

TRUSS TAG Objects and commands.

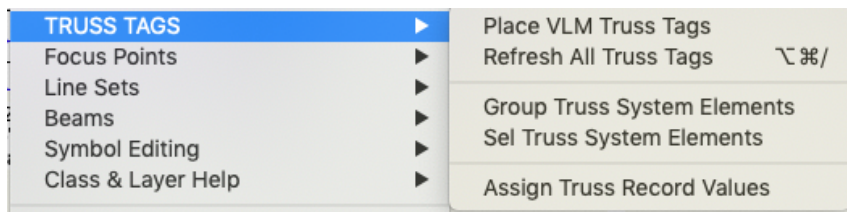


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The VLM Truss Tag Object.

The truss tag object is a plug-in object (PIO) for labeling truss in the drawing. The object is called a “VLM Truss Tag”. (Why “VLM Truss Tag? See appendix.) The PIO uses a symbol that has a “Truss Label Record” attached, and the symbol has text fields linked to that record.

The values in the Object Info Palette (OIP) are placed in the in the Truss Label Record of the symbol for display on the drawing. A small number of symbols are provided for the VLM Truss Tag use, and they are located in the “Truss Label Symbols” folder Located in the user folder’s “Plug-ins” folder:

/ Plug-ins / AP Cable ToolsSymbols / Truss Label Symbols

All the symbols in that folder that have the “Truss Label Record” attached are made available in the drop down menu in the OIP.

If you wish to change how the tags that are provided display information, you can make a symbol(s) that is attached to the Truss Label Record and place it in the above folder. It will be made available in the drop down menu in the OIP. If you wish, you can go to the “AP Truss Labels.vwx” file and copy one of the symbols there, and rearrange it and change the graphics to look like you wish. OR, you can send me a drawing of how you wish to have your labels look, and for a small charge (\$25) I will create a symbol to work with the VLM Truss Tag. You can send me up to 5 different versions of the tag in the same file. If you wish to make the symbol yourself and are having problems, call me, and I will walk you through the process.

Why would you bother with placing a VLM Truss Tag?

The VLM Truss Tag provides two convenient kinds of functionality. First it will display what is typed into the OIP on the drawing in the consistent manner of the selected symbol. Second, and more importantly, if the information that the tag requires resides in the truss that you have drawn, the tag will harvest that information and place it in the fields of the OIP. This functionality should save you some time. Next, any information contained in the tags on the drawing can be collected in a report worksheet for the “VLM Truss Tag” objects. Lastly, some of the information in the tag has 2 way

The VLM Truss Tag Plug-in Object (PIO)

The VLM Truss Tag has the following parameters (fields in the OIP):

Manual Entry (this is a check box)

If this box is checked, it will allow you enter anything you want in the parameter fields. There are 2 fields listed below in which this functionality is limited, “Length” and “Trim”. The Length field will always reflect the total of length values in the Truss Record of the truss pieces that make up the truss, and you will not be allowed to change the value in that field. The “Trim” field will always report the actual Z height of the truss. You will be allowed to enter values into this field, but doing so will change the Z Height of the truss that the tag is referring to.

Name

Whatever you wish to name the truss. Might be the same as the Position field; up to you.

Position

Whatever you wish to use for the position of the truss. Might be the same as the Name field; up to you.

Draw Pointer

This is a check box. When it is selected the truss tag will draw a line with an arrow to the truss that is labeled. If the label is moved, the line will be redrawn. Nothing happens if you move the truss and you must use the control point on the arrow head to place where it lands.

Type

This describes the type of truss you wish to use. This will usually contain the dimension of the cross section of the truss. For example, 12” x 12”, or 1’8 ½” x 1’8 ½”. This information will be harvested from the truss objects that are being labeled. The dimension format will be the same as is listed in the truss object symbol’s OIP. This information is usually harvested from the Height and Width parameters of a Truss item. VW’s Straight Truss object has a “Connection” field which will be incorporated into this field.

Length

This holds the total length of the truss being labeled.

