Ridgevale Platform Roof Rack Assembly Guide

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Before you start

Build the rack flat on the ground, then lift it onto the vehicle once it's complete. Leave bolts finger-tight until a step tells you to tighten them, so the frame can still be squared up.

You'll need

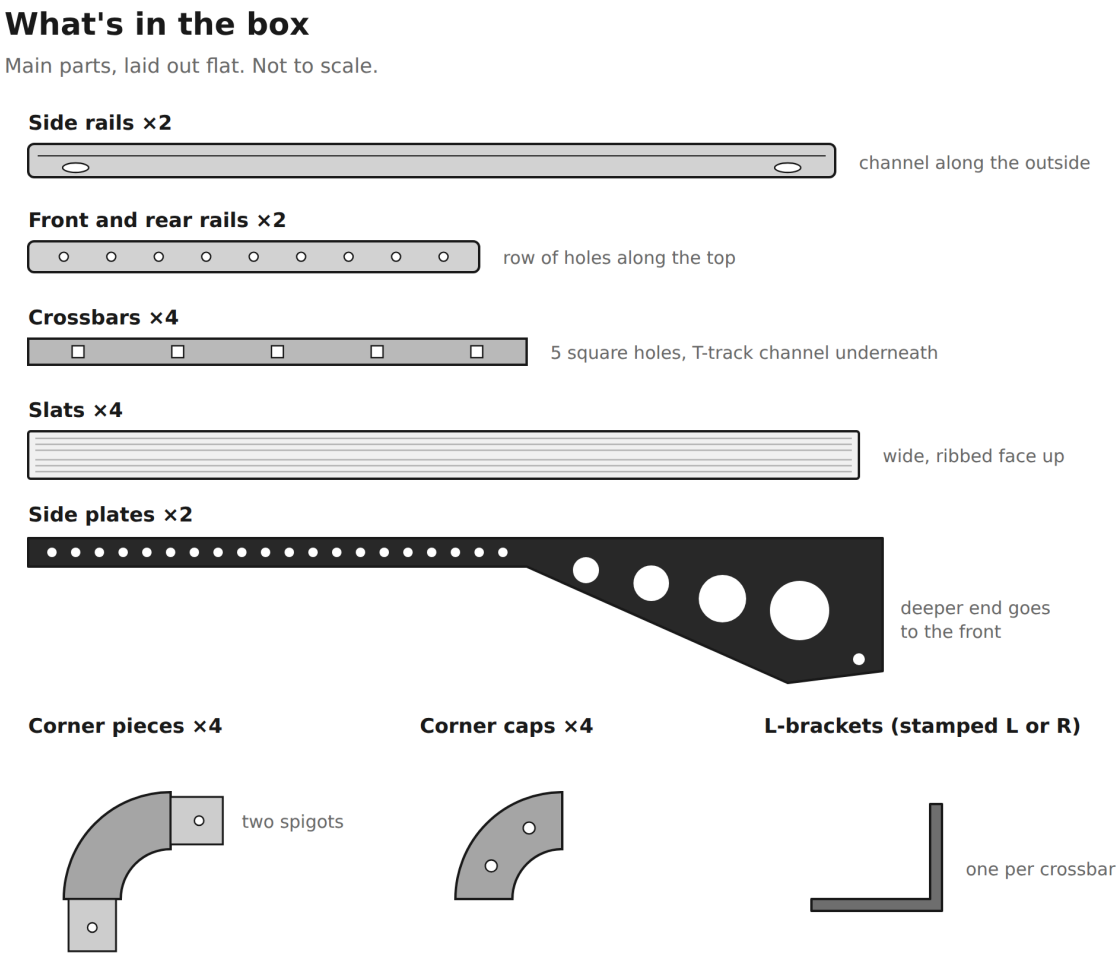
- The hex (Allen) key supplied with the rack
- A Phillips screwdriver
- A spanner or socket to fit the stainless flange nuts
- A tape measure, for squaring the frame
- A dust sheet or old duvet to build on, so the powder coat doesn't get scratched
- A second person, for turning the frame over and lifting it onto the vehicle

Good practice

- Lay every part out and check it against the parts list before you start.
- Screws going into the plastic corners and clamps only need to be snug. Overtightening strips the plastic.

