



**Brunswick**®



# Asymmetric Layouts

- **Maximum Hook & Arc**
  - Good for most House Shots
- **Mid-Lane Hook & Back -End**
  - A favorite for fresh PBA and Sport Conditions
- **Length & Back -End**
  - A favorite for broken down PBA and Sport Conditions
- **Length**
  - Good for most broken down House Shots
- **Full Roller Options**

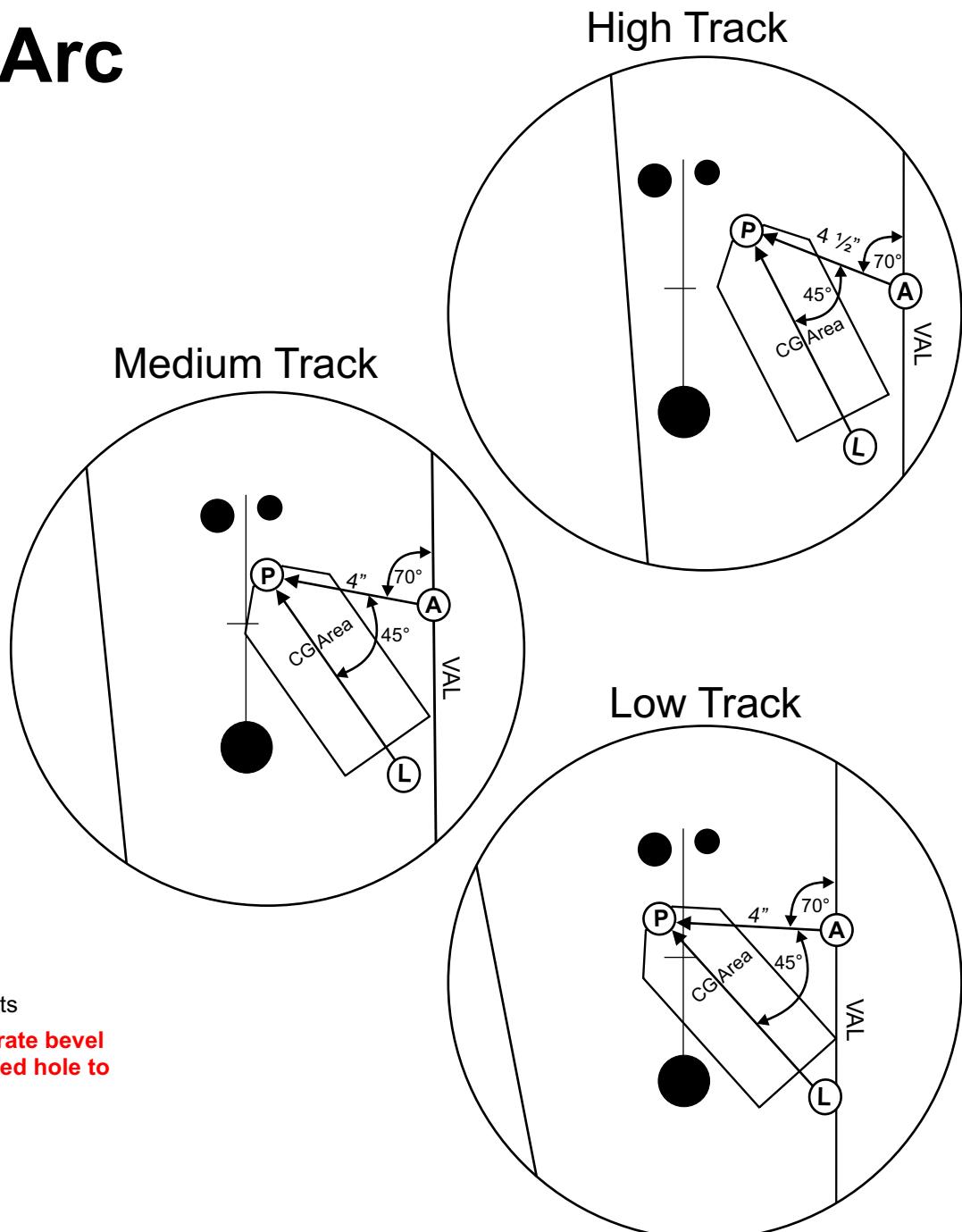
"These layouts are very general and will apply to every bowler differently based on multiple variables. These include the bowlers ball speed, rev rate, axis rotation & tilt, and lane conditions. All or most of these variables should be known so that the best possible layout can be chosen for each ball. We recommend that you contact your local Pro Shop Professional for more detailed layouts and how to apply them to your game for each ball in your arsenal."

