

5.6 — Pitch Inside the Oval: EDGE vs. CENTER

- 5.6.1 EDGE method explained — how pitch is placed at edge of oval
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5.6.1 EDGE method

explained — how pitch is placed at edge of oval

EDGE method explained — how pitch is placed at edge of oval

5.6.1 pitch

The **EDGE method** is one of the core calculation approaches available in Spectre Cloud's Oval Calculator. It determines where pitch is applied relative to the oval cut by placing the pitch reference point at the **edge** of the oval rather than at its centre. Understanding how and why this works helps you make informed decisions about which oval calculation method is right for each bowler.

What the EDGE Method Does

When drilling a finger hole with an oval cut, the hole is not perfectly round — it is elongated along one axis. This means there are two possible reference points for applying pitch: the **centre** of the oval, or one of its **edges**. The EDGE method anchors the pitch measurement to the leading edge of the oval cut — the point on the oval that is closest to the bowler's palm.

In practical terms, this means:

- The pitch angle is calculated from the **edge of the oval**, not its geometric centre.
- The resulting hole position is shifted slightly compared to a centre-referenced method — the effective pitch the bowler feels is truer to the intended specification.
- For bowlers with forward pitch requirements, the EDGE method tends to produce a snugger, more controlled feel through the release.

The Geometry Behind EDGE

To understand why edge placement matters, consider what happens physically when an oval hole is drilled. The oval adds length to the hole in one direction — typically forward/back or left/right depending on your press setup. If pitch is measured from the centre of that elongated hole, the actual contact point between the bowler's finger and the near wall of the hole is not where the pitch calculation assumed it would be. The finger seats against the **edge** of the hole, not its centre.

The EDGE method corrects for this by treating the edge as the true reference point from the start:

1. Spectre Cloud determines the size and orientation of the oval cut based on your settings and the bowler's measurements.
2. It identifies the **leading edge** — the point on the oval closest to the palm side of the grip.
3. All pitch calculations are anchored to that edge point rather than the hole's centre.
4. The resulting drill coordinates reflect where the hole needs to be placed on the ball surface so that the *edge* lands at the intended pitch angle.

Note: The difference between EDGE and centre-referenced methods is most pronounced with larger oval cuts ($\frac{3}{8}$ " and above) and higher forward pitch values. For small ovals ($\frac{1}{8}$ ") the practical difference is minimal.

EDGE Method vs. Centre Method — Key Differences

| Factor | EDGE method | Centre method |
|--------------------------------|-------------------------------------------------------------------------|---------------------------------------|
| Pitch reference point | Leading edge of the oval | Geometric centre of the oval |
| Effective pitch felt by bowler | Closer to the specified pitch value | May feel slightly less than specified |
| Best suited for | Higher forward pitch, larger ovals | Smaller ovals, reverse pitch setups |
| Drill position on ball surface | Shifted toward palm to compensate | Placed at nominal span location |
| IBPSIA alignment | <input type="checkbox"/> Consistent with IBPSIA edge-reference standard | Varies by shop tradition |

☐ How to Select the EDGE Method in Spectre Cloud

1. Open **Settings** from your profile menu (top-right corner).
2. Navigate to the **Oval Calculator** section.
3. Locate the **Oval Calculation Method** preference.
4. Select **EDGE** from the available options.
5. Save your settings. All new spec sheets will use the EDGE method for oval calculations going forward.

☐ **Note:** Changing this setting does not recalculate existing spec sheets. Historical records retain whichever method was active when they were created.

☐ When to Use the EDGE Method

- ☐ When drilling bowlers with **moderate to high forward pitch** on the fingers — the EDGE method keeps the effective pitch honest.
- ☐ When using **larger oval cuts** ($\frac{1}{4}$ " or greater) where centre-referencing would introduce a noticeable discrepancy.
- ☐ When your shop follows **IBPSIA-standard fitting practices** and you want Spectre Cloud's calculations to align with that framework.
- ☐ When bowlers report that their release feels *less forward* than their pitch spec suggests — switching to EDGE often resolves this without changing the nominal pitch value.
- ☐ The EDGE method may not be necessary for bowlers with **zero or reverse pitch** and small ovals, where centre and edge references converge.

☐ A Practical Example

Consider a bowler with $\frac{3}{8}$ " forward pitch on the ring finger and a $\frac{1}{4}$ " oval cut. Using a centre-referenced method, Spectre Cloud would place the hole so that the *centre* of the finished oval sits at the $\frac{3}{8}$ " forward pitch position. But the bowler's finger actually contacts the hole at its near edge — which, on a $\frac{1}{4}$ " oval, is $\frac{1}{8}$ " closer to the palm than the centre. The effective pitch the bowler feels is therefore closer to $\frac{1}{4}$ " forward, not $\frac{3}{8}$ ".

With the EDGE method active, Spectre Cloud compensates by positioning the hole so that the *edge* — not the centre — lands at $\frac{3}{8}$ " forward. The bowler experiences the pitch they were actually fitted for.

