Predator CNC Editor™ v6.0 – What's New

Latest features and benefits in v6.0

Before Installing v6.0

Microsoft Internet Explorer v5.5 or later is required to be installed before installing Predator CNC Editor v6.0. Version 6.0 of the Predator CNC Editor does not need to be installed separately if Predator DNC v4.0 or Predator Virtual CNC v5.0 will be installed. Both Predator DNC v4.0 and Predator Virtual CNC v5.0 will automatically install v6.0 of the Predator CNC Editor.

NOTE: v6.0 does not support Windows 95, existing users must upgrade to Windows ME, 98, NT, 2000 or XP.

Why v6.0?

By design, this release was intended to be completely new Predator CNC Editor. It is built on a new faster, more powerful and flexible platform designed for the future. In addition, we have integrated technology from Predator Virtual CNC. Improvements made to 3D verification, backplotting and tool animation will be shared between both products. Along the way we ended up adding a lot of new features. Details of the new features are explained throughout this document and within the online help.

Installing v6.0

By default, installation occurs in the \program files\predator software\editor 6.0\ directory. If you were running v5.2 or earlier simply proceed with the installation normally. If you were running a beta version of 6.0, please un-install it prior to installing v6.0.

NOTE: We have dropped supporting floppy drive or diskette based installs. All installations must be performed from a CD, CDR, CDRW or DVD drive.

Network Installations of v6.0

By committing to store the product installation on a server, users will enjoy automatic healing of all critical files upon running Predator CNC Editor. For example, a user accidentally deletes peditor.exe. Under normal circumstances he would be down and the software would fail to run. With v6.0, when the user double clicks the desktop shortcut, all critical files are checked and if necessary restored from the network server and the software begins to run automatically.

To perform a network installation is to step through the following:

1. Copy the contents of the entire CD to a \predator cd\ or similar directory.
2. Run the setupeditor.exe from the \predator cd\ directory.

NOTE: Should any automatic healing be necessary, Predator CNC Editor will be able to automatically extract the necessary files from the appropriate cab files stored in the \predator cd\ directory. If you install from an actual CD, Predator CNC Editor will be forced to prompt for the CD.

What's New in v6.0?

Improved! HTML based Online Help

Updated HTML based, context sensitive, online help is included with the Predator CNC Editor. Several new and updated topics have been added.

Faster! Operations

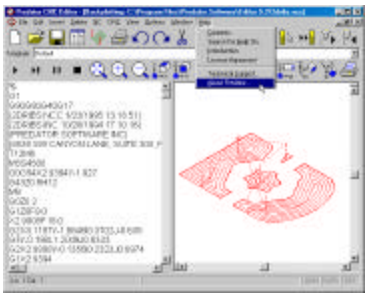
Almost every operation within Predator CNC Editor is faster than previous versions. Refer to the following benchmarks.

