

ZEUS IV MODULAR HOPPER

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SPECS

DRY MASS 51g min



ENERGY 2.8j max



HEIGHT 2.2m max

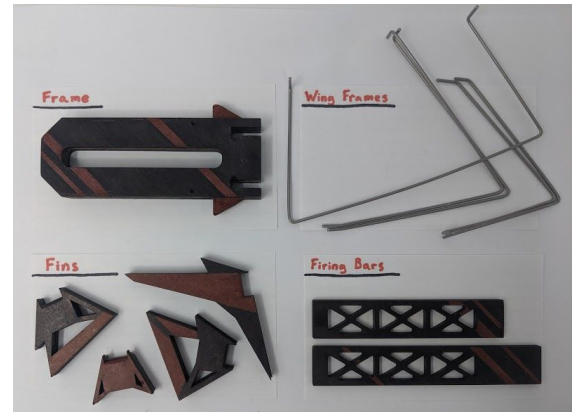


SAFETY

This hopper has no sharp edges, as a result of extensive filing. The launch pattern is predictable enough so as to not launch at any bystanders.



DETAILS



This hopper is designed to be modular and can attach different fins, wings, and launch bars to maximize height, distance, and air time.

DESIGN GOAL

Many hopping creatures, such as the grasshopper, boost the effectiveness of their jumps by gliding to the ground. My mechanism incorporates jumping and gliding to mimic these creatures and better understand how they work.

Animals like grasshoppers and flying squirrels use gliding to give their jumps a boost and have been very successful in doing so. After completing initial tests, gliding appears to be a complex process, because the hopping mechanism must gain significant height for gliding to have any significant impact on the flight time. However, by integrating a jumping and gliding system into one mechanism--similar to how flying squirrels use their legs to jump and membranes between their legs to glide--my hopper could remain efficient in jumping while adding glider wings as a bonus.