**Symmetric Drilling Instructions**

**Drilling #1 Label Leverage**
- **Ball Choice:** pin out 1” to 4”, all top weights
- **Reaction:** Length...5  Backend...7  Overall Hook...8
- **Hook Style:** Medium hook, arc backend
- **Lane Condition:** Medium to heavy oil with a hooking track, fresher backends, great for slower ball speeds and minimal axis rotation.
- **Pin Placement:** 3 3/8” from PAP (flare safe area) in a 1:30 direction from CG.
- **CG Placement:** 4” to 5 1/2” from PAP.
- **Balance Hole:** No balance hole needed.

**Drilling #2 12:00 Leverage**
- **Ball Choice:** pin out 1” to 4”, all top weights
- **Reaction:** Length...3  Backend...10  Overall Hook...10
- **Hook Style:** Maximum hook, sharp breakpoint
- **Lane Condition:** Medium to heavy oil blend, open up the lane.
- **Pin Placement:** 3 3/8” from PAP (on a line from the PAP to the ring finger) in a 12:00 direction from CG.
- **CG Placement:** 3” to 3 1/2” from PAP (location may be above or below the grip midline depending on the pin out distance).
- **Balance Hole:** Place on a line from the grip center through the CG on the vertical axis line. Drill back to 1/2 positive.

**Drilling #3 Rev Leverage**
- **Ball Choice:** pin out 2” to 4”, up to 3 oz. top weight
- **Reaction:** Length...1  Backend...9  Overall Hook...9.5
- **Hook Style:** Large hook, controlled backend
- **Lane Condition:** Medium to heavy oil with carrydown, good for players with low tracks, maximum axis rotation, and faster ball speeds.
- **Pin Placement:** 3 3/8” from PAP slightly above the grip midline, in a 12:00 direction from CG.
- **CG Placement:** 3” to 4” from PAP in the thumb positive quadrant (location depends on the pin out distance).
- **Balance Hole:** 6” from the grip center on a line through the CG, drill back to 1/2 oz. negative side.
**DRILLING #4 AXIS LEVERAGE**

Ball Choice: pin out 2" to 4", 1.5 to 2.5 oz. top weights  
Reaction: Length...2 Backend...8.5 Overall Hook...8.5  
Hook Style: Medium hook, controlled backend  
Lane Condition: Medium to heavy oil with fresher backends or spotty backends where predictable hook is most important.  
Pin Placement: 3 3/8" from PAP (on a line from the PAP to the ring finger), in a 10:30 direction from the CG  
CG Placement: on a line 0" to 1 1/2" from the PAP to the pin (location depends on the pin out distance).  
Balance Hole: Place on PAP. Drill back to 1/2 oz. positive side.

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**DRILLING #5 MEDIUM RG - STRONG**

Ball Choice: pin out 1" to 4", all top weights  
Reaction: Length...6 Backend...9.5 Overall Hook...9  
Hook Style: Large hook, sharp backend  
Lane Condition: Medium oil with carrydown, plays well inside of a defined oil line, great for medium to maximum axis rotation and above average ball speed.  
Pin Placement: 4 1/2” to 5” from PAP below the ring finger in a 10:30 direction from the CG.  
CG Placement: 3” from PAP (location may be above or below the grip midline depending on the pin out distance).  
Balance Hole: Place on a line from the grip center through the CG on the vertical axis line. Drill back to 1/2 positive.

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**DRILLING #6 MEDIUM RG - ARC**

Ball Choice: pin out 1” to 2”, all top weights  
Reaction: Length...8 Backend...5 Overall Hook...6.5  
Hook Style: Small to medium hook, arc  
Lane Condition: Light to medium oil with hooking ball track, wet/dry conditions, great for players with slower ball speed, minimal axis rotation, or stronger revs.  
Pin Placement: 4 1/2” to 5” from PAP below the ring finger in a 1:30 direction from the CG.  
CG Placement: 1/2 oz. negative side.  
Balance Hole: No hole needed.
### DRILLING #7  HIGH RG - ARC

**Ball Choice:** pin out 3” to 5”, all top weights  
**Reaction:** Length...10  Backend...6  Overall Hook...6  
**Hook Style:** Small to medium hook, late revs, arc  
**Lane Condition:** Light oil with hooking ball track, dry conditions, great for players with slower ball speed, minimal axis rotation, or stronger revs.  
**Pin Placement:** 5” to 5 1/2” from PAP above fingers in a 12:00 direction from the CG.  
**CG Placement:** 0 to 1/2 oz. positive side.  
**Balance Hole:** No hole needed.

### DRILLING #8  HIGH RG - STRONG

**Ball Choice:** pin out 3” to 6”, all top weights  
**Reaction:** Length...9  Backend...8  Overall Hook...7.5  
**Hook Style:** Small to medium hook, late revs, sharp backend  
**Lane Condition:** Lighter oil with carrydown, great for players with slower ball speed, medium axis rotation, or stronger revs.  
**Pin Placement:** 5” to 5 1/2” from PAP above fingers in a 10:30 direction from the CG.  
**CG Placement:** 2 1/2” to 3” from PAP (location may be above or below the grip midline depending on the pin out distance).  
**Balance Hole:** Place on a line from the grip center through the CG on the vertical axis line. Drill back to 1/2 positive.

### DRILLING #9  LOW RG - ARC

**Ball Choice:** pin out 2” to 4”, all top weights  
**Reaction:** Length...4  Backend...4  Overall Hook...5  
**Hook Style:** Small to medium hook, early revs, arc backend  
**Lane Condition:** Lighter oil, wet/dry conditions.  
**Pin Placement:** 1 1/2” to 2 1/2” from PAP in a 2:00 direction from the CG.  
**CG Placement:** 3 1/2” to 5” from PAP (direction depends on pin out distance).  
**Balance Hole:** Place on PAP (if needed). Drill back to 1/2 positive.

### DRILLING #10  LOW RG - STRONG

**Ball Choice:** pin out 2” to 4”, 1 1/2 to 2 1/2 oz. top weights  
**Reaction:** Length...3  Backend...6  Overall Hook...7  
**Hook Style:** Small to medium hook, early revs, strong arc backend  
**Lane Condition:** Light to medium oil, wet/dry conditions, lower track players, faster speed, medium to maximum axis rotation.  
**Pin Placement:** 1 1/2” to 2 1/2” from PAP in a 2:00 direction from the CG (on a line from the PAP on the ring finger).  
**CG Placement:** 3 1/2” to 5” from PAP (location depends on pin out distance).  
**Balance Hole:** Place on a line from the grip center through the CG on the vertical axis line. Drill back to 1/2 positive.

### DRILLING #11  FULL ROLLER

**Ball Choice:** pin out 1 1/2” to 4”, all top weights  
**Reaction:** 3 3/8” from grip center Length...3  Backend...10  Overall Hook...10  
**Lane Condition:** Medium to heavy oil, maximum hook.  
**Pin Placement:** 3 3/8” from grip center in an 8:30 direction from the CG.  
**CG Placement:** Near center of span (location will depend on pin out distance).  
**Balance Hole:** If needed, place on negative axis point (8:30 direction from grip center).  
**Reaction:** 1 1/2” from grip center Length...1  Backend...8  Overall Hook...8  
**Lane Condition:** Medium oil with carrydown.  
**Pin Placement:** 1 1/2” from grip center in an 8:30 direction from the CG.  
**CG Placement:** Near the grip center (location will depend on pin out distance).  
**Balance Hole:** If needed, on the Positive Axis Point to 1/2 oz. positive side.