Vantopia Kit Installation Manual

Model: Ram ProMaster

Layouts covered: Raised Bed and Dinette

Revision 2026-11-10

How to use this manual

The build runs in eleven steps, in the order below. Every step lists the people needed, the tools, the hardware by bag number, a numbered procedure, and tips. Each step also links to a video. Read the written step first, then watch the video, then do the work.

Steps 1 to 8, 10 and 11 are the same for both layouts. Step 9 has two parts: follow **9A** if you ordered the Raised Bed, or **9B** if you ordered the Dinette.

Step	What you do	People
1	Vehicle Prep	1
2	Vent Install	2 minimum
3	Insulation	1
4	Sanding and Part Prep	1 (2 recommended)
5	Floor	2
6	Walls and Rails	1 (2 recommended)
7	Ceiling and Header	2 recommended
8	Module Assembly	1 (2 recommended)
9	Bed: 9A Raised Bed or 9B Dinette	1 (2 recommended)
10	Module Installation	2 recommended
11	Finishing Details	1

Safety

- Wear safety glasses for every cutting, drilling, sanding and overhead step.
- Wear an N95 mask and gloves when sanding and when using spray adhesive.
- Floor sections and assembled modules are heavy. Lift with a helper.
- Start every bolt that goes into a factory threaded hole by hand. Do not force a bolt that feels tight.

Need help?

Call Vantopia at (949) 755-0337. We are happy to walk you through a step by phone or video call.

Hardware and Parts List

Bags of hardware and loose items share one number series. A step that says **Bag 5** or **Item 38** refers to the number in this list. Not every item is used on every build. Items used only on other van models have been left out, so the numbering has gaps.

If you need replacement hardware, the Source column gives the McMaster-Carr part number, or contact Vantopia for Vantopia-made parts.

No.	Description	Used for	Source
1	M6 x 45 mm flat head screw	Primary fastener	McMaster 92125A250
2	M6 rectangular nut	Primary nut, placed in T-slots	Vantopia
3	M8 x 90 mm button head screw	Mounting cabinets to floor	McMaster 92095A336
4	Clevis pin, 40 mm, with E-clips	Door latch mechanisms, tray table	McMaster 92735A122
5	Fender washer, 3/8" x 1.5"	Floor hold-downs, floor puzzle joint, bed mechanism	McMaster 90313A115
6	Fender washer, 3/8" x 2"	Raised bed tilt mechanism	McMaster 90313A116
7	Nylon spacer, 3/8" ID x 3/4" OD x 1-1/4" long	Raised bed tilt mechanism	McMaster 94639A863
8	Washer, 3/8" x 7/8"	Island countertop, door latch mechanisms	McMaster 92141A031
9	M6 x 70 mm flat head screw	Tray table mounting bolts	McMaster 92125A258
10	M6 x 30 mm button head screw	Mounting cabinets to rail	McMaster 92095A244
11	M6 washer	Mounting cabinets to rail	McMaster 91116A150
12	Wooden dowel, 1/2" x 1-1/2"	Latch mechanisms, dinette floor board, tray table, shelf supports, header	McMaster 97195A116
13	Fixed casters	Lower cabinet of the Pantry Combo Unit and Window Combo Unit	McMaster 78155T17
14	Wood screws, #8 x 1/2"	Floor trim pieces, flat bar, fixed casters	McMaster 90294A194
15	T-slot frame nut, M6	Mounting cabinetry to rail system	McMaster 5537T67
16	M8 eye bolts	Gear tie-down points in floor and header	McMaster 1700
17	M8 x 35 mm button head bolt	Sprinter header, cover-up boards	McMaster 92095A292
18	M8 x 45 mm flanged head bolt	Transit floor hold-down and floor mounting blocks	McMaster 97654A232

