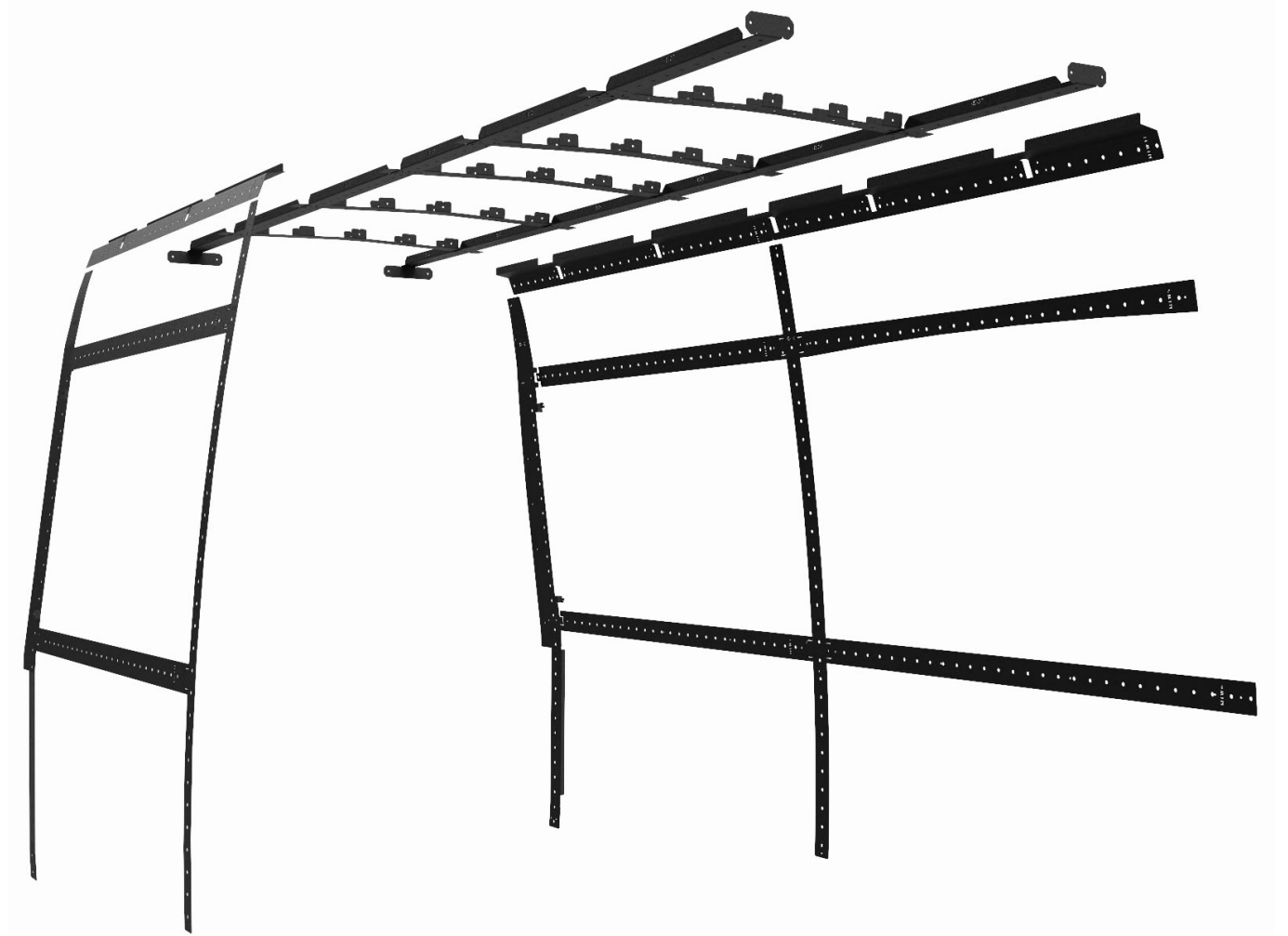


WALL BRACE KIT

Mercedes-Benz Sprinter 144" High Roof

Installation Guide



Complete wall and ceiling brace kit.

Read before installation

Read the safety instructions on the next page before starting. Only qualified technicians should perform the installation.

READ BEFORE INSTALLATION

Safety & overview

Read this before you start

- **Only qualified technicians should perform the installation.**
- **Always wear appropriate protective equipment (PPE), including safety glasses and gloves.**
- **Disconnect the vehicle's negative battery terminal before drilling or cutting any metal surfaces.** Follow Mercedes-Benz's battery-disconnection instructions.
- **Check for hidden wiring, fuel lines, and brake lines before drilling.** Look behind each mounting point before installing fasteners.

CRITICAL — Protect the van when drilling

WARNING — DO NOT OVERDRILL. Metal is thinner in some areas. A drill bit can break through suddenly and damage the next metal layer or the van's outer body. Check the clearance behind each hole. Use a physical drill-depth stop, drill only the intended layer, and ease off the pressure as the bit breaks through. **Stop if you cannot check the clearance.**

Use the correct holes

- **Alignment/reference holes are unnecessary and can be confusing. Do not use them to position the kit.** Follow the part drawings and check how the parts fit against the van.
- **Use the designated mounting holes for screws and rivets.** These holes are required to fasten the kit.
- **KEI-W-1 through KEI-W-10 are pre-drilled. No primary structural-hole drilling is needed for the standard wall installation.** If a mounting point does not match, check with KEI Project before drilling or changing it.

How the installation works

Prepare the van → fit the walls (Steps 1-3) → fit the roof anchors (Steps 4-6) → fit, check, and fasten the ceiling (Step 7).

Dry-fit means hold the parts in place to check their fit before fastening them permanently. **Roofline** means the top edge of the side wall. **Passenger side** means the sliding-door side.

BEFORE YOU START

Parts & tools

Area	Parts	Quantity
Driver wall	KEI-W-1 through KEI-W-6	1 each
Passenger wall	KEI-W-7 through KEI-W-10	1 each
Roofline anchors / gussets	KEI-W-11, KEI-W-12, KEI-W-13	1 each
Ceiling C-railings / clam assemblies	KEI-C-1	5
Ceiling clam brackets	KEI-C-2, KEI-C-3, KEI-C-4, KEI-C-5, KEI-C-6, KEI-C-7	2 each

- Gather safety glasses, gloves, a helper, clamps or support poles, a tape measure, and a string line or straightedge.
- Bring pliers, a rivet-setting tool, screwdrivers/hex keys, a torque tool, cleaning supplies, and a drill-mounted rubber eraser wheel. The torque tool tightens screws to KEI's setting. Cleco fasteners and Cleco pliers help hold parts (see the Step 1 holding tip).

Get the hardware details first

Ask KEI Project for the correct screw and rivet sizes for the thickness of the joined parts, and the screw tightening settings. These details are not listed in the supplied source guide.

Short components



Group the brackets by their printed KEI part numbers.

Long components

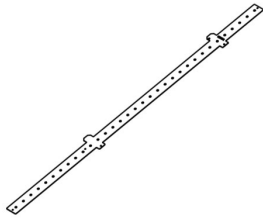


Check the part numbers before fitting wall and ceiling rails.

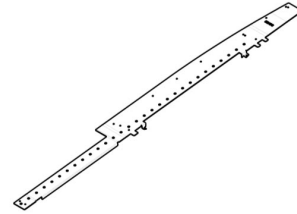
BEFORE YOU START · 1 OF 2

Parts list - wall braces

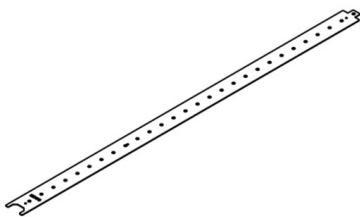
Match each piece by its printed KEI code. Quantities shown are per kit.

**KEI-W-1**

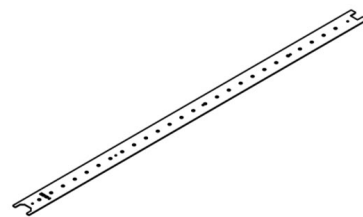
Qty: 1

**KEI-W-2**

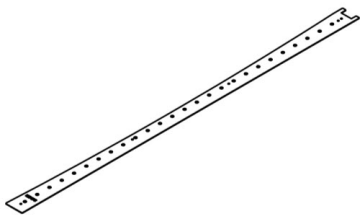
Qty: 1

**KEI-W-3**

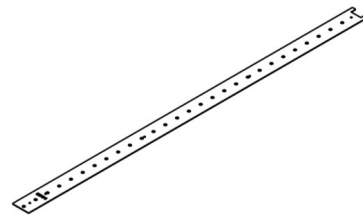
Qty: 1

**KEI-W-4**

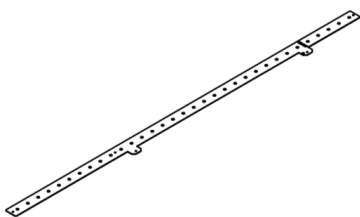
Qty: 1

**KEI-W-5**

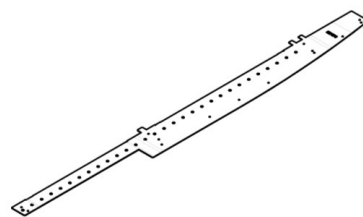
Qty: 1

**KEI-W-6**

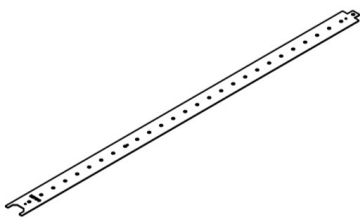
Qty: 1

**KEI-W-7**

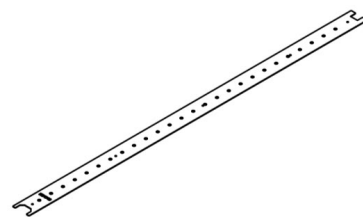
Qty: 1

**KEI-W-8**

Qty: 1

**KEI-W-9**

Qty: 1

**KEI-W-10**

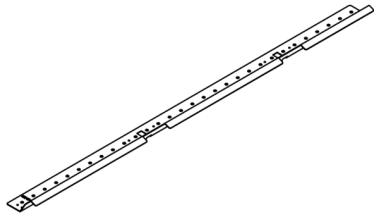
Qty: 1

Use the wall drawings and installation steps to find each mounting position.

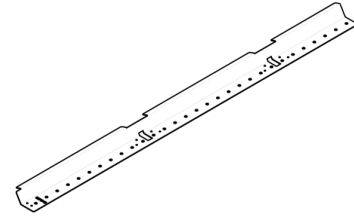
BEFORE YOU START · 2 OF 2

Parts list - roofline & ceiling

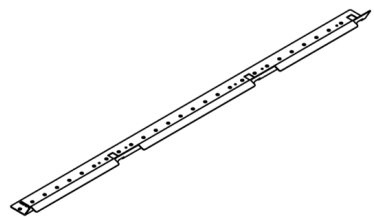
Roofline anchors/gussets and ceiling parts. Check the printed codes before fitting.


KEI-W-11

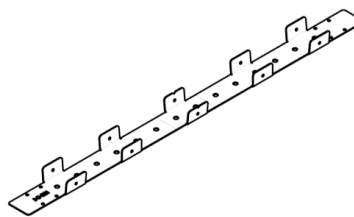
Qty: 1


KEI-W-12

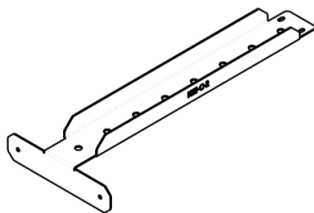
Qty: 1


KEI-W-13

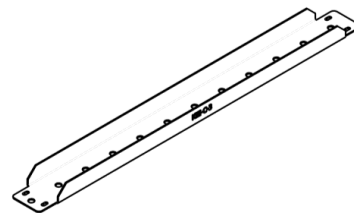
Qty: 1


KEI-C-1

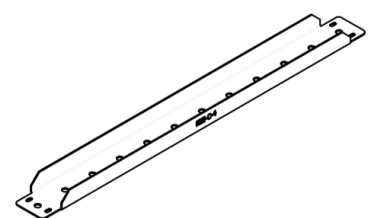
Qty: 5


KEI-C-2

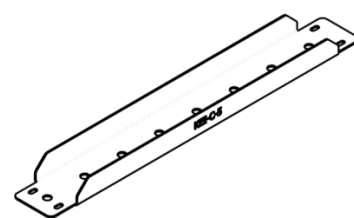
Qty: 2


KEI-C-3

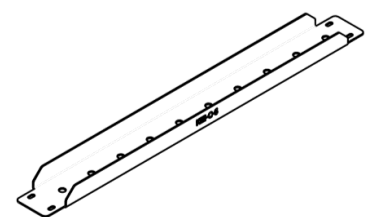
Qty: 2


KEI-C-4

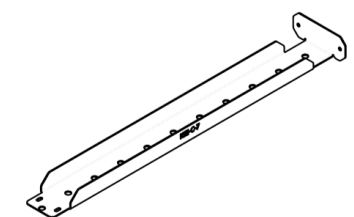
Qty: 2


KEI-C-5

Qty: 2


KEI-C-6

Qty: 2


KEI-C-7

Qty: 2

Use the roof drawings and Steps 4-7 to find each mounting position.

BEFORE INSTALLATION

Set out tools & prepare the van

Tool setup



1 Rivet-setting tool · 2 Temporary support · 3 Fixing driver · 4 Drill/driver.

- Confirm the van is a **Sprinter 144" High Roof**. Park on level ground, apply the parking brake, and clear the cargo area.
- Carefully pull out only the foam trim needed to reach the mounting areas. Follow the vehicle's trim-removal instructions. Keep the pieces for refitting where they still fit with the kit.

1. Pull out the foam trim



1 — Removable foam trim

2. Expose the roofline



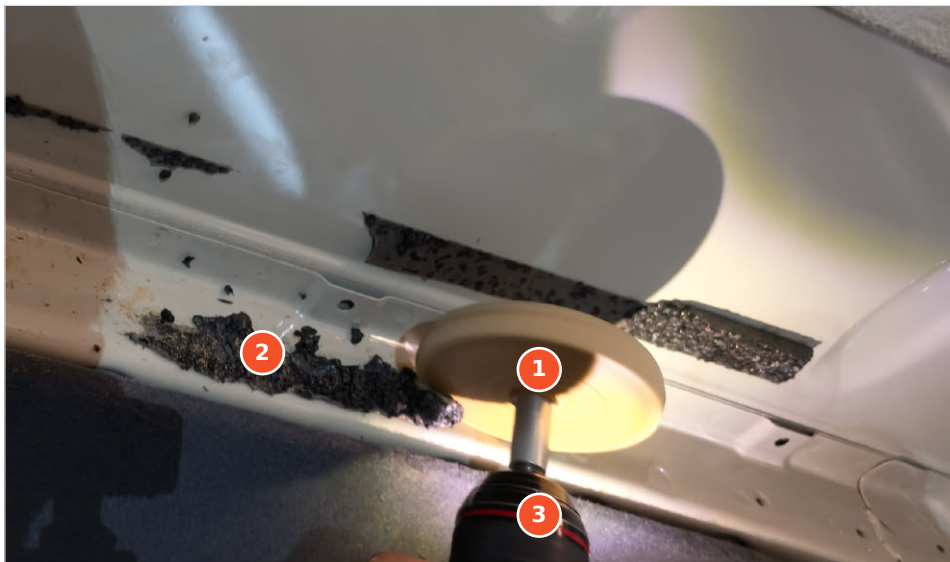
1 — Foam trim / body transition

AFTER FOAM REMOVAL

Clean the mounting areas

- Remove leftover adhesive and loose foam with a **drill-mounted rubber eraser wheel** (adhesive-removal wheel). Check that it is safe for the painted surface. Test a small hidden area first.
- Use light pressure and keep the wheel moving. Follow the wheel maker's speed limit. **Stop if the paint is damaged or the surface gets too hot.** Keep wiring away from the rotating tool.
- Vacuum the debris. Wipe with a suitable cleaner and let the area dry. Keep wiring clear of every brace and fastener.

Clean the remaining residue



- 1 — Rubber eraser wheel
- 2 — Adhesive / foam residue
- 3 — Drill chuck / wheel mandrel

Check the wiring



- 1 — Vehicle wiring harness

DRAWINGS FOR STEPS 1-3

Find each wall part

Match the part numbers and shapes to these drawings. Orange numbers in the photos on later pages have a key beside the image.



