

Mar/Apr 2004



AUGIWorld

The Official Publication of Autodesk User Group International

A close-up photograph of a hand holding a fan of US dollar bills, including a \$20 bill and a \$100 bill. The background is a blue gradient with a faint bar chart pattern in various colors (brown, green, purple, yellow).

CAD SALARY SURVEY

Our 2nd Annual Survey details the salaries, benefits, bonuses, and more for AUGI members in 2003

- **Autodesk's Newest!**
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- **AUGIWorld Q&A:**
A conversation with AUGI's new president, Marv Muston

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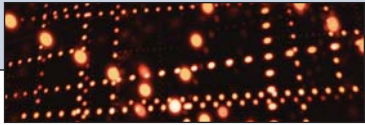
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Canadian Publications Agreement # 40733013

BPA International membership applied for August 2002.

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A Conversation with Marv Muston

AUGI President, 2004

At AUGI's annual meeting, held at Autodesk University in December 2003, the baton was passed to Marv Muston, who will preside over the AUGI Board of Directors for 2004. Here, he discusses his plans for moving AUGI forward

Q and A

AW: When did you become affiliated with AUGI? What prompted you to join?

Muston: I've been involved with AUGI for six years, beginning as a volunteer. This is my fourth year serving on the AUGI Board of Directors. I joined because I like to help and teach people. I thought it would be a great opportunity to learn more about the industry as well. Boy, was I right about that! I have learned so much from the people I've been associated with from around the world. I'm also active in my local user

group (LUG), the Suncoast Autodesk User Group in the Sarasota, Florida area, where I serve as president.

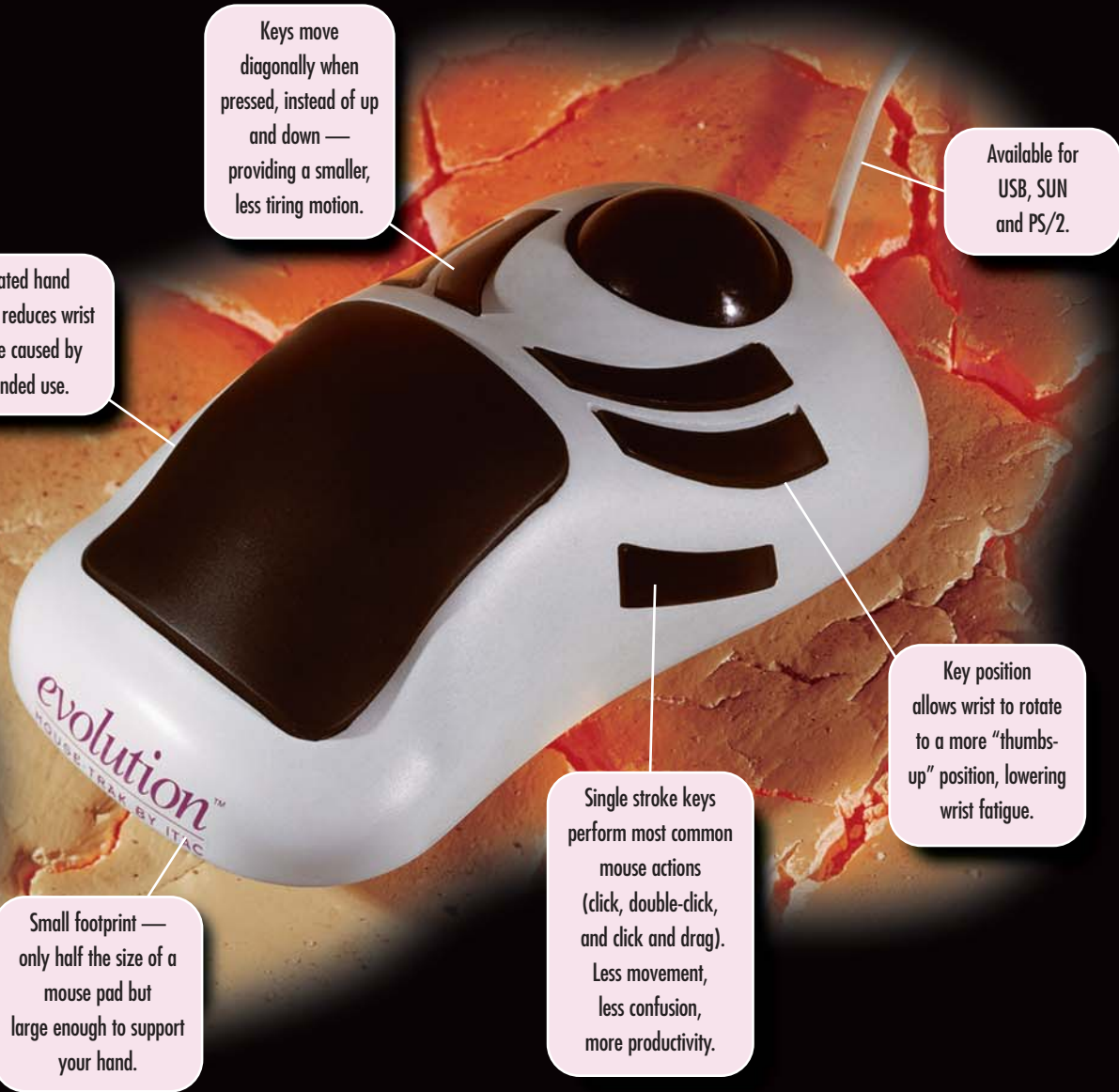
AW: Besides President, what other AUGI board positions have you held?

Muston: After being elected to the board for the first time in 2000, I immediately took over responsibility for LUGs (local user groups) and the HotNews newsletter. I especially enjoyed being the LUG Manager and I have continued that responsibility until recently. I also held the title Junior Vice President and was AUGI's coordinator for Autodesk University, 2003.



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I feel that local user groups are a great source of education and training that all members need to tap into and use

AW: What are your goals for AUGI this year, and beyond?

Muston: We have some aggressive goals this year. The first thing we did was reorganize the board of directors and trim the board from ten members to eight. I've instituted a more "team-like" environment within the board that will enable us to be more productive managers of projects, rather than doing most of the tasks ourselves.

AW: How is this "team" environment different from how AUGI used to operate?

Muston: Before this change, a single board member might be in charge of several "buckets"—our term for the various projects and programs that AUGI oversees. Now, there are Project Teams, each consisting of three or more board members who, in turn, have the authority to recruit AUGI member volunteers from around the world to help out on various projects and programs.

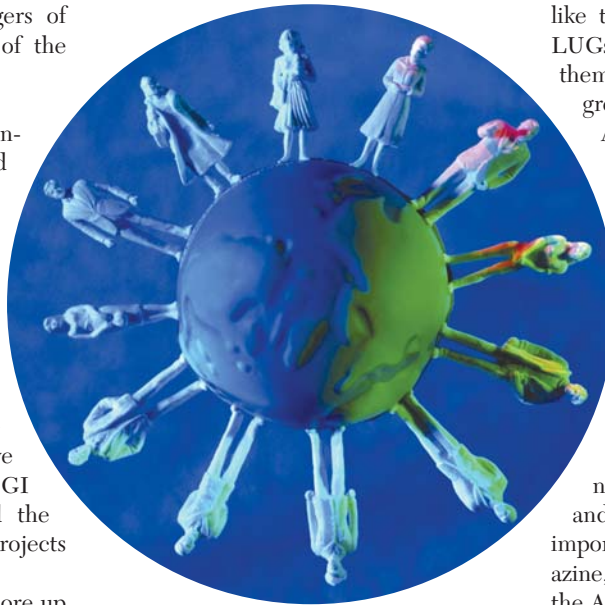
Paramount to this, we need to shore up our web-based programs to continue to meet our members' needs. We have cleaned up our membership database and our LUG database to get a better grasp on communicating to our members. This will enable us to focus our efforts on providing more meaningful tools and help to our members in more specific areas and markets around the world.

AW: What other goals have you set for AUGI this year?

Muston: We'd like to bolster our membership count. As I mentioned before, we made great strides last year in cleaning up our membership and LUG databases. We are prepared to work toward the goal of adding members, while continuing to meet the needs of our existing members and partners.

AW: Specifically, what will you do to add new members?

Muston: Well, there are a number of ways to do it. First of all, the LUGs [local user groups] are a largely untapped resource. I feel that local user groups are a great source of education and training that all members need to tap into and use. We will be providing more programs and enhancing support that will be a great ben-



efit to our LUGs this year. We hope to add tools that will enable a more peer-to-peer, user-to-user interface that will connect the LUG community around the world. Local user groups from around the world need to encourage all of their individual members to become AUGI members so they can take advantage of our existing programs and the exciting ones we have planned for the future.

AW: I would think AUGI membership among LUG members is pretty high. Isn't it? There seem to be so many benefits to joining, and virtually no drawbacks.

Muston: The AUGI membership rate from the LUGs isn't as high as you would think. One reason is lack of education about what AUGI is and what it offers.

AW: What's your plan to educate AUGI members about the merits of the organization?

Muston: One way is to reactivate RUGs (Regional User Groups) this year around the United States, and we can utilize our LUGs to help achieve this goal.

AW: Are RUGs a new concept?

Muston: No, they've been around, but we'd like to reinvigorate them. We'd like to bring them back and utilize the LUGs within the various regions to fire them up. RUGs have, traditionally, been a great hit with our members as well as AUGI partners.

AW: So in addition to a monthly LUG meeting, members would also have a regional meeting once in a while?

Muston: Yes. The RUG meetings would be an event that would consist of a number of educational opportunities.

In addition, our ability to communicate about AUGI programs, tools, and industry-specific events is most important. Tools such as *AUGIWorld* magazine, *AUGI HotNews* monthly newsletter, the AUGI website, especially the Forums, and the powerful AUGI Connection will be essential to disseminate information from the AUGI board of directors, from Autodesk, and from the AUGI global community. Our evolving "Community Channels" on the AUGI website will also be an efficient tool, giving members the option of receiving information related to the industry-specific "community" they choose. Of course, they can also see other Communities as well. This new website feature will be available soon.

AW: I can see how all of this can boost membership within the U.S., but what about the increased international presence that AUGI has been seeking for the past few years?

Muston: The previous three AUGI presidents all wanted an increased international presence. We don't just want a "presence"—we want to make an impact! We can do this through LUGs also. LUGs from around the world can help our



About Marv Muston

Marv is employed by Wegman Design Group of Naples, Florida, and also owns Marv Muston Consulting. Marv's expertise is in IT and CAD management. He is Microsoft certified and has been AutoCAD certified.

efforts to achieve international interoperability. The world has become very small with advanced communications nowadays. We are looking for volunteers from around the world to assist us in our education efforts.

And speaking of education, that's another goal. We have stratified our Education Team within the AUGI board and are taking steps to focus our outreach more into the educational communities throughout the world. A lot of us on the board and AUGI members throughout the world are educators in one way or another. We are interested in developing this area this year. For example, our ATP (AUGI Training Program) has been greatly improved to meet the needs of our members and educators.

AW: We talked before about previous AUGI presidents sharing the goal of increasing AUGI's international reach. Are there other goals that carry forward from year to year, regardless of who is president at the time?

Muston: Providing increased value to our members is a primary goal of every president and board of directors every year. Making AUGI valuable to ALL our members as well as our partners is a huge goal and a challenge each year.

AW: How do you plan to meet those goals?

support. That is what drew me to AUGI to begin with. As a part of this, our global volunteers are our most important asset and strength. People helping people is what AUGI is all

Muston: We've already cut costs within the board of directors and within our website and other AUGI programs. We are "lean and clean" this year! By expanding the activities of the board to the members, we hope to achieve many of our goals this year with less effort on everybody's part. More hands make the load light.

AW: What, in your view, are AUGI's greatest strengths?

Muston: This would definitely be our user-to-user sup-

port. The volunteer spirit in the AUGI ranks is alive and well!

AW: Okay, what about AUGI's weaknesses?

Muston: Due to the nature of our volunteer organization, we sometimes are a bit slow in developing our exciting programs and other projects. All of us have "real" jobs to do to make a living and our AUGI responsibilities are done in our spare time. So, I ask AUGI members to please be patient, but remind them that this is exactly why we need more volunteers!

AW: Finally, what would you most like to tell AUGI members who are not currently involved in the organization?

