DRAW

Line

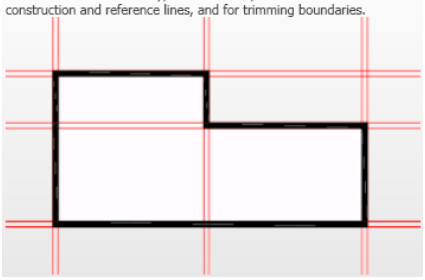
Creates straight line segments

With LINE, you can create a series of contiguous line segments. Each segment is a line object that can be edited separately.

Construction Line

Creates a line of infinite length

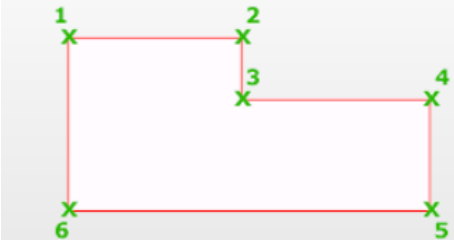
Lines that extend to infinity, such as xlines, can be used to create construction and reference lines, and for trimming boundaries.



Polyline

Creates a 2D polyline

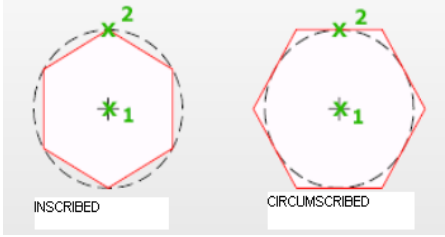
A 2D polyline is a connected sequence of segments created as a single planar object. You can create straight line segments, arc segments, or a combination of the two.



Polygon

Creates an equilateral closed polyline

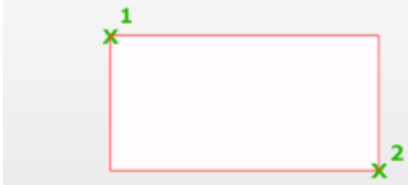
You can specify the different parameters of the polygon including the number of sides. The difference between the inscribed and circumscribed options is shown.



Rectangle

Creates a rectangular polyline

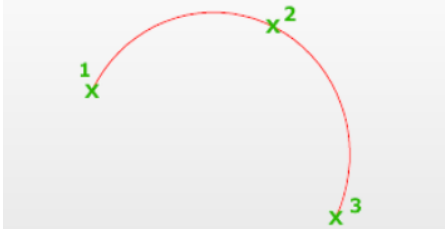
With this command, you can specify the rectangle parameters (length, width, rotation) and control the type of corners (fillet, chamfer, or square).



Arc

Creates an arc using three points

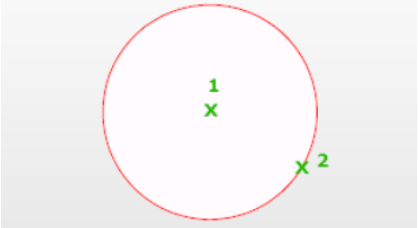
To create an arc, you can also specify combinations of center, endpoint, start point, radius, angle, chord length, and direction values.



Circle

Creates a circle using a specified radius

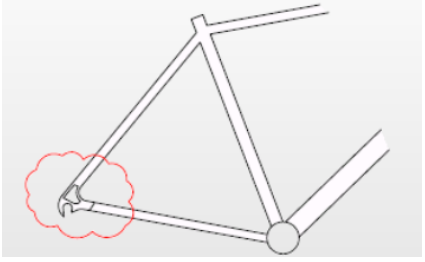
To create a circle, you can also specify the diameter, center point, points on the circumference, and tangents.



Revision Cloud

Creates a revision cloud using a polyline

You can create a new revision cloud by dragging your cursor, or you can convert a closed object such as an ellipse or polyline into a revision cloud. Use revision clouds to highlight parts of a drawing that are being reviewed.

