



ESSENTIAL PUTTING ANALYSIS

EXCLUSIVELY WITH

**GQuad**

# DETAILED ANALYSIS OF YOUR PUTTING PERFORMANCE.

The game's most advanced launch monitor just got even better. With the GCQuad's new Essential Putting Analysis feature, players, fitters, and instructors can now access an unprecedented amount of performance data from their putter – and with the accuracy and trust only Foresight Sports can deliver. With the press of a button, club head and ball launch performance – including the unique launch, skid, and roll characteristics of the ball – are delivered in

real-time to either the GCQuad's large indoor/outdoor LCD display or any connected mobile or PC device.

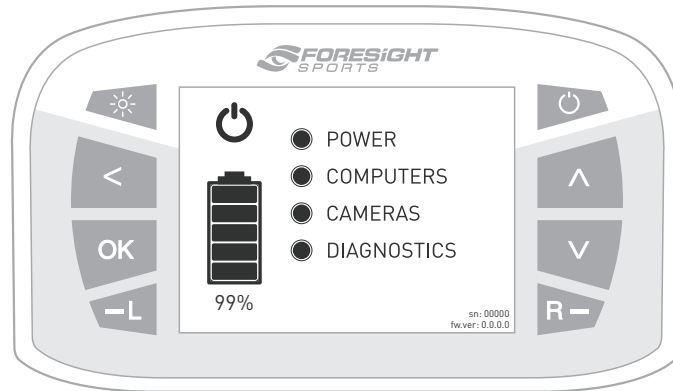
- Simple press-of-a-button access.
- Unprecedented club head and ball launch performance data.
- Fully compatible with all FSX apps.



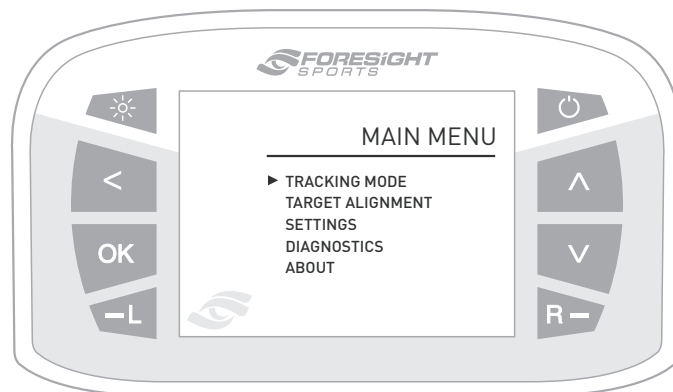
# GETTING STARTED

1. To set up the GCQuad, place the device upright on a level surface approximately 22" away from the hitting area. If a hitting mat is used, make sure the device is raised to the same level as the hitting surface. For extra stability on uneven surfaces, the kickstand can be deployed at the bottom of the unit.

2. To power on the GCQuad, press and release the power button. The device will display a start-up screen showing battery life, serial number, and firmware version. This will take approximately 30 seconds. The LED indicator will blink green once the GCQuad is ready for tracking. To power off the GCQuad, press and release the power button again. The device will initiate its shutdown sequence and the LCD screen and LED indicator will turn off. The GCQuad Menu Options screen is accessible by selecting the OK key.



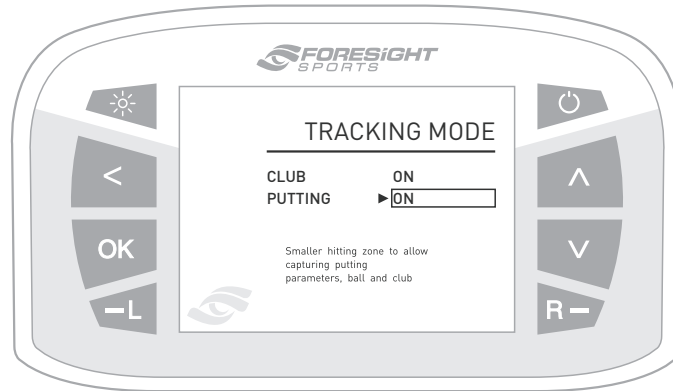
3. Main Menu: The Main Menu consists of 5 options: Club Tracking, Target Alignment, Settings, Diagnostics, and About. Use the arrow keys to select an option and the OK key to enter a screen. To return to the Main Menu from inside an options screen, or to exit the Main Menu, press the back key.



