

Upcoming Regional Training Classes – Columbus OH, Raleigh NC, Atlanta and Baltimore

After many requests to hold training classes in different areas of the country, I've finally managed to schedule a few dates. The classes are 8 hours of hands-on training and seats are limited. Registration deadlines and pre-requisites vary for each class – Click the link below for the class announcement.

Classes include Intro to Survey, Surface Modeling, Least Squares/SurvNet, Quantity Takeoffs and Drawing Prep for Surface Modeling among others.

Call 919.417.8351 or ContactUs@thatcadgirl.com to register.

- May 2-3 – Columbus, Ohio
- May 16-18 – Raleigh, North Carolina
- May 23-25 – Atlanta, Georgia
- June 1-2 – Raleigh, North Carolina
- June 14-16 – Baltimore, Maryland

Join Us For A Technology Breakfast – Various Breakfast Spots in North and South

Carolina

Starting in April 2011 we will be hosting a “Technology Breakfast” for current and/or prospective Carlson Software and hardware customers.

These events will be held on the 3rd and 4th Friday of each month and will start at 7:30am. Once a month we will meet at the Cracker Barrel at I-40 in Garner, North Carolina. Other events will be held in various locations in North and South Carolina.

Each breakfast and meeting will last for 1-2 hours and will provide an opportunity for us to demonstrate the future direction of Carlson data collection and field hardware. After breakfast, we will retreat to the parking lot for the field demonstration. Some events will also have a classroom component in a conference room at a neighboring hotel.

Technology Breakfasts will be free of charge but **pre-registration is required**. Call us at 919.417.8351 or email ContactUs@thatcadgirl.com. There is a limit of 10 people at each meeting.

The full list and details for Technology Breakfast meetings can be found [here](#).

Apr 22 nd	Cracker Barrel at I-40 in Garner, North Carolina.	May 13 th	Cracker Barrel at I-85 in Gastonia North Carolina	May 20 th	Cracker Barrel at I-40 in Garner, North Carolina	June 17 th	Cracker Barrel at I-40 in Garner, North Carolina	June 24 th	Cracker Barrel at I-77 in Columbia, South Carolina
-------------------------	--	-------------------------	---	-------------------------	--	--------------------------	--	--------------------------	---

Keep checking our training page for more details about the new hardware or software to be presented at each event and for

additional meetings planned for Asheville, Morehead City, Hickory and Wilmington, North Carolina.

Meet Jeremy Taylor – Now Helping Me Out with Hardware & Data Collection

I'm happy to announce that Jeremy Taylor, PLS of Taylor Land Consultants has agreed to start helping me out with Carlson Software, data collector, GPS and other hardware sales. I asked him if he'd mind pitching his voice higher as he answered the phone:

Having never been a practicing land surveyor, I have not been able to promote or discuss Carlson's stable of data collection software or hardware as well as I'd like. I have hoped to find someone who knew the products well and could present them well, but was not a salesman. I think Jeremy will be the perfect fit.

He is very well-known and just as well-respected here in the Raleigh NC area and, I believe, will be a great resource for all of us. Like me, Jeremy is a fan of Carlson's offerings but is more concerned with providing the right solution for our customers rather than simply trying to sell the latest and greatest piece of equipment. Please take a moment to read Jeremy's Bio here.

If you have questions on SurvCE, Carlson Survey, data collectors or GPS equipment, please feel free to contact Jeremy at (919) 335-3444 or email him at surveyor.gps@gmail.com. Going forward I

think you can expect to see more of a focus on these products including special pricing and field demonstrations.

Picks and Clicks: Conquer Problem Drawings

This article originally appeared in the February 2011 issue of Professional Surveyor magazine.

While working with IntelliCAD, AutoCAD, or any other AutoCAD-based programs, we've all encountered the proverbial drawing from "you-know-where" that seems to drive us crazy from start to finish. Here I offer several tips to help you identify problems and conquer your problem drawings. I've listed these tips in the order I would apply them.

