

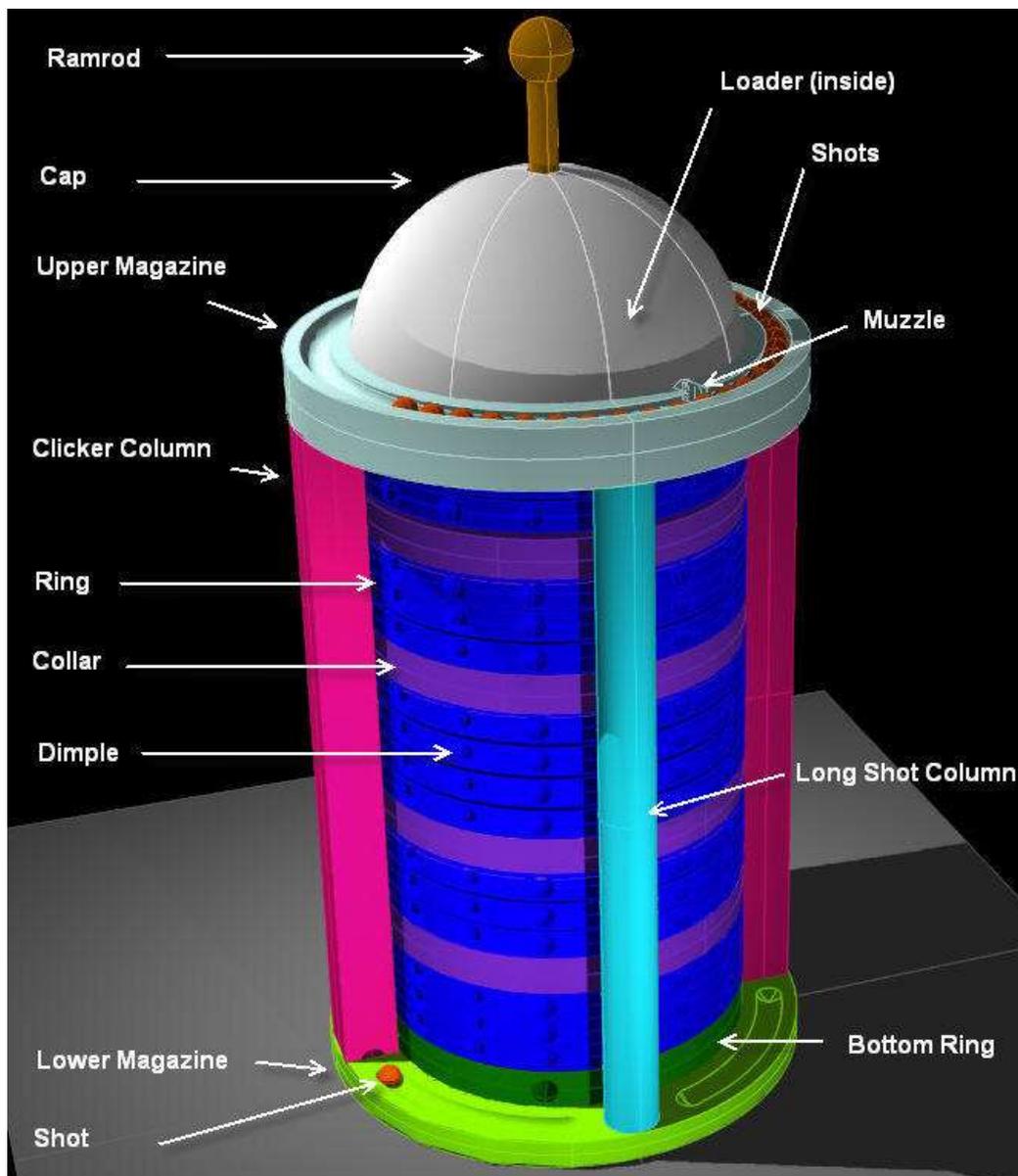
Drop Shot

A game of memory and concentration for two or four players

Equipment:

