

2.4 — Drill Press Calibration

- [2.4.1 Does your machine display Right Pitch Positive? \(YES / NO\)](#)
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2.4.1 Does your machine display Right Pitch Positive? (YES / NO)

Does your machine display Right Pitch Positive? (YES / NO)

2.4.1

calibration

Different drill presses use different sign conventions when displaying pitch values — some treat **right pitch as positive**, others treat it as negative. This setting tells Spectre Cloud how your machine reads pitch so that the values displayed in spec sheets and the oval calculator match what your press expects. Getting this right eliminates sign-reversal errors at the drill head.

☐ Why Sign Convention Matters

Pitch direction — whether a value is positive or negative — is not universal across drill press manufacturers. If Spectre Cloud and your press use opposite conventions, a spec sheet showing `+1/8"` right pitch would need to be mentally reversed to `-1/8"` before drilling. Over time, that kind of manual correction introduces risk. This setting removes it entirely.

- ☐ When set correctly, pitch values in Spectre Cloud match your press readout exactly — no sign reversal needed at the machine.
- ☐ Reduces drilling errors caused by misread or mentally inverted pitch values.

- Particularly important in multi-staff shops where not every driller may know to apply a sign correction.
- If set incorrectly, every pitch value displayed will be the inverse of what the press expects — check this setting first if your drilled pitch is consistently opposite to the spec.

Note: This setting affects how pitch values are *displayed* throughout Spectre Cloud — it does not change the physical pitch recorded during a bowler fitting. The underlying measurement is preserved; only the sign used to represent it on screen is adjusted to match your machine.

Configuring the Right Pitch Sign Convention

1. Navigate to **Settings** from the top menu.
2. Locate the relevant settings section. [△ Verify with your Spectre team: confirm which chapter or section of Settings this option lives in — likely Drill Press or Pitch Settings rather than Bit/Edge Settings.](#)
3. Find the **Right Pitch as Positive** option.
4. Select **Yes** if your press displays right pitch as a positive number, or **No** if your press displays right pitch as a negative number. [△ Verify with your Spectre team: confirm whether this is a Y/N toggle, a Yes/No dropdown, or a checkbox.](#)
5. The change takes effect immediately across all pitch displays in Spectre Cloud. [△ Verify with your Spectre team: confirm auto-save behavior, consistent with other settings in this chapter.](#)

How the Setting Affects Displayed Pitch Values

Physical Pitch Direction	Right Pitch as Positive: Yes	Right Pitch as Positive: No
Right pitch	+1/8"	-1/8"
Left pitch	-1/8"	+1/8"
No lateral pitch	0	0

Note: Zero pitch is unaffected by this setting — a value of is the same regardless of sign convention.

☐ How to Determine Your Machine's Convention

If you are unsure how your press represents right pitch, the quickest way to confirm is to consult your press manual or run a known-pitch test drill and compare the readout to the spec. Common conventions by press type include:

- ☐ Many **dedicated bowling drill presses** (e.g. Jayhawk, Innovative) display right pitch as positive — but always verify with your specific model's documentation.
- ☐ Some **general-purpose milling machines** adapted for bowling use may follow a different convention depending on table orientation.
- ☐ When in doubt, drill a small test on a scrap plug with a known right pitch value and check the result against the spec before committing to a bowler's ball.

Tip: Check your press manual under "axis convention," "coordinate system," or "pitch direction" — these terms are commonly used in drill press documentation to describe sign behavior.

☐ Multi-Press and Multi-Location Shops

If your shop runs more than one drill press, or manages multiple locations, different machines may use different sign conventions. *△ Verify with your Spectre team: confirm whether this setting can be configured independently per device or location, or whether it applies account-wide — consistent with the open question raised in 2.3.6.*

- ☐ Single-press shops: set once, leave alone.
- ☐ Multi-press shops: confirm each machine's convention and configure accordingly.
- ☐ Multi-location chains: coordinate with location managers before applying or changing this setting to avoid inconsistent pitch display across sites.

