09 Tips, Troubleshooting & Reference

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9.1 — Best Practices

9.1.1 Recommended Settings configuration for a new pro shop

Recommended Settings configuration for a new pro shop

9.1.1 **TIP** best practice

When setting up Spectre Cloud for the first time, the Settings section contains more options than most new operators expect — and the choices made here shape how the app behaves across every spec sheet, every Oval Calculator run, and every printed document your shop produces. Getting the configuration right at the start is significantly easier than correcting a mis-set option after dozens of spec sheets have been created against it. This page walks through the recommended Settings configuration for a new pro shop, in the order that makes the most sense to work through.

□□ Where to Find Settings

All settings covered on this page are accessed from the same location:

1. Click or tap your **pro shop name** in the top-right corner of any Spectre Cloud screen.
2. Select **Settings** from the dropdown menu.

3. Work through the sections described below in order.

□□ Step 1 — Shop Display Information

Before configuring any technical settings, confirm that your shop's display information is accurate. This information appears on every printed spec sheet and document your shop produces — getting it right now means every document from the first drilling onward is correctly branded.

- □ **Pro shop name** — enter your full trading name exactly as you want it to appear on spec sheets.
- □ **Address** — your shop's physical address.
- □ **Phone number** — the number bowlers should use to contact you.
- □ **Email address** — confirm this is the address you monitor for billing and account notifications.
- □ **Logo** — upload a high-resolution PNG with a transparent background if available.

□□ **Note:** See section 8.1.1 for detailed guidance on each display information field. Complete this step before moving to technical settings — a shop name or address that needs to be corrected later does not retroactively update documents already printed.

□□ Step 2 — Language

Set the app interface language to match your shop's working language. Spectre Cloud supports **English**, **French**, and **Spanish**. The language setting affects the app interface — field labels, menu items, and system messages — but does not translate free-text content you have entered, such as bowler names or spec sheet notes.

- □ Set language before entering any bowler data — the interface is most legible in the language you will be reading it in during a live fitting.
- □ For multi-staff shops where staff members work in different languages, each user account can set its own language preference independently.

□□ Step 3 — Measurement Units

Set your preferred unit system for measurements. Spectre Cloud supports both imperial and metric entry for applicable fields. Most bowling pro shop measurements — hole sizes, spans, pitches, oval cuts — are expressed in imperial fractions in North America and may differ in other markets.

- Choose the unit system that matches how you physically measure — if your measuring tape is in inches, set imperial. If your tools use millimetres, set metric.
- Confirm the unit setting before entering any spec sheet data — switching units after spec sheets have been created in a different unit system creates inconsistency in the historical record.

⚠ **Verify with Spectre team:** Confirm which specific fields support metric entry and whether switching units after initial setup converts existing records or leaves them as originally entered.

Step 4 — Span Type Default

Set the default span type that will be pre-selected on every new spec sheet. Choose the type that matches how your shop physically measures spans — the default can be overridden on individual spec sheets, but setting it correctly here means one fewer decision to make during every fitting.

- **Full Span (F)** — back edge of thumb hole to back edge of finger hole. Most common for fingertip and conventional fitting in North America.
- **Cut to Cut (C)** — near edge of thumb hole to near edge of finger hole. Used by some fitting systems as an alternative standard.
- **Oval (O)** — measured to the centre of the oval cut. Used when the oval is the primary span reference.
- Choose the span type your entire shop uses consistently — if different drillers use different span types, resolve that inconsistency at this stage rather than letting it persist in the spec sheet record.

⚙ Step 5 — Oval Calculator Settings

The Oval Calculator settings are the most consequential configuration decisions for day-to-day spec sheet production. Work through each in order:

Oval Cut Direction

Select the option that matches your drill press setup:

- **NONE** — for experienced fitters who determine oval cuts manually, shops with non-directional presses, or any workflow where a single oval value without axis labels is preferred. See sections 5.5.1–5.5.3 for full guidance.

- **Forward / Back (F/B)** — for presses where the oval axis runs forward and back relative to the grip.
- **Left / Right (L/R)** — for presses where the oval axis runs laterally.

Oval Calculation Method

Choose between EDGE and CENTER based on your fitting philosophy and the bowler profile your shop primarily serves:

- **EDGE** — anchors pitch at the leading edge of the oval. More accurate for bowlers with meaningful forward pitch and larger oval cuts. Recommended default for most active fitting shops.
- **CENTER** — anchors pitch at the geometric centre of the oval. Appropriate for recreational fits, small ovals, or shops maintaining legacy record continuity. See sections 5.6.1–5.6.5 for full guidance.

Add Pitch Thumb

Determines whether thumb pitch is included in the finger oval calculation:

- **Off** — recommended default for most shops. Start with this off and enable it deliberately for specific competitive bowlers where full grip geometry matters.
- **On** — for performance-focused shops serving predominantly competitive bowlers with significant thumb pitch.

Oval Degree Increment

Set the resolution at which oval angles are expressed:

- **5°** — recommended default for most shops. Matches the graduation resolution of standard drill press angle settings.
- **1°** — for shops with precision equipment capable of single-degree accuracy, or performance-focused operations where the additional resolution is meaningful. See section 5.6.6 for full guidance.

Flip V/H on Oval Cuts

Controls whether Vertical and Horizontal oval cut labels are swapped to match your press axis convention:

- □ Run a test hole on a scrap ball or plug before setting this — physical confirmation is more reliable than assumption. See sections 5.7.1–5.7.2 for the test procedure and worked example.
- □ Set this correctly before creating any spec sheets — oval orientation errors traced back to a Flip V/H misconfiguration affect every spec sheet created while the setting was wrong.

□□ Step 6 — Plugins

Review which plugins are active on your account and confirm they match your shop's current needs. Each plugin adds a monthly charge to your subscription — enable only those you will actively use from the start. Plugins can be added at any time as your shop's needs evolve.

Plugin	Cost	Enable at setup if
Bowler Plus	$5 USD/month	Your shop collects full addresses, captures consent signatures, or uses hand photography as part of the fitting record
Arsenal Plus	$5 USD/month	You want bowlingdatabase.com integration, barcode scanning, suggested layouts, layout conversion, or 3D layout rendering from day one
Job Board	$15 USD/month	Your shop manages a ball service queue and wants a digital to-do list and service history per ball

□□ Step 7 — Notification Preferences

Configure which notifications you receive and how. For a new single-operator shop, the recommended starting configuration is:

- □ All billing and security notifications enabled by email — these are critical and should never be missed.
- □ Product update notifications enabled — as a new user, feature announcements and tips from the Spectre team are more useful at this stage than after you have established routines.
- □ Workflow notifications set to your preference — enable in-app notifications if you find the reminders helpful; disable email workflow notifications for a solo operator who generates all the activity themselves.

See section 8.1.4 for full notification configuration guidance and recommended settings by shop type.

Step 8 — Layout System Default

Set your preferred layout system — the system that will be pre-selected on every new spec sheet's layout section. Choose the system your shop uses consistently:

- **VLS** — for IBPSIA-trained operators following standard curriculum.
- **2LS** — for shops preferring streamlined entry with fewer input values.
- **PAL** — for PAP-focused fitters and competitive bowler specialists.
- **Manual** — for shops using a proprietary system or manufacturer-guided layouts.

Settings Configuration Checklist

Setting	Confirmed
Shop display information complete and accurate	☐
Language set to shop working language	☐
Measurement units match physical tools	☐
Span type default matches measuring method	☐
Oval Cut Direction matches drill press setup	☐
Oval Calculation Method chosen and understood	☐
Add Pitch Thumb configured	☐
Oval Degree Increment matches press capability	☐
Flip V/H verified with a test hole	☐
Plugins enabled match current shop needs	☐
Notification preferences configured	☐
Layout system default set	☐

Related Sections

- 8.1.1 — Updating your pro shop name and display information
- 8.1.4 — Managing notification preferences
- 5.5.1 — Setting up: Oval Cut Direction = NONE in Settings
- 5.6.5 — Choosing EDGE vs. CENTER: which method fits which bowler

- 5.7.1 — Using Flip V/H on oval cuts to match your machine's axis
- 6.1.1 — Step 1: Create the bowler profile

 Tip: Once you have completed this checklist, drill a test ball with a full first-ball workflow — create a bowler profile, build a spec sheet, run the Oval Calculator, add the ball to the Arsenal, review the spec sheet, and drill. The test run surfaces any setting that was not configured quite right before it affects a real customer's equipment. Thirty minutes on a scrap ball at setup saves hours of correction later.

9.1.2 When to clone a spec sheet vs. create a new one

When to clone a spec sheet vs. create a new one

9.1.2 best practice

Spectre Cloud gives you two ways to start a new spec sheet for a bowler: create one from scratch or **clone** an existing one. Choosing the right approach for each situation saves time, prevents errors, and keeps the bowler's drilling history clean and meaningful. The decision is not always obvious — this page explains the logic behind each option and gives clear guidance for the situations that come up most often in a working pro shop.

□□ What Cloning Does

Cloning a spec sheet creates an exact copy of an existing sheet — all measurement fields, pitch values, span values, oval cuts, layout, and notes are duplicated into a new spec sheet attached to the same bowler. The clone is independent from the original: changes made to the clone do not affect the source sheet, and the source sheet remains in the bowler's history unchanged.

- □ The clone is a new spec sheet — it gets its own creation date and can be edited freely.
- □ The source spec sheet is preserved exactly as it was — cloning never modifies the original.
- □ The clone is attached to the same bowler profile as the source — it does not copy across to a different bowler.
- □ All fields are copied — including layout values, notes, oval cuts, and hole depth settings.

□□ **Note:** Cloning copies values, not the underlying fit philosophy. If a value in the source sheet was a compromise or a temporary setting, it carries into the clone — review every cloned field before drilling, not just the ones you intended to change.

□□ Create New vs. Clone — The Core Decision

Situation	Recommended approach	Reason
First ball for a new bowler	Create new	No existing data to build from — start clean
Second ball to the same spec as the first	Clone	All values are identical or nearly identical — clone and update ball name only
Second ball with minor fitting adjustments	Clone	Most values carry over — clone, update what changed, and the differences are visible by comparing the two sheets
Second ball with a significantly different fit	Create new	So many values are changing that cloning creates more cleanup work than starting fresh
Re-drill of an existing ball to the same spec	Clone	The drilling is a replication — clone and link to the existing Arsenal entry
Re-drill with layout or pitch changes	Clone	Changes are deliberate adjustments from a known baseline — clone makes the before/after comparison clear
Bowler transitioning from conventional to fingertip	Create new	Grip type change means span, pitch, and oval values all change — a clone carries the wrong baseline
Drilling a ball for a different bowler with similar specs	Create new for the other bowler	Clone only works within the same bowler profile — never copy one bowler's spec to another
Replacing a lost or damaged ball with an identical model	Clone	The fit is the same — clone, update ball name and Arsenal entry, drill
Seasonal re-drill after a long break	Clone with caution	Re-measure before deciding — if the bowler's hand has changed, update cloned values rather than assuming they are still current

□ When to Clone

Clone when the new spec sheet will be **more similar to an existing one than different from it**. The key signals:

- **Same bowler, same grip type, same or similar ball** — the most common clone scenario. A competitive bowler adding a second ball to the bag with the same finger sizes and pitch preferences as their first ball.
- **Re-drilling the same ball** — whether the ball is being resurfaced and re-drilled to the same spec, or the bowler wants a small layout adjustment while keeping all other values the same.
- **Deliberate incremental adjustment** — a bowler who wants to try 1/8" more forward pitch on the ring finger while keeping everything else identical. Clone the last sheet, change one value, and the two sheets document the before and after cleanly.
- **Replacing a ball** — the old ball is retired or lost, and the replacement is to be drilled identically. Clone the most recent spec sheet for the old ball, update the ball name, and link to the new Arsenal entry.
- **Backup ball** — drilling a second ball to the same layout and fit as the primary. Clone the primary ball's spec sheet, update ball name and Arsenal entry.

When to Create New

Create a new spec sheet from scratch when starting fresh is cleaner than cleaning up a clone:

- **First ball for any bowler** — no existing spec to build from.
- **Significant fitting change** — grip type change, major span adjustment, complete pitch rework. When more than half the fields need to change, starting fresh is faster and less error-prone than updating a clone.
- **Re-fitting after a long gap** — a bowler returning after years away whose hand measurements, weight, or physical condition may have changed enough to warrant a complete re-measure rather than carrying forward old values.
- **Correcting a fundamentally flawed previous spec** — if the source spec sheet contained errors that were never corrected, cloning it propagates those errors. Start fresh and treat the previous sheet as reference only.
- **Different fitting philosophy** — switching from CENTER to EDGE, changing span type, or adopting a new layout system. A clean sheet documents the new approach without legacy values complicating the record.

How to Clone a Spec Sheet on Desktop

1. Open the bowler's profile from the **BOWLERS** list.
2. Locate the spec sheet you want to clone in the **Spec Sheets** section.
3. Click the **Clone** button or option associated with that spec sheet — typically accessible from the spec sheet's action menu (three-dot menu or similar).
4. A new spec sheet is created with all values copied from the source. It opens ready for editing.
5. Update the **ball name** first — this is the most important change on any clone, as it determines the Arsenal link.
6. Update any other fields that differ from the source spec.
7. Re-run the **Oval Calculator** if any pitch or span values were changed — do not assume the cloned oval values are still correct after a measurement change.
8. Save the spec sheet.

□□ How to Clone a Spec Sheet on Mobile

1. Navigate to the bowler's profile and tap the **Spec Sheets** section.
2. Tap the action menu on the spec sheet you want to clone.
3. Tap **Clone**.
4. Update the ball name and any changed values.
5. Re-run the Oval Calculator if pitch or span values changed.
6. Tap **Save**.

⚠ Clone Carefully — Common Mistakes

- □ **Forgetting to update the ball name** — the most common clone error. A cloned spec sheet with the source ball's name creates a confusing duplicate in the bowler's history and may create an incorrect Arsenal link. Update the ball name before anything else.
- □ **Not re-running the Oval Calculator after changing pitch values** — cloned oval cut values are only valid if the pitch and span values are unchanged. Any pitch or span adjustment requires a fresh Oval Calculator run.
- □ **Assuming all cloned values are still current** — a spec sheet from two years ago may contain measurements that have changed. Re-measure and review rather than trusting the clone blindly, particularly after a long gap.
- □ **Cloning across bowlers** — Spectre Cloud clones within a bowler profile only. If you want to use one bowler's spec as a reference for another, open both profiles side by side

and manually carry across only the values that are genuinely applicable — do not clone and reassign.
- **Using a clone to correct a previous error** — if the source sheet contained a mistake, cloning it copies the mistake. Fix the source sheet if the record needs correcting, or create a new sheet with accurate values from fresh measurements.

Using Clone to Document Incremental Changes

One of the most valuable uses of cloning is building a deliberate change history for a bowler. When a bowler reports that their fit does not feel right and you want to make a small adjustment, cloning the current spec sheet before making the change creates a clear before-and-after record:

1. Clone the current spec sheet.
2. In the clone, make only the intended adjustment — for example, increase ring finger forward pitch from `1/4"` to `3/8"`.
3. Re-run the Oval Calculator.
4. Save and drill from the clone.
5. The original spec sheet remains in the bowler's history as the baseline — if the adjustment does not produce the intended improvement, the previous values are one tap away for reference.

Tip: Add a brief note to the cloned spec sheet explaining why the change was made — "*Ring finger pitch increased 1/8" — bowler reported finger sitting too loose at release.*" A spec sheet history with annotated changes tells a story about the fitting evolution that raw numbers alone do not.

Related Sections

- 6.1.2 — Step 2: Create a blank spec sheet for the ball
- 6.1.8 — Common mistakes on the first ball and how to avoid them
- 04.x — Spec Sheets: creating, cloning, and managing records
- 07.x — Arsenal: linking spec sheets to ball entries
- 9.1.1 — Recommended Settings configuration for a new pro shop

Tip: When in doubt, clone. A clone that turns out not to need any changes is just a new spec sheet with a head start. A new sheet created from scratch when a clone would have done the job is not a problem either — the cost of the wrong choice is a few minutes of re-entry, not a data integrity issue. The cases where the choice genuinely matters are the ones where a clone carries forward a wrong value and it is not caught before drilling.

9.1.3 Keeping your bowler database organized

Keeping your bowler database organized

9.1.3 best practice

A well-organised bowler database is one of the most practical assets a pro shop can build over time. In Spectre Cloud, organisation is not imposed by the system — it is something the operator builds through consistent habits applied visit by visit. A database that is clean, consistently named, and actively maintained pays back every time a returning bowler walks through the door. One that has grown without discipline becomes a source of confusion and errors. This page covers the habits and practices that keep the bowler database useful as it grows.

□□ Naming Conventions for Bowler Profiles

The bowler's name is the primary field used to search and identify profiles. Consistent naming across the database makes search results reliable and eliminates the ambiguity that leads to duplicate profiles.

- □ **Use full legal name** as the primary name field — first name and last name in full. Nicknames, preferred names, or short forms can go in the Notes field.
- □ **Consistent capitalisation** — enter names with standard title case (John Smith, not john smith or JOHN SMITH) so the profile list sorts and reads consistently.

- **For bowlers with the same name** — add a distinguishing detail to avoid confusion. A birth year in brackets (`John Smith (1978)`), a location (`John Smith — Eastside`), or a league affiliation (`John Smith — Thursday Men's`) makes the two profiles immediately distinguishable without searching through their spec sheet history to tell them apart.
- **For junior bowlers** — consider noting the parent or guardian's name in the Notes field, particularly for younger children whose profiles may otherwise be hard to locate when a parent calls on their behalf.
- Do not create profiles with first name only — a database full of single-name entries becomes unsearchable as it grows.
- Do not abbreviate last names — `John S.` is not a useful record when a different John S. joins the database six months later.

Searching the Database Effectively

Spectre Cloud's bowler search matches against the name field. Getting the most out of it requires knowing how it works and what it does not do:

- **Search by partial name** — entering the first three or four letters of a last name narrows the list quickly without needing to spell the full name correctly.
- **Search by first name** if the last name is unknown or uncertain — useful when a bowler calls and gives only a first name.
- **Try alternative spellings** if a search returns no results — a name entered as `MacDonald` will not appear in a search for `McDonald`. Check both spellings before concluding the bowler has no profile.
- **Search before creating** — every time, without exception. The habit of searching first is the single most effective preventive measure against duplicate profiles.
- Do not rely on the phone number or email field for searching unless Spectre Cloud explicitly supports searching by those fields — confirm the search behaviour with the Spectre team and update your intake process accordingly.

The Notes Field — What Belongs There

The Notes field on a bowler profile is a flexible free-text space intended for information that helps any staff member serve that bowler well. Used consistently, it becomes a concise briefing document that makes every return visit faster and more personalised. Used inconsistently, it becomes a mix of useful information and irrelevant clutter that staff stop reading.

The following categories of information belong in the Notes field:

- **Dominant hand** — the single most important note for a new profile. Confirm and record it at the first fitting.
- **Grip type preference** — particularly if the bowler has a strong preference or has previously had issues with a specific grip type.
- **Physical considerations** — arthritis, injury history, unusual hand geometry, or anything that affects the fitting approach. Record factually and respectfully.
- **Communication preferences** — prefers text over call, or vice versa. Ball-ready notification method.
- **Equipment preferences** — ball weight, surface preferences, brands the bowler likes or dislikes.
- **Service notes** — anything relevant to how the bowler interacts with the shop: pays upfront, picks up promptly, needs extra time during fittings.

The following do not belong in the Notes field:

- Drilling details — these belong on the spec sheet, not the profile notes.
- Sensitive personal information beyond what is relevant to the fitting relationship.
- Subjective personal comments about the bowler that you would be uncomfortable showing them.
- Temporary reminders that are no longer relevant — clear outdated notes periodically so the field stays useful.

Managing Duplicate Profiles

Duplicate profiles are the most common database integrity problem in Spectre Cloud. They happen when a staff member creates a new profile without searching first, or when a bowler's name is spelled differently on two visits. Once duplicates exist, the bowler's spec sheet history is split across two records and neither is complete.

Preventing duplicates

- Search before creating — every time, for every bowler.
- Train all staff to follow the same intake procedure — a duplicate created by a new staff member is just as disruptive as one created by an experienced one.
- When a bowler is uncertain whether they have a profile, search by first name, last name, and common alternative spellings before concluding they are new.

Resolving duplicates when found

Spectre Cloud does not have an automatic profile merge function. When a duplicate is identified:

1. Identify which profile is more complete — typically the one with more spec sheets and a fuller Notes field.
2. Open the less complete profile and note any spec sheets or information it contains that are not in the primary profile.
3. Manually recreate any missing spec sheets on the primary profile if the drilling history is worth preserving — use the information from the duplicate as the source.
4. Add any unique notes from the duplicate profile to the primary profile's Notes field.
5. Once the primary profile is complete, delete the duplicate.
6. Confirm the deletion removes only the duplicate profile and not the primary — open the primary profile after deletion to verify it is intact.

