

Tuesday 06-11-13 Lin

Snail mail came through and delivered:

- #25 sprocket with 3/4" bore and 45 teeth. This goes on the wheel axle.
- #25 sprocket with 5/8" bore and 18 teeth. This goes on the differential axle, and this sprocket shares a chain with the wheel axle sprocket.
- #25 sprocket with 5/8" bore and 24 teeth. This goes on the differential axle, and it shares a chain with the flywheel axle.

The first and third sprockets need to have keyways cut out. Joe at the machine shop in Emerson will help us tomorrow at 10am to [broach](#) these keyways.

Reading:

- The [WaterRower](#) is a rowing machine that uses liquid water and a spinning paddle as the drag mechanism. Its performance monitors [incorrectly calculate distance](#) rowed by simply multiplying the linear displacement of the handle by 5. This means that a rower can increase perceived velocity by rushing the recovery and pulling faster rather than harder.



- A rower's power is proportional to the cube of velocity: $P \propto v^3$. For example, rowing at a 2:00 per 500m pace requires twice as much power compared to rowing at a 2:30 pace.