Muston: Please join the fun! Together we can build our CAD communities worldwide. It IS a lot of fun and extremely fulfilling to be a part of such a worthwhile effort that puts you in touch with users and friends from all over the globe. I've met some very interesting folks and made some great friends as a result of being a volunteer in the AUGI community. Everyone can have the same great experience. 🌐

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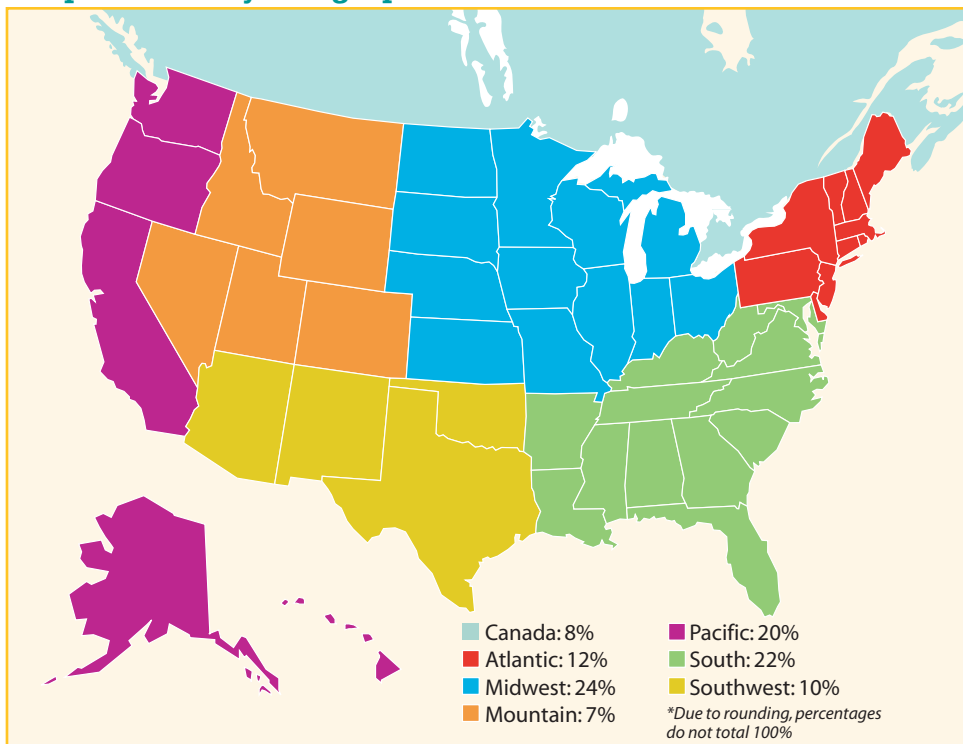
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CAD SALARY SURVEY

Based upon what 1,200+ AUGI members told us, the lowdown is that in 2003, their salaries were decent, hours worked (for most) were reasonable, and basic employee benefits were the norm for the majority. But wait, there's more. Read on

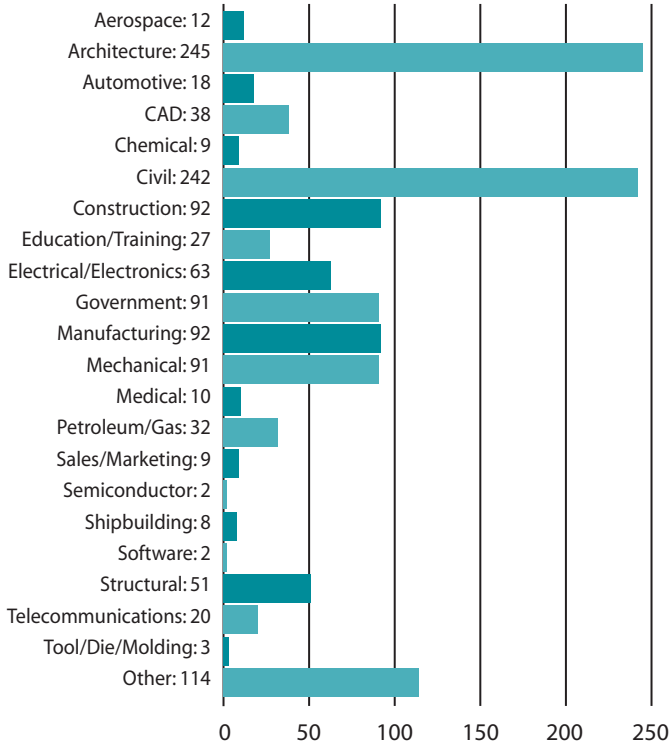
Respondents By Geographic Location



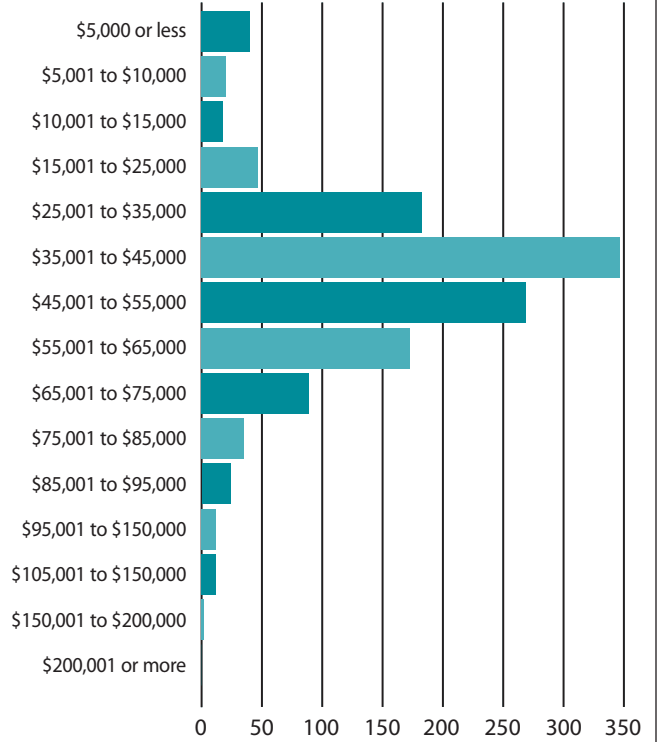
In January, we polled AUGI members via an online survey at www.AUGI.com. The 13-question survey focused on compensation—including annual salaries and benefits—for AUGI members in a variety of industries and disciplines. The results of our CAD Salary Survey, in which more than 1,200 responses were tallied and analyzed, are summarized herein.

The majority of responses came from AUGI members working in the United States and Canada. The more in-depth analyses presented in this article focus on salaries for four key job titles in six regions of the U.S. (Atlantic, Midwest, Mountain, Pacific, South, Southwest) and in Canada.

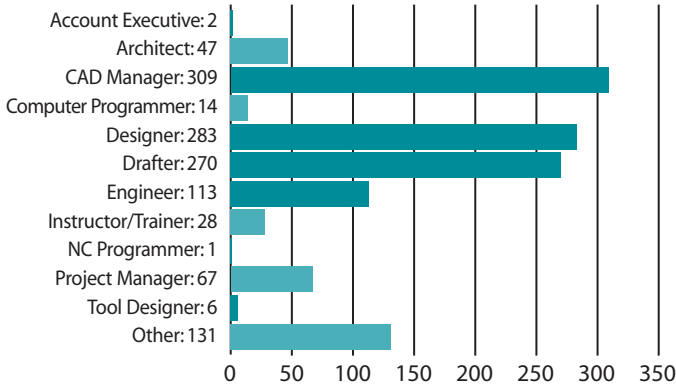
Field/Industry



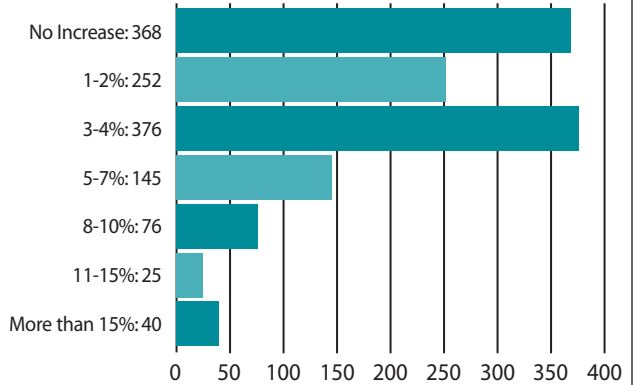
Annual Compensation in 2003



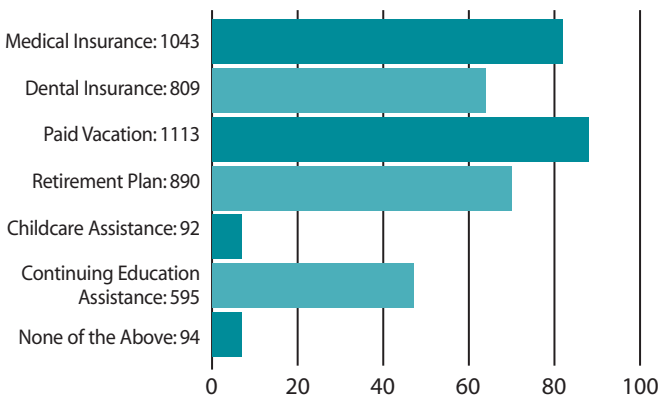
Job Title/Function



Salary Increase in Last 12 Months

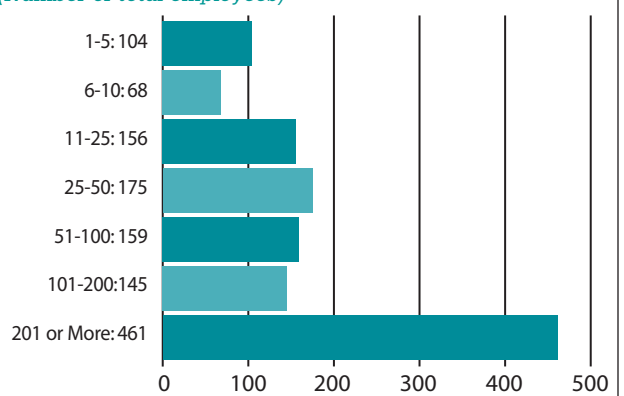


Employee Benefits



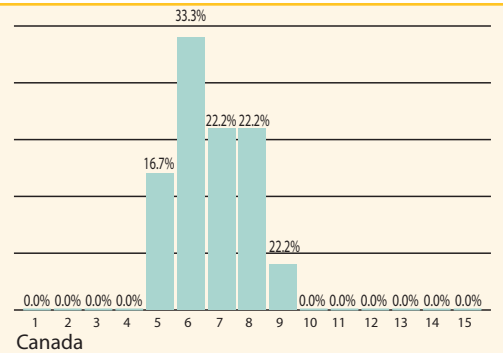
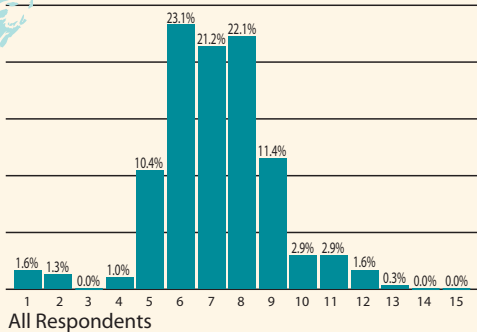
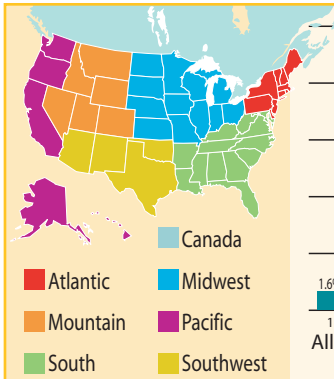
How Big Is Your Company?

(Number of total employees)



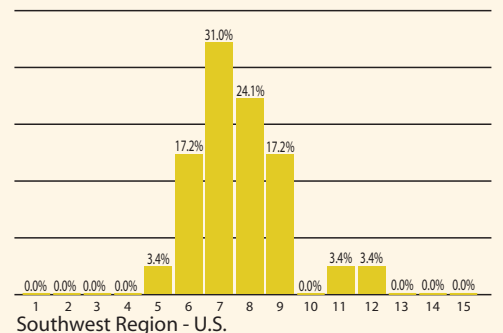
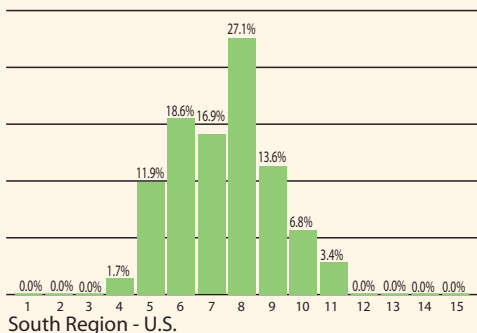
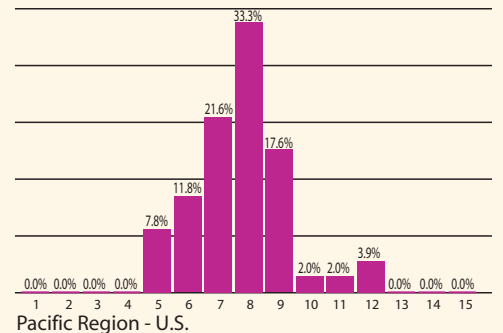
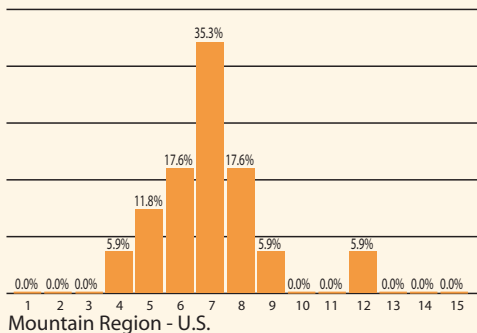
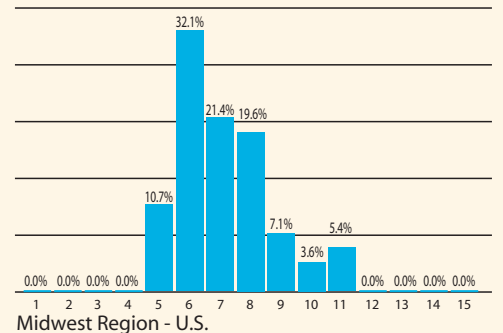
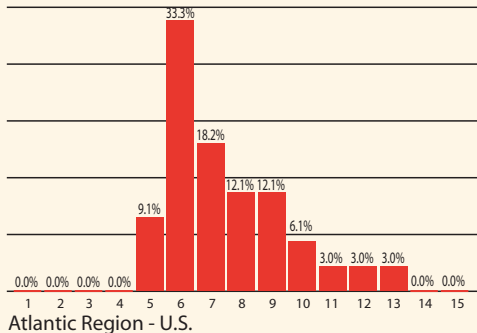


The four job titles held by the largest number of survey respondents were selected for salary analysis. They are CAD Manager, Designer, Drafter, and Engineer.