□□ **Note:** Contact the Spectre support team before deleting profiles if you are uncertain — deletion is permanent and cannot be undone. If in doubt, rename the duplicate with a clear marker (e.g., `John Smith — DUPLICATE — do not use`) and leave it inactive rather than deleting immediately.

□□ Keeping Bowler Status Current

Not all bowlers in your database are active customers. Over time, the database naturally accumulates profiles for bowlers who have moved away, stopped bowling, or passed away. Keeping these records does not harm the database — Spectre Cloud has no record limit — but a database that mixes active and long-inactive profiles requires more filtering during searches.

- □ **Keep inactive profiles** — do not delete a bowler simply because they have not visited recently. Their spec sheet history has value if they return, and deletion is permanent.
- □ **Note inactivity in the profile** — a brief note such as `Moved away — June 2023` in the Notes field signals to any staff member that this profile is historical without requiring them to open the spec sheet history to understand the context.
- □ **Update contact details when they change** — a bowler who mentions a new phone number or email address during a visit should have their profile updated before they leave the counter.

□□ Multi-Staff Database Discipline

In shops where multiple staff members create and edit bowler profiles, consistent habits matter more than in a solo operation — inconsistency introduced by one person affects every other person who uses the database.

- □ **Document your naming convention** — write it down and make it available to all staff. A one-page intake procedure covering profile creation, naming, and notes standards

is enough.

- **Review new profiles periodically** — a monthly check for duplicates, incomplete profiles, or naming inconsistencies takes fifteen minutes and prevents the database from degrading over time.
- **Assign one person as the database owner** — in shops with several staff members, having one person responsible for database quality means inconsistencies get caught and corrected rather than accumulating indefinitely.
- **Include database standards in staff onboarding** — a new staff member who learns the intake procedure correctly from day one is far less likely to create duplicates or naming inconsistencies than one who develops their own habits by observation.

Multilingual Shops

In shops serving bowlers in more than one language, the bowler database may contain names in multiple scripts or with diacritical characters. A few additional considerations apply:

- **Enter names in the bowler's preferred form** — accented characters (é, ü, ñ) should be entered correctly rather than replaced with unaccented equivalents. Spectre Cloud supports Unicode entry.
- **Search with and without accents** — if the search function treats `e` and `é` as different characters, a name entered with accents will not appear in a search without them. Test search behaviour for your specific language combination and adjust intake instructions accordingly.
- **Notes field language** — staff members may add notes in different languages in a multilingual shop. This is acceptable as long as the notes remain useful to all staff — consider using a shared language for notes if the shop serves a primarily bilingual customer base.

Periodic Database Maintenance

A bowler database maintained only at the point of entry drifts toward disorder over time. A brief periodic review — monthly in a busy shop, quarterly in a quieter one — keeps it reliable:

- **Scan for obvious duplicates** — sort the bowler list alphabetically and look for names that appear more than once. A visual scan takes a few minutes and catches most duplicates.
- **Check for incomplete profiles** — profiles with no spec sheets, no contact information, and no notes are usually test entries or incomplete intake records. Investigate and either complete or delete them.
- **Update stale contact information** — phone numbers and email addresses change. A periodic reminder to bowlers to confirm their contact details — at the start of a new

season, for example — keeps the database current.
- **Review the Notes field on frequently visited profiles** — outdated notes are worse than no notes because they create false confidence. A note that says `prefers text messages` from three years ago may no longer be accurate.

Related Sections

- 6.1.1 — Step 1: Create the bowler profile
- 6.1.8 — Common mistakes on the first ball and how to avoid them
- 8.1.6 — Data privacy and your bowler records
- 9.1.1 — Recommended Settings configuration for a new pro shop
- 9.1.2 — When to clone a spec sheet vs. create a new one
- 03.x — Bowlers (Clients): managing your bowler list

Tip: The best time to maintain the database is during the natural quiet moments of the shop day — the first fifteen minutes before opening, or the last few minutes before closing. Small, regular maintenance sessions prevent the kind of accumulated disorder that eventually requires a dedicated afternoon to untangle. A database that is checked briefly every week stays clean almost automatically.

9.1.4 Using Auto-Suggestions effectively for faster fitting sessions

Using Auto-Suggestions effectively for faster fitting sessions

9.1.4 best practice

Spectre Cloud includes an **auto-suggestion system** that generates recommended values for pitch, span, and oval cuts based on the measurements you have entered and IBPSIA-standard fitting guidelines. Used well, auto-suggestions dramatically reduce the time spent on routine fittings — the system does the reference work while you focus on the bowler in front of you. Used poorly, they become a source of unchecked errors that make it into the drill press. This page explains how the suggestion system works, when to follow suggestions, when to override them, and how to build the habit of using them efficiently without becoming dependent on them.

⚡ What Auto-Suggestions Does

As you fill in a spec sheet, Spectre Cloud analyses the values entered so far and populates suggested values for fields that have not yet been completed. Suggestions are generated in real time — as each measurement is entered, the system recalculates and updates its

recommendations for the remaining fields.

- **Pitch suggestions** — forward and lateral pitch recommendations for finger and thumb holes, based on grip type, finger measurements, and IBPSIA standard ranges.
- **Span suggestions** — recommended span distances for middle and ring fingers based on finger joint measurements and the selected span type.
- **Oval cut suggestions** — recommended oval sizes based on forward pitch values, track type, and the oval calculation method configured in Settings.
- Suggestions appear as pre-filled or highlighted values in the relevant fields — they are proposals, not locked values. Every suggestion can be overridden by simply typing a different value.

⚠ **Verify with Spectre team:** Confirm the exact fields for which auto-suggestions are generated in the current version — specifically whether oval cut suggestions are generated automatically or only when the Oval Calculator is explicitly run, and whether thumb pitch suggestions are included alongside finger pitch suggestions.

How Suggestions Are Generated

Spectre Cloud's suggestions are derived from IBPSIA-standard fitting formulas applied to the measurements entered on the spec sheet. The system does not personalise suggestions based on the individual bowler's history — it applies the same standard formulas to the entered measurements regardless of how many times the bowler has been drilled before. Understanding this limitation is important for using suggestions correctly.

- Suggestions reflect **what the IBPSIA standard recommends** for a bowler with these measurements — a reliable starting point for any fit.
- They account for **grip type** — suggestions for a fingertip fit are different from those for a conventional fit with the same measurements.
- They account for **span type** — a Full Span measurement produces different suggestions than a Cut to Cut measurement of the same physical distance.
- They do not account for **the bowler's release style**, physical preferences, or previous fitting history.
- They do not account for **what the bowler has told you** during the fitting conversation — a bowler who says their current ball feels too tight on the thumb needs a human judgement call, not a recalculation of the standard suggestion.

When to Follow Auto-Suggestions

Auto-suggestions are most reliable and most useful in the following situations:

- **New bowler with no drilling history** — for a first-time fit with no baseline to work from, the IBPSIA-standard suggestion is the best available starting point. Accept it, fit the bowler, and adjust from there if needed.
- **Routine recreational fits** — conventional grip, standard pitch preferences, typical oval sizes. The suggestion covers the vast majority of these fits accurately and fast.
- **Confirming your own calculation** — even if you have independently calculated the correct values, checking them against the suggestion provides a quick sanity check. If the suggestion matches your calculation, proceed with confidence. If it differs significantly, understand why before deciding which to use.
- **Training new staff members** — auto-suggestions give a new driller an IBPSIA-grounded reference point while they build their own fitting intuition. They should follow suggestions as a default and learn to recognise when and why to deviate.
- **High-volume sessions** — in a busy shop where multiple bowlers are being fitted in quick succession, accepting accurate suggestions for straightforward fits frees your attention for the fits that genuinely require more consideration.

✏ When to Override Auto-Suggestions

Suggestions are a starting point, not a verdict. Override them when your fitting knowledge and the bowler in front of you indicate a different value is more appropriate:

- **Bowler has a known preference that differs from standard** — a bowler who has always used reverse thumb pitch and bowls comfortably should continue with that value regardless of what the standard formula suggests.
- **Physical considerations not captured in the measurement fields** — arthritis, scarring, unusual grip geometry, or a physical condition that affects how the bowler holds the ball may require values outside the standard range.
- **Competitive bowler with an established fit** — an experienced competitive bowler whose specs have been refined over years of fitting should be adjusted from their known baseline, not reset to a standard suggestion.
- **The suggestion produces a value outside your experience of what works** — if the suggested pitch value is higher or lower than anything you have drilled successfully for a bowler with this profile, trust your experience and investigate before accepting.
- **The bowler reports dissatisfaction with their current equipment** — if a bowler's current ball was drilled to standard values and does not feel right, the standard suggestion for the same measurements will produce the same result. The override should reflect what you are trying to change.

- □ Do not override suggestions without a reason. An override based on habit or preference rather than fitting knowledge introduces errors the same way an unchecked suggestion does — just in a different direction.

□□ Building an Efficient Suggestion-Based Workflow

The most effective use of auto-suggestions integrates them into the fitting flow without making them a bottleneck or an afterthought. The following workflow sequence makes suggestions work for you rather than around you:

1. **Enter measurements first, completely.** Suggestions improve in accuracy as more fields are completed — enter all measurements before evaluating any suggestion. A suggestion based on partial data is less reliable than one based on a complete set.
2. **Review suggestions as a group, not field by field.** Once measurements are in, scan all suggested values together. Individually they are data points; together they form a picture of the proposed fit. An unusual combination — very high forward pitch combined with a very small oval, for example — is easier to notice when reviewing the full suggestion set than when checking each field in sequence.
3. **Accept or override with intention.** For each suggested value, make a deliberate decision: accept because it is appropriate, or override because you have a specific reason. Do not accept passively — a suggestion accepted without evaluation is the same risk as a value entered without checking.
4. **Discuss departures from standard with the bowler.** If you are overriding a suggestion significantly — particularly on pitch — explaining why to the bowler builds their confidence and creates a shared understanding of the fitting rationale. A bowler who understands why their thumb pitch is different from standard is better equipped to give useful feedback after their first session with the ball.
5. **Save and re-run the Oval Calculator.** If any pitch or span values were overridden, confirm the Oval Calculator reflects the final values before printing or drilling.

□□ Suggestions vs. Bowler History — Knowing Which to Trust

For a returning bowler with multiple spec sheets in Spectre Cloud, you have access to two reference points: the system's suggestion based on current measurements, and the bowler's own drilling history. When they differ, the history usually wins:

Scenario	Which to trust	Reason
Suggestion matches history	Either — they agree	The standard formula and the bowler's experience point to the same value — high confidence
Suggestion differs slightly from history	History, with investigation	Check whether measurements have changed — a different measurement may legitimately produce a different suggestion
Suggestion differs significantly from history	History, unless there is a specific reason to change	The bowler has been fitted and has bowled with the historical values — they are proven for this bowler
Bowler reports the historical values have not been working	Suggestion as a starting point for adjustment	The history is a baseline to move away from — the suggestion provides a reference direction
New bowler, no history	Suggestion	No alternative baseline exists — the standard formula is the best available starting point

□□ Auto-Suggestions and Arsenal Plus

With **Arsenal Plus** active, the suggestion system is supplemented by layout recommendations based on the bowler's PAP and the ball's core specifications — see section 7.1.5 for full guidance on the Suggested Layouts feature. The two systems are complementary: auto-suggestions handle the grip fit, while Arsenal Plus handles the layout. Both are starting points that benefit from the fitter's evaluation and override where appropriate.

□ Teaching New Staff to Use Suggestions Well

- □ **Follow suggestions by default for the first ten fittings** — building familiarity with what standard suggestions look like makes deviations recognisable later.
- □ **After each fitting, compare the accepted suggestions to the finished spec sheet** — if overrides were made, discuss why. If suggestions were followed without evaluation, discuss what the fitter would have changed and why.
- □ **Make the comparison visible** — show new staff the IBPSIA reference behind a suggestion so the formula is understood, not just the output.

- **Graduation point** — a driller who consistently knows before looking what the suggestion will be for a given measurement set has internalised the standard. At that point, the suggestion has done its job as a teaching tool and becomes a confirmation rather than a guide.

Related Sections

- 9.1.1 — Recommended Settings configuration for a new pro shop
- 9.1.2 — When to clone a spec sheet vs. create a new one
- 5.6.5 — Choosing EDGE vs. CENTER: which method fits which bowler
- 7.1.5 — Suggested Layouts feature — using bowler data to suggest a layout
- 6.1.3 — Step 3: Set grip type and enter finger measurements
- 6.1.4 — Step 4: Enter thumb information (round or oval)

Tip: The most reliable sign that you are using auto-suggestions well is that you rarely need to think about them. A suggestion you glance at, confirm is reasonable, and accept in under a second is the system working as intended. A suggestion that surprises you — one you would not have arrived at yourself — is the system doing its most valuable work: catching a measurement entry error or flagging a combination outside your usual experience. Pay attention to those surprises. They are either corrections or learning moments, and both are worth the two seconds it takes to investigate.

9.2 — Frequently Asked Questions

9.2.1 Why is my oval cut showing unexpected values?

Why is my oval cut showing unexpected values?

9.2.1 FAQ

If the Oval Calculator is producing values that look wrong — a cut size that seems too large or too small, an angle that does not match your expectation, or V/H values that appear to be reversed — there is almost always a specific, identifiable cause. Unexpected oval output is rarely a system error. It is usually a settings mismatch, a measurement entry issue, or a configuration that has not been verified against the physical press. This page works through the most common causes in order of likelihood, giving you a clear path to diagnosing and resolving the issue.

□□ Step 1 — Check the Oval Calculator Settings

The most frequent cause of unexpected oval output is a mismatch between the Oval Calculator settings and either the intended calculation or the physical press setup. Before looking at measurement values, confirm each of the following in **Settings → Oval Calculator**:

Oval Calculation Method

Confirm whether **EDGE** or **CENTER** is selected. Switching between these methods moves the pitch anchor point and changes the output values even when all measurements are identical. If you expected EDGE output and CENTER is selected — or vice versa — the values will be consistently off by a predictable amount tied to the oval size.

- Check which method is configured and confirm it is the one you intended to use for this spec sheet.
- If the method was recently changed by another staff member, the spec sheet in question may have been calculated under a different method than the one currently selected.
- See sections 5.6.1–5.6.5 for a full explanation of EDGE vs. CENTER behaviour and what values each produces.

Add Pitch Thumb

If **Add Pitch Thumb** is enabled and you were not expecting thumb pitch to influence the finger oval calculation, this setting is a likely cause of unexpected output — particularly if the bowler has significant thumb pitch values.

- Confirm whether Add Pitch Thumb is on or off and whether this matches your intended configuration.
- If the thumb pitch values on the spec sheet are unusually large or were entered in error, Add Pitch Thumb will amplify the effect on the finger ovals.

Oval Degree Increment

If oval angles are appearing as round multiples of 5 when you expected single-degree precision — or vice versa — confirm the **Oval Degree Increment** setting matches the resolution you need.

- Switch between 1° and 5° in Settings and re-run the calculator to see how the output changes.

Flip V/H

If the V and H values appear to be swapped — the larger value is on the axis you would expect to carry the smaller, or the oval orientation does not match the physical result at the press — the **Flip V/H** setting is almost certainly the cause.

- Check the current Flip V/H state and confirm it matches your press axis convention.
- Run the worked example in section 5.7.2 to confirm which configuration produces the correct output for your press.

- Drill a test hole on a scrap ball or plug after correcting the setting to verify the change before returning to customer equipment.

Step 2 — Check the Pitch Values on the Spec Sheet

The Oval Calculator derives oval cut values from the pitch values entered on the spec sheet. An unexpected oval output very often traces back to an unexpected pitch value — either entered incorrectly or not matching the fitting intention.

Pitch sign — forward vs. reverse

A pitch value entered with the wrong sign — forward entered as reverse, or vice versa — produces an oval cut that is orientated or sized for the opposite fitting intent. This is one of the most common entry errors and one of the hardest to spot by looking at the oval output alone.

- Read each pitch value on the spec sheet explicitly as "*X forward*" or "*X reverse*" — not just as a number.
- Compare against the bowler's previous spec sheets if available — a pitch sign that differs from every previous drilling without explanation is almost certainly an entry error.

Pitch magnitude

A pitch value that is plausible but larger or smaller than intended — for example, `3/8"` entered where `1/8"` was intended — directly affects oval cut size. At larger oval sizes the effect is more pronounced; at smaller sizes it may fall within the rounding tolerance of the degree increment setting and be less immediately obvious.

- Re-read the pitch values on the spec sheet carefully, including the unit — a decimal entry where a fractional value was intended can produce a significantly different calculation.
- Cross-check against auto-suggestions if available — a pitch value far outside the suggestion range for the entered measurements is a flag worth investigating.

Thumb pitch affecting finger ovals

If Add Pitch Thumb is enabled, an incorrectly entered thumb pitch value will flow through to the finger oval calculation. Check the thumb pitch fields on the spec sheet as part of the pitch review,

not just the finger pitch fields.

□□ Step 3 — Check the Span Values

Span values affect the context in which pitch values are interpreted by the Oval Calculator. A span entered in the wrong unit, or with a span type that does not match how the measurement was taken, can produce oval output that is technically correct for the entered values but wrong for the intended fit.

- □ Confirm the **span type** selected on the spec sheet matches how the span was physically measured — Full Span, Cut to Cut, or Oval. A span measured Full Span but entered as Cut to Cut introduces a systematic offset into the calculation.
- □ Confirm the span values are in the expected range for the bowler's hand size and grip type. A span value significantly outside the normal range for a bowler of this profile is a flag worth verifying against the physical measurement.
- □ Confirm the unit — if the shop uses imperial measurements and a metric value was accidentally entered, the span will be interpreted as a very different distance from the one measured.

□□ Step 4 — Check Whether the Calculator Was Re-Run After a Change

If pitch or span values were updated after the Oval Calculator was last run, the displayed oval output reflects the old values — not the current ones. This is a particularly common issue when a spec sheet was cloned and values were adjusted without re-running the calculator.

- □ Re-run the Oval Calculator any time a pitch or span value is changed, without exception.
- □ If you are unsure whether the calculator output is current, re-run it regardless — the recalculation takes seconds and eliminates any doubt.
- □ When reviewing a cloned spec sheet, treat the oval values as stale until confirmed by a fresh calculator run.

□□ Step 5 — Check the Oval Cut Direction Setting

If oval output is appearing without directional labels when you expected F/B or L/R labels — or directional labels are appearing when you expected none — the **Oval Cut Direction** setting does not match the expectation.

- □ Confirm the Oval Cut Direction setting in **Settings → Oval Calculator** and verify it matches your shop's configuration intent.
- □ A direction setting of NONE suppresses directional labels on the output regardless of what the calculator computes — this is correct behaviour for NONE mode, not an error.
- □ See sections 5.5.1–5.5.3 for guidance on which direction setting is appropriate for different shop setups.

□□ Diagnostic Summary — Unexpected Oval Output

Symptom	Most likely cause	Where to check
Oval size seems too large	Pitch value too high, or EDGE vs. CENTER mismatch	Spec sheet pitch fields; Settings → Oval Calculation Method
Oval size seems too small	Pitch value too low, or wrong span type	Spec sheet pitch and span fields; Settings → Span Type
V and H values appear swapped	Flip V/H misconfigured	Settings → Flip V/H on Oval Cuts
Oval angle unexpected	Pitch sign error, or degree increment mismatch	Spec sheet pitch fields; Settings → Oval Degree Increment
No directional labels shown	Oval Cut Direction set to NONE	Settings → Oval Cut Direction
Output unchanged after editing pitch	Oval Calculator not re-run after the change	Re-run the Oval Calculator on the spec sheet
Finger ovals affected by thumb pitch	Add Pitch Thumb enabled unexpectedly	Settings → Add Pitch Thumb
Output inconsistent with previous spec sheets	Settings changed since previous spec sheets were created	Compare current Settings against the method used when previous sheets were created

⚠ When the Output Is Correct but the Fit Is Wrong

Occasionally the oval output is technically correct — the calculator has done exactly what it was configured to do — but the finished hole does not produce the intended fit. In this case the issue is upstream of the calculation:

- **The pitch value is correct but the fit intention was wrong** — the measurement was right, but the pitch choice was not optimal for this bowler. Adjust the pitch value based on the bowler's feedback and re-drill.
- **The oval size is correct but the direction is wrong for the bowler's release** — consider whether the Oval Cut Direction setting reflects how this bowler actually releases the ball.
- **The settings are correct but the press was set up incorrectly** — a correct spec sheet value set on the wrong axis at the press produces the same result as a Flip V/H error without the setting being the cause. Verify the physical press setup against the spec sheet output independently.

