

PlanPRO

Tools for developing Transmission Plan and Profile drawings.



Autolisp Utilities

The following list of Autolisp programs have been created to assist the CAD drafter in developing PLAN & PROFILE drawings with data from the engineering/surveying team. The Autolisp programs are basically divided in use between the PLANVIEW and PROFILE portions of the drawing, with several programs being able to serve both.

[3pt_Ang] Determines the Included Angle (Theta) formed by three selected points. The variable DEG is set to this value. Angle Units Mode 0,1,2,3,4 :

Decimal Precision:

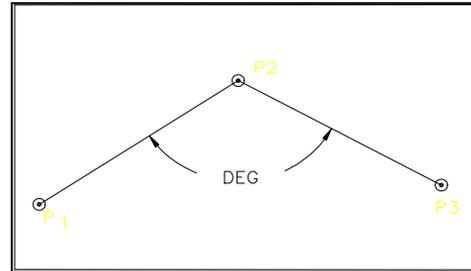
Select Start Point >

Select Corner Point >

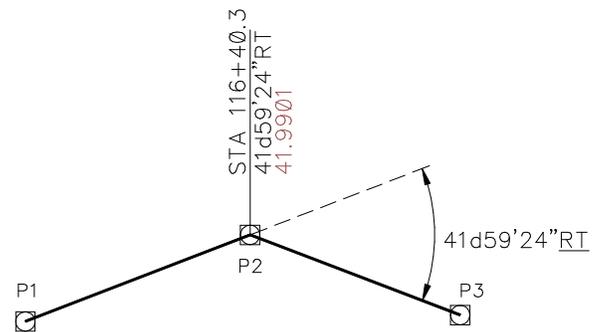
Select Third Point >

The included angle (Theta) is:

The Autolisp variable used is: DEG



[Bearing] Calculates a Turn Angle from a previous Bearing line. Similar to 3pt_Ang but places block after determining the angle of variance from a previous bearing. 3 points are picked, the first two are the initial bearing, and the third determines the angle of bearing difference between points 1 and 2, and points 2 and 3. Doesn't work well with distances under 10 feet. Stationing distances from point 1 to 2 is either added or subtracted from the stationing value specified. (Figure PL4)



Continue from last Bearing? <N>:

Select Backsight Bearing Point >

Select Corner Bearing Point >

Select Foresight Bearing Point >

Backsight Stationing <0>:

New Stationing[+ or -] ? <+>:

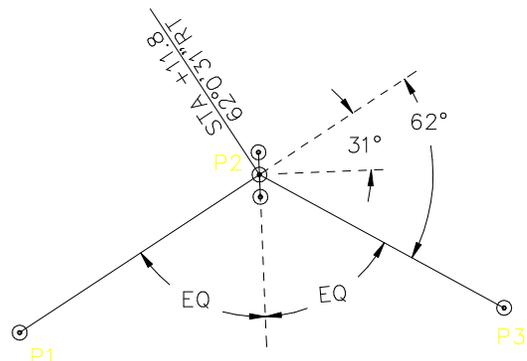
[Bisect] Bisects an Angle and places a multiple pole (2 or 3) structure block at the corner point at the bisected angle. (Figure UT10)

Select Backsight Bearing Point >

Select Corner Bearing Point >

Select Foresight Bearing Point >

Block Name <POLENEW2>:



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[Blk2Tag] Copies the name of a selected block to a tag of the same or another block. Block names are used by PROFILE.LSP to insert pole blocks when the first four letters spell "POLE" in the ASCII text file DESCRIPTION field. (Figure)

Select Source Block >
Select Destiny Block >
Input Tag name <POLEBLK>:

[Chop] Strips off leading and/or trailing spaces (" ") from a text string, and returns the shortened string.

[Deg2Dec] Conversion of attribute tag value from degrees, minutes and seconds to Decimal. New value can be saved in a different attribute tag.

Select Block with Attribute to Convert >
Input Tag name with Degrees <ANGLE>:
Input Tag name for Decimal <MISC6>:
Decimal Degrees = :

[Deg2Rad] Input Decimal Degrees sets variable ANG to radians.

Degrees In: Radians Out:

[Dist_UB] Creates an offset polyline with beveled corners at all vertexes of the selected polyline. Typical transmission underbuild style. (Figure UT8)

Distribution Offset Distance <25>:
Select Transmission Polyline >

[Fileread] Used by PROFILE and PLANVIEW to read Dbase III output shot list text file.

[Gallop] Draws a Lissajous Ellipse of a galloping conductor. GALLOP.DWG is used to display the calculations and values used by GALLOP.LSP to make the ellipse's. (Figure UT4, 5)

Span length in feet:
Pc = Wind Load in Lbs/Ft:

Wc = Weight of Conductor in Lbs/Ft:

Li = Insulator Length in Feet:

Si = Final Sag in Feet:

Single or Double loop? <S>:

Insulator Attachment Point >

[Labeline] Line Labeling with Surveyor Coordinates Bearing and Line Length (requires Labeline block). After selecting two points, the block is inserted with distance, bearing angle in surveyor coordinates and bearing angle in decimals. Station mile is set at 5280 feet as a default, and distances are added consecutively until a station mile is reached, whereupon a bearing block is inserted at the mile point.(Figure PL4)

Continue from last point? <N>:
Sheet/Stationing Mile Length <5280>:
Select 1st Bearing Point >
Select 2nd Bearing Point >

[MeanElev] Gets Elevations from two selected blocks ELEV Attributes, and fills in a third block ELEV Attribute with the calculated average value.