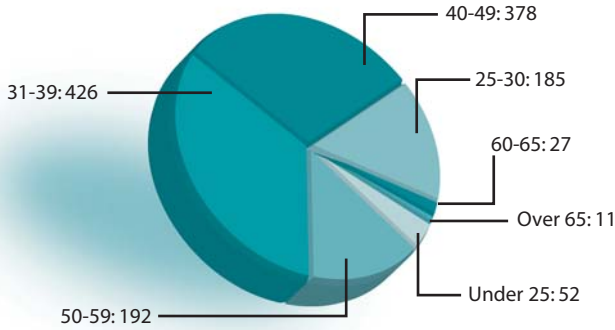
Salary Range

- 1 \$5,000 or Less
- 2 \$5,001 to \$10,000
- 3 \$10,001 to \$15,000
- 4 \$15,001 to \$25,000
- 5 \$25,001 to \$35,000
- 6 \$35,001 to \$45,000
- 7 \$45,001 to \$55,000
- 8 \$55,001 to \$65,000
- 9 \$65,001 to \$75,000
- 10 \$75,001 to \$85,000
- 11 \$85,001 to \$95,000
- 12 \$95,001 to \$105,000
- 13 \$105,001 to \$150,000
- 14 \$150,001 to \$200,000
- 15 \$200,001 or More

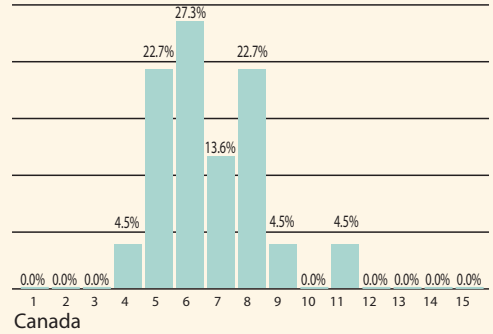
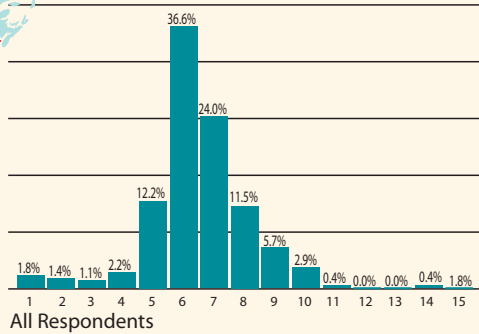
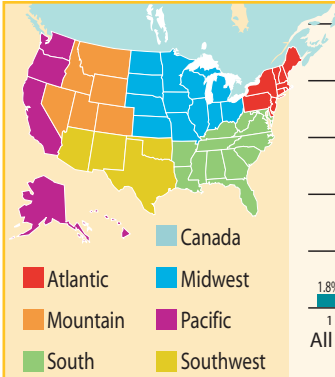
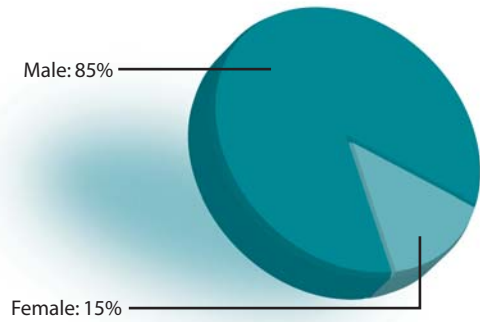


Salary Range for CAD Manager

Employee Age

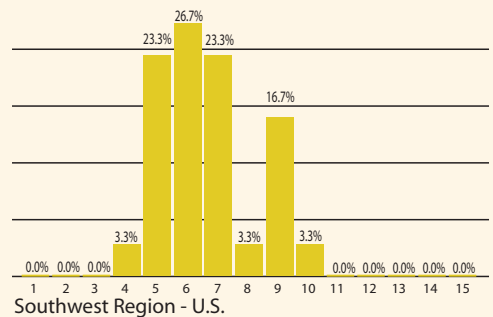
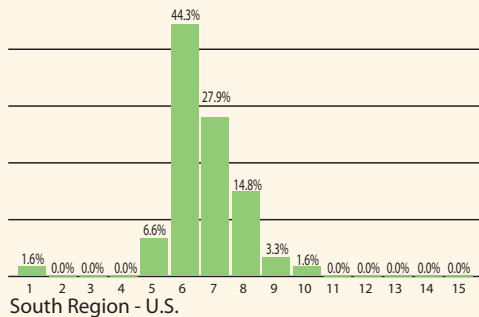
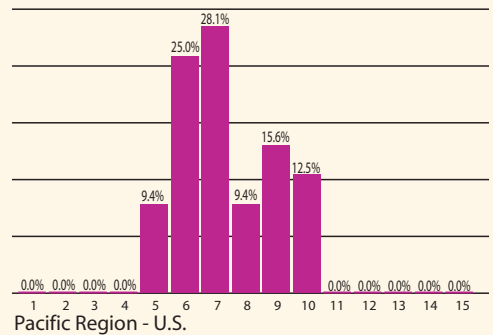
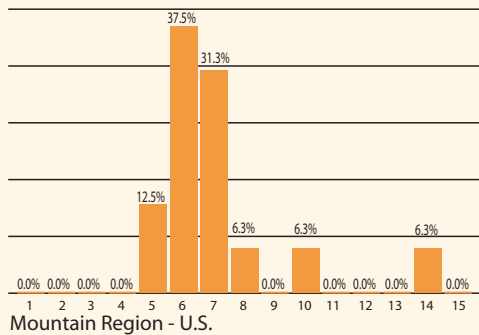
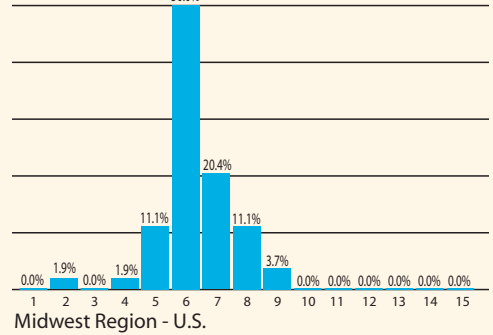
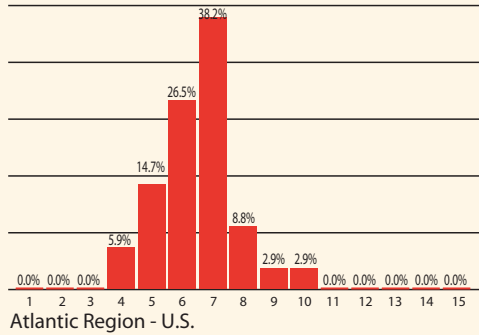


Employee Gender



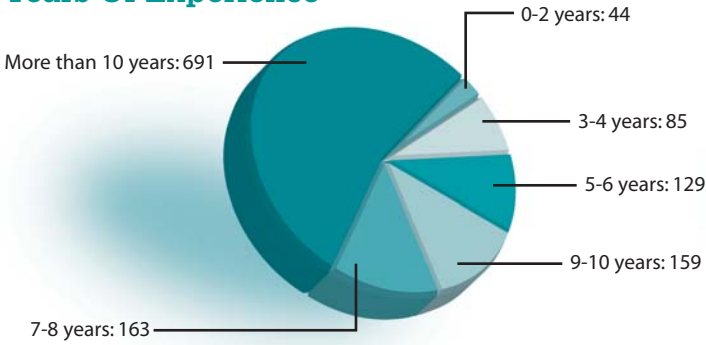
Salary Range

- \$5,000 or Less
- \$5,001 to \$10,000
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- \$105,001 to \$150,000
- \$150,001 to \$200,000
- \$200,001 or More

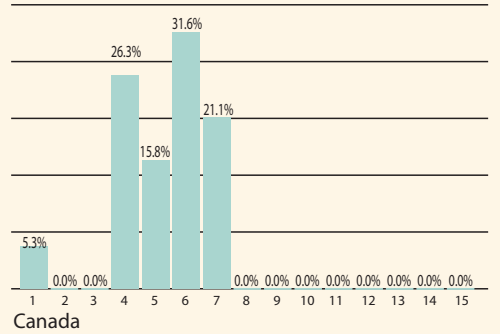
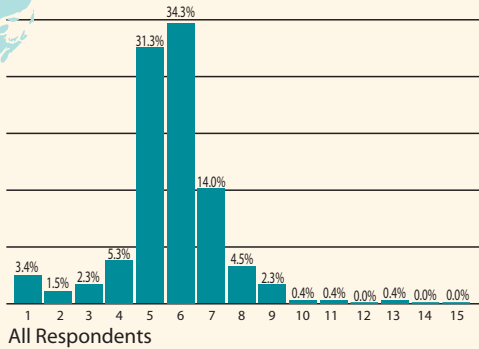
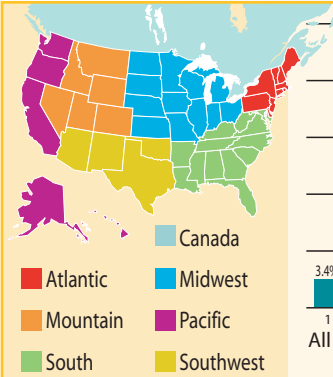
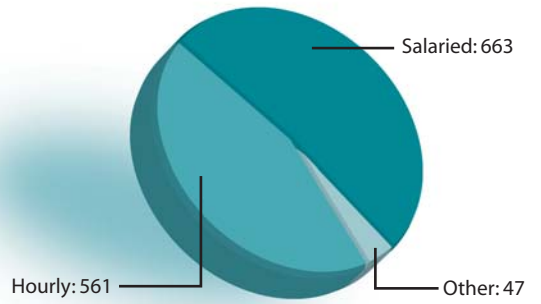


Salary Range for Designer

Years Of Experience

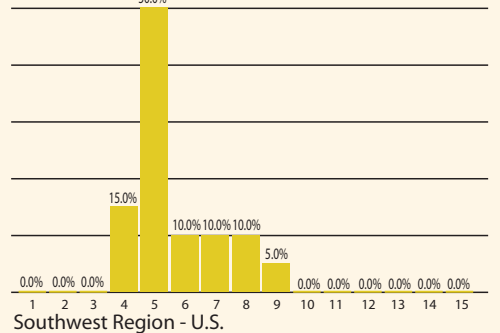
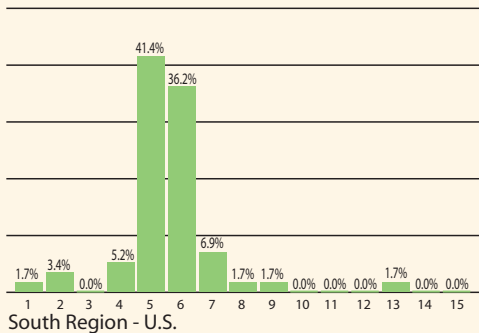
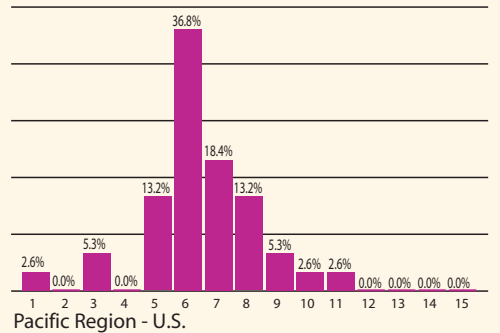
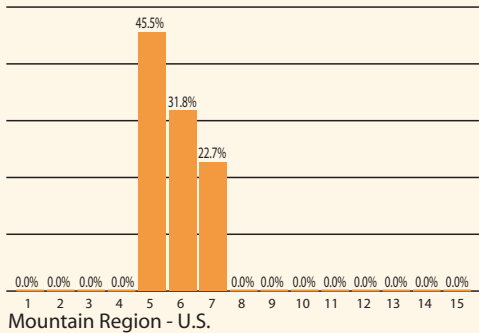
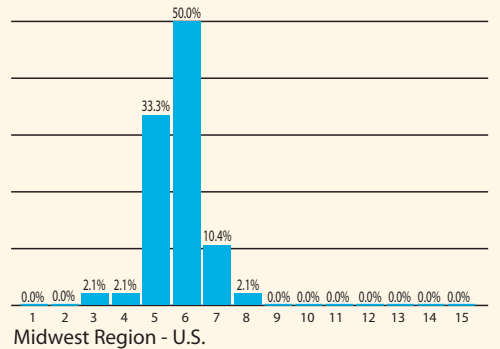
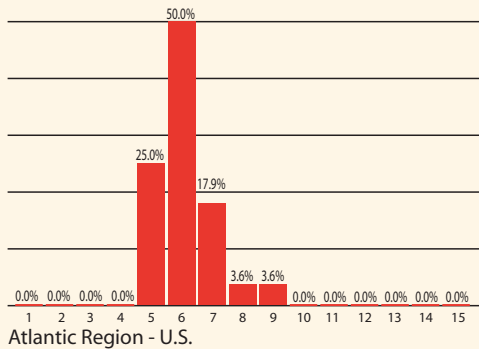


Compensation



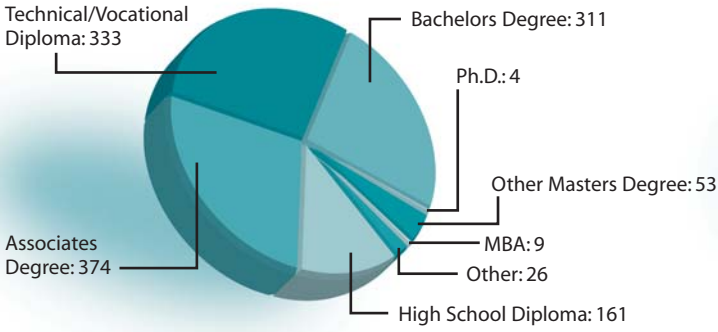
Salary Range

- \$5,000 or Less
- \$5,001 to \$10,000
- \$10,001 to \$15,000
- \$15,001 to \$25,000
- \$25,001 to \$35,000
- \$35,001 to \$45,000
- \$45,001 to \$55,000
- \$55,001 to \$65,000
- \$65,001 to \$75,000
- \$75,001 to \$85,000
- \$85,001 to \$95,000
- \$95,001 to \$105,000
- \$105,001 to \$150,000
- \$150,001 to \$200,000
- \$200,001 or More

