

# Measuring Ball Speed

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Prior to calculating ball speed, be sure to calculate your drift and lay down number to line-up in an appropriate manner. This is needed to measure ball speed consistency accurately.

Your initial evaluation should focus on your ability to consistently vary ball speed and repeat shots. In the initial evaluation, you will assess your ability of repeating 10 shots with a minimum of three different ball speeds: (1) fast; (2) medium; (3) slow. With a stop watch, have a teammate or coach stand directly at the foul line and time from when the ball passes the foul line until it hits the pins. To calculate ball speed, use the following expression.  $40.91/t$  (MPH) or  $65.45/t$  (KPH)

Where t is the number of seconds from the point in which the ball crosses the foul line to when it hits the pins.

Since the amount of hook will lengthen the ball path (not a direct line), line-up and throw over the 15th board. Use your new knowledge of your natural drift and laydown point to line-up to throw four sets of 10 shots with each speed. Use initial ball height to regulate ball speed (e.g., shoulder/chest-high, rib-high, waist-high, pocket-high). And, remember to utilize the timing step to set-up your approach and timing. Throw each speed a minimum of ten times and record the data on the initial evaluation sheet. Utilize the ball speed conversion sheet (located in the back of the book) to determine ball speed.

For reference purposes, the average ball speed, at the release, for the top bowlers on the PBA Tour was 19.5 miles per hour (31.2 kilometers per hour) in 2004 (Hoppe & Kreins, 2004). Since the ball loses speed as it travels down the lane, due to friction, don't compare your ball speed. Clearly, this is not an accurate measure for ball speed. Rather, this will provide a reference point for your consistency. For an accurate measure, use a radar gun to measure the speed at the release point or visit a training center or bowling center equipped with the Computer Aided Tracking System.

-----Ball Speed  
 Comparison Chart (MPH & KPH) Time from Foul Line to Pins(in seconds) Miles Per Hour Kilometers Per  
 Hour  
 3.15 1320.83.09 13.25 21.23.03 13.52 1.62.98 13.75 22.92 1422.42.87 14.25 22.82.82 14.52 3.22.77 14.75 23.62.73 15242.68 15.25 24.42.64 15.52 4.82.60 15.75 25.22.56 1625.62.52 16.25 262.48 16.52 6.42.44 16.75 26.82.41 1727.22.37 17.25 27.62.34 17.52 82.30 17.75 28.42.27 1828.82.24 18.25 29.22.21 18.52 9.62.18 18.75 302.15 1930.42.13 19.25 30.82.10 19.53 1.22.07 19.75 31.62.05 20322.02 20.25 32.42.00 20.53 2.81.97 20.75 33.21.95 2133.61.93 21.25 341.90 21.53 4.41.88 21.75 34.81.86 2235.21.84 22.25 35.61.82 22.53 61.80 22.75 36.41.78 2336.81.76 23.25 37.21.74 23.53 7.61.72 23.75 381.70 2438.41.69 24.25 38.81.67 24.53 9.21.65 24.75 39.61.64 2540