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AUGI Tips and Tricks: For AutoCAD®

Donnia Tabor-Hanson – AEC CAD

GD301-1

“I didn’t know you could do that!” will be what you’ll say to each other in this class. We’ll discuss shortcuts, speed-enhancing tips, variables, and ways of using some AutoCAD commands you might never have envisioned. I have been collecting tips and tricks for years and AUGI is my favorite place to find them. Come discover some of the latest I have collected – you may even have time during class to share some of your own!

About the Speaker:

Donnia currently works at AEC CAD, a reseller in Knoxville, Tennessee. She has been using AutoCAD since Release 1.4, and her experience with the product covers a variety of fields, including architecture; atomic waste removal and containment; civil engineering; and log home design. She has taught college-level courses and was the manager of an Autodesk Authorized Training Center for several years. Donnia has worked with AUGI since 1995 and has contributed to AUGI’s “WorldView” and “AUGIWorld” magazines. She earned a Bachelor’s and Master’s degree in Technological and Adult Education from the University of Tennessee.

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Tip # 1 – NEWS to me

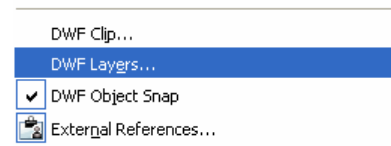
If you are very familiar with surveyor units then you are in tune with the **North, East, South** and **West** of AutoCAD drawings. If so and you want to rotate exactly on 90, 180, or 270 degrees you can enter the letter of the direction in which you want to rotate. For example, if you wish to rotate 180 degrees you can use the “W” when prompted with:

“Specify rotation angle or [Copy/Reference] <0>:W

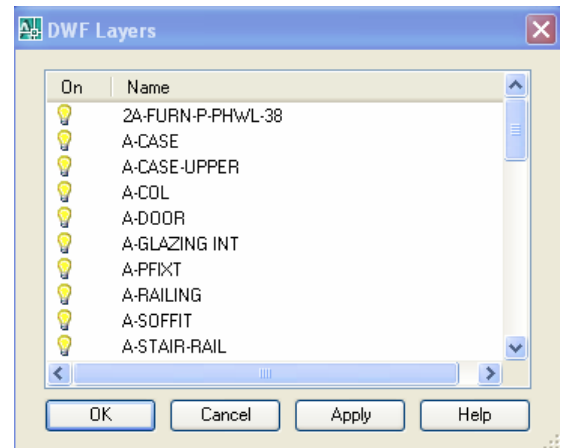
You can even make it work by using a negative, in this case a negative (–M).

Tip # 2 – DWF Underlay

DWF files have more flexibility than ever before. You can now manage layer visibility by simply right-clicking on a DWF. There you will find access to the *DWF Layers...* dialog box.



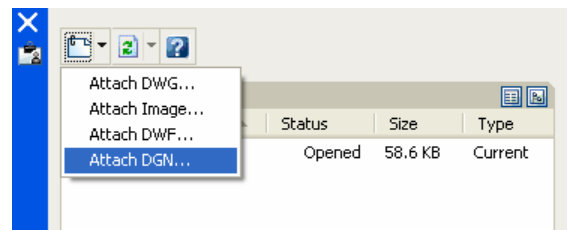
Once there you can control the visibility of the layers in the *DWF Layers* dialog box by clicking on the light bulb beside a layer name. The DWF layers do not show up in the *Layer Dialog* box.



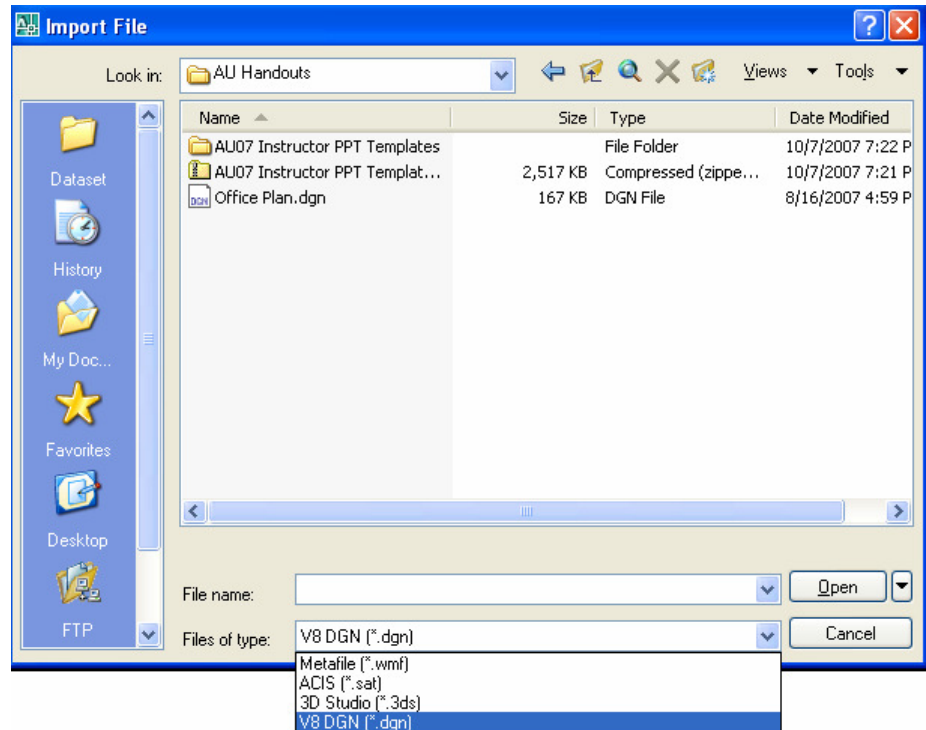
Another thing that you can do using DWF files is to select the object snaps in the DWF file.

Tip # 3 – DGN Underlay

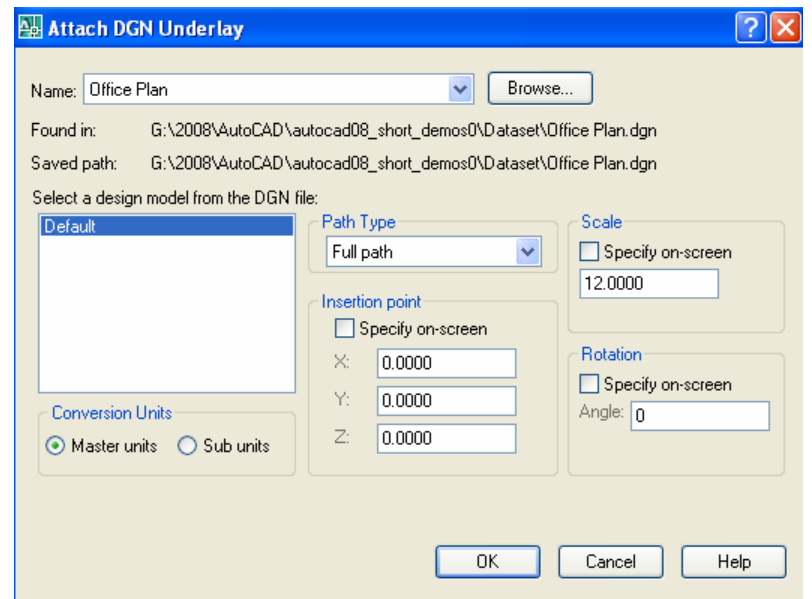
DGN files used as an underlay is a new thing in 2008. You can select them by using the *External References* tool palette. This will take you to the *Import File* dialog box. The first limitation that you need to keep in mind is that the DGN file has to be in V8 DGN format. It can not be of an older version of Microstation.



This *Import File* dialog box allows you to pick the DGN file you wish to insert. This dialog box can also be found by going through the *File* pulldown to *Import* as well.



