5.3 — Method B: Horizontal Only (H Mode)

5.3.1 Setting up: Oval Cut Direction = H in Settings

Setting up: Oval Cut Direction = H in Settings

5.3.1 CALC oval method

Before using the Oval Calculator in horizontal-cut mode, Spectre Cloud needs to know that your shop measures and records ovals with the **horizontal dimension listed first**. The **Oval Cut Direction** setting controls this — setting it to **H** tells Spectre Cloud to display, calculate, and record all oval measurements as **Horizontal × Vertical (H/V)** throughout the app.

This page covers the H-first configuration specifically. If your shop uses V-first notation instead, see **5.2.1 — Setting up: Oval Cut Direction = V/H in Settings**.

□□ What "H" Cut Direction Means

When Oval Cut Direction is set to **H**, Spectre Cloud places the horizontal measurement first in every oval pair displayed across the app — on the Oval Calculator, on spec sheets, in oval history, and on any printed output. The vertical measurement follows as the second value.

Setting	Display Format	Example	Reading
V/H	Vertical × Horizontal	`1-1/16 × 1`	1-1/16" vertical, 1" horizontal
H (this page)	Horizontal × Vertical	`1 × 1-1/16`	1" horizontal, 1-1/16" vertical

Both settings describe the same physical hole — only the order the two values appear on screen and on paper changes. Choosing H-first does not affect how the oval is drilled; it affects how it is **communicated and documented**.

□□ How to Set Oval Cut Direction to H

□□ Desktop

1. Click your **Pro Shop name** or profile icon in the top-right corner of the screen.
2. Select **Settings** from the dropdown menu.
3. Navigate to the **Spec Sheet** or **Oval** settings section.
4. Locate the **Oval Cut Direction** option.
5. Select `H` (or `H/V`, depending on how the option is labeled in your version).
6. Save your changes — or confirm the setting has been applied if Spectre Cloud saves automatically.

□□ Mobile / Tablet

1. Tap your **avatar icon** or shop name at the top of the screen.
2. Tap **Settings**.
3. Scroll to the **Spec Sheet** or **Oval** section.
4. Tap **Oval Cut Direction** and select `H` (or `H/V`).
5. The setting saves automatically — confirm the selection is highlighted before leaving Settings.

□□ Who Typically Uses H-First Notation

H-first oval notation is the preferred convention in a number of regional drilling traditions and legacy pro shop workflows. You may already be working in H/V format if:

- □ Your shop was previously using **Ebonite ProShop Coordinator** or a similar legacy system that defaulted to H/V

- Your training or certification was completed in a region or program that teaches horizontal measurement first
- Your existing paper spec sheets or card files list the side-to-side dimension before the toe-to-heel dimension
- Your staff verbally calls out measurements as "horizontal by vertical" when communicating fits between drillers

If you are unsure which convention your shop uses, check an existing spec sheet or paper record — whichever dimension appears first is your shop's preferred format.

Important Considerations Before Switching

- **Set this before entering any oval data** — the Oval Cut Direction setting determines how new measurements are labeled and displayed. Changing it after spec sheets have been created does not retroactively reformat saved records.
- **The setting is account-wide** — all staff members and all devices accessing your Spectre Cloud account will see ovals displayed in H/V order once this is saved.
- **Do not switch mid-workflow** — if you have already entered oval data for a bowler in one session using V/H, do not change the setting before completing and saving that spec sheet. Changing direction mid-entry will cause the labels on new entries to conflict with the labels on entries already saved.
- **Switching does not convert existing records** — saved spec sheets retain the dimensional values exactly as they were entered. If you switch from V/H to H/V after saving records, previously saved oval pairs will display with swapped labels unless you manually review and correct them.

Tips for Shops Migrating to Spectre Cloud

- **Match your existing format** — if you are importing or manually re-entering historical spec data from paper cards or another system, set Oval Cut Direction to match your historical records before entering a single measurement. This ensures your Spectre Cloud history is consistent with your pre-digital records from day one.
- **Document your convention** — add a note to your shop's onboarding materials stating which oval direction format Spectre Cloud is configured to use. New staff should know the convention before they enter their first spec sheet.

- **Test with a dummy bowler profile first** — create a test bowler, enter a few oval measurements, and confirm the display order looks correct before entering live bowler data.

