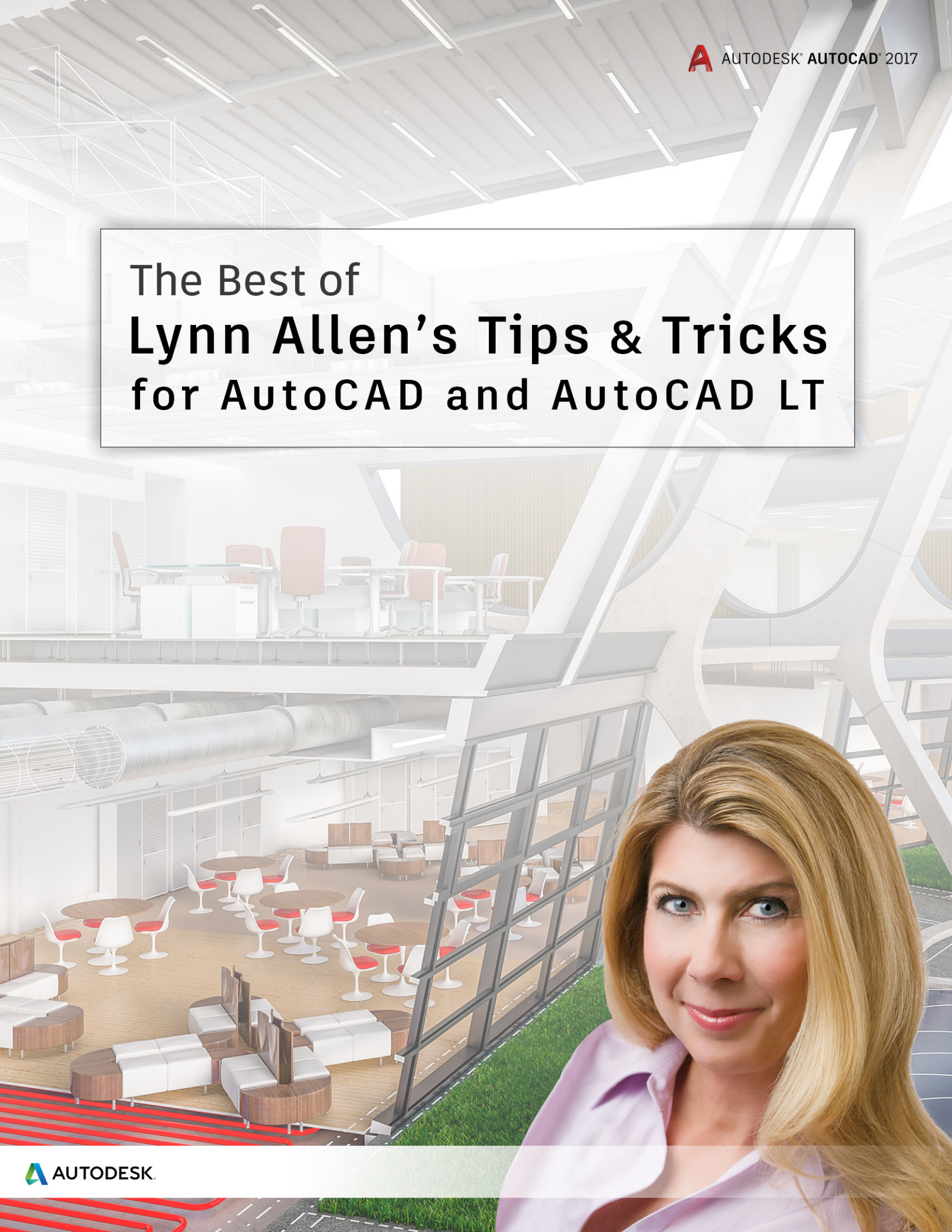
AUTODESK® AUTOCAD® 2017

The Best of
Lynn Allen's Tips & Tricks
for AutoCAD and AutoCAD LT



AUTODESK.

Dear AutoCAD and LT Designers,

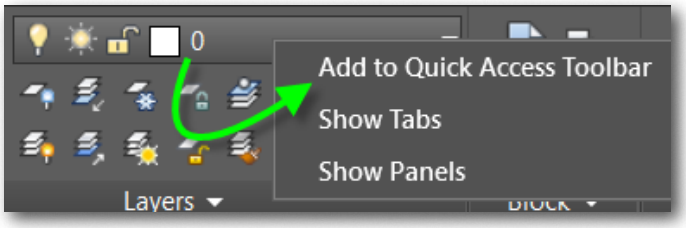
Since 2004, I've published an annual compilation of my favorite time-saving tips and tricks to help you get the most out of your AutoCAD and AutoCAD LT software. Every year, I have to make tough choices on which tips to drop from my publication so I can make space for new tips or tricks. Sometimes, the lost tips and tricks are popular user-favorites, and I hear from many of you who want the old – but still valid – tips to come back.

I've listened to your feedback, and I'm happy to respond with this exclusive collection of my (and your) all-time-favorite Tips and Tricks for AutoCAD and AutoCAD LT.

Happy Designing!
Lynn Allen
Autodesk Evangelist and long-time AutoCAD expert

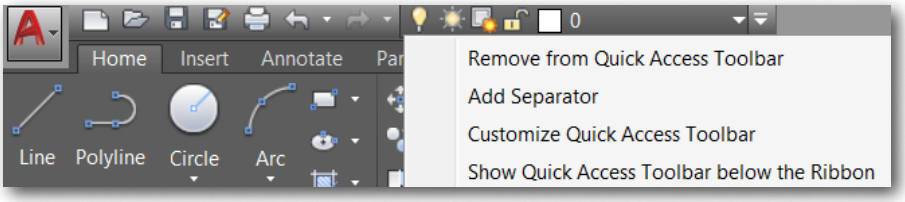
QUICK ACCESS TOOLBAR

Put the Layer drop-down list on the Quick Access Toolbar (QAT) for speedy access at all times! A simple right click on the layer drop down list allows you to easily add it to the QAT.



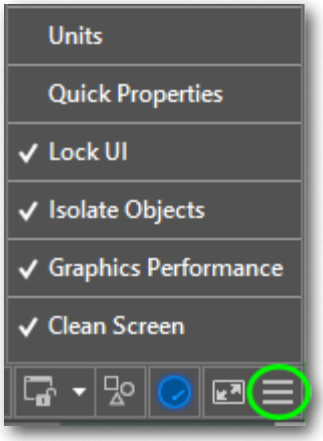
Feel free to add any tool from any ribbon tab that you use often. This saves you from having to browse to various ribbon tabs for favorite commands. After you have added your tools, the QAT also allows for easy customization to organize the tools that are placed on it.

TIP: *Add tools to the QAT for temporary tasks and when you are done with those tools, simply right click and remove.*



STATUS BAR

Populate the Status bar with the tools you want by clicking on the three stacked lines (the “hamburger”) in the lower-right corner of the editor. The Status bar will automatically wrap onto two rows when the icons can’t fit into a single row.

