TRUNKWERKS
INTELLIGENT STORAGE SOLUTIONS

PRECISION | MODULARITY | DURABILITY
OEM-INSPIRED TECHNICAL DOCUMENTATION

EV ADAPTER PLATFORM

PRINT & ASSEMBLY GUIDE | V1.7R2 TPU PAD UPDATE



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 A 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.

Print the four TPU A pads as separate parts with supports disabled. Their tapered mushroom anchors lock into the carrier receivers mechanically; do not glue the TPU pads.

Materials & supplies

Choose the print path that matches your V1.7R2 files and build plate, then gather every required component. Both paths use the same 8 x 3 mm magnets, four keyed TPU A 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 one-piece 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 one-piece carrier, 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 one-piece: unified Trunkwerks Tray and unified Carrier Adapter; no seam or spline assembly is required.
- Both paths: four keyed TPU A press-fit contact pads - no glue required.
- 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 neodymium disc magnets, each 8 mm diameter x 3 mm thick - four polarity-matched tray/carrier pairs.
- Split-print path only: plastic-compatible structural adhesive for the rigid tray and carrier seams.
- No TPU adhesive. The pad anchors lock mechanically into the four carrier receivers.
- 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.

LECTRON ADAPTER NOT INCLUDED

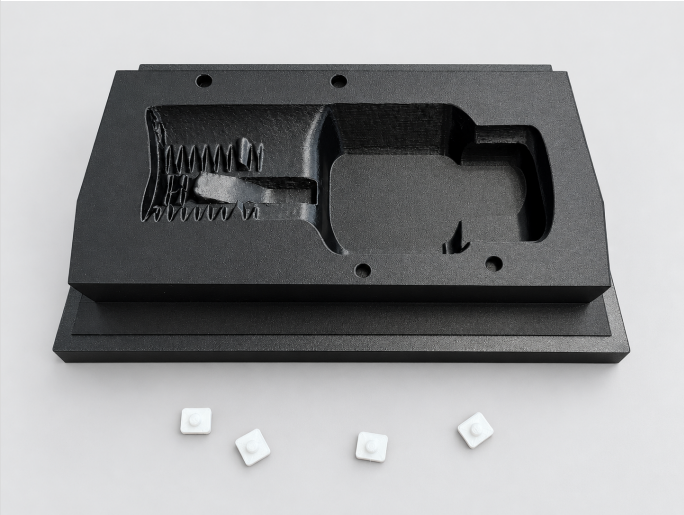
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1 Identify the printed groups

Confirm which V1.7R2 file group you printed. The split-print group uses tray halves, carrier halves, and four separate splines. The large-format path uses one unified tray and one unified carrier. Both carrier options contain the same four keyed TPU receiver holes.

Lay out all parts before bonding. Print the four TPU A pads separately with supports disabled; do not apply adhesive to them.



Production carrier and four separate TPU A pads before installation.



Printed TPU A pad showing its concealed mushroom anchor.

BEFORE CONTINUING

Split-print: test-fit every seam and spline. One-piece: confirm the unified carrier lies flat. For both paths, clear all four keyed receiver mouths and remove print debris before pressing in the TPU pads.

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. One-piece 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.



Location reference: the lower tray has four magnet-receiver positions.

