

Background:

There is a famous golf saying that “you drive for show and you putt for dough.” One advertiser claims that most of their competitor’s golf balls are unbalanced, and that their ball, the Wilson Staff True Tour, is perfectly balanced, giving you the ability to putt more consistently.

Question/Purpose:

Do some golf balls putt more consistently than other balls? Is the Wilson ball the best? These are the questions the science fair project attempts to answer.

Hypothesis:

The prediction was made that all golf balls will putt similarly; that all of the balls will have approximately the same amount of putting error.

Procedure:

The apparatus was constructed using  $\frac{3}{4}$ ” copper pipe and standard 1”x3” construction lumber. Pop rivets were used to attach the copper pipe section to the putter, and a simple A-frame was created to act as a base.

Anthropometric values were obtained of the average length and mass of the shoulder, arm and forearm. These values were used to produce the most lifelike putting stroke possible. Weightlifting, running and scientific masses were used to accomplish this.

A large sheet of particleboard, as well as a putting mat were used to create a completely flat and level putting surface. A piece of particleboard was attached to the back of the A-frame to ensure that the putter was pulled back the same distance every stroke. Standard construction and welding materials were also used to create the apparatus.

A CBR and TI-83+, manufactured by Texas Instruments, were used to measure the distance the ball traveled.

The ball to be tested was placed directly in front of a still putter face. The CBR was then set to a ten second delay, giving time to pull back the putter. When the timer was up, the putter was released, striking the ball. The data was then transferred to the laptop and analyzed using Microsoft Excel.

### Results and Conclusions:

The graph of the movement of one of the balls is shown in Figure 1. Note that all of the graphs appear to start from the 1.85m or 1.65m mark. This varies depending on whether the CBR device picked up the putter or ball first. Also note that the graphs are occasionally sporadic immediately after the ball starts its motion. This is due to the CBR picking up the movement of the putting arm being stopped. In Figure 1, notice in the second trial that the graph jumped back up to 1.45 meters at 2.6 seconds. This is due to the CBR picking up some movement in the background.

The percent difference was calculated for final distance of each ball and the graph of this is shown in Figure 3. The balls are arranged in the order that they were tested. The Callaway ball appears to be the best, but this *may* not be the case. One important fact was overlooked. When a ball is putted numerous times over the same line it forms a well in the surface, thereby

giving each successive putt an increased probability of following the same line and therefore traveling the same distance. The only general conclusion that can be drawn therefore, is that the Strata ball is the worst for putting accuracy.

Therefore my hypothesis was incorrect, different balls *do* have varying degrees of error when being putt.

#### Acknowledgements:

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Figure 1: Callaway Ball 2 Graph

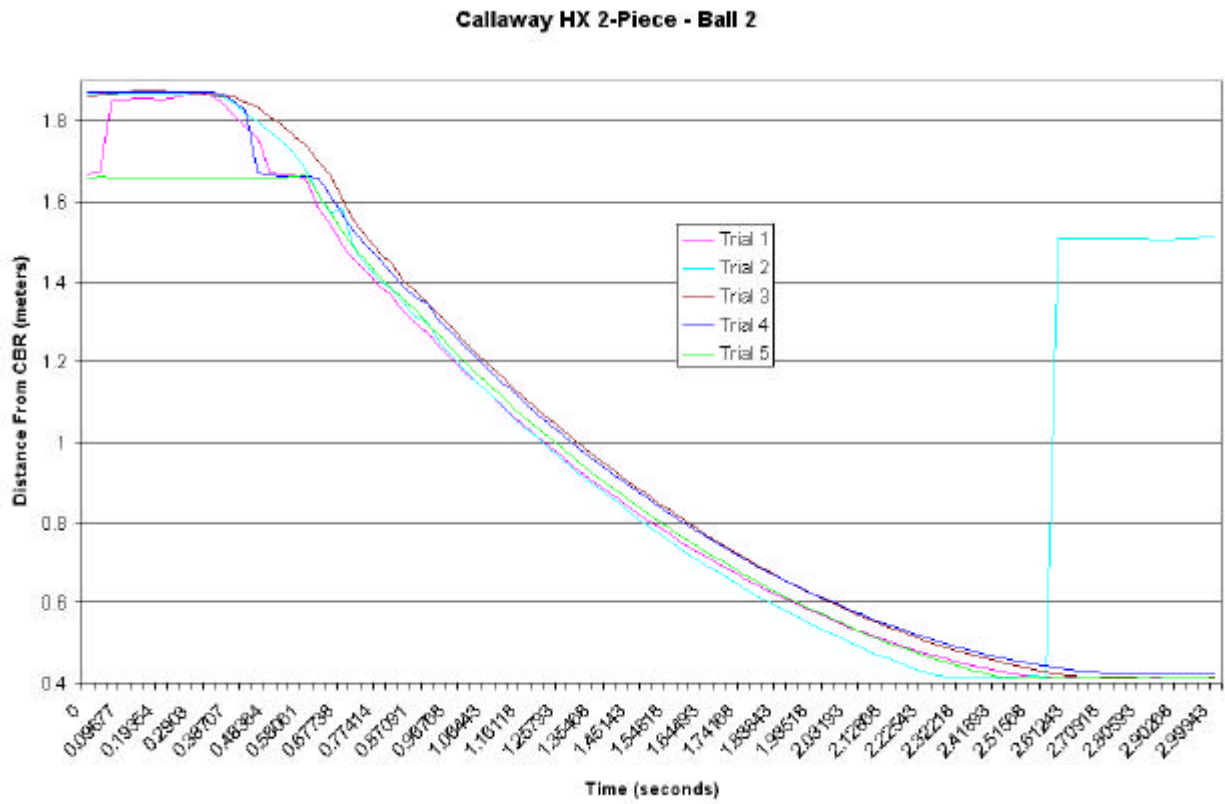


Figure 2: Percent Difference Graph

