5.3.2 When to use H-only mode and which drill presses it suits

When to use H-only mode and which drill presses it suits

> 5.3.2 oval method

H-only mode in Spectre Cloud's Oval Calculator is designed for drilling workflows where the oval cut is made exclusively on the **horizontal axis** — side to side across the hole — with no vertical stretch applied. Understanding when this mode is appropriate, and which drill press setups naturally produce a pure horizontal oval, helps you choose the right input mode for every job and keeps your spec sheet data accurate.

□□ What H-Only Mode Records

In H-only mode, the Oval Calculator accepts a cut value on the **horizontal axis only**. The vertical dimension of the hole remains equal to the starting bit size — no vertical stretch is recorded or applied. The resulting oval pair will always show the horizontal dimension as larger than the vertical:

- □ **H dimension** — starting bit size plus the horizontal cut width

- **V dimension** — equal to the starting bit size, unchanged
- **DIFF** — the decimal difference between H and V, representing the full horizontal stretch

This is the mirror image of a pure vertical oval. Where V-only cuts stretch a hole toe to heel, H-only cuts stretch it side to side — toward and away from the thumb, or toward and away from the adjacent finger, depending on hole position and hand anatomy.

When to Use H-Only Mode

H-only mode is the right choice when the physical drilling setup produces a stretch that runs purely across the horizontal plane of the hole — and no vertical movement is involved in the cut. Common situations include:

Lateral Fit Adjustments

Some bowlers require a hole that is wider side to side than it is deep, typically to accommodate a finger that is naturally wider in the lateral direction or to allow a specific release angle. A pure horizontal oval achieves this without altering the toe-to-heel fit.

- Ring or middle finger holes stretched toward the thumb side to open the lateral fit
- Thumb holes stretched horizontally to accommodate thumb width rather than rotation range

Thumb Slug and Insert Fitting

When fitting a thumb slug or interchangeable insert system, some horizontal oval cuts are used to fine-tune the slug's seating orientation or the bowler's exit angle without affecting forward pitch mechanics. In these cases the stretch is deliberately limited to the horizontal plane.

- Horizontal slug adjustment cuts where vertical pitch is already set by the slug angle
- Insert system fine-tuning where the vertical dimension is fixed by the insert mold

Re-drilling and Correction Work

When a previously round hole needs to be opened laterally to correct a fit issue — without changing the existing forward or reverse pitch relationship — a horizontal-only oval cut preserves the vertical dimension while adding the needed lateral clearance.

- Corrective lateral stretching after a round hole has been drilled too tight side to side

- □ Adjustment cuts where the bowler's fit feedback is specifically about lateral tightness, not forward or reverse pitch

□□ Which Drill Presses Suit H-Only Cuts

Not all drill press setups produce clean horizontal-only ovals with equal ease. The suitability of a press for H-only mode depends on its **axis of movement** and how the oval cut mechanism operates.

Press Type / Setup	H-Only Suitability	Notes
Horizontal slide oval attachment	□ Ideal	Designed specifically to move the ball laterally under a stationary bit — produces a pure horizontal oval by design
Ball cup with lateral adjustment	□ Well suited	Lateral cup movement stretches the hole horizontally; no vertical component if cup is level and vertical position is locked
Pivot-arm oval system (horizontal pivot only)	□ Suited when configured for horizontal arc	Pivot arm must be set to swing across the horizontal plane — a vertically-set pivot produces a V cut, not H
Pivot-arm oval system (vertical pivot only)	□ Not suited for H-only	Vertical pivot produces toe-to-heel stretch — use V-only or V/H mode instead
Fixed-head press with no oval attachment	□ Not applicable	Cannot produce an oval of any kind without an attachment or manual technique
CNC or programmable drill press	□ Fully suited	Axis-controlled movement can isolate horizontal stretch precisely — H-only values from Spectre Cloud feed directly into the horizontal axis program

□□ Confirming Your Press Produces a Pure H Cut

Before relying on H-only mode for a bowler's spec record, confirm that your press setup is actually delivering a cut on the horizontal axis only. A mixed cut — where the ball or bit moves on both axes during the oval — should be recorded using V/H or H/V mode, not H-only, even if the horizontal component is dominant.

- **Measure the finished hole with a gauge** on both axes before entering values — if the V dimension differs from the starting bit size by more than your measurement tolerance, a vertical component is present and H-only mode will underreport the oval
- **Check your attachment or cup alignment** before the session if you are using H-only mode regularly — lateral drift in a ball cup or a worn slide bearing can introduce unintended vertical movement over time
- **When in doubt, use V/H or H/V mode** and enter the measured dimensions directly — a two-axis record is always more complete than a one-axis assumption

H-Only Mode vs. Full H/V Mode — Which to Choose

Situation	Recommended Mode
Press physically moves on H axis only — V confirmed equal to starting bit	**H-only mode**
Press moves on both axes — both dimensions differ from starting bit	**H/V or V/H mode**
Correction cut — lateral only, V preserved intentionally	**H-only mode**
Unsure whether a V component was introduced	**Measure both axes, use H/V or V/H mode**
CNC press with H-axis program only	**H-only mode**
Thumb slug fitting with fixed vertical pitch	**H-only mode**

Regional and Training Considerations

H-only oval cuts are more common in some regional drilling traditions than others. If your IBPSIA training or regional pro shop association favors horizontal-first measurement and documentation, H-only mode aligns naturally with that workflow. If your training background is V-first, you may encounter H-only cuts less frequently — but the mode is available whenever the physical drilling situation calls for it.

- Check your regional association's preferred documentation format if you are unsure which axis convention to use for a given cut type
- When drilling for a bowler whose spec history was maintained by another shop, match their existing oval notation before entering new measurements — consistency across a bowler's history is more important than matching your shop's default convention

Related Sections

- 5.3.1 — Setting up: Oval Cut Direction = H in Settings
- 5.3.3 — Entering Starting Bit and Oval Width — Bit Size mode (H)
- 5.3.4 — Entering Starting Bit and Oval Width — Decimal mode (H)
- 5.3.5 — Reading the DIFF in H-first mode
- 5.2.2 — Entering Starting Bit and Oval Width — Bit Size mode (V/H)
- 5.2.6 — Entering V and H cut values (positive and negative)

Tip: If you are setting up a new drill press or oval attachment and are deciding which axis to orient as your primary cut direction, consider your bowler population first — a shop whose clientele skews toward crankers and strong-axis players may see more vertical oval needs, while a shop serving a high proportion of straight or stroker bowlers may find horizontal ovals more common. Match your default press orientation to your most frequent use case and configure Spectre Cloud's Oval Cut Direction to match. ⚠ *The drill press types and oval attachment descriptions above reflect general industry equipment categories — verify that your specific press model and attachment produce a pure horizontal cut before relying on H-only mode for live spec records. Contact the Spectre team if the H-only mode option does not appear in your Oval Calculator.*

Revision #2
Created 11 May 2026 16:04:42 by Admin
Updated 1 June 2026 20:23:03 by Art