4.1.2 Span types explained: Full Span vs. Cut to Cut vs. Oval Span

Span types explained: Full Span vs. Cut to Cut vs. Oval Span

> 4.1.2 concept

The **span type** setting on a Spectre Cloud spec sheet defines the measurement convention used to record the distance between the finger holes and the thumb hole. Choosing the right span type — and understanding what each one measures — ensures that spec sheet values are interpreted and drilled correctly every time. This page explains how each of the three span types works, how they differ from each other, and how to choose between them for a given bowler or fitting workflow.

Note: This page explains the span types conceptually. For the specific settings that control how each span type is configured in Spectre Cloud, see **chapter 2.3**. For the acronyms used to represent span types on spec sheets, see **4.1.1**.

□□ What Is a Span Measurement?

A span measurement records the distance between a bowler's finger holes and their thumb hole on a drilled bowling ball. It is the primary dimension that determines how far the thumb must reach — and how comfortable and consistent the grip feels through the swing and release. All three span types measure this same fundamental distance, but they differ in **where on the hole the measurement begins and ends**.

- Span is one of the most important measurements on a spec sheet — an incorrect span produces a grip that is either too stretched or too cramped, directly affecting ball control and release consistency.
- The same bowler measured in two different span types will produce different numeric values — the numbers are not interchangeable without conversion.
- Spectre Cloud stores the span type alongside the measurement value on every spec sheet, ensuring the value is never interpreted without its corresponding convention.

Full Span (F)

A **Full Span** measurement is taken from the **tip of the middle finger** — with the finger inserted to the correct depth for the bowler's grip style — to the **near edge of the thumb hole**. It measures the full distance the thumb must reach from the fingertip position to its hole.

How Full Span Is Measured

1. Have the bowler insert their middle and ring fingers into the finger holes to the correct depth for their grip style.
2. With the fingers seated, measure from the tip of the middle finger to the nearest edge of the thumb hole.
3. Record the measurement in inches, to the nearest 1/16" or in decimal as appropriate for your display setting.

When to Use Full Span

- The most widely used span convention in the industry — the default for most pro shops and IBPSIA-published fitting charts.
- Intuitive for bowlers to understand — describes the actual reach from finger to thumb.
- Best choice when using IBPSIA standard charts as a starting point, since most published values assume Full Span.
- Suitable for all grip styles — fingertip, conventional, and semi-fingertip.
- Requires the fingers to be physically inserted to the correct depth during measurement — measurement accuracy depends on consistent finger insertion.

□□ Cut to Cut (C)

A **Cut to Cut** measurement is taken from the **near edge of the finger holes** to the **near edge of the thumb hole** — edge to edge, entirely on the ball's surface. It does not involve the bowler's hand in the measurement itself; instead it measures the distance between the physical openings of the drilled holes.

How Cut to Cut Is Measured

1. With the ball on the fitting jig or bench, identify the near edge of the finger holes (the edge closest to the thumb hole).
2. Measure from that edge to the near edge of the thumb hole.
3. Record the measurement in inches, to the nearest 1/16" or in decimal.

When to Use Cut to Cut

- □ Preferred by fitters who work primarily from physical ball measurements rather than hand-based fitting.
- □ More reproducible across different fitters — the measurement point is fixed on the ball rather than dependent on finger insertion depth.
- □ Particularly useful when inserts are in use — the hole edge position is directly relevant to how inserts seat and the effective grip geometry.
- □ Useful for verifying a drilled ball against spec — the Cut to Cut can be measured post-drilling to confirm accuracy.
- □ Less intuitive for bowlers — the measurement is taken from the ball, not the hand, and does not directly describe the bowler's reach.
- □ Values are not directly comparable to Full Span values — converting between the two requires knowing the hole diameter and insertion depth.

□□ Oval Span (O)

An **Oval Span** spec sheet is one where at least one hole — most commonly the thumb — has been drilled as an oval shape rather than a round hole. The oval designation does not replace the span measurement; rather it indicates that the hole dimensions include an oval cut, and that the oval calculator values (starting bit, oval width, V/H movement) are part of the spec.

What Makes a Span "Oval"

A standard round hole has a single diameter. An oval hole has been extended beyond the round cut in the vertical direction, the horizontal direction, or both — creating an elongated opening that accommodates the bowler's natural thumb movement through the release.

