



Tutorial for creation and analysis of a plane truss and result visualization

Educational Version 3.00

August 2012

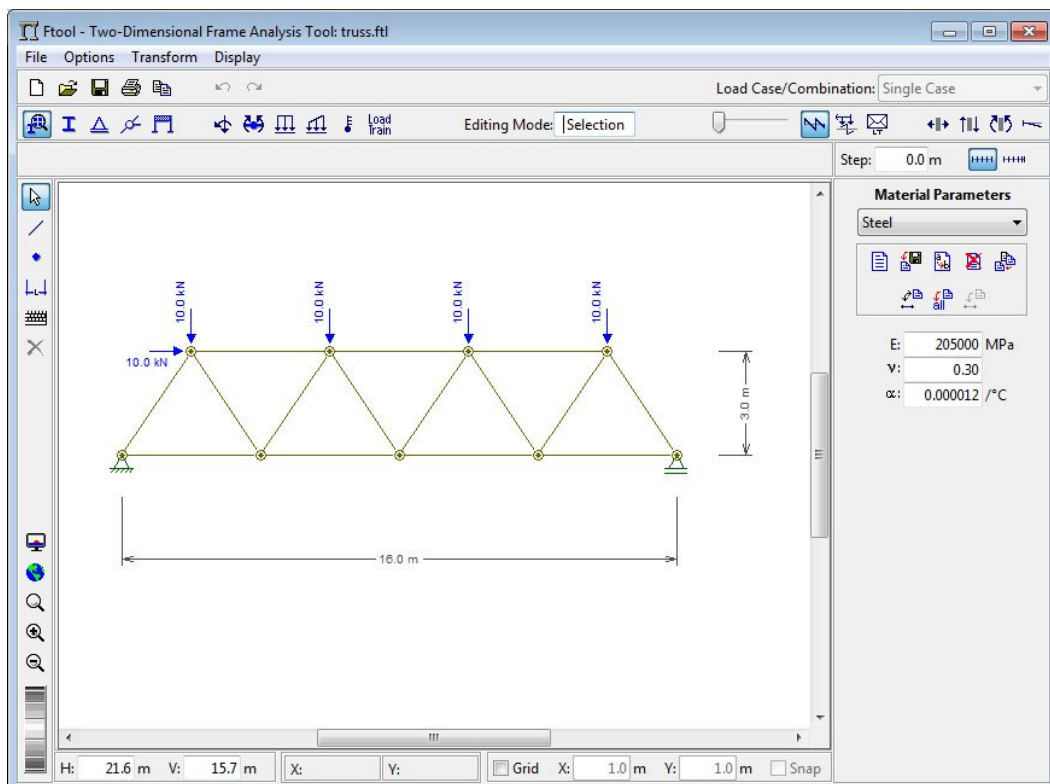
<http://www.tecgraf.puc-rio.br/ftool>

This file:

http://www.tecgraf.puc-rio.br/ftp_pub/lfm/ftool300tutorialtruss.pdf

FTOOL model:

http://www.tecgraf.puc-rio.br/ftp_pub/lfm/ftool300truss.ftl





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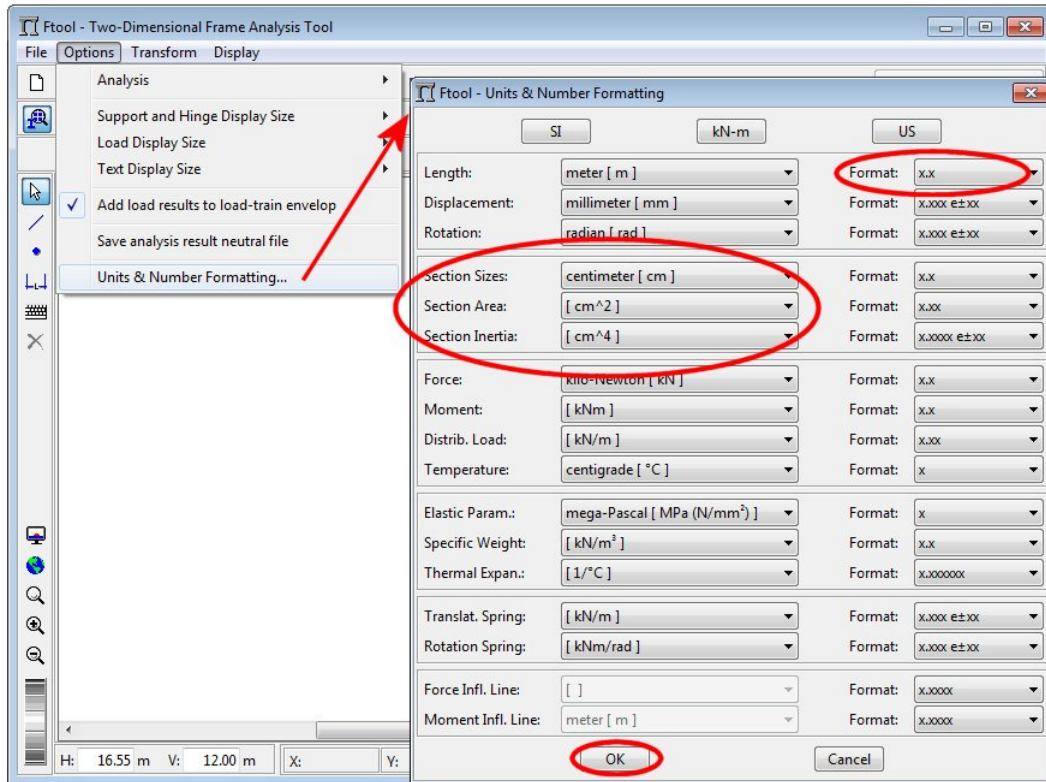


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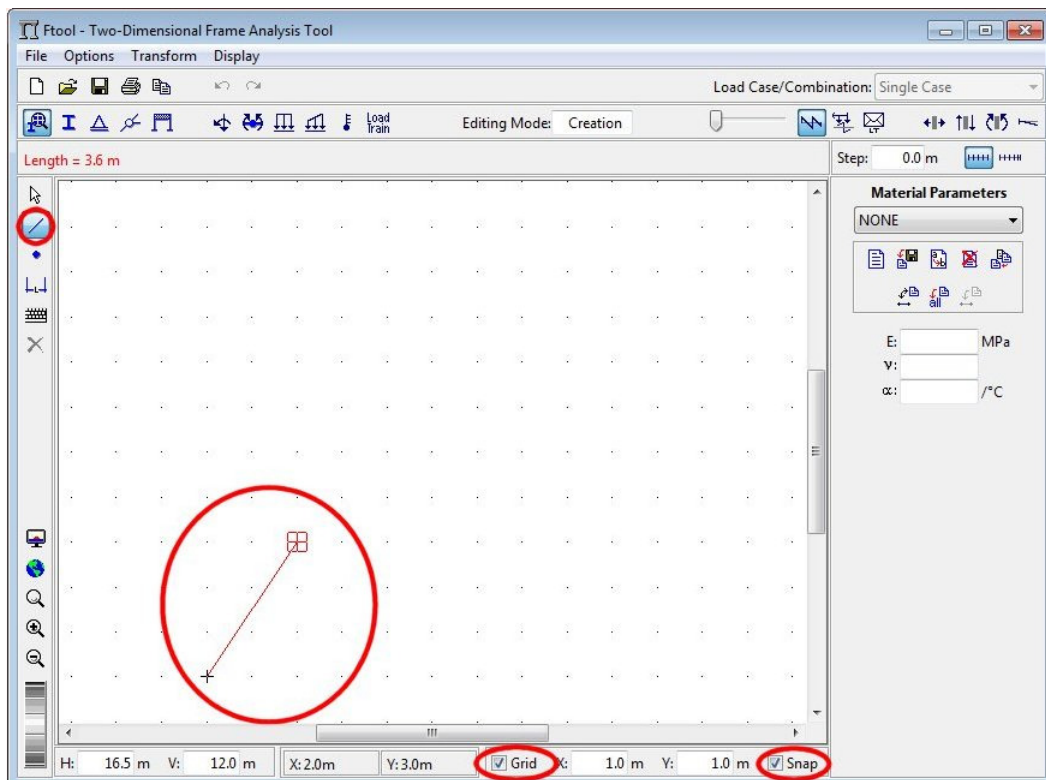
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Specification of units and number formatting

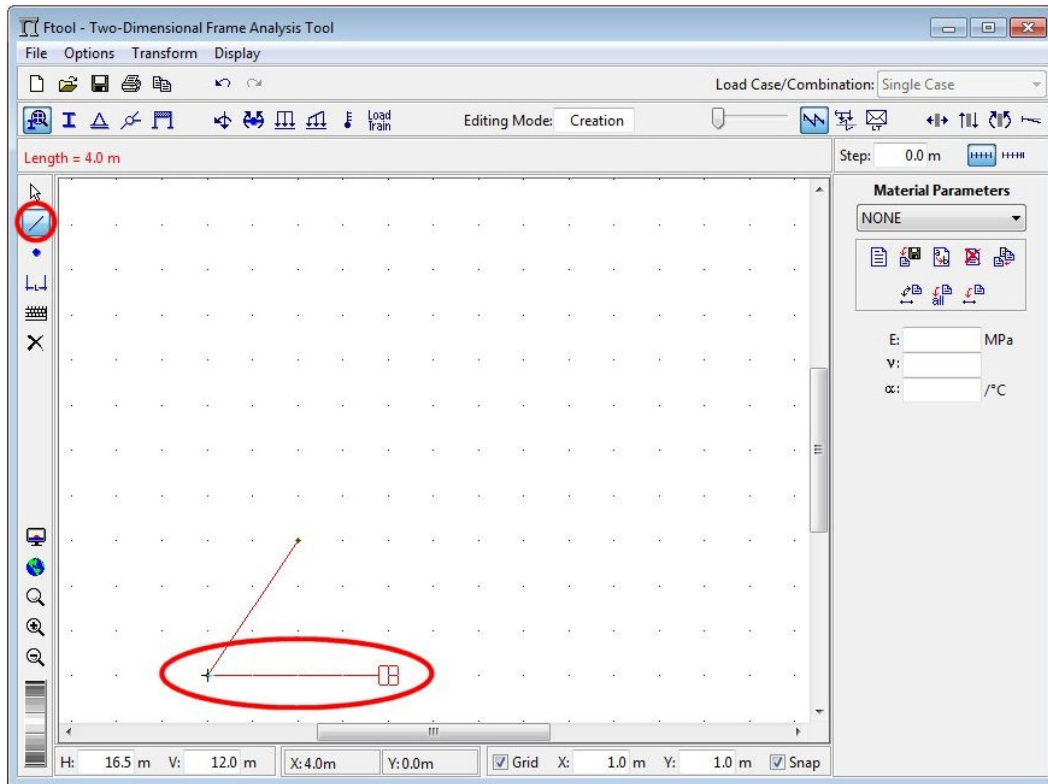


Grid of coordinates and grid point spacing with attraction (*snap*); insertion of first member

