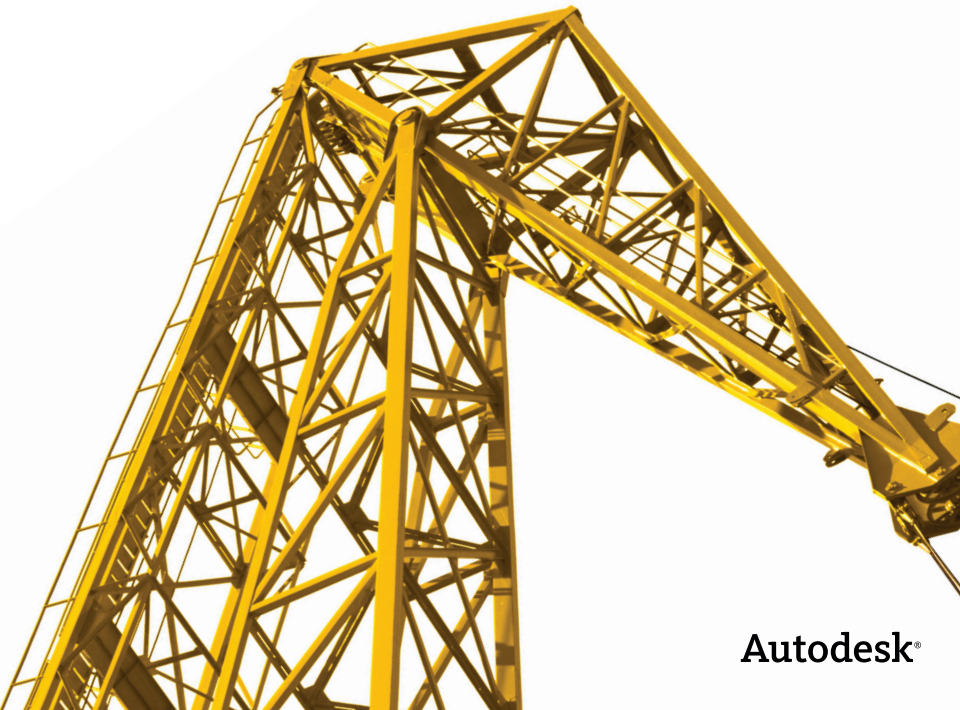


AutoCAD LT®

Lynn Allen's Tips and Tricks
For Using AutoCAD LT 2009



Autodesk®

User Interface

The user interface in AutoCAD LT® 2009 software has undergone a major renovation. You are going to love how quickly you can navigate to your favorite commands while still maintaining plenty of room for your drawing.

Right off the bat you will notice that the default model space background color has changed to off-white, making it easy for layer colors to be consistent in both model space and paper space.

New Quick Access Toolbar

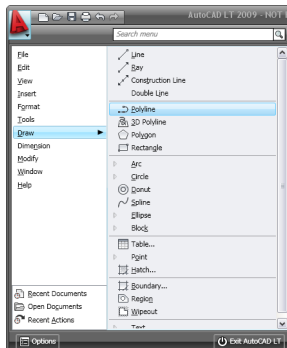
In the upper-left corner of the screen is the powerful new Quick Access toolbar. Here you will find the frequently used New, Open, Save, Plot, Undo, and Redo commands.



In addition, you can easily add your own favorites. Right-click and choose Customize Quick Access toolbar and then drag your favorite commands to personalize it for maximum productivity. A right-click menu option will restore the traditional menu bar as well.

Menu Browser

In the upper-left corner you will find the new Menu Browser button. Here are all the menus that used to lie across the top of your screen listed vertically for easy access.



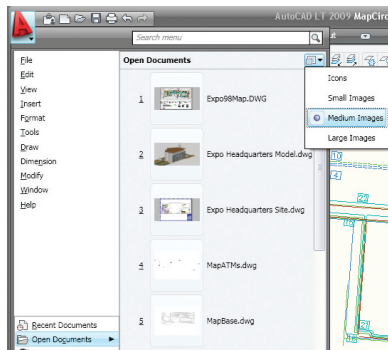
Use the new Search tool in the upper-right corner of the menu browser to quickly search for any commands you need help finding. Behind the scenes, AutoCAD LT searches the CUI file to find all matches. Double-click any listed item to launch the associated command.