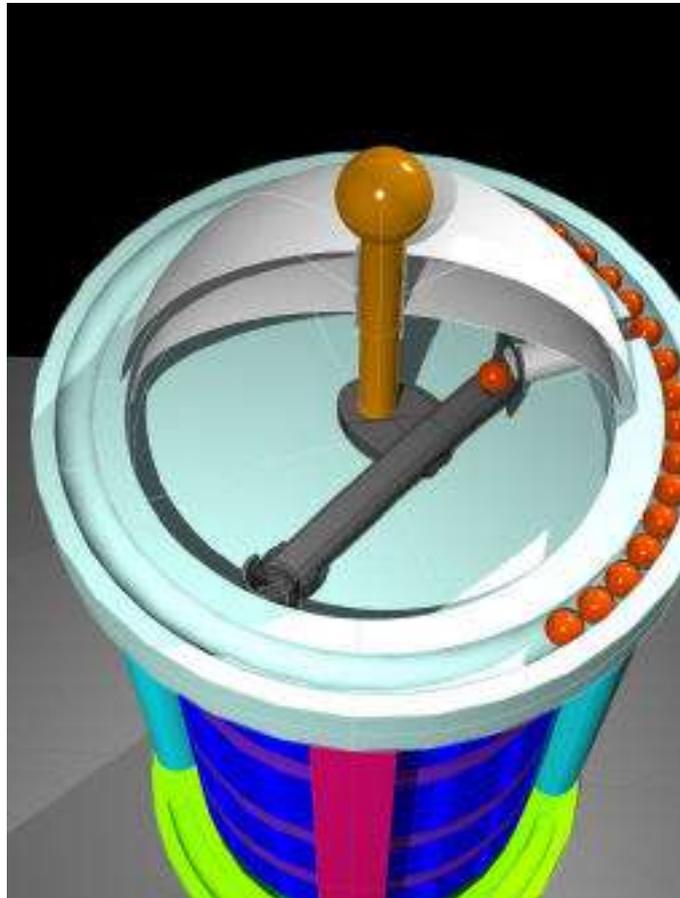
Note: dimensions are approximate. All holes and tubes should be made with tolerances that allow a 1cm dia (nominal) steel ball to pass freely through.

1. 1 x six sided die and 1 cup to shake the die in.
2. 25 x 1cm dia. steel balls know as 'Shots'.
3. 1 x 'Shot Tower'.