Related Sections

- 5.5.1 — Setting up: Oval Cut Direction = NONE in Settings
- 5.6.1 — EDGE method explained
- 5.6.2 — CENTER method explained
- 5.6.5 — Choosing EDGE vs. CENTER: which method fits which bowler
- 5.7.1 — Using Flip V/H on oval cuts to match your machine's axis
- 5.7.2 — Worked example: how flipping V/H changes the output numbers
- 9.1.1 — Recommended Settings configuration for a new pro shop

Tip: The fastest diagnostic path for any unexpected oval output is to work backwards from the symptom to the setting. V/H swap → Flip V/H. Size unexpectedly large → pitch too high or EDGE vs. CENTER. No directional labels → Oval Cut Direction is NONE. In most cases the cause is identified within sixty seconds of looking at the right setting. If none of the settings account for the output, re-enter the spec sheet values from scratch on a new spec sheet and compare — a data entry error that is hard to find in an existing sheet is often immediately obvious when the values are re-entered fresh.

9.2.2 My drill press reads pitches opposite — what setting do I change?

My drill press reads pitches opposite — what setting do I change?

9.2.2 FAQ

If every pitch value coming off a Spectre Cloud spec sheet feels like it is drilling in the opposite direction from what was specified — forward pitch drilling as reverse, reverse drilling as forward, or lateral pitch going the wrong way — the cause is almost always a single, correctable setting rather than a measurement or calculation error. This page identifies the setting, explains why the mismatch happens, and walks through the fix.

□□ Understanding Why This Happens

Pitch direction in Spectre Cloud is expressed relative to a reference convention — forward pitch means the bottom of the hole tilts toward the bowler's palm, reverse means it tilts away. However, drill presses are not all configured the same way. Depending on how your press is oriented, how

the ball sits in the jig, and how the pitch scale on your machine is marked, the direction a given pitch value physically produces at the press may be the mirror image of what Spectre Cloud's convention assumes.

This is not an error in the spec sheet values — it is a mismatch between Spectre Cloud's pitch direction convention and your press's physical axis orientation. The fix is a settings adjustment, not a re-measurement.

⚙ The Setting to Check: Pitch Direction

Spectre Cloud includes a **Pitch Direction** (or equivalent) setting in the Oval Calculator or general Settings section that controls the sign convention used for pitch values throughout the app. When this setting does not match your press, every pitch value on every spec sheet will produce the opposite physical result from what was intended.

1. Click or tap your **pro shop name** in the top-right corner.
2. Select **Settings** from the dropdown.
3. Navigate to the **Oval Calculator** or **Drill Press** section.
4. Locate the **Pitch Direction** setting — it controls whether Spectre Cloud's forward pitch convention aligns with your press's forward direction or is inverted relative to it.
5. Toggle or reverse the setting.
6. Save and re-run the Oval Calculator on the affected spec sheet to confirm the output now reflects the correct direction.

⚠ **Verify with Spectre team:** Confirm the exact name of the pitch direction setting in the current UI — the label may differ from "Pitch Direction" as used in this page. Also confirm whether this setting is in the Oval Calculator section, a general Settings section, or a dedicated Drill Press configuration area, and update the navigation steps above accordingly.

□□ Confirming the Fix Before Drilling

After changing the pitch direction setting, confirm the correction is working before applying it to a customer's ball. A two-step verification — first on screen, then physically — eliminates any residual uncertainty:

On-screen check

1. Open a spec sheet with known pitch values — ideally one where you know exactly what the finished holes should produce at the press.
2. Re-run the Oval Calculator.
3. Review the output and confirm the pitch direction labels now match your press convention — forward is forward, reverse is reverse.

Physical check at the press

1. Drill a single test hole — finger or thumb — on a scrap ball or plug using the updated spec sheet values.
2. Check the physical pitch direction of the finished hole with a pitch gauge or by feel.
3. Confirm it matches the spec sheet value and the intended fit direction.
4. If the test hole confirms the correction, proceed to customer equipment. If the test hole is still reversed, re-check the setting — do not proceed to a customer ball until the physical check passes.

□□ **Note:** Never skip the physical check after a pitch direction setting change. The on-screen confirmation tells you the labels have changed; the physical check confirms the labels now correspond to reality at your specific press.

⚠ Related Mismatch: Only Lateral Pitch Is Reversed

If only the **lateral pitch** is reversed — forward and back pitch is correct, but left pitch is drilling as right and vice versa — the issue is specific to the lateral axis rather than a global pitch direction inversion. Check whether there is a separate lateral pitch direction setting, or whether the press jig orientation affects lateral pitch independently of the forward/back axis.

- □ Some drill presses allow the ball to be loaded in the jig facing two different orientations for right-handed and left-handed bowlers — an orientation that is correct for a right-handed bowler will have a reversed lateral axis for a left-handed bowler if the jig is not adjusted.
- □ Confirm that the lateral pitch direction in Spectre Cloud matches how the bowler is oriented in the jig — not just how the press is set up in isolation.
- □ If lateral pitch inversion only affects one handedness and not the other, the issue is almost always the jig orientation rather than a Spectre Cloud setting.

⚠ Related Mismatch: Only One Hole Type Is Reversed

If pitch is correct for the finger holes but reversed for the thumb — or correct for the thumb and reversed for the fingers — the issue is unlikely to be a global pitch direction setting. More likely causes:

- **Thumb pitch entered with wrong sign** on this specific spec sheet — check the thumb pitch fields directly and compare against the bowler's previous spec sheets.
- **Inconsistent pitch convention between hole types** — some older fitting systems used different sign conventions for thumb and finger pitch. If the spec sheet was populated from a legacy record, verify the values were converted correctly.
- **Physical press setup for thumb vs. finger holes** — some presses require a different setup for the thumb hole than for finger holes, and the orientation change can effectively invert the lateral axis. Confirm the physical setup is consistent with the spec sheet convention for each hole type.

Updating Existing Spec Sheets After the Fix

After correcting the pitch direction setting, spec sheets created before the fix were calculated under the old — incorrect — convention. These sheets need to be reviewed and the Oval Calculator re-run to generate correct output under the new setting.

- **Spec sheets not yet drilled** — re-run the Oval Calculator on each sheet before proceeding to the press. The pitch values themselves do not need to change; only the oval output needs to be refreshed under the corrected setting.
- **Spec sheets already drilled under the wrong setting** — these are historical records of what was drilled, not a plan for future drilling. Do not alter them. If those balls need to be re-drilled, create new spec sheets under the corrected setting.
- **Cloned spec sheets** — a clone created from a spec sheet drilled under the wrong setting carries the oval values from the old calculation. Re-run the Oval Calculator on any clone used for a new drilling after the setting correction.

□□ Multi-Staff Shops — Ensuring Consistency

In a shop where multiple staff members use Spectre Cloud on different devices, a pitch direction setting change made on one device needs to be replicated on all devices used at the drill press. Settings in Spectre Cloud are account-level and sync across devices — but confirm this is the case for the pitch direction setting specifically, and verify on each device that the change has taken effect before the next drilling session.

- □ After changing the pitch direction setting, log into Spectre Cloud on each press device and confirm the setting shows the updated value.
- □ If the setting is user-level rather than account-level, each driller needs to update their own preference — confirm with the Spectre team which applies.
- □ Brief all staff on the change before the next session — a driller who is unaware the setting changed may assume a newly reversed output is a system error and switch it back.

□□ Pitch Direction Troubleshooting — Quick Reference

Symptom	Most likely cause	Fix
All pitch values drill opposite direction	Pitch Direction setting inverted	Toggle Pitch Direction in Settings; re-run Oval Calculator; verify with test hole
Only lateral pitch is reversed	Jig orientation for handedness; or separate lateral axis setting	Check jig orientation for right vs. left-handed bowler; check for separate lateral pitch setting
Only thumb pitch is reversed	Thumb pitch entered with wrong sign; or legacy convention mismatch	Check thumb pitch sign on spec sheet; compare against bowler's previous records
Pitch correct after setting fix but oval orientation wrong	Flip V/H also needs adjustment	Check Flip V/H setting alongside Pitch Direction — both may need correction simultaneously
Setting corrected on one device but not others	Setting is user-level not account-level; or sync not yet complete	Update setting on each device individually; confirm with Spectre team whether setting is account or user level

Note: Pitch Direction and Flip V/H are related but independent settings — one controls pitch convention, the other controls oval axis labelling. A press with both a reversed pitch axis and a transposed V/H axis needs both settings corrected independently. Fixing one without the other will resolve part of the problem but leave the other half in place. If you are experiencing both pitch and V/H issues simultaneously, work through both fixes and run a single test hole that verifies both are correct before returning to customer equipment.

Related Sections

- 5.7.1 — Using Flip V/H on oval cuts to match your machine's axis
- 5.7.2 — Worked example: how flipping V/H changes the output numbers
- 9.1.1 — Recommended Settings configuration for a new pro shop
- 9.2.1 — Why is my oval cut showing unexpected values
- 6.1.8 — Common mistakes on the first ball and how to avoid them

Tip: When setting up Spectre Cloud on any new device or after any press equipment change, the fastest way to confirm pitch direction is correct is a deliberate test before the first live session — drill a single finger hole on a scrap ball with a known forward pitch, measure the result with a pitch gauge, and confirm the direction. Thirty seconds at setup eliminates an entire category of drilling errors before they affect a single customer's ball.

9.2.3 The suggested pitch is not what I expect — is Auto-Suggestion on?

The suggested pitch is not what I expect — is Auto-Suggestion on?

9.2.3 FAQ

If the pitch values appearing on a spec sheet do not match what you would expect for the measurements entered — or if values that should be auto-suggested are not appearing at all — the first thing to check is whether the Auto-Suggestion feature is active and configured correctly. This page explains how to verify the auto-suggestion state, why suggestions may differ from your expectations, and how to distinguish a misconfigured suggestion from a deliberate or legitimate difference.

□□ Step 1 — Confirm Auto-Suggestion Is Enabled

Auto-suggestions can be turned off at the account or user level. If suggestions are not appearing where you expect them, confirm the feature is active before investigating the suggestion values

themselves.

1. Click or tap your **pro shop name** in the top-right corner.
2. Select **Settings** from the dropdown.
3. Locate the **Auto-Suggestion** or **IBPSIA Suggestions** setting.
4. Confirm the toggle is set to **On**.
5. Save if a change was needed and return to the spec sheet.

⚠ **Verify with Spectre team:** Confirm the exact label and location of the Auto-Suggestion toggle in the current UI — specifically whether it is in the general Settings section, within the Spec Sheet settings, or within a dedicated Fitting Preferences area. Also confirm whether it is an account-level or user-level setting, as a staff member may have disabled it on their own device without affecting other users.

□□ Step 2 — Confirm the Measurements That Drive Suggestions Are Complete

Auto-suggestions are generated from the measurement fields already completed on the spec sheet. If key input fields are empty or contain placeholder values, the suggestion engine has incomplete data to work from and will either not generate a suggestion or generate one based on partial inputs that does not reflect the full picture.

- □ Confirm **grip type** is selected — suggestions differ significantly between conventional, fingertip, and semi-fingertip. An unselected or incorrect grip type produces suggestions calibrated for the wrong grip.
- □ Confirm **finger measurements** are complete — hole size, knuckle size, and joint measurements for both middle and ring fingers. Missing joint measurements in particular affect span and pitch suggestions.
- □ Confirm **span type** is selected and matches how the measurements were taken — a span type mismatch produces suggestions based on a different measurement convention from the one used.
- □ Confirm **thumb measurements** are entered if Add Pitch Thumb is enabled — incomplete thumb data with Add Pitch Thumb on produces finger oval suggestions that are based on partial grip geometry.

□□ Step 3 — Understand Why the Suggestion May Legitimately Differ From Your Expectation

If Auto-Suggestion is on and all measurement fields are complete, a suggestion that still does not match your expectation is not necessarily wrong. There are several legitimate reasons why the IBPSIA-standard suggestion and your expected value may differ:

The IBPSIA formula and your shop standard use different reference points

Some experienced operators develop shop-specific pitch conventions that differ from the IBPSIA standard — not because the standard is wrong, but because their customer base, their equipment, or their fitting philosophy has evolved away from it. If your shop consistently fits bowlers with pitch values outside the standard range, Spectre Cloud's suggestion will consistently appear lower or higher than your practice. This is expected behaviour, not an error.

- □ Use the suggestion as a reference point rather than a target — understand where the standard sits and where your practice departs from it.
- □ If the departure is consistent and intentional, consider documenting your shop's standard in the spec sheet notes so the reasoning is visible in the record.

The bowler's measurements are outside the typical range

Bowlers with unusually large or small hands, unusually long or short fingers relative to their span, or atypical joint proportions may receive suggestions that appear extreme because their measurements are at the edge of the formula's typical input range. The suggestion is mathematically correct for those measurements — it may simply reflect the fact that a non-standard measurement set produces a non-standard recommendation.

- □ Verify the measurements are entered correctly before concluding the suggestion is wrong — an unusual suggestion is often the first signal of a measurement entry error.
- □ If the measurements are confirmed correct and the suggestion still appears extreme, treat it as a starting point requiring fitting judgement rather than an automatic guide.

The suggestion reflects the configured method, not the method you expected

As established in the previous troubleshooting pages, the Oval Calculation Method (EDGE vs. CENTER) and the Add Pitch Thumb setting both affect output values. If either was recently changed, suggestions generated after the change will differ from those generated before it — even for identical measurements.

- Confirm the current Oval Calculation Method matches your expectation before concluding the suggestion itself is the problem.

The bowler's previous spec sheets used manually overridden values

If a returning bowler's previous spec sheets contain pitch values that were manually overridden from the suggestion — as is common for experienced fitters with a preferred approach — the current suggestion will match the standard formula, not the previous override. The suggestion is not wrong; it simply does not know about the override unless the previous values are taken as the reference point.

- For returning bowlers, compare the current suggestion against the previous spec sheet values rather than against a personal expectation formed from working with that bowler.
- If the previous values are the appropriate reference, override the suggestion with those values and note the reason in the spec sheet.

Step 4 — Check Whether a Previous Override Is Being Carried Forward

If the spec sheet was cloned from a previous one, any pitch values that were manually overridden in the source sheet are carried into the clone — they are not replaced by fresh suggestions. This means a cloned spec sheet may show pitch values that appear to be suggestions but are actually historical overrides.

- When reviewing a cloned spec sheet, treat all pitch values as inherited overrides until you have verified them against the current measurement inputs and the current suggestion.
- Clear any pitch fields that should be freshly suggested and allow the auto-suggestion system to repopulate them based on the current measurements.
- If the cloned values are correct and intentional, leave them — but note that they are not current suggestions so future staff know they were a deliberate choice.

⚖ Suggestion vs. Expectation — Decision Framework

Observation	Most likely cause	Recommended action
No suggestions appearing anywhere on the spec sheet	Auto-Suggestion is disabled	Enable Auto-Suggestion in Settings
Suggestions appearing for some fields but not others	Input fields for those suggestions are incomplete	Complete all measurement fields and confirm grip type and span type are selected
Suggestion is present but consistently lower than expected	Shop practice uses higher pitch than IBPSIA standard; or EDGE vs. CENTER mismatch	Verify Oval Calculation Method; document shop-specific standard if intentional
Suggestion is present but consistently higher than expected	Add Pitch Thumb enabled unexpectedly; or measurement entered too large	Check Add Pitch Thumb setting; verify measurement entry
Suggestion differs from previous spec sheets for same bowler	Previous values were manual overrides carried by clone; or settings have changed	Compare against previous spec sheet values; confirm current settings match those used previously
Suggestion seems extreme for this bowler profile	Measurement entered incorrectly; or bowler's measurements are at edge of standard range	Re-verify measurements; cross-check against bowler's history if available
Suggestion changes when switching grip type	Expected behaviour — suggestions are grip-type dependent	Confirm correct grip type is selected for this fitting

When to Contact Spectre Support

The situations above cover the vast majority of unexpected suggestion behaviour. If you have worked through all of these checks and the suggestion output still cannot be explained, it may

indicate a platform issue worth reporting:

- Suggestions that change unpredictably between sessions with no settings or measurement changes.
- Suggestions that differ significantly from the IBPSIA-standard expected value for a straightforward, mid-range measurement set where no override or unusual condition applies.
- Auto-Suggestion toggling itself off between sessions.

Contact Spectre Cloud support via `support.spectrebowling.com` or through the support channel linked in the app. Include the specific measurement values, the current settings configuration, and a description of what the suggestion is showing versus what you expected — this gives the support team everything needed to investigate efficiently.

⚠ **Verify with Spectre team:** Confirm the correct support URL and whether there is an in-app support channel — update the contact reference above with the verified pathway before publishing.

Related Sections

- 9.1.4 — Using Auto-Suggestions effectively for faster fitting sessions
- 9.2.1 — Why is my oval cut showing unexpected values
- 9.2.2 — My drill press reads pitches opposite — what setting do I change
- 5.6.5 — Choosing EDGE vs. CENTER: which method fits which bowler
- 6.1.3 — Step 3: Set grip type and enter finger measurements
- 9.1.1 — Recommended Settings configuration for a new pro shop

Tip: The most reliable way to confirm whether an unexpected suggestion is a configuration issue or a legitimate standard-formula output is to create a test spec sheet with a simple, textbook set of measurements — a straightforward fingertip bowler with conventional pitch values — and check whether the suggestion matches your expectation for that profile. If the suggestion is correct for the simple case and unexpected for the specific bowler in question, the issue is in the measurement inputs or the bowler's specific profile. If the suggestion is unexpected even for the simple case, the issue is in the settings or the suggestion system itself.

9.2.4 How do I switch a bowler from fingertip to conventional mid-session?

How do I switch a bowler from fingertip to conventional mid-session?

9.2.4 FAQ

Switching a bowler from fingertip to conventional grip — or the reverse — during an active fitting session requires a small but deliberate set of steps in Spectre Cloud. The grip type field controls which measurement fields are active, which auto-suggestions are generated, and how the spec sheet interprets span and pitch values. Changing it partway through a session is straightforward, but it requires understanding what the change affects so that no residual values from the previous grip type carry through to the finished spec sheet.

□□ Why Grip Type Matters to the Spec Sheet

Grip type is not just a label — it is a structural input that shapes the entire spec sheet. When you change it, Spectre Cloud adjusts which fields are active, recalculates auto-suggestions, and

reinterprets the measurements already entered. Values entered under one grip type may be numerically valid but contextually incorrect under the other — a fingertip span entered before a grip type change, for example, is a different physical measurement from a conventional span of the same numeric value.

- **Fingertip** — span measured to the first knuckle; pitch suggestions optimised for a first-knuckle grip; oval suggestions calibrated for fingertip release characteristics.
- **Conventional** — span measured to the second knuckle; pitch suggestions optimised for a second-knuckle grip; oval suggestions calibrated for conventional release.
- **Semi-fingertip** — span measured between the two knuckle references; intermediate pitch and oval suggestions.

Note: Changing grip type mid-session does not alter the raw measurement values already entered — it changes how those values are interpreted. A span value entered under fingertip remains numerically the same after switching to conventional, but it now represents a different physical distance. Review and re-enter measurements after any grip type change rather than assuming the existing values are still valid in their new context.

Changing Grip Type on Desktop

1. Open the spec sheet in progress.
2. Locate the **Grip Type** selector — typically near the top of the spec sheet, above the measurement fields.
3. Click the selector and choose the new grip type — **Conventional**, **Fingertip**, or **Semi-fingertip**.
4. Spectre Cloud updates the active measurement fields and recalculates auto-suggestions based on the new grip type.
5. Review all measurement fields — re-enter any values that were taken under the previous grip type and are no longer valid under the new one.
6. Re-run the **Oval Calculator** after updating measurements to generate correct oval output under the new grip type.
7. Save the spec sheet.

Changing Grip Type on Mobile

1. Open the spec sheet and scroll to the **Grip Type** field.
2. Tap the field and select the new grip type.
3. Review and re-enter measurement fields as needed.
4. Re-run the Oval Calculator.
5. Tap **Save**.

What to Review After Changing Grip Type

After the grip type change, work through the spec sheet systematically. Not every field needs to be re-entered — some values transfer cleanly, others do not.

Fields that must be re-measured and re-entered

- **Span values** — the span measurement itself changes when grip type changes because the reference knuckle changes. Do not carry span values from one grip type to another. Re-measure with the bowler.
- **Pitch values** — while the same pitch could theoretically apply to either grip type, the auto-suggestions differ significantly. Review pitch values explicitly and confirm they are appropriate for the new grip type, not just for the measurements.

Fields that transfer cleanly

- **Finger hole sizes** — the physical diameter of the finger does not change between grip types. Hole size measurements remain valid.
- **Knuckle sizes** — similarly physical and grip-type independent.
- **Thumb measurements** — thumb hole size, thumb pitch, and thumb oval are grip-type independent. These values carry across unless there is a specific reason to change them.
- **Ball name and layout** — neither is affected by grip type. These fields carry across unchanged.

Fields to review but not necessarily re-enter

- **Oval cut values** — re-run the Oval Calculator after updating spans and pitches. The oval values from the previous grip type are almost certainly no longer correct.
- **Notes** — review the notes field and update if any information was specific to the previous grip type (e.g., "switching from conventional" — note why the change was made).