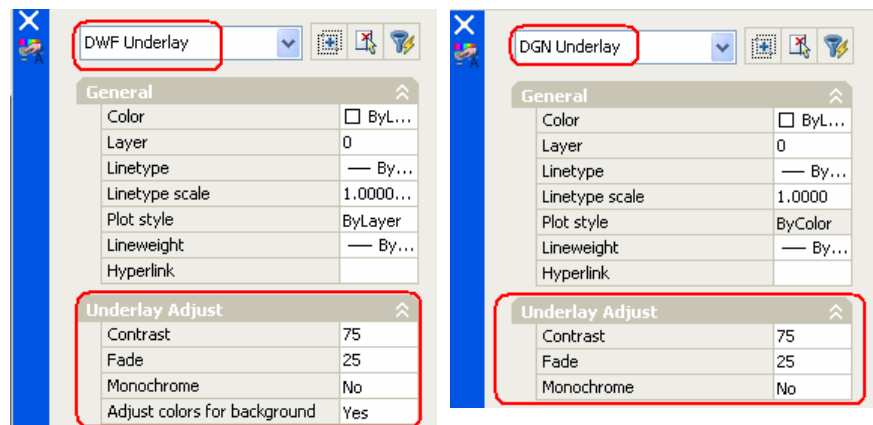
Once you select the DGN file you will be presented with an *Attach DGN Underlay* dialog box. This box looks very much like the dialog box for inserting a block or an XREF attachment.



The layers for the DGN file are not available in the *Layer Properties Manager* and there is no right click option to access them either.

Tip # 4 – Fade Away DWF and DGN

Attached DWF and DGN files have visibility fading and contrast settings that can be found in the *Properties* tool palette. The *DGN Underlay Adjust* will allow for *Contrast*, *Fade* and *Monochrome* adjustments. The *DWF Underlay Adjust* also has a place to *Adjust colors for background* as well.



Tip # 5 – Import a DGN

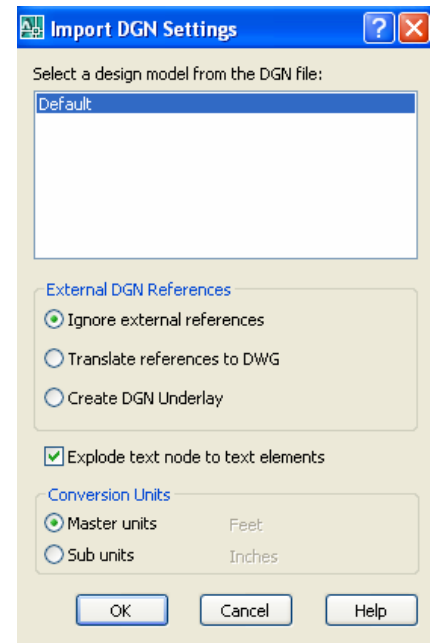
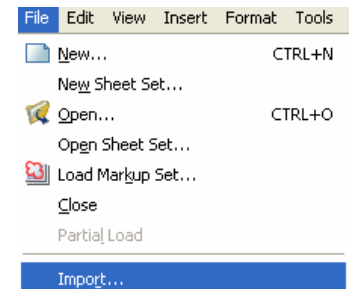
Should you have the need to manipulate a DGN file then you would want to *Import* that file much as inserting a DWG as a block. Under the File pull down you would select *Import...* This will take you to the same dialog box for importing a file shown in Tip #3. There you will select *V8 DGN (*.dgn)* from the *Files of type:* section. Once you select the DGN file it will open a **new drawing** where you may insert it. Yes, it will start a new drawing automatically.

In the *Import DGN Settings* dialog box you will decide how to handle any referenced files that might be attached to the one you are importing.

Next you decide whether you want to explode the text nodes to make them text elements. By checking this box the text in the DGN file will act like MTEXT objects.

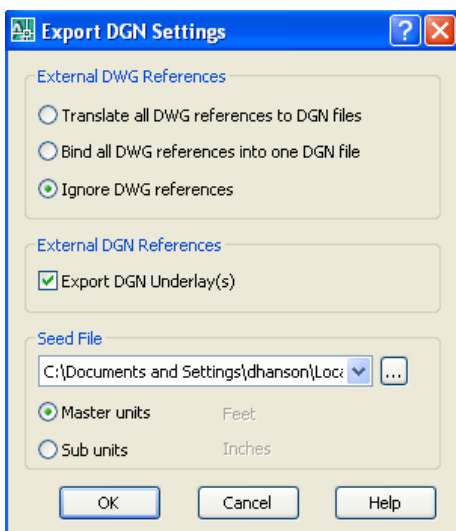
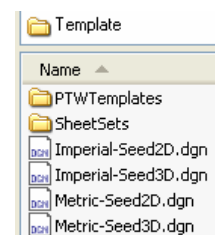
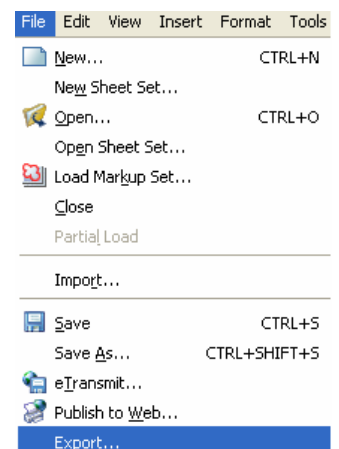
Next select your conversion unit types that you wish to use. If Architectural units are going to be merged with other Architectural units you are advised to choose *Master units*.

Once the DGN is imported in this manner you have access to all the Levels as Layers in your AutoCAD drawing file.



Tip # 6 – Export a DGN

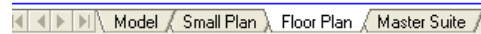
OK, so now we can play nice on both sides of the fence, we can also export to a V8 DGN file. You would be presented with the *Export Data* dialog box where you would select the *V8 DGN* format from the *Files of type:* section. You would also need to select the location where you want to save your DGN file. When you get the *Export DGN Settings* dialog box you decide what to do with any attached reference files, pick a *Seed* file type, and select your units.



There are four seed files provided by Autodesk.

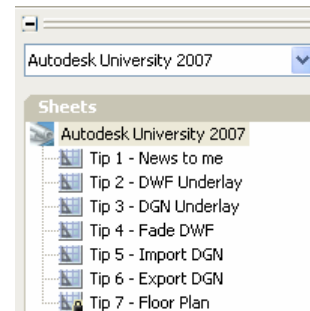
Tip # 7 – Surprising Sheet Sets Scenario!

Have you noticed that I am using Sheet Sets to get to all my drawings? This is a really simple process that promises so many benefits that you will want to start using them, that is if you have not already done so. You must have the Layout and Model tabs visible to be able to take full advantage of the new ease of use that Sheet Sets allow.



All you have to do is to have the *Sheet Set* tool palette locked open. Then just drag a layout tab onto the sheet set list.

Once you have the sheet list all set up you can then take advantage of several other sheet set options such as being able to publish the entire set, publish in reverse order, or even publish to a DWF file.



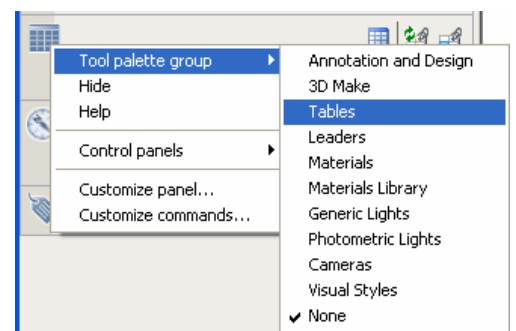
Tip # 8 – Control those Tabs

This tip was submitted by “jaberwok” on the AUGI Tips and Tricks Forum.

You can use Ctrl+PageUp and Ctrl+PageDown to cycle through your tabs in your AutoCAD drawing.

Tip # 9 – Dashboard and the Tool Palette Connection

There are these great tools that actually are connected – if you just plug them in. You can connect a tool palette to a dashboard panel by just right clicking. So, if you use a certain table tool palette that you have customized, you can associate it with the table panel.

