**Promine AutoCAD Tip of the Week Guide V9**

**PROMINE** combines a highly usable AutoCAD integrated interface with powerful, industry-focused modules in the areas of: Teamwork, Modeling, Engineering and Geology supporting all aspects of the mining cycle from exploration to operation. Quickly create highly accurate drawings with ease for: resource estimation, definition, modelling, shaft sinking, drift and raise modelling, planning, ramp construction/excavation, stope design and sequencing, drill and blast planning, capturing and processing survey data, material handling, scheduling, backfill design, optimization, reporting and more.

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100. Dynamic UCS Object Control

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MINING & GEOLOGY SOFTWARE
101. Changing Mouse Wheel Settings
102. The Pushpin
103. Change Background Color
Step by step

1. Go into the utility ribbon
2. Go into quick select
3. We will use color in this example
4. Select color
5. Define your operator, in this example “=”
6. Select the color of the objects you want to select, in this example “yellow”
7. To change the color of the selected objects
8. Right click and go into properties
9. Change the color from yellow to blue

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2. Customize your workspace

Step by step

1. Type -toolbar in your AutoCAD command prompt

2. Type the name of the toolbar you would like to add to your workspace for example “layers”

3. Type the position you would like to display the toolbar, in this example we will use “top” then press enter to insert it at the new position, i.e <0,0> coordinate. You can also use “show” which will simply display the toolbar.

4. Note: Once you have a toolbar visible, right clicking it will give you a dropdown menu showing other toolbars.

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3. Customize shape viewports

Step by step

1. Go to layout in AutoCAD, any new layout will have just one viewport
2. Go into paper space in the bottom of your AutoCAD interface
3. Make one of the viewports smaller by selecting the bottom right vertex and dragging it to your desired size
4. Duplicate the viewport by selecting it and using copy and paste from the clipboard
5. Create a polyline in the shape that you want your viewport to look
6. Right click your viewport
7. Select “viewport clip”
8. Select your polyline
9. Your new polyline is now a viewport
10. Change to model space and adjust your view within the viewport

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5. Creating Blocks

Step by step

1. Create a box with any dimensions
2. Go to “create block” under the “insert” tab
3. Choose a name for your block
4. Select your object that you would like to save as a block
5. Press Enter
6. Specify the basepoint of your block/object for future insertions
7. To insert a created block into your drawing
8. Go to your insert tab
9. Press insert and the recently saved block should appear there

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6. Displaying text in a hatch

Step by step

1. In a given hatch, type “Wipeout” in your AutoCAD command prompt
2. Draw a frame for your text within the hatch
3. The other option is using “textmask”
4. Create your text in the hatch
5. Type “textmask”
6. Select your text
7. The text is now cleared of any hatching surrounding it

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7. Create angular dimensions larger than 180°

Step by step

1. Type “dimangular” and the following options should show up “select circle, arc, line or <specify vertex>
2. Press Enter to specify vertex
3. Select the vertex of your two lines
4. Select the ends of your two lines
5. The dimension of the angle should display

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Step by step

1. Go into the Manage tab
2. Go into the Customization Panel
3. Go into user interface
4. In the customize tab, right-click the double click actions node
5. Press on “new double click action”
6. Right click “doubleclick1” and click rename, enter your desired name
7. In the properties pane, enter a description for the double-click action
8. In the command list pane, drag the command you want to add to the double click action in the customizations into the <file name> pane
9. Click apply
9. Carve a solid with a surface

Step by step

1. Create a solid, in this example, a box
2. Create the surface you will use to carve the box, (you can extrude an arc or line to create your surface) I suggest creating a different layer with a contrasting color for your surface.
3. Feel free to add more surfaces to cut your solid in different shapes.
4. Using the Slice command (type it in)
5. At the object selection prompt, select your box or other solid. Press enter to end your object selection
6. At the specify starting point of slicing plane prompt, choose the surface option then select the surface you want to use for slicing.
7. Select the solid you wish to keep or keep both sides. In this case we kept the larger portion of the box
8. Repeat the process for other surfaces if you had more than one. Then turn off the surface layer to see your results. Below is the result of our example. The video also demonstrates a separate example.

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10. Using the Rename command

Step by step

1. Type –rename in your AutoCAD command prompt
2. Select object type to rename (Block, Dimstyle, Layer, etc)
3. Enter the old object name
4. Enter the new object name
5. The new object should be renamed as desired

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Step by step

1. Create a line or if you already have an object in mind then go to step 2
2. Type “list” in your AutoCAD prompt
3. Press Enter
4. Select your desired object
5. Press Enter

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12. Repair Damaged Files

Step by step

1. Open the file in question
2. Click on the top left red AutoCAD icon
3. Go into Drawing Utilities
4. Press the Audit Tool
5. Type in “yes” to carry out the auditing and fixing errors in your drawing

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13. Using Coordinate Filters