The menu browser also provides access to recent or open documents (with preview icons if you choose). You can display them in an ordered list or group them by date or file type for added convenience. Move the cursor over any drawing name to display a preview image and other document information. You can control the length of this list in the Options dialog box.

Use the Recent Actions option to view and execute commands recently accessed from the menu browser.

Pin Important Drawings and Actions

Here is a favorite: The shortcut menu in the menu browser lets you pin a drawing file so it won't fall off the list. You can also pin actions you use over and over for quick access.



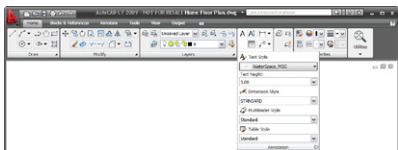
InfoCenter

You will find the new front-and-center InfoCenter a quick means to search for help information. Just click the arrow to open or close the search field.



The Ribbon

The ribbon is new to AutoCAD LT, but with a little practice you will quickly see the benefits. The ribbon consists of tabs and panels. Each tab contains multiple panels, and each panel contains multiple tools. These are completely customizable in the CUI—just as your existing toolbars are.



You can anchor them to the side of the screen much like the Dashboard or turn them off for more screen real estate. You can easily reorganize the panels by dragging

and even tearing a panel off the ribbon to create a floating panel. You get to set the ribbon up to work the way you do. Lock them all into place by using the Lock button on the status bar. And, of course, you can always switch back to the “AutoCAD LT Classic” workspace while you familiarize yourself with this new interface.

Status Bar

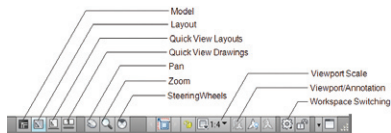
The status bar has been updated to include some new, powerful tools and improve efficiency. You can choose to view text or icons for the standard settings, such as Osnap, Grid, and Dynamic Input. The new interface makes it easier to tell which settings are on (much appreciated!).



Right-clicking many of these options (such as Polar or Osnap) also enables you to make quick work of changing the settings (thus saving you an extra click).

You will find a variety of tools on the status bar that we'll cover later in more detail.

Following is a graphic to help you decipher the new icons (you can't change these to text). Notice that Workspace has been moved down to the status bar (saving more room) and that Viewport and Annotation have been combined to keep them in sync.



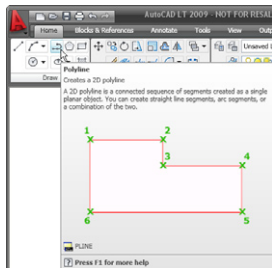
TIP Check out the new Hide XREF Scales option added to the VP Scale list.

Layout Tab Improvements

- Rename a layout by double-clicking the Layout tab.
- Reorder layouts with a simple drag-and-drop.
- Layout tabs are off by default.
- Use the Ctrl and Shift keys to select multiple layouts for dragging and dropping.
- Hold down Ctrl while dragging to create a copy.

Tooltips

Tooltips have been expanded to provide more information as you need it. The longer you hover the cursor over a tool, the more information appears. (You can control this feature in more detail on the Display tab in the Options dialog box.)



Hidden Message Settings

Throughout the application, warning messages have been updated to provide more help. Should you decide to turn them off, they become hidden messages. Control the display of these messages on the Systems tab in the Options dialog box.

Viewing

Check out the fantastic viewing tools added in AutoCAD LT 2009.

Quick View Layouts

The new Quick View Layouts tool on the status bar displays a row of layout images. This visual display makes it easier to navigate to the correct layout. Too many layouts to fit on your screen? No problem—just move your cursor past the edge of the image strip to view additional layouts.

You can rename layouts by double-clicking the layout name in Quick View (helpful if you are not displaying layout tabs).

TIP Right-clicking any layout displays the standard shortcut menu with a fabulous new Export Layout to Model option.



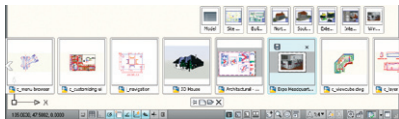
Use the Quick View control panel to close and publish all layouts, create a new layout, or pin your Quick View Layouts on the screen until you decide to close them.