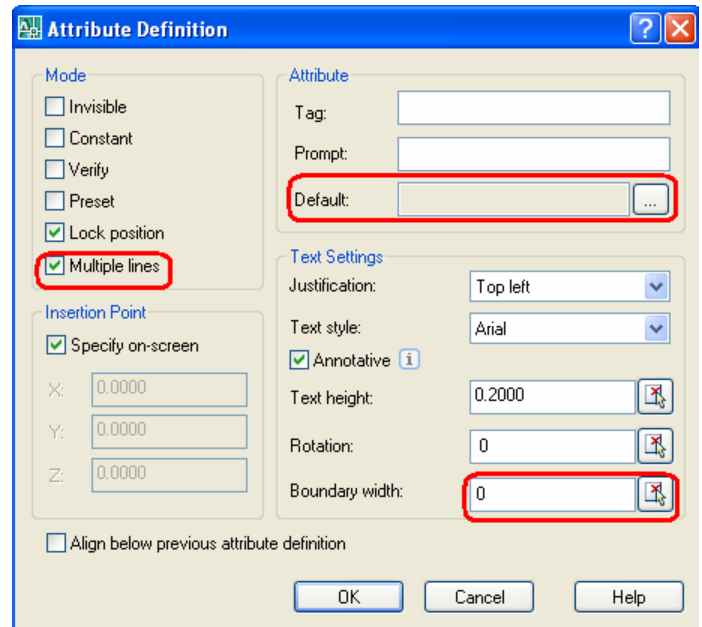


Tip # 10 – Creating Multiline Attributes

This tip was in a thread started by “bweir” on the AUGI Tips and Tricks Forum. The mention of multiline attributes was by “BrenBren” in that thread.

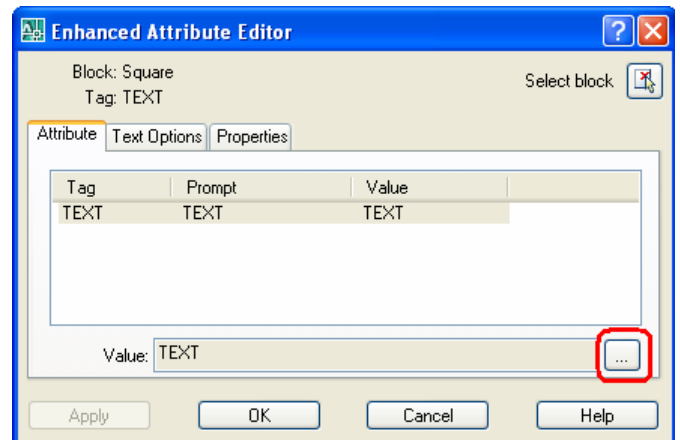
You can now get multiline attributes in your blocks by just checking a box and picking the MTEXT box size. This will give you more flexibility with your attributes and their space.

Select *Multiple lines* to begin and that will change the *Default:* section to let you have a pick box in which to place the multiline attribute. Don't forget to go to the *Boundary width:* section to determine the width of your multiline attribute.

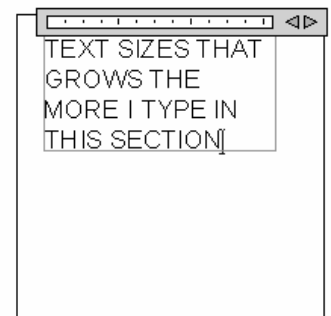


Tip # 11 – Editing Multiline Attributes

When you have multiline attributes then the *Enhanced Attribute Editor* box will not let you edit the *Value:* of the attribute as you have in the past. You need to click on the button on the right to get edit the attribute.



Once you have done this you will be in *Text Formatting* where you can now edit the text to add what you want to it.



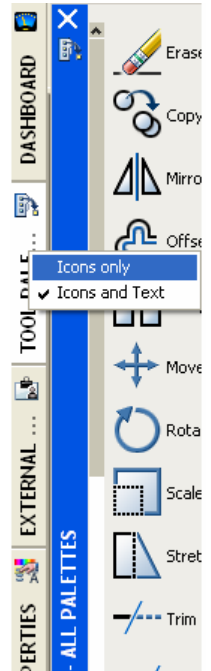
Tip # 12 – Clip a Block

This tip was submitted by “keelay711” on the AUGI Tips and Tricks Forum.

If you have just a portion of a block that you need to detail or you wish to have a small section blown up in another viewport you can clip a block. Use XCLIP and pick the block you wish to clip.

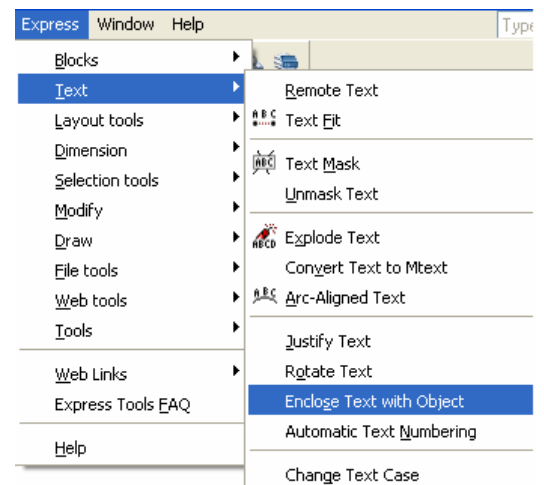
Tip # 13 – Tool Palettes Roll Up

You can have all the tool palettes you want anchored to the side of your drawing area. They can begin to make the area look pretty busy though. Just use the *Icons only* option to view only the tool palette icons.



Tip # 14 – Circle the Text

TCIRCLE is an Express Tool that can come in handy to encompass text. Just select the text and then decide what type of object you would want to encompass it. The object types of choice are rectangle, slot or circle.



Tip # 15 – Crosshair to Arrow

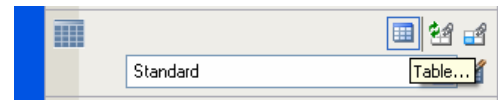
You can temporarily freeze your crosshairs by picking on the *Alt* key. Your cursor will turn into an arrow. It will stay this way until you either pick *Alt* again or pick on the screen using your cursor.

Tip # 16 – Bill of Materials from a spread sheet

You can keep a lot of information in a spreadsheet concerning your bill of materials without using blocks with attributes. This makes it easier to keep information in one place so that changes are made only once. No more having to update blocks everytime a change is made concerning listed parts. In this example your blocks will have a name that is kept in the spreadsheet along with all the other information concerning the part.

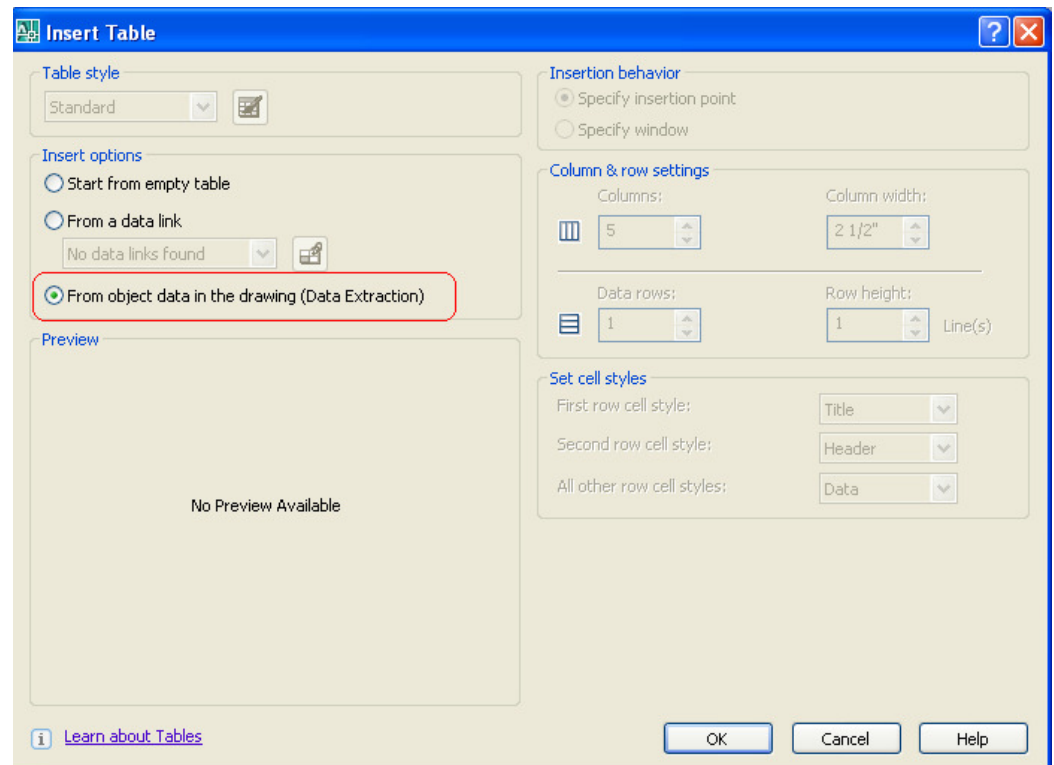
	A	B	C	D	E	F
1	id	PART NUM	COLOR	DESCRIPTION	PRICE	Block Name
2	1	IS484191906S	CBFCHRPLTPLTPPLT	PPLTSNPLTSNPLT ISLAND 4'X84"	75.32	IS484191906S-PLT
3	3	WS4841906S	CBFCHRPLTPLTPPLT	SNPLT WALL 4'W X 84"H	47.96	WS4841906S-PLT
4	6	WED37219	PLTPLTPLTS	WALL END DISPLAY	74.95	WED37219-PLT
5	8	BE366P	R53	PEGBOARD RED	9.21	BE366P-R53
6	9	IS484191906S	CBFCHRQG8QG8MEN/A	PPLTSNQG8SNPLT ISLAND 4'X84"	76.94	IS484191906S-QG8

Once you have all your blocks inserted into the drawing you can begin the data extraction. Go to the *Dashboard* and select *Table* to insert a table into the drawing.



