



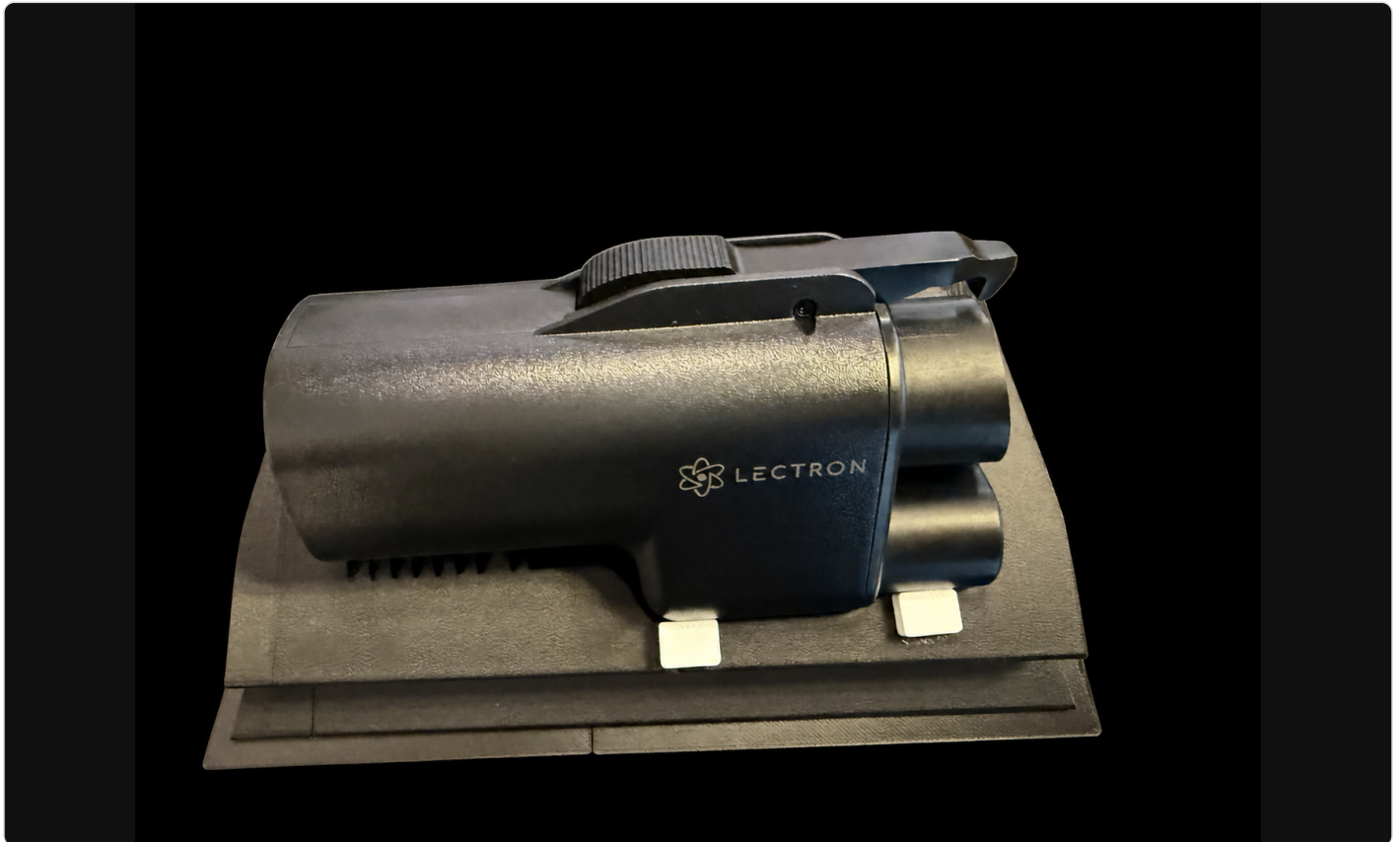
TRUNKWERKS
INTELLIGENT STORAGE SOLUTIONS

PRECISION | MODULARITY | DURABILITY

OEM-INSPIRED TECHNICAL DOCUMENTATION

EV ADAPTER PLATFORM

PRINT & ASSEMBLY GUIDE | SPLIT-PRINT + NOSPLINE PATHS



Photographic reference - final assembled unit with Lectron adapter installed

LECTRON ADAPTER NOT INCLUDED

The Lectron Vortex Plug shown in this guide is a fit reference and is sold separately; it is not included with the TRUNKWERKS platform.

Purchase: ev-lectron.com/products/lectron-vortex-plug-tesla-supercharger-nacs-to-ccs-adapter

Recommended baseline

Rigid components: PETG-CF or comparable heat-tolerant engineering filament. TPU pads: flexible TPU. The validated development printer used a 0.6 mm nozzle with approximately 0.30 mm layers. Final slicer settings may be tuned for your printer and material.

