



**Thank you for installing the AutoCAD Express Tools!**

The AutoCAD Express Tools are a library of productivity tools designed to help you extend the power of AutoCAD. They are easy to use, easily integrated into your menus and toolbars, and cover a wide range of AutoCAD functions, including dimensioning, drawing, object selection, object modification, and much more.

The AutoCAD Express Tools are unsupported. However, if you have questions or comments about an Express Tool, you can visit the [AutoCAD Express Tools newsgroup](#). In general, these utilities are provided as a courtesy to you by Autodesk and Autodesk does not assume any responsibility for their successful operation.

To activate the AutoCAD Express Tools, use the [EXPRESSTOOLS](#) command.

The library files for the AutoCAD Express Tools are not loaded at AutoCAD startup by default. This was done to reduce the time needed to load AutoCAD. The libraries load the first time that an Express Tools command is issued, creating a delay the first time you use an Express Tool in an AutoCAD session. You can use the EXPRESSTOOLS command to force the AutoCAD Express Tools libraries to be loaded at the beginning of the AutoCAD session.

If the AutoCAD Express Tool commands are available on the command line but the Express menu is not displayed, use the [EXPRESSMENU](#) command to display the menu.

Uses a block (or entities within a block reference) as a boundary to extend objects in a drawing.

Command: BEXTEND

Select edges for extend: *Select block to use as the extending edge*

Specify object to extend or shift-select to trim or

[Fence/Crossing/Project/Edge/eRase/Undo]: *Select object to extend*

See also: [BTRIM](#)

Uses a block (or entities within a block reference) as a boundary to trim objects in a drawing.

Command: BTRIM

Select cutting edge: *Select block to use as the cutting edge*

Specify object to trim or shift-select to extend or

[Fence/Crossing/Project/Edge/eRase/Undo]: *Select object to trim*

See also: [BEXTEND](#)

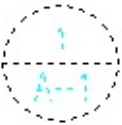
Command: BURST

Select objects: *Use an object selection method*

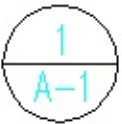
**Usage Example:**

Explode attributes and convert them to text objects.

*Select a block containing two attributes:*



*Block exploded and attribute values converted to text:*



Select nested objects to copy: *Use an object selection method*

Specify base point or displacement, or [Multiple]: *Specify a point, or enter M for multiple copies*

Second point of displacement: *Specify a point*

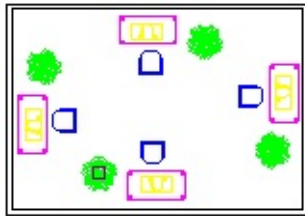
Command: XLIST

Select nested xref or block object to list: *Use an object selection method*

**Usage Example:**

Select an object as a nested block or xref file to display the Object and Block Name, Layer, Color, and Linetype properties.

*The pick box identifies the plant as the selected object:*

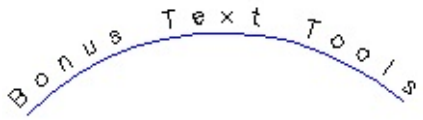


*Selecting the object opens the Xref/Block Nested Object List dialog box with the property information as shown:*



## Dialog Box Options

**Usage Example:** Draw an arc, and then use ARCTEXT to place text along the arc's curve.



Bonus Text Tools



Command: RTEDIT

Select objects: *Select the Rtext object*

Style: MYSTYLE Height: 0.1000, Rotation: 0

Enter an option [Style/Height/Rotation/Edit]: *Specify an option*

# Options

To create Rtext objects use the [RTEXT](#) command.

Reactive text (RText) objects are displayed the same way normal Text or MText objects are displayed, but the source for the text is either an external text file or the value of a DIESEL expression. You can edit an RText object with the [RTEDIT](#) command.

Command: RTEXT

Current text style: STANDARD Text height: 0.2000 Text rotation: 0

Enter an option [Style/Height/Rotation/File/Diesel] <Diesel>: *Specif*

## Options

You can use an RText object as a file reference to display text, such as a sheet note or a legal disclaimer, that is common to several drawings. You can also use it to display larger bodies of text such as specifications or assembly instructions.

## Using DIESEL Expressions

DIESEL provides options previously accessible only with custom programs. Here are some examples of how RText objects with DIESEL expressions can be used in your drawings. You can paste these examples into the DIESEL Expression dialog box.

To display the drawing name:

```
Drawing file: $(getvar, "dwgname")
```

Output:

```
Drawing file: 102-fp12.dwg
```

To include the directory path with the file name:

```
Drawing name: $(getvar, "dwgprefix")$(getvar, "dwgname")
```

Output:

```
Drawing file: C:\Projects\97-102\Arch\102-fp12.dwg
```

When you plot a drawing, you may want the hard copy to show the date and the time that the plot was created. The following DIESEL expression displays this information in your drawing:

```
$(edtime, 0, MON DD", " YYYY - H:MMam/pm)
```

Output:

```
Mar 22, 2000 - 11:12pm
```

## The \$(getprop) DIESEL function

RText supports Drawing Properties through a locally defined **\$(getprop)** DIESEL function. With **\$(getprop)**, values from Drawing Properties dialog box tabs can be extracted and displayed in RText objects.

The syntax for the **\$(getprop)** DIESEL function is:

```
$(getprop, property name)
```

where *property name*; can be any of the following fields from the DWGPROPS command:

Title  
Subject  
Author  
Comments  
Keywords  
LastSavedBy  
Revno  
*Custom Property* the name of a custom property

For example, if the Drawing Properties for a drawing contains the text "Excavated Site" as the **Subject**, the DIESEL expression:

Subject: \$(getprop, subject)

in an RText object will display as:

Subject: Excavated Site

If you have a custom property named "Project Name", the following DIESEL expression will display the value:

Project: \$(getprop, %PROJECT NAME)

## The \$(xrefs) DIESEL function

RText supports listing Xref files attached to a drawing through the **\$(xrefs)** DIESEL function.

The syntax for the **\$(xrefs)** DIESEL function is:

\$(xrefs [, flags [, leader [, trailer]]])

**Example:** The RText DIESEL expression:

\$(xrefs,3)

displays a list of Xrefs in the following format:

B-ELEC [c:\proj-14\b-elec.dwg]  
M-ELEC [c:\proj-14\m-elec.dwg]  
R-ELEC [c:\proj-14\r-elec.dwg]

F-ELEC [c:\proj-14\f-elec.dwg]

while the expression:

`$(xrefs,2,Includes: )`

will list the Xrefs as:

Includes: B-ELEC  
Includes: M-ELEC  
Includes: R-ELEC  
Includes: F-ELEC

## The **\$(images)** DIESEL function

RText supports listing images attached to the drawing through the **\$(images)** DIESEL function.

The syntax for the **\$(images)** DIESEL function is:

`$(images [, flags [, leader [, trailer]]])`

Behavior is similar to the **\$(xrefs)** function.

## The **\$(getrec)** DIESEL function

RText supports displaying Xrecord data through the **\$(getrec)** DIESEL function.

The syntax for the **\$(getrec)** DIESEL function is:

`$(getrec, key, code)`

The **\$(getrec)** function extracts a value from an Xrecord by looking in the Named Object Dictionary for *key*, then for a data value associated with *code*. Currently, only group codes in the ranges 1-9 (string), 40-59 (real), 60-79 (integer) and 300-309 (string) are supported.

Command: TEXTFIT

Select Text to stretch or shrink: *Use an object selection method*

Specify end point or [Start point]: *Specify a new end point, or enter S to specify a new start point*

Pick new starting point: *Specify a new start point*

ending point: *Specify a new endpoint*

### **Usage Example:**

Fit labels within enclosed borders by setting a new text width.

*Select text:*



*Select a new endpoint:*



*Text size shrinks:*





Command: TEXTMASK

Current settings: Offset factor = <default>, Mask type = <default>

Select text objects to mask or [Masktype/Offset]: *Select an option or text or press ENTER to exit*

Text objects are grouped together with the mask objects so that they moved, copied, and erased together. To update the mask after editing the text, run TEXTMASK again, and select the text item to be updated. The previous mask object is erased and a new one is created. A companion command, [TEXTUNMASK](#), removes masks from text.