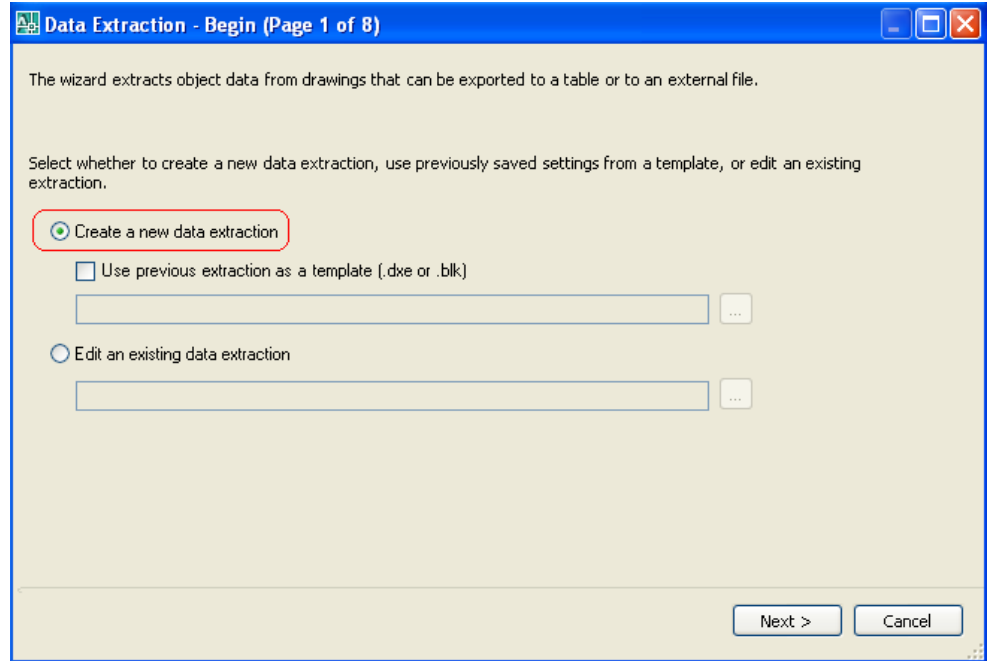
In the *Insert Table* dialog box you will be selecting the radio button under the *Insert options* to extract information *From object data in the drawing (Data Extraction)*.

Select the *OK* button to continue.

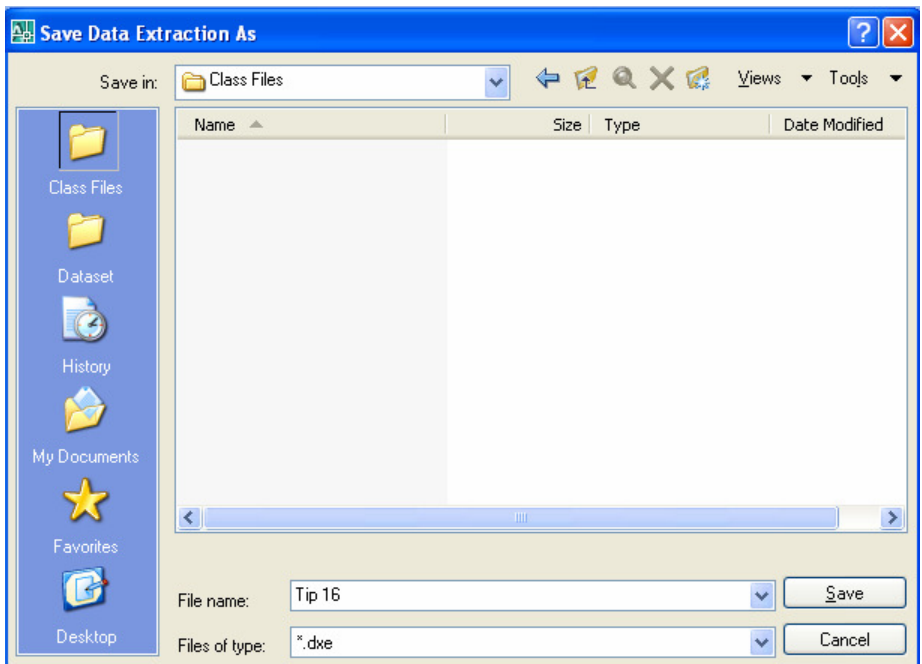


Next select the option
*Create a new data
extraction.*

Select the *Next>* button to
continue.



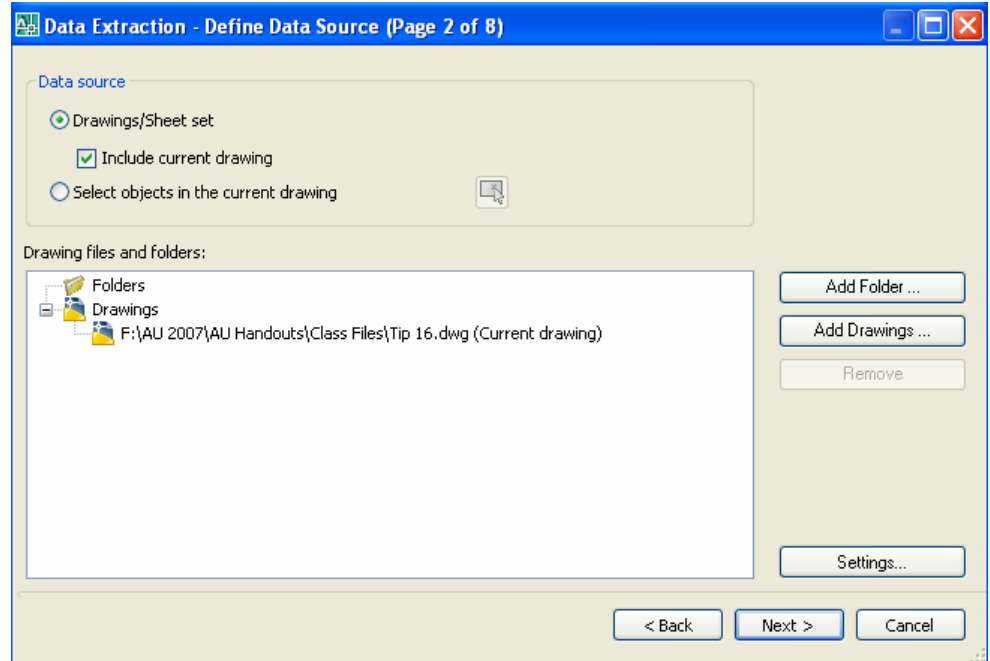
When prompted to save the
data extraction file I would
suggest that you name the file
the same as the drawing file
name and place it in the same
directory.