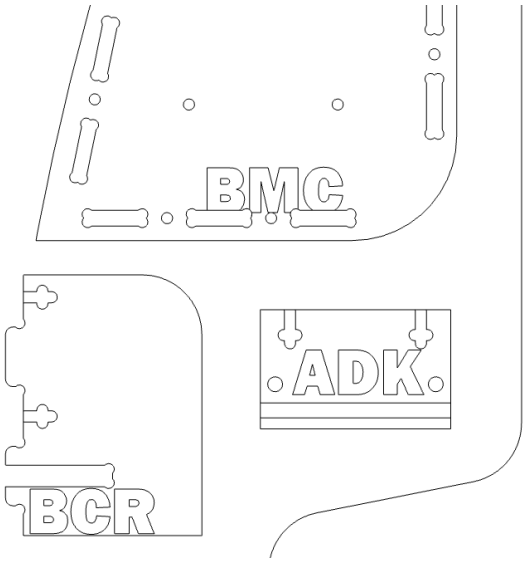
No.	Description	Used for	Source
20	M6 x 50 mm flanged head screw	Mounting rail to body frame brackets	McMaster 97654A228
21	M6 x 20 mm flat head screw	Circular cover-up plates	McMaster 92703A167
22	Steel round-base weld nut, with screws	Floor puzzle joint	McMaster 90563A620
23	Body clips, white	Mounting wall and ceiling panels to body frame	Vantopia
24	Wall panel division strips, 8 ft	Connecting wall and ceiling panels	Vantopia
25	Drawer slides, 20"	Combo unit sliders	McMaster 2712A6
26	Drawer slides, 16"	Kitchen island slider on long vans	McMaster 2712A4
27	Zinc-plated steel insert for wood, M8	Underneath floor, header, cover-up boards	McMaster 98965A410
28	Wood screws for header strip	Header strip	McMaster 90294A247
29	Soft-close hinges	All bamboo cabinet faces	Vantopia
30	Smooth threshold, aluminum	Floors	McMaster 8422A21
31	Anodized aluminum angle, 1" x 1" x 1/16"	Floors	Vantopia
32	Anodized aluminum flat bar, 1.5" x 1/8", 6 ft	Floors	Vantopia
33	Anodized aluminum angle, 3/4" x 3/4" x 1/16", 8 ft	Floors	Vantopia
34	3060 aluminum rail extrusion, 8 ft, pre-drilled	Walls	Vantopia
35	3060 aluminum rail extrusion, 6 ft, pre-drilled	Walls	Vantopia
36	Birch sheets, 1/2" thick	Cabinets, beds, dinettes	Vantopia
37	Birch sheets, 3/4" thick	Cabinets, beds, dinettes	Vantopia
38	Europly floor sections	Floors	Vantopia
39	Foam floor insulation sections	Floors	Vantopia
41	Wall beadboard panels	Walls	Vantopia
42	Ceiling beadboard panels	Ceiling	Vantopia
43	Bamboo countertops / tray tables, brass inserts installed	Countertops	Vantopia
44	Bamboo cabinet and drawer faces	Cabinet faces	Vantopia
45	Bamboo rotary latches	Combo pantry, raised bed garage door	Vantopia
46	Bamboo swing latches, "L" type	Door hardware	Vantopia
47	M6 x 50 mm flanged head screw	Mounting rail to bracket	McMaster 97654A228

No.	Description	Used for	Source
50	M8 x 45 mm bolt	Floor hold-down (Sprinter and ProMaster)	McMaster 3327
53	M8 x 70 mm flat head screw	Mounts combo pantry to floor	McMaster 92125A304
55	Wood screws, #8 x 7/8"	Sliding door trim piece	McMaster 90294A198
56	Sliding door trim piece	Walls	Vantopia
57	Clevis pin, 45 mm, with E-clips (longer pin, bed mechanism only)	Bed mechanism	McMaster 92735A122
58	Spring latch kit	Kitchen island latch	Vantopia
59	Bamboo swing latches, "R" type	Door hardware	Vantopia
60	Dinette cushions	Dinette	Vantopia
61	Table pedestals	Dinette	Vantopia
62	Lag bolts, 1/4" x 3-1/2"	Mounting cabinets to floor	McMaster 92351A556
63	Drawer slides, 12"	ProMaster shelves	McMaster 2712A2
64	Anti-seize, thread locker, and foam dots for sound damping	Bolts into factory threads; anywhere cabinets touch the walls or ceiling	Vantopia
65	ProMaster 136 kit for bamboo hinge door on island	ProMaster 136 island (see its own packing list)	Vantopia
66	Special hardware pins and rollers	Hardware pack for toilet closet	Vantopia
67	ProMaster rivnut installation kit: center drill, hex rivnuts, cross rivnuts, dowels, M8 x 70 mm bolts	ProMaster rail install	Vantopia
68	ProMaster lower wall fender washers	ProMaster wall install	Vantopia

Quantities. The counts in this manual come from the Vantopia packing lists and differ by van length, by layout, and by whether you ordered floors and walls. The packing list shipped with your kit is the count of record.