What's in the box

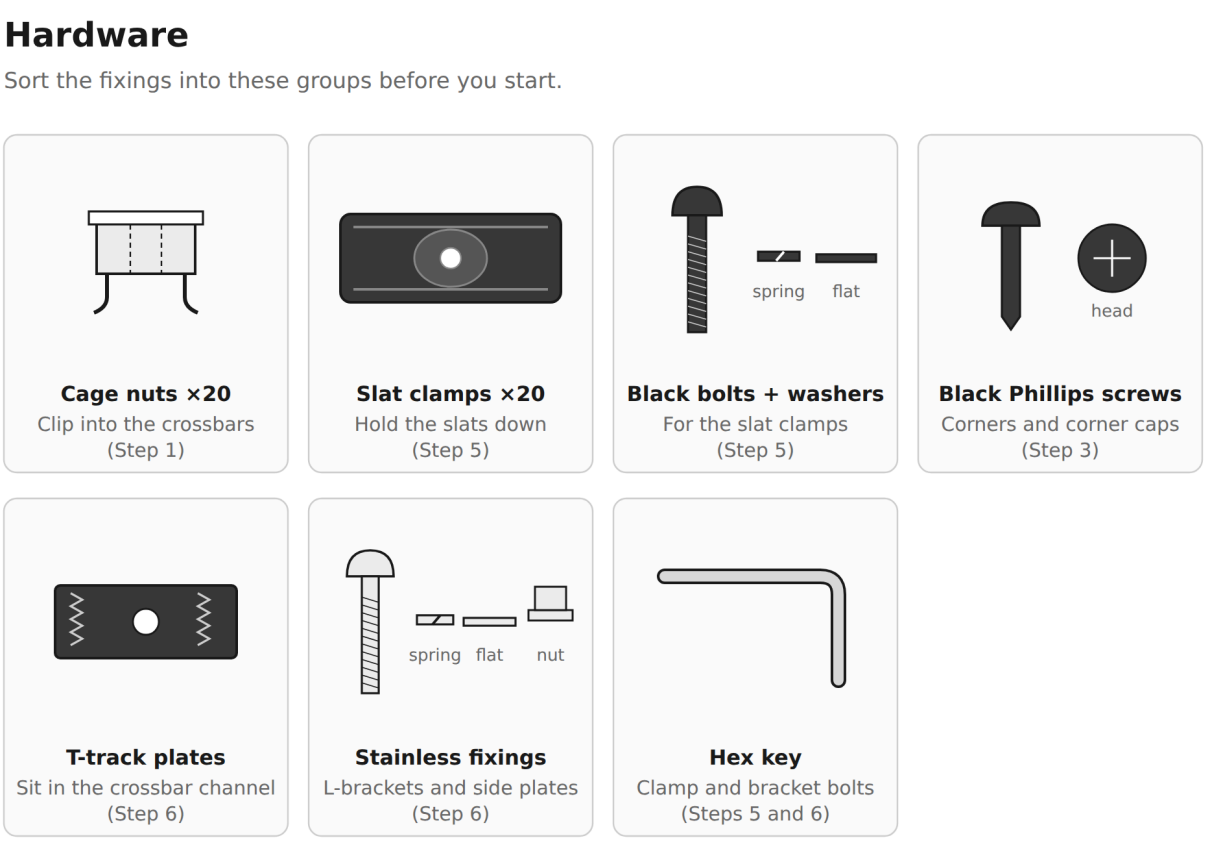
Lay everything out roughly in its final position. It makes each step quicker and shows straight away if anything is missing.



Part	Qty	How to recognise it
Side rails	2	The two longest rails, with a channel along the outside
Front and rear rails	2	Shorter rails with a row of holes along the top
Corner pieces	4	Curved black corners with two spigots each
Corner caps	4	Flat, curved plates with two screw holes
Crossbars	4	Narrow channels with square holes along the top
Slats	4	Wide ribbed strips
Side plates	2	Perforated plates, deeper at one end
L-brackets	1 set	Black angle brackets that join the side plates to the crossbars, stamped L & R

Hardware

Sort the fixings into groups before you start.