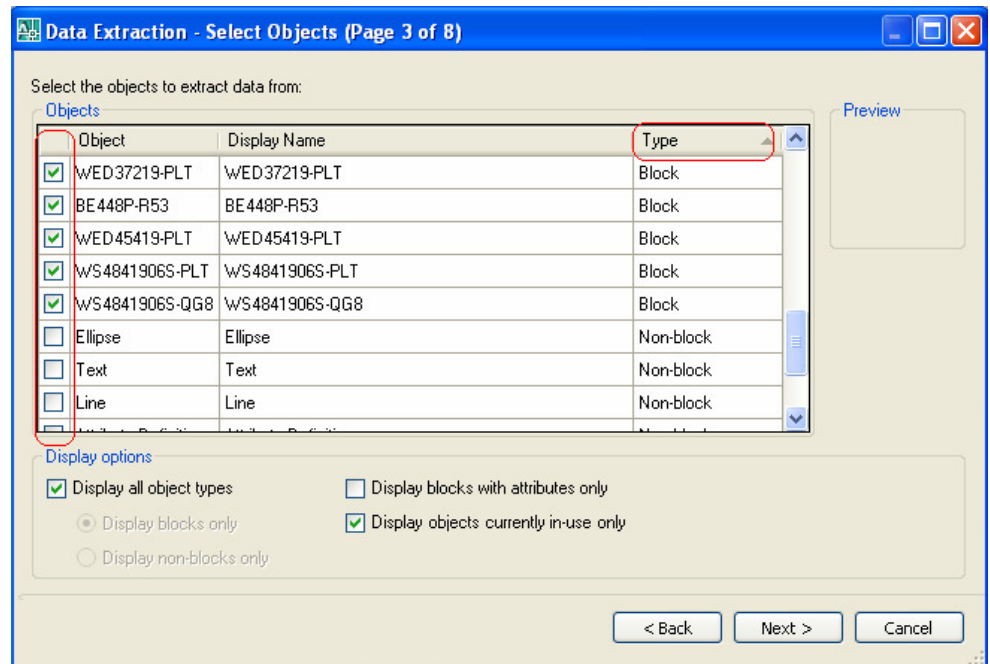
Select your source for data extraction. The default will be the current drawing. You could select other drawing files such as xref files.

Select the *Next>* button to continue.

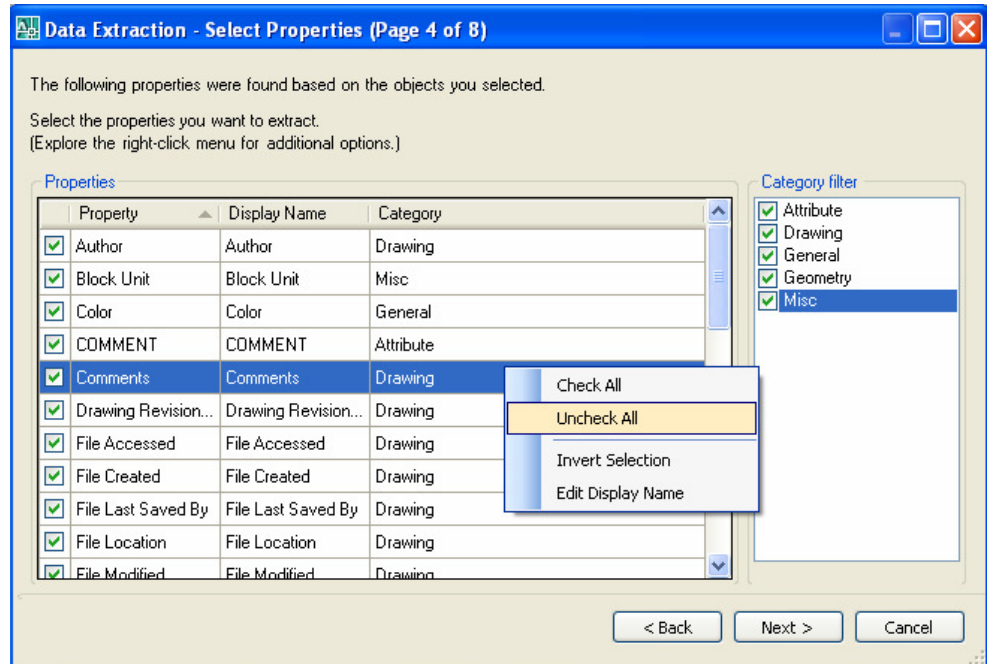


In the *Select Object* box you should choose only the *Block* objects. Next select the *Type* column head to sort by type then scroll to see the *Non-block* types. Select all of the *Non-block* types and remove the check mark from them.

Go *Next>* to continue.

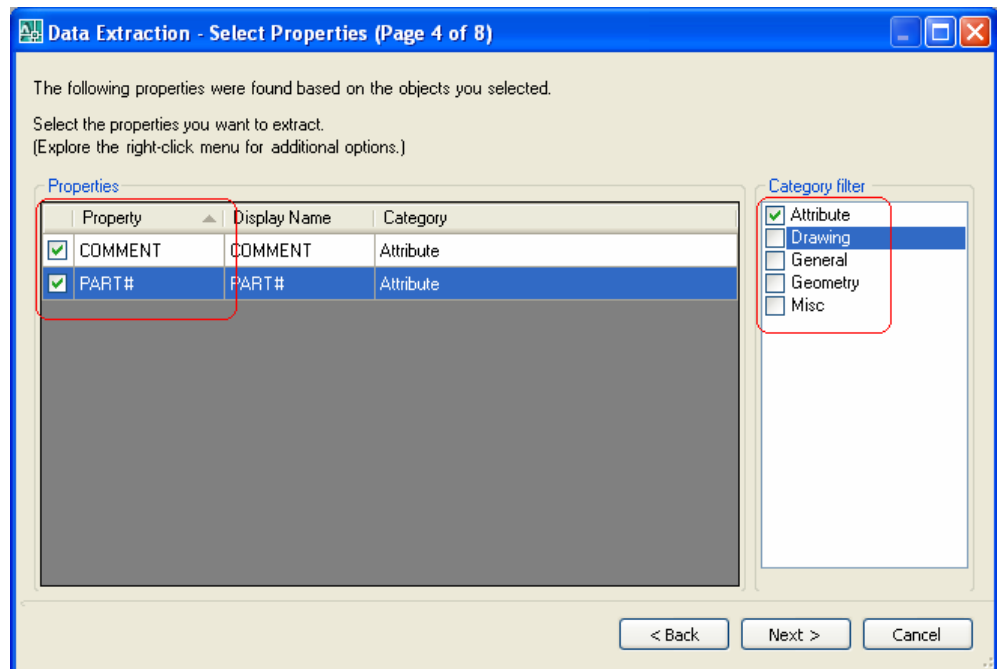


The only property that you are concerned with is the attribute property. Right click within the list and pick the *Uncheck All* to remove the check marks.

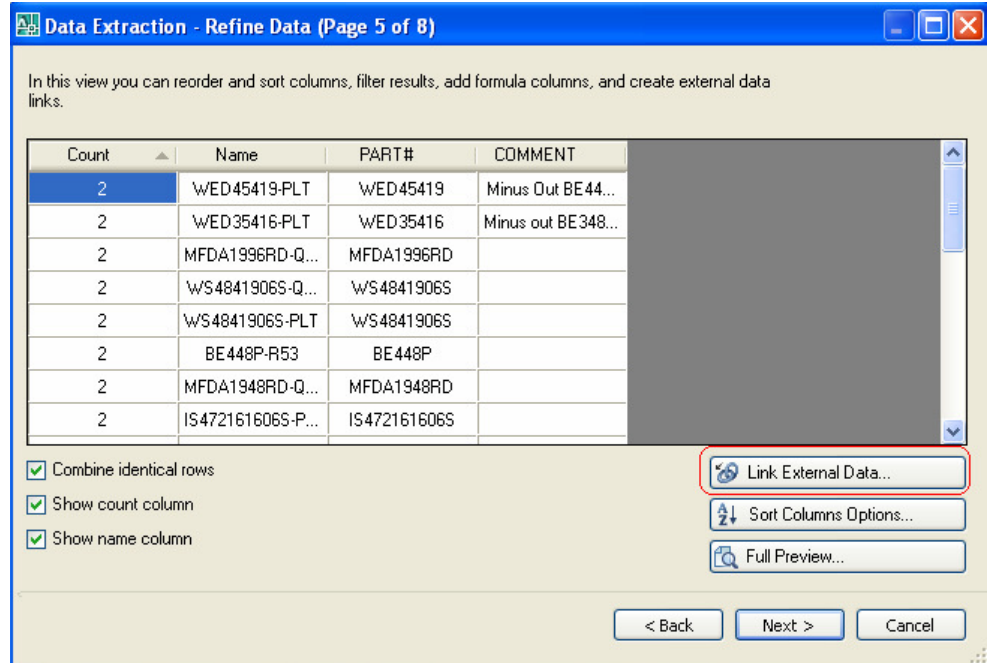


In the *Category filter* box uncheck everything except *Attribute*. Next check the attributes in the *Properties* box.

