

PowerSource - Troubleshooting

Objectives

Learn some tips and techniques to help you identify and fix problems in Insight

Overview

Errors in Rules

Syntax Errors

Logic Errors

Lock Files

Errors in Rules

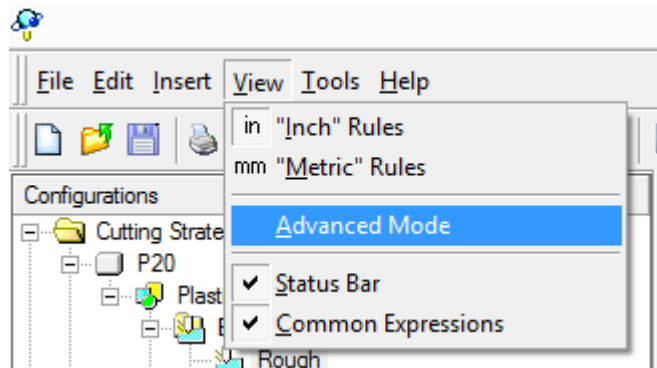
To err is human. We all make mistakes, from simple typos to clicking on the wrong Property to just plain being wrong. Fortunately, we have some tools available in Prospector and Insight to help find and fix these mistakes when making Rules. There are a couple of types of errors – syntax errors and logic errors.

Syntax errors

Missing parenthesis, missing double quotes, malformed If Then Else condition, misspelled Property, etc - think of these as grammatical errors. These are found in Insight when you change a Rule in place or use the Rule Builder.

Example 1 - Misspelled Property

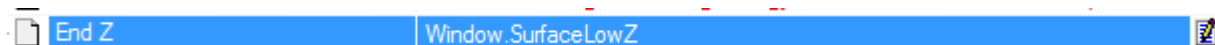
In Insight, in the View menu, turn on "Advanced" mode. In Advanced mode, the Rule will be displayed with the actual code. In non-Advanced mode, the Properties are replaced with names that are easier to understand.



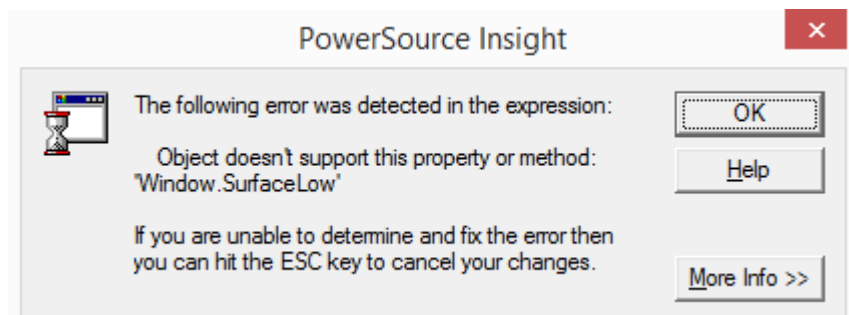
For example, in "Z-Planar With Clear", the "End Z" Rule is "Surface Low Z":



In Advanced Mode, it's Window.SurfaceLowZ. No quotes, no spaces:



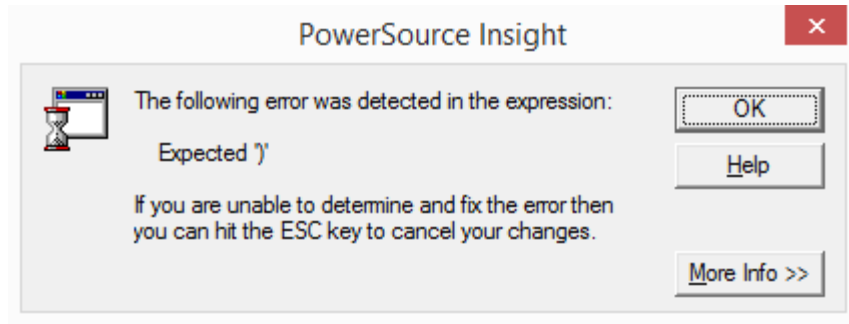
This is the actual Property, "Surface Low Z" is just a "prettier" name. Let's remove the Z from that Property so it just says Window.SurfaceLow. Click in the cell, click at the end, and hit backspace to remove the Z. Click Enter to save the Rule and you'll get an error message that the object (in this case the Window) does not have that Property (SurfaceLow).