**Step by step**

1. Split your viewports by clicking on the [ ] in the top left of your viewport
2. Go into “viewport configuration list” and select “Two: Vertical”
3. Keep your left viewport in top view and change your right viewport into “front” view by clicking the “S” on your viewcube.
4. Use the “3DPOLY” command and draw a random 3D polyline in your left viewport
5. Notice how a straight line is drawn in your right viewport, this is because the elevations (z-coordinate) are set to 0 in AutoCAD by default (if you can’t see your line in the right viewport, use the zoom, extent commands to make it show up in the right viewport)
6. To make changes to your z coordinate, type in “.xy” then select the x,y coordinate by clicking your mouse at the x,y coordinate that you wanted or you could type in “end” to select an endpoint of the line you’ve already drawn.
7. AutoCAD will then prompt you for the Z coordinate which you can type in according to the elevation needed
8. You can repeat the same process for any other coordinate and you can attach your coordinates to any of the objects in your left viewport and then modify your Z when prompted.
9. You can also use filters (the .x,.y,.z commands) individually and select those coordinates respectively using your cursor.

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14. Build and Customize Tool Palettes

Step by step

1. Type “TOOLPALETTES” into your AutoCAD command line, this will bring up a full menu of your tool palettes.

2. To create a new palette right click on the right side of the tool palette menu and press “new palette”

3. To dock your tool palette click on the settings cog on the left side of your tool palette and press “anchor left or right”

4. To add new commands to your tool palette, press on the palette that you have recently created.

5. Click on the settings cog on the left side of your tool palette and in the menu that comes up press on “customize commands”

6. Drag the commands from the customize commands menu into your newly made palette.
15. Import X, Y Coordinates From Excel

Step by step

1. In Excel, highlight and Copy the column of X,Y coordinates to be used to generate the drawing.

2. Open Windows Notepad (Start > All Programs > Accessories > Notepad).

3. Before pasting the coordinates, type LINE as the first word in the file (this will launch the Line command when the script is run), then press [Enter].

4. Now Paste the column of coordinates into the file and you should see something like that shown in the figure.

5. Close and save the .SCR file (remember where you're saving it).

6. In AutoCAD, launch the SCRIPT command, then navigate to where you saved your file in the previous step, then select it and click Open. AutoCAD will launch the Line command then, beginning at the first set of coordinates entered, will draw line segments from one point to the next.
Step by step

1. Select one of the objects in your drawing
2. Type in the "properties" command to see the dimensions of your selected object so you can compare it after the conversion is done
3. De-select any objects by pressing escape, Type in "-dwgunits" to access the drawing unit conversion menu
4. Note that in your Command line what is written between the angular quote brackets is your current unit system.
5. Select the unit system you would like to use, in our example we are converting from <6> meters to <2> feet.
6. Select scientific or decimal for your Linear display format, in our example we used "decimal"
7. Select your Linear display precision, in other words the number of decimal places to display, we used the default of 4.
8. We will be scaling objects from other drawings upon insertion so select <yes>
9. Match the units of the inserted objects by selecting <yes>
10. Scale the objects in the current drawing to reflect the change in units <yes>
11. Include objects in paper space? <yes>
17. Draw an Arc With a Specific Length

Step by step

1. Draw an arc using the “arc” command
2. Type “lengthen” in your command prompt
3. Select an object to measure or [DELta/Percent/Total/DYnamic]
4. In our example we will use Total then input your arc length
5. This cuts the arc to fit the length we specify
6. Select your arc from the side that you want to keep
7. Your new arc should be the length specified in step 4

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18. Insert JPEG into AutoCAD Drawing

Step by step

1. Click the “insert” tab at the top of your AutoCAD interface
2. Click “attach” in the “reference” ribbon
3. Browse and find your jpg file in your file explorer
4. Click on the file and press “open”
5. Another window should pop up asking you for insertion coordinates, scale and angle of rotation, if you check the “specify on screen” box it will be a lot simpler to insert the image but you can also specify those parameters manually, click “ok” to insert your image.

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19. Convert 3D Face to 3D Solid

Step by step

1. Enter CONVTOSURFACE in the command line.
2. Select the face you want to convert.
3. Enter THICKEN in the command line.
4. Select the surface.
5. Enter a thickness value for the selected surface in the command line.
6. When prompted, choose whether or not to erase the defining surface.

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20. Using AutoDESK Content Explorer

Step by step

1. Go into your “Add-ins” ribbon at the top of your AutoCAD window
2. Click on “content explorer” (the binocular icon)
3. Click on “add watched folder” and select the folder that contains your AutoCAD drawings
4. Type the name of the object/layer/block that you are searching for in the search bar
5. Right click on the objects to open up more options such as insert, open drawing, go to file location and so on.

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21. Export AutoCAD DWG to PDF

**Step by step**

1. Set up your view in the way you want your drawing to appear in the pdf by using the view cube or using the “ORBIT” command

2. Use the “Plot” command to bring up the plotting window

3. Under Printer/plotter select “DWG to PDF.pc3”

4. In our example we used “center the plot” which will make sure your drawing is centered or you can offset it manually

5. After configuring these settings, press on “Add” at the top and select the name you want for this setup so you don’t have to repeat these steps each time.