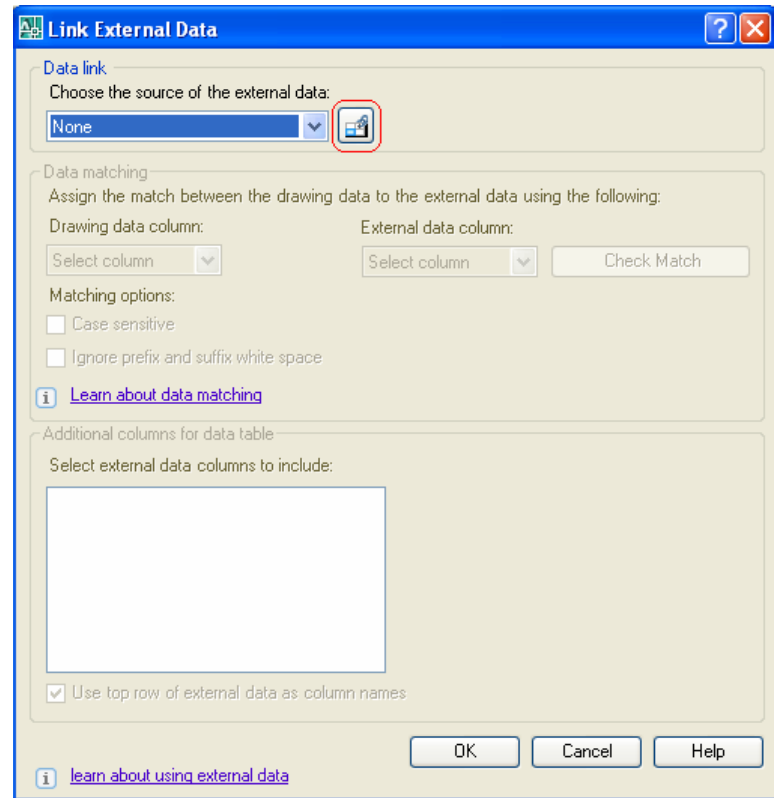
Go *Next>* to continue.



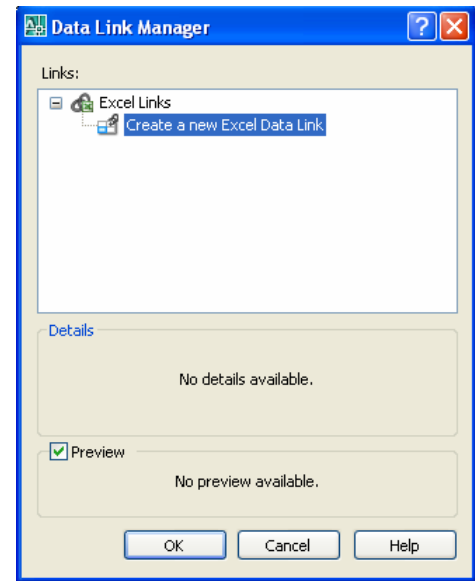
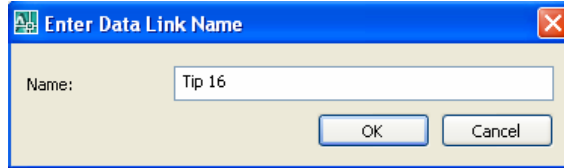
In the *Refine Data* dialog box select the *Link External Data...* button.



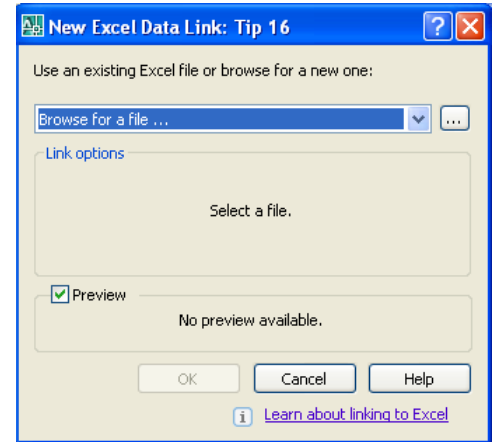
In the *Link External Data* dialog box choose the external data option to set up your connection with the excel file.



Select the *Create a new Excel Data Link* then give the data link a name. The usual name would be the same as the drawing file.

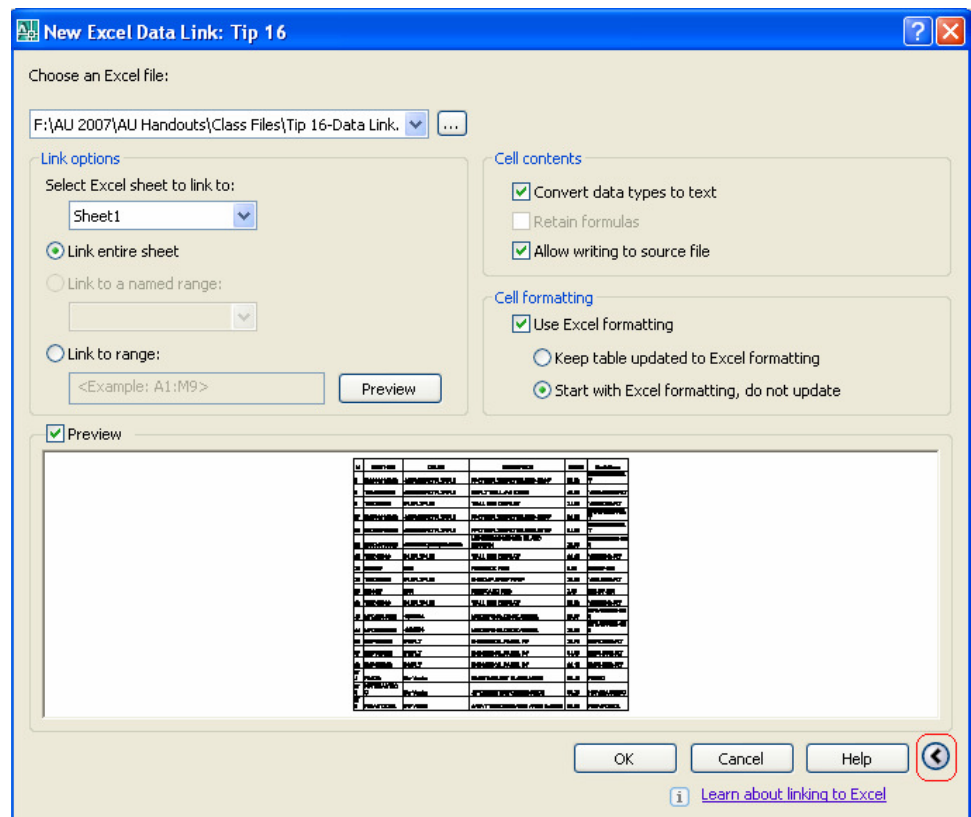


Next browse for your excel file containing the external data information.



