

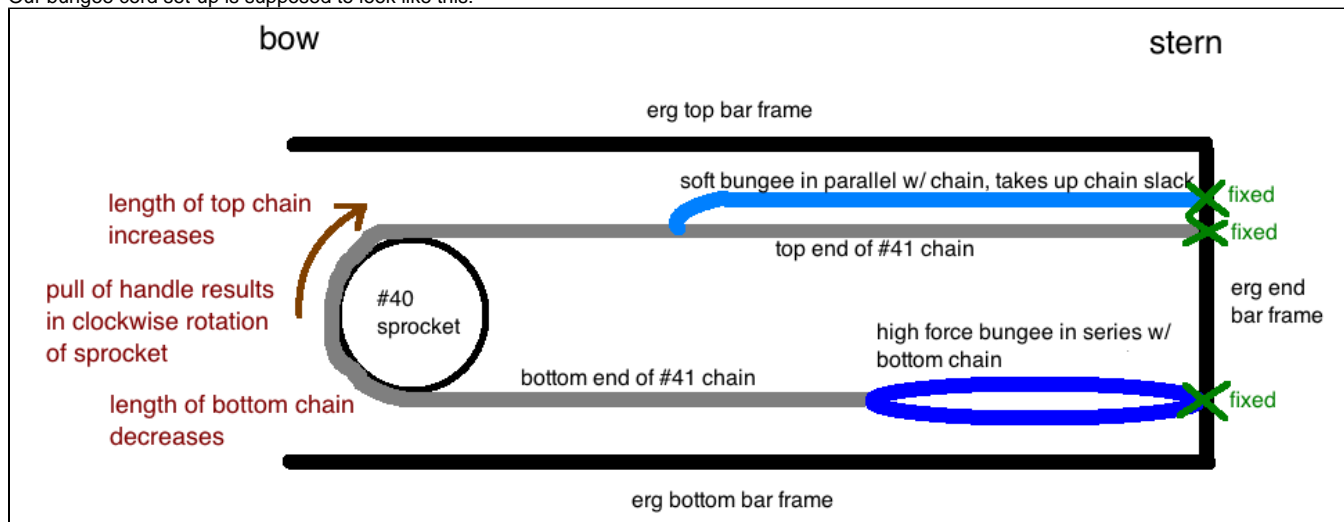
Thursday 06-14-13 Lin

The change in gear ratios really does help! We know that the amount of torque supplied to each half-shaft is equal and determined solely by the input torque on the middle differential gear due to the handle chain.

