

AutoCAD® cheat sheet

Francesco Bianconi

*Department of Engineering
Università degli Studi di Perugia
Via Goffredo Duranti, 93 – 06125 Perugia (Italy)
bianco@ieee.org*

Up-to-date with AutoCAD 2023 (some commands may not work with previous versions). Last revision: October 22, 2022.


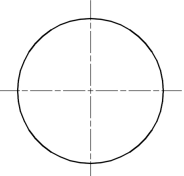
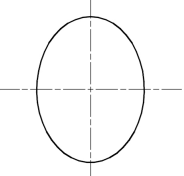
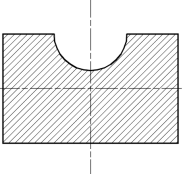
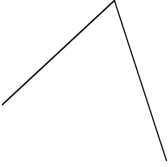
Contents

1	Reference systems and coordinate insertion	2
2	Creating graphical objects	2
3	Editing graphical objects	4
4	Inserting dimensions and managing their style	7
5	Inserting text and annotations	8
5.1	Inserting special characters	9
5.2	Inserting special characters via gdt font	9
6	Managing user interface, system variables and object properties	10
7	Keyboard shortcuts	12


1. Reference systems and coordinate insertion

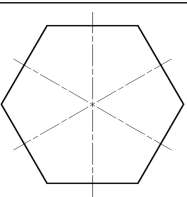
Reference system	Insertion mode	
	Cartesian	Polar
Global (WCS)	$*x,y$	$*\rho < \theta$
User (UCS)	x,y	$\rho < \theta$
Local	$@x,y$	$@\rho < \theta$

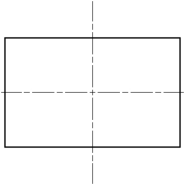
2. Creating graphical objects

Command	Effect	Main parameters
<code>_arc</code>	 Creates a circular arc.	C : Accepts the centre as the first input (instead of the starting point).
<code>_circle</code>	 Creates a full circle.	D : Accepts the diameter instead of the radius. 3P : Generates a circle based on three points. 2P : Generates a circle based on two diametrically opposite points. T : Generates a circle tangent to three objects.
<code>_ellipse</code>	 Creates a full ellipse or an elliptical arc.	A : Generates an elliptical arc (instead of a full ellipse). C : Generates an ellipse or an elliptical arc starting from the centre.
<code>_hatch</code>	 Hatches a closed region	
<code>_line</code>	 Generates a single line or a polyline.	C : Closes the polyline (only available when there the polyline has at least three points).



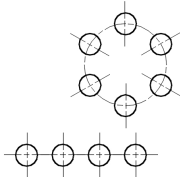
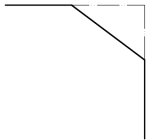
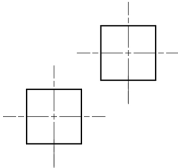
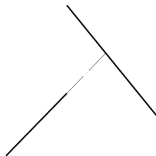
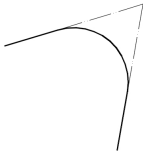
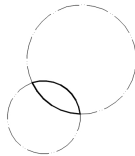
<code>_point</code>		Generates one point.
---------------------	---	----------------------

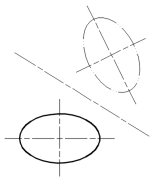
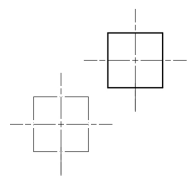
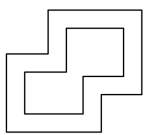
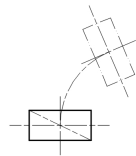
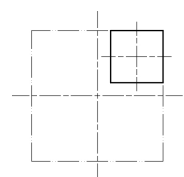
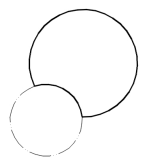
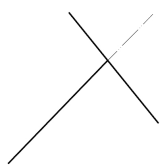
<code>_polygon</code>		Generates an inscribed or circumscribed regular polygon.	C : Generates a circumscribed polygon. I : Generates an inscribed polygon.
-----------------------	---	--	---