# Maximum Hook & Arc

## Asymmetric Core

- Best pin out distance to use: 0" – 3 1/2"
- Locator pin set at 45 degrees
- Pin below fingers (VAL angle 70 degrees)
- Rev's up strong for maximum hook with a continuous back-end.
- Note: If an X-hole is necessary to make the ball USBC legal, draw a line from the Grip center through the CG and place the X-hole where it hits the VAL
- Responds to the lane the soonest.
- Slowest response to friction.

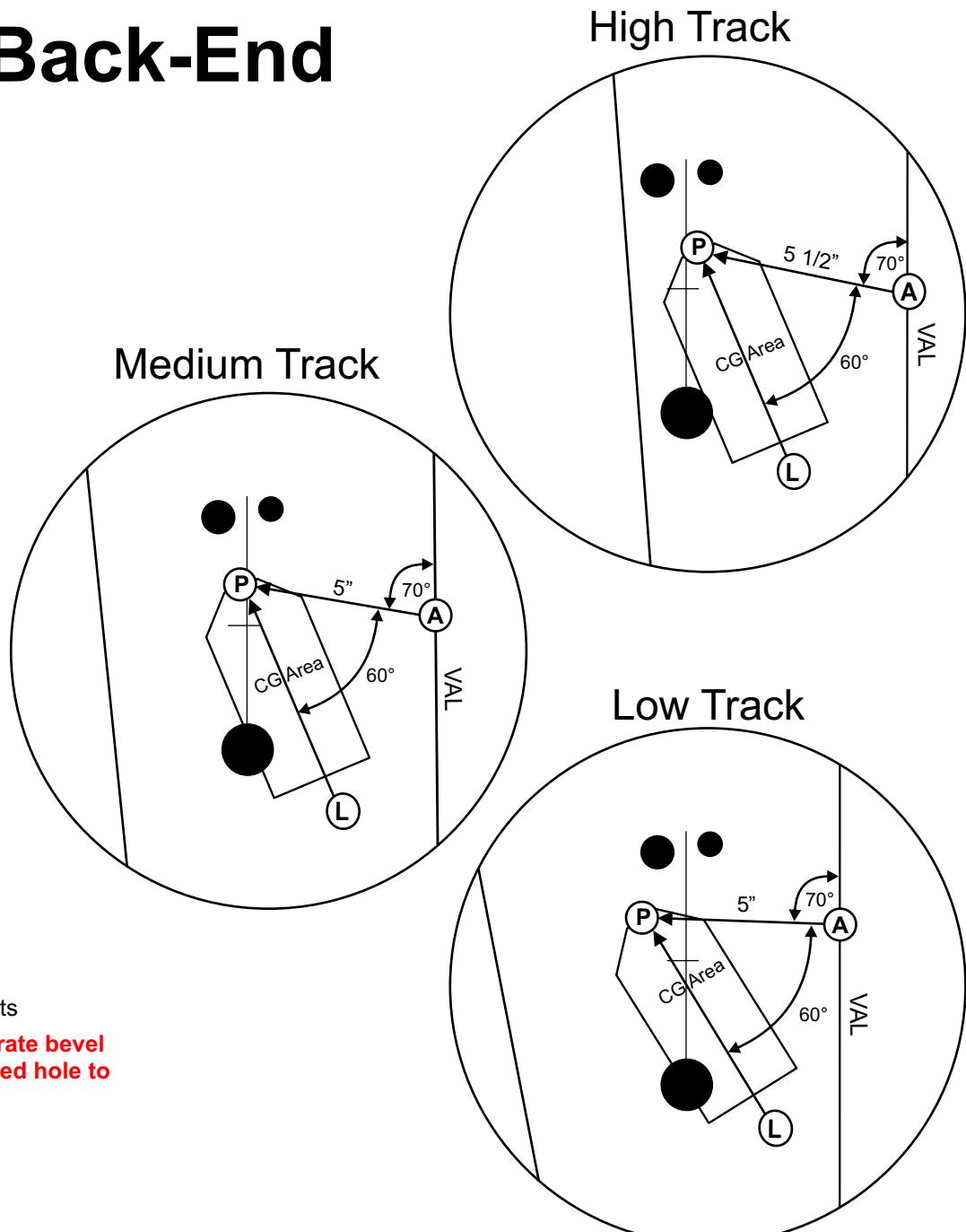
- 1. **(P)** is the larger circle or pin on the ball that marks the top of the core.
- 2. **(L)** is a smaller circle or pin that marks Preferential Spin Axis (PSA / Mass Bias) of the ball
- 3. For left-handed bowlers use the mirror images of these layouts
- **Note: Finger, thumb and Xholes must have at least a moderate bevel and the riser Pin **(P)** must be at least one inch from any drilled hole to comply with the Brunswick warranty.**



