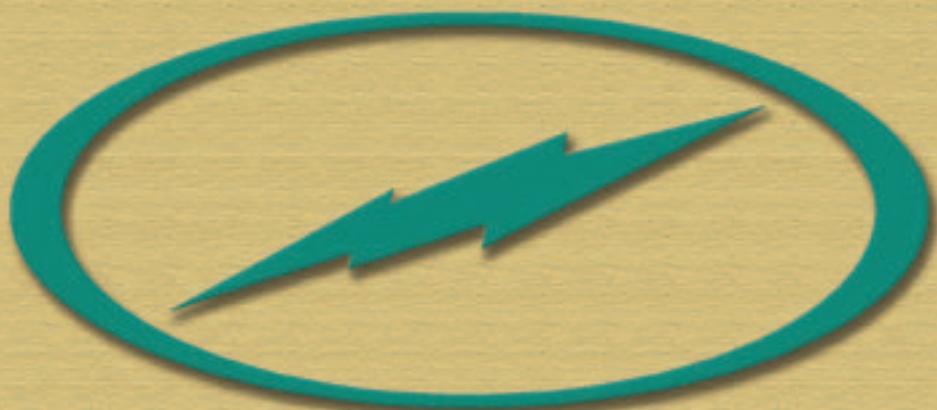


***STORM***



**THE BOWLER'S COMPANY™**

**KEY**  
**DRILLING GUIDE**



**The KEY to unlocking  
YOUR PERFECT GAME!**

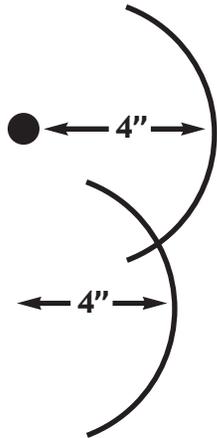
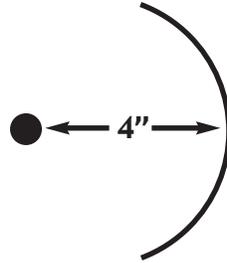
# Layout Procedures

## 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.)

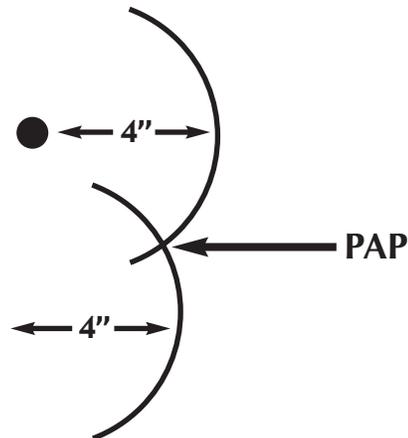
## STEP #2

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.



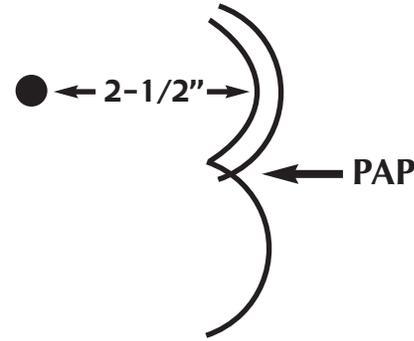
## STEP #4

The intersection of these two arcs is the location of PAP.

## STEP #5

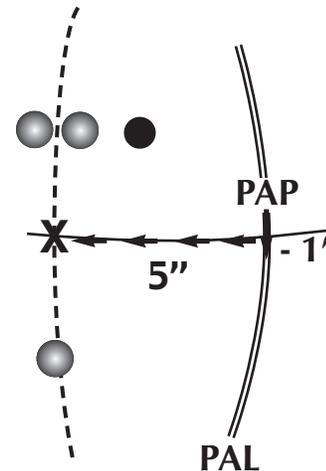
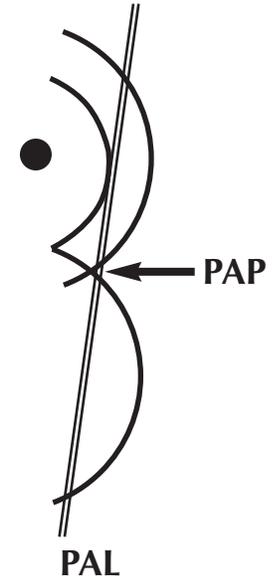
Choose the desired pin buffer distance and draw that arc around the pin as well.

