



Prospector 2018 Release Summary

Overview

Prospector 2018 is a major release that includes significant enhancements as well as customer requested software modifications and corrections. This release summary describes the software changes.

Platform Support

The table below lists the supported operating systems for Prospector 2018:

Operating System	Revision Level
Windows 10	All
Windows 7	Service Pack 1 or later
Windows Server 2016	All
Windows Server 2012	R1 & R2

Notes:

Windows 8, 8.1 and Windows Server 2008 are no longer supported. Although it is likely that the software will install and run without incident on these unsupported operating systems, quality assurance testing is no longer performed to ensure this. AMT Software recommends that you upgrade to a supported operating system.

Windows 10 S is not supported. This version only runs apps from the Microsoft store.

The 32-bit edition of Prospector is no longer available.

Licensing Prospector

There are no changes to the software license enforcement. You do not need a new license code to run the 2018 release.

Remote Display Support

Previous versions of Prospector did not allow the use of the software in a client/server environment using Microsoft Remote Desktop (RDP) or other remote display technologies (UDP) unless a additional license(s) were present. This type of usage is now permitted with a Prospector Gold or Silver license provided the server (computer that the software is running on) is not running Microsoft Windows Server as the operating system.

Prospector University & Training Mode

Prospector University is complete program of instructional videos to learn about all things Prospector. This is a great way for new hires to learn about Prospector as well as experienced users to brush-up on their skill-set. Regardless of your experience level, we can assure you that you'll more than likely learn something you didn't know.

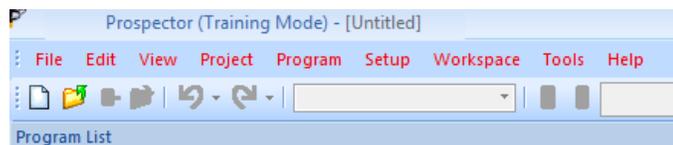
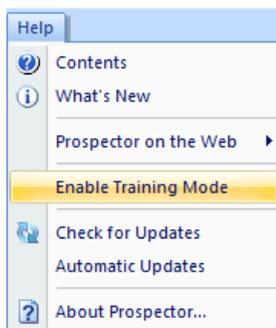
The videos are arranged in the same manner as college courses. Start with the 100 series that covers the essential concepts. Moving on to the 200 series, a more in-depth look at all the machining strategies is presented. There are instructional video for all 3D and 2D machining strategies. The 300 and 400 series delve into more advanced topics and discrete applications.

We encourage all users to visit Prospector U. here:



<http://www.prospectornc.com/ProspectorU/ProspectorU.html>

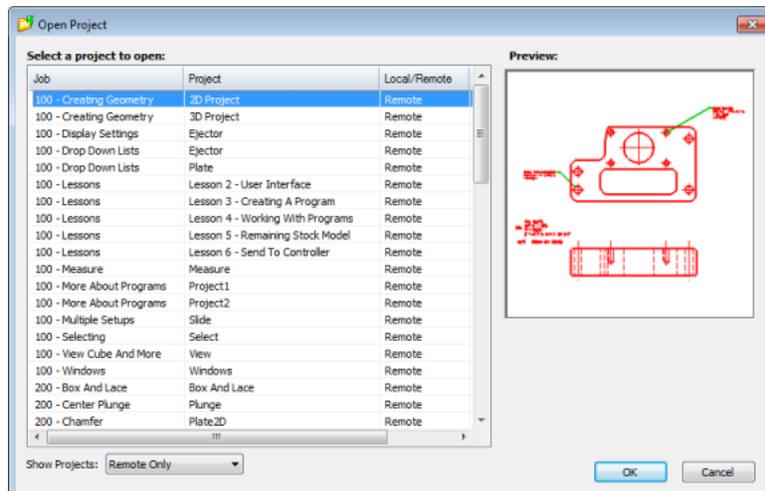
To facilitate learning the example projects and files used with the videos are included as part of the installation of Prospector. To make it easy to access these projects to practice with, you can switch into Training Mode from the Help menu:



Choose Enable Training Mode...

The menu text in red and the program title will indicate that Prospector is currently set to training mode.

While in Training Mode all projects related to Prospector U. videos will be shown in the Open dialog:



When you are finished and wish to resume production work, choose Enable Training Mode from the Help menu once again to switch back to your original PowerSource databases and configuration.

General Machining

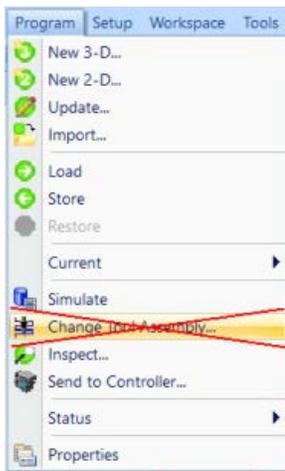
Once a program has been edited, it was not possible to ever change the state of the coolant for that program. This has been corrected to allow coolant state to be modified regardless of whether or not it was edited.