Related Sections

- 5.6.2 — CENTRE method explained — how pitch is placed at centre of oval
- 5.6.3 — Choosing between EDGE and CENTRE for your shop
- 5.5.1 — Setting up: Oval Cut Direction = NONE in Settings
- 5.5.2 — Using the oval cut chart to determine cuts manually
- 4.x — Creating and editing spec sheets

□ **Tip:** When in doubt, EDGE is the safer default — it keeps the delivered pitch closer to the specified pitch across the widest range of oval sizes and forward pitch values. Most IBPSIA-trained fitters will find it matches their intuitions about where pitch should land.

5.6.2 CENTER method explained — how pitch is placed at center of oval

CENTER method explained — how pitch is placed at center of oval

5.6.2

pitch

The **CENTER method** is the second oval calculation approach available in Spectre Cloud's Oval Calculator. Where the EDGE method anchors pitch to the leading edge of the oval cut, the CENTER method places the pitch reference point at the **geometric centre** of the finished oval hole. For many shops and fitting styles, this is the more intuitive of the two approaches — and for certain bowler profiles, it produces the most comfortable and consistent result.

☐☐ What the CENTER Method Does

When Spectre Cloud calculates drill coordinates using the CENTER method, it treats the middle of the oval — the point equidistant from both ends of the elongated cut — as the reference point for pitch placement. The hole is positioned on the ball surface so that this centre point lands at the bowler's specified pitch angle and span distance.

In practical terms, this means:

- Pitch is measured and applied to the **centre of the finished oval hole**.
- Drill coordinates are calculated from the nominal span and pitch values without an edge-offset correction applied.
- The method is consistent and predictable — the same span and pitch inputs produce the same drill position every time, regardless of oval size.
- For bowlers with **zero, slight, or reverse pitch**, the centre and edge of the oval converge closely enough that the distinction between CENTER and EDGE becomes negligible.

The Geometry Behind CENTER

When a round hole is drilled, there is no ambiguity — the centre and the edge are defined by the same pitch reference. The moment an oval is introduced, the hole gains length along one axis, and the centre and leading edge are no longer the same point. The CENTER method takes the position that the **nominal centre of the hole** is the correct reference — matching how span is traditionally measured to the centre of a finger hole in most fitting systems.

1. Spectre Cloud takes the bowler's span measurement to the **centre of the finger hole** as its baseline.
2. It applies the specified pitch angle at that centre point.
3. The oval cut is then added symmetrically around that centre — extending equally in both directions along the oval axis.
4. The resulting drill coordinates place the hole so the oval's midpoint sits at the intended span and pitch position.

Note: Because the oval extends equally from the centre, the leading edge of the finished hole ends up slightly closer to the palm than the pitch specification implies. For small ovals this difference is negligible; for larger ovals it becomes more perceptible. See the comparison table below for guidance on when this matters.

CENTER Method vs. EDGE Method — Key Differences

| Factor | CENTER method | EDGE method |
|--------------------------------|------------------------------------------------|-------------------------------------|
| Pitch reference point | Geometric centre of the oval | Leading edge of the oval |
| Effective pitch felt by bowler | Slightly less than specified with larger ovals | Closer to the specified pitch value |

| Factor | CENTER method | EDGE method |
|--------------------------------|-------------------------------------------------------------------|---------------------------------------------------|
| Best suited for | Zero, slight, or reverse pitch; small ovals | Higher forward pitch, larger ovals |
| Drill position on ball surface | Placed at nominal span and pitch location | Shifted toward palm to compensate for edge offset |
| Calculation simplicity | <input type="checkbox"/> Straightforward — no edge offset applied | Adds edge-offset correction step |
| Legacy system compatibility | <input type="checkbox"/> Matches many older fitting formulas | More aligned with current IBPSIA guidance |

How to Select the CENTER Method in Spectre Cloud

1. Open **Settings** from your profile menu (top-right corner).
2. Navigate to the **Oval Calculator** section.
3. Locate the **Oval Calculation Method** preference.
4. Select **CENTER** from the available options.
5. Save your settings. All new spec sheets will use the CENTER method for oval calculations going forward.

Note: Switching methods does not recalculate existing spec sheets. If you change from EDGE to CENTER (or vice versa), only spec sheets created after the change will reflect the new method.

When to Use the CENTER Method

- When fitting bowlers with **zero pitch, slight forward pitch, or reverse pitch** — where the edge offset correction of the EDGE method adds unnecessary complexity.
- When using **small oval cuts** ($\frac{1}{8}$ ") where the difference between centre and edge reference is too small to affect fit.
- When your shop has historically calculated ovals using a **centre-referenced formula** and your existing spec sheet records were built on that basis — maintaining CENTER keeps new records consistent with your history.
- When transitioning bowlers from a **legacy pro shop system** that used centre-based oval math — matching the method avoids introducing a systematic shift in their specs.

- ☐ For **house ball fitting** or rental fleet work where high precision on pitch delivery is less critical and speed and consistency matter more.
- ☐ Reconsider CENTER for bowlers with **3/8" or larger ovals combined with significant forward pitch** — in these cases the EDGE method will deliver a more accurate result.

