



University of Idaho
College of Engineering

WATER EGRESS SIMULATOR ASSEMBLY INSTRUCTION



Simulation Assembly Checklist

2 Side Sub-assemblies

1 Seat Sub-assembly

2 Four-foot extrusions with UHMW along the entire face

1 Four-foot extrusion with no UHMW attached

2 Four-foot extrusions with 6 inch UHMW strips attached

1 3/16 Allen wrench

1 3/8 inch socket wrench

INTRODUCTION

The Water Egress Simulator is an effective way to simulate downed aircraft into a water environment. It includes a fully anodized aluminum assembly with low-friction UHMW strips attached with silicone to protect both the assembly, and the pool.

REFER TO THIS MANUAL WHEN ASSEMBLING THE SIMULATOR

The assembly takes roughly 30 minutes to fully assemble with two individuals if the instructions are followed closely. There is a specific order the assembly should be put together in to ensure an efficient assembly time.

Tools Required

3/16 Allen Wrench

Large Philips Head Screwdriver

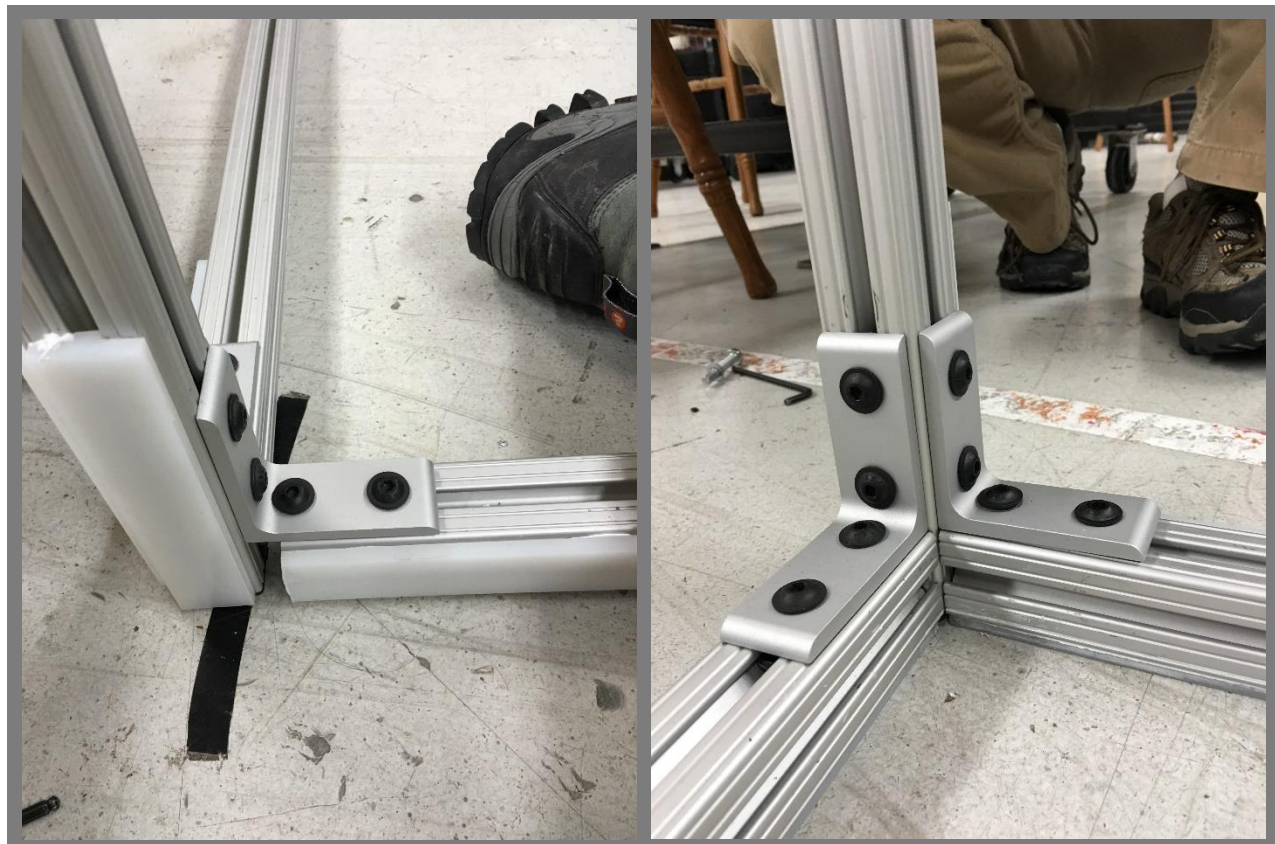
3/8" Socket Wrench

****WARNINGS****

This simulator is designed for use in a controlled environment. Do not use without proper personnel present. Do not exceed 500lb combined on the seats. Do not exceed 350lb on individual seats. Failure to follow these instructions may result in injury. Prior to moving forward with the testing in the water, each bolt in the assembly should be double checked to ensure a safe simulation exercise. Failure to do this may result in injury, so it is imperative to do so.