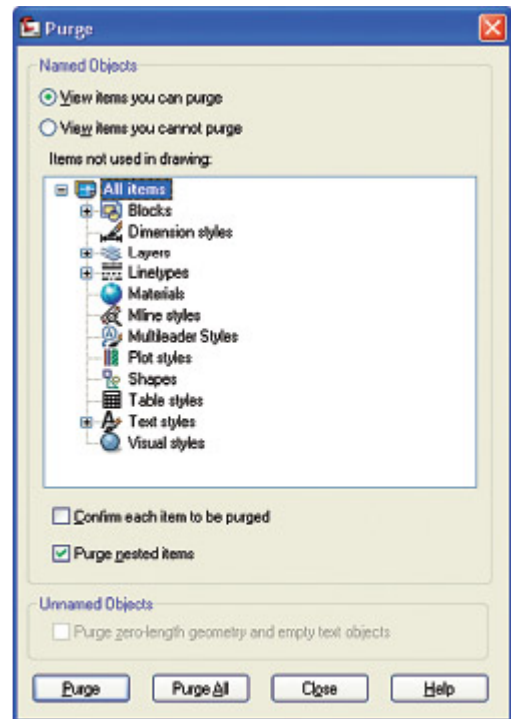


FIGURE 1: Purge dialog box

1 Purge your drawing.

The PURGE command removes any unused layers, linetypes, text styles, shapes (for linetypes and text), and many other items in

the drawing.

When you run the purge command once, it will purge those items that are not currently in use and that have no other dependencies. For example, if a particular linetype definition depends on a particular shape, the purge command will delete the linetype definition only on the first pass.

Purging again will now delete the shape because the dependent linetype no longer resides in the drawing. Enabling the option to “Purge nested items” before purging will automatically execute the command repeatedly until all unused and dependent items are gone.

2 Purge remnants of registered applications that have accessed your drawing.

Typing “-PURGE” will execute the command line version of the purge command. This version includes a few options not available from the purge dialog box.

```
Command: -PURGE
Enter type of unused objects to purge
[Blocks/Dimstyles/Layers/LTypes/Materials/Multileaderstyles/Plotstyles/
SHapes/textSTyles/Mlinestyles/Tablestyles/Visualstyles/Regapps/Zero-length
geometry/Empty text objects/All]:
```

FIGURE 2

One of the extra options is “Regapps,” which is available only from the command line version of the command. You access it by typing “R” when prompted. This option removes “leftover” data from other programs (registered applications) that have been used to work on the drawing file.

3 Audit the drawing.

The AUDIT command looks for discrepancies between the objects

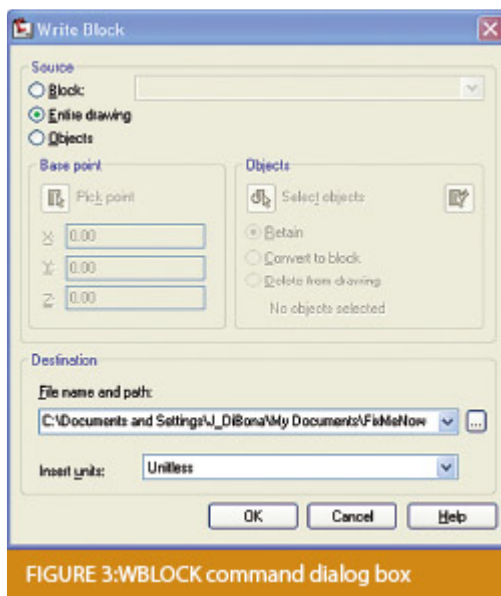
displayed on the screen and the objects' definitions in the drawing file database. The command then gives you the option of correcting the errors it has found. This command can be executed only while the drawing is open and active.

4 Recover the drawing and all reference files.

The RECOVER command is a more robust version of the audit command and can be used to open drawings that are so corrupt they cannot be opened otherwise.

Starting the recover command prompts you to browse to and select the problem drawing. If the problem drawing is already open and active, recover will prompt you to save changes before reopening the drawing and starting the recovery process.

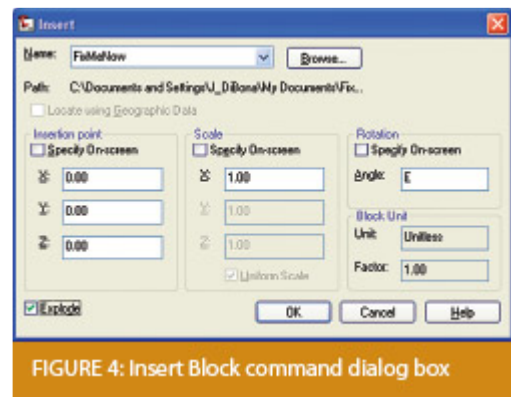
For drawings that have attached XREFs (external references), use the RECOVERALL command to open and repair the selected drawing plus all dependent XREFs. Note that errors corrected by the audit are not saved back to the XREFs.



5 Block out the drawing contents to a new drawing.

If you suspect a drawing has become corrupt, you can WBLOCK the entire drawing out to another file. After starting the wblock command, set the “Source” option as “Entire Drawing” and provide the location and name for the newly created file.

Note that this command saves only Model Space entities to the new drawing. If needed, use AutoCAD Design Center to transfer layout tabs.



6 Insert the problem drawing as a block into a new drawing.

Using the same principle as above, you can use the INSERT command to bring the Model Space contents of a problem drawing into another drawing. Doing this will reduce or eliminate corruption in the problem drawing.

Make sure to use 0,0,0 as the insertion point and set the rotation angle and scale appropriately.

As with wblock, this command saves only Model Space entities to the new drawing. If needed, use AutoCAD Design Center to transfer Layout tabs.

7 Export drawings from vertical programs to AutoCAD.

Autodesk products such as Land Desktop or Civil 3D create program-specific, proprietary entities such as AEC Contours and AEC Point Objects. These proprietary objects can become corrupt or otherwise create problems when being accessed from standard AutoCAD or another program that doesn't recognize the proprietary entities.

You can enter the `-EXPORTTOAUTOCAD` command at the command line to create a new drawing file that strips out the proprietary entities and leaves only standard AutoCAD entities. For instance, a Land Desktop or Civil 3D drawing containing AEC Contour entities will result in elevated polylines with text when exported to Autocad. And a Land Desktop or Civil 3D drawing containing AEC Point entities will result in a block with attributes when exported to AutoCAD.

Note that any AEC Objects will obviously lose their intelligence, but the new drawing can be opened in any version of Autocad.

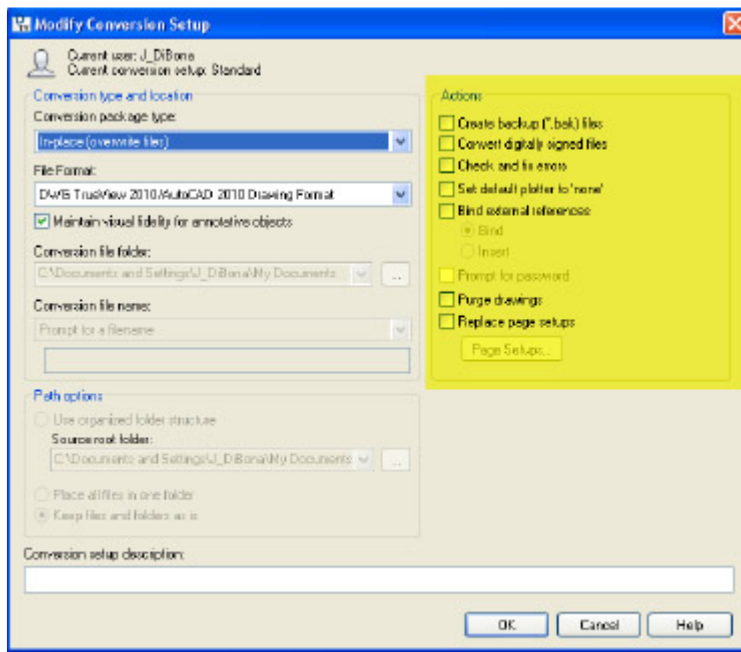


FIGURE 5: Modify Conversion Setup dialog box in Autodesk's DWG TrueView

8 Use DWG TrueView Convert to fix errors and bind XREFs.

DWG TrueView is a free program that you can download from Autodesk's website. It is most valuable for its ability to convert drawings to earlier versions individually or in bulk. In the Conversion Setup dialog box, you can specify one or more options to clean drawings during the conversion process.

