Balance hole recommendations for both symmetrical and asymmetrical balls
Suggested Symmetrical Layouts
Symmetrical Drilling Suggestions

**Pin Under – No Balance Hole** - Ultimate Control Layout

Place pin 3” to 5” from PAP for desired flare.

**Pin Beside with Balance Hole** - Medium Revving with Continuation

Place pin 3” to 5” from PAP for desired flare.

Place Balance Hole on the VAL, 1 ½” below the midline.

**NEW Drilling Layout - M0tion Hole Drilling** - Strongest back end reaction

For PAPs 6” over or more:

For PAPs less than 5” over:

**Pin Over – No Balance Hole** - Later, Sharper Breakpoint with Control

Place pin 3” to 5” from PAP for desired flare.

**Pin Above with Double Thumb Balance Hole** - Fastest Revving Layout

Place pin 4” from PAP – 30 degree VAL angle. Place Center of Balance Hole 1 ½” from edge of thumb assembly Pitched 1 ¼” away from the thumb. Drill balance hole 2 ½” deep.

Balance hole location and size is critical to ball motion.
Balance Holes for Symmetrical Balls

4 locations to create ball motion.

• On the VAL, 1 ½” below the midline for sooner reaction.
• Double Thumb hole for maximum hook. More reaction, sooner. (Best for medium and low track players.)
• MOtion Hole for later, sharper reaction. (Great for high track players.)
• Balance hole at the bowler’s PAP will reduce flare and overall hook.

Start with a smaller hole about 2 ¾” deep. Increasing the size will enhance the effect of the hole. It’s much easier to make a hole bigger than smaller!
Suggested Asymmetrical Layouts
Asymmetrical Drilling Suggestions

Determining the Bowler’s Initial Axis Tilt: Initial Axis Tilt is best determined by measuring the distance across the bowler’s initial ball track on the surface of the ball. A measurement of > 11 1/4” (> 12 degrees) indicates a high track bowler. A measurement of 10 1/4” to 11 1/4” (12 to 16 degrees) indicates a medium track bowler. A measurement of < 10 1/4” (< 10 degrees) indicates a low track bowler.

Ball Surface & Cleaning: RADICAL bowling balls are manufactured with a predetermined surface preparation. With the assistance of a qualified pro shop sanding, scuffing, or smoothing the surface texture may be needed to optimize performance for different styles of players on different lane conditions. We cannot overemphasize the importance of regularly cleaning your RADICAL ball with a quality bowling ball cleaner IMMEDIATELY AFTER each use. Doing so will insure a more consistent reaction and maximize the life of your RADICAL bowling ball.

Balance Holes for Asymmetrical Layouts: If and when, a balance hole is needed, we recommend using the "Gradient Line Balance Hole System." The Gradient Line extends from the PSA to P1 passing through the PAP.

Legend for the Asymmetrical Layout Pictures:

- P1 6 1/2” from the PSA on the VAL
- P2 1/3 of the distance from the P1 to the PSA
- P3 2/3 of the distance from the P1 to the PSA
- P4 PSA

- Weights balloon reaction.
- Maintains balloon reaction.
- Strengthens balloon reaction.
- Maintains balloon reaction.

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Balance Holes for Asymmetrical Balls

For more rev dominant players, check the location before drilling to avoid the track flaring over the balance hole.

Balance Hole Locations on the Gradient Line

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<th>Balance hole Position</th>
<th>Location</th>
<th>Change in Ball Reaction</th>
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<td>6 3/4&quot; from the PSA on the VAL</td>
<td>Weakens ball reaction</td>
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<tr>
<td>P2</td>
<td>1/3 of the distance from the P1 to the PSA</td>
<td>Maintains ball reaction</td>
</tr>
<tr>
<td>P3</td>
<td>2/3 of the distance from the P1 to the PSA</td>
<td>Strengthens ball reaction</td>
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<tr>
<td>P4</td>
<td>PSA</td>
<td>Maximizes ball reaction</td>
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