

Golf Ball Sorter  
Event Runner: Shawn Guerrette  
Cape Elizabeth High School

Teams will construct a machine/device that will separate real golf balls from plastic wiffle-ball type practice golf balls. The brand of real golf ball that will be used is American Re-Load™ recycled golf balls and the brand of practice ball that will be used is Easton™ 5” Training Balls. The 5” designation refers to the approximate circumference of the practice balls. Basically, the real golf balls and the practice balls have approximately the same diameter, the major difference between the two is their weight. The device should separate the two types of golf balls into two separate containers. On the day of the competition, the event runner will supply each team with a random mixture of 20 standard golf balls and 20 plastic golf balls.

Device Specifications/Limitations:

If teams choose to design an apparatus which requires electricity, a standard US household voltage source (3 prong extension cord) will be provided.

The sorter must have a loading container. At the meet, the event runner will transfer the mixture of golf balls into this container. Once the sorter is started, this container will automatically feed the balls into the sorting device via trap door, tilting, etc. The loading container must maintain the random mixture of the golf balls. If any sorting of the golf balls occurs in the loading container, teams will be assessed a 20 point penalty. This penalty will be assessed if the team attempts to place the balls in the loading container such that they line up in a straight line (single file). However, the loading container may be designed to release the balls single file. Please note, the event runner will be transferring the mixture of golf balls to the loading container using a bucket. The loading container should be designed accordingly. Excessive difficulty in transferring the golf balls to the loading container will result in a 10 point penalty (if more than five balls fall out of the loading container while transferring).

The sorter must begin the sorting process using a “flick of the switch” mechanism. This means, once instructed to begin, teams may only contact their device for less than one second, after which, teams are not allowed to contact their sorter. In starting their sorter, teams cannot actively be involved in the sorting process, all sorting must be done by their machine. Teams using electricity may choose to close their electrical circuit prior to initiation or during the one second after initiation.

The golf ball sorter cannot use liquid buoyancy to separate the golf balls. Doing this will result in a disqualification.

The golf ball sorter cannot damage the golf balls. If any of the golf balls are damaged, the team will be assessed a 5 point penalty for each damaged ball. Damage to golf balls includes; any nicks or cuts, any disfiguration, and any wetting from any liquid.

## Running the Event and Scoring

When called, teams will have approximately one minute to set up their device. The event runner will transfer the mixture of golf balls into the device. When instructed to do so, teams will initiate the sorting process with a “flick of the switch” as previously specified.

The event runner will determine the time it takes for the golf ball sorter to complete its task. The task will be considered complete when all of the golf balls have come to a state of rest. If any team uses a mechanism which causes constant agitation to the golf balls, they may elect to specify to the event runner when the task is complete.

Teams will receive one point for each correctly sorted golf ball. Ties will be broken according to time, with the lowest time receiving the better placement.

After all teams have completed one run, any team may elect to go for a second run. However, doing so will result in a 10 point penalty and the second run will be the score that is counted.

### Addendum:

If a team wishes to get samples of the golf balls before the event, simply send me a two day priority stamp with complete address and I will mail two golf balls of each type to your school. Please have your coach e-mail me at [shawnguerrette@yahoo.com](mailto:shawnguerrette@yahoo.com) to get my home address.

Best of luck to all teams, I can't wait to see your inventions.