Figure 1 — Driver side. Front of van: right. KEI-W-11 and KEI-W-13 are fitted in Steps 4 and 6.

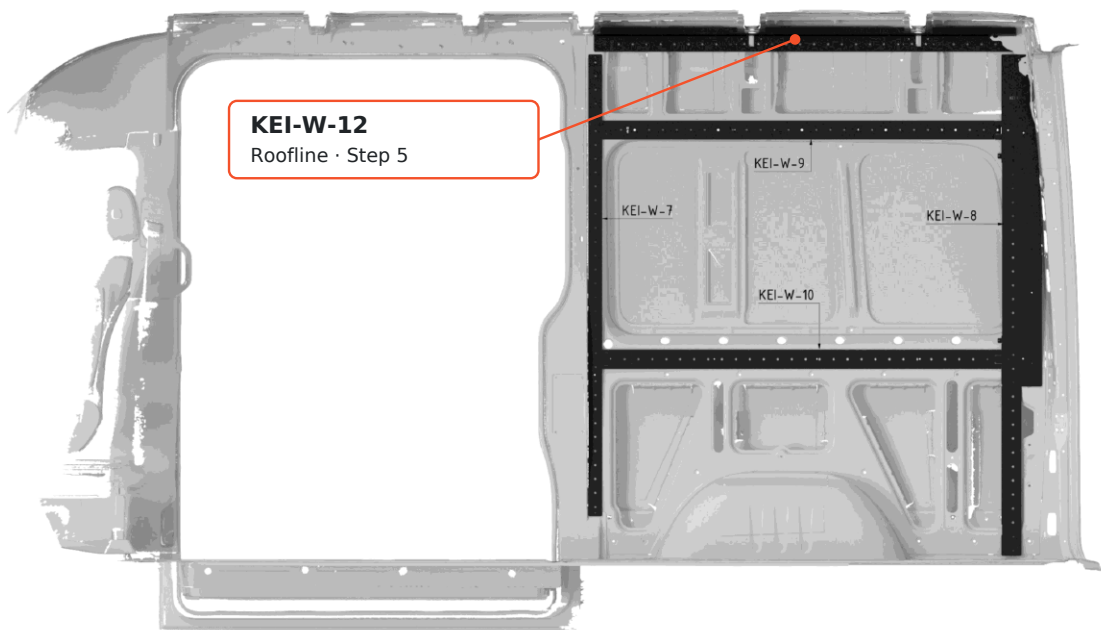


Figure 2 — Passenger side. Front / sliding-door opening: left. KEI-W-12 is fitted in Step 5.

Fit check: Parts should sit against their mounting surfaces without twisting or trapping wires. Do not force them into place.

INSTALLATION STEP 1

Fit the vertical braces

- Place **KEI-W-1** at the driver-side front position and **KEI-W-2** at the rear (Figure 1).
- Place **KEI-W-7** at the passenger-side front position and **KEI-W-8** at the rear, behind the sliding door (Figure 2).
- Have a helper or clamps hold the braces. Dry-fit the horizontal braces from Steps 2-3 to check the joints and spacing.
- **Before final fastening, use pliers to bend the mounting tabs shown on the next page until they sit flush against the vehicle mounting surfaces.**
- Then fasten the vertical braces through their designated mounting holes using KEI-specified hardware.

Hold the vertical brace



1 — KEI-W-7 — front vertical

Check the upper joint



1 — Vertical / upper brace joint

INSTALLATION STEP 1 · BEFORE FINAL FASTENING

Bend the mounting tabs for a flush fit

- Keep the brace supported. Find the upper and lower mounting tabs circled in yellow in the photos below.
- **Use pliers to bend each circled tab into place.** Make small adjustments until the tab sits **flush (flat, with no gap)** against its matching vehicle mounting surface.
- **Bend only the circled mounting tabs.** Keep the rest of the brace in position and wiring clear. Check the fit before fastening through the designated mounting holes.

A — Tabs beside the grab handle



Yellow circles: upper and lower mounting tabs to adjust with pliers.

B — Tabs at this brace edge



Check that both circled tabs sit flat against the matching mounting surfaces.

INSTALLATION STEP 1 · FITTING TIP

Hold the braces with Clecos

Yellow circles: Cleco fasteners



Left: brace joint. Right: horizontal-brace mounting point.

Clecos are temporary clips that hold parts together. Fit them with **Cleco pliers**. The yellow-circled items are Clecos.

- Choose the correct size for the existing designated mounting holes and thickness of the joined parts. **Do not enlarge holes to fit them.**
- Keep a helper or clamps supporting the brace. Recheck the fit and wiring.
- Replace Clecos one at a time with the permanent hardware. Remove every Cleco before finishing.

INSTALLATION STEP 2

Fit the driver-side horizontal braces

- Fit **KEI-W-3** above and **KEI-W-4** below the rear wall section, between KEI-W-1 and KEI-W-2.
- Fit **KEI-W-5** at the front upper position and **KEI-W-6** at the front lower position, ahead of KEI-W-1.
- Support the free ends. Make each joint sit flat, keep wiring clear, and fasten through the designated mounting holes with KEI-specified hardware.