TIP Use the icons in the upper corners of each Quick View Layout for speedy printing and publishing.

Quick View Drawings

Also located on the status bar, Quick View Drawings displays a row of your open drawings. You also have easy access to the layouts in each of the drawings.



TIP Use the Ctrl key while rolling the mouse wheel to increase or decrease the size of the drawing preview image.

Use the control panel to pin open the Quick View Drawings images, start a new drawing, open an existing one, or close Quick View Drawings.



TIP You can quickly save or close a drawing (not just the current drawing) by using the buttons in the upper corners of the drawing image.

SteeringWheels Feature

The new SteeringWheels™ view control makes it easy to zoom and pan. You can grab the new SteeringWheels feature from the status bar or by entering the word WHEEL. The SteeringWheels control follows the cursor as you move it so it is always handy. The Rewind option is similar to a visual zoom previous.



Geographic Location

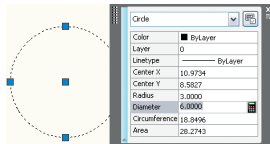
You can now define the geographic location of a drawing by importing location information from a KML or KMZ file or from the Google Earth™ mapping service application. GEOMARKERVISIBILITY controls the visibility of the geographic marker.

Object and Layer Properties

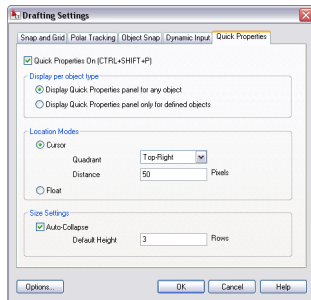
See how new object and layer tools in AutoCAD LT 2009 can make your dreams come true.

Quick Properties

The new Quick Properties tool enables you to view and modify object properties in place, without having to go to the Properties palette. You can turn Quick Properties (QP) on or off from the status bar. After turning the feature on, simply select an object and the properties display for editing. You can control which properties are displayed for each object in the CUI (for speedy access select the Customize button in QP).



The new Quick Properties tab in the Drafting Settings dialog box provides additional control.

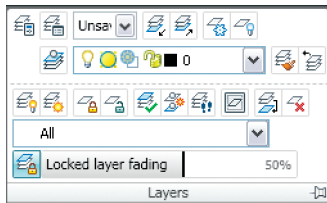


Layer Management

The Layer Properties Manager is now modeless so you can keep it displayed as you use other commands. That means you can dock, autohide, or anchor it just like your other tool palettes. And it is now dynamic—any changes you make in the Layer Properties Manager are instantly applied to the drawing (no more “Apply”).

If you have ever had a hard time viewing the layer name column when you slide over to the right side of the column, you will be happy to know that now you can freeze or unfreeze columns. Optimize one or all columns to keep content from truncating, or maximize one or all columns to help ensure that no headers are truncated. If you need more real estate in the dialog box, you can now collapse the Filters pane.

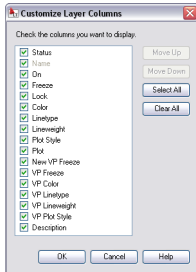
The new Layer panel on the ribbon is filled with all types of layering controls—be sure to give it a try.



TIP A new option to combine layer property changes for Undo/Redo can be found in the User Preferences tab of the Options dialog box.

Customize Layer Manager

Control the display order of the layer property columns by dragging the column headings—put your favorites on the left for easy access. Too many columns? Turn off the ones you aren't using by choosing Customize from the shortcut menu.



Freezing a Layer in All Viewports

The shortcut menu enables you to create a new layer that is frozen in all viewports, a function that is also available as a new button. Here you also find additional controls to freeze or unfreeze the selected layer or layers in all viewports.

Renaming Layers

AutoCAD LT 2009 software provides three ways to rename a layer: double-click the layer name, select a layer and press F2, or choose Rename from the shortcut menu.

Layer Properties per Viewport

How often have you wished you could assign layer properties per viewport? Wish granted. No more tedium duplicating geometry on separate layers and flipping the layers on and off per viewport. Now you can double-click in a viewport and assign a specific color, linetype, lineweight, and plot style per layer that affect only the current viewport.

