Interpreting ClubHub Swing Parameters

February 10, 2016

ClubHub reports parameters for every swing recorded. In the ClubHub app these parameters are labeled:

- Speed
- Attack
- Tempo
- Transition
- Face

We also show a 3D graphical representation of each swing.

Understanding the detailed meaning of these parameters will help you get more out of ClubHub.

Speed

Speed is the club head speed in miles per hour (mph) at the instant the club head collides with the golf ball. To compute the head speed ClubHub uses the length of the club and its motion as sensed by the sensor device in the handle.

ClubHub uses standard shaft lengths for irons, woods, and hybrid clubs by default. If your club lengths are non-standard you can change the length(s) used by going to Settings/My Clubs and selecting the club you would like to change. If you don't see the length listed for the selected club touch the ^ symbol on the right hand side of the screen. Enter the shaft length difference from standard.

Attack

Attack is short for Angle of Attack. As the club head approaches the golf ball during the downswing its path forms an arc. The angle of attack is the trajectory along this arc relative to horizontal at the moment the ball is struck.   A negative angle of attack means that the club head had not yet reached the lowest point of its arc while a positive angle of attack means that the club head struck the ball after passing its lowest point in the arc. The angle is expressed as degrees up or down and is relative to horizontal.

Tempo

Tempo is a ratio of the backswing time divided by the downswing time. For example if your backswing was 900 msec duration and your downswing was 300 msec, your tempo would be 3 to 1. The tempo seen for full swings by tour professionals is typically 3 to 1.   ClubHub will display this as 3:1.

Tempo is useful for monitoring the consistency of your swing from swing to swing and on the range vs. on the course.

Transition

Transition refers to the angle of the club shaft relative to horizontal at the moment backswing ends and the downswing begins. If the head of the club is above the handle, the angle is expressed as "above" and has a + sign. If the handle of the club is above the club head, the angle is expressed as "below" and has a - sign.

For full swings, this angle tells the player whether they stopped their backswing short of parallel (above) or went past parallel (below). For example if a player stops 10 degrees short of parallel, ClubHub will display "+10.0 above."

For finesse shots, e.g. a short pitch, the angle tells the player whether they lifted the head above parallel or stopped short of parallel.

Face

Face is short for face angle at impact. This is the direction the club face is pointed at impact relative to the target line. For ClubHub, the target line is determined from the club orientation at setup. Setup is the relatively motionless time immediately preceding the backswing. We assume the target line is perpendicular to the club face at setup.

Note: If you setup with the face closed to the target line but deliver the club face squarely at impact, ClubHub will report an open face angle. Conversely, if you setup with the face open to the target line but deliver the club face squarely at impact, ClubHub will report a closed face angle

Face angle is generally believed to be the major factor in determining the line of ball travel immediately after leaving the club face. Later in ball flight, the effects of spin and wind can change the direction of travel.

3D

The graphic shown when 3D is selected shows the position of the club head and the club handle throughout the swing. The backswing and downswing are represented in different colors.

The club head during the backswing is represented by a series of red dots. The club head during the downswing is represented by a series of dark blue dots.

The club handle during the backswing is represented by a series of mauve (pale purple) dots. The club handle during the downswing is represented by a series of light blue dots.

The movement can be played by pressing the play button or indexed to any position during the swing using the slider control.