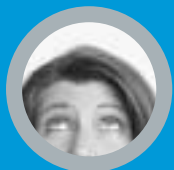
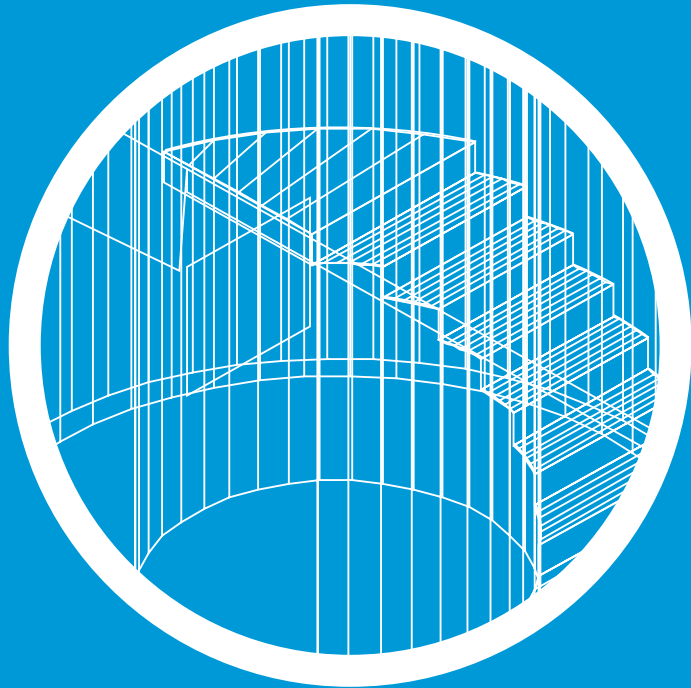




Lynn Allen's



Top 10 Tips for AutoCAD 2002



◦ **Hey R14 users, it's time to make the switch.**

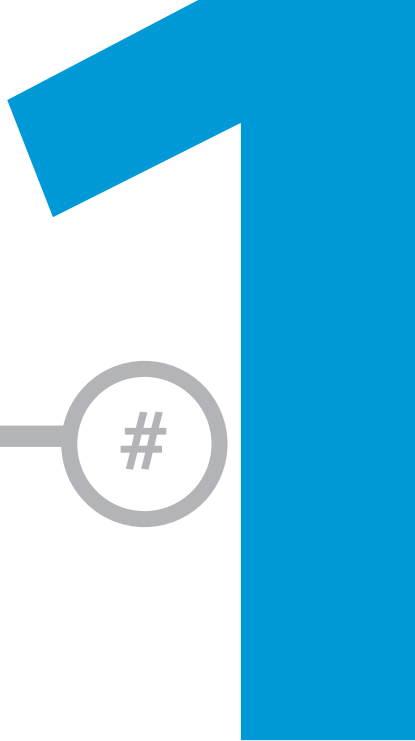
Making the decision to upgrade isn't simple. You've probably invested a fair amount of time in getting to know AutoCAD® Release 14 and setting it up to meet your specific needs. And let's face it, change isn't easy! So why should you make the jump to AutoCAD 2002? To help you make the decision, I've collected some favorite features of AutoCAD 2002 that are new since Release 14. I won't lie to you; I love AutoCAD 2002, and I hope you'll all join me in taking advantage of the latest release of AutoCAD.

If you've already made the decision to upgrade to AutoCAD 2002, I'd like to make sure you're going to take advantage of its new features and functionality. How many of us upgrade and continue to use our software in exactly the same way we did the previous release? But who has time with today's fast-paced projects to sit down and discover all the latest and greatest features? My goal is to point out some of the great new additions in AutoCAD 2002 so you can march down the road to greater productivity in no time!

And if you're using AutoCAD 2000 or AutoCAD 2000i, you'll find many new gems in these tips too. Some features you already have, and others are new in AutoCAD 2002. So follow along.

Let's get started . . .