☐ A Practical Example

Consider the same bowler from the EDGE method example: $3/8"$ forward pitch on the ring finger, $1/4"$ oval cut. Using the CENTER method, Spectre Cloud places the hole so that the *centre* of the finished oval sits at the $3/8"$ forward pitch position. The leading edge of the oval — where the finger actually contacts the near wall — lands approximately $1/8"$ closer to the palm, producing an effective pitch closer to $1/2"$ forward.

For some bowlers this slight amplification of forward pitch is actually preferable — it can enhance the feeling of forward roll without requiring a pitch change on paper. Experienced fitters who prefer CENTER often know this effect and account for it intentionally when specifying pitch values.

☐ **Tip:** Some veteran fitters deliberately use CENTER and specify a slightly lower forward pitch value than they would under EDGE — knowing the centre-reference method will deliver a little extra effective forward pitch at the finger contact point. If you are switching a long-time bowler from a CENTER-based system to EDGE, consider reducing their forward pitch by $1/8"$ and checking fit before committing to the change.

Related Sections

- 5.6.1 — EDGE method explained — how pitch is placed at edge of oval
- 5.6.3 — Choosing between EDGE and CENTER for your shop
- 5.5.1 — Setting up: Oval Cut Direction = NONE in Settings
- 5.5.2 — Using the oval cut chart to determine cuts manually
- 4.x — Creating and editing spec sheets

5.6.3 EDGE with and without Add Pitch Thumb — comparison

EDGE with and without Add Pitch Thumb — comparison

5.6.3 pitch

When using the **EDGE method** in Spectre Cloud's Oval Calculator, a secondary option becomes relevant: **Add Pitch Thumb**. This setting controls whether the thumb hole's pitch is factored into the oval calculation alongside the finger holes, or whether the oval is calculated from finger pitch alone. Understanding the difference between these two modes helps you choose the configuration that best reflects how your shop fits bowlers.

What "Add Pitch Thumb" Means

In a standard drilling, pitch is specified independently for each hole — fingers and thumb each have their own forward/back and left/right pitch values. When Spectre Cloud calculates oval cuts under the EDGE method, it must decide whether the **thumb's pitch contribution** should influence the oval geometry of the finger holes, or whether the two should remain independent.

- **EDGE without Add Pitch Thumb:** The oval calculation uses finger pitch values only. The thumb hole is drilled to its own pitch spec independently, and no thumb pitch data feeds into the finger oval math.
- **EDGE with Add Pitch Thumb:** The thumb's pitch values are added into the oval calculation, producing a combined pitch reference that influences where the edge of the

finger oval is placed on the ball surface.

☐☐ How Add Pitch Thumb Affects the Calculation

To understand the mechanical difference, consider what pitch does across the grip as a whole. The fingers and thumb work together during the release — they are not truly independent in terms of how force and angle are transmitted through the ball. The Add Pitch Thumb option reflects a fitting philosophy that treats the grip as a **system** rather than a collection of isolated holes.

With Add Pitch Thumb enabled under the EDGE method:

1. Spectre Cloud reads both the finger pitch values *and* the thumb pitch values from the spec sheet.
2. It combines these into a composite pitch reference used to locate the edge anchor point for the oval calculation.
3. The drill coordinates for the finger holes are adjusted to reflect this combined value — meaning the finger holes may be positioned slightly differently than they would be under finger-pitch-only EDGE.
4. The thumb hole is still drilled to its own independent spec; Add Pitch Thumb affects the *finger oval math*, not the thumb hole position itself.

☐ **Note:** The positional difference introduced by Add Pitch Thumb is most noticeable when the thumb carries significant forward or lateral pitch. For bowlers with zero or minimal thumb pitch, enabling this option produces results very close to standard EDGE without it.

⚖ Side-by-Side Comparison

| Factor | EDGE — without Add Pitch Thumb | EDGE — with Add Pitch Thumb |
|--------------------------------|---------------------------------------|----------------------------------------------------|
| Pitch reference used for oval | Finger pitch only | Finger pitch + thumb pitch combined |
| Grip treated as | Independent holes | Unified grip system |
| Effect on finger hole position | Anchored to finger pitch spec at edge | Adjusted to reflect combined pitch load |
| Effect on thumb hole position | None — drilled to own spec | None — drilled to own spec |
| Most noticeable when | Thumb pitch is zero or minimal | Thumb carries significant forward or lateral pitch |

| Factor | EDGE — without Add Pitch Thumb | EDGE — with Add Pitch Thumb |
|------------------------|-----------------------------------------------------------|-------------------------------------------------------------------|
| Best suited for | Standard fits, fingertip bowlers with typical thumb pitch | Bowlers with aggressive thumb pitch or strong release preferences |
| Calculation complexity | Simpler — one fewer variable | More complete — accounts for full grip geometry |

□ When to Use EDGE Without Add Pitch Thumb

- For the majority of standard fingertip fits where the thumb pitch is conventional and does not need to influence finger oval placement.
- When fitting **two-handed bowlers** or others who do not use a conventional thumb — since no meaningful thumb pitch is in play, adding it to the calculation introduces noise rather than useful data.
- When your existing spec sheet history was built without thumb pitch factored into oval math — keeping this option off maintains continuity across a bowler's records.
- When you prefer to keep the finger and thumb fitting decisions **fully independent** as a matter of workflow and philosophy.
- As the default starting point for new operators — it is easier to understand the EDGE method in its standard form before introducing the Add Pitch Thumb variable.