SPLIT-PRINT PATH ONLY

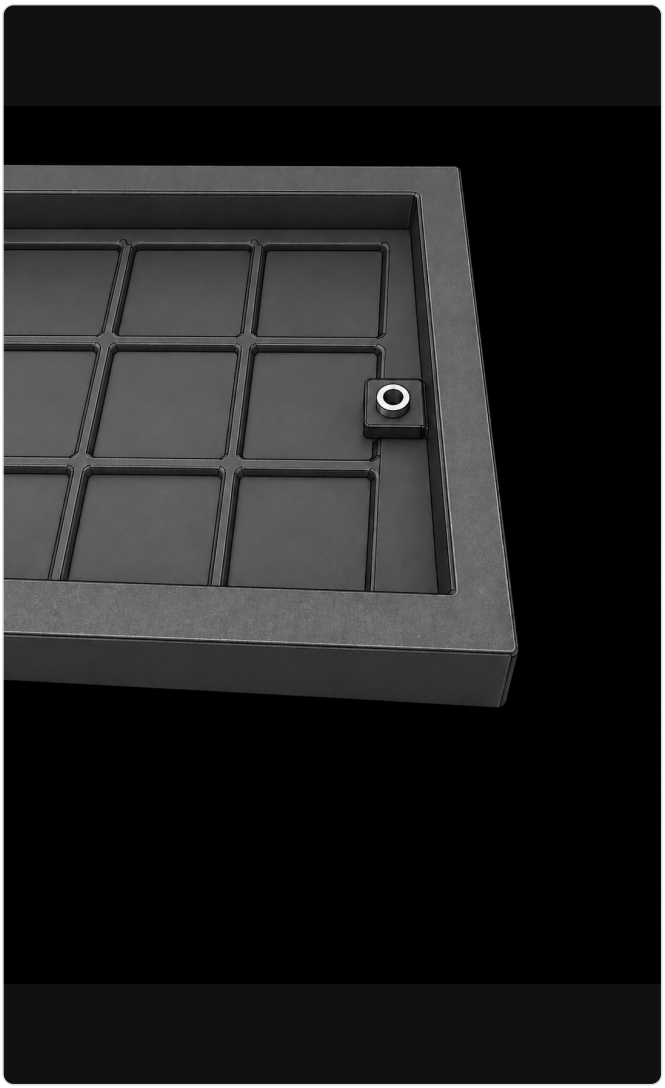
Apply structural adhesive sparingly to the spline and joint surfaces, close the seam fully, and hold the tray flat until cured. Avoid squeeze-out into the Gridfinity floor or receiver geometry. One-piece users skip this operation.

Acceptance check

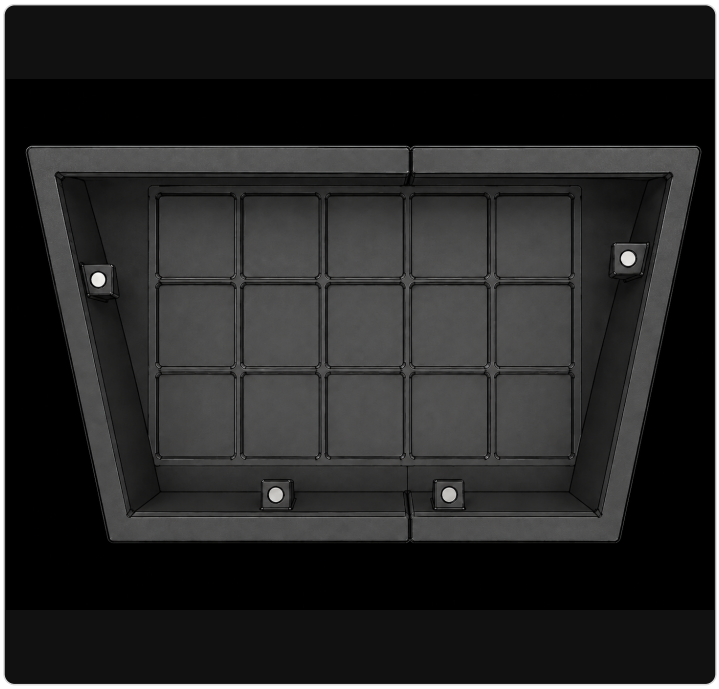
Split-print: the seam is closed and rigid. One-piece: the unified tray is complete. Both: the tray lies flat and the receiver structure remains square.

3 Install and orient the magnets

Use eight 8 mm diameter x 3 mm thick neodymium disc magnets. Dry-test polarity before adhesive. Mark one consistent face before bonding so all four tray/carrier pairs attract rather than repel.



Polarity/orientation marking reference; use the specified 8 x 3 mm magnets.



Location reference: four receiver positions in the lower structure.

