**AVEM DYNAMICS**

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**INTRODUCTION**

Pigeon shooting has been a popular sport dating back as far as 1825. An alternative, clay targets were invented in 1880. The clay pigeon made it possible for sportsmen to hone their shooting skills, by shooting small clay targets, without killing actual pigeons.

A clay pigeon is a rounded disk that resembles a hockey puck. A machine is required to throw these clay pigeons so that shooters can hit them while they are in the air. These machines provide the sportsman the same feel as shooting a flying bird.

Most clay pigeon throwers expel the clay pigeon with no variance, in the same spot over and over again. In order for a machine to properly replicate the real pigeon-shooting experience it would have to have the capability to throw a target in a random, unexpected direction.

We have designed an affordable, randomized clay pigeon thrower, which enables shooters to have realistic experiences in their target shooting.

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### DESIGN

- **Vertical Assembly**
  - 10° to 50° range above horizontal axis
  - 12V DC brushless motor
  - 10K potentiometer for location

- **Horizontal Assembly**
  - Ranges -45° to +45° from center
  - 12V DC brushless motor
  - 10K potentiometer for location
  - 12” turntable bearing

- **Throwing Mechanism Assembly**
  - 12V DC brushless motor
  - 11” Extension spring
  - 12” throwing arm
  - GY6 starter clutch assembly
  - Limit switches

- **Control System**
  - Arduino Mega
  - Motor drive controller board
  - 12V Power supply

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### FEATURES

- Uniform and Triangular distribution launching modes
- Position of vertical and horizontal axes can be set to certain parameters for desired launching trajectories
- Enclosed for safety
- Durable
- Easy mobility
- 40-50 yard throws
- One-person operation
- Control box for easy user interface

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### COST COMPARISON

**Champion High Fly**
- $24.99
- Features: Manual (string) release
- Manual load for launch tray
- Must stake down for use
- Throws in the same spot with no electronic control

**Do-All Raven**
- $349.99
- Features: Wireless remote control
- Throws in the same spot with no electronic control

**MEC 100E**
- $1089.99
- Features: Very expensive
- Tilt back 50° and only left 30°
- Throws semi-random with a cyclic pattern

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**OUR COST - $468**