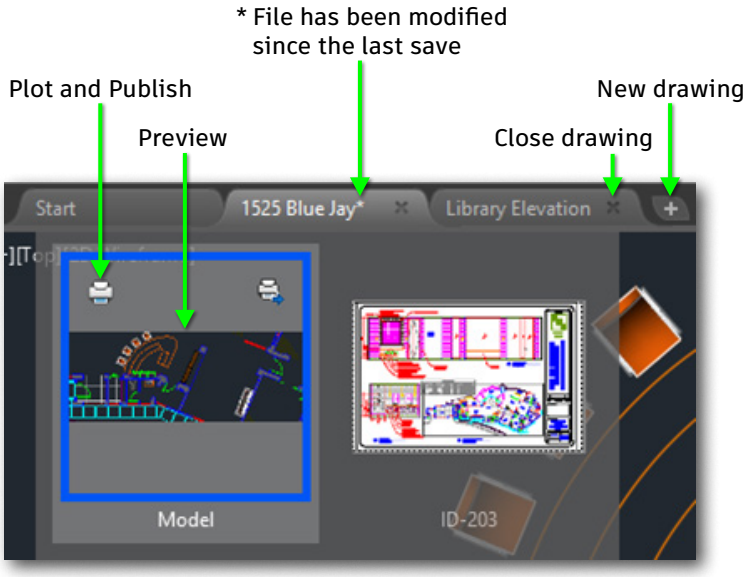


FILE TABS

File tabs display in the order they were opened, but you can easily drag and drop them to change the order. If you run out of room—an overflow menu will appear to the right.

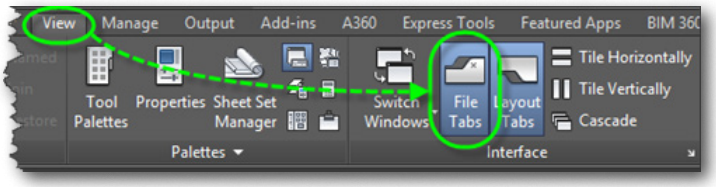
Passing the cursor over a file tab will display preview images of model space and layouts. If you hover over a preview image the preview is temporarily enlarged and displayed in the drawing area.

TIP: *You can even print/publish a layout from the preview!*



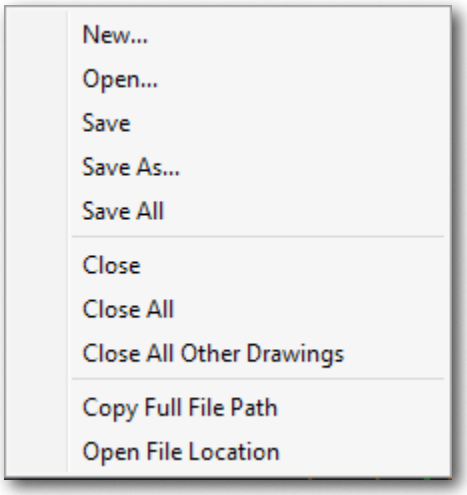
NOTE: A lock icon on a tab indicates read-only; an asterisk indicates the file has been modified since the last save.

If for some reason you prefer to turn off this cool new tool—you can do so from the File Tabs control on the View tab of the ribbon.



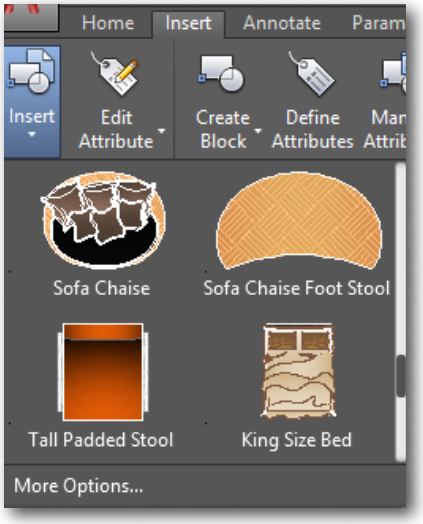
Right click on the file tabs to reveal additional options such as Save All and Close All. Use Copy Full File Path to quickly copy a link to your drawing for an email or use Open File Location as a friendly directory reminder.

File Tab right-click menu



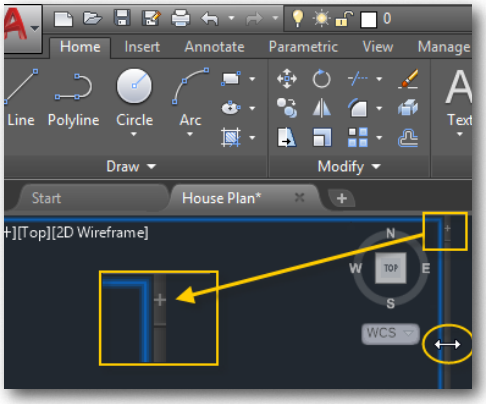
GALLERIES

The block galleries make it easy to view and insert blocks directly from the ribbon (current drawing only). You'll also find helpful galleries for styles such as dimensions, mleaders, text, tables and table cells.



MODEL SPACE VIEWPORTS

Model Space Viewports are easier to identify and easier to resize. Simply drag the horizontal or vertical viewport boundaries by the handles, or the intersection to resize them.



The + icon lets you easily add more viewports... simply click and drag the + icon and release at the proper size.

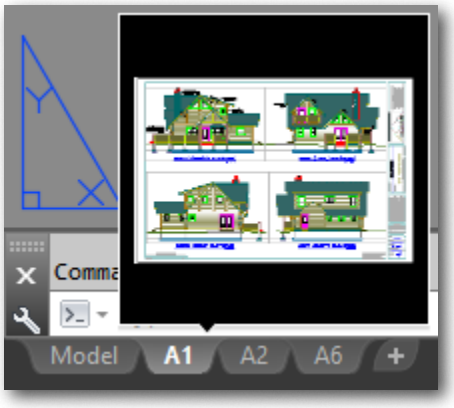
You can also create a new viewport by holding CTRL while dragging.

TIP: *You can join or remove a viewport by dragging a boundary to the edge.*

LAYOUTS

You'll appreciate the layout preview thumbnails and the handy + symbol to quickly add a new layout. For those of you who like to heap on the layouts—you'll like the overflow menu for easy access to layouts that extend beyond the width of the display.

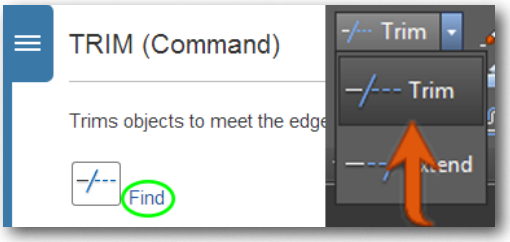
NOTE: You can control the paper background color in Options.



HELP

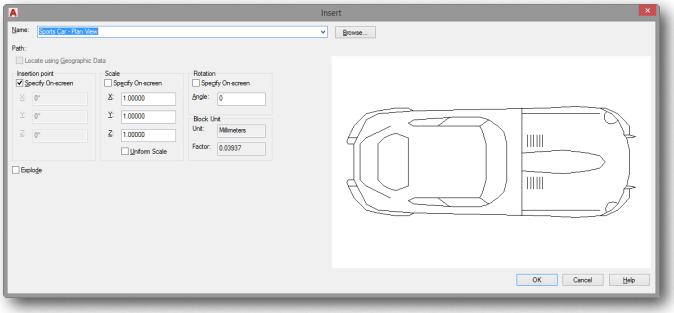
Can't find a tool? While in the Help window, click on the Find link and an animated arrow will point to the tools' location in the Quick Access Toolbar, Ribbon, Status bar, or Application menu.

If you are new to AutoCAD, make sure to check out "The Hitchhiker's Guide to AutoCAD Basics" which is located in AutoCAD's Help menu as well as the Start tab. Simply press F1 to open the Help menu.



DIALOG BOX ENHANCEMENTS

Many dialog boxes now have the ability to be resized while maintaining their size the next time you launch AutoCAD. With these enhancements you can view more information with less scrolling. Just try resizing the Insert dialog box for inserting blocks. The block preview resizes along with the dialog box giving you a better preview of the block!