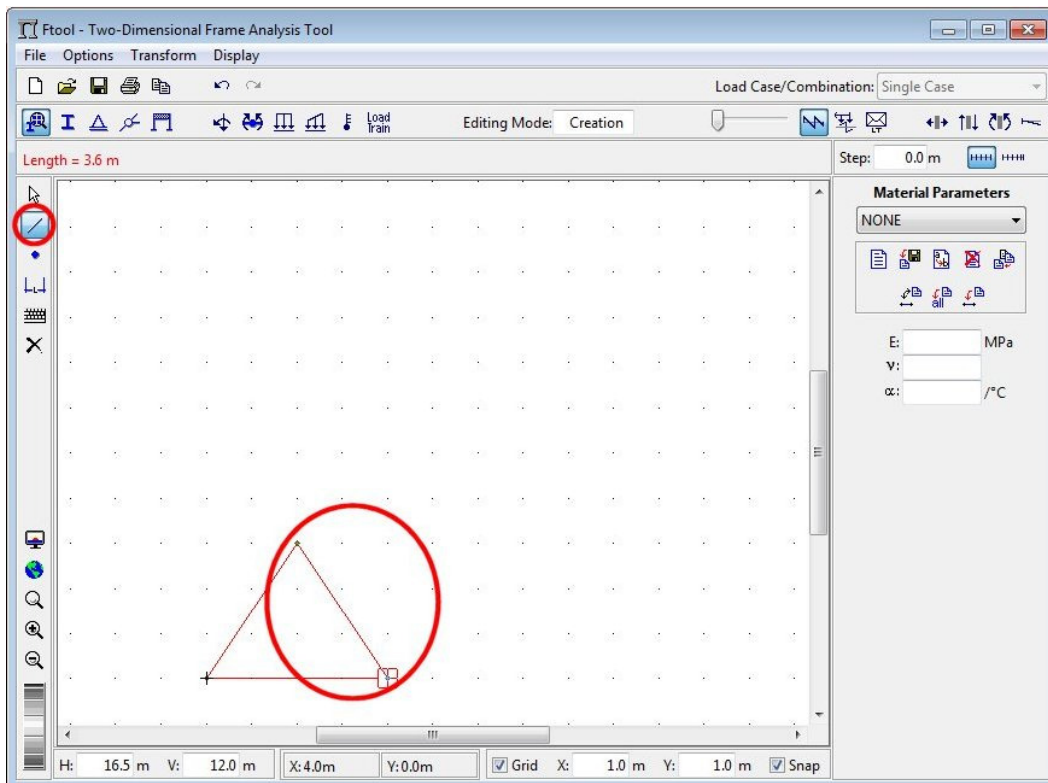




Insertion of second member

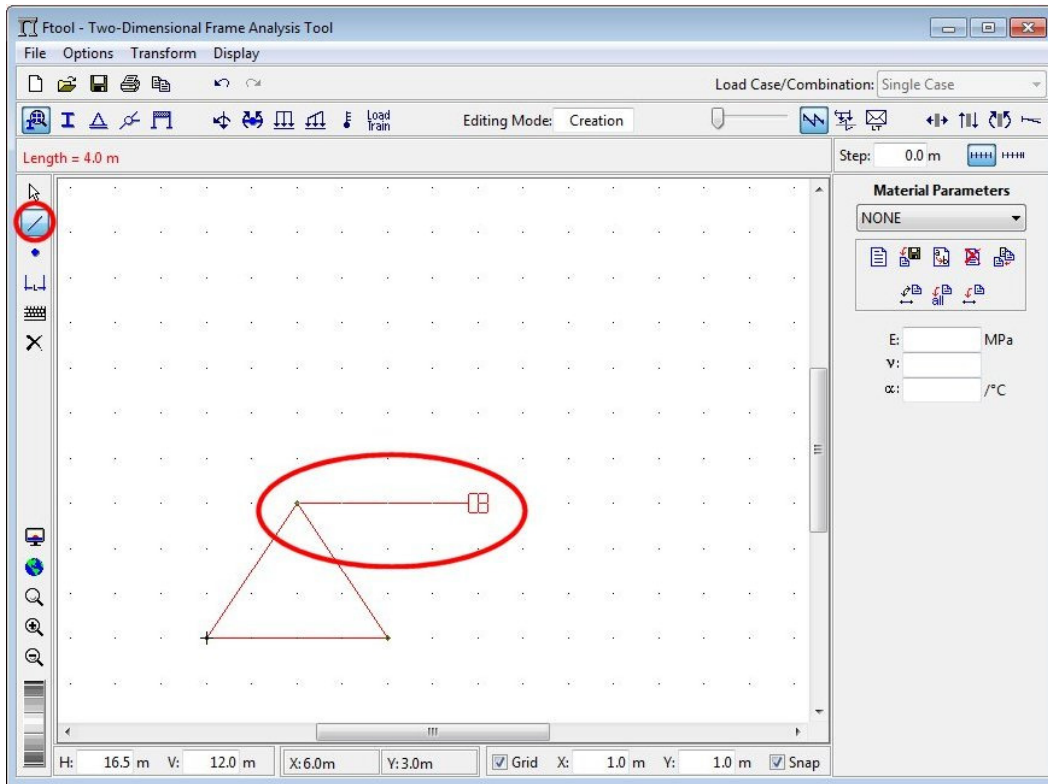


Insertion of third member

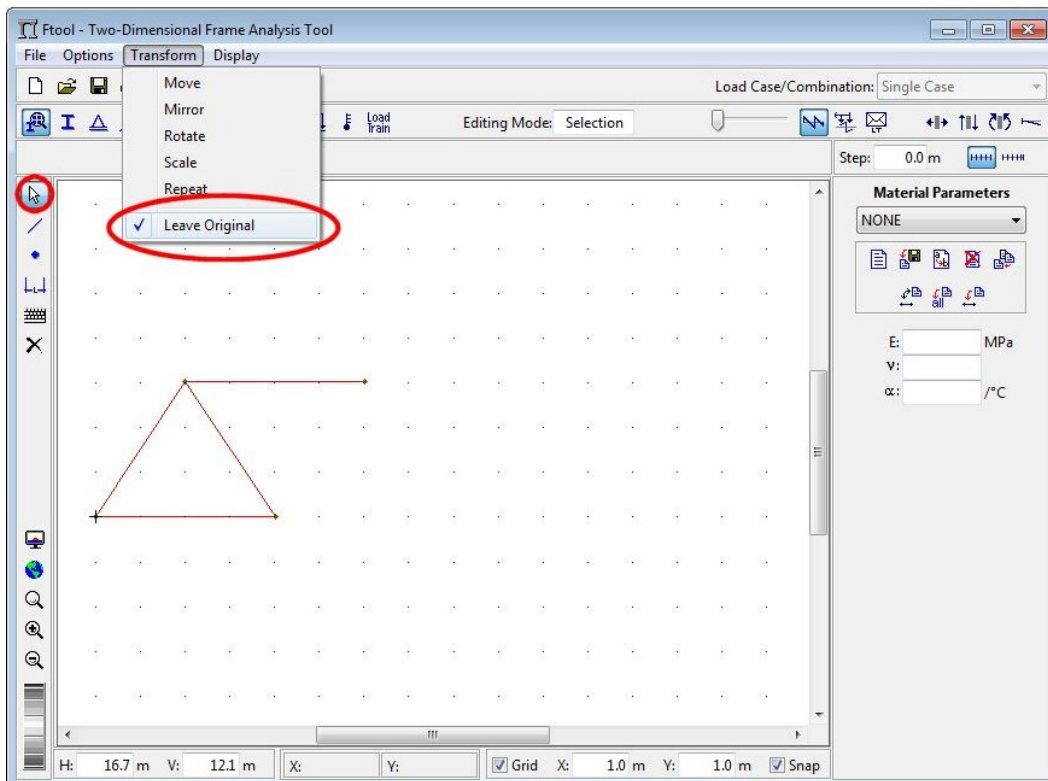




Insertion of fourth member

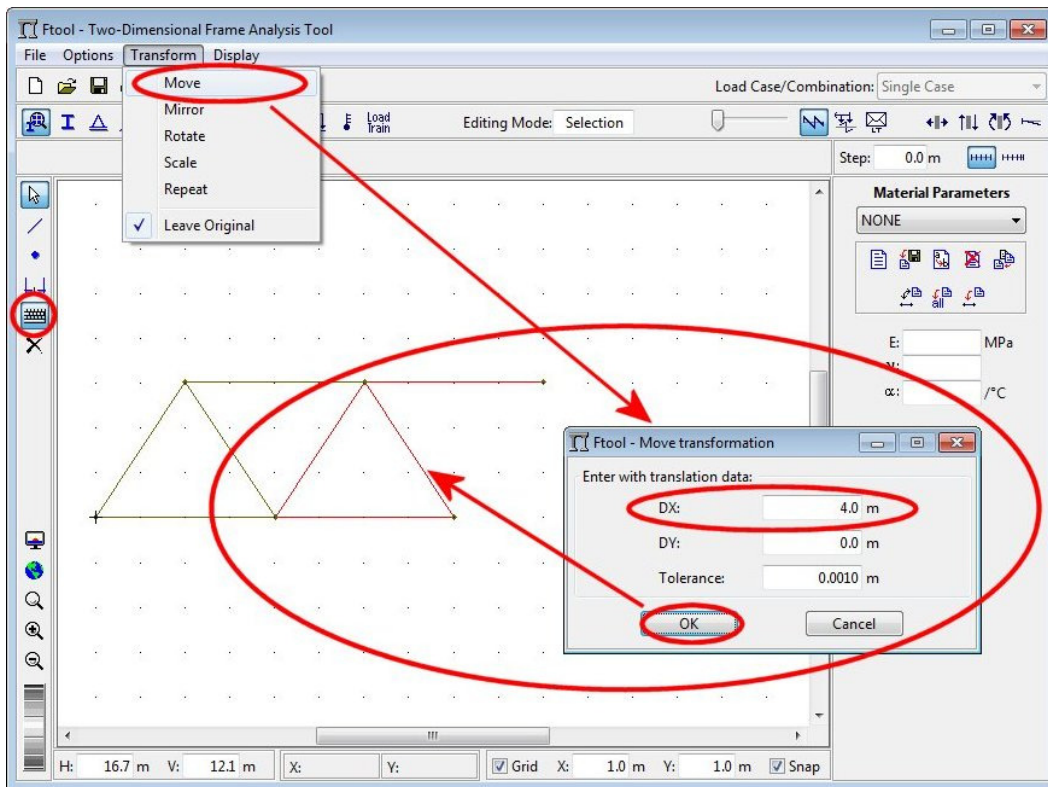


Selection transform operation with copy (*Leave Original*)

