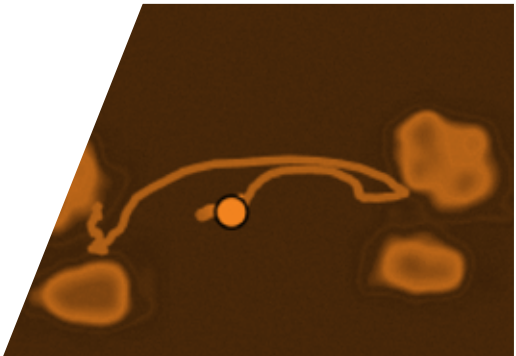
DATA GUIDE
BALANCE PLATE



swingcatalyst

User guide Balance Plate 2015

CONTENTS

INTRODUCTION

This guide aims to provide an overview of the data obtained from the Balance Plate and some insight into what you should look for when interpreting your results. If you find yourself unfamiliar with any of the expressions used, or simply want more detailed information that might help you in your analysis, please visit the Swing Catalyst Learning Center online (www.swingcatalyst.com/learning-center) for definitions and articles.

To gain full value of the information provided by the Swing Catalyst software, we recommend setting the bookmarks (start of takeaway, top of backswing, impact) properly. Please refer to our software user guide for information on how to set the bookmarks.

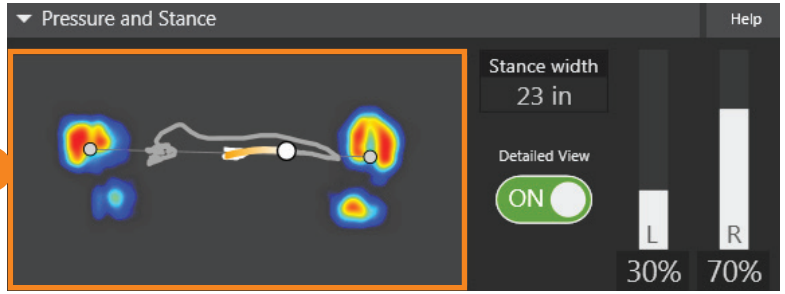
PART 1: WHAT DOES THE BALANCE PLATE MEASURE?

The Swing Catalyst Balance Plate consists of more than 2000 high-resolution sensors and measures the pressure applied to the ground by the golfer. The Balance Plate provides information on center of pressure, stance width, and pressure distribution between the feet. This information can be seen in the *Pressure and Stance* data box in the Swing Catalyst software:

1. Balance Plate surface area
2. Footprints
3. Center of pressure (CoP)
4. Detailed view
5. CoP trace
6. Stance width
7. Pressure distribution

All pressure data is fully synchronized with the video images.

BALANCE PLATE SURFACE AREA



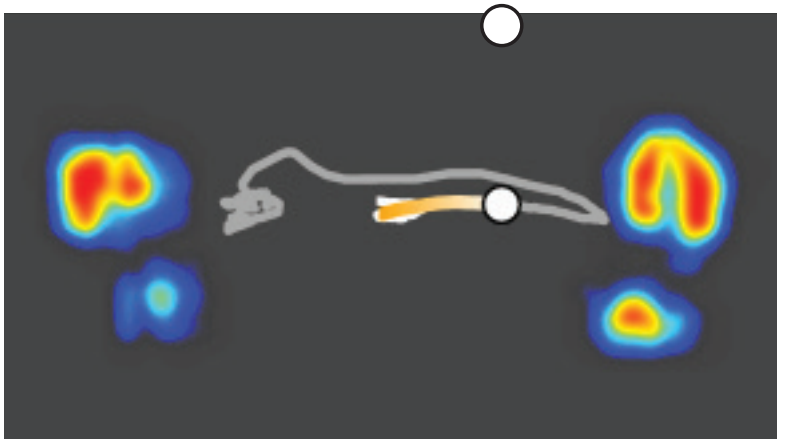
1

2

1 The grey area represents the surface area of the Balance Plate.

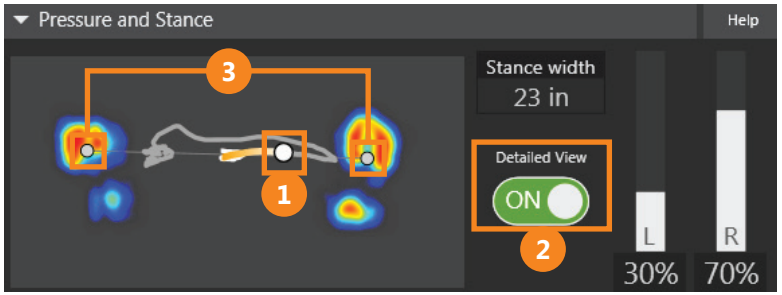
2 Balance Plate.