Driver-side part key**Wall braces**

- 1** — KEI-W-1: front vertical
- 2** — KEI-W-2: rear vertical
- 3** — KEI-W-3: rear upper
- 4** — KEI-W-4: rear lower
- 5** — KEI-W-5: front upper
- 6** — KEI-W-6: front lower

Roofline anchors — fit later

- 7** — KEI-W-11: rear (Step 4)
- 8** — KEI-W-13: front (Step 6)

INSTALLATION STEP 3

Fit the passenger-side horizontal braces

- Fit **KEI-W-9** at the upper position and **KEI-W-10** at the lower position, between KEI-W-7 and KEI-W-8.
- Support both braces. Keep the joints flat, the sliding-door opening clear, and wires away from the parts. Fasten through the designated mounting holes with KEI-specified hardware.

Support the wall assembly



- 1 — Upper support point
2 — Lower fastening point

Passenger-side part key



- 1 — KEI-W-7 — front vertical
2 — KEI-W-8 — rear vertical
3 — KEI-W-9 — upper brace
4 — KEI-W-10 — lower brace
5 — KEI-W-12 — roofline (Step 5)

INSTALLATION STEPS 2-3 · CONNECTION PHOTOS

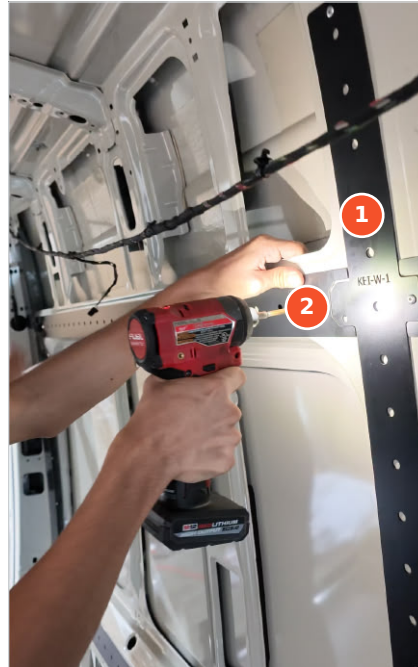
Check the wall joints

Complete driver-side layout



Compare all six wall braces with Figure 1.

Driver-side joint close-up



- 1 — KEI-W-1
- 2 — Joint fixing point

Upper connection



- 1 — Upper fastening point

Check both walls: All ten wall braces must be in the correct places and secure, with no trapped wires.

Lower connection

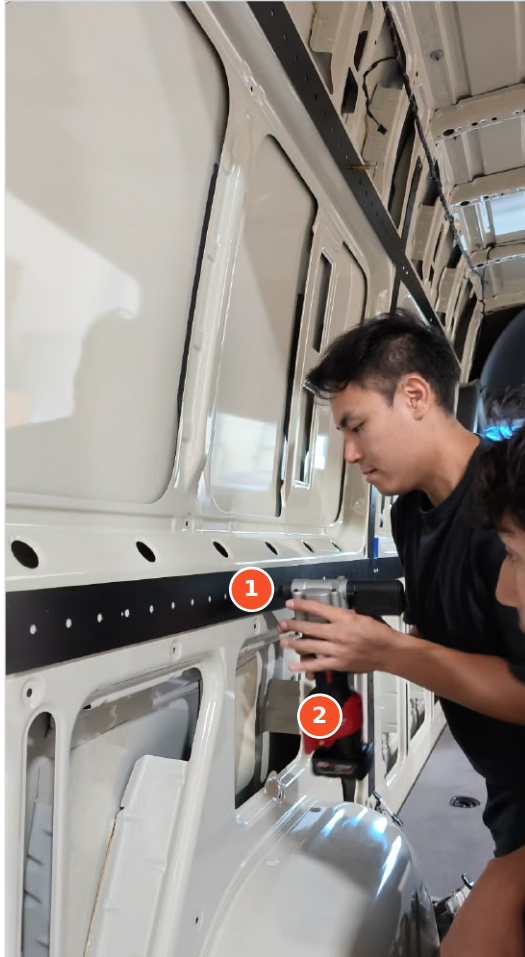


- 1 — Lower fastening point

INSTALLATION STEPS 2-3 · FASTENING

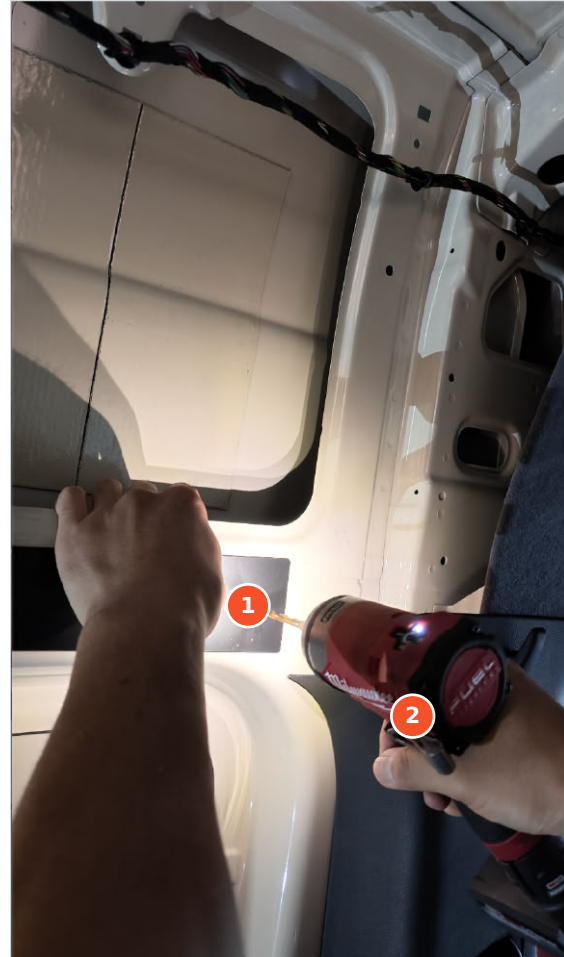
Finish the wall connections

Wall riveting



- 1 — Lower-brace rivet point
- 2 — Powered rivet-setting tool

Brace-end mounting access



- 1 — Brace-end mounting point
- 2 — Drill / twist drill bit

CRITICAL — DO NOT OVERDRILL

WARNING — DO NOT OVERDRILL. Metal is thinner in some areas. A drill bit can break through suddenly and damage the next metal layer or the van's outer body. Check behind the hole and use a physical drill-depth stop. **Do not push through into the next layer.** The wall braces are pre-drilled; ask KEI before changing a mounting point.