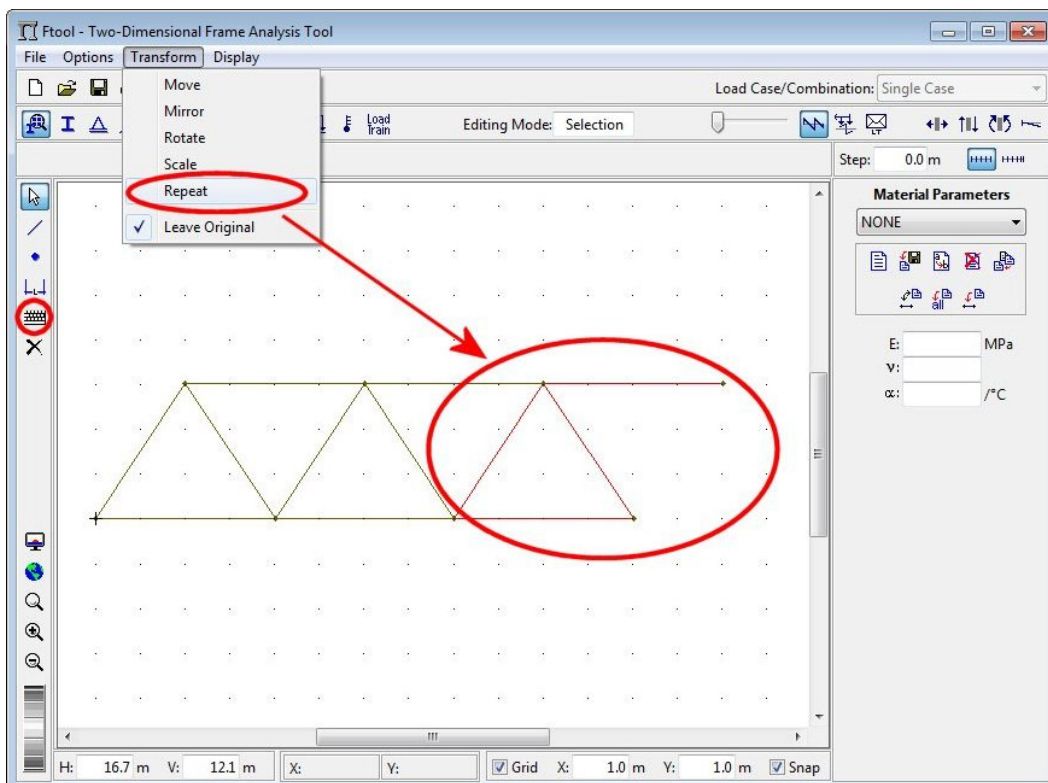




Translation operation (*Move*), with copy (*Leave Original*), in keyboard mode

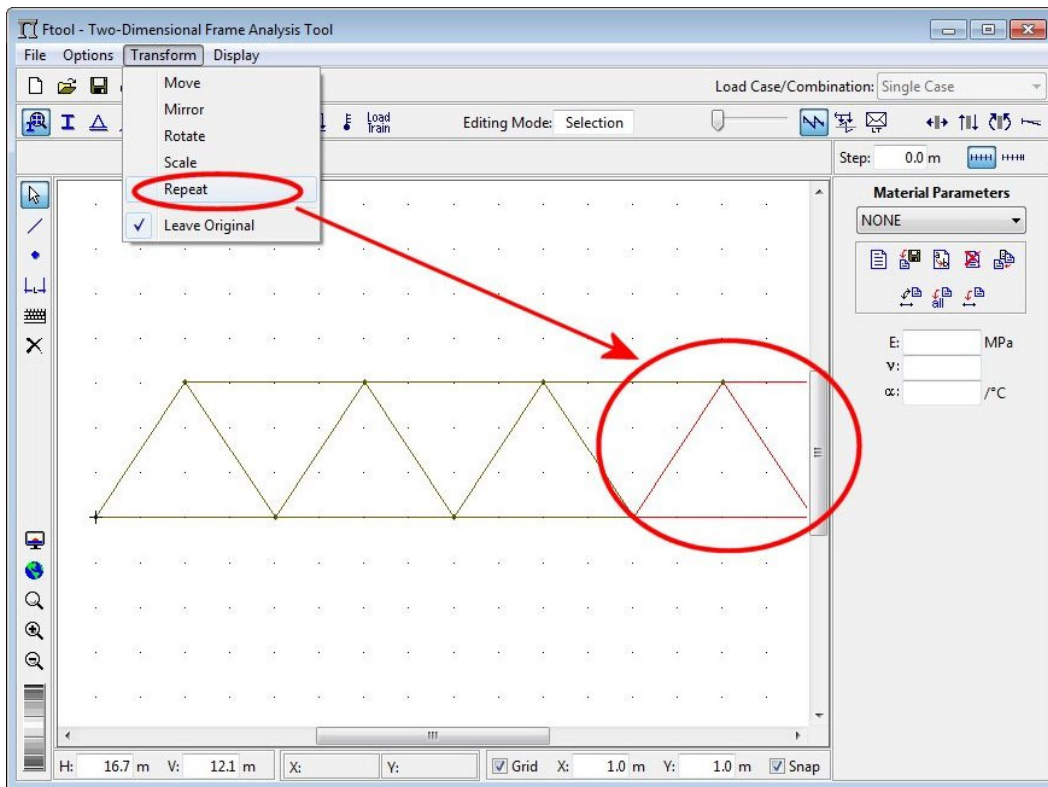


Repeat translation (*Move*) operation with copy (*Leave Original*)

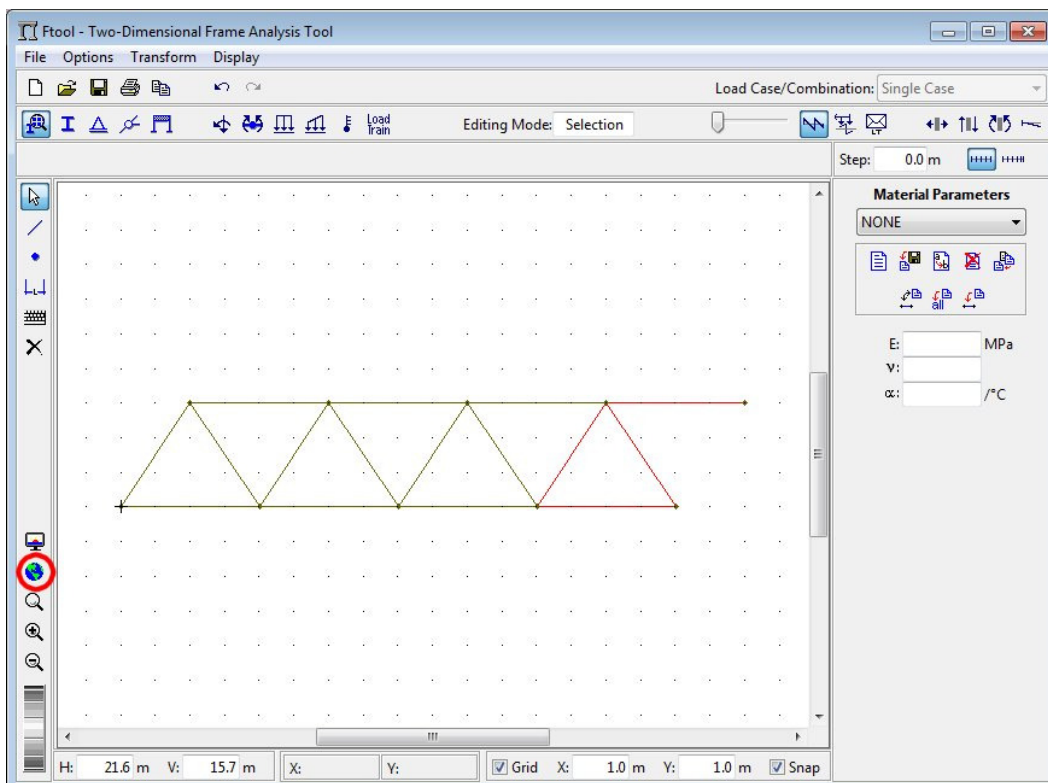




Repeat once more translation (*Move*) operation with copy (*Leave Original*)