Several discrete errors for flow, radial and contour machining related to multi-threaded processing have been addressed to assure that all the cuts generated are returned and assembled into a complete program.

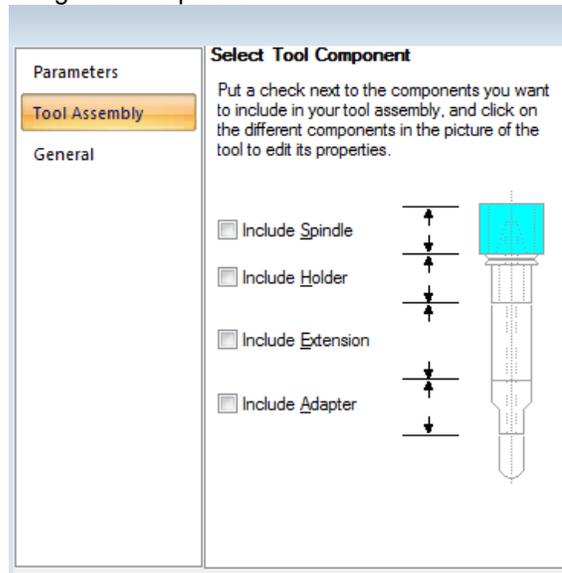
When ramping from one level to the next lower level, rib machining will use the programmed plunge feedrate. Previous versions incorrectly used the programmed cutting feedrate.

The remaining stock model view of the part data is presented when creating a 2D program in a project created with 3D data. Previous versions did not show the remaining stock model for 2D program creation.

The menu item for Tool Assembly has been removed from the Program menu. To change the tool assembly for a program, choose Program / Properties:

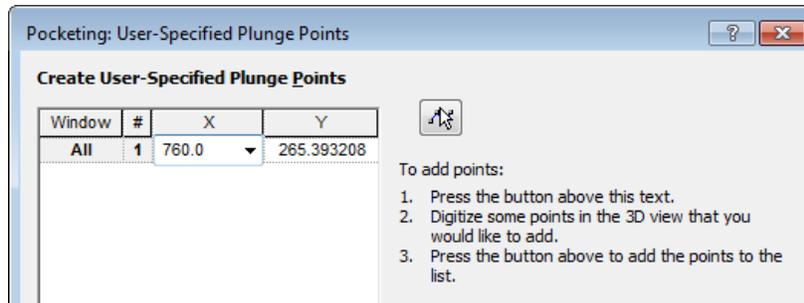


Change Tool Assembly removed....



Change the Tool Assembly in the Program / Properties dialog.

When specifying plunge points for programs, the X and Y coordinates can be edited in the grid control:



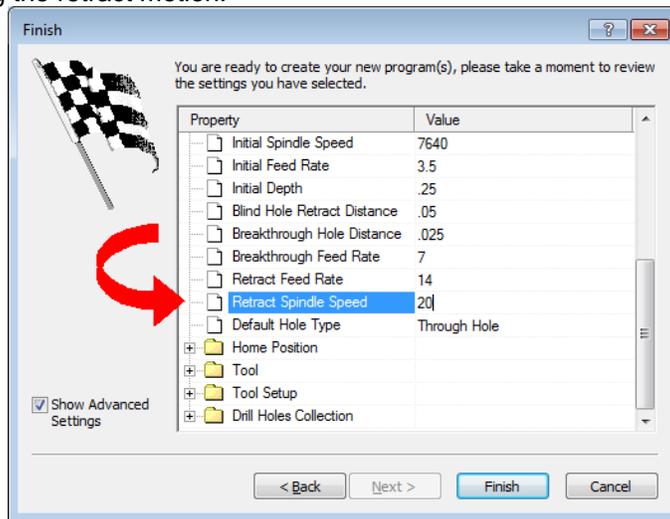
Type in or choose a value from the drop-down menu for X/Y plunge points.

2D holemaking operations are now permitted for setups with an undersize condition (e.g. electrodes). Previous versions would not allow drill programs to be created in a setup that was undersized.

When specifying plunge points for Z-Planar programs, Prospector would crash if you did not exit add-point mode prior to clicking the Finish button on the new 3D program wizard. Clicking Finish will now abandon the add-point mode automatically so a program crash is not possible.

2D Programming

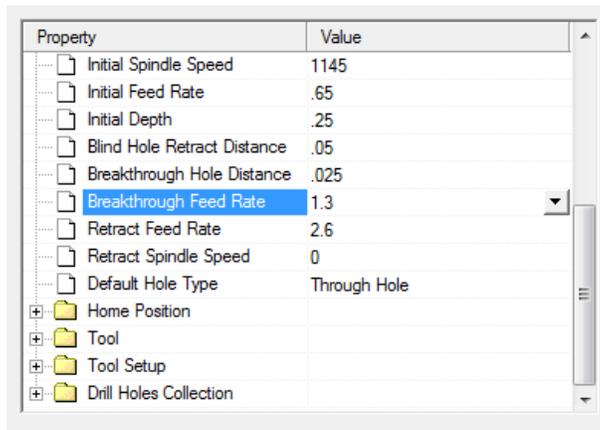
The retract phase of a gun drill program has been modified to allow the specification of a spindle speed to use during the retract motion:



Retract Spindle Speed on the Finish page for Gun Drill programs.