Scope of This Setting

This setting is stored at the account level and syncs across all devices. *△ Verify with your Spectre team: confirm per-user vs. per-account/shop scope, and whether per-device overrides are possible for multi-press environments — consistent with findings from 2.3.5 and 2.3.6.*

Related Sections

- 2.3.6 — Configuring your milling machine orientation: flipping H/V for oval cuts
- 2.3.5 — Oval cut movement direction: V & H, V only, H only, None
- 2.4.2 — Next setting in this chapter (*if applicable*)
- 4.x — Spec Sheet: entering and reviewing pitch values
- 5.x — Oval Calculator: pitch interaction with oval cuts

Tip: This is one of the first settings to configure when installing Spectre Cloud in a new shop. Get it right on day one and pitch values will be unambiguous for every driller on your team from the start.

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2.4.2 Does your machine display Forward Thumb Pitch Positive? (YES / NO)

Does your machine display Forward Thumb Pitch Positive? (YES / NO)

2.4.2

calibration

Just as drill presses vary in how they represent lateral (right/left) pitch direction, they also differ in how they display **forward and reverse thumb pitch**. This setting tells Spectre Cloud whether your machine treats forward thumb pitch as a positive or negative value, ensuring that pitch figures on spec sheets match your press readout without any manual sign correction at the drill head.

☐☐ Why Forward Thumb Pitch Sign Convention Matters

Forward pitch tilts the thumb hole opening toward the fingers — it is one of the most commonly applied pitch adjustments in pro shop fitting. If Spectre Cloud and your press disagree on whether forward pitch is positive or negative, every thumb pitch value on every spec sheet will need to be mentally inverted before drilling. This setting eliminates that friction.

- When set correctly, forward and reverse thumb pitch values display exactly as your press expects — no sign conversion required.
- Reduces risk of drilling the wrong pitch direction, particularly for less experienced staff.
- Works in tandem with the right pitch sign setting (2.4.1) to give a fully consistent pitch sign convention across both axes.
- If set incorrectly, forward pitch will display as a negative value (or vice versa) — the first sign of a problem is drilled pitch that is consistently the mirror of the spec.

Note: This setting adjusts how forward/reverse thumb pitch is *displayed* throughout Spectre Cloud. The physical pitch value recorded during a bowler fitting is preserved — only the sign used to represent it on screen changes to match your machine's convention.

How the Setting Affects Displayed Pitch Values

Physical Pitch Direction	Forward as Positive: Yes	Forward as Positive: No
Forward pitch	+1/4"	-1/4"
Reverse pitch	-1/4"	+1/4"
Zero pitch	0	0

Note: As with the right pitch setting, a value of is unaffected — zero pitch is zero pitch regardless of sign convention.

Configuring Forward Thumb Pitch Sign Convention

1. Navigate to **Settings** from the top menu.
2. Locate the relevant settings section. [△ Verify with your Spectre team: confirm the exact section name, consistent with the navigation path confirmed for 2.4.1.](#)
3. Find the **Forward Thumb Pitch as Positive** option.
4. Select **Yes** if your press displays forward thumb pitch as a positive number, or **No** if your press displays it as a negative number. [△ Verify with your Spectre team: confirm whether this is a Y/N toggle, a Yes/No dropdown, or a checkbox — consistent with 2.4.1.](#)
5. The change takes effect immediately across all thumb pitch displays in Spectre Cloud. [△ Verify with your Spectre team: confirm auto-save behavior, consistent with other settings in this chapter.](#)

☐ How to Determine Your Machine's Convention

If you are unsure how your press represents forward thumb pitch, consult your press manual or run a known-pitch test before drilling a bowler's ball:

1. Set up a scrap ball or plug on the press.
2. Dial in a small, known forward pitch value on the machine.
3. Check the sign your press displays for that value.
4. If the press shows a **positive** number — set this option to **Yes**.
5. If the press shows a **negative** number — set this option to **No**.

Tip: If you have already confirmed your press convention for right pitch (2.4.1), check whether the same sign logic applies to your forward/reverse axis — many presses use a consistent coordinate system across all axes, meaning both settings will be the same. However, do not assume this without verifying.