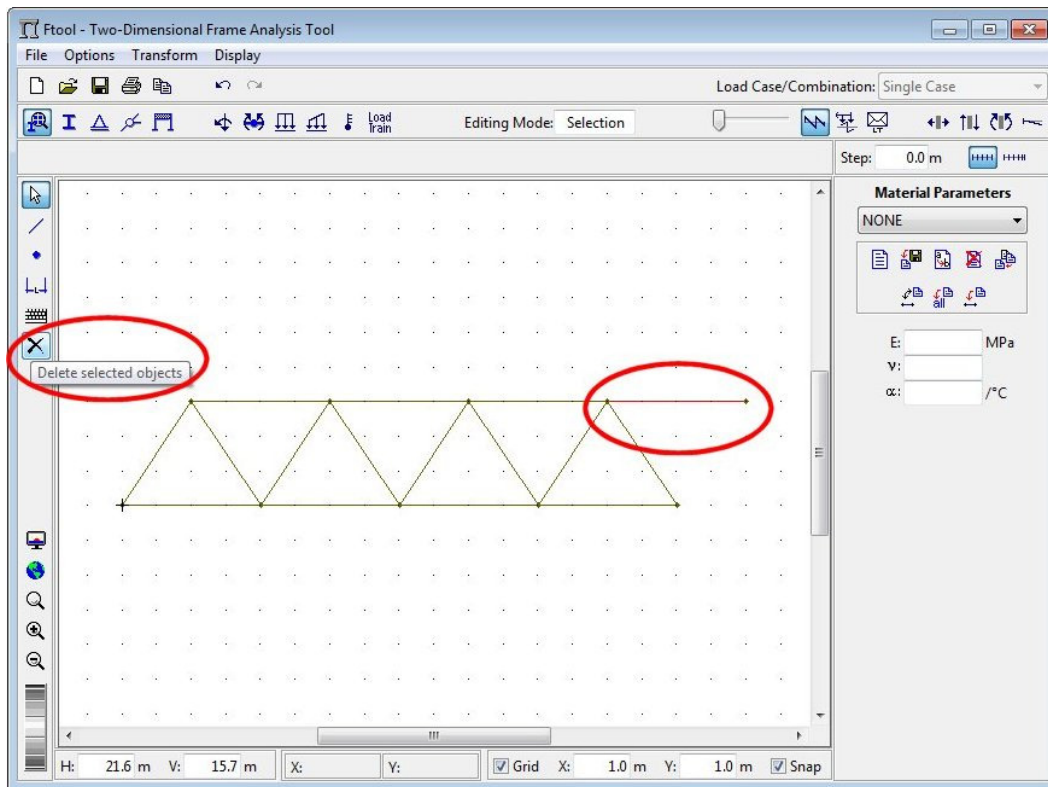


Fit image of entire model on screen

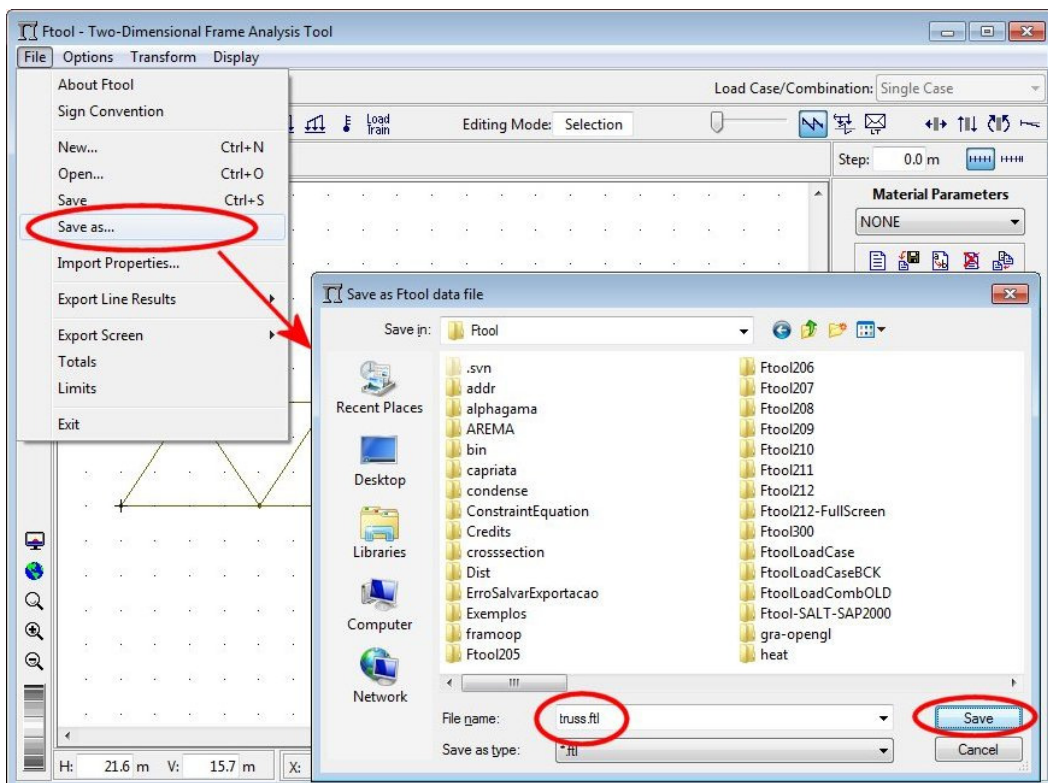




Delete dangling member remaining for last move-with-copy operation

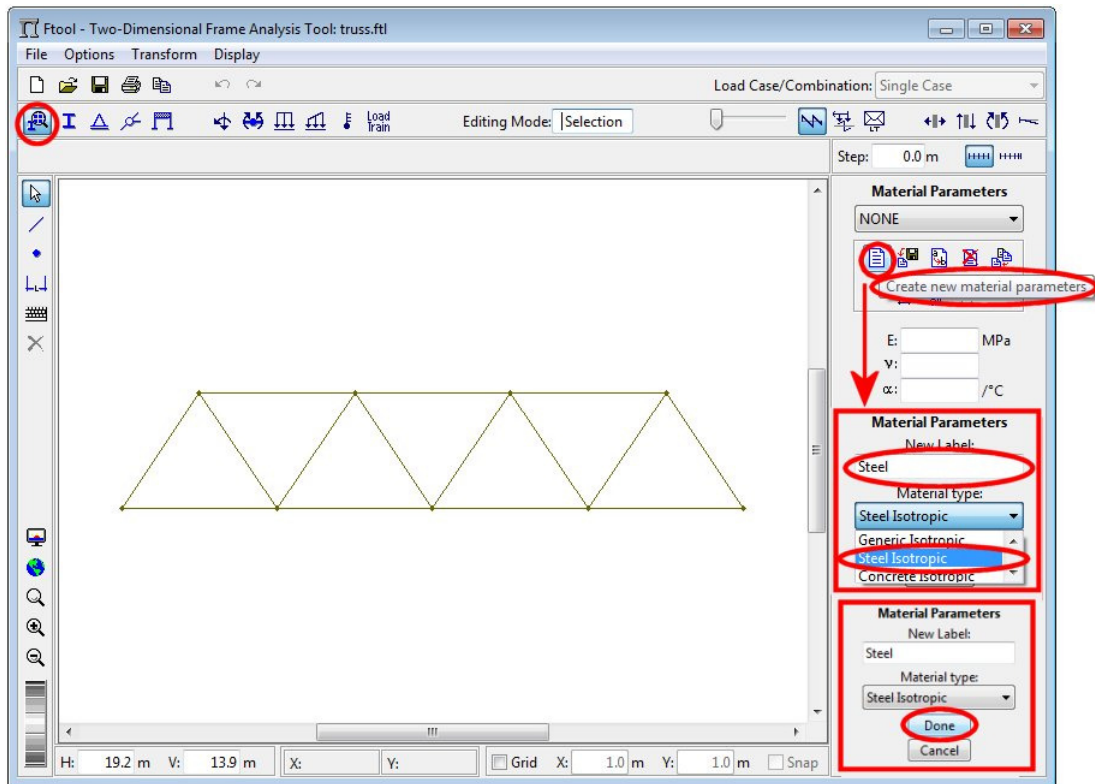


Create a file for truss model (command "Save as... ")