Diameter

This is only used with circular truss when that information is available. This is usually only true with objects created with VW’s Curved Truss tool.

Color

This will hold the color of the truss. The color will be harvested from the Truss Record of the first truss piece in the stick if there is a value present.

Connection Type

This holds the value of VW truss connection field. If that field is not present, it will hold whatever you type into it.

Bolt Count

This holds the total number of bolts needed to construct the truss stick being labeled. This can be harvested from values in the Truss record of each of the symbols in the truss stick being labeled. The Truss Record that is attached to truss symbols in the VW libraries does not have a “Bolts” field, and the enhanced Truss Record must be present and filled out for these values to be harvested. In the absence of an enhanced Truss Record, any value may typed into this field.

Pin Count

This field works just like the “Bolt Count” field but for spigoted truss.

Total Truss Weight

This holds the total weight of the truss pieces that make up the truss stick. This value can be harvested if weight value are filled out in the symbols that are used.

Total Item Weight

This holds the total weight of items hanging from the truss. This value can be harvested from Hanging Positions. In other situation you can type in a value.

Total Weight

This is the total of the above 2 fields, Total.

Total Truss Wt #

This field holds the same value as the “Total Truss Weight” field except that it is in number format, not text.

Total Item Wt #

This field holds the same value as the “Total Item Weight” field except that it is in number format, not text.

Total Wt #

This field holds the same value as the “Total Weight” field except that it is in number format, not text.

Trim

This holds the Z height of the truss.

Piece Count

This presents a list of the pieces used to construct the labeled truss.

Piece Length Separator

This is a drop down menu of characters that can be used to separate the different lengths in the “Piece Count” field. A carriage return is included in the choices.

Note 1

Any thing you want.

Note 2

Any thing you want.

Note 3

Any thing you want.

Note 4

Any thing you want.

Use Symbol

This is a drop down menu of available symbols to be used by the truss label. If you add symbols to the Truss Label Symbols folder they will be added to the list.

Truss Pointer Class

The pointer line can be assigned a class; this is where you do it.

The VLM Truss Tag, Truss Tag symbols, and the Truss Label Record

How the VLM Truss Tag works

The VLM Truss Tag uses a symbol with text fields to display the information in the OIP on the drawing. The symbols available for use are listed in the “Use Symbol” drop down menu in the OIP. These symbols are located files “Truss Label Symbols” folder which is located in the “AP Cable Tools Symbols” folder.

Each of the symbols that can be used is connected to the “Truss Label Record”. This data record has fields that have the same names as the parameters listed above, and those parameter values are copied into the data record fields for display on the drawing. You can make your own symbols to display the information any way you wish, but you will need to be sure to attach the “Truss Label Record” to those symbols and link the text in those symbols to the fields in the “Truss Label Record”. The easiest way to do this is to duplicate a symbol in the file and move the linked text and identifying labels around to your liking. If you find the prospect of this too daunting, I am willing, for a small fee, to create the label(s) you desire. Send me a drawing, and I will quote you a price.

The “Truss Record”

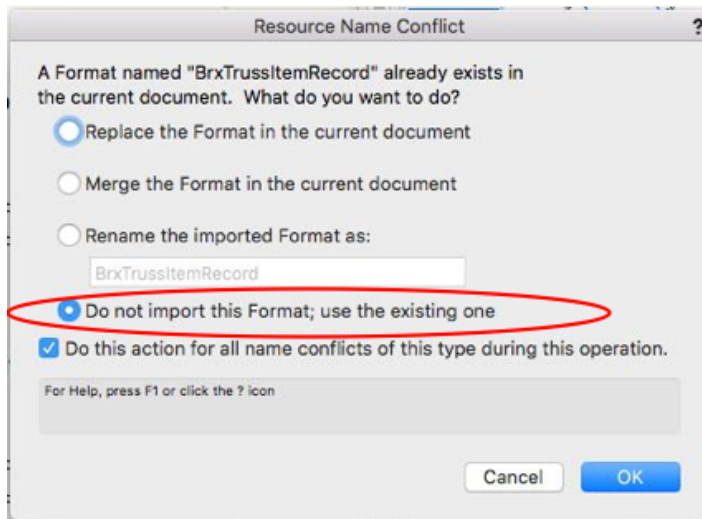
The symbols in the VW truss libraries are attached to a data record called the “Truss Record”. With the exception of VW’s “Straight Truss” object, the VLM Truss Label requires that a “Truss Record” be attached to the symbols or objects that are being labeled. The “Truss Record” contains the fields that hold the data that the truss label will display. For the VLM Truss Tag to work with truss sticks made from symbols, the “Truss Record” must be attached to each symbol and the correct length for the symbol must be entered into the “Length” field.