(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 midline 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)
- PAP = Positive Axis Point
-  = Extra Hole
- = Ball Track
- == = Perpendicular Axis Line (PAL)
-  = Mass Bias – used to control 'Break Point'

## 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.

## Layout #1

FOR STRONG ALL-AROUND PERFORMANCE

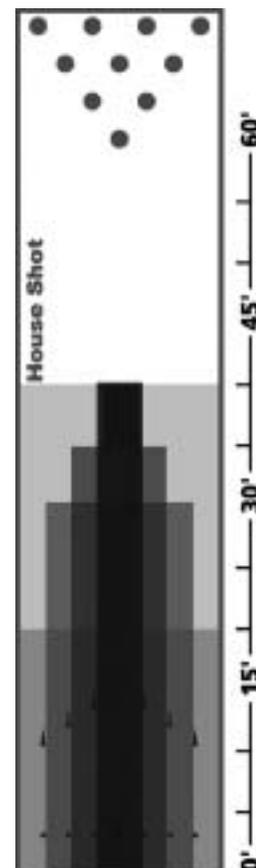
The **TYPICAL HOUSE SHOT** is crowned in shape, with a large volume of oil in the middle portion of the lane.

 Place pin 4-3/4" from PAP

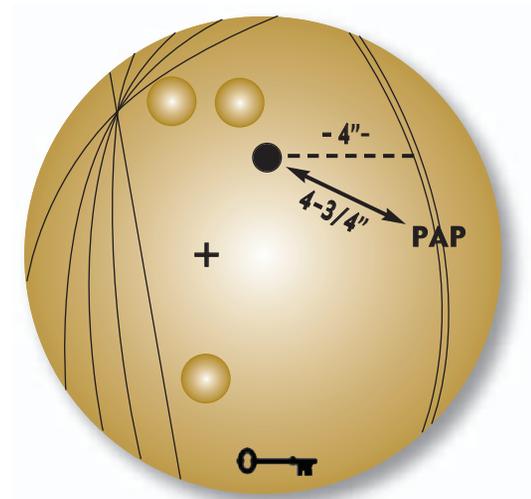
 Use 4" pin buffer

 Locate KEY 5" from PAP

### House Shot



**MAXIMIZE YOUR 'MISTAKE ROOM' WITH THIS POPULAR AND AGGRESSIVE LAYOUT!**

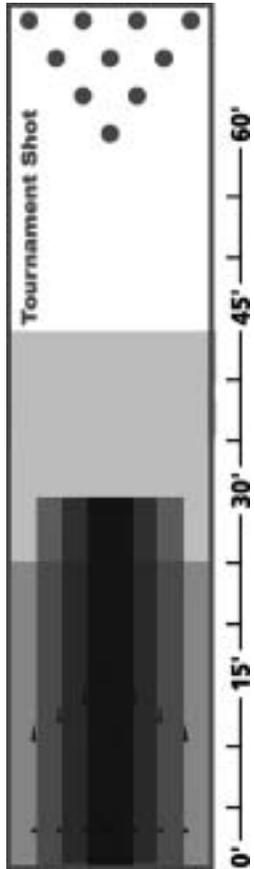


**PLEASE NOTE:** Because all bowlers have different positive axis points (PAP) your layouts may not have the same appearance as the illustrations. Also the layouts are for right-handed players. Remember to flip or rotate to produce "mirror-image" for left-handed players.