FOOTPRINTS



The colored footprints on the left side of the box indicate the contact that is present between the shoes and the plate. Different amounts of pressure are shown by different colors, with blue representing the least pressure and red the most.

CoP & DETAILED VIEW

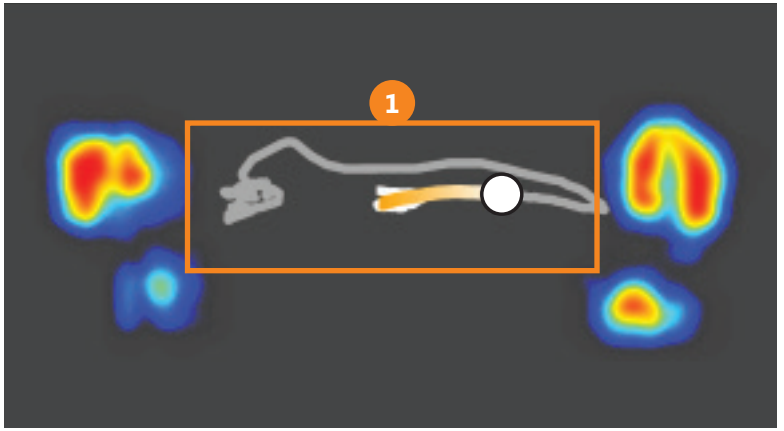


The white circle indicates the position of the CoP, which is affected by the pressure distribution. For example, movement of the CoP toward the lead foot indicates a relative increase in pressure at the lead foot.

By turning on the *Detailed* view option, individual CoP markers for each foot are activated. The smaller, grey circles indicate the position of the CoP under each foot. Between the two markers, a thin, straight line shows where the CoP of one foot is positioned relative to the other foot.

1. CoP
2. Turn on/off Detailed view
3. Individual CoP markers

CoP TRACE

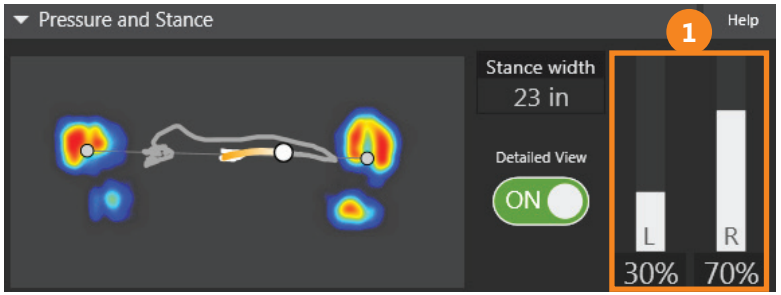


1. The movement pattern of the CoP throughout the swing is traced with a grey line. If the bookmarks are set, the grey line will change color to white/orange as the CoP moves along the trace as the video is scrolled forward.

STANCE WIDTH

1 The stance width is measured as the distance between the centers of the respective feet.

PRESSURE DISTRIBUTION



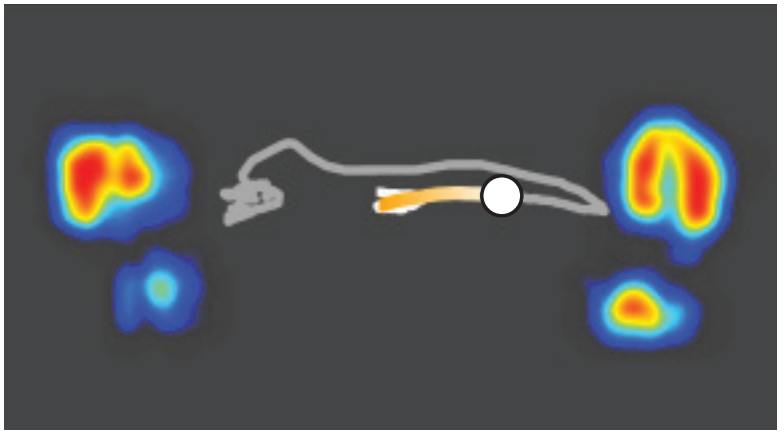
1 The white/grey bars on the right side of the box show how the total pressure is distributed between the two feet. In other words, it is a measure of how much the golfer is pushing down on one foot compared to the other. This is used to see where the golfer is exerting force on the ground.

The pressure distribution determines the lateral position of the CoP. For example, leaning more on one foot will cause the CoP to move toward it. This represents a pressure shift, and is seen as increased and decreased values in the pressure distribution bars and the CoP moving left and right.

