



## Version 6.4 Release Summary

July 2007

### Overview

Version 6.4 includes support for the Windows Vista operating system along with a number of discrete enhancements and defect corrections. This release summary will briefly review the changes to Prospector. Choose What's New from the Help menu for a more thorough introduction to this release. The on-line help for Prospector fully explains how use all the features of Prospector including those new to Version 6.4.

### Windows Vista

Version 6.4 is the first release of Prospector to support the Windows Vista operating system. Previous versions of Prospector will not install or run on Windows Vista. The table below lists the supported operating systems for Version 6.4:

Operating System	32-bit	64-bit	Revision Level
Windows Vista	✓	✓	All
Windows XP	✓	✓	All
Windows 2000	✓	✗	Service Pack 3 or higher

The Windows Vista and Windows XP 64-bit operating systems do not support parallel port dongles. A USB dongle is required for both these operating systems.

### Software Installation

Previous versions of Prospector installed all software components underneath the root installation directory (e.g. c:\Program Files\Prospector). This scheme was problematic because users without administrative rights could not create or modify certain files as needed to configure Prospector. This is especially problematic with the Windows Vista operating system because of its even more secure. With this release and future releases, all files and directories that a user may need to modify or manage are installed in these directories:

*Windows Vista:* C:\Program Data\SofTech\Prospector

*Windows XP/2000:* C:\Documents and Settings\All Users\Application Data\Softtech\Prospector

The directories and files installed in this location include:

*cache* – Prospector may create temporary files when executing an operation. By default all temporary files will be stored in this directory. The cache directory can be changed to a different partition or location using the PowerSource Insight application program. If you had changed the cache directory in your PowerSource database, Prospector will continue to use the location you specified.

*Custom Posts* – this is the directory for executable programs (.exe) that perform the post processing function. Whenever you install a new custom post, you should copy the program to this directory. *If you are upgrading from an older release, all custom post*

*processors you had previously installed will be copied to this directory as part of the installation process.*

*Examples* - directory contains sample IGES part data files to assist new users in learning Prospector. This directory and its contents may be removed if you have no need for these examples.

*fonts* – this directory contains font files that are needed when importing part data in ExpertCAD or IGES format that contain text notes. If you use custom fonts for ExpertCAD drawings, you should add those font file(s) to this directory to ensure an accurate conversion of the data. *If you are upgrading from an older release, all fonts will be copied to this directory as part of the installation process.*

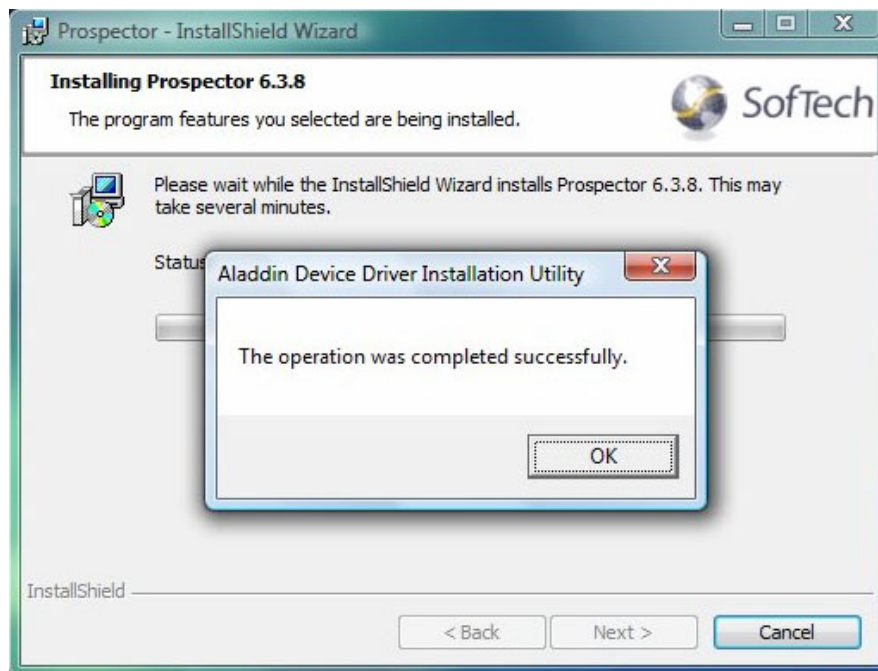
*posts* – pre-configured library of post processors. *If you are upgrading from an older release, all post processor configuration files will be copied to this directory as part of the installation process.*

