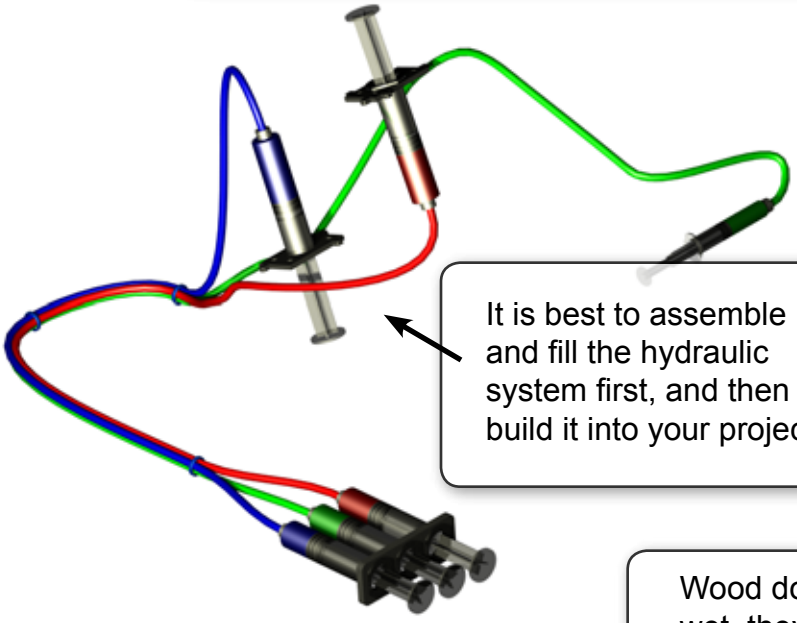
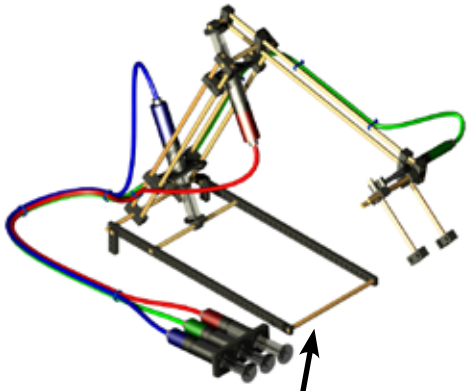
Guide to Filling a Hydraulic System

This guide will show you how to easily and successfully fill your Easy Engineering™ Hydraulic System.



*This is an example. You may be using different syringes, or configurations.



It is best to assemble and fill the hydraulic system first, and then build it into your project.

Wood dowels can not get wet. If they become wet, they swell and cause joints to stick.

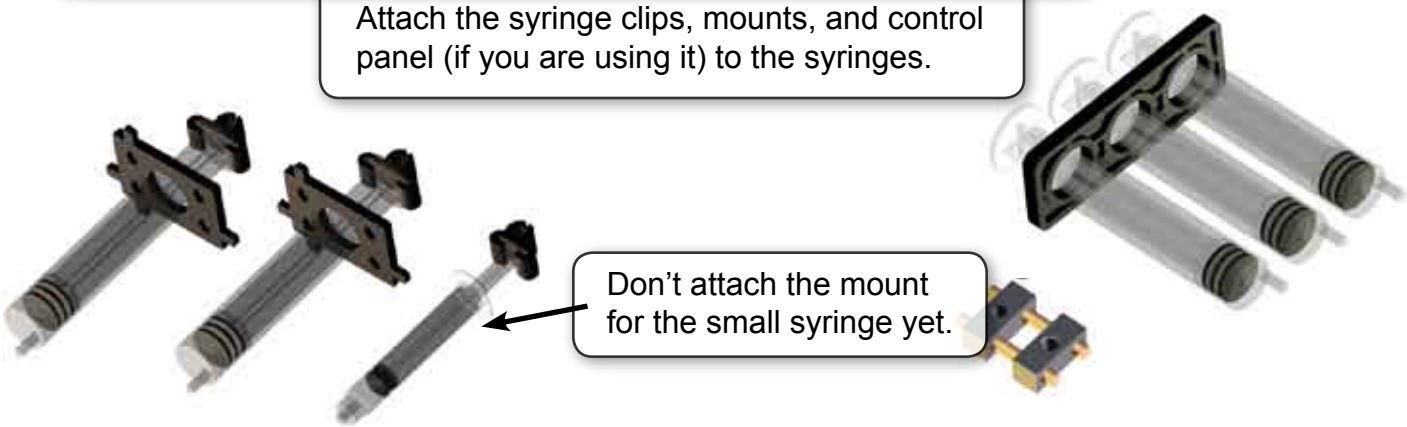
1) Design Your Hydraulic Device

What size and how many hydraulic cylinders will you need?