BEFORE INSTALLATION STEPS 4-6

Prepare the roof mounting areas

- At each KEI-C-1 position, measure between matching left and right body features. Divide by two and mark the middle on removable tape.
- Check the marks with a taut string line or straightedge. Do not assume the roof ribs are centered. Keep roof wires clear and use a helper or stable supports for all overhead parts.

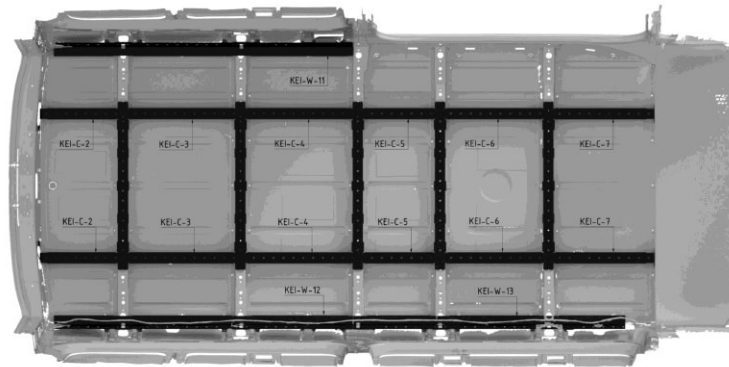


Figure 3 — Roof plan. Dry-fit the whole roof before final riveting.

Roofline mounting access



1 — Roofline fastening area

Check the anchor fit



1 — Roofline anchor rail

INSTALLATION STEPS 4-6

Fit the three roofline anchors

Use Figure 3 and the details below. Hold each anchor flat at the **green-outlined areas**. Keep wires clear and check behind the **yellow/orange-circled rivet holes**.

Keep the anchors supported and adjustable. Complete the ceiling checks in Step 7 before setting their permanent rivets.

Step 4 — KEI-W-11 · driver-side rear roofline

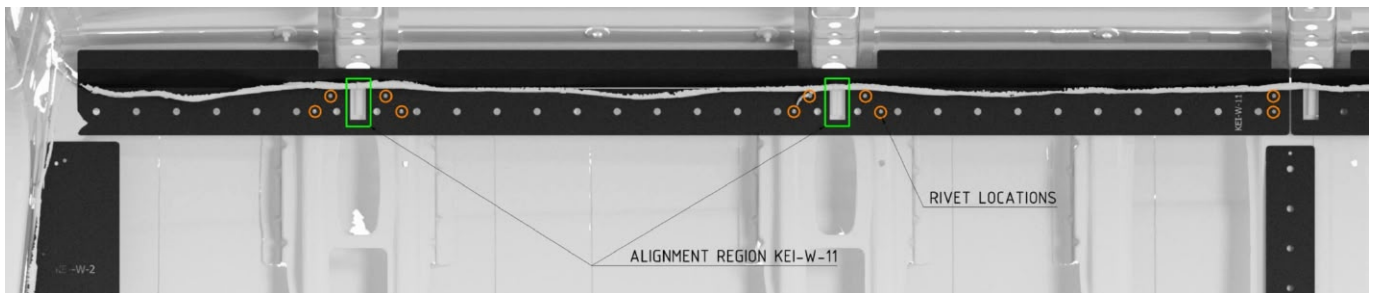


Figure 4. Green = fitment areas. Yellow/orange = required rivet mounting holes.

Step 5 — KEI-W-12 · passenger-side roofline



Figure 5. Fit above KEI-W-9; use every highlighted rivet hole.

Step 6 — KEI-W-13 · driver-side front roofline



Figure 6. Fit above the front wall section; use every highlighted rivet hole.

INSTALLATION STEP 7 · A — DRY-FIT

Fit the ceiling parts

CRITICAL — Logo direction

WARNING: The logos on the C-railings are uni-directional and **MUST** point toward the sliding door / passenger side of the van.

- Fit each pair of **KEI-C-2 through KEI-C-7** clam brackets in the positions shown in Figure 7.
- Fit the five **KEI-C-1** C-railings across the van (Figure 8). Center them on the marked roof centerline and check both ends sit flat.
- Start the fixing screws at the highlighted points in Figure 8. **Leave the roof adjustable.** Check logo direction and both required measurements before final riveting or tightening.



Figure 7 — KEI-C-2 through KEI-C-7. Keep each bracket type in its shown position.

