

Computer Aided Design for Modelers

Lesson 1

We'll start the construction of a through girder bridge. In this lesson we will begin the main girder and add the vertical stiffener angles.

OnShape Basic Tools

If you missed the June 8 introduction, go watch it and practice with the tools before you try to duplicate what we are doing tonight. You don't want to try and figure out how to do something while trying to figure out what to do.

HELP Line

For the duration of this series I have established an email address where you can write for help:

ntbridge924@gmail.com

For instructional purposes, OnShape is an excellent vehicle. Your work is on a public server and the history keeps track of everything you do so I (hopefully) can track down where you erred.

Remember: Save your work under a unique name so I can find it!

HO Scale Girder Bridge

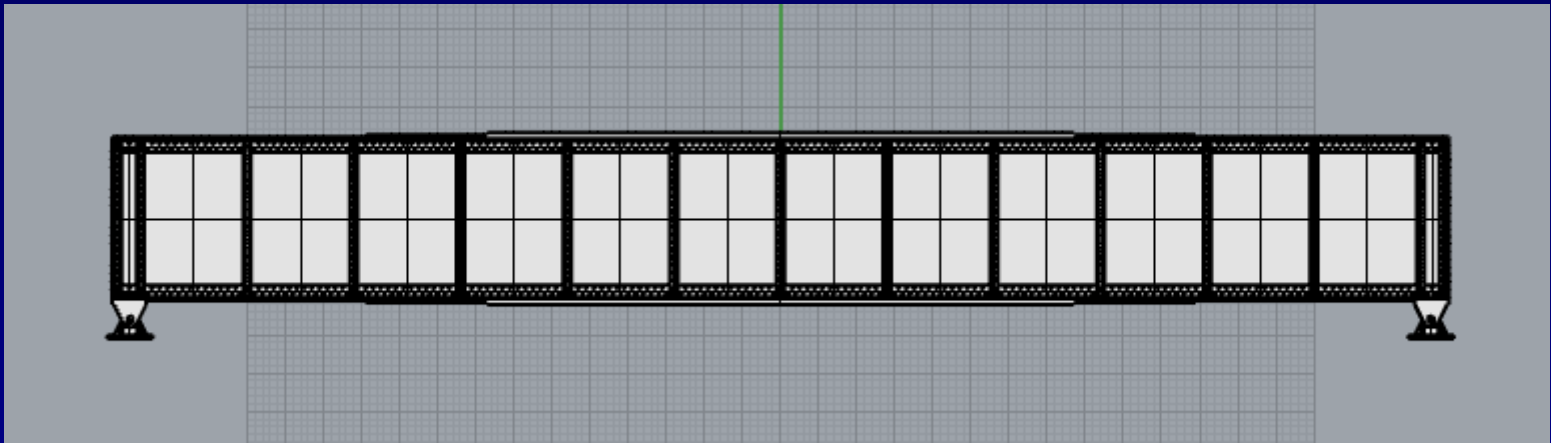
Build the model in your scale. Reducing a full size model does not work.

Scale: 1 ft = 3.5 mm, 1 inch = ~ 0.3 mm

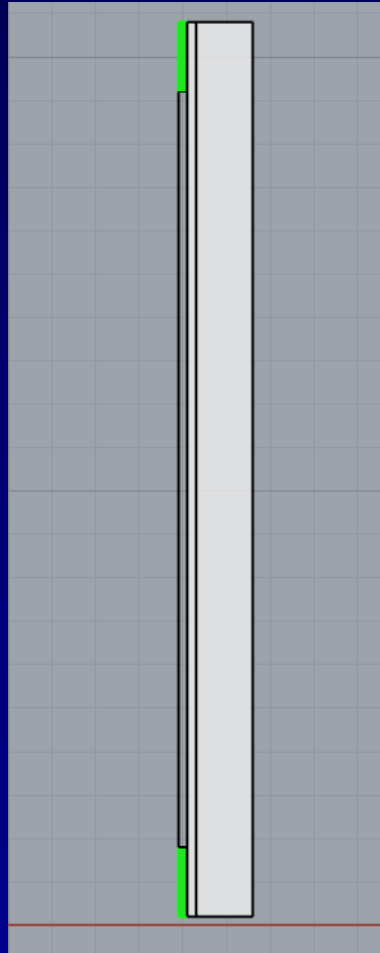
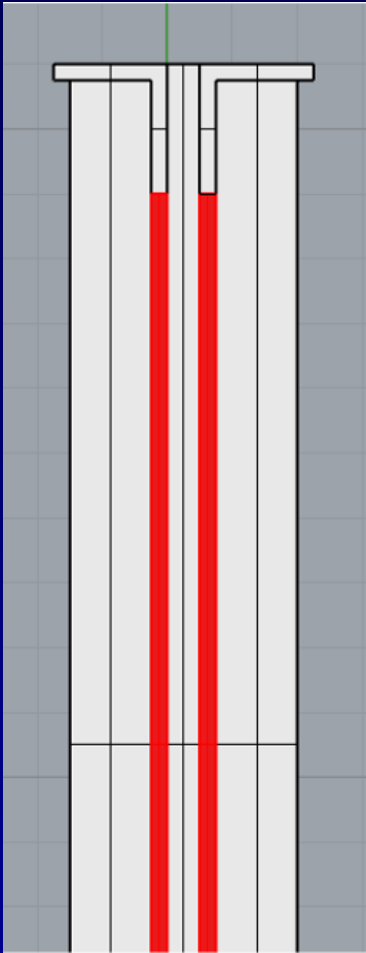
Bridge Length 50 ft, 175 mm

