

Exploring the 2016 Dimension Tools in AutoCAD

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Class summary

Are you planning a move to AutoCAD 2016 software? Or perhaps you're already there! Either way, this session will get you fully up and running with the new dimension tools in AutoCAD software. We will cover from core concepts all the way through to the new DIM command and all its options (Angular, Baseline, Continue, Ordinate, Align, Distribute, Layer, and Undo). We will also go through tips and tricks for editing existing dimensions.

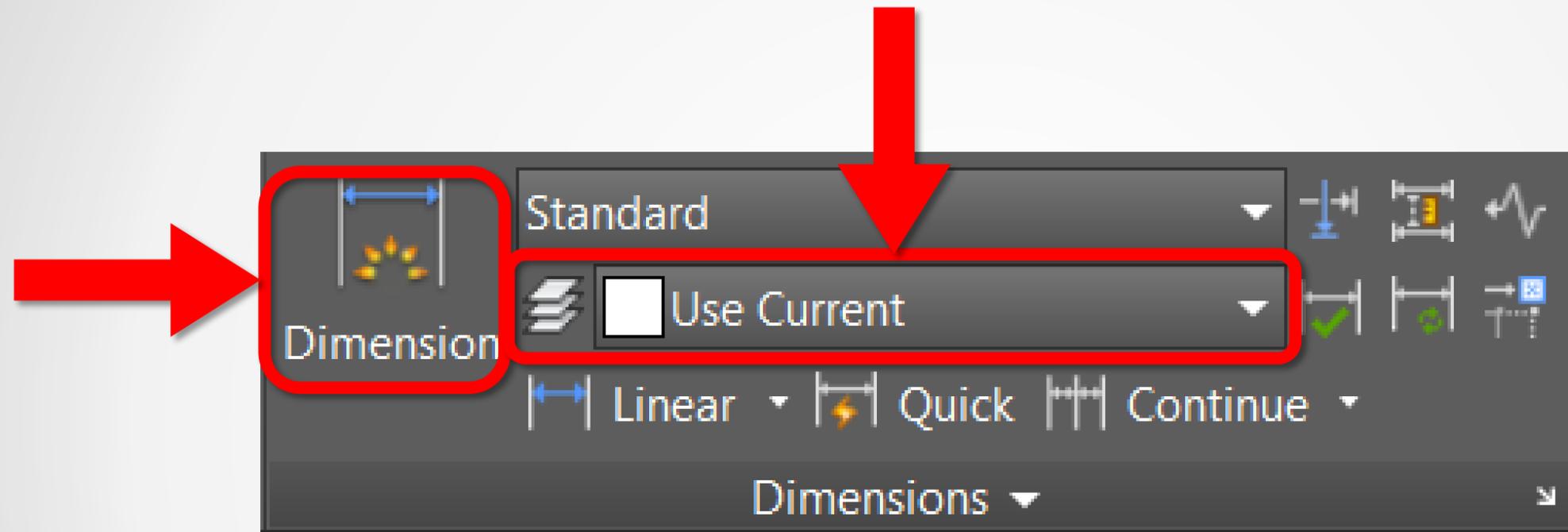
Key learning objectives

At the end of this class, you will be able to:

- Discover core concepts for AutoCAD dimensioning
- Learn how to create dimensions with the new dimension tools in AutoCAD 2016
- Learn how to use all options within the new dimension tools
- Learn how to identify the best ways to edit existing dimensions

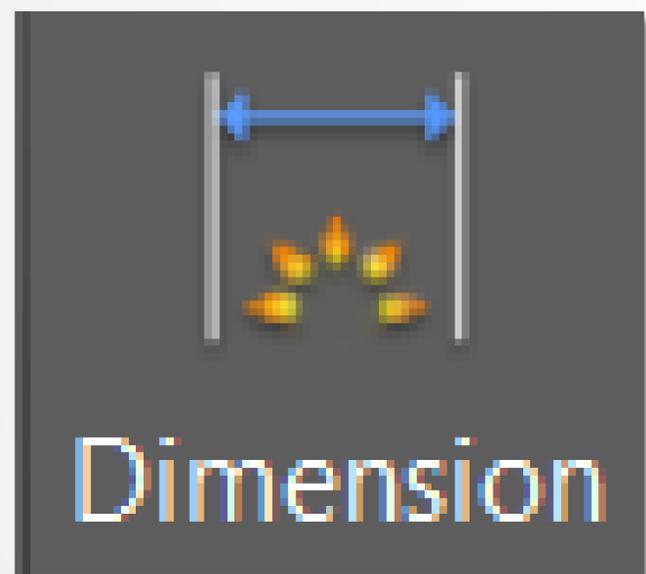
Discover Core Concepts for AutoCAD Dimensioning