*user* – default location for PowerSource database files - user.udb, system.sdb. Any database files previously installed will be copied to this directory as part of the installation process. The sub-directories jobs and jobs\_r contain example projects for learning Prospector. If you have modified your PowerSource database to point to different locations for your local and remote job directories, these directories can be removed.

Executable files and other essential modules that are not meant to be altered are installed under the root installation directory (e.g. c:\Program Files\Prospector). Never edit, rename, delete or move any of the files or directories that get installed in the root installation directory.

## **USB Driver Update**

One of the final steps during installation is the installation of the driver for Aladdin USB dongles. In previous versions the driver installation was performed without user interaction however with this release, the dialog shown below will be presented:



Click OK when this dialog is presented and the installation process will proceed.

## Maintenance

### Parasolids

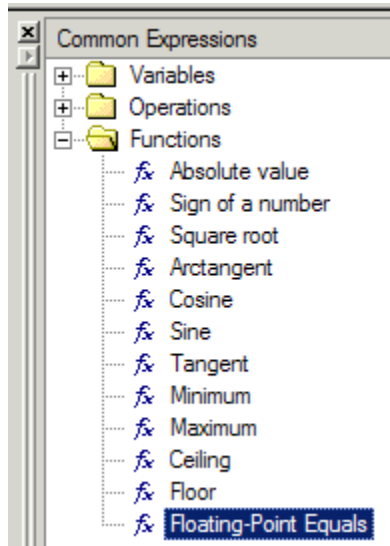
Version 6.4 includes an update to a new version of the Parasolid solid modeling software - Parasolid Version 18. This ensures that Prospector is compatible with Parasolid data files (x\_t and x\_b) output from the latest versions of solid modeling applications built upon the Parasolid kernel (e.g. SolidWorks, SolidEdge, UGS NX).

Parasolid models can contain very small arcs (radius: 0.00001). Previous versions of Prospector would fail to read and display these entities because of the small radius. This has been corrected in 6.4.

Parasolid part data containing vertical walls could cause an excessive amount of time to generate Z-Planar programs. Version 6.4 has been modified to recognize these conditions and properly handle the part data to optimize program generation time.

### PowerSource

A new built-in function - Floating Point Equals - has been added to PowerSource Insight:



This function is useful when you need to compare 2 floating point numbers to check if they are equivalent to within a tolerance of .0001. Often times values at run time are expressed in PowerSource to a high degree of precision relative to the capabilities of the machine tool or fixed values like tool diameter sizes. For example, hole diameters for drilling are at 6-8 decimal places whereas your drill diameter sizes are expressed at 3-4 places. Instead of using an exact comparison like this:

```
Name      If "3d Simple Through Hole Feature,Diameter" = .25 Then
           "Drill,Tool Selection,Drill Tool,Name" = "SECO feedMax .25"
           Else
           "Drill,Tool Selection,Drill Tool,Name" = "3d Simple Through Hole Feature,Diameter"
           End If
```

You can achieve better results using the floating point equals to check for a hole diameter of .25 like this:

```
Name      If FPEquals("3d Simple Through Hole Feature,Diameter",.25) Then
           "Drill,Tool Selection,Drill Tool,Name" = "SECO feedMax .25"
           Else
           "Drill,Tool Selection,Drill Tool,Name" = "3d Simple Through Hole Feature,Diameter"
           End If
```

## 2D Machining

2D profiling has been revised to be more forgiving with regards to the shape of the profiles used to guide the cutter path. Previous versions would object to the slightest design flaw in a curve (e.g. an insignificant segment of the curve doubles back on itself). This usually resulted in the user being unable to choose the 'left' or 'right' option for profiling. The latest release looks for discrete cases and makes the needed adjustments to allow the curve(s) to be used for profiling.