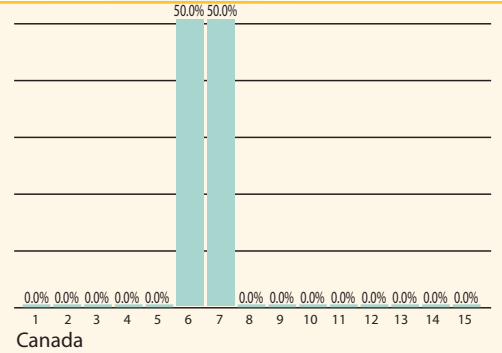
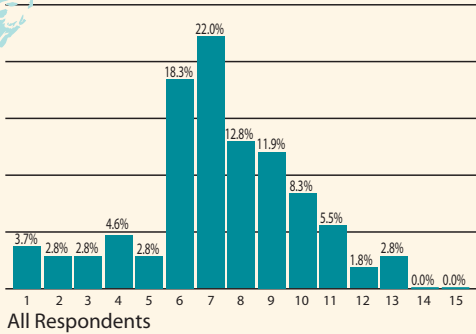
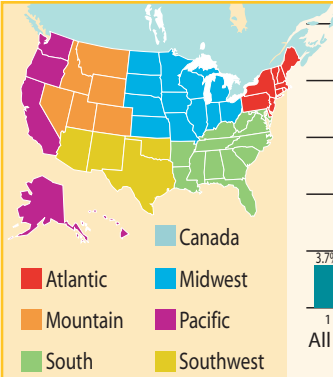
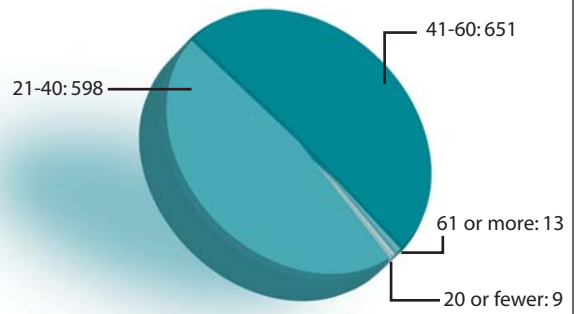


Salary Range for Drafter

Education

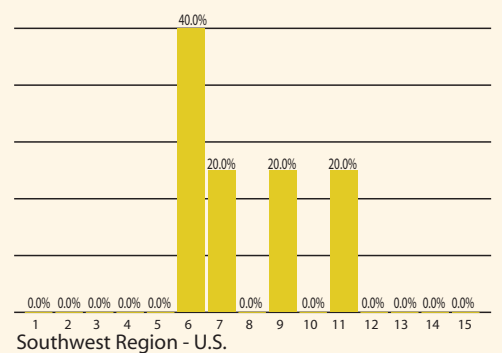
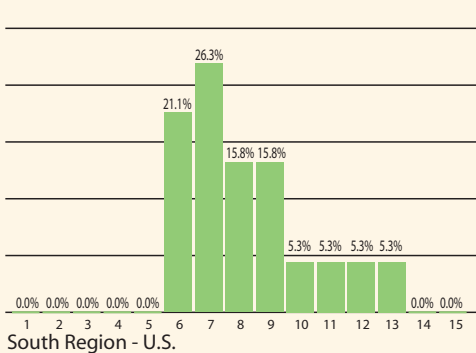
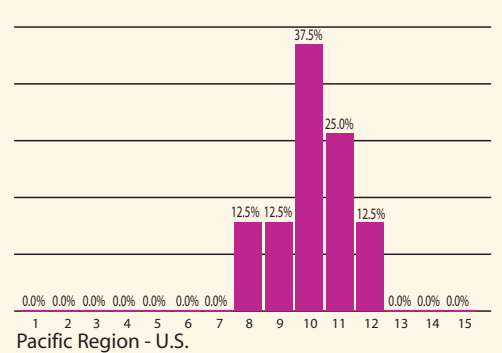
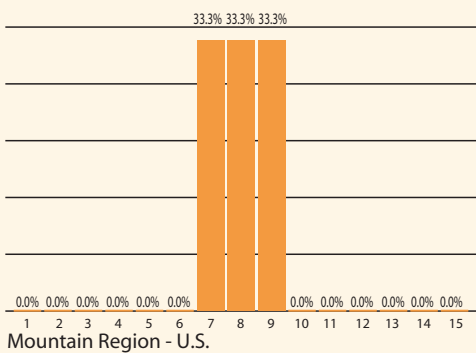
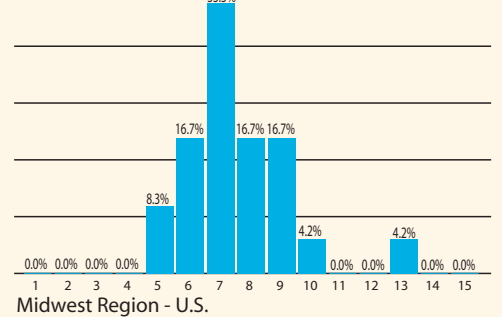
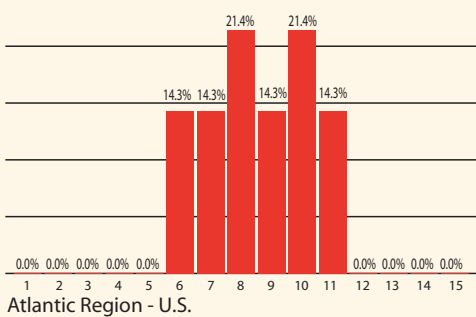


Hours Worked Per Week



Salary Range

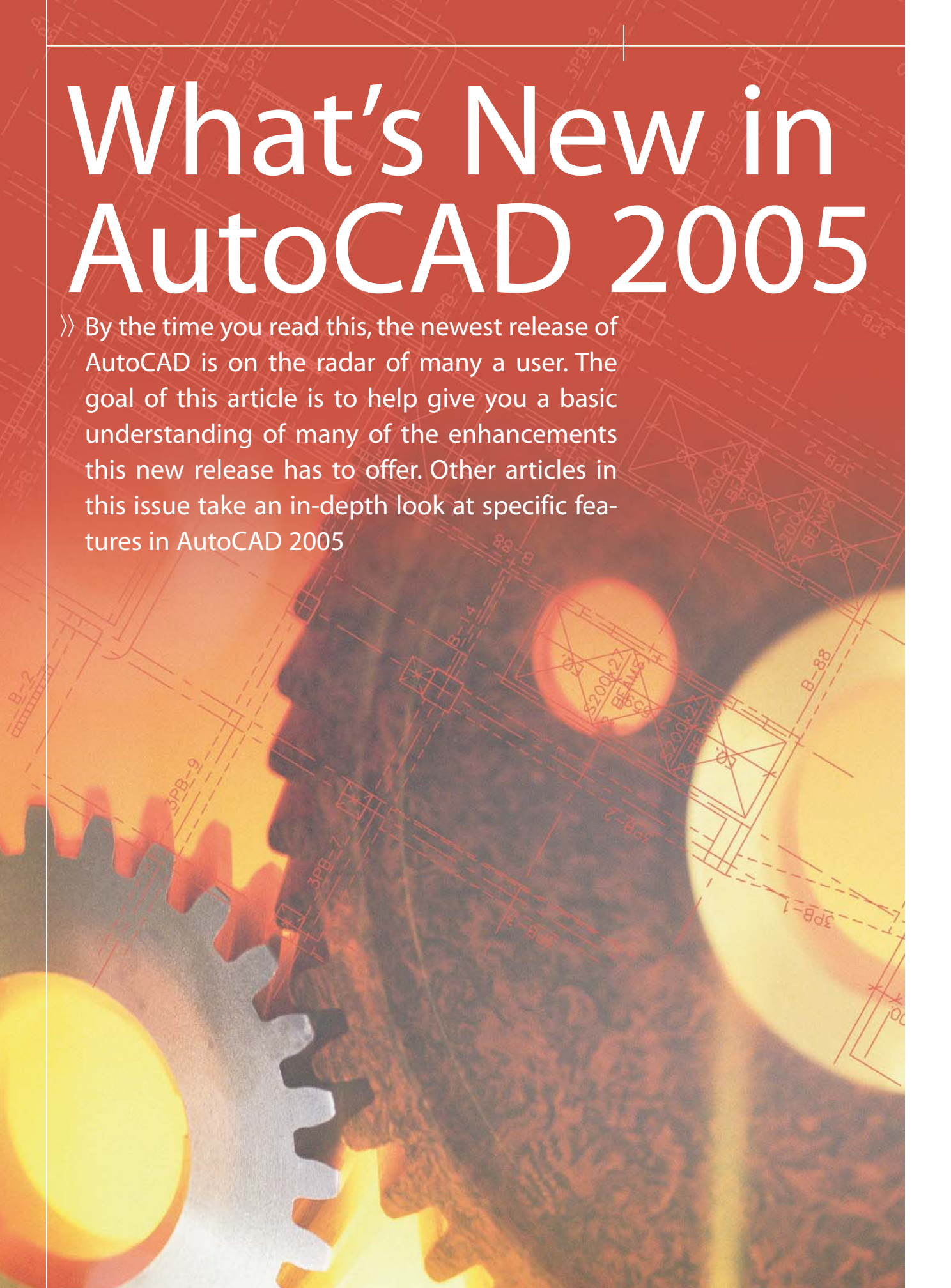
- \$5,000 or Less
- \$5,001 to \$10,000
- \$10,001 to \$15,000
- \$15,001 to \$25,000
- \$25,001 to \$35,000
- \$35,001 to \$45,000
- \$45,001 to \$55,000
- \$55,001 to \$65,000
- \$65,001 to \$75,000
- \$75,001 to \$85,000
- \$85,001 to \$95,000
- \$95,001 to \$105,000
- \$105,001 to \$150,000
- \$150,001 to \$200,000
- \$200,001 or More



Salary Range for Engineer

What's New in AutoCAD 2005

» By the time you read this, the newest release of AutoCAD is on the radar of many a user. The goal of this article is to help give you a basic understanding of many of the enhancements this new release has to offer. Other articles in this issue take an in-depth look at specific features in AutoCAD 2005



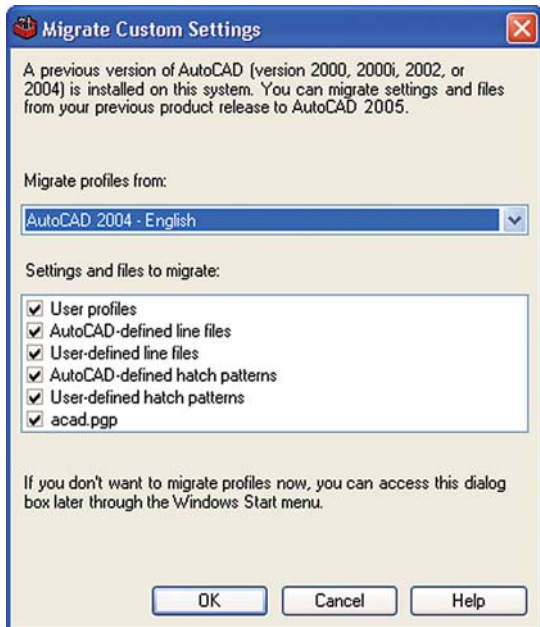


Figure 1: Migrate custom settings from previous release

Building on Past Success

Around this time last year Autodesk released AutoCAD 2004, which introduced many new features. Now just a year later they are unveiling the next version—AutoCAD 2005. Autodesk obviously went right into development of this release days after AutoCAD 2004 started to ship. This edition is toting many new features that help it appeal to a wide variety of users.

Figure 1 shows the new Migrate Custom Settings feature, which runs the first time AutoCAD starts. Migrate Custom Settings is there to help get you up and running faster than before by adopting specific local customizations and settings based on the older installed version of AutoCAD that exists on your system.

This is the best migration process that Autodesk has ever created for porting to a new version. By doing this, they have helped users become more productive with the software much sooner. The user interface mimics AutoCAD 2004, but with some new additions. DWG files are fully compatible with AutoCAD 2004 and the popular Express Tools are still available. This means less time spent worrying about saving drawings to old formats and losing compatibility. Something else to note is that AutoCAD 2005 can be installed side-by-side with your older version. This will help make the transition smoother than committing to AutoCAD 2005 during a project. Along with the side-by-side installations, many will find that their customization is compatible from AutoCAD 2004.

After the Migrate Custom Settings dia-

log exits and AutoCAD 2005 loads, the New Features Workshop loads. New Features Workshop exposes a user to the many new features in AutoCAD 2005, along with features that were added to AutoCAD 2004. Most will dismiss this dialog right away, but it is worth coming back to later on.