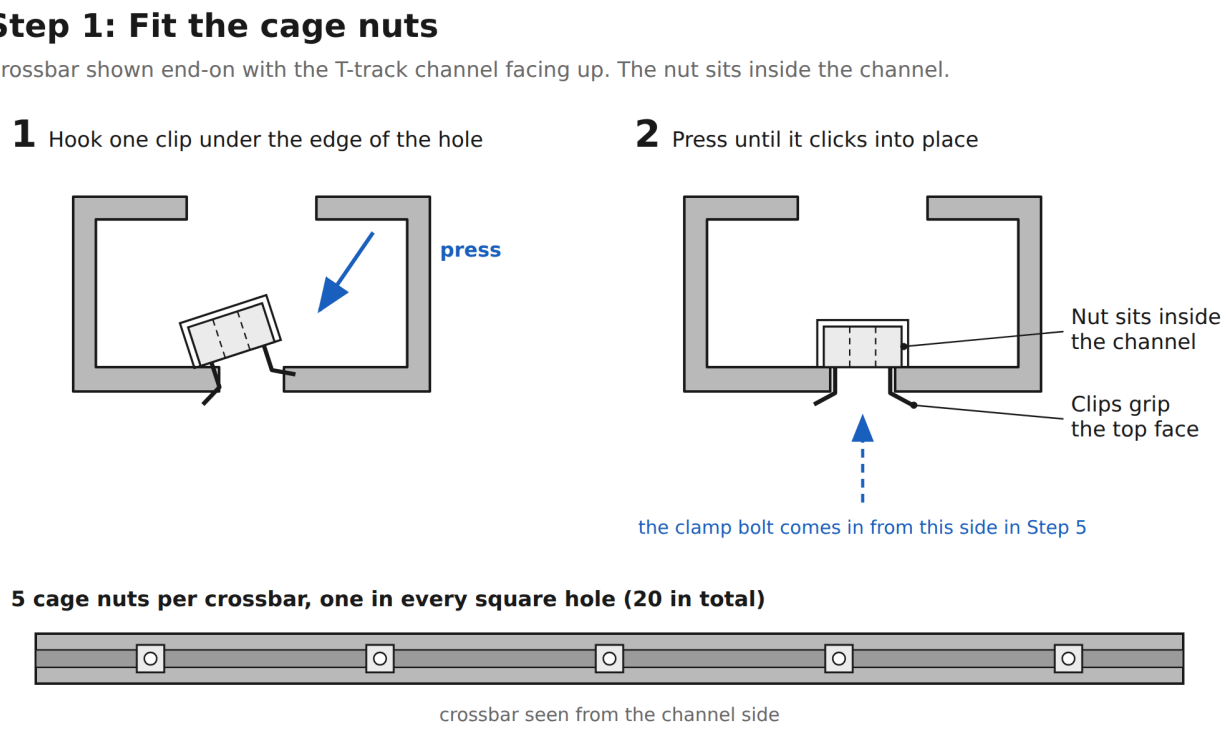


Fixing	Used for
Cage nuts (steel clip holding a square nut), 20	Clip into the crossbars to take the slat clamp bolts (Step 1)
Black Phillips screws	Rails to corners, and corner caps (Step 3)
Black plastic slat clamps, 20	Hold the slats down onto the crossbars (Step 5)
Black button-head bolts, spring washers and flat washers	Slat clamps (Step 5)
T-track plates (small black serrated plates)	Sit in the crossbar channel and take the L-bracket bolts (Step 6)
Stainless button-head bolts, spring washers, flat washers and flange nuts	L-brackets and side plates (Step 6)

1 Fit the cage nuts to the crossbars

Each crossbar takes 5 cage nuts, one in every square hole, so 20 in total.

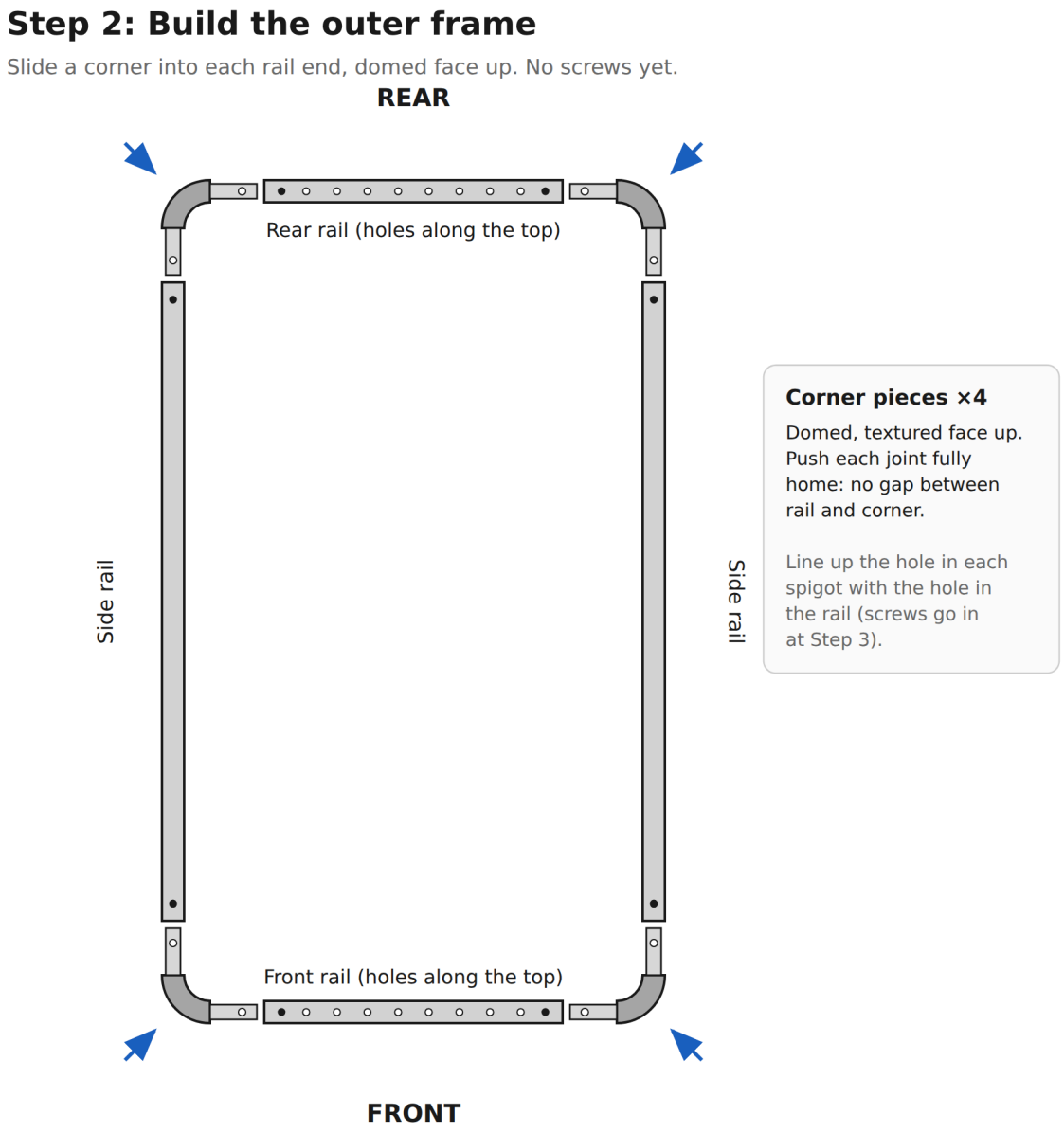
1. Lay each crossbar with its T-track channel facing up.
2. Working from inside the channel, hook one clip of the cage nut under the edge of a square hole. Press the other side down until it clicks into place, so the nut sits inside the channel. A flat-blade screwdriver helps lever the last clip in.
3. Check every nut is seated flat and doesn't pull out.



