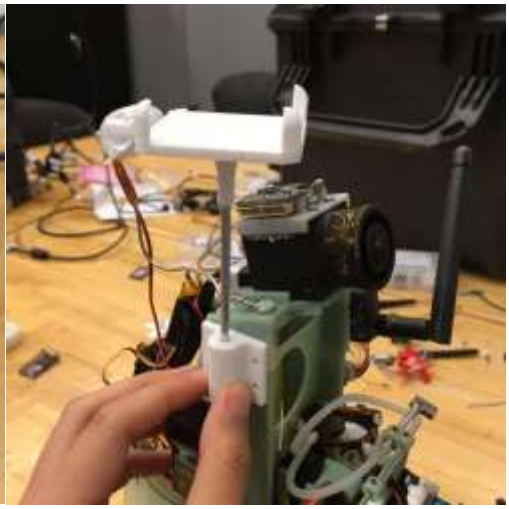
3D printed GPS Stand

The 3D printed GPS stand consists of three parts: top mount plate, a rod, and bottom mount plate. The top plate is design for 3DR GPS, and the bottom plate can be adjusted according to the place GPS is supposed to be mounted on.

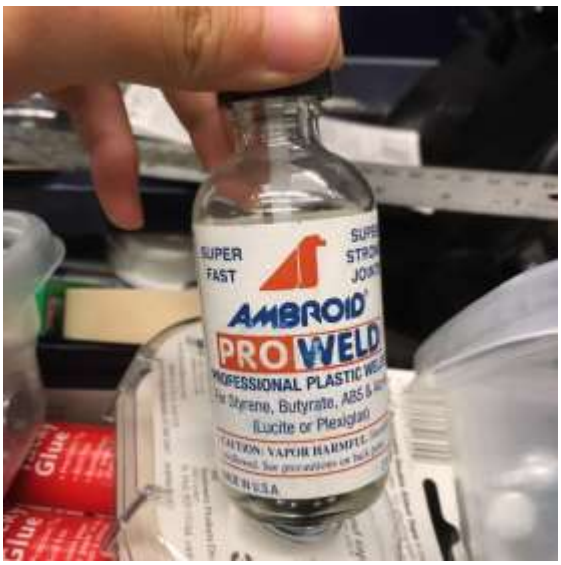


Top Plate

In order to for the printed parts to have finer surfaces, and require less support, it's made with two parts.

Note that the four tiny clamps sticking out on the square plate are not well-design. They are really fragile. Besides mounting the GPS module with the clamps, taping the GPS with double-sided tape is also a good idea.

They should be printed with the flat surface facing down. To glue them together, use plastic welder:

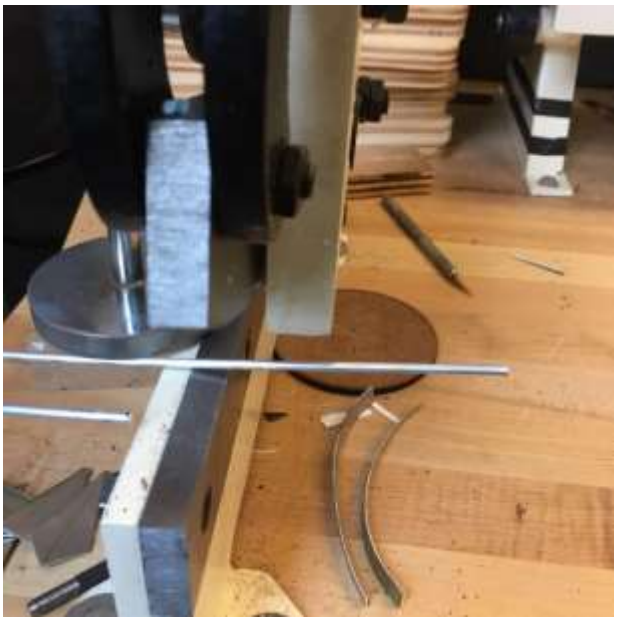


This glue is specifically design for plastic. Once applied, it will melt the plastics and create a really strong joints. Before using it, talk to Dave and read the instruction carefully. It is pretty toxic.

The Rod

If possible, use carbon fiber rods. It is lighter, and better at absorbing shock. However, it is hard to machine them.

As an alternative, you can use an aluminum rod. Although it will be really easy to bend, it is lighter than most of the metal rods, and extremely simple to cut.



Bottom Plate

There can be different designs for the bottom plate, depending on the surface the mount will be on.

Assemble

You might get the rod to fit into the printed parts first time, because 3D printed parts shrink. Change the dimensions little bit and try again for several time. As long as you get a reasonable tight fit, glue them together with epoxy.

CAD file: *GPS Stand.zip*

Any questions or suggestions, email jingyi.xu@students.olin.edu