### **Masktype Options**

Command: TEXTMASK

Current settings: Offset factor = <default>, Mask type = <default>

Select text objects to mask or [Masktype/Offset]: *Masktype*

Mask type currently set to <default>

Specify object type to use for mask [Wipeout/3dface/Solid] <default>

### **Offset Option**

Command: TEXTMASK

Current settings: Offset factor = <default>, Mask type = <default>

Select text objects to mask or [Masktype/Offset]: *Offset*

Mask offset currently set to <default>

Enter offset factor relative to text height <default>: *Specify a value, or select points to set the mask size*

Initial default values are Offset factor = 0.35 and Masktype = Wipeout.

Subsequent default values are the last specified values.

Objects in paper space used to mask objects in model space are not displayed correctly in plots. The display may look correct but your plot will not. At plot time, AutoCAD processes the model space viewports before processing paper space objects. This makes it impossible for anything in paper space to be "on top of" anything in model space.

## Wipeout

A Wipeout is a custom object created by the WIPEOUT tool. Since the Wipeout object is like an image, it has the same requirements for plotting. You need a raster-capable plotter with an ADI 4.3 raster-capable driver or the system printer driver. Masking does not plot properly if the Hide Lines option is used while plotting. One advantage of using a Wipeout mask is that what you see on screen is what you get on your plot.

## 3Dface

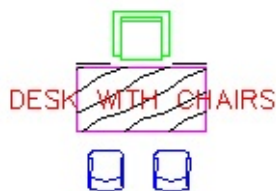
The 3Dface created by TEXTMASK has all of its edges set to invisible. This option is useful if you do not have a raster-capable plotter. The Hide Lines option must be used while plotting for the mask effect to work. With this option, masked text does not look masked on screen.

## Solid

If you are using an HP plotter, use the HPCONFIG command and make sure that the In Color option is selected in Print Colors. To make the mask invisible (that is, to hide all objects behind it,) press the pens button in HPCONFIG, and create a pen that uses a shaded fill. Then set the shade percentage to 0%. With this option, masked text appears masked on screen. Also, masks can be colored to highlight text. Masking does not plot properly if the Hide Lines option is used while plotting.

## Usage Example:

*Text over lines:*



*Masked text over lines:*



Command: TEXTUNMASK

Select text or MText object from which mask is to be removed.

Select objects: *Use an object selection method*

**TXT2MTXT** will work on any text objects created with the TEXT or DTEXT commands. If the original set of text objects was created with DTEXT or with successive text commands, enabling the **Sort top-down** option and disabling the **Create word-wrap MText** options will produce the most visually similar results.

The selected text objects will be removed from the drawing and a new MText object will be inserted.

This command attempts to honor text size, font and color changes between text objects.

Command: TXT2MTXT

Select text objects or press Enter to set Options:

Select objects: *Use an object selection method to select text*

**Usage Example:**

Select three text objects and convert them to mtext objects.

*Select text items:*

Normal text to  
**be converted**  
to Mtext

*Text converted to mtext:*

Normal text to  
be converted  
to Mtext

---

## Options dialog

Command: TXTEXP

Select text to be EXPLODED: *Use an object selection method*

**Usage Example:**

Draw text, and then use TXTEXP. The text objects explode into lines and arcs.

*Text:*

EXPLODING TEXT  
TO LINES

*Exploded text turns into lines and arcs:*

EXPLODING TEXT  
TO LINES

Command: ALIGNSPACE

FIRST alignment point in MODEL space: *Specify a point*

SECOND alignment point in MODEL space: *Specify a point*

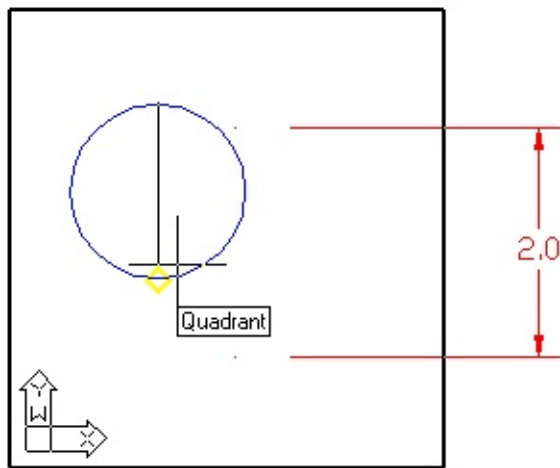
FIRST alignment point in PAPER space: *Specify a point*

SECOND alignment point in PAPER space: *Specify a point*

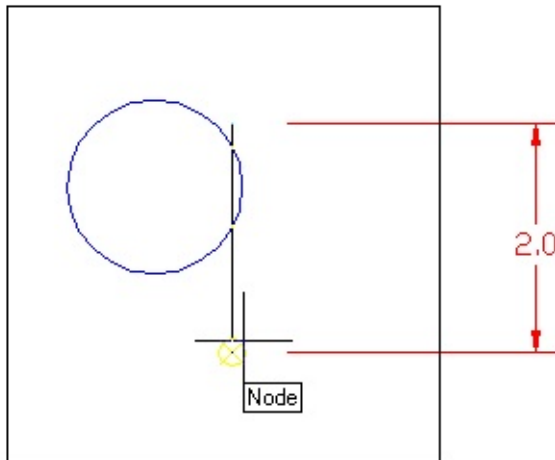
### Usage Example:

Align a circle in model space with a dimension in paper space.

*Specify two points in model space:*

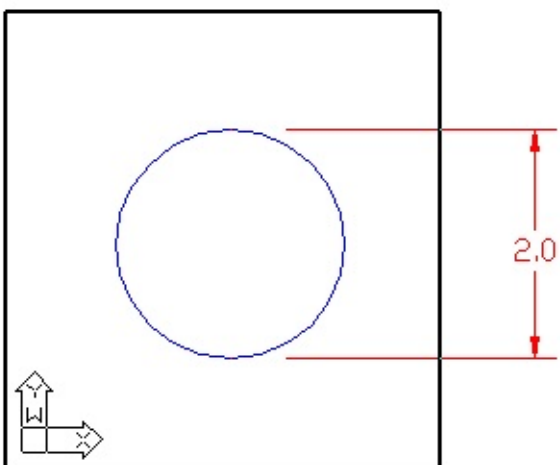


*Specify two points in paper:*



*The circle is aligned with the dimension in paper space:*





Command: VPSCALE

Select edge of viewport: *Select a viewport*

The scale is displayed in one of three ways:

- If your current units are architectural, the result looks like this:

PS:MS == 1:96

Viewport Scale: 1/8" = 1'-0"

- If your current units are engineering, the result looks like this:

PS:MS == 1:96

Viewport Scale: 1" = 8'

- For all other units, the scale looks like this:

PS:MS == 1:96

Command: VPSYNC

Select master viewport: *Select a viewport*

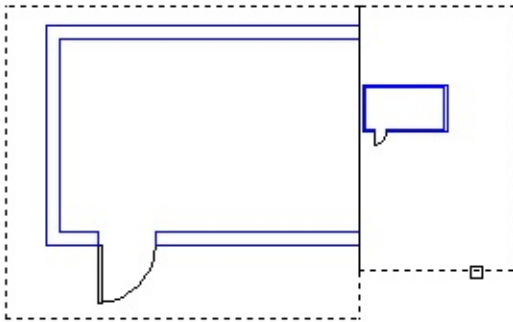
Select viewports to be aligned to master viewport.

Select objects: *Select one or more viewports*

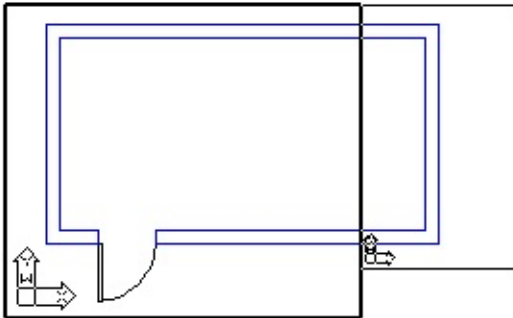
**Usage Example:**

Synchronize two viewports so that they look like one.