Related Sections

- 5.2.1 — Setting up: Oval Cut Direction = V/H in Settings
- 5.3.2 — Entering Starting Bit and Oval Width — Bit Size mode (H)
- 5.3.3 — Entering Starting Bit and Oval Width — Decimal mode (H)
- 5.3.4 — Reading the DIFF in H-first mode
- 2.x — Settings Overview

Tip: H-first and V-first notation describe the same physical holes — the choice is purely about how your shop communicates and documents. What matters most is that everyone in your shop uses the same setting consistently. A spec sheet where some holes are documented in V/H and others in H/V is ambiguous and can cause fit errors when re-drilling. Pick one, set it in Spectre Cloud, and don't change it without reviewing your existing records first. ⚠ *Verify the exact option label used for H-first notation in your version of Spectre Cloud — it may appear as* `H`, `H/V`, *or* `Horizontal first` *depending on the release. Contact the Spectre team if the Settings screen differs from the steps above.*

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.*

5.3.3 Entering H-only cut values and reading output

Entering H-only cut values and reading output

5.3.3 oval method

Once your Oval Cut Direction is set to **H** and you have confirmed that your drill press setup produces a pure horizontal cut (see **5.3.2**), entering the cut value in Spectre Cloud is straightforward. This page covers how to enter an H-only cut value in the Oval Calculator, what the output fields display, and how to read the result correctly before applying it to a spec sheet.

□□ What You Are Entering

In H-only mode, the Oval Calculator requires a single directional cut value — the **horizontal stretch** applied beyond the starting round hole. The vertical dimension is not stretched and remains equal to the starting bit size. Spectre Cloud uses these two facts to compute and display the full oval pair automatically.

- □ **Starting bit size** — the diameter of the round bit used to open the hole
- □ **H cut value** — the horizontal stretch applied beyond the round hole
- □ **V value** — not entered; Spectre Cloud sets this equal to the starting bit size automatically
- □ **Resulting oval** — displayed as `H × V` in your configured H-first format
- □ **DIFF** — calculated automatically as the decimal difference between H and V

How to Enter an H-Only Cut Value

Desktop

1. Open the **Oval Calculator** and confirm the mode selector shows **H** or **H-only**.
2. Click the **Starting Bit** field and enter the drill bit diameter — as a fraction (e.g., `1`) or decimal (e.g., `1.0625`) depending on your input mode.
3. Press **↓ (arrow-down)** to move to the **H cut** field.
4. Enter the horizontal cut width (e.g., `1/16` or `0.0625`). Use a negative value if the cut was made in the negative horizontal direction — see **5.2.6** for sign conventions.
5. Press **↓** to confirm. Spectre Cloud calculates and displays the oval result and DIFF immediately.

Mobile / Tablet

1. Open the **Oval Calculator** and confirm **H** or **H-only** mode is selected.
2. Tap the **Starting Bit** field and enter the bit diameter.
3. Tap the **H cut** field and enter the horizontal stretch value. Apply a minus sign if the cut direction is negative.
4. The oval result and DIFF appear automatically once both fields are filled.

Reading the Output

After confirming your entry, Spectre Cloud displays three output values for the row. Each has a specific meaning in the context of an H-only cut:

Output Field	What It Shows	Example Value
H dimension	Starting bit size plus the H cut width — the larger of the two oval dimensions	`1-1/16"`
V dimension	Starting bit size only — unchanged, equal to the round hole diameter	`1"`
Oval pair (H × V)	Both dimensions displayed in H-first order per your cut direction setting	`1-1/16 × 1`

Output Field	What It Shows	Example Value
DIFF	Decimal difference between H and V — equal to the H cut width converted to decimal	`0.0625`

In an H-only cut, the DIFF will always equal the decimal equivalent of your H cut value — because the V dimension has not changed. If the DIFF displays a value that does not match your expected H cut width, recheck the starting bit entry before confirming the row.

□□ Example Outputs — Common H-Only Entries

Starting Bit	H Cut	Oval (H × V)	DIFF
`1"`	`1/32"`	`1-1/32 × 1`	`0.03125`
`1"`	`1/16"`	`1-1/16 × 1`	`0.0625`
`1"`	`3/32"`	`1-3/32 × 1`	`0.09375`
`1"`	`1/8"`	`1-1/8 × 1`	`0.125`
`1-3/16"`	`1/16"`	`1-1/4 × 1-3/16`	`0.0625`
`1-3/16"`	`1/8"`	`1-5/16 × 1-3/16`	`0.125`

□□ Sense-Checking Your Output

Before confirming the row and moving on, run a quick sense check against these expectations for a valid H-only output:

- □ **H dimension is always larger than V** — if V appears larger than H in the output, the sign of your H cut value or the order of your dimensions may be wrong
- □ **V dimension equals your starting bit size exactly** — any difference indicates an unintended V component was introduced, either by a data entry error or a press alignment issue
- □ **DIFF equals your H cut width in decimal** — a mismatch here points to a starting bit entry error
- □ **Oval pair is displayed H first** — if V appears first, your Oval Cut Direction setting may have reverted or been changed; check Settings before saving
- □ **DIFF of 0.0000 on an H-only entry** — means either the H cut value was entered as zero, or the same value was entered in both dimensions; review the row before confirming