□ When to Use EDGE With Add Pitch Thumb

- When fitting bowlers with **significant thumb pitch** (e.g., forward or more) whose release characteristics suggest the full grip geometry should be considered together.
- When a bowler has been refitted multiple times and continues to report that finger feel is *off* despite correct individual hole specs — adding thumb pitch to the oval calculation sometimes resolves this kind of persistent mismatch.
- When working with **high-performance competitive bowlers** whose fits are dialled in at a level of detail where the interaction between thumb pitch and finger oval placement is meaningful.
- When your shop's fitting philosophy treats the grip as a **unified mechanical system** and you want Spectre Cloud's calculations to reflect that approach consistently.
- Avoid enabling Add Pitch Thumb for bowlers who use a **thumb slug with unconventional pitch** that does not reflect their true release — the slug pitch would

distort the combined reference rather than improve it.

☐☐ How to Configure This Setting in Spectre Cloud

1. Open **Settings** from your profile menu (top-right corner).
2. Navigate to the **Oval Calculator** section.
3. Confirm that **Oval Calculation Method** is set to **EDGE**.
4. Locate the **Add Pitch Thumb** toggle.
5. Enable or disable it according to your shop's fitting approach.
6. Save your settings. The change applies to all new spec sheets going forward.

☐☐ **Note:** Add Pitch Thumb is only active when the EDGE method is selected. If you switch to the CENTER method, this setting has no effect on the calculation.

☐☐ A Practical Example

A competitive bowler has $\frac{3}{8}$ " forward pitch on the fingers and $\frac{1}{4}$ " forward pitch on the thumb, with a $\frac{1}{4}$ " oval cut. Under **EDGE without Add Pitch Thumb**, Spectre Cloud anchors the finger oval edge at the $\frac{3}{8}$ " forward pitch position — the thumb pitch plays no role. Under **EDGE with Add Pitch Thumb**, the combined forward pitch of the grip system ($\frac{3}{8}$ " finger + $\frac{1}{4}$ " thumb) produces a composite reference, and the finger hole position shifts slightly to reflect the fuller load the thumb pitch places on the overall release geometry. For this bowler, the Add Pitch Thumb version may produce a more cohesive feel through the swing — but the standard EDGE version is a perfectly valid fit as well.

Related Sections

- 5.6.1 — EDGE method explained — how pitch is placed at edge of oval
- 5.6.2 — CENTER method explained — how pitch is placed at center of oval
- 5.6.4 — Choosing the right method and options for your shop
- 5.5.1 — Setting up: Oval Cut Direction = NONE in Settings
- 4.x — Creating and editing spec sheets

☐☐ **Tip:** If you are unsure whether to enable Add Pitch Thumb, start with it **off**. Drill a test fit, have the bowler throw a few frames, and ask specifically about finger comfort through the release. If they consistently report that the fingers feel slightly misaligned despite correct individual pitch specs, try enabling Add Pitch Thumb and re-drilling — it often resolves exactly that kind of subtle

grip mismatch.

5.6.4 CENTER with and without Add Pitch Thumb — comparison

CENTER with and without Add Pitch Thumb — comparison

5.6.4 pitch

Just as the EDGE method can be run with or without the **Add Pitch Thumb** option, the **CENTER method** offers the same choice. The underlying question is identical — should the thumb's pitch values contribute to the finger oval calculation, or should the two be kept independent? — but because CENTER and EDGE anchor pitch to different reference points, the practical effect of enabling Add Pitch Thumb plays out differently under each method. This page covers what Add Pitch Thumb does specifically in the context of the CENTER method, and when each configuration is the right call.

☐ A Quick Recap: CENTER and Add Pitch Thumb

Under the CENTER method, Spectre Cloud places the pitch reference point at the **geometric centre** of the finished oval hole. Add Pitch Thumb, when enabled, brings the thumb's pitch values

into the calculation that determines where that centre point is positioned on the ball surface.

- **CENTER without Add Pitch Thumb:** Finger hole centres are positioned using finger pitch values only. The thumb is drilled independently to its own spec and plays no role in the finger oval math.
- **CENTER with Add Pitch Thumb:** A composite pitch reference — combining finger and thumb pitch values — is used to determine where the centre of each finger oval lands on the ball surface.

Note: In both configurations, the thumb hole itself is always drilled to its own independent pitch specification. Add Pitch Thumb affects how finger hole *positions* are calculated — it does not move the thumb hole.

How Add Pitch Thumb Behaves Differently Under CENTER vs. EDGE

When Add Pitch Thumb is enabled under the EDGE method, the composite pitch reference shifts the **edge anchor point** of the finger oval. Under the CENTER method, the same composite reference shifts the **centre anchor point** instead. Because the centre sits further from the palm than the leading edge, the absolute positional shift introduced by Add Pitch Thumb is slightly smaller under CENTER than under EDGE for the same pitch values. The two methods amplify the thumb pitch contribution differently, which is worth keeping in mind if you are switching between them while also toggling Add Pitch Thumb.