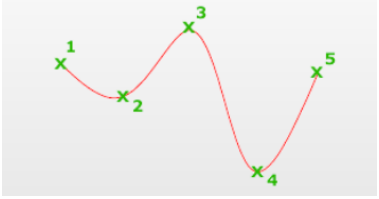


DRAW (Cont.)

Spline

Creates a smooth curve that passes through or near specified points

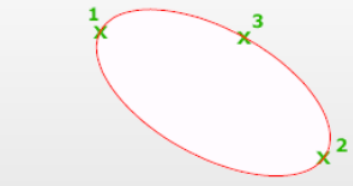
You can control the maximum distance between the B-spline curve and the fit points, shown in the illustration, by changing the value for the fit tolerance with SPLINEDIT. You can also display the control frames for B-splines with SPLFRAME.



Ellipse

Creates an ellipse or an elliptical arc

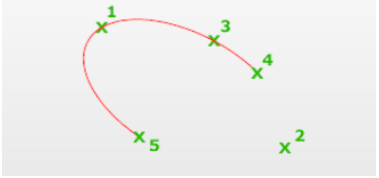
The first two points of the ellipse determine the location and length of the first axis. The third point determines the distance between the center of the ellipse and the end point of the second axis.



Ellipse Arc

Creates an elliptical arc

The first two points of the elliptical arc determine the location and length of the first axis. The third point determines the distance between the center of the elliptical arc and the endpoint of the second axis. The fourth and fifth points are the start and end angles.



Insert Block

Inserts a block or a drawing into the current drawing

A good practice is to insert a block from a block library. A block library can be a drawing file that stores related block definitions or it can be a folder that contains related drawing files, each of which can be inserted as a block. With either method, blocks are standardized and accessible to multiple users. You can insert your own blocks or use the blocks provided in the DesignCenter or tool palettes.

Make Block

Creates a block definition from selected objects

Point

Creates multiple point objects

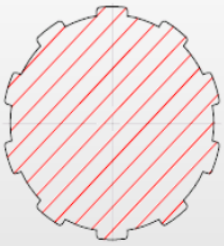
Use DDPTYPE to specify point size and styles easily. You can also use MEASURE and DIVIDE to create points along an object.

Hatch...

Fills an enclosed area or selected objects with a hatch pattern or fill

You can choose from several methods to specify the boundaries of a hatch.

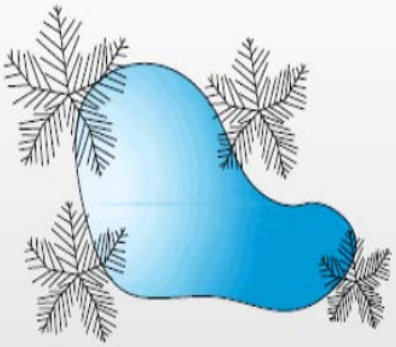
- Specify a point in an area that is enclosed by objects.
- Select objects that enclose an area.
- Drag a hatch pattern into an enclosed area from a tool palette or DesignCenter.



