

PROSPECTOR™

The Gold Standard In Toolmaking

Prospector 2009 Release Summary

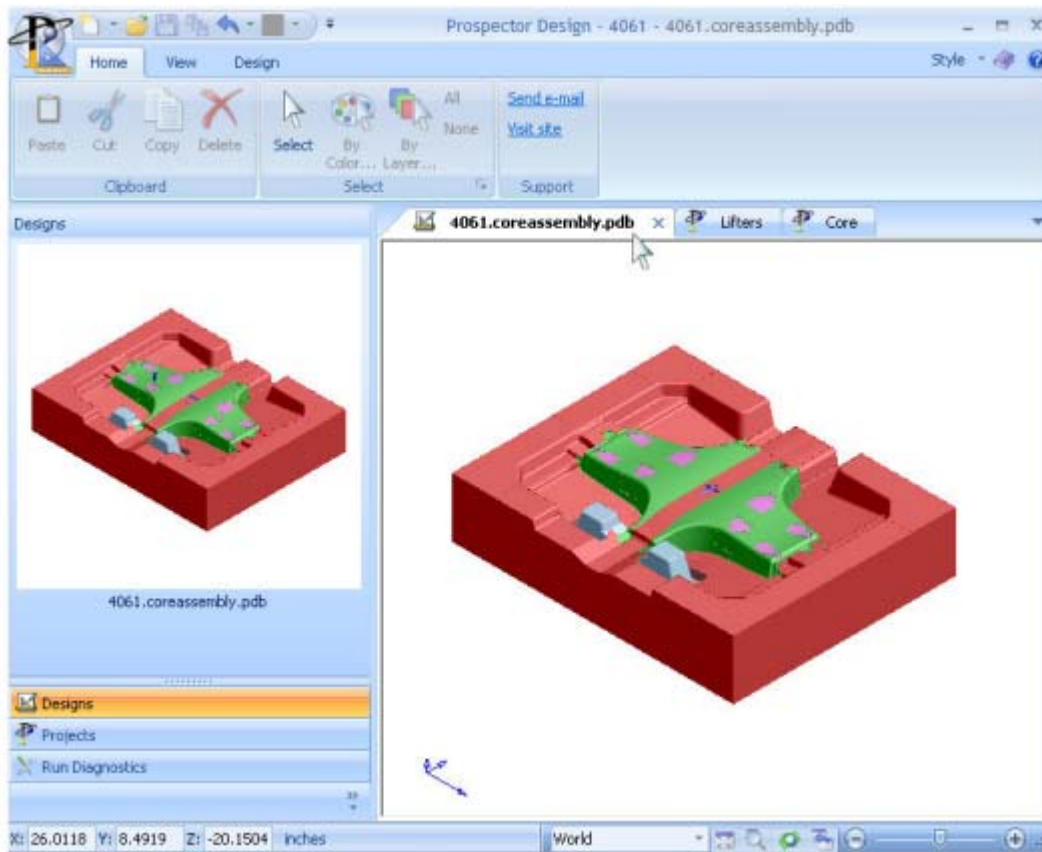
July 2009

Overview

Prospector 2009 is a major release that includes significant enhancements as well as customer requested software modifications and corrections. This release summary describes the software changes. Refer to the What's New help for even more information about Prospector 2009.

Introducing Prospector Design

Prospector Design is a new application program included as part of the Prospector product.



