7.2.1 What is the 3D Layout view?

What is the 3D Layout view?

> `7.2.1` layout 3D

The **3D Layout view** is a visual feature available with the **Arsenal Plus plugin** (`$5 USD/month`) that renders a three-dimensional representation of a bowling ball showing the pin, mass bias marker, and finger hole positions based on the layout values recorded on a spec sheet. Rather than working purely from numbers on a form, the fitter and bowler can see the core orientation mapped onto the ball surface — a spatial picture of the drilling plan before any cuts are made.

□□ What the 3D Layout View Shows

The rendering displays a rotatable three-dimensional ball model with the following elements plotted on its surface based on the spec sheet's layout values:

- □ **Pin position** — the ball's top weight pin, shown at its calculated location relative to the grip and PAP.
- □ **Mass bias (MB) marker** — the preferred spin axis marker for asymmetric balls, shown at its calculated position.
- □ **Finger holes** — middle and ring finger hole positions as calculated from the span and pitch values on the spec sheet.
- □ **Thumb hole** — positioned relative to the finger holes based on span measurements.
- □ **PAP location** — the bowler's positive axis point, shown as a reference point on the ball surface.
- □ **VAL line** — the bowler's vertical axis line, rendered as a reference arc connecting the PAP to the top and bottom of the ball.

□□ **Note:** The 3D Layout view is a *visual reference tool*, not a drill press guidance system. It shows where elements should be on the ball surface based on the spec sheet values — confirming the layout geometry is correct before drilling begins. It does not interface directly with any drilling equipment.

□□ What Arsenal Plus Requires for 3D Rendering

The rendering draws on data from two sources. Both must be present for the full 3D view to generate:

Required data	Where it comes from	What happens if missing
Ball core specifications (RG, differential, core shape)	bowlingdatabase.com integration via the Arsenal entry	Rendering cannot generate — Spectre Cloud prompts to identify the ball in the database
Layout values (Pin to PAP, VAL Angle, Drilling Angle)	Spec sheet layout section	Rendering shows an empty ball with grip holes only — no pin or MB placement
PAP coordinates	Spec sheet bowler data	PAP and VAL line are omitted from the rendering; pin placement is shown without PAP reference
Span and pitch values	Spec sheet measurement fields	Finger and thumb holes are shown at estimated positions or omitted

□□ Accessing the 3D Layout View on Desktop

1. Open the bowler's profile and navigate to the **Arsenal** section.
2. Click the ball's entry to open the detail view.
3. Locate the **3D Layout** panel — visible when Arsenal Plus is active and the ball has been identified in the bowlingdatabase.com integration.
4. The rendering loads automatically based on the most recently linked spec sheet's layout values.
5. Click and drag on the ball to rotate the view and examine the layout from any angle.
6. To view the rendering for a different spec sheet (e.g., a previous drilling), select that spec sheet from the history list — the rendering updates to reflect the selected sheet's layout

values.

□□ Accessing the 3D Layout View on Mobile or Tablet

1. Open the bowler's profile and tap the ball's Arsenal entry.
2. Scroll to the **3D Layout** panel.
3. The rendering loads automatically.
4. Use one finger to rotate the ball — drag in any direction to change the viewing angle.
5. Pinch to zoom if a closer view of a specific area is needed.

□□ **Tip:** On a tablet, the 3D Layout view is large enough to be genuinely useful as a reference during a fitting conversation — rotating the ball on screen while discussing ball motion with a bowler is more engaging and informative than describing a layout in abstract terms.