Side-by-Side Comparison

| Factor | CENTER — without Add Pitch Thumb | CENTER — with Add Pitch Thumb |
|--------------------------------|-----------------------------------------|-------------------------------------------------|
| Pitch reference used for oval | Finger pitch only | Finger pitch + thumb pitch combined |
| Anchor point on oval | Geometric centre of finger oval | Geometric centre, shifted by combined pitch |
| Grip treated as | Independent holes | Unified grip system |
| Effect on finger hole position | Placed at nominal span and finger pitch | Adjusted for combined finger + thumb pitch load |

| Factor | CENTER — without Add Pitch Thumb | CENTER — with Add Pitch Thumb |
|---------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------|
| Effect on thumb hole position | None — drilled to own spec | None — drilled to own spec |
| Positional shift vs. EDGE + Add Pitch Thumb | N/A | Slightly smaller shift — centre sits further from palm than edge |
| Best suited for | Standard fits, minimal thumb pitch, legacy record continuity | Bowlers with meaningful thumb pitch where grip geometry matters |
| Calculation complexity | Simplest of all four configurations | Moderate — adds thumb pitch variable to centre-based math |

□ When to Use CENTER Without Add Pitch Thumb

- □ The **simplest and most broadly compatible** of all four method/option combinations — a reasonable default for shops that are new to Spectre Cloud or transitioning from a legacy system.
- □ For bowlers with **zero or minimal thumb pitch** where adding thumb values to the calculation would introduce negligible change and unnecessary complexity.
- □ When your existing spec sheet records were built using a **centre-referenced, finger-only oval formula** — keeping this configuration ensures new spec sheets stay consistent with historical ones.
- □ For **two-handed bowlers** or those drilling without a thumb hole — no thumb pitch data is available to add, making this the only valid CENTER configuration for those fits.
- □ For **house ball or rental fleet drilling** where fitting precision requirements are lower and throughput matters more than optimising every variable.

□ When to Use CENTER With Add Pitch Thumb

- □ When fitting bowlers whose thumb carries **meaningful forward or lateral pitch** and whose release characteristics suggest the full grip geometry should be considered as a system.
- □ When a bowler's finger feel is consistently reported as slightly off despite correct individual hole specs — and you have already ruled out EDGE without Add Pitch Thumb as a solution — CENTER with Add Pitch Thumb offers a different composite reference that may resolve the mismatch.

- When your shop uses the CENTER method as its standard but wants to **account for thumb pitch influence** without switching to the EDGE method entirely.
- For experienced competitive bowlers whose fits are maintained at a high level of detail and where the interaction between thumb and finger geometry is worth modelling explicitly.
- As with the EDGE version, avoid enabling Add Pitch Thumb for bowlers using a **thumb slug pitched for equipment fit rather than release** — the slug pitch value would skew the composite reference away from the bowler's actual release geometry.
- Do not enable Add Pitch Thumb under CENTER as a way to approximate EDGE behaviour — the two methods differ in their anchor point, and mixing intentions produces inconsistent results across your spec sheet records.

How to Configure This Setting in Spectre Cloud

1. Open **Settings** from your profile menu (top-right corner).
2. Navigate to the **Oval Calculator** section.
3. Confirm that **Oval Calculation Method** is set to **CENTER**.
4. Locate the **Add Pitch Thumb** toggle.
5. Enable or disable it according to your shop's fitting approach.
6. Save your settings. The change applies to all new spec sheets going forward.

All Four Configurations at a Glance

Taken together, the method and Add Pitch Thumb toggle produce four distinct calculation configurations in Spectre Cloud. Here is how they relate to each other:

| Configuration | Anchor point | Thumb pitch included | Best for |
|----------------------------|--------------------------|----------------------|-----------------------------------------------------|
| EDGE, no Add Pitch Thumb | Leading edge of oval | No | Standard fingertip fits, typical thumb pitch |
| EDGE, with Add Pitch Thumb | Leading edge of oval | Yes | Competitive bowlers with significant thumb pitch |
| CENTER, no Add Pitch Thumb | Geometric centre of oval | No | Legacy continuity, minimal thumb pitch, house balls |

| Configuration | Anchor point | Thumb pitch included | Best for |
|------------------------------|--------------------------|----------------------|-------------------------------------------------------|
| CENTER, with Add Pitch Thumb | Geometric centre of oval | Yes | CENTER shops wanting full grip geometry consideration |

☐ **Note:** Most shops will settle on one configuration and use it consistently. Switching between configurations mid-bowler — without a deliberate refitting session — risks introducing a systematic shift in that bowler's spec history that is difficult to untangle later.

☐ A Practical Example

Returning to the bowler from the previous pages: $\frac{3}{8}$ " forward pitch on the fingers, $\frac{1}{4}$ " forward pitch on the thumb, $\frac{1}{4}$ " oval cut. Under **CENTER without Add Pitch Thumb**, the centre of each finger oval is placed at the $\frac{3}{8}$ " forward pitch position — clean and straightforward. Under **CENTER with Add Pitch Thumb**, the composite reference nudges the centre point slightly to account for the thumb's $\frac{1}{4}$ " forward contribution, shifting the finger holes a small amount toward the palm. The shift is subtler than it would be under EDGE with Add Pitch Thumb, because the centre reference point sits further from the contact edge — but for a well-dialled competitive bowler, even that subtle difference can be felt in the release.