Click OK. Hit the ESC key to cancel the changes.

Example 2 - Missing parenthesis

In Insight, in "Z-Planar With Clear", let's remove the end parenthesis from the Rule for Tolerance. Click in the cell, click at the end, and hit the backspace key. Hit the Enter key and you'll get an error message that the Rule is missing a ')':



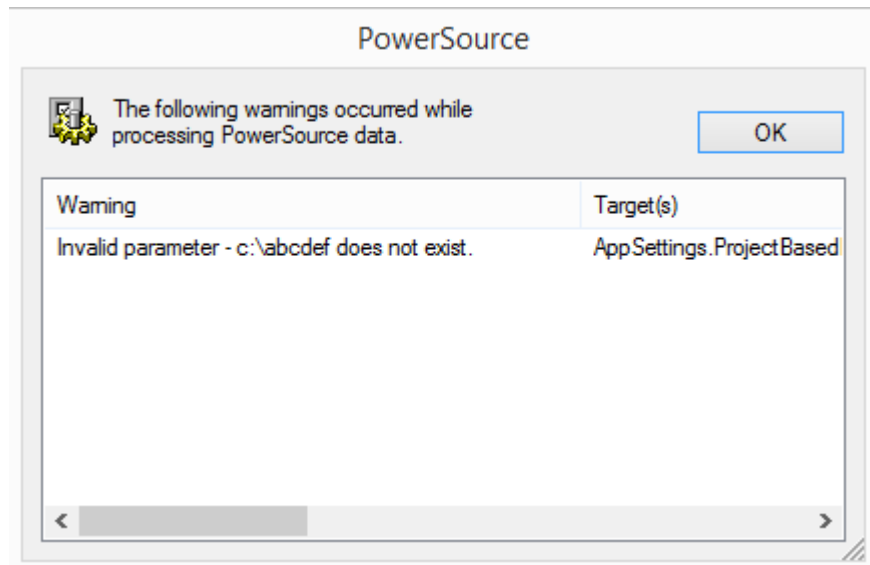
Click OK. Hit the ESC key to cancel the changes.

Logic errors

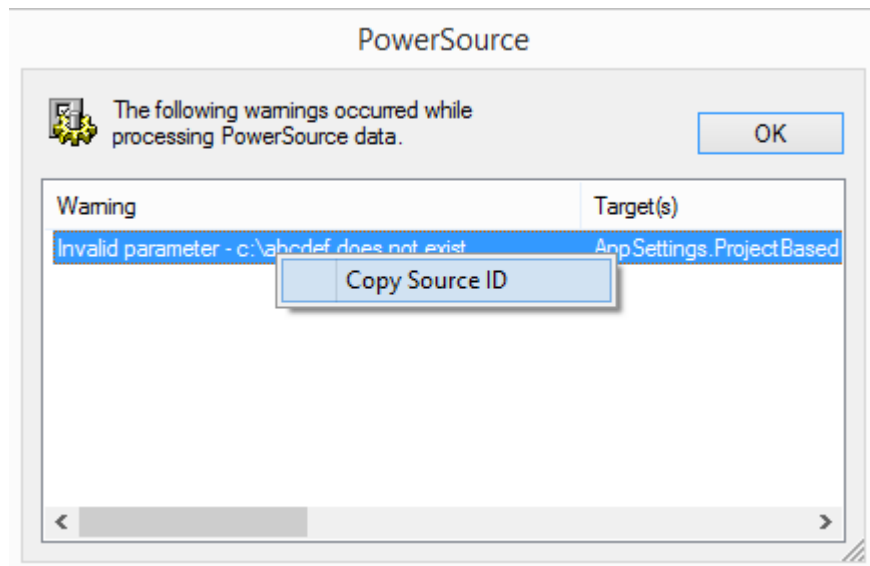
While the Rule may be well-formed (no syntax errors), the result may be not what you'd expect or cause an error at runtime in Prospector. Prospector is able to detect some of these errors when they occur. Other errors will only be found by you when working with Prospector.