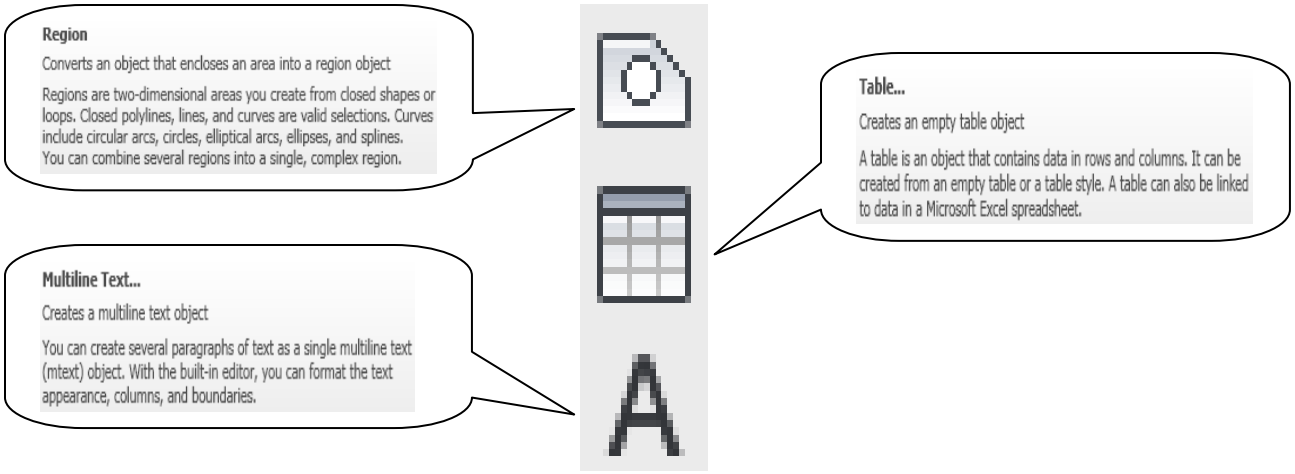
Gradient...

Fills an enclosed area or selected objects with a gradient fill

A gradient fill creates a transition between shades of one color or betwen two colors.



DRAW (Cont.)

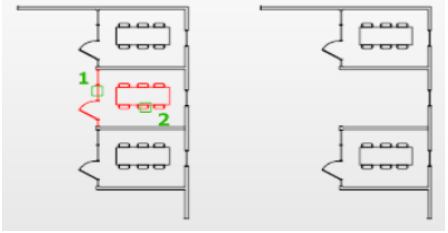

Region
Converts an object that encloses an area into a region object
Regions are two-dimensional areas you create from closed shapes or loops. Closed polylines, lines, and curves are valid selections. Curves include circular arcs, circles, elliptical arcs, ellipses, and splines. You can combine several regions into a single, complex region.
Table...
Creates an empty table object
A table is an object that contains data in rows and columns. It can be created from an empty table or a table style. A table can also be linked to data in a Microsoft Excel spreadsheet.
Multiline Text...
Creates a multiline text object
You can create several paragraphs of text as a single multiline text (mtext) object. With the built-in editor, you can format the text appearance, columns, and boundaries.

MODIFY

Erase

Removes objects from a drawing

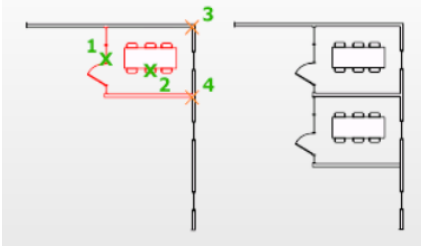
Instead of selecting objects to erase, you can enter an option, such as **L** to erase the last object drawn, **p** to erase the previous selection set, or **ALL** to erase all objects. You can also enter **?** to get a list of all options.



Copy

Copies objects a specified distance in a specified direction

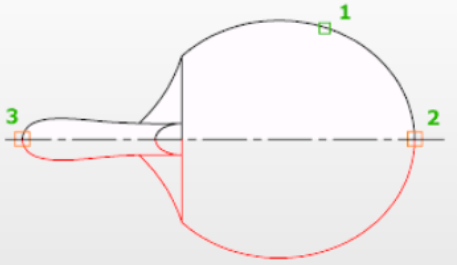
With the COPYMODE system variable, you can control whether multiple copies are created automatically.



Mirror

Creates a mirrored copy of selected objects

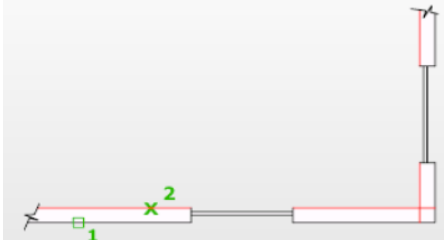
You can create objects that represent half of a drawing, select them, and mirror them across a specified line to create the other half.



