5.7.2 Worked example: how flipping V/H changes the output numbers

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> 5.7.2 example

The previous page explained what the **Flip V/H on Oval Cuts** setting does conceptually — it swaps the Vertical and Horizontal axis labels on oval cut outputs to match your drill press orientation. This page makes that concrete with a **worked example**, walking through the same bowler spec twice: once with Flip V/H off, and once with it on. By the end you will be able to see exactly which numbers change, which stay the same, and what that means at the drill press.

□□ The Example Bowler

We will use a single fingertip bowler spec throughout this example. All pitch, span, and oval values remain identical in both scenarios — the only difference is whether Flip V/H is enabled in Spectre Cloud's settings.

Spec field	Value

Span type	Fingertip (Full Span)
Middle finger forward pitch	`3/8"`
Ring finger forward pitch	`3/8"`
Lateral pitch (both fingers)	`0`
Oval cut size	`1/4"`
Oval calculation method	EDGE, no Add Pitch Thumb
Oval degree increment	5°
Oval Cut Direction	Forward / Back (F/B)

Spectre Cloud runs this spec through the Oval Calculator and produces an oval cut angle of `15°` — the result is the same regardless of Flip V/H, because the calculation itself is unaffected. What changes is how that `15°` is *distributed across the V and H output fields* on the spec sheet.

□□ Output: Flip V/H Off (Default)

With Flip V/H disabled, Spectre Cloud outputs oval cut directions using its default axis assignment. For this bowler, the Oval Calculator determines that the forward/back component of the oval should be expressed on the **Vertical** axis:

Output field	Value	Meaning at the press
Oval size	`1/4"`	Total oval cut length — unchanged by Flip V/H
Oval angle	`15°`	Angle of oval orientation — unchanged by Flip V/H
Vertical (V) cut	`3/16"`	Set the press Vertical axis to cut `3/16"` of the oval
Horizontal (H) cut	`1/16"`	Set the press Horizontal axis to cut `1/16"` of the oval

A driller whose press defines Vertical as the forward/back axis reads this sheet and sets `3/16"` on the V axis and `1/16"` on the H axis. The finished hole is elongated primarily forward and back — correctly aligned with the bowler's pitch axis. Everything matches.

□□ Output: Flip V/H On

Now enable Flip V/H in Settings and generate the same spec sheet. The oval size, angle, and all pitch values are identical. Only the V and H labels are swapped:

Output field	Value	Meaning at the press
Oval size	`1/4"`	Unchanged
Oval angle	`15°`	Unchanged
Vertical (V) cut	`1/16"`	Set the press Vertical axis to cut `1/16"` of the oval
Horizontal (H) cut	`3/16"`	Set the press Horizontal axis to cut `3/16"` of the oval

A driller whose press defines Horizontal as the forward/back axis reads this sheet and sets `1/16"` on V and `3/16"` on H. Their machine cuts the same physical hole as the first driller — elongated primarily forward and back — because on their press, Horizontal is the forward/back axis. The finished result is identical; the spec sheet language now matches their machine.

□□ What Changed and What Didn't

Value	Flip V/H off	Flip V/H on	Changed?
Forward pitch	`3/8"`	`3/8"`	No
Oval size	`1/4"`	`1/4"`	No
Oval angle	`15°`	`15°`	No
V cut value	`3/16"`	`1/16"`	□ Yes — swapped
H cut value	`1/16"`	`3/16"`	□ Yes — swapped
Physical hole produced	Oval forward/back, `1/4"` at `15°`	Oval forward/back, `1/4"` at `15°`	No — identical result

□□ **Note:** The goal of Flip V/H is to produce the same physical hole on two different presses using spec sheet language each driller can follow without mental translation. The numbers in the V and H fields are different — but they describe the same cut, expressed in each machine's own axis terms.

⚠ What Happens If You Use the Wrong Setting

If your press requires Flip V/H but the setting is left off — or vice versa — the driller follows the spec sheet correctly for their machine and still produces the wrong hole. This is the most common source of oval orientation errors in practice, because everything appears to have been done right:

- □ The spec sheet was read correctly.

- ✅ The press was set to the values shown.
- ✅ The finished hole is nevertheless rotated 90° from the intended orientation — the oval runs *across* the grip instead of *along* it.

A driller who encounters this pattern — correct spec, correct press settings, wrong oval orientation — should immediately check the Flip V/H setting. It is almost always the cause.

🔍 Recognising a Flip V/H Error on a Finished Ball

After drilling, inspect the finished oval hole with the ball in grip position. The oval elongation should run in the direction of the bowler's forward pitch — toward the palm. If instead it runs side to side across the finger, the oval has been drilled on the wrong axis. Other signs of a Flip V/H mismatch:

- The hole feels wider than expected side to side, rather than longer front to back.
- The bowler reports that the finger sits in the hole differently from their usual feel — often described as feeling "loose" or "shifted".
- On visual inspection, the long axis of the oval is perpendicular to the pitch direction rather than parallel to it.

💡 **Tip:** Keep a drilled test plug or scrap ball specifically for checking Flip V/H on any new press or after any equipment change. A two-minute confirmation drill on a plug takes far less time than replugging and redrilling a customer's ball.

🔧 Correcting a Flip V/H Error

1. Plug the affected finger hole and allow the plug to cure fully.
2. In Spectre Cloud Settings, toggle Flip V/H to the correct position for your press.
3. Reopen the spec sheet — the V and H output values will now reflect the corrected axis assignment.
4. Redrill using the updated spec sheet values.
5. Confirm the new hole orientation before returning the ball to the bowler.

Related Sections

- 5.7.1 — Using "Flip V/H on oval cuts" to match your machine's axis
- 5.6.5 — Choosing EDGE vs. CENTER: which method fits which bowler
- 5.6.6 — 1° vs. 5° Oval Degree increments and their precision impact
- 5.5.1 — Setting up: Oval Cut Direction = NONE in Settings

- 09.x — Troubleshooting: oval cut orientation errors

 Tip: When onboarding a new driller or setting up Spectre Cloud on a new device, run the worked example on this page as a live test — enter the same spec, check whether your press produces V: `3/16"` H: `1/16"` or V: `1/16"` H: `3/16"` as the correct output for your machine, and set Flip V/H accordingly. It takes five minutes and eliminates an entire class of oval orientation errors from the start.

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