6. Press “OK”

7. Choose a name for your file and then press “save”

[View tutorial video]
Step by step

1. First set the layer that you want to use for your solid fill. The hatch will go on the current layer.

2. On the Home tab in the Draw panel, click Hatch. The Hatch Creation tab appears.

3. In the Pattern panel, choose Solid

4. If you have one closed area, you can just click inside it to pick an internal point. If you want to select an object, you can click Select in the Boundaries panel, as you see here. Then press Enter to end selection.

5. Press Enter to end the HATCH command.

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23. 3D Mirror Command

Step by step

1. Create a line that you would like to use as a mirror
2. Use the 3DMIRROR command
3. Select the object you want to mirror
4. Press “Enter”
5. Select from the list of options “XY, YZ, ZX, 3 Points, etc”
6. Select 2 points on the line and then a third point corresponding to the third plane
7. Your object should now be mirrored about the plane

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24. Assign Matching Properties to Different Objects

Step by step

1. Use the “Matchproperties” command
2. Select your source object(s)
3. Type in “S” and press enter to get into the settings menu
4. Select the properties you want to match by checking the respective boxes
5. Press “Ok”
6. Select your destination object(s)

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25. Sort Layers Using Group Filters

Step by step

1. Open your layer properties manager
2. Right click on “All”
3. Press “New Group Filter” or “New Properties Filter” depending on how you want your layers sorted
4. Once you’ve created the new group, drag the layers you want to group into that filter
5. Right click the filter to turn the layers on/off or to lock/unlock them

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26. Insert Hyperlink into Object

Step by step

1. Go into the “Insert” tab
2. Press “hyperlink” in the data ribbon
3. Select your object and press enter
4. Select the file or type in the web address you would like the hyperlink to go to
5. To open the hyperlink, right click on your object and go into the hyperlink menu
6. Press the hyperlink to go to the file or webpage

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27. Manage Layers Using LAYWALK

Step by step

1. Insert layers into your drawing.
2. Use the “LAYWALK” command to bring up the Layer walk pop up box.
3. Cycle through the layers one by one to see the objects contained in each one.
4. Purge any layers you think might need a clean up.

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28. The Oops Command

Step by step

1. Delete an object
2. Make some edits to the drawing after deleting the object
3. If you still need the deleted object, use the “Oops” command to bring it back.

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29. The Burst Command

Step by step

1. Use the “BURST” command

2. Select the object/block that you want to break down

3. Press “Enter”

4. Your block/object is now separated into its components while maintaining its attributes

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30. Create a Customized Hide Object Shortcut

Step by step

1. Type in “cui” to bring up the customize user interface window
2. Press the Star icon to create a new command
3. Name your command Hide Objects
4. Type in “HIDEOBJECTS” in macro
5. Press Apply, then expand keyboard shortcuts and expand shortcut keys
6. Drag the newly made command from the bottom left window into shortcut keys
7. Select your newly made command and create a shortcut key for it
8. Test out your new shortcut to make sure it works as desired

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31. Change Polyline Thickness

Step by step

1. Draw a polyline to check if it has the desired thickness
2. If not, type in “PLINEWID”
3. By trial and error determine which thickness you would like to use, in the example we use “0.5”
4. Your PLINE will remain that thickness throughout the drawing

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32. Using the EXTRIM Command

Step by step

1. Use the EXTRIM command
2. Select the object you want to use as a border for your trimming
3. Select the side of the object which you want to remove
4. If you trimmed the wrong side, undo and select the other side this time around

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33. The Boundary Command

Step by step

1. Draw overlapping objects, a rectangle and a circle
2. Type in the “BOUNDARY” command and press enter
3. Select the polyline option
4. Select the pick points option and select an internal point
5. Press enter, this will create the new region at which the objects overlap

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Step by step

1. Press Alt + H on your keyboard while in your AutoCAD window
2. Keyboard shortcuts will appear next to each command
3. Type in the keyboard shortcuts to execute the desired command

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35. Quick Copy

Step by step

1. Select your desired object
2. Press the “CTRL” key and drag the copy of your object from the grip
3. This will create a copy of the initially selected object

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36. Organize Tabs and Panels

Step by step

1. Right click on any of the tabs at the top of your AutoCAD interface
2. Enter the “show tabs” option
3. Select which tab you want to activate or disable
4. If already enabled it will be disabled and vice versa
5. You can repeat the same steps to enable or disable a panel through the “show panel” option

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37. Print and Publish Multiple Layers

Step by step

1. Select multiple layouts by holding the shift button and left clicking on the layouts you want published.
2. Right click on one of the layouts after selecting all your layouts.
3. Click on “publish selected layouts”.
4. Configure your settings in the dialog box that pops up.
5. Publish the layouts by clicking on “publish”.