Related Sections

- 5.6.1 — EDGE method explained — how pitch is placed at edge of oval
- 5.6.2 — CENTER method explained — how pitch is placed at center of oval
- 5.6.3 — EDGE with and without Add Pitch Thumb — comparison
- 5.6.5 — Choosing the right method and options for your shop
- 5.5.1 — Setting up: Oval Cut Direction = NONE in Settings

☐ **Tip:** When evaluating which of the four configurations is right for your shop, the most reliable test is consistency — pick the configuration that matches how your best-fitting bowlers currently feel in their equipment, and use that as your baseline. Spectre Cloud's calculation is only as good as the fitting philosophy it is expressing.

5.6.5 Choosing EDGE vs. CENTER: which method fits which bowler?

Choosing EDGE vs. CENTER: which method fits which bowler?

5.6.5

TIP

guide

With four calculation configurations available in Spectre Cloud's Oval Calculator — EDGE and CENTER, each with or without Add Pitch Thumb — the practical question every operator faces is: **which one do I use, and for whom?** This page brings together everything covered in sections 5.6.1 through 5.6.4 into a single decision framework, so you can match the right configuration to each bowler's profile with confidence.

☐☐ The Core Distinction — One More Time

Before the decision framework, a plain-language summary of what separates the two methods:

- **EDGE** delivers pitch at the point where the bowler's finger actually contacts the hole — the leading edge of the oval. What you specify is (closely) what the bowler feels.

- **CENTER** delivers pitch at the geometric midpoint of the hole. The effective pitch at the contact point is slightly amplified by the oval's length — a known, predictable offset that experienced fitters can account for deliberately.

Neither method is universally superior. Each is the right tool in the right context. The goal of this page is to make that context clear.

Decision Framework — Bowler Profile vs. Recommended Configuration

| Bowler profile | Recommended configuration | Reason |
|---------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Recreational bowler, conventional grip, typical pitch values | CENTER, no Add Pitch Thumb | Simplest configuration, fits most recreational specs cleanly, minimal oval size means centre/edge difference is negligible |
| Fingertip bowler, moderate forward pitch ($\frac{1}{4}$ "), small oval ($\frac{1}{8}$ ") | EDGE or CENTER, no Add Pitch Thumb | At small oval sizes the two methods converge — either is valid; match whichever is your shop standard |
| Fingertip bowler, moderate to high forward pitch ($\frac{3}{8}$ " +), larger oval ($\frac{1}{4}$ " +) | EDGE, no Add Pitch Thumb | Edge offset becomes meaningful at these values; EDGE delivers the specified pitch accurately at the contact point |
| Competitive bowler, significant forward pitch, significant thumb pitch | EDGE, with Add Pitch Thumb | Full grip geometry matters at this level; combined pitch reference produces the most cohesive feel through the release |
| Bowler transitioning from legacy system with centre-based records | CENTER, no Add Pitch Thumb | Maintains consistency with historical spec sheets; avoids a systematic shift in the bowler's specs during transition |
| Two-handed bowler or no-thumb release | EDGE or CENTER, no Add Pitch Thumb | No thumb pitch data available; Add Pitch Thumb has nothing to contribute — keep it off regardless of method chosen |
| House ball or rental fleet fit | CENTER, no Add Pitch Thumb | Speed and consistency matter more than precision at this level; simplest configuration is the right call |

| Bowler profile | Recommended configuration | Reason |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bowler with reverse pitch on fingers | CENTER, no Add Pitch Thumb | Edge offset works against the fitter with reverse pitch; centre reference keeps the calculation stable and predictable |
| Bowler with zero pitch across all holes | Either method, no Add Pitch Thumb | At zero pitch, EDGE and CENTER produce identical results — method choice is irrelevant |
| Bowler whose finger feel is consistently reported as "off" despite correct specs | Try EDGE, no Add Pitch Thumb first; escalate to EDGE with Add Pitch Thumb if unresolved | Switching from CENTER to EDGE often resolves persistent pitch-feel mismatches; Add Pitch Thumb addresses the subset caused by thumb-finger interaction |

☐ A Shop-Level Decision, Not Just a Per-Bowler One

While the table above gives per-bowler guidance, most shops will also want to land on a **shop-wide default configuration** — the setting that covers the majority of their customers well and is applied consistently unless a specific bowler's profile calls for something different. Here is how to think about that default:

- ☐ **If your shop primarily serves recreational and league bowlers** with conventional grips and modest pitch values: **CENTER, no Add Pitch Thumb** is the most practical default. It is fast, consistent, and the oval sizes common in recreational fitting make the centre/edge difference negligible.
- ☐ **If your shop does significant work with fingertip and competitive bowlers** who carry meaningful forward pitch and larger oval cuts: **EDGE, no Add Pitch Thumb** is the stronger default. It delivers specified pitch more accurately across the range of fits you do most.
- ☐ **If your shop is a performance-focused operation** serving competitive and tournament bowlers almost exclusively: **EDGE, with Add Pitch Thumb** gives the most complete picture of grip geometry and is worth the additional setup attention it requires.
- ☐ **If you are migrating a bowler database from a legacy system** that used centre-based math: start with **CENTER, no Add Pitch Thumb** and transition individual bowlers to EDGE deliberately, one refitting session at a time, rather than switching everyone at once.

