

GD401-2 Stop Wrestling and Start Dancing with AutoCAD®

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MasterGraphics, Inc. – Minneapolis

Is This Course For You?

- **Productivity settings**
- **Hidden secrets of AutoCAD**
- **Standards & Express tools**
- **Hey!...I knew that!**
- **Smart planning**
- **Drawing “Structure”**

Class Etiquette & Suggestions

- **Hold Questions Until After Class**
- **Switch Cell Phones To Silent**
- **Not What You Expected? Dozens Of Other Classes & Labs At This Moment**
- **Take Notes In Your Handouts**
- **Come & Go As You Wish – Quietly**
- **Learn and Have Fun!**

Who am I?

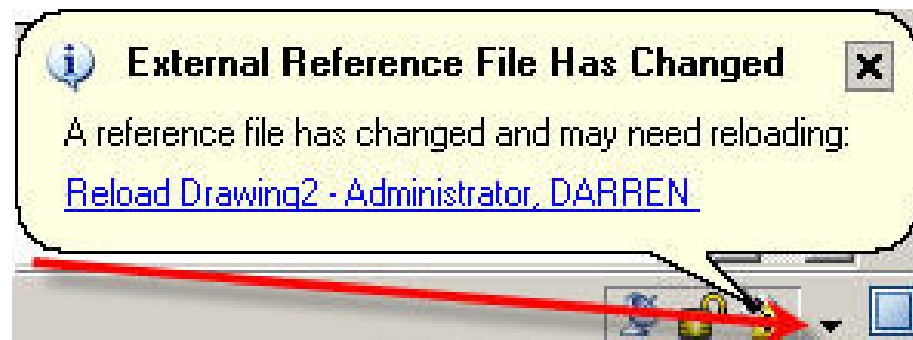
- **Manufacturing Application Engineer**
- **Software Developer**
- **CAD Administrator**
- **Business Owner – Drafting/Programming**
- **Experience in CAD, CAM, CNC, Data Mgmt.**
- **From dress patterns to gas turbine piping**
- **Technical Editor / Author**

Productivity Settings

Fine Tuning Your AutoCAD Experience Part 1: That's Annoying!

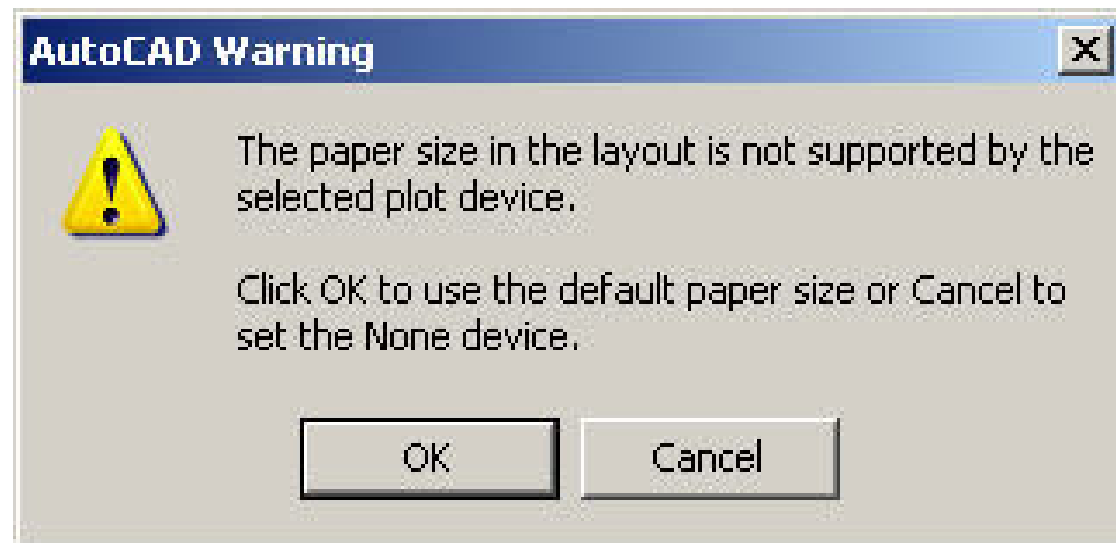
System Variables – Part 1

- **TRAYTIMEOUT**
- **TRAYNOTIFY**
- **XREFNOTIFY**
- **DATALINKNOTIFY**
- **LAYERNOTIFY**
- **(setenv “XNOTIFYTIME” “5”)**



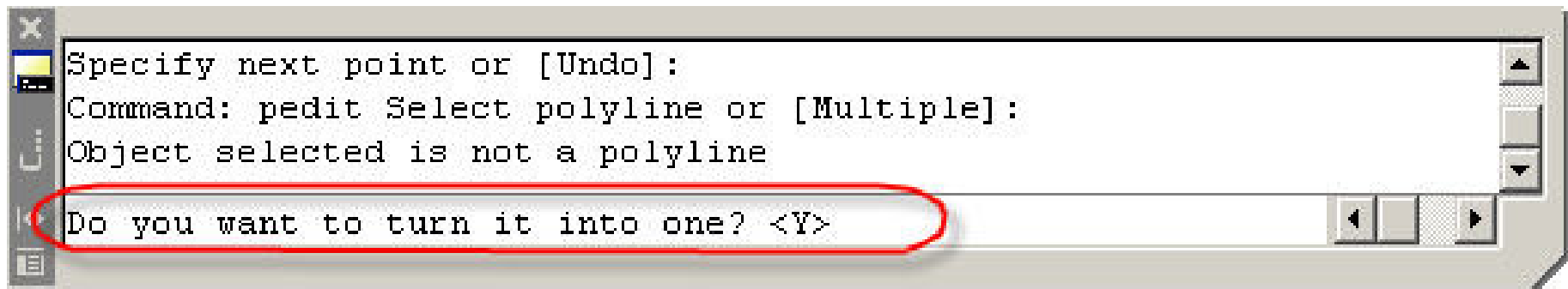
System Variables – Part 1

- **PUBLISHALLSHEETS**
- **PAPERUPDATE**



System Variables – Part 1

➤ PEDITACCEPT



Productivity Settings

Fine Tuning Your AutoCAD Experience

**Part 2: Still annoying but at least AutoCAD's
trying to be on your side**

System Variables – Part 2

➤ (setenv “MaxHatch” “10000”)



Hatch spacing too dense, or dash size too small.

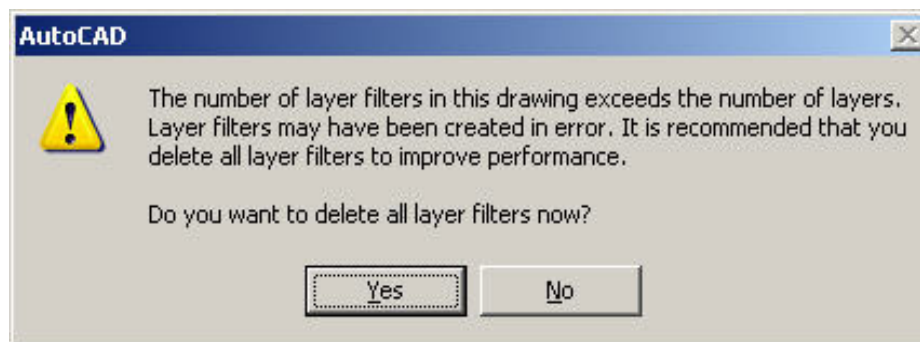
Pick or press Esc to return to dialog or <Right-click to accept hatch>:

➤ (setenv “MaxArray” “10000”)

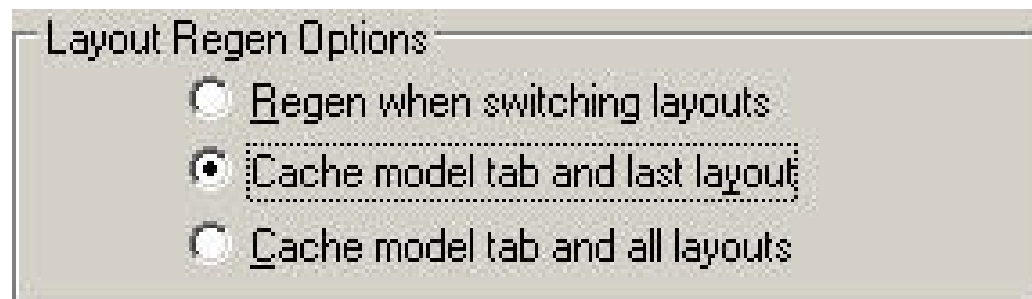


System Variables – Part 2

➤ LAYERFILTERALERT

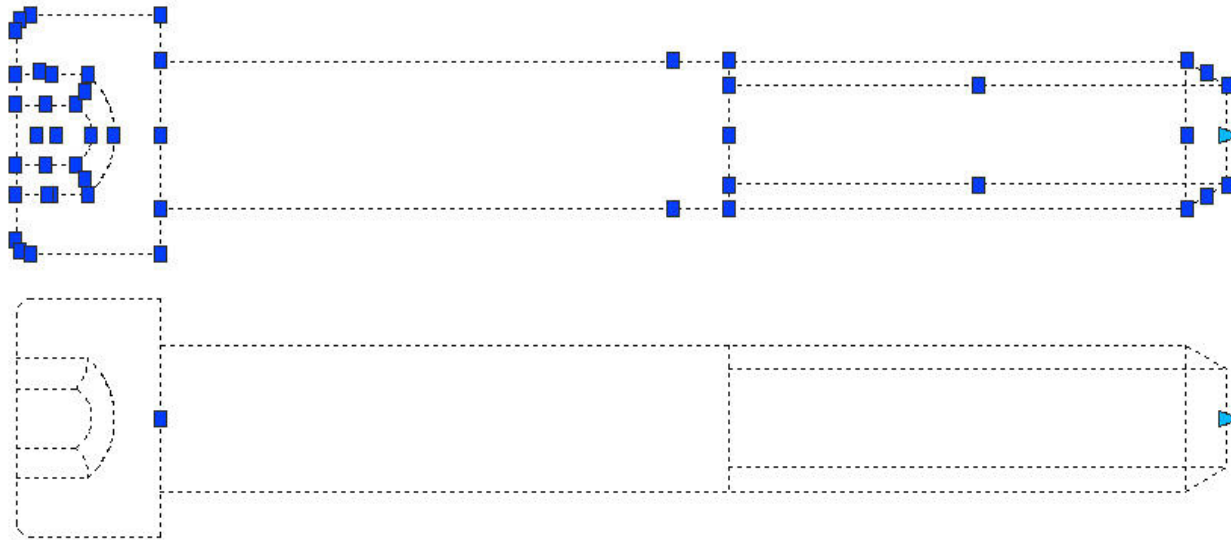


➤ LAYOUTREGENCTL



System Variables – Part 2

- GRIPBLOCK
- GRIPOBJLIMIT



Productivity Settings

Fine Tuning Your AutoCAD Experience Part 3: Get what you need the first time

System Variables – Part 3

➤ **OSOPTIONS (formerly OSNAPHATCH)**

➤ **OSNAPZ**

➤ **DELOBJ**

➤ **BINDTYPE**

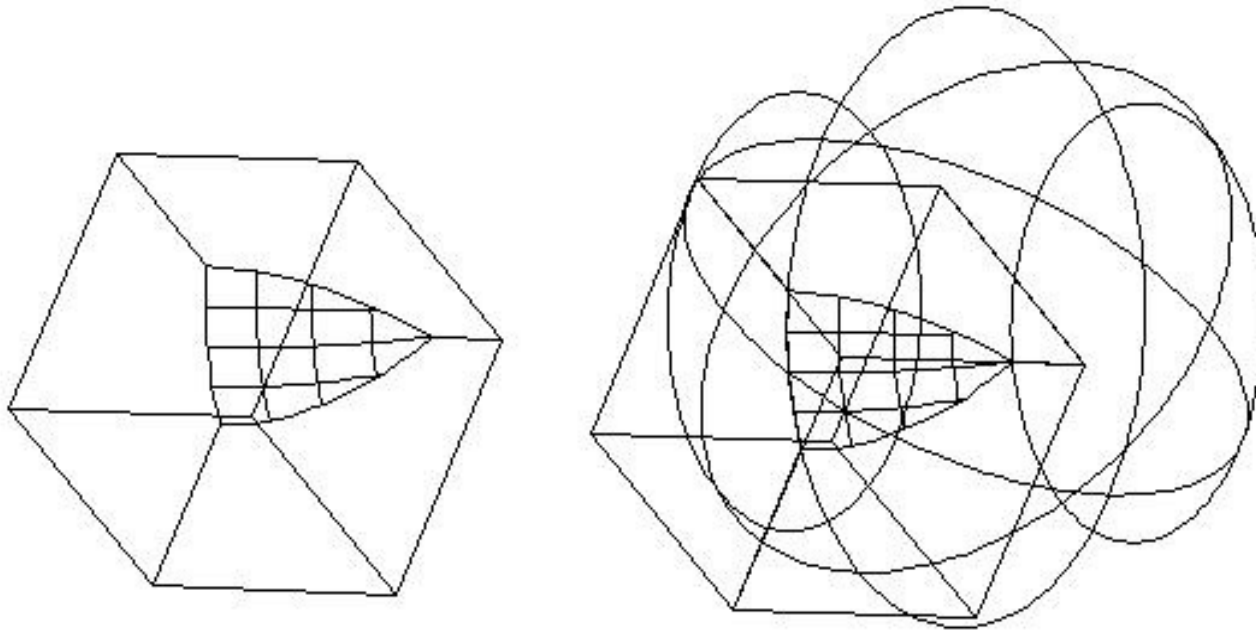
➤ **PELLIPSE**

Bitcoded-Values

Decimal	Binary	Description
0	0000	NOne
1	0001	ENDpoint
2	0010	MIDpoint
4	0100	CENter
8	1000	NODe
3	0011	END,MID
10	1010	NOD,MID
11	1011	END,MID,NOD

System Variables – Part 3

➤ SOLIDHIST



System Variables – Part 3

➤ **INSUNITS**

➤ **INSUNITSDEFTARGET**

➤ **INSUNITSDEFSOURCE**

Value	Units	Value	Units	Value	Units
0	None Specified	7	Kilometers	14	Decimeters
1	Inches	8	Microinches	15	Dekameters
2	Feet	9	Mils	16	Hectometers
3	Miles	10	Yards	17	Gigameters
4	Millimeters	11	Angstroms	18	Astronomical Units
5	Centimeters	12	Nanometers	19	Light Years
6	Meters	13	Microns	20	Parsecs