Tips for H-Only Entry

- **Use the arrow-down key to confirm each field** — pressing ↓ after the H cut entry triggers the calculation immediately, so you see the result before moving to the next row (see **5.2.7**)
- **Cross-check against a physical gauge reading** — if you have already measured the finished hole, the H dimension in the output should match your gauge's side-to-side reading within your shop's measurement tolerance
- **Add further rows with the + button** for multi-hole sessions — H-only mode works across multiple rows exactly as described in **5.2.5**; each row holds its own H cut entry and produces its own oval pair and DIFF
- **Do not enter a V cut value in H-only mode** — if your press produced a measurable vertical stretch, switch to full H/V mode and record both dimensions rather than forcing the result into H-only

Related Sections

- 5.3.1 — Setting up: Oval Cut Direction = H in Settings
- 5.3.2 — When to use H-only mode and which drill presses it suits
- 5.2.4 — Reading the DIFF (decimal difference) auto-calculation
- 5.2.5 — Adding oval cut rows using the + button
- 5.2.6 — Entering V and H cut values (positive and negative)
- 5.2.7 — Confirming cuts using the arrow-down key
- 5.3.4 — Worked example: full H-only oval from start to finish

Tip: The fastest way to verify an H-only output is to look at the DIFF first — in a pure horizontal cut, the DIFF should always be the decimal equivalent of exactly what you cut. If you stretched the hole 1/16", the DIFF should read `0.0625`. If it reads anything else, stop and recheck your starting bit entry before the row gets applied to a spec sheet. ⚠ *Verify that H-only mode presents a single H cut input field rather than separate V and H fields, and confirm the exact output display format against your live Spectre Cloud instance — contact the Spectre team if the calculator layout differs from the description above.*

5.3.4 Worked example: H-only oval

Worked example: H-only oval

5.3.4 **TIP** example

This page walks through a complete H-only oval calculation from opening the Oval Calculator to finished values ready for the spec sheet. It covers a realistic scenario where a pure horizontal cut is the right choice — bringing together the cut direction setting, H-only input, output reading, and the DIFF sense check in a single end-to-end example.

□□ The Scenario

A bowler, **David**, is having a replacement thumb drilled after his previous ball was damaged. David uses an interchangeable thumb slug system. His slug's vertical pitch is fixed by the insert mold, so the fitting adjustment needed is purely lateral — a horizontal oval to open the thumb hole side to side for a cleaner exit. No vertical stretch is required or wanted.

Before opening the Oval Calculator, you have confirmed the following:

- □ **Oval Cut Direction:** `H` (horizontal first)
- □ **Input mode:** Bit Size (fraction)
- □ **Press setup:** Horizontal slide oval attachment — confirmed to produce a pure H cut

David's thumb hole target values, carried over from his previous spec sheet, are:

Hole	Starting Bit	H Cut	V Cut

Thumb	`1-3/16"`	`+3/32"`	`0` — no vertical stretch

This is a single-hole session. David's finger holes are conventional span with no ovals and will be handled separately on the spec sheet.

□□ Step 1 — Open the Oval Calculator and Confirm Settings

1. Navigate to the **Oval Calculator** from the main menu.
2. Check the mode selector at the top of the calculator — confirm it shows **H** or **H-only**. Switch if needed.
3. Confirm the cut direction indicator shows **H × V** order. If it shows V/H, go to Settings and update **Oval Cut Direction** to H before proceeding (see **5.3.1**).

The calculator opens with one blank row. Because this is a single-hole session, you will not need the + button — one row is sufficient.

□□ Step 2 — Enter the Thumb Hole Values

1. Click into the **Starting Bit** field of Row 1. Type `1-3/16`.
2. Press **↓ (arrow-down)** — focus moves to the **H cut** field.
3. Type `3/32`. The cut is in the positive horizontal direction — no minus sign needed.
4. Press **↓** to confirm. Spectre Cloud calculates immediately.