Offset

Creates concentric circles, parallel lines, and parallel curves

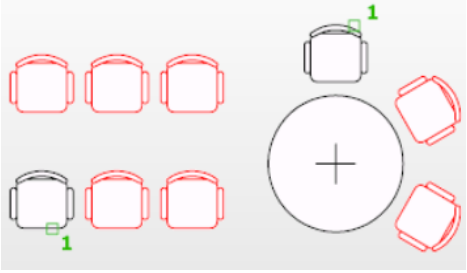
You can offset an object at a specified distance or through a point. After you offset objects, you can trim and extend them as an efficient method to create drawings containing many parallel lines and curves.



Array...

Creates multiple copies of objects in a pattern

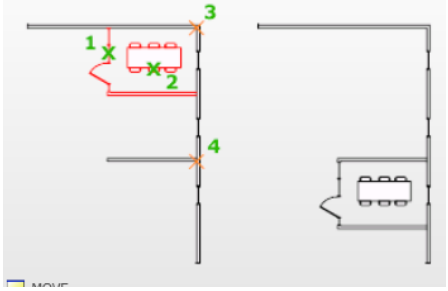
You can create copies of objects in a regularly spaced rectangular or polar array.



Move

Moves objects a specified distance in a specified direction

Use coordinates, grid snaps, object snaps, and other tools to move objects with precision.



MODIFY (Cont.)

Scale

Enlarges or reduces selected objects, keeping the proportions of the object the same after scaling

To scale an object, specify a base point and a scale factor. The base point acts as the center of the scaling operation and remains stationary. A scale factor greater than 1 enlarges the object. A scale factor between 0 and 1 shrinks the object.

Stretch

Stretches objects crossed by a selection window or polygon

Objects that are partially enclosed by a crossing window are stretched. Objects that are completely enclosed within the crossing window, or that are selected individually, are moved rather than stretched. Several objects such as circles, ellipses, and blocks, cannot be stretched.

Trim

Trims objects to meet the edges of other objects

To trim objects, select the boundaries. Then press ENTER and select the objects that you want to trim. To use all objects as boundaries, press ENTER at the first Select Objects prompt.

Extend

Extends objects to meet the edges of other objects

To extend objects, first select the boundaries. Then press ENTER and select the objects that you want to extend. To use all objects as boundaries, press ENTER at the first Select Objects prompt.

Break at Point

Breaks the selected object at a single point

With this tool, you can break objects such as a long line, open polyline, or arc into two contiguous objects.

Break

Breaks the selected object between two points

You can create a gap between two specified points on an object, breaking it into two objects. If the points are off of an object, they are automatically projected on to the object. BREAK is often used to create space for a block or text.

Join

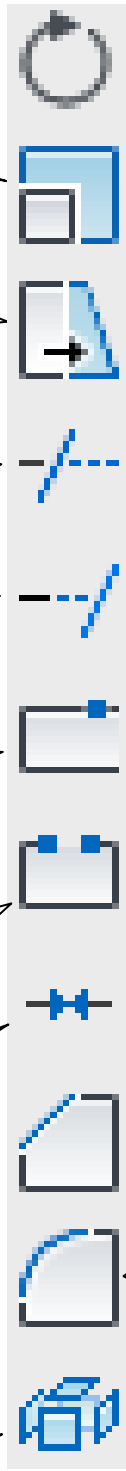
Joins similar objects to form a single, unbroken object

Objects to be joined must be located in the same plane. Each type of object has additional restrictions, listed in the Help system.

Explode

Breaks a compound object into its component objects

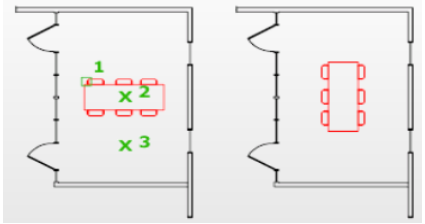
Explodes a compound object when you want to modify its components separately. Objects that can be exploded include blocks, polylines, and regions, among others.