Remove these viewport overrides from the right-click menu. Use `VPLAYEROVERRIDE`SMODE to temporarily ignore the overrides for viewing or plotting. These overrides affect only those objects with the `bylayer` attribute.

TIP Use the new `SETBYLAYER` command to quickly change objects to `bylayer`, including those within blocks and nested blocks.

Direct Access to the Layer States Manager

The `LAYERSTATE` command (`LAS` alias) provides access to the Layer State Manager from the command prompt (also on the Layer panel of the ribbon). Use the Import option to bring in layer states directly from `DWG`,[™] `DWT`, or `DWS` files. Now you can also edit or view layer states from `xrefs`.

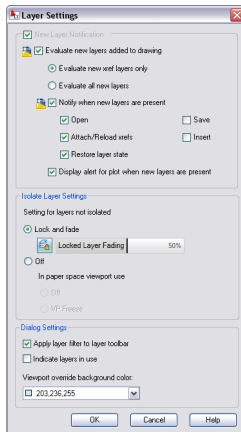
Layer Evaluation Tool

The Settings button in the Layer Properties Manager enables you to turn on a layer evaluation tool.

- The first time you save or plot, the current list of layers is stored for evaluation purposes.
- When new layers are added, an Unreconciled New Layers notification appears. Click the link to view the nonmatching layers.
- A new layer filter for unreconciled layers is automatically created.
- You can customize this process in the Layer Settings dialog box.
- Two system variables, LAYEREVAL and LAYERNOTIFY, can also be used to turn these features on or off.

Updated Layer Settings Dialog Box

Many layers settings have been moved to the Layer Settings dialog box, which can be found in the Layer Properties Manager.

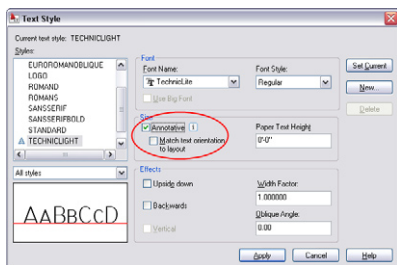


Annotation Scaling

If you have found getting the proper scale factors per viewport to be frustrating and confusing, then you will love annotative scaling. No longer do you need to create multiple sets of text and dimensions on multiple layers. Now you create one set of annotative objects (such as text, dimensions, multiple leaders, blocks, attributes, and hatches), indicate the desired actual plotted size, and it automatically displays at the correct size.

Controlling Annotation Scale

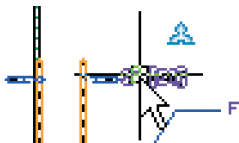
An annotative property can be assigned to objects such as text, dimensions, blocks, and hatches. Just create the object at the actual size you want it to plot and indicate the intended scale factor or factors. Any object with an annotative property can have one or more scales assigned to it (such as $\frac{1}{4}''=1'$ or 1:50). This capability makes it easy to display the same object in different viewports with varying scale factors. For example, the same text object could appear in one viewport that is scaled $\frac{1}{8}''=1'$, and another viewport at $1''=1'$.



You can change an existing object to annotative using the Properties command.

Redefining a style or definition to be annotative does not affect existing objects. Use the ANNOUPDATE command to update selected objects to match their style or definition (model space only).

How can you tell whether an object is annotative just by looking at it? Drag your cursor over the object to see the annotative indicator.



TIP Set the annotative scale factor in model space to reflect the most prevalent scale factor in the drawing.

For those objects that need to display at multiple scale factors, use the Properties palette to add scale factors. You can also use the OBJECTSCALE command.

TIP It is faster to use the OBJECTSCALE command when dealing with different object types.

Annotative Controls on the Status Bar

- A Lock/Unlock Viewport button appears when a viewport is selected.
- Use the controls on the status bar to set the VP Scale and to sync the Annotation Scale (accessible only if the viewport is unlocked).
- Only the annotative objects that have the same scale factor as the viewport appear in a viewport. Toggle the Annotation Visibility button to display annotative objects for all scales (even if they are not supported by the viewport's current annotation scale).