It JUST fits on the Elegoo Saturn build plate.

Side View



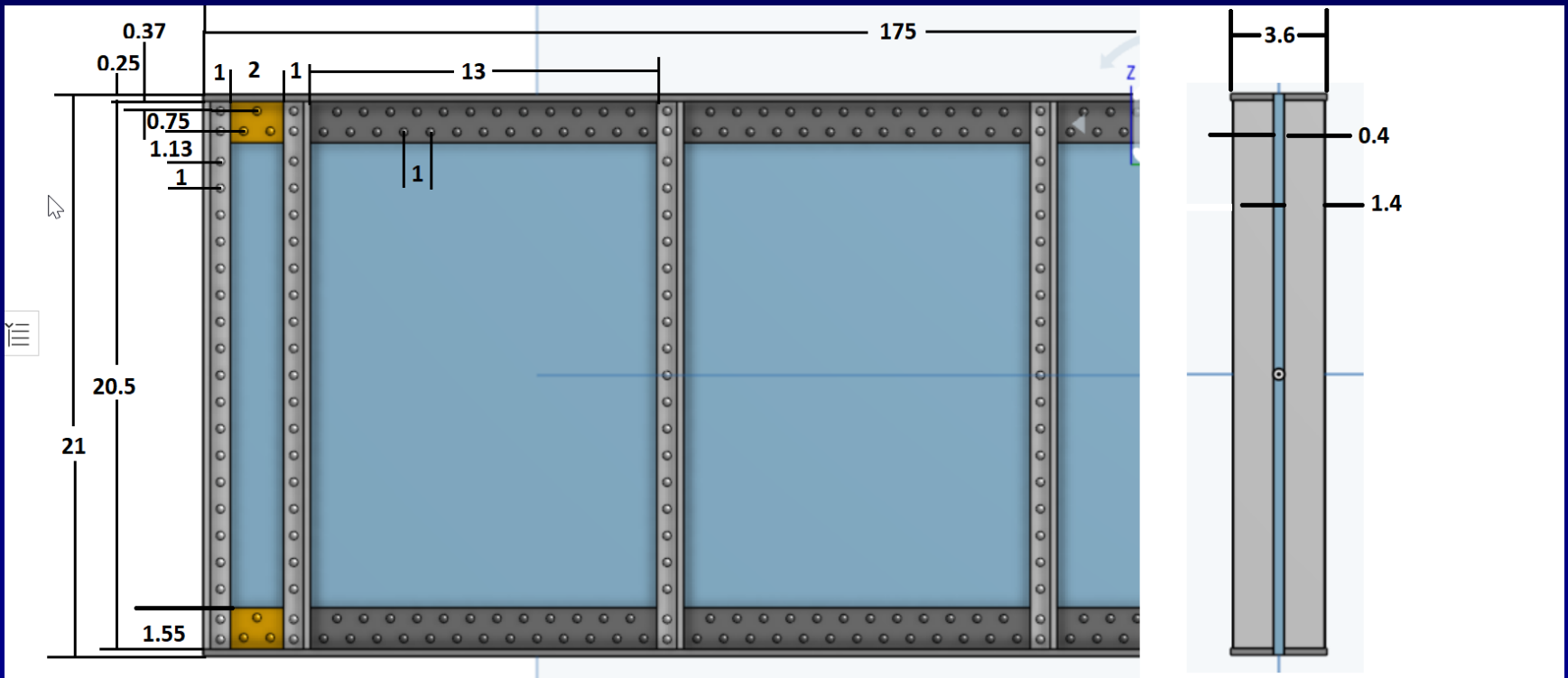
Main Girder



The prototype uses steel plates to fill the void under the stiffener angles left by the top and bottom structural angles.

We will be using a very different technique to handle this problem.

Girder Dimensions



Vertical Stiffener