Rotate

Rotates objects around a base point

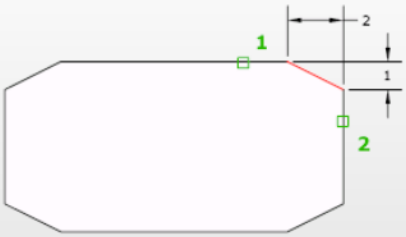
You can rotate selected objects around a base point to an absolute angle.



Chamfer

Bevels the edges of objects

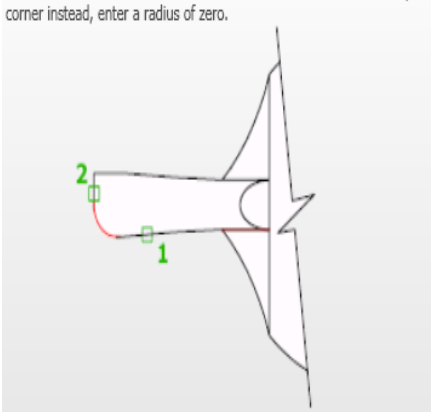
The distances and angles that you specify are applied in the order that you select the objects.



Fillet

Rounds and fillets the edges of objects

In the example, an arc is created that is tangent to both of the selected lines. The lines are trimmed to the ends of the arc. To create a sharp corner instead, enter a radius of zero.

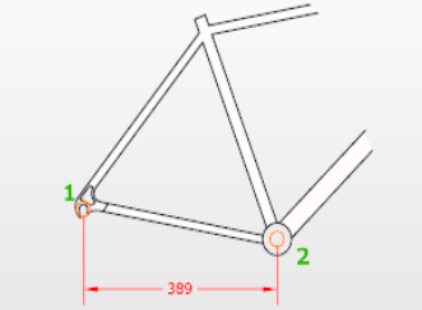


DIMENSI

Linear

Creates a linear dimension

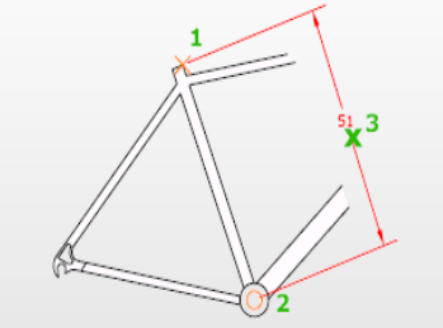
Creates a linear dimension with a horizontal, vertical, or rotated dimension line.



Aligned

Creates an aligned linear dimension

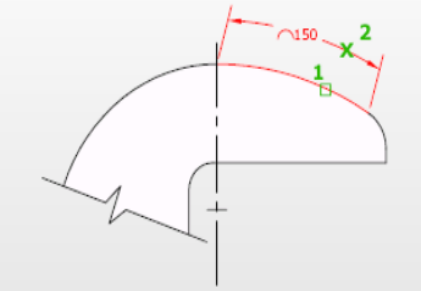
Creates a linear dimension that is aligned with the origin points of the extension lines.



Arc Length

Creates an arc length dimension

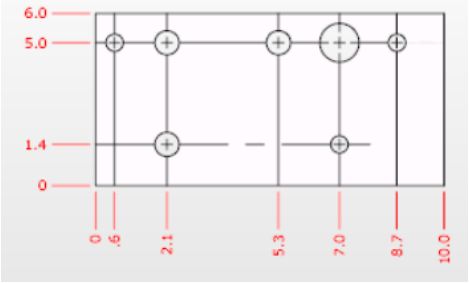
Arc length dimensions measure the distance along an arc or polyline arc segment. The extension lines of an arc length dimension can be orthogonal or radial. An arc symbol is displayed either above or preceding the dimension text.