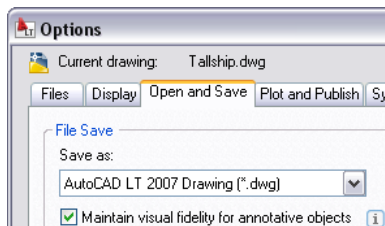


TIP Use SCALELISTEDIT to customize the list of scales.

BONUS If an annotative object disappears (and you don't want it to), click the Automatically Add Scales to Annotative Objects button before changing the annotation scale.

Backward Compatibility

An option on the Open and Save tab of the Options dialog box helps ensure that those who are not using AutoCAD LT 2009 can see your annotative objects. Each scale of the objects is saved as an independent object on its own layer. The layers are automatically frozen in the appropriate viewport.



TIP If you have a large quantity of annotative objects, you can speed things up by turning off the Maintain Visual Fidelity option. Be sure to turn it back on before you save the file to a previous version.

BONUS Linetypes are automatically scaled by the viewport's annotation scale. Disable this behavior with the MSLTSCALE setvar if needed.

Cool dimension features multiply the options and give you more control.

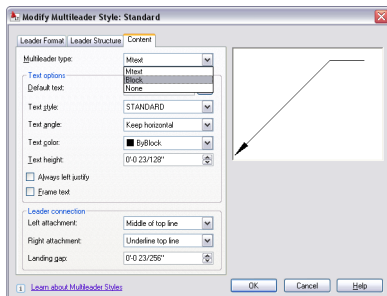
New Multiple Leaders

The MLEADER command permits more control over leaders than ever before. Not only can you control the order of leader creation (head first, tail first, or content first), but you can also add multiple leader lines where needed.

Multiple Leader Style Manager

The MLEADERSTYLE command controls format and display options, just like dimension styles. Options include the following:

- Type of leader line (straight, spline, or none)
- Type of arrowhead
- Leader connection info
- Text information
- Assign a block (great for creating balloons)

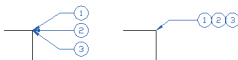


TIP Use the shortcut menu to add leader lines. Use grips for speedy editing.

Aligning Leader Lines

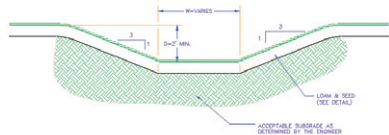
Leaders not lining up properly? The Multiple Leader Align tool snaps leaders into place for you. You can even control the spacing between them.

Use the MLEADERCOLLECT command to combine multiple block-type leaders into a single multiple leader.



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.



- Dimension an arc beyond its endpoints with the updated diameter and radial dimension commands.



- The Tolerance alignment option in the Dimension Style dialog box enables you to align decimal separators or operational symbols.

More Cool Dimension Features

- Create inspection dimensions with the Inspection Dimension tool (DIMINSPECT).
- Add a jog to linear dimensions with the DIMJOGLINE command.
- Evenly space baseline dimensions with the DIMSPACE command.
- Place the dimension text outside the angle being measured with the updated Angular Dimension command.

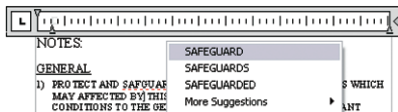
Use these handy tricks to buy yourself some time when working with text in AutoCAD LT 2009.

Use ESC to Exit MTEXT

Now when you click Escape in the MTEXT editor, the software gives you a chance to save your text. Make this the default if you choose.

In-Place Spell Checking

Catch those spelling errors as they are happening in MTEXT. AutoCAD LT underlines in red those words that are not in the dictionary, and the right-click menu offers spelling suggestions.



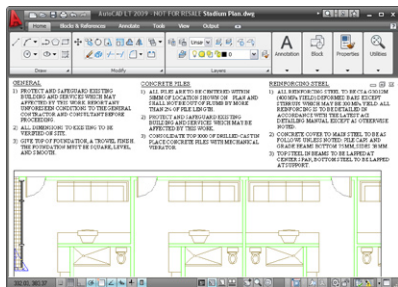
More Efficient Spell Checker

No need to select objects first. The updated spell checker searches the entire drawing by default. You can also specify the current space or specific objects if you prefer. When an error is found, AutoCAD LT now highlights and zooms to the word in the drawing.

The Check Spelling Settings dialog box enables you to customize the spell checker. You can choose to include dimension text, attributes, and xrefs, and set a variety of exclusions, such as capitalized words or words with numbers.

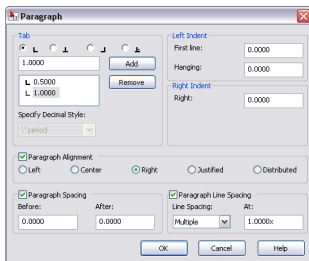
MTEXT Column Wrap

Ever wish text would automatically wrap across multiple columns in wide areas of your drawing? Your wish has been granted with the dynamic columns option in the MTEXT command. Use grips along with the text formatting ruler to get the exact results you are after.



More Control over Paragraphs

The MTEXT command gives you more control over paragraph alignment, indentations, and spacing.



Create Attributes with Multiple Lines of Text

The new Multiple Lines option enables you to create attributes that support multiple lines, underlining, overlining, fields, and so forth.

Simplify your work with table improvements in AutoCAD LT 2009.

Bidirectional Excel Tables

Wouldn't it be nice if you could bring a Microsoft® Excel® file into AutoCAD LT and truly link the file? If you could change the Excel file and have it update in AutoCAD LT, and vice versa? Good times are here, because now you can do exactly that.

Just use the updated Paste Special command, choose AutoCAD Entities, and select Paste Link to insert the Excel spreadsheet into AutoCAD LT. This process creates a data link. Should any changes occur in the XLS file, you can use DATALINKUPDATE to refresh the table display.

Create a Table from a Data Link

An option in the TABLE command also enables you to create a table from an Excel file. Just select all or part of the sheet.

TIP Use the DATALINK command to manage all of your various data links.

Retain Changes in Tables

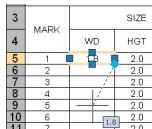
Any changes you make to an AutoCAD LT table are retained, even if you update the table to reflect any changes in the Excel file.

Wrap Long Tables Across Multiple Rows

To wrap tables across rows, simply select the table and adjust it with grips or use the new Table Break tool in the Properties palette.

Create Incremental Data Fast

Auto-fill enables you to quickly increment data in cells by dragging, just as in Excel. You can also combine blocks and text in the same cell.



The screenshot shows a table with 10 rows and 3 columns. The first row is a header with 'MARK' and 'SIZE'. The second row has sub-headers 'WD' and 'HGT'. The data rows contain numerical values. Blue handles are visible on the table, indicating it is selected and ready for manipulation.

	MARK	SIZE	
		WD	HGT
5	1	2.0	2.0
6	2	2.0	2.0
7	3	2.0	2.0
8	4	2.0	2.0
9	5	2.0	2.0
10	6	2.0	2.0
11	7	2.0	2.0

These features can help you really boost your productivity.

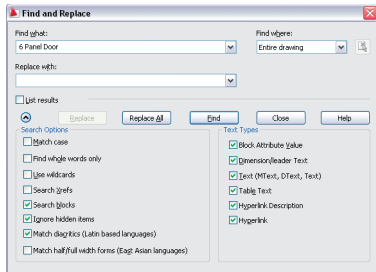
Export Layout to Model Space

You can export all visible objects from the current layout to model space with the EXPORTLAYOUT command.

NOTE Objects that are outside the paper boundaries of the layout are also exported.

More Powerful Find and Replace

The FIND command now contains toggles to enable searching blocks and xrefs (along with many other additions). And FIND now zooms in on the found objects (so it's no longer a mystery).



Speedy WBLOCKS

Should you decide to turn an existing block or dynamic block into a WBLOCK, it is easier than ever. Simply select the block, enter W for the WBLOCK command, and your selected block is ready to go.

Updated Array Command

Now you can zoom and pan while previewing.

Missing Printers Identified

Missing printers are now identified with a “Missing” prefix instead of a suffix—no more accidental truncation of that key piece of information.

Recover Drawings Along with Xrefs

Now you can run the recover process on a drawing and all the associated xrefs. Find this capability under Files>Drawing Utilities or use the RECOVERALL command.