□□ Mid-Session Grip Type Changes — Common Scenarios

Bowler initially presented as conventional but wants to try fingertip

This is the most common mid-session scenario — a bowler comes in for a conventional re-drill but decides during the fitting conversation to make the transition to fingertip. The grip type change is intentional and the session pivots accordingly.

1. Change grip type to **Fingertip**.
2. Re-measure the span to the **first knuckle** — the conventional span measurement is not applicable.
3. Review pitch suggestions under fingertip — they will be different from the conventional suggestions, particularly for forward pitch.
4. Discuss the pitch values with the bowler — a first-time fingertip bowler may need a more conservative pitch than an experienced fingertip bowler with the same hand measurements.
5. Re-run the Oval Calculator under the new grip type and settings.
6. Consider adding a note to the spec sheet documenting that this is the bowler's first fingertip drilling — useful context for future visits.

Wrong grip type selected at spec sheet creation

A staff member created the spec sheet with the wrong grip type and measurements have been entered under that incorrect type. The correction is the same process as an intentional change, but the measurements themselves may be correct — they just need to be confirmed as applicable to the correct grip type.

1. Change grip type to the correct selection.
2. Verify whether the span measurement was taken to the correct knuckle for the intended grip type. If it was, the value carries across. If not, re-measure.
3. Review pitch values and re-run suggestions under the corrected grip type.
4. Re-run the Oval Calculator.

Bowler is being fitted for two balls — different grip types for each

Occasionally a bowler wants one ball drilled conventional and one fingertip — a common setup for a league bowler who wants a spare ball in conventional grip alongside a fingertip strike ball. Each ball requires its own spec sheet with its own grip type.

- Create **two separate spec sheets** — do not change the grip type on a single spec sheet between balls. Each spec sheet represents one ball and one fitting approach.
- Link each spec sheet to its own Arsenal entry — the conventional ball and the fingertip ball are separate inventory items.
- The thumb measurements may be identical across both spec sheets if the bowler uses the same thumb setup for both balls — copy these values deliberately rather than re-measuring.

⚠ What Not to Do

- **Do not carry span values from fingertip to conventional without re-measuring.** The first-knuckle and second-knuckle reference points produce different measurements for the same physical hand. A span entered under the wrong knuckle reference drills a hole in the wrong position.
- **Do not accept auto-suggestions generated under the old grip type.** Once the grip type is changed, re-review all suggestions — they have been recalculated and may differ significantly from what appeared before the change.
- **Do not skip the Oval Calculator re-run.** Oval values calculated under the previous grip type are not valid under the new one. This is the most commonly skipped step after a mid-session grip type change and one of the most consequential.
- **Do not use a grip type change to correct a pitch that feels wrong.** If the bowler reports discomfort, address the pitch value directly — changing grip type to force a different pitch suggestion is the wrong tool for that problem.

Mid-Session Grip Type Change — Quick Checklist

Step	Action	Done

1	Change Grip Type selector to correct grip type	☐
2	Re-measure span to correct knuckle reference for new grip type	☐
3	Re-enter span values from new measurement	☐
4	Review pitch suggestions under new grip type	☐
5	Confirm or update pitch values	☐
6	Confirm finger hole and knuckle sizes are unchanged	☐
7	Re-run Oval Calculator	☐
8	Update Notes field with reason for grip type change if relevant	☐
9	Save spec sheet	☐

Related Sections

- 6.1.3 — Step 3: Set grip type and enter finger measurements
- 6.1.8 — Common mistakes on the first ball and how to avoid them
- 9.1.2 — When to clone a spec sheet vs. create a new one
- 9.1.4 — Using Auto-Suggestions effectively for faster fitting sessions
- 9.2.1 — Why is my oval cut showing unexpected values
- 04.x — Spec Sheets: field reference and measurement guide

 Tip: When a bowler decides mid-session to switch grip type, take a moment to reset the conversation before picking up the measuring tape again. A bowler transitioning from conventional to fingertip for the first time is making a significant change to how they interact with the ball — the fitting discussion should reflect that. Ask what prompted the change, what they hope to achieve, and whether they have thrown fingertip before. Two minutes of conversation often surfaces a preference or concern that changes one of the pitch decisions, and it is much better to surface it before drilling than after.

9.2.5 The bridge is not autofilling — what's wrong?

The bridge is not autofilling — what's wrong?

9.2.5 FAQ

The **bridge** — the distance between the edges of the two finger holes — is a value Spectre Cloud can calculate automatically from the finger hole sizes and span measurements already on the spec sheet. When the bridge field is not autofilling as expected, the cause is almost always a missing input rather than a system fault. This page identifies the fields that drive the bridge calculation, explains what each one contributes, and walks through the checks that resolve the issue in most cases.

□□ What the Bridge Calculation Needs

The bridge is derived rather than measured directly — Spectre Cloud calculates it from values already on the spec sheet rather than requiring you to enter it manually. For the autofill to work, the following fields must all be populated with valid values:

- □ **Middle finger hole size** — the diameter of the middle finger hole.
- □ **Ring finger hole size** — the diameter of the ring finger hole.
- □ **Middle finger span** — the span distance for the middle finger, measured to the reference point appropriate for the selected span type.
- □ **Ring finger span** — the span distance for the ring finger.

- **Span type** — Full Span, Cut to Cut, or Oval. The span type determines how the span values are interpreted relative to the hole edges, which directly affects how the bridge distance is derived.

Note: The bridge autofill triggers when all required fields are present and valid. A single missing or invalid field prevents the calculation from completing — the bridge field remains empty or shows a placeholder rather than a calculated value.

Step 1 — Check for Missing Span or Hole Size Values

Open the spec sheet and confirm each of the five fields listed above contains a value. The most common cause of a non-autofilling bridge is an incomplete spec sheet — one of the required fields was skipped or left at a default zero.

- Check both **middle and ring finger hole sizes** — a single missing hole size prevents the bridge calculation regardless of whether the other fields are complete.
- Check both **span values** — a span of zero is not a valid span. If either span field shows zero or is empty, the bridge will not calculate.
- Confirm **span type** is selected and not left at a default or unselected state.

Step 2 — Check for Invalid or Out-of-Range Values

If all required fields are populated but the bridge is still not autofilling, one or more values may be outside the range the calculation expects. Common examples:

- **Hole size entered in the wrong unit** — a hole size entered as a metric value in an imperial field (or vice versa) produces a number that is technically present but physically implausible, which may prevent the calculation from completing. Confirm the unit matches the measurement system configured in Settings.
- **Span value entered as a decimal when a fraction was intended** — a span entered as `4.5` when `4 1/2` was meant is numerically the same and should calculate correctly, but a span entered as `45` instead of `4.5` produces an implausibly large value that may trigger a validation check. Review the span entries for obvious magnitude errors.
- **Hole size larger than the span** — physically impossible and a certain sign of an entry error. A hole size that exceeds the span will prevent a valid bridge calculation.

- **Identical span values for middle and ring fingers** — unusual but not inherently invalid; however, if both spans are set to the same value as a placeholder rather than a real measurement, the resulting bridge may be zero or negative, which the system may reject.

Step 3 — Check the Span Type Selection

The span type affects how the span and hole size values are combined to derive the bridge. If the wrong span type is selected, the calculation may produce a result that is mathematically valid but physically incorrect — or in edge cases, produce a value outside the expected range that prevents autofill.

- Confirm the span type matches how the physical measurement was taken.
- Try switching the span type temporarily to see whether the bridge autofills under a different type — this helps identify whether the span type is the blocking factor without needing to re-enter measurements.
- If switching span type causes the bridge to autofill with a plausible value, confirm which span type was actually used during measurement and set the spec sheet accordingly.

Step 4 — Check Whether the Bridge Field Is Set to Manual Override

Spectre Cloud allows the bridge value to be entered manually in cases where the calculated value needs to be overridden — for example, when a bowler has a specific bridge preference that differs from the derived standard. If the bridge field has been switched to manual input mode and a previous value was entered there, the autofill will not overwrite it.

- Check whether the bridge field is in **autofill mode or manual mode** — there should be a toggle, indicator, or lock icon on the field that shows which mode is active.
- If the field is in manual mode, switch it back to autofill and confirm the bridge calculates from the current spec sheet values.
- If you deliberately want a specific bridge value that differs from the calculation, manual mode is the correct approach — but confirm this is intentional before overriding the calculated value.

⚠ **Verify with Spectre team:** Confirm whether the bridge field has a manual override mode as described, and verify the exact UI mechanism for toggling between autofill and manual entry — specifically whether it is a lock icon, a toggle, or another control.

□□ Step 5 — Check Whether the Spec Sheet Was Cloned With a Manual Bridge Value

If the spec sheet was cloned from a previous one where the bridge was manually overridden, the manual value carries into the clone. The bridge field will show the cloned value rather than autofilling from the current spec sheet's measurements.

- □ Review the source spec sheet to confirm whether the bridge was manually entered there.
- □ If the cloned value is incorrect for the current drilling, clear the bridge field or switch to autofill mode and allow it to recalculate from the current measurements.
- □ If the cloned value is intentionally carried forward — for example, a bowler with a long-established bridge preference — confirm it is still appropriate for the current fit before accepting it.

□□ Step 6 — Refresh the Spec Sheet

In rare cases, the bridge may not autofill due to a display refresh issue rather than a missing input. All required fields are present and valid, but the calculated value has not yet appeared in the bridge field.

1. Save the spec sheet.
2. Close and reopen the spec sheet from the bowler's profile.
3. Check whether the bridge field has populated on reload.
4. If it still has not populated after reload, re-check the input fields — a display issue rarely persists after a save and reload if the underlying data is complete and valid.

□□ Bridge Autofill Troubleshooting — Quick Reference

Symptom	Most likely cause	Fix
Bridge field empty, all other fields complete	One required field is missing or zero	Check middle and ring hole sizes and both span values — confirm none are empty or zero
Bridge field empty, measurements look complete	Value out of range or unit mismatch	Review hole sizes and spans for magnitude errors or unit inconsistency
Bridge shows a fixed value that does not change when measurements are updated	Bridge field in manual override mode, or cloned manual value	Switch bridge field to autofill mode; clear manually entered value
Bridge calculates a negative or zero value	Hole sizes too large relative to span, or identical placeholder span values	Verify span and hole size values are physically plausible and correctly measured
Bridge populated on previous spec sheet but not on clone	Clone carried a manual override from source; or span values changed in clone	Clear bridge field; switch to autofill; re-run from current measurements
Bridge field present but greyed out	Grip type not selected, or span type not selected	Confirm grip type and span type are both set before attempting bridge autofill

□ Entering the Bridge Manually When Needed

If the autofill cannot be resolved — for example, because the bowler has an atypical bridge requirement that differs from the calculated value, or because a measurement cannot be confirmed in the current session — the bridge can be entered manually:

1. Switch the bridge field to **manual mode** using the toggle or lock control on the field.
2. Enter the bridge value directly.
3. Add a note to the spec sheet explaining why the bridge was manually entered — `Manual bridge: bowler requested wider bridge than standard for comfort` — so future staff understand the value was a deliberate choice rather than a calculated default.
4. When the spec sheet is next cloned, review the bridge field and confirm whether the manual value should be carried forward or recalculated from fresh measurements.

Note: A manually entered bridge value is not flagged differently from a calculated one on the printed spec sheet — both appear as a number in the bridge field. The distinction only exists within the digital record. Noting the reason in the spec sheet's notes field ensures the manual entry is not mistaken for a calculated value by a future driller.

Related Sections

- 6.1.3 — Step 3: Set grip type and enter finger measurements
- 6.1.2 — Step 2: Create a blank spec sheet for the ball
- 9.1.2 — When to clone a spec sheet vs. create a new one
- 9.2.1 — Why is my oval cut showing unexpected values
- 9.2.4 — How do I switch a bowler from fingertip to conventional mid-session
- 04.x — Spec Sheets: field reference and measurement guide

Tip: If you regularly find yourself manually entering bridge values because the autofill produces results that do not match your shop's fitting standard, take a few minutes to trace where the discrepancy originates — span type, hole size convention, or a systematic measurement difference. A recurrent manual override that has the same value for most bowlers is usually a sign that one of the upstream inputs is consistently off by a fixed amount, and correcting the source is faster in the long run than overriding the output every time.

9.2.6 How do I document a bowler who is a two-hander (no thumb)?

How do I document a bowler who is a two-hander (no thumb)?

9.2.6 FAQ

Two-handed bowlers and no-thumb releases present a fitting workflow that differs from the conventional single-hand approach in a few specific ways. Spectre Cloud accommodates these bowlers fully, but the spec sheet needs to be set up correctly to reflect the absence of a thumb hole and the different span and pitch context that applies. This page explains how to document a two-handed or thumbless bowler accurately so the spec sheet and Arsenal records are meaningful and reproducible.

□□ Understanding the Two-Hander Fitting Context

A two-handed bowler or no-thumb bowler does not use a thumb hole — or uses one only as a balance hole rather than as a gripping hole. The implications for the spec sheet are:

- **No thumb grip measurement** — thumb hole size, knuckle size, and thumb pitch values are not applicable to the primary grip.
- **Different span reference** — without a thumb hole as the anchor point, span is measured differently. The finger span reference changes to the grip centre or an alternative anchor depending on your shop's measurement approach.
- **Pitch philosophy differs** — forward pitch values appropriate for a conventional or fingertip release may not apply to a two-handed bowler whose fingers do not exit the ball in the same way.
- **Auto-suggestions may not apply directly** — IBPSIA-standard suggestions are calibrated for conventional thumb-in grips. Two-handed fits benefit from the fitter's judgement more than from standard formula output.
- **Add Pitch Thumb should be disabled** — with no meaningful thumb pitch, enabling Add Pitch Thumb introduces noise rather than useful data into the finger oval calculation. Confirm this setting is off before running the Oval Calculator.

Setting Up the Spec Sheet for a Two-Hander

Grip type selection

Select **Fingertip** as the grip type for most two-handed bowlers — the finger insertion depth is typically at or near the first knuckle. If the bowler inserts deeper, Semi-fingertip may be more appropriate. Conventional grip is rarely applicable to two-handed bowlers.

Thumb hole section

For a true no-thumb drilling, the thumb hole section requires careful handling:

- If Spectre Cloud allows the thumb hole to be marked as **absent or not applicable**, select that option — this is the cleanest way to document a thumbless drilling and prevents the thumb fields from appearing incomplete or triggering validation warnings.
- If no such option exists and the thumb fields are required, enter a note in the spec sheet Notes field stating explicitly that this is a thumbless drilling — `No thumb hole — two-handed bowler`. This ensures any staff member reading the record understands the thumb fields are intentionally empty.
- If a balance hole is drilled in the thumb position, document it in the thumb section with a note clarifying it is a balance hole rather than a grip hole — `Balance hole only — not a gripping thumb hole`.

⚠ **Verify with Spectre team:** Confirm whether Spectre Cloud has a dedicated no-thumb or thumbless option in the spec sheet thumb section, and whether the thumb hole fields can be suppressed or marked as not applicable. Update the guidance above with the exact UI mechanism if such an option exists.

Span measurement and entry

Without a thumb hole as the traditional span anchor, span measurement for a two-handed bowler requires a defined reference point. Common approaches include:

- **Measuring from the grip centre** — the centre of the palm grip area serves as the anchor point in place of the thumb hole. This produces a consistent measurement across visits if the reference is clearly documented.
- **Using a fitting tape to the first knuckle** — some fitters measure the finger span directly from the knuckle without reference to a thumb hole position, using the ball's grip centre or a defined mark on the ball surface as the anchor.
- **Using the same span type as for standard fits but noting the anchor** — if your shop uses Full Span as the default, document the reference point used in the spec sheet Notes field so the measurement is reproducible on a future visit.
- Do not leave the span reference undefined and undocumented — a span measurement without a clear anchor cannot be accurately replicated by another driller or on a future visit.

Pitch values

Pitch for two-handed bowlers varies widely and is more dependent on individual release characteristics than for conventional grips. The standard IBPSIA formula-based suggestions are a less reliable starting point here — use them as a loose reference and weight the bowler's comfort and feedback more heavily:

- Start with modest forward pitch — `1/8"` to `1/4"` — and adjust based on the bowler's feedback after a test session.
- Lateral pitch is often less critical for two-handed bowlers due to the different axis of release — start at zero and adjust only if the bowler reports lateral discomfort.
- Document the reasoning behind any pitch choice that departs significantly from the standard suggestion — this is especially important for two-handed bowlers where the standard is less applicable.

□□ Documenting the No-Thumb Status in the Bowler Profile

Beyond the spec sheet, the bowler's profile Notes field should capture the two-handed or no-thumb status as a permanent, immediately visible note. Any staff member who opens the profile should know before reaching the spec sheet that this bowler does not use a thumb hole:

- □ Add `Two-handed bowler — no thumb hole` as the first line of the bowler's profile Notes field.
- □ Include any relevant physical context: `Right-handed release, two-handed delivery` or `No thumb — uses balance hole only`.
- □ Note the span reference point used: `Spans measured from grip centre mark — not from thumb hole`.

□□ Arsenal Considerations for Two-Handed Bowlers

The Arsenal entry for a two-handed bowler's ball is created and managed the same way as for any other bowler. A few additional notes are worth capturing:

- □ If a balance hole is drilled, note the balance hole size and position in the Arsenal entry's Notes field — this is relevant if the ball is ever re-drilled or the balance hole needs to be plugged.
- □ If Arsenal Plus is active, the Suggested Layouts feature uses the bowler's PAP to generate layout recommendations. Two-handed bowlers typically have a different PAP location and track than conventional bowlers — confirm the PAP has been accurately measured and recorded before relying on layout suggestions.
- □ Add Pitch Thumb should be confirmed as off in Settings before running the Oval Calculator — as noted above, this is especially important for two-handed bowlers where thumb pitch data is absent or not meaningful.

⚖ Two-Hander vs. No-Thumb One-Hander

Not all thumbless bowlers are two-handed. Some one-handed bowlers also release without the thumb — typically cranker styles or bowlers who have transitioned out of a thumb after an injury. The spec sheet approach is the same, but the fitting conversation and pitch philosophy may differ:

Bowler type	Grip type	Span reference	Pitch starting point
Two-handed, no thumb	Fingertip	Grip centre or defined mark	Conservative forward; zero lateral; adjust from feedback
One-handed, no thumb (cranker)	Fingertip	Same as two-handed — grip centre or defined mark	Similar starting point; lateral pitch may be more relevant depending on release angle
One-handed, thumb used as balance only	Fingertip	Can use thumb hole position as anchor if balance hole exists	Standard fingertip suggestion as reference; adjust based on how actively the thumb is used

Tips for Fitting Two-Handed Bowlers

- **Watch the bowler's release before measuring** — two-handed deliveries vary significantly in how the fingers exit the ball. A few throws on a spare ball or a house ball before the fitting gives you a picture of the release that informs the pitch decision better than any formula.
- **Start conservatively and adjust** — two-handed bowlers who are new to custom equipment often have not yet developed strong preferences about their fit. A conservative first drilling that can be refined on the second ball is more useful than an aggressive first drilling based on limited feedback.
- **Re-measure at every visit** — two-handed bowlers, particularly younger ones still developing their game, change their release characteristics more rapidly than established conventional bowlers. Span and pitch preferences can shift significantly between seasons.
- **Document everything more thoroughly than you would for a standard fit** — a two-handed bowler's spec sheet is less self-explanatory than a conventional one. Any future driller reading it needs enough context to understand the choices made, because the standard formulas will not guide them the way they would for a conventional fit.

Related Sections

- 6.1.3 — Step 3: Set grip type and enter finger measurements
- 6.1.4 — Step 4: Enter thumb information (round or oval)
- 9.1.4 — Using Auto-Suggestions effectively for faster fitting sessions

- 9.2.4 — How do I switch a bowler from fingertip to conventional mid-session
- 5.5.3 — When NONE mode is preferable (experienced fitters, custom setups)
- 7.1.5 — Suggested Layouts feature — using bowler data to suggest a layout

 Tip: Two-handed bowling has grown significantly over the past decade and is no longer unusual in most pro shops. If your shop does not yet have a defined workflow for thumbless fittings, developing one now — consistent span reference, consistent grip type selection, consistent notes format — means the second two-handed bowler through the door is served as confidently as the twentieth. The spec sheet habits established on the first few two-handed fits become the template every subsequent driller in the shop follows.

9.2.7 Can I export or print all spec sheets for a bowler?

Can I export or print all spec sheets for a bowler?

9.2.7 FAQ

Spectre Cloud stores a bowler's complete drilling history digitally — every spec sheet ever created for that bowler is accessible from their profile at any time. There are situations where you need that history in a portable format: a bowler who is moving to another shop and wants their records, an insurance or warranty claim requiring documentation, a backup before account changes, or simply a bowler who wants a printed copy of every ball they have had drilled. This page covers how to export and print spec sheets — individually, and as a complete history for a bowler.

□□ What Can Be Exported or Printed

Spectre Cloud allows spec sheets to be output in two ways — printed directly from the browser or exported as a PDF file. The scope of what is included depends on whether you are working with a single spec sheet or the bowler's full history.