Making Yourself at Home in AutoCAD 2002



You've made yourself at home in AutoCAD® Release 14. But how are you going to feel when you fire up AutoCAD 2002 for the first time? I think you'll find the adjustment minimal and definitely for the better . . . but to make your first impression as painless as possible, let's take a look at some of the changes to the user interface:

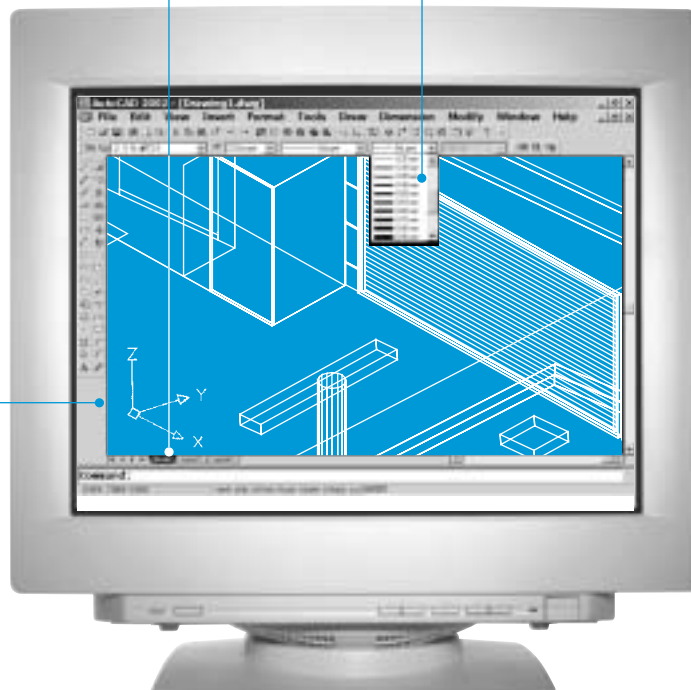
- You know you've always wanted to be able to open more than one drawing at a time, and now you can! The new Window menu makes it easy to control the AutoCAD 2002 multiple document interface. And Ctrl+Tab lets you quickly page through all of your open drawings.

- A** The UCS icon finally has a Z axis, and it no longer takes up so much of your screen real estate. You can control the size and color of the icon by going into the Properties option in the UCSICON command.
 - B** The Object Properties toolbar contains two new drop-down lists that make it easy to change your current Lineweight or Plot Style (both new features since AutoCAD Release 14).
 - C** In the lower left corner of the drawing editor, you'll see the new Model and Layout tabs, which make it easier than ever to go back and forth between Model Space and Paper Space. And you can have as many Paper Space Layouts as you want! No more setting the system variable *tilemode*. Just make a simple choice on the desired tab.
- You'll also notice some additions to the Status Bar. You can use Polar tracking to snap to angles other than the standard orthogonal 90-degree intervals. You set up these auxiliary angles in the Settings dialog box. With Object Snap Tracking you can work off existing objects to create temporary construction lines (a very powerful feature). And the new LWT option turns the display of the new Lineweights on and off.
 - Be sure to try out all the new right-click shortcut menus. Right-click when an object is highlighted, and you get an Edit shortcut menu designed specifically for that object. Right-click when a grip is hot, and you get the Grips shortcut menu. Right-click in a command, and AutoCAD displays a shortcut menu focused on that command. Shortcut menus are everywhere, and they're very powerful.

B Change your Lineweight in a second with this drop-down list.

C Move easily from Paper Space to Model Space with the new Model and Layout tabs.

The UCS icon has gone on a diet!



#2

Powerful Timesavers

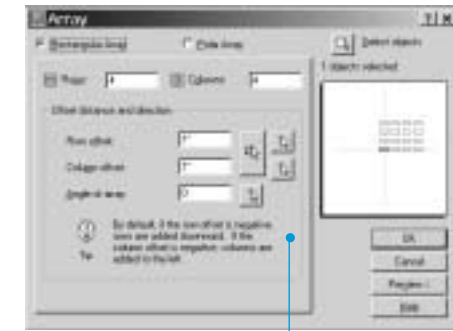
I know you dedicated AutoCAD® users appreciate shortcuts more than just about anything. The following tricks are little-known gems that shave seconds, minutes, or even hours off your drafting time:

- A** The PURGE command has become a staple in our efforts to keep our drawings free of excess baggage. But I believe we've all been victims of its many steps, the need to check every item to ensure that we don't accidentally purge something important, and especially the need to reenter the command multiple times to rid our drawings of any nested items.