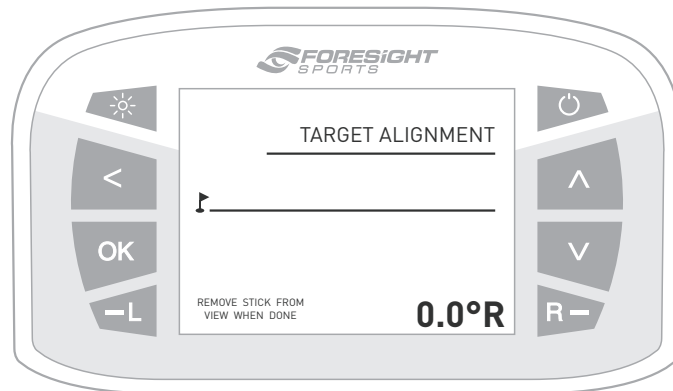
# GETTING STARTED

4. To enable putting on your device select the following sequence in the GCQuad Main Menu: Main Menu > Tracking Mode > OK > select "Putting" - ON

"Putting is now enabled"



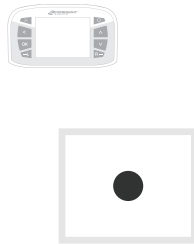
5. Align your device by placing the alignment stick in the direction of the target you are aiming at. You are then ready to putt.



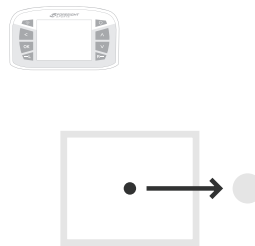
Note: Reference the "Fiducial Placement" section for proper placement on the club face.

# GETTING STARTED

Locate the center of the rectangular hitting zone. To do this, place a ball within the hitting zone and move according to the displayed hitting zone on the GCQuad's LCD screen.



Place a ball marker at the center of the hitting zone and remove ball.



Place one tee directly behind your target and one tee behind your ball, outside of the hitting zone. Run a string between both tees. This bisects your hitting zone and creates an exact line on which to place your GCQuad alignment stick. (If laser is available, simply use laser to determine the target line on which to place your alignment stick.)



Place your GCQuad alignment stick along the target line, directly in front of the GCQuad. The GCQuad LCD display will show that the alignment stick has been recognized and the GCQuad is calibrated.



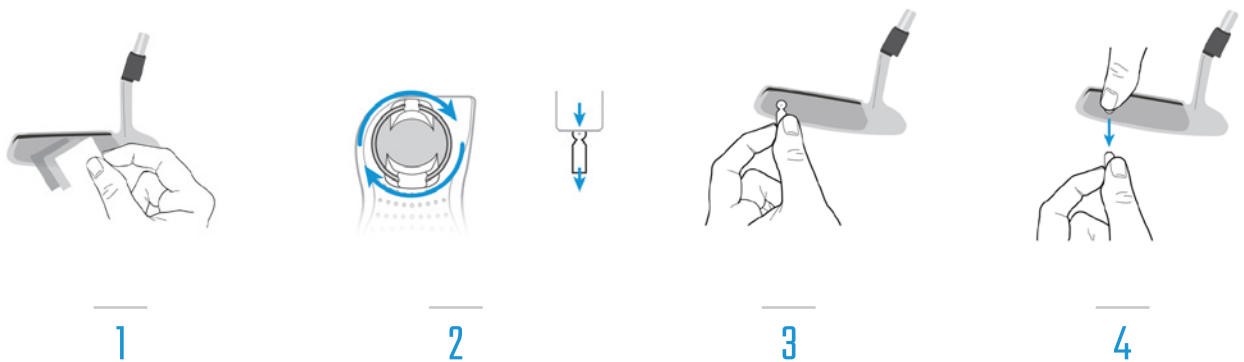
Note: For the best results, a 1° tolerance in either direction should be used.