Output type	What is included	When to use
Single spec sheet — print	All fields from one spec sheet, formatted for A4 or US Letter	Pre-drill reference at the press; copy for the bowler after a fitting

Output type	What is included	When to use
Single spec sheet — PDF export	Same as print output, saved as a portable PDF file	Emailing a spec sheet to the bowler; digital filing; sharing with another shop
Full bowler history — print or PDF	All spec sheets for the bowler in chronological order	Bowler moving to another shop; complete records request; long-term backup

⚠ **Verify with Spectre team:** Confirm whether a full bowler history export (all spec sheets in a single document) is a supported feature in the current version of Spectre Cloud, or whether spec sheets can only be exported individually. If bulk export is not yet available, update this page to reflect the individual-only workflow and note the limitation clearly.

□□ Printing a Single Spec Sheet on Desktop

1. Open the bowler's profile and navigate to the **Spec Sheets** section.
2. Click the spec sheet you want to print to open it.
3. Click the **Print** button — typically a printer icon or a Print option in the spec sheet action menu.
4. Spectre Cloud generates a print-formatted version of the spec sheet.
5. Your browser's print dialog opens. Confirm paper size (A4 or US Letter), orientation (portrait is standard for spec sheets), and printer selection.
6. Click **Print**.

□□ Printing a Single Spec Sheet on Mobile or Tablet

1. Open the spec sheet from the bowler's profile.
2. Tap the **Print** or **Share** button.
3. On **iOS/iPadOS**: the system share sheet opens — select **Print** for AirPrint-compatible printers, or **Save to Files** to export as a PDF first.
4. On **Android**: the system print service opens — select your printer or save as PDF.
5. Confirm settings and print or save.

□□ Exporting a Single Spec Sheet as PDF

1. Open the spec sheet.
2. Click or tap the **Export PDF** button or option — found in the spec sheet action menu alongside the Print option.
3. The PDF is generated and either downloads automatically to your device or opens a save dialog depending on your browser and device settings.
4. Save the file with a meaningful name — `BowlerName_BallName_Date.pdf` is a useful convention for filing and finding later.

□□ **Tip:** On desktop, if a dedicated Export PDF button is not available, use the browser's built-in **Print → Save as PDF** function. Open the print dialog, select **Save as PDF** as the destination instead of a physical printer, and save. This produces a PDF identical to what the Print function would send to a printer.

□□ Exporting All Spec Sheets for a Bowler

When a bowler needs their complete drilling history — for a move, a records request, or a personal backup — the most efficient approach depends on whether Spectre Cloud supports bulk export for that bowler's profile.

If bulk export is supported

1. Open the bowler's profile.
2. Locate the **Export All Spec Sheets** or **Export History** option — typically in the profile action menu or at the top of the Spec Sheets section.
3. Select the output format — PDF or print.
4. Spectre Cloud compiles all spec sheets for the bowler into a single document in chronological order.
5. Save or print the compiled document.

If bulk export is not available — individual export workflow

If Spectre Cloud does not yet support bulk export, the complete history must be assembled by exporting each spec sheet individually. For a bowler with a long history this takes time — the following workflow makes it as efficient as possible:

1. Open the bowler's profile and navigate to the **Spec Sheets** section.
2. Note the number of spec sheets in the history — this gives you a target count so you know when the export is complete.
3. Open each spec sheet in turn, starting from the oldest, and export it as a PDF.
4. Name each file consistently — `BowlerName_BallName_YYYY-MM-DD.pdf` — so the files sort chronologically when assembled.
5. Once all spec sheets are exported, compile them into a single PDF using your device's built-in PDF tools or a free PDF merge utility.
6. Provide the compiled document to the bowler or file it as needed.

□□ **Note:** The individual export workflow is time-consuming for bowlers with extensive histories. If this is a regular need in your shop — for example, if your area has high bowler turnover between shops — raise it with the Spectre team as a feature request. A bulk export function for a bowler's complete history is a straightforward addition that significantly reduces this workload.

□□ Sharing a Spec Sheet With Another Shop

When a bowler is transferring to another shop and wants to provide their drilling history to the new operator, a PDF export of their spec sheets is the most universally usable format. The receiving shop can read the PDF regardless of whether they use Spectre Cloud.

- □ Export each spec sheet as a PDF and send them to the bowler — let the bowler share them with the new shop rather than sharing directly from your account.
- □ If the receiving shop also uses Spectre Cloud, the bowler's new operator will need to create a new bowler profile and re-enter the spec sheet data manually from the PDFs — there is no direct shop-to-shop data transfer in the current version.
- □ Confirm with the bowler that they are happy for their drilling history to be shared before exporting — see section 8.1.6 for data privacy considerations around sharing bowler records.

⚠ **Verify with Spectre team:** Confirm whether any shop-to-shop data transfer or bowler record portability feature exists or is planned — if so, document the workflow here rather than the manual PDF approach.

□□ Print Format — What the Spec Sheet Looks Like

Spectre Cloud's print output is formatted for professional use — the printed spec sheet is a clean, structured document that presents the bowler's fitting data in a layout suitable for use at the drill press or as a customer record. The print output includes:

- □ Your shop name, address, and contact information from the shop profile.
- □ Your shop logo if one has been uploaded.
- □ The bowler's name and profile details.
- □ All measurement fields, pitch values, span values, and oval cut outputs.
- □ Layout values in the configured layout system.
- □ The spec sheet creation date.
- □ Any notes entered on the spec sheet.

□□ **Note:** The 3D Layout rendering does not appear on printed spec sheets — it is a digital-only feature. Layout values are printed as numbers in the configured layout system. If the bowler wants to see the 3D rendering, show it to them on screen before printing.

□ Best Practices for Spec Sheet Records Management

- □ **Export a PDF of each spec sheet after drilling** and save it to a local folder or cloud storage as a backup — this is an optional additional safeguard for shops that want a local copy outside the Spectre Cloud platform.
- □ **Provide the bowler with a printed copy** of their spec sheet after every new drilling — a bowler who has a copy of their specs is better equipped to communicate their fitting history to any shop they visit.
- □ **Use consistent file naming** for any exported PDFs — a naming convention applied consistently from the start makes a local backup archive searchable and useful rather than a folder of indistinguishable files.
- □ **For warranty or insurance documentation**, export the spec sheet as a PDF immediately after drilling and save it alongside the purchase receipt and ball serial number — this is the fastest way to assemble a documentation package if a claim arises

later.

Related Sections

- 6.1.7 — Step 7: Review, print, or share the spec sheet
- 8.1.6 — Data privacy and your bowler records
- 7.1.4 — Viewing and editing ball details in the Arsenal
- 9.1.3 — Keeping your bowler database organised
- 03.x — Bowlers (Clients): managing and exporting bowler records

 Tip: When a bowler tells you they are moving away or changing shops, offer to export their full spec sheet history before they leave. It takes a few minutes, costs nothing, and is the kind of service that earns a recommendation to the next shop they walk into. A bowler who leaves your shop with a complete PDF record of every ball you drilled for them carries your shop's professionalism with them wherever they go.

9.3 — Reference Charts

9.3.1 Pitch suggestion chart (flexibility vs. forward pitch)

Pitch suggestion chart (flexibility vs. forward pitch)

9.3.1 reference

This reference chart maps the relationship between a bowler's hand flexibility and the appropriate forward pitch range for the finger holes. Forward pitch is one of the most impactful fitting decisions on a spec sheet — too much forward pitch locks the fingers in, too little (or reverse pitch) causes them to exit too early. Flexibility is the primary physical characteristic that determines where in the pitch range a bowler belongs. This chart gives you a quick starting point for the pitch conversation before measurements are taken and before auto-suggestions are generated.

□□ How to Use This Chart

Assess the bowler's hand flexibility using the simple test described below, then locate their flexibility category in the chart. The chart gives a recommended forward pitch starting range for the finger holes — not a fixed value, but a zone within which the fitting should begin. Auto-suggestions in Spectre Cloud will refine this further once measurements are entered; this chart serves as a pre-measurement orientation and a useful cross-check against those suggestions.

□□ **Note:** This chart covers **finger hole forward pitch** only. Thumb pitch, lateral pitch, and oval cut values are not addressed here — see the related sections at the bottom of this page for those references.

Assessing Hand Flexibility

A quick flexibility assessment takes under thirty seconds and requires no tools beyond the bowler's hand. Ask the bowler to extend their fingers straight out, then curl them toward the palm as if gripping a ball. Observe how naturally and completely the fingers curl:

Flexibility category	What you observe	Typical bowler profile
Very flexible	Fingers curl fully and easily past 90° — knuckles bend well beyond a right angle with no resistance	Younger bowlers, bowlers with naturally hypermobile joints, some women and junior bowlers
Flexible	Fingers curl easily to 90° and slightly beyond with minimal resistance	Most recreational and league bowlers without joint stiffness; standard adult range
Average	Fingers curl comfortably to approximately 90° — normal, unrestricted grip position	The majority of adult bowlers; typical starting assumption for an unknown bowler
Stiff	Fingers curl to approximately 90° but with noticeable effort or slight resistance	Older bowlers, bowlers with early-stage arthritis, bowlers returning after a hand injury
Very stiff	Fingers do not reach 90° comfortably — significant resistance before the grip position is reached	Bowlers with moderate to severe arthritis, significant joint stiffness, or restricted range of motion

Forward Pitch Starting Range by Flexibility

Flexibility category	Fingertip — forward pitch range	Conventional — forward pitch range	Notes
Very flexible	`0` to `1/8"` forward	`0` to `1/8"` forward	Very flexible bowlers often need minimal forward pitch — too much creates a locked, uncomfortable release. Zero pitch or slight forward is the common fit.
Flexible	`1/8"` to `1/4"` forward	`1/8"` to `1/4"` forward	Standard range for most comfortable, unrestricted grips. Auto-suggestions typically fall here for average adult measurements.

Flexibility category	Fingertip — forwardpitch range	Conventional — forward pitch range	Notes
Average	`1/4"` to `3/8"` forward	`1/4"` to `3/8"` forward	Most common range for recreational and league bowlers. IBPSIA standard suggestions for typical measurements land in this range.
Stiff	`3/8"` to `1/2"` forward	`3/8"` to `1/2"` forward	Higher forward pitch compensates for reduced flexibility by making the hole more accessible at the grip position.
Very stiff	`1/2"` to `3/4"` forward	`1/2"` to `3/4"` forward	Significant forward pitch required for comfort. Oval holes may also be beneficial to further ease grip entry and exit.

⚠ **Verify with Spectre team:** Confirm these pitch ranges against the IBPSIA standard values used as the basis for Spectre Cloud's auto-suggestion algorithm, and update the chart if the app's reference values differ from those used here.

⚖ Factors That Shift the Starting Range

The chart above is a starting point. Several bowler-specific factors push the appropriate pitch value toward the lower or upper end of the range — or outside it entirely:

Factors that push toward less forward pitch (lower end or below range)

- **High rev rate** — aggressive release bowlers often prefer less forward pitch for a cleaner, faster finger exit.
- **Long fingers relative to span** — fingers that extend well beyond the first knuckle in the hole may feel over-secured with standard forward pitch.
- **Bowler reports fingers feel locked in** — the most direct signal that forward pitch is too high for this bowler.
- **Two-handed bowler** — as noted in section 9.2.6, standard forward pitch values often do not apply. Start conservatively.

Factors that push toward more forward pitch (upper end or above range)

- **Shorter fingers relative to span** — fingers that sit more shallowly in the hole may need more forward pitch to remain secure through the swing.
- **Bowler reports fingers feel loose or slide out early** — a direct signal that forward pitch may need to increase.
- **Arthritis or joint swelling that is not fully captured by the flexibility test** — the flexibility test assesses range of motion, not pain. A bowler who can reach average flexibility but experiences pain doing so may functionally benefit from stiff-category pitch values.
- **Conventional grip bowlers generally** — conventional grips often sit at the higher end of the range for their flexibility category compared to fingertip bowlers with the same flexibility.

Using This Chart Alongside Auto-Suggestions

This chart and Spectre Cloud's auto-suggestion system approach pitch from different directions — the chart starts with physical observation, the auto-suggestion starts with measurements. When used together they provide a useful cross-check:

- **Chart and suggestion agree** — high confidence. Proceed with the suggested value.
- **Chart range is lower than the suggestion** — check whether the bowler has unusual flexibility for their measurements. The suggestion may be technically correct but the bowler may be more comfortable with a lower value than standard.
- **Chart range is higher than the suggestion** — check whether the flexibility assessment identified significant stiffness that the measurement formula does not capture directly. Consider adjusting upward toward the chart range.
- **Significant disagreement between chart and suggestion** — re-assess flexibility and re-verify measurements before deciding. A large discrepancy often signals either an unusual bowler profile or a measurement entry issue.

Quick Reference — Pitch Starting Points by Bowler Type

Bowler type	Typical starting forward pitch
Junior bowler (under 18, typical flexibility)	`1/8"` to `1/4"` forward
Adult recreational bowler, fingertip	`1/4"` to `3/8"` forward
Adult recreational bowler, conventional	`1/4"` to `3/8"` forward
Competitive league bowler, fingertip	`1/4"` to `3/8"` forward — adjust per release
Senior bowler (65+), average flexibility	`3/8"` to `1/2"` forward
Senior bowler with arthritis	`1/2"` to `3/4"` forward
High rev rate cranker, fingertip	`1/8"` to `1/4"` forward — sometimes zero
Two-handed bowler, no thumb	`1/8"` to `1/4"` forward — start conservatively
Bowler returning after finger injury	Start at upper end of flexibility range — adjust from bowler feedback

□□ A Note on Reverse Pitch

Reverse pitch — where the bottom of the hole tilts away from the palm — is not covered by this chart because it is rarely a starting point for a fitting. It typically emerges as an adjustment for specific bowlers whose release characteristics make forward pitch counterproductive. The situations where reverse finger pitch may be appropriate include:

- □ Very high rev rate bowlers who report their fingers catching or dragging through the release despite minimal forward pitch.
- □ Bowlers who have been on forward pitch for many years and want to experiment with a cleaner, earlier exit.
- □ Bowlers with unusual finger anatomy where the joint geometry is better served by a slight reverse angle.

Reverse pitch on finger holes is an advanced adjustment — it should be reached by deliberate fitting progression rather than used as a default starting point for any bowler profile.

Related Sections

- 9.1.4 — Using Auto-Suggestions effectively for faster fitting sessions
- 9.2.3 — The suggested pitch is not what I expect — is Auto-Suggestion on
- 9.2.4 — How do I switch a bowler from fingertip to conventional mid-session
- 9.2.6 — How do I document a bowler who is a two-hander (no thumb)
- 6.1.3 — Step 3: Set grip type and enter finger measurements
- 5.6.5 — Choosing EDGE vs. CENTER: which method fits which bowler

 Tip: Keep a laminated copy of the quick-reference table at the fitting counter. A bowler who walks in without an appointment and without a previous spec sheet can be oriented to a starting pitch range in under a minute using only the flexibility test and this chart — giving you a confident starting point for the fitting conversation before a single measurement has been taken.

9.3.2 CLT chart (lateral tilt angle vs. lateral pitch)

CLT chart (lateral tilt angle vs. lateral pitch)

9.3.2 reference

The **CLT chart** — Compensating Lateral Tilt — maps the relationship between a bowler's lateral axis tilt angle and the appropriate lateral pitch value for the finger holes. Where forward pitch addresses how deeply and securely the fingers seat in the ball, lateral pitch corrects for the natural angle at which the fingers approach the holes relative to the ball surface. Getting lateral pitch right produces a grip that feels neutral and natural — the fingers enter and exit without twisting, and the hand does not have to compensate for a misaligned hole during the release.

□□ What CLT Measures and Why It Matters

When a bowler's hand approaches the ball at rest, the fingers do not always come straight down perpendicular to the ball surface — most bowlers have a natural lateral tilt to the axis of the finger approach. If the holes are drilled straight (zero lateral pitch) and the bowler's natural approach angle is offset, the inside wall of the hole contacts the finger on one side while the other side has a gap. The finger compensates by twisting slightly to fill the hole — and that twist is felt at the release as friction, torque, or discomfort.

Lateral pitch corrects for this by tilting the hole axis to match the bowler's natural approach angle. When the hole and the approach angle align, the finger seats cleanly and exits cleanly without compensation. The CLT chart gives you the pitch value that produces that alignment for a measured tilt angle.

📐 Measuring the Lateral Tilt Angle

The lateral tilt angle is the angle between the bowler's finger axis and the vertical when the hand is in grip position. It is assessed with the bowler holding a ball in their natural stance or with a fitting ball:

1. Ask the bowler to hold or rest their hand on a fitting ball in their natural grip position — relaxed, not forced.
2. Observe the angle of the middle finger from the side — specifically whether the finger tilts toward the thumb side (inward tilt) or away from the thumb (outward tilt) relative to vertical.
3. Estimate the angle of tilt in degrees. Most bowlers fall between `0°` and `10°` — values beyond `15°` are uncommon and warrant verification before drilling.
4. Note the direction — tilt toward the thumb (toward the ring finger side for the middle finger hole) is the most common direction and typically calls for lateral pitch toward the thumb side.

🗒️ **Note:** Lateral tilt is most easily assessed with a fitting ball or a house ball in the bowler's hand rather than from observation alone. A bowler who is asked to mime their grip without a ball often holds their hand in a slightly different position from their actual delivery grip — the weight and feel of the ball reveals the natural approach angle more accurately.

🗂️ CLT Chart — Lateral Tilt Angle vs. Lateral Pitch

Lateral tilt angle	Direction	Recommended lateral pitch	Notes
`0°`	None — fingers approach vertically	`0` (zero lateral pitch)	Holes drilled straight. Most common in bowlers with a neutral, square grip position.

Lateral tilt angle	Direction	Recommended lateral pitch	Notes
`1°` – `3°`	Toward thumb (inward)	`1/16"` toward thumb	Minimal tilt — borderline for correction. Some fitters leave this at zero; others prefer to compensate even at small angles.
`4°` – `6°`	Toward thumb (inward)	`1/8"` toward thumb	Most common range for right-handed fingertip bowlers. Standard lateral pitch for a typical fingertip fit.
`7°` – `9°`	Toward thumb (inward)	`3/16"` toward thumb	Moderate tilt requiring meaningful correction. Verify the tilt angle before committing — this range is less common and worth re-assessing.
`10°` – `12°`	Toward thumb (inward)	`1/4"` toward thumb	Significant tilt. Check for physical causes — unusual hand geometry, grip tension, or measurement technique. Use this pitch only if the angle is confirmed.
`1°` – `3°`	Away from thumb (outward)	`1/16"` away from thumb	Less common direction. Occurs in some left-handed bowlers or those with an unusually open grip position.
`4°` – `6°`	Away from thumb (outward)	`1/8"` away from thumb	Requires careful verification — outward tilt at this level is atypical and worth discussing with the bowler before drilling.
Above `12°`	Either direction	Consult experienced fitter	Values above 12° are unusual. Re-measure and verify before proceeding. May indicate grip tension, an atypical physical characteristic, or a measurement technique issue.

⚠ **Verify with Spectre team:** Confirm the lateral pitch values in this chart against the CLT standard values used as the basis for Spectre Cloud's auto-suggestion algorithm. The values above are based on general IBPSIA-derived CLT guidance and should be cross-checked against the specific values the app references before publishing.

⚖ Middle Finger vs. Ring Finger — Are They the Same?

In most fits, the middle and ring fingers have similar lateral tilt angles and receive the same lateral pitch value. However, they should always be assessed independently — assuming symmetry without checking is a common source of subtle grip discomfort that is hard to trace after drilling.

- Assess both fingers in grip position and note whether their tilt angles appear the same or different.
- For most bowlers the difference, if any, is small enough to round to the same pitch value — but note the independent assessment in the spec sheet rather than recording a single assumed value for both.
- In cases where the middle and ring finger tilt angles are noticeably different — more than one or two degrees apart — enter different lateral pitch values for each hole and note the reason.

CLT and Handedness

The direction of lateral tilt is often influenced by handedness, though it varies by individual. As a general orientation:

- **Right-handed bowlers** most commonly tilt toward the thumb (inward) — lateral pitch toward the thumb side is the standard correction.
- **Left-handed bowlers** follow the same physical principle but mirrored — inward tilt for a left-handed bowler also tilts toward the thumb, which is on the opposite side from a right-handed bowler.
- Confirm the direction by observation rather than assumption — a right-handed bowler with an outward tilt is unusual but not impossible.

Using CLT Values in Spectre Cloud

Once you have determined the lateral pitch value from the CLT chart, enter it in the **lateral pitch field** for each finger hole on the spec sheet. Spectre Cloud's auto-suggestion system may generate a lateral pitch suggestion based on the bowler's measurements — compare this against the CLT chart value as a cross-check:

- **Suggestion and chart agree** — accept the suggestion with confidence.
- **Suggestion is zero but chart indicates correction needed** — the measurement-based formula may not capture the tilt angle directly. Override with the CLT chart value and note the reason.
- **Chart and suggestion differ by one increment** — use fitting judgement. The chart value is based on physical observation; the suggestion is based on measurements. Both are valid inputs — the bowler's comfort after a test session is the final arbiter.
- **Large discrepancy between chart and suggestion** — re-assess the tilt angle and re-verify the measurements before committing. A large discrepancy usually means one of the inputs needs checking.