Example 1 - Bad directory

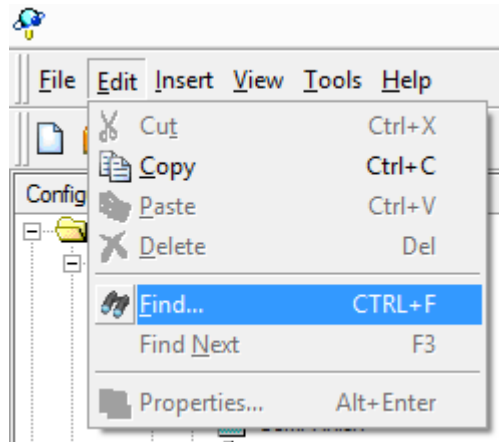
In Insight, go to Application Settings/Project-Based Interface. Change the Local Job Directory to a non-existent directory, say "C:\ABCDEFGH" (make sure to use quotes). Hit the Enter key and Insight accepts the value. Insight doesn't check to see if the directory exists. Save the database and go to Prospector. Prospector reloads the database and immediately finds the error because it was in Application Settings. We're presented with a dialog that says the directory could not be found:



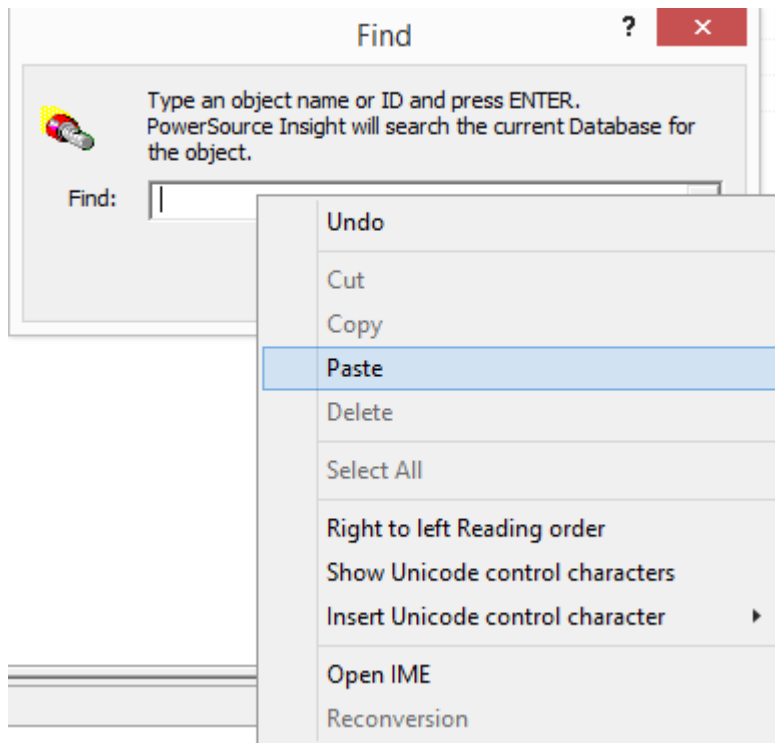
Right-click on the error in the list and click on the Copy Source ID menu item:



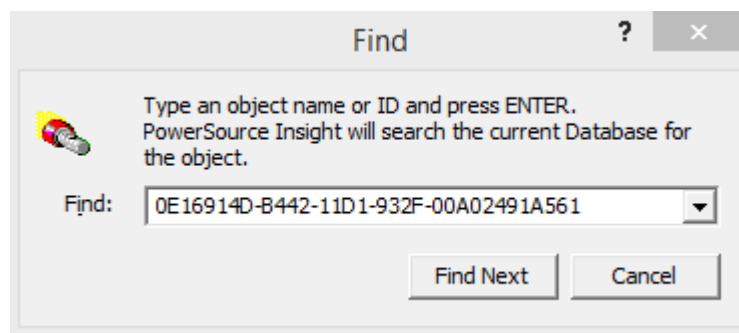
Click OK button to dismiss the error and go back to Insight. We know which rule is wrong, but let's assume we don't. Click on Cutting Strategy Selection. In the Edit menu, click on "Find..." or you can use Ctrl-F:



This brings up the Find dialog. Right-click and select the Paste menu item:



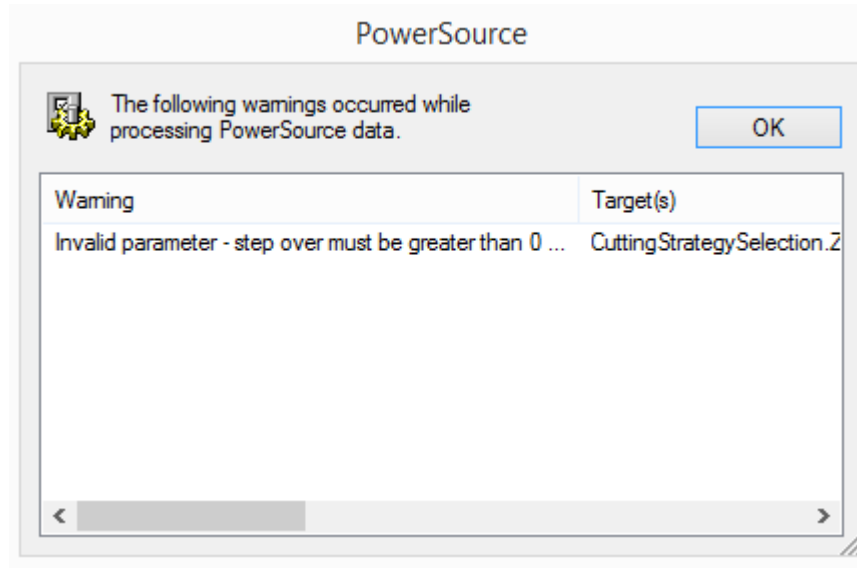
This will paste the Source ID into the dialog:



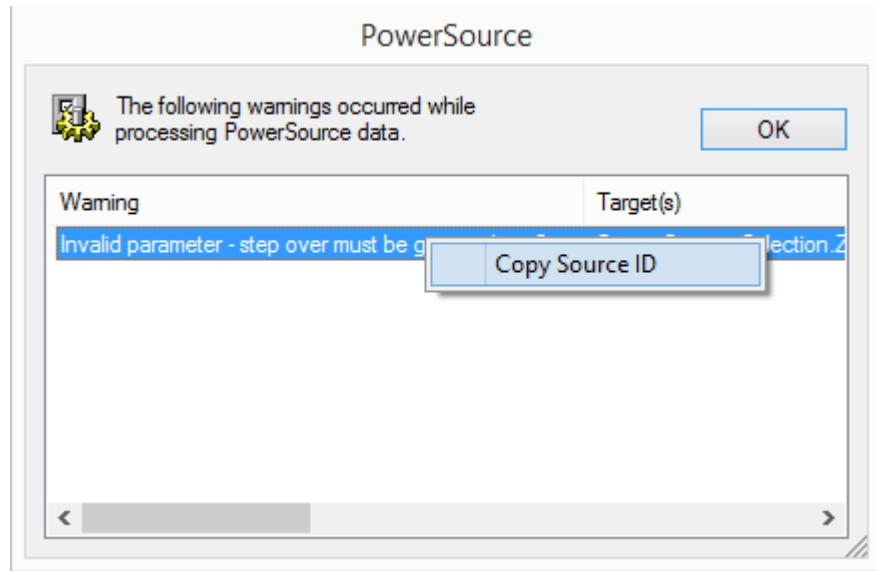
Click the Find Next button which takes us right to the offending Rule. Go ahead and set the Local Job Directory back to the default