<code>_rectang</code>		Generates a rectangle.	C : Defines the dimensions of the chamfers (for a rectangle with chamfered vertices). F : Defines the radius of the fillets (for a rectangle with rounded vertices). D : Defines the width and height of the rectangle (available once the first corner is specified).
-----------------------	---	------------------------	---

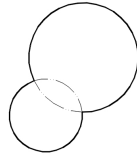


3. Editing graphical objects

Command		Effect	Main parameters
<code>_arrayclassic</code>		Creates copies of objects along a linear or circular array.	
<code>_chamfer</code>		Chamfers two rectilinear edges. The two edges (or their extensions) must intersect.	D : Sets the chamfer distance from the intersecting point of the first and second object. The input order reflects the order whereby the entities are selected.
<code>_copy</code>		Creates copies of objects.	D : Sets the displacement vector
<code>_erase</code>		Deletes the selected objects (same effect as pressing [Cancel]).	
<code>_explode</code>		Splits an object into separate parts (opposite effect than <code>_join</code>).	
<code>_extend</code>		Extends objects to meet the edges of other objects.	
<code>_fillet</code>		Fillets the edges of two 2D objects by creating an arc of given radius. The two edges (or their extensions) must intersect.	RA : Sets the fillet radius.
<code>_intersect</code>		Returns the intersection (Boolean AND) between two closed objects. The objects must be previously converted into regions through <code>_region</code> .	

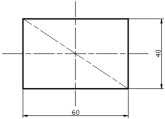
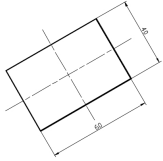
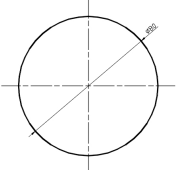

<code>_join</code>		Joins lines, polylines, splines and adjacent arcs (opposite effect than <code>_explode</code>).	
<code>_mirror</code>		Mirrors objects across a given axis.	N : Keeps the source objects (creates a copy). S : Removes the source objects.
<code>_move</code>		Moves objects.	D : Sets the displacement vector.
<code>_offset</code>		Offsets an object to a given distance.	
<code>_rotate</code>		Rotates objects.	C : Keeps the original objects (creates a copy).
<code>_scale</code>		Applies a scale transform.	C : Keeps the original objects (creates a copy).
<code>_subtract</code>		Returns the difference (Boolean XOR) between two closed objects. The objects must be previously converted into regions through <code>_region</code> .	
<code>_trim</code>		Trims objects to meet the edges of other objects.	

`_union`



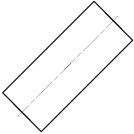


Returns the union (Boolean OR) between two closed objects. The objects must be previously converted into regions through `_region`.

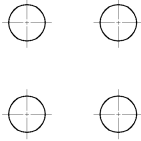
4. Inserting dimensions and managing their style

Command		Effect	Main parameters
<code>_dimlinear</code>		Creates a linear dimension parallel to one of the axes of the UCS.	
<code>_dimaligned</code>		Creates a linear dimension that is aligned with the origin points of the extension lines.	
<code>_dimdiameter</code>		Creates a diameter dimension with a diameter symbol (ϕ) in front of it.	
<code>_dimradius</code>		Creates a radius dimension with a radius symbol (R) in front of it.	
<code>_dimstyle</code>		Opens the window that allows to manage the dimension style.	

5. Inserting text and annotations

Command		Effect	Principali parametri
<code>_mtext</code>	Testo multilinea	Inserts multi-line text.	H : Specifies the text height. J : Sets text justification and flow in relation to the text boundary (see <code>_text</code>). W : Specifies the width of the text boundary.
<code>_qleader</code>		Creates a leader and leader annotation.	
<code>_text</code>	Testo	Inserts single-line text.	J : Sets text justification and flow in relation to the text boundary. Possible options: <ul style="list-style-type: none">TL (Top left)TC (Top centre)TR (Top right)ML (Middle left)MC (Middle centre)MR (Middle right)BL (Bottom left)BC (Bottom centre)BR (Bottom right) W Specifies the width of the text boundary; words wrap to fit the width.
<code>_tolerance</code>		Creates symbols for geometric tolerances and datums.	
<code>_centerline</code>		Draws the axis between two parallel or non-parallel lines.	