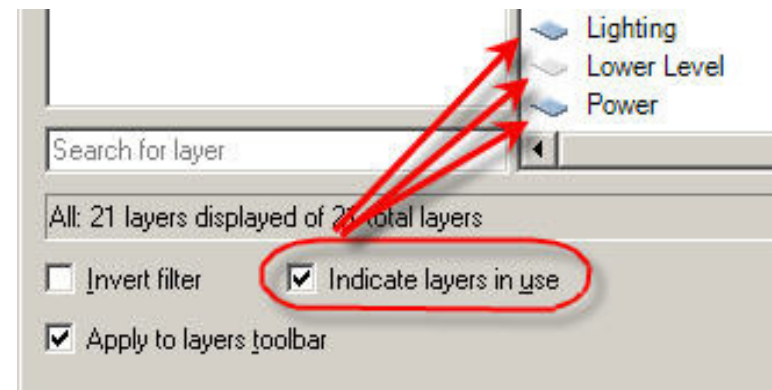
Productivity Settings

Fine Tuning Your AutoCAD Experience

Part 4: Pure productivity

System Variables – Part 4

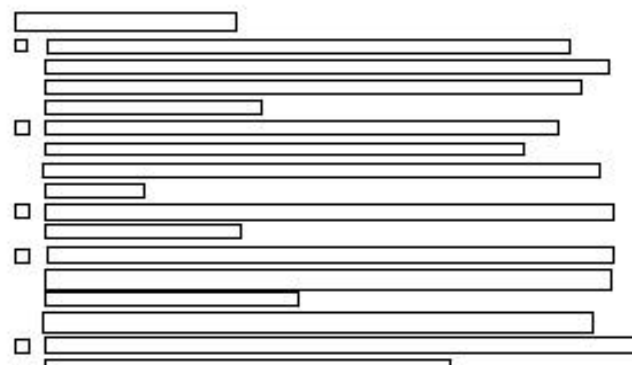
➤ SHOWLAYERUSAGE



➤ QTEXTMODE

GENERAL NOTES:

1. FOUNDATION VENTILATION EQUAL TO 1 SF. OF NET OPENING FOR EACH 150 S.F. OF UNDER FLOOR AREA. ALL FOUNDATION TO COMPLY TO CURRENT UNIFORM BUILDING STANDARDS.
2. VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE BUILDING OR STARTING CONSTRUCTION. NOTIFY THE DESIGNER IMMEDIATELY OF ANY DISCREPANCY OR VARIATION.
3. VERIFY ROUGH OPENINGS AND FRAMING REQUIREMENTS PRIOR TO FRAMING.
4. INTERIOR OF HOUSE IS TO BE PAINTED WHITE WITH 3" OAK BASE BOARD (SEE DETAIL) & 4" OAK COVES AT ALL JUNCTIONS BETWEEN WALL & CEILING OR BEAMS & CEILING (SEE DETAIL).
5. ALL EXTERIOR WALL ARE TO BE 2"x6" FRAMING. INTERIOR WALLS ARE TO BE 2"x4" FRAMING AND



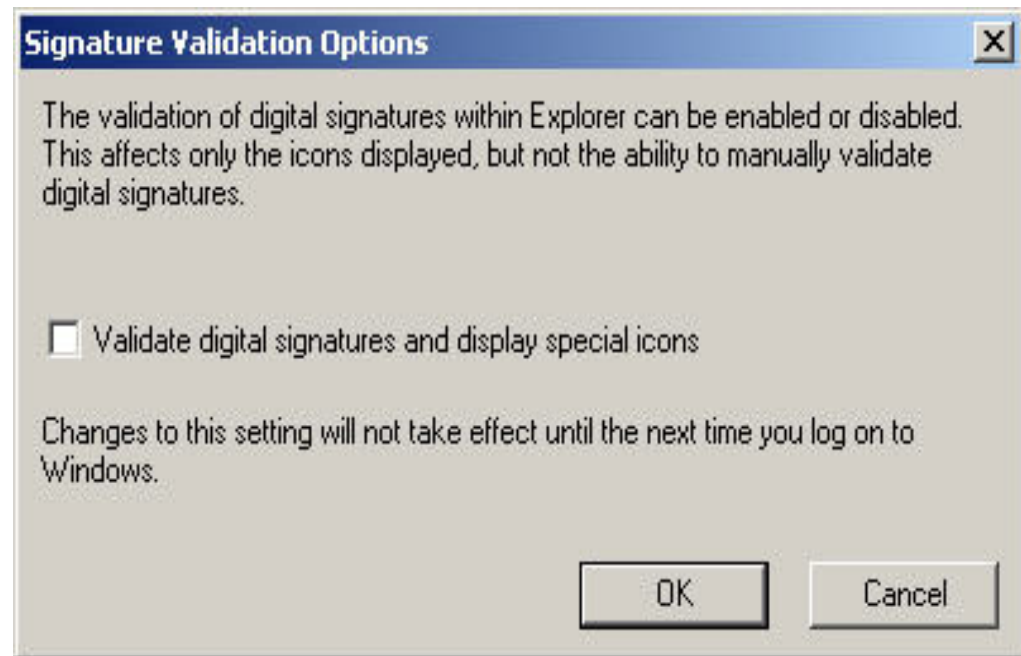
Hidden Secrets of AutoCAD

**What You Don't Know...
How It Can Help You Or Kill You**

Hidden Secrets of AutoCAD

Digital Signatures

➤ Disable For Better Performance



Hidden Secrets of AutoCAD

Hatching

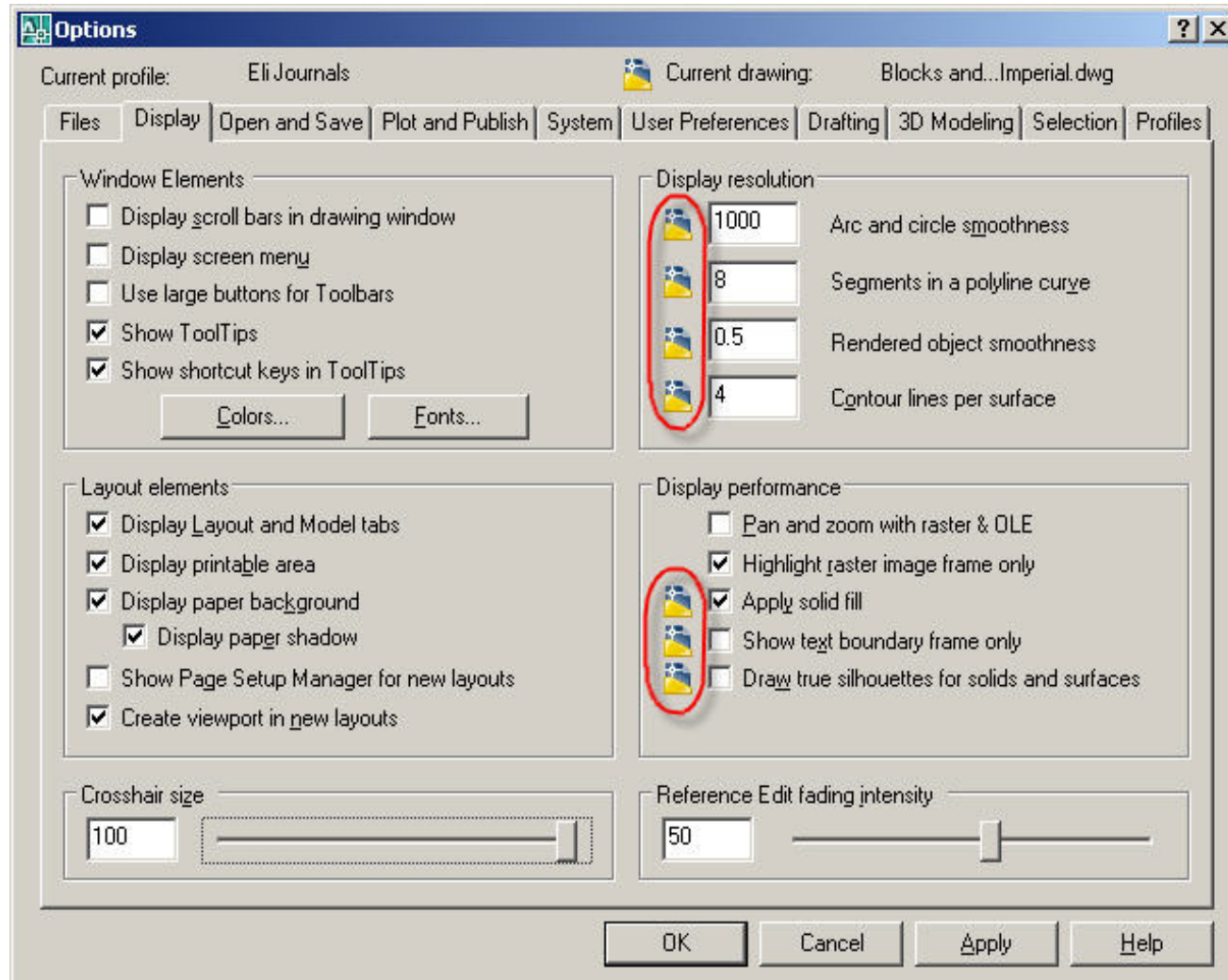
- **Minimize Number Of Objects**
- **Zoom Close To Hatch Area**

Associative Dimensioning

- **Not All Objects Supported**
- **Disable For Unsupported Objects**

Hidden Secrets of AutoCAD

Options Dialog



Hidden Secrets of AutoCAD

Object Conversion Commands

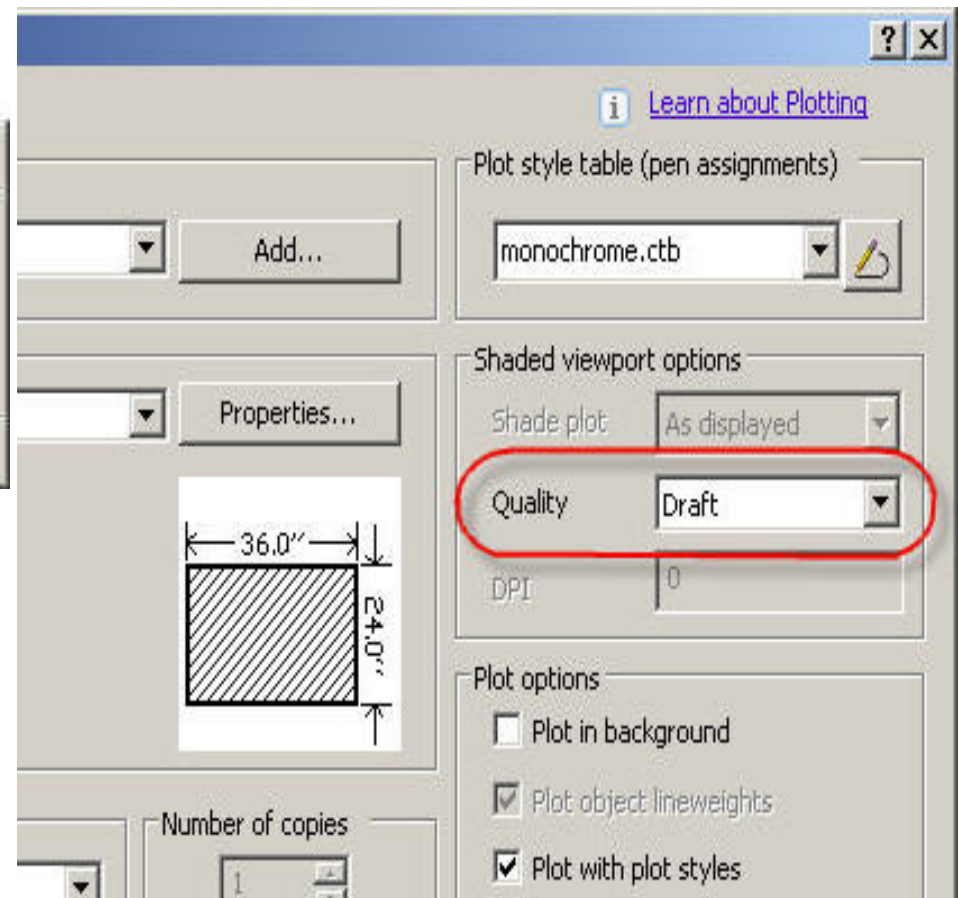
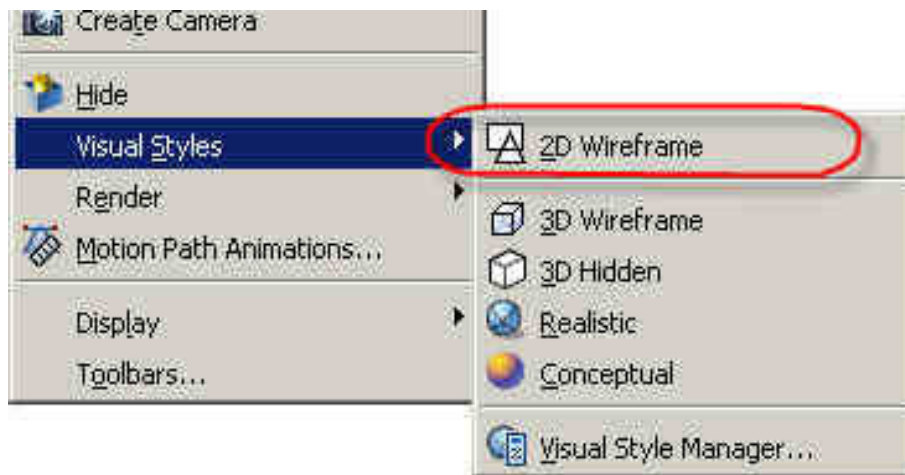
- **CONVERYPOLY**
- **CONVERT**
- **CONVERTOLDLIGHTS**
- **CONVERTOLDMATERIALS**