Ordinate

Creates ordinate dimensions

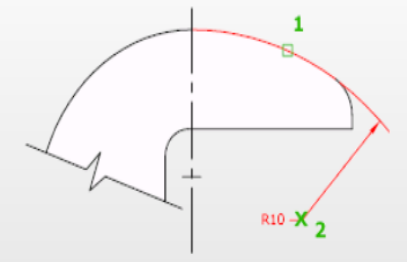
Ordinate dimensions measure the horizontal or vertical distance from an origin point called the datum to a feature, such as a hole in a part. These dimensions prevent escalating errors by maintaining accurate offsets of the features from the datum.



Radius

Creates a radius dimension for a circle or an arc

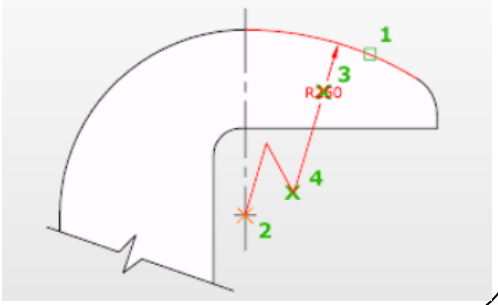
Measures the radius of a selected circle or arc and displays the dimension text with a radius symbol in front of it. You can use grips to reposition the resulting radius dimension easily.



Jogged

Creates jogged dimensions for circles and arcs

Creates jogged radius dimensions when the center of an arc or circle is located off the layout and cannot be displayed in its true location. The origin point of the dimension can be specified at a more convenient location called the center location override.

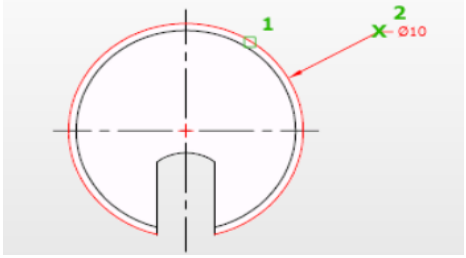


DIMENSI (Cont.)

Diameter

Creates a diameter dimension for a circle or an arc

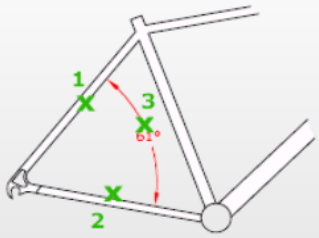
Measures the diameter of a selected circle or arc, and displays the dimension text with a diameter symbol in front of it. You can use grips to easily reposition the resulting diameter dimension.



Angular

Creates an angular dimension

Measures the angle between selected objects or 3 points. Objects that can be selected include arcs, circles, and lines, among others.



Quick Dimension

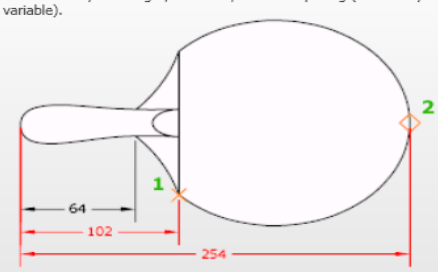
Quickly creates a series of dimensions from selected objects

This command is particularly useful for creating a series of baseline or continued dimensions, or for dimensioning a series of circles and arcs.

Baseline

Continues a linear, angular, or ordinate dimension from the baseline of the previous or selected dimension

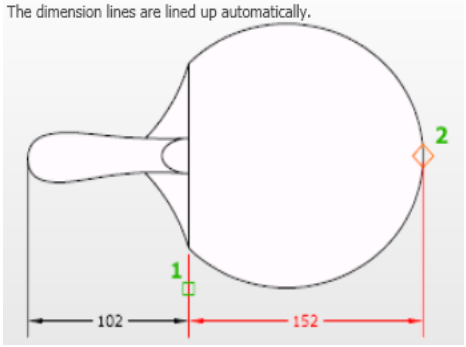
The default spacing between baseline dimensions can be set from the Dimension Style Manager, Lines tab, Baseline Spacing (DIMDLI system variable).



