For our DFMEA we started off by identifying components that could fail during operation of the device. This paragraph will use the chain as an example to explain the process of completing the DFMEA chart. After a component is identified, we looked at the different effects that failure of the component would have. For the chain we identified two major effects that failure would have: loss of rider propulsion and loss of rider control. For each effect, we assigned a severity rating out of 10 (from the Mech 223 textbook). “Loss of rider propulsion” received a rating of 7 which means the effect is harmful, causing major degradation in device performance. “Device goes out of control” received a rating of 8 which means the effect is very harmful causing the device to lose primary function. Afterwards, we looked at possible causes for each failure and assigned an occurrence rating out of 10 (also from the Mech 223 textbook). “Link-plate fatigue” and “roller fatigue” received a 7 which means the likelihood is occasional. Excessive wear/galling received and 8 which means the likelihood is probable. Multiplying the severity rating and the occurrence rating we get a risk priority number out of 100. All failures that received a risk priority number of 50 or above were flagged so that action is taken to reduce the risk. Once action is taken, the process is repeated to see if the new risk priority number is acceptable. In the case of the chain, calculations were done to find the suitable chain thickness, giving us a new risk priority number of 8.