Object Conversion Commands

- **PLINETYPE**

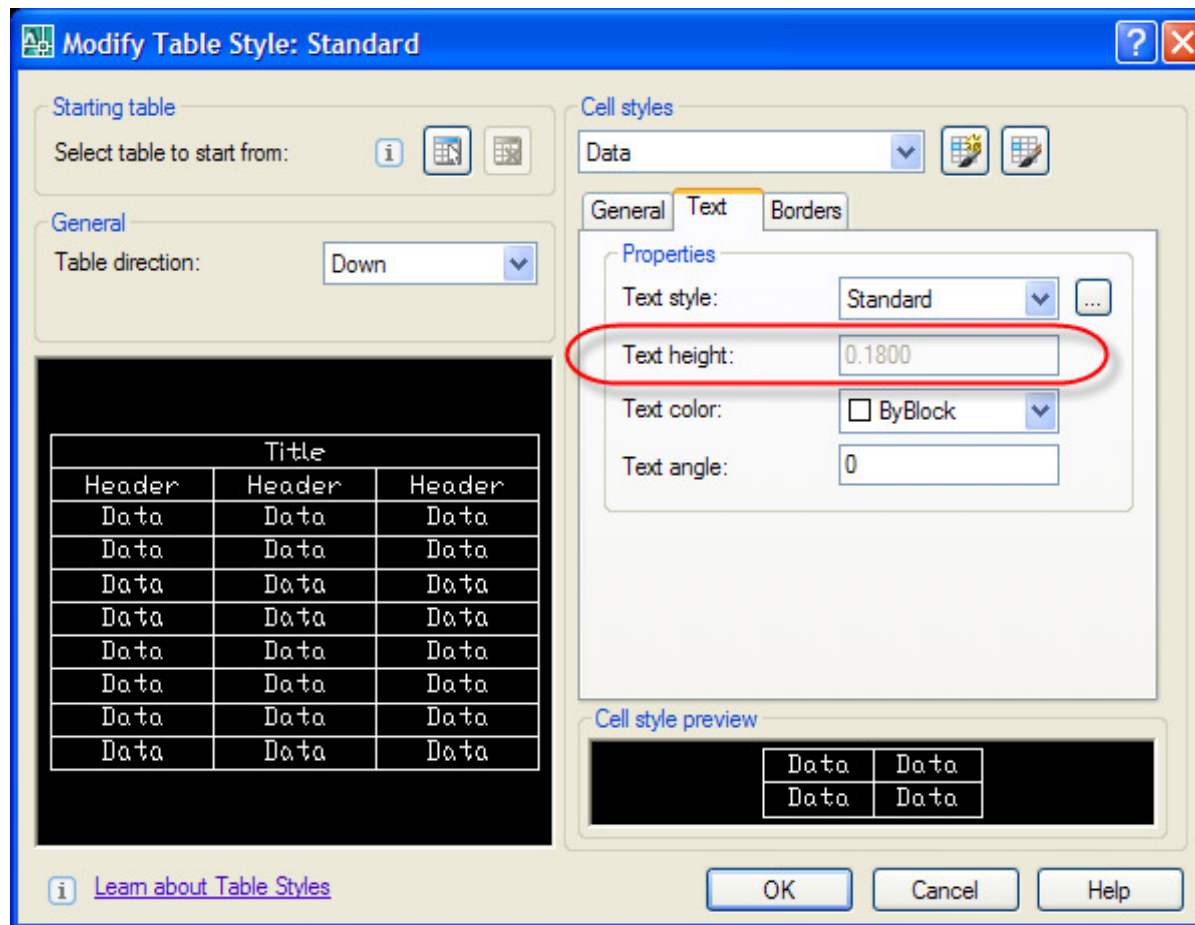
Hidden Secrets of AutoCAD

Pen Weights – Not Always Black & White



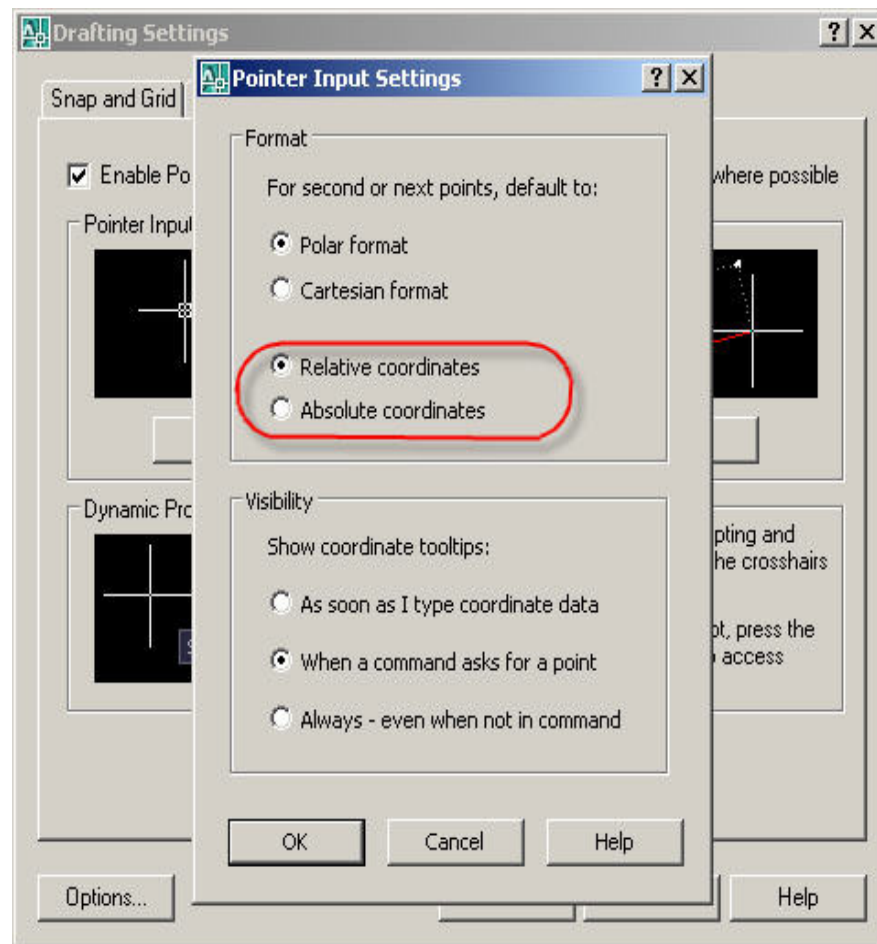
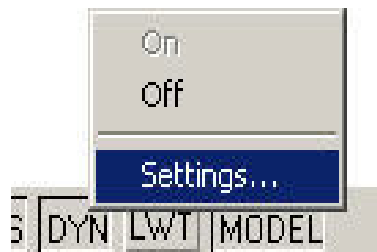
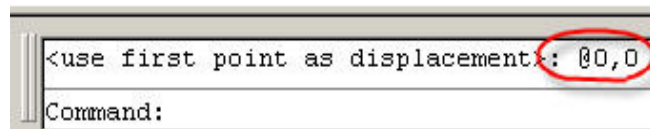
Hidden Secrets of AutoCAD

Text Height – Wears Many Styles



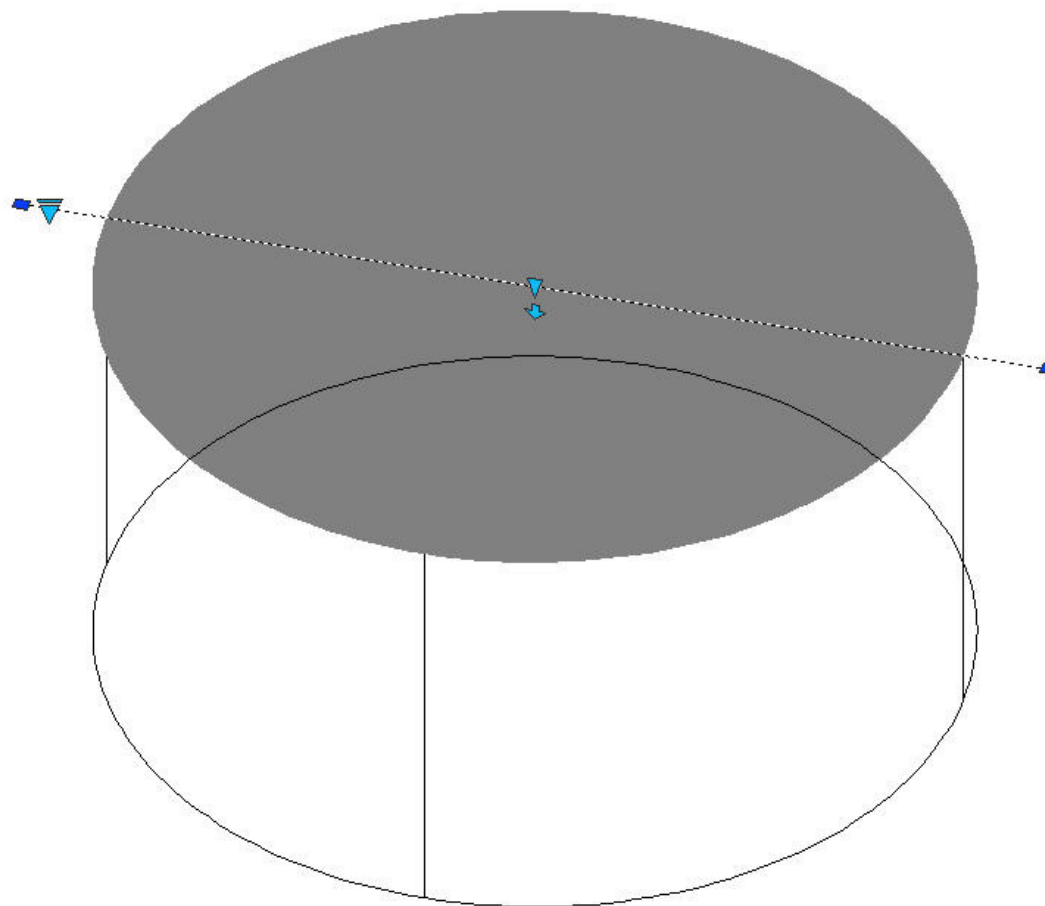
Hidden Secrets of AutoCAD

Dynamic Input – When Move Won't Move



Hidden Secrets of AutoCAD

Live Sections – They'll Leave You Dead



Hidden Secrets of AutoCAD

Bugs – Can't Fillet DOT Linetypes (fixed in 2008)

- DOT
- DOT2
- DOTX2
- ACAD_ISO07W100

Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- **#** (pound character)
- **Matches any single numeric digit**
- **Floor# = Floor1, Floor2...etc...**
- **Floor## = Floor11, Floor12...etc...**

Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- **@** (at character)
- **Matches any single alpha character**
- **@103 = A103, B103...etc...**
- **@@-103 = AA-103, AB-103...etc...**

Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- . (period)
- Matches any single non alphanumeric character
- A.Floor = A-Floor, A_Floor...etc...

Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- ***** (asterisk)
- **Matches any character sequence**
- ***1 = Arch1, Room101, 321...etc...**

Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- ? (question mark)
- Matches any single character
- Room? = Room1, RoomA, Room-..etc...

Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- ~ (tilde character)
- If 1st character in pattern, matches anything but pattern
- ~A-Room = B-Room1, C-Room1...etc...
- ~A-Room /= A-Room1

Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- [...] (brackets)
- Matches any one of characters enclosed
- [ABC]-Room = A-Room, B-Room, &
- C-Room
- [ABC]-Room /= D-Room, E-Room, ...etc...

Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- [~...] (tilde within brackets)
- matches anything but one of characters enclosed
- [~ABC]-Room = D-Room, E-Room...etc...
- [~ABC] /= A-Room, B-Room, C-Room

Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- - (hyphen)
- used inside brackets to specify range for a single character
- Part[0-9] = Part1 thru Part 9
- Part[0-9] /= Part10, Part11,...etc...

Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- , (comma)
- separates 2 patterns
- Room#,Part# = Room1, Part4...etc...
- Room#,Part# /= Wall1, Door5...etc...

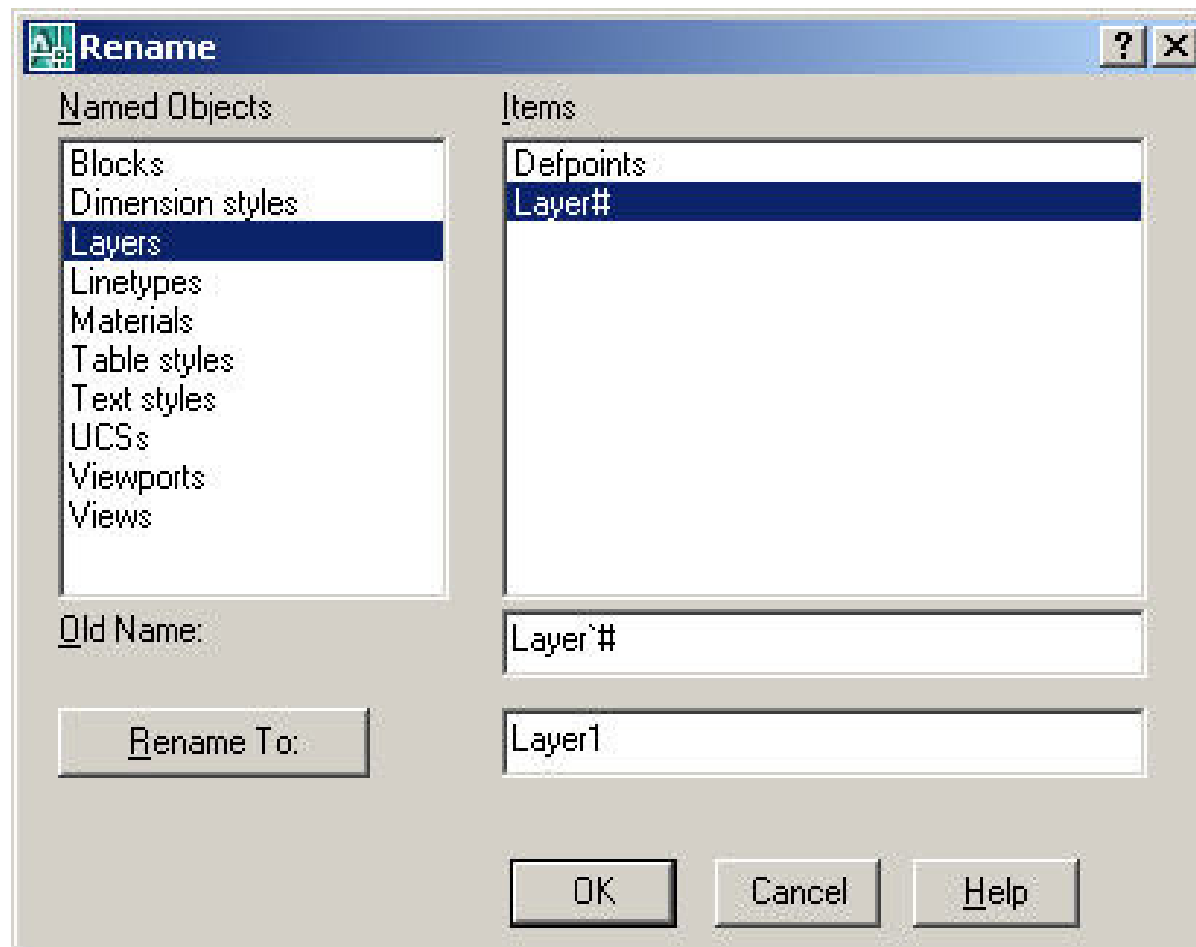
Hidden Secrets of AutoCAD

Wildcards – Not Just For Use In Vegas

- ` (reverse quote)
- reads next character literally
- Room`# = Room#
- Room`# /= Room1, Room2...etc...