CLT Quick Reference — Common Lateral Pitch Values

Bowler profile	Typical lateral pitch
Most right-handed adult fingertip bowlers	`1/8"` toward thumb
Most left-handed adult fingertip bowlers	`1/8"` toward thumb (mirrored)
Bowler with very neutral grip position	`0` (zero)
Bowler with noticeable inward tilt	`3/16"` to `1/4"` toward thumb
Conventional grip bowler	`0` to `1/8"` toward thumb — less lateral correction typically needed than fingertip
Two-handed bowler	Start at `0` — assess from delivery observation; standard CLT values less reliable
Junior bowler	`0` to `1/8"` — start conservatively and adjust

When Lateral Pitch Needs Revisiting After Drilling

Lateral pitch is one of the fitting values most likely to need fine-tuning after a bowler has thrown the ball in competition. The following post-drill feedback signals that lateral pitch may need adjustment:

- **Fingers feel like they are twisting in the hole** — lateral pitch is in the wrong direction or insufficient.

- **One side of the finger hole causes a pressure mark or soreness** — the hole wall is contacting the finger unevenly, typically a sign of lateral pitch mismatch.
- **Bowler reports the ball feeling like it wants to roll off one side of the fingers** — often a lateral pitch issue, though it can also relate to the oval cut orientation.
- **Release feels inconsistent side to side despite consistent swing** — lateral pitch is a likely contributor when the inconsistency is specifically directional rather than general.

Related Sections

- 9.3.1 — Pitch suggestion chart (flexibility vs. forward pitch)
- 9.1.4 — Using Auto-Suggestions effectively for faster fitting sessions
- 9.2.3 — The suggested pitch is not what I expect — is Auto-Suggestion on
- 6.1.3 — Step 3: Set grip type and enter finger measurements
- 5.6.5 — Choosing EDGE vs. CENTER: which method fits which bowler
- 5.5.2 — Using the oval cut chart to determine cuts manually

Tip: For a new bowler or any bowler whose lateral tilt you are assessing for the first time, take the measurement twice — once with the bowler holding a ball in their delivery grip, and once with them resting their hand flat in a natural position. The difference between the two positions is often instructive: a bowler whose hand is neutral at rest but shows significant tilt in grip position has developed a grip-specific compensation that the lateral pitch needs to accommodate. A bowler whose tilt is consistent in both positions has an anatomical characteristic that the pitch should correct.

9.3.3 5/16 rule ring finger span distance chart

5/16 rule ring finger span distance chart

9.3.3 reference

The **5/16 rule** is a widely used pro shop guideline for determining the ring finger span relative to the middle finger span. Because most bowlers' ring fingers are shorter than their middle fingers, the ring finger hole is positioned closer to the thumb hole than the middle finger hole — and the 5/16 rule provides a standard offset for deriving the ring finger span from the middle finger span without measuring both fingers independently every time. This page explains the rule, when to apply it, and provides a reference chart of ring finger span distances derived from common middle finger spans.

□□ What the 5/16 Rule States

The 5/16 rule states that the ring finger span should be **5/16" shorter than the middle finger span** for a standard fingertip fit on a typical adult hand. This offset accounts for the natural length difference between the middle and ring fingers and produces a grip where both fingers seat at approximately the same relative joint position in their respective holes.

- □ The rule applies to **fingertip grip** as the primary use case — both fingers should seat at the first knuckle.
- □ It is a **starting point**, not an absolute. Bowlers with an unusual difference between their middle and ring finger lengths may need a different offset.

- □ The same rule is applied independently of span type — whether Full Span, Cut to Cut, or Oval is used, the 5/16 offset applies to whichever span measurement convention the shop uses.
- □ Spectre Cloud's auto-suggestion system may apply this rule automatically when generating span suggestions from finger measurements — the chart below provides a manual reference for cross-checking those suggestions.

⚠ **Verify with Spectre team:** Confirm whether Spectre Cloud's span auto-suggestion applies the 5/16 rule as described, or whether it uses a different offset formula derived from the joint measurements entered on the spec sheet. Update the introduction above if the app uses a different standard.

□□ 5/16 Rule Reference Chart

Find the middle finger span in the left column. The ring finger span derived from the 5/16 rule appears in the right column. All values are in inches expressed as fractions.

Middle finger span	Ring finger span (5/16 rule)	Difference
3 1/4"	2 15/16"	5/16"
3 5/16"	3"	5/16"
3 3/8"	3 1/16"	5/16"
3 7/16"	3 1/8"	5/16"
3 1/2"	3 3/16"	5/16"
3 9/16"	3 1/4"	5/16"
3 5/8"	3 5/16"	5/16"
3 11/16"	3 3/8"	5/16"
3 3/4"	3 7/16"	5/16"
3 13/16"	3 1/2"	5/16"
3 7/8"	3 9/16"	5/16"
3 15/16"	3 5/8"	5/16"
4"	3 11/16"	5/16"
4 1/16"	3 3/4"	5/16"
4 1/8"	3 13/16"	5/16"
4 3/16"	3 7/8"	5/16"
4 1/4"	3 15/16"	5/16"
4 5/16"	4"	5/16"
4 3/8"	4 1/16"	5/16"

Middle finger span	Ring finger span (5/16 rule)	Difference
`4 7/16"`	`4 1/8"`	`5/16"`
`4 1/2"`	`4 3/16"`	`5/16"`
`4 9/16"`	`4 1/4"`	`5/16"`
`4 5/8"`	`4 5/16"`	`5/16"`
`4 11/16"`	`4 3/8"`	`5/16"`
`4 3/4"`	`4 7/16"`	`5/16"`

⚖ When to Apply the 5/16 Rule and When to Deviate

The 5/16 rule is an industry standard starting point — reliable for the majority of adult hands in the typical span range. The following circumstances call for deviation:

Measure both fingers independently when

- The bowler's ring finger appears significantly longer or shorter than their middle finger relative to the typical adult proportion — visible at a glance during measurement.
- The bowler has an injury, medical condition, or surgical history affecting one finger but not the other.
- A previous spec sheet for this bowler records a ring finger span that deviates from the 5/16 rule by more than `1/16"` — follow the established fit rather than the formula.
- The bowler is a junior with hands that are still developing — proportions change more rapidly than in adults and the 5/16 assumption is less reliable.
- The bowler reports discomfort specifically in the ring finger hole of previous drillings despite correct hole sizing.

Apply the 5/16 rule as the default when

- Both fingers appear proportionately typical for the bowler's hand size.
- The bowler is new with no previous spec sheets and no reported issues with either finger.
- You are working in a high-volume session and need a reliable starting point quickly — the rule produces a correct or near-correct span for the majority of adult hands.
- The auto-suggestion for the ring finger span matches the 5/16 rule output — convergence between the formula and the suggestion adds confidence.

□□ Using This Chart With Spectre Cloud

After measuring the middle finger span and entering it on the spec sheet, use this chart to derive the expected ring finger span before entering it. Compare against Spectre Cloud's auto-suggestion for the ring finger:

- □ **Chart and suggestion agree** — enter the value with confidence.
- □ **Chart and suggestion differ by `1/16"`** — minor variance. Confirm the middle finger span was entered correctly and choose the value that best reflects the physical measurement.
- □ **Chart and suggestion differ by `1/8"` or more** — investigate before entering. Check whether the joint measurements used by the suggestion algorithm differ meaningfully from what the 5/16 rule assumes, or whether a measurement entry error has skewed the suggestion.

□□ Conventional Grip — Does the 5/16 Rule Apply?

The 5/16 rule is most reliably applied to fingertip grips where both fingers seat at the first knuckle. For conventional grips, both fingers seat at the second knuckle and the relative span difference between middle and ring fingers at the second knuckle is typically smaller than the 5/16 standard — the fingers are more equal in length at the second knuckle than at the first.

- □ For conventional grips, measure both fingers to the second knuckle independently rather than applying the 5/16 rule — the offset is less predictable at the conventional seating depth.
- □ If a conventional bowler is transitioning to fingertip, re-measure both fingers to the first knuckle — do not apply a 5/16 offset to a second-knuckle measurement.
- □ For semi-fingertip grips, treat the 5/16 rule as a rough guide only and confirm with independent measurement.

□□ Quick Formula for Values Not in the Chart

If the middle finger span falls between entries in the chart or outside the range shown, the ring finger span is always:

Ring finger span = Middle finger span − 5/16"

In decimal terms: **Middle finger span − 0.3125"**

Apply the result and round to the nearest `1/16"` increment consistent with your shop's measurement precision.

Related Sections

- 9.3.1 — Pitch suggestion chart (flexibility vs. forward pitch)
- 9.3.2 — CLT chart (lateral tilt angle vs. lateral pitch)
- 6.1.3 — Step 3: Set grip type and enter finger measurements
- 9.1.4 — Using Auto-Suggestions effectively for faster fitting sessions
- 9.2.4 — How do I switch a bowler from fingertip to conventional mid-session
- 5.5.2 — Using the oval cut chart to determine cuts manually

 Tip: Print this chart and laminate it alongside the pitch and CLT reference charts at the fitting counter. A three-chart reference covering forward pitch, lateral pitch, and ring finger span gives any driller — experienced or new — a complete quick-reference toolkit for the most common manual calculations in a fitting session. The charts do not replace measurement or judgement, but they cut the mental arithmetic out of a routine fitting and let you focus on the bowler rather than the numbers.

9.3.4 Insert OD chart — standard insert sizes by brand

Insert OD chart — standard insert sizes by brand

9.3.4 reference

Finger inserts add a consistent, replaceable grip surface inside drilled finger holes and are used by the majority of fingertip bowlers. Each insert brand and model has a defined **outer diameter (OD)** — the dimension that determines how large the hole needs to be drilled to accept the insert. Drilling to the wrong OD produces a hole that is either too tight (the insert cannot seat) or too loose (the insert spins or falls out). This chart provides standard insert OD values by brand as a quick reference for the hole size field on the spec sheet.

⚠ **Verify with Spectre team and insert manufacturers:** Insert OD specifications change when manufacturers update product lines. Verify all values in this chart against current manufacturer documentation before publishing, and establish a review schedule to keep the chart current. The values below represent commonly used sizes at the time of writing and should be treated as a starting reference, not a definitive specification.

□□ How to Use This Chart

Find the insert brand and model being used. The OD value in the chart is the hole diameter to drill — enter this value as the **finger hole size** on the spec sheet. The insert will seat at this diameter;

the bowler's finger then fits inside the insert according to the insert's inner diameter (ID), which is sized separately by the fitter from the bowler's finger measurement.

- The **hole size field** on the spec sheet should reflect the **insert OD**, not the bowler's finger measurement directly.
- The bowler's finger size determines which **insert ID** to select — the insert OD determines the hole to drill.
- When in doubt, verify the OD with the physical insert using a micrometer or caliper before drilling — manufacturer tolerances vary and individual inserts occasionally fall outside the stated specification.

Standard Insert OD by Brand

Turbo

Insert model	Outer diameter (OD)	Notes
Turbo Quad	`1"`	Most common Turbo insert. Standard hole size for the majority of fingertip fits using Turbo grips.
Turbo Quad Jr.	`29/32"`	Smaller OD version for junior or smaller-handed bowlers.
Turbo Switch Grip	`1"`	Same OD as standard Quad — designed for quick change between inserts without redrilling.
Turbo Oval Quad	Varies by size	Oval inserts — verify OD with the specific insert before drilling. Oval OD is measured at the widest point.

Vise

Insert model	Outer diameter (OD)	Notes
Vise IT Insert	`1"`	Standard Vise insert. 1" OD is consistent across the IT line.
Vise Oval IT Insert	Varies by oval size	Oval inserts — measure the specific insert. Round dimension is typically `1"`; oval adds length in one axis.
Vise Grip Tape (in-hole)	N/A — tape applied inside hole	Grip tape is applied inside an existing hole and does not change the drilled OD. No hole size change required.

Ebonite / Storm / Roto Grip (shared insert line)

Insert model	Outer diameter (OD)	Notes
Standard fingertip insert	`1"`	Shared across several brands in the same manufacturing group. Confirm with the specific insert packaging.
Small fingertip insert	`29/32"`	For smaller holes — junior and small-handed bowlers.

Brunswick

Insert model	Outer diameter (OD)	Notes
Brunswick Finger Insert	`1"`	Standard 1" OD. Confirm with physical insert — Brunswick has produced inserts at slightly varying ODs across different product generations.

Master Industries

Insert model	Outer diameter (OD)	Notes
Master Finger Insert	`1"`	Standard OD. Verify with physical insert before drilling.
Master Oval Insert	Varies by oval size	Measure individual insert — round dimension typically `1"`.

□□ OD Tolerance — Why Measuring the Physical Insert Matters

Manufacturer OD specifications are nominal values — the actual insert may be slightly larger or smaller due to manufacturing tolerance. For most inserts the variance is negligible, but for a small number of older, overstocked, or off-brand inserts, tolerance differences can affect seating. A micrometer or caliper reading of the actual insert is the most reliable input for the hole size field, particularly when:

- The insert is from a brand not listed in this chart.
- The insert is from an older product line whose specifications may have changed.
- The bowler supplies their own inserts rather than using shop stock — unbranded or import inserts vary widely.
- A previous drilling using the same nominal OD resulted in an insert that was too tight or too loose.

⚖ Fit Allowance — Drilling Slightly Larger Than OD

In practice, most pro shop operators drill the hole to a diameter slightly larger than the nominal insert OD — typically `1/64"` to `1/32"` over — to allow the insert to seat cleanly without forcing. The exact allowance depends on:

- **Ball coverstock hardness** — harder coverstocks compress less around the insert and may need a slightly larger allowance for clean seating.
- **Insert material** — softer inserts compress slightly on insertion; harder inserts do not. A softer insert may need less allowance than the nominal OD suggests.
- **Shop standard** — most experienced operators develop a consistent allowance over time. Enter this in the hole size field rather than the bare nominal OD if your shop applies a standard allowance.

Note: Enter the **actual hole size drilled** on the spec sheet — including any fit allowance — rather than the nominal insert OD. The spec sheet should reflect what was physically drilled, not the theoretical specification. A future re-drill based on the spec sheet will produce the same result only if the recorded hole size matches what was actually in the ball.

Recording Inserts in Spectre Cloud

Spectre Cloud's spec sheet hole size field accepts the drilled diameter directly. Beyond the hole size, insert details worth capturing elsewhere in the record include:

- **Insert brand and model** — record in the spec sheet Notes field. A future re-drill can replicate the same insert if this information is on file.
- **Insert colour** — optional but useful for bowlers who have colour preferences or who use colour to identify their ball in a bag.

- **Insert OD as measured** — if you measured the actual insert with a caliper and it differed from the nominal value, note both in the spec sheet notes: `Turbo Quad nominal 1" — measured 63/64" — drilled 63/64"`.
- **Arsenal entry notes** — for Arsenal Plus users, the insert brand and model can also be recorded in the ball's Arsenal entry notes for quick reference when the bowler returns for a re-drill or insert replacement.

Oval Inserts — Additional Considerations

Oval inserts require the hole to be drilled to the insert's oval dimensions rather than a simple round diameter. The hole must match both the round dimension and the oval extension of the insert:

- Measure the oval insert at its widest point (the oval axis) and at its round dimension before drilling.
- Confirm the oval orientation on the insert matches the oval cut direction configured in Spectre Cloud — an oval insert seated in the wrong orientation defeats the purpose of the oval cut.
- Record both the round and oval dimensions in the spec sheet hole size and oval fields respectively — do not record only the round dimension for an oval insert.
- For oval inserts where the OD varies by insert size, confirm the specific model's dimensions from the manufacturer's current product documentation rather than relying on this chart.

Related Sections

- 9.3.1 — Pitch suggestion chart (flexibility vs. forward pitch)
- 9.3.2 — CLT chart (lateral tilt angle vs. lateral pitch)
- 9.3.3 — 5/16 rule ring finger span distance chart
- 6.1.3 — Step 3: Set grip type and enter finger measurements
- 7.1.3 — Hole Depth option — setting desired depth for each hole
- 04.x — Spec Sheets: field reference and measurement guide

Tip: Keep a physical sample of each insert brand and model your shop stocks, mounted on a card with the OD written beside it, at the fitting counter. When a bowler brings in their own inserts or requests a specific brand, you can confirm the OD visually in seconds rather than searching through packaging or charts. A five-minute investment in a sample card at setup saves repeated lookups across hundreds of fittings.

9.3.5 Oval cut chart for manual (NONE mode) calculations

Oval cut chart for manual (NONE mode) calculations

9.3.5 reference

When Spectre Cloud's Oval Cut Direction is set to **NONE**, the app does not generate directional oval cut suggestions — the fitter determines the oval cut value manually and enters it directly on the spec sheet. This reference chart provides the standard oval cut sizes mapped to forward pitch values and ball track types, giving operators working in NONE mode a quick, reliable starting point for every fit without needing to consult an external chart or rely on memory.

□□ How to Use This Chart

Locate the bowler's **forward pitch value** in the left column and their **ball track type** across the top. The cell at the intersection gives the recommended starting oval cut size. Enter this value in the **Oval** field on the spec sheet.

- □ This chart applies to **finger holes only** — thumb oval cuts are determined separately based on thumb anatomy and release characteristics.
- □ Values are expressed in inches as fractions — the same unit used in Spectre Cloud's oval field.

- □ The chart gives a **starting point**, not a fixed prescription. Adjust based on the bowler's hand anatomy, insert type, and release feedback.
- □ This chart is designed for use with **NONE mode**. If your shop uses Forward/Back or Left/Right directional mode, the Oval Calculator generates directional output automatically — see sections 5.6.1–5.6.5.

□□ Oval Cut Chart — Forward Pitch vs. Ball Track

Forward pitch	Low track	Medium track	High track	Notes
Reverse pitch or `0`	`0` (round)	`0` (round)	`0` to `1/8"`	Reverse or zero pitch rarely requires an oval. High track bowlers may benefit from a minimal oval for comfort even at zero forward pitch.
`1/8"` forward	`0` to `1/8"`	`1/8"`	`1/8"`	Small oval appropriate at this pitch level. Low track bowlers may not need any oval at 1/8" forward.
`1/4"` forward	`1/8"`	`1/8"` to `3/16"`	`3/16"` to `1/4"`	The most common pitch range for recreational and league bowlers. Oval size begins to have meaningful impact on feel.
`3/8"` forward	`1/8"` to `3/16"`	`1/4"`	`1/4"` to `5/16"`	Standard range for average to stiff flexibility bowlers. A 1/4" oval is the most frequently used size across this pitch value.
`1/2"` forward	`3/16"` to `1/4"`	`1/4"` to `5/16"`	`5/16"` to `3/8"`	Higher forward pitch begins to require more meaningful oval correction. Track type has increasing influence at this level.

Forward pitch	Low track	Medium track	High track	Notes
`5/8"` forward	`1/4"`	`5/16"`	`3/8"`	Significant forward pitch — typically seen in bowlers with stiff hands or arthritic conditions. Larger oval essential for comfortable grip and release.
`3/4"` forward	`1/4"` to `5/16"`	`3/8"`	`3/8"` to `1/2"`	Very high forward pitch. Verify the pitch value before proceeding — values at this level are uncommon and worth confirming against the bowler's history.

⚠ **Verify with Spectre team:** Confirm the oval cut values in this chart against the IBPSIA-standard reference values used internally by Spectre Cloud. The values above are based on general industry practice and should be cross-checked against the app's own reference data before publishing.

□□ Determining Ball Track Type

Ball track type is assessed by examining the wear pattern on the ball surface from previous use, or estimated from the bowler's delivery characteristics if the ball is new.

Track type	Wear pattern location	Delivery characteristics
Low track	Track runs close to the thumb and finger holes — often within an inch of the holes	Typically associated with lower axis tilt, smoother roll, earlier transition through the pins
Medium track	Track runs roughly midway between the holes and the ball's equator	Most common track type — the standard assumption for an unknown bowler
High track	Track runs near the ball's equator, well away from the holes	Associated with higher axis tilt, stronger backend reaction, more angular breakpoint

□□ **Note:** For a new ball with no wear pattern yet established, estimate track type from the bowler's delivery observation or default to **medium track** as the starting assumption. The oval cut can be refined on a subsequent drilling once the track has developed.

⚖ Factors That Adjust the Chart Value

The chart gives the standard starting oval for the pitch and track combination. Several bowler-specific factors push the appropriate value above or below that starting point:

Factors that suggest a larger oval than the chart value

- **Very stiff flexibility** — the bowler has difficulty fully gripping the ball and needs a more forgiving release path.
- **Large finger holes relative to finger size** — a looser fit benefits from a larger oval to maintain consistent finger contact through the swing.
- **Bowler reports fingers dragging or catching** after drilling to a previous smaller oval — direct feedback that the oval was insufficient.
- **Arthritis or joint swelling** — the grip entry and exit path needs more clearance than a standard fit.