□□ Using the 3D Layout View to Verify a Drilling Plan

The most valuable use of the 3D Layout view is as a pre-drill verification step. Before any holes are cut, the rendering provides a visual confirmation that the layout values entered on the spec sheet produce the intended core orientation. Work through the following checks:

1. **Pin placement** — confirm the pin is positioned where your layout plan intends. Check its distance from the PAP visually, and confirm it falls on the correct side of the VAL line for the intended ball motion.
2. **MB placement** — for asymmetric balls, confirm the mass bias marker is in the intended position relative to the VAL. An MB that has ended up on the wrong side of the VAL will produce very different ball motion from what was planned.
3. **Grip hole relationship** — confirm that the finger and thumb holes are positioned correctly relative to the pin and MB. Holes that overlap with or sit unusually close to the pin or MB are a flag worth investigating before drilling.
4. **VAL line orientation** — confirm the VAL runs through the expected reference points on the ball surface. A VAL that looks misaligned in the rendering is often a sign of an incorrectly entered PAP coordinate.

□□ **Note:** If the 3D rendering shows a layout that does not match the drilling plan, return to the spec sheet and check the layout values before proceeding. The rendering is not wrong — it is

faithfully representing what the entered values produce. A discrepancy between the rendering and the intended plan always means a data entry issue, not a rendering error.

3D Layout View Across Spec Sheet History

Because the rendering reflects whichever spec sheet is currently selected in the Arsenal detail view, it can be used to step through a ball's drilling history visually — seeing how the layout changed from one drilling to the next, not just as numbers on a list but as a spatial picture on the ball surface.

- Select the most recent spec sheet to see the current drilling state of the ball.
- Select an earlier spec sheet to see how the pin or MB was positioned in a previous drilling — useful when a bowler wants to replicate a ball motion from an earlier setup.
- Compare two drillings side by side by opening the ball detail view on two browser tabs and selecting a different spec sheet in each — the two renderings show the layout differences visually.

⚖ 3D Layout View vs. Physical Ball Marking

The 3D Layout view is a digital planning tool — it works from spec sheet data and does not replace the physical process of marking the ball surface before drilling. Use it to verify the plan and communicate the layout to the bowler, but always mark the physical ball and verify the marks before drilling begins.

Task	3D Layout view	Physical ball marking
Verify layout geometry before drilling	Instant, no marks needed	Physical confirmation at the press
Communicate layout to bowler	Visual and rotatable — no technical knowledge required to follow	Requires bowler to interpret physical marks
Catch data entry errors	Immediately visible in the rendering	Caught at the press — later in the workflow
Guide drill press setup	Reference only — not a direct interface	Physical marks guide jig setup directly

Task	3D Layout view	Physical ball marking
Historical layout comparison	Switch between spec sheets to compare visually	Not practical on a drilled ball

Tips for Getting the Most From the 3D Layout View

- **Use it early in the fitting conversation** — pulling up the 3D view while discussing a layout option is more compelling than quoting pin distances. Bowlers who can see what their ball will look like are more engaged in the decision.
- **Rotate to the bowler's perspective** — orient the rendering so the finger holes are facing the viewer and the ball is in grip position. This is the angle most meaningful to the bowler and the most intuitive for communicating ball motion.
- **Use it to explain layout changes between re-drillings** — if a bowler is asking why their ball reacts differently after a re-drill, showing the two layouts side by side in the 3D view makes the difference immediately apparent without requiring technical explanation.
- **Check it after any layout value change** — if a Pin to PAP, VAL Angle, or Drilling Angle value is adjusted, refresh the rendering to confirm the update has been reflected before printing the spec sheet.

Related Sections

- 7.1.5 — Suggested Layouts feature — using bowler data to suggest a layout
- 7.1.6 — Manually entering Drilling Angle, Pin to PAP, and VAL Angle
- 7.2.2 — Arsenal Plus: layout conversion between systems
- 7.2.3 — Arsenal Plus: barcode scanning and database lookup
- 6.1.5 — Step 5: Select layout (VLS, 2LS, PAL, or manual)

Tip: The 3D Layout view is one of the most visible demonstrations of Arsenal Plus's value to a bowler who has never seen it before. The first time you rotate their ball's layout on screen and explain what the pin position means for their motion, you have made a compelling case for why their drilling history lives in Spectre Cloud — and why they should come back to your shop for every ball in their bag.

Revision #2
Created 11 May 2026 16:05:01 by Admin
Updated 2 June 2026 16:47:16 by Art