CRITICAL ORIENTATION CHECK

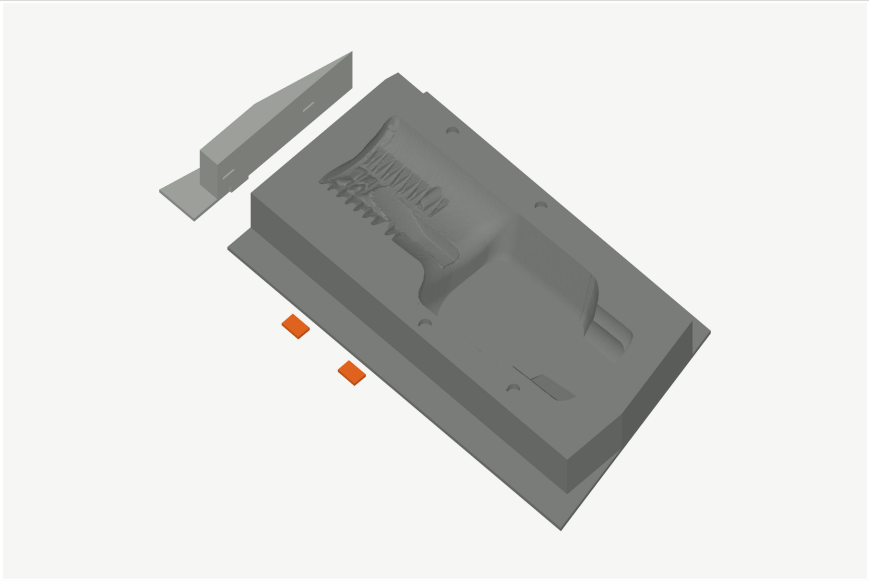
Check each 8 x 3 mm pair against its mating location immediately before bonding. Confirm every magnet seats flush and attracts its mate.

Sequence

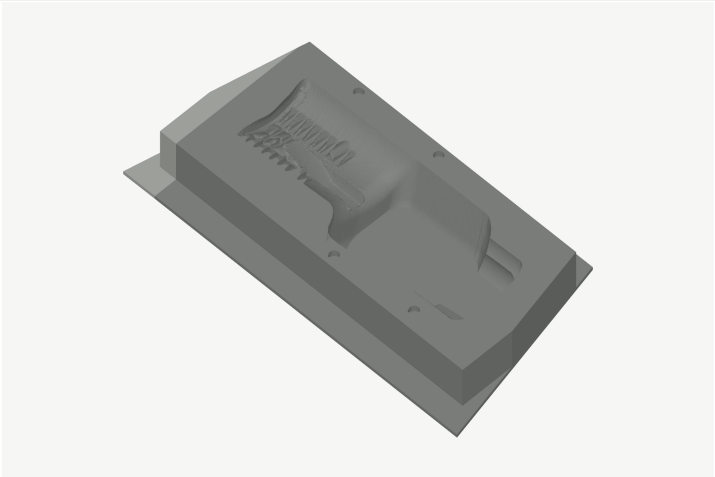
1. Dry-test attraction. 2. Mark one consistent face. 3. Recheck the mating pair. 4. Bond and cure.

4 Complete the removable carrier

ONE-PIECE CARRIER ADAPTER: skip Step 4 and continue to Step 5. Split-print path: use the exact V1.7R1 seam and two 2 x 8 x 12 mm flat splines. Dry-fit the halves and confirm the adapter pocket remains aligned before bonding the rigid joint.



Exact V1.7R2 split carrier: short end, pocket-main half, and two flat splines.



Dry-fit state: aligned seam and all four keyed TPU receiver holes visible.

V1.7R2 SPLIT-CARRIER CHECK

Use only the V1.7R2 split-carrier exports. Confirm the pocket-main half contains all four keyed TPU receiver holes, both 2 x 8 x 12 mm flat splines enter their channels, and the short-end seam closes fully before applying structural adhesive. Install the TPU pads only after the rigid joint has cured.

5 Press-fit the four TPU A pads

The V1.7R2 carrier contains four keyed receiver holes at the validated contact locations. Insert each pad anchor into its matching receiver with the rectangular pad face above the carrier. The concealed mushroom head provides mechanical retention; do not use glue.



Side profile: rectangular pad, stem, and tapered mushroom head.



Align the anchor over the receiver before pressing straight down.