Organizing Drawing Sets into Sheet Sets

The first thing that you will notice when AutoCAD 2005 starts up is how much it looks like the previous version. But open the File pull-down menu and choose the new Sheet Set Manager and all this will change. The new SSM is shown in Figure 2 and begins

the concept of organizing printed Drawing Sets into an electronic organizational tool that holds references to drawings and layouts. The tool can help create and manage project files based on standard templates. Along with project creation, it has some built-in file name and structure capabilities. Sheet Sets have incorporated many of the file operations in AutoCAD, such as eTransmit and Plot to make completing a project more seamless. Another article in this issue explores the

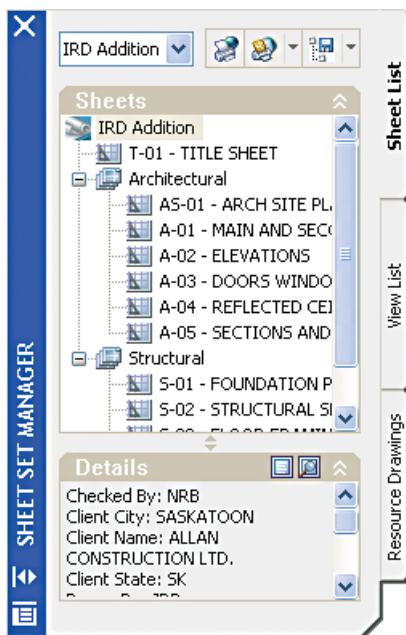


Figure 2: Sheet Set Manager

Sheet Set Manager in detail.

Sheet Set Manager works with older drawings as far back as AutoCAD Release 12 and is based upon how the drawing was set up. A downside to the Sheet Set Manager is that a given drawing can belong to only one Sheet Set at a time. The SSM is refreshing, with powerful features that will make you think differently about how to create and organize drawings.

Working with Tables and Charts

Typically, creating a chart or table meant performing numerous steps. One might have been arraying many lines along with text objects to form a grid. Another might have been creating it using Microsoft Excel. Both of these methods posed their own challenges. Figure 3 shows an example of a new table created with AutoCAD 2005. Information can still be brought in from MS Excel to generate a natively editable table object. The Table feature incorporates many of the tools and concepts that are found in MS Excel or Word.

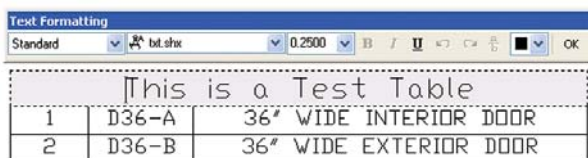


Figure 3: New Table Object

It would have been nice to see a way to automatically number a column (perhaps in a future release). More detailed information on Tables is available in another article in this issue.

Enhanced Tool Palettes

Many of the Tool Palettes enhancements were based on customer feedback. Some of the additions include prompting for rotation and having an Auxiliary Scale that allows a block to scale at insertion based on the current Dimscale or plot scale. For those who weren't on subscription for AutoCAD 2004, you will find the Command Tools and Tools By Example welcome new features. Along with making Tool Palettes more powerful, a new way of organizing them into groups has been added.

Leveraging Existing Drawing Data

You spend a lot of time filling out information and creating objects in the drawing. Now wouldn't it be nice to actually reuse that information to make the drawing more accurate? This is where Fields

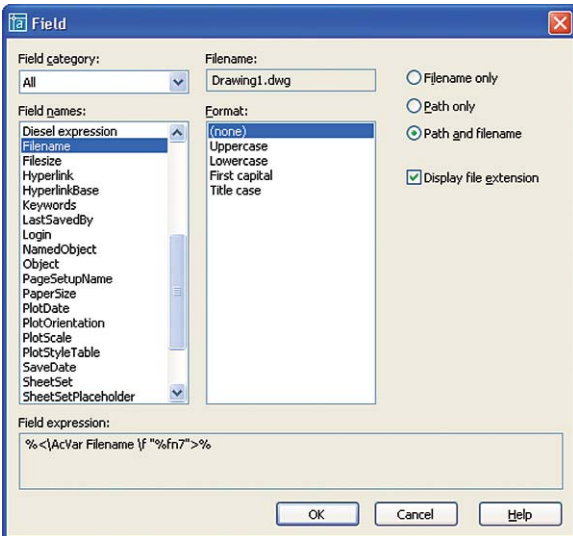


Figure 4: Field Dialog Box

come into play. Fields are a new enhancement to Mtext, Tables, Text, and Attributes. Figure 4 shows the new Field dialog box with its available options to create values linked to System Variables, Diesel Expressions, Drawing Properties, Sheet Set Properties, and Object Properties. Soon this will be an invaluable tool. Refer to the article on Fields in this issue for more information.



Figure 5: Mtext with Background Mask

Who's Behind That Mask?

The concept of Wipeout and Text Masking were first offered as Express Tools, but they both had problems. Wipeout was a separate object from the Text, and Text Masking only worked with Text and not Dimensions. The new Background Mask feature fixes both of the problems by making it an actual property for the object instead of separate. Figure 5 shows how a Background Mask looks when enabled on a Mtext object.

Getting the Designs Out the Door

When Plotting was overhauled in AutoCAD 2000, many users reacted very strongly because it seemed complicated. Four versions later Autodesk has revised the Plot user interface and it has been greatly simplified. Figure 8 shows revised dialog and how the controls have



Figure 6: Viewport Maximize, Minimize and Navigation Controls

Working Through a Viewport in a Whole New Way

A nice addition for those that work in paper space often is a way to edit model space through a viewport without accidentally changing its scale and still allowing Pan and Zoom operations. This feature allows the user to maximize the viewport so it fills most of the drawing area. When ready, a simple double-click outside of the viewport (or click of the icon) restores the original scale and view. Figure 6 shows the new Viewport Navigation controls located in the Status Bar.

Getting More Out of Layers

After many years of using the Layer Properties Manager, one might think that it lacks some ease of use and functionality. Figure 7 shows how AutoCAD 2005 solves many problems associated with working on drawings that have a large set of layers by introducing an improved Filtering and Grouping system along with a new Description field for a Layer. Refer to the article in this issue on the new Layer Properties Manager for a detailed explanation.

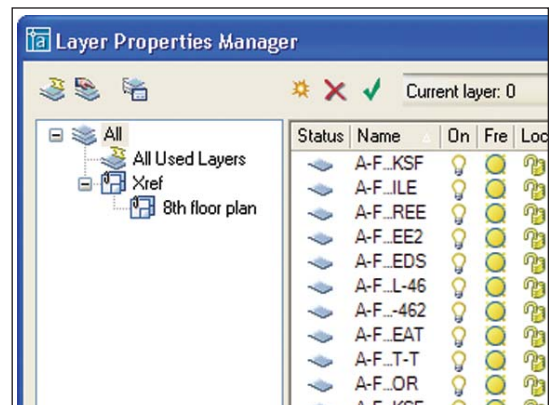


Figure 7: Layer Properties Manager with Grouping and Enhanced Filters

been laid out based on functionality and complexity. All the required information to plot a drawing is now located on the main portion of the dialog box and the remaining settings are accessible via a "show details" button. Along with the Plot dialog, Page Setup has also received a face lift. And Plot and Publish can now be performed in the background allowing the user to get back to work without waiting for a plot to finish.

Odds and Ends

Hatch (Trim and Gap Tolerance) – Hatch has been updated to allow trimming operations and can span gaps to create closed boundaries.

Object Snap Enhancements – Deferred Perpendicular has been enhanced to provide visual feedback and a new ability to allow Hatch objects to be ignored when using Object Snaps or not.

Midpoint between two points Osnap (m2p) – Allows for obtaining the Midpoint between two selected points.

Improved OLE support – OLE has been improved to work with standard Modify commands, like Move and Erase.

Image Paths – Images now have the same "Path Type" option that is available to Xrefs.

Revcloud – The Calligraphy option from the original Express Tool has been brought back.

Markup Set Manager – There is a new Markup interface that replaces the old

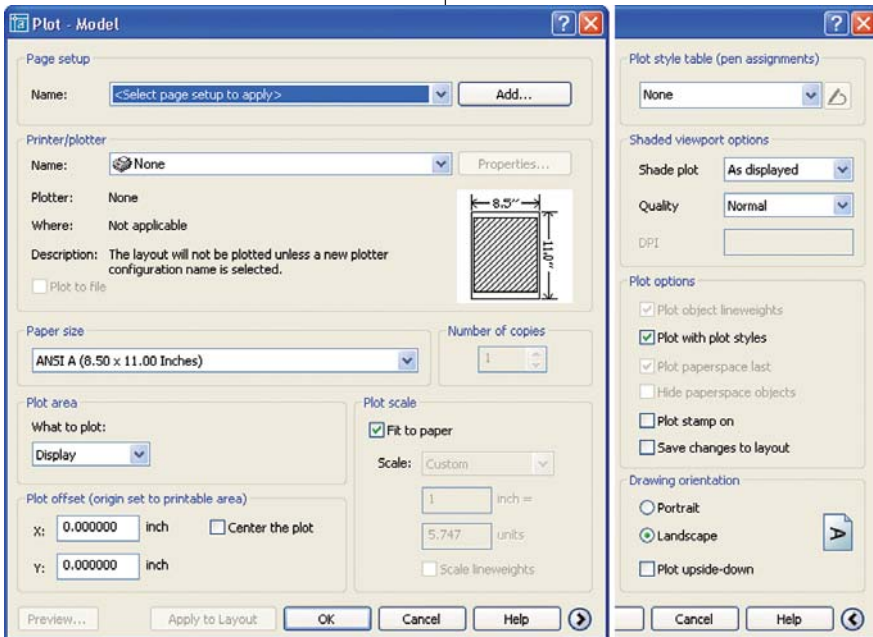


Figure 8: New simple and detailed Plot interface

RMLIN command to work with the new drawing and DWF viewer.

eTransmit – Now has the ability to save different Transmittal setups for reuse later.

Info Palette – Replaces the Active Assistant and can now be docked.

Custom Menu – A menu called Custom is loaded by default with

AutoCAD. Users can place their keyboard shortcuts and toolbars here.

EditTime (an Express Tool) – Monitors the amount of time spent in a drawing and has a timeout feature that stops keeping track of time while AutoCAD is idle.

Closing Comments

AutoCAD 2005 is a great follow up to AutoCAD 2004. It offers many features that increase efficiency during the design and drafting process along with features that help enforce standards. It is well worth the effort it takes to upgrade, but only if you take advantage of the new features in order to get maximum value of the software upgrade.

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Because time is of the essence...



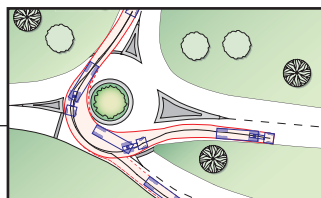
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What's New in AutoCAD 2005

Layer Properties Manager

» Layer management gets a productivity boost with the AutoCAD 2005 version of Layer Properties Manager

Layers are a primary tool used to create complex and simple drawings alike. Although the introduction of AutoCAD 2000 changed the nomenclature a bit, along with many new features, there were still improvements to be made. AutoCAD 2005 continues this renewal with all of its incredible features. But I suspect the most-used 2005 feature again will be the new Layer Properties Manager. Although conceptually not much different from the previous version, this release takes a fresh

changes in print, a single large image speaks volumes. So go ahead and “listen” to Figure 1 for a moment.

Changes Are Good

Now depending on the version of the Windows operating system that you use, your ‘dialog’ look may be a bit different, but the primary structure will be the same as the figure. The filter area is over to the left side and the standard layer listing area eats up the bulk of the dialog. Now in my

Layer Listing

We will start our tour over in the Layer list zone. At the top of this area are new colorful icons. These used to be fairly large buttons in the previous version of AutoCAD, but are nice and small now. The funky little explosion symbol creates a new layer. The red ‘X’ symbol deletes the currently selected layer, but only if it isn’t referenced. You would think it would work or be grayed out if not possible. I should mention on this point that if a layer is not

being used, able to be removed, the symbol to the left of the name turns from blue to gray. In Figure 1 the layer BE can be removed if desired since it is not being used. When you delete a layer it gets an X over the status symbol and sticks around until you click Apply or Ok to close the dialog session. The last icon to cover is the green check. Push this and the currently selected layer will become the current layer. You can also double-click on the layer name and accomplish the same thing. The other major change to this area is the Description column. Note the BRIDGE layer entry. To the right is a note that this layer is for small step bridges. I can see this feature being

very helpful for layer naming conventions that you don’t know or aiding others in understanding your system.

Right-Click It

If your mouse has only one button you probably should invest in a new one. There are many enhancements in AutoCAD that take advantage of the right-click shortcut menus and the LPM is no exception. With just a single right-click you gain access to nearly all the controllers built into the

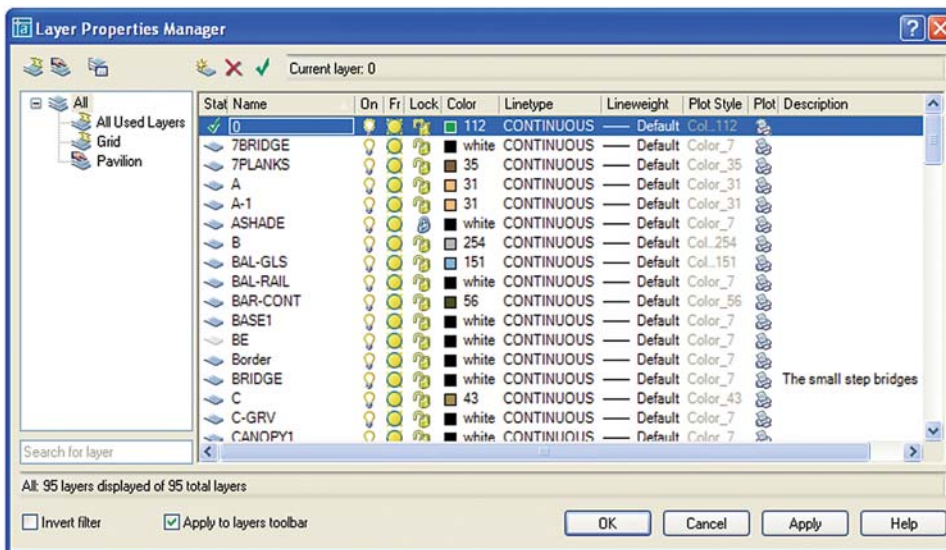


Figure 1: The new Layer Properties Manager dialog

new approach to the methods used to interact with it and throws in a few new jewels to enhance your productivity.

The BIG Dialog

I normally frown on huge dialog images in magazine articles, they can get too small to read or just eat up too much space. Forgive me in this case since in order to really appreciate the user interface

example I have it widened to clearly show the column titles and the contents of each. As with many dialogs in AutoCAD, the widths of the columns are adjustable. Once you learn that the ‘sun’ icon is the symbol for freezing/thawing for layers, you can thin it up just showing the symbol and an ‘Fr’ for the title. This increases the available screen space for other stuff or just to keep this behemoth more manageable.



Figure 2: Right-click menu

main dialog. Figure 2 shows this menu in detail. For example, if you don't use filters you could free up space by turning off the filter tree. This might be a bad idea though, and you'll find out in the next section why.

Filtering Your Layers

As we look to the left of the main dialog, this new area is the Filter TreeView area. It is used to show named filters, named

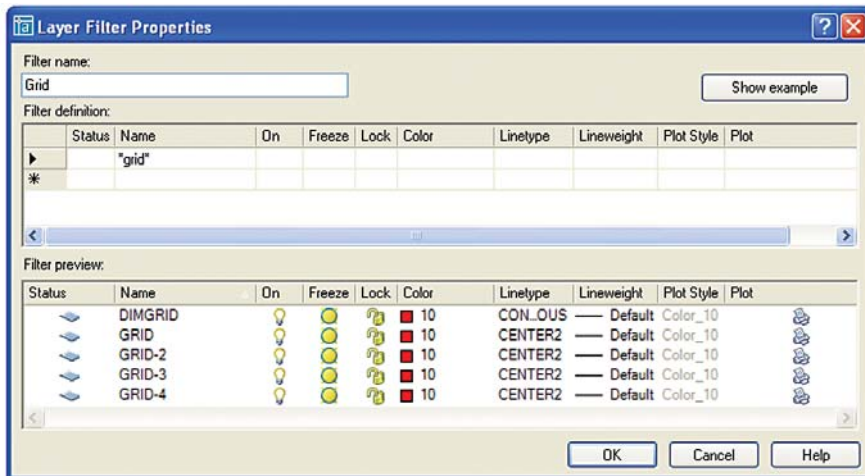


Figure 3: Layer Filter Properties dialog

groups, and the default filters 'All' and 'All Used Layers'. First, a little background information. A layer filter is a live layer query that, when active, will sift the layers in a given drawing down to a user-defined set of similarities. If you click on the icon with the little lightning bolt, the Layer Filter Properties dialog will pop up. Figure 3 shows that there is a fairly broad set of query categories from which to choose.

In the example we simply assign all *grid* layers to the 'Grid' filter. The first '*' is a wildcard—it gets all layers with something or nothing in before the word GRID, the last '*' does the same after the word GRID. The bottom half of this dialog shows the filter applied in real time, which is very cool. As you type, the list changes dynamically. And when you make a mistake it'll become obvious because no layers will be listed. You can set up a filter that grabs layers that are referenced, green, and are toggled to plot. Why? I don't know, but you can do it.

Grouping Your Layers

The little icon with the pointing finger is the New Group Filter feature. Group Filter? Yep, it's new. Let me explain. Whereas a Layer Filter lets you 'wildcard' a selection of layers together as one, a Layer Group is a defined set of layers that does not change. If I have a filter of *GRID* layers and make a new layer with

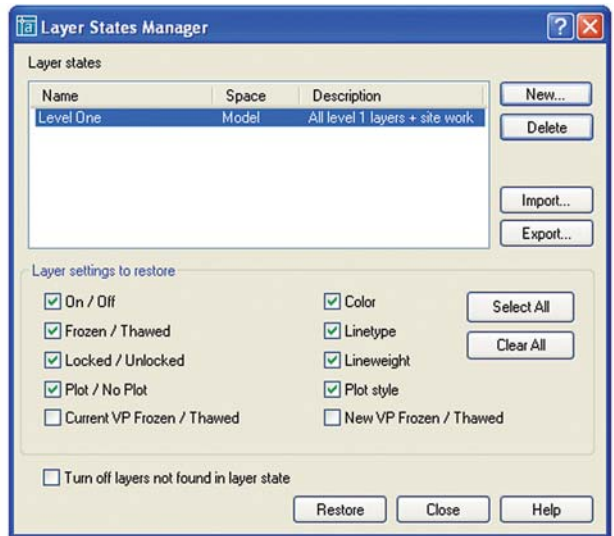


Figure 4: Layer States Manager dialog

AND you can turn a property-based filter into a group!

View Your Layers

The icon to the right of the finger icon opens the Layer States Manager. Aside from a revised dialog shown in Figure 4, there isn't much new. There is a new description field that will help organize your states. There is also a new option to turn off layers not found in a saved state. This can be very helpful since new layers may exist accidentally and this will shut them off. There is also View command feature I should mention. When you save a named View, not only does it take a record of your view, but it will now store the visibility status of your layers. Layers that are on and thawed will be saved and restored by the view when you make it current. It is a kind of Layer state and will be used that way. Use the View command to learn more.

Layers Can Be a Pain

If you have ever struggled with layer management you will enjoy the enhancements made in AutoCAD 2005. Some changes are subtle, saving brief moments per day, while others will become indispensable after you apply them a few times. As with any new features you need to use them to make the most of your new AutoCAD!



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What's New in AutoCAD 2005

Get Familiar With Fields

» How are Fields used in the new version of AutoCAD?
This article explores this powerful new feature

An integral new feature of AutoCAD 2005 is Fields. Much of the power in the new Sheet Sets and Tables features would be lost if fields were unavailable. So just what are fields?

A field is text that is updatable to display data that might change during the life of the drawing. Experienced Microsoft Word users will be familiar with the power of fields, as AutoCAD's fields are similar to Word's fields. If you have never used fields, you will quickly see why they are so important to this version of AutoCAD.

Notice the sample drawing shown in Figure 1. You can easily discern the fields due to their gray background. A new system variable, FieldDisplay, toggles the display of the background.

As you can see, fields can be used in many places in a drawing that, before AutoCAD 2005, required careful attention. Titleblocks can be updated via the Sheet Set Manager and those changes shown on the drawings via fields. Tables can contain up-to-date information. Plot stamps will automatically update before each plot and be customizable in ways that Express Tools RText could not be, such as

justification. Detail references on one drawing will change if the detail sheet's number is changed. These are only a few ways in which fields will alter the way you create and maintain your drawings.

Fields in Detail

What type of data will you be able to display using fields? Your options include the operating system's environment, AutoCAD's system variables, drawing properties, and even individual object properties.

Fields will normally update upon opening, saving, plotting, or regenerating the drawing. They will also update when you use the eTransmit feature. A new command, UpdateField, permits you to update selected fields at any time. Some fields, such as the Date field, will update only when you use the UpdateField command on them. You may also control the automatic updating behavior with a new system variable named FieldEval.

Fields may be added to text objects such as MText, Attributes, and Table cells. You typically add fields to these objects from a dialog box. Simply right-click the mouse to display the shortcut menu (shown in Figure 2) and select the Insert Field item which will display the Field dialog box (more on that in a moment).

You might be concerned with how field data will translate when a drawing is opened by an earlier version of AutoCAD. The last value displayed in a field is what will be displayed when the drawing is opened by previous versions of AutoCAD. The field will

SHEET INDEX	
SHEET	DESCRIPTION
S41	SHEET INDEX, VERBITY MAP, SYMBOL LEGEND, BUILDING CODE ANALYSIS
Architectural	
A601	ARCHITECTURAL SITE PLAN NOTES
A603	MAIN FLOOR PLAN, SECOND FLOOR PLAN, WALL TYPE NOTES
A602	EXTERIOR ELEVATIONS
A608	DOOR & FRAME SCHEDULE, ROOM FINISH SCHEDULE, DOOR, DOOR FRAME & WINDOW TYPES
A604	WALL & SECOND FLOOR REFLECTED CEILING PLANS
A605	STAIR SECTIONS AND DETAILS
Structural	
S601	FOUNDATION PLAN, PILE SCHEDULE, PILE TYPICAL DETAIL
S602	STRUCTURAL SECTIONS AND DETAILS
S603	FLOOR FRAMING PLAN AND SECTIONS
S604	STRUCTURAL SECTIONS

project:
INTERNATIONAL ROAD DYNAMICS
- ADDITION PH.1
SASKATOON, SK

client:
ALLAN CONSTRUCTION LTD.
SASKATOON, SK

content:
TITLE SHEET

drawn by:
checked by:
date: NOV 2001
drawing no. T-01

Figure 1: Sample Drawing Title Block

Undo	Ctrl+Z
Redo	Ctrl+Y
<hr/>	
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
<hr/>	
Insert Field...	Ctrl+F
<hr/>	
Indents and Tabs...	
Justification	▶
Find and Replace...	Ctrl+R
<hr/>	
Select All	Ctrl+A
Change Case	▶
AutoCAPS	
Remove Formatting	Ctrl+Space
Combine Paragraphs	
<hr/>	
Symbol	▶
Import Text...	
Background Mask...	
<hr/>	
Help	
<hr/>	
Character Set	▶

Figure 2: The right-click shortcut menu

survive a round-trip from all AutoCAD 2000 versions and even earlier releases.

MText objects can be exploded, so what happens when you explode MText that contains fields? The fields will be reduced to normal text. Text or Attribute Definition objects cannot be exploded so you must highlight the field in the editing dialog, right-click, and select Convert Field To Text.

Field Dialog Box

The Field dialog box, shown in Figure 3, has a category list on the left and field properties and formats to the right. The lower portion of the dialog shows you how the field expression is constructed. After

you become familiar with the expression, you can enter the expression directly to any text-based object to create the field instead of navigating through the dialog.

Once you have selected a field type, you can change its format to a form that you desire. Some fields also have specific properties that you can choose.

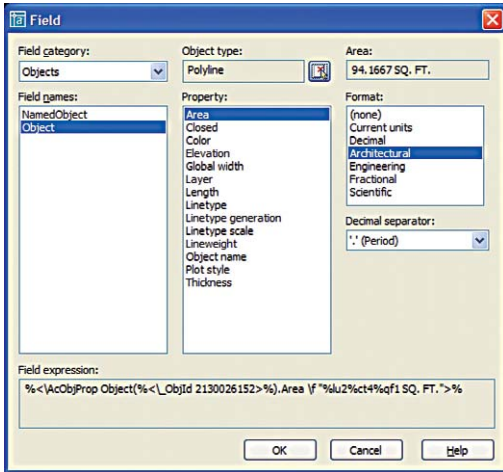


Figure 3: The Field dialog box

Field Categories

The categories are logically grouped as follows: Date & Time, Document, Linked, Objects, Plot, SheetSet, and Other. Date & Time is a minor category with only four fields: CreateTime (when a drawing is initially saved), Date (current date/time, updated only by the UpdateField command), PlotDate (of the last successful plot, not the current plot), and SaveDate (of the last save).

The Document category exposes the Document Properties that, prior to this, were only available through programming or RText. A useful field in this category is the Filename field, which will find its way into many firms as part of their plot stamps. Any custom properties you add will also appear in the list of available fields.

Linked would seem to be a one-person show with only one field; however, since you may create a hyperlink to just about anything, this will be a frequently used field. Many of the samples for the Sheet Set Manager use the Hyperlink field not only to display text, but also to permit you to open the referenced drawing.

The Object category has amazing potential. You may create fields to display the names of objects, which is of limited value. More interesting are the options available under the Object field. Look at the example of the Area property in Figure 4. After changing the rectangle, a regen displays the updated area of the rectangle.

Even a brief look at the object properties available to the object field will open your eyes to the possibilities.

Next in the categories list is Other. You may use a Diesel expression as a field. For instance, this expression, \$(getenv, UserDomain)/\$(getenv, ComputerName), will display on the drawing the network domain and computer name that has the drawing open. You may also display the value of a system variable, such as the current profile (CProfile).

An updatable and automatic plot stamp has been available for a number of past releases, and many firms have developed similar approaches on their own. The Plot category now gives you an easy way to create a plot stamp using just MText. This makes plot stamps highly customizable for fonts, justifications, lineweights, and other features. All this power is now available to even the occasional AutoCAD user. There are even data that before were only available to a programmer, such as the DeviceName and PaperSize. Let your imagination run free on your plot stamps! You will no doubt find many creative ways to describe how your plot was created using fields.

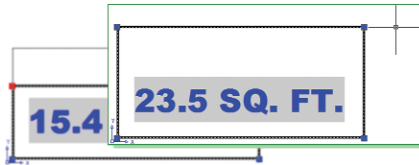


Figure 4: Field displaying Area

The Final Category, SheetSet

Lastly we come to the SheetSet fields. These fields work hand-in-hand with Sheet Sets. You will find more information on Sheet Sets in this issue of AUGIWorld. Many of you will have the Sheet Set Manager open continuously during the drawing session, and when you do, you can create a field across separate drawings. For example, open the AutoCAD's sample Sheet Set "IRD Addition" in the \AutoCAD 2005\ Sample\ Sheet Sets\ Architectural folder. Open sheet A-01. Add a new MText object and include a field. Select the SheetSet category, the SheetSet field name, and notice the sheet navigation tree is populated with the sheets from the sheet set. Select sheet A-04 and specify its SheetTitle property. Notice how you are now placing a live piece of data in one drawing that refers to

the title of another drawing! This is one reason why the Sheet Sets in AutoCAD 2005 are so powerful; the ability to reference data across drawings via the use of Fields. Placeholder fields are important also. These are fields that will eventually contain data, but at the time of the creation of the field that data does not exist. You will use these fields often in detail and title blocks.