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38. Bring up Command line, Quick Calculator and Tool Palette

Step by step

1. Press CTRL-3 to bring up the tool palette
2. Press CTRL-8 to bring up the quick calculator
3. Press CTRL-9 to bring up the command line

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Step by step

1. Press CTRL-6 to bring up the DB Connection Manager
2. Press CTRL-7 to bring up the Markup Set Manager
3. Press CTRL-0 to go into full screen mode
4. Use the same commands as above to revert back

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40. The “DWGPROPS” Command

Step by step

1. Open your drawing
2. In the command line type “DWGPROPS”
3. Go into the “Statistics” tab and check editing time

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41. Dimension & Annotation Settings

Step by step

1. Type “DIMSTYLE” into your command prompt
2. This will open up a dialog box where you can fully customize and create new dimension styles
3. Under the Home tab, in the annotations ribbon, if you press on the arrows under each command you can edit your annotation settings

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42. OSNAP Keyboard Shortcuts

Step by step

1. Start the PLINE command
2. While in the command press Shift + right click
3. Select the type of Snap you want from the menu
4. That snap is now activated for a single click

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43. Exploring Parametric Constraints (part 1)

Step by step

1. Draw your objects (line, circle)
2. Select your constraint (perpendicular)
3. Select your first line
4. Select your second line
5. The lines are now constrained and will maintain perpendicularity

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44. Exploring Parametric Constraints (part 2)

Step by step

1. Draw your objects (Line, Arc, Circle)
2. Select your Constraint (Horizontal, Vertical, Concentric)
3. For horizontal and vertical constraints, select your line to apply the constraint
4. For concentric, select your circles or arcs to apply the constraint
5. The lines, arcs or circles are no constrained accordingly

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Step by step

1. Click the collinear constraint button under the parametric ribbon
2. Select your first line then select your second line, the two lines should now be collinear
3. For the symmetric constrain, draw your line of symmetry
4. Click the Symmetric constraint button under the parametric ribbon
5. Select your first object, select your second object and finally select your symmetry line, your objects are now symmetric about that line
6. For the equal constraint
7. Click the equal constraint under the parametric ribbon
8. Select your first line, polyline or circle then select your second
9. The two objects should now be equal in length or radius depending on the object selected

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46. Helpful Drift Planning Commands

Step by step

1. Run the “BREAK” command
2. Select the first point of your break for the center line
3. Select the second point, that line will now be broken at those two points
4. Run the “QDIM” command
5. Select the objects you want dimensioned
6. Press enter
7. Select the location of your dimensioning annotations

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Step by step

1. Generate a drift center line using the Polyline command. Use straight segments only and make sure they’re long enough to fit the needed radius.

2. Once the center line is created, run the command Fillet. You will have five options, select Radius.

3. Type in the radius the equipment requires (e.g. 15 m), and press enter.

4. You will be asked to select an option again. For this step, select Polyline, as that’s the object to which the radius will be applied to.

5. Select the polyline which represents the center line.

6. Curves with the selected radius will be created between all the segments of the polyline.

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48. Creating Flat Planes

Step by step

1. Type “Planesurf” in your AutoCAD command line
2. Select your first corner
3. Select your second corner

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49. Solid History Command

Step by step

1. Type in “SOLIDHIST” in your command line
2. Enter “1” for the new value, this will activate the solid history function
3. Type “SHOWHIST” in your command line
4. Enter “2” for the new value, this will show a visual display of the history as you change the solid

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50. Hatch Using Tool Palette

Step by step

1. Press CTRL + 3
2. Navigate to the Hatches tab
3. Drag the hatch into the interior of the object to be hatched
4. This will hatch the desired object
5. If you created a custom hatch you can drag and drop it onto the tool palette for easy access

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51. Use BPOLY to Create Blasting Outlines

Step by step

1. Type “BPOLY” in your command line
2. Press “enter”
3. Select the internal point
4. Press “enter”
5. A boundary polyline should now be created following the insides of the region you selected

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52. Adjusting Hatch Transparency

Step by step

1. Select your Hatch
2. Open the Properties Menu
3. Click on transparency and type a number between 0-100
4. Your hatch should now be adjusted according to that value

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53. Sort Layers With LAYWALK Command

Step by step

1. Type “LAYWALK” in the command line
2. Press Enter
3. Select the layer or layers you want to isolate
4. You should now be able to display the layers you selected while isolating the rest of the unselected layers

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54. Time Saving Keyboard Shortcuts

Step by step

1. Shift + left mouse button
2. Select the object you want to exclude from your selection
3. Shift + right mouse button
4. Select the type of snap you want to use on your next click
5. Shift + Extend/Trim
6. This will carry out the opposite of the initial command, so if you’re trimming it will extend it to the line you selected initially and vice versa

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55. Divide and Measure Polylines

Step by step

1. Create a Polyline
2. Type in **MEASURE** or **DIVIDE**
3. Select your polyline
4. Specify length of segment or Block
5. Click on Block in the command line
6. Type in the name of the block you want to use to split your polyline
7. Type in the length of the segment if using **MEASURE**
8. Type in the number of segments if using **DIVIDE**