The enhanced “Truss Record”

The VLM Truss Tags will work if the Truss Record that ships with Vectorworks symbols is attached to the selected symbols. But...

That Truss Record is missing a few fields that would be nice to have, “Bolts”, “Pins”, and “Position”. It is possible to add these fields to the Truss Record with the “Assign Truss Record Values” command explained below.

Having 2 versions of the “Truss Record” can be problematic. If you enhance the Truss Record and then import symbols that do not have that enhanced record you need to be sure that you select the “Do not import this Format; use the existing one” button




Doing this will preserve the entries you made into the 3 new fields. If you don't, you will lose the data in those fields for that document

Truss Tag Menu Commands

68. Place VLM Truss Tags

This command will present a small dialog with a drop down menu presenting the choices of symbols available for use. Once you choose a symbol and click on the “OK” button, the cursor will change to

 and wait for you to choose a truss object. You can continue clicking on truss objects as long as you wish. When you are done click on a blank area of the drawing or any non-truss object, and the command will end and Truss Tags will be placed on each selection. If a selection is a group, the tag will be placed on the upper right screen corner of the group. If the selection is a symbol or plug-in object, the tag will be placed on the insertion point of the object.

Truss Tag Pointer.

After being placed the tag can be moved to a desired location. A line with an arrow head will be drawn to the selected truss. Where the line ends can be changed by moving the blue control point on the arrow head. If the tag is moved, the pointer line will be redrawn to the same location. If you do not want a pointer line drawn, there is a check box in the OIP that can be unchecked to turn of drawing

69. Refresh All Truss Tags

There are many kinds of actions and events that cannot be detected by the truss tag but will change the date that it must report. This command will tell all the truss tags to check the data of the truss and report the current information

70. Group Truss System Elements

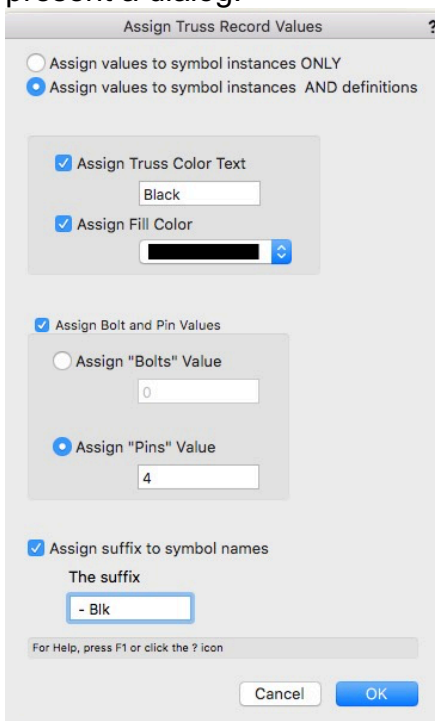
Truss objects that are placed with the Vectorworks “Insert Truss” tool remain individual objects even though Vectorworks knows they are connected and considers them to be part of the same truss system. This command will group all the truss that are part of the same truss system. They that system can be labeled with the AutoPlot “Place VLM Truss Tags” commands.

71. Sel Truss System Elements

Sometimes you will desire to select all the truss that are part of the same truss system without grouping them like the command above. This command will allow you to do this.

