

Product Name

Modify longitudinal profile, AutoLisp source

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Description

3 new commands are introduced in AutoCAD (or BricsCAD, ZWCAD, etc.), useful for designers:

- YTE: changes the Y texts of some points, relative to an origin point,
- XTE: changes the X text of some points, relative to X=0 of the current UCS,
- PTE: inserts elevation and slope with triangle on a POLYLINE.

Loading in AutoCAD is done with the APPLOAD command and then selecting the "Modify long_prof.LSP" file. To test the new commands, first open the "YTE+PTE_example.dwg" file.

You must create the "Modify long_prof" folder beforehand, in which to copy the DWG files: slopel.DWG, slopeld.DWG, sloper.DWG, sloperd.DWG, tridim.DWG and tridimd.DWG. These files are used as blocks by the PTE command.

YTE

With YTE you can modify the Y coordinate enrolled in a TEXT entity, depending on the Y coordinate of an indicated point and an initial Y.

The drawing unit is considered [m].

First you will indicate the scale on Y of the drawing, for example, for the scale 1:0.1 (actually 10:1) you will enter the 0.1 value.

Then you will indicate a point ("The origin point") relative to which the Y points will be corrected.

A TEXT entity will then be selected, representing the real value of the Y coordinate of the origin point indicated above.

Also indicate the number of decimal places for the Y value to be enrolled.

Then, repeatedly, one point (possibly with OSNAP options) and a TEXT entity will be indicated. The TEXT will automatically change to represent the Y coordinate of the indicated point relative to the origin point and the Y scale. Before giving the YTE command, enter some TEXT entities near the drawing points for which you want to enter the Y value!

Exiting the command is done by pressing ENTER again.

The command is useful to adjust the Y values to an origin point, for example, from drawings representing sections or longitudinal profiles (see "YTE+PTE_example.dwg").

XTE

With XTE, you repeatedly modify the TEXT entities that represent the X coordinate of an indicated point. The drawing unit is considered [m].

First you will point the X scale of the drawing, for example, for the 1:2 scale you will enter 2.

Also indicate the number of decimal places for the X value to be enrolled.

Then, repeatedly, one point and a TEXT entity will be indicated. The TEXT entity will change to the value of the X coordinate of the point, relative to the origin of the current UCS.

Exiting the command is done by pressing ENTER again.

An example where you can use the command is the row of accumulated distances from a longitudinal profile. In this case, change first the UCS in the first point from which the distances are gathered.

PTE

PTE enters the Y elevation and the slope of the segments between the vertices of a selected POLYLINE or LWPOLYLINE.

The drawing unit is considered [m].

Will be introduced:

- the scale on X of the drawing, for example, for 1:2 scale you will enter 2,
- the scale on Y of the drawing, for example, for 1:0.1 scale (actually 10:1) you will enter the 0.1 value,
- a point ("The origin point") relative to which will be further calculated the Y coordinate of the POLYLINE,
- a TEXT entity representing the real value of the Y coordinate of the origin point indicated above,
- translation on X of the triangle with TEXT that will be automatically entered in the vertices,
- the number of decimal places of the TEXTs that represent Y,
- the number of decimal places at the slopes of the segments,
- position of the triangles, above or below the POLYLINE,
- POLYLINE or LWPOLYLINE entities will be repeatedly selected.

At the POLYLINE vertices a triangle with its Y value will be inserted, and the slope and the flow direction will be entered between the vertices.

An example of use is a POLYLINE introduced into a longitudinal profile, representing the ditch bottom line (see "YTE+PTE_example.dwg"). The POLYLINE Y coordinates can result from cross sections.

Limitations

Does not exist.

Design Details

Settings in Visual Lisp (Tools, Window Attributes, Configure Current):

- Tab width 3
- Left margin 0

Logical View

It's not necessary.

Process View

Is not the case.

External Sources

Can be used in AutoCAD or programs based on IntelliCAD (such as BricsCAD, ProgeCAD, ActCAD, ZWCAD, etc.).

Deployment

Loading in AutoCAD is done with the APPLOAD command and then selecting the "Modify long_prof.LSP" file.

Server installation

Is not the case.