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56. Array Command

Step by step

1. Draw the object you want to create an array of
2. Type in “ARRAY”
3. Select polar
4. Adjust the settings in the array toolbox
5. If you want all your arrays to be considered 1 block then use the associative feature
6. Once done editing your array right click and press on Enter from the menu

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57. Attribute Extraction

Step by step

1. Type in the ATTEXT command in AutoCAD
2. Setup your ATTEXT template or use the attached template file
3. Select your objects
4. Name your output file
5. Press “Ok”
6. You should now have your txt output file in the location you chose

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58. Revise Work With REV CLOUD

Step by step

1. Type in “REV CLOUD” in your command line
2. Select the shape of the cloud you want to use (Arc, rectangle, etc)
3. Draw your cloud around the areas that were changed
4. Adjust the colors of the clouds to reflect the types of changes you made
5. Send the drawing on to the next stage of the engineering process

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59. Manipulate 3D Objects with Gizmo Tool

Step by step

1. Go into your 3D modeling work space
2. Switch into realistic view or any view other than 2D wireframe
3. Go into the “mesh” at the top of your AutoCAD interface
4. In the “selection” ribbon, select “face”
5. Select the faces you want to manipulate
6. Move them along the axis (they should turn golden to indicate you will be moving in that axis only)
7. Move them along the planes (the planes will turn gold to indicate restriction of movement to that plane)

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Step by step

1. Type XLINE into your AutoCAD command line
2. Select 2 points you want that XLINE to be drawn through
3. Your XLINE is now extended infinitely through those 2 points, useful for reference lines in construction drawings
4. Type RAY into your AutoCAD command line
5. Specify the first point at which your RAY is starting
6. Specify the direction of your RAY
7. The RAY now extends infinitely in the direction you specified

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61. Embed Images in AutoCAD

Step by step

1. Right click the image you want to insert into AutoCAD and click "edit"
2. Once it is open in Paint, press CTRL + A to select the drawing
3. CTRL + C to copy
4. Go into AutoCAD
5. Type in PASTESPEC
6. This will bring up a dialog box asking how you want to paste the image
7. Select Ts or Metafile
8. Press Ok
9. The image should now be inserted into the DWG file

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62. CHSPACE Command

Step by step

1. When in your layout space, type in the command “CHSPACE”
2. Select the objects that you want to change from model space to layout space or vice versa
3. Press Enter
4. Those objects should now be seen in that layout or model space.

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Step by step

1. Type in PEDIT in your command line
2. Select Multiple
3. Select the polylines you want to edit
4. Select Join
5. Define your fuzz distance on the screen by picking two points
6. Select Close
7. Hit escape
8. Your polylines are now joined based on the tolerance (fuzz distance) given

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64. Send QuickCalc Results to Command Line

Step by step

1. Type in QuickCalc to bring up the calculator dialog within AutoCAD
2. Use the command that will be taking in the value from the QuickCalc dialog (example: Offset, circle, line)
3. Once AutoCAD prompts you for length or distance
4. Click the box which sends the result of QuickCalc to the command line
5. You should now have an offset, circle or line made with that value

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65. Importing Point Clouds

Step by step

1. Install Autodesk RECAP
2. Go to the AutoCAD insert tab and click on Autodesk Recap
3. Once Autodesk recap is running, import your point cloud file
4. Export your point cloud file into RCP or RCS formats
5. Attach your point cloud in AutoCAD using the Attach command in the insert tab
6. Select the point cloud file you exported using Autodesk Recap
7. You should now have your point cloud imported in AutoCAD

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66. Saving Views

Step by step

1. Zoom in and rotate to your desired view
2. Type in “-View”
3. Select “Save”
4. Type in the desired view name
5. Press enter
6. To return to your view after you’ve moved away from it
7. Type in “-View”
8. Select “restore”
9. Type in your view name
10. Press enter

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67. Crosshairs, Pickbox and Grip Customization

Step by step

1. Type “options” in your AutoCAD command line
2. In the “display” tab, on the bottom right, adjust your crosshair size by dragging the bar to the right or left
3. In the “selection” tab, at the top, you can change your grip sizes and pick box sizes
4. To change cross hair colors, in the “display” tab, under window elements, press on colors
5. Select cross hairs on the right side
6. Select the color of your cross hair
7. Press Ok to apply the changes

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Step by step

1. Press CTRL+3
2. Select Civil from your tool palette
3. Use the international speed limit dynamic block
4. Press on the little triangular grip to get more options from your dynamic block
5. Adjust the settings in your block editor by typing “BEDIT” in your command line
6. Adjust visibility in the visibility settings in your block editor

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Step by step

1. Create a standard block
2. Go into your block editor.
3. Setup a linear parameter such as a distance measurement of your door width
4. Associate stretching of various parts of your block with that parameter
5. Associate all other parts of your block with this stretching
6. Test out your block to make sure it is behaving as desired
7. Save your block changes
8. Now you have a dynamic block that is easy to maneuver