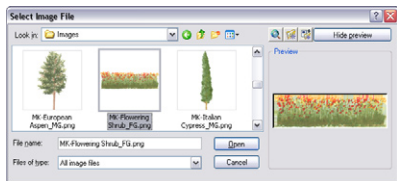
ETRANSMIT Enhancements

You no longer need to save your drawing before executing the ETRANSMIT command. You will also find the handy Purge option in the Transmittal Setup dialog box to help ensure that you are sending nice, clean drawings.

It's always great when additional AutoCAD® functionality makes its way into AutoCAD LT. You'll find that some big wish list requests have been granted in AutoCAD LT 2009!

Attach Raster Images

Now AutoCAD LT users can attach raster images in the same fashion they do an xref. This can be done in the External References palette with the new Attach Image option or by using the new IMAGEATTACH command. Simply select the desired image file as seen below:



After selecting an image, you'll be asked for information similar to the XATTACH command, such as insertion point, scale, and rotation angle. You'll also find that you can manage all of your images in the External References palette.

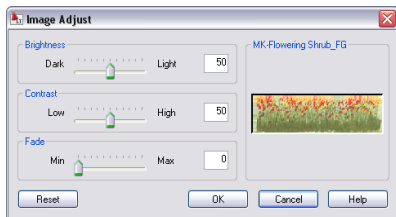
Edit Raster Images

Turn on the image frame for editing with the IMAGEFRAME system variable.

BONUS Set IMAGEFRAME to 2 so that the frame displays but doesn't plot!

Clip your attached raster images to a polygonal or rectangular shape with the IMAGECLIP command. It's easy to modify the clipped image with grips.

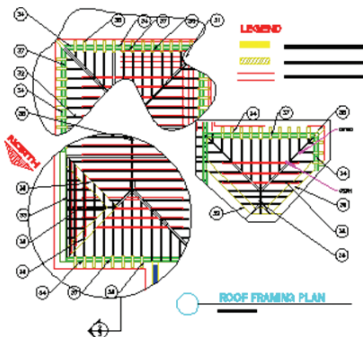
Adjust the brightness, contrast, and fade of the raster image with IMAGEADJUST.



If you find that your raster images are slowing your drawing, use the IMAGEQUALITY command. Set the value to Draft for speedy regeneration.

Nonrectangular Viewports

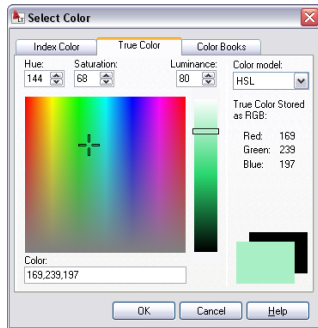
Create nonrectangular viewports in the MVIEW command by selecting the Polygonal or Object option. Polygonal lets you select the points that make up the viewport boundary. The Object option lets you select an existing closed object created in paper space such as a circle or spline.



You can also use a nonrectangular object to clip an existing viewport. Objects used for clipping can include a closed polyline, circle, spline, or ellipse.

More Colors!

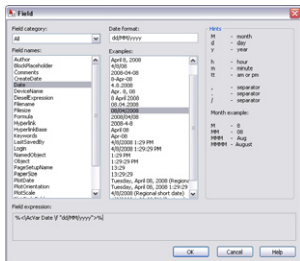
AutoCAD LT 2009 has expanded the color possibilities from the usual 256 colors to include True Color and Color Books. Now you can select a specific color from a variety of PANTONE® and RAL color books, making it easy to match up with real-world colors of actual materials. There are two new tabs in the Select Color dialog box. The True Color tab enables you to select the Hue, Saturation, and Luminance (HSL) or Red, Green, and Blue (RGB) levels. The Color Books tab displays a variety of PANTONE and RAL color books. You can even add additional color books in the Options dialog box (Files tab).



All those color possibilities will definitely make it easier for your clients to visualize your design intent.

Fields

One of the most powerful objects in AutoCAD, Fields are equivalent to “smart text” that updates automatically. Use field data for such things as dates, sheet numbers, and titles.



Select fields from a list of predefined fields. These fields can be inserted into text objects, attributes, or table cells.

There are three methods for inserting a field:

1. Select the Insert Field option on the right-click menu when prompted for text in MTEXT, DTEXT, and ATTDEF. Some of these commands also have an Insert Field button.