Hidden Secrets of AutoCAD

Wildcards – Used all over AutoCAD

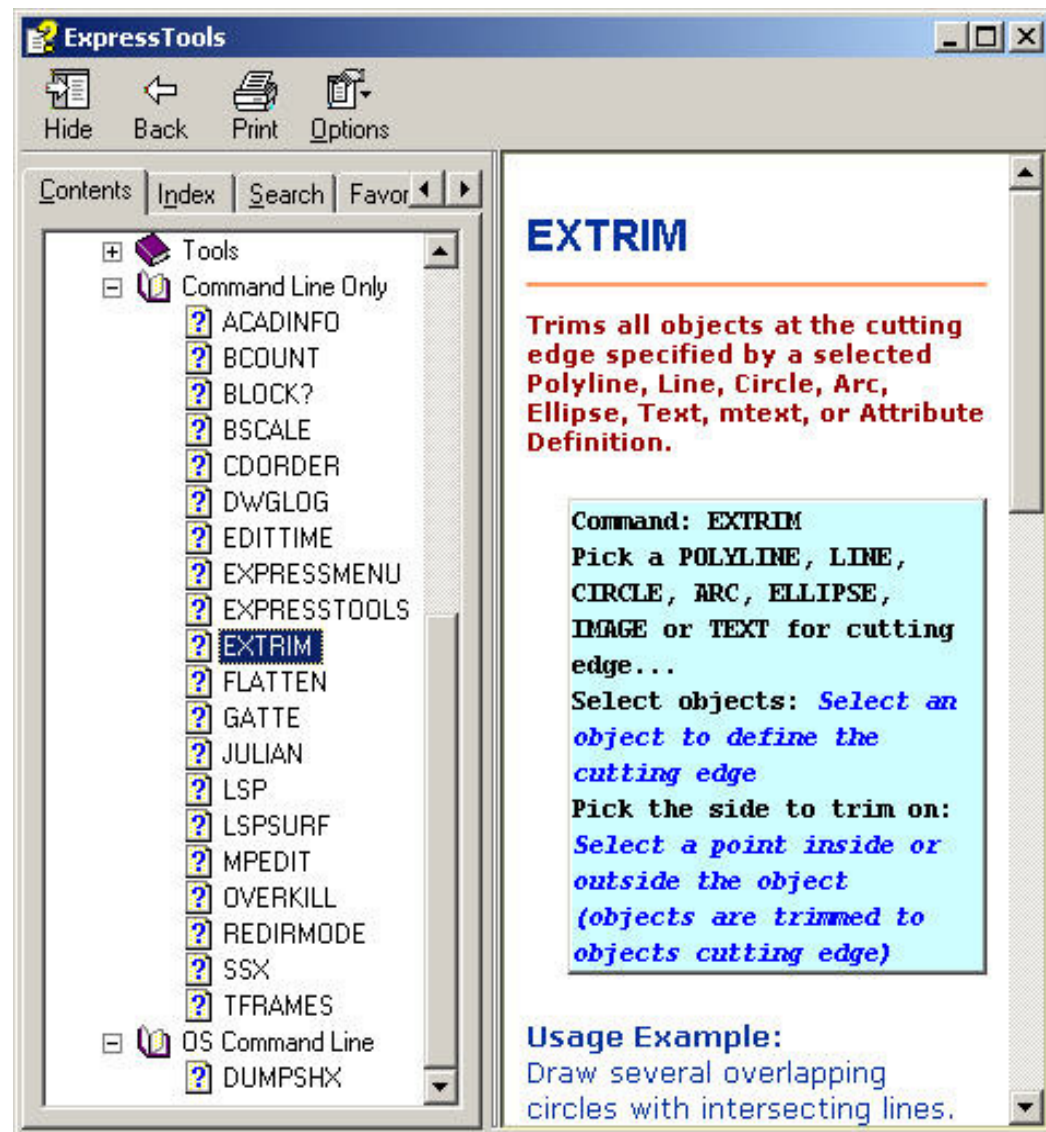


Standards & Express Tools

There To Do The Dirty Work

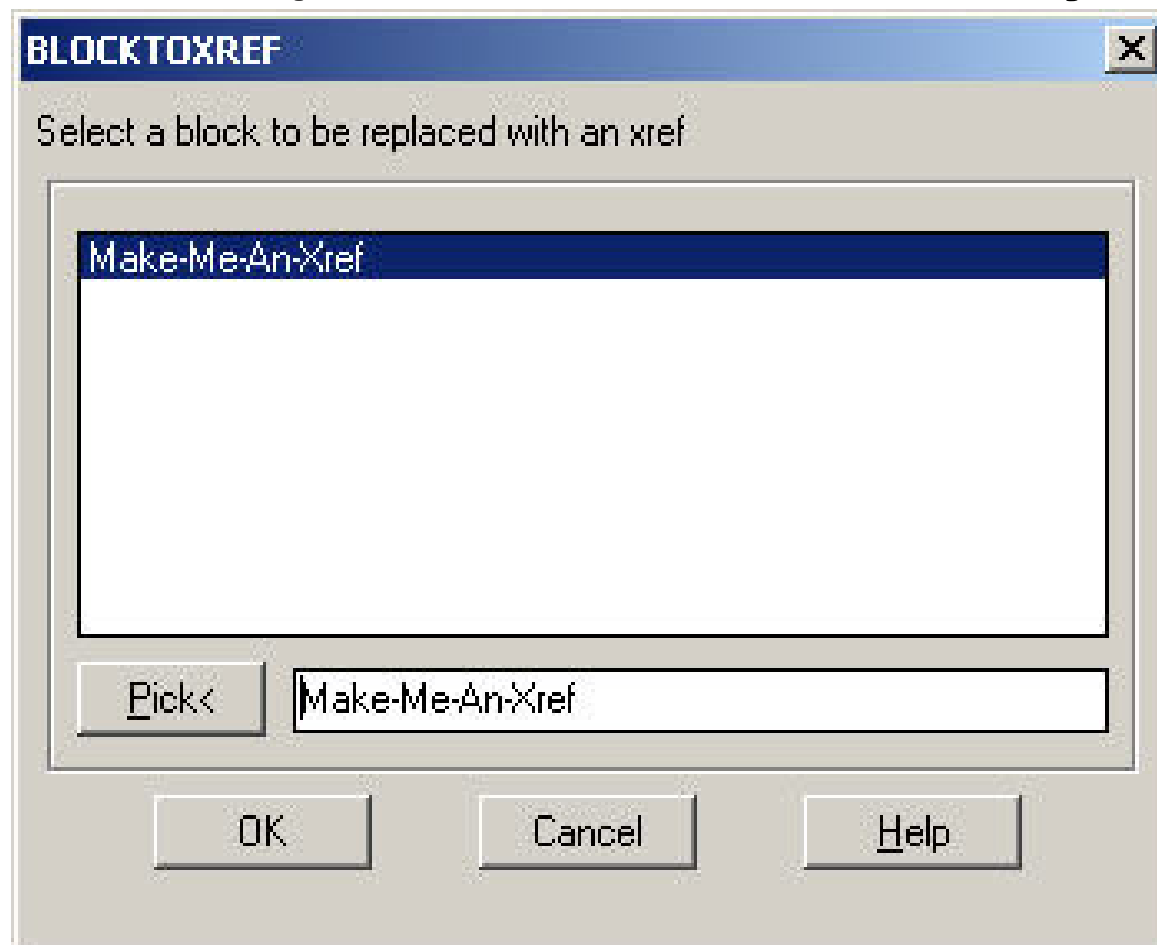
Standards & Express Tools

Extended Trim



Standards & Express Tools

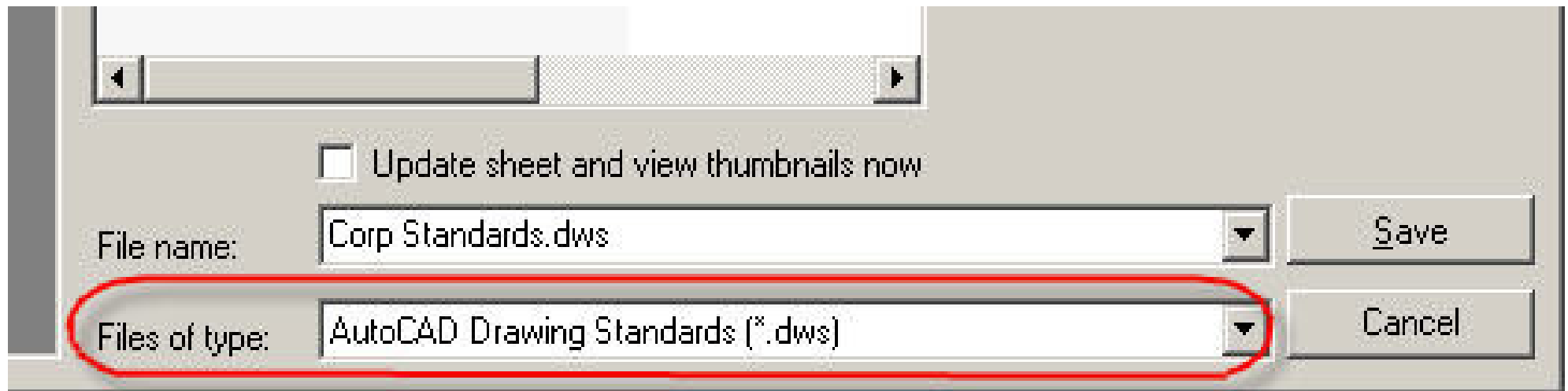
Block to Xref (Attribured Xref's anyone?)



Standards & Express Tools

Standards Checker

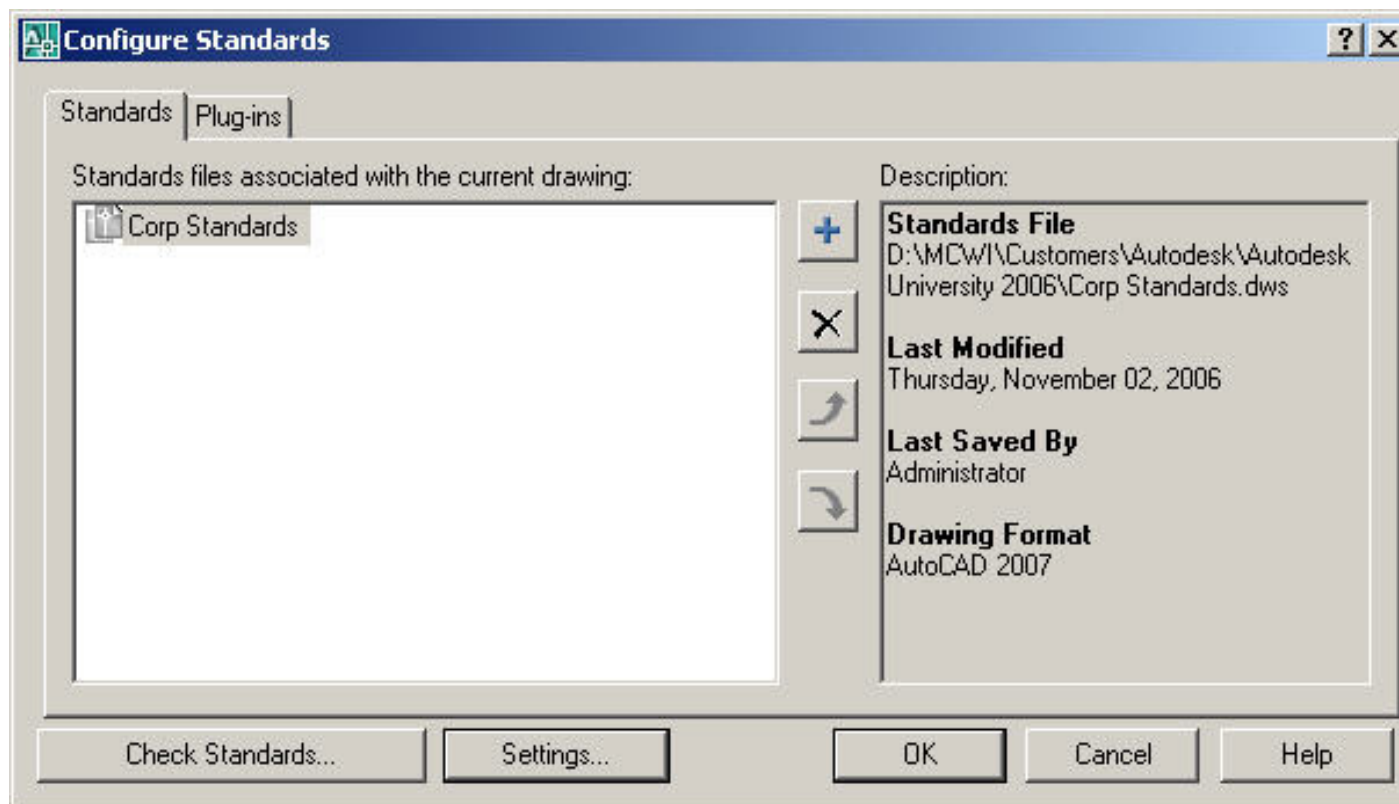
Step 1: Make Your Standard (DWS)