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Step by step

1. Type MLSTYLE in your AutoCAD command line
2. Click on New
3. Name your style
4. Add a description
5. Set your offsets and line types for each line
6. Set your Fill color
7. Press Ok
8. Type MLINE in your AutoCAD command line
9. Set your justification to zero
10. Set your style to the name of the style you created
11. You can now draw your multiple lines as you’ve created them

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Step by step

1. Type in CUILOAD in your command line
2. Unload all customization files in the dialog box
3. Press Close
4. Close AutoCAD
5. Open AutoCAD again
6. Type in CUILOAD
7. Press Browse
8. Go to the corresponding directory on your machine (you will need to show hidden files and folders through the view tab in your file explorer)
9. C:\Users\(your Windows username)\AppData\Roaming\Autodesk\AutoCAD 20XX\RX.X\enu\Support
10. Select the ACAD.CUIX and press Load
11. You should have all your tabs recovered

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72. Zoom and Extents

Step by step

1. Type in ZOOM
2. Type in EXTENTS
3. Your drawing is now zoomed to show all objects in your drawing
4. Double click the middle mouse button to achieve the same zoom

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73. Re-aligning your UCS

Step by step

1. Click on your UCS icon at the bottom left of your AutoCAD interface
2. Click and drag the grip at the intersection of the X and Y axis
3. Drag the UCS to your desired coordinate or input the coordinate you want you UCS to be on
4. Once that is done make sure that it is aligned in terms of angles as well
5. Your UCS is now re-aligned

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74. Mouse Hotkeys and Customization

Step by step

1. Type in CUI
2. Click on Mouse buttons
3. Expand the sub sections under Mouse buttons
4. Try out the different hotkeys to learn them
5. Right click on Mouse buttons to add a new button

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75. Move the Layer Manager to the Top of your AutoCAD Window

Step by step

1. Click the drop down arrow next to the drafting and annotation work space selection
2. Active layers
3. You should see your layers toolbar at the top of your AutoCAD window

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76. Enhance Graphics

Step by step

1. Right click the graphics performance icon in the bottom right of your AutoCAD interface
2. Check all the checkboxes in the dialog that comes up
3. Turn on hardware acceleration
4. Press ok
5. Your graphics performance in AutoCAD 2018 should now be improved

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Step by step

1. When selecting objects and dragging to the right side of your mouse cursor
2. Click once and then try zooming or panning
3. AutoCAD 2018 allows you to move around your drawing and zoom on specific objects while selecting them

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78. Extract Edges with XEDGES

Step by step

1. Run the XEDGES command
2. Select the object
3. Press enter
4. You should now have the edges drawn out

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79. Changing Viewport Attributes

Step by step

1. Create a layout
2. Open your layer manager and scroll horizontally
3. You should see attributes starting with VP which stands for viewport
4. Changing those attributes will change them for the current viewport

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80. Using DWGPROPS to Add Comments and Properties

Step by step

1. Type DWGPROPS in your command line
2. Edit the properties according to your preference
3. Press okay and the properties should now be saved