The Power of Fields

Fields are a powerful new tool in the toolbox of AutoCAD 2005 features. Imagine the possibilities open to you. Have your drawings communicate information based on live data. Tie your drawings together, sharing data between the drawings. Get creative... with Fields!



R. Robert Bell works for MW Consulting Engineers in Spokane, Washington USA. He is their Network Administrator/Programmer and has used AutoCAD since v2.18 (AutoLISP!). Bob is a member of the AUGI Board of Directors and can be reached at robert.bell@augi.com.

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What's New in AutoCAD 2005

Fast and Flexible Table Creation

» Almost everyone creates some sort of table or schedule in their drawings. You've always had to create those "tables" by drawing the lines and placing the text between the lines. It hasn't been easy. No more hard work! Now, AutoCAD 2005 has a full-fledged table feature that lets you create tables the way you want—plain or fancy. You can even save table styles in your templates so that you don't have to recreate your tables repeatedly.

Insert the Table

The Draw toolbar sports a new Table button for the new TABLE command.

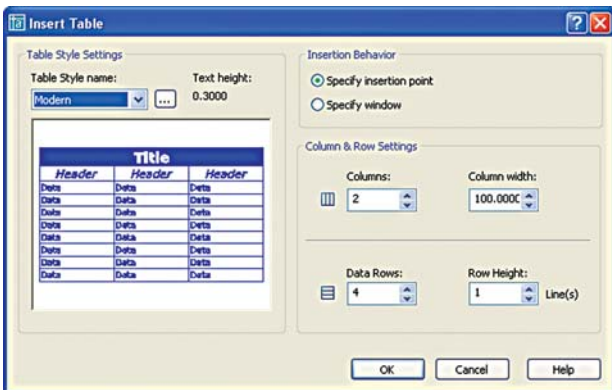


Figure 1: Use the Insert Table dialog box to create tables in your drawing.

Clicking this button opens the Insert Table dialog box, shown in Figure 1.

The left side of the dialog box shows a preview of how the table will look. You choose the table style you want from the Table Style Name drop-down list.

If you insert the table by specifying an insertion point you first specify the number of columns and their width as well as the number of rows and their height (in terms of lines of text). If you insert the table by specifying a window, you first specify only the number of columns and the line height of the rows. Then as you specify the window, the columns widen

and additional rows are added as you move the mouse.

When you click OK and specify an insertion point or a window, you're done!

Make It Look Good

But whoa! That's not how you wanted your table to look, is it? To design or add flair to your table, you first create a table style before creating your table, just as you create a text style before creating your multiline text. Choose the Format menu, then select Table Style to

open the Table Style dialog box, shown in Figure 2.

Tip: If you forget to create a table style first, you can click the [...] button in the Table Style Settings section of the Insert Table dialog box to get to the Table Style dialog box.

On the left side of the Table Style dialog box is a list of available styles. You make a table style current by choosing the style that you want and clicking Set Current.

Tip: A quick way to make a table style current is to choose the table style from the new Table Style drop-down list on the Styles toolbar.

Clicking the New button opens the Create New Table Style dialog box where you name the style and choose an existing table style as a prototype for your new style.

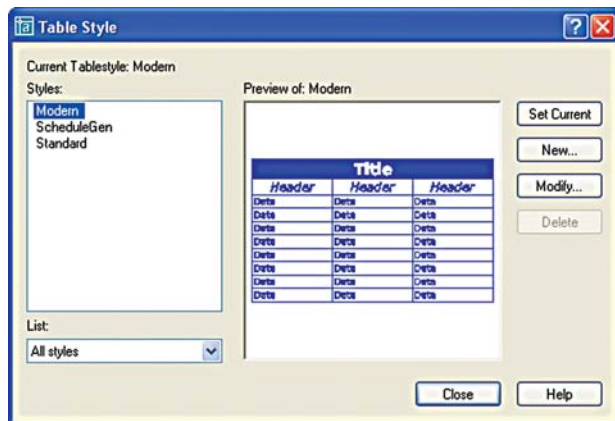


Figure 2: The Table Style dialog box helps you create tables with style.

The new table style then inherits the properties of this existing style so you only specify the differences that you want. For my article I've named mine "Simple." Clicking Continue opens the New Table Style dialog box, shown in Figure 3.

This dialog box should feel familiar since it's patterned after the New Dimension Style dialog box. As you define your new table style, the pre-

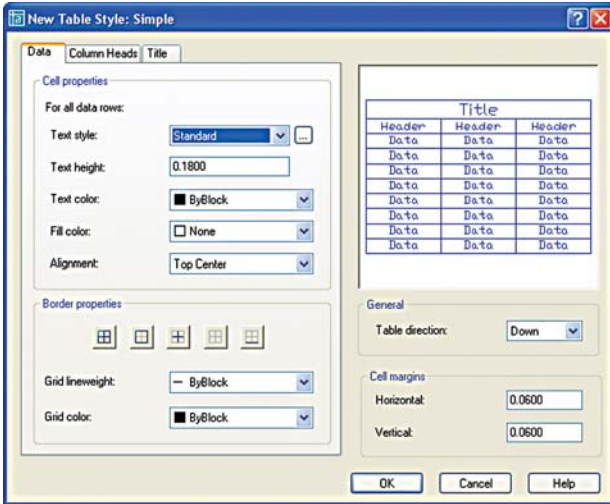


Figure 3: The New Table Style dialog box is the place to define a new table style.

view panel at the right shows you the results. The various tabs define the formatting for the data in the cells of the table, for column headings, and for the table's main title. The three tabs are the same. If you don't need a title cell, go to the Title tab and uncheck the Include Title Row toggle. Do the same for column heads if not needed.

Now you get to make your table pretty. For each tab, you choose a text style, height, and color. The new text mask feature, which lets you create a block around your text, is available here too, but you use it in a new way—to fill your table cells with color. The default is None, which shows the background color of your drawing area. Figure 4 shows a title cell with a blue fill and white

Parts Schedule		
Tag	Part No.	Description
11	9075-052-002	Collar-Shaft
17	9029-072-001	Bracket-Tube Assembly
19	9081-114-001	Channel Motor Mtg. Rod

Figure 4: A nicely styled schedule of parts.

text. You can also set the text alignment. For example, you might want to use middle center for the table and column headings, but middle left for the data cells.

You can create different types of borders. For example, for the data cells, if you choose Outside Borders, the data area of the table will not have any grid lines between the cells, only around the outside of the data cells. You can also set a grid linewidth and color.

Caution: If you inadvertently create a table style with no borders, you may not notice the absence of borders in your draw-

ing—grid lines still show between the cells. A Plot Preview will show the final result accurately.

The cell's margins are the spaces between the text and the cell borders. The horizontal margins affect the left and right sides of the text. The vertical margins affect the top and bottom of the text.

Use It

When you place the table, the cursor is automatically placed in the first cell and you just start typing. Press Tab to

move to the next cell. You can insert one of the new Field objects into any cell in a table. For example, you could put the area of a closed object in a cell. You can also insert blocks. But to insert an image, you will need to embed it in a block first.

If you use Excel to generate tables, you can copy the data to the Clipboard in Excel. Back in your drawing, choose the Edit menu, and then choose Paste Special, using AutoCAD entities. You'll find a table attached to your cursor awaiting placement. This is an excellent method to populate a schedule of any type.

Make It Better

You may need to change the data in a table or you may want to change the way the table looks. Either way, you can modify an existing table easily. Changing the text of a table is like changing any multiline text. Double-click the text inside a cell, being sure not to double-click the grid lines, and the new frameless Multiline Text Editor opens.

When you double-click the table itself, that is, any of the grid lines, the Properties palette opens where you can modify any conceivable table property. If you select the table and right-click, you can use the shortcut menu to make additional changes to the table. You can also edit a table using grips. If you want to edit your table like old-fashioned lines and text, you can just explode the table. Of course, you can no longer edit the table as a table any more; you are left with lines and Mtext objects.

To select a given cell, just click inside that cell. You can then right-click and use the shortcut menu to change the properties of the cell. You can also insert or delete columns and rows. You can select multiple cells and then merge the cells to create

more complex table structures. For example, you could create a title block this way. The sky's the limit here.

You can export a table to comma delimited (.csv) format, using the shortcut menu. You can then open the table in a database or spreadsheet program. You've probably been importing spreadsheets into your drawing because it was easier to input data into the spreadsheet. Would you believe you might start doing the opposite?

The Future of Tables Is Easy to Predict

I can easily predict that you'll love the new tables. They're flexible and should fit easily into your current production procedures. Start upping the ante and make them look better than your old tables. Most of limitations you've been living with for years are gone.



Ellen Finkelstein is author of AutoCAD 2005 and AutoCAD LT 2005 Bible. She maintains a website with AutoCAD info, tips, and tutorials at www.ellenfinkelstein.com.

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What's New in AutoCAD 2005

Sheet Set Manager

» Here's how to get the most from this valuable feature

Drawing Set vs. Sheet Set

Many of us create drawing sets, used to build and manage our designs, every day on the job. This concept applies whether it is an architectural, structural, civil, or some other type of project—the end result is similar in nature. A drawing set typically is made up of many different drawings that range in different content from plans, elevations, sections, plot layouts, and tables of contents. This is the type of workflow and logic that Autodesk has brought into the Sheet Set concept, which is an electronic representation of a physical drawing set.

How Sheet Sets Work

To get the most out of Sheet Sets, it is best to understand a little bit about how they work within AutoCAD. At the center of Sheet Sets is the main tool for creating and managing them—the Sheet Set Manager. Figure 1 shows the Sheet Set Manager, which is designed on a palette like

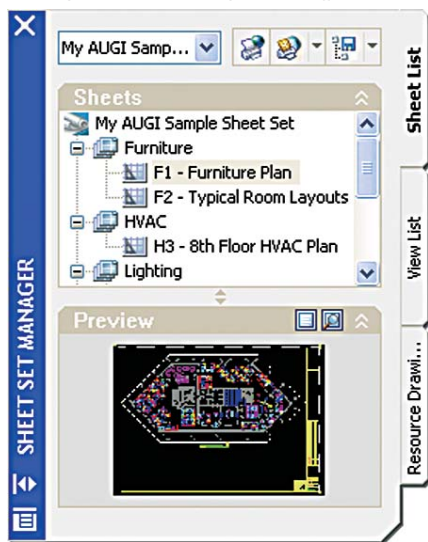


Figure 1: Sheet Set Manager, also known as the SSM

the Properties or Tool Palettes. The Sheet Set Manager consists of three parts: Sheet List, View List, and Resource Drawings.

The first tab on the SSM is the Sheet List, which allows for organizing drawing layouts into groups called “subsets.” A subset can contain multiple layouts or additional subsets. The second tab is the View List that contains all the views that have been placed on layouts contained within the current Sheet Set. The final and third tab is the Resource Drawings, which contains folder locations to the drawing files that contain Named Views that can be used with in the current Sheet Set.

The SSM stores its data in a file with the extension .dst. Most of the information contained in this file consists of pointers to the drawings and layouts. So, when something like a layout name changes, it is automatically updated in the Sheet Set the next time it is refreshed. This is where the true power of the new features in AutoCAD 2005 begins to shine. Features such as new Fields and Tables are greatly enhanced when used with Sheet Sets. This is due to the linking and updating functionality that the Field object type has—and Tables can leverage that ability. By making a change in one location it can update all the way through an entire Sheet Set quickly.

Creating a New Sheet Set

The first thing that needs to be done before starting to use Sheet Sets is to create one. AutoCAD has a great wizard that steps you through the creation of a Sheet Set. The wizard has two options on which to base the creation of a new Sheet Set: a sample Sheet Set that comes with AutoCAD 2005, or existing drawings with layouts. Both allow for the importing of previously created drawings. The main difference between

the two options is if created from an existing Sheet Set, it will use all the locations, subsets, properties, and custom properties that might have been changed or added to the Sheet Set. This helps to make projects uniform by allowing the creation of a Sheet Set for use as a template for future projects.

To start the creation process of a new sheet set, use the File pull-down menu and select New Sheet Set. This will open the “Create Sheet Set” wizard and you must then choose how to create the new Sheet Set. In this article I assumed that no Sheet Set exists. This will provide the best way to show and explain how to create and organize everything from the ground up. Select the “Existing drawings” option and click the Next button to continue.

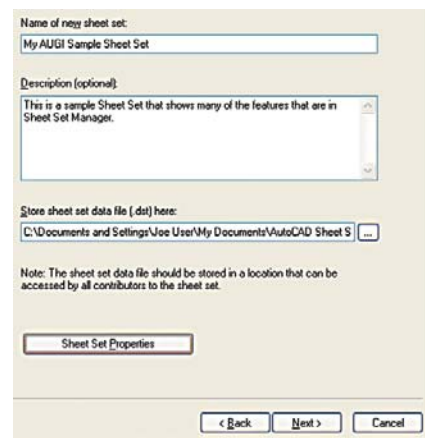


Figure 2: Create Sheet Set – Sheet Set Details

Figure 2 shows the Sheet Set Details, which must be filled in with name and store location. The store location is used for the .dst file and any new folders that are created for the Sheet Set. Optionally a description can be assigned to a Sheet Set. By default it will want to place the Sheet Sets in

a directory called "AutoCAD Sheet Sets" under "My Documents." I recommend placing them in the same area that your current drawing files are; a network location is ideal. Click Next to proceed to the Choose Layouts dialog.

The layout import process allows for working with layouts from existing drawings that have already been created. Something important to note is that only paper space layouts can be imported; Model tab is not considered a layout. There are two buttons located near the top right on the page of the wizard. The Import Options button allows for some different choices of how the content is to be generated for the Sheet Set. Some of the options are whether folders are translated into subsets and if sheet titles include the drawing file name. Figure 3 shows the results of navigating to a directory using the Browse button and the tree structure that is displayed to choose the layouts that should be imported from which drawings. After you have selected some layouts, clicking Next will open the Confirm dialog.