## APPLYING FIDUCIALS

1. Ensure that the face surface is clean before applying fiducials.
2. Turn the wheel clockwise to dispense a club marker.
3. Place club marker at the desired location on the club face, adhesive side down.
4. Firmly apply pressure to the marker with your finger and gently pull the tab away, leaving only the marker on the club face.

Note: Reference the "Fiducial Placement" section for proper placement on the club face.



# FIDUCIAL PLACEMENT

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To access club data, users are encouraged to correctly apply club markers to the club. Information on the data and application of club markers is highlighted.

## 1-DOT CLUB DATA

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Club speed  
Smash factor  
Club path  
Angle of attack

## 2-DOT CLUB DATA

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Club speed  
Smash factor  
Club path  
Angle of attack  
Impact face angle  
Impact lie

## 3-DOT CLUB DATA

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Club speed  
Smash factor  
Club path  
Angle of attack  
Impact face angle  
Impact lie  
Impact location



## 1-DOT CLUB DATA

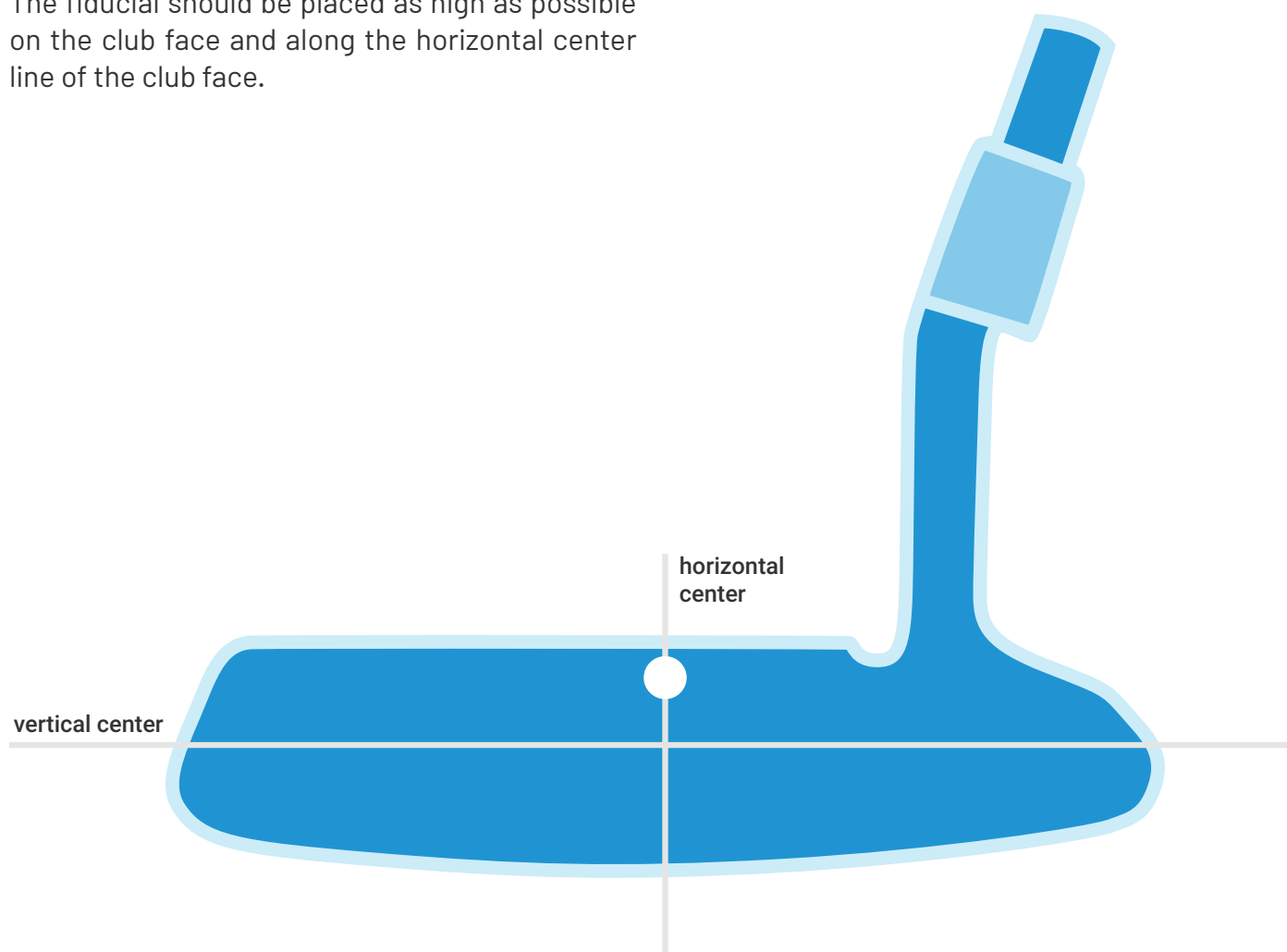
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1 fiducial offers the following club data:

Club speed  
Smash factor  
Club path  
Angle of attack

Tips:

The fiducial should be placed as high as possible on the club face and along the horizontal center line of the club face.





## 2-DOT CLUB DATA

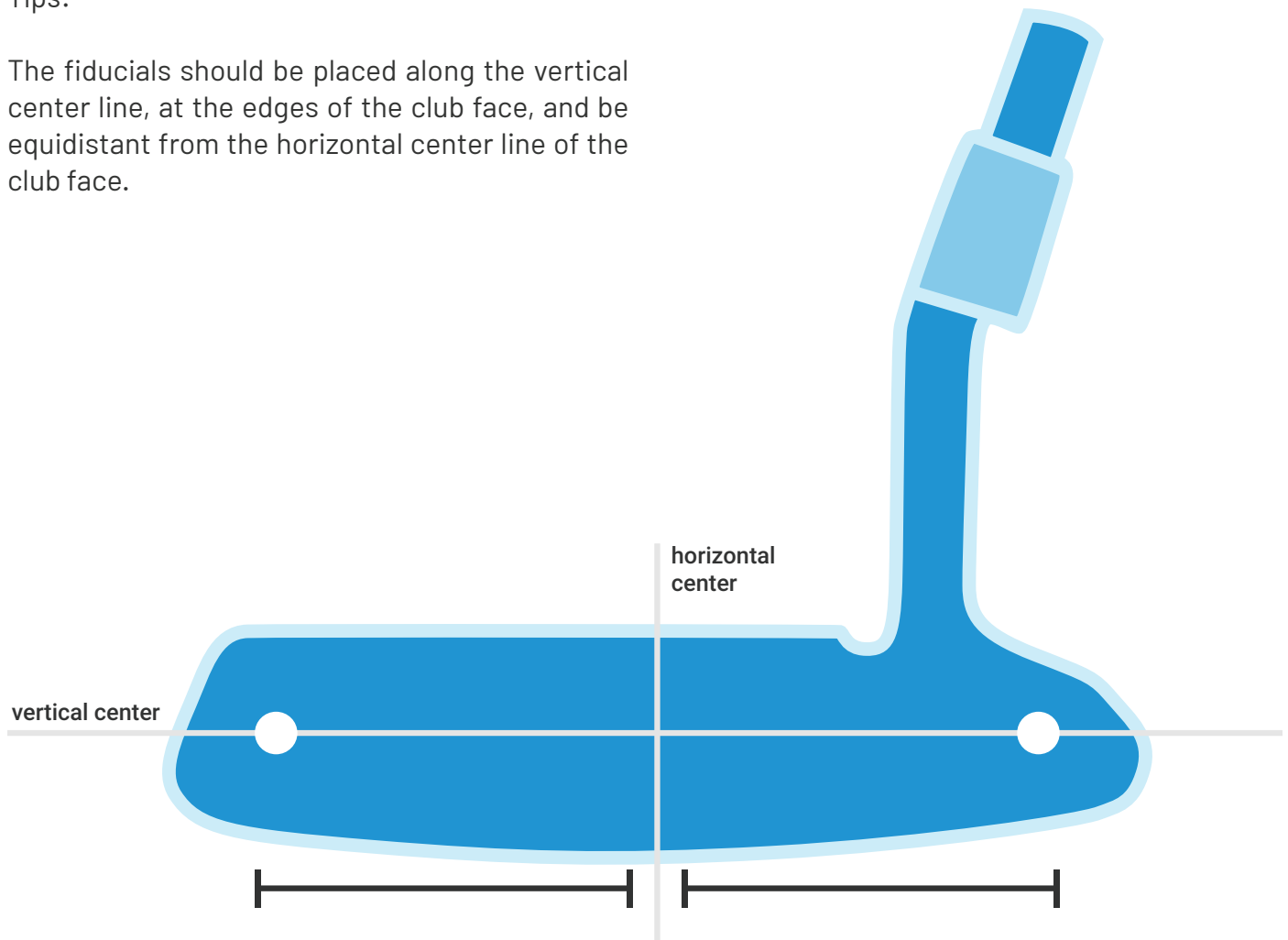
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2 fiducials offer the following club data:

Club speed  
Smash factor  
Club path  
Angle of attack  
Impact face angle  
Impact lie

Tips:

The fiducials should be placed along the vertical center line, at the edges of the club face, and be equidistant from the horizontal center line of the club face.



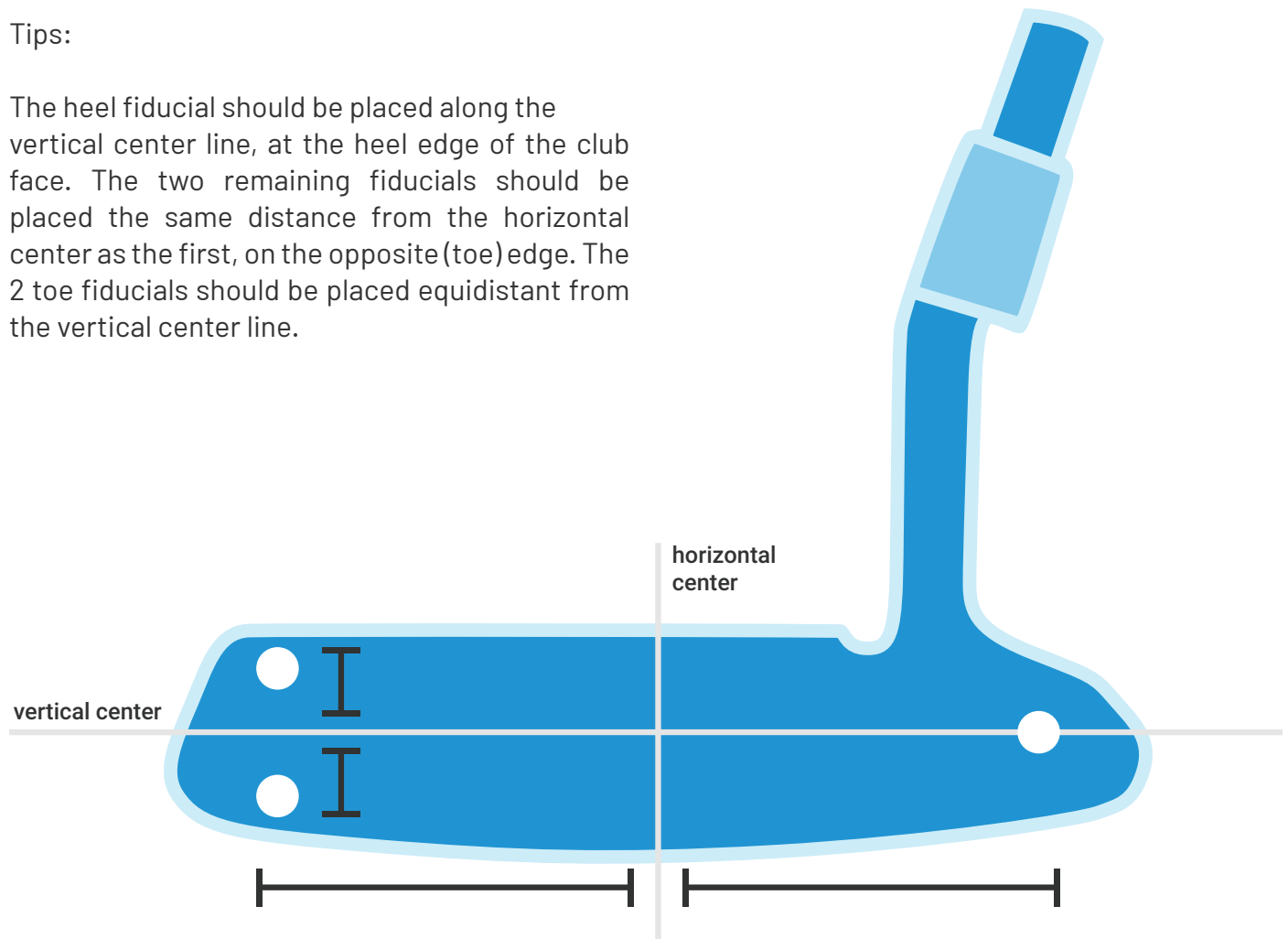
## 3-DOT CLUB DATA

3 fiducials offer the following club data:

- Club speed
- Smash factor
- Club path
- Angle of attack
- Impact face angle
- Impact lie
- Impact location

Tips:

The heel fiducial should be placed along the vertical center line, at the heel edge of the club face. The two remaining fiducials should be placed the same distance from the horizontal center as the first, on the opposite (toe) edge. The 2 toe fiducials should be placed equidistant from the vertical center line.



# GLOSSARY

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Terms describing the data GCQuad™ receives from the Essential Putting Analysis package.

## CLUB DATA

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### CLUB PATH\*

Club path is the measured angle (in degrees) to the left or right of the target line that the club head face center is traveling at the moment of impact.

### ANGLE OF ATTACK\*\*

Angle of attack is a value measured in degrees that tells us how much up (or down) the club head is traveling in the vertical plane in relation to the ground plane.

### CLUB HEAD SPEED

Club head speed is the instantaneous speed of the club face center along the club head path at moment of impact displayed in mph, m/s, or km/h.

### IMPACT POINT

Impact point is the point on the club face that first touches the ball.

Impact point will be reported via two separate measurements displayed in millimeters (mm) and presented relative to the vertical and horizontal centers.

### IMPACT LOFT\*\*

Impact loft is the inclination of the face plane, measured in degrees, relative to the ground plane at the moment of impact.

The face plane is a 2D plane described by the placement of the fiducials on the club face, but its movement is measured in 3D space. Note: Impact loft is the inclination of this flat plane, not the actual loft at the impact point for curved face clubs such as a driver.

