

Using the "Make Truss Tape" and "Truss Tape for Circular Sel" commands

If you don't want to have to read and try and figure out the following documentation, send me an email, and we will set up a Zoom meeting to walk you through using and customizing your AP Truss Tapes. If you want to test your luck, just give me call.

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For a long time now, a number of users wanted me to create a command based on my "Hanging Tape" dimensioning command that would allow them to print the location of fixtures and objects on 3 1/8 inch wide receipt paper in a receipt printer at 1 to 1 scale. Normally, one would just create a viewport that had a 1 to 1 scale, but that does not work because the symbols are way too big to fit on 3 1/8 inch wide paper. The only printer that people seem to be using is the EPSON TM-T20II, as it is reported to be the only one that is accurate enough to print the tapes. More about accuracy will be discussed below.

Possibly Helpful Note

AutoPlot Tools for Spotlight tries to use the Message window to provide helpful prompts during many commands. You may find it helpful to run the "Move Message Window" at the bottom of the AutoPlot menus in the Autoplot workspace. This command will show you the message window and allow you to place it in a position that can be conveniently found and used. After placing the message window, close it and when it is opened again, it should reappear in the place it was last appeared.

"Make Truss Tape" Command

1. Select all the objects you wish to display on the truss tape. You can select anything you want; you are not limited to selecting Lighting Devices.
2. Select the "Make Truss Tape" command.

3. After the command collects selected objects and the labels to represent them you will be presented with the following dialog.

- a) The first small edit box asks you to specify the scale of the viewport that prints the truss tape. Normally, this would be set to 1 in order to create a 1 to 1 output on the receipt printer. However, the accuracy of the print out varies between the kinds of paper used. For the plain paper rolls from Amazon, the MFLABEL Thermal Receipt Paper, I have found that spacing is a little short, and a scale of 0.989 will provide a more accurate print out. You will need to test your own printer and adjust the scale appropriately
- b) The “Position Name” edit boxes allow you to fill in the a position value that will be printed on the beginning and ending tags that are placed on the truss tape. The default value will be the value of the “Position” field of the first “Lighting Device” that the macro finds in the selected objects. You can replace this value with anything you wish or leave what you find. The value of these position fields will also be used to name the design layer, sheet layer, and viewport used to print the truss tape, and they will have the following names:
- 1) a design layer named "Tape DL - position name"
 - 2) a sheet layer named "Tape SL - position name"
 - 3 a viewport named "Tape VP - position name"
- c) The rest of the edit fields specify what will be displayed on the starting and ending tags that are placed on the truss tape. These values will be remembered between execution of the commands.
5. After dismissing the above dialog, you will be asked to draw a line from screen left to screen right. This is the line along which all the selected objects will be measured. The start of the line is the start of the measurement. If a selected object does not lie on the line, a point perpendicular to the line from the object will be used. Objects are assumed to be symbols or plug-in objects and will be measured to their insertion points. Objects that do not have insertion points will be measured to their geographic centers.

- a) The line should be drawn through the center of the position for which the truss tape is being made. If the position is not perfectly horizontal that does not matter; the line does not need to be horizontal. The line you draw just needs to be parallel to the line of the position, hopefully the center.
 - b) If you are dealing with a perfectly vertical position, up and down screen, you will need to start the line from the bottom and draw toward the top.
7. The symbols placed on the receipt tape will be placed in a way to indicate whether the object is to be hung on the up stage cord or the down stage cord, or from the center of the truss. If you are making a tape for a light pipe, the command will very likely assume that all the selected objects are to be hung from the US / DS center of the position.
- a) Up screen = up stage. For perfectly vertical positions, screen left = up stage. If these rules do not match the orientation of your drawing. Deal with it in any manner that makes sense to you. In most cases, this will just involve changing the stage orientation indicators on the tape,
 - b) Objects that are more than 3" above the line you draw are assumed to be on the up stage cord. Objects that are more than 3" below the line you draw are assumed to be on the down stage cord. Other objects are assumed to be hung from the ladder rungs in the center of the truss, or from the selected pipe.
 - c) The line you draw is a vector and is assumed to run infinitely in both directions. So, if you wish, you can draw a 1 foot line to measure all the fixtures on a 30 foot truss. The length of the line you draw will determine the length of the truss tape created. If the line you draw ends before the last selected object, the length of the truss tape created will be 2 feet longer than the distance to that last object. If you draw a line past the last selected object, the truss tape created will be as long as the line you draw. In most cases this means you will draw a line to the end of the truss, but it is up to you.
8. Upon completion of the drawing of the line you will be taken to the sheet layer and viewport. Select "Print" and be sure that the receipt printer is the selected printer.

Currently, the shipping version of AutoPlot Tools for Spotlight will recognize objects attached to the following records and has assigned certain fields to be displayed. See the "'Make Truss Tape' Documentation" for details.