Well I'm happy to tell you that with the new Purge dialog box you can clean up your drawing in one easy step! A tree view shows you all the unused items available for purging. You can easily choose the items you want to remove or simply click Purge All after you've checked to ensure you aren't sacrificing anything valuable. Selecting the "Purge nested items" option guarantees that you need to enter the PURGE command only once.

- Sometimes it seems like each object in AutoCAD has its own special editing command. Trying to learn the proper editing command for each object can be

A Clean up your drawings with the Purge dialog box.



B See a preview of your arrays and modify them easily in the new Array dialog box.



very frustrating, especially for new users. The new double-click feature in AutoCAD 2002 practically removes the thinking from the editing process. Simply double-click on an object and AutoCAD determines the correct editing command every time. Don't miss out on this new feature; it will save you loads of time.

- B** I'm sure that you probably get your Arrays right the first time, but just in case you don't, you'll love the Preview feature in the new Array dialog box. The ARRAY command in AutoCAD 2002 displays a user-friendly visual representation of your rectangular or polar array as you're designing it. If you aren't happy with the results, simply click Preview and use the Modify option to get it exactly right. The new Array dialog box also includes some other neat features, such as the ability to create rectangular arrays at an angle.

- Three more quick ones: The new CLOSEALL command closes all your drawings at one time (after giving you the option to save them, of course); it now takes only one Escape to clear your grips; and you can have up to nine previously used drawings listed in the Files menu.

#3

Excellent Editing

It seems like we spend more time editing than we do drawing. In fact, the Properties commands (DDCHPROP and DDMODIFY) were two of my most frequently used commands in AutoCAD® Release 14. And though it was easy to change the properties (such as layer, color, or linetype) of a selected group of objects, changing anything other than properties was a real chore. For example, if you needed to change the radius of seven different circles, you'd have to enter DDMODIFY seven times!

The new Properties command in AutoCAD 2002 is even easier to use than the Properties commands in Release 14, and the following features make it much more powerful:

- You'll find the new Properties command just about everywhere: on the Modify and Tools pull-down menus, on the Standard Toolbar, and in several of the right-click shortcut menus. My personal favorite for turning the Properties dialog box on and off is Control + 1. You can keep the dialog box docked on the side of your screen or move it around as you like.

- A** Easily edit common geometry of selected objects in the Properties dialog box.



- B** Refine your selection set in the Quick Select dialog box.

- A** After you select the objects you want to edit, you can edit any geometry the objects have in common. For example, when you select circles and arcs, you can change the standard properties as well as the radius, center point, and so on. You can even select many different types of objects and then use the drop-down list in the upper left corner of the dialog box to isolate a specific type of object. Imagine the possibilities! Suppose you need to verify that all the text in your drawing is a specific height. You simply window the entire drawing and select "text" from the drop-down list. All the text properties appear in the dialog box, and you can see immediately if there's an offending text string.

- B** You can use the new Quick Select dialog box to refine your selection set. For example, you can use it to work only with circles that have a radius larger than 2, only with text that has a height less than 1, or only with the red circles and the blue lines.

- With the Select Objects button you can use all the standard selection options, such as Last, Previous, Fence, Crossing Polygon, and so on.

Take the time to get to know the powerful new Properties command. It will make editing a breeze!

#4

Great Changes to Everyday Commands

When you're in the Trim command, you can switch to Extend simply by holding down the Shift key while selecting the object you want to extend.



If you've ever read any of my columns, you know it's the enhancements to commands I use all the time that really make me look forward to upgrading. Shaving even one step off a frequently used function can lead to serious time saving overall. Let's take a look at a few of my favorites:

- Don't you find that you often trim and extend the same group of objects by using the same boundary or cutting edges? With AutoCAD® Release 14 you have to go into two commands (TRIM and EXTEND) independently to perform these everyday tasks. But AutoCAD 2002 combines these two functions with the magical Shift key. When you're in the Trim command, you can switch to Extend simply by holding down the Shift key while selecting the object you want to extend. And if you're in the Extend command and you want to Trim, the Shift key will make it so. You'll also find that you can now Trim and Extend to Blocks.
- Because you can't fillet between two different polylines in AutoCAD Release 14, you find yourself going through the tedious task of exploding one of the