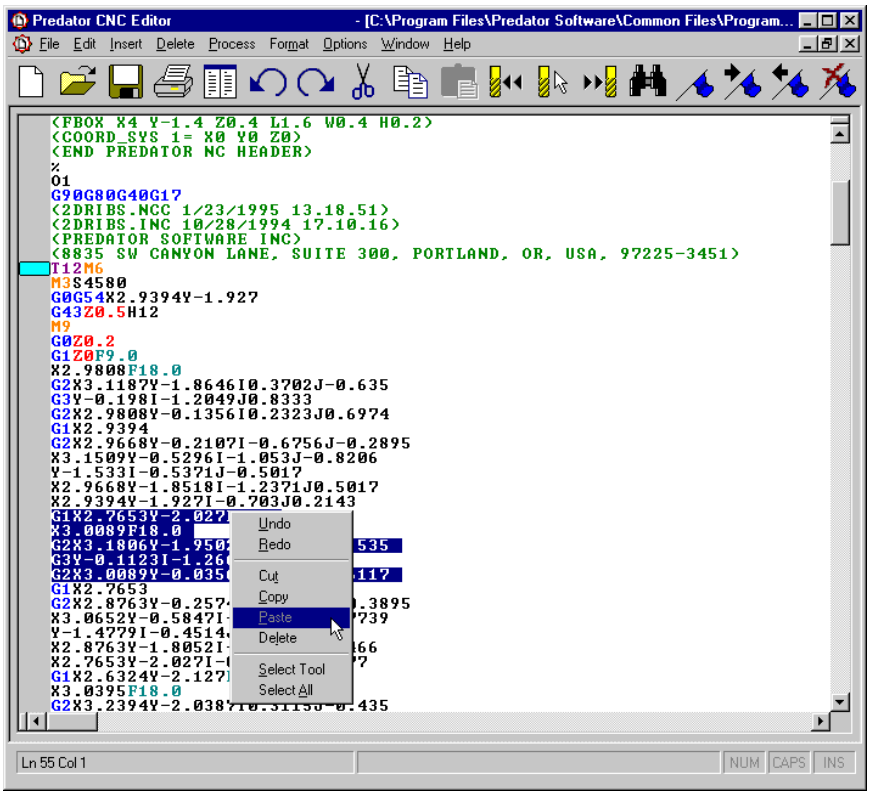
Benchmark	v6.0	v5.2	Performance
Launching Predator Editor	5 Seconds	8 Seconds	37.5% Faster
Loading a CNC Program	3 Seconds	20 Seconds	85% Faster
Inserting Sequence Numbers	16 Seconds	55 Seconds	71% Faster
Deleting Spaces	45 Seconds	105 Seconds	57% Faster

Enhanced! User Interface

Many elements of the user interface have been subtly updated and improved for a more modern look and feel. Improvements include new icons, toolbars, statusbar, dialogs and windows. Another example is an * in the titlebar identifies any CNC program that has edits that have not been saved.

Predator CNC Editor





New! Right Mouse Menus

New Right Mouse Menus are now available for common editing elements such as undo, redo, cut, copy, paste, delete, select tool and select all.

New! Colored Text

By default colored text for G and M codes, sequence numbers, comments, block skipped lines, feed rates, Z axis moves and numerous other CNC programming elements can now be color coded. Every major CNC element can be configured to be any color. These settings are stored per CNC template. Colored Text can also be disabled. All colored text options can be configured by selecting Format and then Colors.

NOTE: There is a slight performance hit when colored text is enabled. For faster performance with very large files colored text can be disabled.

New! Double Click

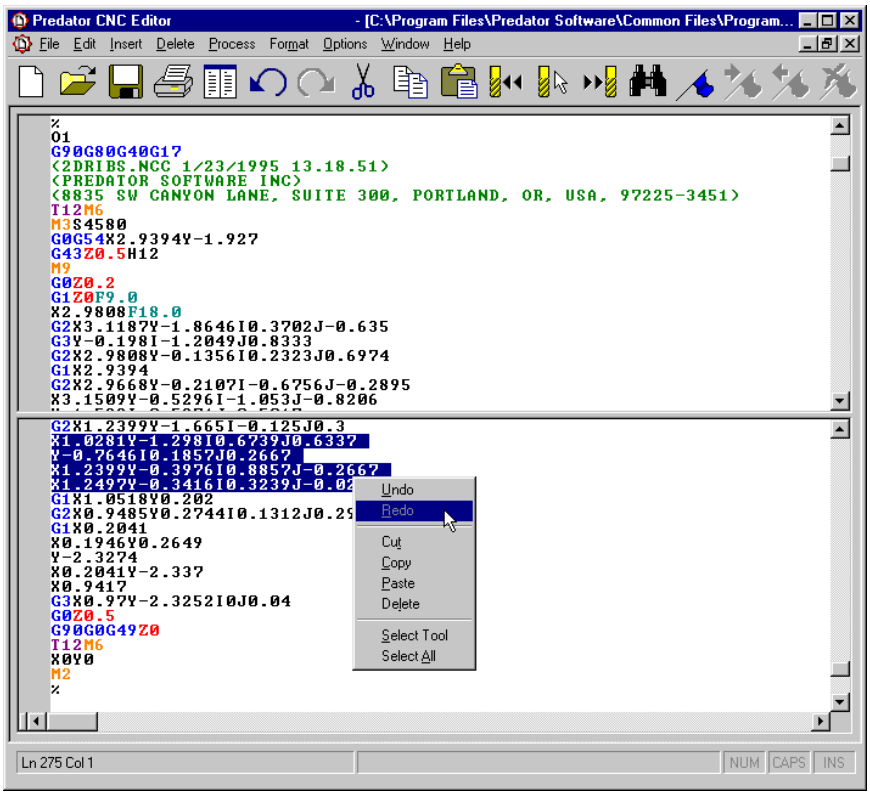
Double clicking will now automatically select the current G code, M code, X axis, Y axis, Z axis, or other appropriate CNC code.