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Step by step

1. Open Notepad.
2. Type the following:
   ```lisp
   (defun c:redcircle (/ center pt-on-circumference)
     (terpri)
     (setq center (getpoint "Specify center of red circle:"))
     (terpri)
     (setq pt-on-circumference (getpoint center "Pick a point on the circumference:"))
     (command \_\_circle center pt-on-circumference)
     (command \_\_chprop \_last \_color "red")
   )
   Save the file in a folder that is in your support file search path. Name it redcircle.lsp
4. In AutoCAD, go to the Manage tab -> Applications -> Load Application and select your LSP File
5. Choose redcircle.lsp and click Load. You should see the message: redcircle.lsp successfully loaded at the bottom of the dialog box.
6. Click Close.
7. On the command line, type redcircle and press Enter.
8. At the Specify center of red circle: prompt, specify the circle's center.
9. At the Pick a point on the circumference: prompt, pick a point on the desired circumference to specify the radius.
82. Loading Custom Lisp Commands pt. 2

Step by step

1. Go to the manage tab
2. Click Load application
3. Select your .lsp file
4. Click load
5. The command line should say the .lsp file was loaded successfully
6. Run the command by typing “MD” in your command line
7. Select your 2 objects
8. This should give you the minimum distance in the command line
9. Type MDL to draw the minimum distance line

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83. TORIENT and TSCALE your Text

Step by step

1. To scale your text, type TSCALE into your command line
2. Select the object you want to scale
3. Press enter
4. Select whether you want to scale it by a factor or a text height
5. Press enter after specifying your text height or factor
6. To orient your text, type TORIENT into your command line
7. Select the object you want to orient
8. Press enter
9. Select existing or other desired options
10. Specify the rotation angle
11. Press enter
12. Your text is now scaled and oriented to your preference

As you can see in the screenshot, we've adjusted a copy of the text to make it bigger and orient it horizontally.

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84. NUDGE Command

Step by step

1. Select the object you want to move
2. Type “NUDGE” in your command line
3. Use CTRL + Arrow Key to move the object in a specific direction
4. Press Escape when you’re done to exit the command

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85. Using MTEXT for Automatic Areas with Fields

Step by step

1. Place text using the MTEXT editor and type “AREA =” in your text box
2. Then go to your ribbons at the top, in Insert, click on FIELD
3. In the FIELD category choose OBJECT
4. Use the pick object button and select your closed polyline
5. Select AREA for properties
6. Select ARCHITECTURAL for Format then press OK
7. You should now have the area of the region enclosed by your polyline

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86. Snap Onto Hatches With OSNAPHATCH

Step by step

1. Type “OSNAPHATCH” into your command line
2. When prompted for the variable value type 1
3. Press Enter
4. Draw a polyline with a starting point snapping onto a hatch
5. You are now able to snap onto hatches

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87. Selecting Connected Objects Using FS Command

Step by step

1. Type “FSMODE” in your command line and then type “ON”
2. Type “FS” in your command line
3. Select touching object
4. All objects connected to your touching object are selected

View tutorial video
Step by step

1. Run the command DIMANGULAR
2. Don’t select the objects, as we usually do, instead, if we read the command prompt, it says “Select arc, circle, line, or <specify vertex>“. Press “Enter” to specify vertex.
3. Select the angle vertex
4. Select the angle end points
5. AutoCAD will now display the angle bigger than 180 degrees, allowing to create its annotation.

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89. The OVERKILL Command

Step by step

1. Run command “OVERKILL”
2. Select the overlapping objects you wish to clean,
3. Enter a fuzz factor
4. Check to ignore color
5. Your drawing is now cleaned and the overlapping line has disappeared

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90. Select objects with selection cycling

Step by step

1. Turn on selection cycling by clicking on the button in the status bar or pressing “Ctrl + W”
2. Put the cursor on the object you want to select
3. Navigate through the selectable objects using “Shift + space”. If the cycling list box is activated in the selection cycling settings, you can navigate through the selectable objects by doing click
4. Choose the object you want to select

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91. The MULTIPLE Command

Step by step

1. Run the command MULTIPLE (type it on the command prompt and press enter).
2. AutoCAD will ask to “Enter command name to repeat”. Type in whatever command you want to use multiple consecutive times.
3. AutoCAD will run the command entered.
4. After finishing using the command, press enter, just like you would do with any command.
5. AutoCAD will then automatically repeat (run again) the command entered in step number two.
6. AutoCAD will keep repeating the command entered until the user presses ESCAPE.

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92. The FLATTEN Command

Step by step

1. Type in “Flatten” in the command line.

2. Select the “Yes” option, so that the segments of my contouring 3D shapes will be trimmed, giving me a more refined 2D view of the ramp.

3. While the elevation will be changed to 0 once flattened, the flattened objects will retain the properties of the 3D object including original layers, line types, colors, and object types where possible.

4. Voila! You may see your 3D objects projected on a 2D plane view.

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93. Copying Names Objects Using Design Center

Step by step

1. Open the drawings from where you want to import/export named objects
2. Open Design Center windows by clicking on View / Palettes / DesignCenter or typing ADCENTER in the command line
3. In the Open Drawings tab click on the object type you want to copy and do right click and copy on the specific named object
4. Click in the AutoCAD destination drawing window
5. Right-click and paste from the cursor menu

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94. The ARCTEXT Command

Step by step

1. Head to the command prompt and type ARCTEXT, press enter when done.

2. The program will ask to select either an Arc or an ArcAlignedText, the latter being an already created annotation along an arc.

3. Once selected, a window will pop up. The window will display a variety of options regarding how the user wants to display the annotation along the arc.

   There are options regarding the text alignment, the annotation side (Concave or Convex) and direction, the text font, style and height, width factor and offset distances, among others.