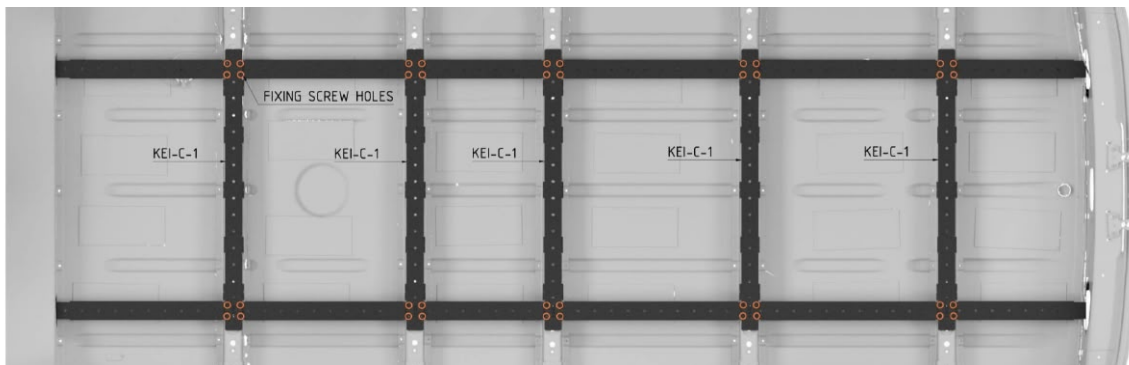


Figure 8 — Five KEI-C-1 C-railings. Highlighted points show the fixing-screw holes.

INSTALLATION STEP 7 · A — PHOTO REFERENCE

Support the ceiling while fitting

- Use a helper and stable temporary supports. Keep the contact pads flat against the parts. Apply only enough pressure to hold the parts in place; do not bend them or force them against the roof.
- Check both ends of every assembly and keep wiring clear. Leave the supports in place until all permanent connections are complete and checked.

Helper support

- 1 — Helper
2 — Working connection

Hold the connection flat

- 1 — C-railing connection

INSTALLATION STEP 7 · A — PHOTO REFERENCE

Check both ends & the roof run

Check both ends

- 1 — First end
2 — Opposite end

Check the full roof run

- 1 — Overhead connection

Look along the roof

Check that the whole layout is straight and centered.

Keep the assembly adjustable

Check both ends of every assembly and keep wiring clear. Leave the supports in place until all permanent connections are complete and checked.

Before final fastening, check every logo, the 2-inch connection spacing, and the 680 mm ceiling panel spacing.

INSTALLATION STEP 7 · A — CONNECTION REFERENCE

Ceiling parts & temporary support

Ceiling component key

Use Figure 7 to choose each bracket.

- 1** — KEI-C-1: across the van
- 2** — KEI-C-2 through KEI-C-7: along the van
- 3** — Roof mounting tab / rivet point

Temporary ceiling support

Place the support on a stable surface. Keep a helper controlling the part while you adjust the pole.

- 1** — Support pad / contact point
- 2** — Temporary support pole
- 3** — Supported ceiling part

INSTALLATION STEP 7 · B — REQUIRED CHECK

Check every C-railing logo

CRITICAL — Check every C-railing

WARNING: The logos on the C-railings are uni-directional and **MUST** point toward the sliding door / passenger side of the van.

- Use the actual sliding-door side as your reference. Turn any reversed railing around while the roof is still adjustable, then check its connections again.

Logo reference



Yellow circles show the markings to check.

INSTALLATION STEP 7 · B — REQUIRED CHECK

Set the 2-inch C-piece spacing

REQUIRED — 2 inches between the highlighted C pieces

Keep 2 inches (50.8 mm) between the two adjacent C pieces circled in Figure 9.
Check this before setting rivets or finally tightening the screws.

- Find the yellow-circled connection in the two spacing photos. Measure with a tape measure or steel rule and adjust the parts as needed. If the measuring points are unclear, confirm them with KEI Project.

Figure 9A — Spacing reference



Measure the 2-inch spacing at this circled connection.

Figure 9B — Connection close-up



The same C-piece connection shown closer.

INSTALLATION STEP 7 · C — FINAL ALIGNMENT

Set 680 mm & check the final layout

CRITICAL — Ceiling panel alignment

During ceiling panel installation, keep the 680 mm spacing shown in Figure 10. Align the ceiling panels symmetrically before final assembly. Measure between the endpoints of the dimension arrow.

- Check that the ceiling is straight and evenly placed on both sides of the centerline. Recheck every logo and the 2-inch C-piece spacing.

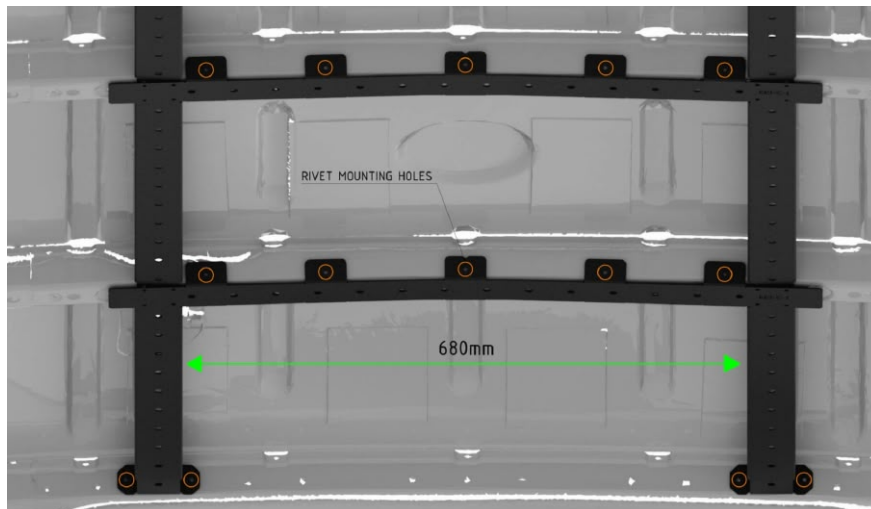


Figure 10 — 680 mm spacing and ceiling rivet holes. Use the diagram's measuring points; the photos are fit references.

