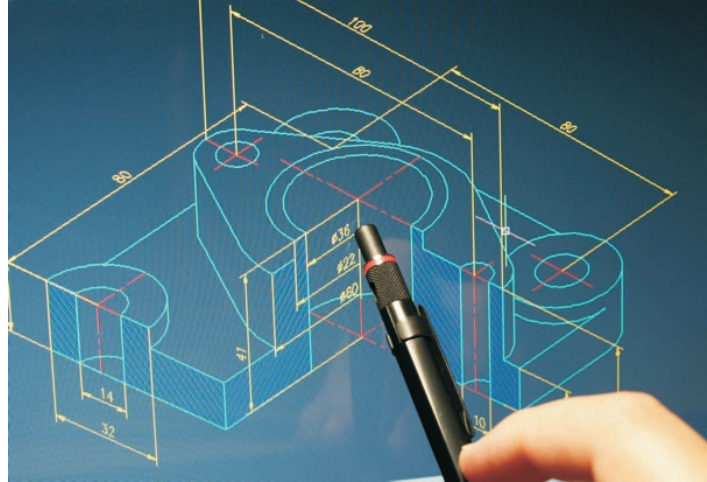


Centermarks: Settings That Control Appearance and Deployment

A CENTERMARK is an associative cross-shaped object at the center of a circle or arc. Within AutoCAD there are hundreds of settings/variables that affect how objects look and behave. Some are saved in each drawing and others are saved in the application profile. Centermarks are saved in one specific drawing and do not carry over to another drawing. To create consistent centermarks from drawing-to-drawing, you must set up centermark variables within a template drawing.



Objective:



Describe variables that control the appearance and the deployment of centermarks.

Key Terms:



centercrossgap
centercrosssize
centerdisassociate
centerexe
centerlayer

centerltscale
centerltype
centermark
centermarkexe
centerrassociate

centertypefile
dimcen
dimcenter
properties palette
variable

Variables Affecting the Look of a Centermark

A **centermark** is an associative cross-shaped object at the center of a circle or arc. The appearances of centermarks are controlled by centermark variables. A **variable** is a setting that

determines how something will look when the object is deployed in AutoCAD. Centermark variables can be accessed via the properties palette. The **properties palette** is a popup menu that lists the attributes of the object selected on the screen. Centermark variables can be changed using the properties palette. The CAD operator/drafter can also use an entity's grips to change the settings of a centermark.

CENTERMARK VARIABLES

Centercrossgap

The **centercrossgap** variable is the gap between the centermark and its extension lines as shown in FIGURE 1. This variable can be specified as an absolute number, a number relative to the size of the arc or circle, or by linetype. Initial value is 0.05x. Centercrossgap variable options are:

- ◆ Absolute number would be a real number like .125/1/8 and determines the distance between the line segment of the centermark and its extension lines in units.
- ◆ Relative number specifies a value relative to the diameter of an arc or circle such as 0.1X which is 1/10th of the circle or arc's diameter. This number must be a positive number.
- ◆ ByLineType setting derives the gap or cross distance from the linetype assigned to the centermark.