TPU pad softness: the prototype pads were intentionally printed very soft, using approximately 3% infill. Keep adequate top/bottom shells so the small pads remain intact.

Materials & supplies

Choose the print path that matches your files and build plate, then gather every required component. Both paths use the same magnets, TPU pads, storage bins, and final validation.

CHOOSE YOUR STARTING STEP

Standard-size FDM printer using the split-print files: begin at Step 1. Large-format FDM printer using the NoSpline files - such as a Bambu Lab H2C or a printer with an equal or larger usable build area: skip Steps 1-2 and begin at Step 3. If using the NoSpline Carrier Adapter, skip Step 4 and continue at Step 5.

CHOOSE ONE PRINT PATH

- Split-print: two lower-tray halves, two tray splines, two carrier halves, and two adapter splines.
- Large-format NoSpline: one-piece Trunkwerks Tray - No Splines and one-piece Carrier Adapter - No Spline.
- Both paths: four flexible TPU contact pads.
- Both paths: seven bins - one 5 x 1, one 3 x 1, two 2 x 1, and three 1 x 1 modules.

HARDWARE & CONSUMABLES

- Eight matching neodymium disc magnets - four polarity-matched pairs - sized to the printed pockets.
- Split-print path only: plastic-compatible structural adhesive for the rigid tray and carrier seams.
- Adhesive compatible with both TPU and the selected rigid filament.
- Fine-tip permanent marker for magnet-polarity marking.
- Isopropyl alcohol and lint-free wipes for bonding-surface preparation.

RECOMMENDED ASSEMBLY TOOLS

- Small file, deburring tool, or fine abrasive for cleaning printed mating surfaces.
- Split-print path only: clamps, low-tack tape, or a flat weighted setup to hold bonded seams while curing.
- Disposable gloves and eye protection appropriate for the selected adhesive.
- The actual Lectron Vortex Plug for carrier dry-fit and final validation - sold separately.

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Confirm which file group you printed. The split-print group uses tray halves, carrier halves, and four separate splines. The large-format NoSpline group replaces those eight rigid parts with one unified tray and one unified carrier. Both groups use the same bins and four TPU pads.

[illegible]

BEFORE CONTINUING

Split-print: test-fit every seam and spline. NoSpline: confirm each unified part printed completely and lies flat. For both paths, remove supports and debris.

2 Complete the lower tray

Split-print path: dry-fit the two tray halves and separate splines. Each flat spline is approximately 2.0 x 12.0 x 29.6 mm with approximately 6 mm engagement into each half. NoSpline path: use the unified tray and skip all seam, spline, clamping, and seam-cure operations on this page.



Dry-fit detail: align the spline and close the tray seam fully.



Assembled lower tray with the four receiver/magnet locations visible.

SPLIT-PRINT PATH ONLY

Apply structural adhesive sparingly to the spline and joint surfaces, close the seam fully, and hold the tray flat until cured. Avoid squeeze-out into the Gridfinity floor or receiver geometry. NoSpline users skip this operation.

Acceptance check

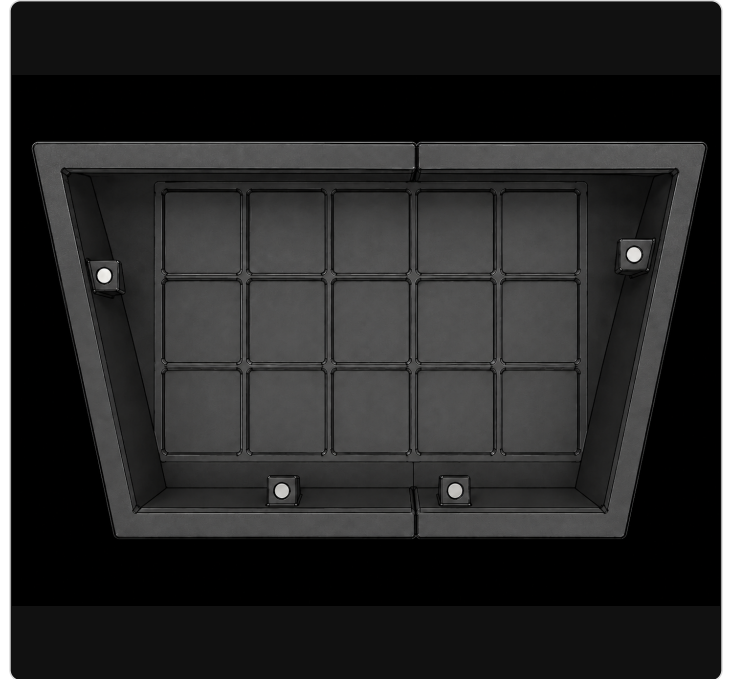
Split-print: the seam is closed and rigid. NoSpline: the unified tray is complete. Both: the tray lies flat and the receiver structure remains square.