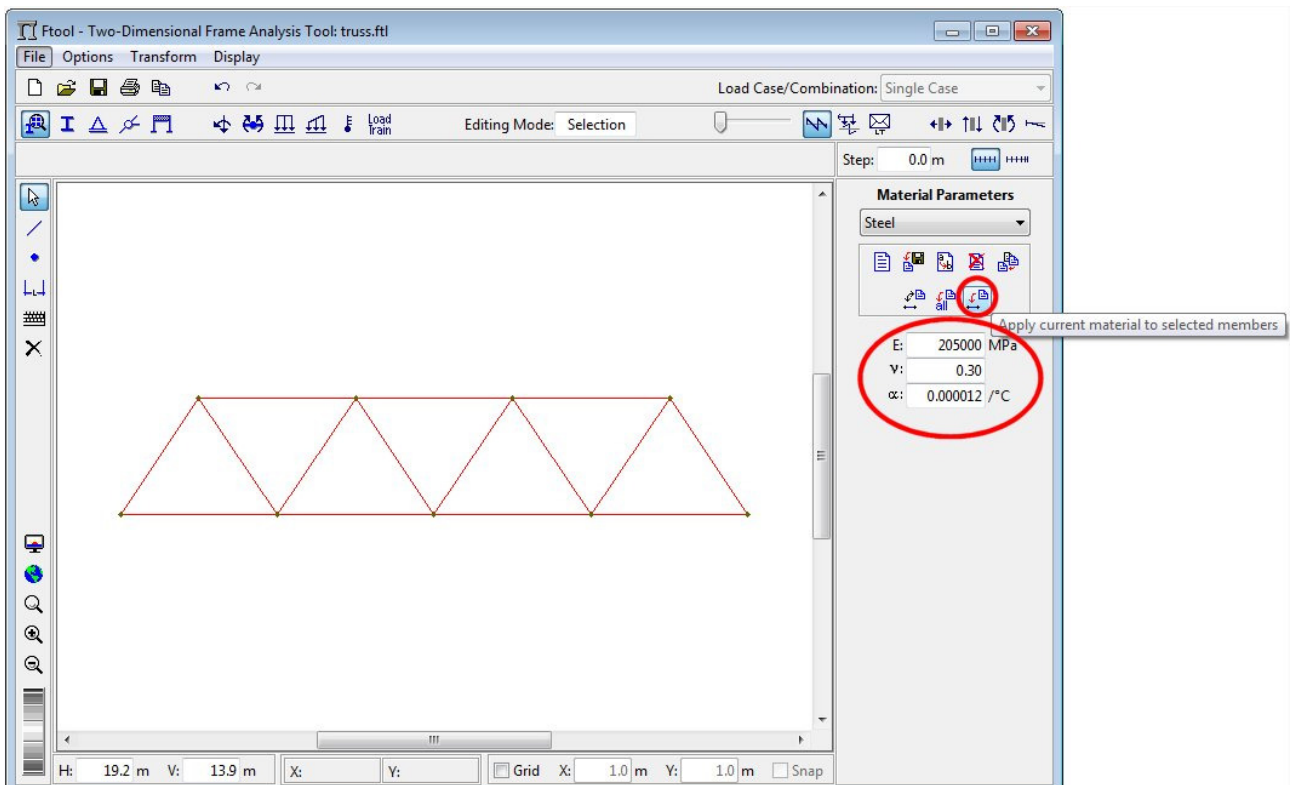




Creation of new material, selecting its type and name

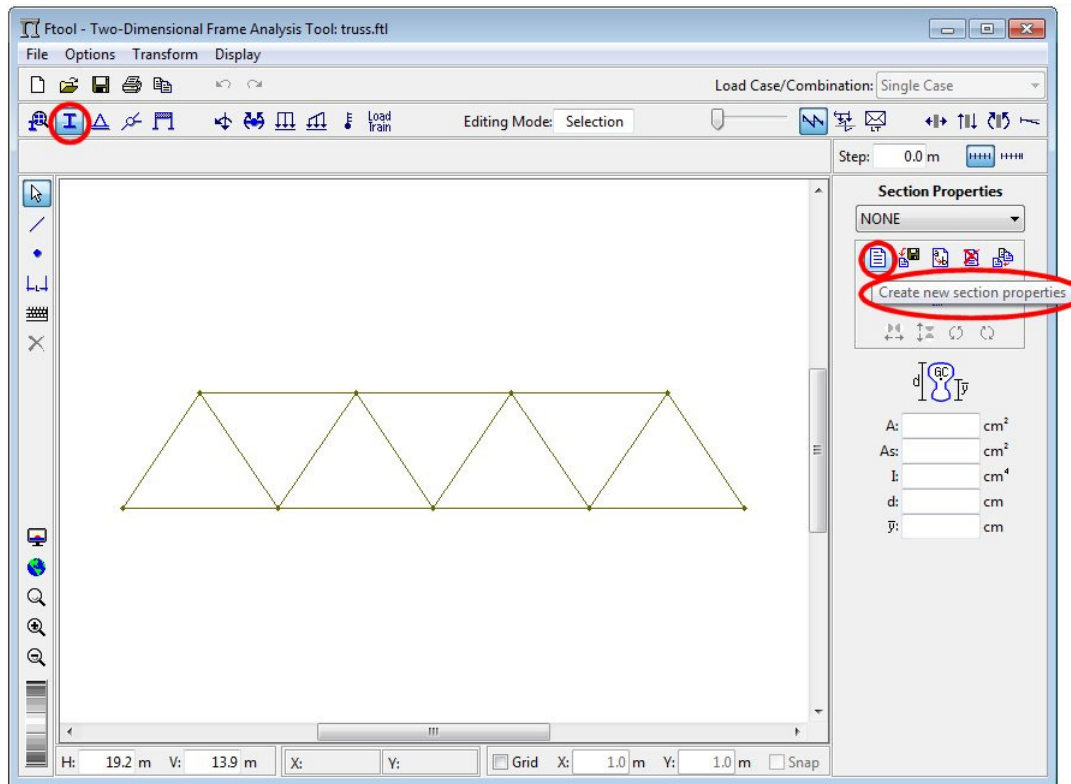


Assignment of created material to all selected members

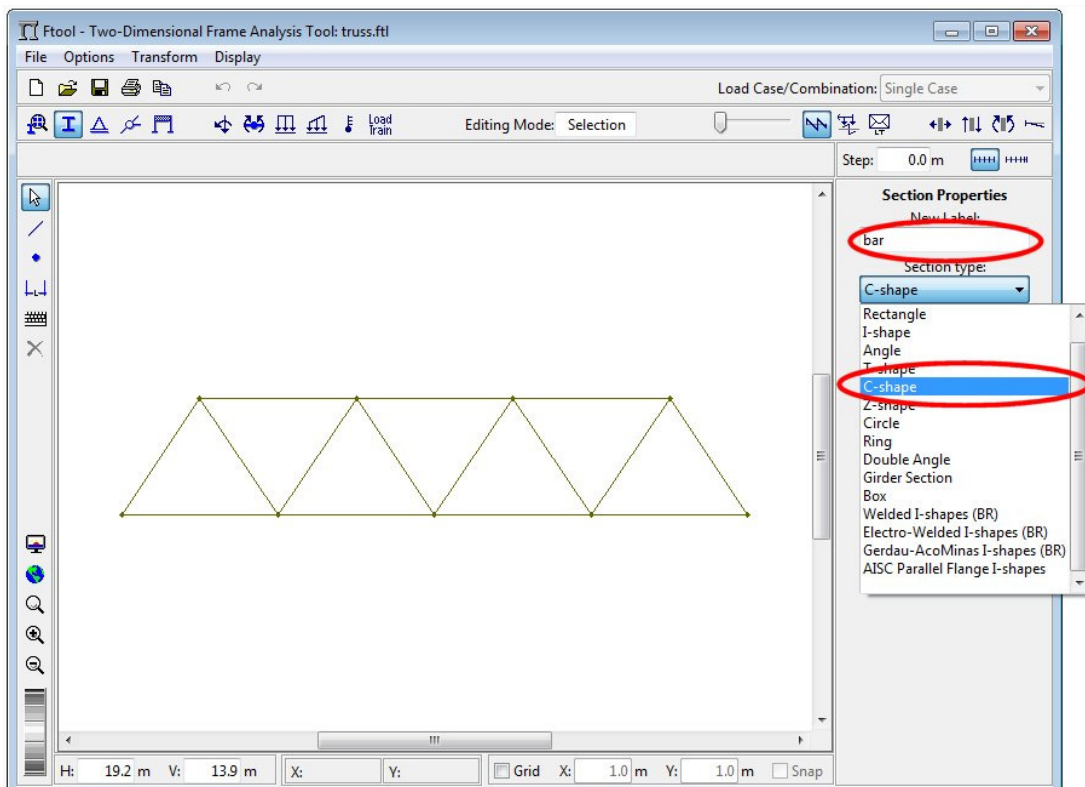




Creation of new cross-section for all members

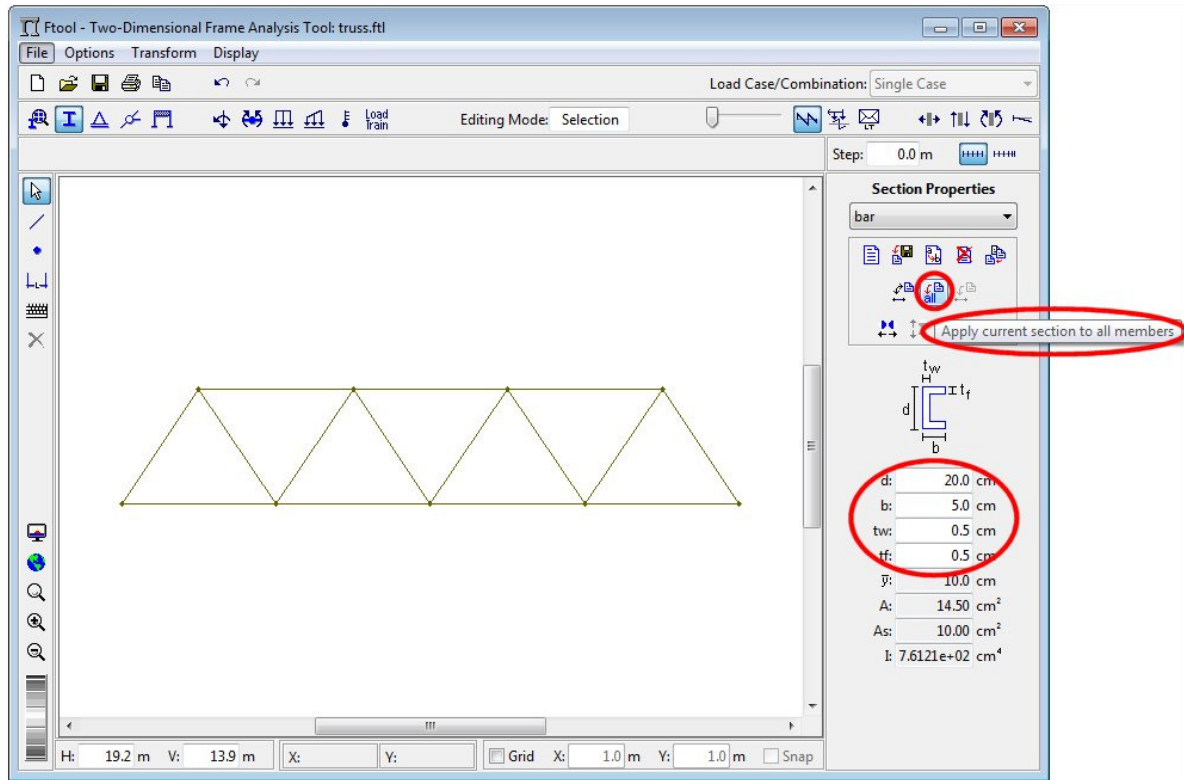


Selection of C-shape cross-section type for all members

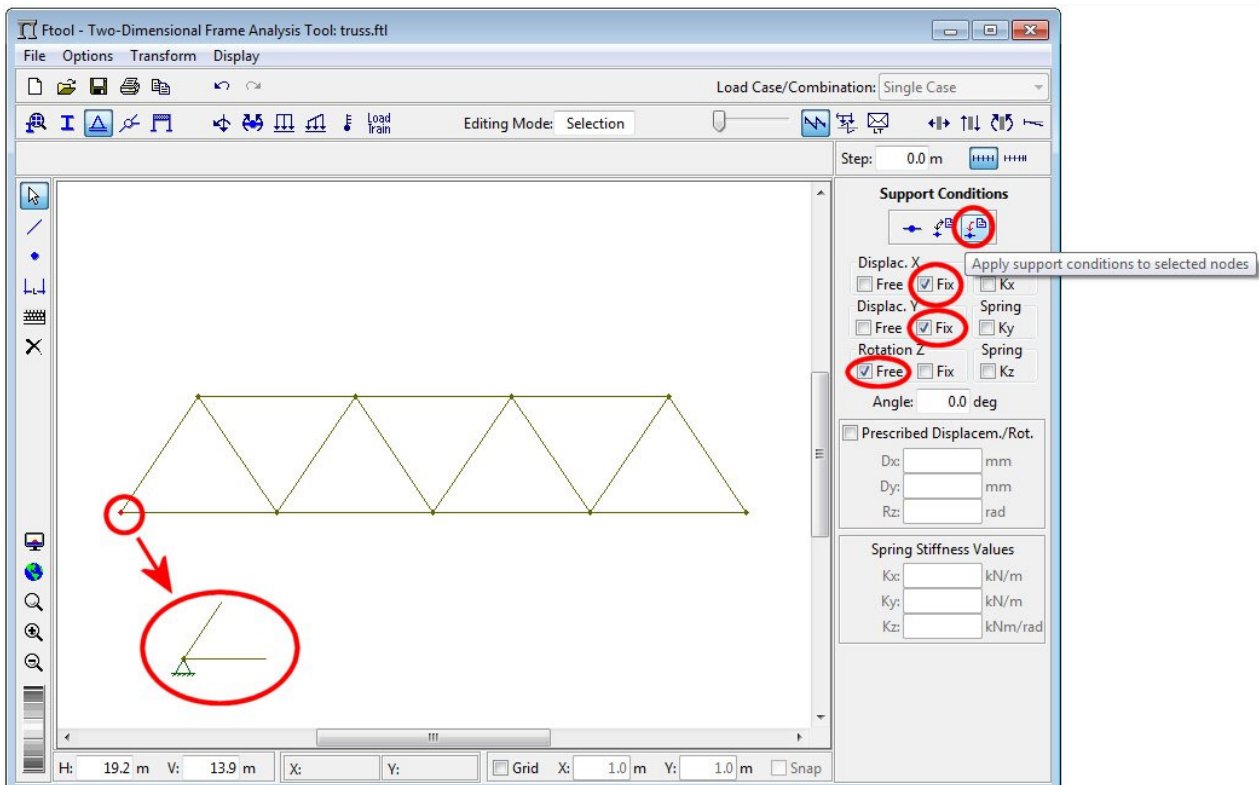