(Figure PL2)

Select 1st Block >
Select 2nd Block >
Select 3rd Block >

[MkelAtt] Gets distance from point selected (pole base) and creates an attribute definition with distance default at elevation selected (conductor height). For use in making pole blocks. Attachment point attributes are "preset" and automatically made. (Figure PR3)

Tag Name? <ELEV>:
Same Pole Base Point? <N>:
Pole Base Pt >
Attach Pt >

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[MkPoleBk] Makes a block of structure and attributes and increments next block name at 5' intervals. Used to create a series of each type structure for heights 50' through 95' or as needed. For use with MAKE POLE BLOCK menu item in PLANPRO section of RLZ.MNU. (Figure PR3)

Block Name Prefix <TUS-2>:
Pole Length Suffix <50>:
Pick Pole Block Base Location >

[ModFlag] Specify Entity Flag to look for and new value to be set. Useful when attribute definitions are created and not set correctly. See AutoCAD Entity and Symbol Table for specific flags and settings. (Figure PR3)

Input Search Flag Number <>:
Input Numerical Flag Value Setting <>:
Select Entity >
Single or Global? <S>:

[Parse] Searches for a field delimiter character, then writes the field data as a text string into the drawing in columns, each field as a new line of text. The default value is a TAB (^t) character. For use with programs that provide SDF, CDF, or tabular output in ASCII text mode such as Lotus 123, Excel, Word, etc.). (Figure PL6)

Filename to search <>:
Specify Field Delimiter <>:
Column(s) Spacing <1.5>:
Text Start Point >
Specify Line(s): All, Range, or Field value <A>:
A- Line(s) 1 through EOF
R- Start with Line? <1.0>:
End with Line? <1.0>:
F- Specify Field_1 Value to find <>:

[RecalcTX] Recalculates North, East, Elevation coordinates, from an old shot list text file and writes them to a new file with the new coordinates, based on the offset to a corrected point. (Figure UT2)

Data To Be Recalculated From Filename

<>:
Recalculated Data to be sent to Filename
<>:
Input Shot Number To Be Modified <1>:
Input New Shot Elevation <>:
New Shot Location Point >

[RenAtTag] Renames Attribute Tags in Block(s), Single or Globally. Refer to file PP-ATTR.LST for Attribute Tag Names.

Input Old Tag name <STA>:
Input New Tag name <STATION>:
Select Objects >
Change Single Block or Globally? <S>:

[RestorAT] Gets the block table definition of a selected attribute and updates its placement, layer, rotation and size relative to the original information in the block table. (Figure UT1)

Select Attribute >

[SDF_updt] Reads an ASCII shot list text file, searches specified block(s) for a specific matching tag and value, then modifies all attributes in the block with new shot list information.

Filename to import <>:
Block Name to Search <POLEATTR>:
Field TAG to Find & Compare <PNTS>:

[SeqnumRL] Sequentially numbers the PNTS attributes in selected blocks with a REAL (fractional) number. Usually used to renumber attributes which will be extracted from the plan view, sorted and imported using PROFILE.LSP. Works well when numbering poles and intermediate shots for extracting and then creating the profile ground line. Each sequence should be incremented by one (1) for poles, and (.1) for intermediate points. (Figure PL2)

Input Shot Sequence Number <1.0>:

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Input Tagname to Fill in <PNTS>:
Select Block >

[SetElev] Sets Sea-Level Control Point and Edits ELEV Attribute(s) in structure block(s), Single or Globally. (Figure UT16)

Show Sea Level Elev (Control Point) >
Select Block to receive <ELEV>
Input Block Tagname <ELEV>:
Edit Single Block or Globally? <G>:

[Sta-Ang] Calculates Offset Stationing of Angle pole in the Profile view and places a text string of the new stationing. (Figure UT7)

Select Station Grid Point >
Show Distance from Station Grid Point
>
Input Station Grid Value:
Input Bearing Turn Angle:
Place text >

[Sta-Int] Calculates Offset Stationing of Intermediate poles in Profile view and places a text string of the new stationing. (Figure UT7)

Select Station Grid Point >
Show Distance from Station Grid Point
>
Input Station Grid Value:
Place text >

[Strspot] Searches for a specified shot number in an ASCII shot list text file and then locates that shot in the plan view. Good for missed or revised location shots. (Figure UT2)

Filename to search <>:
Pole Name to Insert <POLENEW>:
Insertion Scale of Block X= <200>:
Input Bearing Shot Number <1>:

[Transit] After establishing a baseline with two points, a transit block and a target block are inserted at each end of the baseline and turn angles and distances are keyed in to place a block called "TREE". (Figure UT6)

Enter transit location >
Establish baseline >
Enter transit swing Right or Left <R>:
Target Shot Horizontal Angle:
Degrees: <>:
Minutes: <>:
Seconds: <>:
Enter distance in feet to tree:
Enter tree diameter in feet:
Continue or End? <C>:

[ValueMod] Replaces attribute value(s) in a loop.
Select Block >
Input 1st Tag name <>:
Input Attribute Value <>:
Input Next Tag name <>:

[XYZ2Tag] Copies north and east coordinates of a block into one of its own attributes (Figure PL5).

Tag name for Coords <COORDS>:
Select Block >
Change Single Block or Globally? <S>: