

BECOME A BETTER HITTER, INCREASE YOUR SMASH FACTOR

Have you ever observed other players taking BP that seem to have a fair amount of bat-speed, but do not strike the ball with much authority? You know, those ugly weak top-spin grounders and painful soft under-spin pop-ups that are rally killers. A powerful strike of the softball must then involve other factors than just swing-speed alone. I believe the concept of a Smash Factor (*a term taken from golf*), which is a measurement at the point of collision between the bat and ball, may help us understand this problem.

Smash Factor is defined as the ratio of ball-exit-speed to bat-speed. This ratio yields a numeric value that signifies quantitatively the effectiveness of our bat & ball collision. Given some reasonable bat-speed, having a high Smash Factor can drive the ball through the infield or all the way to the fence or even over the barrier. Major Smash Factor components are swing-speed, swing-plane, swing-weight, hitting the ball with the barrel and directly striking the sweet-spot. Performing all Smash Factor components correctly will maximize the energy transfer from the bat to the ball. Proficient hitters will tend to have an above average Smash Factor value.

Why should Smash Factor matter to senior softballers? Well, as a measurable value it provides proof that quality ball-striking can override a diminishing bat-head speed as you get older. With a higher Smash Factor, balls will be hit harder and big flies will go farther. So even if it is difficult to increase your bat-speed as you age, you can become a better hitter by boosting your Smash Factor.

Smash Factor = Ball-exit-speed/Bat-Speed.

Laboratory tests of Smash Factor have shown that given the properties of a softball bat and softball, Smash Factor does have an upper limit value at around 1.5. This means that at the very most, you can only expect a batted-ball-speed at the upper end to be no more than one and a half times bat-speed.

Example: take a Smash Factor value of 1.5 and a bat speed at 70mph. Running the numbers indicates a ball-exit-speed of 105mph at impact. Understand that this 1.5 Smash Factor value is at the upper most limit. For all practical purpose, it is nearly impossible for a hitter to ever reach a 1.5 Smash Factor value.

What is an attainable Smash Factor? Experts in the field indicate somewhere in the range of 1.1 to 1.3. Thus, if your bat speed were to be measured at 74mph and the corresponding ball-exit-speed reached 81mph, your Smash Factor would equal 1.1. At the same bat-speed of 74mph that results in a 95mph ball-exit speed, Smash Factor would equal 1.3. To calculate your Smash Factor value, divide the ball-exit-speed by bat-speed and use a reliable market electronic measuring device for determining your bat-speed and ball-exit-speed.

Pro softball power hitter Ryan Harvey has been recorded up to 118mph for ball-exit-speed. By plugging in a Smash Factor of 1.2 for Ryan, his bat-speed would be in the 100mph range to attain a 118mph ball-exit-speed. A Smash Factor that is less than 1 indicates bat-speed is actually faster than ball-exit-speed, suggesting an ineffective swing. Missing the sweet-spot (*mishits*) is the prime culprit for a diminutive Smash Factor.

Summary points:

1. Smash Factor is a useful measurement that indicates how efficient your swing is,
2. Smash Factor is a relationship-ratio between batted-ball-speed & bat-speed,
3. Swing efficiency components are bat-speed, swing-plane, swing-weight, and sweet-spot,
4. The more efficient your contact, the higher your Smash Factor,
5. Attaining a good Smash Factor is about minimizing your mishits,
6. The higher your Smash Factor the harder your hits will be and the farther they will travel,
7. A hot SSUSA sanctioned senior bat also increases Smash Factor (*barrel trampoline effect*),
8. A good Smash Factor lies between 1.1 and 1.3, if less than 1.0 you need to improve your swing efficiency,

Smash Factor is a key performance gauge when increasing your hard-hit balls that whistle through the infield or fly balls that carry over the heads of outfielders.

Happy hitting,

Art Eversole



Word Count ?

Statistics:

Pages	2
Words	679
Characters (no spaces)	3,433
Characters (with spaces)	4,133
Paragraphs	19
Lines	45