⚙️ 2.4.1 and 2.4.2 Together — Full Pitch Sign Configuration

Settings 2.4.1 and 2.4.2 work as a pair to fully define the pitch sign convention for your machine across both axes:

Setting	Axis Covered	Values Affected
2.4.1 — Right pitch as positive	Lateral (left/right)	Right and left pitch on all spec sheets
2.4.2 — Forward thumb pitch as positive	Forward/reverse	Forward and reverse thumb pitch on all spec sheets

Configure both settings together when setting up Spectre Cloud for the first time, or whenever a new drill press is introduced to the shop. Once both are confirmed against your machine, pitch values throughout the app will be immediately usable at the press without translation.

☐ Multi-Press and Multi-Location Shops

As raised in 2.4.1, different machines may use different sign conventions. The same considerations apply here — if this question is resolved for 2.4.1, apply the same answer to 2.4.2. [△ Verify with your Spectre team: confirm whether this setting can be configured independently per device or location, or whether it applies account-wide.](#)

- Single-press shops: configure both 2.4.1 and 2.4.2 once during initial setup.
- Multi-press shops: verify both axes on each machine before drilling.
- Multi-location chains: treat this as part of the new-location onboarding checklist alongside 2.4.1.

Scope of This Setting

This setting is stored at the account level and syncs across all devices, consistent with 2.4.1 and other settings in this chapter. [△ Verify with your Spectre team: confirm per-user vs. per-account/shop scope and whether per-device overrides are possible.](#)

Related Sections

- 2.4.1 — Does your machine display right pitch as positive? Y/N
- 2.4.3 — Next setting in this chapter (*if applicable*)
- 2.3.6 — Configuring your milling machine orientation: flipping H/V for oval cuts
- 4.x — Spec Sheet: entering and reviewing pitch values
- 5.x — Oval Calculator: pitch interaction with oval cuts

Tip: Make 2.4.1 and 2.4.2 part of your new-staff onboarding checklist. A driller who understands the shop's pitch sign convention — and knows where to find these settings — will produce consistent results from day one rather than discovering a sign mismatch after a ball has already been drilled.

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2.4.3 Display +/- in pitch tiles — showing direction arrows to avoid errors

Display +/- in pitch tiles — showing direction arrows to avoid errors

2.4.3

calibration

Even with sign conventions correctly configured in 2.4.1 and 2.4.2, a raw + or - symbol on a pitch tile can be easy to miss at a glance — especially under shop lighting or on a small screen. The **Display +/- in Pitch Tiles** setting adds a visible directional indicator to each pitch tile, making forward, reverse, right, and left pitch unmistakable without requiring the driller to interpret a sign.

What Are Pitch Tiles?

Pitch tiles are the individual display blocks within a spec sheet that show each pitch value — thumb forward/reverse, thumb lateral, and finger pitch. When this setting is enabled, each tile gains a directional arrow or symbol alongside the numeric value, giving the driller an immediate visual cue about pitch direction rather than relying on the + or - sign alone.

- Directional indicators are especially helpful for less experienced drillers who may not yet have sign conventions fully internalized.
- Useful in high-volume shops where spec sheets are read quickly under pressure.

- Reduces the risk of a misread sign causing a pitch to be drilled in the wrong direction.
- Experienced drillers who are fully comfortable with sign notation may prefer to leave this off for a cleaner spec sheet display.

Note: This is a display preference only — enabling or disabling it has no effect on the pitch values stored in spec sheets or transmitted to a tethered drill press. [△ Verify with your Spectre team:](#) confirm the exact visual form of the directional indicator — whether it is an arrow (e.g. ↑ ↓ ← →), a word label (e.g. "Forward," "Right"), or a combined symbol+label.

How Pitch Tiles Appear With and Without This Setting

Pitch Value	Display Off	Display On
Forward thumb pitch	+1/4"	↑ +1/4" (Forward)
Reverse thumb pitch	-1/4"	↓ -1/4" (Reverse)
Right lateral pitch	+1/8"	→ +1/8" (Right)
Left lateral pitch	-1/8"	← -1/8" (Left)
Zero pitch	0	0 (no indicator needed)

Note: The examples above illustrate the concept — the exact arrow style and label wording may differ in the app. [△ Verify with your Spectre team:](#) confirm the precise visual format and whether zero pitch tiles display any indicator at all.

