5.4.2 When to use V-only mode

When to use V-only mode

> 5.4.2 oval method

V-only mode is the right configuration when your drilling workflow consistently produces a stretch on the **vertical axis alone** — toe to heel — with no measurable horizontal component, and when your documentation practice records that stretch as a single value rather than a dimensional pair. This page covers the specific situations where V-only mode is appropriate, the workflows and press setups it suits, and the cases where it is not the right choice even if vertical cuts dominate your work.

□□ The Core Condition for V-Only Mode

V-only mode is appropriate when **both** of the following are true simultaneously:

- □ Your drill press setup physically produces a stretch on the vertical axis only — the ball or bit does not move horizontally during the oval cut
- □ Your documentation practice records that stretch as a single measurement, not as one half of a V × H pair

If either condition is absent — if a horizontal component occasionally appears, or if your spec sheets have always used paired dimensions — V/H mode is the safer and more complete choice. V-only mode trades completeness for simplicity, and that trade only makes sense when the missing H value would always be zero.

□□ Workflows Where V-Only Mode Fits Naturally

Traditional Pivot-Arm Vertical Oval Technique

The most common source of a pure vertical oval is a **pivot-arm press** where the arm swings exclusively in the toe-to-heel direction. When the pivot is set up and aligned correctly for a vertical arc, the bit traces a path along the V axis only — the ball does not move side to side. Shops that have used this technique for years and have never introduced a horizontal component naturally document a single stretch value, and V-only mode reflects that exactly.

- □ Pivot arm confirmed to swing on the vertical axis only
- □ Ball cup locked against lateral movement during the oval cut
- □ Staff trained to make and record a single-axis vertical stretch

Simplified Finger Hole Fitting Workflows

Many experienced drillers work from a single oval measurement for finger holes — particularly when fitting conventional fingertip or semi-fingertip grips where the lateral dimension of the hole is not a variable in the fit equation. For these shops the second value in a V × H pair carries no fitting information and is omitted as a matter of workflow efficiency.

- □ Finger hole ovals driven entirely by forward pitch and span mechanics — no lateral fit adjustment needed
- □ Thumb holes handled separately with their own fit protocol, not mixed into the oval record
- □ Bowler population whose fit requirements have never required a horizontal oval adjustment

Solo Operator Shops with Consistent Equipment

A single driller operating a single press with a fixed oval attachment — where the setup never changes — can safely use V-only mode because the absence of a horizontal component is a known, stable fact about the equipment rather than something that needs to be verified hole by hole. The

consistency of the setup makes the single-axis record reliable over time.

- One driller, one press, one oval attachment — no variability between staff or equipment
- The setup has been used long enough to confirm it never introduces a horizontal stretch
- All historical records for this shop already use single-value oval notation

Shops Preserving Consistency with Paper Record History

If a shop's paper spec cards used a single oval column for decades — recording only the toe-to-heel stretch — switching to a paired format in Spectre Cloud creates a discontinuity in bowler history. A bowler whose 15 years of spec cards show `1/16"` in the oval column will have records that read differently from new entries showing `1-1/16 × 1`, even though they describe the same hole. V-only mode keeps the new digital records consistent in format with the historical paper records.

- Historical paper records use a single oval field — matching V-only output
- Long-term bowler relationships where fit history continuity matters
- No plans to introduce horizontal oval cuts going forward

Press Setups That Suit V-Only Mode

Press Type / Setup	V-Only Suitability	Notes
Pivot-arm press — vertical arc only	Ideal	Pivot swings toe to heel; ball cup locks laterally — pure V cut by design
Ball cup with forward/reverse adjustment only	Well suited	Cup moves on V axis only; no lateral adjustment mechanism present
Manual technique — driller controls direction	Suited when consistently vertical	Requires discipline and experience to avoid introducing lateral drift; verify with a gauge
Pivot-arm press — adjustable axis	⚠ Suited only when locked to vertical	If the pivot can swing in any direction, confirm it is set and locked to vertical before relying on V-only mode
Horizontal slide oval attachment	Not suited	Designed for H-axis cuts — produces horizontal ovals, not vertical; use H-only or H/V mode instead

Press Type / Setup	V-Only Suitability	Notes
CNC or programmable press — V axis only programmed	Fully suited	When the program controls V axis movement only, V-only mode accurately reflects the cut
Fixed-head press with no oval attachment	Not applicable	Cannot produce an oval of any kind without an attachment or deliberate technique

When V-Only Mode Is Not Appropriate

V-only mode should not be used in the following situations, even if vertical cuts are the dominant or preferred oval type in your shop:

- **Your press occasionally introduces a measurable H component** — even an infrequent horizontal stretch belongs in a V/H record; V-only will silently omit it
- **You drill thumb ovals with a horizontal component** — thumb holes frequently benefit from H-axis documentation; V-only mode cannot capture this without switching settings mid-session
- **Your shop has multiple drillers using different press setups** — one driller's purely vertical setup does not guarantee another's is the same; V/H mode captures the full picture regardless of who drilled the ball
- **You serve travelling competitive bowlers** — bowlers whose equipment may be serviced at other shops benefit from a complete paired oval record that any driller can reproduce without assumptions about axis direction
- **You are unsure whether your press produces a pure V cut** — measure a freshly drilled oval on both axes with a gauge before committing to V-only mode; if the H dimension differs from the starting bit by more than your measurement tolerance, a horizontal component is present

Confirming Your Press Before Switching to V-Only

If you are considering V-only mode for the first time, run this confirmation before changing the setting in Spectre Cloud:

1. Drill a test oval on a scrap ball or plug using your standard technique and attachment.

2. Measure the finished hole on **both axes** with a sizing gauge or digital caliper.
3. Compare the H dimension to your starting bit size. If they are equal within your measurement tolerance, no horizontal stretch was introduced — V-only mode is accurate for this setup.
4. If the H dimension is measurably larger than the starting bit, a horizontal component is present — use V/H mode and record both values.
5. Repeat this check after any change to your press setup, attachment, or technique.

Related Sections

- 5.4.1 — Setting up: Oval Cut Direction = V in Settings
- 5.4.3 — Entering V-only cut values and reading output
- 5.4.4 — Worked example: V-only oval from start to finish
- 5.3.2 — When to use H-only mode and which drill presses it suits
- 5.2.1 — Setting up: Oval Cut Direction = V/H in Settings

Tip: When in doubt between V-only and V/H, choose V/H. The cost of recording a second value that always turns out to be zero is minimal — one extra field entry per hole. The cost of discovering that your press has been introducing a small horizontal component all along, with no record of it, is a spec history that cannot fully reproduce any of those fits. V/H is the conservative choice that keeps your options open. ⚠ *The press setup descriptions above reflect general industry equipment categories. Verify that your specific press and attachment produce a pure vertical cut before relying on V-only mode for live spec records — contact the Spectre team if V-only mode behavior in the Oval Calculator differs from the description in this chapter.*

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