COMMAND LINE

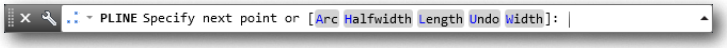
The command line has had quite a facelift and functionality boost over the last couple of years. Here are some tips that I'm sure you'll find helpful.

FLOATING COMMAND LINE

By default, the command line is in a floating mode which means that it can be moved and placed anywhere on your screen or on another screen.

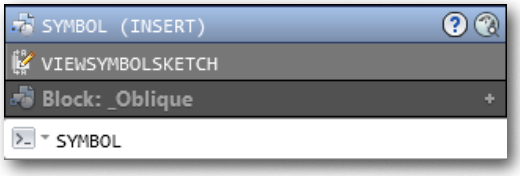
SELECTABLE OPTIONS

Command options are displayed on the command line in blue to make these options more visible. You can even click on the option instead of typing it in!

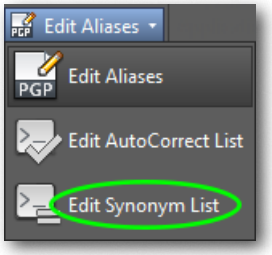


SYNONYM SUGGESTIONS

When you work on multiple CAD systems– it is easy to get your nomenclature mixed up! The Synonym suggestions will help you find an appropriate match (and it's customizable!) For example if you key in SYMBOL, AutoCAD will offer up the INSERT command.



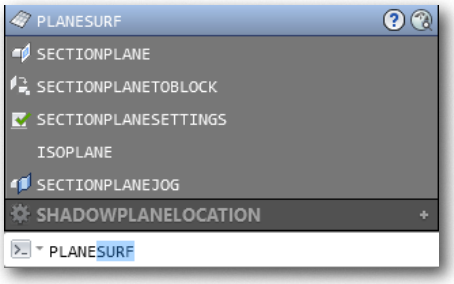
Customize your synonyms with the Edit Synonym List tool (Manage ribbon tab).



AUTOCOMPLETE

Save time (and spelling frustration) with AutoComplete! As you key in commands, AutoCAD automatically completes the entry. If you pause, a list of all possible commands and system variables displays for easy selection. AutoComplete also supports mid-string search capabilities. If you key in “PLANE” for example, you will get all the commands and/or system variables that contain the word PLANE.

Commands in the AutoComplete suggestion list are initially displayed in order of their general popularity. As time goes on—the suggestion list will adapt to your own usage behavior (making your AutoCAD smarter and smarter!).

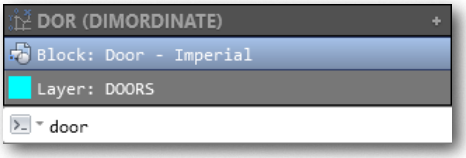


AUTOCORRECT

No more of the dreaded “unknown command”! Now if you mistype a command, AutoCAD will autocorrect to the most relevant command. (Hoorah!)

CONTENT

Timesaver alert! Now you can access layers, blocks, hatch patterns, text styles, dimension styles and visual styles from the command line! For example, if you key in “Door”, you can quickly insert the preferred door block from the suggestion list.



TIP: *With all these new command line options—you will find some are displayed with expandable categories. Simply select the + or use the tab key to cycle through all the content.*

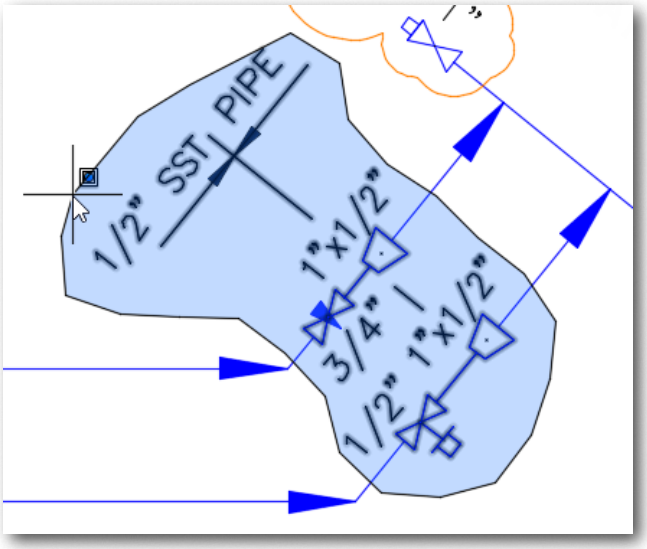
OBJECT SELECTION

LASSO SELECTION

Click and drag your cursor to use the versatile Lasso selection—click and release for the traditional rectangular selection.

Hit the spacebar to cycle between window, crossing and fence options.

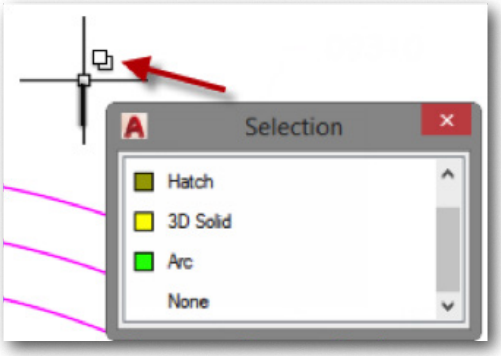
NOTE: This behavior can be turned off in the Selection tab of Options.



SELECTION CYCLING

Working in a crowded drawing? Easily select overlapping objects with the Selection Cycling tool (controlled on the status bar). When you hover over objects that are stacked or overlapped, you will see a Selection Cycling badge next to your cursor. When you select an object that overlaps other objects, AutoCAD displays a list of all the overlapping objects. Objects highlight as you move through the list.

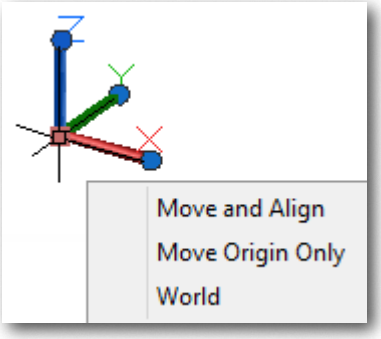

Selection Cycling icon on the Status Bar



UCS ENHANCEMENTS

The UCS icon is now selectable (not with window or crossing selections). You can directly manipulate the UCS icon using multi-functional grips. Easily move and align the origin with objects (including curved surfaces and solids). Select the UCS icon and choose from the various menu options that appear as you hover over the grips.

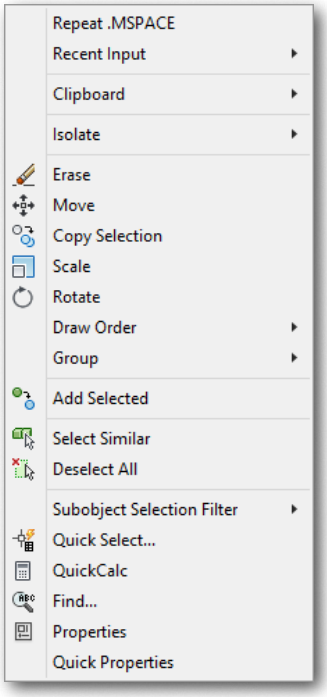
NOTE: UCS icon selectability can be controlled in the UCS dialog box (Coordinates panel, Home ribbon tab in the 3D Modeling workspace) or by using the command DDUCSP



SELECT SIMILAR

The Select Similar tool allows you to quickly select objects of the same type and properties (much faster than Quick Select). Find this tool in the right-click menu when one or more objects are selected.