3 Install and orient the magnets

Dry-test magnet polarity before adhesive. Mark one consistent face of the magnets before bonding so all mating pairs attract rather than repel. The development build used a marker dot to preserve orientation during assembly.



Polarity/orientation marking reference.



Receiver/magnet locations in the assembled lower structure.

CRITICAL ORIENTATION CHECK

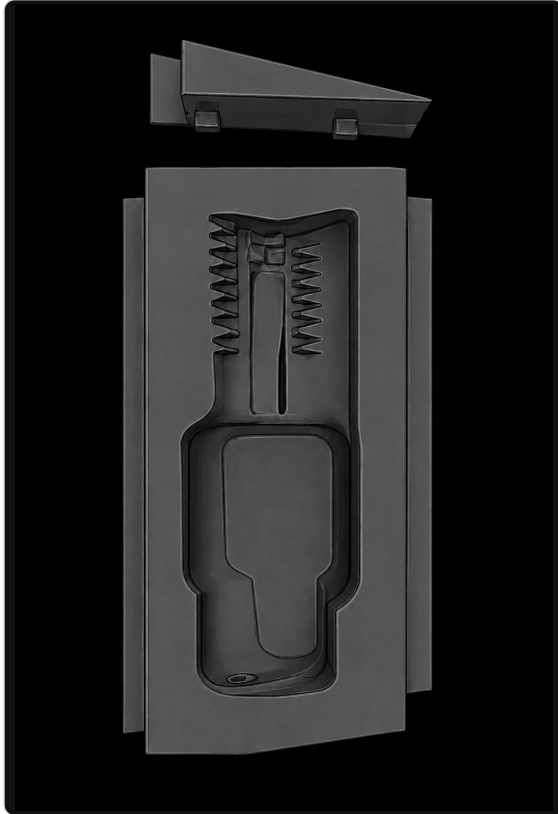
Do not rely on memory once adhesive is applied. Check every pair against its mating location immediately before bonding.

Sequence

1. Dry-test attraction. 2. Mark one consistent face. 3. Recheck the mating pair. 4. Bond and cure.

4 Complete the removable carrier

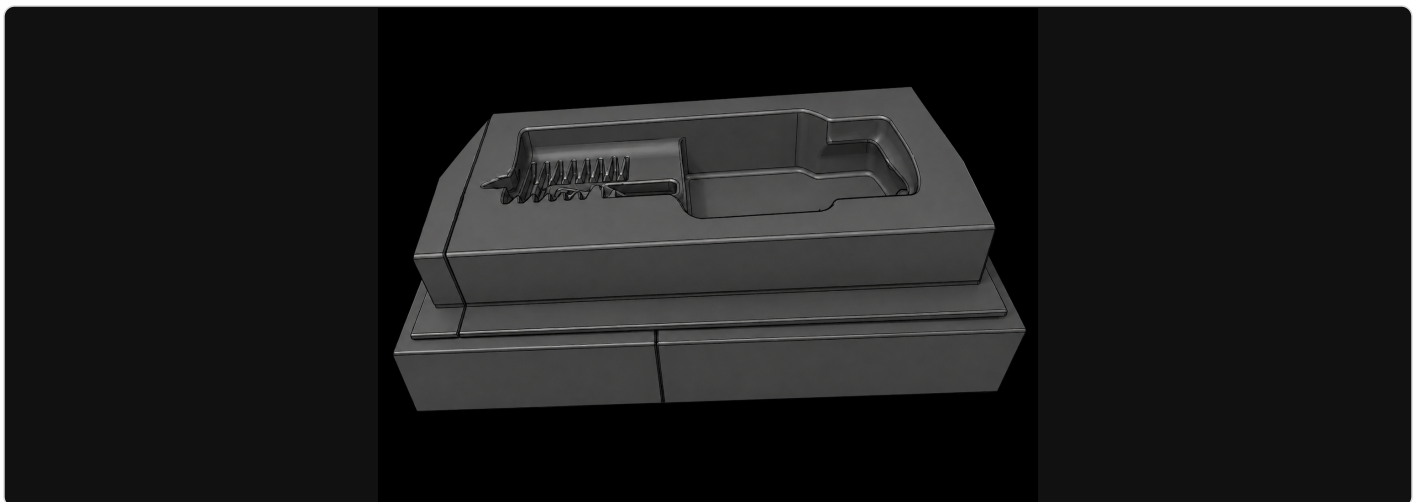
NOSPLINE CARRIER ADAPTER: SKIP STEP 4 and continue to Step 5. Split-print path: dry-fit the carrier halves and splines, then confirm the adapter pocket remains aligned across the split. Bond only after the dry fit is flat and the adapter enters and removes normally.