# Mid-Lane Hook & Back-End

## Asymmetric Core

- Best pin out distance to use: 0" – 3 1/2"
- Locator pin set at 60 degrees
- Pin below fingers (VAL angle 70 degrees)
- This layout helps bowlers open up the mid-lane and recover on heavy carry down
- Note: If an X-hole is necessary to make the ball USBC legal, draw a line from the Grip center through the CG and place the X-hole where it hits the VAL
- Responds to the lane soon.
- Slow response to friction.



- 1. (P) is the larger circle or pin on the ball that marks the top of the core.
- 2. (L) is a smaller circle or pin that marks Preferential Spin Axis (PSA / Mass Bias) of the ball
- 3. For left-handed bowlers use the mirror images of these layouts
- **Note: Finger, thumb and Xholes must have at least a moderate bevel and the riser Pin (P) must be at least one inch from any drilled hole to comply with the Brunswick warranty.**

# Length & Back-End

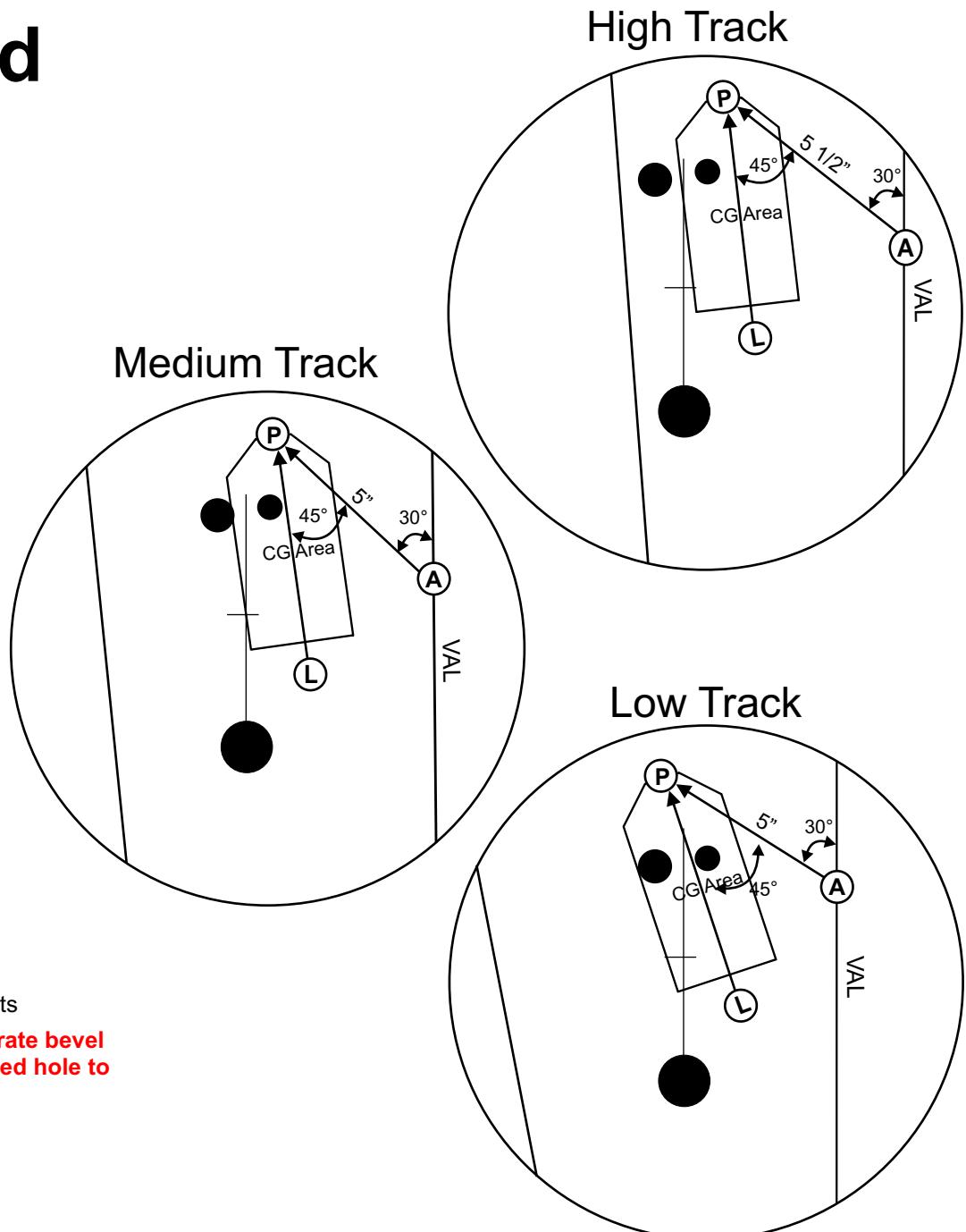
## Asymmetric Core

- Best pin out distance to use: 3" – 6"
- Locator pin set at 45 degrees
- Pin above fingers (VAL angle 30 degrees)
- This layout helps bowlers open up the mid-lane and recover on heavy carry down
- Note: If an X-hole is necessary to make the ball USBC legal, draw a line from the Grip center through the CG and place the X-hole where it hits the VAL
- Responds to the lane late.
- Fast response to friction.

- 1. **(P)** is the larger circle or pin on the ball that marks the top of the core.
- 2. **(L)** is a smaller circle or pin that marks Preferential Spin Axis (PSA / Mass Bias) of the ball
- 3. For left-handed bowlers use the mirror images of these layouts

**Note: Finger, thumb and Xholes must have at least a moderate bevel and the riser Pin **(P)** must be at least one inch from any drilled hole to comply with the Brunswick warranty.**



