

# Introduction To Club Fitting

PGA OF ONTARIO / AOT NETWORKING



MODERN  GOLF

# What is Club Fitting?

- Club fitting, in its most basic sense, is modifying or selecting a golf club to provide optimal conditions for a golf shot.
- While golf is not a sport played in perfect conditions, creating the most consistent expectations for any shot and club should always be the target in a fitting session.

# What is Club Fitting?

- Club fitting **is not skill-based**. Every golfer has unique attributes, like height, posture, arm length, speed, and strength.
- As fitters, we have two pathways we can choose in a fitting:
  - **Compensate** for the player's bad habits – Use the tools we have to “make” the ball flight better.
  - **Compliment** the player's good habits – Look at the consistent variables a player has (Swing speed, path, angle of attack, etc.) and provide them the tools best suited to play better.

# What is the Goal of a Club Fitting Session?

- Every golfer has different desires when coming for a fitting. Generally, everyone wants to get better and improve, but determining **HOW** they can get better is extremely important.
- What pain points do they have? What is causing the most concern with their current equipment?

# Pain Points – Unwanted Direction/Curvature

- When a golf ball misses its intended target, it is likely caused by one of two variables.
  - Improper Strike Location
  - Improper Face to Path Relationship
- While these can both be present at the same time, determining which is the major cause of concern can guide your fitting process to maximize success.

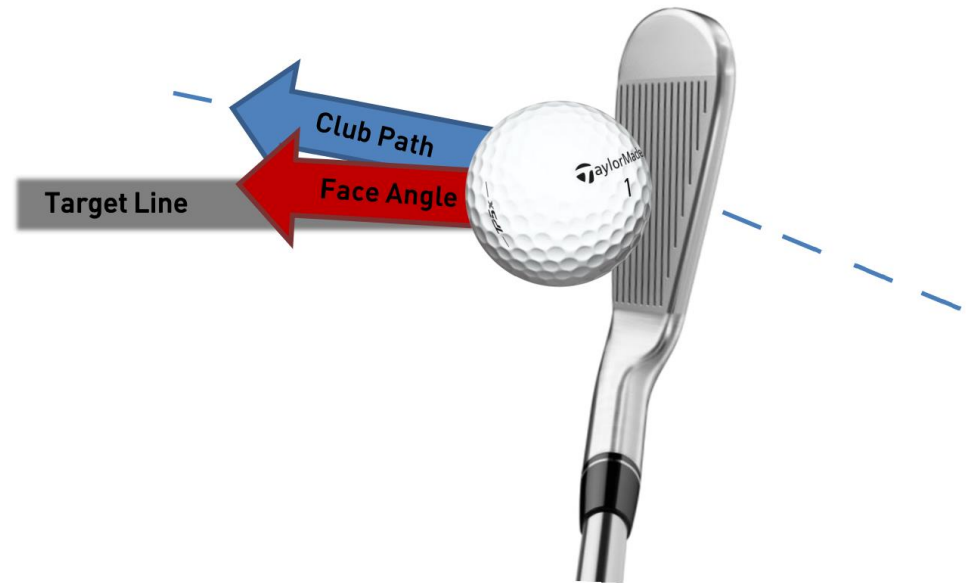
# Improper Strike Location

- When a ball is not struck solidly, we experience **GEAR EFFECT** which can force a golf ball offline.
  - While we commonly think of toe and heel strikes, high and low strikes on the face can also have an adverse effect on the result of the shot.
  - How does each strike location affect the shot?



# Improper Face to Path Relationship

- When the club is delivered with an incorrect Face to Path relationship, the golf ball will curve in a direction not desired by the player.
  - An **OPEN** face to path relationship will create curve away from the player (fade/slice)
  - A **CLOSED** face to path relationship will create curve back towards the player (draw/hook)



# Typical Miss Patterns For Golfers

- A right handed golfer typically misses long left and short right.
- How do Strike Location and Face to Path Relationships affect these misses?