2 Build the outer frame

The four rails and four corners push together to make the outer frame. Don't fit any screws yet.

1. Lay the rails out in a rectangle, top face up: side rails down the long sides, front and rear rails across the ends.
2. Slide a corner spigot into the end of each rail, with the domed, textured face of the corner on top.
3. Push each joint fully home so there's no gap between rail and corner. If it's tight, use the heel of your hand or a rubber mallet, never a steel hammer.
4. Check the small hole in each spigot lines up with the hole in the rail. These take screws in Step 3.



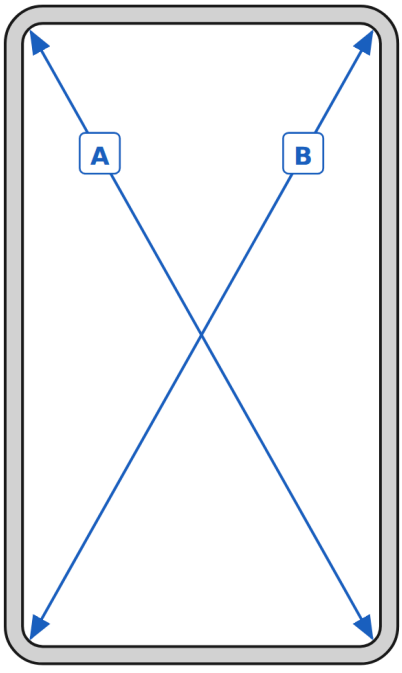
3 Square the frame and fix the corners

The corner screws and caps go on the underside, so this step is done with the frame upside down, before the crossbars go in.

1. With a helper, turn the frame over onto the dust sheet so the domed corner tops face down.
2. Square the frame by measuring both diagonals, corner to corner. Nudge it until the two measurements match to within about 3 mm.
3. At each corner, drive a black Phillips screw through each rail into the corner spigot, so two screws per corner.
4. Fit a corner cap over the open underside of each corner and fix it with two black screws.
5. Re-check the diagonals, then turn the frame back over.