*\*Club path, face angle, delivered lie angle, and impact point together determine both the start direction of the golf ball and the magnitude of the spin axis tilt.*

*\*\*Angle of attack, impact loft, and impact point together are key influences on spin rate and launch angle.*

## CLUB DATA CONT.

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### **DELIVERED LIE ANGLE**

Delivered lie angle is the club shaft's inclination in relation to the ground plane. Traditionally, lie angle has been measured using a lie board to leave a mark on the sole of the club post-impact.

### **DELIVERED FACE ANGLE**

Delivered face angle describes the club face's deviation (in degrees) from square to the target line at impact. A closed face is angled toward the golfer; an open face, angled away.

### **CLOSURE RATE**

Closure rate is an instantaneous measurement taken just before the ball is impacted by the club, displayed in either degrees per second (dps) or revolutions per minute (rpm).

# BALL DATA

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## **BALL VELOCITY**

Ball velocity (also called ball speed) is measured at the point of separation and can be displayed in either miles per hour, kilometers per hour, or meters per second.

## **VERTICAL LAUNCH ANGLE**

Vertical launch angle is the angle, measured in degrees, between the ground plane and the ball launch vector.

## **HORIZONTAL LAUNCH DIRECTION**

Horizontal launch angle (also known as azimuth, deviation angle, or side angle) is the lateral deviation of the ball launch from the target line measured in degrees.

## **TOTAL SPIN**

Total spin is the rotations (per minute) of the golf ball around the spin axis.

## **SPIN-TILT AXIS**

The spin-tilt axis is the axis the golf ball rotates around to define shot curvature and lift. When the spin-tilt axis is oriented to the left (looking down range), the ball's trajectory will move from right to left, and vice versa.

## **BACK AND SIDE SPIN**

Backspin is the rotation (per minute) of the ball given a completely neutral spin tilt axis, derived from total spin. Side spin is the rotation (per minute) of the ball around its vertical axis, derived from spin tilt axis.