Continue

Creates a linear, angular, or ordinate dimension that starts from the second extension line of the previous or selected dimension

The dimension lines are lined up automatically.



Dimension Space

Adjusts the spacing between linear dimensions or angular dimensions

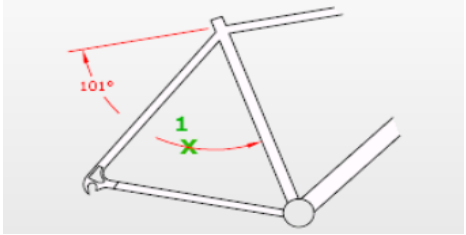
The spacing between parallel linear dimensions, or between angular dimensions that share a common vertex is adjusted automatically. The dimension lines are spaced equally. You can also align linear or angular dimensions by using a spacing value of 0.

DIMENSI (Cont.)

Dimension Break

Breaks or restores dimension and extension lines where they cross other objects

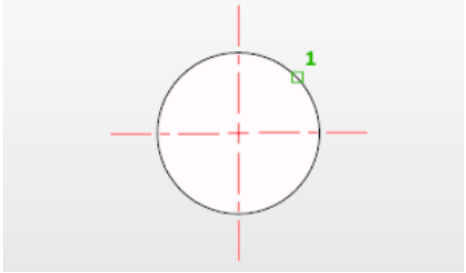
Dimension breaks can be added to linear, angular, and ordinate dimensions, among others.



Center Mark

Creates the center mark or the centerlines of circles and arcs

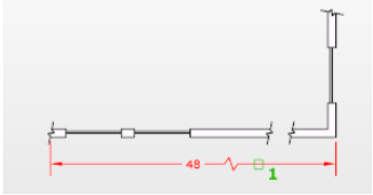
The default sizes of the center mark components can be set from the Dimension Style Manager, Symbols and Arrows tab, Center Marks (DIMCEN system variable).



Jogged Linear

Adds or removes a jog line on a linear or aligned dimension

Jog lines in a dimension indicate a break in the objects being dimensioned. The dimension value represents the actual distance, rather than the measured distance in the drawing.



Dimension Text Edit

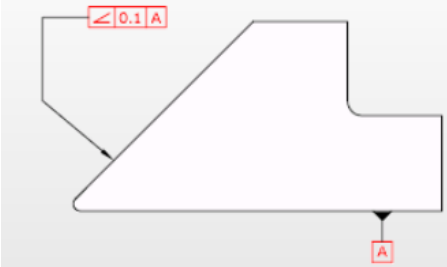
Moves and rotates dimension text and relocates the dimension line

The companion command that edits the dimension text and changes the extension line angle is DIMEDIT.

Tolerance...

Creates geometric tolerances contained in a feature control frame

Geometric tolerances show acceptable deviations of form, profile, orientation, location, and runout. Feature control frames can be created with leader lines using TOLERANCE, LEADER, or QLEADER.



Inspection

Adds or removes inspection information for a selected dimension

Inspection dimensions specify how frequently manufactured parts should be checked to ensure that the dimension value and tolerances of the parts are within the specified range.

Dimension Edit

Edits dimension text and extension lines

Rotates, modifies, or restores dimension text. Changes the oblique angle of extension lines. The companion command that moves text and the dimension line is DIMTEDIT.

Dimension Update

Updates dimension objects with the current dimension style

You can save or restore dimensioning system variables to a selected dimension style.

Dimension Style...

Creates and modifies dimension styles

A dimension style is a named collection of dimension settings that control the appearance of dimensions. You create dimension styles to specify the format of dimensions quickly, and to ensure that dimensions conform to standards.