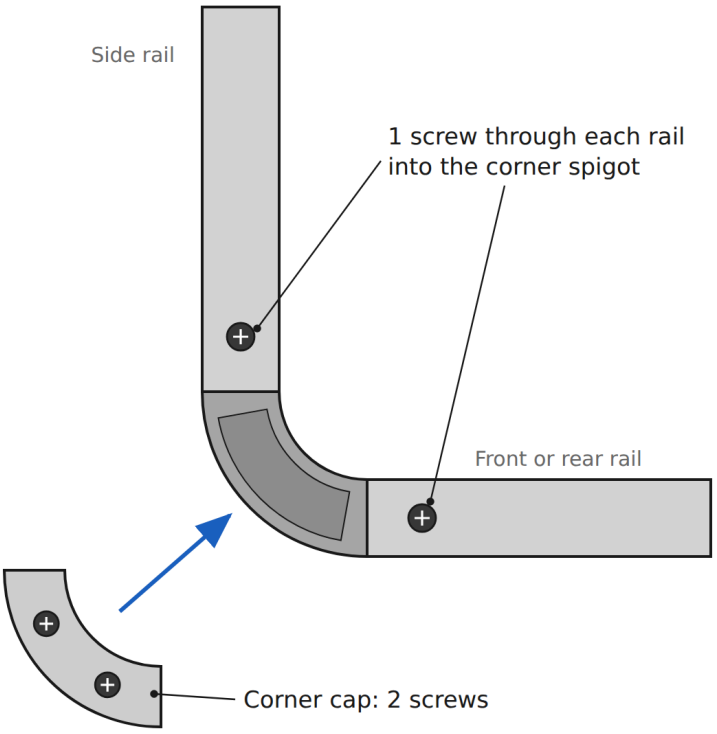
Step 3: Square the frame and fix the corners

Frame upside down: domed corner tops face the floor.



Measure A and B corner to corner.
Nudge until A = B, within 3 mm.

Each corner, from underneath

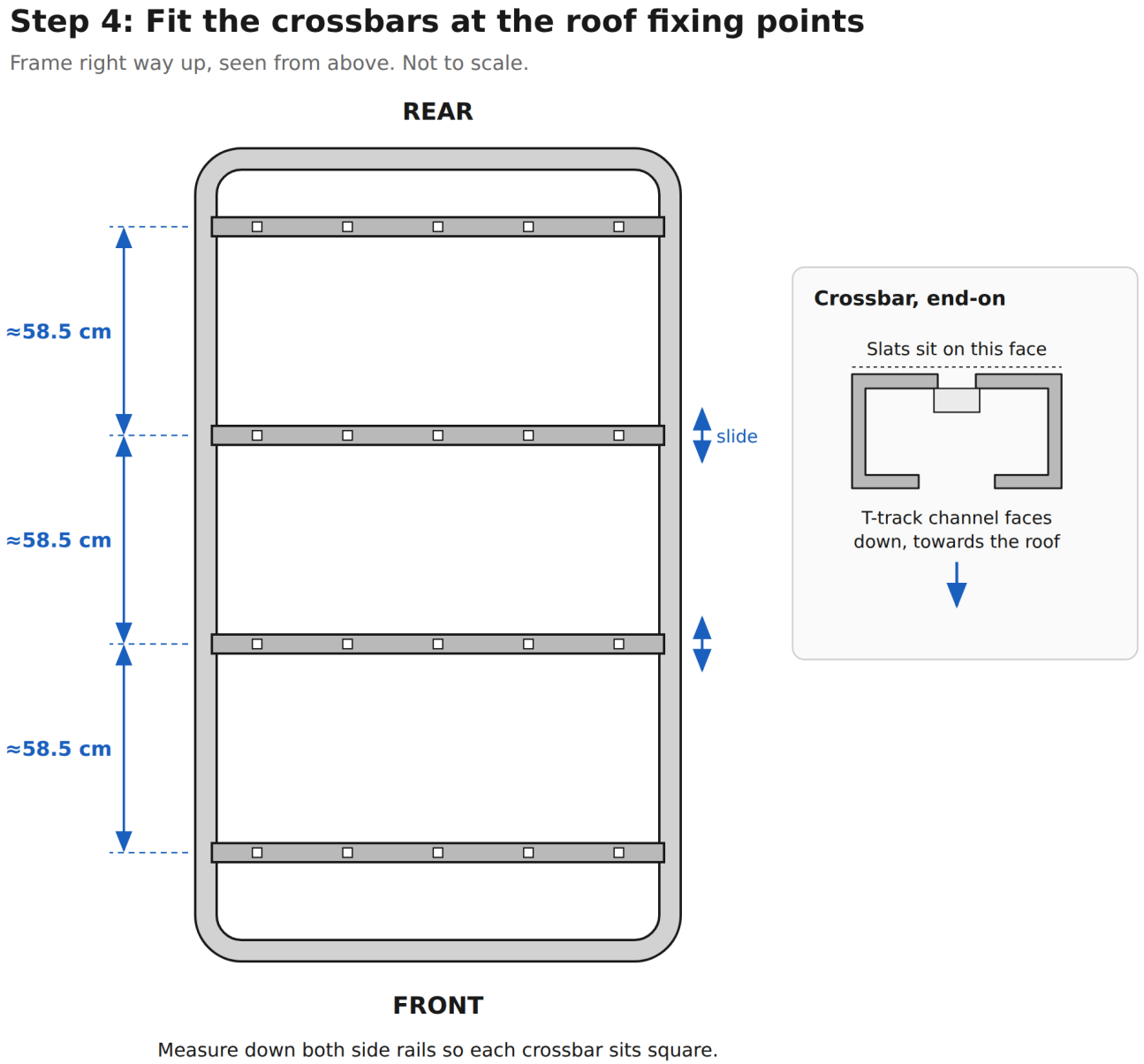


4 screws per corner, 16 in total. Snug only: they go into plastic.