How Parts Are Labeled

Most wood parts carry a three-letter code. The **first** letter relates to the van model (some parts are shared between models, so it may not match your van). The **middle** letter is the module the part belongs to. The **last** letter identifies the individual part.



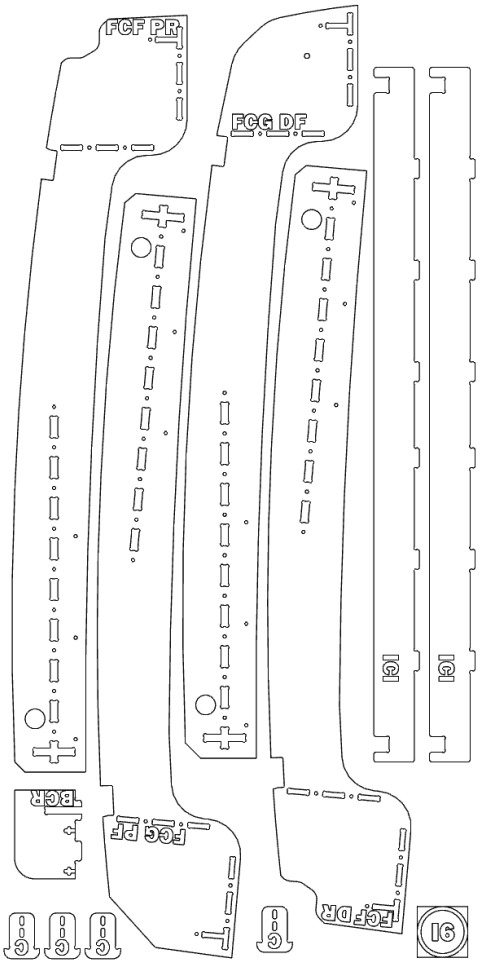
Sort your parts into piles by the middle letter before you start assembling. For example, BCR belongs to the bed (C) and ADK belongs to the closet (D).

Middle letter	Module
A	Flooring
B	Walls
C	Bed
D	Closet Unit
F	Kitchen Island
H	Pantry Combo Unit
I	Fridge Slider
K	Kitchen Island Drawer
L	Combo and Window Unit Drawer
M	Accessory Overhead Cabinet
O	Window Pantry Unit

Each plywood sheet also has a sheet code (for example "Model C, Sheet 1") so you can find which sheet a part is cut from.

ProMaster note: bed upright orientation

The bed upright supports on sheet I6 have a specific orientation to follow the taper of the ProMaster ceiling. Each is marked with its position: **PR** passenger rear, **DR** driver rear, **PF** passenger front, **DF** driver front.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Step 1 - Vehicle Prep

People: 1

> **WARNING:** Leave the factory foam blocks in place. Do not remove them on the ProMaster.

Tools

- Trim removal tool or flat head screwdriver
- Pliers
- Safety glasses

Procedure

1. Empty the cargo area.
2. Remove any plastic ducting, harness clips and factory lights that sit proud of the wall and ceiling surfaces where panels will mount. Make sure no broken clip stubs are left behind.
3. Sweep out the floor and check the van for damage or earlier modifications.

Step 2 - Vent Install

Video: Vent Install

People: 2 minimum

> **WARNING:** This step uses a ladder and requires climbing onto the roof. Have a second person steady the ladder and assist.
>
> **WARNING:** Cutting the roof throws metal chips. Wear safety glasses. Keep everyone out of the van while cutting: the cut-out panel drops inside.

