AutoCAD Electrical: 60 Tips in 60 Minutes

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AUTODESK. UNIVERSITY

Class summary

On your mark…Get Set!…GO!

Back by popular demand, this fast paced class will keep you on your toes with brand new rapid fire tips and tricks and all-time favorites to get the most out of your time in AutoCAD Electrical.

Hold on tight, it’s going to be a wild ride!

BREAKING
NEWS ALERT

2019 AutoCAD Electrical Virtual User Group

We will have Planned Topics, Guest Speakers, and open Q&A

Launch Date, Sign Up, & More Details @ http://robertstein.blogspot.com/

Key learning objectives

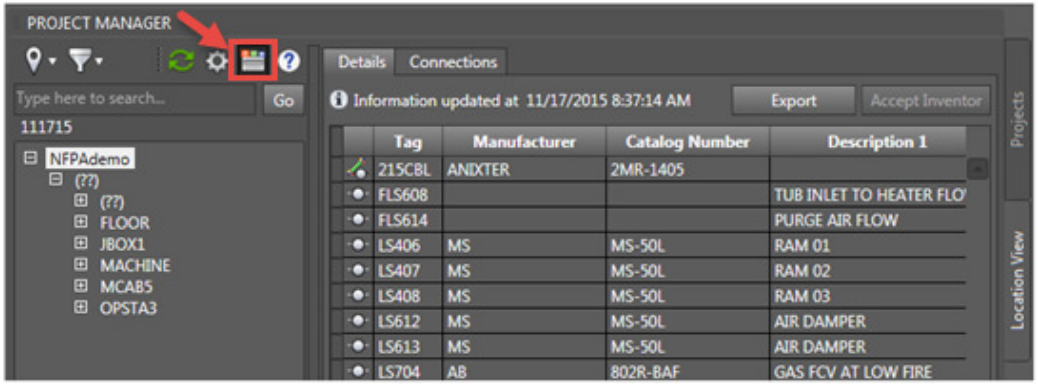
At the end of this class, you will have discovered:

- Project Management Tips and Tricks
- Drawing Creation Tips and Tricks
- Customization Tips and Tricks
- Template Tips and Tricks
- AND MANY MORE Tips and Tricks for Beginner, Intermediate, and Advanced AutoCAD Electrical enthusiasts

Project Management Tips

1. Project Level Node in the Location View Tab (2017)

   - Select this node when you want to view or export the entire project from the Details and Connections panels.



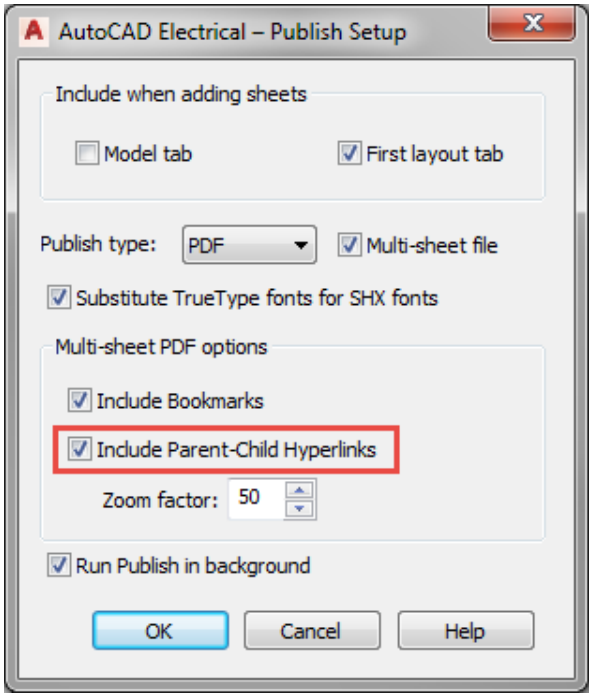
2. Security Updates (2017)

   - To minimize the possibility of loading and executing malicious code, some files previously installed in the public folder, *C:\Users\Public\Documents\Autodesk\Acade {version}\Support\{language code}*, are now installed in *C:\Program Files\Autodesk\AutoCAD {version}\Acade\Support\{language code}\Shared*

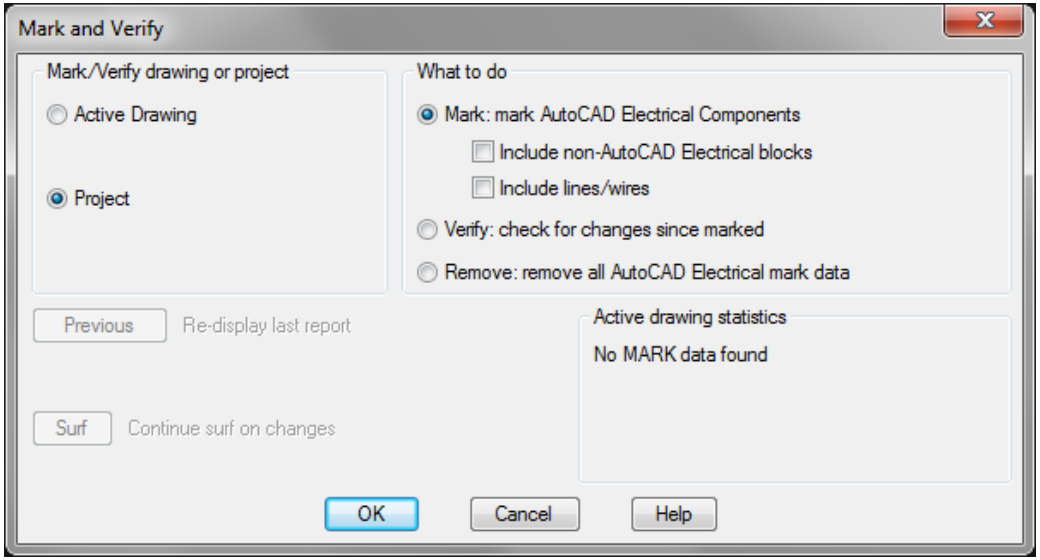
Project Management Tips

3. Publish to PDF with Hyperlinks!

(Publish in general is a great tool!!
It will save an immense amount of time!)

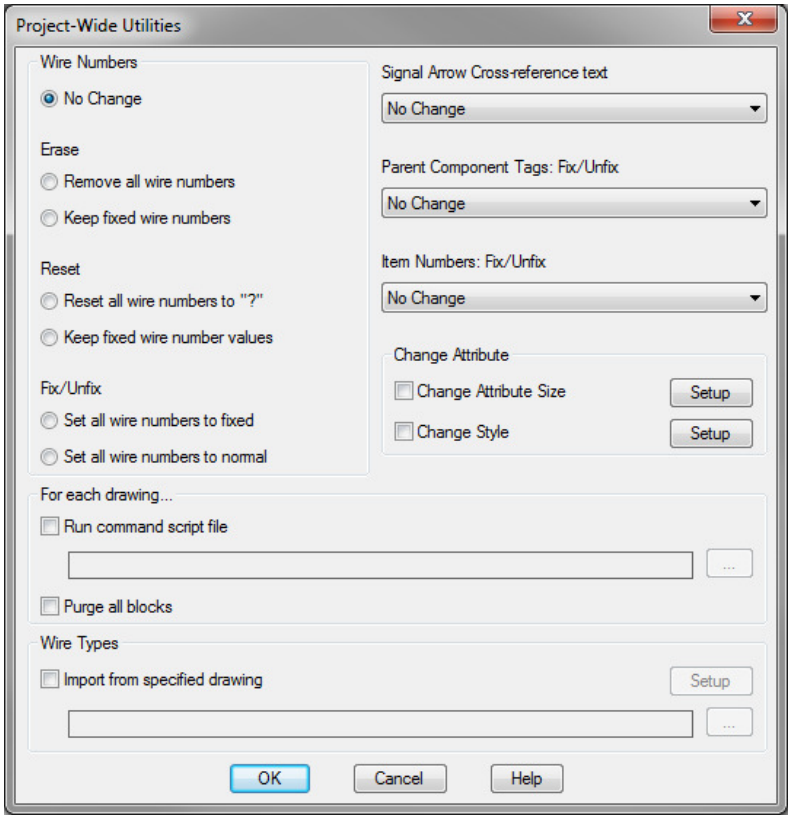


4. Mark/Verify

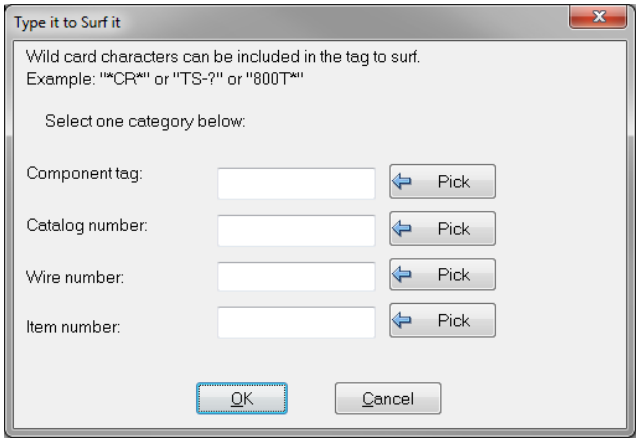


Project Management Tips

5. Project Utilities

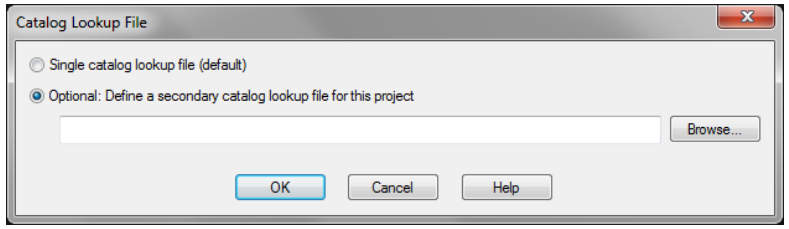


6. Surfer: "enter" to trace



Project Management Tips

7. Secondary Catalog Database to search in a Project

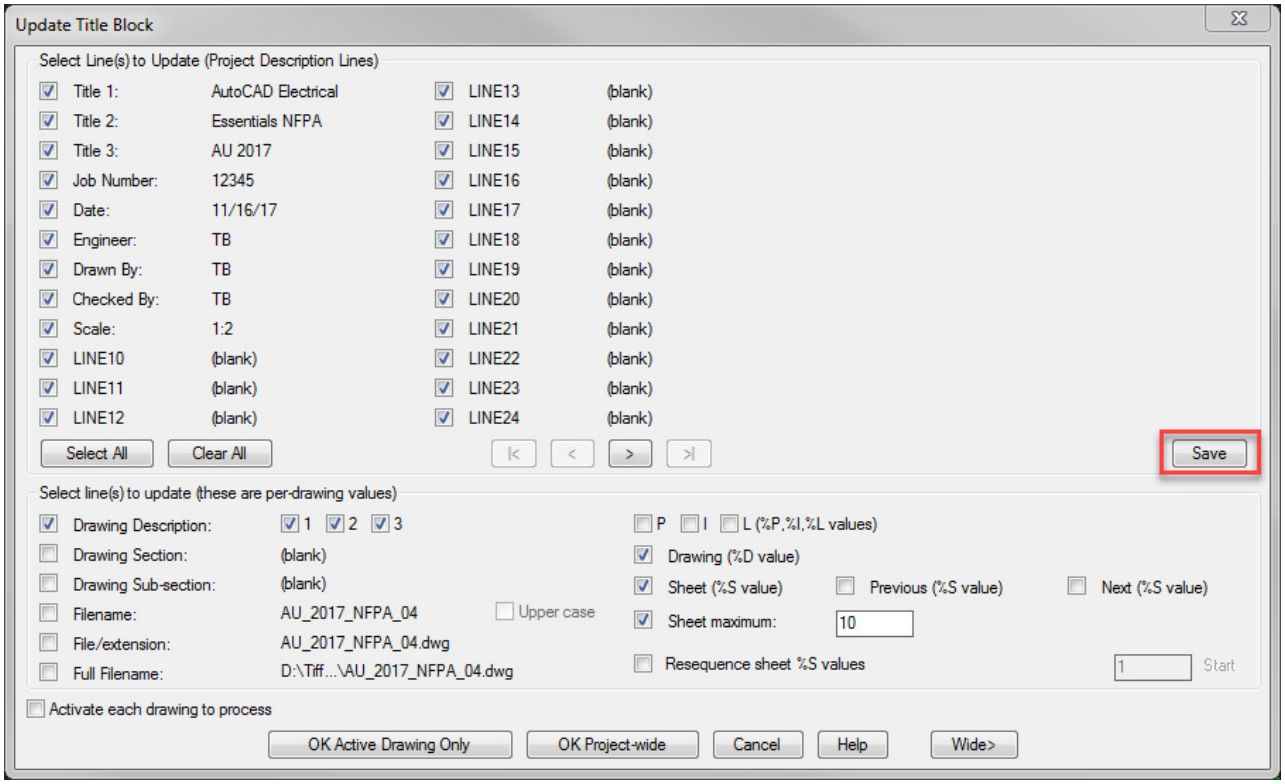


8. Use relative paths in your project properties so that your libraries connect regardless of which release of ACADE or version of windows you have.

```
+[1]%SL_DIR%NFPA;%SL_DIR%NFPA\1-;%SL_DIR%pneu_iso125/;%SL_DIR%hyd_iso125/;%SL_DIR%pid/
+[2]ACE_NFPA_MENU.DAT
+[3]%SL_DIR%panel/
+[4]ACE_PANEL_MENU.DAT
```

Project Management Tips

9. Title Block Update command/default.wdu



Drawing Creation Tips

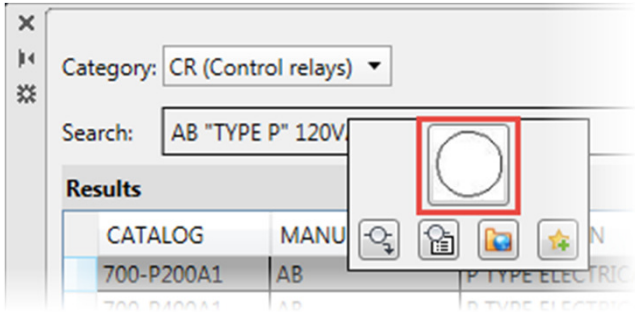
10. Do NOT Explode (or BURST)

11. NFPA Symbol Library Update (2018)

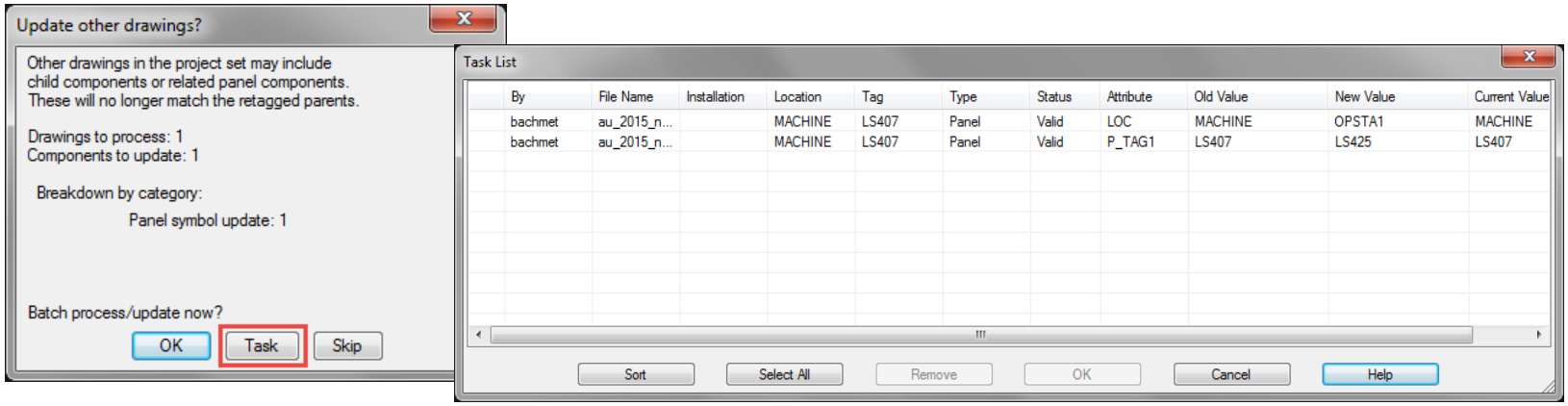
- The default device designation for some symbols in the NFPA library are updated to meet the new NFPA 79 2015 standards

Drawing Creation Tips

12. Insert components direct from Catalog Browser



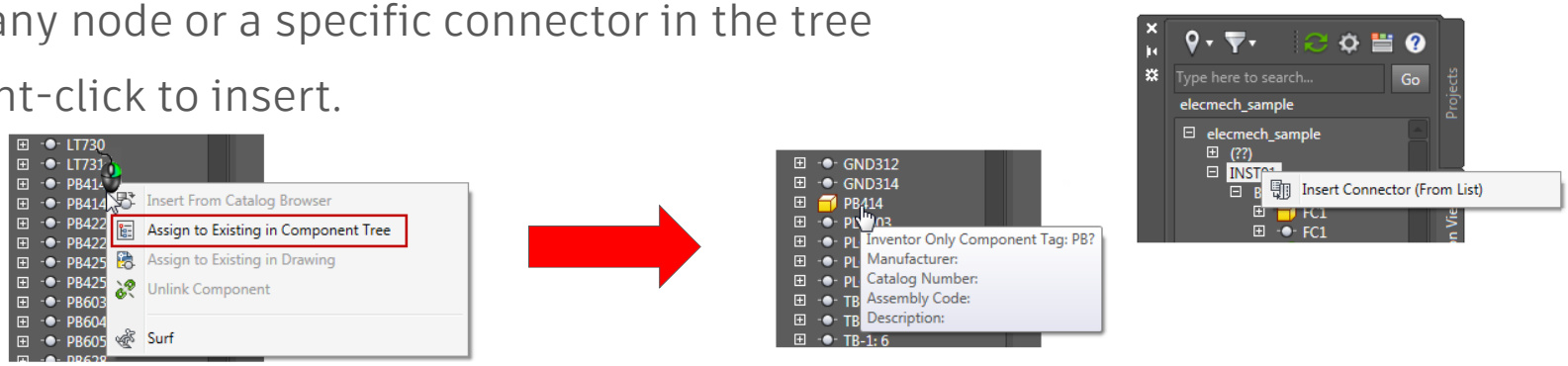
13. Task List



Drawing Creation Tips

14. Insert and Link Inventor Connector in the Location View Tab or Link ACADE Components to their respective Inventor Parts in the Location View Tab (2017)

    - Select any node or a specific connector in the tree and right-click to insert.

