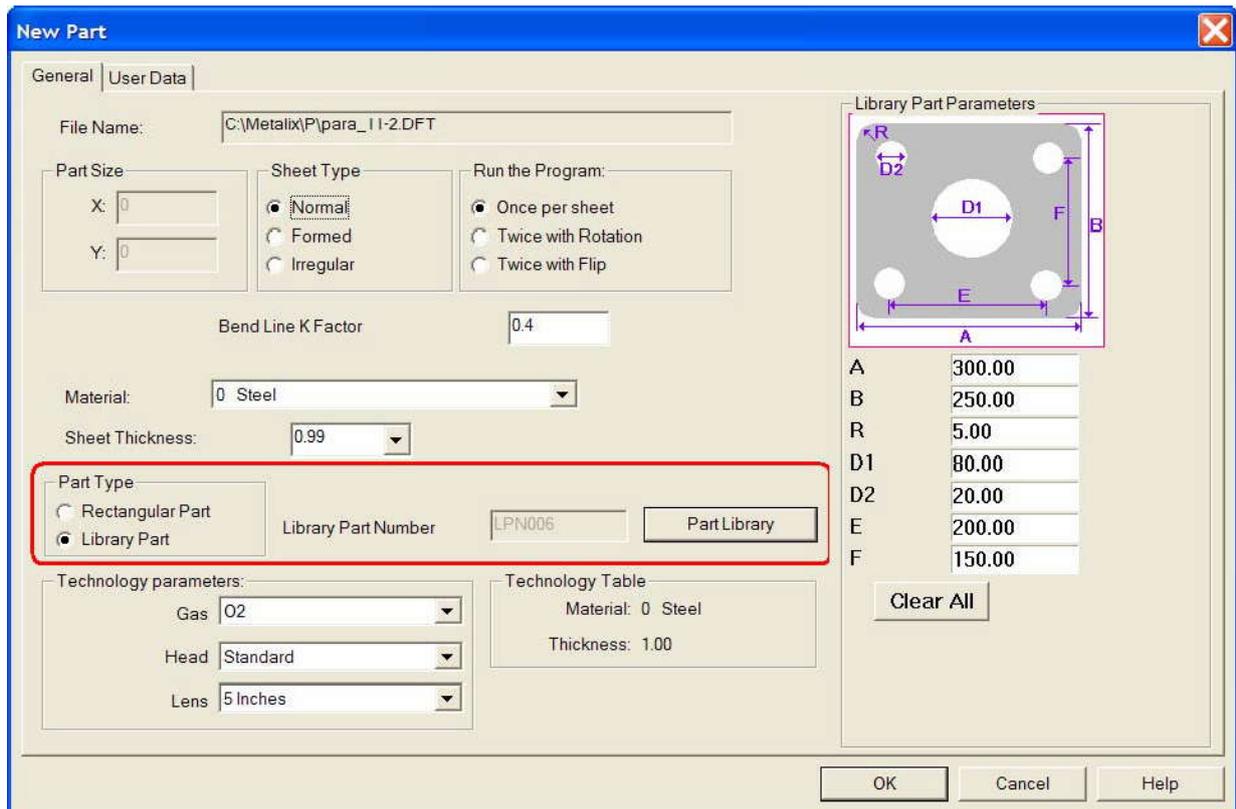


1.2 Parametric Parts Library

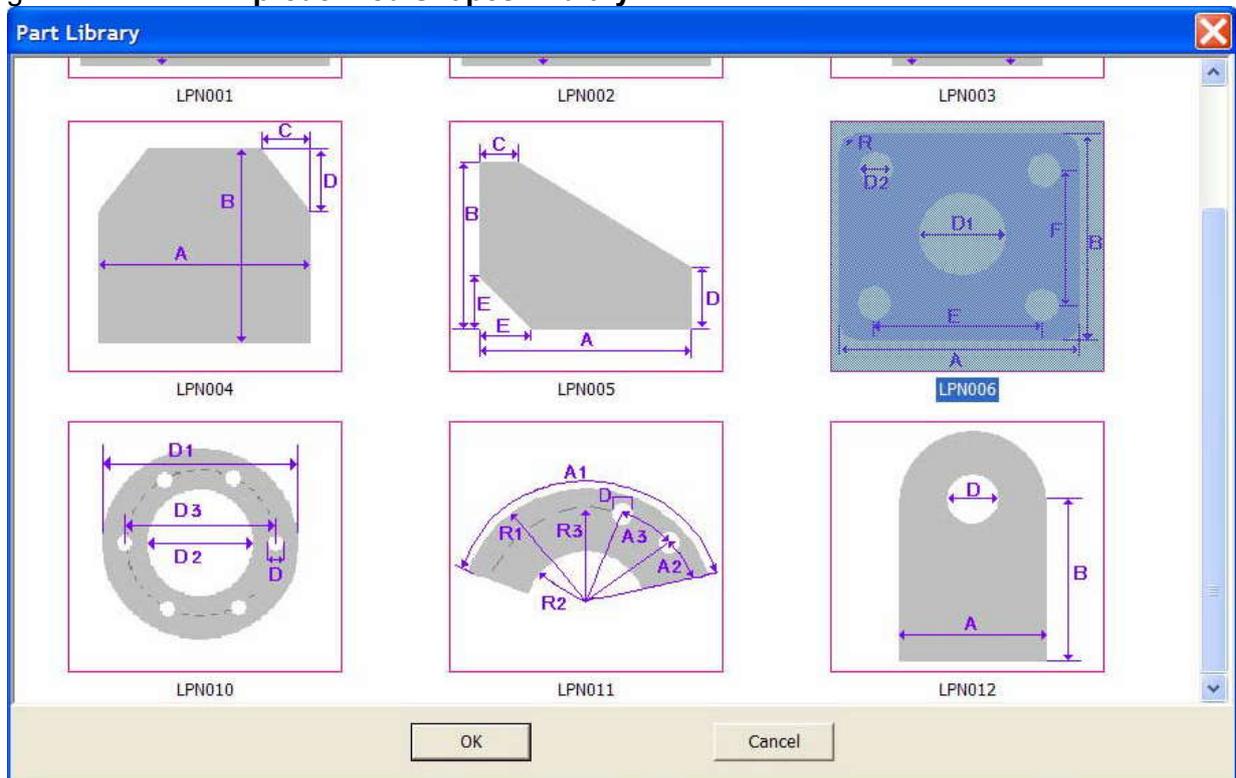
cncKad now offers you a completely new and easy way of creating new parts.

You can create parametric parts like the one presented on the picture below directly from the **New Part** dialog:

What's New



The **Part Library** mechanism provides the capability to select, configure and create part geometries from a **predefined Shapes' Library**:



1.3 CAM Layers

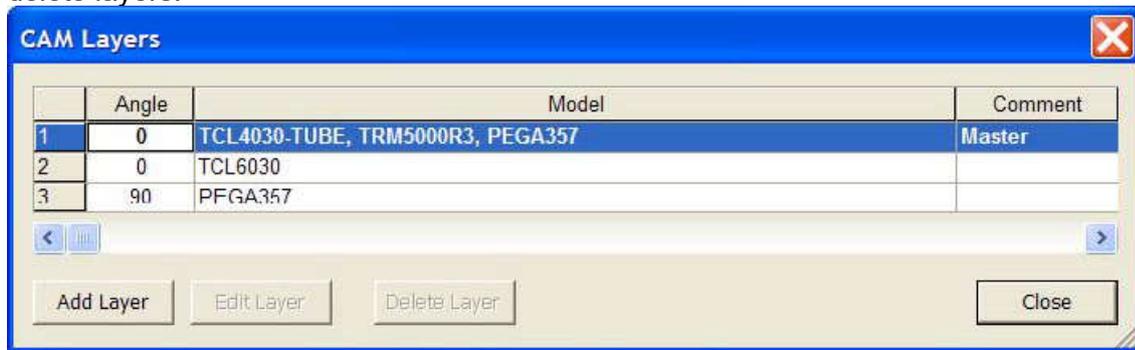
A single **cncKad** part can now contain different processing definitions, **CAM Layers**,

corresponding to one unique geometry.

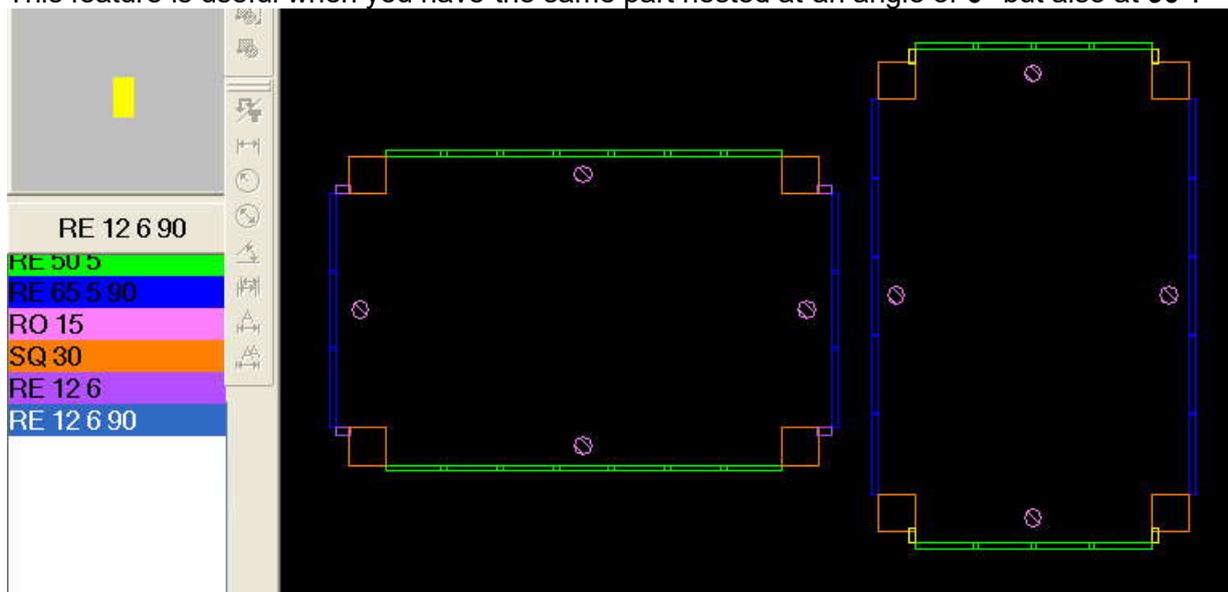
Each layer can contain its unique processing, and one part can be used to generate NC codes for different machines (Punch, Cutting, Combined etc.).

This means that you don't need to save the same part several times, each time with different processing definitions – whenever you update your part's geometry, the processing will be updated for all the layers.