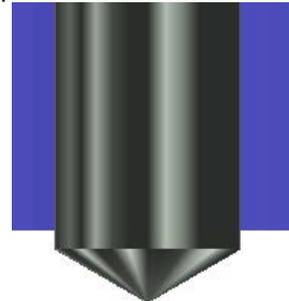
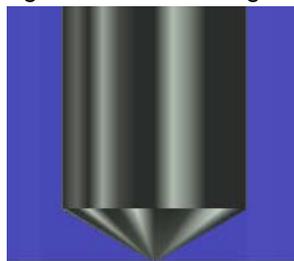
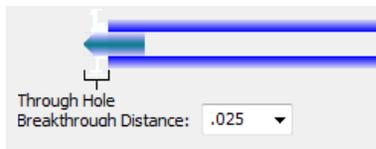
By default, the retract spindle speed is 0 RPM (turn the spindle off). It may be preferable to retract a slow spindle speed to facilitate chip evacuation from the hole.

A new feedrate – Breakthrough Feed Rate – has been implemented for gun drill programs:



Breakthrough Feed Rate on the Finish page for Gun Drill Programs

This feedrate is applied just prior to the tool breaking through the material for through holes and is applied for the until for the entire through-hole breakthrough distance parameter:



For through holes, specify the breakthrough distance to proceed

The breakthrough feedrate is applied here just before the tool tip

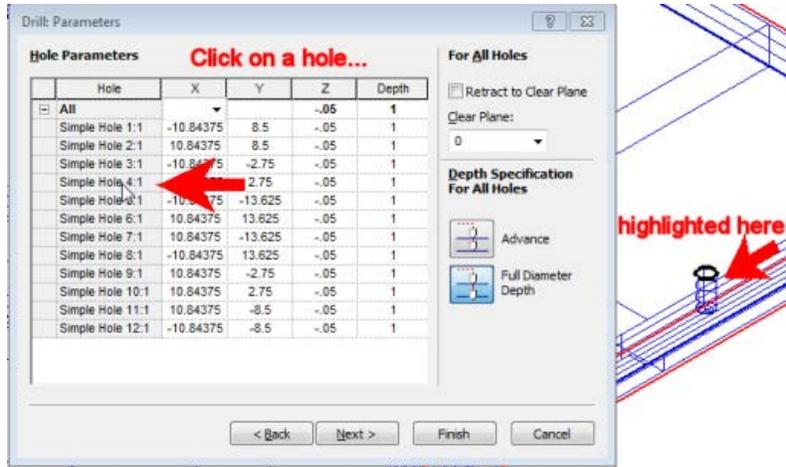
The tool continues its path at the breakthrough feedrate until the

past the bottom of the hole....

breaks through to the open side of the material...

breakthrough distance is achieved.

The grid control for holes on the parameters page for holmaking operations has been improved to graphically show which hole is which. Click on the hole name and that hole will be highlighted.

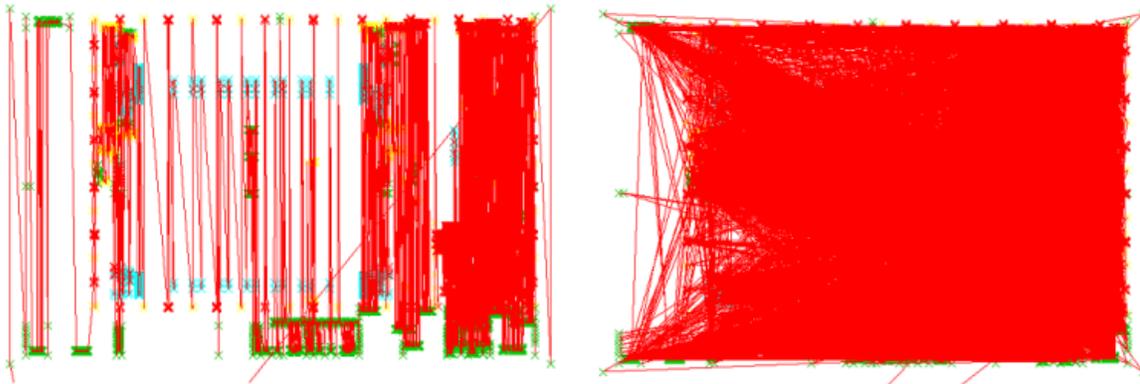


Click on any hole in the grid control to highlight it in the 3D view.

Optimization of the tool path for holmaking has been revised to choose a shorter path. In previous releases, optimization would choose between just 2 paths; one with a bias towards the next closed hole in the X-axis and the other with a bias towards the Y-axis. The new optimization uses a “next closest hole regardless” algorithm which results in a shorter path. This is particularly useful to save machine time when optimizing a the path for a program with many holes:

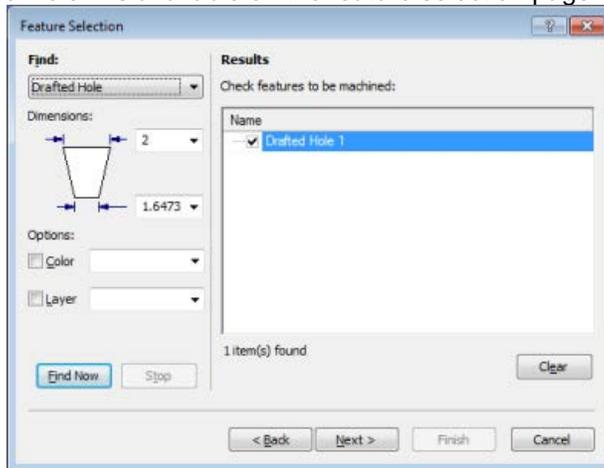
Previous Releases	
General Information	
Program:	prog1
Workspace:	Default
Setup:	Setup1
Cutting Strategy:	Drill
Machine Time:	29 hours 3 minutes
Tips Or Center:	Tip of Tool

2018	
General Information	
Program:	prog2
Workspace:	Default
Setup:	Setup1
Cutting Strategy:	Drill
Machine Time:	14 hours 21 minutes
Tips Or Center:	Tip of Tool



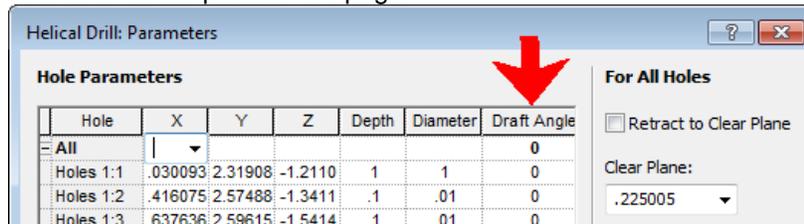
Improved Optimization of Drill Path

A new feature – Drafted Hole – is available on the feature selection page for Helical Drilling:



Drafted Hole option for Helical Drilling

When creating helical drilling programs, the draft angle for holes can be specified on a per-hole basis in the grid control on the parameters page:



In previous versions, the draft angle was a separate setting that applied to all holes to be machined.

Selection of profiles is allowed when the 1st page of the new 2D program wizard is posted. In previous versions, profiles could not be selected until a machining strategy was chosen.

The default value for the depth of pockets and height bosses will be set to the height of the block. Previous versions would set the defaults to 0.0.

Circular leads for thread milling have been modified to work properly when the cutting direction is from the top to the bottom.

The feature finder for 2D holmaking has been revised so that the category for Simple Tapped Holes finds only those hole types. Previous releases might also have included counterbored and countersink features as well.

The feature finder for 2D points has been revised to correctly remove duplicate points and number the points sequentially to avoid the appearance that some points were omitted.

Prospector Projects

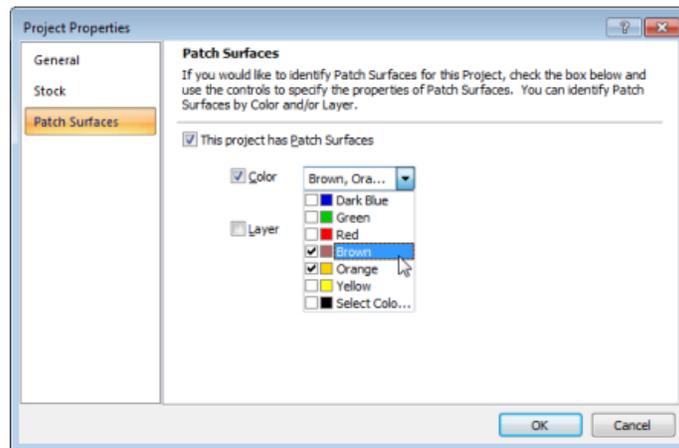
Support for importing AutoCAD 2018 data files (*.dwg/*.dxf) when creating a new project has been added. Previous versions could not import data files from this most recent version of AutoCAD.

Valid IGES data files that did not have a formal start section could not be imported into a new project. This has been corrected so that IGES files that omit the start section are still recognized as being valid IGES format files and will be imported when creating a new project.

The Project / Add to Model... feature has been modified to allow the user to see a preview of the data that will be added to the project. Previous versions did not show the additional geometry when the view type was set to shaded model.

Native format data files from ToolDesigner – ExpertCAD 3D (*.3d) – can now be imported as part data into Prospector. Previous versions did not support this binary file format.

