

MeshLab cleanup and trimming

CAD-035 / REV A / 2026.09.01

Clean scan artifacts while preserving a raw copy and the dimensions that matter.

STATUS	Recovered/Partial
CLASSIFICATION	CAD
MATERIAL	CAD / AUTOMATION
DISPOSITION	PUBLIC / RECOVERED/PARTIAL
CATEGORY	CAD / Scanning / Automation
RECORD TYPE	how-to

GOAL

Run the first test described in this guide and record the result for meshlab cleanup and trimming.

SOURCE STATE

New reference guidance; not a recovered test result

EQUIPMENT

- Scanner / mesh workflow
- Representative test model
- Measurement or inspection method

METHOD / STEPS

1. Save an untouched original and work on a duplicate mesh.
2. Remove disconnected background fragments and trim unwanted support/fixture geometry.
3. Inspect normals, duplicate faces and non-manifold edges. Repair only the defects needed for the intended output.
4. Decimate conservatively if necessary, protecting sharp features; compare dimensions and sections to the original before exporting.

THINGS TO WATCH FOR

Hole filling invents geometry where data is missing. Smoothing can round edges or shrink details. MeshLab filters may operate destructively and some exports lose texture or units.

FIRST TEST / WHAT TO RECORD

The cleaned mesh is easier to use without shifting checked surfaces beyond the project's tolerance.

RESULT / WHERE THIS STANDS

The cleaned mesh is easier to use without shifting checked surfaces beyond the project's tolerance.

TROUBLESHOOTING

- Hole filling invents geometry where data is missing. Smoothing can round edges or shrink details. MeshLab filters may operate destructively and some exports lose texture or units.

SPECIFICATION

TOOL PATH	Scanner / mesh workflow
DELIVERABLE	HOW-TO
VALIDATION	Representative model / known dimension
STATUS	Recovered/Partial

DEVELOPMENT HISTORY

2026.09.01 / Rev A

Imported as an independent manifest record; public copy keeps uncertainty visible.

2026.10.10 / PROJECT UPDATE

Connected the newer project records: CAD-SMOKER-CAP-001, HOW-PIKA-001. Existing test limitations remain in place.

REFERENCE NOTES

Official meshlab.net reference (<https://www.meshlab.net/>).

HOW-TO SOURCES

Official meshlab.net reference

<https://www.meshlab.net/>

RELEASED MATERIAL / SOURCE LINKS

cad-035-public-summary.txt

PUBLIC SUMMARY / RECOVERED NOTES

<https://u225x.com/downloads/manifest-records/cad-035-public-summary.txt>

CONNECTED RECORDS

CAD-SMOKER-CAP-001

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

HOW-PIKA-001

<https://u225x.com/record/HOW-PIKA-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/CAD-035>