

Pika Scanner / From Capture to CAD Reference

HOW-PIKA-001 / REV A / 2026.10.10

The Pika project moved beyond choosing a scanner into the practical work of using scans. A part with two raised bosses had three captures and incomplete perimeter walls. By the next discussion I had aligned them and wanted to trace the result in Shapr3D. Later work on a cold-smoker cap made the same point more clearly: an imperfect mesh can still be useful as a drawing reference. This record separates those documented milestones from the calibration details and dimensional checks that were not recorded.

STATUS	DOCUMENTED WORKFLOW / IN PROGRESS
CLASSIFICATION	HOW
MATERIAL	CREALITYSCAN / MESHLAB / SHAPR3D
DISPOSITION	PUBLIC CASE STUDY / SCREENSHOTS + NOTES
CATEGORY	CAD / Scanning
RECORD TYPE	case-study

TECHNICAL NOTES

Three scans, missing walls, and a useful change of goal: use the captured shape to guide clean CAD. A case study in alignment, selective repair, and knowing when a scan is already useful.

GOAL

Use scans to understand real objects and rebuild useful geometry without treating every missing triangle as a reason to start over.

BUILD STORY

The useful question changed from how to make a perfect scan to what the next operation actually needed. This is a process record from that change, rather than a scanner accuracy benchmark.

The first example had three views of the same mechanical part. I said the edges had not scanned well because they were a straight profile down. The captures still showed the broad faces and two raised circular features. The discussion proposed rebuilding the simple walls from a measured profile instead of asking a hole-filling operation to invent them.

Alignment became a concrete milestone. On September 28 I reported that the scans were aligned and asked how to send the result to Shapr3D so I could model by tracing it. The supplied CrealityScan screenshot shows three scan entries and a selected combined mesh containing 1,549,979 triangles. It documents a usable intermediate result; it does not establish the dimensional accuracy of the alignment.

The proposed next step was to export the combined mesh and use it as an underlay while making new sketches and solids. Shapr3D's documentation confirms that imported meshes can serve as references. It also distinguishes mesh bodies from native CAD geometry: a Boolean operation on a mesh does not turn it into an editable parametric solid. That distinction kept the reconstruction goal realistic.

Scale and orientation need their own checks. STL does not carry a unit definition, so the import should be checked against a known measurement on the physical object before dimensions are derived from it. The discussion suggested tracing clean lines and arcs, then checking thickness, hole diameters, and feature spacing on the part. Those checks were proposed; no measurement table was recovered for this example.

Repair depends on the destination. For a reference mesh, the cold-smoker cap later demonstrated why missing, irrelevant surfaces could remain missing. MeshLab simplification was suggested only if the reference was too heavy to work with. A separate October 10 ice-shovel project did pursue a closed, smoothed mesh and saved a repaired result. These are different requirements: useful tracing geometry and a checked printable surface should not be treated as the same milestone.

Calibration remains an open documentation item in this case study. The recovered sessions do not provide a Pika calibration log, result, or repeatability test, so this record claims none. The official Pika support page is the reference for the device's current instructions. A future comparison needs the calibration result, scanning mode, object measurements, and a recorded comparison against those measurements before it can support an accuracy claim.

RESULT / WHERE THIS STANDS

The three-scan part reached an aligned mesh, and the later cap reached Shapr3D as a reference. A finished parametric reconstruction, fit test, and measured accuracy comparison are not documented for the three-scan part.

NEXT TO ADD

- Calibration screenshot or log with the result and date
- Recorded scanning mode and capture settings for the three-scan example
- Dimensioned reconstruction screenshots and a comparison with measurements of the physical part
- A documented fit test or measured deviation result

SPECIFICATION

SCANNER PROJECT	Creality Pika / continuation of the scanner workflow record
DOCUMENTED CAPTURE SET	Three scans of a part with two raised bosses
ALIGNMENT MILESTONE	User reported the scans aligned on September 28, 2026
VISIBLE SOFTWARE	CrealityScan 4.3.2 in the supplied alignment screenshot
VISIBLE MESH COUNT	1,549,979 triangles in the aligned mesh screenshot
INTENDED USE	Reference for rebuilding clean CAD geometry
CALIBRATION RECORD	No calibration result, score, or settings recovered
ACCURACY EVIDENCE	No independent dimensional inspection or deviation report recorded
PUBLISHED MATERIAL	Screenshots, related project records, and process notes

DEVELOPMENT HISTORY

2026.09.27 / SOURCE

Three scans were available; the user reported poor capture of straight perimeter walls and supplied views of the part.

2026.09.28 / SOURCE

The user reported completing alignment and asked how to use the result as a tracing reference in Shapr3D.

2026.10.05 / SOURCE

The cold-smoker cap discussion documented a scan imported into Shapr3D for reference, with missing areas deliberately left alone.

2026.10.10 / A

Published the case study, preserving the distinction between observed progress, suggested methods, and unrecorded measurements.

RELEASED MATERIAL / SOURCE LINKS

[pika-aligned-part.png](#)

WORK IN PROGRESS / Supplied CrealityScan screenshot of the combined mesh and three source scan entries.

<https://u225x.com/uploads/pika-workflow/pika-aligned-part.png>

Creality Pika support

REFERENCE / OFFICIAL PRODUCT SUPPORT AND DOWNLOADS

<https://www.creality.com/support/creality-pika>

Shapr3D mesh files

REFERENCE / IMPORTED MESHES AS REFERENCES AND MESH EDITING LIMITS

<https://support.shapr3d.com/hc/en-us/articles/7874501863708-Mesh-files>

Shapr3D STL units

REFERENCE / VERIFYING SCALE WHEN USING STL

<https://support.shapr3d.com/hc/en-us/articles/7874502103068-STL-units>

HOW-PIKA-001-project-notes.txt

PROJECT NOTES / CURRENT RECORD + NEXT EVIDENCE

<https://u225x.com/downloads/project-notes/HOW-PIKA-001-project-notes.txt>

HOW-PIKA-001-report.pdf

PRINTABLE RECORD / PROJECT NOTES

<https://u225x.com/record/HOW-PIKA-001/pdf>

CONNECTED RECORDS

CAD-019

<https://u225x.com/record/CAD-019>

CAD-022

<https://u225x.com/record/CAD-022>

CAD-028

<https://u225x.com/record/CAD-028>

CAD-029

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CAD-035

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EXP-0031

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MDL-DATUM-001

<https://u225x.com/record/MDL-DATUM-001>

CAD-SMOKER-CAP-001

<https://u225x.com/record/CAD-SMOKER-CAP-001>

RETURN TO THE LIVING RECORD

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This PDF preserves the public notes at this revision. Visit the record for updates and attached images.

<https://u225x.com/record/HOW-PIKA-001>