Tooling

Objectives

Learn about PowerSource Tooling, how tools are organized in the database, and how to add and remove tools.
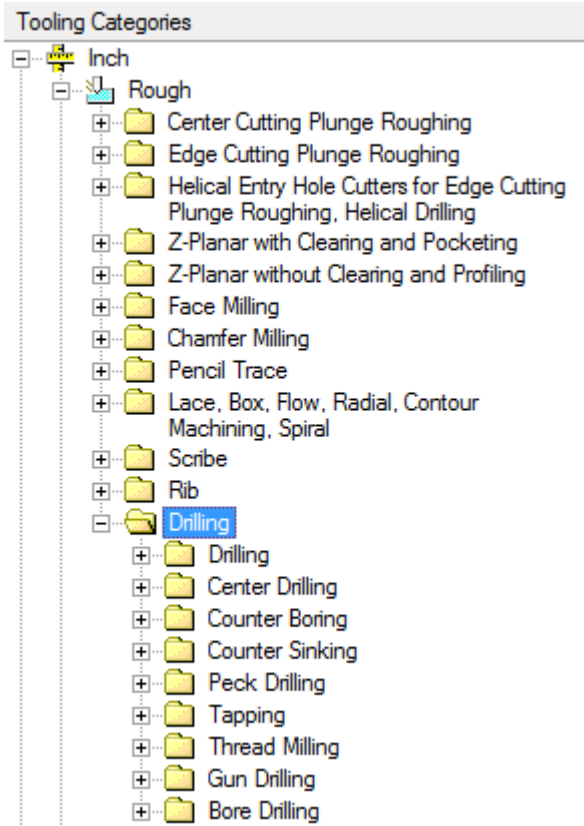
Overview

User Interface

Standard Windows Interface - Menus, Toolbars, etc. The main application area has 3 Panes – Tool Categories on the left, Tool List on the right, and Tool Categories at the bottom. What's This Help is very useful. When you start Tooling, it automatically loads the User database used by Prospector.
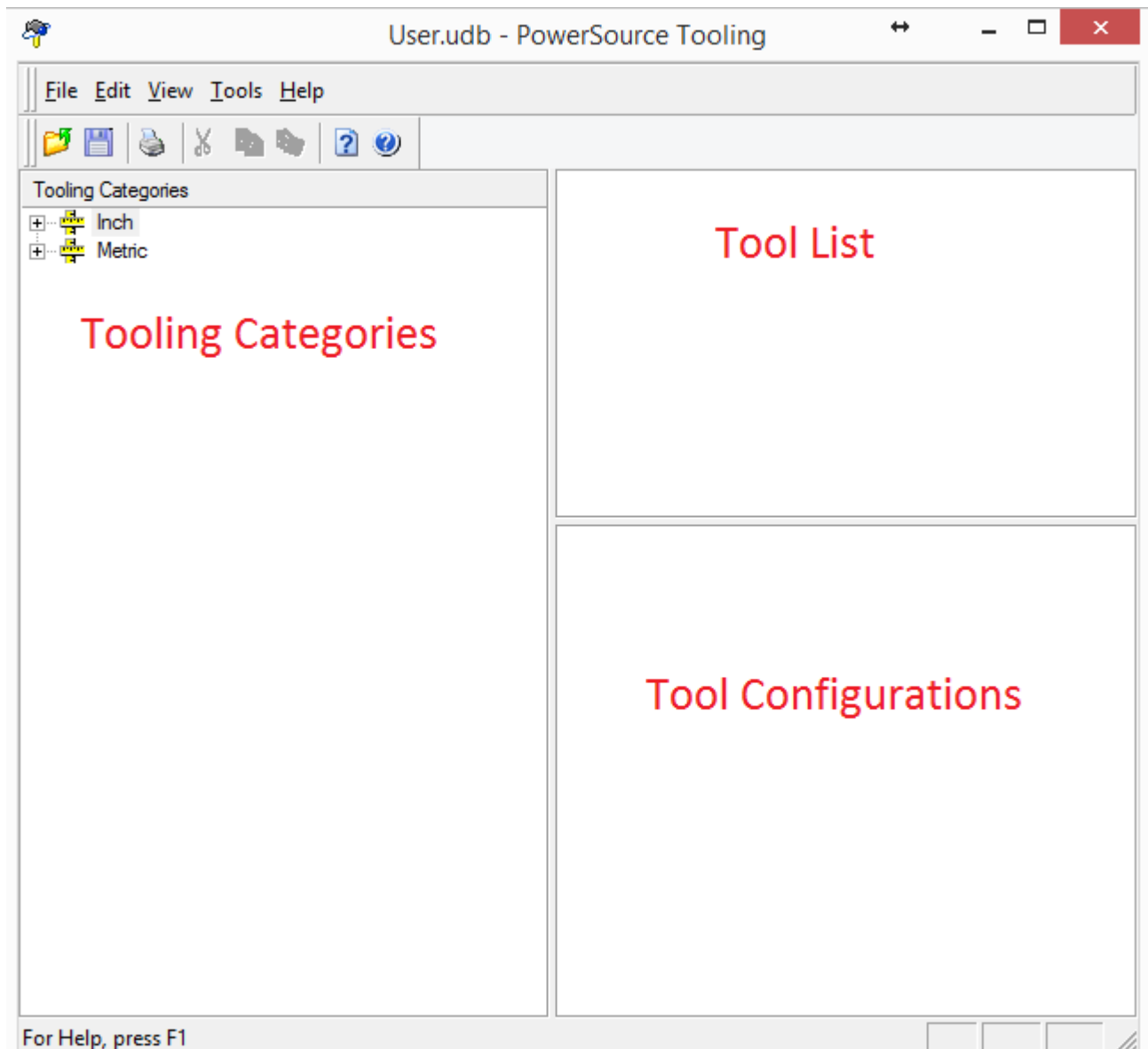
Tool Categories

At the top level is Units, Inch and Metric - unlike Insight. The next level is Category - Rough, Semi Rough, Semi Finish, Finish.

Just like in Prospector and Insight. Next level is Strategy Groups. Some Strategies are in a group by themselves - Pencil Trace, Rib, etc. Others are grouped together - Z-Planar With Clear and Pocketing, since they are similar Strategies. Drilling has its own set of Strategies.

Tooling Categories

- Inch
  - Rough
    - Center Cutting Plunge Roughing
    - Edge Cutting Plunge Roughing
    - Helical Entry Hole Cutters for Edge Cutting Plunge Roughing, Helical Drilling
    - Z-Planar with Clearing and Pocketing
    - Z-Planar without Clearing and Profiling
    - Face Milling
    - Chamfer Milling
    - Pencil Trace
    - Lace, Box, Flow, Radial, Contour Machining, Spiral
    - Scribe
    - Rib
    - **Drilling**
      - Drilling
      - Center Drilling
      - Counter Boring
      - Counter Sinking
      - Peck Drilling
      - Tapping
      - Thread Milling
      - Gun Drilling
      - Bore Drilling

The Next level contains Tool Types. Most groups support Ball, Bull, and End Mill. Some only one or two - Pencil Trace only supports Ball tools. Clicking on a Tool Type will fill in the Tool List pane with the tools for the Units/Category/Group/Type:

User.udb - PowerSource Tooling

File Edit View Tools Help

Tooling Categories
- Inch
  - Rough
    - Center Cutting Plunge Roughing
    - Edge Cutting Plunge Roughing
    - Helical Entry Hole Cutters for Edge Cutting Plunge Roughing, Helical Drilling
    - Z-Planar with Clearing and Pocketing
      - Bull
      - Ball
      - End Mill
    - Z-Planar without Clearing and Profiling
    - Face Milling
    - Chamfer Milling
    - Pencil Trace
    - Lace, Box, Flow, Radial, Contour Machining, Spiral
    - Scribe
    - Rib
    - Drilling
  - Semi-Rough
  - Semi-Finish
  - Finish
  - Tool Assembly
- Metric