When identifying patch surfaces, any number of color selections can be used to specify the surfaces to be considered as patch surfaces. Previous release allowed for just 1 color to be specified:



Choose any number of colors to ID patch surfaces.

Project files (*.prz) created with the Project-Based Interface enabled can't be opened when this setting is disabled. Prospector will issue an appropriate error message if a given project file is incompatible with the current setting of Project-Based Interface. Previous versions could crash in certain circumstances where there was a mismatch between the current setting and the project file type.

When Project-Based Interface is disabled, the New Project wizard will remember the last path specified for the folder in which to create the project. Previous versions would revert to the default folder instead of the last one chosen by the user.

Projects that were archived with one or more attachments that were marked as hidden or read-only files could fail to open. This has been corrected to ensure that all files archived with a project have their flags set properly so they are not hidden or read-only.

When creating a new project or setup, if there is only one configuration for the material type then that configuration will be chosen automatically. Previous versions would require the user to select the only configuration possible.

When creating a new project, the default size of the block is now computed using all visible part data. In previous versions, hidden geometry in the part data would be included as part of the calculation resulting in a block size that was incorrect.

Post Processors and CL Data File Revisions

If more than 512 programs were chosen to be combined and post-processed, Prospector would crash. This limitation has been removed. Any number of programs can be combined and post-processed.

Timing of the coolant on for thread milling has been revised to turn the coolant on (M08 | M07) just prior to or concurrent with the first cutting motion. Previous versions turned the coolant on before or during the rapid motion to the start of the first cut.

Configurable post processors that use an event file (*.e) could in certain circumstances cause floating point numbers to be output in a format that is not accepted by CNC controls. This has been corrected so that a proper decimal point format is always generated regardless of the content of the event file.

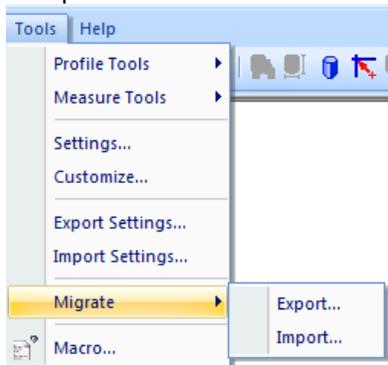
Fixture offset codes (G54-G59) were incorrectly output to the CL data files in previous releases. This prevented configurable post processors from being able to generate the proper output. This problem has been corrected so fixture offset codes are published correctly for both custom and configurable posts processors.

Category (Rough, Semi-Rough, Semi-Finish, Finish) has been added to the list of NC comments that can be passed along to the post processor in the CL data file.

When combining several programs into a single program for Send to Control, the order of the CL records has been revised so that each program retains the same order of CL records output that Prospector would have produced if they had been post processed individually. This ensures that the post-processed output will be consistent regardless of whether or not they were post processed individually or as a single program.

Moving Prospector to a New Computer

Setting up a new computer with Prospector is easier than ever with the new Migrate feature:



New for 2018 – Tools / Migrate

Migrate / Export... lets you save all your current settings for Prospector to a Prospector Migration File (*.pmf). The migration file has in it:

- The configurable post processors you use.
- Custom post processors you use.
- Output folders needed for post processed files.
- Any Visual Basic scripting macros you use.

- Your PowerSource User and System databases.
- Toolbars, user interface customizations, ... (i.e. all the data from Tools / Export Settings...)

On the 'old' computer (the one you are currently running Prospector), choose Tools / Migrate / Export... and create your migration file.

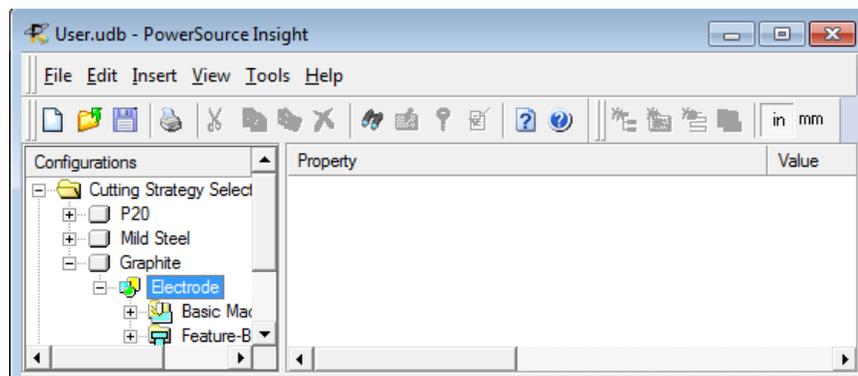
On the new computer you are setting up to run Prospector, install the Prospector software. Copy your migration file from the old computer to the new one. Start Prospector and choose Tools / Migrate / Import... and browse the migration file. Bingo! You're all set. The new computer now has exactly the same configuration for Prospector as the old one.

