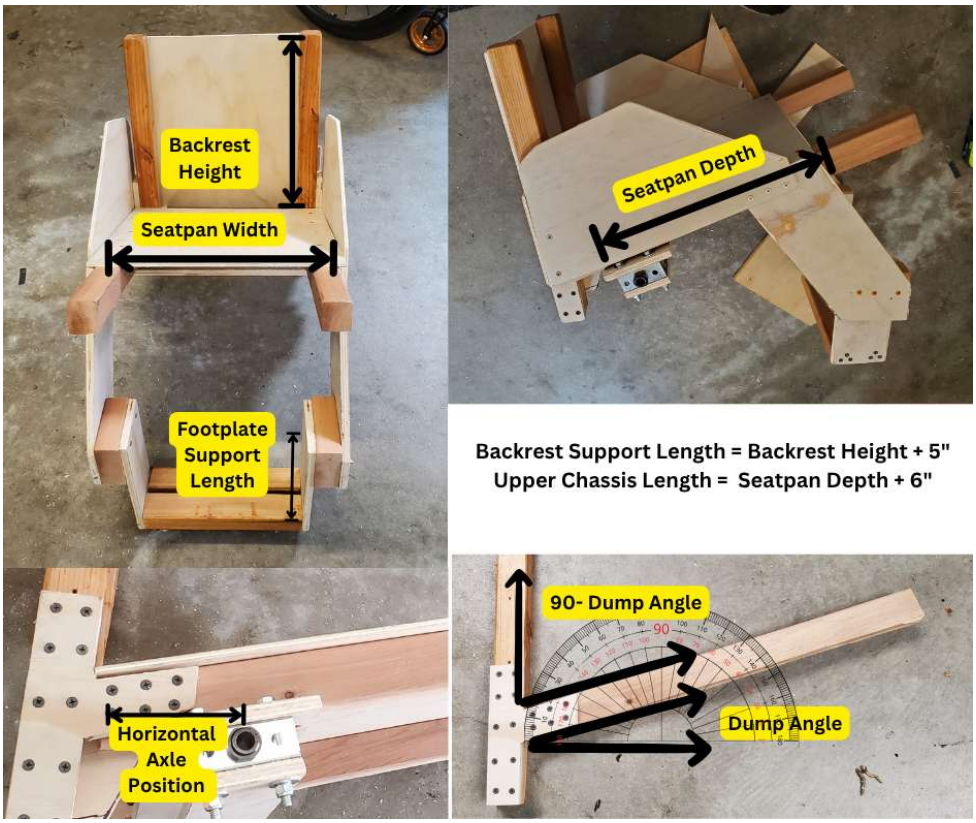
Customizing the Ply Guy Setup – Erik Kondo



In order to customize Ply Guy, you have to decide on certain dimensions.

1. How high do you want the Backrest to be above the seat?
   My current setup is 13”.

   The Backrest Support Length is your desired Backrest Height plus 5”.
   - Backrest Height = 11” -> Backrest Support Length = 16”
   - Backrest Height = 12” -> Backrest Support Length = 17”
   - Backrest Height = 13” -> Backrest Support Length = 18”
   - Backrest Height = 14” -> Backrest Support Length = 19”
   - Backrest Height = 15” -> Backrest Support Length = 20”

2. How wide do you want the Seatpan to be?

   My current setup is 15”

   The Seatpan Width is your desired width of the Seatpan.
   The Seatpan Width will determine the following:
   - Upper Camber Tube Board Length = Seatpan Width + 1.5”
   - Lower Camber Tube Board Length = Seatpan Width + 1.5”
   - Footplate Section Length = Seatpan Width – 4.75”

3. What depth (length) do you want the Seatpan to be?

   My current depth setup is 16”.

4. How far in front of the Seatpan do you want the front of the Footplate to be? Note that the front caster wheels will be mounted along the middle of the Footplate Platform.

   My current setup is 4”.

Upper Chassis Length = Seatpan Depth + Front of Footplate Distance

5. How high do you want the distance from the Seatpan to the Footplate to be?

   My current setup is 15” and the Footplate Support Length = 7”.

   - 12” -> Footplate Support Length = 4”
   - 13” -> Footplate Support Length = 5”
   - 14” -> Footplate Support Length = 6”
   - 15”-> Footplate Support Length = 7”
   - 16” -> Footplate Support Length = 8”

   Note: For greater than 16”, see additional instructions #9.

6. What do you want the Dump Angle to be?

   My current setup is 16 degrees.

   The Dump Angle determines the amount of Dump which is the difference between the height of the front and back of the seat. Without over complicating the math. Four degrees angle creates approximately 1 inch of Dump.

   - 4 degrees -> 1”
   - 8 degrees -> 2”
   - 12 degrees -> 3”
   - 16 degrees -> 4”
   - 20 degrees -> 5”

7. How far forward from the Backrest do you want the axle to be?

   My current setup is 4”.

   Ply Guy is designed to be an active wheelchair. Therefore, the axle position must be at least 3” forward from the rear seat support due to the frame geometry. The actual axle position is set (determined) when the Rectangular Camber Tube is mounted to the frame.

   Note that increasing the thickness of the Backrest Pad will have the effect of moving the axle rearward (since the body moves forward). Therefore, adding 1” of thickness to the Backrest Pad will have the effect of setting the axle approximately 2” forward despite actually being 3” forward.

8. Backrest Support Angle

   Ply Guy is designed to maximize self-propulsion and mobility. Therefore, the Backrest Support is completely vertical. The measurements and calculations are all based on having a perfectly vertical backrest.

9. **Raising the Seatpan to a Footplate Height (distance) greater than 16".**
   There are several ways to sit higher in Ply Guy.

   A. Increase the thickness of your cushion.
   B. Add an extension to the top of the Seatpan by adding an additional layer of ¼" plywood and use foam blocks as spacers and suspension. This has the same effect as increasing the thickness of your cushion. Remember that you will want to increase the length of the Backrest height in proportion to the increase in seat thickness.

   C. Lower the Rectangular Camber Tube by putting a wood spacer between it and the frame. The thickness of the spacer will correspond to the distance the seat height is raised.

   D. Stack an additional square brackets on top of the existing square backet on both sides of the Rectangular Camber Tube. Adding a 1.25" sq bracket will raise the seat height by 1.25". You will need to increase the (4) 5/16 bolt lengths from 3" to 4.5".

   E. Use a combination of these methods as desired.

   Please note. It may take some trial and error to get the customization of Ply Guy to be optimized for you. Ply Guy is designed to be easy to modify and repair. If something is not working, unscrew the parts and try again.