Name	Diameter	Corner Radius	Length	Max Step Over	Max Step Down	Station Number	Length Compens	Radius Comp
.250-D.03125-R	0.25	0.03125	1	0.135	0.025	1	1	1
.375-D.03125-R	0.375	0.03125	1	0.221	0.03	1	1	1
.375-D.0625-R	0.375	0.0625	1	0.177	0.03	1	1	1
.500-D.03125-R	0.5	0.03125	1	0.31	0.03	1	1	1
.625-D.03125-R	0.625	0.03125	1	0.398	0.03	1	1	1
.625-D.0625-R	0.625	0.0625	1	0.354	0.04	1	1	1
.750-D.03125-R	0.75	0.03125	1	0.486	0.03	1	1	1
.750-D.0625-R	0.75	0.0625	1	0.442	0.05	1	1	1
.750-D.125-R	0.75	0.125	1	0.354	0.05	1	1	1
1.000-D.03125-R	1	0.03125	1	0.663	0.03	1	1	1
1.000-D.0625-R	1	0.0625	2	0.62	0.055	1	1	1
1.000-D.125-R	1	0.125	2	0.53	0.055	1	1	1
1.500-D.03125-R	1.5	0.03125	2	1.016	0.03	1	1	1
1.500-D.0625-R	1.5	0.0625	2	0.972	0.06	1	1	1
1.500-D.125-R	1.5	0.125	2	0.884	0.06	1	1	1
1.500-D.250-R	1.5	0.25	2	0.707	0.06	1	1	1
1.625-D.03125-R	1.625	0.03125	2	1.105	0.03	1	1	1
1.750-D.03125	1.75	0.03125	2	1.193	0.03	1	1	1
1.750-D.0625-R	1.75	0.0625	2	1.149	0.06	1	1	1
1.750-D.125-R	1.75	0.125	2	1.06	0.07	1	1	1
2.000-D.031250 R	2	0.03125	2	1.37	0.03	1	1	1

For Help, press F1

Tool List

1st column is always Name which can be any alphanumeric string. The next several columns define the physical Properties of the tool:

Diameter - all tools
Corner Radius - Bull tools
Length - all tools
Tool Point Angle - Drills
Etc

For non-Drilling tools, next several columns define maximum machining Properties:

Maximum Step Over
Maximum Step Down

Last several columns are associated CNC machine Properties

Station Number
Length Compensation Register
Radius Compensation Register

Tools are initially sorted by Diameter (low to high). Clicking on a column header (Name, Diameter, etc) will sort by that column low to high. Clicking on the same header will sort high to low. Click on any cell will highlight whole row of the tool. The row header changes to an arrow icon:

	Name	Diameter	Corner Radius	Length	Max Step Over	Max Step Down	Station Number	Length Compens	Radius Comp
▶	.250-D.03125-R	0.25	0.03125	1	0.135	0.025	1	1	1
	.375-D.03125-R	0.375	0.03125	1	0.221	0.03	1	1	1

When you start typing in a cell, the row header changes to a pencil icon to indicating you're editing the tool:

	Name	Diameter	Corner Radius	Length	Max Step Over	Max Step Down	Station Number	Length Compens	Radius Comp
✎	.250-D.03125-R	0.25	0.03125	10	0.135	0.025	1	1	1
	.375-D.03125-R	0.375	0.03125	1	0.221	0.03	1	1	1

Enter or Tab will take you to the next column. Shift-Tab will take you to the previous column. The arrow keys also move you around the grid. All Properties are editable. There's always an extra row with an asterisk in the row header. This is used to add a new Tool. More on that later.

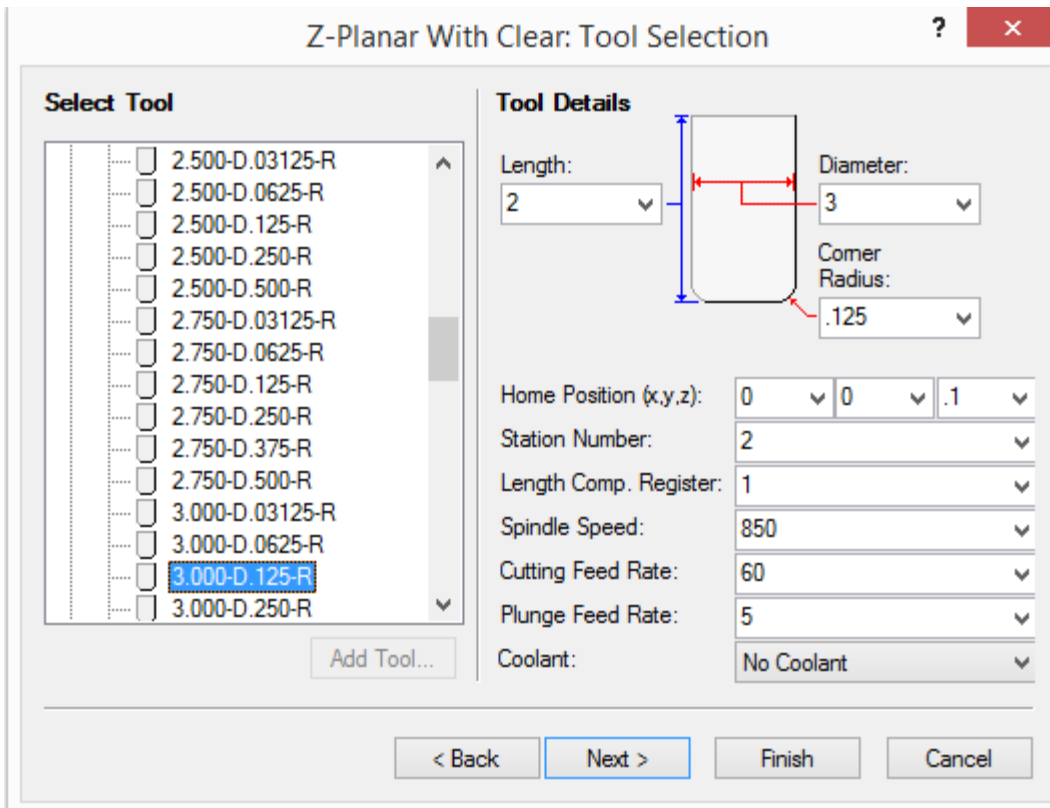**Example 1 - I want to change the Station Number of my roughing tool**
Go to Inch/Rough/Z-Planar With Clear and Pocketing/Bull. Find the 3.000-D.125-R Tool and change its Station Number to 2:

	Name	Diameter	Corner Radius	Length	Max Step Over	Max Step Down	Station Number	Length Compens	Radius Comp
✎	3.000-D.125-R	3	0.125	2	1.944	0.095	2	1	1
	3.000-D.250-R	3	0.25	2	1.767	0.095	1	1	1

Save the Database. Unlike Prospector Projects, which automatically save when you make a change, Databases need to be saved after you make edits. Go to Prospector to test the change in the tool.

Prospector
In Rough, start a new 3D Program, Window Around Part, Z-Planar With Clear, on the Tooling page, pick the 3D.125R Tool
Notice the Station Number is 2:

Z-Planar With Clear: Tool Selection

Select Tool

- 2.500-D.03125-R
- 2.500-D.0625-R
- 2.500-D.125-R
- 2.500-D.250-R
- 2.500-D.500-R
- 2.750-D.03125-R
- 2.750-D.0625-R
- 2.750-D.125-R
- 2.750-D.250-R
- 2.750-D.375-R
- 2.750-D.500-R
- 3.000-D.03125-R
- 3.000-D.0625-R
- **3.000-D.125-R**
- 3.000-D.250-R

Add Tool...

