

## **WORKING WITH RETIRES, DIRECT, POLYLIA, POLYGON, ARC, CIRCLE, CLOUD, SPLINE, COMMANDS IN AUTOCAD PROGRAM**

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### **ABSTRACT**

*Working with commands Retires, straight, polyline, polygon, arc, circle, cloud, spline, ellipse. The main means to view and edit DWG files uploaded to Autodesk 360 Online memory is available for free plan users, but the tool package is very limited. The first version of the system was released in 1982. AutoCAD and based on programs are widely used in mechanical engineering, construction, architecture and other areas.*

**KEYWORDS:** SAPR, CAM, architecture, AutoLIPS, Visual Basic, C++, processor, RAM, HDD, Retires, straight, polyline, polygon, arc, circle, cloud, spline, ellipse.

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### **INTRODUCTION**

**AutoCAD** -This is a 2D and 3D PACR / CAM system developed by Autodesk. The first version of the system was released in 1982. AutoCAD and based on programs are widely used in mechanical engineering, construction, architecture and other areas. The program was published in 18 languages. Autolips, Visual Basic and C ++ programming languages. Recommended computerer: Intel® For Windows 7: Intel® Pentium® 4 processor, monitor with 4GB (HDD) 6GB and at least 1024 x 768 pixels. The initial versions of AutoCad worked with several facilities such as circles, lines, arcs and text, and more complex objects were created. AutoCAD "Electronic Description Tsa" was famous as.

The two-dimensional design allows you to use AutoCad complex objects. The program has the ability to work with layers and measurements, text, symbols. The use of the mechanism of XREF (XREF) the drawing is allowed to divide the drawing to complex files and the dynamic blocks expand the possibility of automation of 2D without demanding programming by a simple user. From version of 2010, AutoCAD supports the 2D parametric drawing. In the 2014 version of the program, the drawing could be tied dynamically with real cartographical data. [1]

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AutoCAD contains a full set of complex 3D modeling devices (supports solid, surface and multi-molgular modeling).

The AutoCad provides high quality indicating models using the light display system. The program is also 3D printing management (simulation result can be sent to 3D printers) and allows you to work with 3D scan results. At the same time, the lack of 3D parameters cannot compete directly with AUTCAD-inventory medium-level inventure. Autocad 2012 includes direct modeling technology by making direct modeling technology. On the basis of AutoCAD, Autodesk itself and third partial manufacturers have many special apps such as AutoCAD Mechanical, AutoCAD Electrical, AutoCAD Architecture, GeoniCS, Promis-e, PLANT-4D, AutoPLANT, SPDS GraphiCS, MechaniCS, Geobridge, SAPR power transmission line, Rubius Electric Suite and others. [2]

AutoCAD Microsoft is certified to work in Windows and OS X operating systems. Version 2014 Supports Windows XP (SP3), Windows 7 and Windows 8. Supports OS X is still limited to the 2013 version. Package (for Windows) includes versions for 32 and 64-bit systems. AutoCad supports the use of computing resources of multi-core systems and multi-core systems.

AutoCad Web is a program for cloud-based Internet apps and Apple iOS (iPad and iPhone) and Android mobile devices are distributed under the Freemum business model. The company offers 3 tariff plan - free and 2 paid: Pro and Pro plus. The main means to view and edit DWG files uploaded to Autodesk 360 Online memory is available for free plan users, but the tool package is very limited. The following functions are invited to paid tariff plans: Creating new drawings, additional editing facilities, increasing large files, increasing the online memory size, etc. You can connect AutoCAD 360 to other cloudy services, but edit files from third party sources are available only for paidary tariff plans.

AutoCAD for desktoping systems offers this service direct link (from version 2012).

## Drawing panel (Painting)



## section -Drawing cuts.

Drawing methods:

- 1) First point -the 1st point is selected,
- 2) Next point -the next point is selected,
3. The Cordies (X2; Y2) will then be selected after 1st positions (x1; y1).
4. Once the 1st spot is selected, then it is entered as the direction using the mouse is set.
5. Using the mouse, select the 1st point and select "L + <a" (length of the L-section, the angle between the a-x axis).
6. Using the mouse, select the 1st point and select the coordinates (X; Y) (where the coordinates are relative to the point X, Y).

**Direct**  -straight line

Drawing Methods: All of the above cross-sectional drawing methods are used.

It lasts indefinitely in 2 directions as opposed to cutting.

**Polyline**  - collection of cuts.

Drawing Methods: All of the above cross-sectional drawing methods are used.

It is considered a single body as opposed to a cross section. They are inextricably linked.

**Polygon**  - Equilateral closed polygon.

Drawing methods:

1. Show the center of the polygon - at the center of the polygon,
  - 1) the number of parties is determined;
  - 2) the center point is marked;
  - 3) Inscribed in a circle (Draw inside the circle) selected or Circumscribed around a circle (Drawn outside the circle).
  - 4) The radius of the circle is selected
2. Side -on the side
  - 1) the number of parties is determined;
  - 2) we enter the 1st point of the side;
  - 3) we enter the 2nd point of the side,

**ARC**  -draw a bow

Drawing methods;

1. Initial arc point - the starting point of the arc is selected.
  - 1) Second point of arc - the 2nd point is selected,
  - 2) The 2nd point is selected - the end point is selected.
2. Center of the arc - the center point of the arc is selected.
  - 1) Initial arc point - the starting point of the arc is selected.
  - 2.1) Center corner - the corner of the arc is selected.
  - 2.2) Chord length - the length of the arc is selected.

**Circle**  -drawing a circle

Drawing methods;

1. 3T- Draw a circle through 3 points.
  - 1) First point of circle - 1st point is selected,

- 2) Second point of the circle -the 2nd point is selected,
- 3) Third point of the circle -the 3rd point is selected.
2. Drawing a circle through 2T- 2 points.
  - 1) First point of circle -1st point is selected,
  - 2) Second point of the circle - the 2nd point is selected,
  3. Kascas radius (KCR)- drawing a circle through attempts.
    - 1) Selected the 1st test point of the circle.
    - 2) Selected the 2nd test point of the circle.
    - 3)The radius of the circle is selected.
  - 4.The center point of the circle is selected.
    - 1) The radius of the circle is selected.

### **Cloud -cloud drawing**

Cloudcommand is often used to define a specific object.

Drawing methods;

1. Drawing along the contour of the cloud.
  - 1) Initialpoint is marked,
  - 2) The cursor is moved along the contour of the cloud.
2. Draw along the contour of the object (polygon, circle, etc.).

The object is selected.

### **Spline - drawing without forming an angle.**

1. Drawing mode:
  - 1) First point is selected,
  - 2) The next point is selected
2. Control methods:
  - 1) Through markers,
  - 2) Through control peaks

### **- Ellips**

Drawing methods:

- 1.Ellipse drawing
  - 1) The center point of the ellipse,
  - 2) The second end point of the axis,

3) Length of the other axis,

**REFERENCES:**

- 1) Merkulov A. Creating a Project In Autocad "From Idea To Print". 2015
- 2) Poleshchuk N. Programming for AutoCAD 2013-2015. Moscow. 2017