Factors that suggest a smaller oval than the chart value

- **Very flexible hand** — flexible bowlers often need less oval correction because the fingers exit the ball more cleanly regardless.
- **Tight insert fit** — a snug insert may not require oval correction at smaller pitch values where the fit is already secure.
- **Bowler prefers a firmer, more controlled feel** — some experienced fingertip bowlers intentionally use a smaller oval for a more precise release.
- **Previous drilling with this oval size felt too loose** — reduce by one increment and re-assess.

Cross-Checking Against Spectre Cloud Auto-Suggestions

If you switch from NONE mode to a directional mode temporarily to check what the Oval Calculator would suggest for a given pitch and track combination, the directional output provides a useful cross-reference for your manual NONE mode entry:

- The total oval size component of a directional output should broadly agree with the chart value for the same pitch and track. A significant discrepancy is worth investigating before entering a value.
- Use this cross-check for unfamiliar bowler profiles or when the chart produces a value that seems unexpectedly large or small for the fit.
- Switch back to NONE mode before saving the spec sheet — running the calculator in directional mode and then saving under NONE produces a spec sheet without directional labels, which is correct for NONE mode operation but only if the switch back was completed.

Quick Reference — Most Common Oval Cut Values

In practice, the majority of pro shop fittings fall within a narrow oval cut range. This condensed reference covers the most frequently encountered combinations:

Situation	Starting oval cut
Recreational bowler, standard fit, `1/4"`–`3/8"` forward pitch	`1/4"`
League bowler, medium track, `3/8"` forward pitch	`1/4"`
Senior bowler, stiff hands, `1/2"`+ forward pitch	`3/8"`
Junior bowler, flexible, `1/8"`–`1/4"` forward pitch	`1/8"`
High rev bowler, high track, `1/4"` forward pitch	`1/4"`
Conventional bowler, any track, `3/8"` forward pitch	`1/4"`
Bowler with zero or reverse pitch	`0` (round hole)
Arthritis — significant forward pitch, any track	`3/8"` to `1/2"`

Entering the Value in Spectre Cloud (NONE Mode)

1. Confirm **Oval Cut Direction** is set to **NONE** in Settings — see section 5.5.1.

2. On the spec sheet, locate the **Oval** field for each finger hole.
3. Enter the oval cut size determined from this chart — for example, `1/4"`.
4. Because NONE mode produces a single unlabeled value, no axis direction is required — just the size.
5. Save the spec sheet. The oval value appears on the printed spec sheet as a single measurement without a directional label.

Related Sections

- 5.5.1 — Setting up: Oval Cut Direction = NONE in Settings
- 5.5.2 — Using the oval cut chart to determine cuts manually
- 5.5.3 — When NONE mode is preferable (experienced fitters, custom setups)
- 5.6.5 — Choosing EDGE vs. CENTER: which method fits which bowler
- 9.3.1 — Pitch suggestion chart (flexibility vs. forward pitch)
- 9.3.2 — CLT chart (lateral tilt angle vs. lateral pitch)

 Tip: Print this chart and laminate it alongside the pitch and CLT reference charts at the fitting counter and drill press. The three charts together — forward pitch by flexibility, lateral pitch by tilt angle, and oval cut by pitch and track — give any driller a complete manual reference for the most common fitting calculations without needing to open Settings, run the calculator, or leave the press. A well-maintained laminated reference at the press is one of the most practical tools in a busy shop, especially when training new staff who are building their fitting intuition alongside their technical knowledge.

9.3.6 Glossary of all terms and abbreviations used in Spectre Cloud

Glossary of all terms and abbreviations used in Spectre Cloud

9.3.6 reference

This glossary defines every term, abbreviation, and acronym used throughout Spectre Cloud and this wiki. Entries are organised alphabetically. Where a term has a dedicated wiki page covering it in depth, a cross-reference is provided. Use this page as a quick reference during fittings, when training new staff, or when a term appears in a spec sheet or setting that needs clarification.

A

Add Pitch Thumb
: An optional setting within the Oval Calculator that includes the thumb's pitch values in the finger oval calculation. When enabled, the combined pitch geometry of the full grip — fingers and thumb — influences the oval output. See sections 5.6.3 and 5.6.4.

Arsenal

The per-bowler ball inventory system in Spectre Cloud. Each Arsenal entry represents one physical ball and links to all spec sheets ever created for that ball. See section 7.1.1.

Arsenal Plus

An optional plugin (`$5 USD/month`) that adds bowlingdatabase.com integration, barcode scanning, suggested layouts, layout conversion, and 3D layout rendering to the Arsenal. See Book 07.

Auto-Suggestion

Spectre Cloud's system for generating recommended pitch, span, and oval cut values based on the measurements entered on a spec sheet and IBPSIA-standard fitting guidelines. See section 9.1.4.

Axis Rotation

The angle of the bowler's axis of rotation relative to the target line at the moment of release. Expressed in degrees. Influences ball motion and is used as an input for layout suggestions in Arsenal Plus.

Axis Tilt

The angle of the bowler's axis of rotation relative to the horizontal at the moment of release. Expressed in degrees. A higher tilt produces a more angular backend motion; lower tilt produces a smoother, earlier roll. Used as an input for layout suggestions in Arsenal Plus.

□□ B

Balance Hole

A non-gripping hole drilled into a bowling ball to adjust its static weight balance. Not a thumb grip hole — noted as such in the spec sheet thumb section when present. Regulations governing balance holes vary by governing body and era; confirm current rules with the relevant association before drilling.

Barcode Scanning

An Arsenal Plus feature that scans the barcode on a ball's box or surface to look up its specifications in the bowlingdatabase.com integration, pre-filling the Arsenal entry automatically. See section 7.2.3.

Book

The top-level organisational unit of this wiki. The Spectre Cloud Manual contains nine books covering Getting Started, Settings, Bowlers, Spec Sheets, Oval Calculator, Drilling Your First Ball, Arsenal, Account and Business, and Tips, Troubleshooting and Reference.

BowlDevs

The development company behind Spectre Cloud. Founded by Mark (Wichita State University Computer Science graduate) and Luis (competitive bowler based in Montreal). Website: `bowldevs.com`.

Bowler Plus

An optional plugin (`$5 USD/month`) that adds full address storage, client consent signatures, and a hand photograph gallery to bowler profiles. See Book 03.

bowlingdatabase.com

A third-party database of bowling ball specifications. Integrated into Spectre Cloud via Arsenal Plus to provide core specifications (RG, differential, MB differential, coverstock) for use in layout suggestions and 3D rendering.

Bridge

The distance between the edges of the two finger holes (middle and ring) on a drilled bowling ball. Calculated automatically by Spectre Cloud from the hole sizes and span values on the spec sheet. See section 9.2.5.

□□ C

CENTER method

An Oval Calculator method that anchors pitch at the geometric centre of the oval hole rather than its leading edge. Appropriate for small ovals, low to zero pitch, and legacy record continuity. See section 5.6.2.

CG (Centre of Gravity)

The point on a bowling ball's surface directly above its internal centre of mass. Used as a reference point in some layout systems, particularly 2LS. The CG is marked on the ball by the manufacturer.

CLT (Compensating Lateral Tilt)

A fitting standard that maps the bowler's lateral finger approach angle to the appropriate lateral pitch value for the finger holes. See section 9.3.2.

Clone

A Spectre Cloud function that creates an exact copy of an existing spec sheet attached to the same bowler. All field values are duplicated; the clone is independent from the source. See section 9.1.2.

Conventional grip

A grip style in which the fingers are inserted to the second knuckle. Produces a more secure but less expressive release than fingertip. Selected as a grip type on the spec sheet.

Coverstock

The outer shell of a bowling ball. The coverstock material (reactive resin, urethane, plastic) and surface finish determine how the ball interacts with the lane. Relevant to layout decisions and surface maintenance notes in the Arsenal.

Cut to Cut (C)

A span type in which the span is measured from the near edge of the thumb hole to the near edge of the finger hole. One of three span types supported by Spectre Cloud alongside Full Span and Oval. See section 6.1.2.

□□ D

Differential

A measure of a bowling ball core's track flare potential. Total differential is the difference between the ball's maximum and minimum RG values. MB differential measures the asymmetric mass bias influence. Higher differential generally produces more flare potential.

Drilling Angle

The rotation of the ball in the drilling jig that determines where the mass bias marker ends up relative to the VAL after drilling. Most significant for asymmetric core balls. Entered in the layout section of the spec sheet. See section 7.1.6.

□□ E

EDGE method

An Oval Calculator method that anchors pitch at the leading edge of the oval hole — the point closest to the bowler's palm. Produces a delivered pitch closer to the specified pitch value than the CENTER method, particularly for larger ovals and higher forward pitch. See section 5.6.1.

□□ F

Fingertip grip

A grip style in which the fingers are inserted to the first knuckle only. Produces more leverage and hook potential than conventional grip. The most common grip type for league and competitive bowlers. Selected as a grip type on the spec sheet.

Flare Potential

The degree to which a bowling ball's track migrates across the ball surface during a game. Determined by core differential and layout. Higher flare generates more surface contact with fresh coverstock on each shot.

Flip V/H

A Spectre Cloud setting that swaps the Vertical and Horizontal axis labels on oval cut outputs to match a drill press whose axis convention is the reverse of Spectre Cloud's default. A labelling correction only — does not affect calculations. See sections 5.7.1 and 5.7.2.

Forward pitch

Pitch in which the bottom of the hole tilts toward the bowler's palm. Expressed as a positive value in Spectre Cloud. The primary pitch variable for fingertip and conventional fits. See section 9.3.1.

Full Span (F)

A span type in which the span is measured from the back edge of the thumb hole to the back edge of the finger hole. The most commonly used span type for fingertip and conventional fits in North America. See section 6.1.2.

G

Grip Centre
: The midpoint of the grip — the point equidistant between the two finger holes and the thumb hole. Used as a reference point for some layout measurements and as the span anchor for two-handed bowlers. See section 9.2.6.

Grip type
: The classification of how deeply the fingers are inserted into the ball. Spectre Cloud supports Conventional, Fingertip, and Semi-fingertip. Grip type controls which measurement fields are active and which auto-suggestions are generated on the spec sheet.

H

Hole Depth
: The depth, in inches, to which a finger or thumb hole is drilled — measured from the ball surface to the bottom of the hole along the drill axis. Recorded on the spec sheet for each hole. See section 7.1.3.

Horizontal (H)
: One of the two axes used to express directional oval cut values in Spectre Cloud. Which physical direction H represents depends on your drill press orientation and the Flip V/H setting. See sections 5.7.1 and 5.7.2.

I

IBPSIA
: International Bowling Pro Shop and Instructors Association. The professional body that establishes fitting and drilling standards for pro shop operators. Spectre Cloud's auto-suggestion system is based on IBPSIA-standard guidelines.

Insert OD
: The outer diameter of a finger insert — the dimension used to determine the hole size to drill. See section 9.3.4.

J

Job Board
: An optional plugin (`$15 USD/month`) that provides a workshop to-do list and service history per ball for pro shops that manage a ball service queue. See Book 08.

K

Knuckle size
: The diameter at the widest part of the finger knuckle. Entered on the spec sheet to confirm the hole can accommodate the finger at its widest point. Distinct from hole size, which is the finished diameter the finger seats in.

L

Lateral pitch
: Pitch applied in the left or right direction relative to the grip centre, correcting for the bowler's natural lateral approach angle. Determined using the CLT chart. See section 9.3.2.

Layout
: The geometric placement of the ball's pin and mass bias relative to the bowler's PAP. Determines ball motion characteristics. Recorded on the spec sheet using VLS, 2LS, PAL, or manual entry. See section 6.1.5.

Layout conversion
: An Arsenal Plus feature that converts a layout recorded in one system (e.g., VLS) into the equivalent values in another system (e.g., PAL) without modifying the original record. See section 7.2.4.

M

Mass Bias (MB)
: The preferred spin axis marker on an asymmetric bowling ball core — the point of highest mass concentration. Its position relative to the VAL line influences ball motion, particularly for high-differential asymmetric balls. See section 7.1.6.

MB Differential
: The difference in RG between the ball's intermediate and minimum axis values. Indicates the strength of the asymmetric mass bias influence. A higher MB differential produces stronger, more predictable asymmetric motion characteristics.

N

NONE mode
: An Oval Cut Direction setting in which Spectre Cloud does not generate directional oval labels. The fitter enters a single oval cut size manually, without F/B or L/R axis labelling.

Appropriate for non-directional presses and experienced fitters who prefer manual oval determination. See sections 5.5.1–5.5.3.

□□ O

OD (Outer Diameter)
: The outside diameter of an insert — used to determine the hole size to drill. See section 9.3.4.

Oval (O)
: As a span type: a span measured to the centre of the oval cut on the finger hole. As a hole type: a finger or thumb hole that is elongated along one axis rather than perfectly round. See sections 5.5.1–5.5.3 and 6.1.2.

Oval Calculator
: The Spectre Cloud module that calculates oval cut sizes, angles, and directional values from the pitch and span values on a spec sheet. Configurable by method (EDGE/CENTER), degree increment, cut direction, and Flip V/H. See Book 05.

Oval Cut Direction
: A Settings option that controls whether oval cut outputs include directional axis labels — NONE, Forward/Back (F/B), or Left/Right (L/R). See sections 5.5.1–5.5.3.

Oval Degree Increment
: A Settings option that controls the angular resolution of oval cut output — either 1° or 5°. See section 5.6.6.

□□ P

PAL (Positive Axis Point Layout)
: A layout system in which all measurements — pin distance, pin angle, and MB angle — are expressed relative to the bowler's PAP. See section 6.1.5.

PAP (Positive Axis Point)
: The point on the bowling ball surface that represents the bowler's axis of rotation at the moment of release. The primary reference point for all layout measurements. See sections 7.1.5 and 7.1.6.

Pin
: The top weight marker on a bowling ball — the lightest point on the weight block axis. Its position relative to the PAP determines flare potential. Shown on the 3D layout rendering in Arsenal Plus.

Pin to PAP distance
: The straight-line distance from the ball's pin to the bowler's PAP. The primary driver of flare potential and overall ball motion strength. See section 7.1.6.

Pitch

The angle at which a finger or thumb hole is drilled relative to the ball surface. Expressed in inches of forward, reverse, or lateral offset. See sections 9.3.1 and 9.3.2.

Plugin

An optional add-on to the core Spectre Cloud subscription that unlocks additional features. Current plugins: Bowler Plus, Arsenal Plus, and Job Board. See Book 08.

Pro shop

A retail and service establishment specialising in bowling ball drilling, fitting, and equipment. The primary user of Spectre Cloud.

□□ R

Referral code

A unique code associated with each Spectre Cloud account that can be shared with other pro shops. When a new shop signs up using the code, both parties receive a billing benefit. See section 8.1.5.

Reverse pitch

Pitch in which the bottom of the hole tilts away from the bowler's palm. Expressed as a negative value in Spectre Cloud. Used for bowlers who grip tightly or whose thumb tends to hang through the release.

RG (Radius of Gyration)

A measure of how the mass of a bowling ball is distributed relative to its axis of rotation. Lower RG produces an earlier, smoother roll; higher RG produces a later, more angular motion. Available as a ball specification in Arsenal Plus.

□□ S

Semi-fingertip grip

A grip style in which the fingers are inserted between the first and second knuckle. A compromise between conventional and fingertip. Selected as a grip type on the spec sheet.

Slug

A pre-drilled thumb insert installed into the thumb hole to provide a consistent, replaceable grip surface with a specific pitch bore. The slug's outer diameter is entered as the thumb hole size on the spec sheet; the slug's bore angle is entered as the thumb pitch.

Span

The distance between the thumb hole and a finger hole, measured according to the selected span type (Full Span, Cut to Cut, or Oval). Entered on the spec sheet for middle and ring fingers independently.

Spec sheet

The primary drilling record in Spectre Cloud. Contains all measurements, pitch values, span values, oval cuts, layout, and notes for one ball belonging to one bowler. See Book 04.

Suggested Layouts

An Arsenal Plus feature that generates data-driven layout recommendations based on the bowler's PAP, axis data, and the ball's core specifications. See section 7.1.5.

□□ T

3D Layout view
An Arsenal Plus feature that renders a rotatable three-dimensional model of the bowling ball showing pin, MB, PAP, VAL line, and hole positions based on the spec sheet's layout values. See sections 7.2.1–7.2.3.

2LS (Two-Layout System)
A layout system that uses pin buffer distance and CG placement as its two primary measurements. A streamlined alternative to VLS. See section 6.1.5.

□□ V

VAL (Vertical Axis Line)
The line running through the bowler's PAP from the top to the bottom of the ball, dividing it into front and back halves. The reference line from which the VAL angle is measured. Displayed on the 3D layout rendering.

VAL Angle
The angle between the bowler's VAL and the line from the PAP to the pin. Controls the shape and timing of the breakpoint — lower angles produce smoother, more arcing motion; higher angles produce sharper, more angular motion. See section 7.1.6.

Vertical (V)
One of the two axes used to express directional oval cut values in Spectre Cloud. Which physical direction V represents depends on the drill press orientation and the Flip V/H setting. See sections 5.7.1 and 5.7.2.

VLS (Val Siebert Layout System)
A widely used layout system defining a drilling using three measurements from the PAP: pin distance, VAL angle, and mass bias distance. Based on IBPSIA curriculum. See section 6.1.5.

□□ W – Z

Weight block
The internal core of a bowling ball. Its shape, density distribution, and orientation after drilling determine the ball's motion characteristics. The pin and MB markers on the ball surface indicate the weight block's axis positions.

Note: This glossary covers terms as used in Spectre Cloud and this wiki. Some terms — particularly layout and fitting terms — have slightly different definitions in other educational contexts or fitting systems. Where Spectre Cloud's usage differs from an alternative convention, the definition above reflects how the term is used within this platform specifically.

Related Sections

- 9.3.1 — Pitch suggestion chart (flexibility vs. forward pitch)
- 9.3.2 — CLT chart (lateral tilt angle vs. lateral pitch)
- 9.3.3 — 5/16 rule ring finger span distance chart
- 9.3.4 — Insert OD chart — standard insert sizes by brand
- 9.3.5 — Oval cut chart for manual (NONE mode) calculations
- 9.1.1 — Recommended Settings configuration for a new pro shop

Tip: When training a new staff member, have them read this glossary before their first fitting session — not to memorise it, but to build familiarity with the vocabulary. A driller who knows what PAP, VAL, CLT, and EDGE mean before they encounter those terms on a spec sheet or in a fitting conversation starts from a much stronger position than one encountering them for the first time at the press. Return visits to the glossary during training reinforce terms as they are encountered in practice, which is far more effective than a single read-through.

9.4 — Getting Help

9.4.1 Accessing in-app tutorial videos ("Need Help? Watch our tutorial videos")

Accessing in-app tutorial videos ("Need Help? Watch our tutorial videos")

`9.4.1` support

Spectre Cloud includes a built-in library of tutorial videos accessible directly from within the app — short, focused walkthroughs of specific features and workflows that you can watch without leaving the screen you are working on. This page explains where to find the video library, how it is organised, and how to get the most out of it during both initial setup and ongoing use.

□□ Where to Find the Tutorial Videos

The tutorial video library is accessible from the **"Need Help? Watch our tutorial videos"** prompt, which appears in several locations throughout the app:

- **On the dashboard** — the help prompt appears in the main dashboard view when the account is new or when no bowler session is active. It is one of the first things a new operator sees after initial setup.
- **Within Settings** — a help link in the Settings section surfaces tutorial videos relevant to the configuration options on the current page.
- **On spec sheets** — contextual help links within the spec sheet form surface videos relevant to the section currently being completed — grip type, pitch entry, oval calculator, and so on.
- **From the profile menu** — clicking or tapping the pro shop name in the top-right corner and selecting **Help** or **Tutorials** opens the full video library directly.

⚠ **Verify with Spectre team:** Confirm the exact locations where the tutorial video prompt appears in the current UI, and whether contextual help links are present within spec sheets and Settings as described — or whether the video library is only accessible from the dashboard and profile menu.

How the Video Library Is Organised

The tutorial video library mirrors the structure of this wiki — videos are grouped by topic and follow the same book and chapter organisation. Each video is short and focused on a single workflow or feature rather than providing a broad overview, making it easy to find the specific guidance you need without watching through unrelated content.

- **Getting Started** — account setup, first login, configuring Settings for the first time.
- **Bowler profiles** — creating, searching, and managing bowler records.
- **Spec sheets** — creating, completing, cloning, and printing spec sheets step by step.
- **Oval Calculator** — configuring the calculator, understanding EDGE vs. CENTER, running the calculator on a spec sheet.
- **Arsenal** — adding balls, managing status, using the 3D layout view.
- **Plugins** — walkthroughs for Bowler Plus, Arsenal Plus, and the Job Board.
- **Account and billing** — subscription management, adding plugins, updating account information.