4. Once all the options are configured, head to the text box and type in the annotation wanted for the selected arc.

5. Click OK.

6. The annotation should be displayed on the arc.

View tutorial video
Step by step

1. Click on your UCS icon at the bottom left of your AutoCAD interface
2. Click and drag the grip at the intersection of the X and Y axis
3. Drag the UCS to your desired coordinate or input the coordinate you want your UCS to be on
4. Once that is done make sure that it is aligned in terms of angles as well
5. Your UCS is now re-aligned

Step by step

1. Calling the command 3d align, I am going select the electricity room object that I wish to align
2. Selecting the floor points on the side of the plan that I wish to align to my drift
3. And the edge aligning on the ceiling corner
4. Now I am going to select my destination points
5. So the first point will be the corner here, the second point on the baseline, and the 3rd point on the edge of the ceiling
6. Now I am going to use the Promine subtract command to trim of overlapping areas
7. Voila, you can see the electricity shop is aligned with the drift segment!

View tutorial video
Step by step

1. Annotate your design in AutoCAD
2. Continue adding objects to your drawing
3. Once your drawing gets congested use the command textofront from the command line
4. The annotations are now in the front of your drawing

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97. The PURGE Command

Step by step

1. I have inserted my circle blocs to aid in ensuring that my turning distance for my vehicles will fit my machine size.

2. Now, after checking the safety turning distance, I am going to try delete all the circle blocs and try to delete my layer.

   Notice that AutoCAD delete layer will not permit me to delete the layer which seems to be empty

3. To resolve this stubborn layer, I am going to call the purge command

4. Here we see in the dialogue box a list of items I can purge

5. First I am going to purge the my circle bloc, this ensures that the safety distance layer will be empty

6. Next, I am going to purge the stubborn layer

7. Now to double check, I am going to the layer properties, and my stubborn layer is no longer in my drawing!

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98. Cntrl Key Shortcuts

- **Ctrl+0**: This shortcut cleans the screen by hiding all the ribbons and palettes to maximize the drawing area. This is especially useful when using small screens or when the drawing data is too big, so that extra drawing area is welcome. To bring back the ribbons we can just press Ctrl+0 again.

- **Ctrl+9**: Along with the combination Ctrl+0, this shortcut helps maximizing the drawing area by hiding the command line. This shortcut is particularly useful when wanting to get the most drawing area as possible. Just like Ctrl+0, to bring back the command line we just need to press Ctrl+9 again.

- **Ctrl+1**: This shortcut is a must-know, when pressing Ctrl+1, AutoCAD brings the properties palette, which allows us to see the properties of a selected object. To hide it, we can just press Ctrl+1 again.

- **Ctrl+8**: This shortcut brings the QuickCalc palette, pretty handy when needing to run some numbers, when you want to get rid of it, you can just press Ctrl+8 again.

- **Ctrl+A**: When pressing Ctrl+A, AutoCAD selects all the objects in the drawing, except the ones that are froze, this a fast way of selecting all the objects.

- **Ctrl+F**: This shortcut turns the object snaps ON or OFF, it’s a quick way of enable or disable them when needed.

- **Ctrl+G**: This shortcut turns the grid ON or OFF, fast way to bring the grid on when needed, or get rid of it if it’s not wanted.

- **Ctrl+J**: This combination of keys repeats the last command used. For example, in this case, I can run the command PL to draw a drift segment. If I press Ctrl+J, then I can jump back to draw another polyline.

- **Ctrl+L**: When pressing these two keys, AutoCAD enables or disables the Ortho mode.

- **Ctrl+W**: This combination of keys turns the selection cycling ON or OFF. This tool is very useful when wanting to select objects that are overlapping, so knowing this shortcut is a fast way of enabling this option.

- **Ctrl+Tab**: This combination of keys moves us between drawings (tabs), very useful when we’re working on many drawings at the same time.

- Finally, I would like to tell you about some shortcuts that sometimes are overlooked or forgotten. Remember, that just like in any other application on Windows, you can use the Clipboard shortcuts on AutoCAD: **Ctrl+X, C, Shift+C, V and Shift+V**

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99. Search Named Objects From The Command Line

Step by step

1. Open the input search options by typing INPUTSEARCHOPTIONS in the command line
2. Click on Search content at command line and select the content type you want to search
3. Type the name of the layer you want to search from the command line
4. Turn that layer ON and make it current
5. You can also lock the layer, freeze it, rename it, etc.

View tutorial video
1. Click on your UCS icon at the bottom left of your AutoCAD interface
2. Click and drag the grip at the intersection of the X and Y axis
3. Drag the UCS to your desired coordinate or input the coordinate you want your UCS to be on
4. Once that is done make sure that it is aligned in terms of angles as well
5. Your UCS is now re-aligned

Step by step

1. Using the Promine Reference Surface command, I can create a reference surface indicating the position of my gas zone located underground.

2. Using the dynamic UCS object control, I am going to click on the reference surface, notice that the UCS coordinate has been updated.

3. Now I may insert the gas zone spheres with regards to the reference surface that I have drawn easily without having to change my UCS coordinate manually.

4. With the cut section command, I can produce a section view for drill planning showing the relative location of my gas zones and my drifts.

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101. Changing Mouse Wheel Settings

Step by step

1. Type ZOOMFACTOR into the command line
2. Select a number between 3 and 90. (3 is slow and 90 is fast)
3. Press enter, use the mouse wheel to zoom
4. Type ZOOMWHEEL into the command line
5. Select 0 or 1
6. 0 is the default (forward movement is zoom in) 1 is the inverse

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102. The Pushpin

Step by step

1. Select the AutoCad main menu
2. Observe the pushpin icon on the right next to the recent documents
3. Click on the pushpin
4. Now the drawing is not going to be removed from the recent documents
5. Click the pushpin again to free the drawing again

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103. Change Background Color

Step by step

1. Select the AutoCad main menu
2. Select Options
3. Select the ‘Display’ tab
4. Select ‘Color’
5. Choose the correct settings
6. Change the color setting in the top right

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