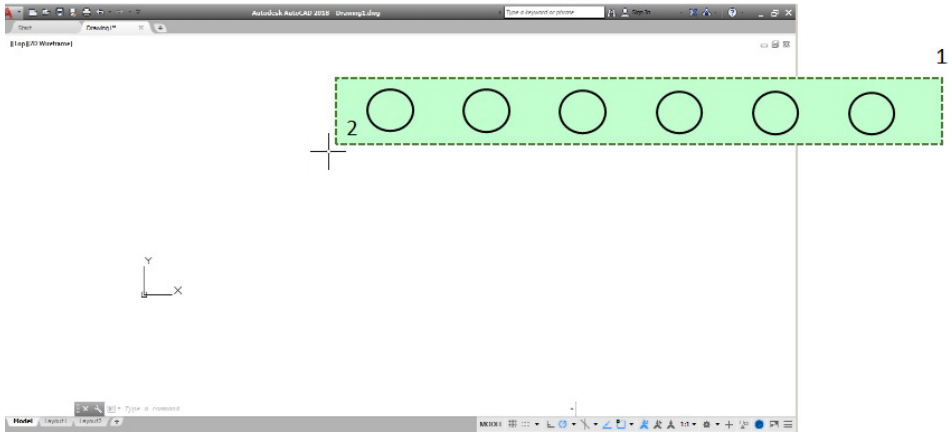


15. Save Circuit to the Icon Menu will save all of your attribute data, so everything is already filled out when you insert it. Time Saver!

Drawing Creation Tips

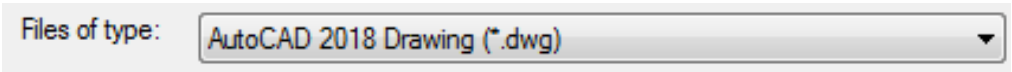
16. **SELECTIONOFFSCREEN** System Variable (2018)

- Allows you to select objects that are off-screen



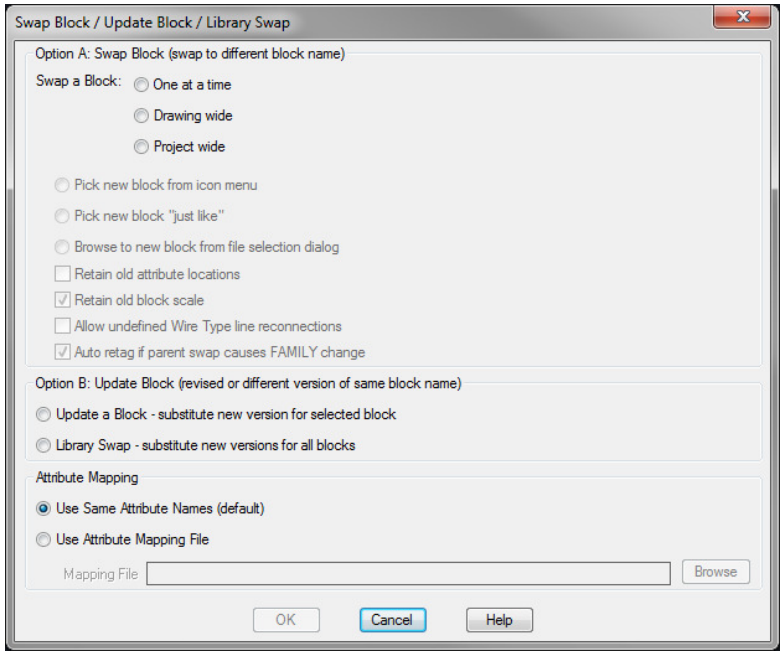
17. DWG Format Update (2018)

- Has improvements in the efficiency of open and save operations



Drawing Creation Tips

18. Swap/Update Block (2018)
    - Issues that could cause system crashes have been fixed.
    - Project-wide block swapping performance improvements



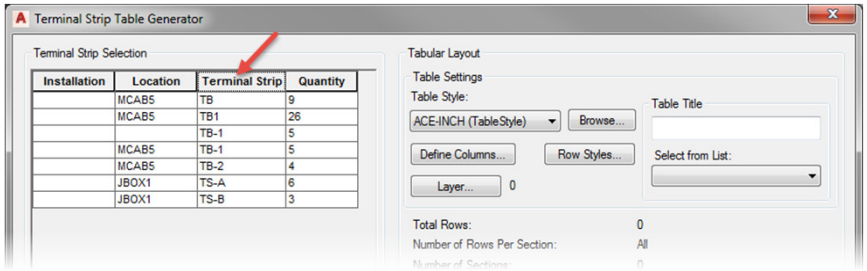
19. Connectors (2018)
    - Inserting now hides cross-references, unless specifically requested to show

Drawing Creation Tips

20. Editing terminal footprints has been enhanced to support multiline attributes. (2018)

21. The Edit Wire Sequence dialog box issues have been fixed for direct to terminal connections (2018)

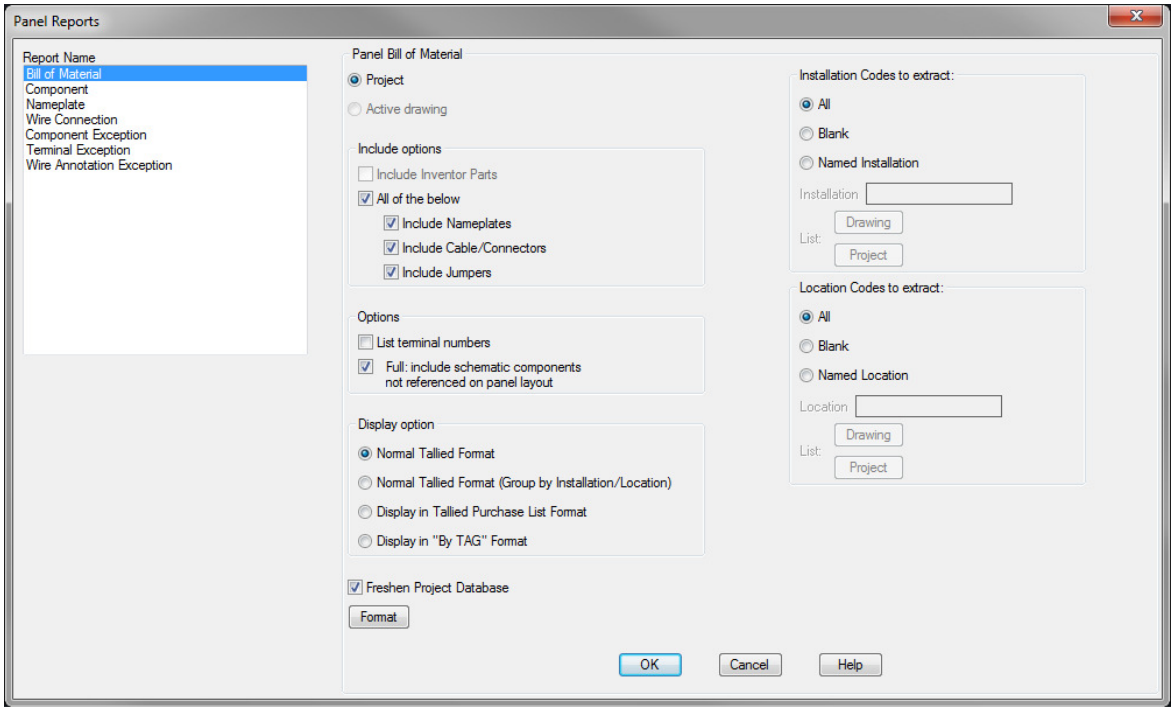
22. Terminal Strips can be sorted in the in the Table Generator by clicking the column heading and they are generated in the sort order (2017)



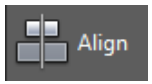
Drawing Creation Tips

23. Manufacturer and Catalog Number in the DIN Rail dialog box can now support long strings. (2018)

24. Subassembly details from the secondary catalog database are now supported in Bill of Material Reports. (2018)

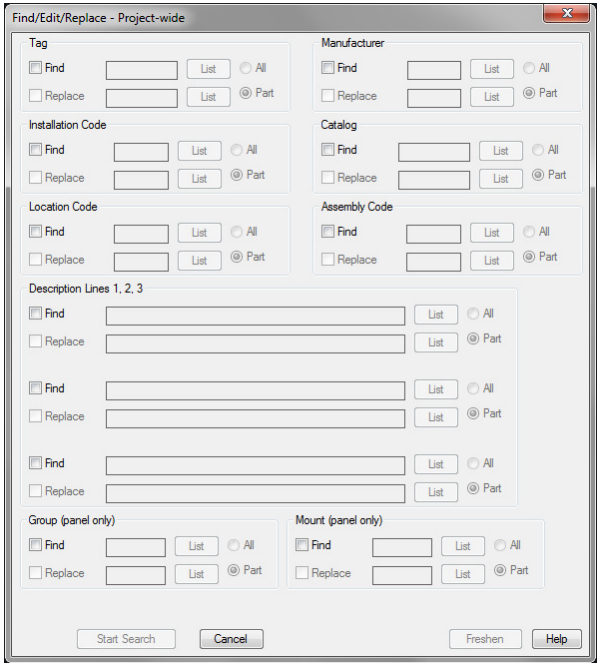


Drawing Creation Tips

25. Align 

26. Toggle NO/NC

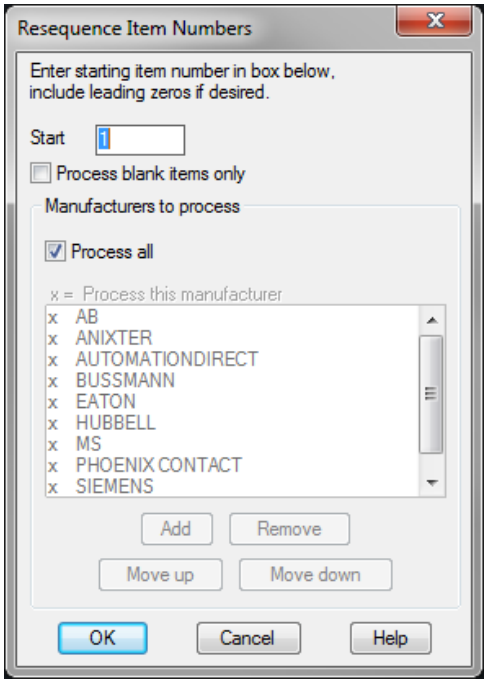
27. Find/Edit/Replace Component Text



Drawing Creation Tips

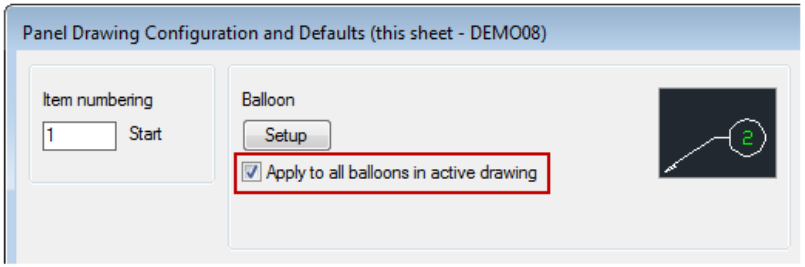
28. Resequence Item Numbers Updates (2017)