Tool Details

Length:	2
Diameter:	3
Corner Radius:	.125

Home Position (x,y,z):	0	0	.1
Station Number:	2		
Length Comp. Register:	1		
Spindle Speed:	850		
Cutting Feed Rate:	60		
Plunge Feed Rate:	5		
Coolant:	No Coolant		

< Back   Next >   Finish   Cancel

Cancel out of the wizard and go back to Tooling.

Tool Configurations
Clicking on the row header will bring up the tool's Configurations:

Name	Diameter	Corner Radius	Length	Max Step Over	Max Step Down	Station Number	Length Compens	Radius Comp
3.000-D.125-R	3	0.125	2	1.944	0.095	2	1	1
3.000-D.250-R	3	0.25	2	1.767	0.095	1	1	1
3.000-D.375-R	3	0.375	2	1.59	0.095	1	1	1
3.000-D.500-R	3	0.5	2	1.414	0.095	1	1	1
3.000-D.750-R	3	0.75	2	1.061	0.095	1	1	1
3.250-D.03125-R	3.25	0.03125	2	2.254	0.03	1	1	1
3.250-D.0625-R	3.25	0.0625	2	2.209	0.06	1	1	1
3.250-D.125-R	3.25	0.125	2	2.121	0.1	1	1	1
3.250-D.250-R	3.25	0.25	2	1.944	0.1	1	1	1
3.250-D.375-R	3.25	0.375	2	1.768	0.1	1	1	1
3.250-D.500-R	3.25	0.5	2	1.591	0.1	1	1	1
3.250-D.750-R	3.25	0.75	2	1.237	0.1	1	1	1
3.250-D1.00-R	3.25	1	2	0.884	0.1	1	1	1
3.500-D.03125-R	3.5	0.03125	2	2.254	0.03	1	1	1
3.500-D.0625-R	3.5	0.0625	2	2.209	0.06	1	1	1
3.500-D.125-R	3.5	0.125	2	2.121	0.1	1	1	1
3.500-D.250-R	3.5	0.25	2	1.955	0.1	1	1	1
3.500-D.375-R	3.5	0.375	2	1.944	0.125	1	1	1
3.500-D.500-R	3.5	0.5	2	1.768	0.125	1	1	1
3.500-D.750-R	3.5	0.75	2	1.414	0.125	1	1	1
3.500-D1.00-R	3.5	1	2	1.061	0.125	1	1	1
4.000-D.03125-R	4	0.03125	2	2.784	0.03	1	1	1

Configurations for '3.000-D.125-R'

Material	Spindle Speed	Cutting Feed Rate	Plunge Feed Rate	Max Ramp Angle
P20	850	60	5	1

Tool Configurations are based on Material. Same Materials as found in Insight and Prospector. If the Tool has a Tool Configuration for the Material associated with the Prospector Project, it will appear in the list on the Tool page of the new Program wizard. Along with Material, Tool Configurations also have:

Spindle Speed
        Cutting Feed
        Plunge Feed - for non-Drilling Tools
        Max Ramp Angle - for non-Drilling Tools

This list works similarly to the Tool list. All cells are editable - the Material cell is a drop down list. When you select a row, the row header changes to an arrow icon. When you type in a cell, the row header changes to a pencil icon. Enter or Tab will take you to the next column. Shift-Tab will take you to the previous column. Arrow keys will also navigate the grid. An extra row may appear that allows you to add a new Tool Configuration.

Example 2 - I want to change the Feeds and Speeds for my Roughing Tool
Go to Inch/Rough/Z-Planar With Clear and Pocketing/Bull. Find the 3D.125R Tool and click on its row header. In the Tool Configurations, change the P20 configuration:

        Spindle Speed   1000
        Cutting Feed Rate   80
        Plunge Feed Rate   10

	Material	Spindle Speed	Cutting Feed Rate	Plunge Feed Rate	Max Ramp Angle
✎	P20	1000	80	10	1
*					

Save the Database and go back to Prospector to test the Speed/Feeds.

Prospector
In Rough, start a new 3D Program, Window Around Part, Z-Planar With Clear, Pick the 3D.125R Tool. Notice the Feeds and Speed:
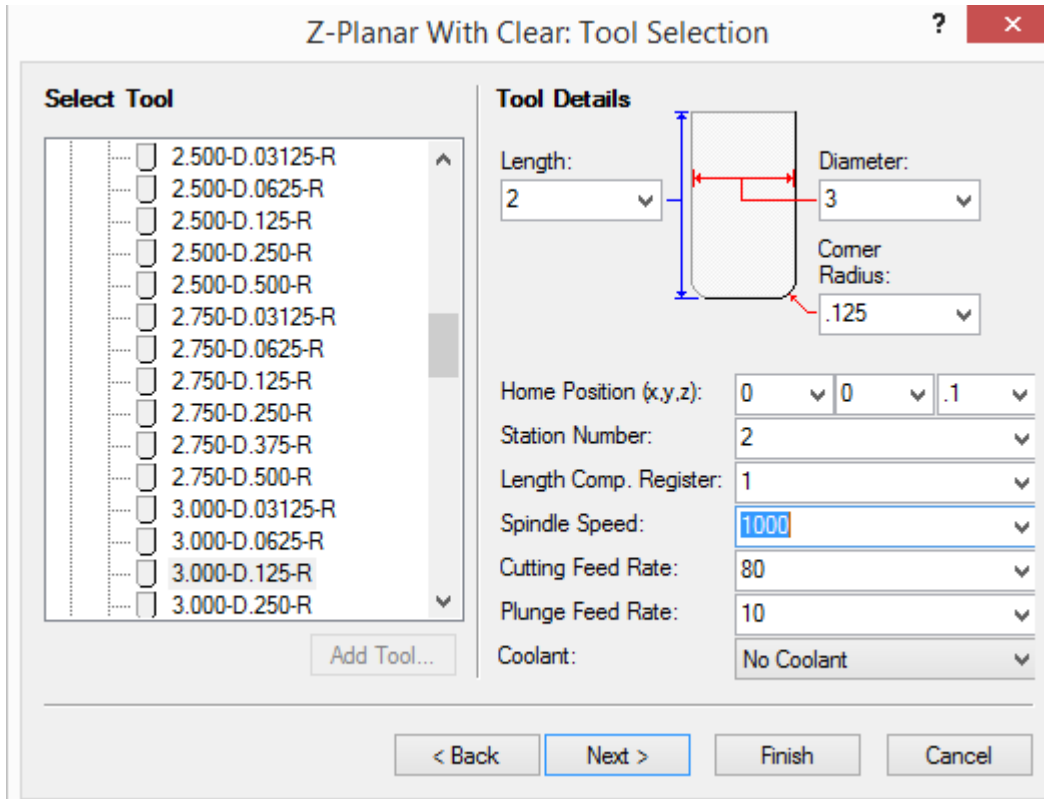
Cancel the wizard and head back to Tooling.

Adding Tools
Adding a new Tool is simple, just start typing in the * row. Once you start typing, it adds a Tool, copying the previous tool Properties. Then you can change any Property you want.