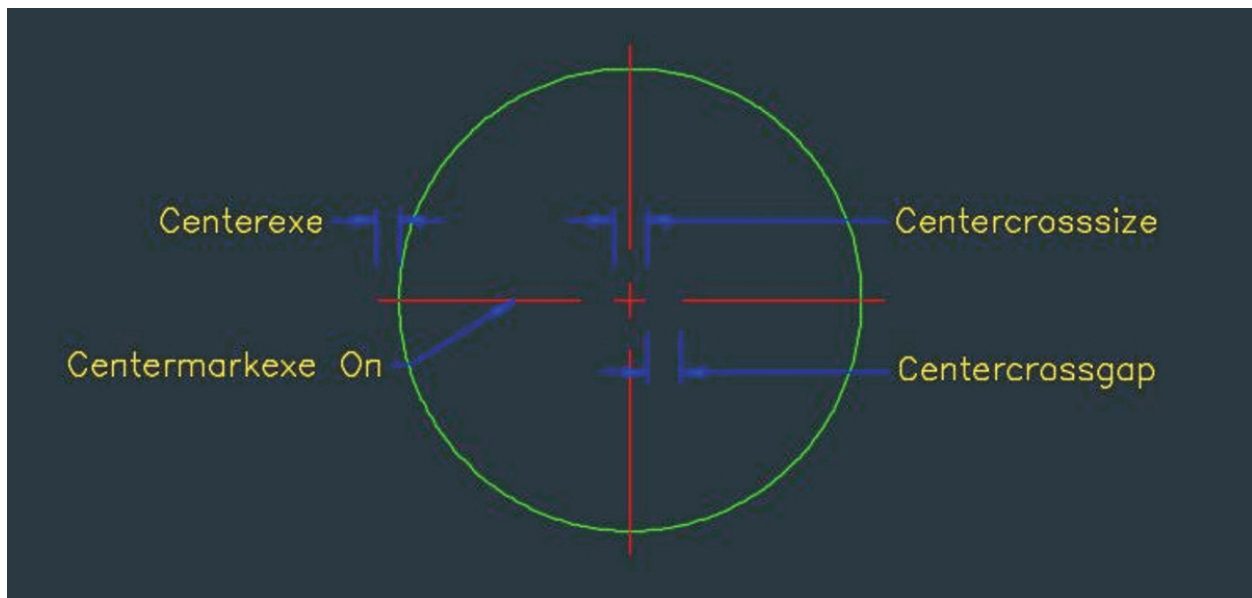


FIGURE 1. AutoCAD variables affect the look of a centermark. (AutoCAD screen shot reprinted with the permission of Autodesk, Inc.)

Centercrosssize

The **centercrosssize** variable is the size of the centermark at the very center as shown in FIGURE 1. Initial value: 0.01X. The following are the centercrosssize variable options:

- ◆ Absolute number would be a real number like .125/1/8 and determines the line segment of the centermark in units.
- ◆ Relative number that determines a value relative to the diameter of a circle or arc. Must be a positive number followed by an X. Example: 0.1X.
- ◆ ByLineType setting derives the gap or cross distance from the linetype assigned to the centermark.

Centerexe

The **centerexe** variable is the length of the centermark's extensions as shown in FIGURE 1. This is how far past the edge of the circle or the arc the extension lines travel. Initial value is 0.1200.lsit.

Centerlayer

The **centerlayer** variable specifies the default layer for new centermarks. Initial value is use current.

Centerltscale

The **centerltscale** variable is the linetype scale used by centermarks. Initial value is 1.000.

Centerltype

The **centerltype** variable is the linetype used by centermarks. The initial value: center2. Centerltype variable options are:

- ◆ Use current layer
- ◆ By layer
- ◆ Any valid linetype



FURTHER EXPLORATION...

ONLINE CONNECTION: Centermarks and Centerlines in AutoCAD

AutoCAD 2017 marked the arrival of new commands and variables for centermarks and centerlines. These new commands and variables were introduced to control the look and deployment of centermarks. To learn more, go to the CADpro Tips article, "Centermarks and Centerlines in AutoCAD," at <https://cadprotips.com/2017/01/02/center-marks-and-centerlines-in-autocad/>.

Centerlogfile

The **centerlogfile** variable is the lintype file used to create centermarks. The initial value is acad.lin.

Centermarkexe

The **centermarkexe** variable controls whether the extension lines are extended automatically from new centermarks as shown in figure 1. Centermarkexe variable options are:

- ◆ Off = Hides the extension lines extending from the centermark
- ◆ On = Displays the extension lines extending from the centermark.

Centerdisassociate and Centerassociate

The **centerdisassociate** command removes associativity of centermarks from the objects they define.

The **centerrassociate** command associates or re-associates a centermark object of selected objects.

Dimcen

The **dimcen** variable controls the creation of circle and arc centermarks. This is the method employed before the 2017 AutoCAD version and is still a valid method of controlling the look of centermarks. Initial value is 0.0900.

CENTERMARK DEPLOYMENT

AutoCAD has two methods of deploying centermarks. The first method is via the centermark icon in the centerlines menu of the annotation ribbon. (See VM–B.) This command, by default, deploys associative, cross-shaped centermarks of selected circles and arcs. The second method is at the dimcenter keyboard command. The **dimcenter command** creates the cross-shaped non-associative centermarks of selected circles and arcs.

Centermark Icon

Before deploying the centermark icon, the CAD operator/drafter must set the centermark variables to enable the desired look of the mark. (See VM–B.) Following are the variable settings that adhere to industry standards. These variable settings deploy a centermark that looks like the centermarks using the ‘dimcen’ command previous to the 2017 release of AutoCAD. See FIGURE 2.

- ◆ Centercrossgap is set to 0.5x. This setting deploys a centermark with a gap between the center cross shape and the extension line 1/8 the size of the circle or arc.