*Select master viewport and child viewport:*



*Viewports are now synchronized:*



**Dimension Style Export** ? X

Export Filename  
Drawing1.dim Browse... OK Cancel

Available Dimension Styles  
Standard

Text Style Options  
☒ Text Style Name Only  
☐ Full Text Style Information

## **DIMEX Dialog Box Options**



## **DIMIM Dialog Box Options**

Command: QLATTACH

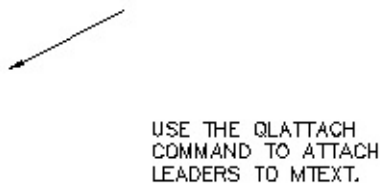
Select Leader: *Select a leader*

Select Annotation: *Select the mtext, tolerance, or block reference object for the annotation*

### Usage Example:

Select a leader line, and then specify the mtext object to attach.

*Separate leader line and mtext objects:*



*Leader line with mtext attached as one object:*



---

At the **Select Leader:** prompt, you will be prompted until you select a leader object or abort the command. At the **Select Annotation:** prompt, you will be prompted until you select an MText, Tolerance, or Block Reference object for the annotation.

If attachment is successful, the tail of the leader will jump to the default attachment point of MText or Tolerance annotation. If the angle is appropriate a hook line will appear.

The leader and annotation objects must be on the same plane, otherwise they will not attach.

If you wish to attach to a Block Reference, you should move the leader endpoint to where you want it before you execute qlattach. The leader will not move, and you will see no immediate visual feedback that the leader was successfully attached.



AutoCAD R13 offered the Leader object, but not attachment to the leader annotation. This command lets you process the leaders in a Release 13 drawing, to attach them to their annotation objects for more productive editing.

**QLATTACHSET** will report the number of Leaders found, along with the number successfully attached.

This command is intended primarily for leaders created by R13.

Command: QLATTACHSET

Select objects: *Select one or multiple leader lines and annotation objects*

**Usage Example:**

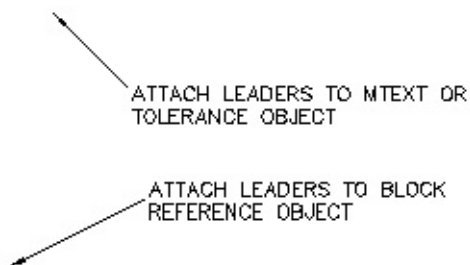
Select leader line(s), and mtext objects to attach.

Select objects: *Select one or multiple leader lines and annotation objects*

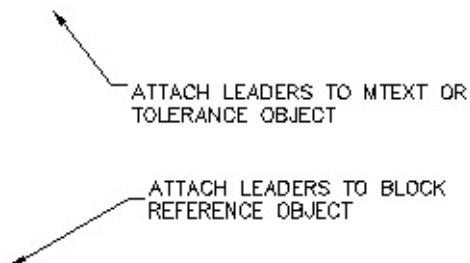
Number of Leaders = 2

Number with annotation detached = 2.

*Leader with detached mtext object:*



*Leader attached to mtext object:*



All leaders in the selection set will be detached from their annotation objects.  
The only visual feedback will be the loss of a hook line.

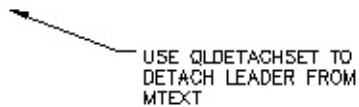
Command: QLDETACHSET  
Select objects: *Select leader line*

**Usage Example:**

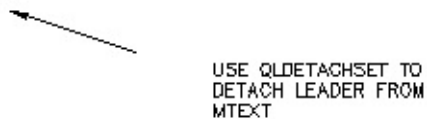
Select a leader line to detach from an mtext object.

Select objects: *Select leader line*  
Number of Leaders = 1  
Number with annotation detached = 1

*Leader with mtext object attached:*



*Leader detached from the mtext object, which can then be moved:*



The behavior of FASTSELECT can be controlled with the command FSMODE. If FSMODE is set to ON (the default), FASTSELECT selects only those objects that are touching the selected object. When FSMODE is OFF, FASTSELECT selects all the objects that are touching the selected object as well as any objects that are touching those objects. The command continues down the chain of unselected objects that are touching the selected object until no more unselected objects are visible on screen.

Command: 'FS

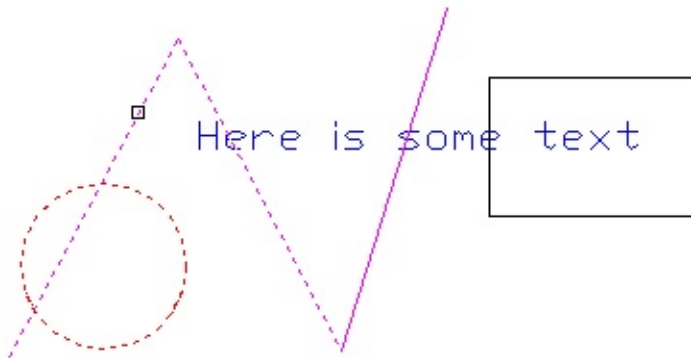
Select touching object: *Select an object*

Command: 'FSMODE

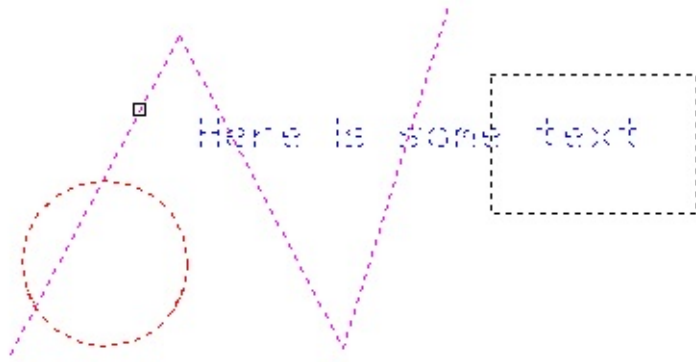
FASTSEL chain selection <OFF>: *Enter ON or OFF*

### **Usage Example:**

*FASTSELECT used to select objects with FSMODE turned off:*



*FASTSELECT used to select objects with FSMODE turned on:*



Command: GETSEL

Select an object on the Source layer <\*>: *Use a selection set method or press ENTER for all layers*

Select an object of the Type you want <\*>: *Use a selection set method or press ENTER for all object types*

**Usage Example:**

Draw objects on different layers, and select lines from LAYER1

Select an object on the Source layer <\*>: *Select an object on LAYER1*

Select an object of the Type you want <\*>: *Select a LINE object*

Collecting all LINE objects on layer LAYER1...

1 object has been placed in the active selection set.

Allows curved clipping; isolates specified portions of blocks, xref drawings, images, and Wipeouts, by clipping or removing the display of all other objects with a polyline, circle, arc, ellipse, text, mtext, or attribute definition.

With CLIPIT you can use ARCS, CIRCLES, or POLYLINES to define clipping boundaries for BLOCKS, XREFS, IMAGES, and WIPEOUTS. Draw arcs, circles, and/or polylines to define area(s) to be clipped.

Command: CLIPIT

Pick a POLYLINE, CIRCLE, ARC, ELLIPSE, or TEXT object for clipping edge...

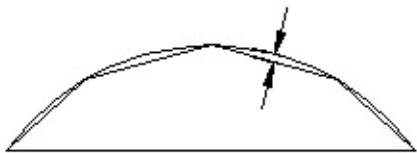
Select objects: *Use an object selection method*

Pick an IMAGE, a WIPEOUT, or an XREF/BLOCK to clip: *Select the object to clip*

Enter max error distance for resolution of arcs <0.0200>: *Specify a resolution value or press ENTER*

CLIPIT makes clipping to curved boundaries possible by traversing arc segments with a series of short straight segments. CLIPIT lets you to control the precision with which it traverses arc segments by allowing you to specify the maximum distance between the midpoint of any given segment and the arc.