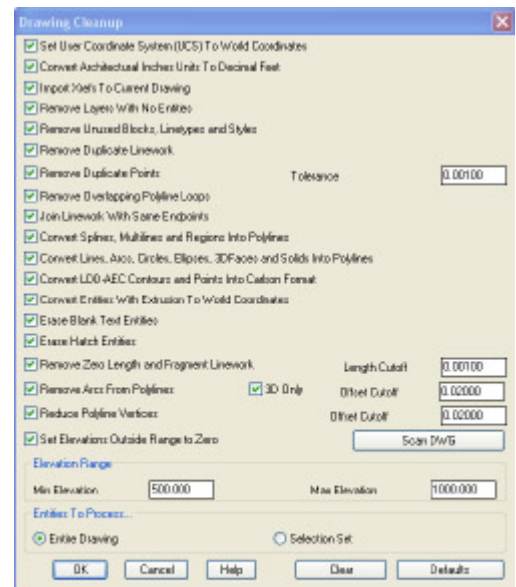


FIGURE 7: Carlson Software Drawing Cleanup dialog box

9 Use the Drawing Cleanup command in AutoCAD Map or Carlson Software.



FIGURE 6: AutoCAD Map Drawing Cleanup dialog box

Both AutoCAD Map and Carlson Software provide Drawing Cleanup commands that provide a variety of cleanup tools. In either version, you have the option of performing one or more cleanup tasks on the entire drawing or on only selected entities in the drawing.

Note: Use these commands with caution and apply cleanup options

incrementally to avoid making unwanted changes. Also, I recommend making a backup copy of the active drawing before performing this command.

If you use AutoCAD Map, Land Desktop, or Civil 3D, you can access the Drawing Cleanup command from Map → Tools. In Carlson Software, access it from the File menu.

10

I've come up with 9 tips that will help you clean up and, maybe, access drawings that have become corrupt. To round out the list and make it an even 10, I'd like to hear from readers to find out what your favorite drawing recovery and cleanup tools are. Please email me at ContactUs@thatcadgirl.com and I'll report in a future column.

This article originally appeared in the February 2011 issue of Professional Surveyor magazine.

Overstock Pricing Specials – Carlson Civil Suite and Survey/Civil Bundles

I've decided to try to clear out the Carlson Software stock that I have on my shelf right now. So, while they last, I have a few seats of the Carlson Survey/Carlson Civil 2011 bundles that were available last December and several Civil Suites that I am also selling at 2010 prices.

I'm not permitted to advertise the price, but you can call 919.417.8351 or ContactUs@thatcadgirl.com to find out more.

As of January 26th, I have 7 Civil Suites and 3 Survey/Civil bundles available at these prices. Check out our Carlson Pricing page to keep track of how many are left.

January 2011 – Upcoming Training

The classes listed below may be used for 2010 or 2011 NC PDH credit hours:

- Overview of Carlson Survey \$149 for 8 hours hands on training, includes lunch
- Surface Modeling with Carlson Software \$149 for 8 hours hands on training, includes lunch
- SurvNet & Least Squares with Donnie Stallings \$249 for 8 hours hands on training, includes lunch

Seats are limited so call 919.417.8351 or email ContactUs@thatcadgirl.com to reserve your seat today.

Please review our Training Policy [here](#).

New Carlson Software Pricing

Since the Year-End-Special pricing on Carlson Software has now expired, see our new advertised Carlson Software Pricing here. Please ContactUs@thatcadgirl.com or call 919.417.8351 to request our current price sheet (effective 1/1/2011).