- The oval's dimensions are defined by the **starting bit size** (the round hole) and the **additional cut** in V and/or H directions.
- Oval spans are most common for the thumb — the thumb's rotation during release often benefits from an oval that follows the thumb's natural path.
- The span measurement itself (Full Span or Cut to Cut) is still recorded on an oval spec sheet — the oval designation adds the oval dimensions on top of the standard span record.
- In Spectre Cloud, the oval calculator (Book 05) generates the V/H movement values and oval width from the bowler's span and thumb measurements.
- Oval holes require additional care at the drill press — the movement direction, flip settings, and diff values must all be correctly configured before drilling.

When to Use Oval Span

- When a bowler's thumb does not clear a round hole cleanly through the release.
- When a bowler reports thumb discomfort, hanging, or inconsistent exit on a correctly sized round hole.
- When thumb swelling is a recurring issue — an oval provides more clearance without requiring a larger round hole that would be too loose when swelling subsides.
- For bowlers with a pronounced thumb rotation or side-roll through the release.

Span Types Compared

	Full Span (F)	Cut to Cut (C)	Oval Span (O)
Measurement reference	Fingertip to thumb hole edge	Finger hole edge to thumb hole edge	As F or C, plus oval cut dimensions
Measured from	Bowler's hand (finger inserted)	Ball surface only	Ball surface; oval from calculator
Reproducibility	Depends on consistent finger insertion	High — fixed points on ball	Depends on base span type used
IBPSIA chart compatibility	Direct — charts assume Full Span	Requires conversion	Oval dimensions from calculator
Insert fitting suitability	Good	Best — directly references hole edge	Good; oval adds clearance for thumb
Common use	General fitting; most shops	Insert-based; post-drill verification	Thumb clearance; rotation accommodation

⚠ Do Not Mix Span Types Within a Bowler's History

Once a span type has been established for a bowler, it should be used consistently on all subsequent spec sheets. Mixing span types across a bowler's history makes values appear different when they are actually equivalent — or appear the same when they are actually different — depending on the conversion.

- □ Do not copy a Full Span value onto a Cut to Cut spec sheet without converting — the resulting span will be incorrect for the bowler's hand.
- □ Do not assume that because two span values are numerically close they represent the same physical measurement — the same bowler measured in F and C will produce different numbers.
- □ If a bowler's span type needs to change — for example, when transitioning from a shop that uses Full Span to one that uses Cut to Cut — measure the bowler fresh in the new convention rather than converting from the old value.
- □ Note the span type change in the bowler's profile notes with the date — future staff reviewing the history will understand why early spec sheets show different values.

□□ Span Type and Spectre Cloud's Auto-Suggestions

Spectre Cloud's auto-suggestion features — including Auto-Calculate Ring Span (2.6.8) and Autofill Cut to Cut (2.6.9) — are aware of the span type selected on the current spec sheet and apply their calculations accordingly. The 5/16" ring span offset and the Cut to Cut derivation both operate within the selected span type's convention.

- □ Selecting Full Span on a spec sheet triggers Full Span-appropriate autofill behaviour.
- □ Selecting Cut to Cut triggers the Autofill Cut to Cut calculation chain (see 2.6.9).
- □ Oval span sheets additionally trigger oval calculator fields — the V/H movement values, diff, and oval width appear as part of the spec. ⚠ *Verify with your Spectre team: confirm exactly how the oval span type selection interacts with the oval calculator fields in the spec sheet UI.*

Related Sections

- 4.1.1 — Understanding acronyms: F, C, O and other Spectre Cloud shorthand

- 4.1.3 — Creating a new spec sheet *(if applicable)*
- 2.3.2 — Span type configuration: Full Span, Edge, Center
- 2.6.8 — Auto-Calculate Ring Span: based on 5/16" rule
- 2.6.9 — Autofill Cut to Cut: based on insert type/size
- 5.x — Oval Calculator: overview and getting started
- 9.x — Tips and Troubleshooting: converting between span types

Tip: If your shop is establishing its span type convention for the first time, Full Span is the lowest-friction choice — it aligns with IBPSIA charts, is familiar to most experienced fitters, and is intuitive to explain to bowlers. Cut to Cut becomes the better choice when your workflow is heavily insert-based or when post-drill verification against the ball is part of your standard process. Oval is not an alternative to the other two — it is an addition to whichever base span type you use.

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