Suggested Symmetrical Layouts
**Pin Under – No Balance Hole** - Ultimate Control Layout

- .047” diff. undrilled

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

**Drilled Ball Specs.**
- Int. Diff. - .004”;
- Total Diff. - .040”

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

- .047” diff. undrilled

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

**Drilled Ball Specs.**
- Int. Diff. - .010”;
- Total Diff. - .051”
**Pin Beside with Balance Hole** - Medium Revving with Continuation
 .047” diff. undrilled

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

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

**Drilled Ball Specs.**
Int. Diff. - .010”; Total Diff. - .052”

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**Pin Above with Double Thumb Balance Hole** - Fastest Revving Layout
 .047” diff. undrilled

Place pin 4” from PAP - 30 degree VAL angle. Place Center of Balance Hole 1 ¾” from edge of thumb assembly **Pitched** 1 ¼” away from the thumb. Drill balance hole 2 ¾” deep.

**Drilled Ball Specs.**
Int. Diff. - .021”; Total Diff. - .064”
NEW Drilling Layout - MOtion Hole Drilling - Strongest back end reaction

For PAPs 4½” over or more:

For PAPS less than 4½” over:

Draw a line on the ball from the center of the thumb hole through the pin. Extend the line 10” past the pin to the bottom of the ball and mark that spot that is 10” from the pin. That is the intended location for the balance hole. Place a piece of white tape on that spot. Bowl with the ball to make sure the ball doesn’t flare over the tape. If the ball flares over the tape, move the tape sideways to miss the track flare. Drill the balance hole 4” deep. Start with a ¾” diameter hole. Increase the diameter of the hole to as much as 1¼” to increase the backend reaction, if desired.