That CAD Girl – January 2011 Newsletter

Our January 2011 Newsletter can be downloaded [HERE](#)

Picks and Clicks: Dynamic Blocks

This article originally appeared in the December 2010 issue of Professional Surveyor magazine.

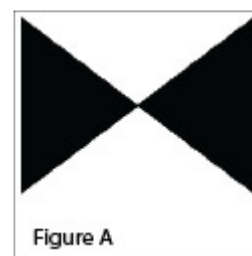
Welcome to the first installment of this new column highlighting favorite AutoDesk, IntelliCAD, and Carlson Software features. My goal is to help you reduce your number of “picks and clicks” while using these pieces of software so you can be more efficient, saving time and money.

Because many of us are hanging onto our current software

versions for as long as possible these days, I will try to avoid reviewing features that were released in “last week’s” version and will instead write about commands and features that have been around for at least a few years.

First: A little about my background and experience. My first CAD class was with AutoCAD 9 and DCA software as part of my Surveying Technology coursework in college. After graduating, I worked for various consulting, engineering, and surveying companies where I used mostly the Autodesk family of products: AutoCAD, AutoCAD Map, Land Desktop, and Civil Design with brief detours into the MicroStation, GeoPak and Eagle Point worlds.

It was during this time that I started teaching basic CAD and civil/survey CAD classes at local community colleges. I then joined a local Autodesk and Carlson Software reseller to help start and build their training division. In 2004 I stepped out to begin working for myself as That CAD Girl. I offer Carlson Software sales; training and support for Autodesk, Carlson and IntelliCAD; and associated consulting services while specializing in CAD standards development and surface modeling training. My website is at www.thatcadgirl.com. And my surveying column is now here!



Water Valve

(Figure A)

One of my favorite, fairly new AutoCAD features is Dynamic Blocks, which was first introduced in AutoCAD 2006. A Dynamic Block is simply a standard block that has been enhanced with additional functionality. You may have seen examples of complex Dynamic Blocks that allow you to change the size (by stretching) or the orientation (by mirroring) only pieces of a block without having to EXPLODE it. But, you can also save many picks and clicks by giving your existing blocks a facelift with some simple Dynamic functionality. Let's start with a standard symbol or block that most everyone will already have saved in a block library somewhere: a Water Valve.

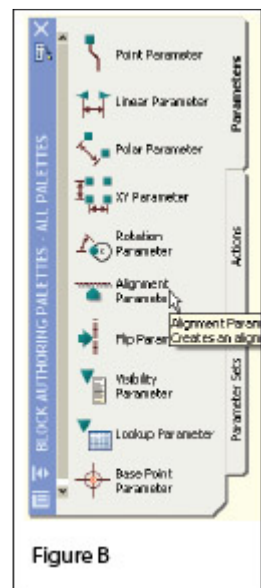


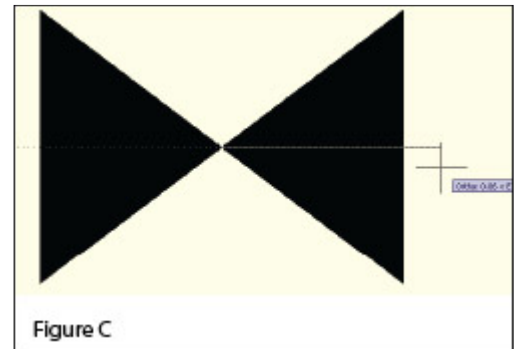
Figure B

To use the standard version of this block in a drawing, we usually have to:

1. Use the INSERT command to bring the block into the drawing.
2. Use a NEAREST OSNAP to position the block on a line representing a waterline.
3. Use the ROTATE command with the Reference option to align the block with the line.
4. Whew!