Definition of cross-section dimensions and assignment to all members

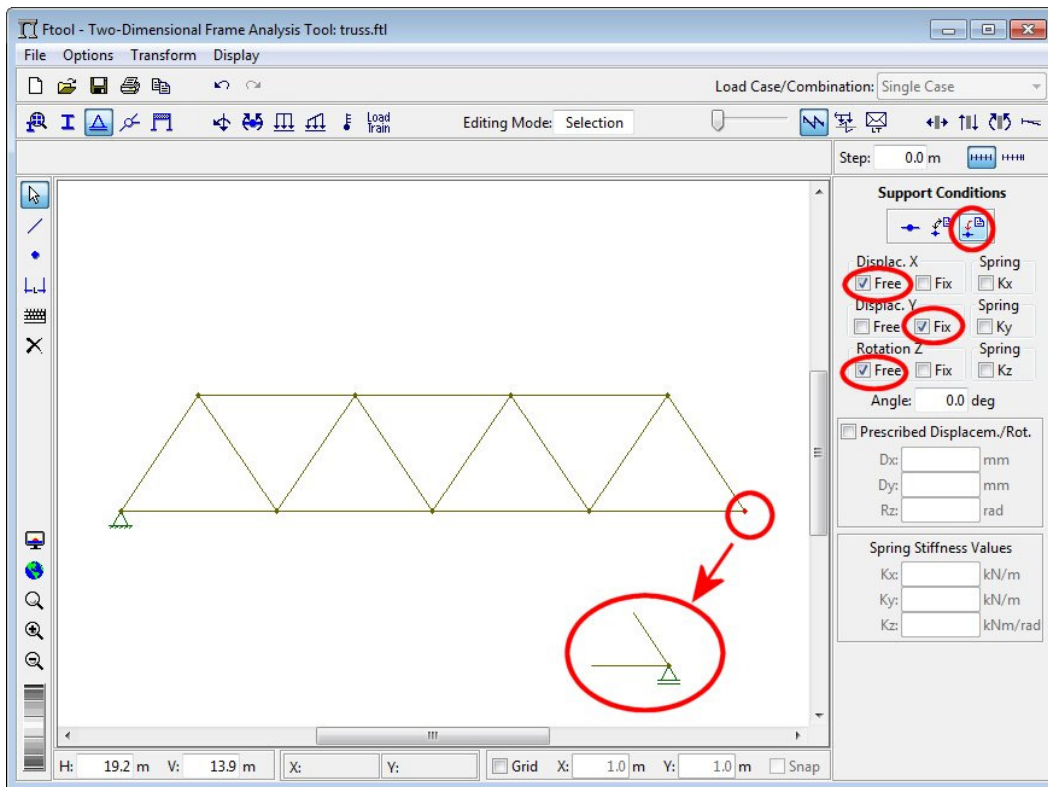


Definition of a pin support and assignment to left inferior node

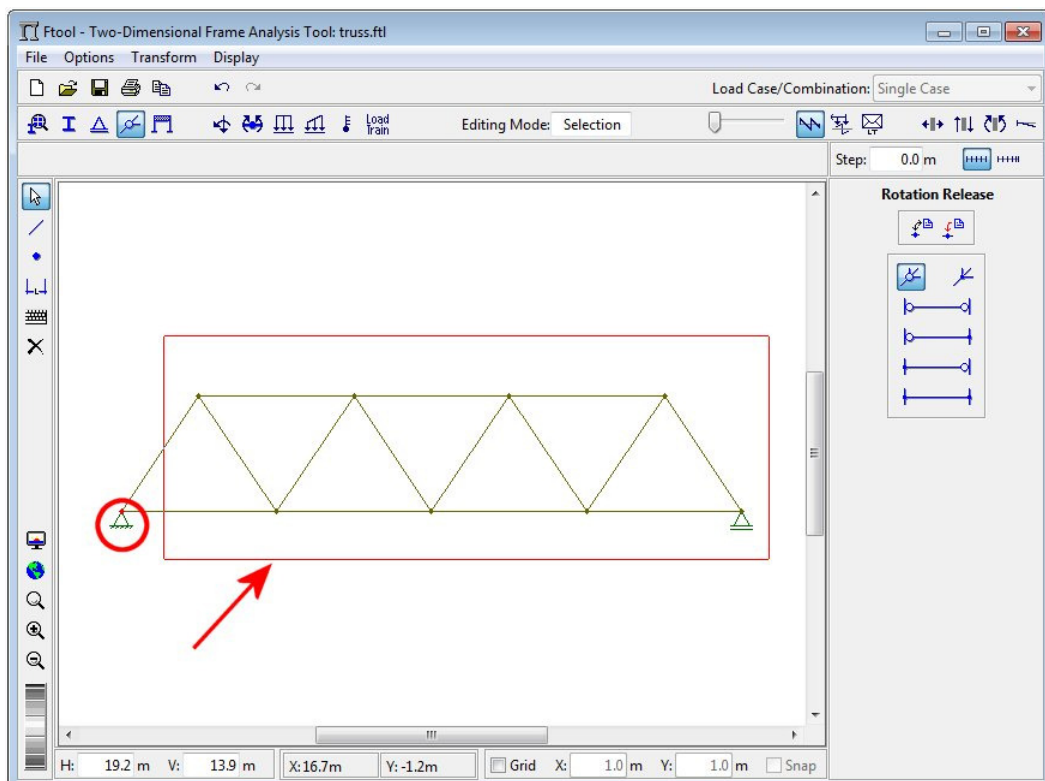




Definition of a simple support and assignment to right inferior node

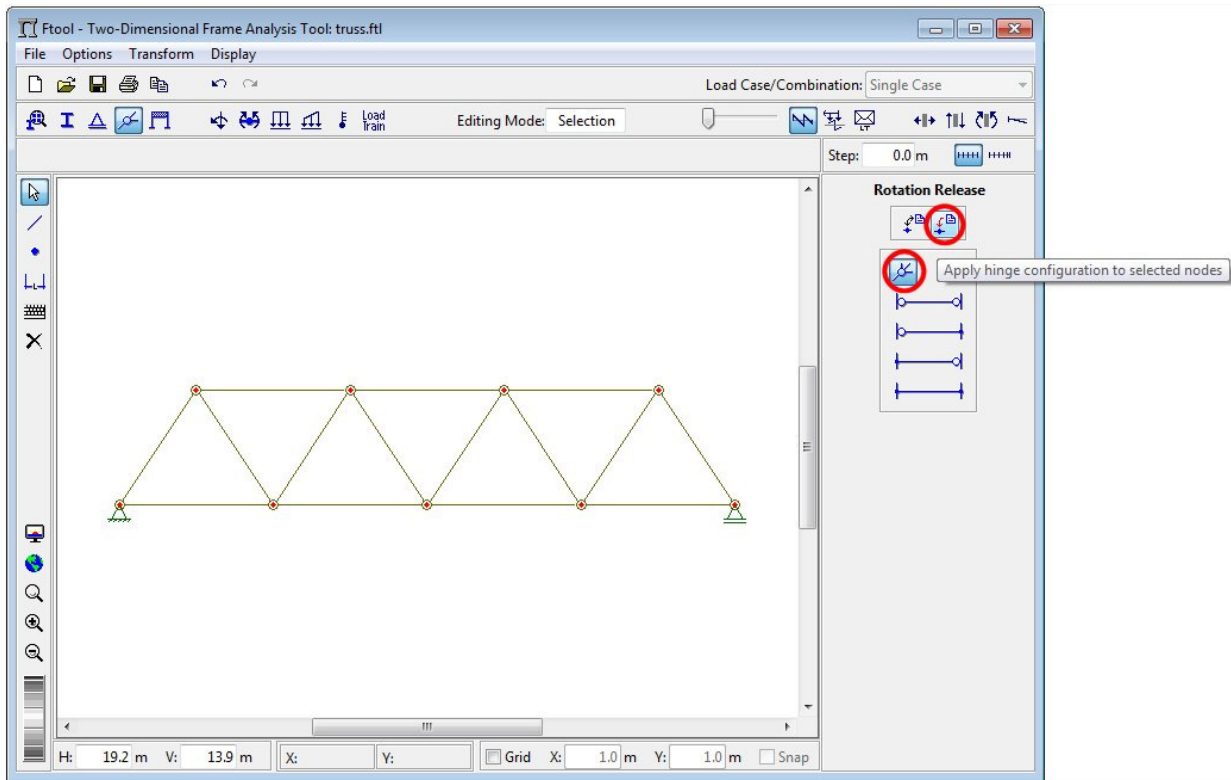


Selection of all nodes through a rectangular fence using the mouse

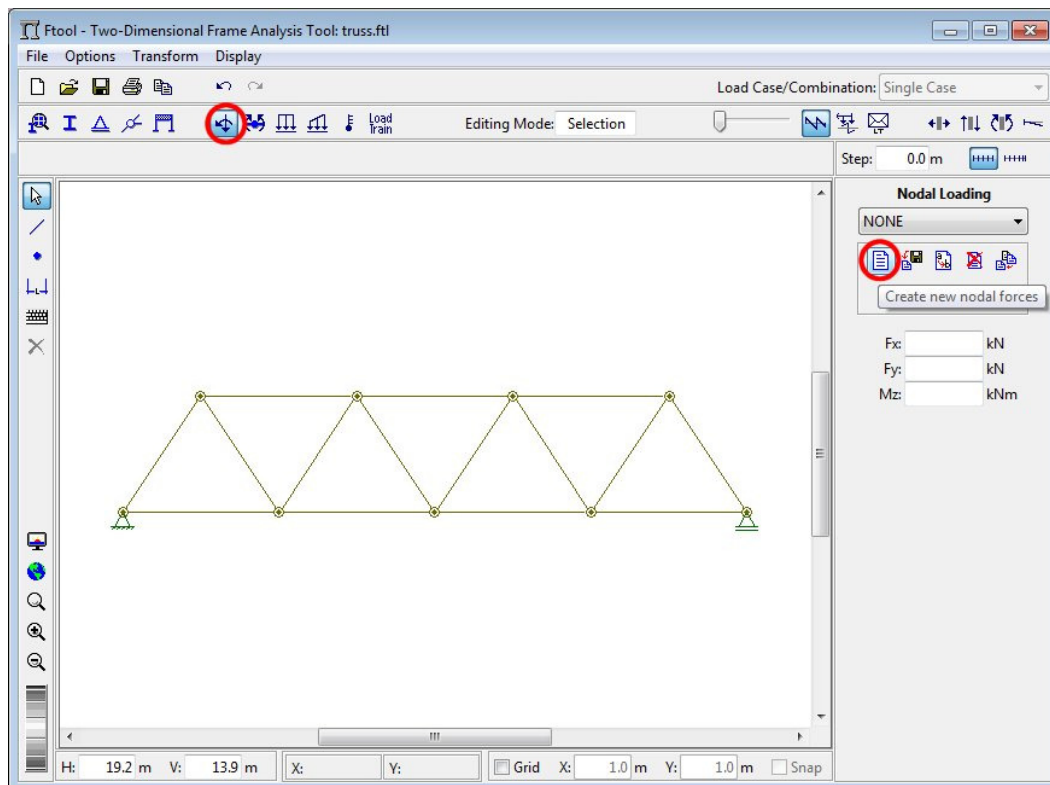