4 Fit the crossbars at the roof fixing points

Each crossbar must sit over one pair of the Discovery's roof fixing points, which are about 58.5 cm apart front to back. The mounting feet can move forwards and backwards to take up small differences, so the spacing doesn't have to be exact.

1. Drop each crossbar into the inner channel of the side rails, so both ends rest on the rails' lower lip. The T-track channel faces down, towards the roof.
2. Slide the crossbars along the side rails until they're about 58.5 cm apart, centre to centre.
3. Measure down both side rails so each crossbar sits square across the frame.



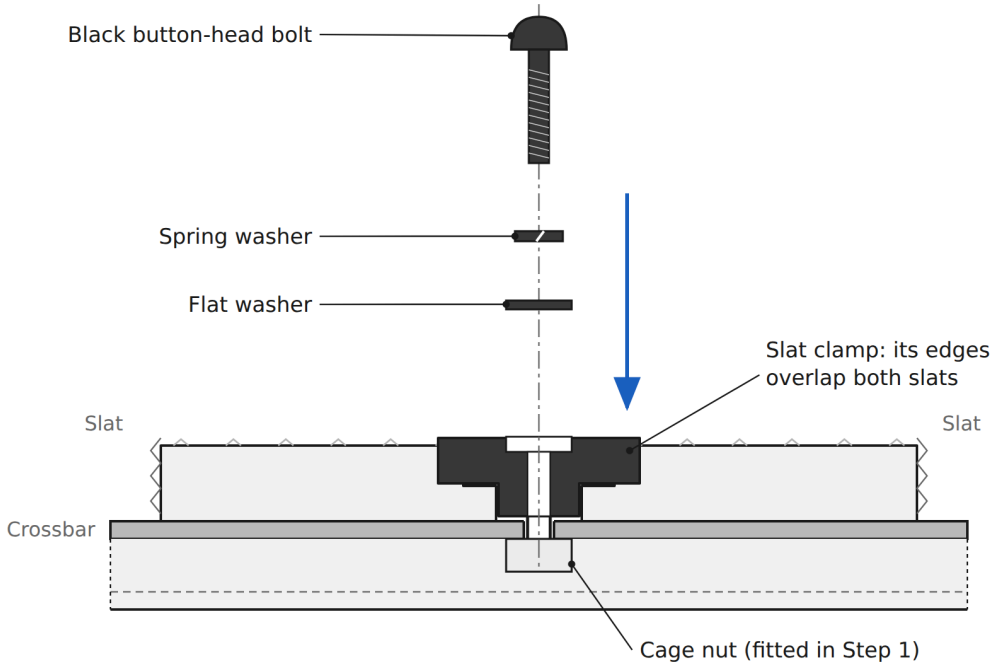
5 Lay the slats and clamp them down

The 4 slats run front to back over the crossbars. A clamp at every cage nut holds them down: 5 per crossbar, 20 in total.

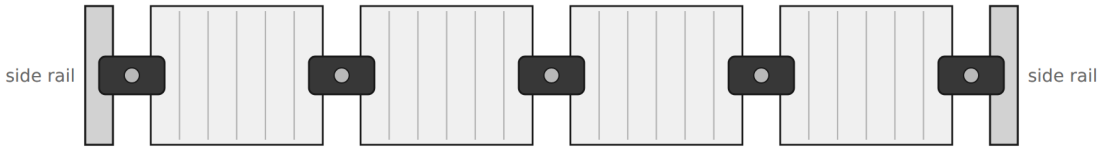
1. Lay the slats ribbed face up, with their ends against the front and rear rails.
2. Space the slats so every gap sits over a line of cage nuts, including the gaps next to the side rails.
3. Make up each clamp bolt: black button-head bolt, then spring washer, then flat washer.
4. Place a clamp across each gap so its edges overlap the slats on both sides. Pass the bolt through the clamp into the cage nut below.
5. Tighten all 20 bolts with the hex key, working from the centre outwards, until the slats can't move. Stop once snug, because the clamps are plastic.

Step 5: Lay the slats and clamp them down

Section through one gap between slats, at a crossbar.