Split-print carrier shown. NoSpline Carrier Adapter users skip Step 4.



Assembled carrier seated on the lower platform; confirm the side retention features align.



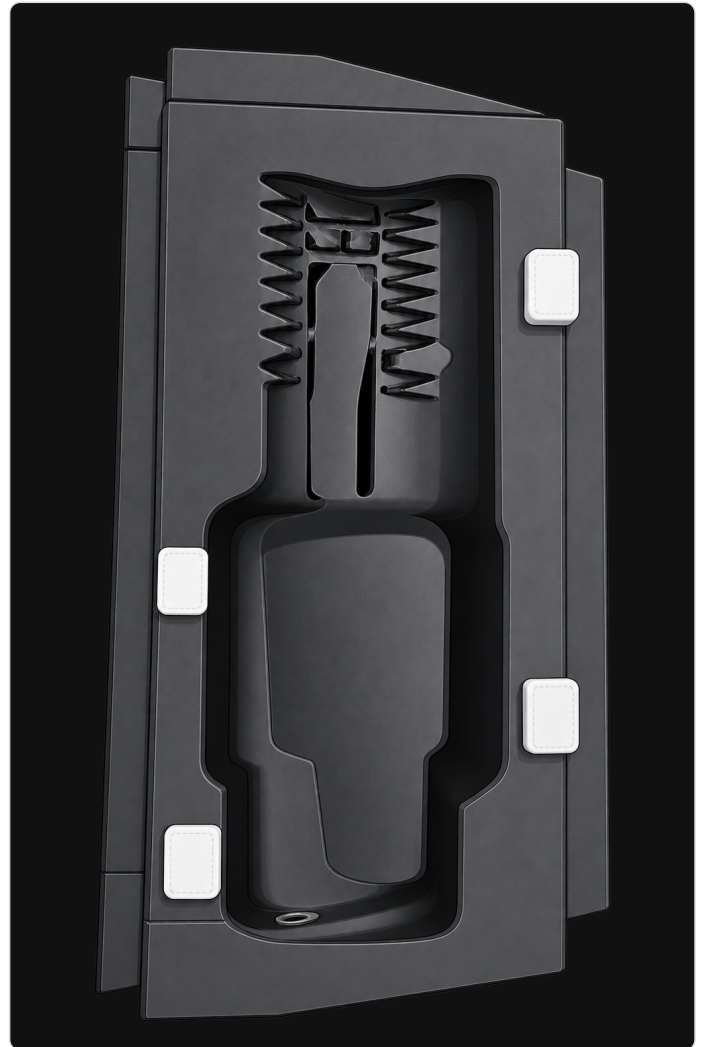
Carrier and lower platform stacked during assembly validation.

5 Glue the four TPU pads - placement matters

The carrier STL does not contain molded pad-location marks. Use the illustrated geometry as the placement reference. The pads sit on the carrier perimeter at four discrete contact points - two on each long side - and must not protrude into the indexed adapter pocket.



Four loose TPU pads.



Correct installed orientation and final pad locations.

RECOMMENDED PROCESS

1. Dry-position all four pads. 2. Install the carrier in the platform and confirm it can lie flat. 3. Remove it without disturbing the locations. 4. Bond one pad at a time. 5. Allow the adhesive to cure fully before vehicle installation.

6 Install the storage bins

Seat the printed bins into the 5 x 3 Gridfinity floor after the magnets and all adhesive required for your print path are fully cured. Install the arrangement shown below, or rearrange compatible bins to suit your loadout while keeping every bin fully supported by the grid.



Correct landscape orientation: bins seated in the four-magnet production tray.

ACCEPTANCE CHECK

Press each bin down until it seats flat. Confirm no bin contacts a magnet/receiver mount, rocks under hand pressure, or interferes with carrier removal. Split-print users must also keep bins from bridging the center seam.

The storage bins are modular and may be removed or rearranged as needed. Keep the four receiver/magnet locations unobstructed at all times.

7 Final bench validation

Before going to the vehicle, verify every item below. The platform should pass this bench check without forcing, rocking, loose parts, or misaligned magnetic retention.

☐ Split-print seams are closed and rigid; NoSpline parts are complete and flat.

☐ All bins seat correctly in the lower tray.

☐ All magnets are secure and attract their mates.

☐ Adapter enters the indexed pocket without forcing.

☐ Carrier sits completely flat in the platform.

☐ Adapter does not rock or roll out during normal hand movement.

☐ All four TPU pads are bonded and clear of the pocket.

☐ Adhesive is fully cured before vehicle installation.



Final assembled unit with the Lectron adapter seated in the indexed carrier.

VALIDATED BEHAVIOR

The V1.6P build achieved moderate-to-strong carrier retention and held the adapter in position during prior driving. Continue normal inspection after installation.