Enabling or Disabling Direction Indicators

1. Navigate to **Settings** from the top menu.
2. Locate the relevant settings section. [△ Verify with your Spectre team:](#) confirm the exact section name, consistent with the navigation path confirmed for 2.4.1 and 2.4.2.
3. Find the **Display +/- in Pitch Tiles** option.
4. Toggle the setting on or off according to your shop's preference. [△ Verify with your Spectre team:](#) confirm whether this is a toggle, checkbox, or other control.
5. Open any spec sheet to confirm the pitch tiles now display as expected.
6. The change takes effect immediately. [△ Verify with your Spectre team:](#) confirm auto-save behavior, consistent with other settings in this chapter.



How This Setting Relates to 2.4.1 and 2.4.2



Settings 2.4.1, 2.4.2, and 2.4.3 form a complete pitch display configuration set. Each addresses a different layer of how pitch values are communicated to the driller:

Setting	What It Controls	Primary Benefit
2.4.1 — Right pitch as positive	Sign convention for lateral pitch	Matches press readout on the lateral axis
2.4.2 — Forward thumb pitch as positive	Sign convention for forward/reverse pitch	Matches press readout on the forward/reverse axis
2.4.3 — Display +/- in pitch tiles	Visual directional indicator on each tile	Makes direction unmistakable at a glance


Configure all three together during initial shop setup for the most consistent and error-resistant pitch display experience.

Mobile and Tablet Considerations

On smaller screens — particularly smartphones near the recommended 8" minimum — pitch tiles are more compact and individual characters can be harder to read. Enabling direction indicators is especially worthwhile in these environments, where a  and  may be visually similar at a glance.

-  Tablet and desktop: directional indicators add useful clarity without significantly increasing tile size.
-  Mobile / small screen: strongly recommended — the visual indicator is more scannable than a sign character alone.

Scope of This Setting

This setting is stored at the account level and syncs across all devices, consistent with 2.4.1, 2.4.2, and other settings in this chapter.  *Verify with your Spectre team: confirm per-user vs. per-account/shop scope, consistent with the open question carried across all 2.4.x pages.*

Related Sections

- 2.4.2 — Does your machine display forward thumb pitch as positive? Y/N
- 2.4.1 — Does your machine display right pitch as positive? Y/N
- 2.4.4 — Next setting in this chapter (*if applicable*)
- 4.x — Spec Sheet: entering and reviewing pitch values
- 1.x — Getting Started: initial shop setup checklist

Tip: If your shop trains new drillers regularly, leave this setting enabled by default. The directional indicators act as a built-in reminder of pitch direction until sign conventions become second nature — and they cost nothing for experienced drillers who already know what the signs mean.

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2.4.4 Matching Spectre output to your specific drill press brand/model

Matching Spectre output to your specific drill press brand/model

2.4.4

TIP

calibration

Spectre Cloud includes a **drill press brand and model selector** that automatically configures the pitch sign convention and axis orientation settings to match your machine. For supported presses, this replaces the need to manually work through 2.4.1, 2.4.2, and 2.4.3 individually. A reference table of known conventions is also provided for presses not yet in the selector, or for shops that prefer to configure settings manually.

Using the Brand / Model Selector

Selecting your drill press from the list automatically applies the correct values for the following settings in one step:

-  **2.4.1** — Right pitch as positive (Y/N)

- **2.4.2** — Forward thumb pitch as positive (Y/N)
- **2.4.3** — Display +/- in pitch tiles
- **2.3.6** — H/V flip for oval cut movement direction

Note: After applying a preset, you can still override any individual setting manually if your machine has been modified, mounted non-standardly, or differs from the factory default for that model. The preset is a starting point — your manual configuration always takes precedence. [△ Verify with your Spectre team: confirm the full list of settings that a brand/model preset configures, and whether overrides persist if the preset is reapplied later.](#)

☐ Selecting Your Drill Press

1. Navigate to **Settings** from the top menu.
2. Locate the relevant settings section. [△ Verify with your Spectre team: confirm the exact section name, consistent with the navigation path confirmed for 2.4.1–2.4.3.](#)
3. Find the **Drill Press Brand / Model** selector.
4. Choose your press manufacturer from the brand dropdown. [△ Verify with your Spectre team: confirm whether brand and model are separate dropdowns or a single combined selector.](#)
5. Select your specific model from the model list.
6. Spectre Cloud will apply the known settings for that press automatically. A confirmation message or summary of applied values should appear. [△ Verify with your Spectre team: confirm whether a confirmation dialog or settings summary is shown after selection.](#)
7. Review the individual settings in 2.4.1–2.4.3 and 2.3.6 to confirm the applied values look correct for your machine.
8. If anything looks wrong — for example, your machine is a non-standard variant of the selected model — adjust the affected settings manually.