PowerSource

In the default databases (User.udb and System.sdb) distributed with Prospector, a number of changes and enhancements have been made. If you are installing 2018 as an update to your current installation of Prospector, these revised databases will not overwrite your existing ones. Furthermore, with the exception of new settings, the modifications will **not** propagate to your databases when you install the new version. If you wish to use some or all of these modifications, you will have to manually enter the revisions into your database. A copy of the default AMT user and system database are installed here:

C:\ProgramData\AMT Software\Prospector\User\AMT-System.sdb
 C:\ProgramData\AMT Software\Prospector\User\AMT-User.udb

A new material – Graphite – and a configuration – Electrode – has been added to the default PowerSource database provided with Prospector. Rules, settings and tooling more appropriate for machining electrodes from graphite have been implemented for this material & configuration combination.



Graphite as a material and Electrode as a configuration in the default database.

The default database included a rule for choosing a bull cutter for lace programs that was inappropriate. This rule has been revised to work properly.

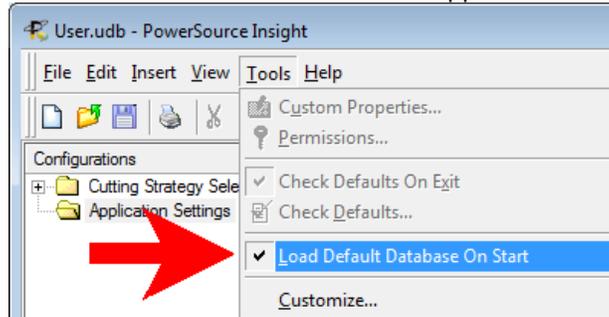
The default rules for tool selection in the default databases installed with Prospector have been revised to function correctly. Previous versions could produce a warning message regarding an invalid corner radius.

The default rule for Fast Feed Rate (feedrate to use when retracing) for Z-Planar programs has been revised to use 2X the programmed cutting feedrate. Previous versions used the cutting feedrate which was deemed to be too slow since no material is being removed when repositioning the cutter for the next pass.

The default rule for tool selection for gun drilling has been modified to recognize the type of feature and choose a tool accordingly.

When a syntax error is detected in PowerSource Insight, a simple error dialog reporting the problem has replaced the old confusing dialog that wasn't very helpful.

An option has been added to the Tools menu for PowerSource Insight and Tooling to specify whether or not to load the default User database when the application is started:

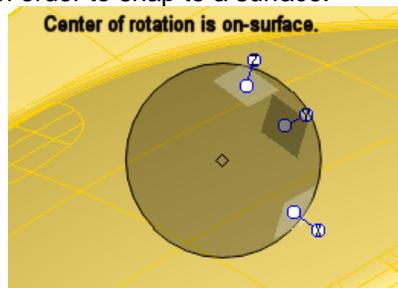


By default, this switch is enabled. If you wish to open a specific database when either application is started, disable this switch.

General Maintenance

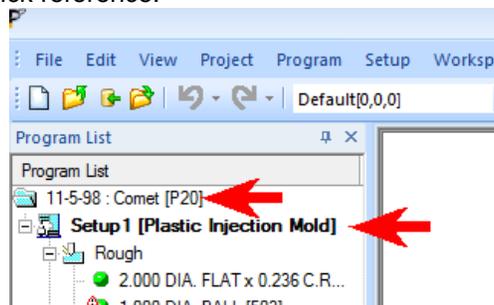
A logfile named C:\Users\

When using Shift-Click to set the center of rotation for the track-ball, the snap point can be positioned anywhere on a surface. In previous versions, a flow line for the surface had to be sufficiently close to the cursor in order to snap to a surface.



Center of rotation can be anywhere on a surface instead of just on a flow line.

The material type and configuration have been added to project and setup folders in the N/C Program tree control for quick reference.



When using the inspect program dialog to jump the tool to a gouge or stock collision location caused the simulation dialog to get out of synch. This has been corrected so that both dialogs agree on the current position of the tool.

If a setup has an attachment, it is now possible to add additional attachments. Previous versions would issue an error message if the setup already had an attachment.

Opening a file-based project that does not have the corresponding data folder associated with it will cause an error message to indicate what the problem is. Previous versions of Prospector would crash if the data folder was missing.

Mirror transformations have been corrected to work properly when used in an alternate setup and/or workspace.

When importing multiple programs in APT format, the order in which the NC program tree is populated is the same as the multiple selection. In previous versions, the first program chosen was always placed last.

A sporadic crash condition related to certain grid controls in one or more Prospector dialogs has been addressed. In rare cases, just clicking inside a grid control (e.g. Program / Properties dialog) could cause a crash on 64-bit editions of Prospector.

The Filter Surface feature to reduce over-defined surfaces into simpler forms was revised to work more consistently for certain types of surfaces. Previous versions would fail to remove unnecessary control points in certain cases.

Resolved Incident and Enhancement Report

When you report a problem or request an enhancement by contacting our customer service team or reporting a problem at the web portal *AMT OnTime* you will receive a unique ID for each problem and/or requested enhancement. When we complete a release all incidents and enhancements that were addressed for that particular release are assigned a closed status. The following table lists the closed records for this release.

Record ID	Customer	Synopsis
AMT00547	AMT	Add the material type and PowerSource configuration for a the project and setup(s) to the NC program tree control for easy reference.
AMT00571	AMT	If the display is set to wireframe and the RSM view is enabled, the part data color changes when choosing New 3D Program.
AMT00576	AMT	Revise the parameters page for holmaking operations to graphically show which hole is which when selected in the grid control.
AMT00579	AMT	Allow the selection of profiles when the 1 st page of the 2D program wizard is presented.
AMT00602	AMT	The timing of the coolant on for thread milling is incorrect.
AMT00606	AMT	Setting the length of the tool smaller than the former radius produces an incorrect display of the tool.
AMT00607	AMT	The simulation dialog and the inspect program dialog don't agree on the current position of the tool.
AMT00608	AMT	Coolant can't be changed after a program has been edited.
AMT00610	AMT	When zooming or panning the 3D view, do not post the wait cursor.
AMT00611	AMT	Allow for the center of rotation of the trackball to be placed anywhere on a surface instead of just on a flow line.
AMT00612	AMT	If animated view transition is enabled, any keystroke will abandon the animation and the view will redraw in its final orientation.

AMT00614	Viking Tool	This 3D lace cut program does not completely machine all surfaces inside the window.
AMT00615	Viking Tool	This 3D contour machining program does not generate.
AMT00616	AMT	A configurable post processor that uses an event file (*.e) can cause the output of floating point numbers in scientific notation (3.5e-2).
AMT00617	AMT	Setting the length of the tool to 0.0 can result in an incorrect display of the tool.
AMT00621	AMT	If a license for Prospector isn't available and this is the first time run, then ask if the user wants to acquire a 30-day iLicense to evaluate Prospector.
AMT00623	AMT	Opening a project created in the wrong "mode" can cause a crash.
AMT00626	AMT	Replace the "getting started" guide in the Help menu with Prospector U.
AMT00629	AMT	The new project wizard does not retain the path entered by the user when Project-Based Interface is disabled.
AMT00630	AMT	The default depth for pocketing and profiling should be the height of the block.
AMT00634	AMT	This Z-Planar No Clear program will not generate if Create Ramps is enabled.
AMT00636	AMT	The default rule for choosing a bull cutter for lace programs in the default database is not correct.
AMT00638	AMT	The default rule for tool selection for radial and flow machining can produce a warning message.
AMT00640	AMT	The parameter for number of ribs for flow cutting appears in 2 places on the finish page. It should only apply to the flow curves themselves not the entire program.
AMT00641	AMT	Several cuts are missing for this contour machining program.
AMT00642	AMT	This spiral machining program gouges the part data.
AMT00643	AMT	The feedrate for ramps should be the plunge feedrate instead of the cutting feedrate.
AMT00644	AMT	When creating a 2D program inside a project created with 3D data it should be possible to view the remaining stock model.
AMT00645	AMT	Add the ability to find blind, through and drafted holes on the feature selection page of the wizard for helical drilling.
AMT00648	AMT	The rule in the default PowerSource database for tool selection for countersink machining is not correct.
AMT00649	AMT	The rule in the default PowerSource database for choosing a tool for a straight thread milling tool is not working correctly.
AMT00650	AMT	Circular leads for top-down thread milling are not correct.
AMT00651	AMT	The feature finder for simple tapped holes incorrectly finds counterbored and countersink tapped holes.
AMT00652	AMT	The feature finder does not display simple points found correctly.
AMT00654	AMT	Optimization of drilling cutter paths can be better.
AMT00657	AMT	Allow for multiple attachments for a setup.
AMT00659	AMT	The drop down list for number of ranges for variable step down for Z-Planar programs should have only the values 2, 3 and 4.
AMT00660	AMT	The tooltips for point select, point select + and point select - are incorrect.
AMT00663	AMT	Opening a file-based project can cause Prospector to crash.
AMT00667	AMT	Tool notes for the transformation operations should include the fact that programs can be transformed as well as profiles.
AMT00668	AMT	The appearance of tool notes is dated and needs updating to current user interface standards.
AMT00669	AMT	The mirror transformation is not working correctly when working in an alternate setup of workspace.
AMT00671	AMT	Ordering of imported APT programs is incorrect.
AMT00673	AMT	This multi-cavity project does not correctly machine the Z-Planar programs for all the cavities.
AMT00674	AMT	Labels for entering coordinates for toolnotes for incremental distances should read DX,DY and DZ.
AMT00675	AMT	Simulation of rapid motions skips over point(s) for rapid motions when linear interpolate rapids is disabled.
AMT00676	Viking Tool	Copy & paste of programs from one project to another could result in a multiple windows of the same name.
AMT00677	AMT	Add Graphite as a material and Electrode as a configuration to the default PowerSource database.
AMT00687	PolyOne	Can't open an archived project with attachments that are hidden and/or read-only.

AMT00680	AMT	Allow preview of the model when using Project / Add To Model... and the view is set to shaded model.
AMT00682	AMT	Modifying program properties for different programs in different workspaces can cause Prospector to crash when rebuilding the project.
AMT00683	AMT	Add the Tool Assembly to the Program Properties dialog and remove the menu item.
AMT00684	AMT	Change the defaults for printing to use an Arial font and choose more useful categories to print.
AMT00687	AMT	Add the ability to change the coordinates of the plunge points for Z-Planar in the grid control.
AMT00688	AMT	Revised the default rule for fast feedrate to use 2X the cutting feedrate.
AMT00689	AMT	Create a log file each time Prospector starts to record how it acquired or did not acquire a software license.
AMT00690	Viking Tool	Copy and Paste in Prospector Design is not working properly for this Parasolid design data.
AMT00691	Viking Tool	This Parasolid data file is not being properly imported into Prospector.
AMT00693	Electromac	Allow for multiple color selections to identify patch surfaces.
AMT00694	AMT	Provide a more complete way to setup a new computer with the settings from the old one.
AMT00695	AMT	Allow drilling operations for undersize part conditions.
AMT00696	AMT	Crash can occur if point mode is not canceled before the finish button is clicked.
AMT00697	AMT	Allow part data in ExpertCAD 3D format to be imported directly into Prospector.
AMT00698	Mangas Tool & Die	A crash can occur by clicking on the geometry grid control.
AMT00699	AMT	Allow the draft angle for helical drilling to be set on a per-hole basis on the parameters page.
AMT00700	Viking Tool	Extraneous flow lines are being created as part of the display list for this Parasolid data file.
AMT00701	Mangas Tool & Die	The drop-down lists for certain grid controls are not behaving correctly.
AMT00702	AMT	When creating a new project or setup, if there is only 1 configuration possible for the material type, choose that configuration as the default.
AMT00703	AMT	Use consistent terms when referring to the system of units in the user interface.
AMT00707	AMT	Use consistent terms when referring to Z-Planar With Clear and Z-Planar No Clear in the user interfaces for all the Prospector application programs.
AMT00709	AMT	Simplify the syntax error dialog for PowerSource Insight.
AMT00710	AMT	Add Category as an option for NC comments.
AMT00713	AMT	Add a switch to specify whether or not to open the default database when starting Insight or Tooling.
AMT00714	AMT	Merging multiple CL data files needs to retain the same ordering of CL records as Prospector outputs for a single CL file.
AMT00715	AMT	Add a visual cue to the grid control on the parameters page to indicate if a particular property is locked.
AMT00716	AMT	When defining a custom property in Insight that uses a date, offer a date control to make it easier to input the date.
AMT00717	AMT	The permissions dialog in PowerSource Insight is too small. It needs to be larger to make it easier to lock a setting in the system database.
AMT00718	AMT	Certain settings in the PowerSource database don't lock properly.
AMT00720	AMT	Custom properties defined in Insight should include a prefix (Project, Setup, Program) if they are referenced for output when printing or post processing.
AMT00722	AMT	The Help button on the Custom Properties dialog in PowerSource Insight does not work.
AMT00724	AMT	Custom properties defined in PowerSource Insight that reference a 3D point does not work correctly for alternate setups.
AMT00725	AMT	When changing a list property that is part of a custom property in PowerSource Insight, the modify button on the dialog is not being enabled.
AMT00726	AMT	The Apply button on the custom properties dialog in PowerSource Insight is not working properly.
AMT00727	AMT	When modifying a custom property in PowerSource Insight, disable the ability to change the property type in the dialog.
AMT00728	Ramsden	Allow for the spindle speed to be specified when retracting out of the hole for gun drill programs.
AMT00729	AMT	Only visible geometry should be used to compute the default block size when

		creating a new project.
AMT00730	AMT	Add support for importing AutoCAD (*.dwg/*.dxf) files from AutoCAD 2018.
AMT00732	AMT	Can't import an IGES file that does not have a start section.
AMT00736	Oakwood	This contour machining program is failing to generate.
AMT00738	Viking	This contour machining program is failing to generate.
AMT00739	AMT	Coolant specification on the tooling page of the new program wizard is not relevant when creating a gun drill program. Coolant choice should be removed.
AMT00740	Ramsden	Add a new feedrate to the gun drill program for breaking through the material.
AMT00741	AMT	Remove unnecessary CL spindle-off record from gun drill programs.
AMT00742	Viking	Crash when more than 512 programs are post-processed at one time.
AMT00744	AMT	The Filter Surface option is not working properly for this part data file.