Example 3 - I want to add a new roughing tool - 4" End Mill
Go to Inch/Rough/Z-Planar With Clear/End Mill. Click in the Name cell of the * row. Enter the values:

        Name   4.000-FLAT
        Diameter   4
        Length   5
        Max Step Over   2.5
        Max Step Down   .2

Station Number   3
Length Compensation   2

3.000-FLAT	3	1	2.121	0.175	1	1	1
▶ 4.000-FLAT	4	5	2.5	0.2	3	2	1
✳							

Notice that once you start typing, it already copied the values from the previous tool. It even created a Tool Configuration. For sample purposes, let's add a Tool Configuration for Mild Steel. In the * row, select the Material cell and select Mild Steel from the drop down list. Let's just use the same values from P20:

Spindle Speed   900
Cutting Feed Rate   60
Plunge Feed Rate   5
Max Ramp Angle   1

Notice that there no longer is an extra row with the *. Why is that? We currently only have 2 Materials, therefore each tool can only have 2 Configurations, one for each Material. If we were to add another Material, then we could add its Configuration.

Configurations for '4.000-FLAT'				
Material	Spindle Speed	Cutting Feed Rate	Plunge Feed Rate	Max Ramp Angle
P20	900	60	5	1
▶ Mild Steel	900	60	5	1

Save the Database and let's make sure the Tool shows up in Prospector.

Prospector
In the Rough Category, new 3D Program, Window Around Part, Z-Planar With Clear, and on the Tooling page, open up the End Mill list. Notice our 4" Tool is there, select it. Notice the Feeds/Speeds, Station Number, Length Comp are all filled in:
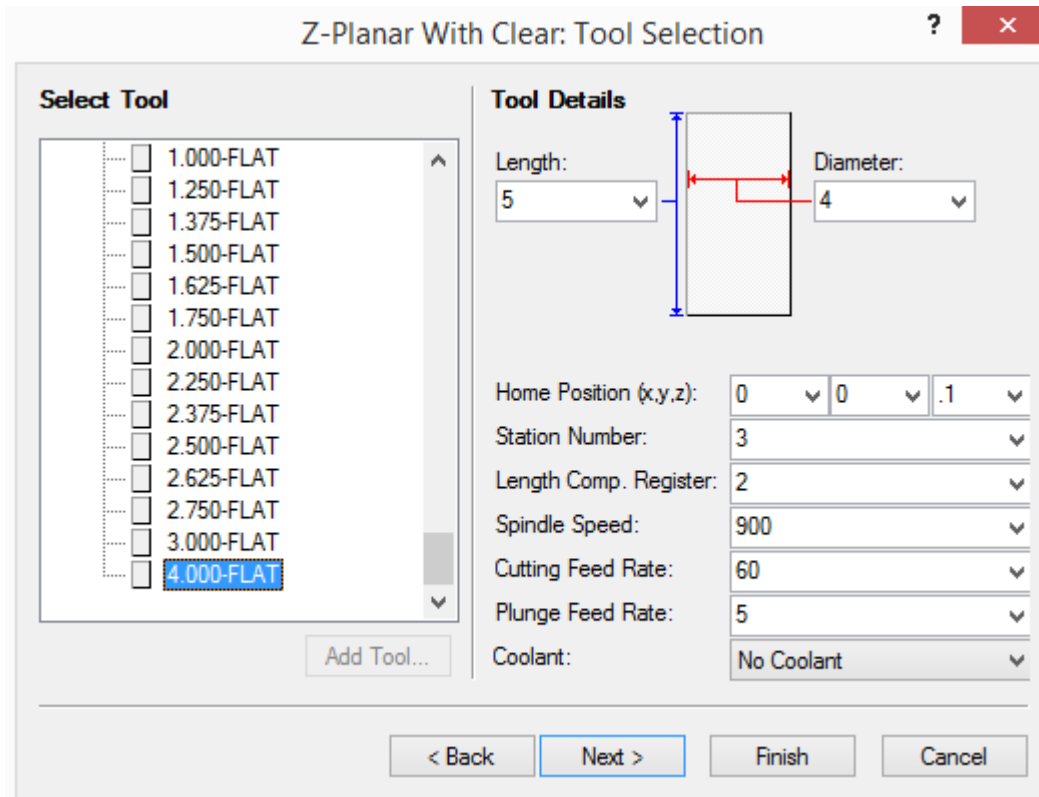
Cancel out of the wizard and head back to Tooling.

Selecting Tools
There are several ways to select Tools. Click on the row header will select that Tool. Shift-Click on a different row header will select all the Tools between and including the Tools:

Name	Diameter	Length	Max Step Over	Max Step Down	Station Number	Length Compensati	Radius Compen
.0625-FLAT	0.0625	1	0.044	0.009	1	1	1
.125-FLAT	0.125	1	0.088	0.015	1	1	1
.250-FLAT	0.25	1	0.177	0.02	1	1	1
.375-FLAT	0.375	1	0.265	0.025	1	1	1
.500-FLAT	0.5	1	0.354	0.035	1	1	1
.625-FLAT	0.625	1	0.442	0.04	1	1	1
.750-FLAT	0.75	1	0.53	0.045	1	1	1
1.000-FLAT	1	1	0.707	0.055	1	1	1
1.250-FLAT	1.25	1	0.884	0.06	1	1	1
1.375-FLAT	1.375	1	0.972	0.065	1	1	1
1.500-FLAT	1.5	1	1.06	0.075	1	1	1
1.625-FLAT	1.625	1	1.149	0.07	1	1	1
1.750-FLAT	1.75	1	1.237	0.075	1	1	1
2.000-FLAT	2	1	1.414	0.11	1	1	1
2.250-FLAT	2.25	1	1.591	0.11	1	1	1
2.375-FLAT	2.375	1	1.68	0.11	1	1	1
2.500-FLAT	2.5	1	1.768	0.125	1	1	1
2.625-FLAT	2.625	1	1.856	0.125	1	1	1
2.750-FLAT	2.75	1	1.944	0.125	1	1	1
3.000-FLAT	3	1	2.121	0.175	1	1	1
4.000-FLAT	4	5	2.5	0.2	3	2	1

Click and hold on a row header, drag the mouse, will also select a range of Tools as above. Ctrl-Click on a row header will toggle selection of that Tool:

Name	Diameter	Length	Max Step Over	Max Step Down	Station Number	Length Compensati	Radius Compen
.0625-FLAT	0.0625	1	0.044	0.009	1	1	1
.125-FLAT	0.125	1	0.088	0.015	1	1	1
.250-FLAT	0.25	1	0.177	0.02	1	1	1
.375-FLAT	0.375	1	0.265	0.025	1	1	1
.500-FLAT	0.5	1	0.354	0.035	1	1	1
.625-FLAT	0.625	1	0.442	0.04	1	1	1
.750-FLAT	0.75	1	0.53	0.045	1	1	1
1.000-FLAT	1	1	0.707	0.055	1	1	1
1.250-FLAT	1.25	1	0.884	0.06	1	1	1
1.375-FLAT	1.375	1	0.972	0.065	1	1	1
1.500-FLAT	1.5	1	1.06	0.075	1	1	1
1.625-FLAT	1.625	1	1.149	0.07	1	1	1
1.750-FLAT	1.75	1	1.237	0.075	1	1	1
2.000-FLAT	2	1	1.414	0.11	1	1	1
2.250-FLAT	2.25	1	1.591	0.11	1	1	1
2.375-FLAT	2.375	1	1.68	0.11	1	1	1
2.500-FLAT	2.5	1	1.768	0.125	1	1	1
2.625-FLAT	2.625	1	1.856	0.125	1	1	1
2.750-FLAT	2.75	1	1.944	0.125	1	1	1
3.000-FLAT	3	1	2.121	0.175	1	1	1
4.000-FLAT	4	5	2.5	0.2	3	2	1

Deleting Tools
You must have at least one Tool selected to delete. There are a couple ways to delete Tools. Hit the Delete key or right-click on the selection and choose Delete from the menu:

Name	Diameter	Length	Max Step Over	Max Step Down	Station Number	Length Compensati	Radius Compen
.0625-FLAT	0.0625	1	0.044	0.009	1	1	1
.125-FLAT	0.125	1	0.088	0.015	1	1	1
.250-FLAT	0.25	1	0.177	0.02	1	1	1
.375-FLAT	0.375	1	0.265	0.025	1	1	1
.500-FLAT	0.5	1	0.354	0.035	1	1	1
.625-FLAT	0.625	1	0.442	0.04	1	1	1
.750-FLAT	0.75	1	0.53	0.045	1	1	1
✂ Cut		1	0.707	0.055	1	1	1
📋 Copy	.25	1	0.884	0.06	1	1	1
📋 Paste	.375	1	0.972	0.065	1	1	1
	.5	1	1.06	0.075	1	1	1
Delete	.625	1	1.149	0.07	1	1	1
	.75	1	1.237	0.075	1	1	1
2.000-FLAT	2	1	1.414	0.11	1	1	1
2.250-FLAT	2.25	1	1.591	0.11	1	1	1
2.375-FLAT	2.375	1	1.68	0.11	1	1	1
2.500-FLAT	2.5	1	1.768	0.125	1	1	1
2.625-FLAT	2.625	1	1.856	0.125	1	1	1
2.750-FLAT	2.75	1	1.944	0.125	1	1	1
3.000-FLAT	3	1	2.121	0.175	1	1	1
4.000-FLAT	4	5	2.5	0.2	3	2	1

Deleting Tools is not undoable. When you delete Tools, Tooling will ask you if you really want to delete them.

Example 4 - I want to delete all Tools less than 2" diameter from the roughing End Mills
Go to Inch/Rough/Z-Planar With Clear/End Mill. Select the Tools that are under 2". Click on the row header of the first tool. Shift-Click on the row header of the last tool under 2":

| Name	Diameter	Length	Max Step Over	Max Step Down	Station Number	Length Compensati	Radius Compen
.0625-FLAT	0.0625	1	0.044	0.009	1	1	1
.125-FLAT	0.125	1	0.088	0.015	1	1	1
.250-FLAT	0.25	1	0.177	0.02	1	1	1
.375-FLAT	0.375	1	0.265	0.025	1	1	1
.500-FLAT	0.5	1	0.354	0.035	1	1	1
.625-FLAT	0.625	1	0.442	0.04	1	1	1
.750-FLAT	0.75	1	0.53	0.045	1	1	1
1.000-FLAT	1	1	0.707	0.055	1	1	1
1.250-FLAT	1.25	1	0.884	0.06	1	1	1
1.375-FLAT	1.375	1	0.972	0.065	1	1	1
1.500-FLAT	1.5	1	1.06	0.075	1	1	1
1.625-FLAT	1.625	1	1.149	0.07	1	1	1
1.750-FLAT	1.75	1	1.237	0.075	1	1	1
2.000-FLAT	2	1	1.414	0.11	1	1	1
2.250-FLAT	2.25	1	1.591	0.11	1	1	1
2.375-FLAT	2.375	1	1.68	0.11	1	1	1
2.500-FLAT	2.5	1	1.768	0.125	1	1	1
2.625-FLAT	2.625	1	1.856	0.125	1	1	1
2.750-FLAT	2.75	1	1.944	0.125	1	1	1
3.000-FLAT	3	1	2.121	0.175	1	1	1
4.000-FLAT	4	5	2.5	0.2	3	2	1

Hit the Delete key. On the dialog, click the Yes button:
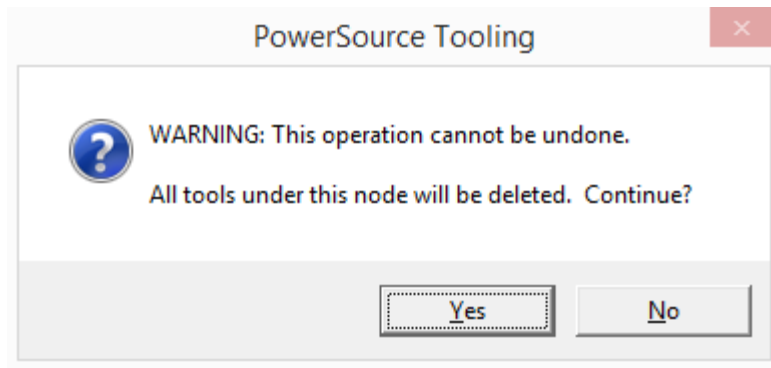
Save the Database and go back to Prospector to make sure the Tools are gone.

Prospector
In the Rough Category, new 3D Program, Window Around Part, Z-Planar With Clear, and on the Tooling page, open up the End Mill list. Notice the list of Tools:
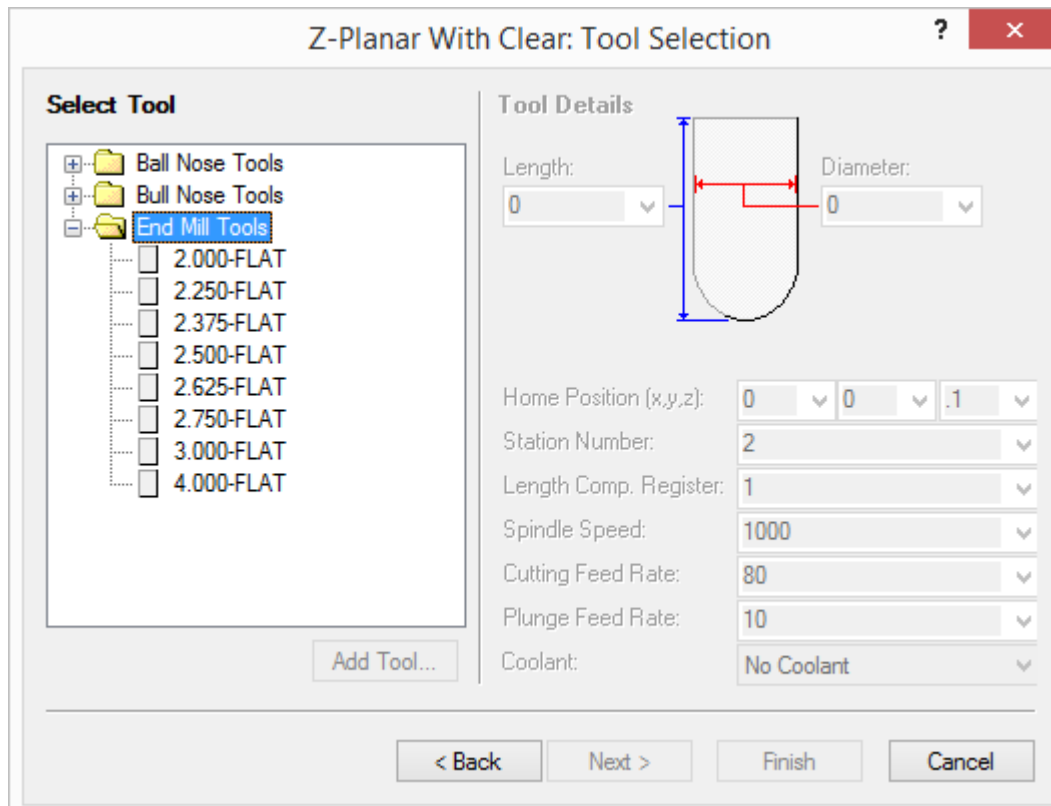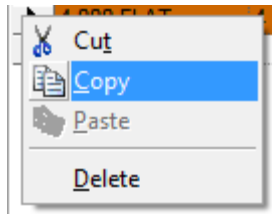

Cancel the wizard and go back to Tooling.