*Maximum error distance for resolution of arcs:*

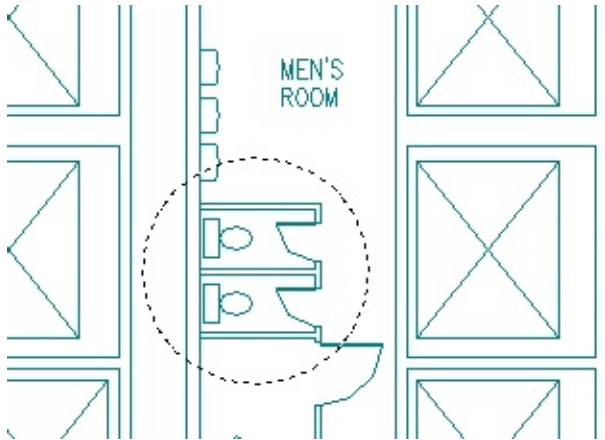


Entering a large error value results in fewer segments and faster AutoCAD performance, but arcs appear less smooth. Conversely, entering a very small value results in smooth clipping along arcs, but places more of a processing burden on AutoCAD during regeneration of a drawing.

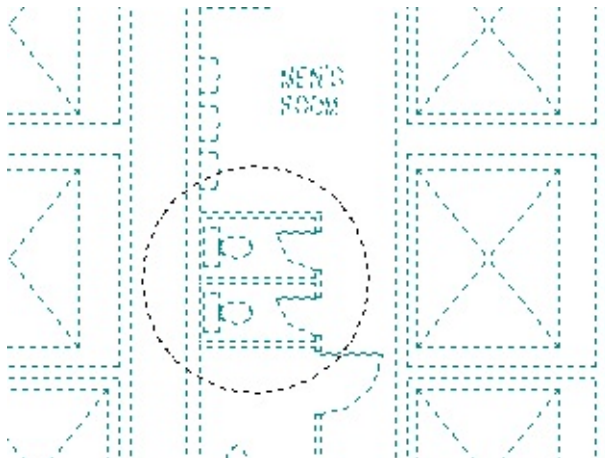
### **Usage Example:**

Draw a polyline, a circle, or an arc, and clip a portion of an externally referenced floor plan to isolate it.

*Select a circle as the clipping boundary:*



*Select xref:*



*Xref clipped with a circle as the clipping boundary:*



Command: MOCORO

Select objects: *Use an object selection method*

Base point: *Specify a base point*

[Move/Copy/Rotate/Scale/Base/Undo]<eXit>: *Specify an option*

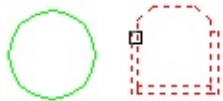


# Options

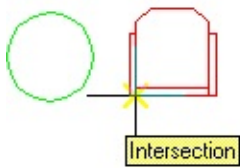
## Usage Example:

Use the move, copy, rotate, and scale options.

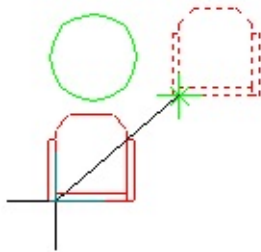
*Select an object (chair):*



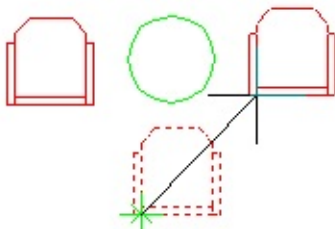
*Specify a base point, and then enter the option to move the object:*



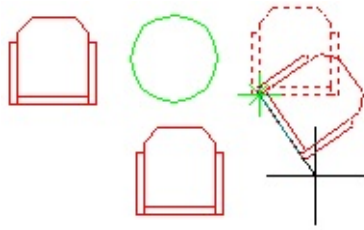
*Specify the new location for the object:*



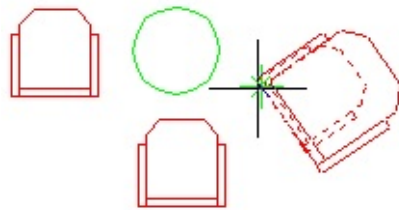
*Copy the object:*



*Rotate the object:*



*Scale the object:*



Select

Command: MSTRETCH

Define crossing windows or crossing polygons...

Options: Crossing Polygon or Crossing first point

Specify an option [CP/C] <Crossing first point>: *Use a crossing window or a crossing polygon selection method*

Specify an option [CP/C/Undo] <Crossing first point>: *Specify an option, or press ENTER to continue*

Specify an option [Remove objects] <Base point>: *Specify a base point, press ENTER or enter R to remove object(s)*

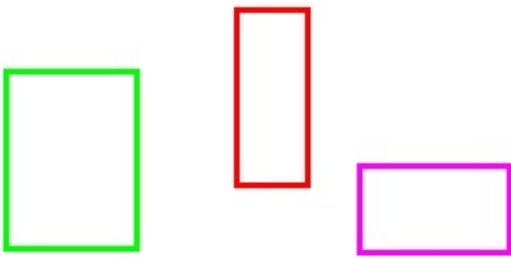
Second base point: *Specify a second point or press ENTER*

# Option

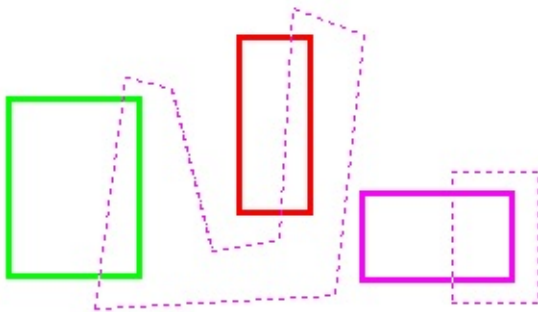
## Usage Example:

Select multiple objects and expand their size with a crossing window and a crossing polygon.

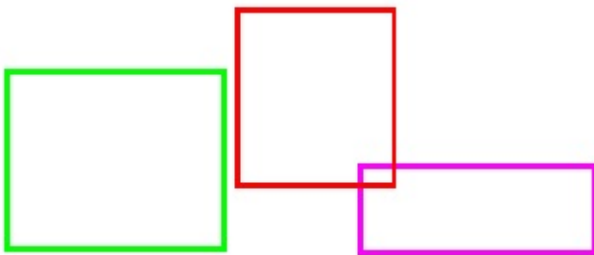
*Rectangular shapes:*



*Stretching shapes:*



*Shapes enlarged:*



All instances of the shape in the drawing are replaced with insertions of the newly defined block.

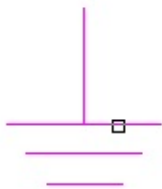
Command: SHP2BLK

Select shape entity to convert: *Select a shape object*

Enter the name of the block to create <default>: *Enter a name for the block*

### **Usage Example:**

Convert a ground shape into a block.



Command: SHP2BLK

Select shape entity to convert: *Select the ground shape object* Enter the name of the block to create <GROUND>: *Press ENTER to accept the default*

Deleting block WMF0.

1 block deleted.

The shape GROUND has been replaced with block GROUND.

# SUPERHATCH Dialog Box Options

## For images:

Insertion point <0,0>: *Specify an insertion point*

Base image size: Width: 1.00, Height: 0.24 <Unitless>

Scale factor <1>: *Specify a scale factor*

## For blocks and xrefs:

Insertion point: *Specify an insertion point*

X scale factor <1> / Corner / XYZ: *Specify the X scale factor*

Y scale factor (default=X): *Specify the Y scale factor*

Rotation angle <0>: *Specify the rotation angle*

Select a window around the block to define column and row tile distances.

Specify block [Extents] First corner <magenta rectang>: *Specify a frame for tiling, and press ENTER*

After the preceding steps have been completed:

Selecting visible objects for boundary detection...Done.

Specify an option [Advanced options] <Internal point>: *Specify an internal point for hatch boundary, or enter A for advanced options, and press ENTER*

Preparing hatch objects for display...

Done.

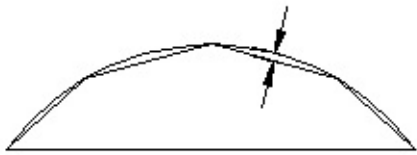
Use [TFRAMES](#) to toggle object frames on and off. (for images and Wipeouts only)

This command is very versatile and opens up many possibilities for you to be creative. You can use the Block option to create hatch patterns on-the-fly; you can create blocks with different layers, colors, and linetypes to create hatch patterns that react to layer states and plot with a variety of line weights. You can use hatch images on surfaces to get a rendered effect. Use 3D blocks as hatch patterns to place repeating items such as bricks, roof tiles, or fence fills in 3D drawings.