Overview of the new dimension tools



 DIM Select objects or specify first extension line origin or [Angular Baseline Continue Ordinate align Distribute Layer Undo]:

Creating Dimensions with the New Dimension Tools



Exercise 1A – Placing basic dimensions (page 5)

1. Open the drawing file “**Site Plan - Dimensions**”.
2. Click on the **Annotate tab** on the ribbon.
3. Set the layer for the new dimensions to “**Dimensions**” in the **DIMLAYER** fly-out in the **Dimensions** panel.
4. Select the new **Dimension (DIM)** tool from the **Dimensions** panel on the ribbon.
5. Turn off the OSNAP (F3 or click on the OSNAP icon on the status bar).
6. Hover over the line that represents the left side of the house and then select it. Drag the dimension to the left of the house and pick a spot to place it. **(Don't hit ESC or ENTER)**
7. Hover over the arc that represents the bottom right corner of the property line and then select it. Drag the radius dimension to the outside of the property line and pick a spot to place it. **(Don't hit ESC or ENTER)**
8. Select the left property line and then select the bottom property line. Drag the angular dimension to the inside of the property lines and pick a spot to place it. **(Don't hit ESC or ENTER)**

Exercise 1A – Placing basic dimensions (continued)

9. Use <shift>+<right-click> to access the object snap menu (or whatever method you are comfortable with and pick the **Nearest** object snap and select the left side of the front walk leading to the house. Use <shift>+<right-click> to access the object snap menu again and pick the **Perpendicular** object snap and select the right of the front walk leading to the house. Drag the dimension and pick a spot to place it.
10. Hit **ESC** or **ENTER** to end the command.

Exercise 1B – Placing radius and diameter dimensions and switching settings (page 6)

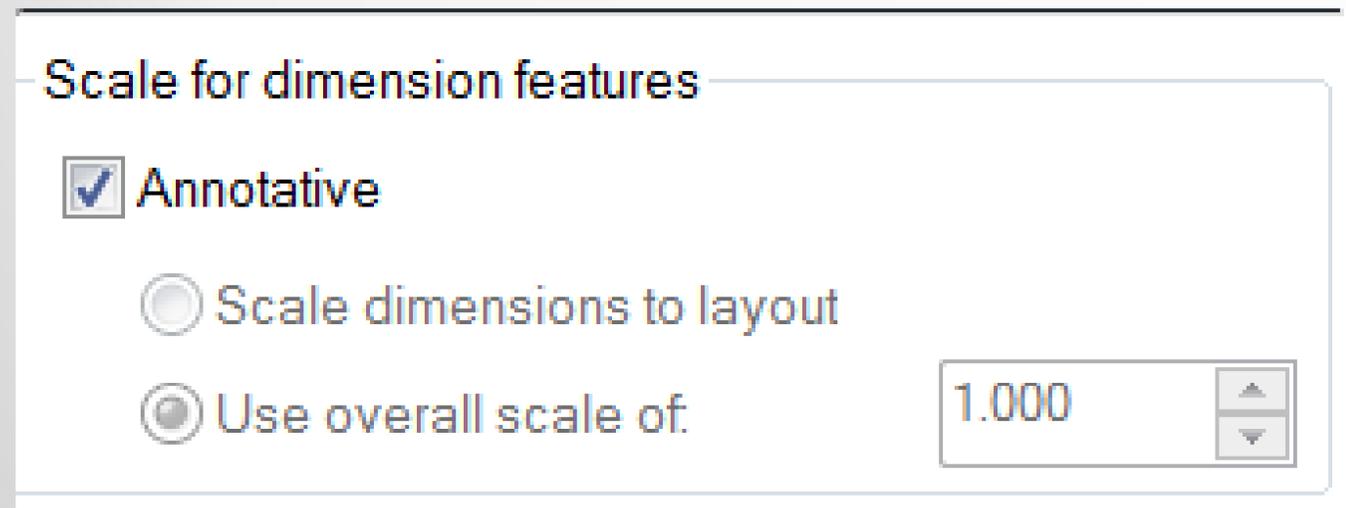
1. Open the drawing file “**Mechanical Dimensions**”.
2. Make sure you are on the **Annotate** tab on the ribbon.
3. Notice that the dimension layer has already been set.
4. Start the **Dimension (DIM)** command from the **Dimensions** panel.
5. Make sure **OSNAP (F3)** is off.
6. Select and place a **Diameter** dimensions on one of the circles.
7. Select and place a **Radius** dimensions on one of the arcs.
8. Hover over a circle, **right-click** and choose **Radius** to switch the dimensioning mode. Then select the circle and place the dimension.
9. Hover over an arc, **right-click** and choose **Dimension** to switch the dimensioning mode. Then select the arc and place the dimension.