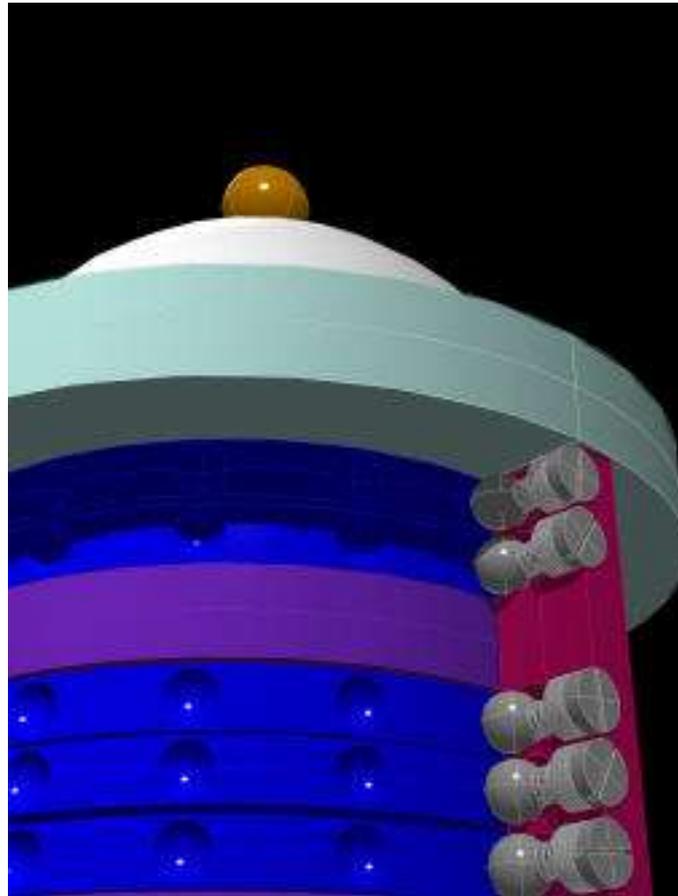
- **Shot Tower** - The Shot Tower consists of:
 1. Fifteen, 13cm dia., 1cm thick solid rings threaded onto a vertical rod between
 2. A bottom disc called the Lower Magazine
 3. A cap on top of the rings with the Upper Magazine encircling it. Also contains the Ramrod plunger.
 4. Four collars interspersed between the 3rd/4th, 6th/7th, 9th/10th & 13th/14th rings
 5. Four columns attached between the Cap and the Lower Magazine to hold the tower together and connect the collars in pairs.
- **Rings** - Each ring has a 1cm hole right through it from top to bottom, centred 2cm from the circumference, plus sixteen, .75cm 'dimples' spaced evenly around the outer edge. The rod about which the rings rotate is secured at the bottom by the Lower Magazine and at the top by the Cap. These are approximately 2cm larger in diameter than the rings. Both the Cap and the Lower magazine have four, matching, 2cm tags protruding from their circumference at the 90 degree points.
- **Cap and Upper Magazine** - The Cap is a semi-hollow hemisphere containing the Ramrod that presses down against the sprung Loader. The loader can hold up to 3 Shots at a time. The Cap also includes the Upper Magazine' which has a sloping trough running around the outside edge, (with the centreline 2cm inside the circumference), that can hold the 25 steel balls. The lowest end lines up with a hole in the Cap, called the Muzzle, through which balls will naturally roll when the hole is unobstructed. The Upper Magazine also has a 1cm hole through it that lines up with the hole in the Top Ring when the ring is rotated appropriately. Between the Muzzle and the hole is the Loader mechanism comprised of a hinged trough that has a shallow hollow at the outer end. Into this depression, balls drop one at a time from the Upper Magazine trough when the Loader is depressed down by plunging down the Ramrod on the top of the Cap. Releasing the Ramrod raises the mechanism, thereby angling the trough towards the hole in the Cap and the steel ball rolls into the hole in the Top Ring, placing the ball (or Shot) in play. This action also obstructs the Muzzle again to prevent more than one Shot from entering play at a time.

Note: The whole loader/Ramrod mechanism could be bypassed by replacing the Ramrod with a tube that ran from the top of the cap to the hole in the first ring. The balls would then be loaded by the 'Loader' just dropping them in one at a time. Much easier but a lot less interesting to players.



- **Lower Magazine** - The Lower Magazine has four .75 cm wide semi-cylindrical troughs on the top surface such that when a 1cm ball bearing is placed in them, it runs to one end and stops there. These troughs are spaced equally around the disc and with centrelines 2cm inside the circumference. Each trough can hold up to 9 balls.
- **Columns** - Four columns are placed at the 90 degree points around the perimeter of the Shot Tower. They not only serve to hold the rings, and discs in place but two of the opposing columns also hold the Clicker mechanisms that control the rotation of the rings.
 1. **Clicker Columns** - These consist of the two relevant columns that have a vertical slot down their Shot Tower facing edges, containing a stack of 1 cm steel balls (1 for each ring with spacers matching the positions of the Collars. These slots are almost

enclosed tubes, but allow the balls to contact the dimples in the rings while enabling them to slide back slightly against a spring or rubber retainer in the columns. Thus, as the rings are rotated, the balls 'click' in and out of the dimples and hold the rings lightly in place when no pressure is applied. There is one Clicker per ring in each of the two columns.