Example 2 - Illegal value

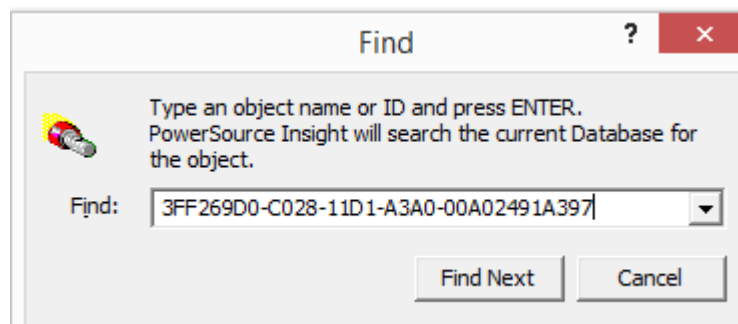
In Insight, go to Cutting Strategy/P20/Plastic Injection Mold/Rough/Basic Machining/Rough/3D Strategies/Z-Planar With Clear. Instead of using the Maximum Step Down associated with the tool, I want to use half, so I'm going to divide (/) by 2. Only instead of typing in the divide symbol (/) I accidentally type in the subtract sign (-). Click in the Rule for Step Down and click at the end. Type in a space, minus sign (-), space, and 2. Hit Enter to save the Rule. It's a legal rule, Insight likes it. Now let's check it with Prospector. Save the database and go to Prospector. In Rough, new 3D Program, Window Around Part, and click Next. We get an error message:



Since Z-Planar With Clear is my default Cutting Strategy for the Rough Category, all the Rules are run for Z-Planar With Clear. The error is that the step down must be greater than 0. The Maximum Step Down associated with that tool is 0.095. When we subtract 2 we get: $0.095 - 2 = -1.905$. Insight does some error checking, but can't check for illegal values because "Maximum Step Down" is a variable. When the Rules get executed, Prospector does error checking. Copy the ID as we did in the previous example:



Click OK and then Cancel out of the wizard. Go back to Insight. Use Edit/Find to bring up the Find Dialog and paste (CTRL-V) the ID. Click on the Find Next button:



Oops, let's change the - to a /. Hit Enter and then Save the database. Go back to Prospector. In Rough, new 3D Program, Window Around Part, Next to the Parameters page. Now we don't get any errors. And the Step Down is now half of the Maximum Step Down.

Enumerated Types

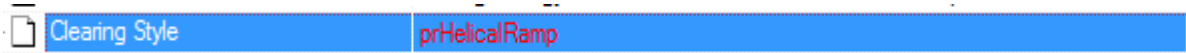
Enumerated type is the technical term for a list, such as Clearing Style for Z-Planar With Clear. Enumerated means numbered, for example:

Clearing Style	Spiral Outside-In = 0, Spiral Inside-Out = 1, Zigzag = 2
Z-Level Transition	Off The Block = 0, Contour Ramp = 1, Helical Ramp = 2