Exploring the Dimension Options

- DIMLAYER command
- Baseline and Continue options

Dimensioning Tips

- Understanding how UNDO works with DIM
 - The DIM command is a single command and using any undo command after you exit the command will undo everything
- Annotative Dimension Styles (known issue)



Exercise 2A – Creating a new dimensioning layer with the DIMLAYER command (page 8)

1. Open the drawing file “**Main Floor Renovation**”.
2. Make sure you are on the **Annotate** tab on the ribbon.
3. Type **DIMLAYER** and hit **ENTER**.
4. Type **A-DIMS** for the layer name and hit **ENTER**. Notice the new layer name in the dimension panel.
5. Type **LA** for **Layer** or pick the layer button to open the layer dialog box. Notice that the new layer name is **NOT** in the layer list – yet.
6. Select the **Dimension (DIM)** command and place a linear dimension along the back side of the entire deck. (**remember you may want/need to turn off OSNAP**)
7. Hit the **ESC** or **ENTER** to end the DIM command.
8. Type **LA** for **Layer** and notice that the new layer is now in the list. The layer is not actually created until the first dimension is added.

*Exercise 2B – Creating **BASELINE** and **CONTINUE** dimensions with the **DIM** command (page 8)*

1. Switch to the “**Floor Plan**” layout tab from the bottom left corner of the screen.
2. Zoom in on the front of the house and then double-click to make sure you are inside the viewport.
3. Using the **DIM** command, place a linear dimension along the lower left of the house from the left corner to the left edge of the front door.
4. While you are still in the DIM command right-click on the left extension line of the linear dimension and choose **BASELINE** from the right-click menu.
5. Select the left extension line and then pick the endpoint (turn OSNAP back on to use endpoint snaps) on the right side of the front door to place the dimension. Then pick the endpoint on the lower right corner of the house.
6. What happened? Notice that the baseline dimensioning tool isn't spacing the dimensions properly. This is because there is a small problem with the dimension style.
7. Click on the **Undo** option inside of the DIM command twice to undo the two problem dimensions.
8. Click on the **DIMSTYLE** tool from the ribbon or type **D** and hit enter.

Exercise 2B – Creating **BASELINE** and **CONTINUE** dimensions with the **DIM** command (...continued)

9. Select the “**Architectural**” dimension style from the list and choose **Modify**.
10. Click on the **Fit** tab in the dimension style dialog box and then look for the **Annotative** option on the right side of the dialog box and **uncheck** it. Then click on **Scale Dimensions to Layout** and **re-check Annotative**. Then pick **OK** and then **CLOSE**.
11. Now **repeat steps 4-5** to create the baseline dimensions again. This time the dimensions should work properly.
12. Zoom/pan to the top of the drawing. You should still be in the **DIM** command, if not start the **DIM** command. Turn off **OSNAP**.
13. Right-click on the right extension line of the existing linear dimension and choose **CONTINUE** and then select the right extension line. Turn on **OSNAP** and select the right endpoint of the sun room and then the right endpoint of the garage to create continued dimensions along the back of the house.

Identifying the Best Methods to Edit Existing Dimensions

Dimension Editing Options

- Overlapping dimension editing options
- Editing with grips
- Double-click editing for the dimension text
- Right-click dimension menu
- Properties Palette
- Adjusting dimension spacing (DIMSPACE)
- Breaking dimension/extension lines (DIMBREAK)

Exercise 3A – Overlapping an existing dimension (page 9)

1. Open the drawing file “**Site Plan - Dimensions**”.
2. Make sure you are on the **Annotate** tab on the ribbon.
3. Using the new **DIM** command, place a linear dimension on the line representing the front of the house.
4. Place another dimension that would represent the distance from the right front corner of the house to the right edge of the front sidewalk, when you place the dimension put it on top of your last linear dimension. You will automatically get a prompt on the command line that gives you the option of **Move away/Break up/Replace/None**. Choose **Break up** and the dimension will be split.
5. Repeat step 3 placing the linear dimension over the top of the dimensions you just split and this time choose the **Replace** option. You will see that both dimensions are deleted and the new dimension is placed.
6. Place a linear dimension using the endpoint object snap that defines the length along the entire back of the house.
7. Place a second linear dimension that represents the length of the back wall that juts out from the back of the house and place that dimension directly on top of the dimension in step 6. Choose the **Move away** option from the command line. Notice that the first dimension is pushed back to accommodate the new dimension.

Exercise 3B – Editing with grips (page 10)

1. Open or switch to the drawing file “**Main Floor Renovation**”.
2. Zoom in to the kitchen living room area and place a linear and then a continued dimension from the front wall of the living room into the kitchen.
3. Hit **ESC** or **Enter** to end the dimension command.
4. Select one of the dimensions (it doesn't matter which one).
5. Hover over a grip that is located on the extension line of the dimension and choose the **Stretch Dimension Group** option. Drag the “dimension group” and place it at a new location.
6. Hit **ESC** to clear any selections.
7. Select the dimension that represents the depth of the kitchen island. Hover over the grip that is located on the extension line at the top end of the dimension and choose **Continue Dimension**. Place additional dimensions using endpoint object snaps.
8. Select any dimension and hover over the grip that is on the text and choose the **Move Text Only** option. Place the text in a new location.
9. Try out other grip options if you have extra time.
10. Hit **ESC** when you are finished to clear any selections.

Exercise 3C – Double-click and right-click dimension editing (page 10)

1. Stay in the drawing file “**Main Floor Renovation**”.
2. Double-click on any one of your dimensions, the text will highlight and be available to edit. Delete the existing text, type in **ADDITIONAL NOTES**, then use the arrows to drag the text so everything is on one line and then click outside of the text. The new text will show in place of the dimension.
3. Double-click on the same dimension again, delete the “ADDITIONAL NOTES” text value and type in <> (lesser than and greater than symbols). Then click outside the text. The dimension will now show its true value.
4. Select any existing dimension and right-click to see the menu. Notice the special dimension options – **Dimension Style, Precision, and Remove Style Override** options. Experiment with these options as time permits.

Dimension Text Editing Tip!

To place additional text below the dimension line use the special characters \X after the initial dimension (must be a capital X with a space before the \ and after the X).

Exercise 3D – Properties palette editing, DIM – Distribute/Align, and DIMBREAK (page 11)

1. Stay in the drawing file “**Main Floor Renovation**”.
2. Select any existing dimension, right-click, then choose **Properties**.
3. In the Properties Palette scroll down to the **Text** section and look for the **Text view direction** and switch it to **Right-to-Left**.
4. Then look for the **Text pos vert** and set it to **Below**.
5. Create a series of **Baseline** dimensions using the **DIM** command anywhere on the drawing. Hit **ESC** or **Enter** to end the command.
6. Delete one of the inside dimensions.
7. Click on the new **DIM** tool and choose the **Distribute** option from the command line.
8. Choose the **Offset** option from the command line.
9. Select the most inside dimension and then any other remaining dimensions and press enter. The dimensions will now be properly spaced without having to manipulate each dimension individually.
10. Place some linear dimensions next to each other, but don't line them up.

Exercise 3D – Properties palette editing, DIM – Distribute/Align, and DIMBREAK (...continued)

11. Choose the **Align** option from the command line and select the dimension that is in the correct position, then select any dimensions you want to match and hit enter. All the dimensions will now line up correctly.
12. Hit **ESC** to end the DIM command.
13. Draw a line through anyone of your dimensions.
14. Choose the **DIMBREAK** command from the **Dimensions** panel on the **Annotate** tab or type the command.
15. Select one of your dimensions that crosses the line you placed and then select the line. The dimension will “break” around the object.

Dimension BreakingTip!

You can break dimensions around any object in AutoCAD. Including text, lines, leaders, other dimensions, etc... You can also remove the break by using the same command with the **Remove** option.

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