New! Delete

V6.0 adds a new Delete command within the Edit menu to simplify deleting the current selection within a CNC program. The DEL or Delete key can also be used as a shortcut.

New! Insert Comments

A new Insert Comments command has been added to simplify adding a comment to the current cursor position within a CNC program.



New! Split Horizontal and Split Vertical

V6.0 of the Predator CNC Editor has added support for horizontal and vertical splitting of each window. This feature allows different sections of the CNC program to be viewed on screen at the same time.

For example, the beginning of the CNC program has setup information for the CNC program. By splitting the window the setup information can be viewed at all times while editing other sections of the CNC program. In the above example, both top and bottom sections of a CNC program are displayed within the same window.

Both horizontal and vertical splitting of the same CNC program is supported. Finally, by double clicking on the splitter bar it will automatically split the current window in half or eliminate the current split window.

New! Insert Blockskip

A new Insert Blockskip command has been added to simplify adding a blockskip to the current cursor position within a CNC program.

New! Delete Blank Lines

A new Delete Blank Lines command has been added to simplify removing blank lines within a CNC program.

New! Remove Blockskips

A new Remove Blockskips command has been added to simplify removing existing blockskips within a CNC program. Select the appropriate lines and select Remove Blockskips from the Process menu.

New! Remove Comments

A new Remove Comments command has been added to simplify removing existing comments within a CNC program. Select the appropriate lines and select Remove Comments from the Process menu.

New! Colored Printing

V6.0 has added color printing support in a WYSIWYG method. By default colored text for G and M codes, sequence numbers, comments, block skipped lines, feed rates, Z axis moves and numerous other CNC programming elements can now be color coded. Every major CNC element can be configured to be any color. These settings are stored per CNC template. Colored Text can also be disabled. If colored text is disabled printing is the Print command will be done in a traditional black and white style. All colored text options can be configured by selecting Format and then Colors.

NOTE: There is a slight performance hit when colored text is enabled. For faster performance with very large files colored text can be disabled.

Enhanced! Add Sequence Numbers

V6.0 has moved the previous Insert Sequence Numbers command to the Process menu and it has been renamed to Add Sequence Numbers. In addition, it is now 71% faster in v6.0 vs. v5.2. It has also been re-designed with a new dialog and faster processing. Two new options have been added for ignoring blank lines and inserting spaces after each sequence number. Ignoring lines has been enhanced with options to ignore program numbers, program starts and program ends vs. only ingoring X number of lines at the beginning and end of a CNC program.

Enhanced! Re-Sequence Numbers

Re-Sequencing existing Sequence Numbers has been re-designed with a new dialog and more intelligent processing with support for multiple Sequence Numbers per line.

Enhanced! Saving

Saving to read-only directories has been improved with appropriate error messages.

Enhanced! Insert ASCII Codes

An enhanced insert ASCII codes dialog box has been added to simplify identifying and inserting the appropriate codes.

Enhanced! Bookmarks

V6.0 of the Predator CNC Editor supports entirely new bookmark capabilities. Instead of working with a single bookmark, v6.0 adds support for an unlimited number of bookmarks. Bookmarks are identified with a bookmark marker on the left hand side. The bookmark marker color can be configured within the Format Colors command. Bookmark commands include setting a bookmark, clearing all bookmarks, jump to the next and previous bookmarks.

Enhanced! Delete Blockskips

The Delete Blockskips process has been improved in v6.0 with the addition of a new dialog box prompting for confirmation before processing a single line or the entire file when nothing is selected.

Enhanced! Delete Comments

The Delete Comments process has been improved in v6.0 with the addition of a new dialog box prompting for confirmation before processing a single line or the entire file when nothing is selected.

Enhanced! Delete Sequence Numbers

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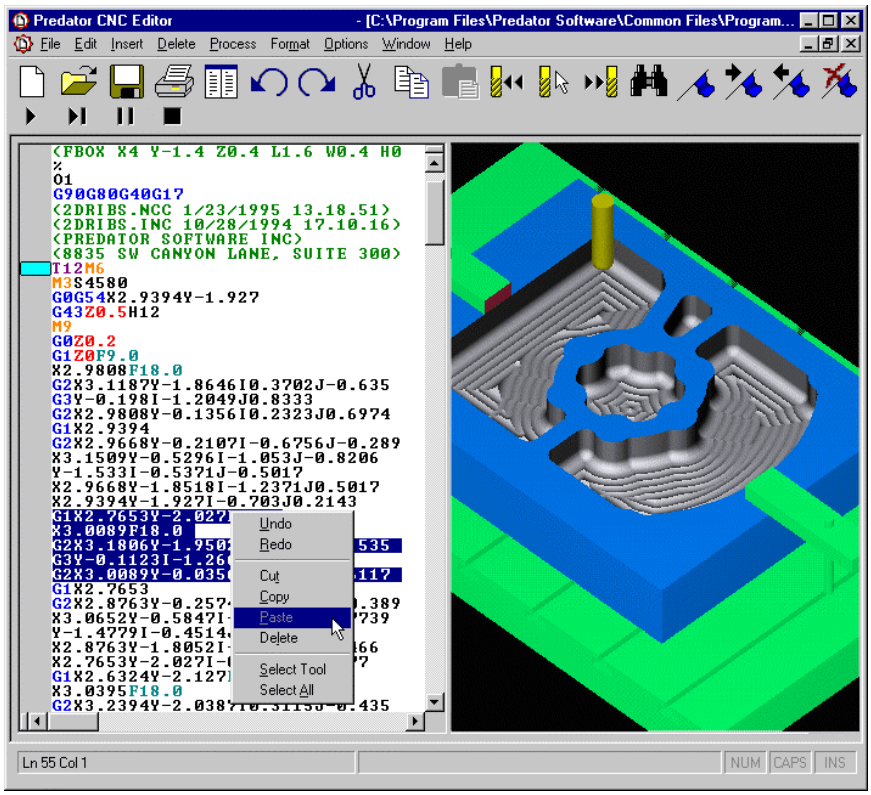


New! 3D Verification and Tool Animation

All new 3D verification and tool animation based on Predator Virtual CNC technology. Supports 2 – 5 Axis Mills, Lathes, Waterjets, Lasers, and Routers. Includes support for the following features:

- VCR style buttons for rewind, play, and single step
- Multiple speeds allow control of tool animation speed
- Tool color display show each tool's cut area with a different color
- Tool holder and shank collisions with stock and fixtures
- Rapid motion collision with stock and fixtures
- 2-, 3-, 4- and 5-axis simultaneous and indexing motion
- Linear, radius, circular, spiral, and helical interpolation with XY, YZ and XZ plane support
- Incremental and absolute positioning
- Tool tip and center style programming
- Radius and diameter lathe style programming
- Inch and metric units
- 20 different canned cycles for hole operations

- OD and ID turning canned cycles for facing, turning, grooving and threading
- Up to 100 fixture, diameter, and length compensation registers with full cutter comp. style programming
- Subroutines, sub programs, variables and inline expressions
- Up to 1,024 tools per job
- Each milling tool can have the following shapes: Flat, ball, bull, drill, radius, sphere, chamfer, dovetail, taper ball, taper bull, and user defined milling tools
- Each turning tool can have the following shapes: Diamond, triangle, square, pentagon, hexagon, drill and user defined turning tools
- Tool shanks and tool holders are also supported
- Up to 64 separate or combined boxes, cylinders, holes, STL files for castings etc.