- "Lighting Device"
- "AP Multicable"
- "Multicable VW"
- "HoistVW"
- "BrxHoist"
- "Video Screen"

In order to be placed correctly, the projector must have the same angle as the truss. This is because the insertion point of the Video screen is in the screen not the projector.

"Doc Ctr Record"

"Truss Ctr Record"

Other objects will be displayed, but the information displayed will be copied from the first 10 fields of the records to which they are attached. The command " Edit Truss Tape Assign WKS " will allow you to change the what fields are assigned to the displayed fields, and it will allow you to add records to be recognized and have their fields assigned to be displayed. For these changes made by to have an effect, you will need to run the Make Truss Tape command again, after your changes or additions

What Is Displayed on the Truss Tape.

The symbols placed on the truss tape are contained in a Vectorworks file which is buried in the user folder

\2020\Plug-Ins\APS_Plug-Ins\APSpotlight_Data\Tape Label Folder\ AP Truss Tape Labels.vwx

("2020" can be replaced with any later VW version year.)

Each of the symbols is attached to a record, "AP Tape Label Record" that has the following fields.

Field One

Field 2

Field 3

Field 4

Field 5

Field 6

Field 7

Field 8

Field 9

Field 10

Use Symbol

Dist

The record values from the various selected objects are copied into these fields, and those fields are displayed by text fields linked to that record. Using the "Edit Truss Tape Assign WKS" and the "Save Truss Tape Assign WKS" commands you can change what is displayed on the truss tape. It is also possible to customize the symbols used by editing the "AP Truss Tape Labels.vwx" file.

See the "Customizing AP Truss Tapes" document for more information, and/or just contact me at the email below, and we'll set up a Zoom meeting to walk you through the process.

The command will work with all straight Lighting and Hanging Positions; the angle does not matter. It should attempt to place all objects that are selected, but works

better if those objects are connected to a record. It works best if the records the objects are attached to are listed in the worksheet created with the "Edit Truss Tape Assign WKS."

"Truss Tape for Circular Sel" Command

This command works very much like the "Make Truss Tape" command, but because the cords have different diameters, you can only get accurate distances by making one cord at a time. The command will ask you the radius of the cord for which you want to make a tape. In the dialog that asks for the radius, the command will suggest the radius to use based on the "ThreePtCenter()" function. In all cases, the accuracy of the measurement will be dependent on how accurately the selected objects line up on the same arc.

You will be allowed to start the measure from anywhere on the truss, but the measurement will always proceed in a clockwise direction.

If you have objects that are placed between cords, the command will suggest a radius that is based on the "ThreePtCenter()" function, and you can choose whether or not you want to accept the suggested radius. Alternatively, you can drag the objects to the cord of your choice

1. Select all the objects you wish to display on the truss tape. You can select anything you want; you are not limited to selecting Lighting Devices. Be sure all the objects you select are on the same cord.
2. Select the "Truss Tape for Circular Sel" command.
3. You will now be presented the following dialog.

- a) The first edit field lets you name that will be used in naming the design layer, the sheet layer, and the viewport that are used to make the truss tape. If the first selected unit has an entry in the "Position" field that will be entered in the edit box. You can accept it or write anything you want.
- b) The next edit box asks you to specify the scale of the viewport that prints the truss tape. Normally, this would be set to 1 in order to create a 1 to 1 output on the receipt printer. However, the accuracy of the print out varies between the kinds of paper used. For the plain paper rolls from Amazon,

the MFLABEL Thermal Receipt Paper, I have found that spacing is a little short, and a scale of 0.989 will provide a more accurate print out. You will need to test your own printer and adjust the scale appropriately

- c) Next you need to specify which cord you are making the truss tape for. At this point the command cannot automatically know which cord your selections are on. If you pick the wrong cord, will get very strange results.
 - d) The "Cord Radius" edit box allows you to specify the radius of the circle (cord) that the selected objects are on. The command will attempt to guess the radius using the "ThreePtCenter()" function. You can accept this guess or type in another value.
 - e) Last, you must choose if the truss tape length
 - f) Just as with straight truss, the following will be created when the command runs.
 - 1) a design layer named "Tape DL - position name"
 - 2) a sheet layer named "Tape SL - position name"
 - 3) a viewport named "Tape VP - position name"
4. "Inside Cord" or "Outside Cord" will be added to the above names depending on which button you selected above the "Cord Radius" edit box.

After clicking on the "OK" button, you will be asked to click on where the point from which you wish to start to measure. You can choose anywhere on the cord you for which are making the tape. The measurement will always proceed in a clockwise direction. You will then be taken to the sheet layer and viewport. Select "Print" and be sure that the receipt printer is the selected printer.