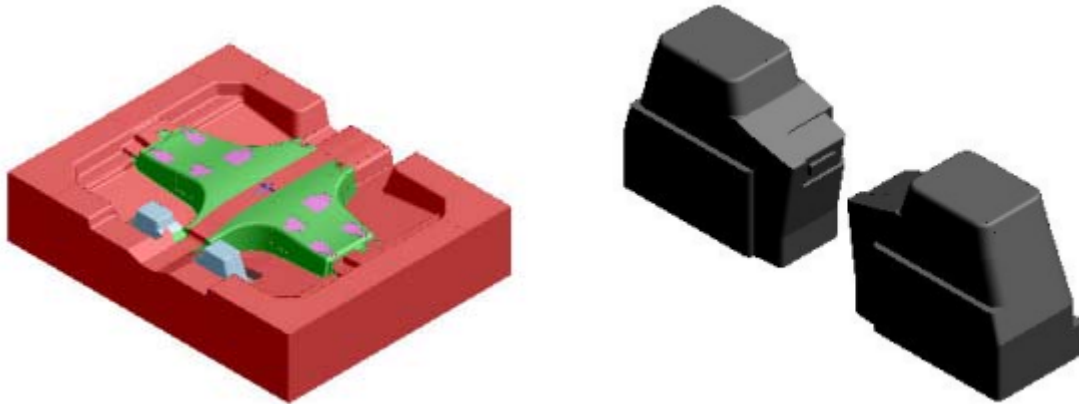
Prospector Design

Prospector Design addresses the needs of the machinist to perform specific design tasks to facilitate NC programming in Prospector. Prospector Design can improve productivity by minimizing or eliminating altogether the need to return the design data to the originating CAD system in order to prepare the data for NC programming. This is particularly helpful for the shop floor machinist as necessary alterations to the design data no longer requires a trip to the CAD room to request the assistance of a designer.

The design for machining tasks Prospector Design initially addresses include:

Creating Prospector Projects from Assemblies

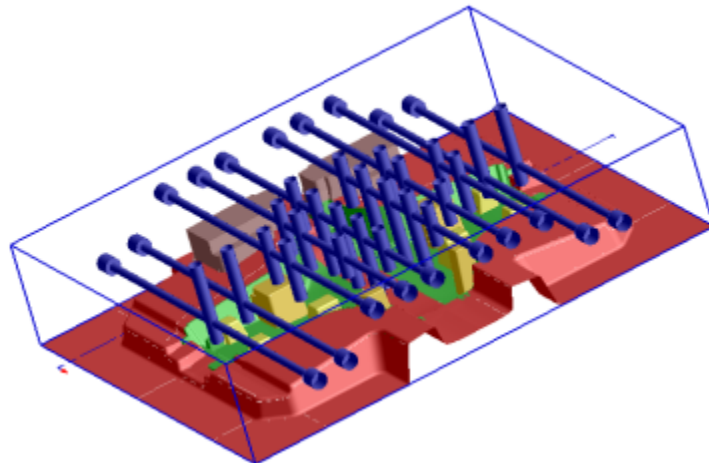
In the event the component that needs to be machined is embedded as part of an entire assembly, Prospector Design allows the discrete component(s) to be isolated from that assembly. Once isolated, separate Prospector projects for each machined component can be created directly from Prospector Design.



Using Prospector Design, the lifters included in the assembly design are identified, isolated and extracted to create Prospector Projects ready for NC programming.

Eliminating Unwanted or Unnecessary Design Data

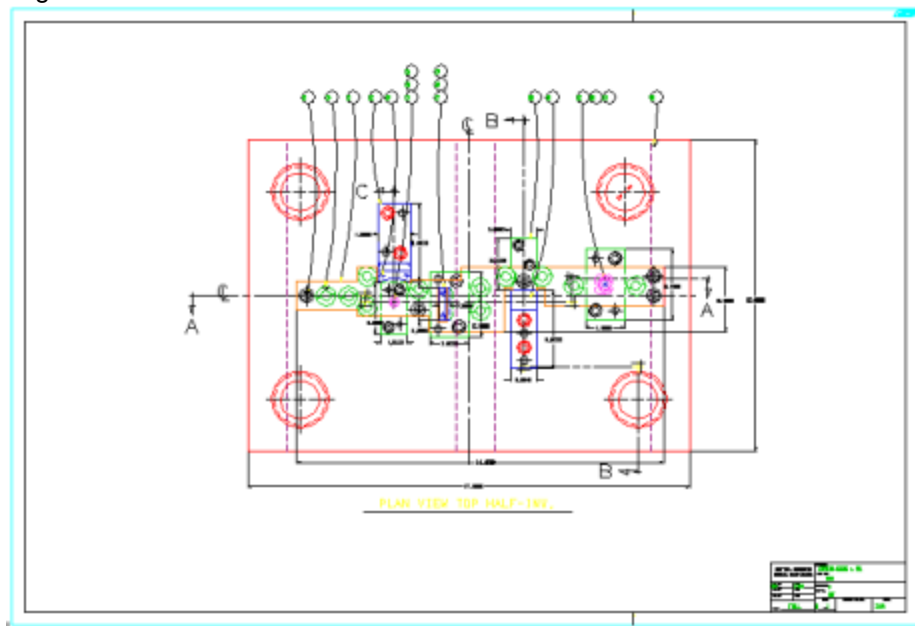
Data sets can sometimes contain unnecessary or unwanted design elements that have nothing to do with the machining tasks at hand. Unnecessary elements of the design can impede NC programming and/or cause increased processing time to calculate cutter paths. In the worst case, these entities can prevent the component from being properly machined.



The design of the water system inside the block is not necessary for machining the core. Use Prospector Design to remove the water system before creating the Prospector project. This can dramatically improve the processing time when calculating cutter paths.

Refining 2D Data from Detailed Designs

Usually 2D data from detailed drawings contains a large amount of data that is really not needed for machining.



2D detail drawings can be difficult to program because of the extraneous data.

Obviously the title block, balloon notes, dimensions, text, hidden lines, center lines etc. are not necessary to machine this component. Using the features of Prospector Design, you can eliminate the “clutter” so the actual part outline geometry required for machining is the only data that is present.

As is usually the case, designers pay little or no attention to creating contiguous geometry that is needed for NC programming. Using the features of Prospector Design, the original geometry can be “massaged” to create nice bounded profiles to make it easy to program in Prospector. Tracing over the original design data or using the chain feature in Prospector Design allows the construction of the bounded geometry that is necessary when profiling or pocketing in Prospector.

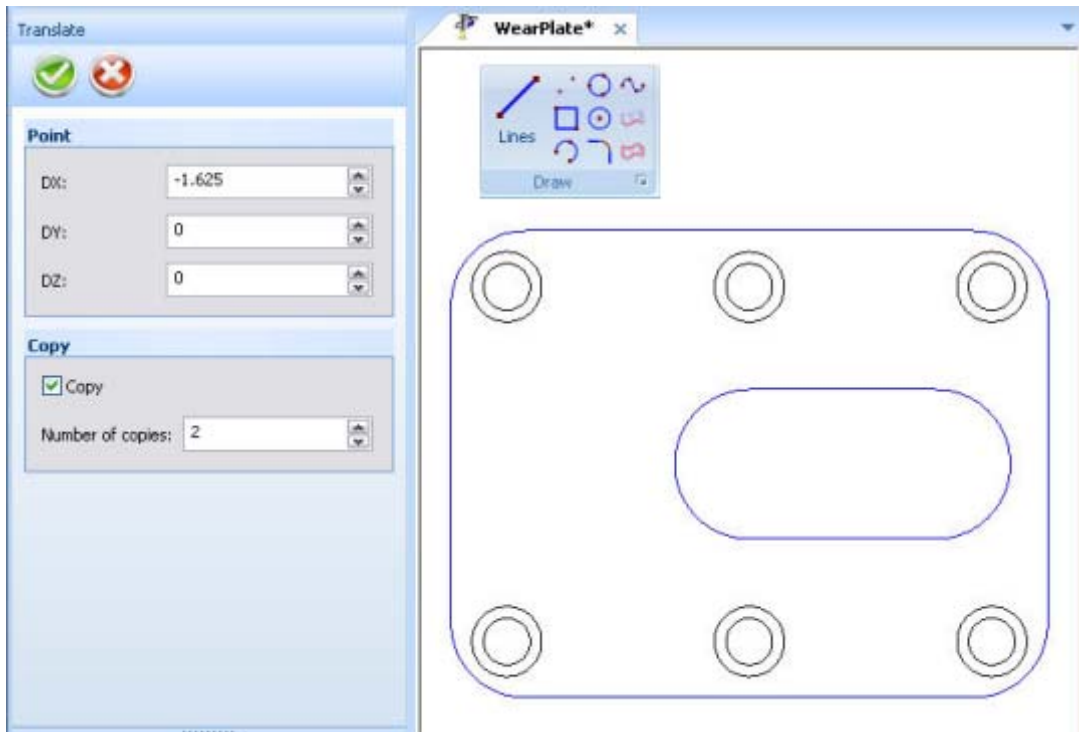
Once you have refined the geometry, Prospector Design allows you to shift the entire design into machining position then create the 2D Prospector project for programming.