Use the Settings option to specify which properties to filter (only available when you enter SELECTSIMILAR from the command line).



TIP: *You can select more than one object to match with Select Similar. For example, if the Layer filter is enabled and you select a circle and a line that reside on two different layers, AutoCAD will find all of the objects that match the circle AND all of the objects that match the line.*

ADD SELECTED

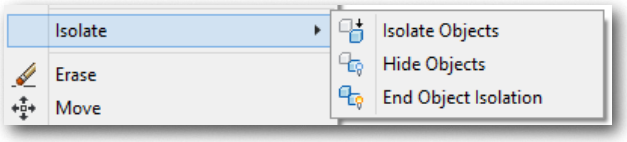
Need to draw an object with the same type and properties as an existing one? Use the Add Selected tool to get the job done in no time! For example, select a polyline, pick Add Selected from the right click menu and AutoCAD is ready to create another polyline with the same properties. This is a HUGE timesaver!

TIP: *Very helpful when working on other people's drawings! For example: use Add Selected to quickly add in another dimension with exactly the same style and settings.*

OBJECT VISIBILITY

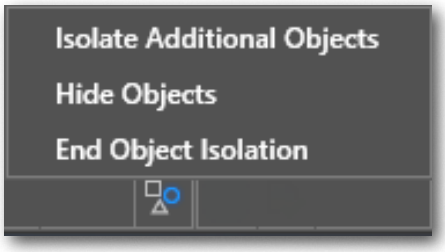
Control object visibility independent from layer visibility! The Isolate Objects tool (found in the right-click menu) displays only the selected objects (everything else is hidden). This makes it easier to work within complicated drawings. You can use the Hide Objects tool (also found in the right click menu) to hide the objects selected. Quickly restore the hidden objects with the End Object Isolation tool.

The shapes icon in the lower right corner of the status bar indicates whether objects are being hidden or isolated in the drawing.



NOTE: Use the OBJECTISOLATIONMODE (yikes!) system variable to control whether object isolation persists between drawing sessions.

TIP: *These tools can be VERY valuable when working in 3D!*



Blue circle indicates that object isolation is being used.

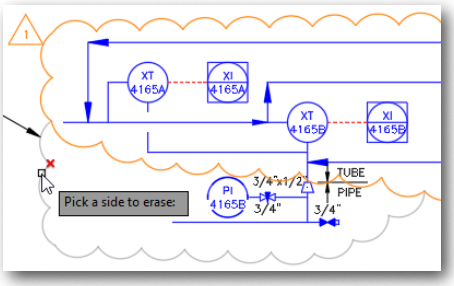
All gray shapes indicate that object isolation is not in use.

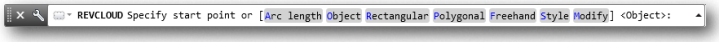
EVERYDAY COMMAND IMPROVEMENTS

REVISION CLOUDS

If you draw revision clouds, you're going to love the updated REVCLOUD that is easy to edit using grips (no more stretched, elongated arcs!!) REVCLOUD also supports rectangular, polygonal and freehand (and Object from the command line).

Have you ever wanted to combine revision clouds? Use the Modify option to create an additional revision cloud and delete selected portions of an existing revision cloud (put more than one revision cloud together).



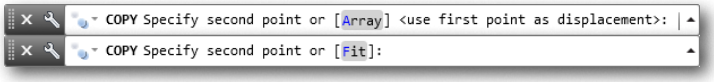


TIP: *Set your preferred default with REVCLOUDCREATEMODE*

NOTE: Set REVCLOUDGRIPS to OFF to put grips back to legacy behavior

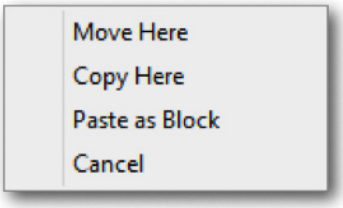
COPY

Use the handy Array option in the Copy command to create a linear (non-associative) array on the fly. There's even a Fit option that lets you array between two points!



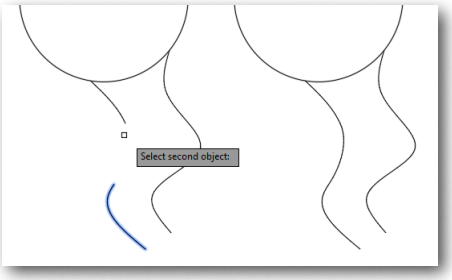
QUICK MOVE AND COPY

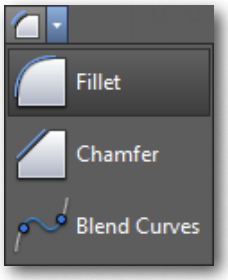
Need to make a quick copy or move objects? Simply select the objects first, then right click and hold the right mouse button. When you let go, you will have the options shown below.



BLEND TOOL

Use the BLEND tool to create a spline that connects two objects. The spline created is tangential from the selected objects. So much better than PEDIT!

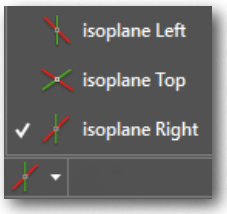




EVERYDAY COMMAND IMPROVEMENTS

ISOMETRIC DRAFTING ENVIRONMENT

Use the Isodraft tool on the status bar to switch the snap style to Isometric and move from one isometric plane to another.
Kill two birds with one stone!



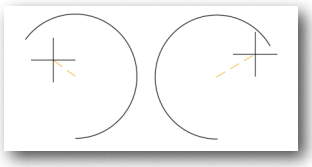
EXPRESS TOOLS BECOME "REAL" COMMANDS

The NCOPY Express Tool is now a core AutoCAD command. Copy nested objects from Xrefs, blocks and DGN underlays (no need to explode or bind)!

Use the Delete Duplicates tool (OVERKILL command) to clean up your drawing and remove duplicate geometry.

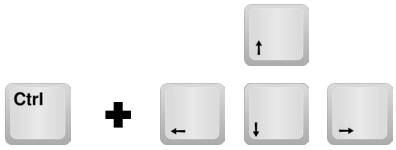
ARCS

AutoCAD loves to draw arcs that are counterclockwise. Use the Ctrl Key to switch arc directions!



NUDGE

Have you ever wanted to move objects over by just a few pixels? Try using Ctrl plus your arrow keys!



JOIN

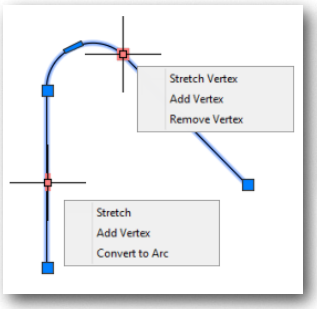
Looking for a way to clean up your drawing? You can join lines, arcs and polylines to 3D polylines or splines as long as they are contiguous. You can also join a helix to a spline.

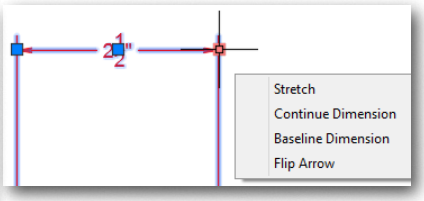
TIP: *JOIN now supports standard selection methods (such as crossing or all) or picking objects in any order!*

MULTIFUNCTIONAL GRIPS

Multifunctional Grips exist on so many different objects! Editing commands reside with the object (which means less time searching).