In addition, support for 3D rotation, zoom, pan, fit, standard views, copy to the clipboard and numerous other features are included.

New! G and M Code Support

All new configurable G Code support based Predator Virtual CNC technology. Includes a 200 page reference manual detailing the extensive reverse post processing options. This also includes support for Fanuc Custom Macro B. To represent the capabilities available the following Fanuc compatible G and M code support is now available within the Predator CNC Editor.

"G0"	:	MoveRapid
"G1"	:	MoveLinear
"G2"	:	MoveCircularCW
"G3"	:	MoveCircularCCW
"G4"	:	Dwell
"G10"	:	ChangeOffset
"G15"	:	CancelPolarCoord
"G16"	:	PolarCoord
"G17"	:	SelectPlaneXY
"G18"	:	SelectPlaneZX
"G19"	:	SelectPlaneYZ
"G20"	:	Inches
"G21"	:	Millimeters
"G28"	:	ReturnToReferencePoint
"G29"	:	ReturnFromReferencePoint
"G40"	:	CutterCompCancel
"G41"	:	CutterCompLeft
"G42"	:	CutterCompRight
"G43"	:	LengthCompPlus
"G44"	:	LengthCompMinus
"G49"	:	LengthCompCancel
"G50"	:	CancelScaling
"G51"	:	Scaling
"G52"	:	LocalCoordSys
"G53"	:	MoveInMachineCoord
"G54"	:	SetWorkCoord1

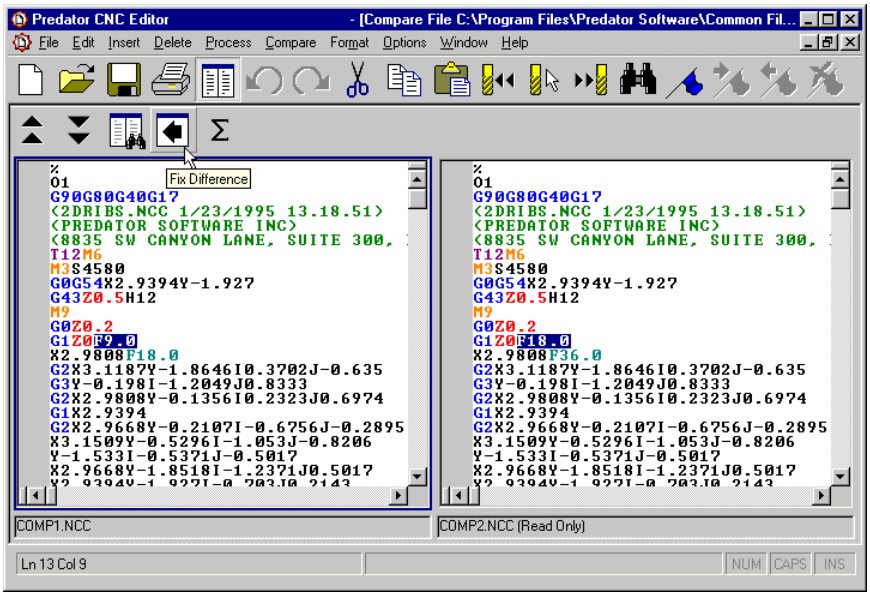
"G54.1"	:	SetWorkCoord
"G55"	:	SetWorkCoord2
"G56"	:	SetWorkCoord3
"G57"	:	SetWorkCoord4
"G58"	:	SetWorkCoord5
"G59"	:	SetWorkCoord6
"G65"	:	MacroCall
"G66"	:	MacroModalCall
"G67"	:	EndMacroModalCall
"G68"	:	Rotation
”G69"	:	CancelRotation
"G73"	:	DrillCycle (peck)
"G74"	:	DrillCycle (bottomCW retractfeed)
"G76"	:	DrillCycle (oriented_bottomstop)
"G77"	:	DrillCycle (oriented_bottomstop bottomCW)
"G80"	:	CancelCannedCycle
"G81"	:	DrillCycle
"G82"	:	DrillCycle (dwell)
"G83"	:	DrillCycle (peck)
"G84"	:	DrillCycle (bottomCW retractfeed)
"G85"	:	DrillCycle (retractfeed)
"G86"	:	DrillCycle (bottomstop)
"G87"	:	DrillCycle (bottomstop manualfeed)
"G88"	:	DrillCycle (dwell bottomstop)
"G89"	:	DrillCycle (dwell retractfeed)
"G90"	:	AbsoluteCoord
"G91"	:	IncrementalCoord
"G92"	:	SetAbsoluteZero
"G93"	:	InvTimeFeed
"G94"	:	FeedPerMinute
"G98"	:	ReturnToInitial
"G99"	:	ReturnToReference
"M6"	:	LoadTool
"M0"	:	Pause0
"M1"	:	Pause1
"M2"	:	ProgramEnd
"M3"	:	SpindleCW
"M4"	:	SpindleCCW
"M5"	:	Spindlestop
"M8"	:	CoolantON
"M9"	:	CoolantOFF
"M30"	:	ProgramEnd
"M82"	:	ToolClamp
"M86"	:	ToolClamp
"M88"	:	SpindleCW and Floodcoolant_On
"M89"	:	Spindlestop and Coolant_Off