# Length

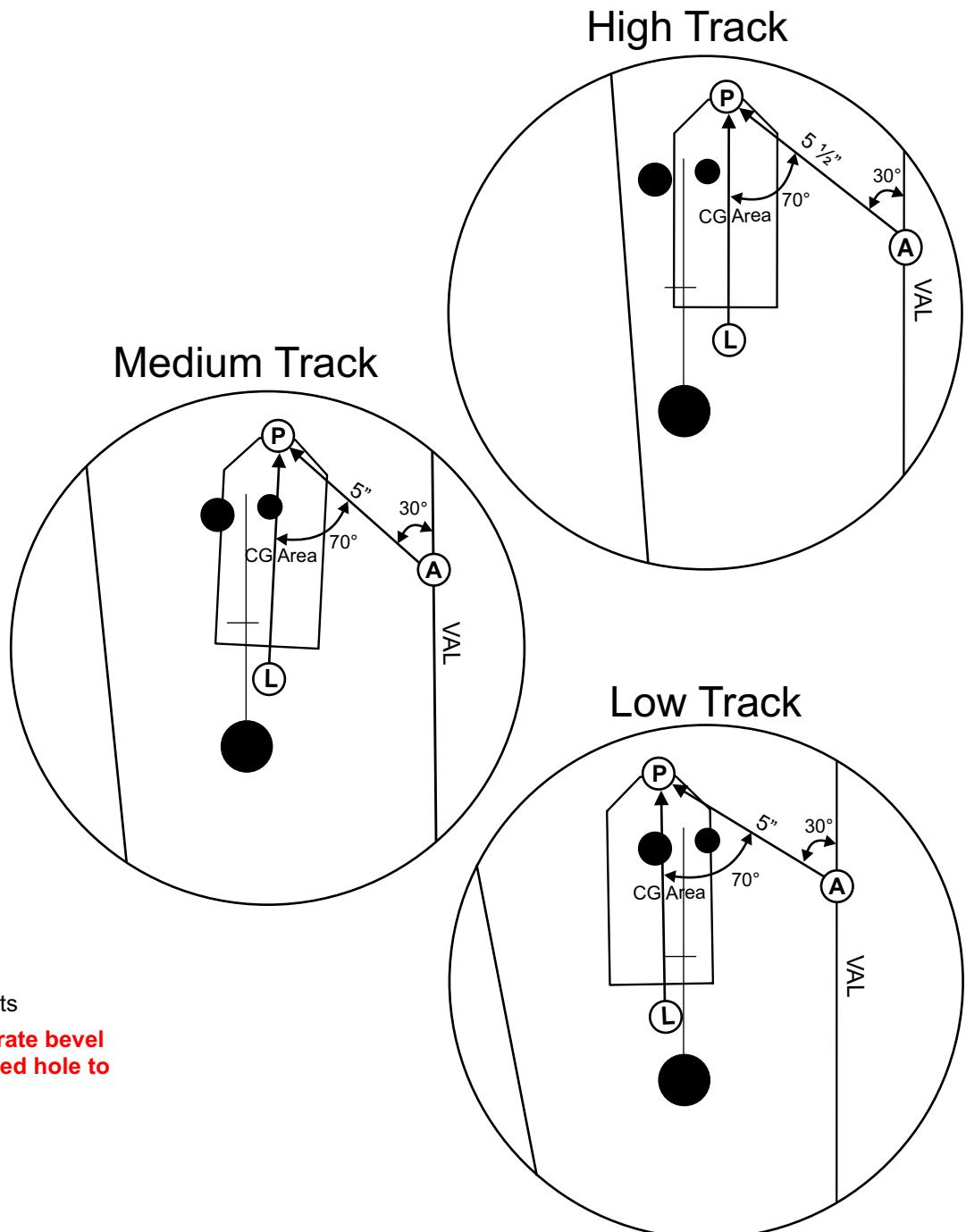
## Asymmetric Core

- Best pin out distance to use: 3" – 6"
- Locator pin set at 70 degrees
- Pin above fingers (VAL angle 30 degrees)
- This layout helps bowlers open up the mid-lane and recover on heavy carry down
- Note: If an X-hole is necessary to make the ball USBC legal, draw a line from the Grip center through the CG and place the X-hole where it hits the VAL
- Responds to the lane the latest.
- Fastest response to friction.

- 1. **(P)** is the larger circle or pin on the ball that marks the top of the core.
- 2. **(L)** is a smaller circle or pin that marks Preferential Spin Axis (PSA / Mass Bias) of the ball
- 3. For left-handed bowlers use the mirror images of these layouts

**Note: Finger, thumb and Xholes must have at least a moderate bevel and the riser Pin **(P)** must be at least one inch from any drilled hole to comply with the Brunswick warranty.**