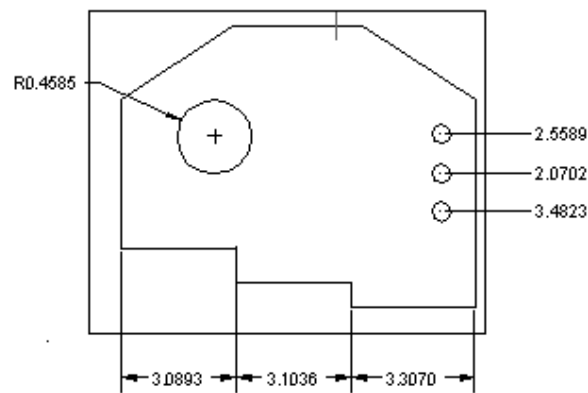
polylines just to make AutoCAD happy. I'm happy to announce that AutoCAD 2002 has no problem filleting between two different polylines. And this new release also fixes one of those annoying traits that has haunted AutoCAD for years. I'm sure you've noticed how after selecting a fillet radius you're knocked out of the Fillet command. Did the Fillet command actually believe that you only wanted to set a Fillet radius? Did it not realize that perhaps you might want to Fillet something as well? Well the Fillet command doesn't do this to you anymore. After you select a radius, you stay in the command and can actually perform a fillet!

- To change the width of five different polylines in AutoCAD Release 14 you have to enter the PEDIT command five times. AutoCAD 2002 introduces the new Multiple option in the PEDIT command, which enables you to edit as many polylines as you like in one fell swoop. You'll also find that the Join option now allows you to join polylines that are not contiguous (joined at the endpoints). This is a great way to ensure that your hatch boundaries don't leak!

#

A New Dimension!

B Transpatial dimensioning means your paper space dimensions are now smart enough to update whenever you change your model!



A The Dimension Style Manager always displays current dimension variable settings.

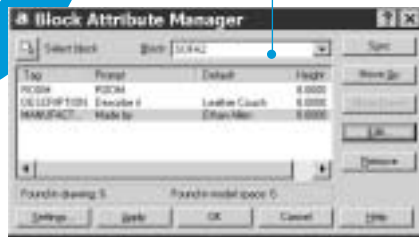
As you make the leap from AutoCAD® Release 14 to AutoCAD 2002, you'll notice many new improvements in the world of dimensioning. Here are some of my favorites:

- The new Quick Dimension command (QDIM) makes it easy for you to create numerous dimensions in one easy step. You simply window the objects you want to dimension, select the type of dimensioning (Baseline, Continuous, Radial, Ordinate, and so on), and then pull the dimensions out to the desired location. It doesn't get much easier than that!
- A** The Dimension Style Manager dialog box now includes a dynamic image that displays your current dimension variable settings at all times. Now you don't have to actually perform a dimension to see the latest settings!
- Remember how easy it was in Release 14 to accidentally override your current dimension style? You CAD Managers will be happy to hear that the Dimension Style dialog box now saves the variable settings to the current dimension style rather than making the unfortunate assumption that you want to create those overrides. That'll make it easier for your design team to uphold your CAD Standards.
- The new associative dimensions are truly intelligent. Rather than relying on those pesky defpoints to keep your dimensions accurate while editing, the new associative dimensions actually attach themselves to the geometry of the objects. Now you can even use grips to update your dimensioned geometry without having to waste precious time redimensioning. To take advantage of this great new feature, be sure to select "Associate Dimensions with Objects" in the Options dialog box.
- B** Have you Paper Space users heard the latest AutoCAD 2002 buzzwords: "transpatial dimensioning"? You may not understand it, but you're going to love it! Most of you place your dimensions in Model Space so you can maintain some connectivity between the model and the dimensions. Traditionally, if you placed your dimensions in Paper Space they weren't smart enough to update as you changed the model. Well, the new associative dimensions are so smart they can reach right through the viewport from Paper Space into Model Space. This gives you the best of both worlds. As you update the model in Model Space, the dimensions automatically update in Paper Space. Awesome!