PART 2:
WHAT SHOULD YOU LOOK FOR?

The Swing Catalyst Balance Plate provides a basis for analyzing the pressure exerted on the ground by the golfer during the golf swing, showing data that can reveal issues related to balance or pressure shift that may affect the swing.

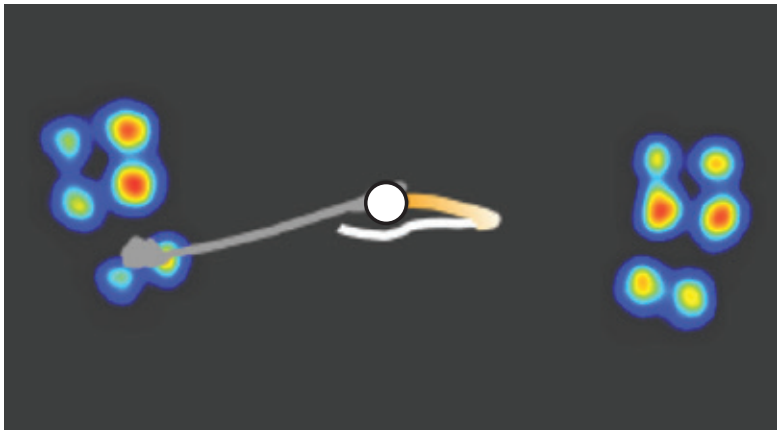
PRESSURE COLORING



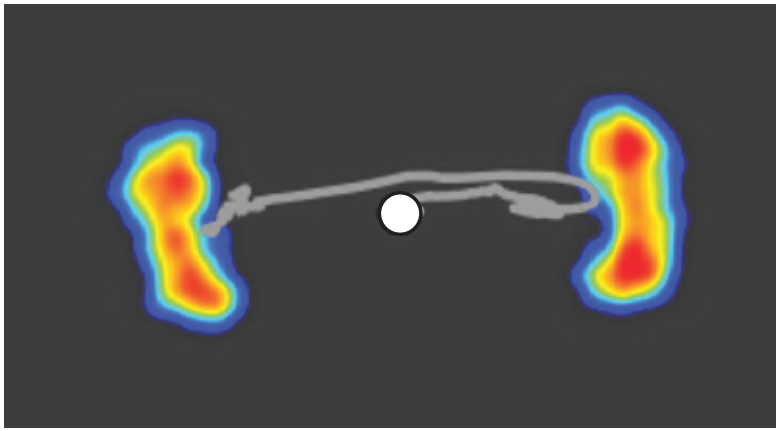
Pressure coloring will reveal tendencies to lean on specific parts of the foot during the swing. This is most obvious when there are differences between the heel and forefoot or between the inside and outside of the foot. Tendencies to lift parts of the foot off the ground are revealed by a lack of pressure coloring.

Since pressure is a result of force, the pressure coloring of the footprint will be affected by movement (which is dependent on force).

FOOTPRINT SHAPE

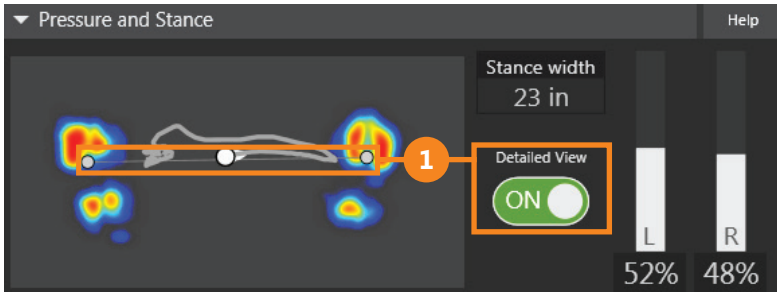


Since pressure is dependent on the area of ground contact, the footprint will be affected by the sole of the shoe that is worn (if no shoes are worn, the footprint will take the actual shape of the part of the foot that is in contact with the ground). For example, a cleated golf shoe will typically produce a footprint with specific points of high pressure where the cleats are located. This is because the force exerted on the ground by the golfer is spread over a small area, namely the cleats that are in contact with the ground. Note that wearing cleated shoes should not affect the pressure distribution between the lead foot and the trail foot.