To add processing definitions, select the **CAM Layers** option from **CAM Menu**, or click the  icon in the **CAM Toolbar**. This will open the dialog allowing you to create, edit and delete layers:



This feature is useful when you have the same part nested at an angle of **0°** but also at **90°**:

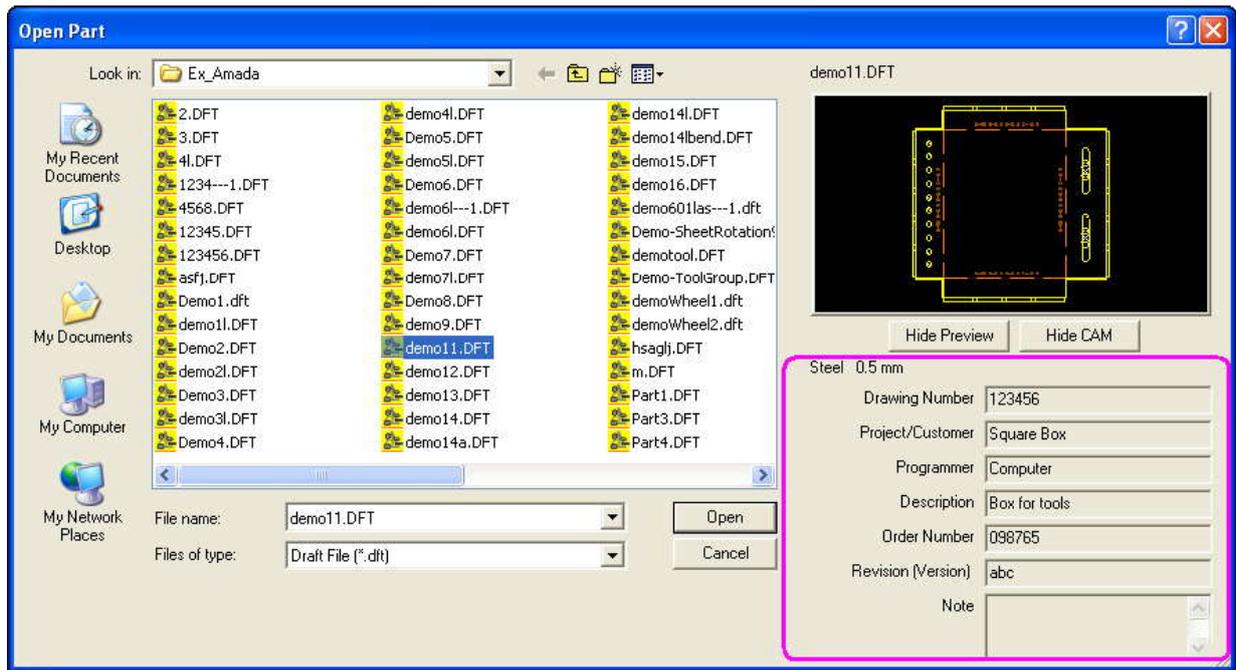


In the above example, in both Layers the horizontal Slitting is done with an **RE 50 5** (in green) and the vertical with an **RE 65 5 90** (in blue).

1.4 User Data in File Preview

When opening a part you can now see not only the part preview, but also the **User Data** as well as part's **Material** and **Thickness**:

What's New



1.5 Enhanced Checking for Part Destroying Punches

The feature of checking whether a punch destroys the part has been extended to all punching types.

1.6 AutoPunch, AutoCut and Cut Settings Machine Specific

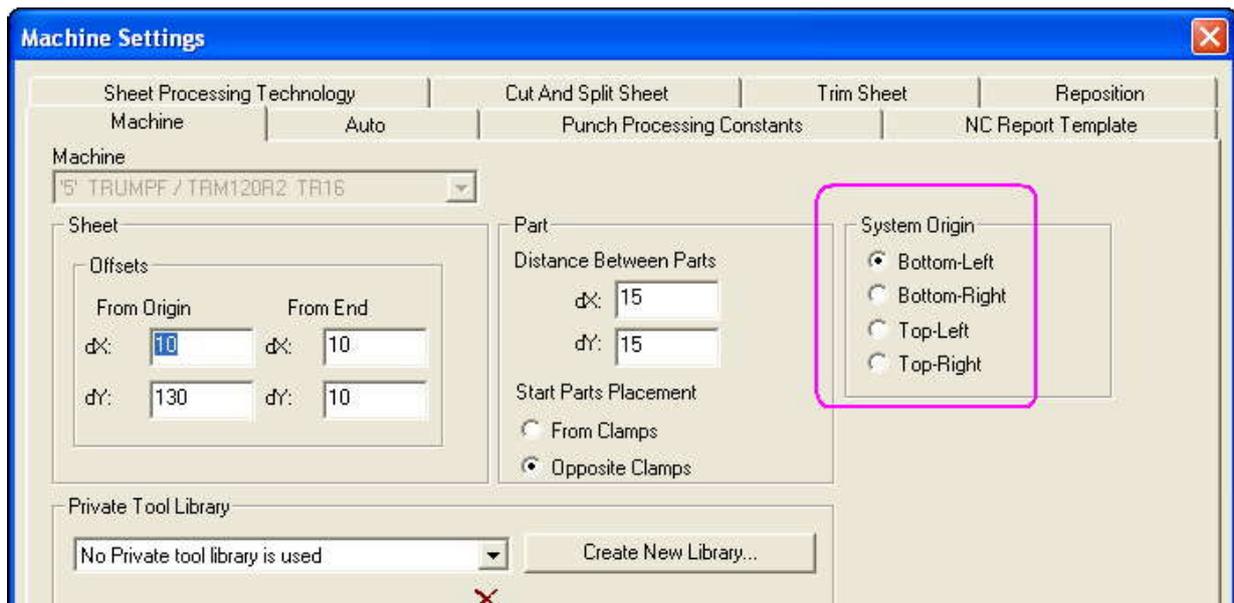
Auto Punch, **Auto Cut** and manual **Cut Settings** are now per machine.
A workstation with several machines can have different settings for each.

1.7 Editing Multiple Bend Lines

You are now able to edit several Bend Lines at the same time, setting the parameters for **Angle**, **Text Size**, etc.

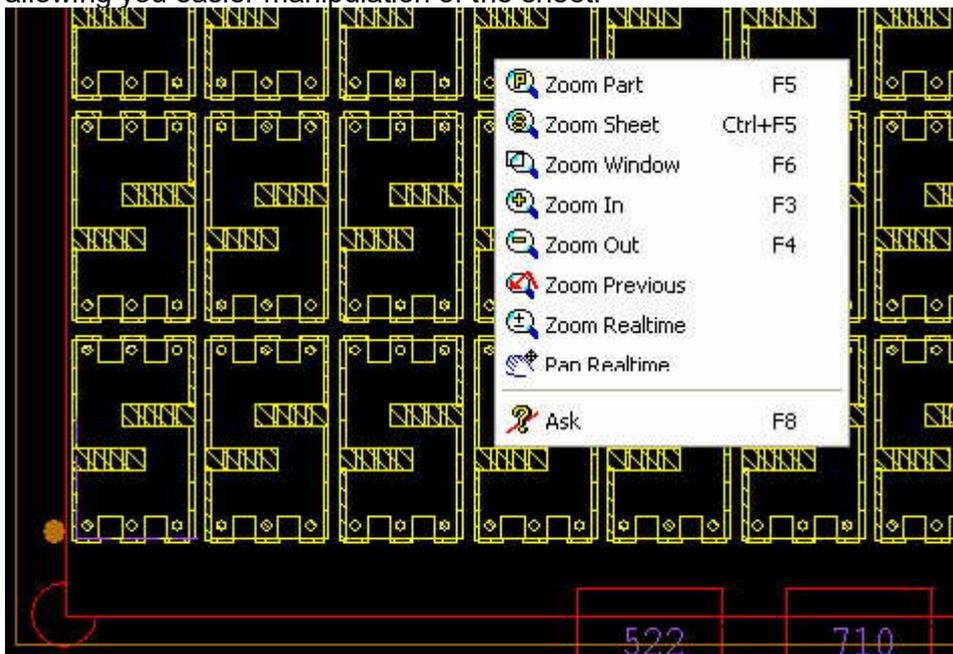
1.8 System Origin is Now Machine Specific

The System Origin selection is specific for each machine and can be set in the default **Machine Settings** dialog, on **Machine tab**:

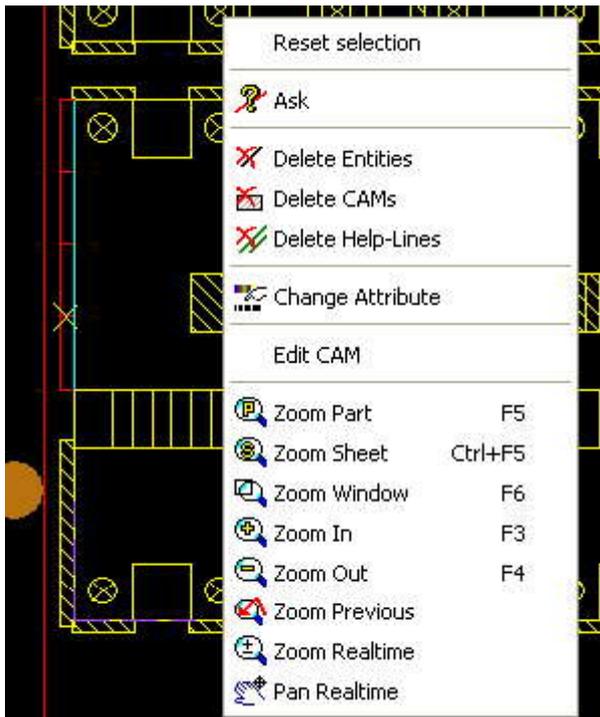


1.9 Context Sensitive Right-Click

When you right-click in **cncKad's** window you will be presented with **Zoom Menu** options, allowing you easier manipulation of the sheet:

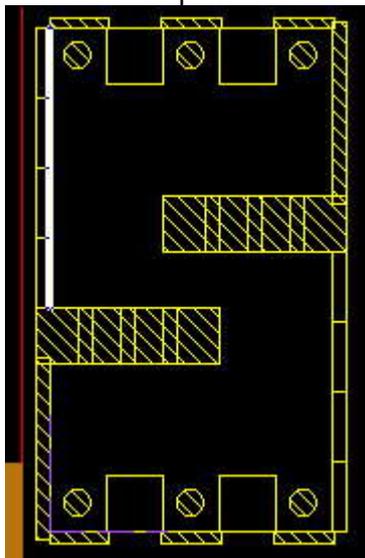


When you right-click next to an entity (entities) you will be presented with **Delete Menu** options, **Zoom** options, as well as a few others:



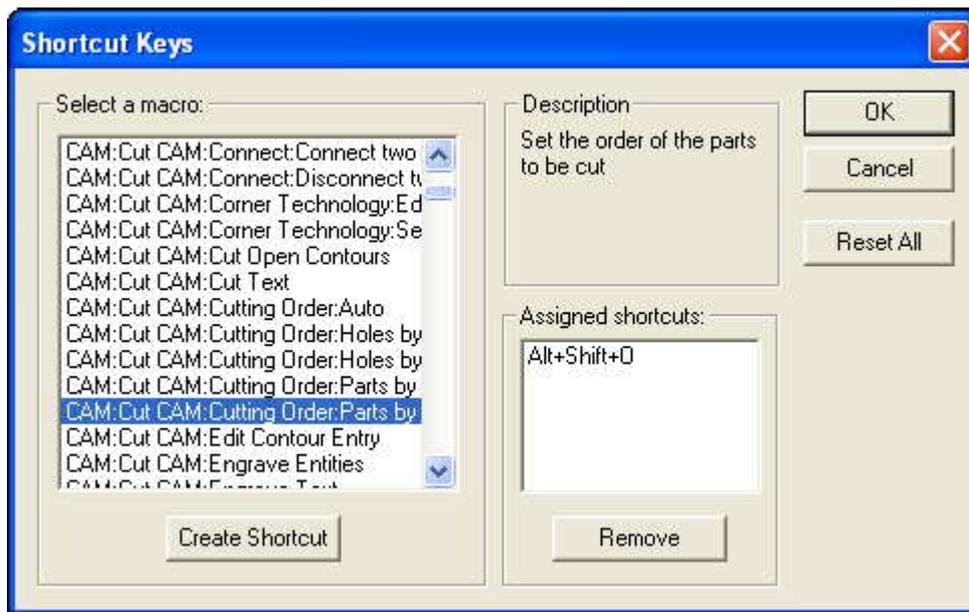
1.10 Entity Highlighting

Anytime you now place the cursor next to an entity, the latter one will be highlighted, as shown in the picture below:



1.11 Customizable Keyboard Shortcuts

Activating this option from **Settings Menu** allows you to create your own shortcuts for various **cncKad** functions, as well as changing the existing ones:



1.12 Open Files without Existing Tools

Up until now when you opened a part and some special tool file didn't exist, **cncKad** would delete all the processing definitions.