What is the approximate length of tubing you will need to run to the cylinders?

2) Assemble Your Hydraulic Cylinders

Attach the syringe clips, mounts, and control panel (if you are using it) to the syringes.

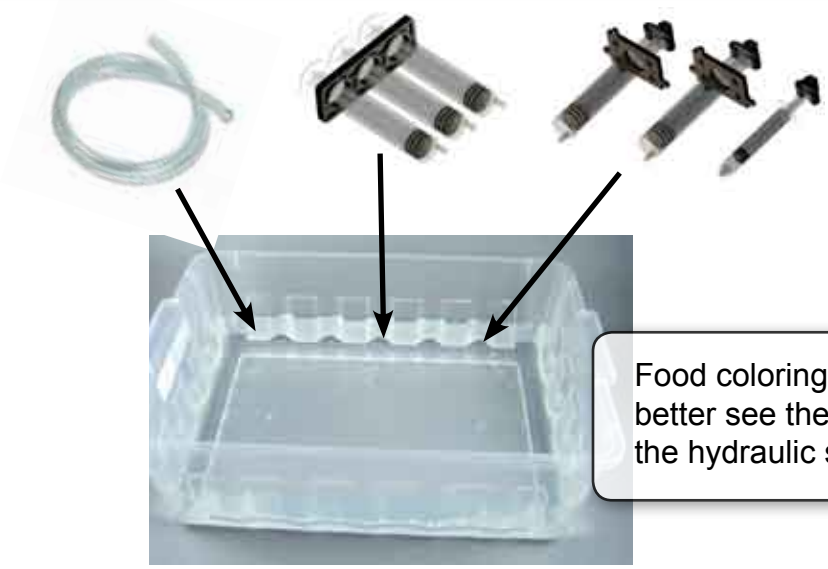


Don't attach the mount for the small syringe yet.

4) Cut The Tubing to length

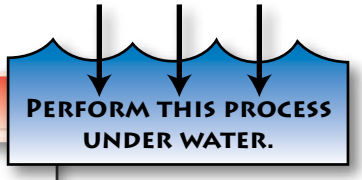
Cut the approximate lengths of tubing to run between your cylinders (syringes).

5) Put The Tubing and Cylinders into a Tub of Water

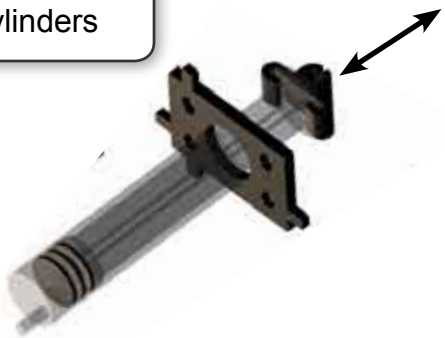


Food coloring can be added to better see the fluid flow through the hydraulic system.

6) Purge The Air From The Cylinders



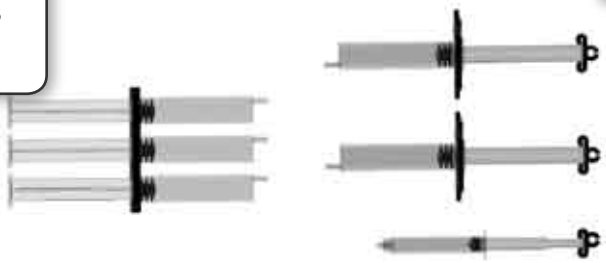
Push and pull the plungers to purge all air from the cylinders



7) Fill Cylinders With Water

Perform this process under water.