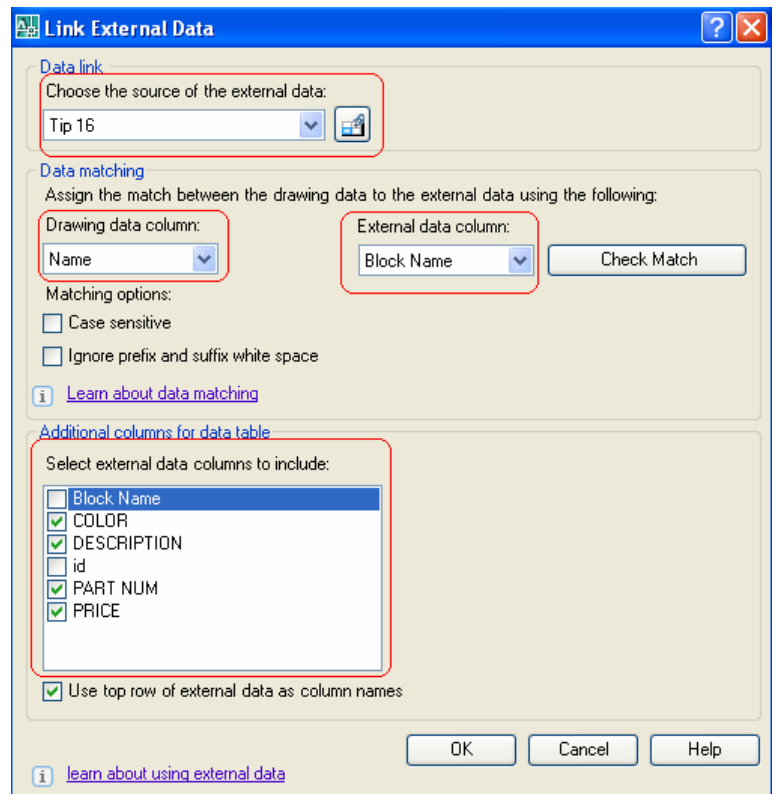
Once the file is selected you will see a preview of it in the *New excel Data Link* dialog box. Use the button on the lower right corner to expand the box allowing you to see selections such as *Cell contents* and *Cell formatting* options.

Select *OK* to continue.

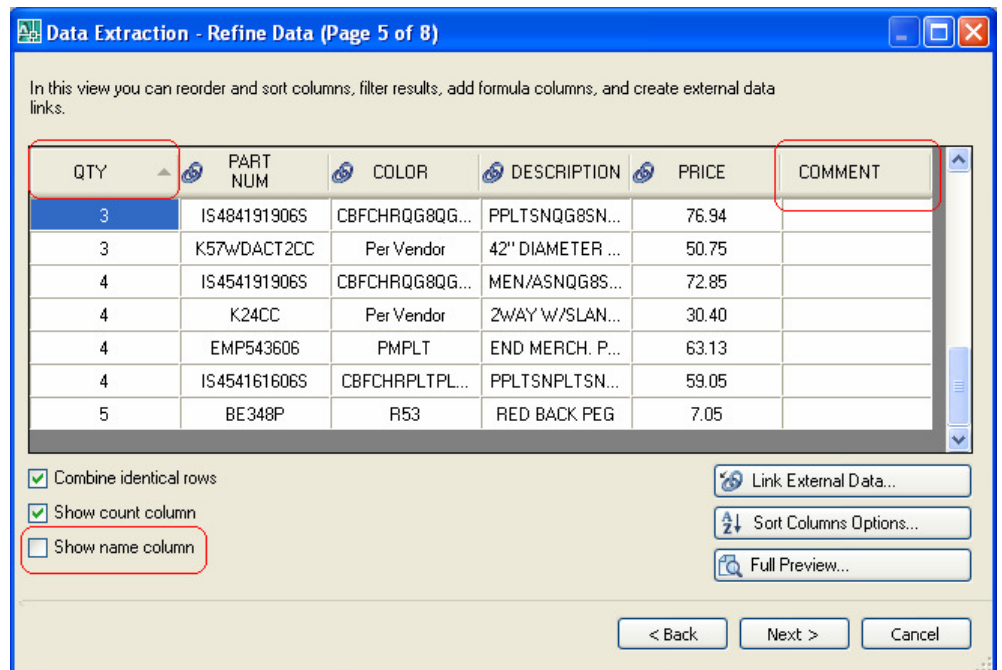


In the *Link External Data* dialog box your *Data Link* should be selected. Under *Drawing data column*: select *Name* to get the name of the block. Under *External data column*: choose *Block Name* to match up with the drawing data. For *Additional columns for data table* uncheck the boxes for *Block Name* and *id* from the excel spreadsheet.

Select *OK* to continue.



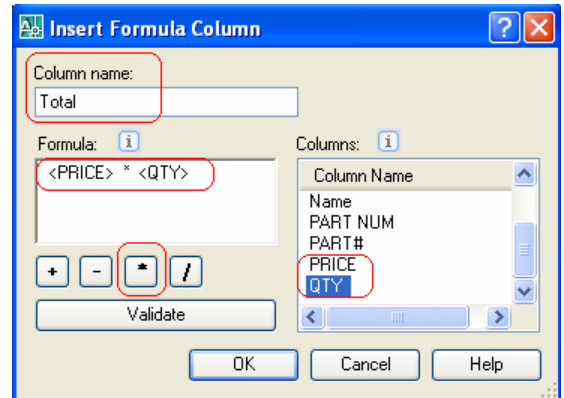
Back in the *Refine Data* dialog box move the *COMMENT* column to the end. Uncheck the *Show name column*. Right click on the *PART #* column and select the *Hide Column* to remove any duplicate information. Hover over the *Count* header and right click. Select *Rename Column* and change the name to *QTY* for the spreadsheet.



Hovering over the *PRICE* column right click and select *Insert Formula Column...* to add a column for getting the total price.

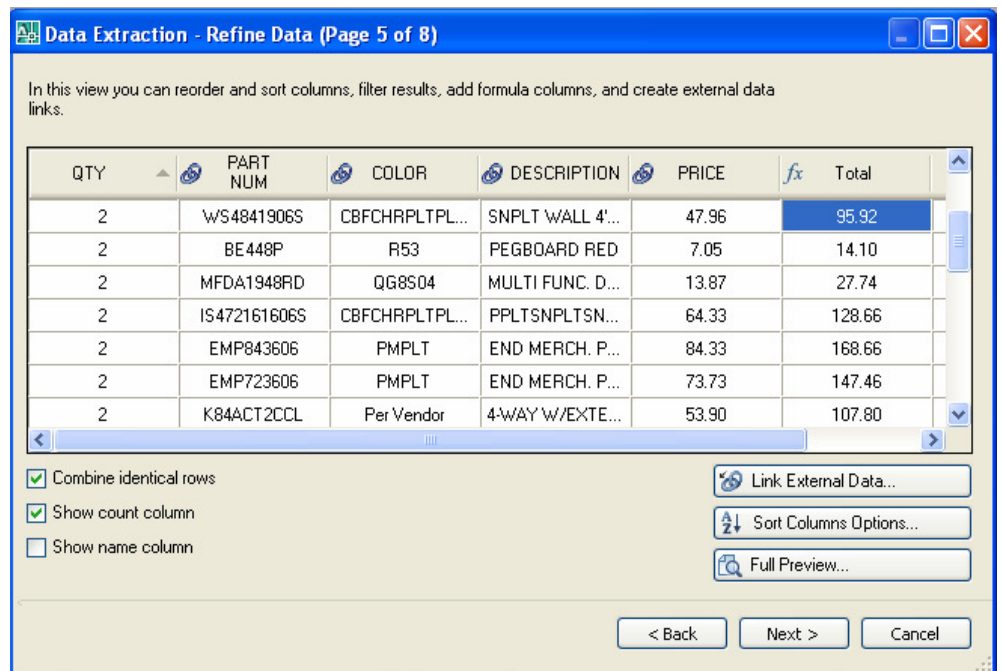
In the *Insert Formula Column* dialog box you should set the *Column name:* to *Total*. To generate the formula you can double click on the *PRICE* under *Columns:* then select the *asterisk (*)* for multiplication, then double click on the *QTY* to complete the operation.

Select *OK* to continue.



To set the *Total* column to have two decimal places hover over the column header and right click. Select the *Set Column Data Format...* option. Set the *Precision:* to two decimal places. Hover and right click on *Total* again and add *Insert Totals Footer* and select *Sum*. Back in the *Refine Data dialog* box the operation should now be complete.