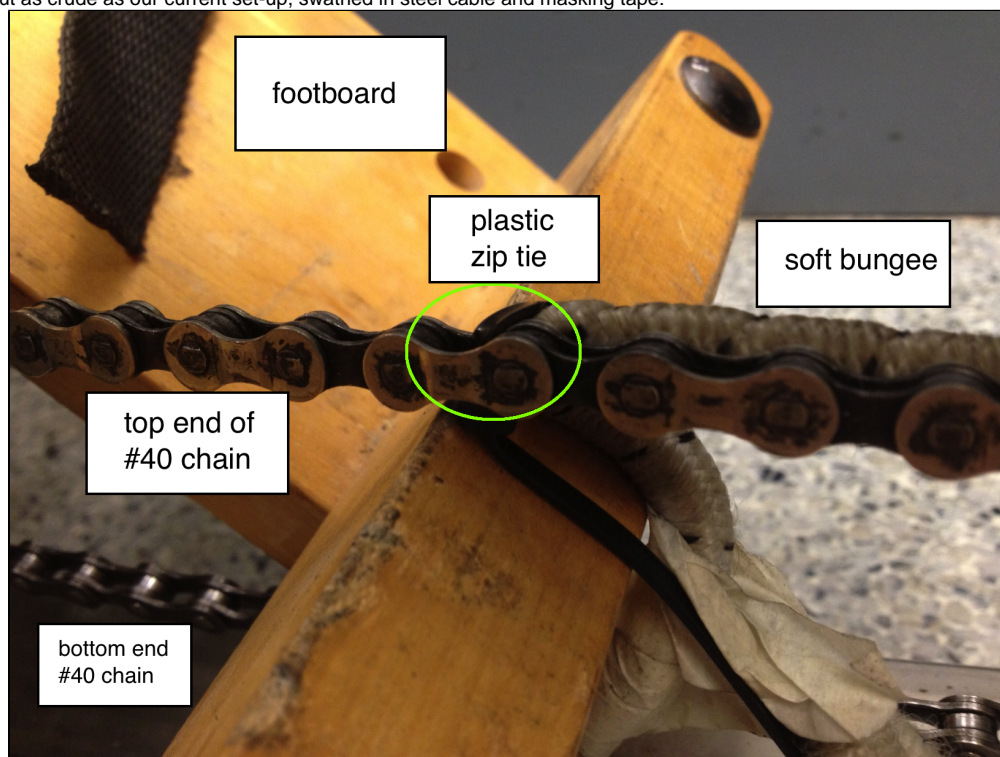
$$I' = \frac{I}{j'}$$

We decreased the radius for the wheel sprocket on the differential, which corresponds to a larger force, and this increased force is palpable when I rowed on our newly modified erg.

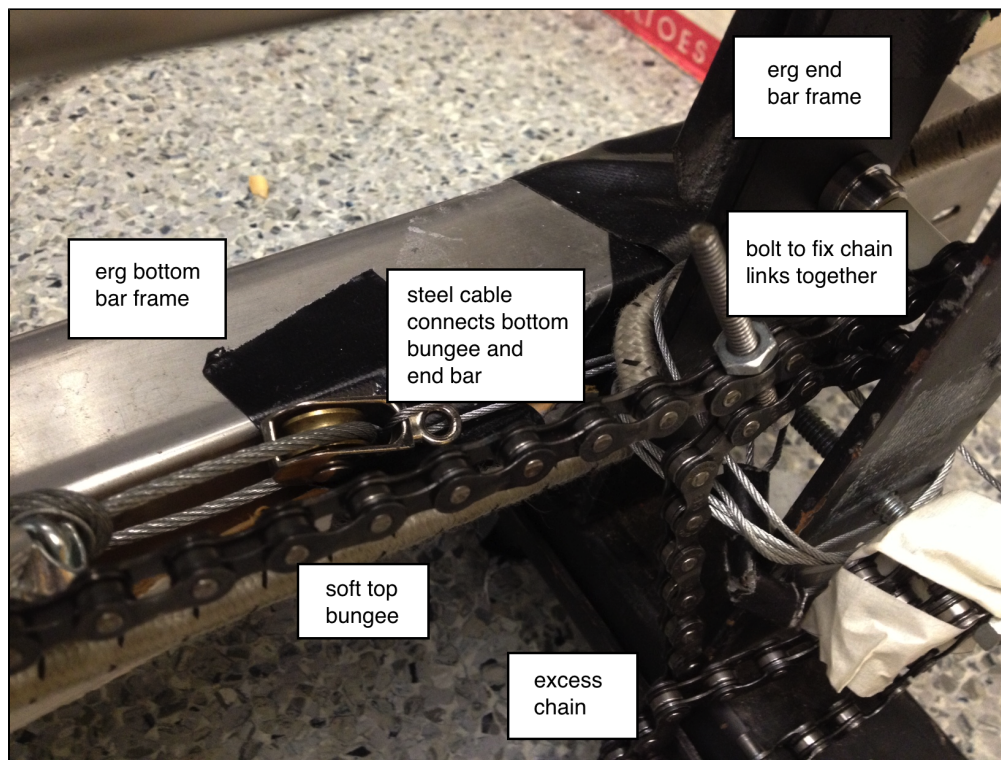
Our bungee cord set-up is supposed to look like this:



That diagram is about as crude as our current set-up, swathed in steel cable and masking tape:



The plastic zip tie should keep a point on the top bungee fixed to a chain link on the top #40 chain. It has held so far...



The bottom high-force bungee is not in the above picture, but it would be connected to the left end of the steel cable that is looped around a pulley.

By turning the wheel to stretch the bottom bungee cord as much as we could, we estimated, crudely, that the maximum displacement of the #41 chain is 12 inches. Therefore, the top bungee cord has about 12 inches of prestretch in order to take up all possible slack in the chain. The bottom bungee cord currently has about 4 inches of prestretch. We may have to change these pre-stretch values.