⚠ What to Avoid

- **Do not switch configurations between spec sheets for the same bowler** without a deliberate refitting session. A configuration change mid-history introduces a systematic shift that is hard to interpret later when reviewing that bowler's records.
- **Do not use Add Pitch Thumb as a fine-tuning dial** to nudge fit results without understanding what it is doing. It models a specific physical relationship — the thumb's pitch contribution to finger oval placement — and should only be enabled when that relationship is genuinely relevant.
- **Do not treat EDGE as universally better than CENTER.** For recreational bowlers, small ovals, and reverse pitch situations, CENTER is equally valid and often more appropriate.
- **Do not change your shop default mid-season** if you have a large number of active bowlers on a regular redrilling schedule. Wait for a natural break — start of a new season, or after a round of planned refits — so the transition is clean.

Switching a Bowler Between Configurations

If you decide to move a bowler from CENTER to EDGE — or vice versa — the safest approach is to treat it as a **refitting session**, not just a settings change. Before the switch:

1. Review the bowler's current spec sheet and note their pitch values and oval cut sizes.
2. Use Spectre Cloud to calculate what their drill coordinates would look like under the new configuration, without yet committing to a drill.
3. Compare the new coordinates against the current ones. If the difference is small (less than of positional shift), the transition is low-risk. If the shift is larger, discuss it with the bowler before drilling.
4. For significant shifts, consider adjusting the pitch specification itself to preserve the *effective* pitch the bowler has been feeling — rather than applying both a method change and a coordinate shift simultaneously.

Note: Spectre Cloud does not automatically flag when a configuration change would produce a meaningful coordinate shift for an existing bowler. That comparison is the operator's responsibility — which is one more reason to settle on a consistent shop default and change it deliberately rather than frequently.

Quick-Reference Summary

- **Small oval + low pitch:** CENTER or EDGE — both work, match your shop standard.
- **Larger oval + meaningful forward pitch:** EDGE, no Add Pitch Thumb.

- **Larger oval + meaningful forward pitch + significant thumb pitch:** EDGE, with Add Pitch Thumb.
- **Reverse pitch or zero pitch:** CENTER, no Add Pitch Thumb.
- **Legacy record continuity:** CENTER, no Add Pitch Thumb.
- **Persistent "pitch feels off" complaint:** Try EDGE, no Add Pitch Thumb first.

Related Sections

- 5.6.1 — EDGE method explained — how pitch is placed at edge of oval
- 5.6.2 — CENTER method explained — how pitch is placed at center of oval
- 5.6.3 — EDGE with and without Add Pitch Thumb — comparison
- 5.6.4 — CENTER with and without Add Pitch Thumb — comparison
- 5.7 — Reading and interpreting Oval Calculator output on a spec sheet
- 2.x — Settings: Oval Calculator options

Tip: When onboarding a new staff member, have them read sections 5.6.1 through 5.6.5 in order before touching the Oval Calculator settings. The conceptual progression — from what each method does, to how Add Pitch Thumb changes it, to how to choose between them — is designed to build a complete mental model before any drilling decisions are made.

5.6.6 1° vs. 5° Oval Degree increments and their precision impact

1° vs. 5° Oval Degree increments and their precision impact

5.6.6

pitch

When Spectre Cloud calculates oval cuts, one of the underlying settings controls how finely the oval angle is expressed: the **Oval Degree increment**. This setting determines whether oval angles are rounded to the nearest **5°** or expressed in finer **1°** steps. The choice between them is a precision versus practicality trade-off — and the right answer depends on your equipment, your fitting style, and how much granularity your workflow can meaningfully use.

□□ What Oval Degree Increments Control

An oval cut is not just a size — it also has an **angle of orientation** relative to the finger hole's pitch axis. When Spectre Cloud's Oval Calculator derives the optimal oval angle for a given spec, it expresses that angle as a number of degrees. The degree increment setting controls the resolution of that output:

- **5° increments:** The calculated oval angle is rounded to the nearest multiple of 5 — e.g., , , , . Coarser, but easier to set on most drill presses.
- **1° increments:** The calculated oval angle is expressed to the nearest whole degree — e.g., , , . Finer resolution, but only meaningful if your equipment can reliably be set to single-degree precision.

Note: The degree increment setting affects how the *output* of the Oval Calculator is expressed and recorded on spec sheets. It does not change the underlying pitch or span inputs, and it does not alter which calculation method (EDGE or CENTER) is in use.