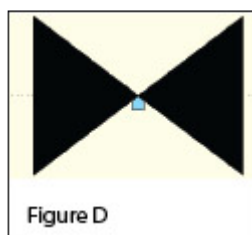
Two minutes (or less) in the Block Editor will eliminate steps 2-4 (**at right.**)

1. Insert the standard Water Valve block into your current drawing.
2. Left-click to select the block.
3. Right-click and open the Block Editor from the shortcut menu.
4. On the “Parameters” tab of the Block Authoring Palette, select the tool to create an Alignment Parameter. [**Figure B**]
5. The Command: line prompts you to, “Specify base point of



alignment or [Name]:”. Use your INTERsection OSNAP to specify the insertion point for the block.

6. Next, you are prompted to “Specify alignment direction or alignment type [Type] <Type>:”. [**Figure C**] Turn Ortho On and pick a point directly to the right of the insertion



point.□

7. When finished, the block with its new Alignment icon will look like this in the Block Editor: [**Figure D**]
8. □Pick the Close Block Editor button at the top of the screen and then pick “Yes” when prompted to save the block definition.

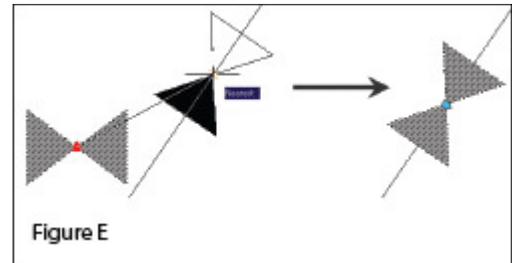


Figure E

Using the Dynamic Block

Once you are back in the main drawing screen, the original instance of the block will have been updated.

1. Left-click the block to see the new Alignment icon.
2. Left-click on the blue Alignment icon. This allows you to “pick up” the block and move it. [Figure E]

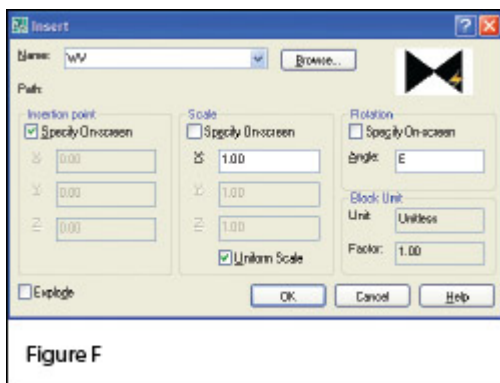
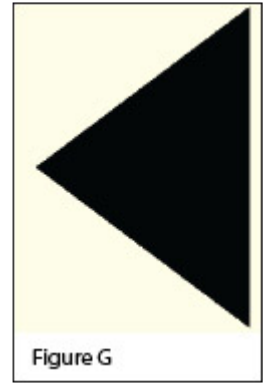


Figure F

3. Drag the block on top of a line in your drawing that represents a waterline. You will notice that, once your crosshairs are positioned over the line, the block automatically aligns itself to the line, and, in addition, the NEARest OSNAP is enabled allowing you to position and snap the block directly onto the line.
4. Use the Insert command to draw additional copies of the block into the drawing. Notice that the thumbnail image of blocks with Dynamic parameters displays a lightning bolt icon so as to differentiate Dynamic Blocks from standard blocks. [Figure F]

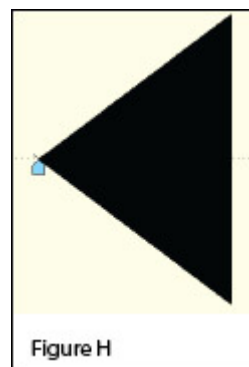
Waterline Reducer



[Figure G]

Another often-used water-utility symbol that can benefit from the addition of Dynamic properties is the waterline Reducer. This symbol is used to indicate a change in the size of a waterline. In addition to an Alignment Parameter, this symbol needs a Flip Parameter that allows us to easily mirror it to change its direction. Unlike an Alignment Parameter, adding a Flip Parameter to a block also requires that you add a second Dynamic Block component called an Action. Giving a block “flip-ability” requires a few more steps, but is still rather easy.

1. Repeat steps 1-7 as described for the Water Valve to insert the “Reducer” block into the drawing and add an



Alignment Parameter to it.

