

4.1.2 Span types explained: F, C, O, H

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 spec sheet values are interpreted and drilled correctly every time. This page explains how each of the four span types works, how they differ, and how to choose between them for a given bowler or workflow.

Note: This page explains the span types conceptually. For the acronyms used to represent them on spec sheets (F, C, O, H), see **4.1.1**. For oval *hole* measurement — a separate concept from span type — see the **Oval Calculator** (Book 05).

☐☐ 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 four span types describe this same fundamental distance, but they differ in **where the measurement begins and ends** and whether the inserts are included.

- ☐ 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, so a value is never interpreted without its corresponding convention.

☐☐ Full Span (F)

Full Span is the **complete measured span, everything included — inserts and all**. It is taken with the bowler's grips/inserts in place, capturing the full distance the thumb must reach from the seated finger position to the thumb hole. It is also referred to as the complete span.

When to Use Full Span

- ☐ The most widely used convention and a sensible default for most shops — it describes the bowler's actual reach with their grips installed.
- ☐ Intuitive to explain to a bowler, since it reflects the grip exactly as they feel it.
- ☐ Required input for the Cut to Cut auto-suggestion — Full Span must be entered on **both fingers** for that calculation to run (see below).

☐☐ Cut to Cut (C)

Cut to Cut is the **Full Span minus the thickness of the insert** — the span measured to the actual drilled cut of the finger hole, before the inserts are accounted for. It is most useful when you drill the ball **thumb-first**: rather than mentally subtracting the grip thickness to find where the finger holes go, you work directly from the Cut to Cut value.

When to Use Cut to Cut

- ☐ Ideal for a thumb-first drilling workflow — the number already accounts for the insert thickness, so there's no mental math at the press.
- ☐ References the physical cut on the ball, making it reproducible across fitters.
- ☐ Supported by a built-in auto-suggestion in Spectre Cloud (see **Autofill Cut to Cut**, 2.6.9).
- ☐ Less intuitive for the bowler, since it describes the drilled hole rather than the felt grip.

Autofill requirements: The Cut to Cut auto-suggestion doesn't measure anything on its own — it derives the value. For it to run, the spec sheet needs a **Full Span measurement on both fingers**, plus the **insert type and insert size** for each. From the insert type and size, Spectre Cloud calculates the insert wall thickness and subtracts it from the Full Span to produce the Cut to Cut value. If any of those inputs is missing, the autofill can't calculate.

Watch the terminology: Spectre's **Cut to Cut (C)** is *not* the same thing the PBA services truck calls "Cut-to-Cut." The PBA truck's "Cut-to-Cut" (biggest hole to biggest hole) is Spectre's **Hole to Hole (H)** — see below.

☐☐ Outer to Cut (O)

Outer to Cut is used for **interchangeable thumbs**. It is measured from the **inside of the female portion of the interchangeable** to the cut of the finger's outer-diameter hole. It has nothing to do with oval holes — the "O" stands for *Outer to Cut*, not Oval.

Its purpose is repeat-drilling convenience. When a bowler with an interchangeable thumb comes in for a new ball, you don't need to drill a fresh thumb hole for them. Using the Outer to Cut measurement, the holes land in exactly the right spot, and the bowler simply locks in their own **male inner sleeve**.

When to Use Outer to Cut

- ☐ Any bowler who uses an interchangeable thumb system.
- ☐ Repeat customers — they can show up, and the ball is ready for their existing sleeve without re-fitting the thumb.
- ☐ Keeps a consistent reference across every ball in that bowler's arsenal.
- ☐ Only relevant to interchangeable setups — not applicable to bowlers drilling a fixed thumb hole.

☐ Hole to Hole (H)

Hole to Hole is measured **biggest hole to biggest hole** — for example, from a thumb hole to a finger hole. It is a purely physical, edge-to-edge measurement of the largest openings on the ball.

This is the measurement the **PBA services truck refers to as "Cut-to-Cut."** Because Spectre already uses "Cut to Cut" for a different measurement (C, above), that PBA convention lives under the name **Hole to Hole** in Spectre to avoid confusion.

When to Use Hole to Hole

- ☐ Quick physical reference straight off the ball, independent of inserts or grips.
- ☐ Familiar to anyone coming from a PBA-truck background, where this is called "Cut-to-Cut."
- ☐ Useful for verifying a drilled ball against spec, since it references fixed points on the ball.
- ☐ Does not describe the bowler's felt reach — it's a hole-geometry measurement, not a grip measurement.

☐ Span Types Compared

	Full Span (F)	Cut to Cut (C)	Outer to Cut (O)	Hole to Hole (H)
What it measures	Complete span, inserts and all	Full Span minus insert thickness	Inside of the female interchangeable to the cut of the finger OD hole	Biggest hole to biggest hole (e.g., 1½" to 31/32")
Inserts included?	Yes — everything included	No — insert thickness removed	Interchangeable system (female/male sleeve)	N/A — hole edge to hole edge
Primary use	General fitting; the default/complete reference	Thumb-first drilling; deriving finger-hole position	Bowlers with interchangeable thumbs; repeat drilling	Quick physical reference; PBA-truck workflows
PBA truck term	—	Not the truck's "Cut-to-Cut"	—	This is the truck's "Cut-to-Cut"
Auto-suggestion	—	Yes — needs Full Span (both fingers) + insert type & size (2.6.9)	—	—

☐ Span Type and Spectre Cloud's Auto-Suggestions

Spectre Cloud's auto-suggestion features are aware of the span type selected on the current spec sheet and apply their calculations within that convention. The primary one tied to span type is **Autofill Cut to Cut**, which derives the Cut to Cut value from the Full Span rather than requiring you to measure it separately.

For Autofill Cut to Cut to run, the spec sheet must contain:

1. A **Full Span measurement on both fingers** (middle and ring).
2. The **insert type** for each finger.
3. The **insert size** for each finger.

From the insert type and size, Spectre Cloud determines the insert wall thickness, then subtracts it from the Full Span to produce the Cut to Cut value. If any of these inputs is missing, the calculation can't complete.

- ☐ Auto-Calculate Ring Span (2.6.8) operates within the selected span type's convention.
- ⚠ **Verify with your Spectre team:** confirm which (if any) auto-suggestions are active for Outer to Cut (O) and Hole to Hole (H), as these behaviours may differ from Full Span and Cut to Cut.

Related Sections

- 4.1.1 — Understanding acronyms: F, C, O, H and other Spectre Cloud shorthand
- 2.6.8 — Auto-Calculate Ring Span
- 2.6.9 — Autofill Cut to Cut: based on Full Span, insert type, and insert size
- 05 — Oval Calculator: oval hole shape (a separate concept from span type O)
- 9.x — Tips & Troubleshooting: converting between span types

Tip: If your shop is setting a default span type, **Full Span** is the lowest-friction choice — it's the complete measurement most fitters already work in, it aligns with published fitting charts, and it's the input the Cut to Cut autofill depends on. Reach for **Cut to Cut** when you drill thumb-first, **Outer to Cut** for bowlers on interchangeable thumbs, and **Hole to Hole** when you want the biggest-hole-to-biggest-hole reference the PBA truck calls "Cut-to-Cut." Remember: none of these is "Oval" — that's a hole shape, not a span type.

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