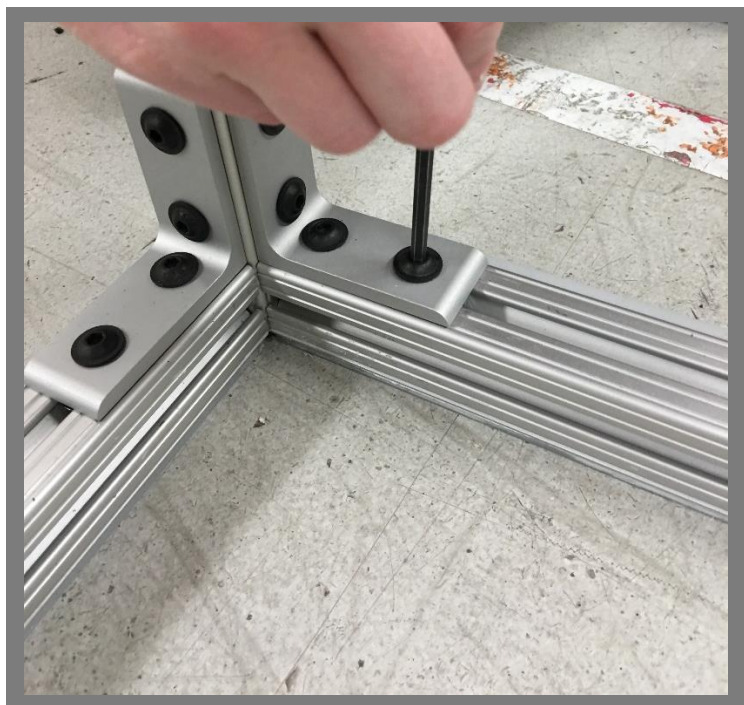


You will begin the assembly starting with the sub-assembly labeled as “L”, for “Left Sub-assembly”. Do not remove any of the fasteners as shown, as it makes assembly of the simulator both quick and easy if these are left alone. Note when disassembling the simulator that these should be left alone.



The next step is to select the aluminum extrusions with the UHMW strips covering the entire face. The UHMW is the white plastic fastened to the aluminum. This face needs to face down, so all sides of the bottom of the assembly are fully covered by UHMW. In addition, the 6 inch extrusion of the UHMW faces out, as they are designed to protect the pool when contact happens. Fasten all the bolts on the braces down, but **do not overtighten**.

After this step, the inside corners should look like picture two, and the outside corners should resemble picture one, with the UHMW facing out, with the long strips of UHMW facing down.



To tighten the bolts, simply use an Allen wrench. Remember: Righty-Tighty, Lefty-Loosey, as overtightening will result in an assembly very difficult to take apart.



Mirror the previous steps on the Right Sub-assembly. The resultant step will resemble a box frame without a top.



The next step is to assemble the two top extrusions. These are similar to the bottom extrusion members, but do not have a slide fully covered in UHMW. Simply slide the horizontal extrusion down from the top of the assembly.



To do this, line the top of the metal of the vertical extrusion with the top of the horizontal extrusion. Do not make the UHMW flush with the "X" created by the vertical T-slot. Instead, make sure the aluminum is lined up.

Have one side tighten the bracket down, while the other side holds the bracket in place.



Repeat the previous step on the other side. Be sure to double check all the bolts on the brackets at this point, and double check that the UHMW is **not** flush with the vertical "X".



At this point, the the assembly should look like this photo.



The next step is to fasten the plastic caps on the top of the assembly. The bottom of the assembly caps are already in place. Simply use the push screws to fasten these, and remember that they must come off before disassembling the simulator.



The next step is to install the frontal extrusion on the assembly. This designates the front of the assembly, so the seats should face this extrusion. Simply use the two short bolts provided, and screw the threaded extrusion into the provided holes on the assembly.



The next step is the installation of the seats. One person needs to hold the seat assembly up, while the other needs to screw in the bolts from the side. Upon disassembly, leave the seats assembled together as they came. Face the seats toward the extrusion installed in the previous step.



While one individual is holding the seat sub-assembly, the other should screw the four bolts into the seat sub-assembly extrusions. Remember: to know which way the seats face, simply look at the frame, and face the seats toward the extrusion installed during the previous step. Simply use a screwdriver, and fasten each bolt in with the four longest bolts provided.

Final Assembly



This is how the final assembly should look. Note that the seats face the horizontal extrusion outlined on page 9.