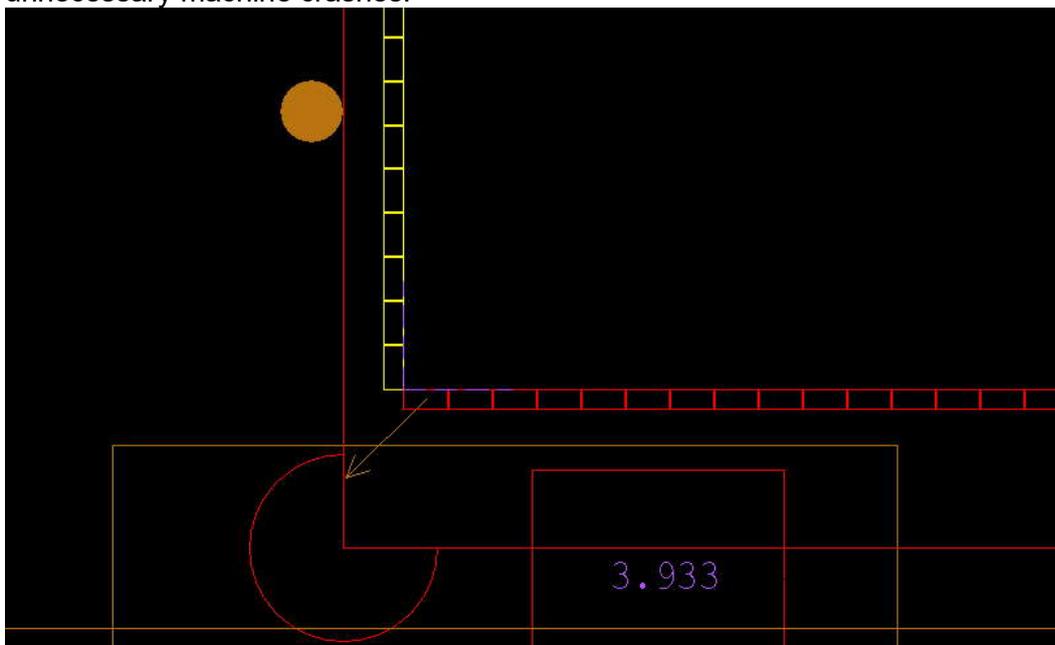
Now it deletes only those punches processed with the missing tool, and loads the other tooling definitions.

1.13 Load and Replace Parts in a Nest

You can now replace part of selected nest instances.

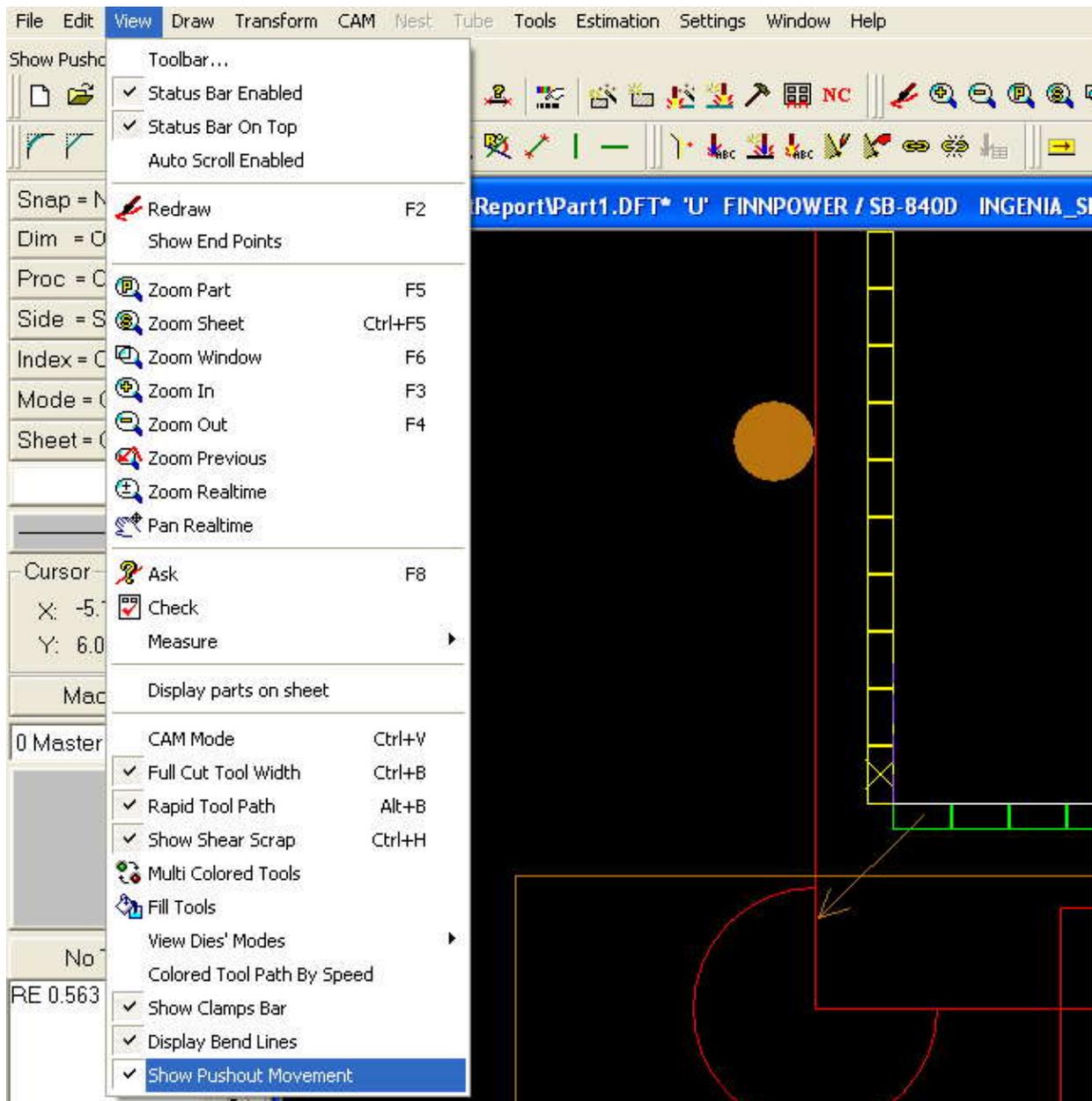
1.14 Push Out Movement

This feature of **View Menu** allows the user to see the push out movement and prevent unnecessary machine crashes:



The push out movement will be displayed when you select the "**Show Push Out Movement**" menu item or when you select an entity on the drawing:

What's New



1.15 Bounding Box

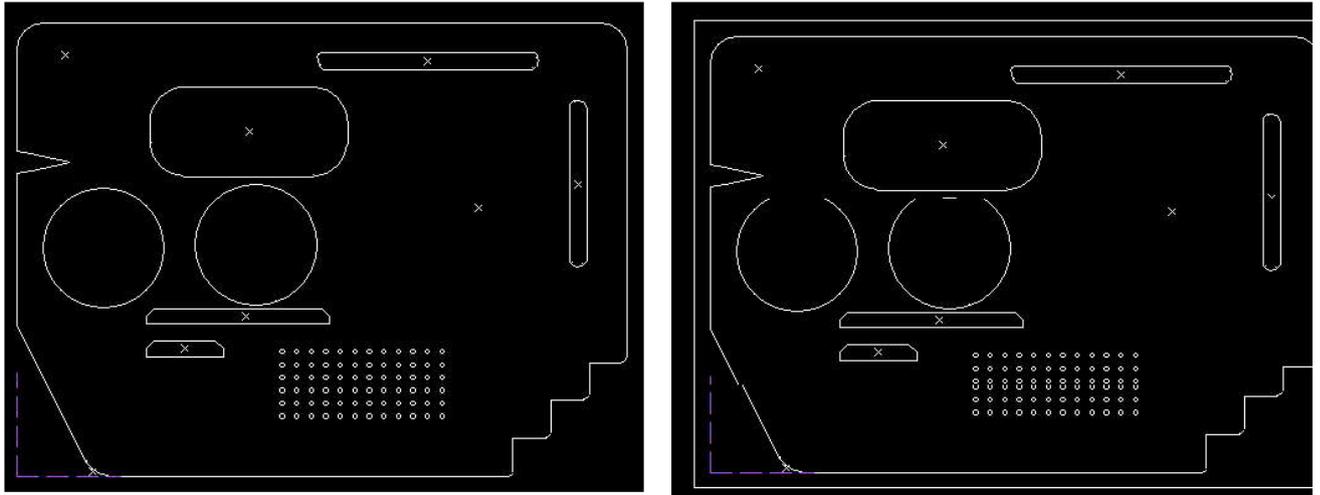
This new feature of the **Draw Menu** allows you for drawing bounding rectangle of the part, with the option of offsetting it from the boundaries of the box.



Example:

Before:

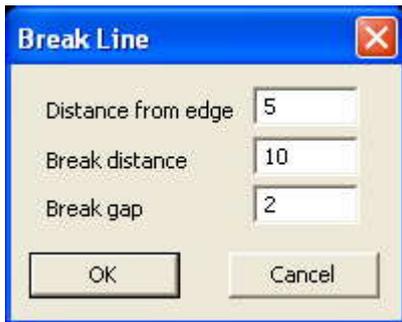
After (with margin of 10):



1.16 Break Lines into Segments

Located in the **Draw Menu**, this function breaks selected lines into segments with the following parameters:

- **A** - Distance from edge
- **B** - Gap distance
- **C** - Internal break distance



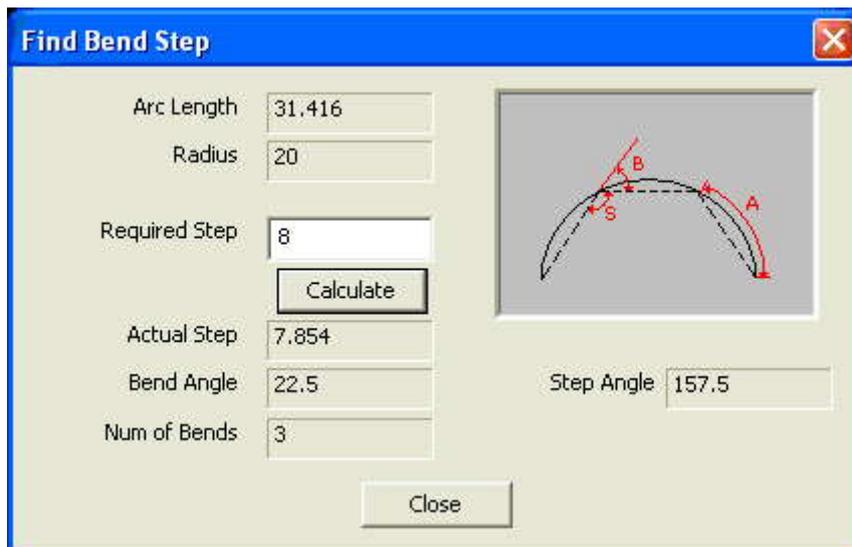
See the following example:



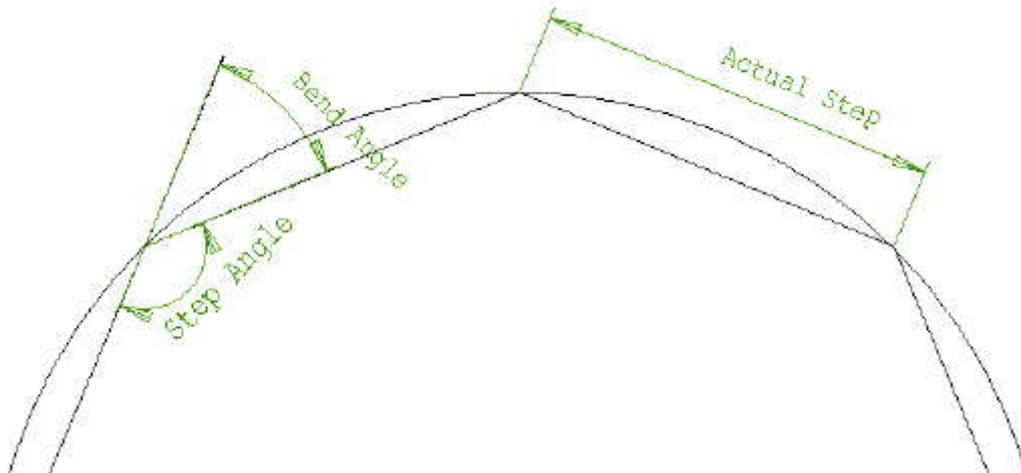
1.17 Find Bend Step

This new feature of **Draw Menu** is useful in finding the number of bends and their corresponding angles, required to approximate an arc.