Standards & Express Tools

Standards Checker

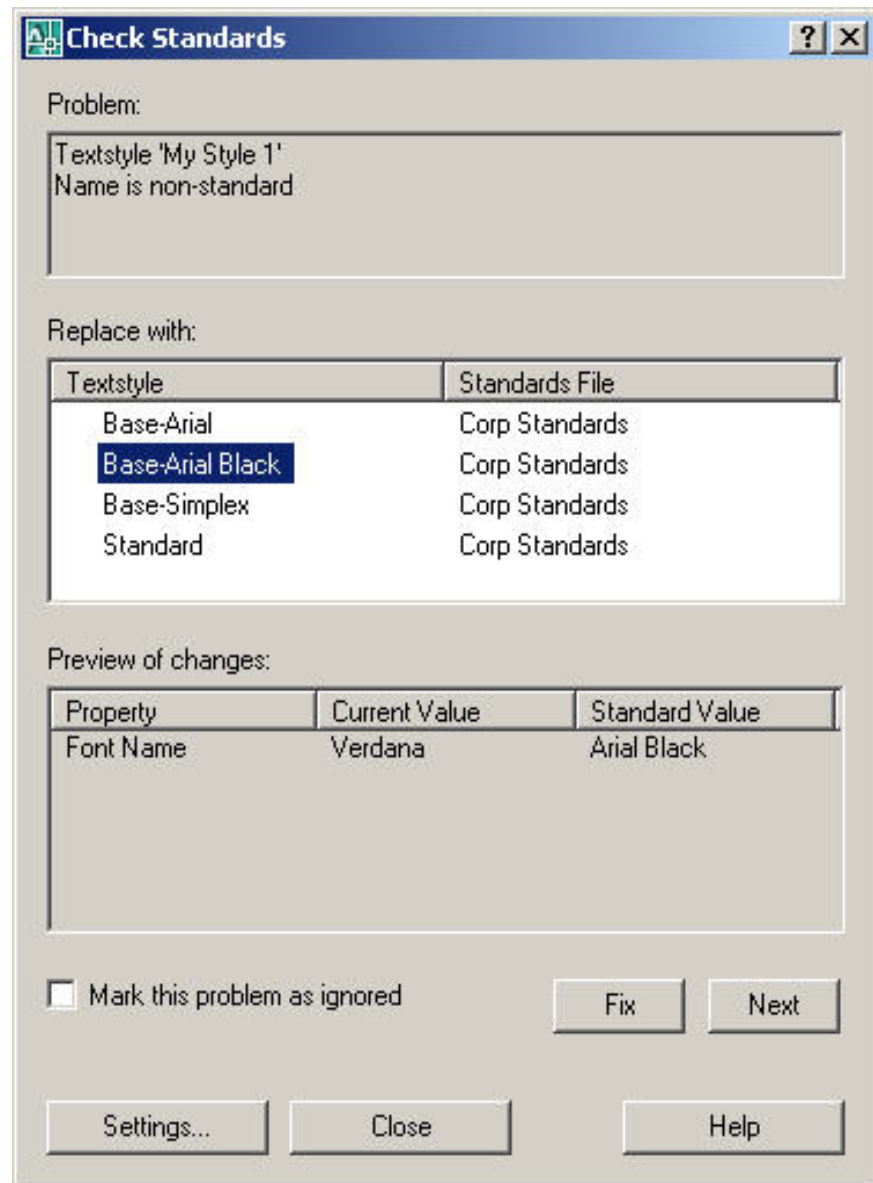
Step 2: Assign Standard (DWS) to DWG



Standards & Express Tools

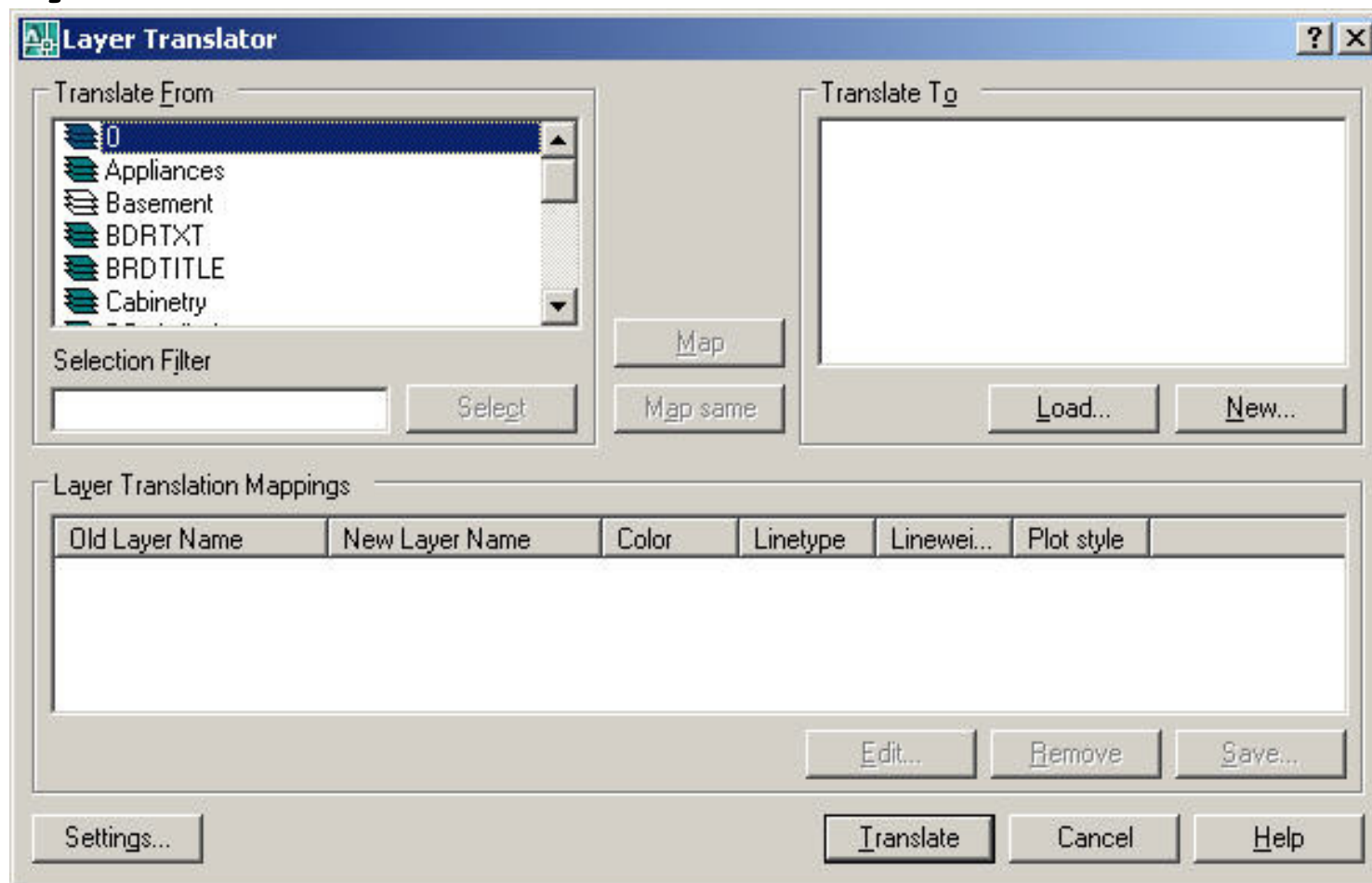
Standards Checker

Step 3: Run Checker



Standards & Express Tools

Layer Translator

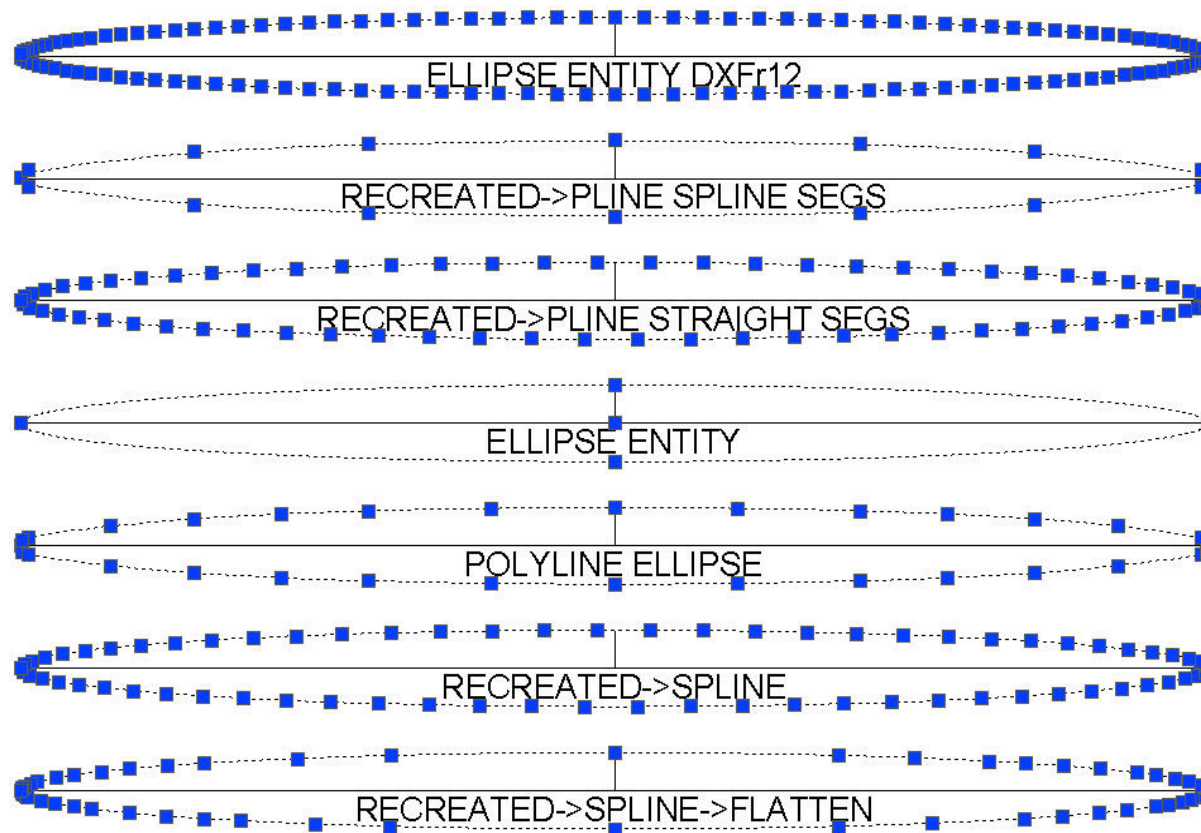


I Knew That!

...But Never Thought Of It That Way Before

I Knew That!

- Bedit vs Refedit
- Explode without Explode

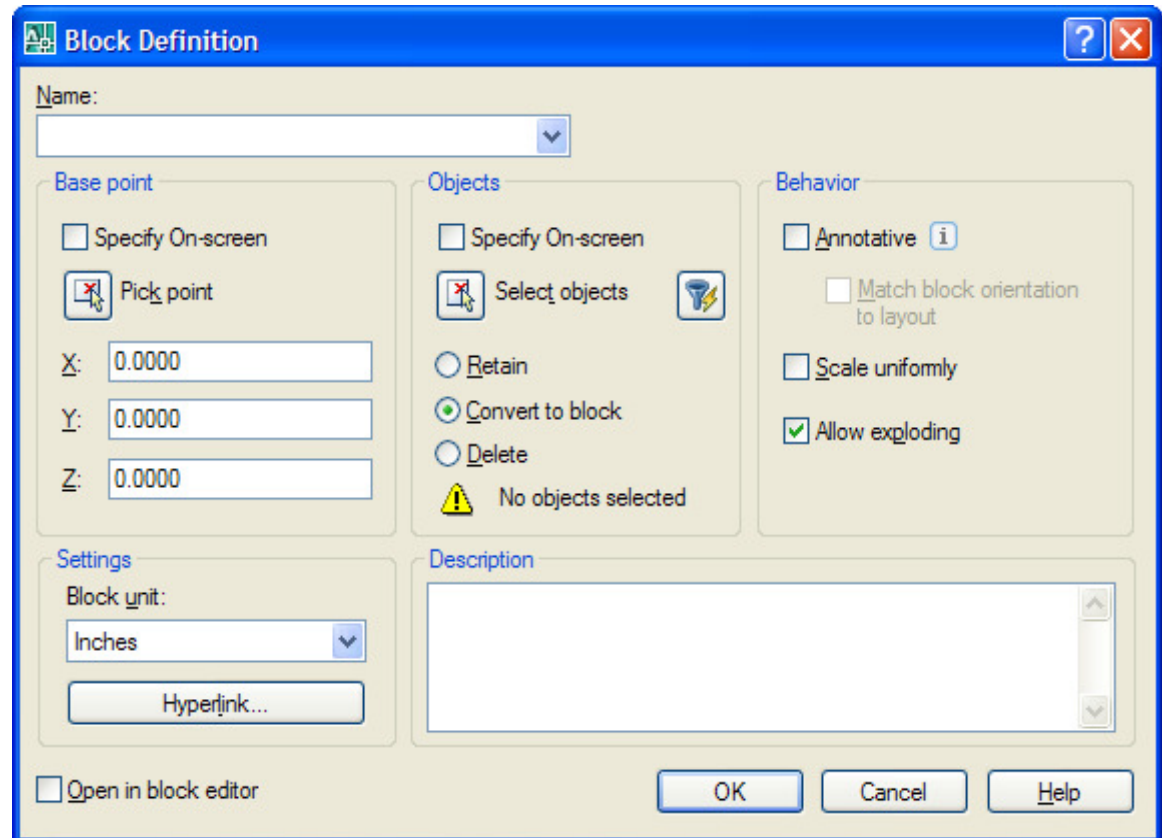


I Knew That!