Previous versions of Prospector would machine a drafted pocket undersize if a large tool & corner radius was used. This has been corrected to properly account for the corner radius for both pocketing and profiling drafted features.

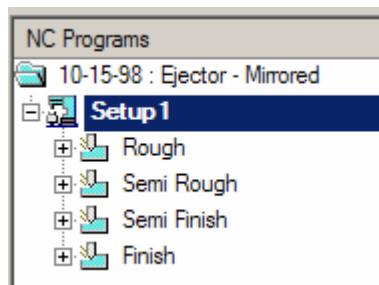
Several corrections have been implemented to the feature finding function for holmaking. For example, countersink through holes with chamfers on both ends are now recognized as such. The color filter for finding holes has been revised to work properly with Parasolid models.

The option to dwell at the bottom of each peck for peck drilling has been added. The option to dwell as well as the amount of time can be programmed in your PowerSource database or on the Finish page of the new program wizard.

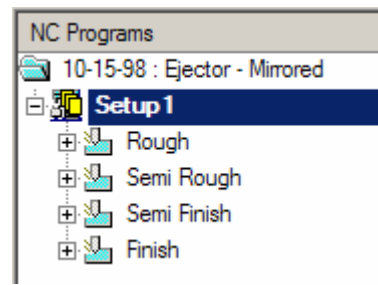
When profiling using multiple passes with start-point control, the last motion at the end of the program for the last level would incorrectly retract to the clear plane then rapid back down to final depth. This has been corrected such that after the last level is machined, the tool feeds off the part and retracts safely to the home position.

## Attachments

A graphical indicator has been added to the Setup leaf of the program tree to indicate whether or not there are attachment(s) associated with the setup:



A Setup with no attachments.



A Setup with 1 or more attachments.

## Post Processing

When post processing a thread mill program without canned cycles enabled, the output is correct. Repeat the process with canned cycles enabled and the output is missing the necessary information for the post processor to output canned cycles. This problem has been corrected for 6.4 to generate the proper output regardless of the order in which canned cycles are set.

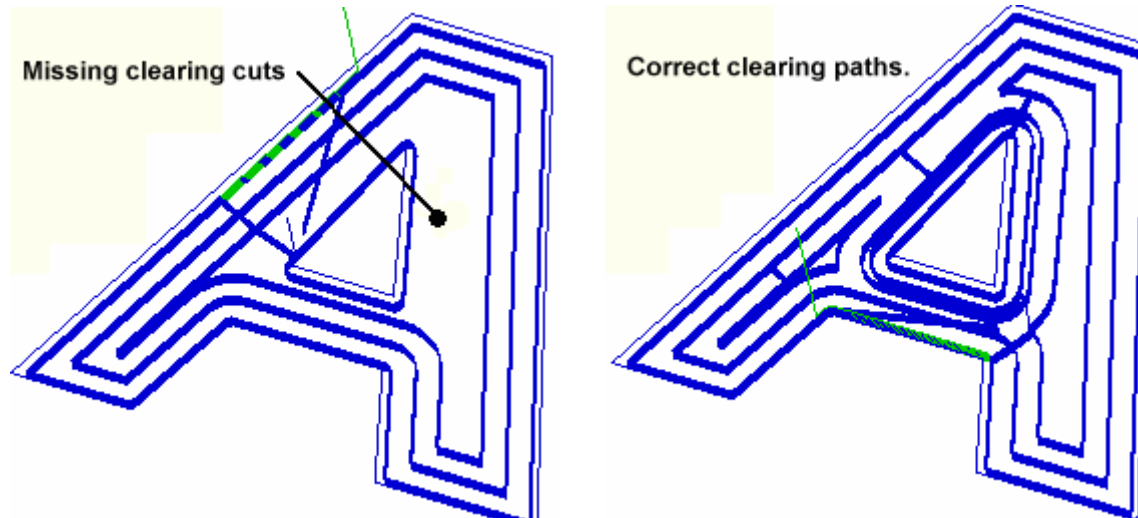
If the High Speed Machining option Convert Rapids to Feeds is enabled when post processing a program, re-verification of the program will not be done if the application data setting "Linear Interpolate Rapids" in your PowerSource database is set to true. Because the true path would not be any different in this case, it is not necessary to check the program a second time. Previous versions of Prospector would always re-verify the cutter path.