The Reducer with its Alignment icon is shown at left: [Figure H]

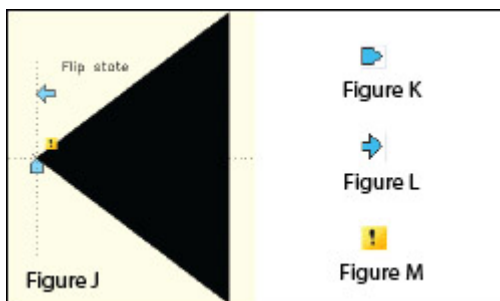
2. Turn Ortho On.
3. Pick the Flip Parameter icon on the Block Authoring Palette. [Figure I]
4. The Command: line prompts you to “Specify base point of

- reflection line or [Name/Label/Description/Palette]:". Use your ENDPoinT OSNAP to specify the insertion point for the block (use the same point as for the Alignment Parameter).
- The Command: line next prompts you to "Specify endpoint of reflection line:". With Ortho On, pick a point directly above the "Base Point" specified in the previous step. These two points define the "reflection line" for mirroring.
 - You are then prompted to "Specify label location:". Pick a



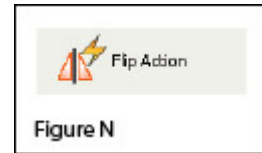
point somewhere just above the Reducer symbol. The label reads, "Flip state".

- Use the MOVE command, with Ortho On, to slide the Flip icon above the block.
- The Reducer [Figure J] with its Alignment [Figure K] and Flip icons [Figure L] are shown at right. A Warning icon [Figure M] is also displayed indicating a missing



Action component.

- On the "Actions" tab of the Block Authoring Palette, select the tool to create a Flip Action. [Figure N]
- The Command: line prompts you to "Select Parameter:". Select any part of the Flip Parameter including the label, the Flip icon, or the Warning icon.
- Next, you are prompted to "Specify selection set for action. Select Objects:". Select the Flip icon and all entities that make up the block/symbol.
- You are then prompted to "Specify action location:". Pick a point somewhere near the "Flip state" label. The label

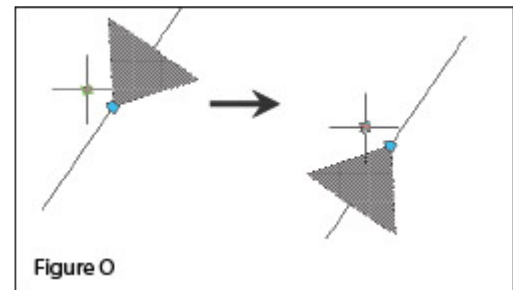


has a lightning bolt icon and reads, “Flip”.

13. Pick the Close Block Editor button at the top of the screen and then pick “Yes” when prompted to save the block definition.

Using the Dynamic Block

As before, once you are back in the main drawing screen, the original instance of the block will have been updated.



1. Left-click the block to see the new Alignment and Flip icons.
2. Left-click on the blue Alignment icon to move it onto a line representing a waterline.
3. Left-click on the blue Flip icon to mirror the block along the line.
4. Use the Insert command to draw additional copies of the block into the drawing. [Figure 0]

Note that the steps change the block definition in the current drawing only. The WBLOCK command must be used to save the block out as an external Drawing (.dwg) file.

This article originally appeared in the December 2010 issue of Professional Surveyor magazine.

Carlson Software – Year-End Specials

As they do every year, Carlson Software has announced their End-of-Year Software specials. If you'd like to purchase or have any questions, please call 919.417.8351 or email ContactUs@thatcadgirl.com.

Software Specials this year:

- » \$1,495 for Carlson Survey + Carlson Civil (Retail \$3,000)
- » \$ 3,495 for Carlson Point Cloud 2011 (Retail \$5,000)
- » \$ 6,885 Carlson Takeoff 2011 with IntelliCAD or Takeoff T3 with embedded AutoCAD (Retail \$9,000)
- » \$ 750 Carlson Survey 2011 with IntelliCAD if you provide an active and valid SurvCE serial number.
- » \$ 2,625 for Carlson Civil Suite (Retail \$3,500)