☐ Known Drill Press Conventions Reference Table

If your press is not listed in the selector, or if you prefer to configure settings manually, use the table below as a starting point. Always verify against your press documentation or a test drill before committing to a bowler's ball. [△ Verify with your Spectre team: confirm all entries in this table, add any missing brands/models, and remove any that are inaccurate or no longer supported.](#)

Brand	Model	Right Pitch Positive	Fwd Thumb Pitch Positive	H/V Flip
Jayhawk	Standard	Yes	Yes	No

Brand	Model	Right Pitch Positive	Fwd Thumb Pitch Positive	H/V Flip
Innovative	Standard	Yes	Yes	No
<i>Additional brands</i>	—	—	—	—

Note: The table above contains placeholder entries only — all values must be verified with the Spectre team before publishing. Do not rely on these figures for drilling without confirmation.

☐☐ My Press Isn't Listed — What Do I Do?

If your drill press brand or model does not appear in the selector, configure the relevant settings manually using the guidance in 2.4.1, 2.4.2, 2.4.3, and 2.3.6. You can also request that your press be added to the selector:

- ☐ Contact the Spectre Cloud support team at spectrebowling.com with your press brand, model, and known axis conventions.
- ☐ The BowlDevs team reviews submissions and adds verified presses to the selector in future updates.
- ☐ In the meantime, manual configuration works identically to a preset — there is no functional difference once the settings are correctly applied.

Tip: When submitting a press for addition, include your press manual's axis convention diagram if possible — this speeds up verification and reduces the chance of an incorrect entry being published.

☐☐ When to Revisit This Setting

Once configured, the brand/model selector does not need to be revisited unless something changes in your shop setup. Revisit this page if:

- ☐ You acquire a new or replacement drill press.
- ☐ Your press is serviced, remounted, or physically reoriented.
- ☐ You notice pitch values drilling consistently in the wrong direction after a shop change.
- ☐ A Spectre Cloud update adds a previously unlisted model for your existing press.

☐ Multi-Press and Multi-Location Shops

If your shop operates multiple presses — or multiple locations each with their own machine — each press may require a different preset. *△ Verify with your Spectre team: confirm whether the brand/model selector can be configured independently per device or location, consistent with the open question carried across 2.3.5 through 2.4.3. This page is the most important place to resolve that question, as the selector directly sets multiple downstream values simultaneously.*

- ☐ Single-press shops: select your model once during initial setup.
- ☐ Multi-press shops: confirm each machine's brand and model separately, and note any that require manual overrides.
- ☐ Multi-location chains: treat brand/model selection as a mandatory step in new-location onboarding alongside account and billing setup.

☁ Scope of This Setting

The brand/model selection and all settings it configures are stored at the account level and sync across devices, consistent with other settings in this chapter. *△ Verify with your Spectre team: confirm per-user vs. per-account/shop scope, and whether the selector result can be overridden per device for multi-press environments — this is the definitive place to resolve the scope question carried across 2.3.5 through 2.4.3.*

Related Sections

- 2.4.3 — Display +/- in pitch tiles: showing direction arrows to avoid errors
- 2.4.2 — Does your machine display forward thumb pitch as positive? Y/N
- 2.4.1 — Does your machine display right pitch as positive? Y/N
- 2.3.6 — Configuring your milling machine orientation: flipping H/V for oval cuts
- 2.4.5 — Next setting in this chapter (*if applicable*)
- 1.x — Getting Started: initial shop setup checklist

Tip: The brand/model selector is the fastest way to get Spectre Cloud aligned with your press — but always spot-check the applied settings against your machine before your first drill session. A two-minute review of 2.4.1–2.4.3 after selecting a preset is cheap insurance against a misdrilled ball.

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