NO-GLUE INSTALLATION

1. Clear receiver debris. 2. Align the tapered anchor with the receiver. 3. Press straight until the pad shoulder sits flush. 4. Perform a gentle pull/twist check. 5. Cycle each pad three times. If a pad will not retain, reprint it; do not add glue.

6 Install the storage bins

Seat the printed bins into the 5 x 3 Gridfinity floor after the magnets and any adhesive used for the rigid split joints are fully cured. TPU pads require no cure time. Install the arrangement shown below, or rearrange compatible bins while keeping every bin fully supported.



Storage-bin layout reference: all bins seated flat in the lower tray.

ACCEPTANCE CHECK

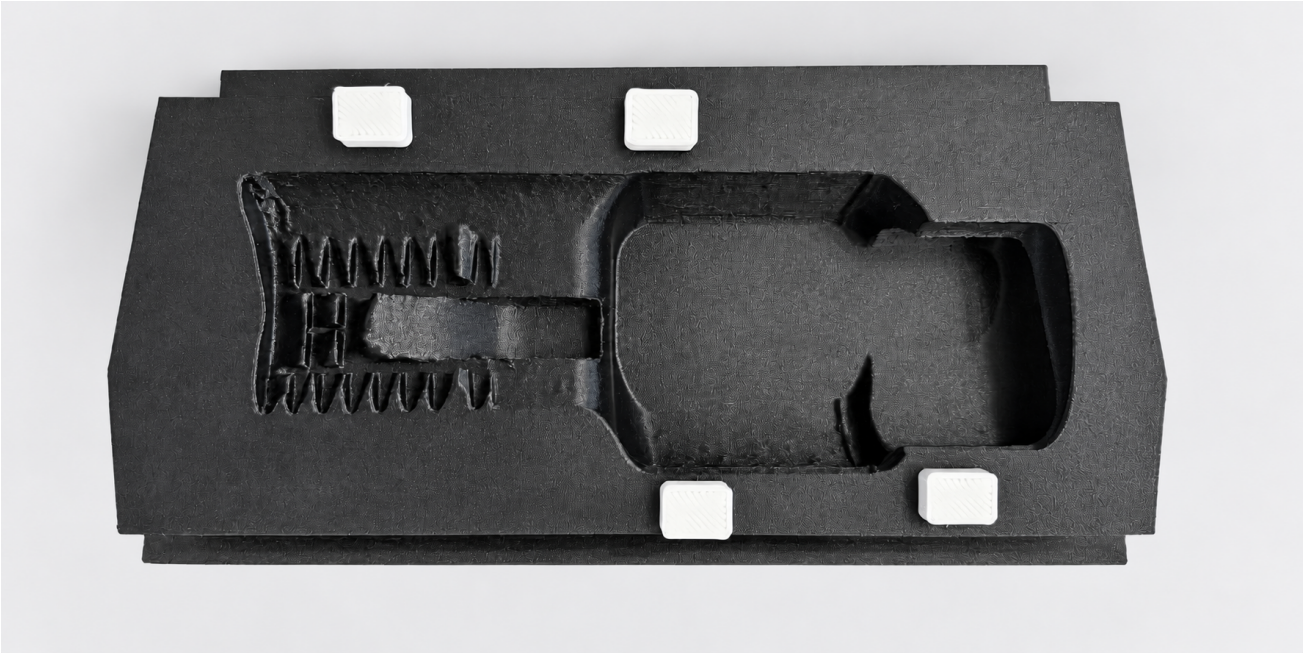
Press each bin down until it seats flat. Confirm no bin contacts a magnet/receiver mount, rocks under hand pressure, or interferes with carrier removal. Split-print users must also keep bins from bridging the center seam.

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; one-piece parts are complete and flat.
- [ ] All bins seat correctly in the lower tray.
- [ ] All eight 8 x 3 mm magnets are secure, flush, 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 A pads are press-fit, flush at the shoulder, and clear of the pocket.
- [ ] Any adhesive used for magnets or rigid split joints is fully cured.



Production V1.7R2 carrier with all four keyed TPU A pads seated mechanically.

RELEASE CHECK

V1.7R2 uses four tray/carrier magnet pairs and four no-glue TPU A pads. Confirm flat seating, correct magnetic attraction, full pad engagement, and normal hand removal before vehicle installation.