2. **Long Shot Columns** - The remaining two columns contain 1cm holes down which the Shots can pass freely. The top of one tube is connected to the First (or Top) Collar and the bottom the tube is connected to the Third Collar such that Shots entering an extra hole in the First Collar will drop down the column and into the Third Collar. Likewise, shots entering the extra hole in the Second Collar will drop down to the Fourth (or Bottom) Collar, thereby skipping several rings on the way.

- **Bottom Ring** - The Bottom Ring has four, equally spaced, 1cm holes that run from the top face, down and out the side, each lining up with one of the troughs in the bottom disc. When a ball drops into a hole it will roll down and out into one of the troughs.
- **Collars** - The four collars are threaded on the rod with one each between the 3rd and 4th, 6th and 7th, 9th and 10th and the 13th and 14th rings. The top two of these columns contain a curved hole that directs the Shot out the side of the Shot Tower and into one of the Long Drop Columns. This enables the Shot to bypass several rings in one go by falling down and into either the third or fourth collars where it re-enters the ring system. From there play continues as usual.

The Game

Object of the Game

To collect the most Shots in your Lower Magazine(s).

Setup

- The Shot Tower is placed on a table or other level surface with up to four players gathered around it.
- The 25 Shots are placed in the trough of the Upper Magazine.
- Each player chooses a separate Lower Magazine to receive their Shots during play. (When playing with two, each player chooses two adjacent magazines.)
- Each player then rolls the die. The highest roller becomes the 'Loader' and plays first.

Play

- The Loader depresses the Ramrod until a Shot rolls into the Muzzle and drops into the top ring.
- The Loader then rolls the die and by pushing on the dimples of the top ring, rotates *it in either direction* by the number of clicks rolled, or until the Shot drops into Top Ring from the magazine, or from the Top Ring into the next ring down.
- If the Shot drops into the next ring, the player rolls and rotates the ring again *in either direction* and so on until the shot remains in a ring after a rotation.
- Moving to the left around the Shot Tower, the remaining players take turns rolling the die and moving the rings *in either direction* with the aim of making the Shot drop through the tower as quickly as possible and into the Lower Magazine.
- Players may rotate any ring to achieve this. Only the rings currently containing the Shot and the one directly beneath are likely to forward the action, however strategies to confuse opponents may include rotating other rings.
- Eventually all Shots will drop into one of the four holes in the bottom ring and roll into a trough in the Lower Magazine. Players have no apparent control over which magazine the Shot will fall into.
- Each time a Shot drops into the Lower Magazine, the title of 'Loader' is passed to the next player to the left of the current Loader, and they then load the next shot for play using the Ramrod.
- This cycle of load/roll/rotate/roll/rotate/... is repeated until the game ends.

Rules

- The game ends when either all 25 Shots are in the Lower Magazine, or when there are 7 shots in one of the troughs of the Lower Magazine.
- The winner is the player with the most Shots in their Lower Magazine at the end of play. (When playing with only two players, the total of both magazines for each player is used to determine the winner.)
- The current Loader is responsible for solving any disputes during the play of the Shot that they loaded.
- A variation may be played by agreement amongst the players before the start of the game, whereby more than one shot is loaded and played at a time. The number of shots to load equals the number of players and one shot is loaded after each round of turns. Loading is performed by each player in turn, moving to the left. In this variant of the game the Loader is deemed to be the player initially selected for the position, passing to the left in the usual manner as Shots emerge into the Lower magazine.
- In playing 'Drop Shot' it is up to the players to try and keep track of where the Shot is at any one time, and as this cannot be done visually, it becomes a game of memory and concentration. While frowned upon as bad sportsmanship, distracting other players to gain an advantage is not against the rules and may add to the fun of playing, (or not, as the case may be).