

Copying and Scaling Loads

Project Description:

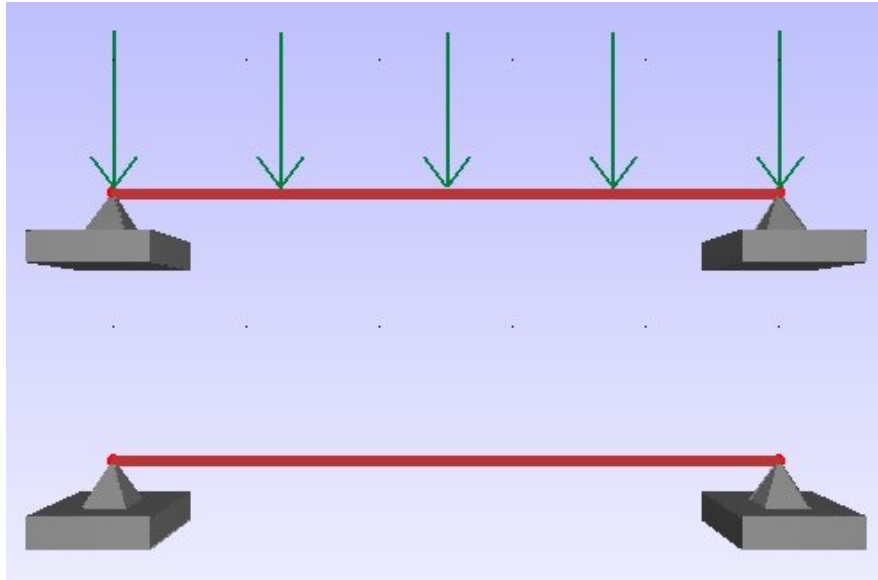
The purpose of this tutorial is to demonstrate how loads can be copied from one member and pasted to another member using a factor. Loads can also be copied and factored for an individual member to a different load case on that same member.

FEATURES:

Copy Loads
Paste Factored
Loads

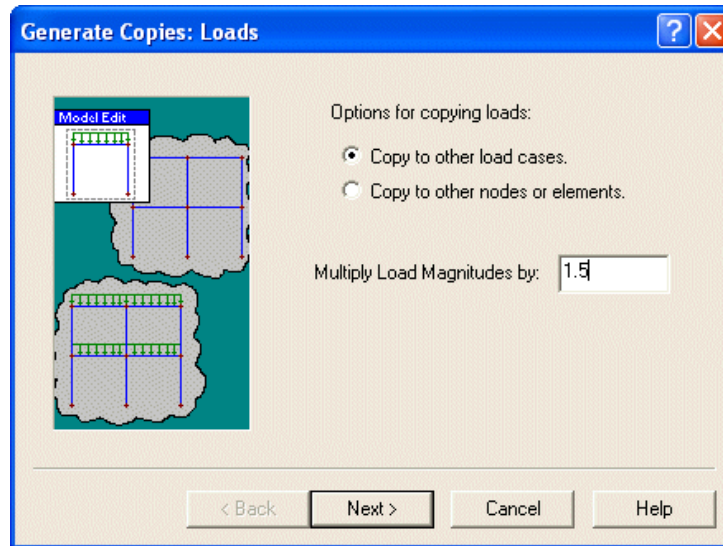
Modeling the Structure

In a Plane Frame, create two 10 ft long members, one above the other, and specify the supports as "Pinned". Apply a uniform load of "-2 K/ft" in the Dead Load Service case to the upper member. Your model should look similar to the figure below:



Copying the Loads

Select the uniform load, and use the **Edit | Copy** command from the Main menu to copy the load to the clipboard. Using the **Edit | Paste Special** command will bring up the Generate Copies: Loads dialog box.



You will now generate a “-3 K/ft” uniform load for the Live load case for the upper member:

- **Choose** “Copy to other load cases” radio button
- **Enter** “1.5” for a Load Multiplication Factor > **Select** Next
- **Select** “Live Loads” as the desired load case > **Click** OK

Verify this worked by switching between the Dead and Live load service cases using the dropdown menu located at the top of the program window.

Let’s now generate a “-4 K/ft” uniform Dead Load for the lower member. Switch back to the Dead Load service case, and **select** the uniform load on the upper member.

- Use the **Edit | Copy** command to copy the load to the clipboard
- Use the **Edit | Paste Special** command to paste the copied load
- **Select** the “Copy to other nodes or elements” radio button
- **Enter** a Load Multiplication Factor of “2”. > **Select** Next
- **Select** the member to which you want to apply the > **Click** Finish

The load of -4 K/ft should now be applied to the lower member in the Dead Load service case. Verify this worked by switching between the Dead and Live load service cases using the dropdown menu located at the top of the program window.

Note: You will not be able to factor loads containing *both* Nodal and Member loads. To factor both of these loads, you will have to copy/paste each load individually.

This tutorial demonstrated the Load Copying feature in Visual Analysis in a very simplified way. This method of copying and pasting loads can be very helpful for complex models.