Copy/Paste
Similar to Deleting a Tool, you must have at least one Tool selected to copy/paste. There are several ways to copy/paste. The Edit menu has Cut/Copy/Paste menu items:
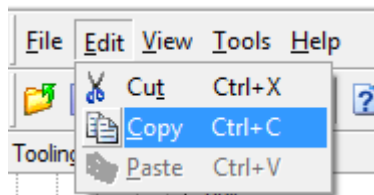
Or you can right-click on the selection and choose Cut./Copy/Paste from the menu:

Lastly, you can use the standard Cut/Copy/Paste keys- Ctrl-X to Cut, Ctrl-C to Copy, Ctrl-V to Paste.

Example 5 - I want copy the 4" End Mill to the Semi Rough Category
Go to Inch/Rough/Z-Planar With Clear/End Mill. Select the 4" Tool - Click on the its row header:

Name	Diameter	Length	Max Step Over	Max Step Down	Station Number	Length Compensati	Radius Compen
2.000-FLAT	2	1	1.414	0.11	1	1	1
2.250-FLAT	2.25	1	1.591	0.11	1	1	1
2.375-FLAT	2.375	1	1.68	0.11	1	1	1
2.500-FLAT	2.5	1	1.768	0.125	1	1	1
2.625-FLAT	2.625	1	1.856	0.125	1	1	1
2.750-FLAT	2.75	1	1.944	0.125	1	1	1
3.000-FLAT	3	1	2.121	0.175	1	1	1
▶ 4.000-FLAT	4	5	2.5	0.2	3	2	1
✳							

Use Ctrl-C to Copy the Tool. Go to Inch/Semi Rough/Z-Planar With Clear/End Mill. Click on the * row header. Use Ctrl-V to Paste the Tool.

Name	Diameter	Length	Max Step Over	Max Step Down	Station Number	Length Compensati	Radius Compen
.0625-FLAT	0.0625	1	0.044	0.009	1	1	1
.125-FLAT	0.125	1	0.088	0.015	1	1	1
.250-FLAT	0.25	1	0.177	0.02	1	1	1
.375-FLAT	0.375	1	0.265	0.025	1	1	1
.500-FLAT	0.5	1	0.354	0.035	1	1	1
.625-FLAT	0.625	1	0.442	0.04	1	1	1
.750-FLAT	0.75	1	0.53	0.045	1	1	1
1.000-FLAT	1	1	0.707	0.055	1	1	1
1.250-FLAT	1.25	1	0.884	0.06	1	1	1
1.375-FLAT	1.375	1	0.972	0.065	1	1	1
1.500-FLAT	1.5	1	1.06	0.075	1	1	1
1.625-FLAT	1.625	1	1.149	0.07	1	1	1
1.750-FLAT	1.75	1	1.237	0.075	1	1	1
2.000-FLAT	2	1	1.414	0.11	1	1	1
2.250-FLAT	2.25	1	1.591	0.11	1	1	1
2.375-FLAT	2.375	1	1.68	0.11	1	1	1
2.500-FLAT	2.5	1	1.768	0.125	1	1	1
2.625-FLAT	2.625	1	1.856	0.125	1	1	1
2.750-FLAT	2.75	1	1.944	0.125	1	1	1
3.000-FLAT	3	1	2.121	0.175	1	1	1
▶ 4.000-FLAT	4	5	2.5	0.2	3	2	1
✳							

Save the Database and go back to Prospector.

Prospector
In the Semi Rough Category, new 3D Program, Window Around Part, Z-Planar With Clear, and in the Tooling page, open up the End Mill list. 4" Tool is there:
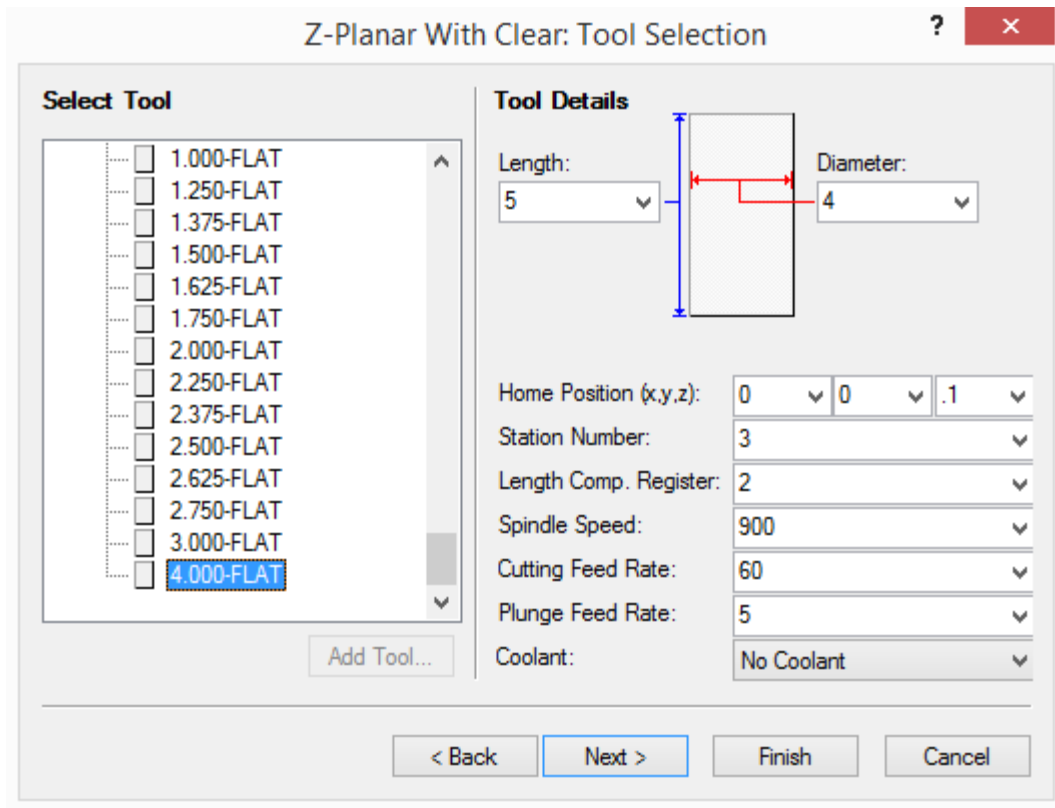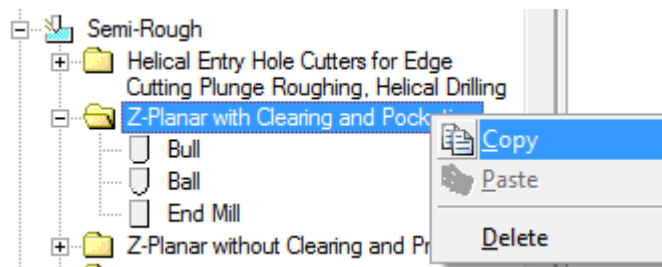
Cancel out of the wizard and go back to Tooling.
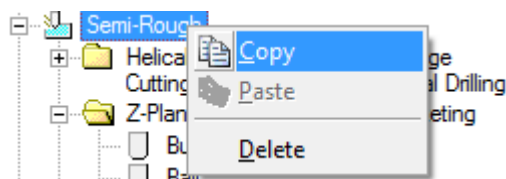
Other Copy/Paste techniques
Instead of just copying individual tools or a selection of tools, you can also Copy/Paste by Tool Type. Use any of the Copy/Paste techniques. For example, right-click on a Tool Type, such as End Mill:
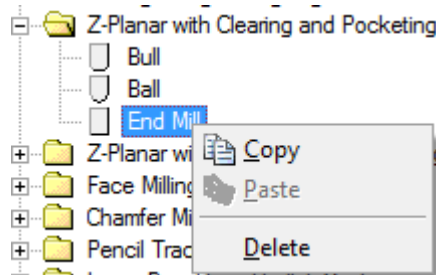
You can also Copy/Paste by Strategy Group, such as Z-Planar With Clear and Pocketing:

And lastly, you can Copy/Paste by Category, such as Semi Rough:

Tool Assembly

The Tool Assembly node allows you to define Tool Assembly Components. These components are only based on Units - not Category or Strategy Group. Other two panes work differently than when you select a Tool Type. Right pane contains the list of components - Name only. Bottom pane turns into a dialog where you enter dimensions of the component. Adding Assembly components works just like adding a Tool - click on the Name in the * row and start typing. Select/Delete/Copy/Paste also work the same as with Tools. Prospector supports the following Components:

     Spindle
          Straight Spindle
     Holder
          Straight Holder
          Tapered Holder
          Stepped Holder
     Extension
          Straight Extension
          Tapered Extension
     Adapter
          Standard Adapter
          Straight Adapter
          Tapered Adapter
          Collet Adapter

Example 6 - Let's add a Straight Adapter
In Inch/Tool Assembly/Adapter/Strait Adapter. Click in the Name cell in the * row. Type "My Adapter":

	Name
✎	My Adapter
*	

Below, you'll see that the bottom pane changed to a dialog with the dimensions of the Component available to edit:


Straight adapter properties:
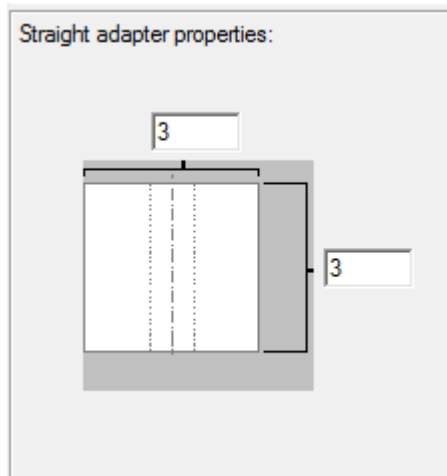
For this example, we'll take the default values. Save the Database and head back to Prospector.

