Frisbee Magazine

Design Choices:

* Gravity feed or spring feed

One Frisbee at a time should be dropped into the ‘chamber’. After it is dropped …

From the chamber up the Frisbees locations are 0, 1, 2, 3, and 4. 0 is the chamber when the Frisbee will be directly show from.

After a Frisbee is shot the chamber is empty and immediately the Frisbee from slot 1 is dropped into the chamber, slot 0. Immediately after a Frisbee is moved from slot 1 to 0 the pins holding the Frisbee at slot 2 will be released and Frisbees will move down toward the magazine.

A spring is set at slot 4 which has the ability to press down ½ the space of slot1, The spring cannot be allowed to interfere with the action of the chamber.

Requirements

* Shoot a Frisbee at the rate of 2 Hertz.
* Load new Frisbees from the ground or player station.
* Pointing of the Frisbee as it is shot should be independent of the drive system.
* To facilitate banked shots the shooting mechanism shall swivel.
* The speed of the shooter motor shall be at least 10,000 RPM.
  + The velocity of the shooter shall be instrumented.
  + The velocity of the shooter shall be controlled via a PWM control loop.
* …

Design

* Use a single disk cam to control movement of fingers for allowing Frisbees to drop down the magazine.
* Use a single pneumatic cylinder to push the Frisbees down the magazine.
  + This can be moved out of the way to facility loading new Frisbees.
* Use a single pneumatic cylinder in the chamber mechanism to ‘shoot’ the Frisbee.
* As in the 2013 design use a convex surface to control the direction of the Frisbee.
* Use a bevel gearbox with two inputs and a single output and a 4:1 increase in motor speed gearing.
* …