- Drawings are no longer opened for processing, improving the performance.
- The manufacturers are sorted across the project, not per drawing.
- The entire project is always processed, keeping item numbers in sync for components with the same catalog.
- The project property, Reset with each Drawing, has been removed and is no longer valid

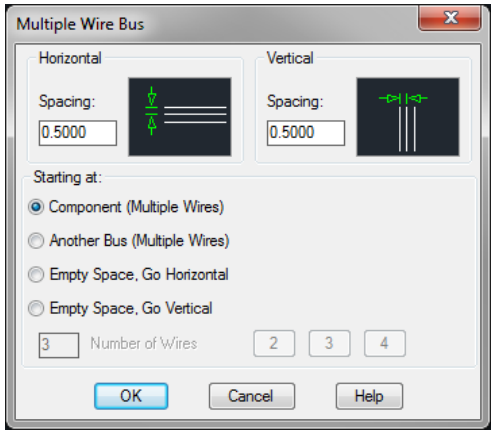


Drawing Creation Tips

29. Item Number Balloon Update (2017)



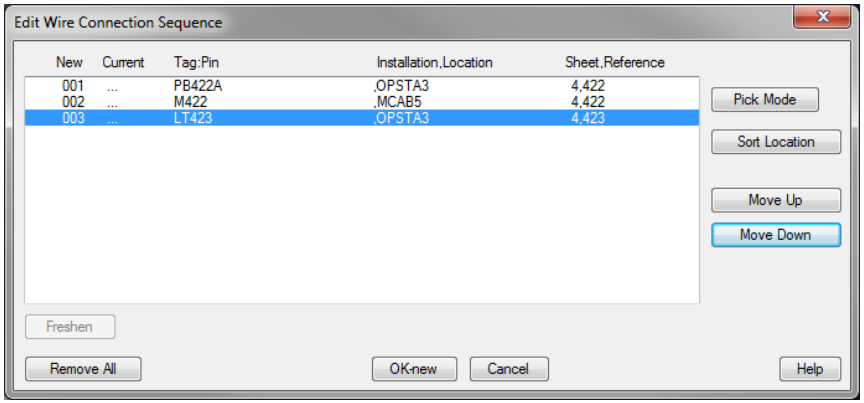
30. Multiple Bus to a component with Continue & Flip options

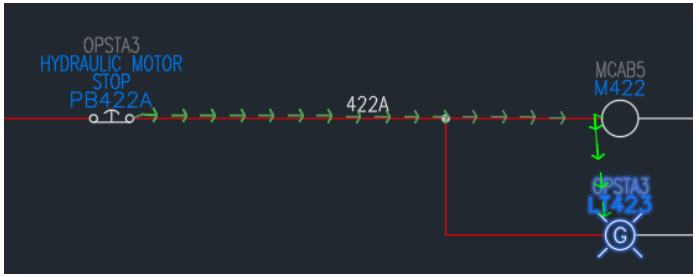


Drawing Creation Tips

31. When you add/edit signal arrows the related Source & Destination arrows are automatically updated on other drawings (2017)

32. Wire Sequencing (info lives on symbol in the wire connection attribute as xdata so it sticks even if you delete the wires)

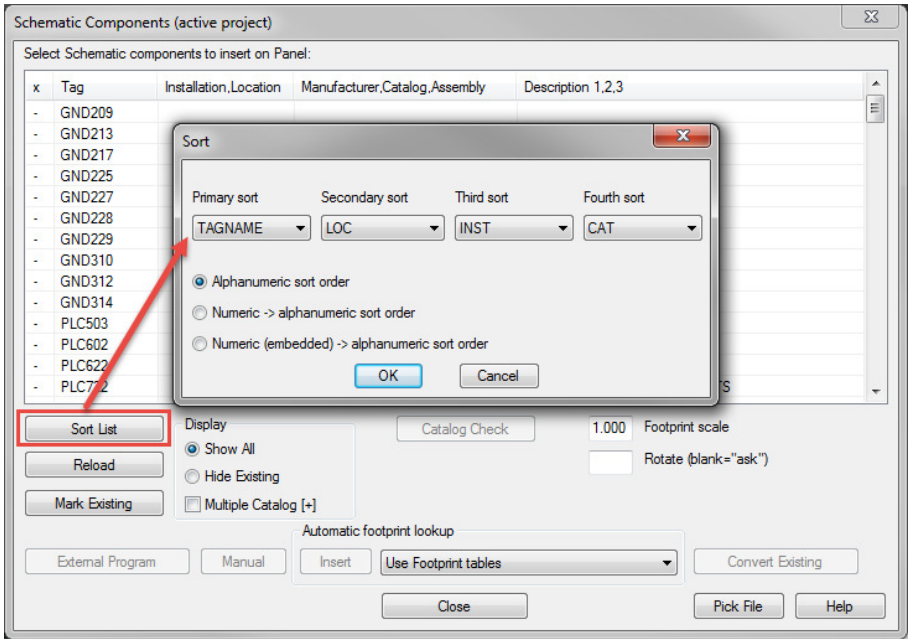




Drawing Creation Tips

33. Installation, Location, & Tag attribute values support up to 255 characters each. (2017)

34. Insert from Schematic List saves sort settings now across sessions (2017)



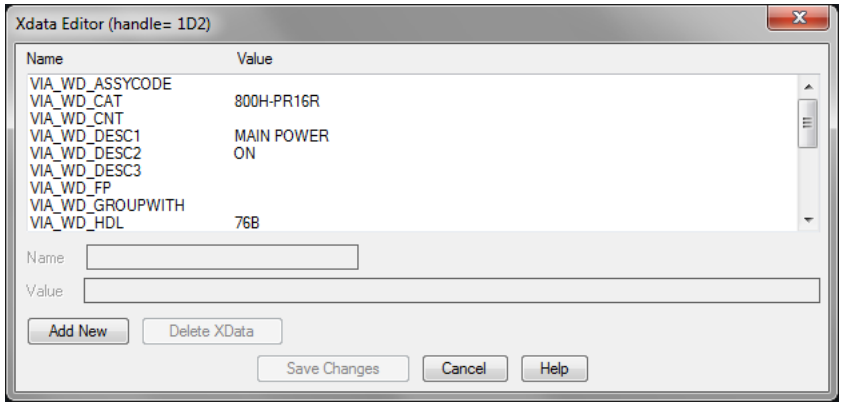
Drawing Creation Tips

35. ACADEX & ACADEXA

- View Xdata assignments found on selected entity or on selected attribute of a block

36. AEXDATA

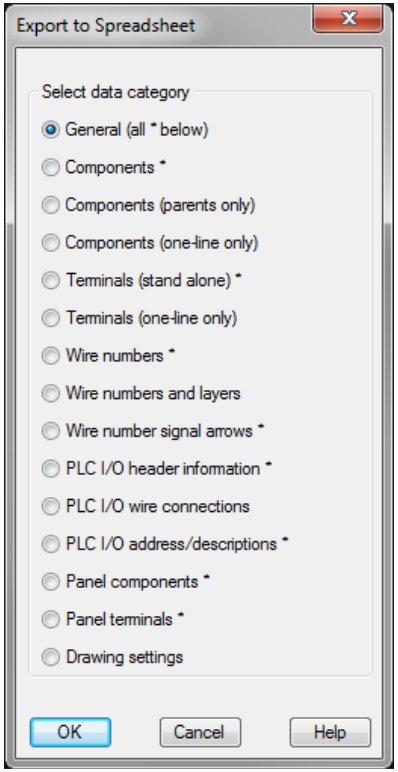
- View/Modify/Add/Delete Xdata on block or on attribute of block



Drawing Creation Tips

37. ATTMODE

- 2 to make all invisible attributes visible
- 1 to flip back to normal
- This can also be done with ATTDISP

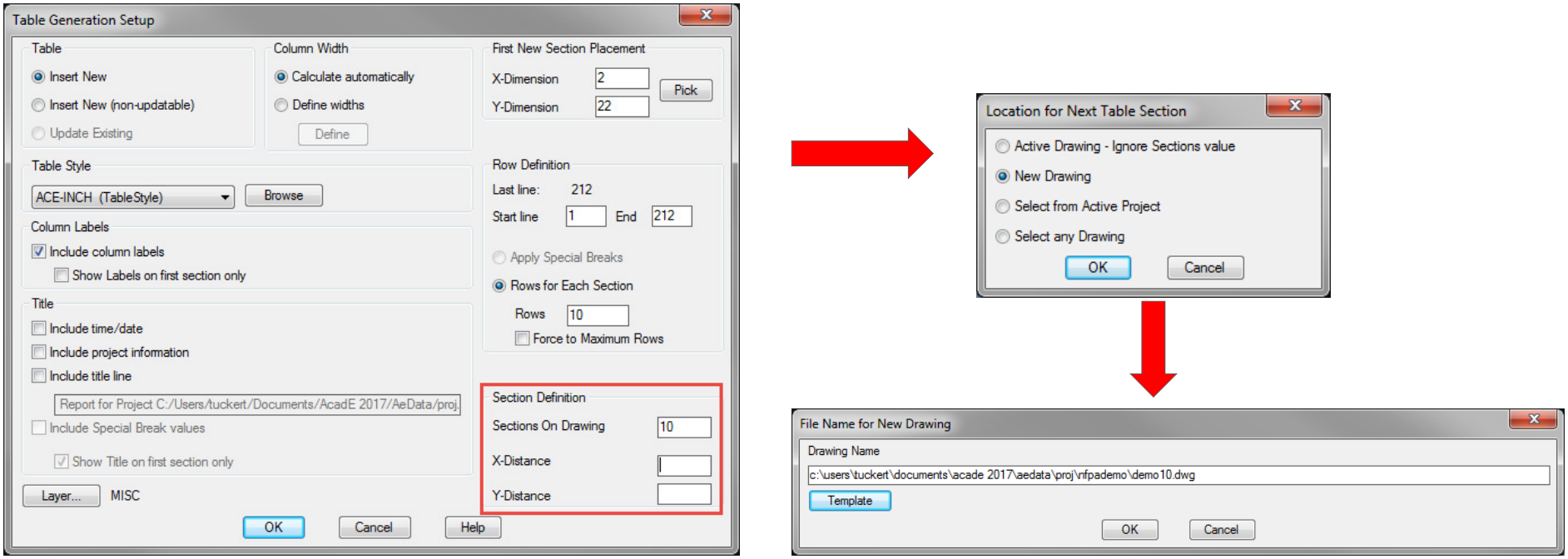


38. Export/Import from Spreadsheet

- Note: do NOT edit the drawings before you import changes back in

Drawing Creation Tips: Reports

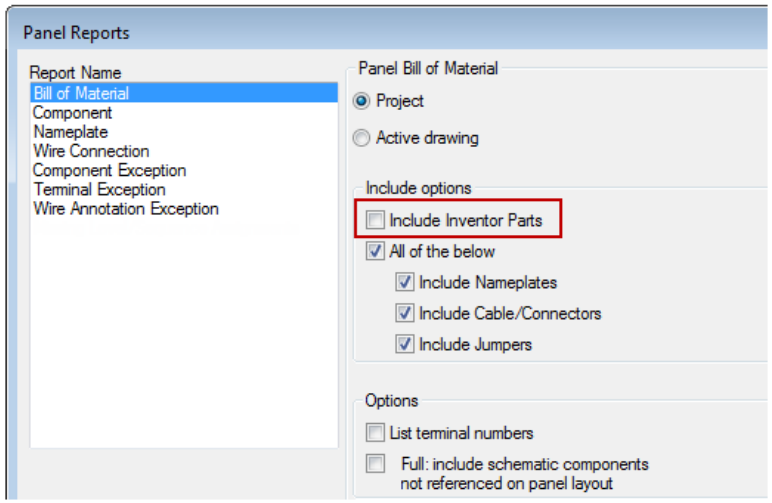
39. Multi-page Report generation

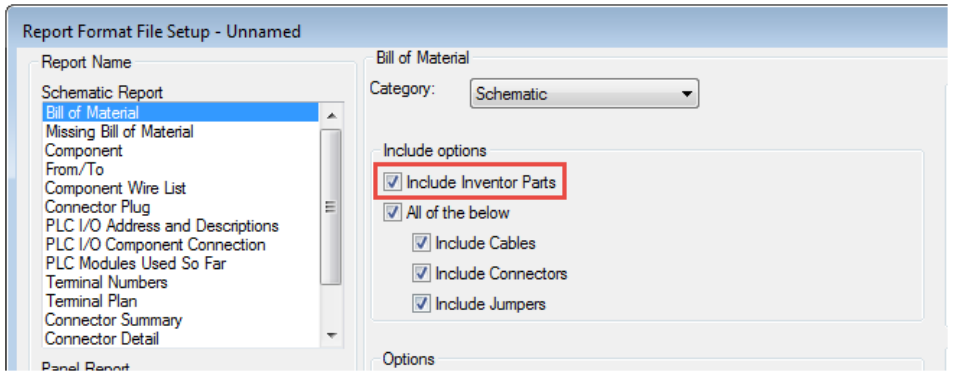


Drawing Creation Tips: Reports

40. AutoCAD Electrical and Inventor Combined Bill of Material Report (2017)

- **Tip**: This option is also available in the Report Format File Setup for saving your SET files.

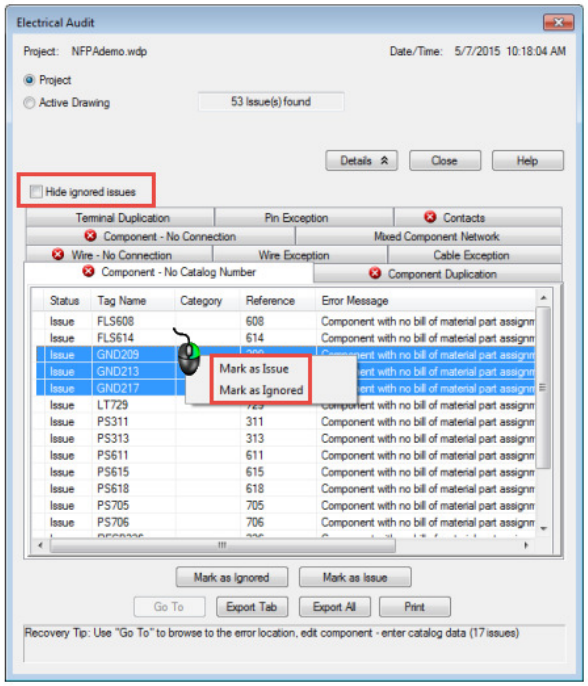




Drawing Creation Tips: Reports

41. Ignore errors in Electrical Audit (2017)

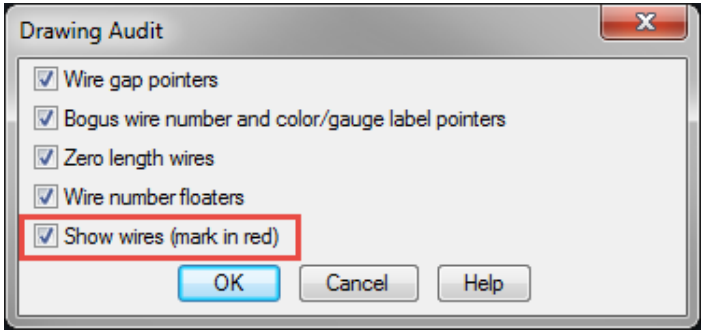
- **Tip**: Top 3 warnings:
- Wire No Connection for missing Source/Destination Signals
- Component No Catalog Number for missing BOM info
- Child No Connection for missing parent/child relationships



Drawing Creation Tips: Reports

42. DWG Audit

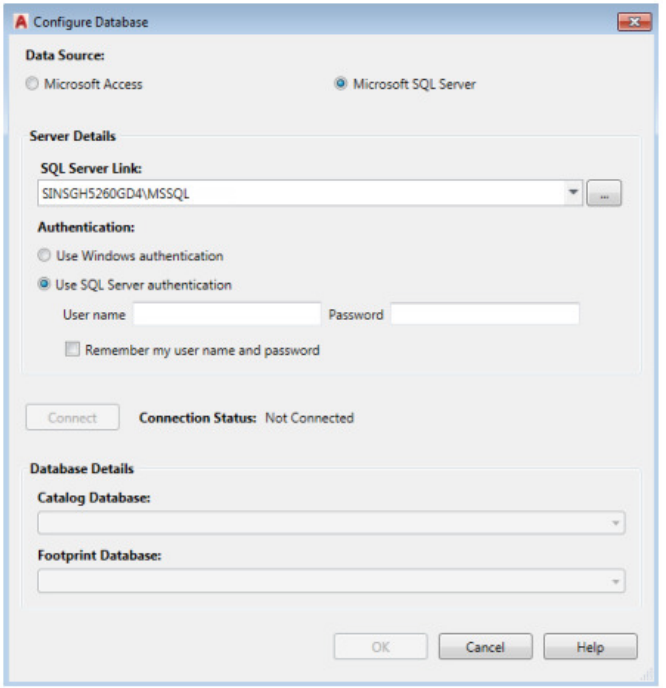
- Tip: You get the bonus option to “Show wires” when running the DWG Audit on the Active Drawing.



Customization Tips

43. SQL Server & Access Database options available now (2017)

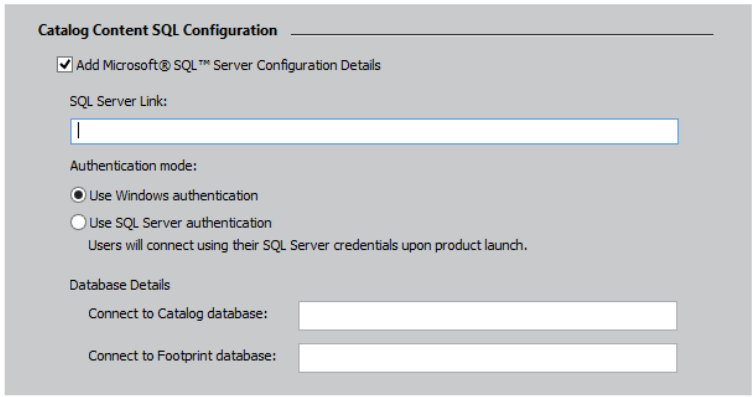
- Deployment Mode/Autodesk Content Migration Utility
  - Connect to your already created SQL Server instance or create one using the Autodesk Content Migration Utility for AutoCAD Electrical
- Standalone Mode
  - Use the Configure Catalog Database command that allows you to connect, and then select your catalog and footprint databases on an SQL Server instance.

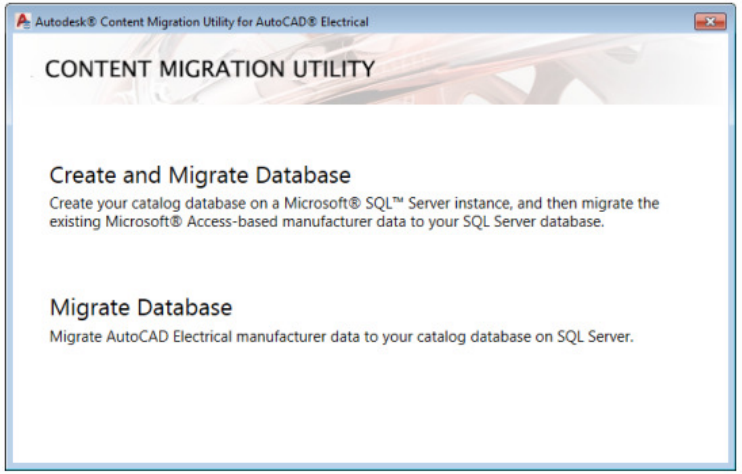


Customization Tips

44. New SQL Server Options (2018)

- SQL Content Migration Utility
  - now migrates user-defined tables from Access to SQL Server
  - Support for Unicode has been enhanced for catalog data in SQL mode

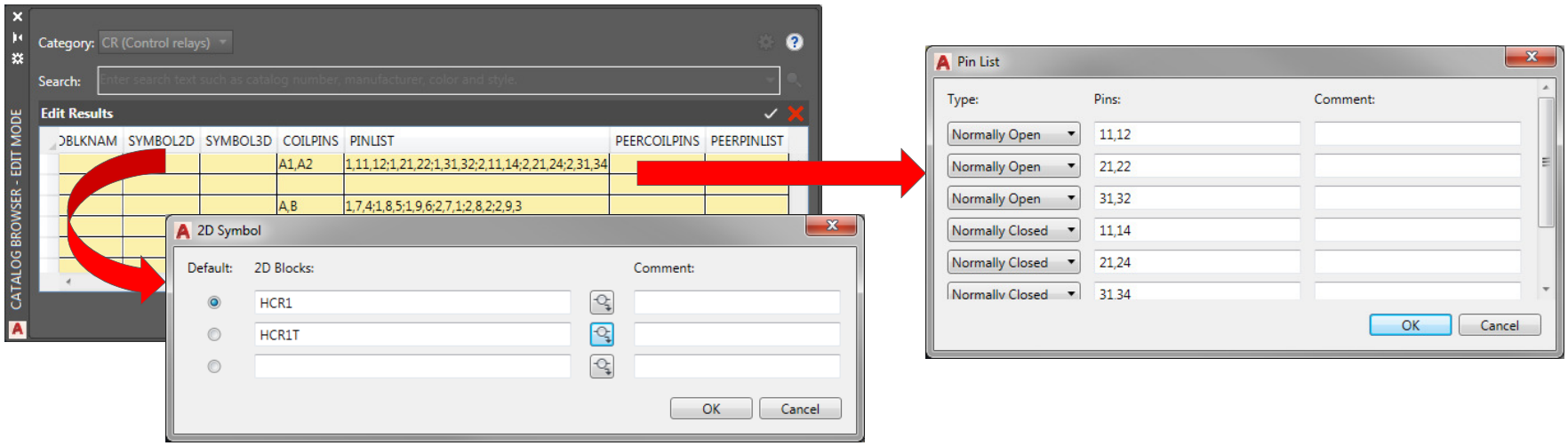




Customization Tips

45. In the Catalog Browser, for a given part number, you can actually define more than just one 2D or one 3D (Inventor part) library symbol to use

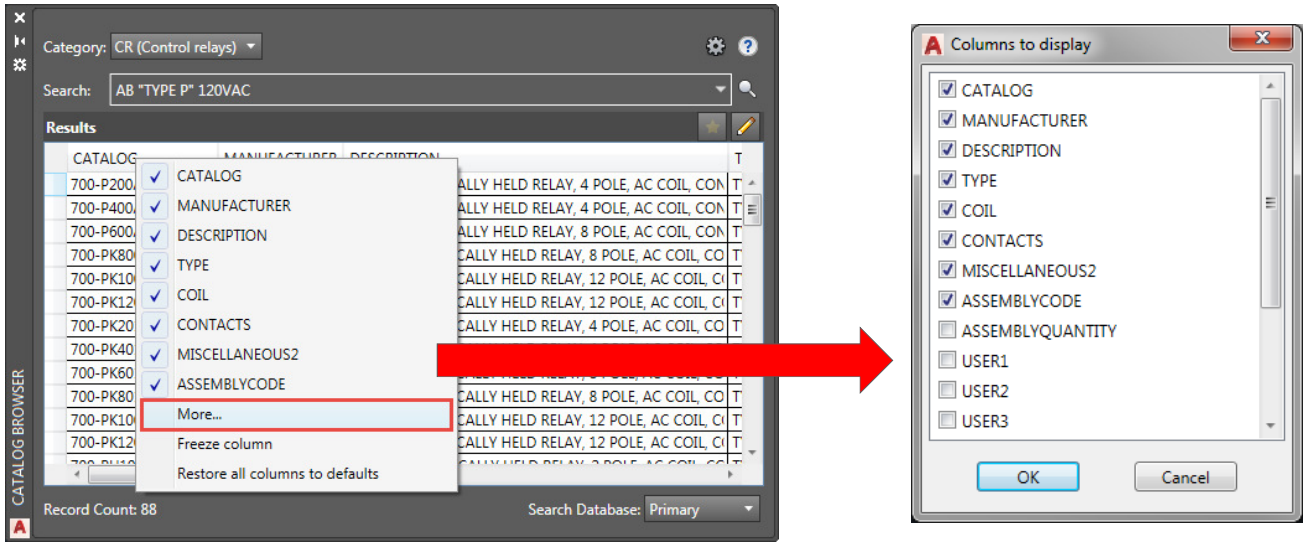
46. Add new Part Numbers plus Pin Lists or Terminal Properties in new Catalog Browser at the same time



Customization Tips

47. Make additional Catalog Database columns visible to include in Part Number Searches

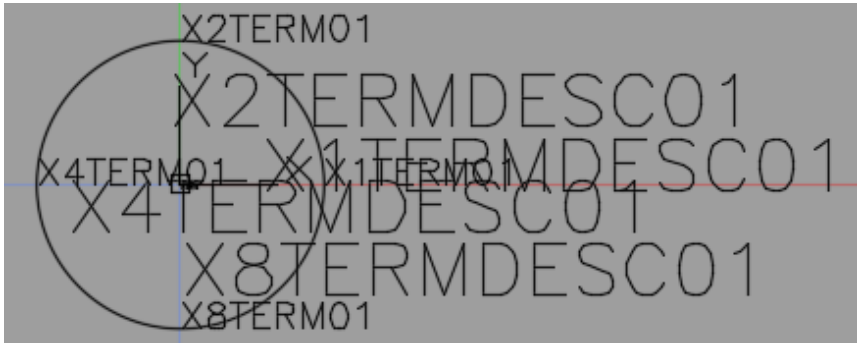
- RMB on any column in the Catalog Browser



Customization Tips

48. Wire Connection Attributes

- X_TERM_ _
  - Wires know to connect into a component buy this invisible attribute sitting on the component where the origin of the attribute text attaches
  - The first "_" is a number to specify which direction the wire is coming from
    - 1 = Wire coming in from the Right
    - 2 = Wire coming in from the Top
    - 4 = Wire coming in from the Left
    - 8 = Wire coming in from the Bottom
    - 0 = Radial



Customization Tips

49. Naming Conventions

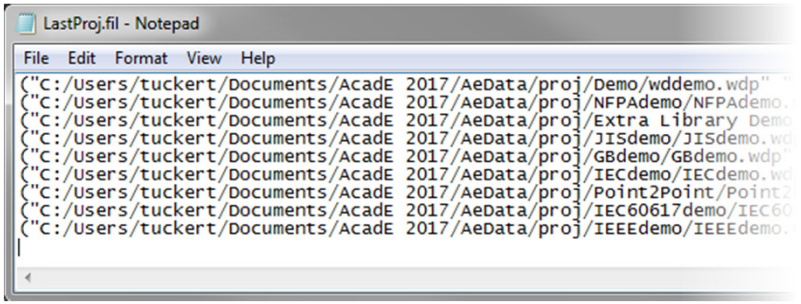
- Schematic Symbols
  - First: H or V for Horizontal or Vertical
  - Second & Third: 2 character family code
  - Fourth: **1** (Parent/Standalone) or **2** (Child)
  - Fifth: **1** (Normally Open) or **2** (Normally Closed)
  - All other characters are user defined unique identifiers
  - 32 Characters max
  - **TIP**: Do not use "HH", "HV", "VH", or "VV" as the first two characters of a symbol block name.