The combination of the High Speed Machining options Filter Points and Circular Interpolation could cause the program to crash. This problem has been corrected work properly when these options are used together.

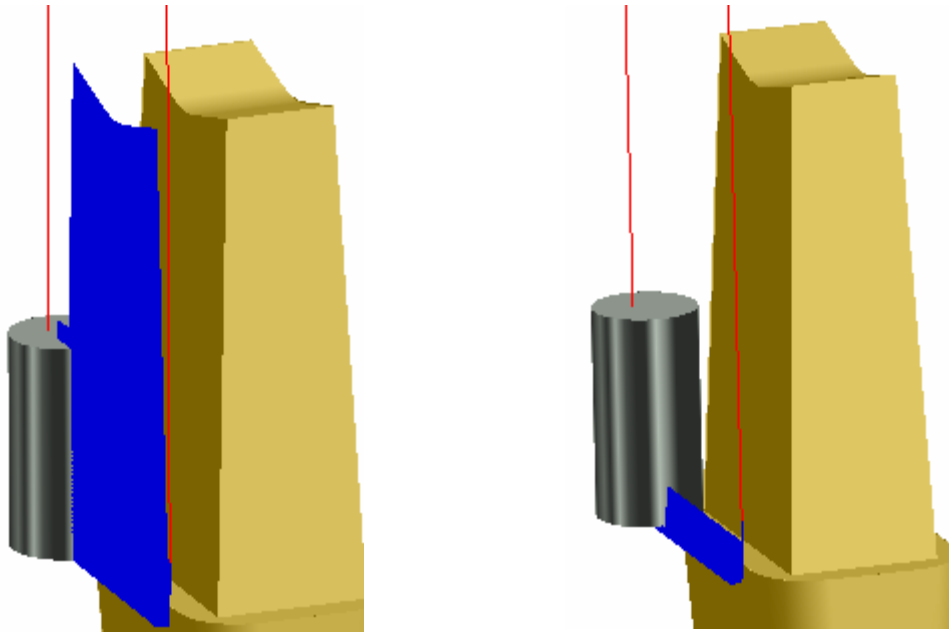
### 3D Machining

Pencil trace programs have been corrected to always lift high enough to avoid part & stock whenever repositioning is required to go to the next cut. Previous versions could collide with the stock.

Several discrete cases of incorrect clearing for Z-Planar programs have been addressed in this release. These cases involved spiral clearing where incomplete clearing could occur on one or more levels.



The Optimized Lift option for lace cutting could produce incorrect results when the lace cut ran up against a wall:



Previous release could incorrectly cut all the way up the wall, move over and then cut back down to get to the next scan.

Version 6.4 correctly cuts over to the next scan of the lace cut.

### *Miscellaneous*

The part data for a project is always displayed after a Project/Open or Project/Get. In previous versions, the model data would sometimes not display if the project had been previously stored with the part data display turned off.

Very old projects created with Prospector Version 4.2 and earlier would not read into Version 6.3. This compatibility problem has been corrected so that all project data from any previous version of Prospector can be read by 6.4.

The possibility of Prospector crashing when Exit is chosen has been corrected. On certain systems, it was possible to encounter a crash if 1 or more programs were currently displayed when Exit was chosen.

Modify, Repair and Remove have been added to the Prospector installation. From Add or Remove Programs from the Control Panel, you can choose to use any of these options to manage your installation of Prospector.