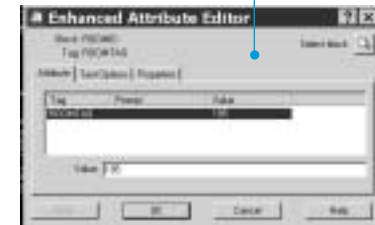
Amazing Attributes

#6

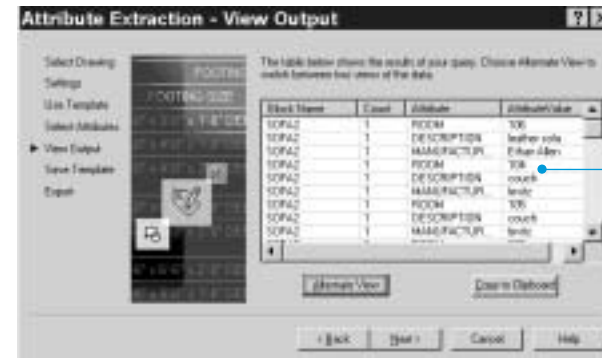
A Use the BATTMAN command to keep a block's attributes in line.



B The new Enhanced Attribute Editor makes it easy to edit individual attributes.



C Choose the new Attribute Extraction wizard to send your attributes out to a database.



Attribute definitions are text strings of data that can be input upon insertion. They're a great means of attaching intelligence to a block. You can also extract this data into a database and use it to generate such things as bills of materials. Before AutoCAD® 2002, editing attributes was cumbersome at best and extracting attribute information was a skill reserved for the top AutoCAD guru. Now Autodesk has done a major overhaul of attributes, making them easy to edit and extract. AutoCAD users who do a lot of attributes tell me that they hope to upgrade just to get these features! The following are just some of the reasons why:

A The new Block Attribute Manager (BATTMAN command) makes it easy to edit your attribute definitions globally. Remember when you created your first block with attributes and no one mentioned to you that the order in which you select the attributes is key to their order when you insert the block? You probably ended up completely redefining the block definition to correct the problem. With BATTMAN you can reorder the prompts simply by moving the attribute tags up and down the list. You can also change just about anything related to an attribute definition, including the various modes, text height and properties, prompts, and defaults.

To ensure that all of your blocks with attributes have the same number of attribute definitions (a real problem before AutoCAD 2002), forget the cryptic ATTREDEF command and simply click the Sync button. The new ATTSYNC command serves the same purpose.

B You can use the new Enhanced Attribute Editor dialog box (EATTEDIT command) to change one individual attribute's properties and values (rather than globally changing the actual block definition). This new user-friendly dialog box is light-years ahead of the confusing, text-intensive ATTEDIT command of the past. (Did any of us ever actually figure out that command?)

C You no longer need to battle with template files to extract your valuable attribute data. The friendly new Attribute Extraction wizard (EATTEXT command) takes you through the extraction process step by step, making it easy for you to select what you want to extract and decide what you want to do with the information. Now it takes only seconds to send your attributes to a database program such as Microsoft® Excel or Access.

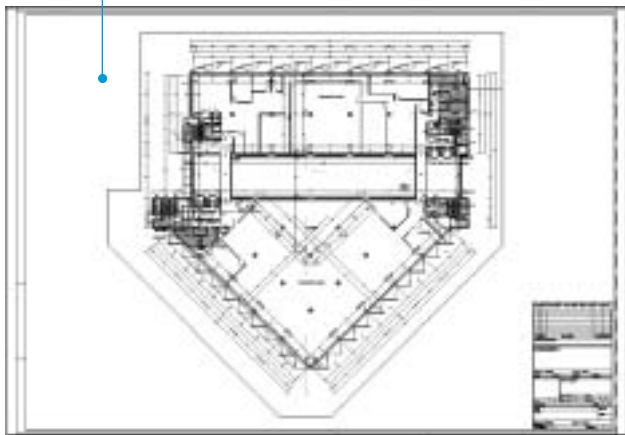


No More Lost in Paper Space!

Paper Space is one of those concepts that's difficult to grasp but so important to the drawing process. Cumbersome system variables and scale factors can drive you crazy during the final stages of a design project. AutoCAD® 2002 has thrown out the difficult and replaced it with new, user-friendly steps that smooth your way down the Paper Space trail. The following are some of the features you'll love:

- Right off the bat you'll find that the new tabs in the lower left corner of the drawing editor make it easy to move from Model Space to Paper Space layouts and back. You can rename, add, or delete layouts by right-clicking on the desired tab. The first time you enter a layout, you'll be prompted to determine your page requirements in the new friendly Page Setup dialog box. After you do so, you'll be sure you're working with a layout that's exactly the right size for your intended final plot.

