

Ice Shovel / From Scan to a Stronger Handle

MDL-ICE-SHOVEL-001 / REV A / 2026.10.10

The scan preserved the shape of an ice shovel, along with the uneven surface and missing geometry that came with capturing it. The project moved from a closed, smoothed mesh to an enlarged rear bowl and a reinforced handle transition. The comparison images show those digital revisions at the same view and scale. They are model renders, not photographs of a finished print. The full scan and reconstructed model stay in the local project; this page keeps the useful visual record.

STATUS	MESH REPAIRED / PRINT TEST PENDING
CLASSIFICATION	MDL
MATERIAL	PIKA SCAN / MESH RECONSTRUCTION
DISPOSITION	PUBLIC PROCESS / RENDERS + NOTES
CATEGORY	CAD / Scanning
RECORD TYPE	build-post

TECHNICAL NOTES

A scanned ice shovel became a reconstruction exercise: close the mesh, expand the rear of the bowl, strengthen the handle, and remove the rough scan texture.

GOAL

Turn a rough scan into a usable reconstructed shape without losing the bowl and grip that made the original worth scanning.

BUILD STORY

A scan is a useful starting point, but this one needed both repair and deliberate redesign. Those are different jobs, and the images make the changes visible.

The first task was to recover a closed surface. Smoothing dealt with the grainy scan texture while the original object remained the reference for shape. The saved repair checks describe mesh topology; they do not measure how accurately the scanner captured the real shovel.

The next change was intentional: increase the rear of the bowl. This was no longer just making the scan cleaner. It changed the object, so that expanded revision became the comparison point for the later handle work.

The handle and its transition into the bowl were then reinforced. The cleaned version retains the enlarged bowl and recognizable grip while making the neck more substantial. The before-and-after render records the difference without claiming a measured increase in strength.

The final validation reports a single closed mesh with no open or nonmanifold edges. Its aligned width, length, and depth each changed by less than one percent from the expanded-bowl revision. That number does not describe deviation from the original physical shovel.

The next useful evidence is a print and a practical check of the grip and bowl. Until those exist, this remains a digital reconstruction. The large source files are deliberately kept off the website; the screenshots and notes preserve what changed.

RESULT / WHERE THIS STANDS

A repaired and reinforced digital model exists locally and its saved validation report matches the final file. The page documents the model stages; material, print quality, actual strength, and use remain untested.

NEXT TO ADD

- Photo of the original shovel next to a known measurement.
- Finished-print photos, material, printer profile, and scale used.
- A practical grip/bowl check and observations about the reinforced handle.

SPECIFICATION

STARTING POINT	Pika scan of an ice shovel
FINAL REVISION	Reinforced handle / cleaned surface / expanded rear bowl retained
ALIGNED ENVELOPE	About 86.68 wide × 181.73 long × 42.76 deep in model units
SCALE	STL coordinates are unitless; confirm against the original object before printing
RECORDED VALIDATION	One connected closed mesh; no open or nonmanifold edges reported
DIMENSION COMPARISON	Under 1% change relative to the already expanded-bowl revision, not the original scan
EVIDENCE	Two digital comparison images; no printed result or load test
FILES ON THIS PAGE	Images and notes only; scan/model data intentionally kept local

DEVELOPMENT HISTORY

2026.10.10 / REPAIR

Closed and smoothed the scan while keeping its general form.

2026.10.10 / RESHAPE

Expanded the rear bowl, then reinforced the handle transition and cleaned the surface.

2026.10.10 / A

Published the visual development record. Scan meshes and editable reconstruction files remain local.

RELEASED MATERIAL / SOURCE LINKS

ice-shovel-reinforced-clean-comparison.png

MODEL RENDER / Same-view comparison before and after handle reinforcement and surface cleanup.

<https://u225x.com/uploads/ice-shovel/ice-shovel-reinforced-clean-comparison.png>

ice-shovel-expanded-rear-comparison.png

MODEL RENDER / Earlier bowl-expansion comparison; not a physical print.

<https://u225x.com/uploads/ice-shovel/ice-shovel-expanded-rear-comparison.png>

MDL-ICE-SHOVEL-001-project-notes.txt

PROJECT NOTES / CURRENT RECORD + NEXT EVIDENCE

<https://u225x.com/downloads/project-notes/MDL-ICE-SHOVEL-001-project-notes.txt>

MDL-ICE-SHOVEL-001-report.pdf

PRINTABLE RECORD / PROJECT NOTES

<https://u225x.com/record/MDL-ICE-SHOVEL-001/pdf>

CONNECTED RECORDS

HOW-PIKA-001

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

CAD-019

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

CAD-022

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

MDL-GNOME-001

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

RETURN TO THE LIVING RECORD

Ice Shovel / From Scan to a Stronger Handle

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

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