Creating Persistent Geometry in Prospector Projects

Any geometry you create in Prospector Design will become a permanent part of the Prospector project you create from Prospector Design. Remember that this is not the case if you create geometry inside of Prospector! Geometry created inside of Prospector is not saved as part of the project. If you wish to create additional geometry to facilitate machining and ensure that it is saved permanently with the project, use Prospector Design to add the needed geometry.

Creating 2-1/2D Design Data from Part Prints

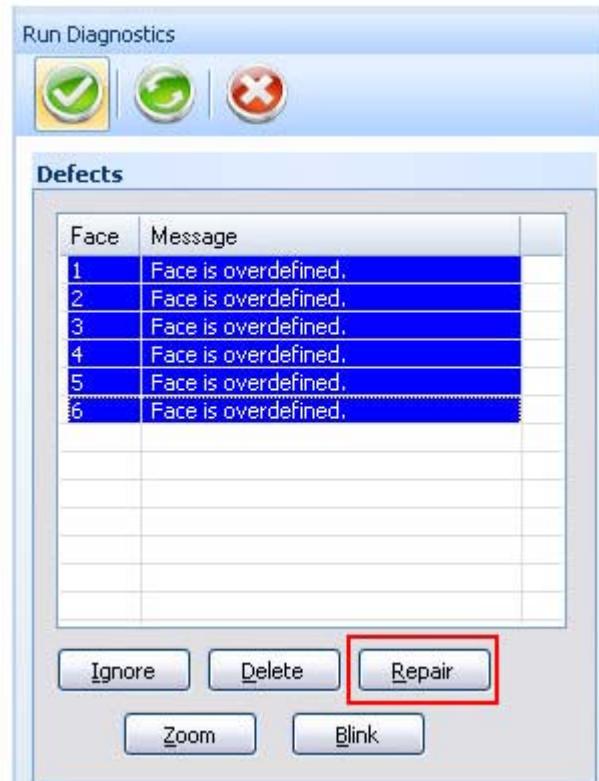
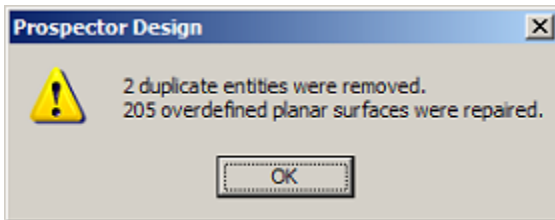
If you have only a part print to work from, Prospector Design allows you to create the geometry you need to machine the piece.



Quick, simple and easy to understand profile creation tools makes it easy to create the geometry needed for 2-1/2D machining from nothing more than a part print.

Analyzing the Integrity of Design Data

Prospector Design helps you to identify design data that can be problematic when it comes time for NC programming. When design data is imported into Prospector Design, the software will automatically refine the data set to remove duplicate entities and simplify discrete cases of over-defined surface data and omit surfaces that are collapsed (e.g. zero or near-zero area surfaces). Once the data set is imported, the diagnostic tools in Prospector Design can be used to find other potentially problematic entities.