# Maximum Hook & Arc - Full Roller

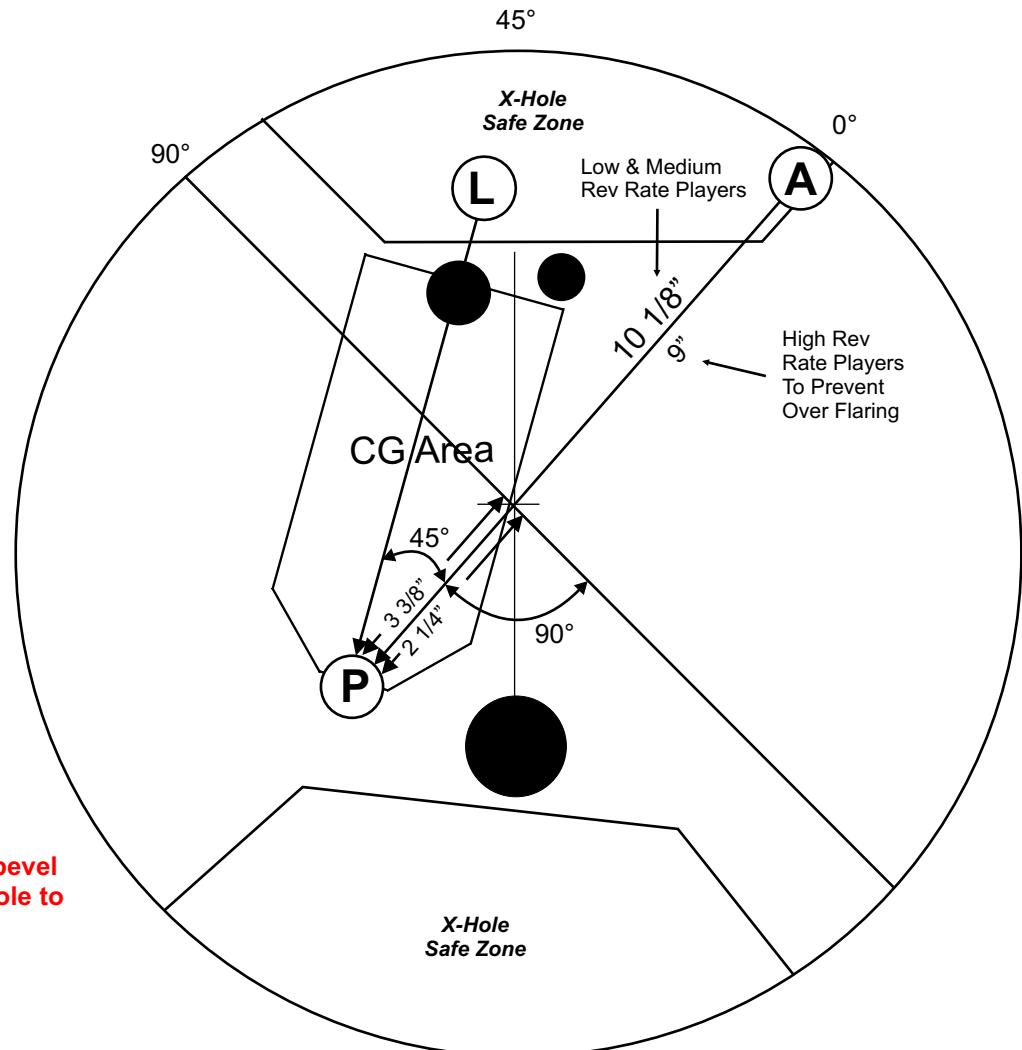
## Asymmetric Core

- Best pin out distance to use: 3"– 6"
- This layout will give the bowler maximum hook with a continuous back-end.
- Note: If an X-hole is necessary to make the ball USBC legal, place it in the X-hole safe zone 6" from center of grip to avoid contact with the track.

- 1. (P) is the larger circle or pin on the ball that marks the top of the core.
- 2. (L) is a smaller circle or pin that marks Preferential Spin Axis (PSA / Mass Bias) of the ball
- 3. For left-handed bowlers use the mirror images of these layouts

**Note: Finger, thumb and Xholes must have at least a moderate bevel and the riser Pin (P) must be at least one inch from any drilled hole to comply with the Brunswick warranty.**