What's New



After entering the desired length of each step, the actual step for the arc will be calculated.

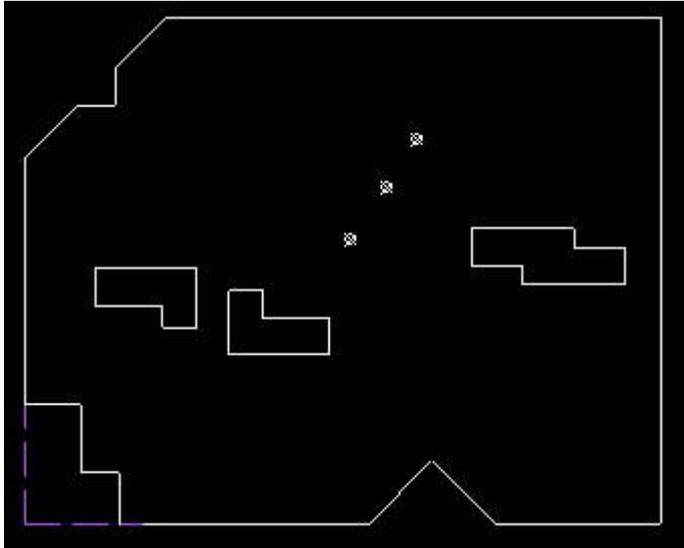


2 New Punch Features

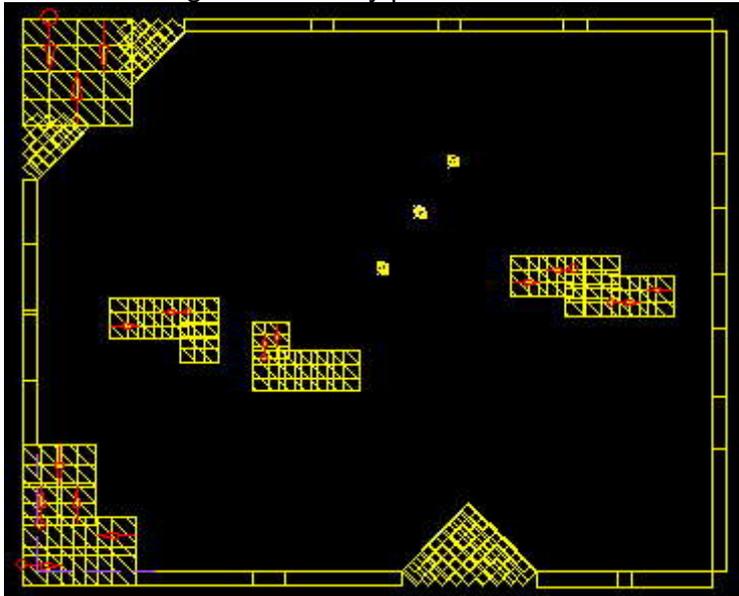
2.1 AutoPunch Crunches Irregular Shapes and Notches

Now the **AutoPunch** option automatically crunches orthogonal, rectangular shapes and notches. See the following example:

Part before crunch:

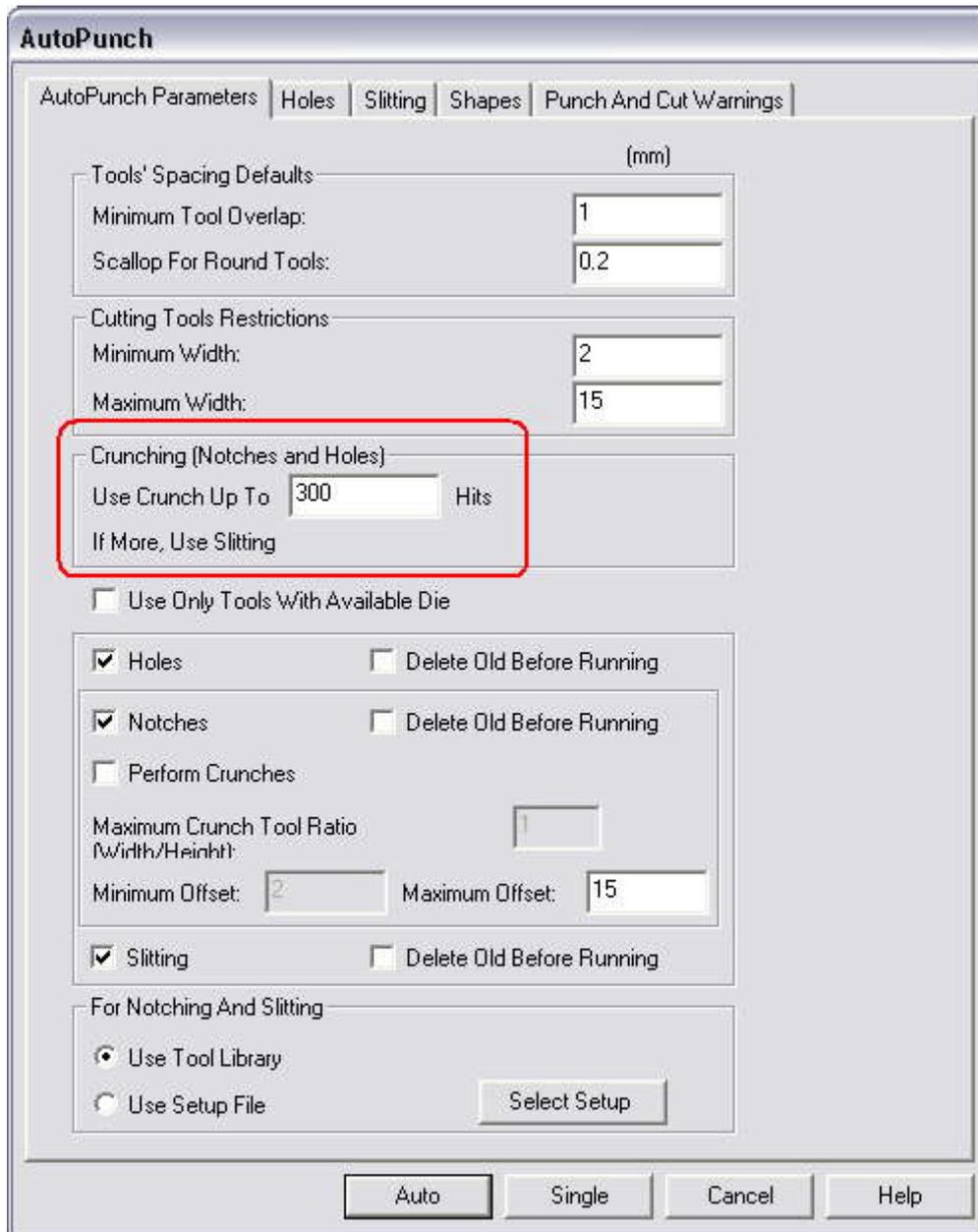


And after being automatically processed:



2.2 Maximal hit number for Crunch in AutoPunch

Now in **AutoPunch** the user can define a maximum number of hits for crunch. In case when the amount of the hits in crunched entity (notch or whole) is bigger than the quantity entered in the dialog, the crunch will be replaced by slitting:



2.3 Free Hand Single Punch with Auto Snap

Free Hand Single Punch can now be used with **Auto Snap** option. This means that when the Auto Snap option is selected a punch is placed on one of the end points or the center point of the closest entity.

2.4 Sorting Per-Side in Tool Library

You can now click on the **Tool** column in the **Tool Library** in two ways – according to tool length (first size parameter) and width (second size parameter):

Sorted by tool length:

Sorted by tool width:

Tool:
RE 6 2
RE 6 3
RE 10 5
RE 12 6
RE 14 7
RE 20 10
RE 21 4
RE 25 4
RE 25 5
RE 25 12
RE 28 3
RE 50 5
RE 65 5

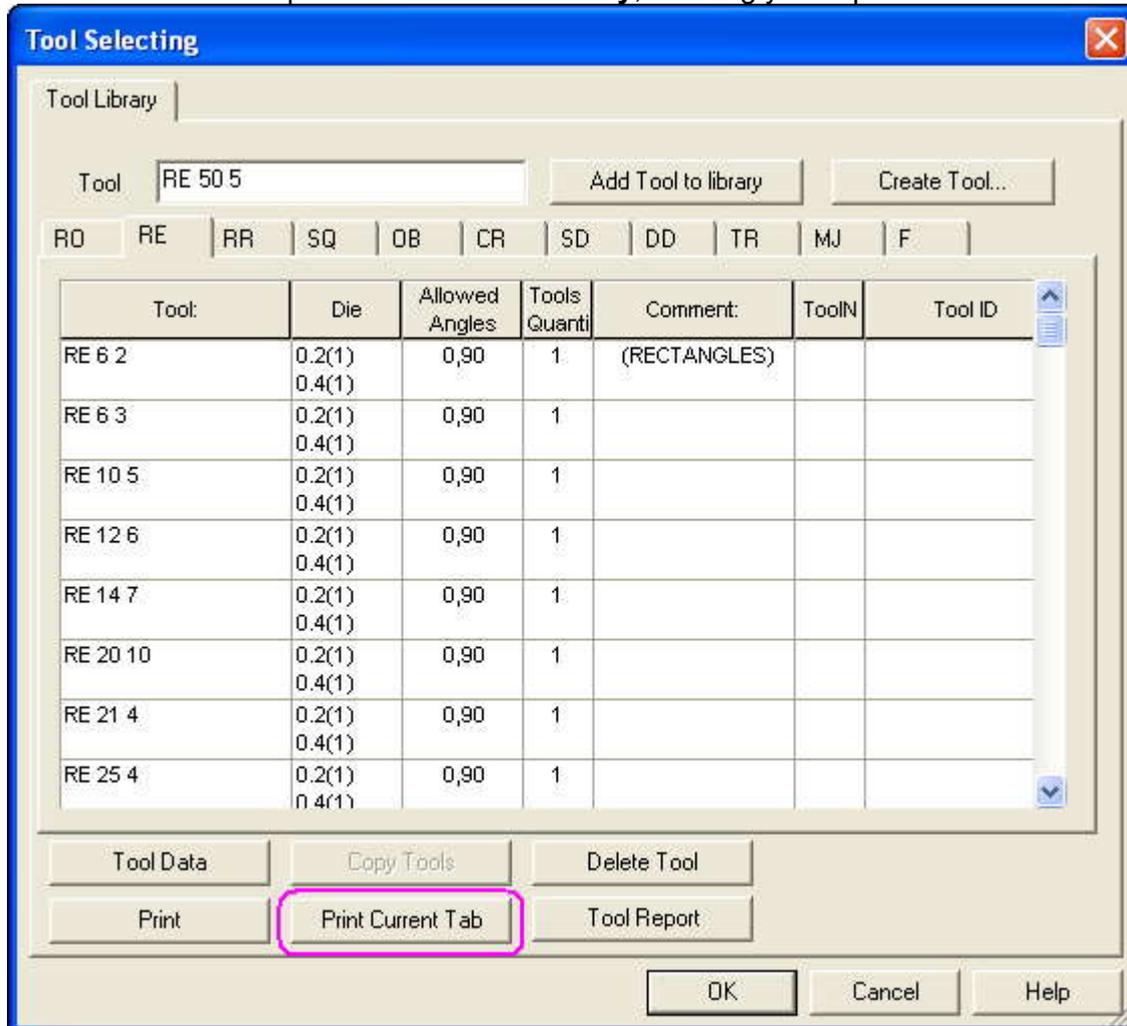
Tool:
RE 6 2
RE 6 3
RE 28 3
RE 21 4
RE 25 4
RE 10 5
RE 25 5
RE 50 5
RE 65 5
RE 12 6
RE 14 7
RE 20 10
RE 25 12