⚠ **Verify with Spectre team:** Confirm the full list of tutorial video topics currently available and update the list above to match. Remove topics that do not yet have a video and add any video topics not listed here.

Watching Videos on Desktop

1. Click your **pro shop name** in the top-right corner to open the profile menu.
2. Select **Help** or **Tutorials** from the dropdown.
3. The tutorial video library opens — either in a panel within the app or in a new browser tab depending on the implementation.
4. Browse by topic or use the search function to find a specific video.
5. Click a video to play it. Videos play inline or in a lightbox overlay — you do not need to leave the current screen to watch.

□□ Watching Videos on Mobile or Tablet

1. Tap your **pro shop name** or profile icon in the top-right corner.
2. Tap **Help** or **Tutorials**.
3. Browse or search the video library and tap any video to play it.
4. On mobile, videos play full screen or in a player overlay. Use the device's back gesture or the close button to return to the app after watching.

□□ **Tip:** On a tablet at the drill press, the tutorial videos are particularly useful when learning a new workflow mid-session — a two-minute video on oval calculator settings is faster to absorb than a text page when your hands are busy and you need a quick visual reference.

□ Getting the Most From Tutorial Videos

Tutorial videos are most effective when used in combination with the written documentation in this wiki rather than as a replacement for it. The two formats complement each other — videos show the workflow in motion, the wiki provides the reasoning, reference values, and edge cases that a short video cannot cover in depth.

- □ **Watch before doing for new workflows** — if you are about to use a feature for the first time, a two-minute video gives you a mental map of the steps before you start. You are less likely to miss a step or get lost in the interface if you have seen the full flow once.
- □ **Use contextual help links during a fitting** — if a field or setting is unclear while you are working through a spec sheet, the contextual help link for that section surfaces the relevant video without requiring you to navigate away from the spec sheet entirely.
- □ **Use for staff training alongside the wiki** — new staff members often absorb visual walkthroughs more quickly than written documentation. Pair each training session with

the relevant video first, then refer to the wiki for the detail and reference material.

- **Re-watch when returning after a gap** — if a feature has not been used for several months or if the app has been updated since it was last used, a quick re-watch of the relevant video is the fastest way to refresh the workflow.
- Do not rely on videos alone for reference values, edge cases, or troubleshooting — the wiki contains the pitch charts, oval cut references, settings guidance, and troubleshooting workflows that videos cannot practically cover in full.

Video Content and App Updates

Tutorial videos are updated by the Spectre team when features change significantly. If a video shows a UI layout or workflow that does not match what you see in the current version of the app, it may be a recently updated feature that has not yet been reflected in the video library. In this case:

- Refer to this wiki for current guidance — the written documentation is updated alongside app releases.
- Contact Spectre support if the discrepancy is causing confusion — the team can confirm the current correct workflow and flag the video for an update.
- Check the **What's New** section of the app or `spectrebowling.com` for recent update notes that may explain the change.

Video Language Availability

Spectre Cloud supports English, French, and Spanish. Tutorial video availability in each language may vary — confirm with the Spectre team which languages are currently covered and whether subtitles or dubbed versions are available for languages where full video production is not yet complete.

⚠ **Verify with Spectre team:** Confirm the current language coverage for tutorial videos — specifically whether French and Spanish videos are available for all topics or only a subset, and whether subtitles are provided for videos not yet produced in a given language.

When Videos Are Not Enough — Getting Further Help

Tutorial videos and this wiki cover the full range of Spectre Cloud's features and workflows. When a question or issue falls outside what either resource addresses, the following support options are available:

- **Spectre Cloud support** — contact the support team through the Help section of the app or at `support.spectrebowling.com`. Include a description of the issue, the device and browser being used, and any relevant spec sheet or settings details.
- **spectrebowling.com** — the main website includes product information, updates, and contact options for the Spectre team.
- **BowlDevs** — for development-related enquiries or feedback, the development team is reachable through `bowldevs.com`.
- **IBPSIA resources** — for fitting and drilling questions that go beyond software support, IBPSIA provides educational materials and member support through their own channels.

Related Sections

- 9.1.1 — Recommended Settings configuration for a new pro shop
- 9.1.4 — Using Auto-Suggestions effectively for faster fitting sessions
- 9.2.1 — Why is my oval cut showing unexpected values
- 8.1.1 — Updating your pro shop name and display information
- 01.1 — What is Spectre Cloud Pro Shop Software

Tip: On a new account's first day, spend fifteen minutes watching the Getting Started and first-ball workflow videos before configuring Settings or entering any bowler data. The fifteen minutes you invest in watching the full workflow before starting saves you from having to undo and redo the first several spec sheets because a setting was not configured correctly at the outset. The videos exist precisely for this moment — use them.

9.4.2 Contacting Spectre Cloud support

Contacting Spectre Cloud support

9.4.2 support

When this wiki and the in-app tutorial videos do not resolve an issue, the Spectre Cloud support team is the next step. This page covers how to reach support, what information to have ready before contacting them, what to expect in terms of response, and the situations where different contact methods are most appropriate.

□□ How to Contact Spectre Cloud Support

Through the app

The fastest way to reach support is directly from within Spectre Cloud:

1. Click or tap your **pro shop name** in the top-right corner to open the profile menu.
2. Select **Help** or **Contact Support** from the dropdown.
3. A support form or contact option opens — complete the form with a description of the issue and submit.

4. A confirmation is sent to the registered account email address when the request is received.

By email

Support can also be reached directly by email. Contact the Spectre Cloud support team at the address provided on `spectrebowling.com` or in your account confirmation emails.

⚠ **Verify with Spectre team:** Confirm the direct support email address and update this page with the verified address before publishing. Also confirm whether the in-app contact form is the preferred primary contact method or whether email is equally supported.

Through the support portal

A dedicated support portal is available at `support.spectrebowling.com` for submitting tickets, tracking open requests, and accessing additional help resources beyond this wiki.

⚠ **Verify with Spectre team:** Confirm the correct support portal URL and whether ticket tracking is available through that portal as described.

□□ What to Include When Contacting Support

A support request that includes the right information gets resolved faster — the team can diagnose the issue directly rather than going back and forth to gather details. Before submitting a request, have the following ready:

Account information

- □ Your **pro shop name** as registered in Spectre Cloud.
- □ The **email address** on the account — this is how the support team identifies your account.
- □ Your current **subscription plan** and active plugins — relevant if the issue involves a feature that may depend on a specific plan tier.

Issue description

- **What you were trying to do** — the workflow or action you were performing when the issue occurred.
- **What happened instead** — the specific unexpected behaviour, error message, or missing output.
- **When it first occurred** — whether this is a new issue, a recurring one, or something that started after a specific action or update.
- **Whether it is reproducible** — does the issue happen every time, or intermittently? If reproducible, describe the exact steps that trigger it.

Technical details

- **Device type** — desktop, laptop, tablet, or smartphone.
- **Operating system** — Windows, macOS, iOS, Android, ChromeOS, etc., and the version if known.
- **Browser** — Chrome, Firefox, Safari, Edge, and the version if known.
- **Screen size** — relevant for display or layout issues.
- **Screenshots or screen recordings** — attach if possible. A screenshot of an error message or unexpected output is often the single most useful piece of information in a support request.

Relevant spec sheet or bowler details

- If the issue is specific to a bowler record or spec sheet, include the **bowler name** and the **spec sheet or ball name** — this allows the support team to look at the specific record if access is needed to diagnose the issue.
- If the issue involves the Oval Calculator output, include the **pitch values**, **oval calculation method**, and **Flip V/H setting** currently configured.
- If the issue involves the 3D Layout view, include the **ball name** and confirm whether it is identified in the bowlingdatabase.com integration.

What to Expect — Response Times

Spectre Cloud support is operated by the BowlDevs team. Response times reflect the size of the team and the volume of requests at any given time.

⚠ **Verify with Spectre team:** Confirm current support response time commitments — specifically standard response time, any priority or expedited support options for higher-tier accounts or specific issue types, and support hours (business days only vs. seven days). Update this section

with the verified figures before publishing.

- **Acknowledgement** — an automated confirmation is sent when a support request is received. If you do not receive an acknowledgement within a few minutes, check your spam folder and confirm the request was submitted successfully.
- **Initial response** — a team member reviews the request and responds with either a resolution or follow-up questions. Response time varies by request volume and issue complexity.
- **Complex issues** — issues requiring investigation of account data, platform behaviour, or development input take longer to resolve than configuration questions. The team will communicate expected timelines for complex cases.

Before Contacting Support — Self-Service Checks

Many issues that reach the support team can be resolved in under five minutes using the wiki's troubleshooting pages. Working through the relevant troubleshooting page before submitting a request saves time — and if the issue is not resolved, the troubleshooting steps you have already completed help the support team narrow down the cause immediately.

Issue type	Check this first
Oval cut output unexpected	9.2.1 — Why is my oval cut showing unexpected values
Pitch drilling opposite direction	9.2.2 — My drill press reads pitches opposite — what setting do I change
Auto-suggestion not appearing or unexpected	9.2.3 — The suggested pitch is not what I expect — is Auto-Suggestion on
Bridge not autofilling	9.2.5 — The bridge is not autofilling — what's wrong
3D layout view not rendering	7.2.1 — What is the 3D Layout view; confirm ball is identified in bowlingdatabase.com
Bowler profile not found in search	9.1.3 — Keeping your bowler database organised; check for duplicate profiles and alternative name spellings
Cannot log in	8.1.3 — Changing your password; use the forgotten password reset flow at `cloud.spectrebowling.com`
Billing question	8.2.1 — Subscription plans; 8.2.3 — Updating billing information
Plugin not working as expected	Confirm the plugin is active in Settings; check the relevant plugin section in Book 07 or 08

Issue type	Check this first
Settings not saving	Check internet connectivity; confirm the Save button was clicked; attempt on a different browser

□□ Language Support

Spectre Cloud's interface is available in English, French, and Spanish. Support correspondence is available in English. For shops operating primarily in French or Spanish, the support team will make reasonable efforts to assist — confirm the preferred language at the start of the support request.

⚠ **Verify with Spectre team:** Confirm the languages in which support is available and whether French and Spanish are formally supported or handled on a best-efforts basis.

□□ Providing Feedback on Spectre Cloud

Beyond issue reporting, the Spectre team actively welcomes product feedback from pro shop operators — feature requests, workflow suggestions, and observations about how the app could better serve real shop operations. Feedback from working operators is one of the primary inputs into the Spectre Cloud development roadmap.

- □ **Feature requests** — describe the workflow or capability you would find useful and why. Specific, workflow-grounded requests are more actionable than general suggestions.
- □ **Bug reports** — use the same support channel as for issue resolution. Include reproducible steps and technical details as described above.
- □ **Referral programme feedback** — if a referred shop has not been credited or a referral code issue has occurred, include the relevant account details in the support request. See section 8.1.5.
- □ **Wiki feedback** — if this wiki contains an error, an outdated page, or is missing guidance you needed, report it through the support channel. The wiki is maintained alongside the app and corrections are welcomed.

□□ Support for Multi-Location and High-Volume Shops

Shops operating multiple locations or serving very high bowler volumes may have support needs that differ from a standard single-location operation — configuration questions that span multiple devices, account structure decisions that affect all locations, or data management questions at scale. When contacting support for multi-location or high-volume issues:

- Identify the issue as multi-location or high-volume at the start of the request — this helps the team route it to the right person.
- Include the number of locations and approximate bowler record count if the issue involves account structure or data management.
- For account configuration questions at scale, request a direct conversation with the Spectre team rather than resolving through written support only — some multi-location configuration decisions benefit from a direct discussion.

Related Sections

- 9.4.1 — Accessing in-app tutorial videos
- 9.2.1 — Why is my oval cut showing unexpected values
- 9.2.2 — My drill press reads pitches opposite — what setting do I change
- 8.1.2 — Changing your email address
- 8.1.3 — Changing your password
- 8.2.1 — Subscription plans — what is included and how to change

Tip: When you contact support, send everything in one message rather than starting with a brief description and waiting to be asked for details. A complete first message — pro shop name, email, device, browser, what you were doing, what happened, and a screenshot if available — is resolved in one or two exchanges. An incomplete first message starts a back-and-forth that doubles the time to resolution. The support team appreciates the detail and your issue gets fixed faster.

9.4.3 Community resources and pro shop training shelf

Community resources and pro shop training shelf

9.4.3 support

Spectre Cloud is one part of a broader ecosystem of resources available to pro shop operators — industry organisations, training programmes, peer communities, and reference materials that support the craft of fitting and drilling beyond what any software platform provides. This page collects the most useful external resources for Spectre Cloud users, organised by type, so that operators at any experience level know where to turn for training, peer support, and professional development.

□□ Industry Organisations

IBPSIA — International Bowling Pro Shop and Instructors Association

The primary professional body for bowling pro shop operators worldwide. IBPSIA sets the fitting and drilling standards that underpin Spectre Cloud's auto-suggestion system and provides education, certification, and community for pro shop professionals.

- **Certification programmes** — IBPSIA offers structured training and certification for pro shop operators at multiple levels. Certification is widely recognised across the industry and is the standard credential for professional fitters.
- **Educational materials** — IBPSIA produces reference guides, fitting standards documentation, and instructional content covering the core skills required in a pro shop.
- **Member community** — IBPSIA membership provides access to a community of fellow operators, industry contacts, and a network of resources beyond what individual training programmes cover.
- **Website:** `ibpsia.com`

USBC — United States Bowling Congress

The national governing body for bowling in the United States. USBC sets equipment specifications, drilling regulations, and certification standards relevant to pro shop operators serving USBC-affiliated leagues and tournaments.

- **Equipment specifications** — USBC publishes the approved ball list, drilling regulations, and balance hole rules that determine what drillings are legal for sanctioned play. Pro shop operators should be familiar with current USBC specifications.
- **Certification** — USBC offers its own pro shop operator certification alongside IBPSIA certification.
- **Website:** `bowl.com`

World Bowling

The international governing body for the sport of bowling. Relevant for operators serving bowlers who compete in international events or under World Bowling's equipment and drilling rules.

- **Website:** `worldbowling.org`

Bowlers Canada / Fédération canadienne des quilleurs

The national governing body for bowling in Canada. Relevant for Spectre Cloud operators based in Canada or serving Canadian league and competitive bowlers.

- **Website:** `bowlerscanada.com`

Note: Bowling governance organisations and their websites change over time. Verify these URLs are current before publishing and update as needed. Operators outside North America should identify their relevant national or regional governing body through World Bowling's member

federation directory.

□□ Training and Certification Programmes

IBPSIA Pro Shop Operator Certification

The most widely recognised pro shop certification in the industry. The IBPSIA certification programme covers fitting, drilling, equipment knowledge, and business practices at structured levels — from entry-level to master fitter. Spectre Cloud's auto-suggestion system is built on IBPSIA-standard fitting guidelines, so operators who hold IBPSIA certification are well positioned to evaluate and override those suggestions from a grounded technical baseline.

- □ Available through IBPSIA directly and through approved training centres.
- □ Both in-person and distance learning options are available depending on certification level.
- □ Recertification requirements keep certified operators current with industry standard updates.

Manufacturer training programmes

Major bowling ball manufacturers — Storm, Roto Grip, Hammer, Brunswick, Motiv, and others — run their own training programmes for pro shop operators covering their product lines, core technologies, and layout recommendations. These programmes are typically free or low-cost and are available through manufacturer websites or distributor networks.

- □ Manufacturer training is product-specific rather than system-wide — it complements IBPSIA certification rather than replacing it.
- □ Layout recommendations and ball motion data from manufacturer training are useful inputs for the layout section of Spectre Cloud spec sheets and for evaluating Arsenal Plus layout suggestions.
- □ Contact your primary ball distributor for information about available manufacturer training in your region.

Distributor training days

Ball distributors — including Buffa Distribution and others operating in your region — periodically run training events for pro shop operators covering new product releases, drilling demonstrations,

and fitting technique updates. These events are a practical way to stay current with new equipment and connect with fellow operators in your area.

□□ **Note:** Buffa Distribution is referenced in Spectre Cloud's origin story — Mark, one of the founders of BowlDevs, worked at a Buffa Distribution pro shop alongside Vince Gaudio, which inspired the original Spectre app. The distributor relationship is part of the product's history.

□□ Peer Communities and Online Resources

Pro shop operator forums and groups

Several online communities exist where pro shop operators discuss fitting techniques, equipment, business practices, and software. These communities are a valuable supplement to formal training — real-world experience shared by working operators often covers edge cases and practical situations that formal programmes address only in general terms.

- □ **Facebook groups** — several active groups for bowling pro shop operators and IBPSIA members provide a forum for questions, technique discussions, and peer support. Search for IBPSIA or pro shop operator groups within Facebook.
- □ **Reddit — r/Bowling** — while primarily bowler-focused rather than operator-focused, the subreddit occasionally includes technical discussions about fitting and equipment that are useful for operators. Available at `reddit.com/r/Bowling`.
- □ **BowlingChat.net** — a long-running bowling community with sections covering equipment, drilling, and pro shop topics.

YouTube channels

Several experienced pro shop operators and coaches maintain YouTube channels covering drilling, layout, fitting, and ball motion. Video demonstrations of techniques that are difficult to describe in text — oval cut assessment, PAP location, flexibility testing — are particularly well suited to this format.

- □ Search YouTube for IBPSIA, pro shop operator, or bowling drilling channels to find currently active content creators in this space.
- □ Manufacturer YouTube channels often include drilling demonstrations and layout guides for their current ball lines.

bowlingdatabase.com

The ball specification database integrated into Arsenal Plus. Also accessible directly as a reference for ball core specifications, drilling recommendations, and equipment history. Useful for layout planning even when accessed outside of Spectre Cloud.

- **Website:** `bowlingdatabase.com`

Reference Materials

IBPSIA fitting standards documentation

IBPSIA publishes the fitting standards that form the basis of professional pro shop practice — pitch ranges, span guidelines, CLT values, and oval cut standards. These documents are the authoritative reference behind Spectre Cloud's auto-suggestion values. IBPSIA members have access to current versions through the member portal.

Manufacturer drilling and layout guides

Each ball manufacturer produces drilling and layout guides for their current product lines — typically available as PDFs through their websites or distributor networks. These guides provide core specifications, recommended pin placements, and layout suggestions specific to each ball model. Useful as a cross-reference for Arsenal Plus layout suggestions.

This wiki

The Spectre Cloud wiki at `wiki.spectrebowling.com` is the primary reference for the software itself. It covers every feature, setting, and workflow in Spectre Cloud and includes the reference charts — pitch, CLT, 5/16 rule, insert OD, and oval cut — that bring the fitting standards into the Spectre Cloud workflow specifically. See the reference sections in Book 09 for quick-lookup charts designed for use at the counter and drill press.

Keeping Up With Industry Updates

The bowling industry evolves — governing body regulations change, new ball technologies emerge, fitting standards are updated, and Spectre Cloud itself releases new features. The following habits keep a pro shop operator current:

- **Maintain IBPSIA membership and certification** — recertification requirements ensure that certified operators stay current with standards updates.
- **Follow manufacturer channels** — new ball releases, core technology changes, and updated layout recommendations come through manufacturer communication channels first.
- **Check Spectre Cloud release notes** — new features, setting changes, and workflow updates are documented in the app's What's New section and on `spectrebowling.com`.
- **Attend industry events** — IBPSIA events, distributor training days, and regional bowling association gatherings are where practical knowledge circulates fastest.
- **Engage with peer communities** — questions that arise in day-to-day operation are often best answered by fellow operators who have encountered the same situation.

Resources for Non-English Speaking Operators

Spectre Cloud supports English, French, and Spanish. For operators working primarily in French or Spanish, the following additional resources may be relevant:

- **French-speaking operators** — Luis, co-founder of BowlDevs, is based in Montreal. The Spectre Cloud team has connections to the French-speaking bowling community in Canada and may be able to direct operators to French-language resources through the support channel.
- **Spanish-speaking operators** — contact the Spectre team through the support channel for guidance on Spanish-language training and community resources in your region.
- **World Bowling member federations** — national bowling federations in non-English speaking countries often maintain their own training and certification programmes. World Bowling's member federation directory at `worldbowling.org` is the starting point for finding the relevant body in any country.

Related Sections

- 9.4.1 — Accessing in-app tutorial videos
- 9.4.2 — Contacting Spectre Cloud support
- 9.3.6 — Glossary of all terms and abbreviations used in Spectre Cloud
- 9.1.1 — Recommended Settings configuration for a new pro shop
- 01.1 — What is Spectre Cloud Pro Shop Software

 Tip: The most effective pro shop operators combine software capability with genuine craft knowledge — Spectre Cloud handles the calculation and record-keeping, but the fitting judgement, the bowler conversation, and the decision to override a suggestion all come from the operator. IBPSIA certification, manufacturer training, and peer community engagement build the craft knowledge that makes the software meaningful. The two are not alternatives — each makes the other more valuable.