- **Can't Explode or Flatten?**
 - **DXB Out and In**
 - **WMF Out and In**
 - **Import PLT file**
 - **MIRRTEXT (System variable)**
 - **Flatshot**
 - **Solview / Soldraw / Solprof**
 - **3rd party tools...**
 - FontASM!**
 - SHXConvert**

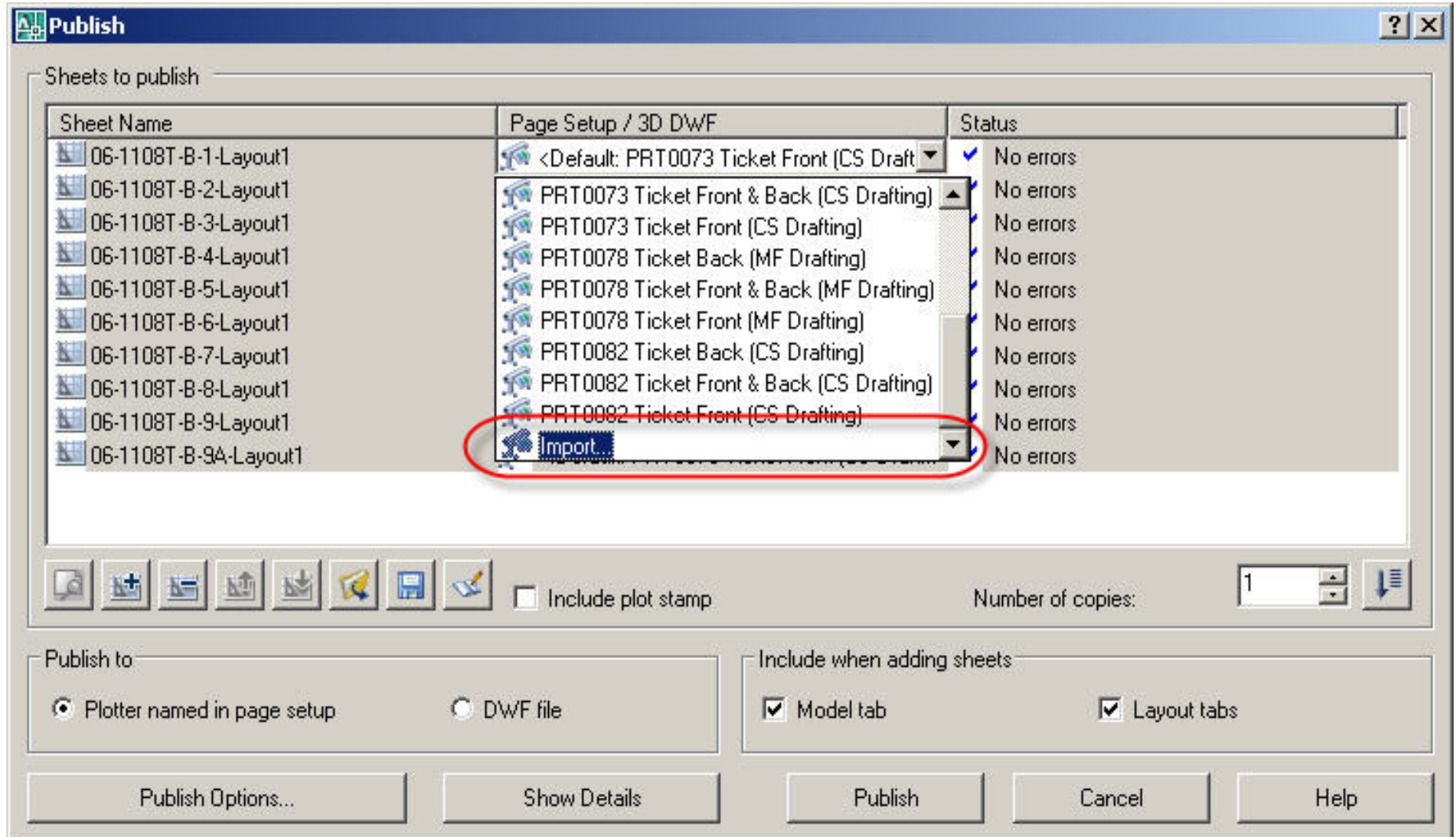
I Knew That!

- Can't Explode a block but need to?
- Refedit
- Bedit can too



I Knew That!

➤ Publish on the fly



Smart Planning

Up-Front Thinking Saves In The Long Run

Smart Planning

- **Object Cycling**

- **AutoCAD 2006 & Earlier**

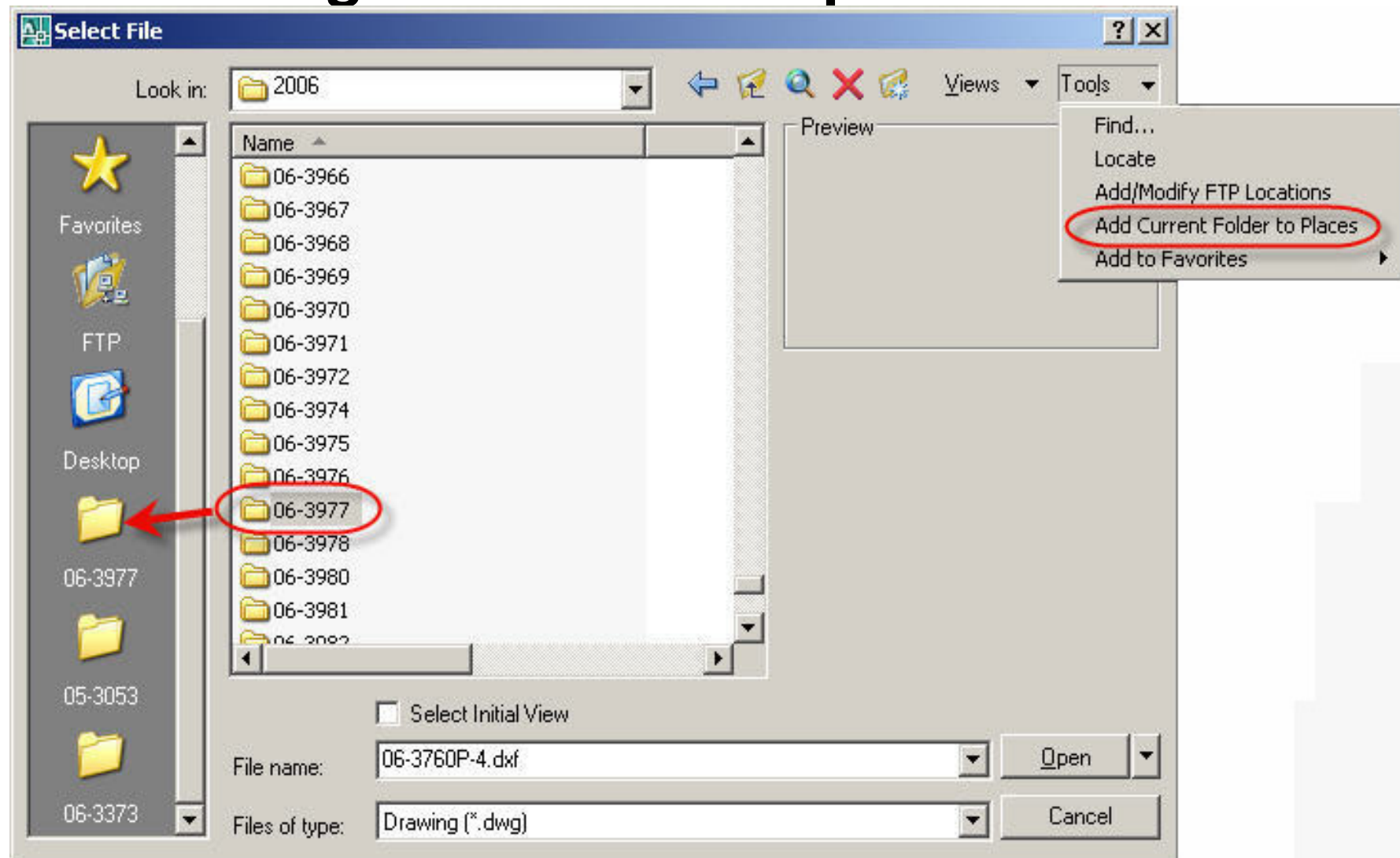
- **Control-Key + Mouse Pick**

- **AutoCAD 2007 & Later**

- **Shift-Key + Spacebar**

Smart Planning

➤ Putting AutoCAD in its place



Smart Planning

➤ Selection Sets

Window

Last

Crossing

BOX

ALL

Fence

WPolygon

CPolygon

Group

Add

Remove

Multiple

Previous

Undo

AUto

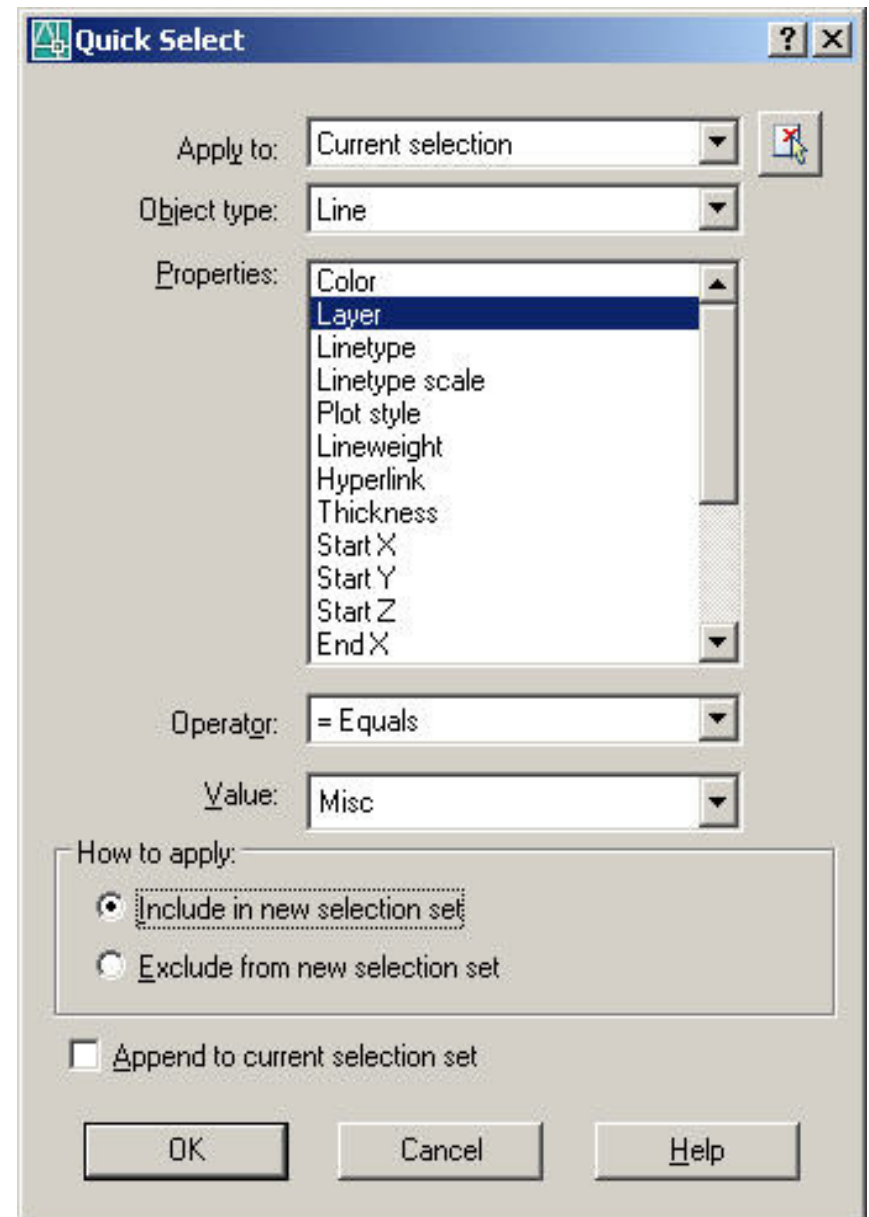
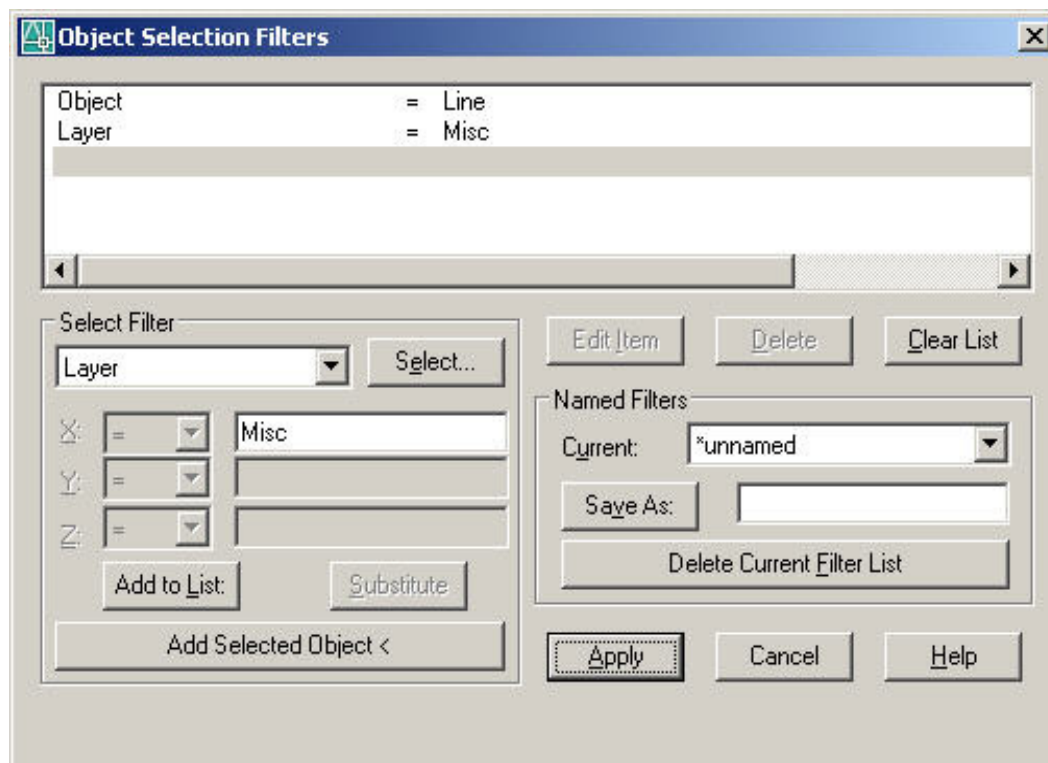
Single