Prospector
In any Category, since Tool Assembly Components show up under any Category, new 3D Program, Window Around Part, and Next your way to the Tool Assembly Page:
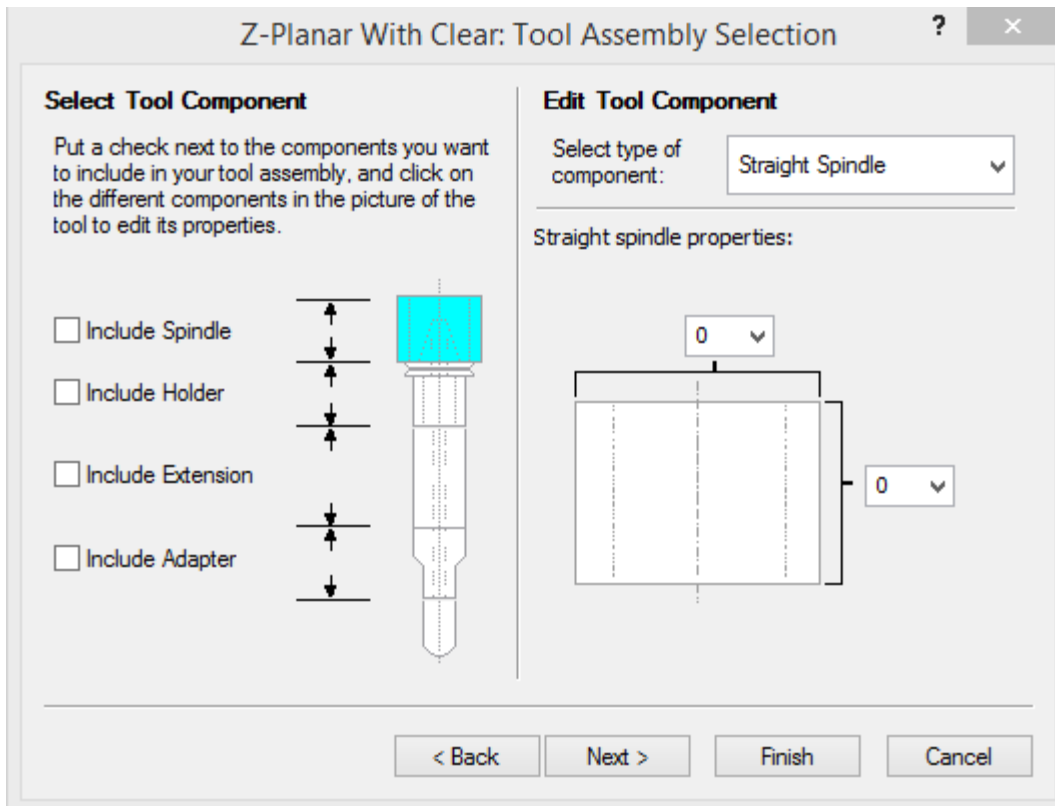
On the left, we have the four possible Tool Assembly Components you can specify for the Program: Spindle, Holder, Extension, and Adapter. On the right, is the list of Component Types and an image with the dimensions (Properties) of the Component Type.
Check the box next to Include Adapter:
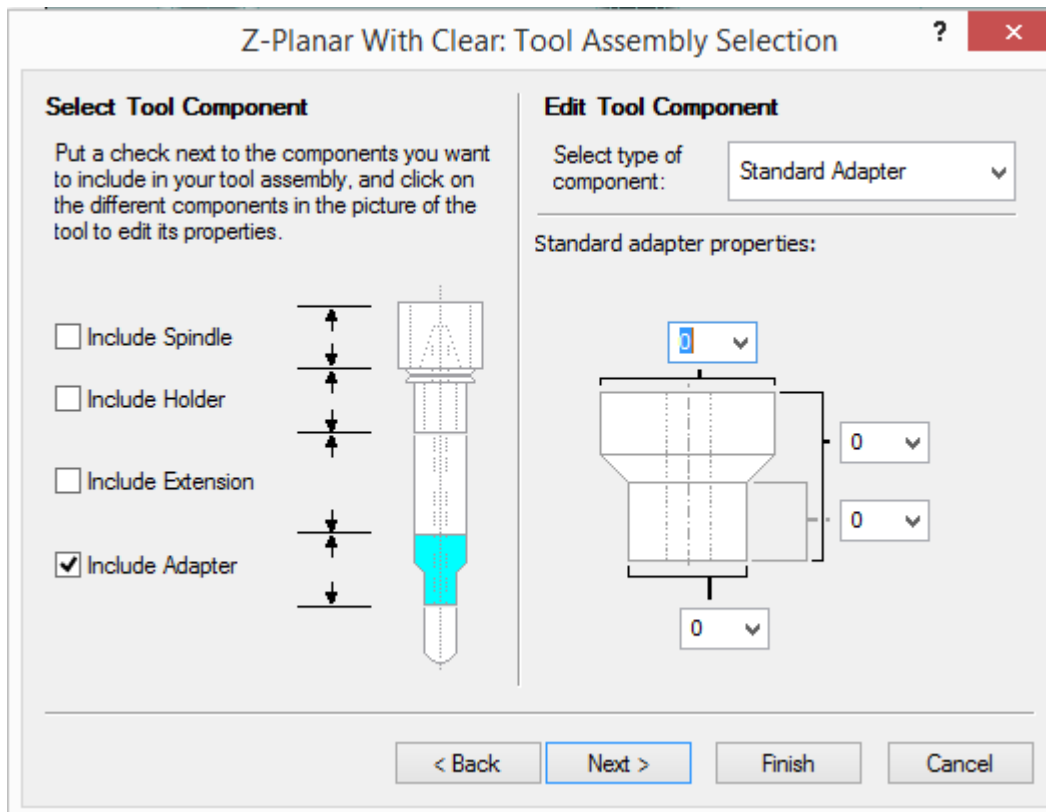
From the drop-down list on the right, select Straight Adapter:
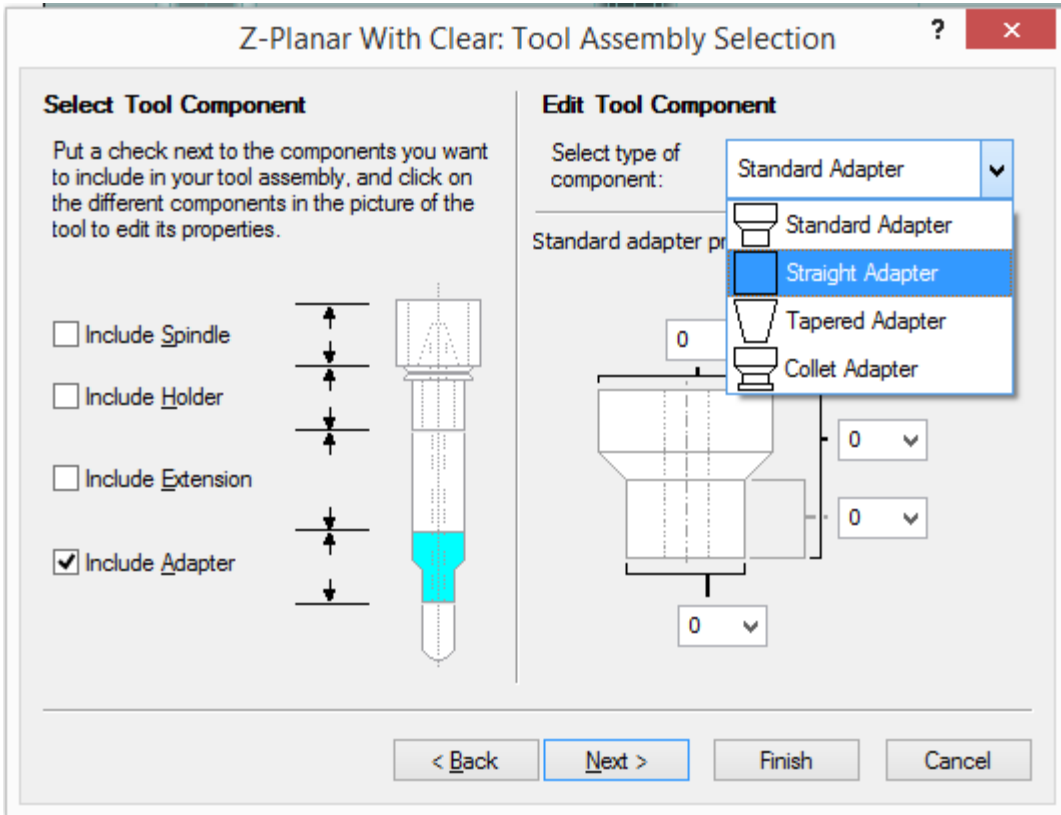
When we select Straight Adapter, we get another drop-down list that contains the list of Straight Adapters in our Database. Standard Adapter did not have this second list since there are no Standard Adapters defined in the Database. Select "My Adapter" from this list:
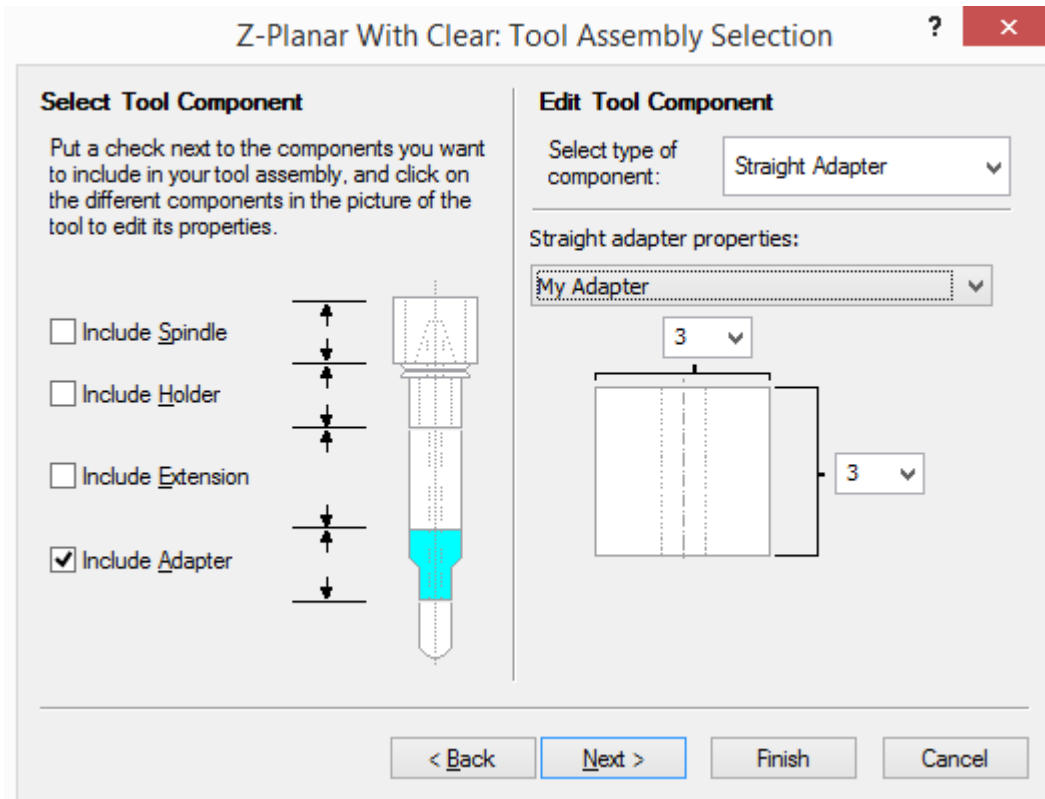
The Property values get filled in from the Database. Cancel out of the wizard and head back to Tooling.

User vs System Database
A very important note about working with Tools. Unlike Rules, where only Rules changed in the User Database override Rules in the System database, other Rules are inherited from the System database. However, the User and System database can have

completely different sets of Tools. Once a User database is opened in Tooling, the User database no longer inherits Tools from the System. At that point, all the Tools are copied from the System to the User database. Also, if you add a Tool via the Add Tool button on the Tool Page of the New Program wizard, same thing - System Tools are copy to the User database. The link is broken between the System and User database for Tools only. This is important to remember for when we talk about adding Materials. Materials are added in the System database. After adding a Material, you might think that you can add Tool Configurations for that Material to your Tools in the System database. This might work, but if the link has been broken, those Configurations won't show up in the User database. For Tooling, it's best to work in the User database.

Recommendations
- Set up your tool database ASAP
- Our default database includes dozens of tools, most of which you probably won't use
- Remove tools you will never use (it's easy to add them back in Prospector)
- Edit tools for your preferences
- Maximum Step Over
- Maximum Step Down
- Station Number
- Compensation Registers
- Feeds & Speed
- Add any missing tools
- Like working with Insight, make sure to test your tools in Prospector

Summary
Tools are organized by:
      Units
      Category
      Strategy Group
      Tool Type
      Tool Configurations are based on Material
Notice that Tooling has nothing to do with PowerSource Configuration (Plastic Injection Mold, etc)
Use the * row to add Tools and Tool Configurations
Use selection to Delete and Copy/Paste Tools