Look for these powerful grips in lines, plines, arcs, elliptical arcs, dimensions and multileaders. 3D faces, edges and vertices also have them. Just hover over a grip to access numerous relevant options.



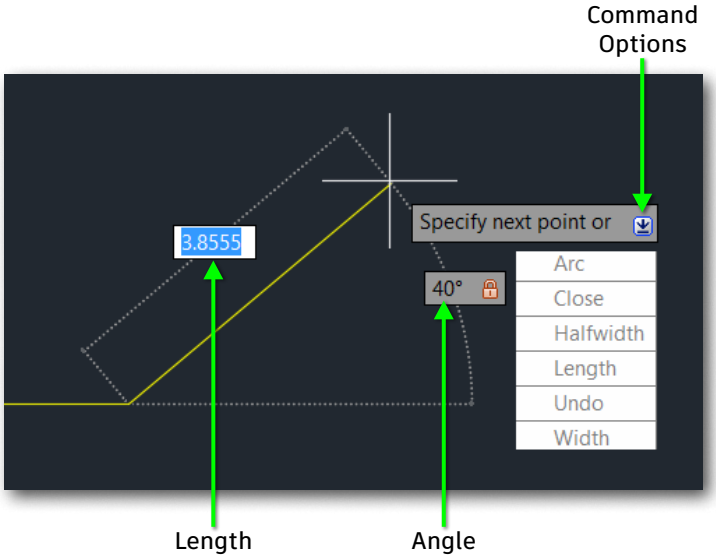


TIP: *Multifunctional grips are even more powerful when dynamic input is turned on.*

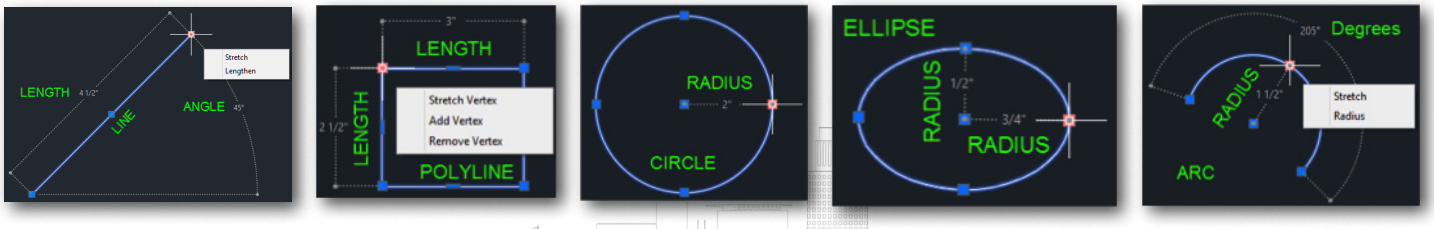
DYNAMIC INPUT

By using dynamic input, the power of the command line conveniently follows your cursor, the ability to define angles while drafting (without using Polar Tracking) and the power to inspect lengths of linear geometry and the radius of curved geometry like an arc.

- To access sub-options in a command, simply hit the down arrow on the keyboard then click select the option from the list.
- Dynamic input is great for drawing at angles. Just use the tab button to switch between defining lengths and angles and back again. All without needing to use Polar Tracking.
- You can easily inspect geometry without placing dimensions or by using the MEASUREGOEM command. Select the object that you want to inspect, then hover over a grip to display temporary dimensions show the angle and length of a line, the Radius and degrees of an arc and radius of a circle.



Shown below are various shapes and their measurements when using Dynamic Input

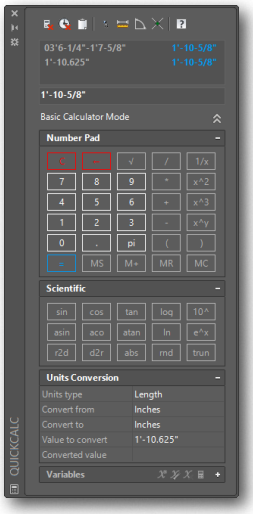


EVERYDAY COMMAND IMPROVEMENTS

QUICKCALC

A handy calculator derived from the Geometric Calculator command (CAL), QUICKCALC can be used to:

- Perform a full range of calculations
- Convert from one system of units to another
- Perform more advanced functions with the Scientific panel
- Pass values back and forth to a command or the Properties palette
- Set variables for use across AutoCAD drawings and sessions



COMMAND PREVIEW

Preview the results of so many editing commands including Blend, Erase, Break, Rotate and Scale.

NOTE: The Command Preview control on the Selection tab of Options enables/disables this cool feature.

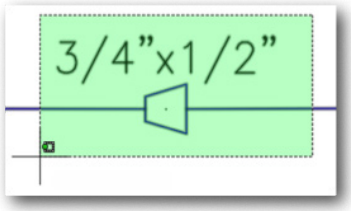
STRETCH

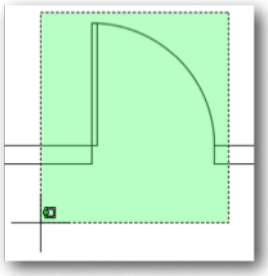
The STRETCH command can be your best friend if you remember these simple rules: Using a crossing selection (green box); anything that is completely inside the crossing selection will be moved, anything that the edges of the crossing selection touch will be stretched.

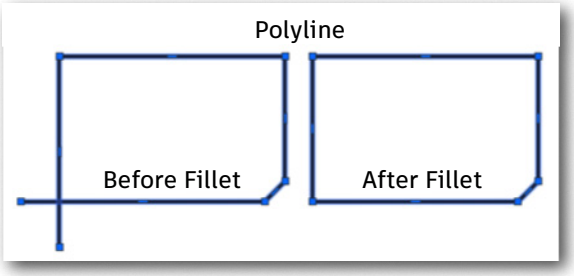
FILLET AND CHAMFER

Previews display when passing the cursor over the second object in the Fillet/Chamfer commands. Confirm and change the radius or distance before completing the command!

NOTE: Now you can fillet splines. You can also fillet or chamfer a polyline or polyarc to itself!



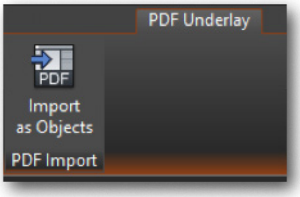




IMPORT PDFS

With the PDFIMPORT command, you can import the geometry, TrueType text, and raster images from a specified page in a PDF file, or from all or part of an attached PDF underlay.

PDF Import on the PDF Underlay contextual ribbon



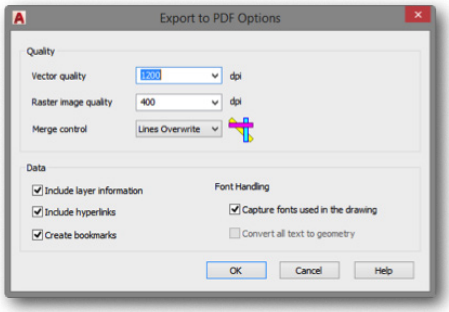
Insert ribbon > Import panel > Import dropdown list

PDF ENHANCEMENTS

You'll find the updated PDFs in AutoCAD are slimmer and faster! More font types including SHX) are fully supported. That means that more text can be highlighted, copied, and searched.

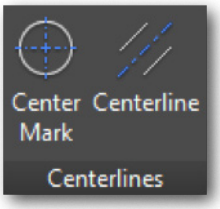
Export to DWF™ and Export to PDF options have been split, and they each have their own Export Options dialogs.

PDF export options for hyperlinks and bookmarks have been added.