Customization Tips

50. Symbol Builder & Attribute Templates (Drag & Drop)

51. Lastproj.fil text file

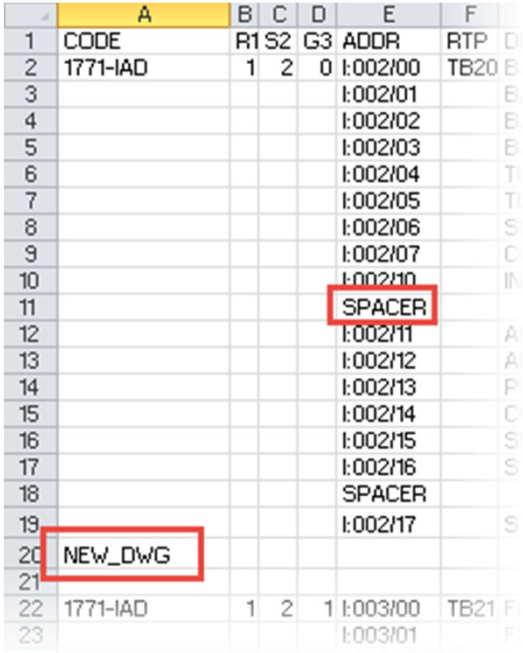
- In the User Support folder
- List of recent projects
- Each line in this file gives the following information for each project:
  - Project name and path
  - Project descriptions 1-4
  - Project state: "2"=Active"1"=Open"0"= not open but available from the Recent Projects dialog box



Customization Tips

52. Spreadsheet to PLC Tips

- **NEW_DWG** in Code column to make it skip to next drawing
- **BREAK** in the Address column to break the PLC module and continue in the next ladder column
- **SPACER** in the Address column to skip a rung before continuing to insert the next I/O point
- **SKIP** in the Code column to make the PLC module skip a ladder and continue in the next ladder

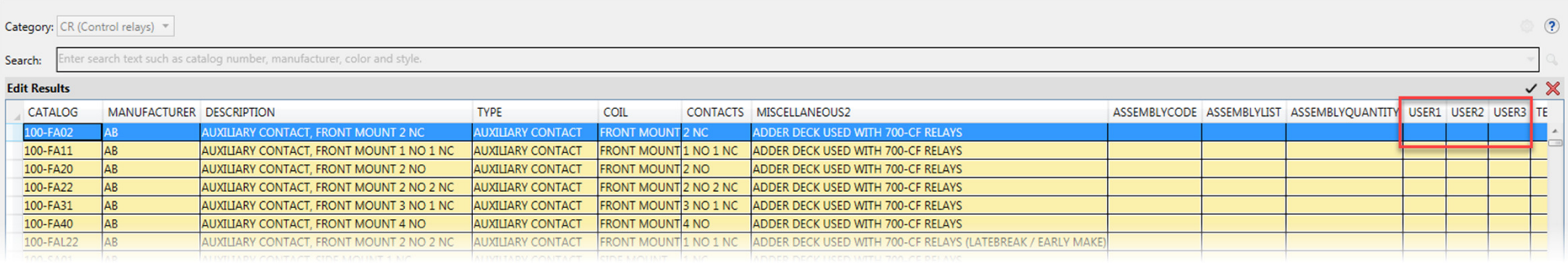


	A	B	C	D	E	F
1	CODE	R1	S2	G3	ADDR	RTP
2	1771-IAD	1	2	0	I:002/00	TB20
3					I:002/01	
4					I:002/02	
5					I:002/03	
6					I:002/04	
7					I:002/05	
8					I:002/06	
9					I:002/07	
10					I:002/10	
11					SPACER	
12					I:002/11	
13					I:002/12	
14					I:002/13	
15					I:002/14	
16					I:002/15	
17					I:002/16	
18					SPACER	
19					I:002/17	
20	NEW_DWG					
21						
22	1771-IAD	1	2	1	I:003/00	TB21
23					I:003/01	

Customization Tips

53. If you intend to share the major support files with other team members, utilize the Network Installation tools inside the installation configuration.

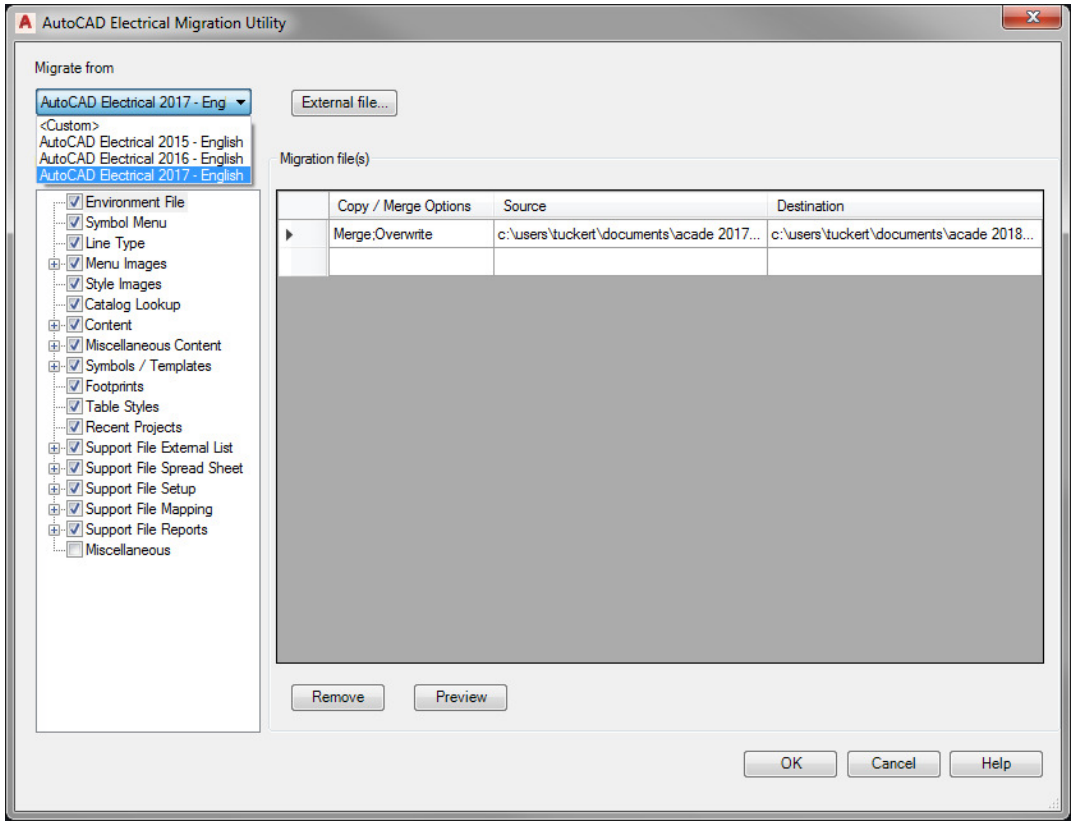
54. If you use your own part numbers in association with Manufacturer catalog numbers, the User Fields are great places to put those and now you can search on them directly from the new Catalog Browser



CATALOG	MANUFACTURER	DESCRIPTION	TYPE	COIL	CONTACTS	MISCELLANEOUS2	ASSEMBLYCODE	ASSEMBLYLIST	ASSEMBLYQUANTITY	USER1	USER2	USER3	TE
100-FA02	AB	AUXILIARY CONTACT, FRONT MOUNT 2 NC	AUXILIARY CONTACT	FRONT MOUNT	2 NC	ADDER DECK USED WITH 700-CF RELAYS							
100-FA11	AB	AUXILIARY CONTACT, FRONT MOUNT 1 NO 1 NC	AUXILIARY CONTACT	FRONT MOUNT	1 NO 1 NC	ADDER DECK USED WITH 700-CF RELAYS							
100-FA20	AB	AUXILIARY CONTACT, FRONT MOUNT 2 NO	AUXILIARY CONTACT	FRONT MOUNT	2 NO	ADDER DECK USED WITH 700-CF RELAYS							
100-FA22	AB	AUXILIARY CONTACT, FRONT MOUNT 2 NO 2 NC	AUXILIARY CONTACT	FRONT MOUNT	2 NO 2 NC	ADDER DECK USED WITH 700-CF RELAYS							
100-FA31	AB	AUXILIARY CONTACT, FRONT MOUNT 3 NO 1 NC	AUXILIARY CONTACT	FRONT MOUNT	3 NO 1 NC	ADDER DECK USED WITH 700-CF RELAYS							
100-FA40	AB	AUXILIARY CONTACT, FRONT MOUNT 4 NO	AUXILIARY CONTACT	FRONT MOUNT	4 NO	ADDER DECK USED WITH 700-CF RELAYS							
100-FAL22	AB	AUXILIARY CONTACT, FRONT MOUNT 2 NO 2 NC	AUXILIARY CONTACT	FRONT MOUNT	1 NO 1 NC	ADDER DECK USED WITH 700-CF RELAYS (LATEBREAK / EARLY MAKE)							

Customization Tips

55. If you have customized your ACADE, use the Migration Utility when upgrading to a new release



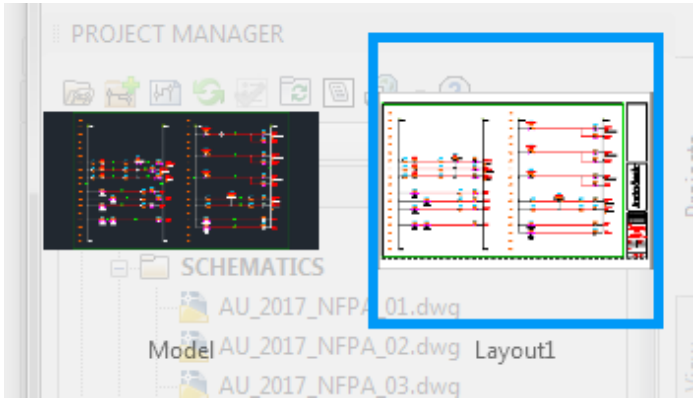
Template Tips

56. Utilizing the support files for default description values, location and installation codes is a great way to standardize throughout a company.