- ◆ Centercrosssize is set to 0.1x. This setting deploys a centermark with the center cross shape 1/10 the size of the circle or arc.)
- ◆ Centerexe is set to 0.1250x the scale factor.
- ◆ Centerlayer is set to a layer named centermark (or whatever the CAD operator/drafter chooses) with the line type continuous and the line color red.
- ◆ Centerltscale is set to .5x the scale factor.
- ◆ Centerltype is set to 'continuous.'
- ◆ Centerltypefile is set to 'acad.lin.'
- ◆ Centermarkexe is set to 'on.'

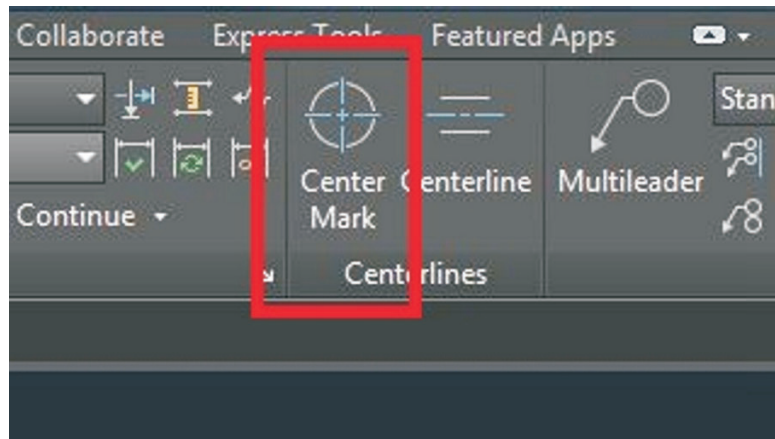


FIGURE 2. AutoCAD's centermark deployment icon is shown in the centerlines menu. (AutoCAD screen shot reprinted with the permission of Autodesk, Inc.)

Keyboard Commands

Deploying centermarks using the **dimcenter** keyboard command creates the cross-shaped non-associative centermarks of selected circles and arcs. (See FIGURE 1.) The following variable setting will deploy industry standard centermarks. The CAD operator/drafter would follow these steps:

- ◆ Step 1: Determine the radius of the circle and divide by 10. This action turns the answer to a negative number. (e.g., A circle with the radius of 10 is divided by 10 resulting in a negative number: -1.)
- ◆ Step 2: Type 'dimcen' at the keyboard and enter the 'answer' from Step 1 (-1).
- ◆ Step 3: Type 'dimcenter' at the keyboard and pick the circle or arc. This action deploys an industry standard centermark.

Summary:



A centermark is an associative cross-shaped object at the center of a circle or arc. Within AutoCAD there are hundreds of settings/variables that affect how objects look and behave. Some are saved in each drawing and others are saved in the application profile. Centermarks are saved in the drawing and do not carry over to another drawing. So, if you want consistent centermarks from drawing to drawing, you set up centermark variables within a template drawing.

AutoCAD has two methods of deploying centermarks. The first method is via the centermark icon in the centerlines menu of the annotation ribbon. This command, by default, deploys associative, cross-shaped centermarks of selected circles and arcs. The second method is at the dimcenter keyboard command. The ‘dimcenter command’ creates the cross-shaped non-associative centermarks of selected circles and arcs.

Checking Your Knowledge:



1. Differentiate between the centermark produced with the icon and the centermark created with the dimcenter command?
2. What controls the appearance of centermarks?
3. How are centermark variables accessed?
4. What does the centermark command produce?
5. Differentiate between the centerdisassociate command and the centerrassociate command.

Expanding Your Knowledge:



Read more about the new AutoCAD 2017 commands at <http://www.ccadinc.com/autocad-tutorials-2017-centerline-centermark-settings.html>.

Web Links:



AutoCAD 2017-Centermarks

<https://www.cadlinecommunity.co.uk/hc/en-us/articles/213055365-AutoCAD-2017-Centre-marks-or-Center-marks->

Centermark Size and Gap Reference

<https://knowledge.autodesk.com/support/autocad/learn-explore/caas/CloudHelp/cloudhelp/2018/ENU/AutoCAD-Core/files/GUID-F2AC5958-8AE9-4E17-8E0F-03761BEB4814-htm.html>

Commands for Centermarks and Centerlines

<https://knowledge.autodesk.com/support/autocad/learn-explore/caas/CloudHelp/cloudhelp/2018/ENU/AutoCAD-Core/files/GUID-33A38BD6-03D0-426C-B62E-A83DC3E1F51D-htm.html>