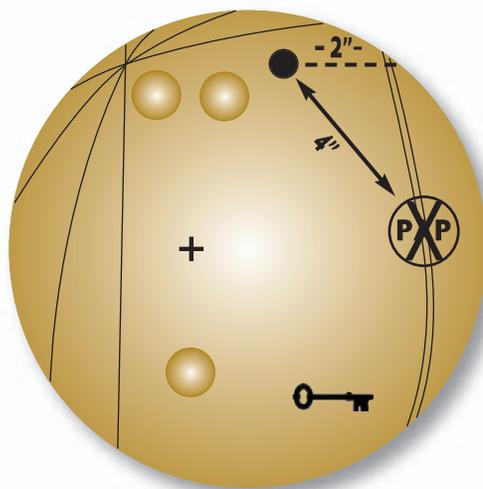
# Layout #2

FOR MAXIMUM FLARE

## Tournament Shot



**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.



-  Place pin 4" from PAP
-  Use 2" pin buffer
-  Locate KEY 4" from PAP

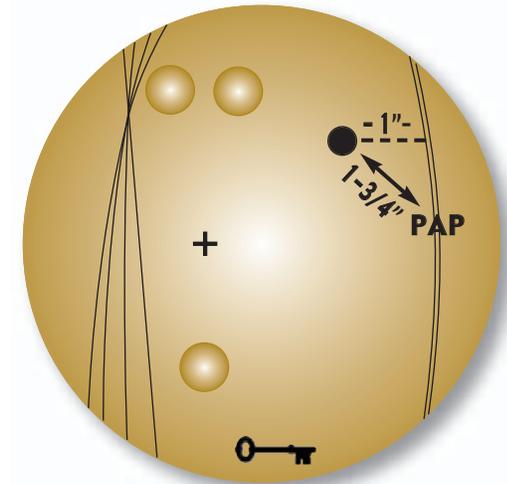
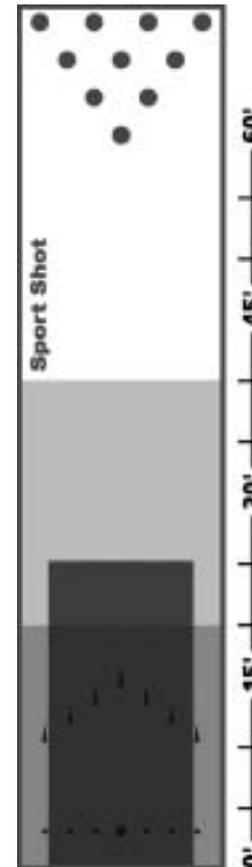
**PLEASE NOTE:** Because all bowlers have different positive axis points (PAP) your layouts may not have the same appearance as the illustrations. Also the layouts are for right-handed players.

# 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

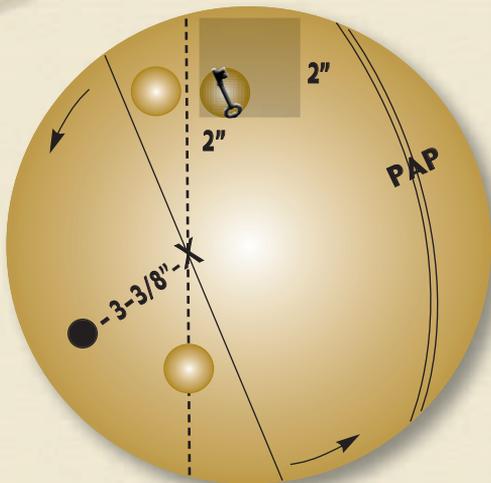


With a flat shape and very little taper, the **SPORT SHOT** is very challenging! On these demanding conditions, straightest is usually greatest!

Remember to flip or rotate to produce "mirror-image" for left-handed players.

# Full Roller

- 🔑 Locate pin  $3\text{-}3/8$ " from grip center at a  $45^\circ$  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.



**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.

**KEY** DRILLING GUIDE



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