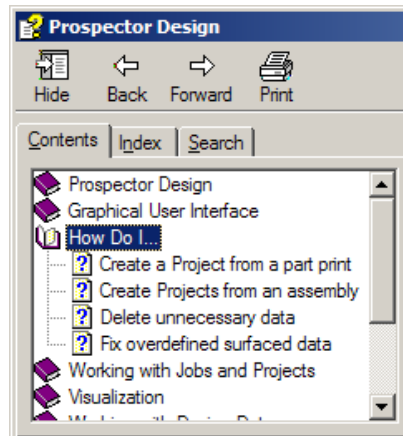
On import, Prospector Design automatically diagnoses and repairs obvious flaws in the model that affect NC programming.

The diagnostic tools find other possible problematic entities. At your discretion, you can have the software repair the problem, delete the offending data or simply ignore the problem.

To learn more about Prospector Design, we've prepared comprehensive on-line help to acquaint you with this new application.



Click the Help icon in the upper right corner of the application window.



Importing Design Data

Prospector and Prospector Design now support the import of AutoCAD DXF and DWG format data. Data files from AutoCAD 2009 and earlier versions is supported. Only data from the model space is imported (i.e. all scaled drafts of the model are omitted). All entities are converted to their most basic geometric form and appear as 3D profiles. For example, when crosshatch is imported a series of 3D profiles that comprise the hatching lines is created that represent the appearance of that entity type. Similarly text is decomposed into profiles. If the text uses a TrueType font, the outlines that form each character are imported as separate profiles:



The TrueType font Script MT Bold was used for this text note in AutoCAD as shown on the left. When imported into Prospector, the outline curve(s) of each character will be separate 3D profiles as shown on the right. These curves can be machined just like any other profile in Prospector.

The Cut/Copy and Paste feature in ToolDesigner 2009 and ExpertCAD 2008 is interoperable with Prospector Design.

Direct import of 2D design data from ExpertCAD has been integrated into Prospector and Prospector Design. Previous versions translated first to a neutral format (*.pdb) prior to importing the data. The direct method is faster and eliminates the possibility of data loss.

Maintenance

In discrete situations, spiral and flow machining strategies could cause the application to use an excessive amount of memory and/or exhibit poor performance when generating these types of programs. These problems have been corrected in this version.

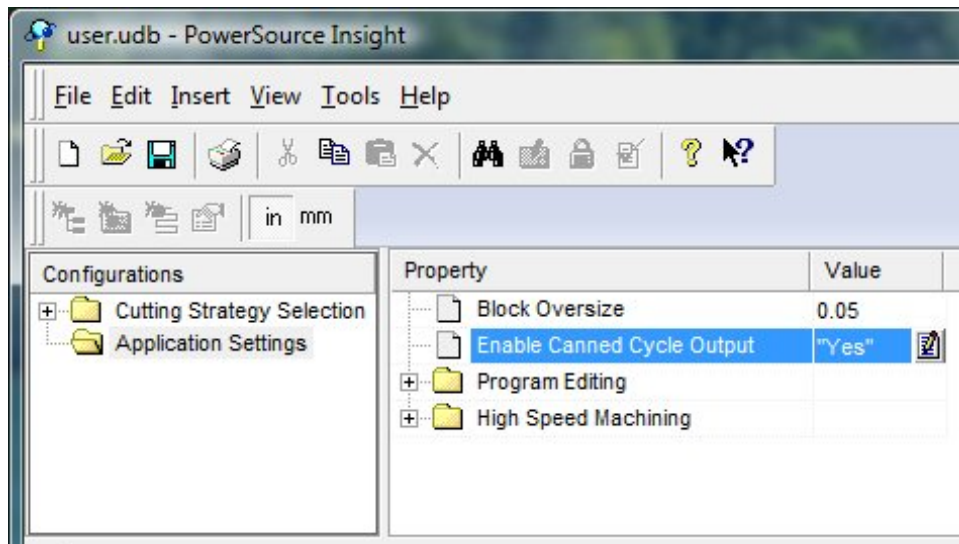
Prospector (and Prospector Design) have been modified to prevent a project from being opened in different sessions of the application concurrently. Previous versions would allow concurrent access that would likely corrupt the project data. If a concurrent access is attempted, a dialog will be presented to alert you that the project is open in another session. In Prospector you can choose the Project/Close to end work on a project to allow it to be opened by another session of Prospector or Prospector Design.

A holmaking program generated to machine 1000's of holes could cause the application to crash after program generation. This has been corrected by modifying the software to avoid using an excessive amount of memory when generating so many holes.

Discrete problems with Z-Planar programs when machining floors only have been corrected. This includes a defect where it could be possible for an incorrect amount of stock to be left on the floors and/or the wrong Z-level for a floor area would be chosen.

The HSM interior corners option for Z-Planar programs has been corrected to produce the proper radius in corner areas. Previous versions could omit the radius in certain circumstances.

By default Prospector always outputs holmaking operations to the post processor as canned cycle (G81, G84, ...). A new setting in PowerSource controls whether or not canned cycle output should be generated:



If canned cycles are disabled, the output replaces the canned cycle output with an emulation of the cycle using simple motion records (i.e. G00, G01).

Software Installation & License Administration

A new license code is required to run Prospector 2009. Customers with current software support contracts will receive new license codes prior to shipment. Use the License Administration application to update your software security key. You can do this before or after software installation.

Customer Closed Track IDs

Track is the electronic database system that records all customer and internally generated requests for corrections and enhancements. When you report a problem or request an enhancement, our customer service representatives will input your request into the Track system and give you a Track ID number. When we complete a release, we set the status on all records in the Track database that have been addressed to closed. The following is a list of closed customer Track IDs for this release.

Track ID	Synopsis
3322	Add the capability to specify the criteria for what constitutes and over defined surface when running the diagnostic test to find these entities.
3667	When creating geometry for a Prospector project, that geometry should permanently become a part of the data set for the project.
3670	Add the ability to import AutoCAD DXF and DWG data files into Prospector.
3854	Add the ability to find and repair surfaces that can cause severe performance degradation when generating 3D cutter paths.
3877	When creating geometry for a Prospector project, that geometry should permanently become a part of the data set for the project.
5502	Add the capability to create a Prospector project from a part print.
5682	Add the ability to import AutoCAD DXF and DWG data files into Prospector.
6058	Add the ability to find and repair surfaces that can cause severe performance degradation when generating 3D cutter paths.

6613	Add the ability to Cut/Copy/Paste between Prospector and ExpertCAD 3D and ExpertCAD.
6650	Program generation fails for this spiral cut program.
6651	Add the ability to disable the output of canned cycle for holmaking programs.
6652	Closing the Program/Properties dialog by clicking on the close button in the upper right hand corner of the dialog causes a program crash.
6653	Creating a project that includes patch surfaces will cause a program crash later if no layer or color was specified for the patch surface data.
6654	In certain cases, spiral machining is using an excessive amount of memory.
6657	The Interior Corners option for this Z-Planar With Clear program is failing to generate arcs in some of the corners.
6658	Radial program is not maintaining a constant step-over.
6659	Importing a Mastercam NCI file with both tip of tool and center of radius program does not properly record which program is tip of tool vs. center of radius.
6662	Slow program generation when using HSM options for circular leads and precision finishing in concert with Limit Z.
6664	Editing a cutter path by rotating it 720 times causes a program crash.
6666	Z-Planar program is leaving the wrong amount of stock on the floors when using the floors only option for this program.
6668	Z-Planar program is leaving the wrong amount of stock on the floors when using the floors only option for this program.
6669	Prospector can't import design data from ExpertCAD 2008.
6670	Additional colors supported by ToolDesigner 2009 aren't recognized by Prospector.
6671	Program crash when creating a new program following a drilling program that created 1000's of holes.
6674	Program is gouging when using Limit Z option.
6675	Add the ability to Close an open project in Prospector.
6676	Don't allow the same project to be open in different sessions of Prospector or Prospector Design.
6678	Remove the Launch switches on the finish page of the installation.
6680	Z-Planar programs gouge when machining this planar surface at an exact Z-level.