# Length & Back-End - Full Roller

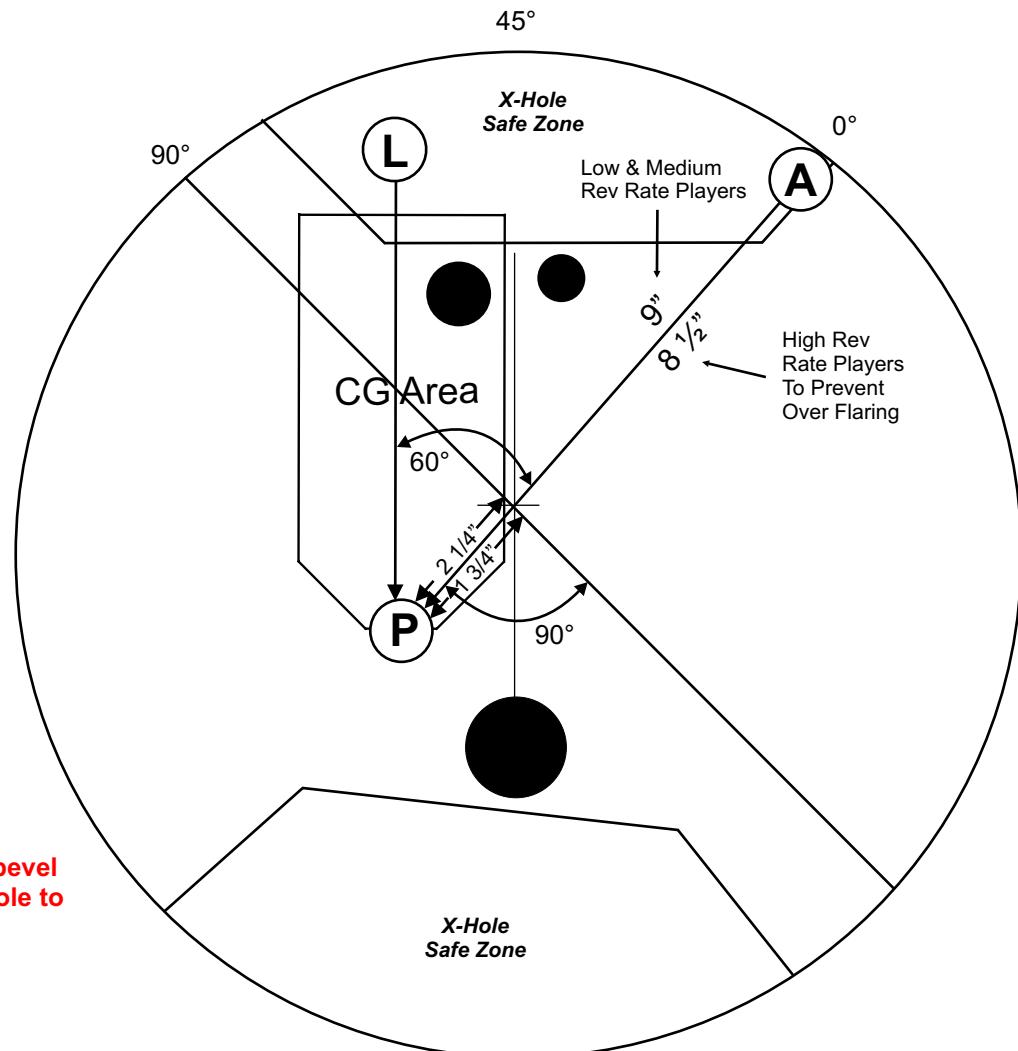
## Asymmetric Core

- Best pin out distance to use: 0"– 3"
- This layout helps bowlers create length with a strong back-end
- Note: If an X-hole is necessary to make the ball USBC legal, place it in the X-hole safe zone 6" from center of grip to avoid contact with the track.

- 1. (P) is the larger circle or pin on the ball that marks the top of the core.
- 2. (L) is a smaller circle or pin that marks Preferential Spin Axis (PSA / Mass Bias) of the ball
- 3. For left-handed bowlers use the mirror images of these layouts

**Note: Finger, thumb and Xholes must have at least a moderate bevel and the riser Pin (P) must be at least one inch from any drilled hole to comply with the Brunswick warranty.**



# Length - Full Roller

## Asymmetric Core

- Best pin out distance to use: 0"– 3"
- This layout helps bowlers create length with a smooth arcing back-end
- Note: If an X-hole is necessary to make the ball USBC legal, place it in the X-hole safe zone 6" from center of grip to avoid contact with the track.

- 1. (P) is the larger circle or pin on the ball that marks the top of the core.
- 2. (L) is a smaller circle or pin that marks Preferential Spin Axis (PSA / Mass Bias) of the ball
- 3. For left-handed bowlers use the mirror images of these layouts
- **Note: Finger, thumb and Xholes must have at least a moderate bevel and the riser Pin (P) must be at least one inch from any drilled hole to comply with the Brunswick warranty.**