5° vs. 1° — Precision Impact Compared

| Factor | 5° increments | 1° increments |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Output resolution | Rounded to nearest 5° | Rounded to nearest 1° |
| Maximum rounding error | Up to ±2.5° | Up to ±0.5° |
| Practical drill press settability | <input type="checkbox"/> Achievable on most press models | Requires a press with fine degree calibration |
| Spec sheet readability | <input type="checkbox"/> Clean, round numbers — easy to read and communicate | More precise but may feel over-specified for routine fits |
| Meaningful for small ovals (<input type="text" value="1/8"/>) | <input type="checkbox"/> Yes — angular precision matters less at small oval sizes | Marginal benefit — size dominates over angle at <input type="text" value="1/8"/> |
| Meaningful for larger ovals (<input type="text" value="3/8"/> +) | Rounding error becomes more noticeable at larger sizes | <input type="checkbox"/> Yes — angular precision has more impact on fit at larger ovals |
| Best suited for | Recreational fits, standard equipment, high-volume shops | Competitive fits, precision equipment, performance-focused shops |

Why Angular Precision Matters More at Larger Oval Sizes

The relationship between oval angle and fit feel is not linear — it scales with oval size. At ", the total length added by the oval is small enough that a few degrees of angular variation produce a barely perceptible difference in where the hole wall contacts the finger. At " or ", the same angular variation moves the contact point by a more meaningful distance, and the bowler is more likely to feel it in the release.

A rough way to think about it:

- At $1/8''$ oval — a $\pm 2.5^\circ$ rounding error from 5° increments produces less than $1/64''$ of contact point variation. Imperceptible for most bowlers.
- At $1/4''$ oval — the same $\pm 2.5^\circ$ error produces roughly $1/32''$ of variation. Noticeable to sensitive fingertip bowlers.
- At $3/8''$ oval — $\pm 2.5^\circ$ can produce closer to $1/16''$ of variation. Potentially meaningful for competitive bowlers dialled in at a high level of precision.

△ **Verify with Spectre team:** The contact point variation estimates above are geometrically reasoned approximations. Confirm the exact figures against Spectre Cloud's internal calculation documentation if this page will be used as a technical reference.

☐ Equipment Reality: Can Your Press Actually Use 1° Precision?

Before selecting 1° increments, it is worth asking honestly whether your drill press can be set to single-degree accuracy. Many standard pro shop presses have degree markings at 5° intervals, with estimation required between them. On these presses, a spec sheet showing 13° instead of 15° does not improve fit — it introduces uncertainty, because the driller has to estimate where 13° falls between the 10° and 15° marks.

- ☐ Use **1° increments** if your press has a fine-adjust mechanism, a digital angle readout, or clearly marked single-degree graduations.
- ☐ Use **5° increments** if your press uses standard 5° markings and you set angles by eye or by feel between marked positions.
- ☐ Use **5° increments** in multi-staff shops where different drillers use different presses — a common increment standard prevents spec sheet values from implying a precision that not every station can deliver.
- ☐ Do not select 1° increments simply because it looks more precise on a spec sheet. Precision in the output is only valuable if it can be replicated at the press.

☐ How to Set Oval Degree Increments in Spectre Cloud

1. Open **Settings** from your profile menu (top-right corner).
2. Navigate to the **Oval Calculator** section.
3. Locate the **Oval Degree Increment** preference.

4. Select either 1° or 5° from the available options.
5. Save your settings. The change applies to all new spec sheets going forward.

Note: Changing the degree increment does not recalculate existing spec sheets. Previously recorded oval angles remain as they were at the time of drilling.

Practical Guidance by Shop Type

- **High-volume recreational shop:** 5° increments. Speed and consistency matter more than sub- 5° angular resolution at this level of fitting.
- **Mixed recreational and league shop:** 5° increments as default, with the option to switch to 1° for individual competitive bowlers if equipment supports it.
- **Performance and competitive shop:** 1° increments, provided the primary drill press supports it. The bowlers you serve are sensitive enough to the fit that the additional resolution is worth using.
- **Training or education environment:** 1° increments — even if the press cannot achieve single-degree accuracy, seeing precise calculated values helps students understand the underlying geometry before rounding enters the picture.

A Practical Example

Spectre Cloud calculates an optimal oval angle of 13° for a fingertip bowler with $3/8"$ forward pitch and a $1/4"$ oval cut. Under **5° increments**, this is recorded on the spec sheet as 15° — the nearest 5° value. Under **1° increments**, it is recorded as 13° . If the driller's press has 5° markings only, both spec sheets result in the same physical drill position: the press is set to 15° either way. If the press has a fine-adjust capable of hitting 13° accurately, the 1° spec sheet actually produces a measurably different — and more precisely fitted — hole. The increment setting is only doing real work in the second scenario.

Related Sections

- 5.6.1 — EDGE method explained — how pitch is placed at edge of oval
- 5.6.2 — CENTER method explained — how pitch is placed at center of oval
- 5.6.5 — Choosing EDGE vs. CENTER: which method fits which bowler
- 5.7 — Reading and interpreting Oval Calculator output on a spec sheet
- 2.x — Settings: Oval Calculator options

□ **Tip:** If you are unsure which increment to use, start with **5°**. It is the more forgiving choice — the rounding error it introduces is small enough to be invisible for the majority of fits, and you can always switch to 1° later if you upgrade your equipment or begin serving a higher proportion of competitive bowlers who need the extra resolution.