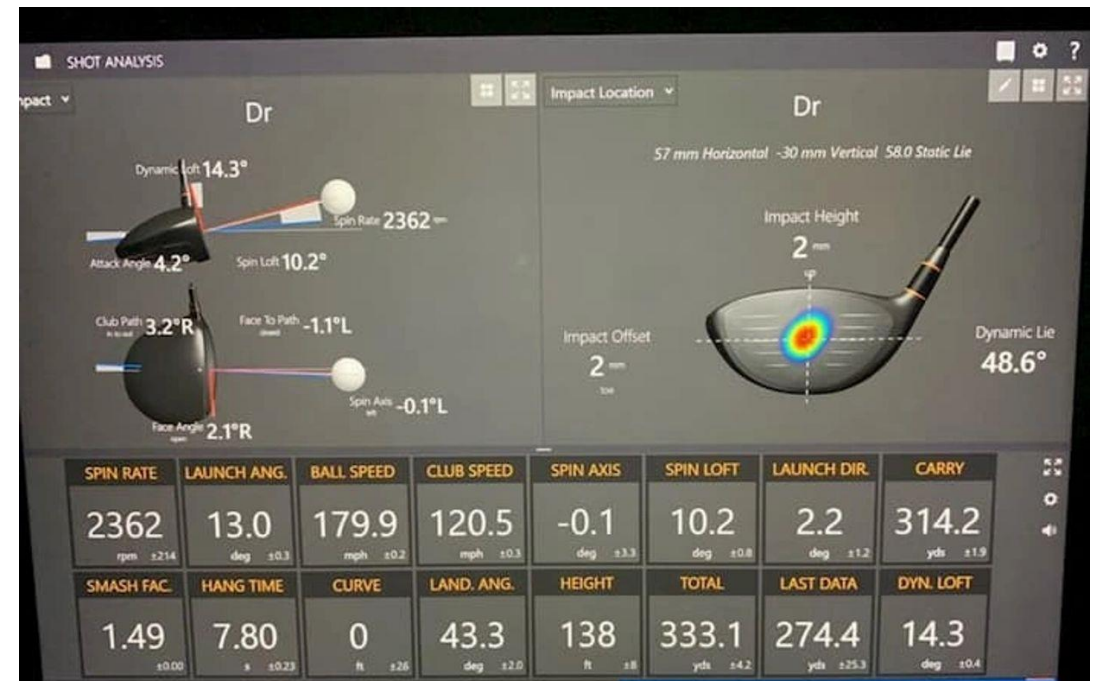
# Key Metrics For Club Fitting

- When using launch monitors, we are afforded a huge amount of data to utilize in a club fitting.
- Key parameters like clubhead speed, ball speed, launch angle, and spin rate are very important to monitor and observe. These parameters “create” the ball flight we see.
- While all these parameters are very important, how do we know when they are optimal for golfers?

# Key Metrics for Club Fitting

- Every golf shot has an optimal flight that we are aiming for. While **launch angle, spin rate, and ball speed** are always to be focused on, we can use clubhead speed and the shot at hand to determine:

- **Peak Height**
- **Angle of Descent**
- **Smash Factor**



# Peak Height

- Peak Height is most simply described as the apex, or highest point, of a golf ball's flight.
- Every shot has an ideal peak height based on clubhead speed.
- An goof rule of thumb is attempt to match the peak height with the clubhead speed.

*Note: Below "normal" clubhead speed, or overly negative AoA, the target peak height becomes lower.*

Target Peak Height and Angles of Descent for Swingspeed					
Seven Iron					
Speed (mph)	AoA (deg)	Peak Height (ft)	Angle of Descent (deg)	Carry	Total
70	-2.5	70	42	125	134
80	-3.0	82	45	154	163
90	-3.5	104	49	180	186
100	-4.0	122	51	205	212
Driver					
Speed (mph)	AoA (deg)	Peak Height (ft)	Angle of Descent (deg)	Carry	Total
80	+3.2	70	25	181	204
90	+3.5	88	27	217	241
100	+3.0	94	33	250	274
110	+3.0	112	38	286	309

# Angle of Descent (Land Angle)

- Angle of Descent (Land Angle) is described as the down-range angle of the ball to the ground.
- We want this angle to be steeper with the irons than the driver.

*For most golfers, mid-iron AoD should be in the mid to high 40° range, while driver AoD should be lower than 40°.*

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# Smash Factor

- Smash Factor is calculated by dividing ball speed by clubhead speed.

$$\frac{\text{BALL SPEED}}{\text{CLUB SPEED}} = \frac{148 \text{ mph}}{100 \text{ mph}} = \mathbf{1.48}$$

Smash Factor

- While most commonly talked about with drivers, knowing the target smash factor for all clubs can help determine proper quality of strike, and compression.

CLUB	CLUB SPEED [mph]	SPIN LOFT [deg]	BALL SPEED [mph]	SMASH FACTOR []
Driver	112.6	10.0	167.9	1.49
3 wood	107.0	15.0	158.4	1.48
5 wood	103.0	21.0	149.6	1.45
3 iron	97.8	21.0	142.1	1.45
4 iron	95.8	23.5	137.2	1.43
5 iron	94.3	26.0	132.4	1.40
6 iron	92.3	29.0	126.7	1.37
7 iron	90.0	33.0	119.2	1.33
8 iron	86.8	37.0	111.0	1.28
9 iron	85.3	41.0	103.3	1.21
PW	83.2	46.0	93.7	1.13
SW	80.7	56.0	75.1	0.93

# Utilizing Key Metrics to Determine Ball Flight

- Using the average Tour Player's seven iron speed (92mph), which data is easier to confirm as correct?
  - Ball Speed – 131 mph
  - Launch Angle – 15.6°
  - Spin Rate – 6300 rpm
  - OR**
  - Smash Factor – 1.36
  - Peak Height – 94 ft
  - Angle of Descent - 48°



# Thank You!

- Next session, we will discuss how we can utilize this information to proceed through a club fitting session, and how we can use the tools we have at our disposal to optimize a golfer's equipment.
- Please let me know if you have any questions before then!

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