A At last! Nonrectangular viewports.

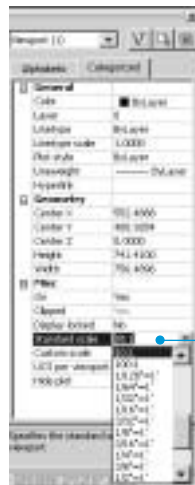


- A Many AutoCAD users have put the ability to create nonrectangular viewports near the top of their wishlists. Well Autodesk listened. With the new Polygonal option in the MVIEW command, you can draw viewports of nearly any shape, or you can use the new Object option to select a closed object such as a circle for the new viewport. After creating your viewports, you can move from one to another simply by double-clicking inside the desired viewport.

- B Setting the proper viewport scale factor has traditionally been quite a chore. Now all it takes is a simple double-click on the edge of the viewport. This will take you to the new Properties dialog box where you'll find a listing of many standard scale factor settings. If for some reason your scale factor isn't listed, simply enter it in the Custom Scale box.

- We all know how easy it is to accidentally alter the scale factor of our viewports with a misplaced Zoom. Now you can lock the viewport display and avoid this frustrating occurrence. Select the desired viewport, right-click, and set "Display locked" to "Yes" in the shortcut menu. You can also lock the viewport display in the new Properties dialog box.

These are just a few of the great Paper Space improvements. If you've avoided the complex world of Paper Space in the past, AutoCAD 2002 will tempt you to give this powerful world one more chance.



B Use the Properties dialog box to set the viewport scale factor.

#8 Going Internet!

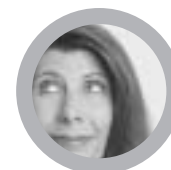
B Let this friendly wizard help you put your designs on the Web.



A Use eTransmit to collect, bundle, and send the drawings and accompanying files and settings you want to share with your design team.

There have been many changes in the World Wide Web since Release 14, and Autodesk has worked hard to keep up with technology. To some of you it might not be clear how your company is going to harness the Internet. But let's look at a couple of simple, yet powerful new features that will definitely help you through the design process and collaboration:

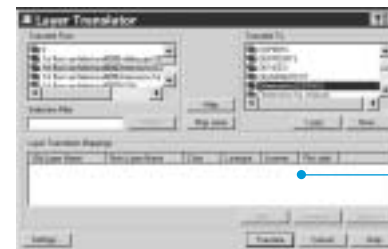
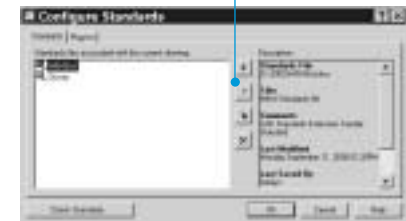
- A** Unless you're designing only for yourself, you're probably going to have to send your drawings to someone sometime. It's not as simple as sending the DWG file—you need to include custom linetypes, fonts, external references, images, and so on. Figuring out which files are necessary and bundling them to send is no easy task. eTransmit to the rescue! eTransmit examines your drawing file and collects all the extended files the receiver will need to successfully use the drawing. It's easy to add files to the transmittal set as well. eTransmit will send an executable file (.exe), a zipped file, or a folder of files to the intended recipient. And it's smart enough to save back to Release 14 as well. My favorite part of the eTransmit dialog box is the option to "Remove paths from xrefs and images." This eliminates the painful paperwork the recipient needs to go through while AutoCAD attempts to resolve the external reference and image paths.
- B** Do you want to put your drawing files on a web page but don't have the slightest idea how to do it? I'm no HTML expert, so the new Publish to Web wizard is perfect for me. Start by opening up all the drawings you intend to place on a web page. Zoom them to their fullest extents, and make sure all the appropriate layers are turned on. Now you're ready to go to the Publish to Web wizard to create your page. As you make your way through the self-explanatory wizard, you'll be asked to name your web page; select a file format such as DWF, JPEG, or PNG; and pick the template and colors you'd like to use. You can even create a web page with the new i-drop™ technology, which permits others to access your drawing files from the page. Imagine the possibilities!





Keeping Up Your CAD Standards

A A CAD Manager's dream come true! Check your files against any standards the manager wants you to follow.



B Use the Layer Translator to conform other layer setups to your standards.