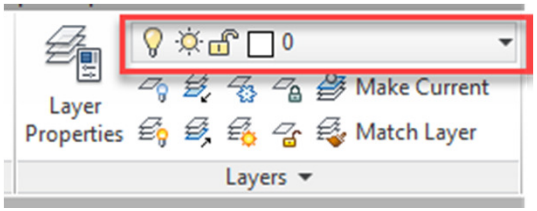
    - Description File: wd_desc.wdd
    - Installation Codes: default.inst
    - Location Codes: default.loc
    - Project Line Labels File (default_wdtitle.wdl)
    - Title Block Mapping File (default.wdt)

Template Tips

57. Utilize Paper Space, it will make Publishing easier!
    - Note: Do NOT put your entire project in one drawing!



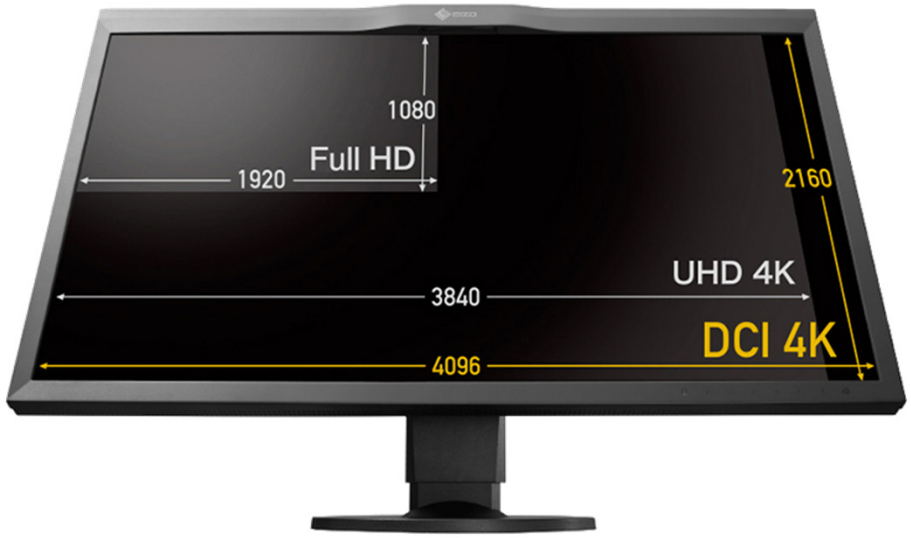
58. Always save your templates with Layer 0 as the Current Layer



General Tips

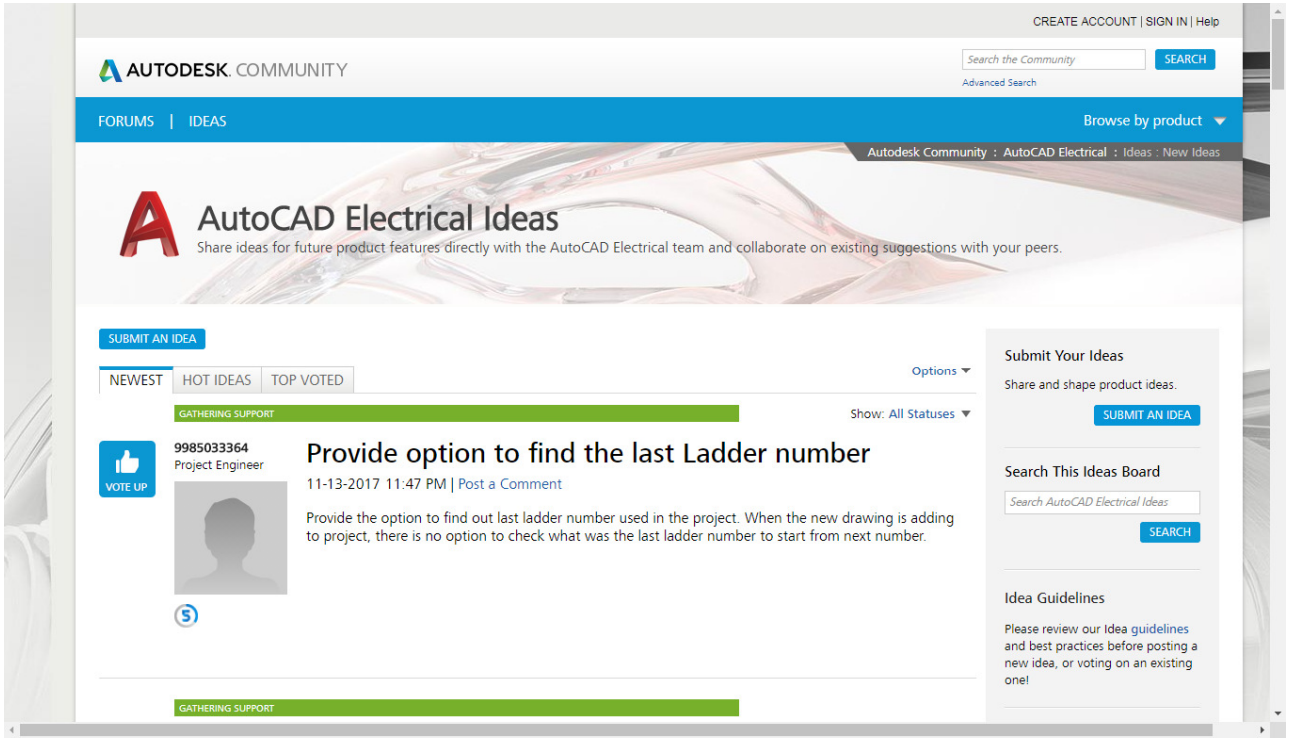
59. High Resolution (4K) Monitor Support (2018)

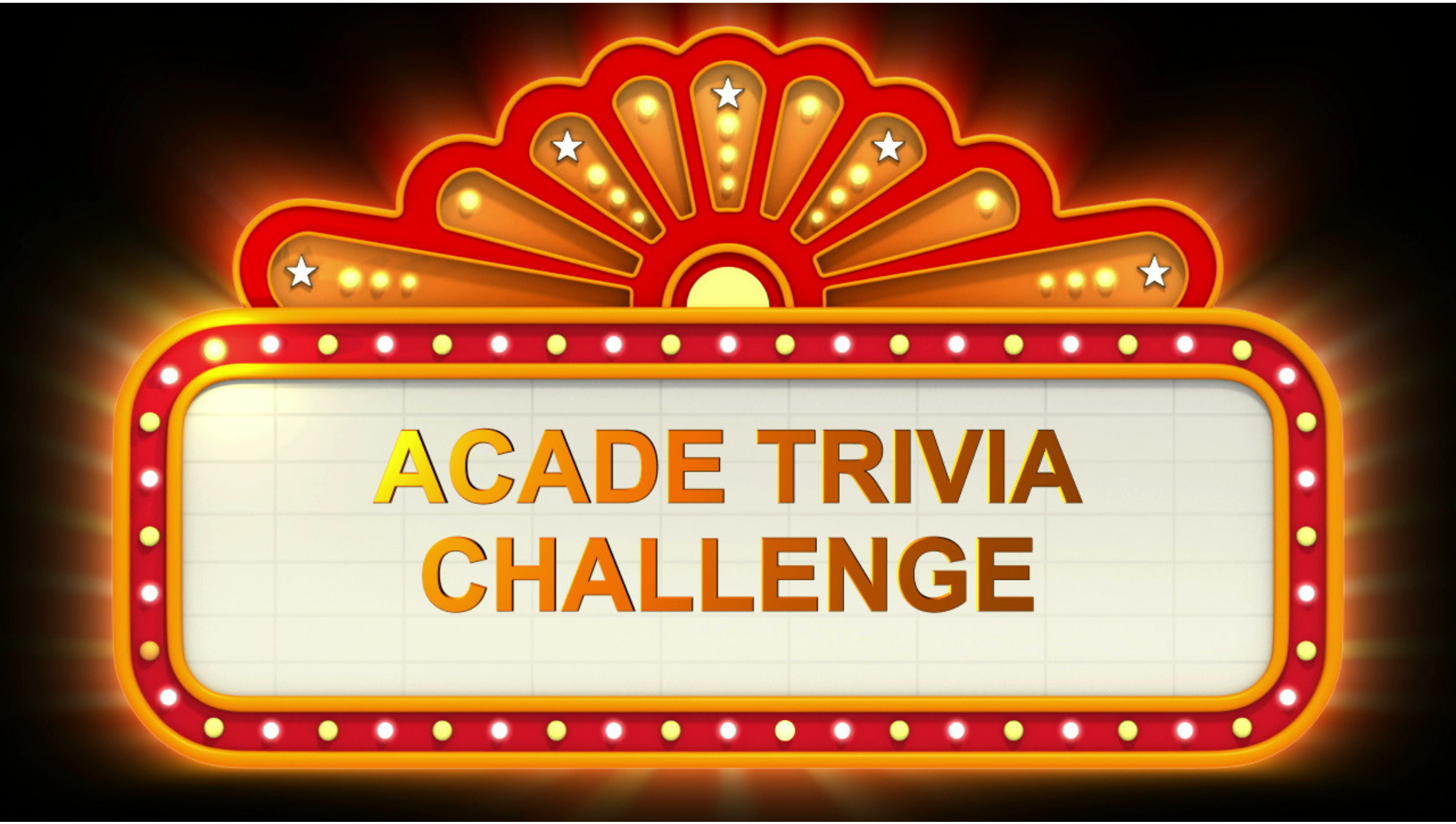
- The following dialog boxes and palettes scale correctly when you increase the text size in Windows display properties
  - Project Manager Palette
  - Symbol Builder Palette
  - Terminal Strip Editor
  - Set Wire type dialog



General Tips

60. AutoCAD Electrical's IdeaStation: https://forums.autodesk.com/t5/autocad-electrical-ideas/idb-p/37/tab/most-recent




ACADE TRIVIA
CHALLENGE

ACADE TRIVIA CHALLENGE

What is the command that allows you to see invisible attributes in a drawings?

ATTMODE/ATTDISP

ACADE TRIVIA CHALLENGE

I mentioned that we have a new DWG format in ACADE 2018, when was the previous format introduced?

2013

Questions

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