2.5 New Tool Options

There are new features for handling tools:

2.5.1 New Print Tools Option

There is now a new option in the **Tools' Library**, allowing you to print the current tab:



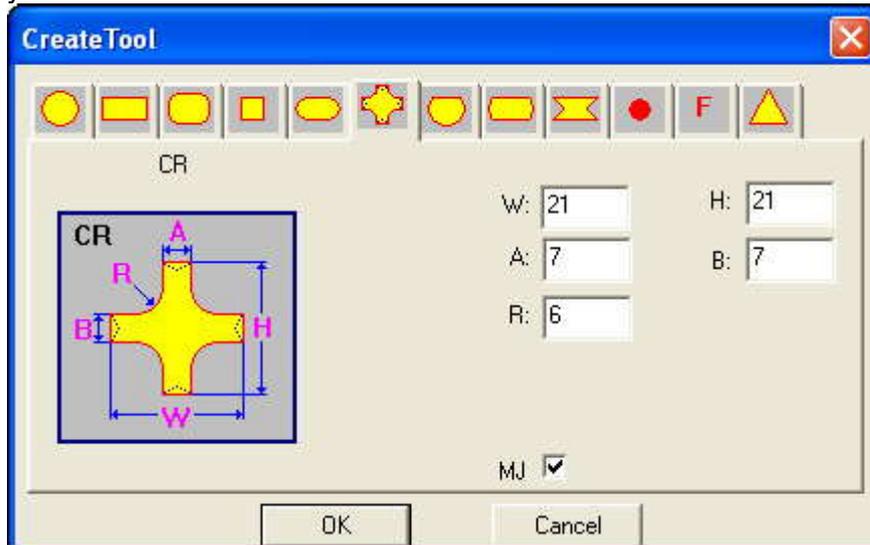
2.5.2 CR Tool with MJ

From now on **Corner Radius** tools can be defined with **MicroJoint** edges.

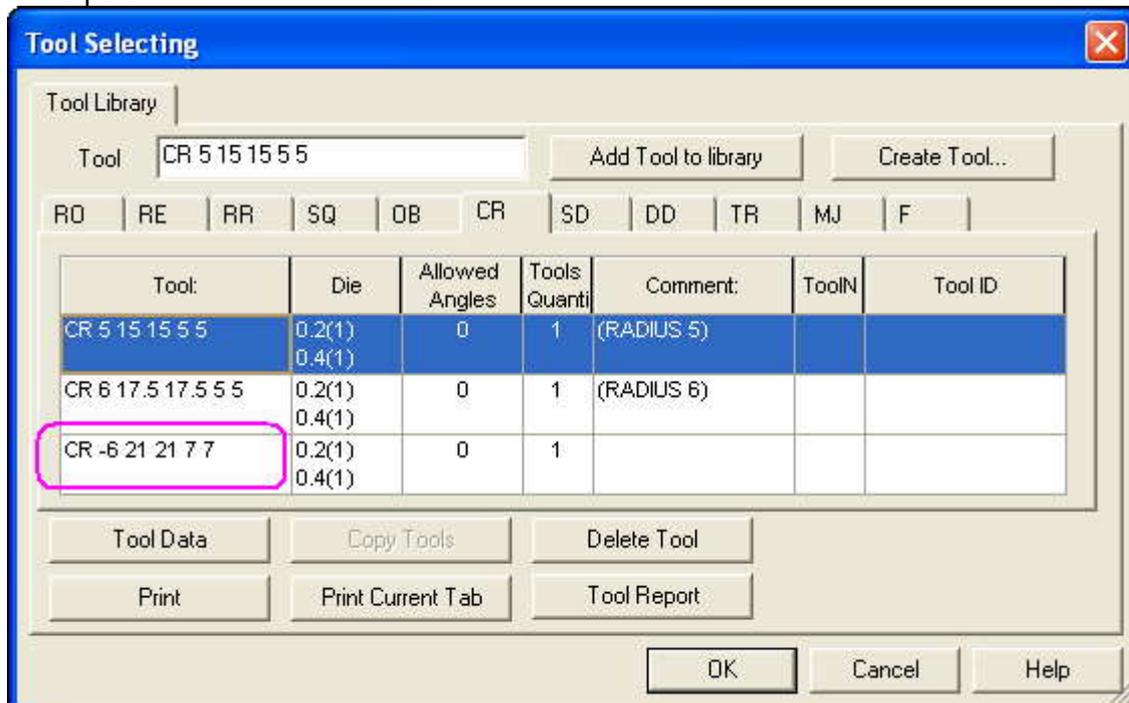
In the **Create Tool** dialog you can check the **MJ** box and a MicroJoint edge will be added to

What's New

your tool:



As you can see below, the **CR tool with MicroJoint** is denoted with "-" sign preceding the tool's parameters:



When used on a part we will get the following result:



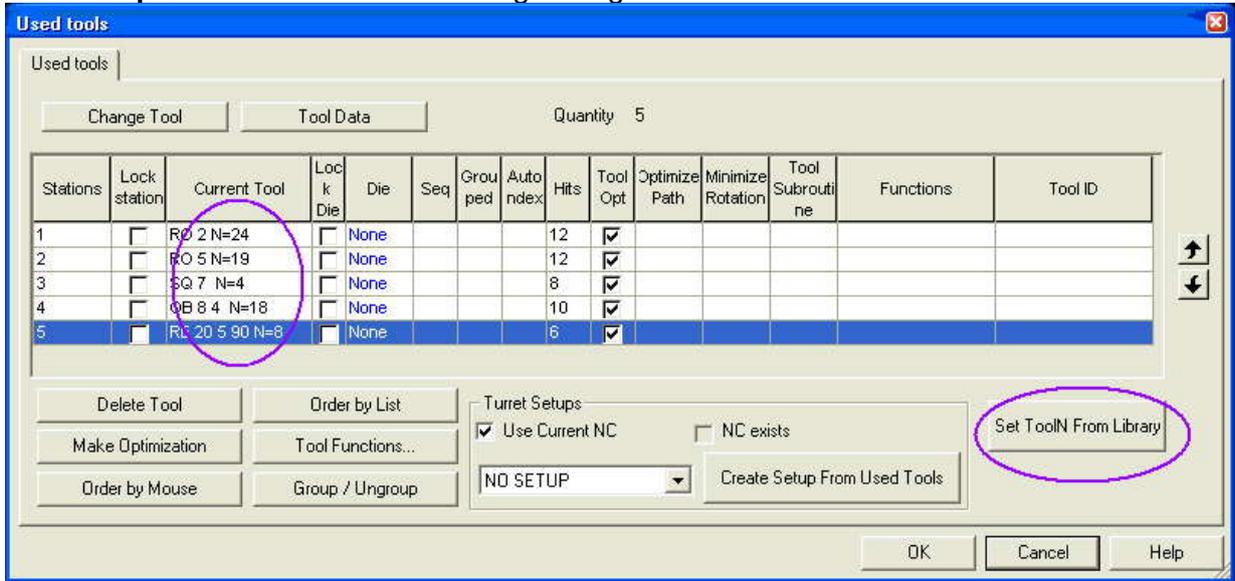
2.5.3 Cluster Tools Support in AutoPunch

AutoPunch now checks the possibility of using defined cluster tools, and uses them whenever possible.

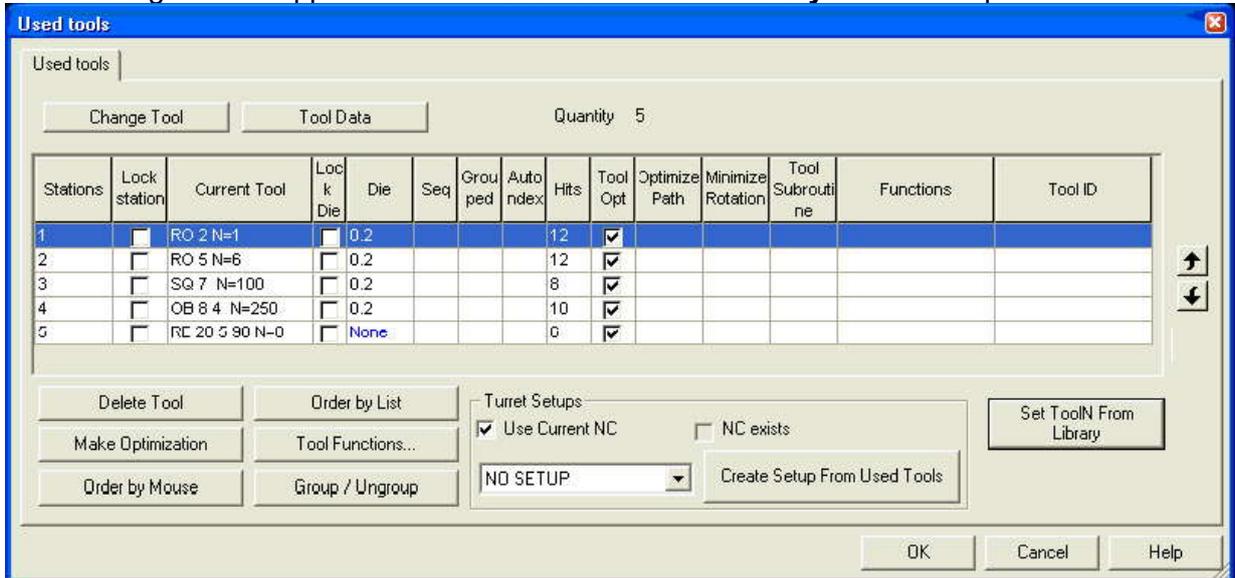
2.5.4 Set ToolN From Library

This new option of Used Tools dialog enables you to replace the ToolN parameter for all the used tools with the value from current tool library.