Tools

- Drill
- Step bit, up to 1"
- Center punch and hammer
- Marker
- Measuring tape
- Jigsaw (or reciprocating saw) with a metal-cutting blade
- Phillips bit
- Caulking gun
- Rubbing alcohol or acetone and a rag
- Safety glasses and gloves

Hardware

No.	Description	Quantity
-	Vent template (supplied by Vantopia)	1
-	MaxxAir vent or equivalent (supplied by customer)	1 per vent
-	Butyl tape or equivalent (supplied by customer)	As needed per vent
-	Sikaflex or equivalent sealant (supplied by customer)	Up to 1.5 tubes per vent
-	Rust-Oleum paint or equivalent (supplied by customer)	

Procedure

1. Choose the position and mark the center from inside the van.
    a. Pick the pair of roof ribs the vent will sit between. A position toward the front or the rear leaves more roof space for solar panels.
    b. Find the centerline of the van by measuring between two fixed points that are symmetric across the van, such as two matching screw holes.
    c. Hold the template in place and confirm it clears the ribs and any structural members.
    d. With the template centered and parallel to the ribs, mark the center hole.
2. Center punch the mark and drill through the roof with the step bit.
3. Move to the roof and mark the cut.
    a. Align the template with the hole you just drilled and square it to the rib.
    b. Trace the outline and mark the four corners.
4. Drill a 1/2" hole at each corner with the step bit. Place each hole about 1/4" inside the corner so its edge just touches your lines.
5. Cut between the four holes with the jigsaw.
    a. Keep a steady grip and keep the saw pressed down on the roof. The roof panel will shake.
    b. Make the cut nearest to you last.

6. Test fit the vent in the opening. Trim with the jigsaw if anything interferes.
7. Paint the bare cut edge with rust-preventing paint and let it dry.
8. Clean the roof around the opening with rubbing alcohol or acetone so the tape bonds well.
9. Build up layers of butyl tape around the opening until you have a flat, even bed level with the top of the roof ribs. Press each layer down firmly so there is no path for water.
10. Apply sealant over the butyl bed, like icing a cake.
    a. Run the sealant over the outer edge of the tape so it also contacts the roof.
    b. Be generous. Up to 1.5 tubes per vent is normal.
11. Set the vent on the sealant and press it down.
    a. The vent hinge faces the front of the van.
    b. Check that no wire is trapped in the sealant or under the rim.
12. Drive all of the screws supplied with the vent around the perimeter, until sealant squeezes out from under the rim.
13. Run another bead of sealant around the perimeter.
14. Cover each screw head with a dab of sealant about the size of a Hershey's Kiss. It looks like a lot, and it is standard practice.

> **TIP:** Check the vent orientation before you set it in sealant. Take your time on the sealing: a careful job now prevents leaks later.

Step 3 - Insulation

Video: Insulation

People: 1. Allow about 2 hours for the whole van.

WARNING: Wear gloves, safety glasses and an N95 mask. You will be spraying adhesive overhead.

Tools

- Sharp, good-quality scissors
- Measuring tape
- Safety glasses
- N95 mask
- Nitrile gloves (recommended)
- Scrap cardboard to catch overspray

Hardware

No.	Description	Quantity
-	Spray contact adhesive, such as 3M 90 (supplied by customer)	
-	3M Thinsulate insulation or equivalent (supplied by customer)	1 roll
-	Seat covers or trash bags (supplied by customer)	

Procedure

1. Cover the front seats with trash bags or seat covers.
2. Start with the ceiling sections between the roof ribs. Cut each piece to length. The roll width matches the width of the van.
3. Spray adhesive onto the metal between the ribs, with good coverage, then press the insulation into place and tuck in any excess. Check that it has bonded before you let go.
4. Measure, cut and fit pieces for the wall panels and the smaller sections the same way.
5. Stuff scraps into any open cavities you can reach.

WARNING: Do not let insulation cover or stand proud of the ribs and mounting points. The wall panels, ceiling panels and rails mount flush to them.

TIP: A single layer is standard. You can double up, and it is worth using the whole roll.

Step 4 - Sanding and Part Prep

Video: Sanding

People: 1 minimum, 2 recommended for moving sheets

WARNING: Wear an N95 mask, safety glasses and gloves. Hearing protection is recommended.

Tools

- Oscillating tool with a serrated blade
- Random orbit (palm) sander
- Spindle sander, for inside corners and pockets (optional)
- 220 grit sanding pads
- Large sheet of cardboard or similar to work on

NOTE: The sanders and the oscillating tool are not included with the kit. See the Vantopia parts list for recommended tools. Use 220 grit pads, or a higher grit if you want a smoother finish.

