

Scan-to-CAD deviation and QC workflow

CAD-029 / REV A / 2026.09.01

A deviation map is meaningful only when alignment, units and acceptance limits are defined.

STATUS	Starting Point
CLASSIFICATION	CAD
MATERIAL	CAD / AUTOMATION
DISPOSITION	PUBLIC / STARTING POINT
CATEGORY	CAD / Scanning / Automation
RECORD TYPE	how-to

GOAL

Run the first test described in this guide and record the result for scan-to-cad deviation and qc workflow.

SOURCE STATE

New reference guidance; not a recovered test result

EQUIPMENT

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

METHOD / STEPS

1. Record the nominal CAD revision, scan units, acquisition conditions and required datums.
2. Align to inspection datums for a datum-based check; use best-fit only when that is the intended question and label it clearly.
3. Set a fixed color scale and report missing coverage separately from measured deviations.
4. Measure critical sections and independent reference dimensions, then save a report with alignment method and uncertainty limitations.

THINGS TO WATCH FOR

Best-fit can hide a shifted hole or a datum error. A green color map may simply use a broad tolerance band. Missing scan data is not a passing measurement.

FIRST TEST / WHAT TO RECORD

Another reviewer can reproduce the alignment and understand where measurements are valid.

RESULT / WHERE THIS STANDS

Another reviewer can reproduce the alignment and understand where measurements are valid.

TROUBLESHOOTING

- Best-fit can hide a shifted hole or a datum error. A green color map may simply use a broad tolerance band. Missing scan data is not a passing measurement.

SPECIFICATION

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

DEVELOPMENT HISTORY

2026.09.01 / Rev A

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

REFERENCE NOTES

DesignWorks reference (<https://www.solidworks.com/partner-product/dezignworks>).

HOW-TO SOURCES

DesignWorks reference

<https://www.solidworks.com/partner-product/dezignworks>

RELEASED MATERIAL / SOURCE LINKS

cad-029-public-summary.txt

PUBLIC SUMMARY / RECOVERED NOTES

<https://u225x.com/downloads/manifest-records/cad-029-public-summary.txt>

RETURN TO THE LIVING RECORD

Scan-to-CAD deviation and QC workflow

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

<https://u225x.com/record/CAD-029>