72. Assign Truss Record Values.

This will update the Truss record of the document. If no Truss Record exists, one will be created and then the command will end. If the Truss Record exists, it will be updated, and the command will then present a dialog.

The image shows a dialog box titled "Assign Truss Record Values" with a question mark icon in the top right corner. It contains several sections of controls. The first section has two radio buttons: "Assign values to symbol instances ONLY" (unselected) and "Assign values to symbol instances AND definitions" (selected). The second section has two checked checkboxes: "Assign Truss Color Text" with a text field containing "Black", and "Assign Fill Color" with a color selection button showing a black swatch. The third section has a checked checkbox "Assign Bolt and Pin Values" followed by two radio buttons: "Assign 'Bolts' Value" (unselected) with a text field containing "0", and "Assign 'Pins' Value" (selected) with a text field containing "4". The fourth section has a checked checkbox "Assign suffix to symbol names" with a text field labeled "The suffix" containing "- Blk". At the bottom, there is a small text line "For Help, press F1 or click the ? icon" and two buttons: "Cancel" and "OK".

This dialog will allow you to assign values to the symbol instances and and their symbol definitions of all the selected objects *if* those objects have already been attached to the Truss Record. The command will not assign the Truss Record to symbol instances or their definitions

Assign values to symbol instances... radio buttons.

These buttons determine if the values in the dialog get assigned to symbol definitions or just symbol instances. If only instances are chosen, some fields will be greyed out because they can only be assigned to symbol definitio

Assign Truss Color Text.

This button and text field allow you to assign a text description of the color of the truss (like “Black”) to the “Color” field in the Truss Record of every selected symbol.

Assign Fill Color.

This button and color drop down allow you to pick a color to fill the symbol definition of all the selected symbols. This can come in handy if you want them to display black, or if you want to color the symbols by length. In the latter case, you would need to select one instance of each 10' truss definition in the document and pick a color.

There different ways to use this command to help you build a custom truss library and one that can work with VLM Truss Tags.

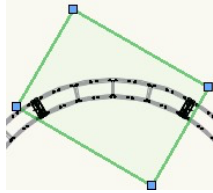
Circular Truss .

Truss objects made up of curved pieces can be labeled with the VLM Truss Tag, but... .

The data from such objects is not consistently reported, so you will need to enter data manually by checking the “Manual Entry” check box below the “Rotation” field. The trim of the circular truss object will be harvested, and the Width and Height of the Truss Record will be harvested to put into the “Type” field of the Truss Label Record. All other information will be left to manual entry. (See “Trim of Raked Objects” below.)

“Trim of Raked (tilted) Truss Objects. Big Problems

It is difficult to tilt truss objects in Vectorworks because such objects are usually composed of hybrid symbols. If you create symbols of curved truss, you will have additional problems, because the bounding box of curves does not conform to the geometry of the object.



The VLM Truss Tag uses the Z coordinate of the object to report trim, and the Z coordinate is based on the bounding box. If you wish to use the truss tag on curved tilted truss you will need to use a truss tag symbol symbol that does not display the Trim but does display a user field into which you can type the trim. This is probably the best practice for all tilted truss pieces.

One Last Fun Thing.

Scott Parker contacted me to tell me that he had put in an enhancement request to Vectorworks (VW) to have a Hanging Position put its name in a field of the Truss Record of the truss objects that made up the position. Currently there is no “Position” field in the VW Truss Record, so a user field would have had to be used. For that reason, I added the Position field to the enhanced Truss Record. When you type in a value into the “Position” field of the VLM Truss Tag, that value will be placed in the Hanging Position’s “Postion” field and into the “Position” field of every object in the Hanging Position that has an enhanced Truss Record. As a result, you can construct worksheet reports that list the truss pieces by position value.

Why “VLM” Truss Tag.

During assisting Michael Creason on a corporate event, Michael mentioned a desire to have an object to label truss sticks in his plots. He was using symbols with attached records and linked text, but he wanted a plug-in object that allowed him to more easily pick symbols and enter text from the shape pane of the OIP. Michael’s company is Visionary Light & Media, VLM.