For example: for DFT with the following settings:



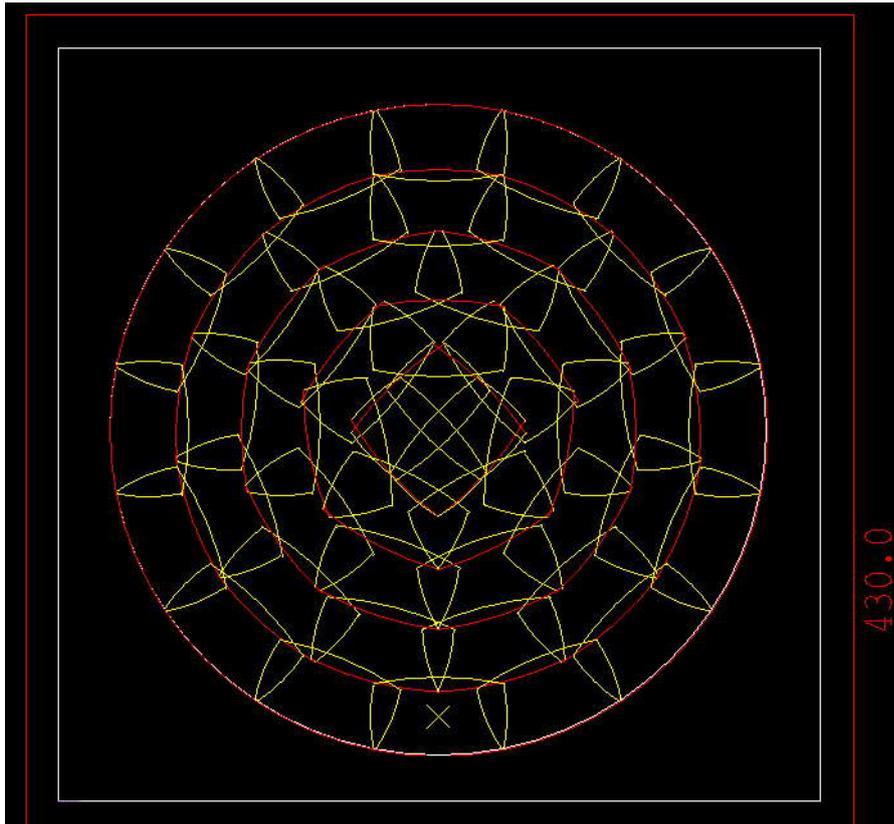
these changes were applied after the **Set ToolN From Library** button was pressed:



2.5.5 Multi Radius Tools

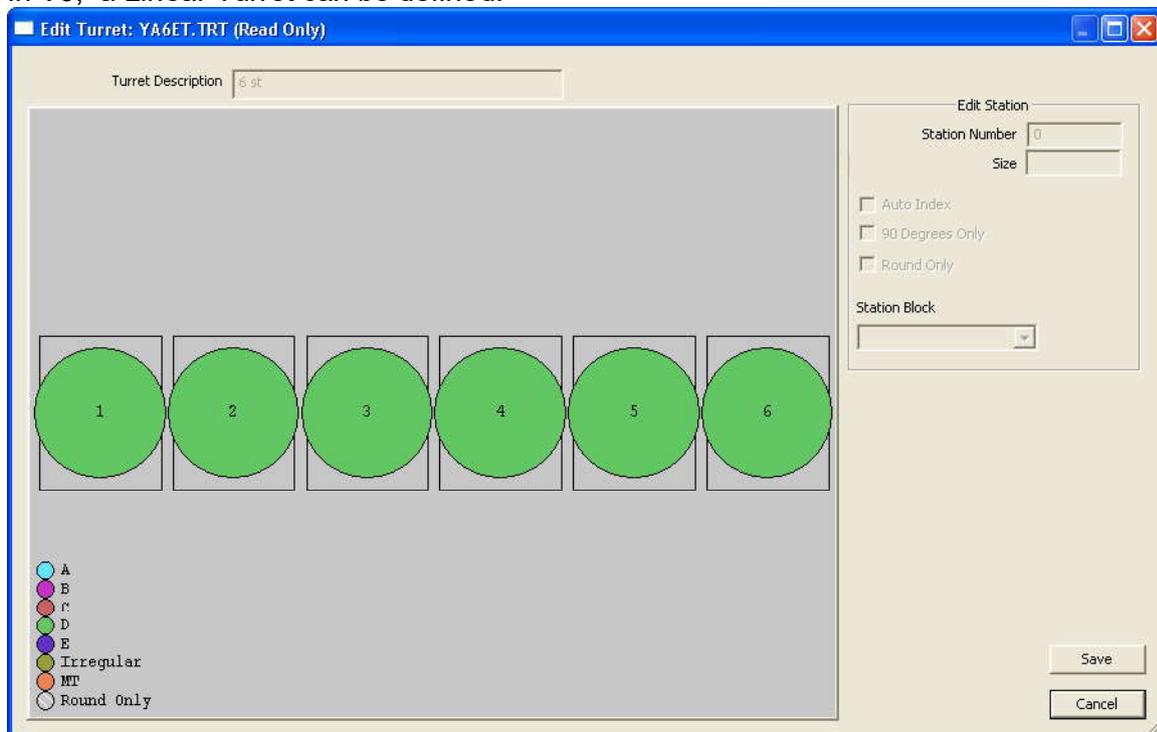
AutoPunch and **Manual Punch** support the option of crunching circles with multi-radius tools:

What's New

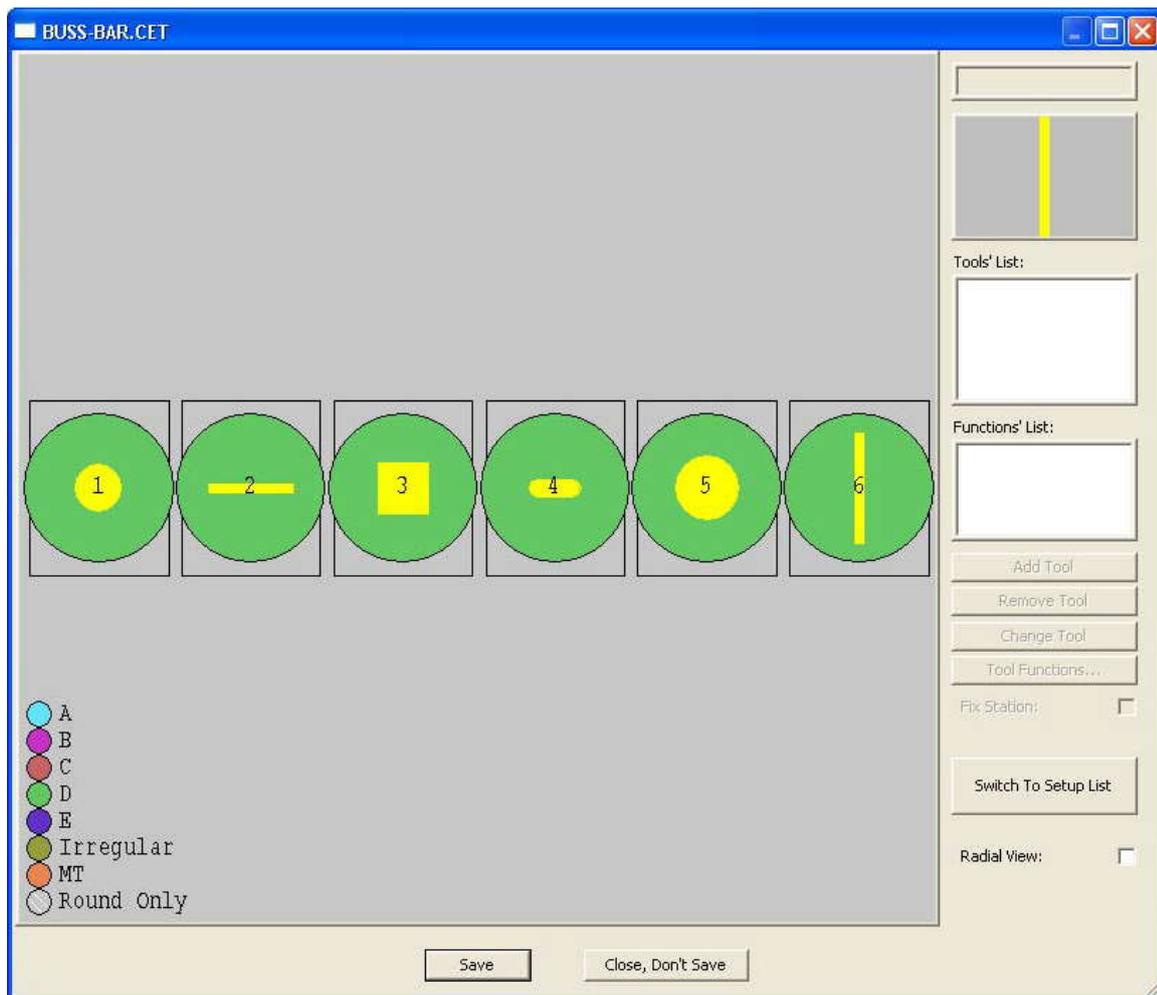


2.6 Linear Turret

In V9, a Linear Turret can be defined:



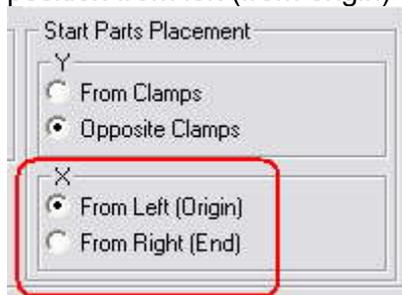
And a Turret Setup as well:



Linear Turrets are useful for machines such as Buss-Bar, Coil, and even some standard machines such as Amada OCTO.

2.7 Set start placement position for X

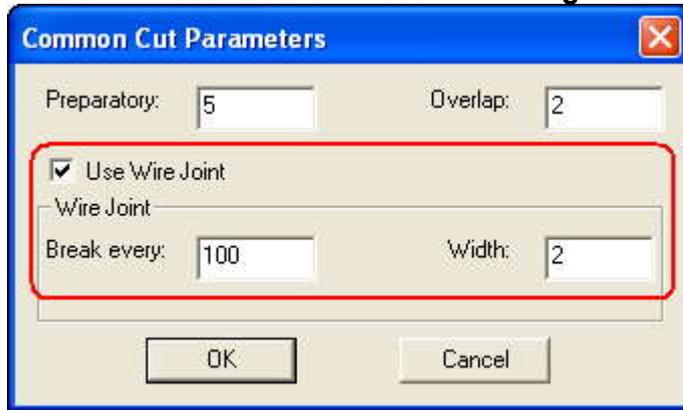
On the **Sheet** tab in the **Set Sheet and Clamps** dialog a now the a user can choose the start position from left (from origin) or from right (from end):



3 New Laser Features

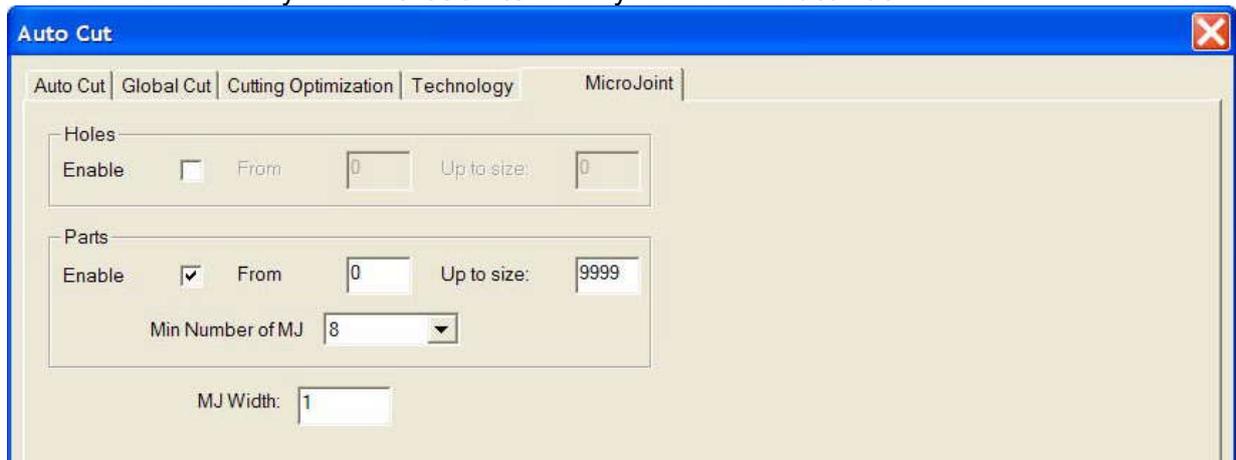
3.1 Wire Joint for Common Cuts

This new feature refers to Laser, Plasma, Flame and Water Jet cutting machines, allowing the user to define tool path breaks during common cuts. It is accessible from **Common Cuts** section of **AutoCut** tab in **Auto Cut** dialog:



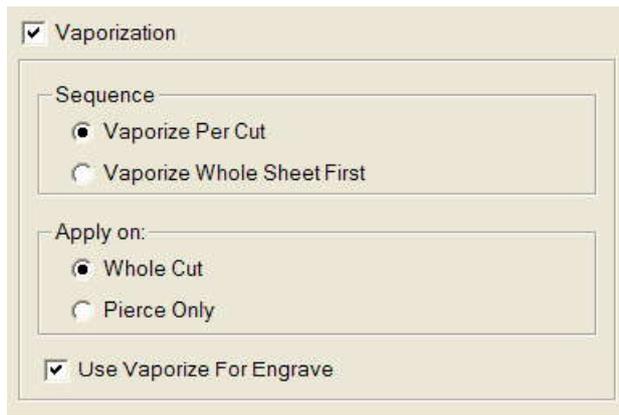
3.2 MicroJoints in AutoCut

You can automatically add **MicroJoints** when you use the **AutoCut** feature:



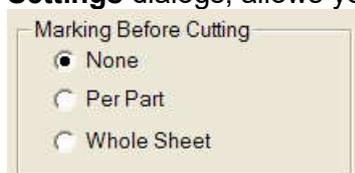
3.3 Vaporize Sheet Before Cutting

On the **Cutting Parameters** tab in **Set Sheet and Clamps** dialog you will now find Vaporization features, allowing you for more efficient work. You are now able to choose whether to vaporize the whole sheet, a cut or a pierce, before processing the sheet with cutting. In the past you could only set these options by adding vaporizing functions before the cut. Now you can define in one place both their sequence and the vaporizing area:



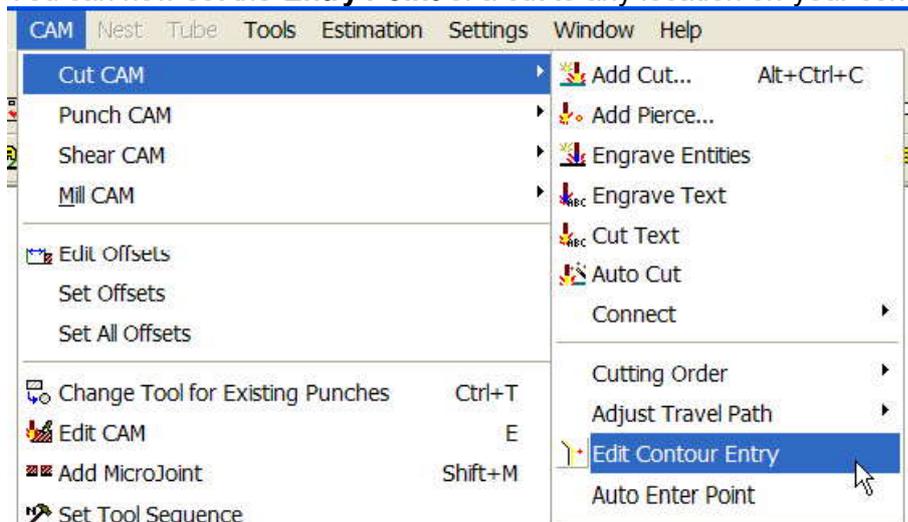
3.4 Marking Before Cutting

This option of **Cutting Optimization** tab in either the **Set Sheet and Clamps** or the **Machine Settings** dialogs, allows you to execute Marking on the part or on the whole sheet:



3.5 Freehand Entry Point for Cut

You can now set the **Entry Point** of a cut to any location on your contour:

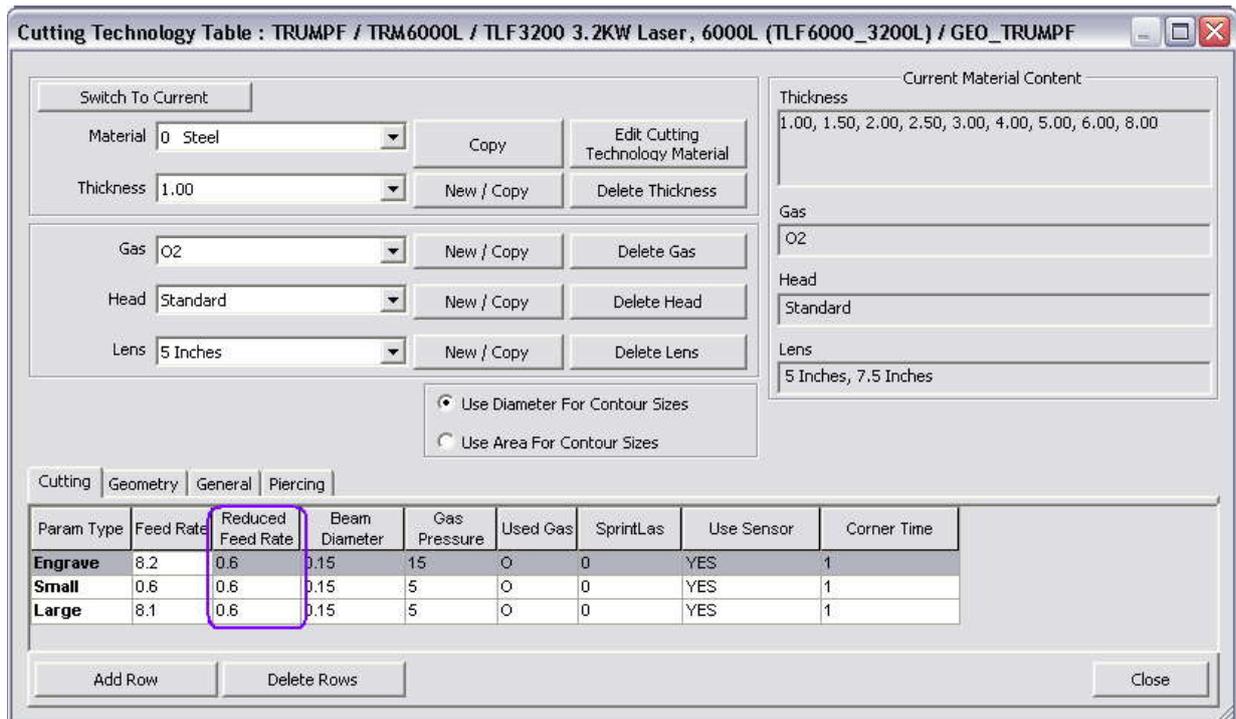


You can use **Snap None** to position the Entry freehand, or any of the standard Snaps to position it automatically.

3.6 Reduced Feed Rate

The **Cutting Technology Table** contains a column of Reduced Feed Rate for each feed rate. This parameter is used for better accuracy of the job time estimation of the part.

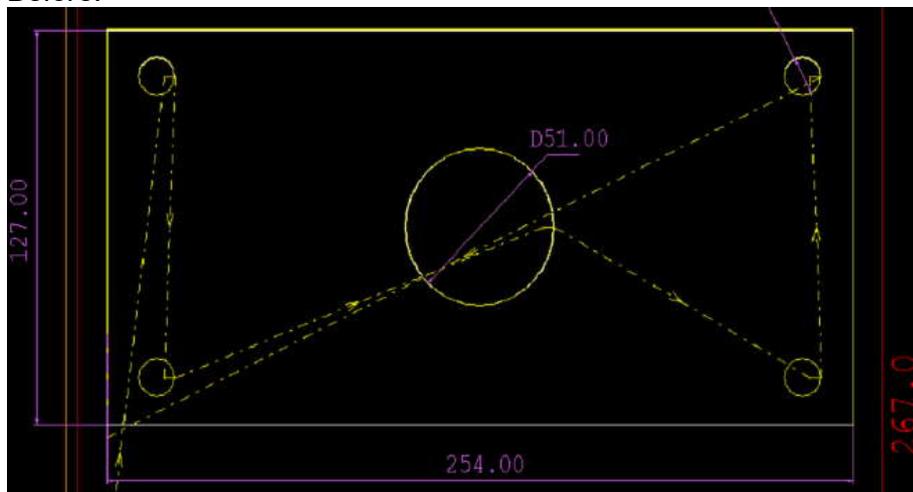
What's New



3.7 Path Finder (Adjust Tool-Path)

This automatic option calculates a path from one hole to another, trying to avoid passing through already cut holes. See the following examples before and after utilizing this function:

Before:

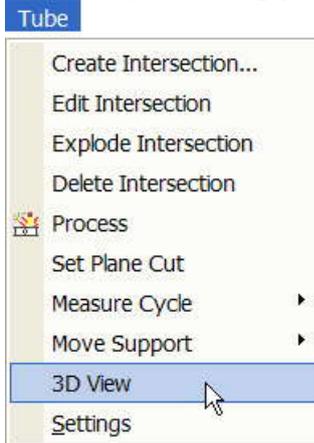


After:

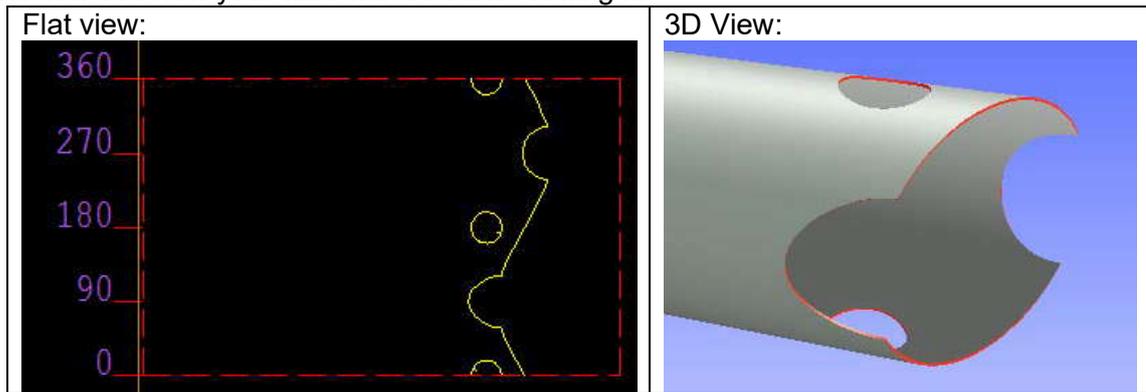
4 New in Tube Cutting

4.1 3D Simulation for Intersections

Tube Cutting has been significantly enhanced with 3D simulation of the finished cuts. After using **Create Intersection** to add cuts to your tube, you can now simulate these cuts in 3D. After processing your intersections, select the **3D View** option from the **Tube** menu:

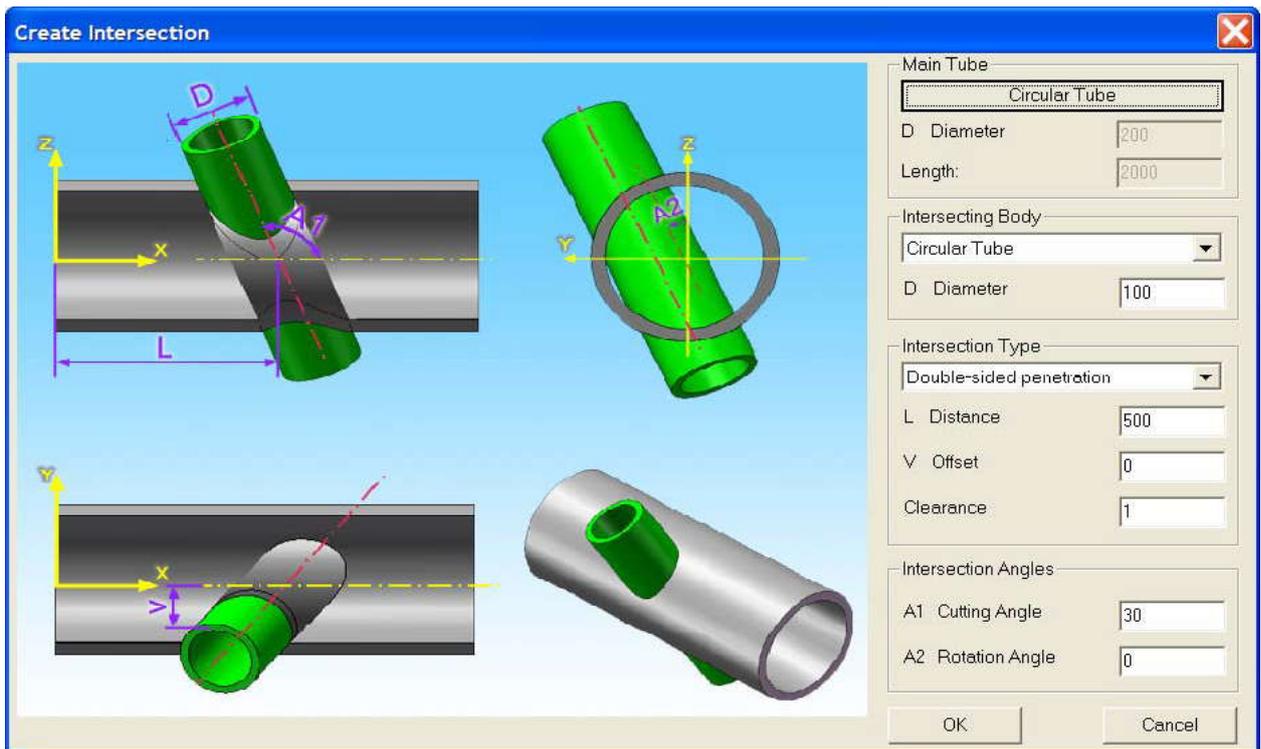


You will now see how your tube will look after cutting it:



4.2 Graphical Enhancement

The **Create Intersection** dialogs now show the intersection parameters in 3D, making adding cuts easier and more intuitive:



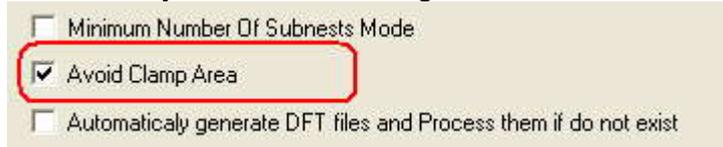
5 New in AutoNest

5.1 Automatic DXF to NC Solution

It is now possible to load a nested DXF in **AutoNest module** and create NC for it, skipping the necessity of converting the parts into DFTs and processing them in **cnckAd**.

5.2 Avoid Predefined Clamps Area

This option of the **AutoNest** tab in the **Workspace Settings** dialog allows you to avoid predefined clamps area so that the automatic nesting will not place parts on clamps. This allows you to create nesting solutions without the necessity of Repositions.



5.3 Full Support for Hole Filling

The **Fill Holes** and **Fill Holes for All Subnests** options now work both for Rectangular and True Shape nesting strategies:



5.4 Edit Part Common Cuts Parameters in AutoNest

Now it is possible to Edit Part Common Cuts parameters.

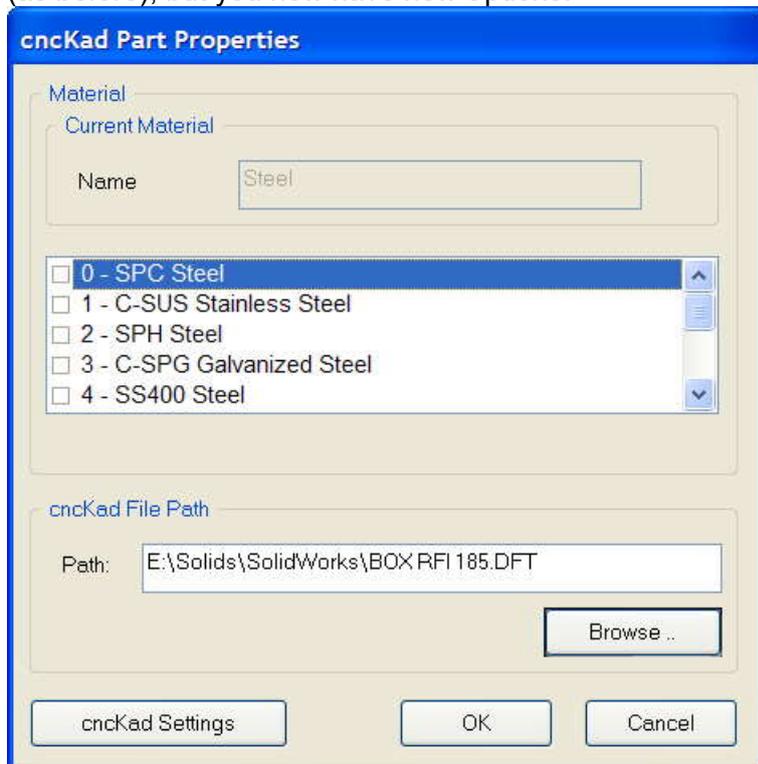
6 New in CAD Link

The CAD Link module now has better support for exporting entire assemblies with a single button click, with better support for user customization.

The CAD Link toolbar/menu now has a new option – **cncKad Properties**:



This opens a dialog where you can set your part's material from cncKad's Material Database (as before), but you now have new options:



6.1 cncKad File Path

After you have exported your model to cncKad, the **cncKad File Path** shows you where your DFT file was saved. This is the file that will be updated when you use CAD Link's **Update** feature.

If you want to update a different file, simply Browse to it, or type the path you want.

6.2 cncKad Settings

The **cncKad Settings** button opens a new dialog:

What's New

The screenshot shows the 'cncKad Workspace Settings' dialog box with the following sections and controls:

- General Settings:**
 - Path of Solid Parts:
 - cncKad parts Path:
 - DFT File Path:
 - Assembly Mode:
 - Add prefix to the DFT Part name:
- Add Property:**
 - Add Property from Model to the end of DFT Part name: (e.g. "Revision")
- ORD Creation:**
 - Create ORD for Assembly: Create in the assembly's report file directory
 - Create the ORD in the path below
 -
- Inventor:**
 - Options specific to Inventor:
 - Flat Pattern:** Create Flat Pattern if Not Found: No Yes
 - Create DXF:** Create DXF for Each part: No Yes

At the bottom of the dialog are and .

Here you can set various options that will determine where your exported cncKad part will be saved, under which name, and other options.

7 Import and Export

7.1 Import Dimensions from AutoCAD

You can now import parts with their dimensions from AutoCAD.

Supported dimension types are: linear, aligned, radius, diameter and angular.

Angular dimensions are only partly supported.

7.2 AutoCAD2008 DWG Supported

DWG files from AutoCAD2008 are now fully supported for import.

7.3 Export to DXF/DWG Non Solid-white Entities

AutoNest can now export non solid-white entities to DXF/DWG files.

8 Feature Enhancements

8.1 New Option in Check for Duplicates

The **Check for Duplicates** option now applies to text as well.

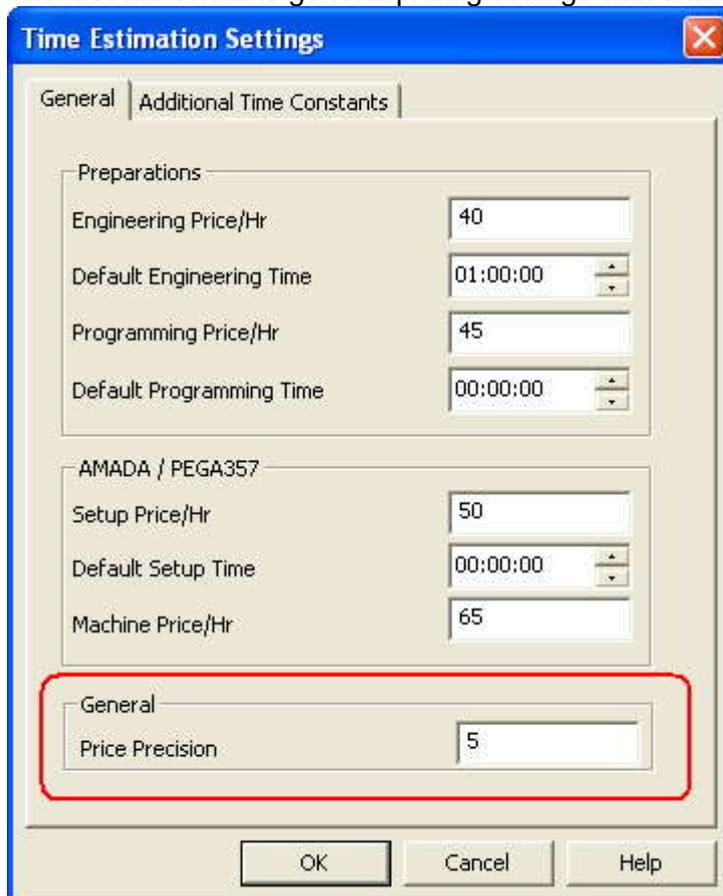
8.2 Changes for Check Process

The **Check Process** algorithm now verifies whether each entity has been processed or not instead of examining the contour as a whole.

8.3 Added Price Precision in Estimation

Now the **Time Estimation Settings** dialog is split into two tabs, allowing you to define the price estimations for your machine efficiently and precisely.

The first tab contains general pricing settings with a new **Price Precision** field:

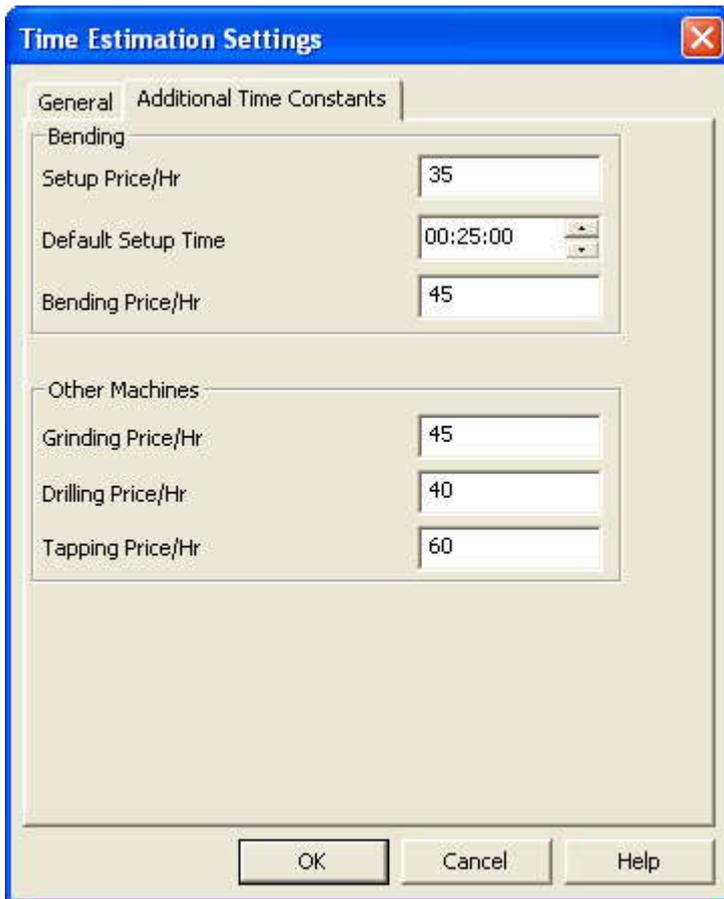


The screenshot shows the 'Time Estimation Settings' dialog box with the 'General' tab selected. The dialog has a blue title bar with a close button. Below the title bar are two tabs: 'General' and 'Additional Time Constants'. The 'General' tab contains three sections of settings:

- Preparations:**
 - Engineering Price/Hr: 40
 - Default Engineering Time: 01:00:00
 - Programming Price/Hr: 45
 - Default Programming Time: 00:00:00
- AMADA / PEGA357:**
 - Setup Price/Hr: 50
 - Default Setup Time: 00:00:00
 - Machine Price/Hr: 65
- General:**
 - Price Precision: 5

At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'. A red rectangle highlights the 'Price Precision' field and its value '5'.

A second tab consists of **Additional Time Constants**:



8.4 Changes in Sheet Transformation

Now it is possible to set offsets for the transformation option "NONE".



Set CAMs to Current option gives you possibility of selecting either all punches placed on the sheet, or all punches made with same tool.

