

The final prototype design was tested to find the configuration that gave the optimal jump distance. The two variables in the final design that were tested were the ramp angle and the delay between the hip muscles firing and the lower muscle groups firing. Figure 1 below shows the results from varying ramp angle and figure 2 below shows the results from varying the muscle group firing delay. For the ramp angle testing, the muscle timing delay was held constant at 100ms. For the muscle timing delay testing, the ramp angle was held constant at 17°.

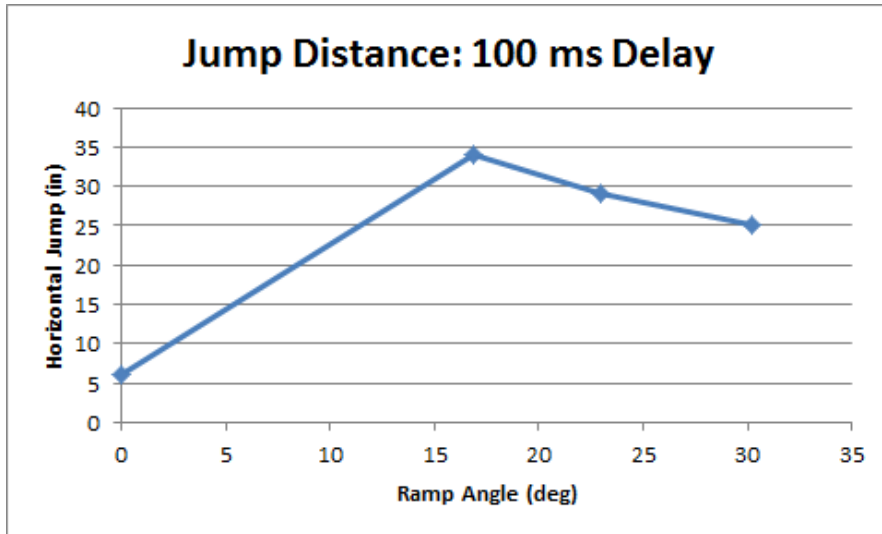


Figure 1: Varying Ramp Angle

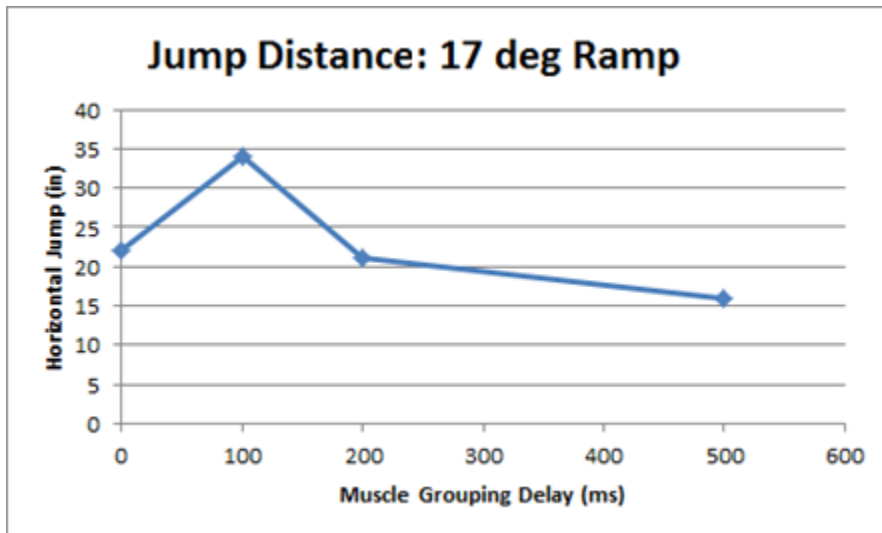


Figure 2: Varying Muscle Group Firing Delay

This testing showed that the largest jump of 34in was achieved with a 17° ramp angle and a 100ms delay.