

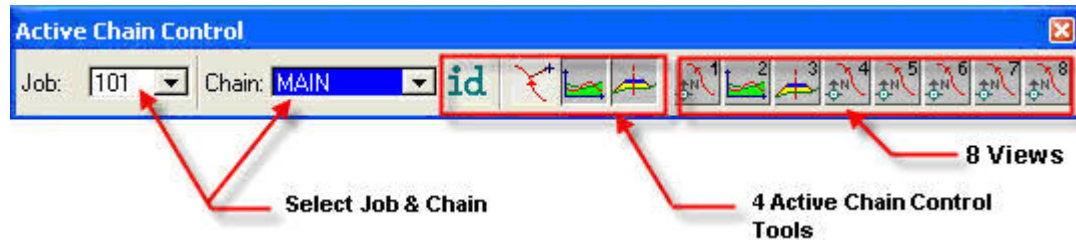
Topic: Component Based Vertical Alignment Design Tool

The new method to create vertical alignment introduced with Geopak 2000 is the **Component Based Vertical Alignment Design Tool**. This method allows for vertical alignment to be created graphically and stored using Store Graphics command, similar to the horizontal alignment Store Graphics command. The Component Based Vertical Alignment Design Tool requires COGO to be active as well as an Active Chain and Active Profile Cell with no Gap.

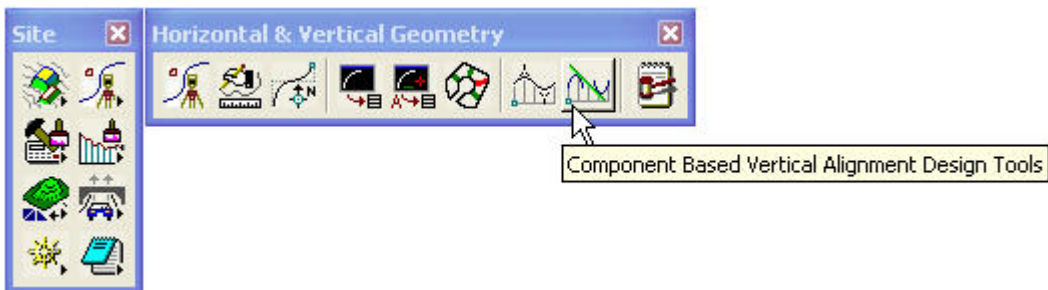
Select the Active Chain Control tool by **Selecting Application>Geopak Road >Active Chain Control** Or by selecting **Active Chain Control** from the Geopak Main dialog box. See Brown Bag Lunch & Learn #10 for more info.



Selecting the button will invoke the Active Chain Control dialog. To use the Component Based Vertical Alignment Tool, assign your profile to a view by right clicking on one of the eight MicroStation views and selecting the Profile.

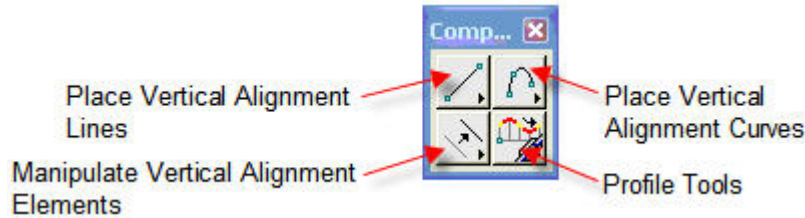


Select the Component Based Vertical Alignment Tool by **Selecting Application>Geopak Road > Geometry>Layout Profiles (Component Based)** Or by **selecting Component Based Vertical Alignment Tool** from the Geopak Main dialog box. Component Based Vertical Alignment Tool is not available through the Project Manager Workflow dialog box.



From the main Component Based Vertical Alignment Tool frame shown below, additional 4 tools boxes can be accessed by "tearing off" icons and creating dockable and resizable individual tool boxes.

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Place Vertical Alignment Lines:



Create a Profile Line by Two Points

Create a Tangent Line Unconstrained (line tangent to a curve)

Create a Profile Line Tangent to Two Elements (tangent line between 2 curves)

Place Vertical Alignment Curves:



- Place a Vertical Curve by 3 Points
- Place a Vertical Curve by High Point/Low Point
- Place a Vertical Curve Tangent to One Element and Through One Point
 - Tangent to line
 - Tangent to another curve
- Place a Vertical Curve Tangent to One Element Given High Point/Low Point
 - Tangent to line defining high point/low point
 - Tangent to curve defining high point/low point
- Place a Vertical Curve Tangent to 2 Elements
 - Tangent to 2 lines
 - Tangent to 2 curves
 - Tangent to line and a curve

Manipulate Vertical Alignment Elements:

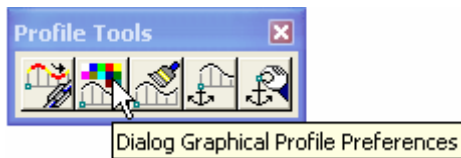


- Move a Profile View Element (curve or line)
- Rotate a Profile View Element
 - Not for vertical curves
- Extend a Profile View Element (curve or line)

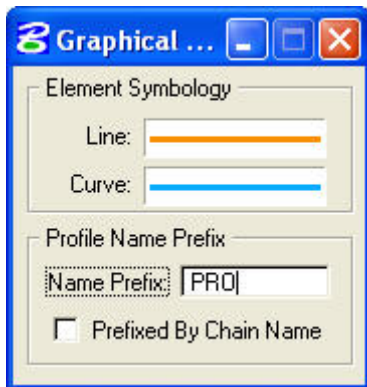
Profile Tools:



- Store a Vertical Alignment in COGO _____
- Graphical Profile Preferences _____
- Import Vertical Alignment from COGO _____
- Place Profile Cell Anchor _____
(To make profile cell active if multiple cells)
- Profile Cell Control _____
(To place a profile cell)



Setting the Element Symbology for the Line and Curve will allow for easier viewing while designing the vertical alignment. Element Symbology should be set prior to using the Component Based Vertical Alignment Tool.



When storing a profile in COGO, the user is prompted for a profile name to utilize. If you wish to have prefix attached to the name, for example, if the prefix is set in the above dialog as "PRO," and the user enters a name "A" the profile name in COGO will be "PROA." If the chain name prefix is selected, and the profile is associated with chain "CL" the profile name will be "CLPRO"

To Store Vertical Alignment in COGO:

- Select the Store Vertical Alignment COGO icon
- If COGO is not active, Alert box will appear to activate COGO, Select OK.
- Enter a name for the profile
- Select one element to be stored, right click to accept
- Right click a second time to create the profile (profile that will be stored will highlight).
- Profile creation can be confirmed by viewing the COGO dialog box.

Follow Directions at the Bottom of MicroStation Window while using the Component Based Vertical Alignment Tool!!!

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9/11/06

Information contained in this handout is taken from Geopak Help Files.

Related links: *Using Knucklehead's Guide for GEOPAK Road 2004 Edition.* - [The "Component Based" Profile Design Tool:](#)