`_centermark`



Draws the centre mark of a circle or arc.

5.1. Inserting special characters

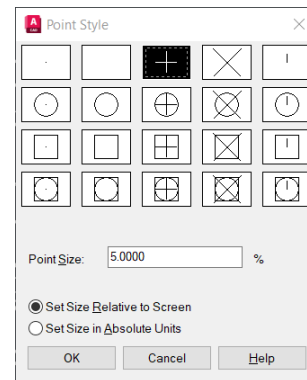
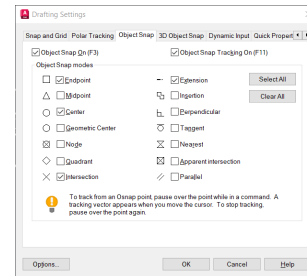
Property name	Symbol	AutoCAD sequence	Unicode sequence
Diameter	∅	%%c	\U+00B0
Envelope requirement	Ⓔ	–	\U+24BA
Degrees	°	%%d	\U+2205
Plus/minus	±	%%p	\U+00B1
Square	□	–	\U+25A1

5.2. Inserting special characters via *gdt* font

Property name	Symbol	AutoCAD sequence
Diameter	∅	n
Square	□	o
Counterbore	⌊	v
Countersink	∇	w
Deep/Depth	⌋	x
Taper	⌵	y
Maximum material requirement	Ⓜ	m
Minimum material requirement	Ⓛ	l

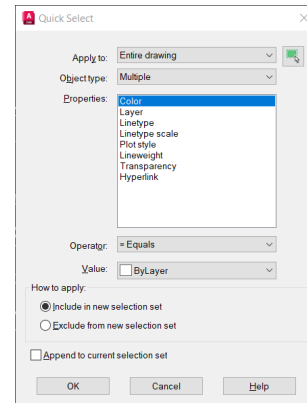
6. Managing user interface, system variables and object properties

Command	Effect	Main parameters
<code>_dynmode</code>	Sets the dynamic input mode.	1 : Turns dynamic input on. 0 : Turns dynamic input off.
<code>_layer</code>	Opens the window for creating, deleting and modifying layers.	
<code>_matchprop</code>	Applies the properties of a selected object to other objects (similar to paste format in Microsoft Word).	
<code>_navbardisplay</code>	Controls the display of the navigation bar.	1 : Displays the navigation bar. 0 : Hides the navigation bar.
<code>_orthomode</code>	Constrains cursor movement parallel to UCS axes.	1 : Turns orthogonal mode on. 0 : Turns orthogonal mode off.
<code>_osnap</code>	Opens the window for managing object snaps.	
<code>_polarang</code>	Sets the polar angle increment for tracking.	0 : No polar tracking. [10,90] : Polar tracking by steps of the given value.
<code>_ptype</code>	Opens the window for setting the display style and size of point objects.	



`_qselect`

Selects objects based on filtering criteria.



`_regen`

Regenerates the drawing in the current viewport. Recomputes the locations and visibility of all objects in the current viewport.

`_redraw`

Refreshes the display in the current viewport.

`_savetime`

Sets the automatic save time interval (in minutes).

`_ucs`

Sets the origin and orientation of the UCS.

`_ucsicon`























Controls the appearance of the UCS icon.

ON : Shows UCS icon.
OF : Hides UCS icon.
OR : Displays the icon at the origin (0,0,0) of the UCS.

`_units`

Opens the dialogue box to control format, precision and other settings used to display coordinates, distances and angles.

7. Keyboard shortcuts

Key	Function(s)
	Deletes the selected objects.
 + 	Turns the grid snap on/off.
 + 	Opens an existing document.
 + 	Closes the application.
 + 	Undoes the previous action.
 + 	Redoes the previous action (reverses a previous undo).
 + 	Hides/displays the command line.
	Exits a command. Deselects all objects.
	Finalises a command, the input of a parameter or the selection of objects within one command. Repeats the latest command.
	Turns object snap on/off.
	Turns orthogonal mode on/off.
	Turns polar tracking on/off.
	Turns object snap tracking on/off.
	Turns dynamic mode on (but not off).
 , 	Removes objects from the current selection if pressed or held down while selecting objects.