Application of a complete hinge to all selected nodes

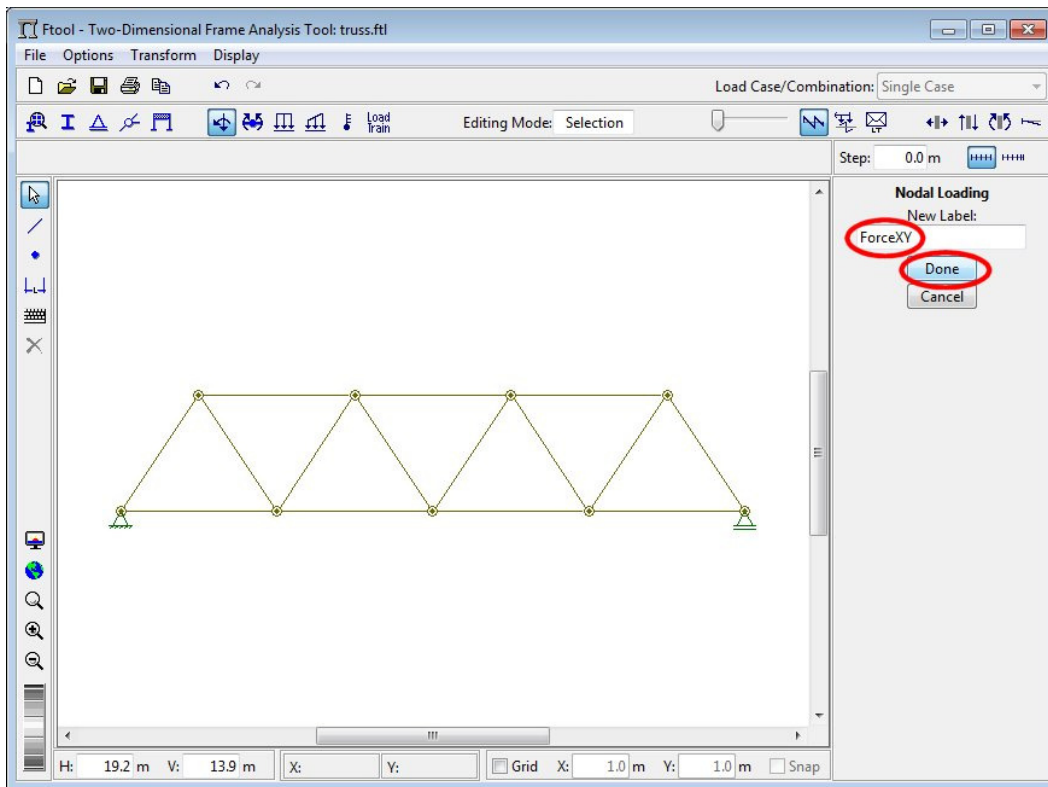


Creation of a concentrated force load for left superior node

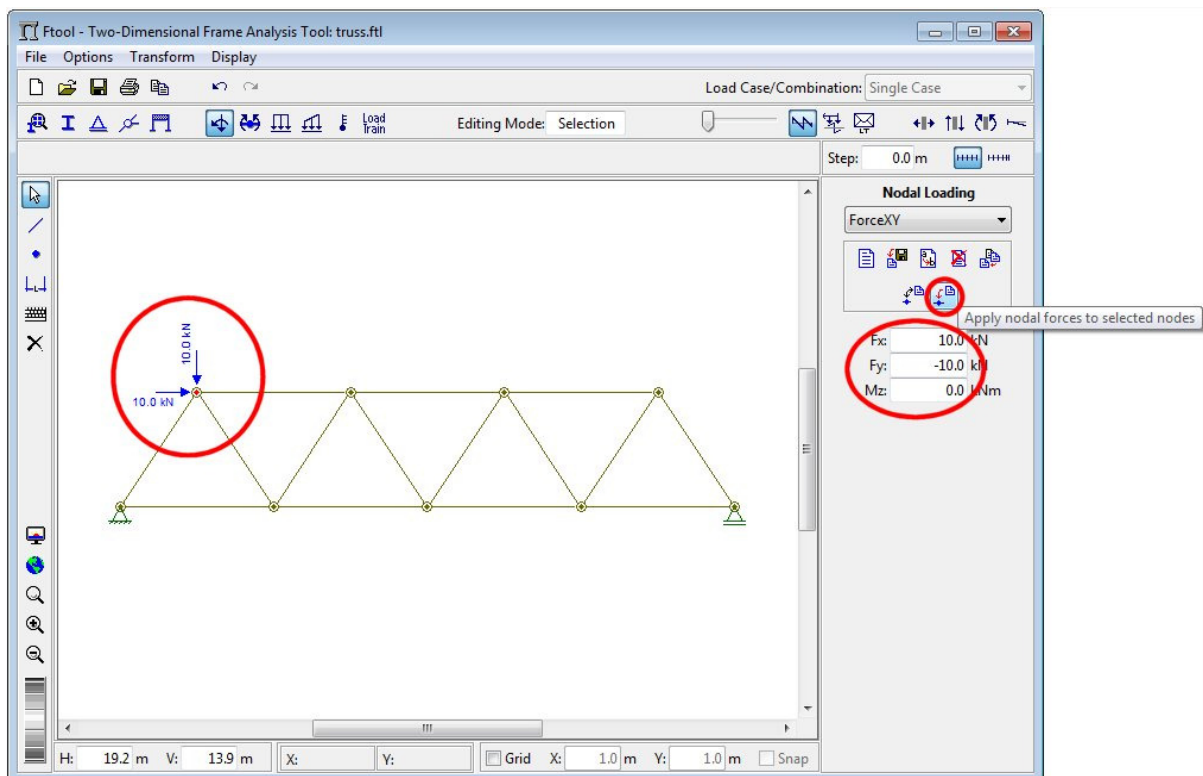




Definition of name of concentrated force load at left superior node

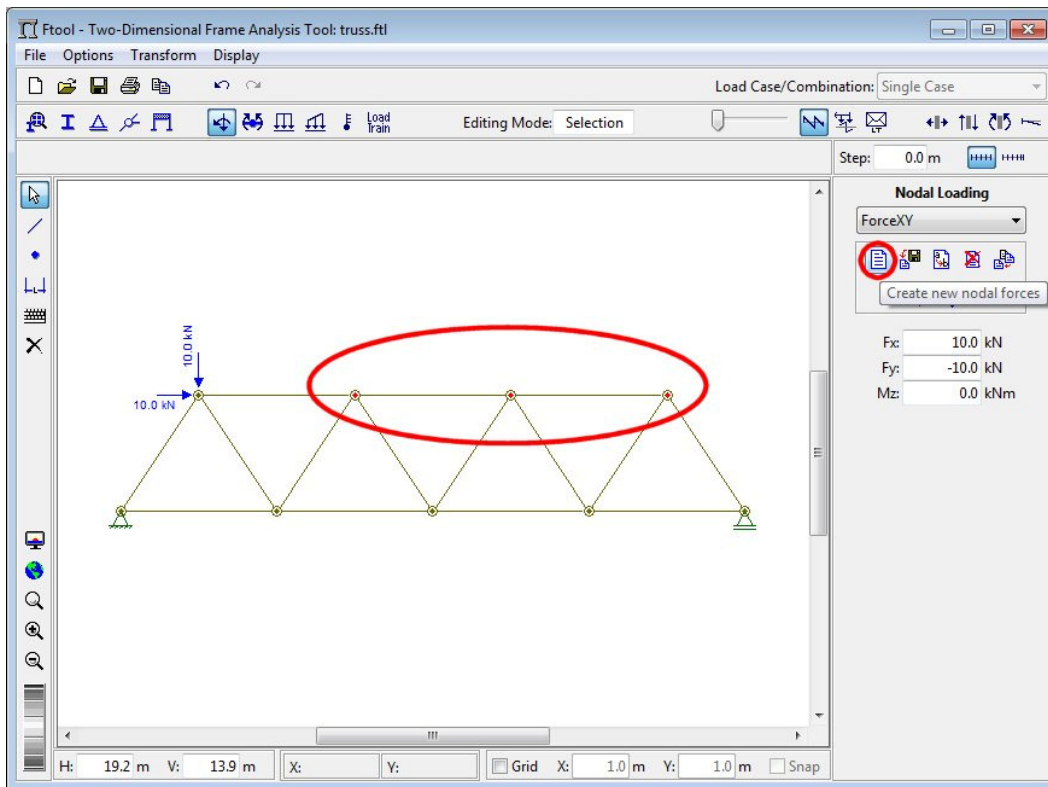


Definition of X and Y component values of concentrated force load and application to left superior node