Procedure

1. Move one plywood sheet at a time onto a clean, flat surface. Use a helper so the sheet frames do not crack.
2. Flip the sheet so the small holding tabs are on top and easy to see. The tabs keep every part in its sheet during shipping.
3. Fit the serrated blade to the oscillating tool, parallel to the tool body, and close the latch.
4. Cut every tab on the sheet. Cut close to the part so there is less to sand.
5. Sand the outside edges of each part with the palm sander.
    a. Line up the holes in the pad with the holes in the sander.
    b. Start on the edge that had the tabs, with the sander tilted about 45 degrees. This avoids tear-out and leaves a slight chamfer.
    c. Repeat on the opposite edge, then finish on the flat of the edge.
6. Sand inside corners and pockets with the spindle sander, using the drum diameter that fits.
7. Keep each sheet frame until that sheet is fully sanded and assembled, and confirm you have every part.

TIP: How much chamfer you sand is personal preference. Make sure every tab stub is gone and the pockets are free of debris, or parts will not seat during assembly.

Step 5 - Floor

Videos: ProMaster Installation (floor, walls, rails, ceiling) | Floor Trim Install

People: 2

WARNING: Floor sheets are heavy. Take care when handling them and with where you lean or set them down.

Tools

- T30 Torx bit
- Hammer
- Drill
- Wood glue, brush and tray (optional)
- Safety glasses and gloves

Hardware

No.	Description	Quantity
38	Europly floor sections	4 (159), 3 (136)
39	Foam floor insulation sections	4 (159), 3 (136)
22	Steel round-base weld nut, with screws	25 (159), 15 (136)
5	Fender washer, 3/8" x 1.5"	
27	Zinc-plated steel insert for wood, M8	35, whole kit
50	M8 x 45 mm bolt	23 (159), 17 (136)
31	Anodized aluminum angle, 1" x 1" x 1/16"	2
32	Anodized aluminum flat bar, 1.5" x 1/8", 6 ft	1

NOTE: The ProMaster floor is shown in the first 2 minutes of the ProMaster Installation video.

Procedure

1. Lay the foam floor insulation (Item 39) in the van **silver side up**, and connect the pieces at their puzzle joints. (The video shows white side up. Silver side up is correct.)
2. Outside the van, lay the floor sections (Item 38) upside down and push the puzzle joints together.
3. At each puzzle joint hole, place a fender washer (Bag 5) and hammer in the M6 weld nut (Bag 22) so it captures the washer.
4. Tilt the joined floor up and drive the M6 x 20 mm flat head screws supplied in Bag 22 through from the top side. This pulls the joint tight and flush.
5. Optional: glue the joint. Without glue the floor can be removed later.
6. With a helper, set the joined front section in the van, then the rear section, and line them up.
7. Bolt the floor down with the M8 x 45 mm bolts (Bag 50) and fender washers (Bag 5), into the factory threaded holes in the ProMaster floor. Start each bolt by hand.
8. Install the floor trim pieces as shown in the Floor Trim video.

Step 6 - Walls and Rails

Video: ProMaster Installation (floor, walls, rails, ceiling)

Also useful: 3D render of the ProMaster build | Rivnut tool

People: 1 possible, 2 recommended

WARNING: Wear safety glasses. This step drills into the van body and produces metal chips.

Tools

- Hammer
- Drill
- Step bit
- Masking tape (to mark drilling depth)
- Rivnut tool
- Oscillating tool with a straight blade
- Marker
- Sandpaper
- Anti-seize
- Allen bit to suit the M8 rail bolts

Hardware

No.	Description	Quantity
41	Wall beadboard panels	6 (159), 9 (136)
24	Wall panel division strips, 8 ft	10, walls and ceiling
23	Body clips, white	90, walls and ceiling
68	ProMaster lower wall fender washers	10
67	ProMaster rivnut installation kit: center drill, hex rivnuts, cross rivnuts, dowels, M8 x 70 mm bolts	1 kit: 19 hex rivnuts, 5 cross rivnuts, center drill, 2 dowel pins, 2 M8 x 70 mm bolts
53	M8 x 70 mm flat head screw	23 (159), 17 (136)
34	3060 aluminum rail extrusion, 8 ft, pre-drilled	3
51	Accent beadboard panels, rear and sliding doors	4 (159), 3 (136)
55	Wood screws, #8 x 7/8"	8

NOTE: Walls and rails are shown from 1:50 to 6:00 in the ProMaster Installation video.