The Confirm dialog gives a full listing of all the choices that were made during the

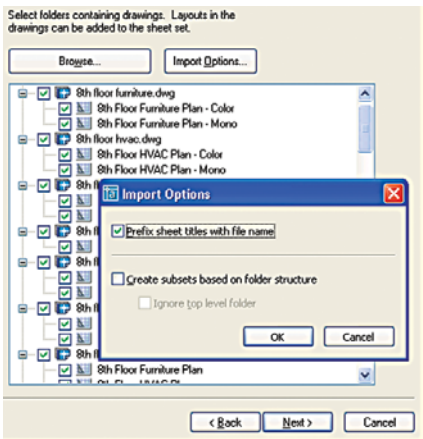


Figure 3: Create Sheet Set – Importing Layouts from Existing Drawings

creation of the Sheet Set. If something is missing you can go back and make the change, but this can all be done later through the SSM. Clicking Finish at the Confirm dialog creates the Sheet Set and loads it into the SSM for use right away.

Working with and Managing Sheet Lists

Now that a Sheet Set is created and has been opened, it is time to explain some of the features that are in the SSM. The Sheet List tab will be the most widely used element. It allows for quick access to the contents of the drawings and layouts in the Sheet Set by double clicking on them. This will open the drawing and display the layout that is repre-

sented in the Sheet Set. There are three levels of information represented in the Sheet List. They are Sheet Set, subset organizational levels, and the drawing layouts/sheets. Each level allows different tasks to be performed through the right-click menu. Select a layout and right-click over it. A menu is displayed with items like Open, Publish, Properties, and others. The same holds true with subsets and the Sheet Set.

Earlier in this article I discussed a button that reads "Sheet Set Properties" on the Sheet Set Details page. This allows access to the properties for the Sheet Set, but it can also be accessed by selecting and right-clicking over the Sheet Set name. From the shortcut menu, select Properties to bring up the Sheet Set Properties dialog box shown in Figure 4.

Sheet Set Properties allows further setup for the Sheet Set and shows how new content is created within the SSM. It holds information that pertains to the Name, Description, Label and Callout blocks, along with template and pathing information for new Sheets that are created and not imported. The Sheet Creation section is not shared with subsets, which allows each subset to have its own template and storage location assigned to it.

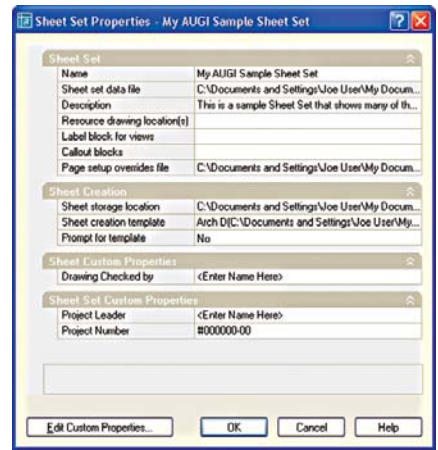


Figure 4: Sheet Set Properties Dialog Box

The Edit Custom Properties allows for the creation of custom properties for the Sheet Set or Sheet in a similar fashion to creating custom properties for a drawing with DWGPROPS. These properties can then be referenced as values when using Fields in a drawing or layout that belongs to the Sheet Set. Along with custom properties for the Sheet Set being accessible in Fields, many of the other values can be referenced from a Sheet Set. Figure 5 shows the Field dialog box with the properties that

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continued from page 25

are available for Sheet Sets and many of the elements contained in them. To learn more about Fields, refer to the Fields article in this issue.

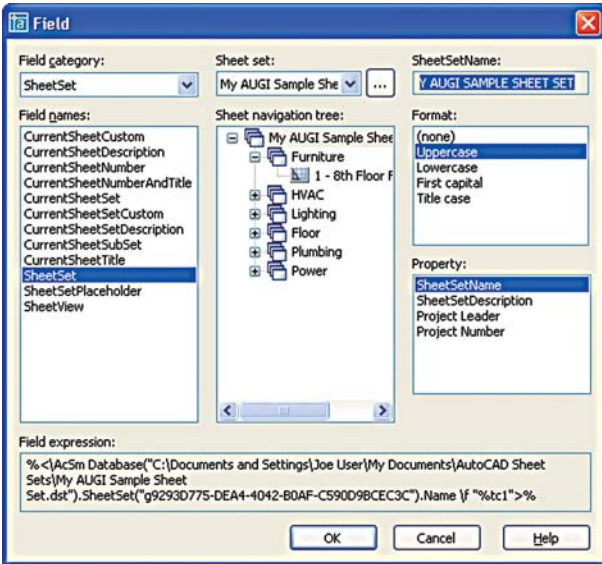


Figure 5: Field Dialog Box Showing Sheet Set Properties

Using Resource Drawings and View List

Now that we have covered features for Sheet Lists, it is time to move onto an old idea with a new twist. I am referring to the way SSM allows for the use of Named Views to generate paper space viewports from Xrefs. In order to take advantage of this feature correctly, you will need to follow some criteria. First is that Named Views must exist in the drawing that you want to use as views in a paper space layout. If you are not familiar with the VIEW command you can read about it through the online help. Also, learn about the new VIEW features in the Layers article in this issue.

The next thing that needs to be understood is that when referencing older drawings created prior to AutoCAD 2005 as Resource Drawings, they should be resaved. Add new drawing property information and resave the drawing file to embed the information needed for Views. You can save the .dwg as 2000 or 2004 format, depending on your needs. This will not affect the ability to open the file in AutoCAD 2000 and later.

Before working with Views, you must add a Resource Location to the Sheet Set. These are the location(s) of the drawings that contain the Named Views that are to be available for placement on layouts. To do this go to the Resource Drawing tab of the SSM and double click on the Add New Location button. This will bring up a browse dialog box

and allow for the selection of a directory or folder that contains the drawings that have Named Views in them. More than one directory may be added for use as Resource locations. This allows for the ability to adapt the tool to work in almost any environment versus changing the environment to work with the tool.

Once a Resource location has been added, it can be expanded to see the drawing files that are in that location. Then, just like DesignCenter, clicking on the plus next to the drawing file will display the Named Views contained in it. After the desired view has been found, right-click over it and select Place on Sheet. This will cause the drawing to which the view belongs to be xrefed in and create a viewport

zoomed to the Named View. Before placing the view on the layout, a right-click will bring up a menu that allows for selecting a scale at which to insert the view.

Along with the geometry and the viewport being created, there is an option to have a Label block come in as well. The Label block that is used for views is setup under the Sheet Set Properties. The Label block can be a block that is contained with-

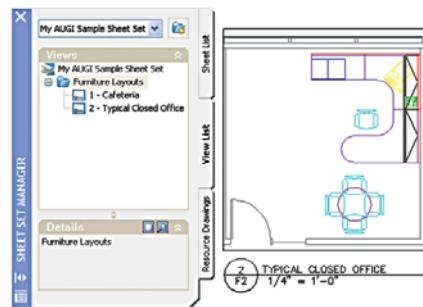


Figure 6: Shows a View Placed on a Layout with a Label Block and in the View List

in a drawing or as a separate drawing. Then instead of just using Attributes in a block, the Attributes can be set up to use Sheet Place Holders, which are Field definitions for the values. Then when the Label block is inserted the values are automatically populated based on the view properties and/or the viewport created (see Figure 6.) There is also the ability to use Callout blocks, which are used on a sheet to reference back to the sheet with the view placed on it.

There are many things that could still be talked about with regard to both Sheet List and Views, but this should give a general idea of how the SSM allows for creating and managing content across many different disciplines, drawings, and layouts.

Putting the Final Touches on a Project

The SSM has some additional features to help you get everything out the door faster and a little more accurate. One item that most Drawing Sets have is a listing of all the sheets or a Table of Contents. The SSM allows for the creation of a TOC that contains all the sheets within the Sheet Set and then can be placed on a layout. This feature can be found under the Sheet List tab by right-clicking on the Sheet Set name. It makes it easy to add more sheets later in the project and then quickly regenerate the listing over again.

Now that the project has been created and managed as a Sheet Set, there are two ways of packaging it up. These are not new features, but have been incorporated to work well with Sheet Sets: eTransmit and Publish. Both of these features can be found under the Sheet List tab of the SSM. One of the nice features about using Publish with Sheet Sets is that the entire set is plotted in the order of how the sheets list. The SSM has the ability to do archiving based on the contents in the Sheet Set.

Closing Comments

I must admit that when I first saw this feature I wasn't sure how it could help make projects easier. I am a believer now. The goal of this article was to help explain many of the features that are found in the SSM and show how it can simplify some tasks within AutoCAD. As you can see, there is a lot of flexibility in the way Sheet Sets are designed. So whether you create complex designs that encompass 100+ drawings with 200+ layouts or a set containing a couple of drawings, the Sheet Set Manager is a very valuable tool. It is also a great alternative to Windows Explorer for managing files and provides some enhancements for workflow by reducing the amount of navigation needed to open and access drawing files.

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On The Back Page



David Kingsley

For those of you who spend a lot of time customizing your particular CAD product, and do a lot of writing, here is an anecdote that you'll probably appreciate. It is a little glimpse into a "parallel universe."

I recently heard an interview with a famous writer on the radio. The writer was a middle-aged man who had never used a word processor to do his work. For some time he had been paying to have his typewritten manuscripts transcribed into a word processor because his publisher now required it to be in an electronic form.

The writer was not particularly "anti-computer," he just had never experienced the desire or found a good reason to change his process. He admitted to being slightly enviously and busily typing away with a latte close at hand. He had attempted to do the same with his trusty old Olivetti portable typewriter, but soon found "quiet" to be the operative word in the new millennium cafes. He also recognized that the process of emailing did appear far more efficient and less expensive than carrying his bulky paper drafts to the copy center and snail-mailing them to his publisher.

He engaged his young adult daughter to teach him how to use the computer. Being an accomplished typist, he thought it would be easy. He quickly realized that teaching was a skill his daughter had not yet acquired. After finding a more seasoned instructor and making the adjustment from heavy manual typing to the lighter touch computer keyboards, he was approaching productivity.

It was at this point that he began to realize the shortcomings of the word processing program that he was using. Much to his delight, he soon discovered that the company that produced the program was very receptive to getting feedback from its users. After figuring out how to communicate his desires to them, he submitted the following request.

"I would like your program to pay attention to the length of time that the cursor

spends between two periods (the punctuation mark). When that time exceeds a certain preset time, say five minutes, a message should appear on the screen saying, "Quit beating it to death, you idiot!"

Forcing the Paradigm

Another anecdote—this time a personal experience. I have a client who, like the writer, is older and a latecomer to the computer game. He travels between two homes in Colorado and New York. He is a successful industrialist who, as Nicholas Negroponte would point out, is "atom oriented" as opposed to "photon oriented." He has been very successful at putting plastic and metal things in boxes and placing them on store shelves.

For years he insisted that I produce full-scale paper original drawings and ship them to his East Coast office. He didn't know how to handle email attachments, or files in general for that matter, and was resisting taking that next step. Having been to the East Coast office a few times, I knew he had some computer jock employees, but I never worked with them—I do his R&D work. Like the writer's typist, I transcribe his creative ideas into engineering drawings.

One time we were developing a prototype from opposite ends of the country, and a lot of changes and final drawings were literally flying back and forth. His contract machine shop was holding an expensive window open for him in order for me to finish the drawing and "overnight" it to them. I had exchanged business cards with one of his CAD guys on one of my trips. Doing an end run around the boss, I emailed the CAD guy a link to the Autodesk Express Viewer and attached a teeny little .dwf file. Within 20 minutes he had opened the file, printed it, and placed it on the boss's desk. Needless to say he was pleased to be able to get the machine shop rolling with a crisp clean print about 24 hours ahead of schedule. When he realized the amount of money he had saved (or more accurately, I had saved him), he was an instant convert.

So What's Stopping You?

When talking with CAD people, I get the sense that a lot of them still don't really know what .dwf is all about. The new DWF6 is far more than a new file format—it is a comprehensive engineering publishing solution, a true multipurpose tool. One download and install updates your AutoCAD printer drivers and web browser. Because it is less than 2MB, it can be easily (and legally) distributed to your clients via email. Your clients do not need AutoCAD to use it. For the AutoCAD user, it replaces and definitely surpasses the old "E-Transmit/Pack And GO" functions. These now behave more like plotting than file conversions. I have seen some marvelous examples of what you can do with DWF6. An associate of mine created a single file drawing package that contains twenty 32x40 architectural drawings including several raster images and weighs in at 2.1MB. The Autodesk Express Viewer lets you jump from sheet to sheet and print a selected portion of a sheet, one whole sheet, or all sheets as a batch. Even if you don't do a lot of file transmissions, it makes a great local batch plotter. If you haven't been paying attention to DWF6, and you send a lot of drawings electronically, you're really missing something.

About the Forums

Let's change gears now. In the AUGI Forums (at www.AUGI.com), we are working on the next upgrade. In an earlier article introducing the forums, I mentioned getting to them through Product Channels, which has not yet been implemented. The approach has now evolved into what we are currently calling AUGI Communities. Think of a community as a neighborhood within the city of AUGI. As an AUGI member you will be able to freely visit any neighborhood you choose. When you go to a community, say AutoCAD, you will be presented with only AutoCAD information. You'll see just the AutoCAD forums and posts, and you'll also see AutoCAD-related ATP course offerings, AUGI Exchange items, announcements, and news of note. We're working hard on this now, and you may see it very soon.

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