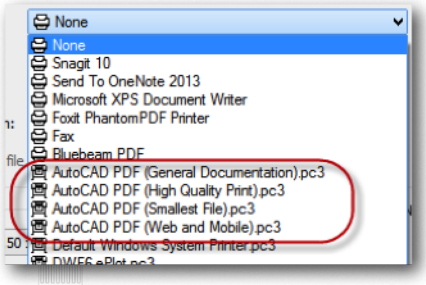
ASSOCIATIVE CENTER MARKS & CENTERLINES

Use these tools to place lines at the center of circles and arcs or between two lines and polylines. These objects are associative which means that when you make changes to the geometry, the centerlines and center marks will go along for the ride and automatically update!



TIP: *Use hyperlinks to link sheets, named views, external websites, and files (or from objects such as images, blocks, fields, etc.).*

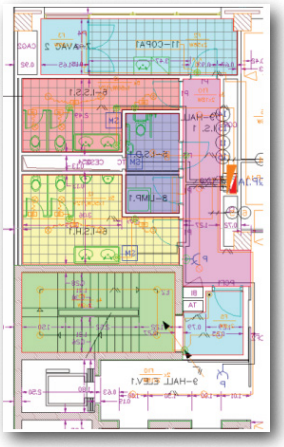
Four different predefined PDF options can be found when plotting, so you can easily select the one to suit your needs.



TRANSPARENCY

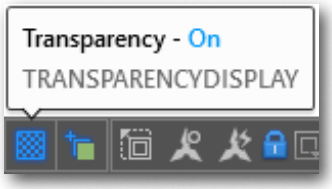
You can assign transparency to objects and layers much like any other property! Set the transparency to a value between 0 and 90. 0 indicates no transparency while 90 indicates high transparency.

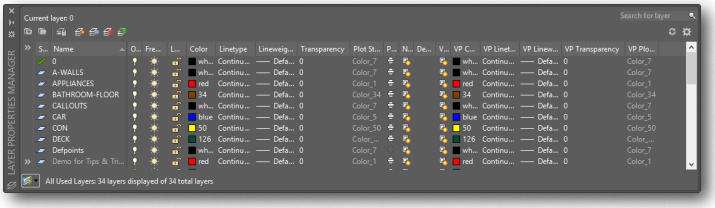
You'll find the Transparency property in all the Layer dialogs and you can even assign transparency per viewport.



NOTE: SETBYLAYER, Quick Select, Filter and MATCHPROP now include Transparency as an option.

You can temporarily turn off transparency, much like lineweights, from the status bar (this does not affect plotting).



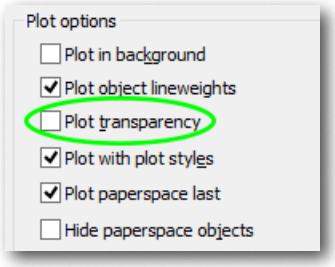


TIP: *Transparency works great with solid hatches!*

If you set transparency per object - it will override the layer transparency setting. Transparency can be easily found in Properties or on the Home tab.

TIP: *The system variable CETRANSPARENCY can be used to set the transparency property for new objects.*

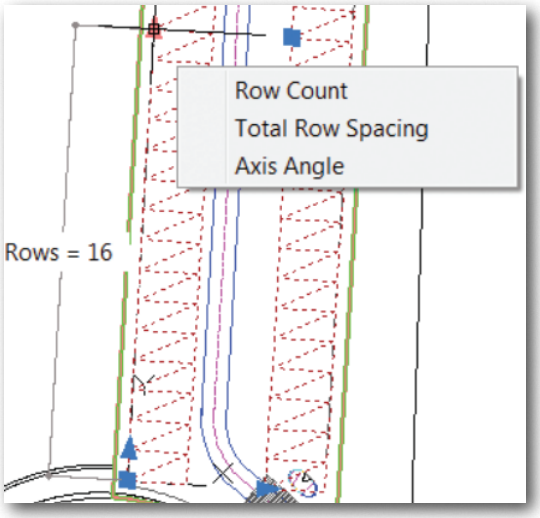
NOTE: By default Transparency is turned off for plotting (since it has to rasterize the drawing which slows down plotting). Don't forget to turn it on if you want your transparencies to plot!



RECTANGULAR AND POLAR ARRAYS

The visual preview makes it easier than ever to get your array correct the first time. Rectangular arrays are automatically displayed in a 3 row by 4 column grid. Polar arrays are displayed in a full circular pattern of 6.

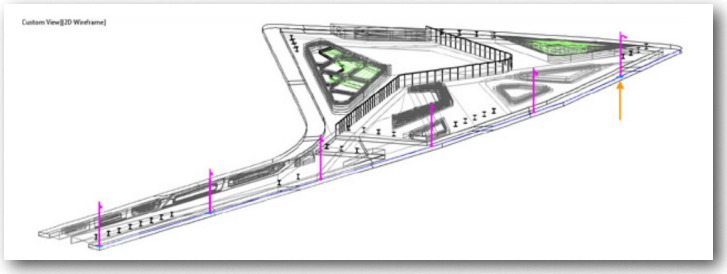
The multifunctional grips can be used to quickly increase/decrease the number of rows or columns–or to control the spacing between the rows and columns.



PATH ARRAYS

Use the Path option in the ARRAY command when you want to evenly distribute objects along the entire length of a path.

The item count toggle allows you to indicate a specific number of items to be arrayed, or to fill the path with the items. When off, an additional grip at the end of the array appears to provide dynamic editing.

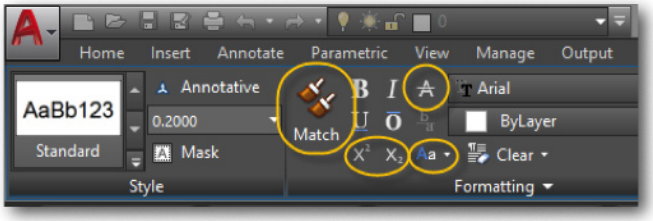


TEXT

Many new tools have been added to the MTEXT editor to make it easier than ever for you to get your annotations done faster.

MATCHPROP

Use the Match Properties tool in the Text Editor ribbon to apply properties between selected text within an Mtext object.



TIP: *Works with dimensions and tables too!*

SUB/SUPERSCRIPT

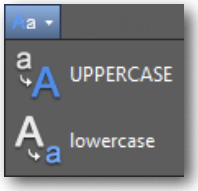
Highlight the text and use the Superscript/Subscript tools on the ribbon

~~STRIKETHROUGH TEXT~~

You can strikethrough mtext, multileaders, dimensions and tables.

CHANGE CASE

Easily change highlighted text to either upper or lower case from the dropdown menu.



BACKGROUND MASK

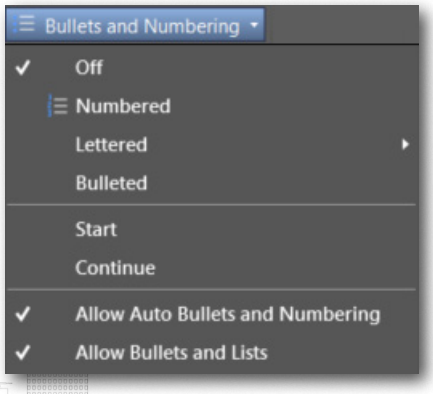
Mask

Mtext background mask remembers the last used fill color and offset. (No more defaulting to red and 1.5!)