Check the final roof layout



The ceiling should look straight and balanced on both sides.

Before final assembly

Use Figure 10's dimension endpoints to check 680 mm. Recheck the 2-inch spacing and every logo before fastening.

INSTALLATION STEP 7 · C — FINAL FASTENING

Fasten the supported roof assembly

- When all checks pass, rivet **KEI-W-11**, **KEI-W-12**, and **KEI-W-13** through every highlighted mounting hole in Figures 4-6. Complete the ceiling rivets in Figure 10 and tighten the fixing screws to KEI's settings. Keep the parts supported and flat against their mounting surfaces.

Support at the connection



Keep the connection supported and flat while fastening.

- 1 — Temporary support
- 2 — Supported C piece

Adjacent C-piece connections



Use the designated mounting points and keep wires clear.

- 1 — Near C-piece connection
- 2 — Next C-piece connection

INSTALLATION STEP 7 · C — FASTENING DETAILS

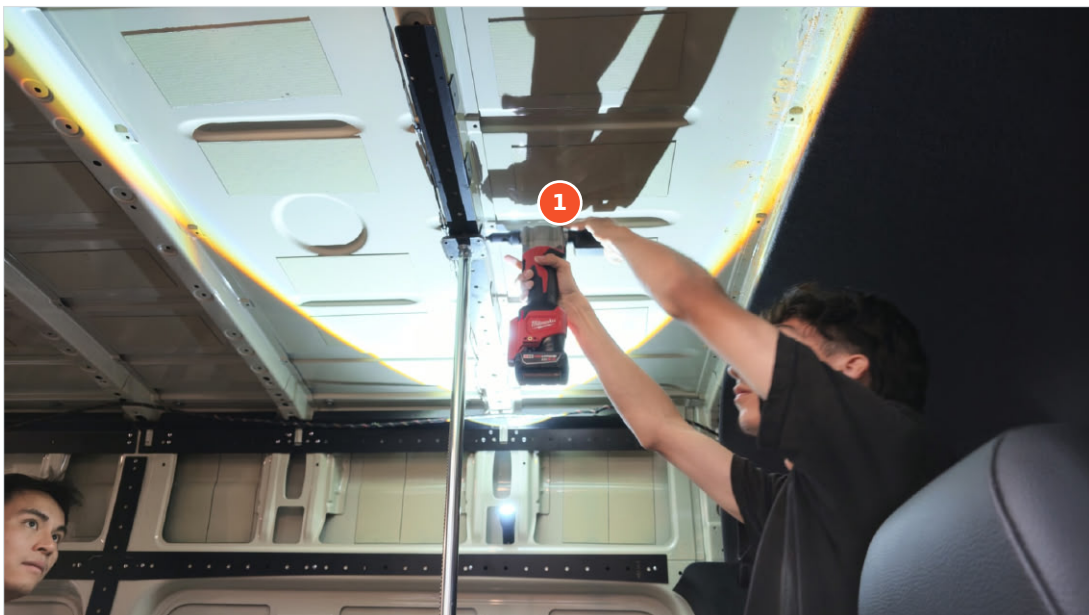
Check the roof mounting points

- The drill photo shows mounting access. Confirm KEI's hole and rivet requirements before any metal work. **Check clearance, use a drill-depth stop, and do not drill into the next layer.**

Drill access at the roof tab

Keep wiring clear and drill only the approved mounting layer.

- 1** — Roof mounting tab
2 — Drill / drill bit

Supported roof fastening

Keep every connection supported and flat while installing the specified hardware.

- 1** — Roof fastening point

INSTALLATION STEP 7 · C — CONNECTION DETAIL

Secure the ceiling end bracket

Check the bracket position against Figures 7, 8, and 10. Keep the bracket flat against its mounting surface while setting the specified rivet.

Ceiling end-bracket riveting



Check behind the rivet point and keep wiring clear.

- 1 — Ceiling end bracket
- 2 — Rivet mounting point
- 3 — Powered rivet-setting tool

Before removing the supports

Check that every required fastener is installed, rivet heads sit flat, and screws are tightened to KEI's settings. Remove all Clecros and inspect the permanent connections before removing the supports.

AFTER INSTALLATION STEP 7

Final inspection

Completed kit



- 1 — Driver-side wall
- 2 — Passenger-side wall
- 3 — Ceiling assembly

Finish the job

- ☐ Check all rivet heads and screw connections. Make sure no wiring is trapped.
- ☐ Remove all temporary clips, supports, and loose hardware. Vacuum the work area.
- ☐ Refit compatible trim. If the battery was disconnected, reconnect it using the vehicle manufacturer's instructions.

Need help with a part, hole, or hardware setting?

Contact KEI Project before continuing:

Info@Keiproject.com · +1-626-560-0969

Check before finishing

- ☐ All KEI-W-1 through KEI-W-10 wall braces are correctly fitted and secure.
- ☐ The wall-brace mounting tabs sit flush against their mounting surfaces.
- ☐ KEI-W-11, KEI-W-12, and KEI-W-13 are flat in their shown positions, with every required rivet installed.
- ☐ KEI-C-1 through KEI-C-7 are in their shown positions and secure.
- ☐ Every C-railing logo points toward the sliding door / passenger side.
- ☐ The highlighted C pieces are **2 inches (50.8 mm)** apart.
- ☐ Ceiling panel spacing is **680 mm** at Figure 10's measuring points, and the layout is symmetric.

Drawings and install photos supplied by KEI.