SUbject

Object

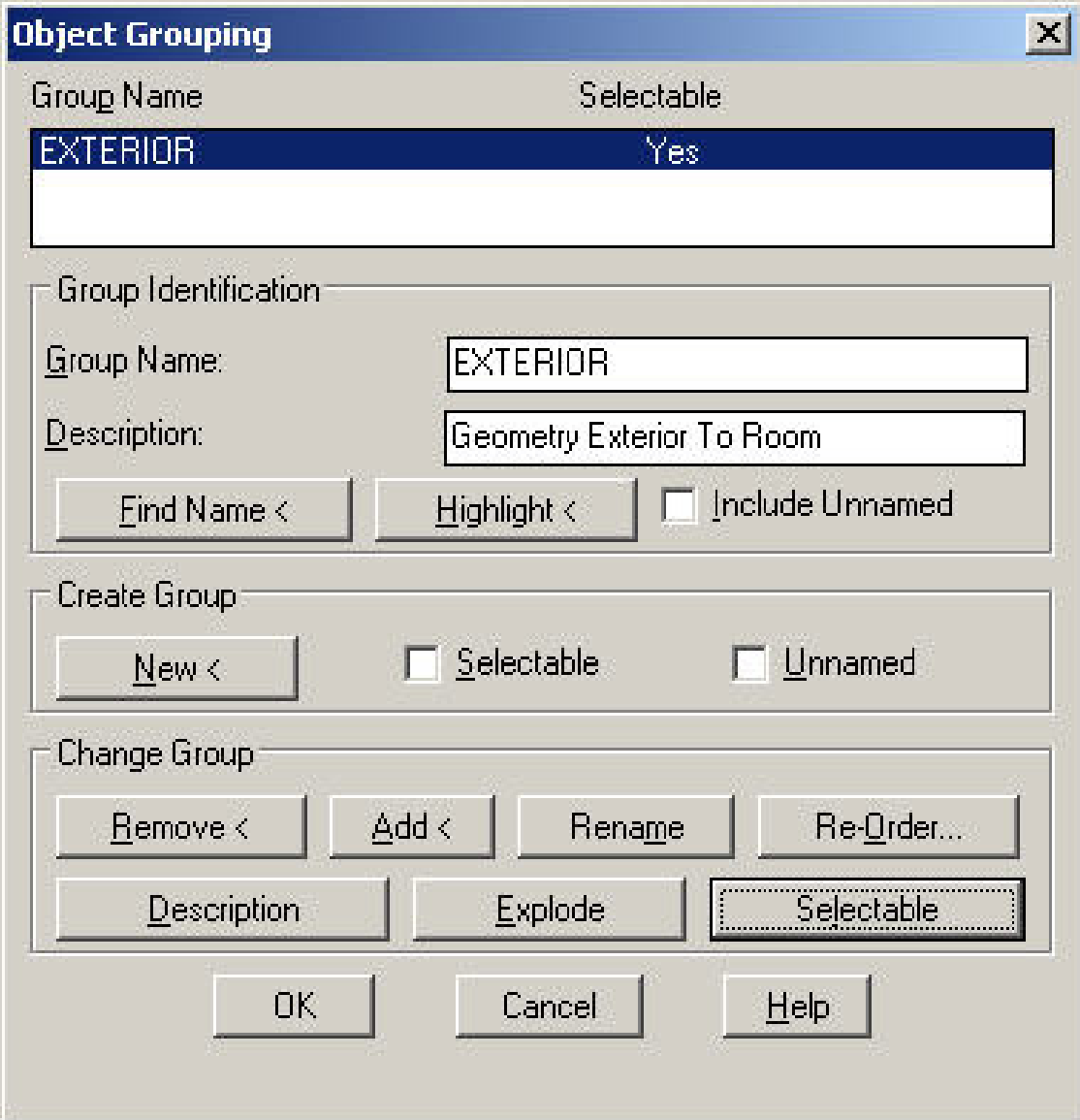
Smart Planning

➤ Selection Filters



Smart Planning

➤ Object Groups



The **Object Grouping** dialog box is used to manage object groups. It features a table for existing groups, and sections for identifying, creating, and changing groups.

Group Name	Selectable
EXTERIOR	Yes

Group Identification

Group Name:

Description:

☐ Include Unnamed

Create Group

☐ Selectable ☐ Unnamed

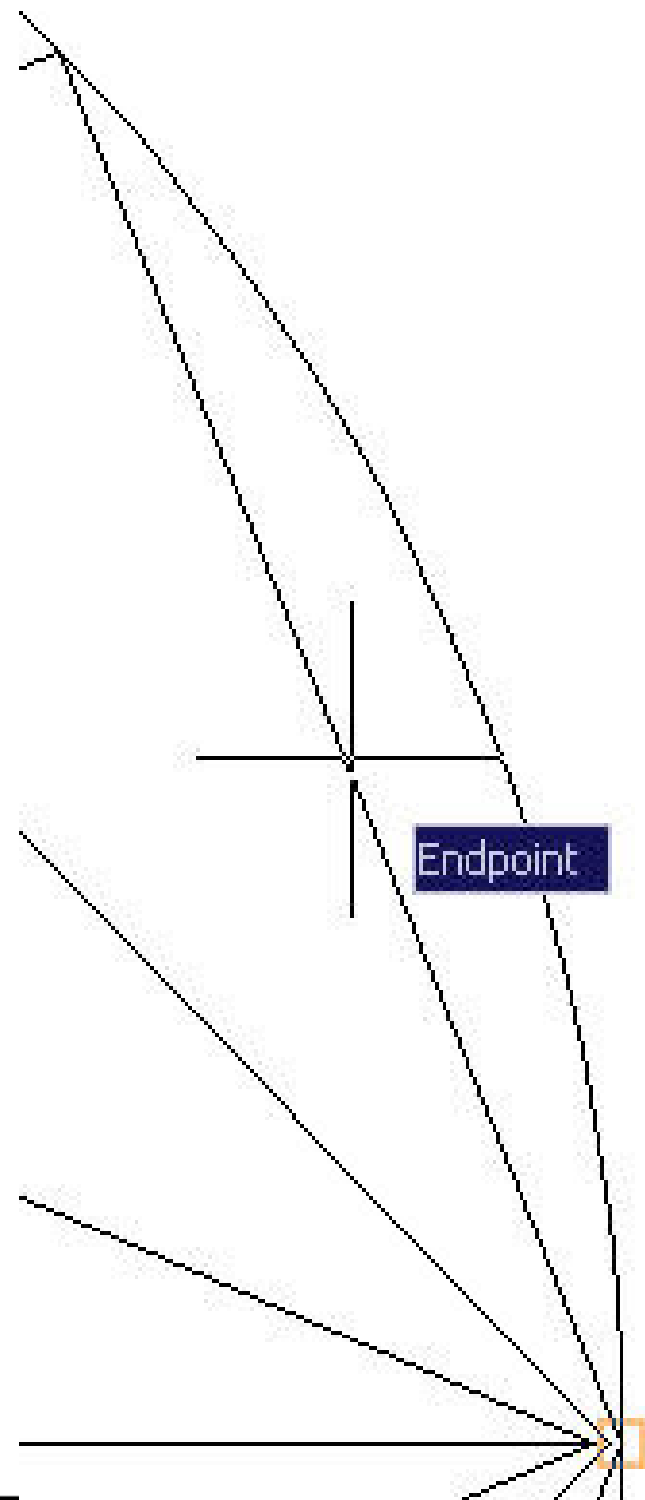
Change Group

Smart Planning

- **Script Files = Automation on a budget**
 - **Notepad**
 - **Excel**
 - **3rd Party Utilities**
 - **Any ASCII Text Capable Editor**

Smart Planning

- Osnaps
 - Let them do the work for you
 - Don't pick the point you want
 - Pick the point you don't want

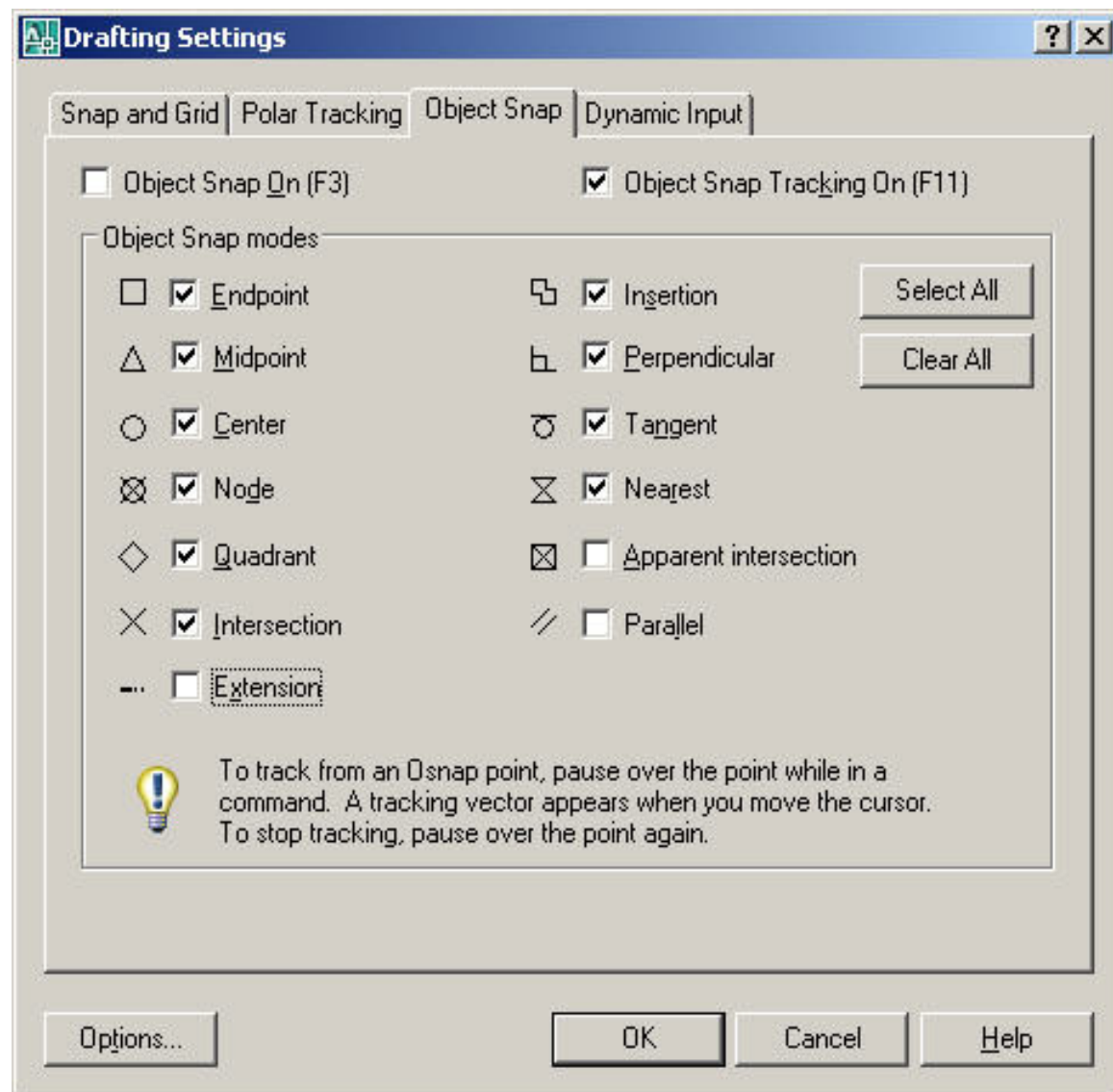


Smart Planning

➤ Osnap Mishap

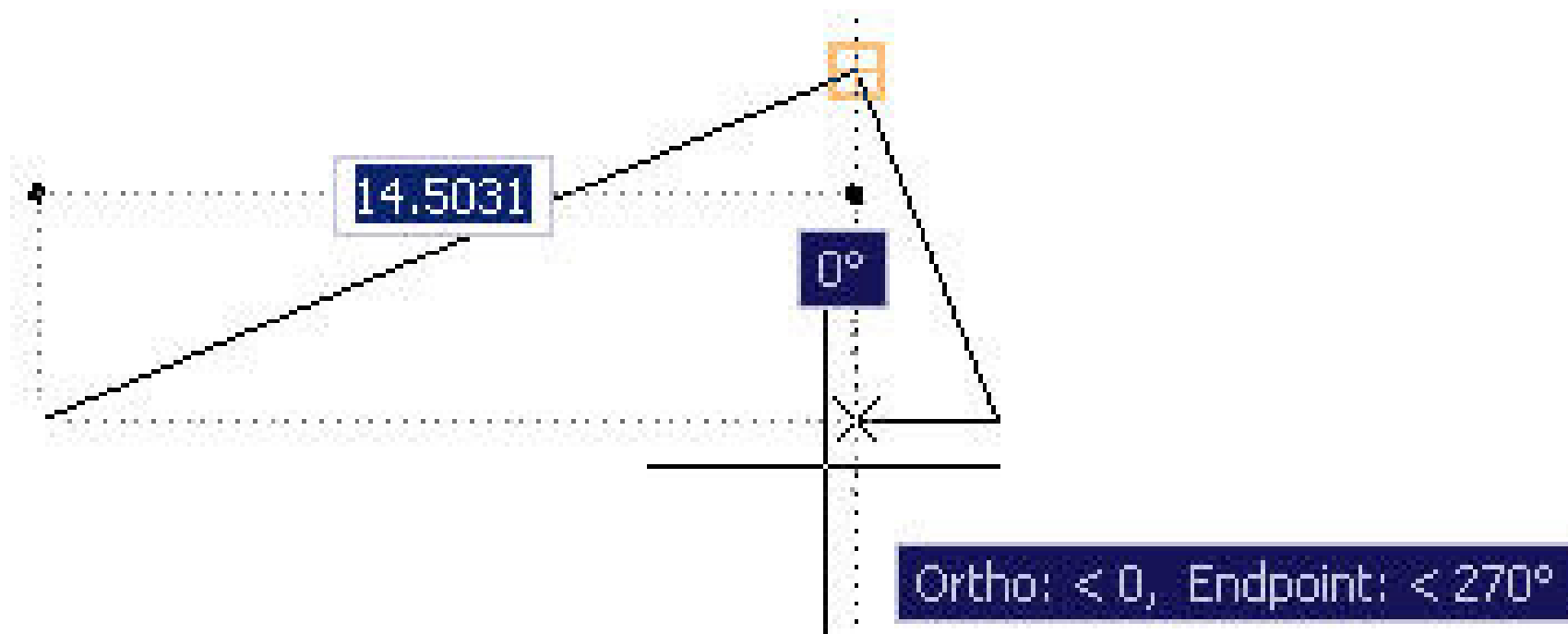
➤ Less is more

➤ More is less



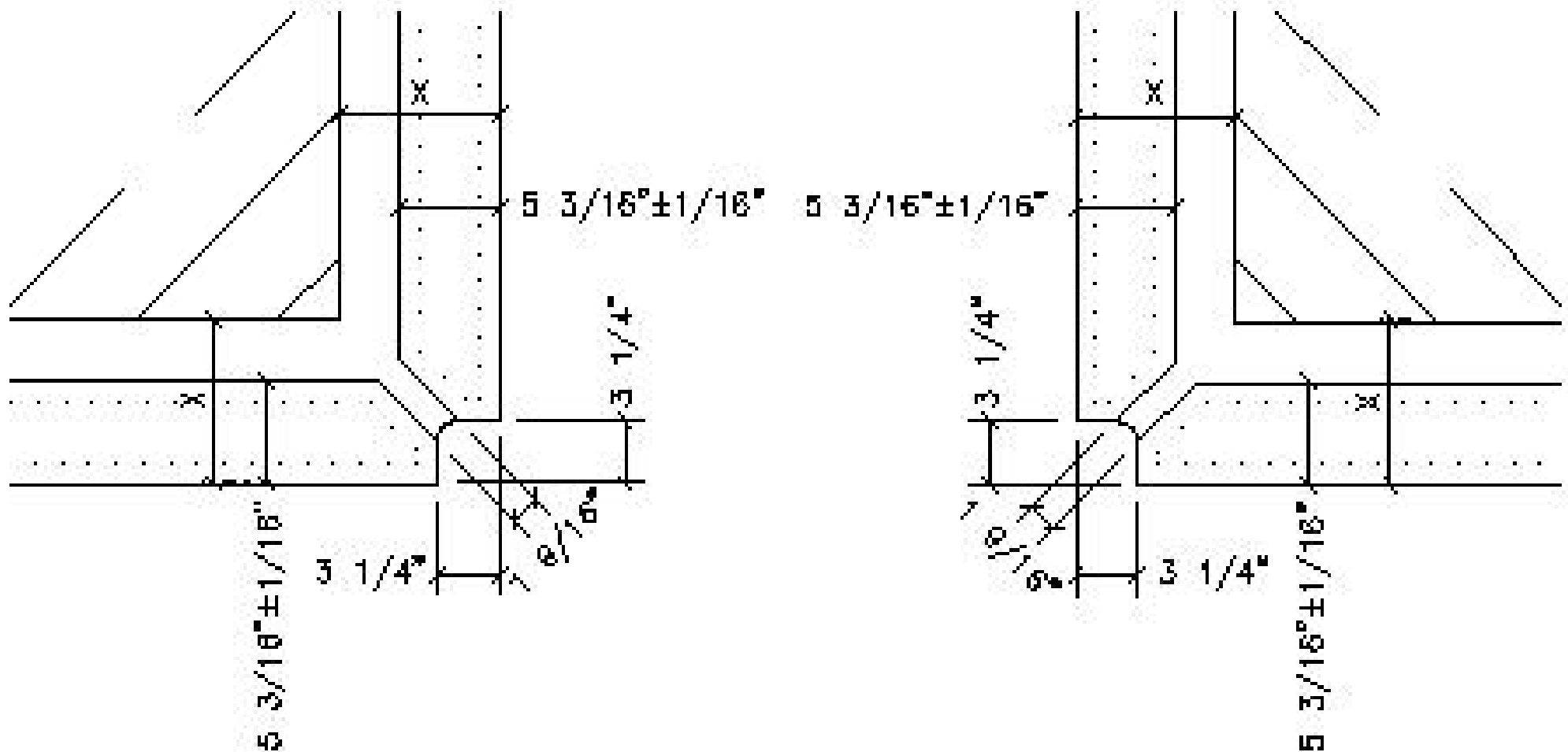
Smart Planning

- Object Tracking & Point Filters
 - Less construction geometry
 - Less clutter
 - More control



