

## Friday 06-05-13 AL

We fixed the handle bungee system housed inside the bar.

We changed pre-stretch to 8" in order to increase the back tension on the handle sprocket to reduce chain slippage.

One end of the handle system:



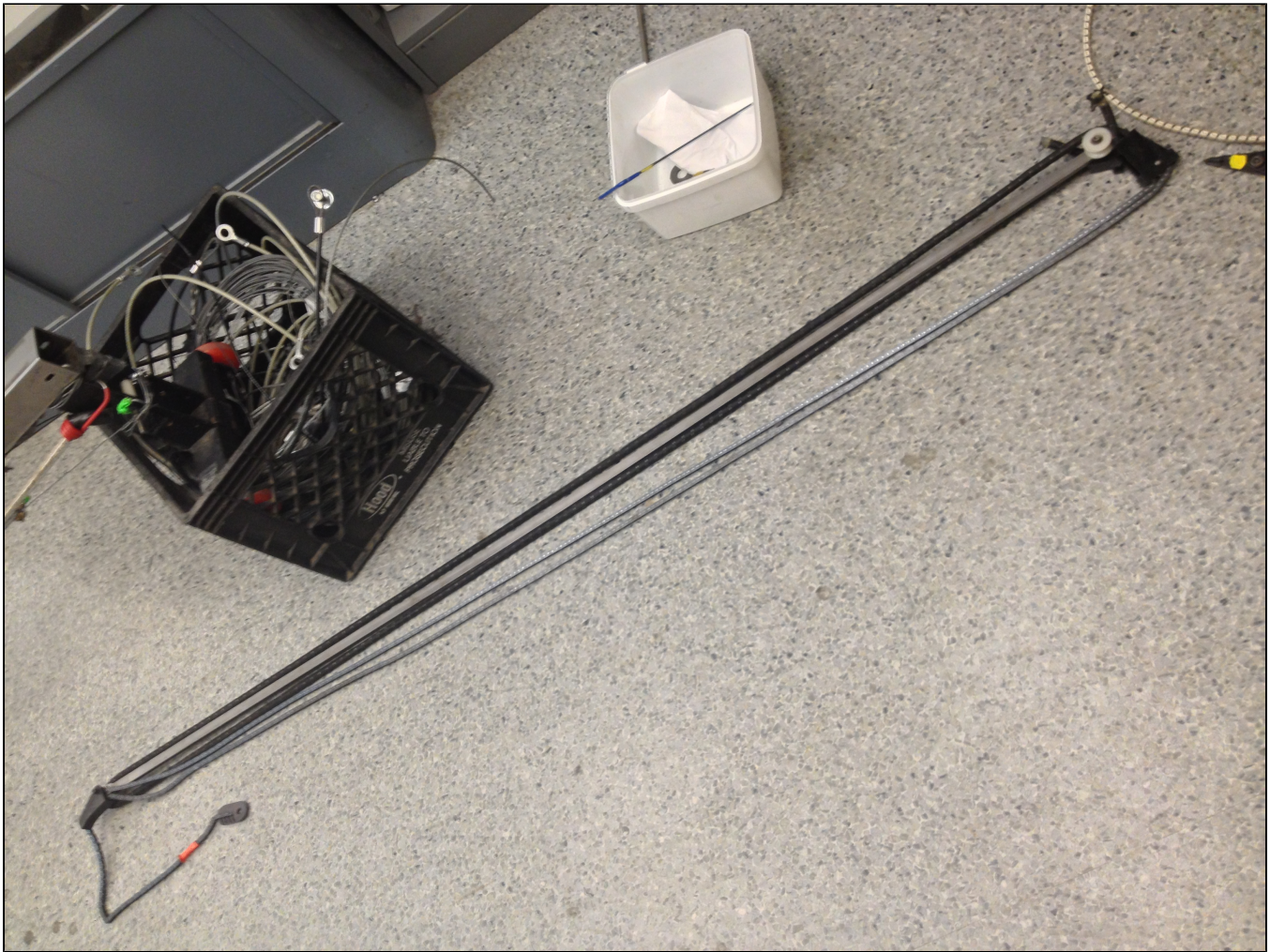
The picture below has been modified to outline the components of the handle system.



- The red line follows the metal bar that provides the structural basis for the system.
- The green line follows one end of the handle bungee, and this wraps around a cinch point that anchors down a part of the bungee cord, so the free end won't slip through. The free end can be lengthened to increase pre-stretch.
- The blue line follows the handle chain, which wraps around a freely-rotating sprocket located in the black plastic trapezoidal housing.
- The yellow line follows the other end of the handle bungee that is the attachment point between the bungee and the chain. The bungee wraps around a pulley (hidden in the back) and is then fixed to the black plastic housing, the intermediate connection between the bungee and the chain. The bungee is fixed to the plastic housing, while the chain can run along a freely-rotating sprocket in the housing, so this is essentially a floating pulley. The free end of the bungee can also be lengthened in order to increase pre-stretch.

The handle system in its entirety:





Because the chain wraps around a sprocket-pulley, it's as if there are two chains running right next to each other, in opposite directions. We made sure the chains didn't criss-cross in order to make sure the chain runs smoothly, noiselessly, and without wear-and-tear.

This process took a lot of concentration and time in order to get right. Some things to keep in mind for next time:

- Each end of the metal bar has two opposing metal axles for the pulleys and black plastic housing. One of these axles is longer than the others, and the black triangular shaped plastic chain feeder is fixed there. Don't use a retaining ring on the triangle piece yet, but just note where it goes.
- The white pulleys have to go on opposite sides and opposite ends of the metal bar. Place them on the axles and fix them using retaining rings.
- When setting up the bungee system, eliminate all pre-tension. When the chain and bungee and plastic bits are all on the metal bar, slide the system into the erg, and then pre-tension is easily adjustable.
- Make sure the chains do not criss-cross.
- The black triangle piece must point upwards in order to feed the chain upwards.