BULLETS AND NUMBERING

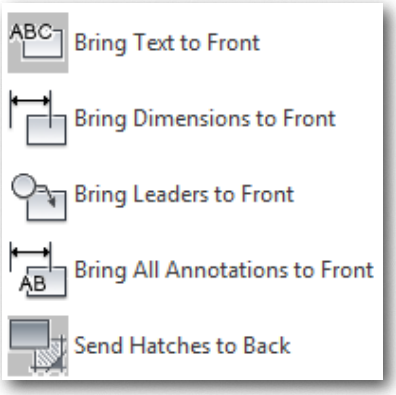
Mtext now has automatic bullets and numbering. Begin a line with a symbol, number or letter followed by one of these symbols: . ,) > } ,] and then a tab to create a bullet or numbered list. Click the lightening bolt icon for more options. If you have a gap or interruption in your numbered/lettered list, pick up where you left off by typing in the next successive number or letter and hit the Tab button.

NOTE: Use the Backspace button to remove automatic bullets and numbering.



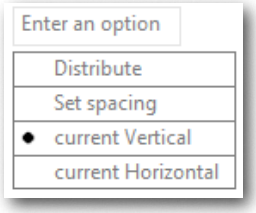
DRAW ORDER

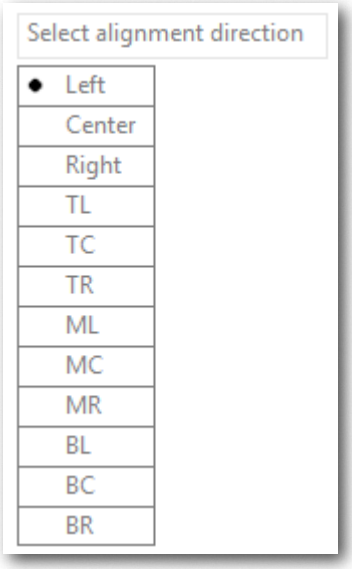
Control the draw order of individual or global annotation objects.



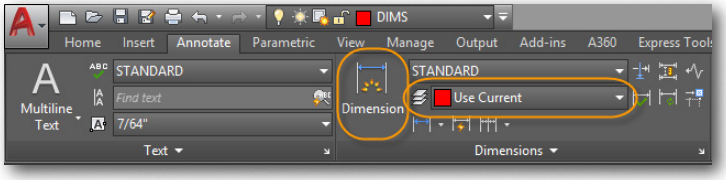
TEXT ALIGNMENT

The TEXTALIGN command quickly lines up your text to existing text (or by selecting points). You can easily control the spacing or alignment direction.





DIMENSIONS

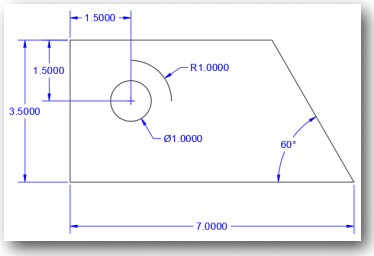


SMART DIMENSIONING

Let AutoCAD take the tedium out of dimensioning! The updated DIM command is smart enough to detect objects and provide various visual dimension options. You can even specify a default dimensioning layer (only valid when using the DIM command).

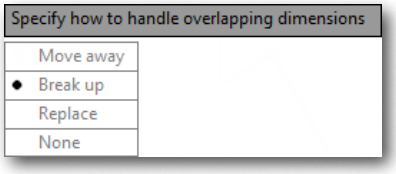
Use the DIMLAYER command to assign or create a new layer for dimensioning.

The DIM command remains active until you exit the command, so you can knock out multiple dimensions at one time. All of the dimensions shown in the image below were created using the single DIM command!



SPLIT DIMENSIONS

If you attempt to create an overlapping dimension you'll see options to move, break up, or replace the existing dimension.

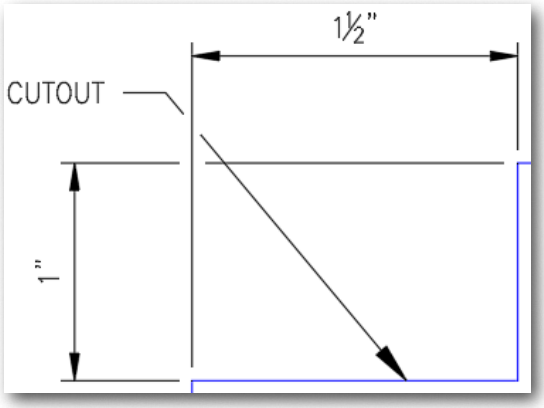


NOTE: No more snapping to extension lines by accident! Object snaps ignore extension lines when creating dimensions. Control this behavior on the Drafting tab of Options.

SMART DIMENSION BREAK COMMAND

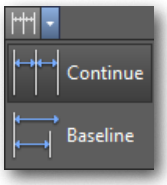
The DIMBREAK command breaks dimension or extension lines where they intersect objects or other dimensions. The breaks automatically update if you move the intersecting objects—even if they no longer intersect! You can also use the Restore option to remove all breaks.

TIP: *DIMBREAK also works on multileaders.*



UPDATED DIMCONTINUE & DIMBASELINE

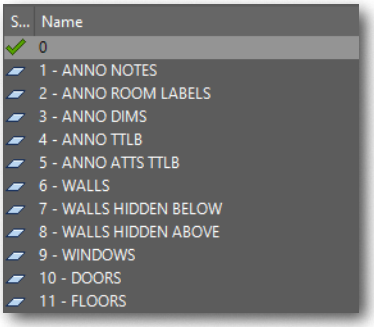
Set the new system variable DIMCONTINUEMODE to 1 to create Continued and Baseline dimensions with the same dimension style as the base dimension (regardless of your current layer!)



NATURAL ORDER SORT FOR LAYERS

If you number your layers, you'll be thrilled with this improvement! Now numbered layers are sorted in their natural order such as:

1, 2, 4, 6, 10, 21, 25 (as opposed to 1, 10, 2, 25, 21, 4, 6).

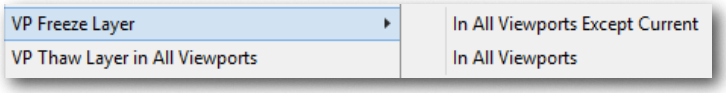


SETBYLAYER

This is a fantastic command to set objects (including those within nested blocks) back to BYLAYER!

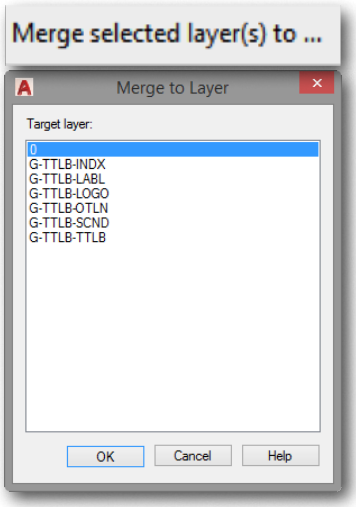
VIEWPORT LAYERS

Use the right-click menu in the Layer Properties Manager to quickly freeze specified layers in all viewports except the current one. (Handy!)



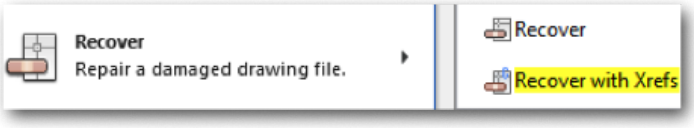
LAYER MERGE

LAYMRG has been incorporated in to the Layer Manager. Right click to merge 2 or more layers together onto one layer (and automatically delete the now empty layers).