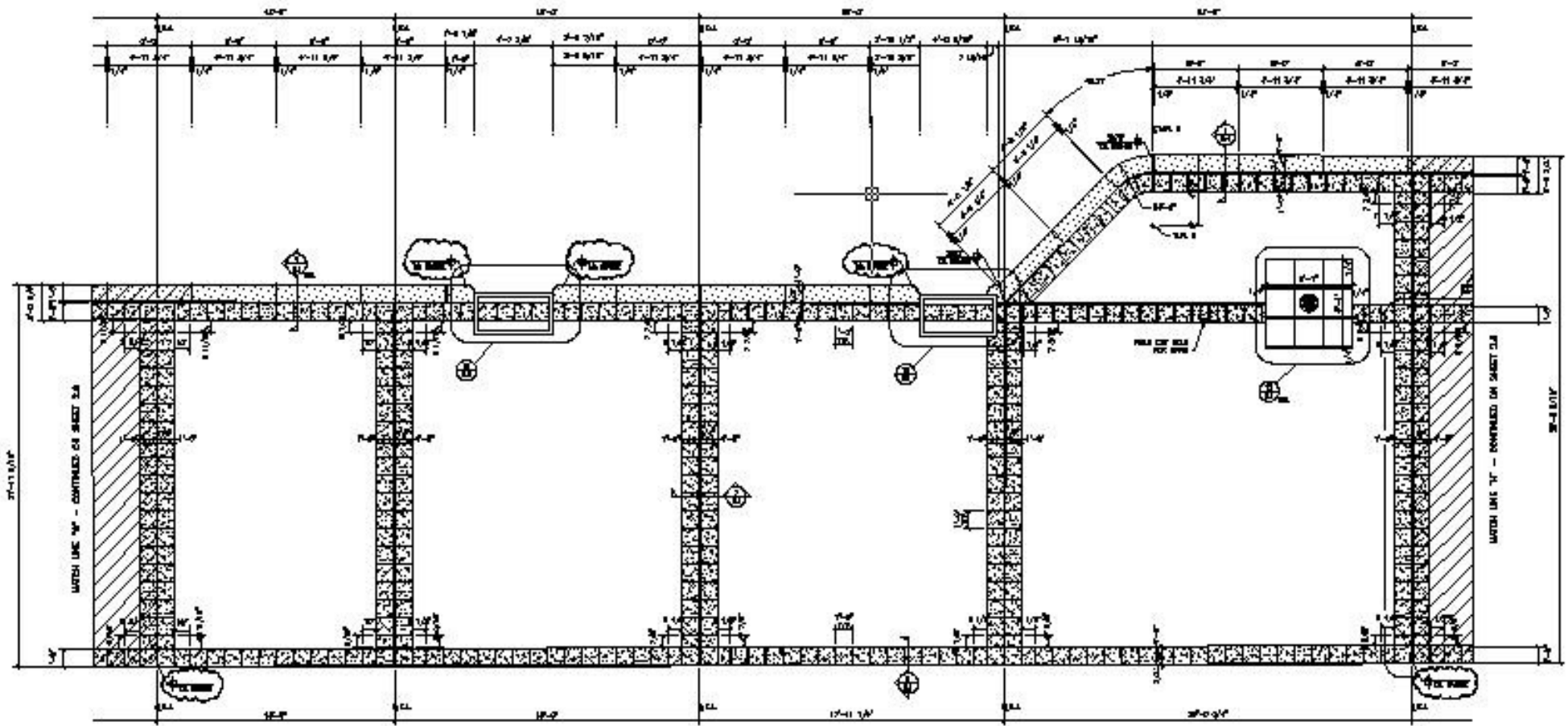
Smart Planning

➤ Mirrored & Rotated Geometry



Smart Planning

- Annotations & Dimensions
- Layout -or- Model -or- Both ?

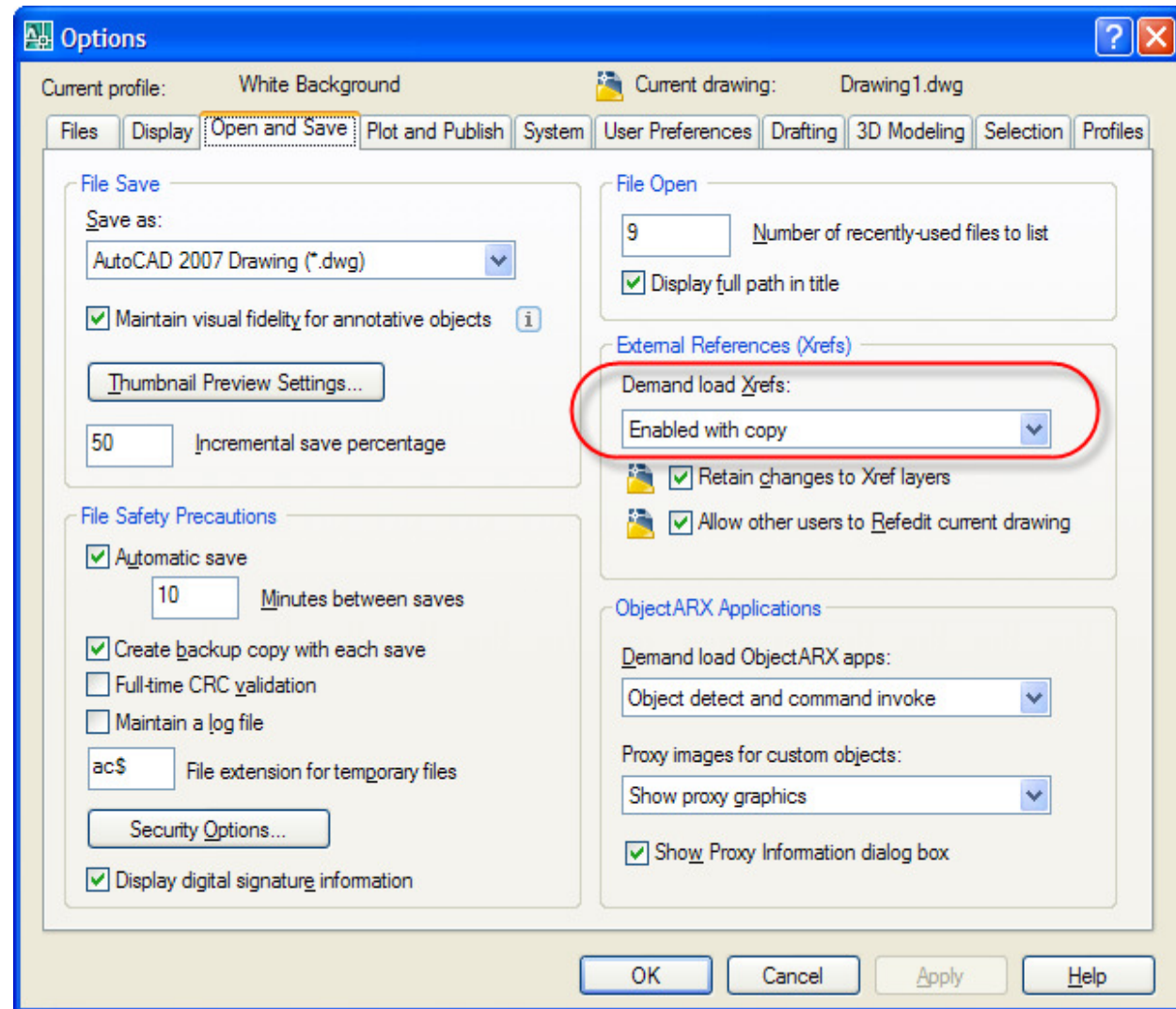


Drawing Structure

How You Draw Can Affect Your Productivity

Drawing “Structure”

➤ Demand load Xrefs - You’ve seen this...

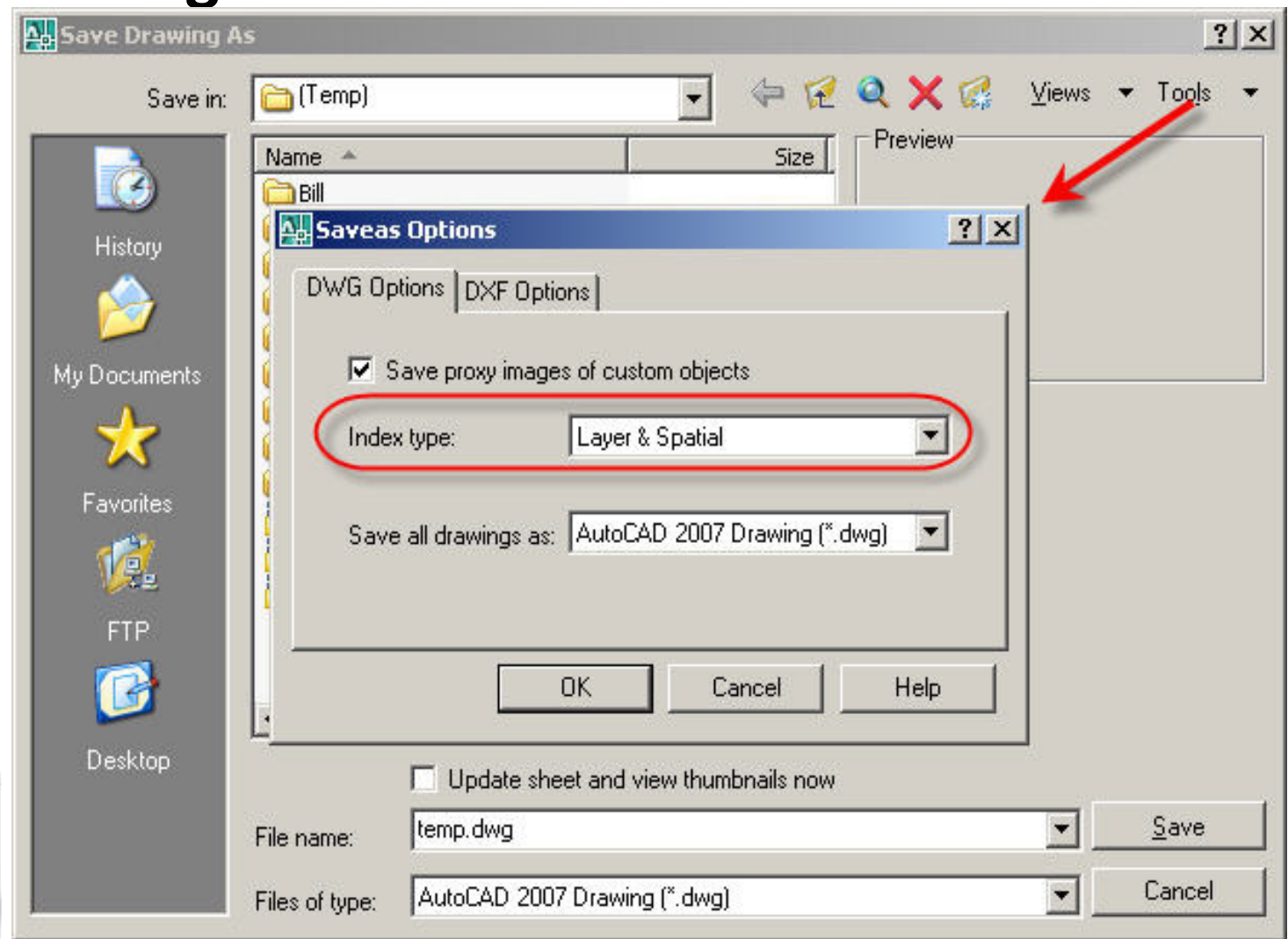
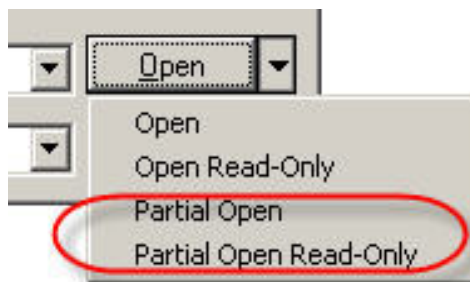


...But...

Drawing “Structure”

➤ It does nothing without this...

...And can
be also
be used
for this...



Drawing “Structure”

Putting it all together...

- **Use what you already know**
- **Use it differently than you do now**
- **Combine methods based on their purpose and strengths**
- **Try various methods and combinations to get to the same results**

Wrap Up

- Please fill out evaluations
- Go to AU Online for handouts, power points and more
- Questions after you get home? Just mention you were in my AU class and Email me anytime (offer does NOT expire)!

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