5 clamps per crossbar (20 in total): one in every gap, including next to the side rails



6 Fit the side plates at the vehicle's mounting widths

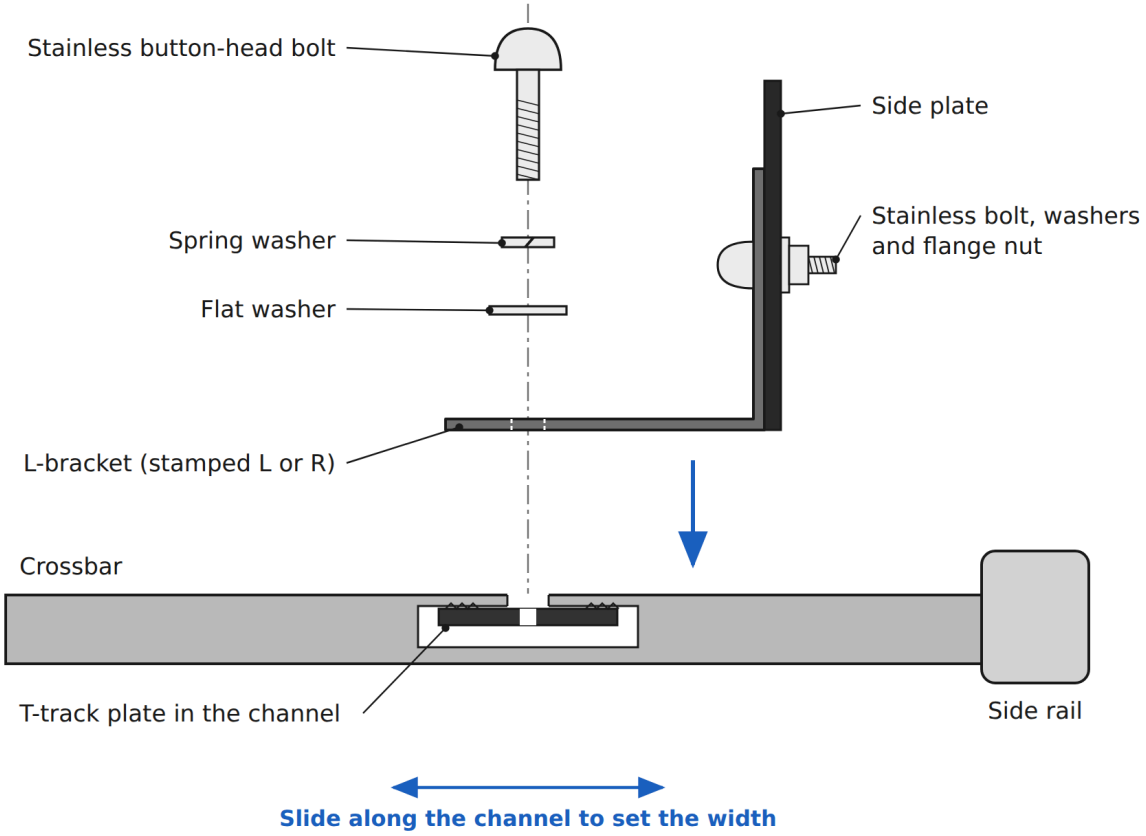
The side plates bolt to the ends of the crossbars, on the underside of the rack, using L-brackets and T-track plates. The brackets slide along the crossbar channel, so each pair can be set to the Discovery's mounting width at that crossbar. The width tapers from 109.5 cm at the back to 127 cm at the front.

Crossbar	Width between mounting points
Rear	**109.5 cm**
Second from rear	**113 cm**
Third from rear	**115 cm**
Front	**127 cm**

1. With a helper, turn the rack over so the slats face down and the crossbar channels face up.
2. Fit a T-track plate into the channel at each end of every crossbar, 8 in total.
3. Each L-bracket is stamped L or R for the left or right side. Loosely bolt the four L brackets to the left side plate and the four R brackets to the right one, using the stainless fixings: button-head bolt, spring washer, flat washer, then the flange nut on the far side.
4. Stand each side plate along its side rail with the deep end (large holes) at the front. With the rack upside down, the left side plate is on your right when you face the front of the rack. Loosely bolt each bracket to its T-track plate with a stainless button-head bolt, spring washer and flat washer.
5. Slide the brackets along the crossbar channels until the width across the rack at each crossbar matches the table.
6. Keep the rack centred: at each crossbar, measure from each bracket to its nearest side rail and make both sides equal.
7. Tighten the bracket-to-crossbar bolts, then the bracket-to-side-plate bolts. Re-check all four widths.