Like it or not, most of us need to deal with certain specific drawing standards. Whether you're taking your clients' drawings and bringing them up to your standards, or vice versa, the following new CAD Standards features will make this aspect of your design life much easier:

- You start by taking a drawing that is set up properly. It has the correct layering system, dimension styles, text styles, and so on. Then you simply use the SAVEAS command to save this drawing as a DWS file. Now you have a Standards file! After creating your Standards files you're ready to check your drawings.

A Enter the Standards command (you'll find it in the Tools pull-down menu or the new CAD Standards toolbar) and add the DWS files you wish to use for checking. Now it's as simple as clicking the Check Standards button to start the process rolling. AutoCAD® software compares the two files and brings up the discrepancies one at a time. You can choose to fix the disparity, ignore it forever, or simply ignore it for now. After checking the drawing, AutoCAD issues a report informing you of the final outcome.

- If you have multiple drawings to check, you can use the new Batch Standards Checker program to check entire directories of drawings against one or more selected CAD Standards. Upon completion you'll have a nice report indicating which files do not comply to the standards and how they differ.

B The new Layer Translator makes it easy for you to map one layer configuration to another. This is especially useful if you find yourself working with clients who use other CAD systems. You can take their drawings with their layer setups and translate them to your own set of layer standards quickly and easily. You'll even notice a great option that enables you to visually step through the contents of each layer so you can be certain you're setting it correctly.

Dealing with Standards is a necessary part of the drawing process, and I believe you'll find that these new functions make it much easier for you to get your job done right and on time!

Are You Still Using Vanilla AutoCAD?





- Autodesk® Map has mapping and GIS analysis tools for engineers, planners, utility managers, and technicians. You can create, maintain, and produce maps; integrate data from sources like Oracle® Spatial; and whip up impressive thematic maps. (Visit www.autodesk.com/map.)
- Autodesk® Land Desktop simplifies land planning tasks like COGO and map creation, terrain modeling, and alignments and helps whole teams share their projects. (Visit www.autodesk.com/landdesktop.) Check out Autodesk® Civil Design and Autodesk® Survey too.

You mechanical designers have several new choices:

- AutoCAD® Mechanical is your AutoCAD if 2D production drawing and detailing is your focus. It has cool tools for BOM and reports, too. (Visit www.autodesk.com/autocadmech.)
- Consider Autodesk® Mechanical Desktop® if you're committed to working in the DWG format and you want both 2D and 3D. (Visit www.autodesk.com/mechdesktop.)
- People switching from 2D to 3D love the easy-to-use new Autodesk Inventor™ software. This one doesn't contain AutoCAD, but it provides full DWG compatibility. If you're the least bit curious, definitely give the free trial CD a try; you'll be amazed. (Visit www.autodesk.com/inventor.)


I hope you've enjoyed reading all these tips and that you now share my enthusiasm about the newest version of AutoCAD. If you want to learn more, visit www.autodesk.com/autocad or get your hands on an AutoCAD 2002 Trial CD and play with the software yourself!



In my travels I often meet users who've spent countless hours customizing their system to suit their application only to find that Autodesk has already done the work for them! Did you know that Autodesk has created a variety of products tailored to different industries and that each of them contains a complete AutoCAD® 2002? That means all the other tips in this booklet (and all your AutoCAD knowledge) will work in those products too.

These products not only automate design tasks but also make it really easy for you to share all the information in your drawings with people who need to know. Let's take a quick look at the products you can choose from:

- Autodesk® Architectural Desktop has tools for the building industry—in 2D, 3D, or both—to generate plans, sections, elevations, and schedules. Each project's drawings are perfectly coordinated and update automatically. (Visit www.autodesk.com/archdesktop.) Check out Autodesk® Building Electrical and Autodesk® Building Mechanical too.



Lynn Allen, Autodesk's worldwide Technical Evangelist, speaks to more than 15,000 AutoCAD® users each year. For the past eight years she has written a monthly column in *Cadence* magazine called "Circles and Lines." Lynn started using AutoCAD with Release 1.4, more than 16 years ago, and has taught at the corporate and collegiate level for 13 years. She is consistently one of the highest rated speakers at Autodesk University® and is a sought-after public speaker with a unique comedic style. Her latest writing endeavor is entitled *AutoCAD Inside and Out: The Best of Lynn Allen*.

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