## Error tolerance for curves

SUPERHATCH makes hatching to curved boundaries possible by traversing arc segments with a series of short straight segments. SUPERHATCH lets you to control the precision with which it traverses arc segments by allowing you to specify the maximum distance between the midpoint of any given segment and the arc. (See the Curve Error Tolerance option described in the Dialog Box Options above.)

*Maximum error distance for resolution of arcs:*

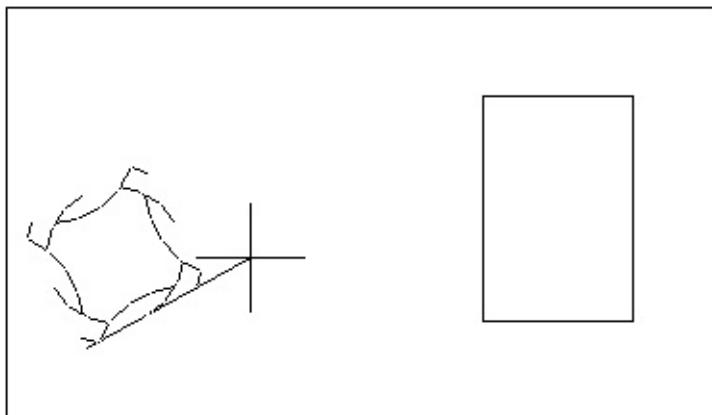


Entering a large error value results in fewer segments and faster AutoCAD performance, but arcs appear less smooth. Conversely, entering a very small value results in smooth hatching along arcs but places more of a processing burden on AutoCAD during regeneration of a drawing.

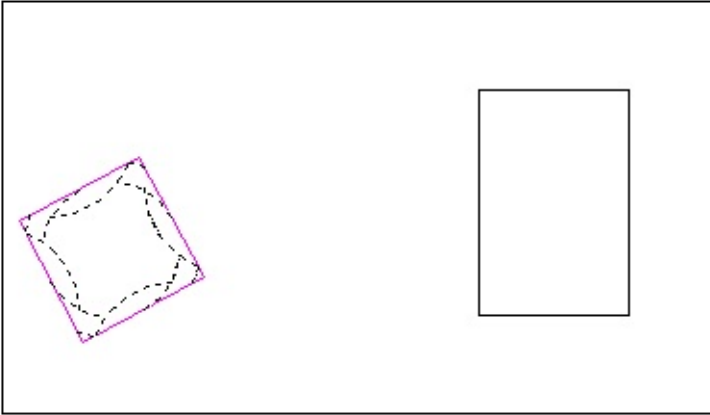
### Usage Example:

Use a block as a hatch pattern.

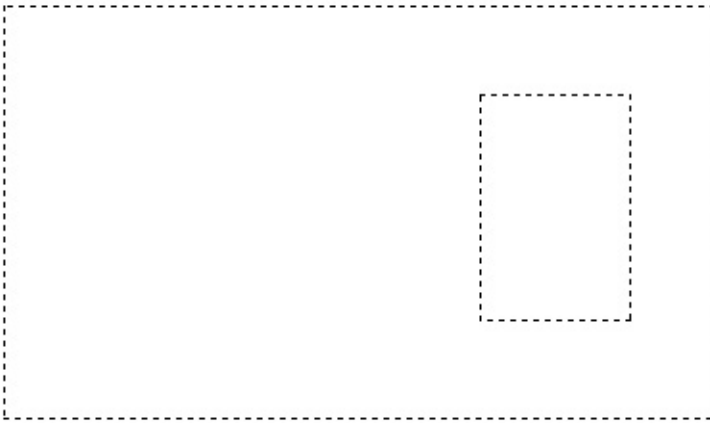
*Place the block:*



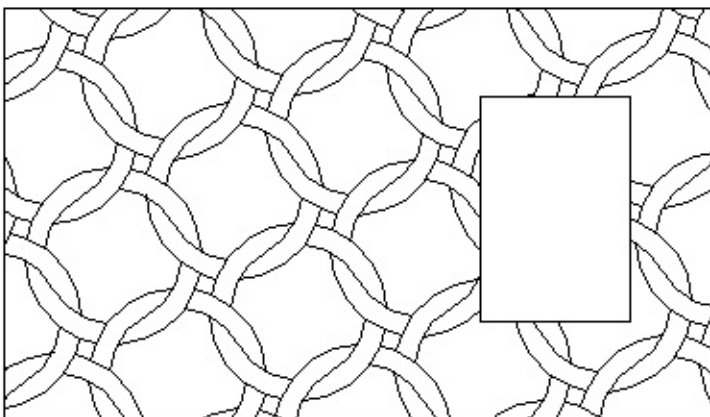
*Specify the framing around the block:*



*Specify the boundary:*



*Finished hatch:*

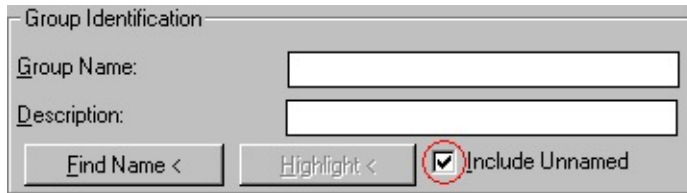


1) Start the group command.

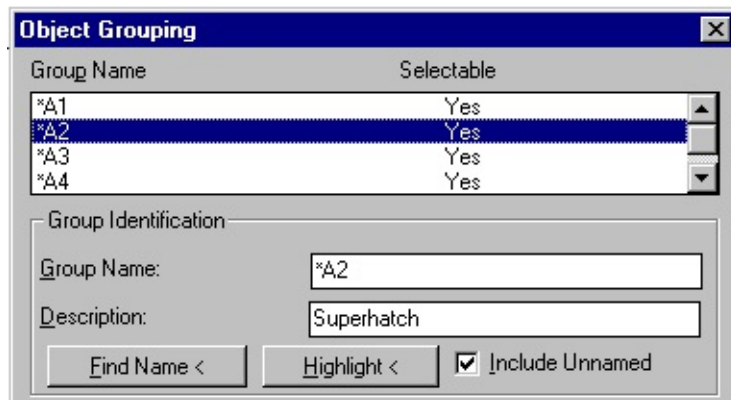


Command: group

2) Make sure the Include Unnamed check box is selected.



3) Select the group. Note that "superhatch" appears in the description field for groups created by the SUPERHATCH command.



4) Click Selectable.



5) Choose OK.

The individual objects can now be modified separately.

Command:IMAGEEDIT

Use the IMAGEAPP command to specify a non-system-default editor.

See also: [IMAGEAPP](#)

Once you choose a directory, the drawing's BAK file is placed in the named directory after every Save.

Enter new value for MOVEBAK, or . for none *<current setting>*:  
*Enter a . (period) for none or type the directory name*

If you enter ".", the MOVEBAK directory name is cleared and BAK files will be left in the original directory.

This command will attempt to close all open drawings, offering to save any modified drawings, then exit AutoCAD. If a drawing has not been named yet, **QQUIT** will prompt for a file name.

Command: REDIR

Current REDIRMODE: Styles,Xrefs,Images,Rtext

Find and replace directory names

Enter old directory (use '\*' for all), or ? <options>: *Specify the directory to be replaced or press ENTER for options (see [REDIRMODE](#) for option descriptions)*

Replace "\*" with: *Specify a new directory or press ENTER to specify an empty string (see tip below.)*

### Usage Example 1:

List the current path associations and then change them:

Command: REDIR

Current REDIRMODE: Styles,Xrefs,Images,Rtext

Find and replace directory names

Enter old directory (use '\*' for all), or ? <options>: *Enter ?*

File references to list <\*>: *Press ENTER*

TYPE	NAME	FILE
-----		
STYLE	STANDARD	TXT
STYLE	TTF	ARIAL.TTF
STYLE	XREFA STANDARD	TXT
STYLE	XREFA TTF	ARIAL.TTF
SHAPE	I:\WORK\TEST\ES.SHX	
XREF	XREFA	I:\WORK\TEST\XREFA.DWG
IMAGE	THATCH	I:\work\TEST\brick2.bmp
IMAGE	XREFA THATCH	THATCH
RTEXT	I:\work\TEST\57072_b.txt	

Enter old directory (use '\*' for all), or ? <options>: *I:\WORK\TEST\*

Replace "I:\WORK\TEST\" with: *K:\TEST\*

Searching for old dir: I:\WORK\TEST\  
in order to replace it with: K:\TEST\

XREF	XREFA	I:\WORK\TEST\XREFA.DWG -> K:\TEST\XREFA.DWG
SHAPE	I:\WORK\TEST\ES.SHX	-> K:\TEST\ES.SHX
IMAGE	THATCH	I:\WORK\TEST\BRICK2.BMP -> K:\TEST\BRICK2.BMP
RTEXT	I:\work\TEST\57072_b.txt	-> K:\TEST\57072_B.TXT

1 style/shape records modified.