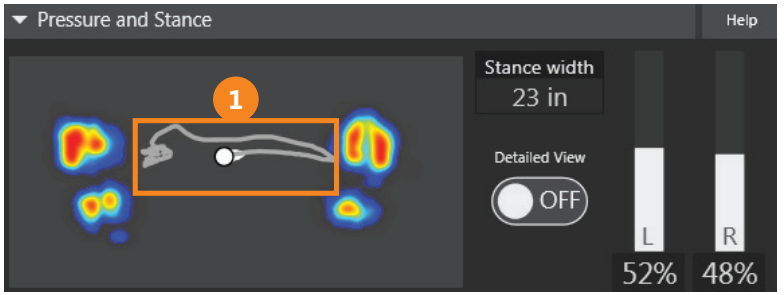
A flat-soled shoe, on the other hand, will typically show a more even distribution of pressure over the foot. This is because the force exerted on the ground by the golfer is spread over a larger area. In this case, specific points of high pressure will be more dependent on where under the foot the golfer exerts the most force on the ground.

CoP DETAILED VIEW



1 The *Detailed view* can be used to see if pressure is applied unevenly between the feet, by examining the straight line connecting the individual foot CoPs (two smaller, grey circles).

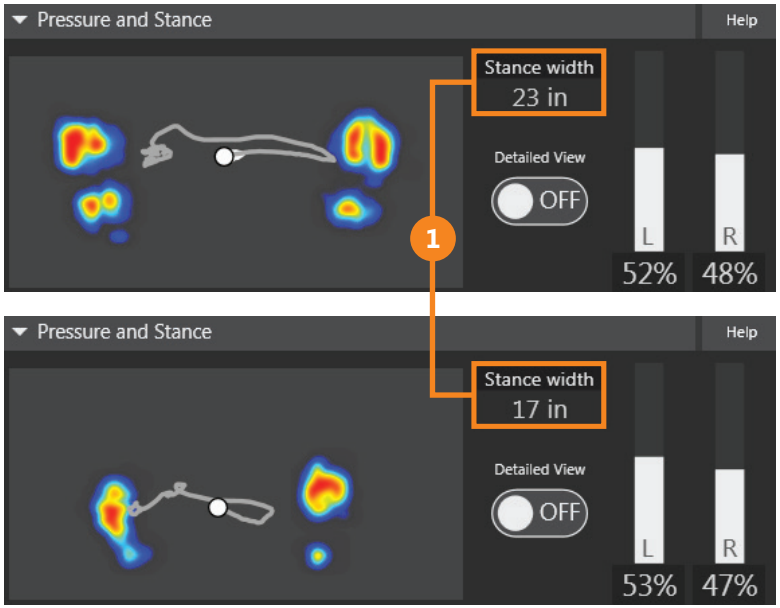
CoP TRACE



1 The CoP trace can reveal many different swing techniques. Common factors in successful swings are typically a smooth trace and that the trace is repeatable (for each individual player). Disturbances in the CoP trace, such as multiple rapid changes of direction, will usually indicate unnecessary or even detrimental movement. As an example, excessive CoP movement after follow-through can be a sign of imbalance.

Most PGA Tour players perform a rapid, continuous pressure shift during the downswing, which is seen in a smooth and relatively straight line in the CoP trace from the trail foot to the lead foot (from right to left for a right-handed golfer).

STANCE WIDTH



1 A wider stance will allow for greater lateral movement of the CoP. Since the CoP is determined by the pressure at the feet, the absolute size of the CoP pattern is relative to the stance width. Note that a wider stance doesn't necessarily change the general shape of the CoP trace.

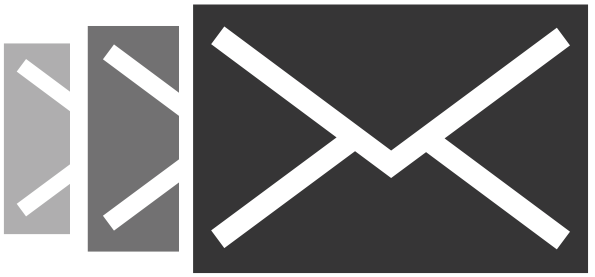
PRESSURE DISTRIBUTION

1 Similar to the CoP trace, the pressure distribution bars indicate if the golfer is predominantly exerting force on the ground at the lead foot or at the trail foot at different points during the swing. The changes in value of the pressure distribution bars over time represent pressure shift. With the exception of certain transition points in the swing, the pressure distribution is usually a good indicator of where the golfer's weight is placed.

SPECIFICATIONS

Size:	20.5” x 39.5”
Sensor Size:	0.6” x 0.6”
Number of Sensors:	2048
Sensing Area:	19” x 38”
Force Range:	30PSI
Scan Rate:	100Hz

SUPPORT



If you have any questions, please contact Swing Catalyst support:
support@swingcatalyst.com

Information can also be found at our Help Center:
www.swingcatalyst.com/help

NOTES

NOTES

Follow Swing Catalyst to
receive the latest updates:

swingcatalyst