"M98"	:	SubProgramCall
"M99"	:	SubProgramReturn
"IF"	:	Condition
"WHILE"	:	Condition
"DO"	:	StartLoop
"END"	:	EndLoop
"GOTO"	:	GoTo
"+"	:	Add
"-"	:	Substract
"*"	:	Multiply
"/"	:	Divide
"^"	:	Exponent
"MOD"	:	Module
"FIX"	:	Integer
"OR"	:	Or
"AND"	:	And
"XOR"	:	Xor
"EQ"	:	Equal
"NE"	:	NotEqual
"GT"	:	Great
"LT"	:	Less
"GE"	:	GreatOrEqual
"LE"	:	LessOrEqual
"SIN"	:	Sine
"COS"	:	Cosine
"TAN"	:	Tangent
"ATAN"	:	ArcTangent
"SQRT"	:	SquareRoot
"ABS"	:	Absolute
"ROUND"	:	Round
"ACOS"	:	ArcCosine
"LN"	:	Logarithm
"EXP"	:	Exponent

NOTE: It is impossible for the Predator CNC Editor to support every G and M code used by every CNC machine tool builder. However, best effort is always made to support a wide range of G and M codes with the above list representing a good cross section of capabilities.

Enhanced! File Compare

File Compare has been re-designed to improve its performance and overall ease of use. The number of editing features while comparing files has been improved from a limited set to support all possible editing commands. In addition, a new command creates a report of the differences. The File Compare report can be customized with a custom logo by selecting Options then Custom Logo and finally Change Custom Logo. File Compare has also been improved to highlight the specific G code, M code, X axis, Y axis, Z axis, or other appropriate CNC code when finding differences. File compare has also been improved to eliminate the requirement of saving the CNC code prior to starting or exiting compare. In addition, an option to ignore blank lines and white space has been added. File compare within v6.0 has also been improved to support comparing the current file in memory against the same file on the hard disk. Finally, exiting File Compare can be performed at any time by clicking the depressed Compare toolbar button or by selecting Compare within the File menu.



Enhanced! Delete Spaces

The Delete Spaces process has been improved in v6.0 with the addition of a new dialog box prompting for confirmation before processing a single line or the entire file when nothing is selected.

For more information

For the latest information on the Predator CNC Editor, check our web site at http://www.mis-group.com

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