STORM
THE BOWLER'S COMPANY™

KEY
DRILLING GUIDE

The KEY to unlocking YOUR PERFECT GAME!
Layout Procedures

**STEP #1** Choose a layout based on desired ball reaction.
(EXAMPLE: 4x4 means a pin 4" from the PAP and mass bias 4" from the PAP. This layout is very aggressive.)

**STEP #2** Draw an arc around the pin that corresponds to the desired pin to PAP distance.

**STEP #3** Draw an arc around the mass bias that corresponds to the desired mass bias to PAP distance.

**STEP #4** The intersection of these two arcs is the location of PAP.

**STEP #5** Choose the desired pin buffer distance and draw that arc around the pin as well.
(You will now have two arcs around the pin and just one around the KEY).

**STEP #6** Draw a line tangent to your second arc and through the PAP. This is your PAL.

**STEP #7** Measure backward from PAP to determine grip midlane and center line.
(EXAMPLE: If PAP is measured to be 5" right and 1" up, then measure down 1" along PAL and 5" left. You have now located the grip center.)

**STEP #8** Drill and scale the ball to determine the need, if any, for an extra hole.
**Legend**

- **Pin**
- **Center of Gravity (CG)**
- **Positive Axis Point (PAP)**
- **Extra Hole**
- **Ball Track**
- **Perpendicular Axis Line (PAL)**
- **Mass Bias – used to control ‘Break Point’**

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**Just the FAQs**

- It is okay to drill into the engraved KEY on this bowling ball. Since this is a “Y-spinning” core design, it will actually enhance the ball reaction.

- It is important to scale the ball for static balance determination. If excessive side weight and/or finger/thumb weight is present, draw a line from the grip center through the CG and extend to the Perpendicular Axis Line. Mark this spot and drill appropriate extra hole.

- Always keep the KEY at least 2” away from the bowler’s initial ball track, towards the bowler’s PAP.

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**Layout #1**

**FOR STRONG ALL-AROUND PERFORMANCE**

The **TYPICAL HOUSE SHOT** is crowned in shape, with a large volume of oil in the middle portion of the lane.

- Place pin 4-3/4" from PAP
- Use 4" pin buffer
- Locate KEY 5” from PAP

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**House Shot**

- MAXIMIZE YOUR ‘MISTAKE ROOM’ WITH THIS POPULAR AND AGGRESSIVE LAYOUT!

**PLEASE NOTE:** Because all bowlers have different positive axis points (PAP) your layouts may not have the same appearance as the illustrations. Also the layouts are for right-handed players. Remember to flip or rotate to produce ‘mirror-image’ for left-handed players.
TOURNAMENT SHOTS usually have oil placed more evenly across the lane. Often longer in length resulting in a slicker backend, the Tournament Shot is more demanding than a House Shot.

**Layout #2**  
**FOR MAXIMUM FLARE**

- **Tournament Shot**
- Place pin 4” from PAP
- Use 2” pin buffer
- Locate KEY 4” from PAP

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**Layout #3**  
**FOR MAXIMUM CONTROL**

- Locate pin 1-3/4” from PAP
- Utilize 1” pin buffer
- Place KEY 5-1/2” from PAP

- **Sport Shot**
- With a flat shape and very little taper, the **SPORT SHOT** is very challenging! On these demanding conditions, **straightest** is usually **greatest**!

**PLEASE NOTE:** Remember to flip or rotate to produce “mirror-image” for left-handed players.
Locate pin 3-3/8” from grip center at a 45° angle from center line in southwest direction.

Locate KEY inside shaded 2” square box near ring finger.

Use scale to determine static balance. If necessary, use extra hole.

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