2. Press Ctrl+F when prompted for text in MTEXT, DTEXT, and ATTDEF.
3. Execute the Field command (this will place the field as mtext).

Whichever route you take, simply select the field you wish to add. The FIELDDISPLAY system variable toggles the display of a gray background for field text (intended for easy recognition of Field text).

TIP Fields enable you to display object properties such as the area of a hatch, the length of a polyline or the diameter of a circle.

Editing Fields

Easily edit your fields by double-clicking.

Updating Fields

By default, field values automatically update when you open, save, plot, eTransmit, or regenerate a drawing. You can suppress this automatic evaluation by setting the FIELDEVAL system variable. You can also use the UPDATEFIELD command to manually update.

Sharing

Sharing your drawing information is important, and AutoCAD LT 2009 makes it even easier to do so.

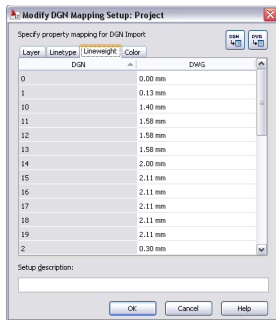
Working with DGN Files

Now you can attach Bentley MicroStation® V7 and V8 DGN files to your AutoCAD LT drawings or export DWG files to V7 and V8 DGN format using File>Export. Bring them in as externally referenced underlays with DGNATTACH using Insert>DGN Underlay. Clip the DGN from the shortcut menu (or use DGNCLIP) and use Properties to adjust contrast, fade, and monochrome (or DGNADJUST).

Import V7/V8 DGN data with DGNIMPORT using File>Import. When importing, you see a dialog box that prompts for information regarding external DGN references, text nodes, and units to help you get the best results.

You can now control the layer visibility of attached DGN files by selecting the DGN Layer option from the shortcut menu. A handy mapping tool maps DGN levels,

linetypes, lineweights, and colors to AutoCAD LT layers, linetypes, lineweights, and colors (and vice versa). Use the new DGNMAPPING command to set and save these settings.



DWG TrueView

- The software provides backward and forward conversion of DWG files from AutoCAD LT Release 14 to AutoCAD LT 2008 using the conversion features of DWG TrueView™ 2009 software.
- Now anyone can view, publish, and plot DWG files with DWG TrueView.

Download DWG TrueView for free* (and we all love free!) at www.autodesk.com/dwg.

TIP Use DWG TrueView to quickly apply a page setup to multiple layouts.

Autodesk Labs

Be sure to visit to visit Autodesk Labs to stay up and running on tomorrow's technology. At labs.autodesk.com you can download (for free) many cool tools regardless of your discipline.

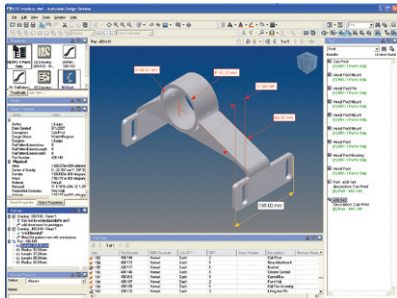
Autodesk Design Review

Make it easy for your colleagues who don't use CAD. When you publish to DWF™ (or DWFx) format, your colleagues can use Autodesk® Design Review software to view, measure, mark up, and track changes to any design.

- Designs published to DWFx format can be viewed natively in the Windows Vista® operating system (in addition to Design Review).

- Autodesk Design Review 2009 software enables you to search models and drawings for text, drawing, object properties, and other metadata in the DWF file.
- And you can now rotate any type of sheet or raster file before adding markups (so you don't need to turn your monitor on its side anymore).

The free* download is available at www.autodesk.com/designreview.



TIP Be sure to specify the resolution for vector and raster graphics when creating DWF files—it allows for much greater precision.



Lynn Allen, *Cadalyst* columnist and worldwide Autodesk technical evangelist, speaks to more than 30,000 users each year. For the past 15 years she has written a monthly 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 20 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 emcee for 10 years and is always one of the highest-rated speakers. Her latest book is entitled *AutoCAD Professional Tips and Techniques*.

To purchase AutoCAD LT 2009 software, contact your Autodesk Authorized Reseller or visit www.autodesk.com/reseller to locate an authorized reseller near you.

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