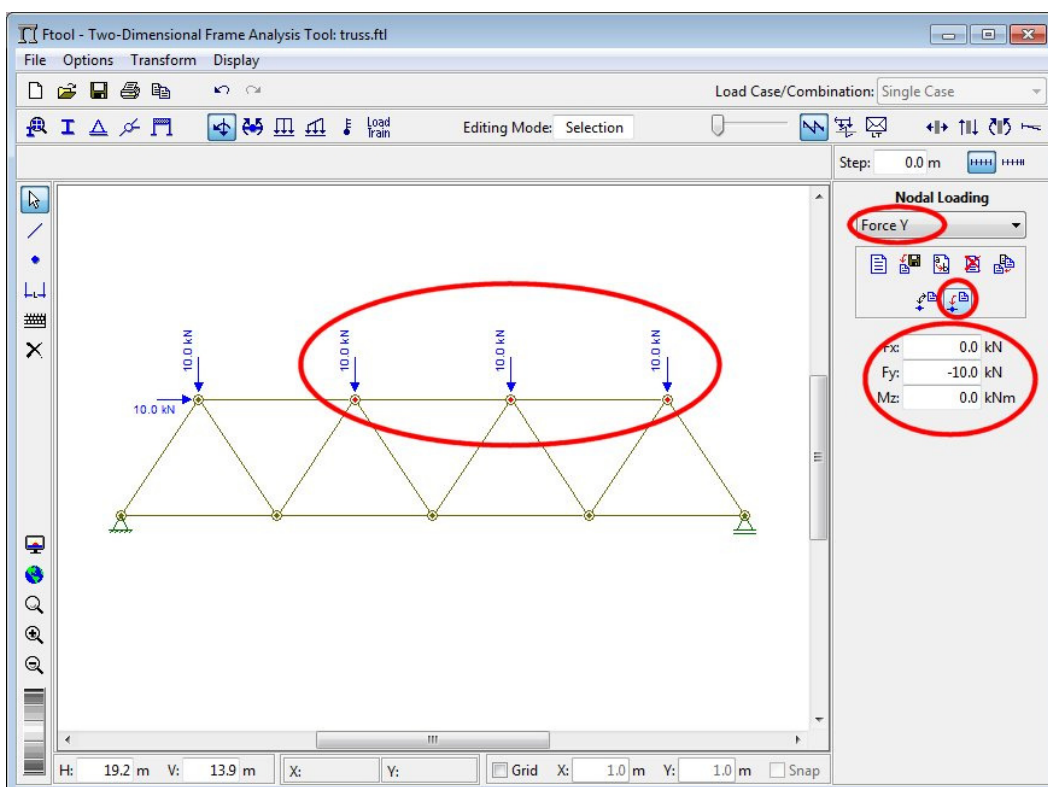




Creation of concentrated force load for the other superior nodes

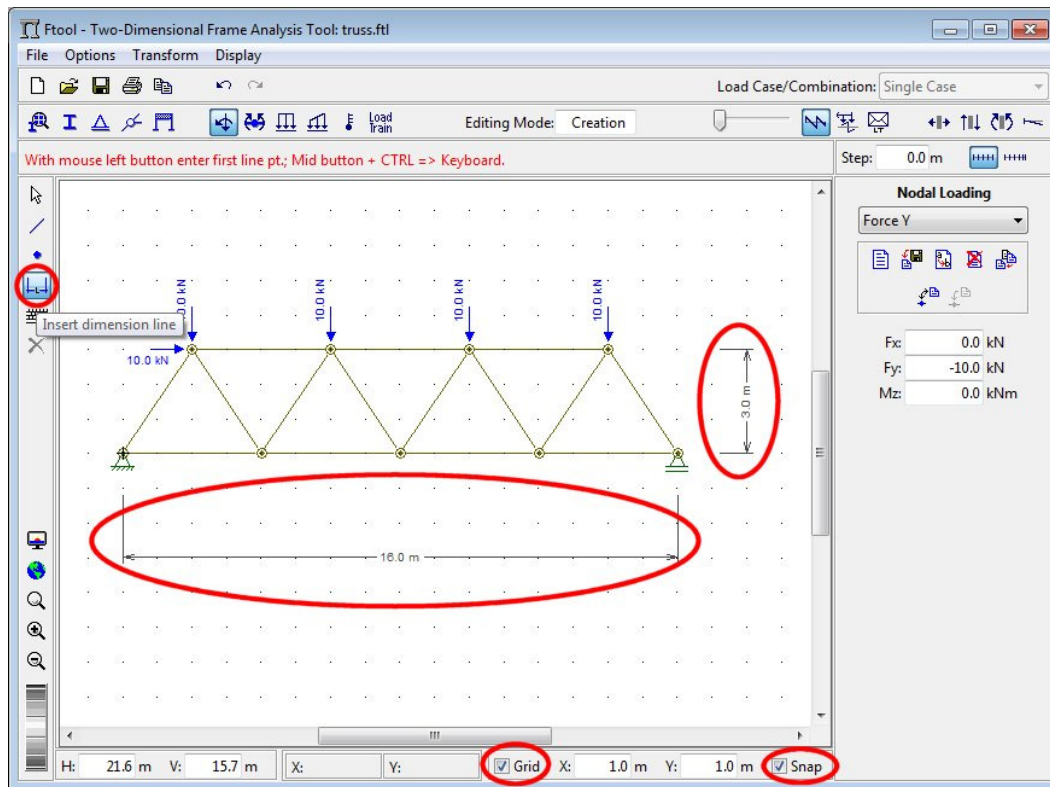


Definition of name and Y component value of concentrated force load and application to other superior nodes

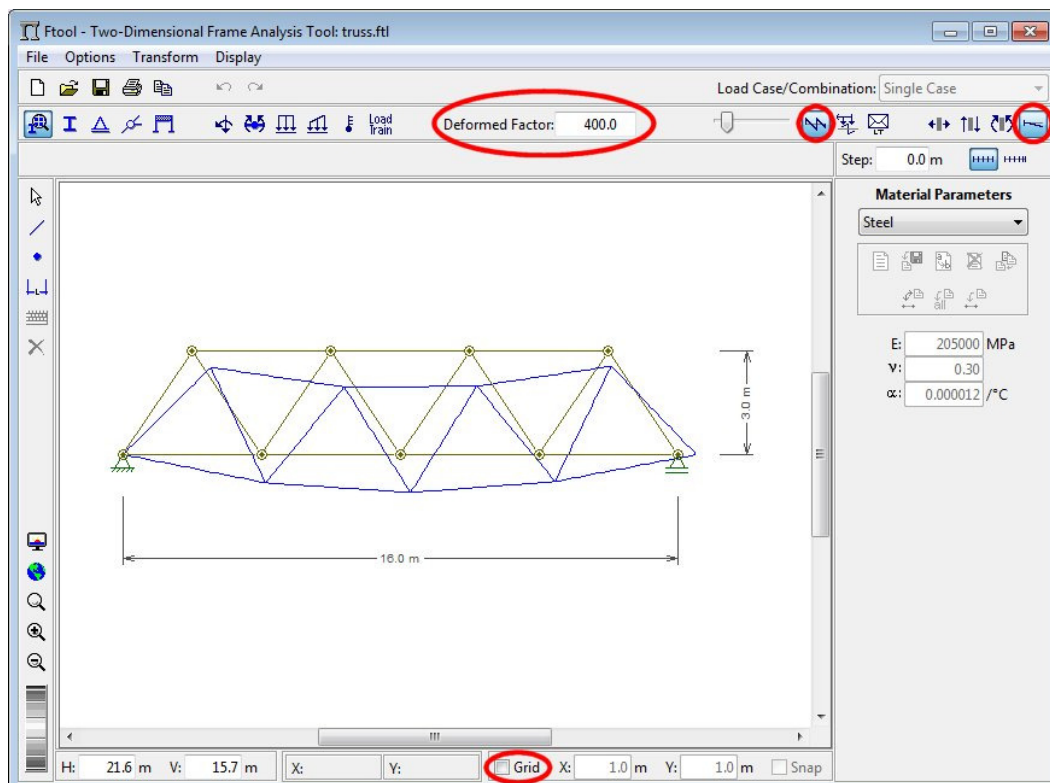




Creation of dimension lines to indicate model global dimensions

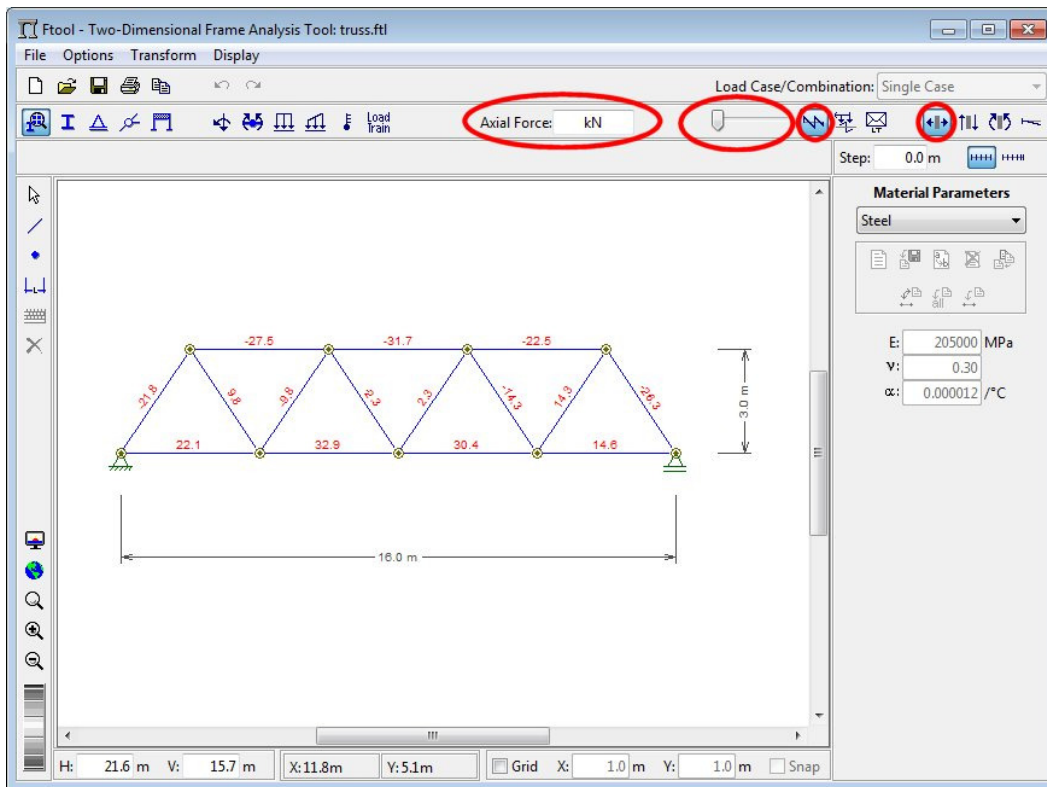


Visualization of model deformed configuration response





Visualization of axial force result in truss members



Visualization of support reactions