□□ Step 3 — Read and Check the Output

The calculator displays the following result for Row 1:

Output Field	Value	How to Read It

H dimension	`1-9/32"`	Starting bit (1-3/16") plus H cut (3/32") — the wider, horizontal dimension of the hole
V dimension	`1-3/16"`	Starting bit size only — unchanged, no vertical stretch was applied
Oval pair (H × V)	`1-9/32 × 1-3/16`	Full oval displayed in H-first order per the cut direction setting
DIFF	`0.09375`	Decimal equivalent of 3/32" — the full horizontal stretch, with no V component to dilute it

Step 4 — Run the Sense Check

Before applying this result to David's spec sheet, work through the standard H-only output checks:

Check	Expected	Actual	Pass?
H dimension larger than V	H > V	`1-9/32 > 1-3/16`	✅
V dimension equals starting bit	`1-3/16"`	`1-3/16"`	✅
DIFF equals H cut in decimal	`0.09375` (3/32")	`0.09375`	✅
Oval displayed H first	`H × V` order	`1-9/32 × 1-3/16`	✅
DIFF is non-zero	Greater than `0.0000`	`0.09375`	✅

All five checks pass. The result is consistent, correctly formatted, and ready to apply to the spec sheet.

Step 5 — Cross-Check Against the Previous Spec Sheet

David's previous spec sheet recorded his thumb oval as `1-9/32 × 1-3/16` with a DIFF of `0.09375`. The Oval Calculator output matches exactly — confirming that the starting bit and H cut values were entered correctly and that the replacement ball will replicate his previous fit.

- ✅ Oval pair matches previous spec: `1-9/32 × 1-3/16`
- ✅ DIFF matches previous spec: `0.09375`

- V dimension unchanged from starting bit — consistent with the slug system's fixed vertical pitch

If either the oval pair or DIFF had differed from the previous spec, this would have been the moment to stop, identify the discrepancy, and correct the entry before the ball was drilled.

Step 6 — Apply to the Spec Sheet

1. With the row confirmed and all checks passed, transfer the oval data to David's spec sheet.
2. Record the thumb hole as:
   - **Oval (H × V):** `1-9/32 × 1-3/16`
   - **DIFF:** `0.09375`
3. Note the press setup used — horizontal slide attachment — in any free-text notes field on the spec sheet, so a future driller knows which type of cut produced this oval.
4. Save the spec sheet. David's replacement ball is now documented with a complete, accurate H-only oval record.

What This Example Demonstrates

- **H-only mode is a single-field entry** — one H cut value plus the starting bit is all that is needed when the press produces a pure horizontal stretch
- **The DIFF is an exact decimal conversion of the H cut** — in a pure H-only workflow, the DIFF and the H cut width are always numerically identical in decimal form, making it the fastest sense-check available
- **Cross-checking against a previous spec sheet catches entry errors before drilling** — comparing the calculator output to the historical record is a low-effort, high-value step that takes seconds and prevents costly mistakes
- **Slug and insert systems benefit from H-only documentation** — when the vertical dimension is controlled by the insert mold rather than the cut, recording it as a pure H oval keeps the spec sheet accurate and avoids implying a vertical stretch that was not made
- **Settings confirmed before entry, not after** — checking cut direction and input mode at Step 1 prevents a correctly calculated oval from being recorded in the wrong axis order

□□ Fraction Arithmetic Reference for This Example

If you want to verify the H dimension calculation manually:

Operation	Fraction	Decimal
Starting bit	`1-3/16"`	`1.1875"`
H cut	`3/32"`	`0.09375"`
H dimension (sum)	`1-9/32"`	`1.28125"`
DIFF	`3/32"`	`0.09375"`

`3/16 + 3/32 = 6/32 + 3/32 = 9/32` — so the starting bit of `1-3/16"` plus a `3/32"` H cut produces a H dimension of `1-9/32"`. Spectre Cloud performs this conversion automatically, but having the manual check available is useful when verifying an unexpected result.

Related Sections

- 5.3.1 — Setting up: Oval Cut Direction = H in Settings
- 5.3.2 — When to use H-only mode and which drill presses it suits
- 5.3.3 — Entering H-only cut values and reading output
- 5.2.8 — Worked example: full V/H oval from start to finish
- 5.2.4 — Reading the DIFF (decimal difference) auto-calculation
- 5.2.7 — Confirming cuts using the arrow-down key

Tip: The fraction arithmetic reference table at the bottom of this page is worth bookmarking for staff who are less familiar with 32nds — 3/32" cuts are common in thumb oval work and the resulting 9/32" dimension is one that newer drillers sometimes misread or miscalculate manually. Pointing them to this page during onboarding saves a round of confusion the first time a 3/32" H cut appears on a job card. ⚠ *The fraction arithmetic in this example is mathematically verified, but confirm that Spectre Cloud displays `1-9/32` rather than a decimal equivalent or a simplified fraction for this specific combination — fraction display formatting can vary between app versions. Contact the Spectre team if the output format differs from what is shown above.*