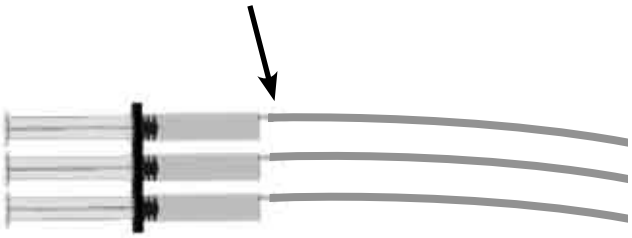
Pull back the plungers on all the cylinders.



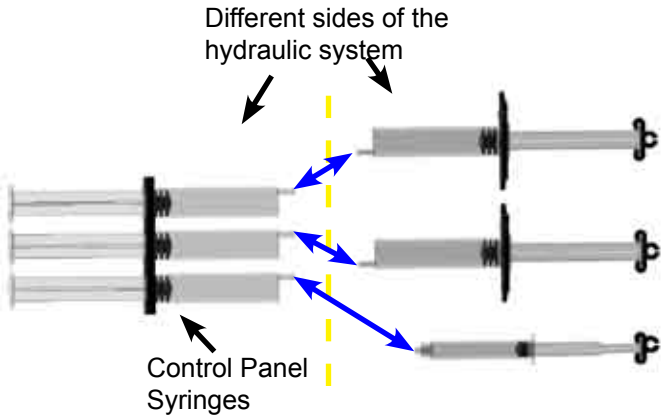
8) Attach Tubing (to one side of the hydraulic system)

Perform this process under water.

Attach tubing sections to the syringes on the control side of the hydraulic system.



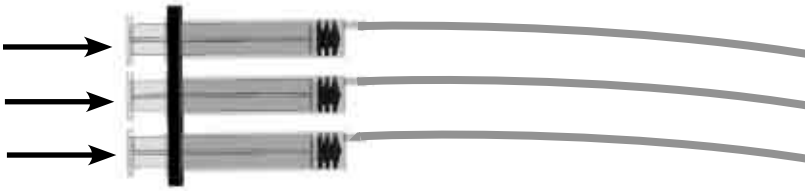
Leave the other end of the tubing sections loose



9) Purge Air From The Tubing

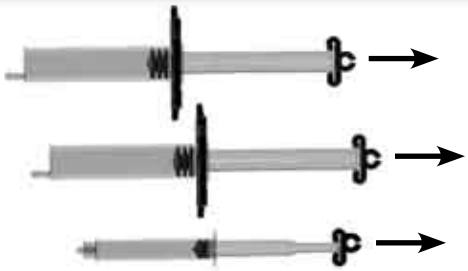
Perform this process under water.

Push in the plungers on the control panel syringes. Leave them pushed in.



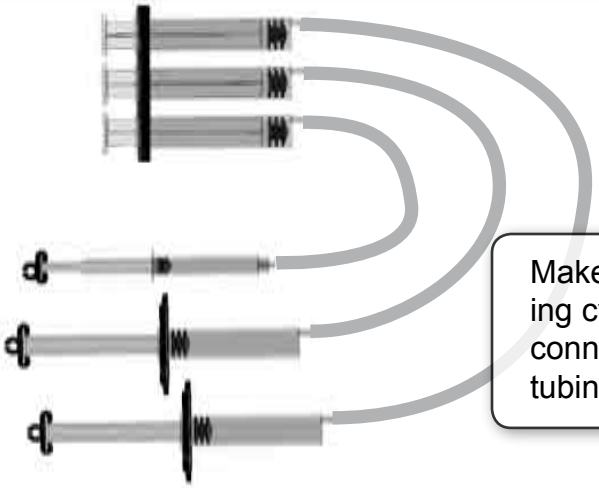
10) Make Sure That The Remaining (Unattached) Cylinders Are Full Of Water.

Perform this process under water.



11) Connect The Remaining Cylinders

Perform this process under water.



Make sure to keep the remaining cylinders full of water as you connect them the the proper tubing sections.

12) One Last Check

Move the plungers on the hydraulic cylinders. Do they have enough throw (travel)? If not, you may need to place the hydraulic system back under water where you can pull the tubing from a cylinder to add or remove water from the system.

You're Done!!!!!

It's time to build the hydraulic system into your project!