RECOVER DRAWINGS ALONG WITH XREFS

This drawing utility allows you to run the recover process on a drawing and all of the associated xrefs. Find this capability under the Application Menu > Drawing Utilizes > Recover with XREFs

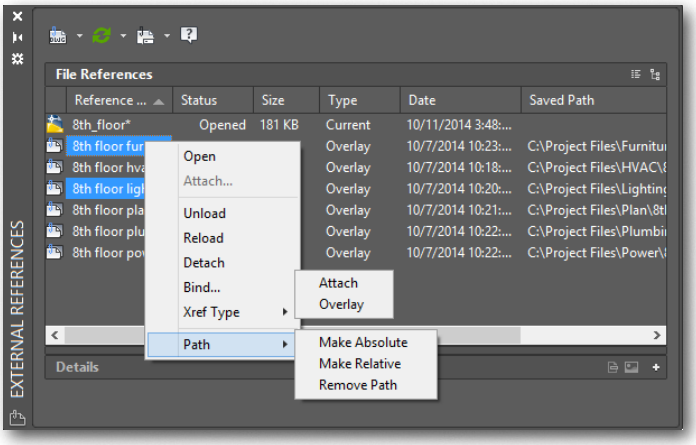


ATTACH & OVERLAY SWITCH

Toggle between Attach and Overlay in the XREF Manager with a simple double-click.

XREF FILE PATH

Edit the Saved Path directly in the External References palette (Found path is read-only). Relative Path is the default (unless the relative path is not available).



XREF LAYERS

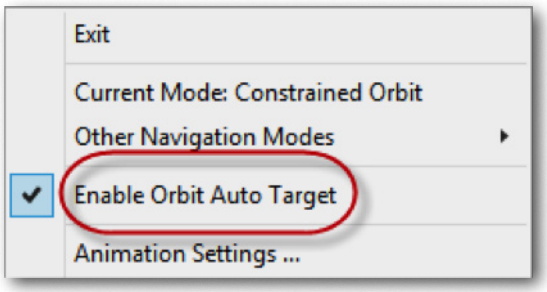
XREF layers no longer display in Properties and are grayed out in the Layer dropdown list (since you can't pick them anyway!).

XREF LAYER DISPLAY

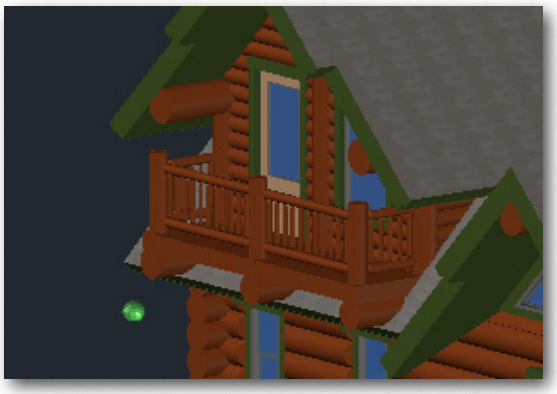
Control the display of layers from xref drawings (even if they're not set to Bylayer in the host drawing). Set XREFOVERRIDE to 1 and xref objects will take on Bylayer behavior.

3D ORBIT

Enjoy better control of the target point when you turn off “Enable Orbit Auto Target” from the 3DOrbit right click menu. Then you can click and hold the cursor to specify the pivot point.

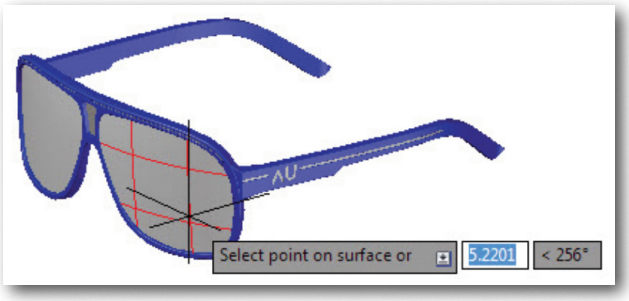


A small spherical icon will display to indicate the pivot point.



SURFACE CURVE EXTRACTION

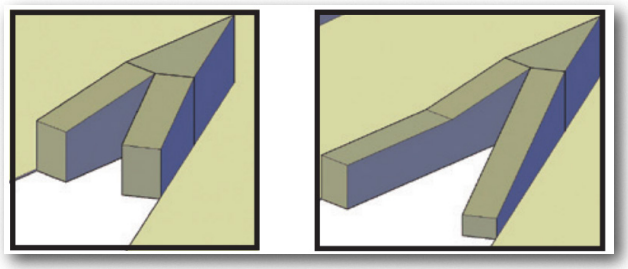
Use the Extract Isolines tool (Surface ribbon tab) to quickly extract isoline curves from an existing surface or face of a solid.



You can change the direction of the isolines, select a chain or draw a spline on the curved surface.

PRESSPULL

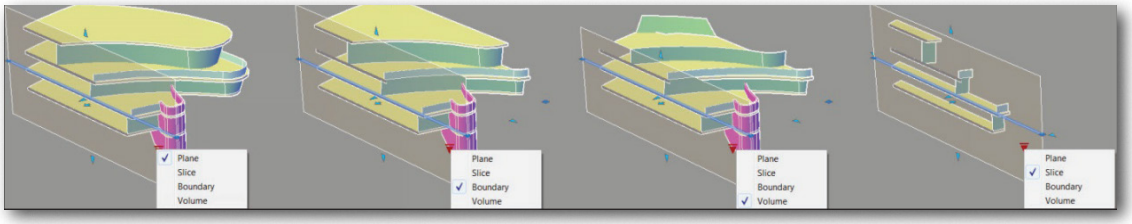
Use the Multiple option or the Shift key to press/pull multiple objects in a single operation. Now you can select 2D and 3D curves as well!



TIP: *Use the Ctrl key when you select a planer face to offset it as it extrudes to follow the taper angles of adjacent sides.*

SECTION PLANE

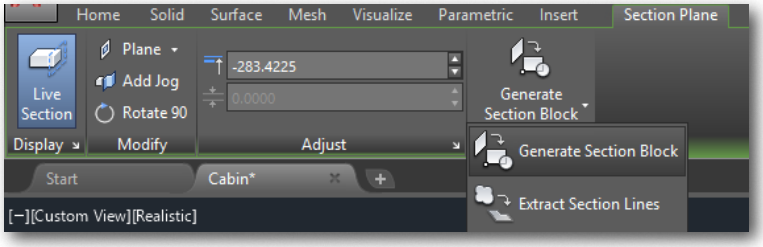
The Section Plane tool, which creates a cutting plane through 3D objects, now works on point clouds.



Slice generates a thin cut through the model with parallel front and back section planes. It has a thickness property (but no jogs allowed).

Choose between a simple cutting plane, a slice, or a bounded or volumetric area for your section object type.

The contextual Section Plane tab is filled with more section plane controls, including a Live Section toggle, the ability to add jogs, generate section blocks from solids, and extract section lines from point clouds.



Lynn Allen, Cadalyst columnist and worldwide Autodesk Technical Evangelist, speaks to more than 30,000 users each year. For the past 23 years she has written a column in Cadalyst magazine called "Circles and Lines" and is the voice behind Cadalyst's "Tips and Tricks Tuesdays." Lynn started using AutoCAD software with Release 1.4, over 25 years ago, and got her start by teaching at the corporate and collegiate level for 12 years. A sought-after public speaker with a unique comedic style, Lynn has served as the Autodesk University host for more than 10 years and is always one of the highest-rated speakers. Her latest book is entitled *AutoCAD Professional Tips and Techniques*.