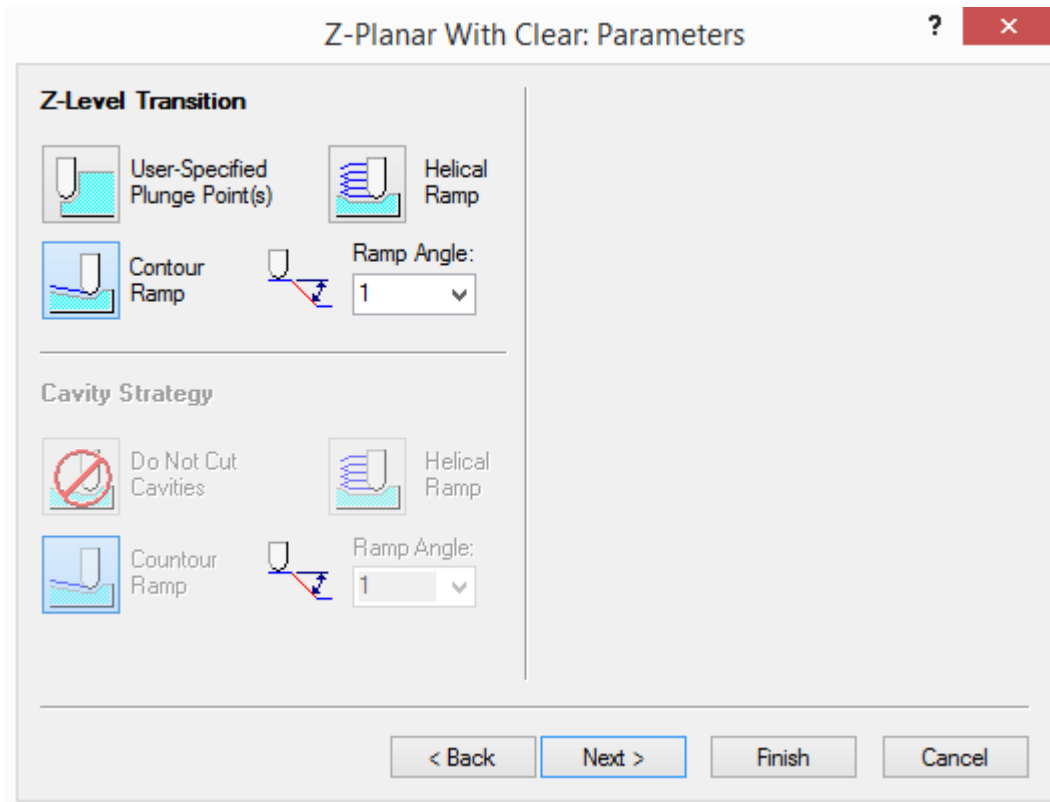
I can set the Clearing Style to Helical Ramp because 2 is a legal value for Clearing Style. When this happens, you won't get an error, but you probably won't get the results. Let's look at an example, say I always want to use Helical Ramps for Z-Level Transition, but I accidentally set the Rule in Clearing Style.

Example 3 - Wrong enumerated type

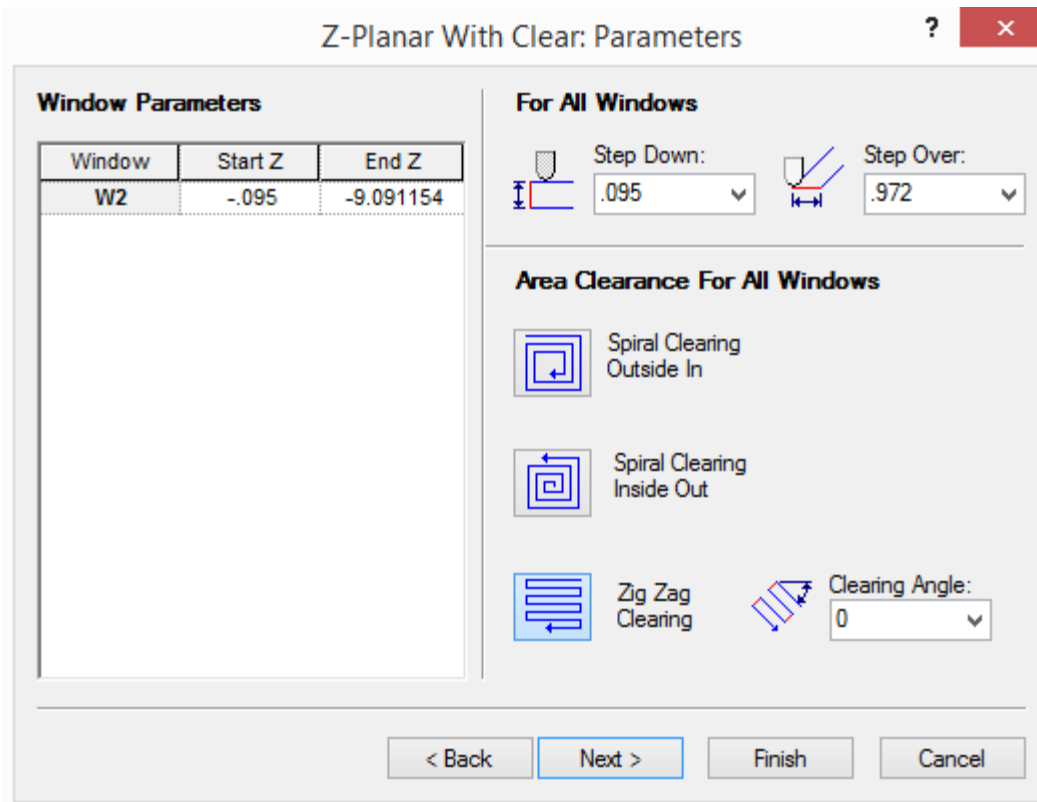
In Insight, go to Cutting Strategy/P20/Plastic Injection Mold/Rough/Basic Machining/Rough/3D Strategies/Z-Planar With Clear. Click in the Rule for Clearing Style, hit backspace to erase the current Rule. Down the in Common Expressions, go to Variables/Cutting Strategy Selection/3D Strategies/Z-Planar With Clear/Z-Level Transition. Double-click on Helical Ramp:



Save the database and switch to Prospector. In Rough, new 3D Program, Window Around Part, and go through the wizard until you get to the 2nd parameters page. It didn't pick Helical Ramp:



Also notice it picked Zigzag Clearing on the previous page:



Cancel out of the wizard and go back to Insight. Oops, I put Helical Ramp in the wrong Property. Click in Clearing Style, backspace to delete the Rule, and hit Enter to return to the default Rule. Click in Z-Level Transition, backspace to delete the Rule. Down the in Common Expressions, go to Variables/Cutting Strategy Selection/3D Strategies/Z-Planar With Clear/Z-Level Transition. Double-click on Helical Ramp. Save and return to Prospector. In Rough, new 3D Program, Window Around Part, and go through the wizard until you get to the 2nd parameters page. Now it picked Helical Ramp.

Lock Files

When you open a database in Insight, System or User, it creates a lock file in the same directory as the database. This prevents you from opening the database in two sessions of Insight. Remember that Prospector, Insight, and Tooling can all access the database at the same time. But you cannot have two sessions of Insight accessing the User database or System database. Once you exit Insight or open a different database, perhaps a different User database, Insight will delete this file. If Insight crashes, or your PC crashes, or the power goes out causing your PC to reboot, while Insight is up, the file will still exist. Then the next time you try to open the database, Insight won't let you because the lock file exists. The lock file is a hidden, read-only file, in order to see it, you have to turn on Show Hidden Files/Folders in Explorer. So you'll have to delete this file, to do this:

Start Windows Explorer and enable Show Hidden Files/Folders. Explore to the directory where the database is located:

<input type="checkbox"/> Name	Date modified	Type	Size
Jobs	8/3/2017 11:59 AM	File folder	
Jobs_r	12/16/2016 1:38 PM	File folder	
safe	8/8/2017 6:47 AM	File folder	
AMT-System.sdb	6/16/2017 2:25 PM	PowerSource Insig...	28,865 KB
AMT-User.udb	9/26/2016 2:50 PM	PowerSource Insig...	4 KB
Kevin.udb	8/15/2017 8:11 AM	PowerSource Insig...	2,214 KB
System.sdb	8/16/2017 3:08 PM	PowerSource Insig...	54,036 KB
User.udb	8/18/2017 10:26 AM	PowerSource Insig...	2,219 KB
<input checked="" type="checkbox"/> User.udb.x	8/18/2017 9:36 AM	X File	1 KB

Delete the User.udb.x or System.sdb.x file.