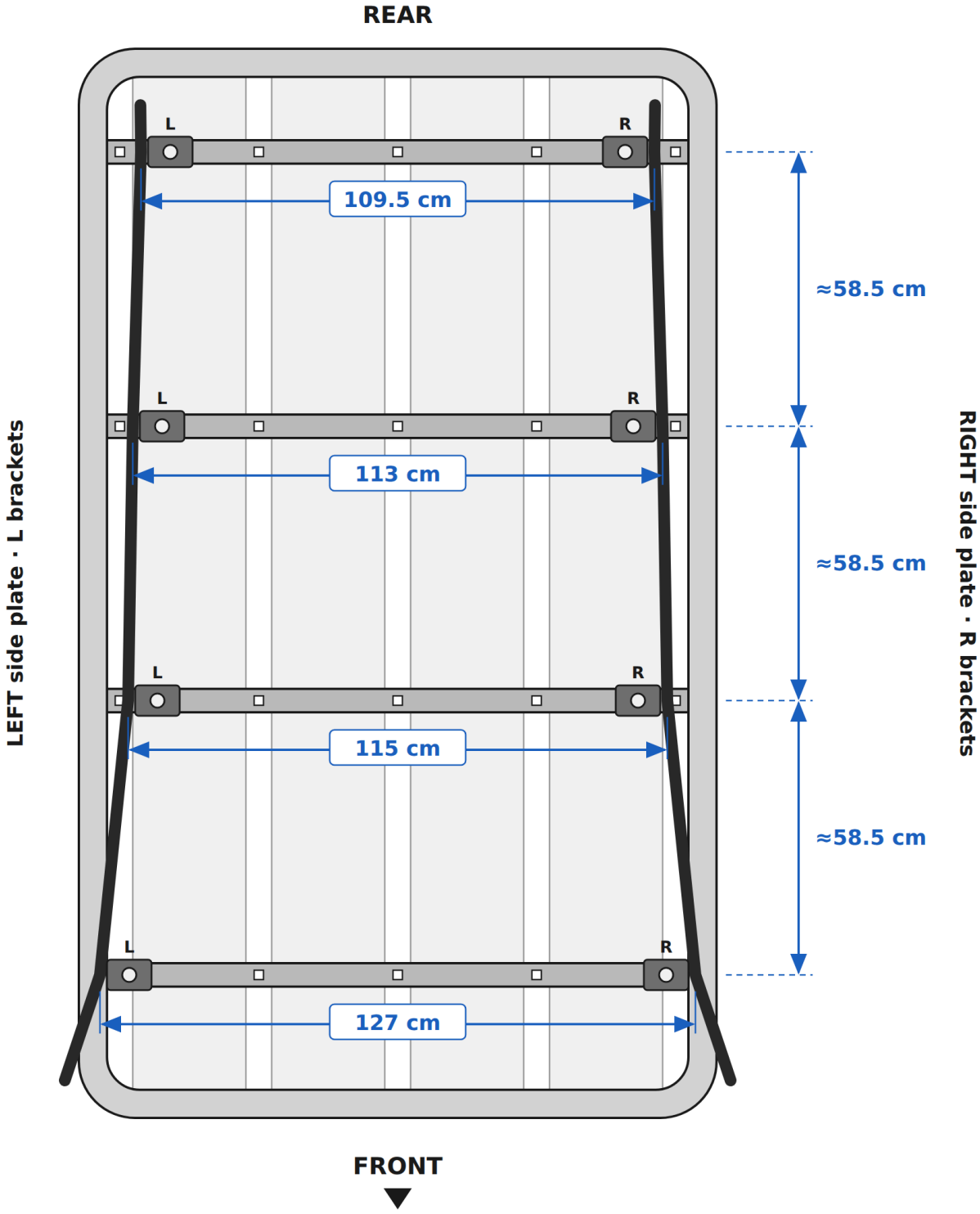
Side plate bracket fixing (rack upside down)

Exploded view looking along the crossbar. One fixing at each end of every crossbar.



Underside view (rack upside down)

Crossbars at the roof fixing points; side plates set to the mounting widths. Not to scale.



Final checks and fitting

Run through these before the rack goes on the vehicle.

- [ ] All 20 slat clamp bolts are snug and no slat moves
- [ ] All 16 corner screws are in: 2 into the rails and 2 through the cap at each corner
- [ ] The width at each crossbar matches the table in Step 6, and every bracket bolt is tight
- [ ] The diagonals still match to within about 3 mm
- [ ] No tools or loose fixings are left on the rack

Fitting to the vehicle

- Turn the rack back over, then lift it with two people, holding it by the side rails. Never slide it across the roof.
- Put it on with the deeper end of the side plates at the front, so each side plate lands on its roof fixing points. If a foot doesn't line up with its fixing point, slide it forwards or backwards rather than forcing it.
- Tighten the vehicle mounting fixings evenly, working side to side.

Aftercare

- Re-check every fixing after the first 50 miles, then at each service or before a long trip.
- Keep within your vehicle's maximum roof load, which is given in the owner's handbook.