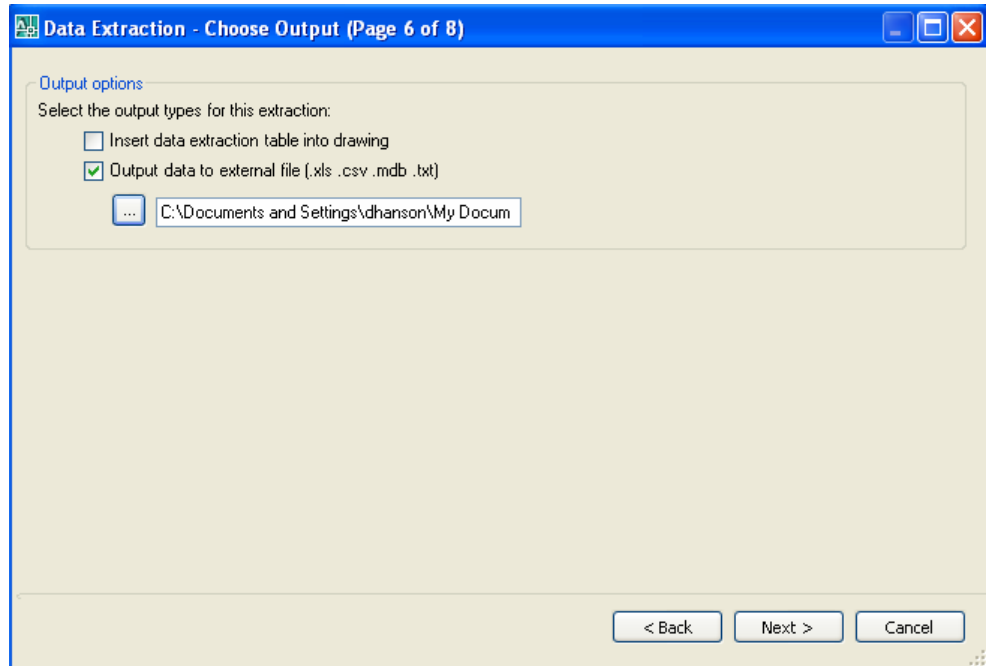
Go *Next>* to continue.



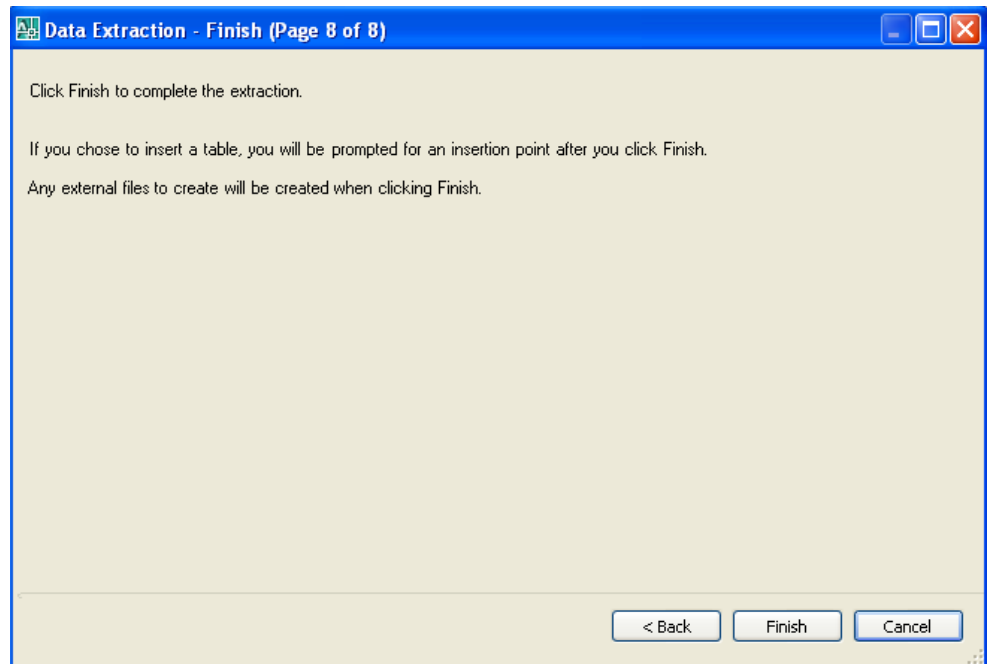


The *Choose Output* dialog box will let you place your table either in the drawing or create an external file. Select the option for external file and select the location for the external file to be saved.

Go *Next*> to continue.



Select the *Finish* button to complete the data extraction.





The resulting spreadsheet will display the information based on choices made during data extraction.

	A	B	C	D	E	F	G	H
1	QTY	Name	PART NUM	COLOR	DESCRIPTION	PRICE	TOTAL	COMMENT
2	2	MFDA1948RD-QG8	MFDA1948RD	QG8S04	MULTI FUNC. DECK ASSEM.	13.87	27.74	
3	2	MFDA1996RD-QG8	MFDA1996RD	QG8S04	MULTI FUNC. DECK ASSEM.	20.00	40.00	
4	4	K24CC	K24CC	Per Vendor	2WAY W/SLANT BLADE ARMS	30.40	121.60	
5	2	WS4841906S-PLT	WS4841906S	CBFCHRPLTPLTPPLT	SNPLT WALL 4"W X 84"H	47.96	95.92	
6	2	WS4841906S-QG8	WS4841906S	CBFCHRQG8MEN/ASNQG8	WALL 4"W X 84"H	49.58	99.16	
7	3	K57WDACT2CC	K57WDACT2CC	Per Vendor	42" DIAMETER FOLDING RACK	50.75	152.25	
8	2	K84ACT2CCL	K84ACT2CCL	Per Vendor	4-WAY W/EXTENDABLE ARMS & CSTS	53.90	107.80	
9	4	IS454161606S-PLT	IS454161606S	CBFCHRPLTPLTPPLT	PPLTSNPLTSNPLT ISLAND 4'X54"	59.05	236.20	
10	4	EMP543606-PLT	EMP543606	PMPLT	END MERCH. PANEL 54"	63.13	252.52	
11	2	IS472161606S-PLT	IS472161606S	CBFCHRPLTPLTPPLT	PPLTSNPLTSNPLT ISLAND 4'X72"	64.33	128.66	
12	2	IS472161906S-PLT	IS472161906S	CBFCHRPLTPLTPPLT	PPLTSNPLTSNPLT ISLAND 4'X72"	64.92	129.84	
13	2	IS472191906S-PLT	IS472191906S	CBFCHRPLTPLTPPLT	PPLTSNPLTSNPLT ISLAND 4'X72"	65.51	131.02	
14	2	WED35416-PLT	WED35416	PLTPLTPLTS	WALL END DISPLAY	68.31	136.62	Minus out BE3
15	2	BE448P-R53	BE448P	R53	PEGBOARD RED	7.05	14.10	
16	5	BE348P-R53	BE348P	R53	RED BACK PEG	7.05	35.25	
17	2	WED45419-PLT	WED45419	PLTPLTPLTS	END CAP 4'X54" W/19"	70.52	141.04	Minus Out BE4
18	3	WED35419-PLT	WED35419	PLTPLTPLTS	WALL END DISPLAY	70.52	211.56	Minus out BE3
19	4	IS454191906S-QG8	IS454191906S	CBFCHRQG8QG8MEN/A	MEN/ASNQG8SNQG8 ISLAND SECTION	72.85	291.40	
20	2	EMP723606-PLT	EMP723606	PMPLT	END MERCH. PANEL 72"	73.73	147.46	
21	3	WED37219-PLT	WED37219	PLTPLTPLTS	WALL END DISPLAY	74.95	224.85	Minus out BE3
22	3	IS484191906S-PLT	IS484191906S	CBFCHRPLTPLTPPLT	PPLTSNPLTSNPLT ISLAND 4'X84"	75.32	225.96	
23	3	IS484191906S-QG8	IS484191906S	CBFCHRQG8QG8MEN/A	PPLTSNQG8SNPLT ISLAND 4'X84"	76.94	230.82	
24	2	EMP843606-PLT	EMP843606	PMPLT	END MERCH. PANEL 84"	84.33	168.66	
25	3	BE366P-R53	BE366P	R53	PEGBOARD RED	9.21	27.63	
26							3378.06	

Tip # 17 – Keep your AUGI membership up to date

You can change your AUGI contact information at any time. You can update your email address, mailing address, phone number, etc. Just go to the *My AUGI* link found on the top right hand side of the AUGI web site.

Tuesday, October 30, 2007 Home | Search | About AUGI | **My AUGI**

Time's running out to take the 2007 CAD Salary Survey!

Welcome: Donnia Tabor-Hanson

Quick Links

[AUGI Training Program \(ATP\) Courses](#)

Tip # 18 – One to a person please

There is no need to have more than one AUGI membership. You can log onto www.augi.com from any computer using the same email address and password. Please send a message to membership@augi.com if you have more than one membership. Choose which membership you wish to use and your multiple memberships will be merged.