1 image references modified.

1 xrefs modified.  
1 rtext objects modified.  
Changes to some externally referenced objects may be temporary.

## Usage Example 2:

Strip all hard-coded paths

Command: REDIR  
Current REDIRMODE: Styles,Xrefs,Images,Rtext  
Find and replace directory names  
Enter old directory (use '\*' for all), or ? <options>: *Enter \**

Replace "\*" with: *Press ENTER*

Searching for old dir: \*  
in order to replace it with:

XREF XREFA K:\TEST\XREFA.DWG -> XREFA.DWG  
SHAPE K:\TEST\ES.SHX -> ES.SHX

IMAGE THATCH K:\TEST\BRICK2.BMP -> BRICK2.BMP

RTEXT K:\TEST\57072\_B.TXT -> 57072\_B.TXT

1 style/shape records modified.  
1 image references modified.  
1 xrefs modified.  
1 rtext objects modified.  
Changes to some externally referenced objects may be temporary.

Command: PLT2DWG

Enter the plot file <Drawing>: *Specify the file name or ~ for File a*

## REDIRMODE Dialog Box Options

Command: -REDIRMODE

Current REDIRMODE: Styles,Xrefs,Images,Rtext

Replace directories in Xrefs,Styles,Images,Rtext. <current>: *Specify the object type(s)*

### **Usage Example:**

Set REDIRMODE so that the REDIR command acts only on xrefs and styles:

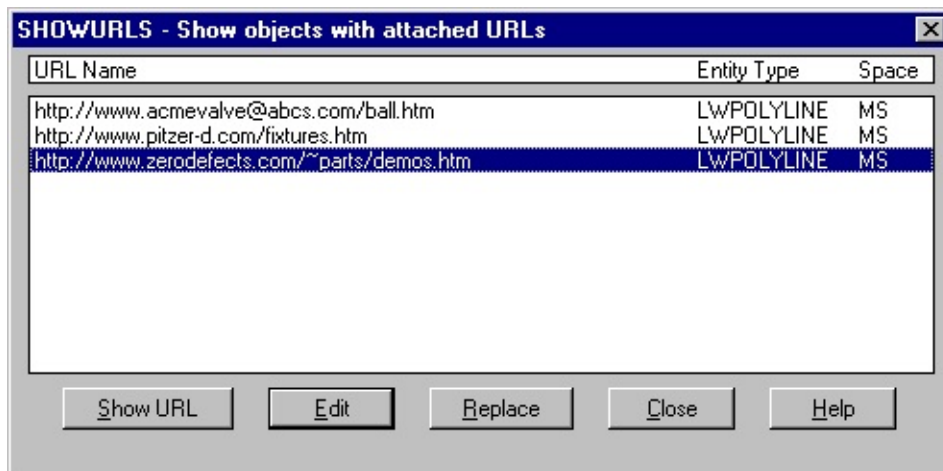
Command: REDIRMODE

Current REDIRMODE: Styles,Xrefs,Images,Rtext

Replace directories in Xrefs,Styles,Images,Rtext. <current>: *xref,st*

Current REDIRMODE: Styles,Xrefs





*Type SHOWURLS or select the menu item to display the Showurls dialog box.  
Highlight a single URL to show URL, or one or more URL(s) to edit or replace*

## **SHOWURLS Dialog Box Options**

You can create aliases for AutoCAD commands or DOS executable commands.

# Options

There are two tabbed sections: Command Aliases and Shell Commands. Options common to both sections include

 DOS Command: **alias**

Command: MKLTYPE

Select a ".LIN" file: <C:\Express\Drawings\acad.lin>: *Enter a linetype file name and directory path*

Enter linetype name: *Specify a linetype name*

Linetype description: *Specify a linetype description*

Starting point for line definition: *Specify a starting point*

Ending point for line definition: *Specify an ending point*

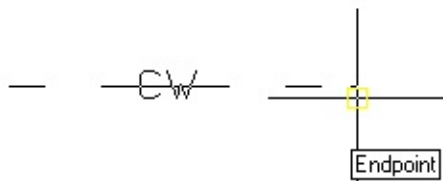
Select objects: *Select a line, polyline, lwpolyline, point, shape, and/or text object*

A linetype is a repeating series of dashes, dots, shapes, and text objects. With the standard AutoCAD PLINE, LINE, POINT, TEXT, and SHAPE commands, draw an approximation of your linetype; then select the objects at the Select Objects prompt in MKLTYPE.

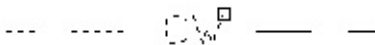
### Usage Example:

Create a dashed cold water linetype.

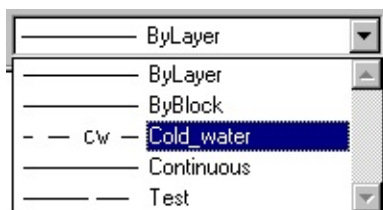
*After specifying the file name, linetype name and description, select points to show the start points and end points for line definition:*



*Specify the line and text objects to be used to define the linetype:*



*The linetype is loaded and is ready to use:*



Command: MKSHAPE

Select a ".SHP" file: <drawing.shp>: *Enter a shape file name where you would like to save your shape*

Reading shape file: drawing.shp...Done.

Enter the name of the shape: *Specify the shape name*

Enter resolution <124>: *Enter a number for the resolution value (see **Resolution Values** below.)*

Insertion base point: *Specify a point*

Select objects: *Select line, polyline, lwpolyline, arc, circle, and/or ellipse objects (for definition purposes, the selected objects are treated as though they are of a continuous linetype)*

Determining geometry extents...Done.

Building coord lists...Done.

Formatting coords...Done.

Writing new shape...Done.

Compiling shape/font description file

Compilation successful. Output file C:\Express\drawings\drawing.shx contains 152 bytes.

Use the SHAPE command to place shapes in your drawing.

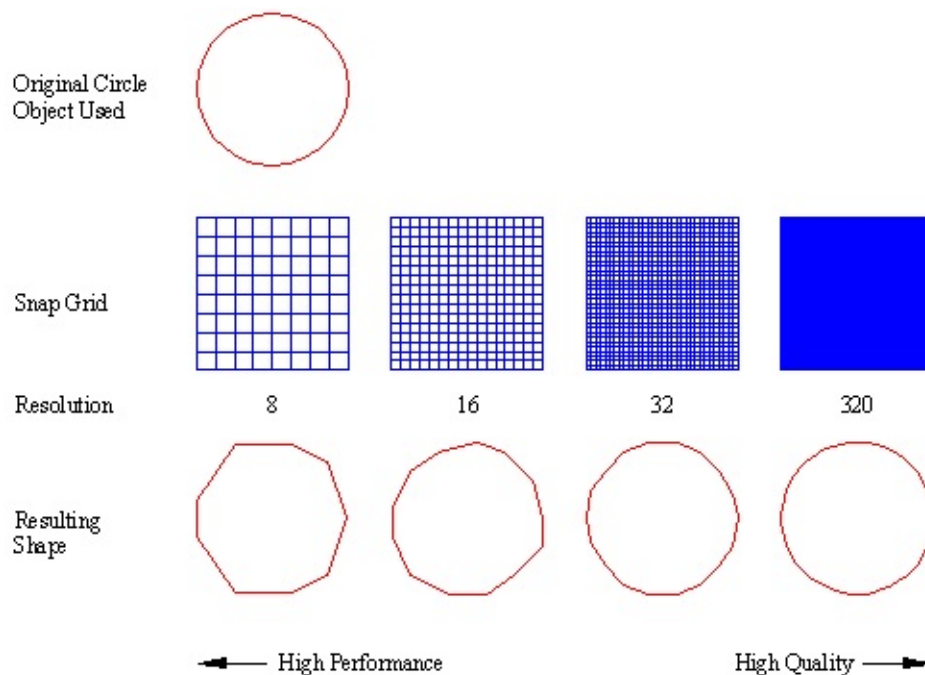
Shapes display relatively simple geometry quickly. The size of a single shape is limited to 2200 bytes of data. If you create a shape that exceeds that limit, MKSHAPE creates complex geometry shapes to form a single shape. In the SHAPE command, if you use the ? option and enter \*, those "sub-shapes" are listed on screen.

Neither points nor zero-length line segments are used by MKSHAPE. However, you can get the effect of a point by drawing a very short line segment and using a resolution that is high enough to prevent the segment from being converted to a 0 length. If the short segment does not appear in the shape that results, try again, using a higher resolution value or a longer line segment.

## **Resolution Values**

Large resolution values create shapes that are more accurate representations of

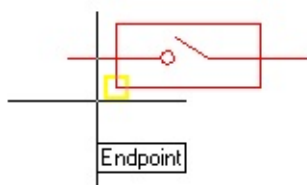
the selected geometry. However, large resolution values tend to create shapes that contain more coordinate data and place a higher processing burden on AutoCAD during regens. Conversely, small resolution values create less accurate shapes that are more quickly processed by AutoCAD during regens. You can experiment with different resolution values to find the balance of performance and accuracy that best fits your drafting needs. Note that the resolution value is rounded off to the nearest factor of 8 and cannot exceed 32,767. The following graphic shows how the resolution factor affects the resulting shape's appearance:



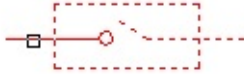
### Usage Example:

Create a switch shape.

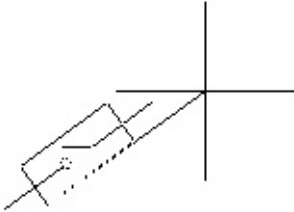
*After specifying the file name and shape name, select the insertion point for the shape:*



*Next, select the objects to be used to define the shape:*



*The shape can now be placed using the `SHAPE` command:*





**System Variables**

**APERTURE**

New Value: 10

Current Value: 10

Initial Value: 10

Saved In: Registry Type: Integer

Sets the display size for the aperture, in pixels. The aperture is the selection tool used in drawing commands.

Save All... Read... OK Cancel Help

## **SYSVDLG Dialog Box Options**

No changes are saved to the drawing until you choose OK. All pending changes can be discarded with the Cancel button. SYSVDLG will validate new system variable values as they are changed.

Command: XDATA

Select object: *Use an object selection method*

Application name: *Specify application name*

[3Real/DIR/DISP/DIST/Hand/Int/LAyer/LONG/Pos/Real/SCale/STr/eXit]

<eXit>: *Enter an option*

# Options

## Usage Example:

Attach piping data to a line

Select object/<None>: *Select a line*

Enter Application name: *Enter Myapp555-1212*

MYAPP555-1212 new application.

3Real/DIR/DISP/DIST/Hand/Int/LAyer/LOng/Pos/Real/SCale/STr/<eXit>:

*Enter STr*

ASCII string: *Enter Sewer*

3Real/DIR/DISP/DIST/Hand/Int/LAyer/LOng/Pos/Real/SCale/STr/<eXit>:

*Enter Int*

16-bit integer: *Enter 4*

3Real/DIR/DISP/DIST/Hand/Int/LAyer/LOng/Pos/Real/SCale/STr/<eXit>:

<ENTER> *Press ENTER*

New xdata appended.

Select object: *Use an object selection method*

Application name <\*>: *Specify an application name or press ENTER for all applications*

### **Usage Example:**

1. On the command line, type acadinfo.
2. In the Select File Name dialog box, save acadinfo.txt to a location on your hard drive.
3. View acadinfo.txt to find information about the setup and installation of AutoCAD. For example, you can view:
  - General Information (user name, computer name, and platform)
  - File loading information (such as a list of currently loaded ARX applications. Useful for troubleshooting systems)
  - System variable settings (displays a list of system variables. Useful for comparing data on two systems)

Command: BCOUNT

Press Enter to select all or...

Select objects: *Use an object selection method for single or multiple blocks*

**Sample output:**

Block.....Count

-----

CHAIR .....10

TABLE .....9

DESK .....4

Command: BLOCK?

Enter block name <Return to select>: *Press ENTER to select an object*

Select a block: *Use an object selection method*

Enter an entity type <Return for all>: *Press ENTER to list all block definition objects*

**Usage Example:**

Enter a block name or select an inserted block, and then specify an object type (such as line or text) to search for. Or accept the default to list all objects in the definition.

Block name/<Return to select>: *Enter furn01*

Enter an entity type <Return for all>: *Enter line*

Press ESC to exit or any key to continue.

```
((0 . "BLOCK") (2 . "FURN01") (70 . 0) (10 0.0 0.0 0.0) (-2 . <Entity name:
1f30c10>)) ((-1 . <Entity name: 1f30c28>) (0 . "LINE") (5 . "F5") (100 .
"AcDbEntity") (67 . 0) (8 . "0") (100 . "AcDbLine") (10 20.0346 22.2133 0.0)
(11 4.19456 22.2133 0.0) (210 0.0 0.0 1.0))
```



DWGLOG is useful in network situations where people are contending for the same drawing files. If you try to open a drawing that someone else is using, AutoCAD indicates that someone else has the file open, but does not identify the person. If all users on your network have logging turned on, you can look at the DWH file to find out who has the file open.

Command: DWGLOG

*If you use DWGLOG when logging is turned off, the following message appears:*

Logging for drawing files has been turned on.

*If you use DWGLOG when logging is on, the following prompt appears:*

You are about to turn off logging for drawing files.

Do you wish to continue? [Yes/No] :y

Logging for drawing files has been turned off.

Type 'dwglog' to turn logging back on.

When logging is on and someone accesses a drawing file, that file's drawing history (DWH) file is updated. If a DWH file does not exist for that drawing, DWGLOG creates one in the directory where the drawing file resides. Actions that are logged include opening a drawing, closing a drawing, and attaching a drawing as an xref. Following is a sample DWH file:

Opened by Penelope on MACHINE1 at 18:14:09 on 7/10/1997

Closed by Penelope on MACHINE1 at 18:18:44 on 7/10/1997

Attached by Bartholomew on MACHINE2 at 07:59:58 on 7/11/1997

The timer can be turned on and off and can be reset. A timeout option suspends timing after a specified period of inactivity.

Command: EDITTIME

EditTime settings: Status=OFF Timeout=10 min.

Active=0.0000 hr.

Enter an option [Reset/Timeout/ON/OFF]: *Enter desired option*

---

## EDITTIME Options

---

## LISP access

EDITTIME-related data is stored per drawing, in the Named Object Dictionary.  
The:

```
(acet-getvar ...)
```

and

```
(acet-setvar ...)
```

functions (available in the **acetutil.fas** module) provide access to the BNS\_EDITTIME\_TOTAL "profile variable". If EDITTIME has been enabled on a drawing, you can use:

```
(acet-getvar '("BNS_EDITTIME_TOTAL"))
```

to extract the elapsed time (up to the opening of the current editing session) from the current drawing as a Julian time value (a REAL value, containing the number of 24-hour days the drawing has been in "active" use).

The following LISP functions are exported by **edittime.arx**:

Command: EXPRESSMENU

Perform a full rebuild of the Express Tools menu before loading it? : *Enter Yes or No*

EXPRESSTOOLS places the *Express* directory on the search path, and loads and places the Express menu on the menu bar. You can use this command to make the AutoCAD Express Tools available in the current profile if they are not yet available. The AutoCAD Express Tools can be installed with AutoCAD, or you can add them later using Add or Remove Programs on the Control Panel.

Once the EXPRESSTOOLS command is used, the AutoCAD Express Tools libraries are loaded when AutoCAD is launched. This increases the load time for AutoCAD but reduces the delay when you use one of the tools for the first time.

Command: EXTRIM

Pick a POLYLINE, LINE, CIRCLE, ARC, ELLIPSE, IMAGE or TEXT for cutting edge...

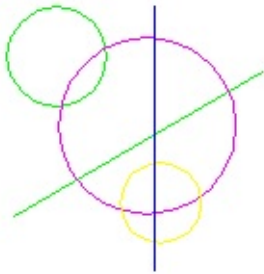
Select objects: *Select an object to define the cutting edge*

Pick the side to trim on: *Select a point inside or outside the object (objects are trimmed to objects cutting edge)*

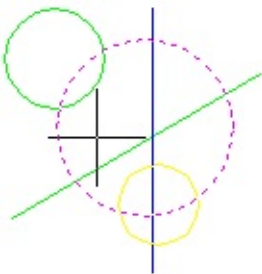
### Usage Example:

Draw several overlapping circles with intersecting lines. Specify an internal point for location of the trim.

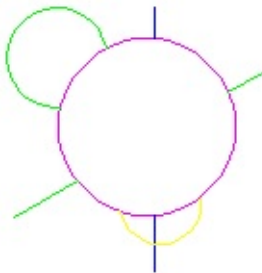
*Select a circle to define the cutting edge:*



*Specify a point inside the circle:*



*Objects trimmed to the edge of the circle:*



Command: GATTE

Select block or attribute [Block name]: *Use an object selection method, or enter B for the block name*

Known tag names for block: MDLN.

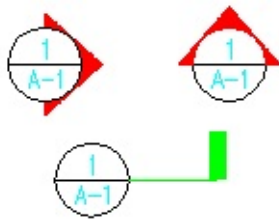
Select attribute or type attribute name: *Use an object selection method or enter the attribute tag name*

Number of inserts in drawing = 2 Process all of them? [Yes/No] <Yes>: *If no, select the block inserts to process*

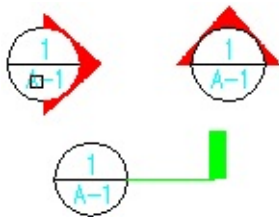
### Usage Example:

Insert several of the same attributed blocks into a drawing. Specifying a new value for one of the attributes replaces all values with the same tag name.

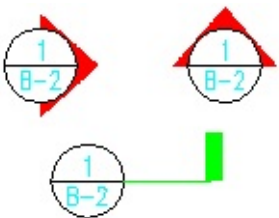
*Blocks with the same attributes:*



*Select a single attribute to edit:*



*Value for all attributes edited globally:*





Command: IMAGEAPP

Raster editing application or . for system default <.>: *Enter the file name*

See also: [IMAGEEDIT](#)

Command: DATE  
Sun 1997/3/9 10:36:23.349

## **AutoLISP functions included in JULIAN.LSP:**

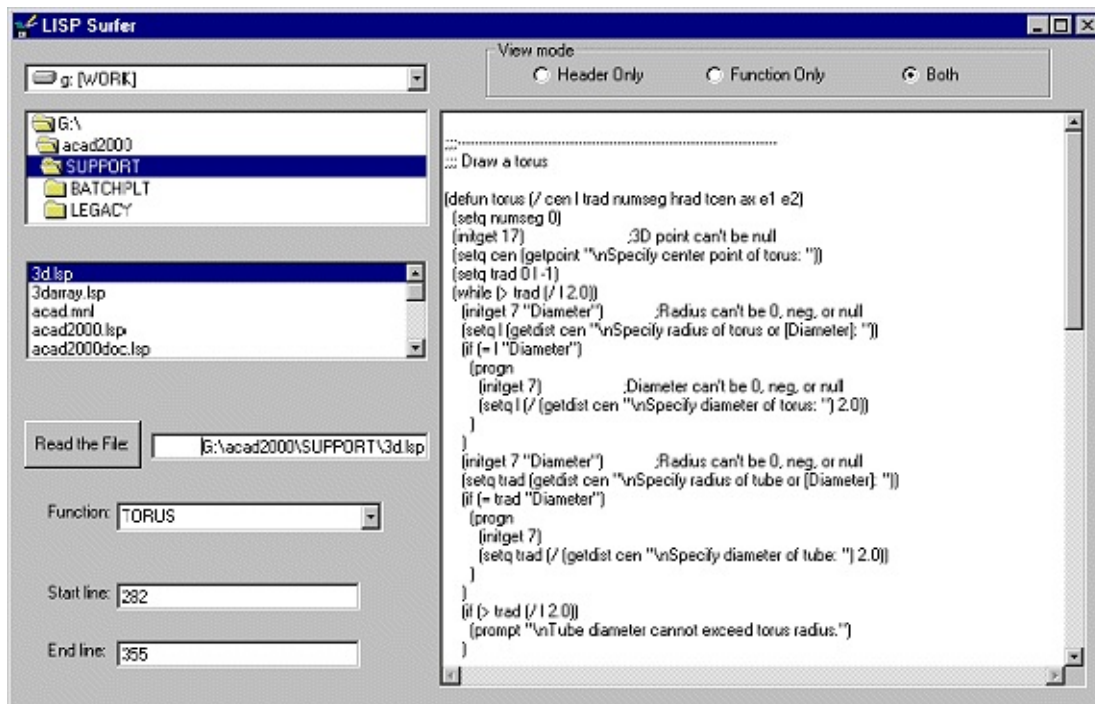
### **Usage Example:**

Use the DATE command to display the current date/time in this format: Day  
YYYY/M/D HH:MM:SS.msec. DATE uses (JTOD) to convert to calendar  
format, and edits the date/time from there. The day of the week is calculated  
with (JTOW).

Command: LSP

Enter an option [?:Commands/Functions/Variables/Load]: *Specify an option*

## Options



## **LSPSURE Dialog Box Options**

Command: MPEDIT

Select objects: *Use an object selection method*

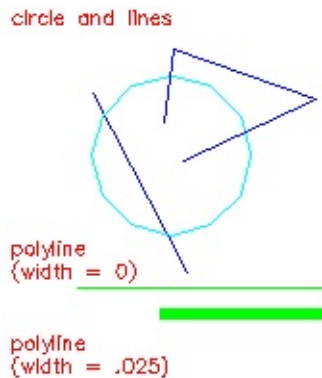
Convert Lines and Arcs to polylines? [Yes/No] <Yes>: *If no, selection set ignores lines and arcs.*

Enter an option [Open/Close/Join/Width/Fit/Spline/Decurve/Ltype gen/eXit]  
<eXit>: *Enter an option*

### Usage Example:

Draw a circle with overlapping lines and polylines with varying widths; then edit their widths.

*Plines with varying widths:*



*Plines with the same width:*





Either type SSX at the Command prompt to create a "previous" selection set or type (SSX) in response to any Select Objects prompt.

SSX returns a selection set that is either exactly like a selected object or, if you adjust the filter list, very similar to that object.

Command: SSX

Select object/<None>: *Use an object selection method to select a template object, or press ENTER for none*

>>Block name/Color/Entity/Flag/LAyer/LType/Pick/Style/Thickness/Vector:

# Filter Options

## Usage Example:

Select a line to use as a template object, but remove the layer filter.

Command: SSX

Select object/<None>: *Select a line*

Current Filter: ((0 . "LINE") (8 . "0") (39 . 2.0) (62 . 1) (210 0.0 0.0 1.0))

Enter filter option [Block

name/Color/Entity/Flag/LAyer/LType/Pick/Style/Thickness/Vector]: *layer*

>>Layer name to add/<RETURN to remove>: *Press ENTER to remove layer filter*

Current Filter: ((0 . "LINE") (39 . 2.0) (62 . 1) (210 0.0 0.0 1.0))

Enter filter option [Block

name/Color/Entity/Flag/LAyer/LType/Pick/Style/Thickness/Vector]: *Press ENTER*

To select objects that match the filter, enter "previous" at the next Select Objects prompt.

Command: TFRAMES

IMAGE/WIPEOUT frames are toggled OFF.

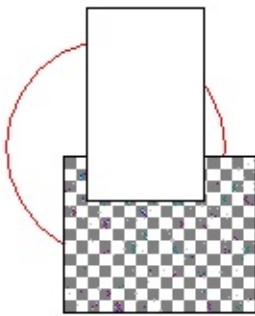
or

IMAGE/WIPEOUT frames are toggled ON.

**Usage Example:**

Use TFRAMES to hide frames of a Wipeout and an image.

*Frames for image and Wipeout turned on:*



*Frames turned off:*