Part A: Lower wall panels

1. Start with the rear lower panels (Item 41). Line each panel up with the factory holes.
2. Push a body clip (Bag 23) into each hole by hand, then tap the center pin in with a hammer to lock it. Work around the whole panel, including around the wheel well.
3. Some ProMaster variants have larger holes. Use the lower wall fender washers (Bag 68) under the clips there.
4. Mark the division strips (Item 24) to length, cut them with the oscillating tool, and slide them onto the panel edges starting from one end. If a strip is tight, lightly sand the back edge of the panel.

Part B: Rivnuts for the rails

1. Hold the rail jig in position on the wall.

2. Drill a pilot hole through each jig hole marked with a small triangle. Work down the line, then remove the jig.
3. Wrap tape around the step bit to mark the correct depth, then open each pilot hole to the size that accepts the rivnut.
4. Thread a rivnut onto the rivnut tool, insert it in the hole and squeeze the tool fully. The rivnut must be fully compressed and must not spin.

Part C: Upper wall panels and rails

1. Slot each upper panel into the division strip. The cut-outs in the panel line up with the rivnuts.
2. Pick the rail for that position. Each rail is marked with its side of the van and whether it is the front or rear rail.
3. Apply anti-seize (Bag 64) to the M8 x 70 mm flat head screws (Bag 53 and Bag 67).
4. Line the rail up with the rivnuts and start every bolt by hand. Rivnuts are easier to damage than factory threads, so never force a bolt.
5. Tighten all the bolts with a drill and the correct bit.
6. Repeat for the remaining panels and rails.

Step 7 - Ceiling and Header

Video: ProMaster Installation (floor, walls, rails, ceiling)

People: 2 recommended

WARNING: Wear safety glasses. Dust falls straight down when you work overhead.

NOTE: The ceiling starts at 6:00 in the ProMaster Installation video.

Tools

- Hammer
- Oscillating tool or jigsaw
- Measuring tape and marker

Hardware

No.	Description	Quantity
42	Ceiling beadboard panels	4
23	Body clips, white	
24	Wall panel division strips, 8 ft	
-	Puck lights, from the electrical and plumbing parts list (supplied by customer)	

Procedure

1. Press the puck lights into the ceiling panels (Item 42) before the panels go up.
2. Measure the vent position and cut the vent opening in the panel to size.
3. With a helper holding the panel in place, line it up with the factory holes and fasten it with body clips (Bag 23).
4. Fit the trim shroud supplied with your vent fan.
5. Fit a division strip (Item 24) on the edge of the installed panel, slide the front panel into it, and clip the front panel up.

Step 8 - Module Assembly

Videos: Kit Assembly (general) | Window Combo / Open Pantry Assembly | Toilet Closet Assembly

People: 1 possible, 2 recommended

WARNING: Safety glasses and gloves are recommended.

NOTE: The Kit Assembly video shows modules that are not part of every order. Build only the modules you ordered.

Tools

- Drill (optional)
- T30 Torx bit
- Phillips bit
- Needle nose pliers
- Flat head screwdriver (for E-clips)
- Hammer
- Cardboard, butcher paper or a moving blanket to work on

Hardware

No.	Description	Quantity
1	M6 x 45 mm flat head screw	225
2	M6 rectangular nut	225
12	Wooden dowel, 1/2" x 1-1/2"	
4	Clevis pin, 40 mm, with E-clips	6
8	Washer, 3/8" x 7/8"	20
13	Fixed casters	4
14	Wood screws, #8 x 1/2"	
29	Soft-close hinges	
25	Drawer slides, 20"	
63	Drawer slides, 12"	

The fastening system

1. Sort all parts by their middle letter (see How Parts Are Labeled) and clear any sawdust from the pockets and slots.
2. Nearly every joint is the same: a tab fits a pocket, a rectangular nut (Bag 2) drops into the T-slot, and an M6 x 45 mm screw (Bag 1) goes through the hole into the nut.
3. Tighten each screw until the head is flush with the surface. Do not sink it into the wood or leave it standing proud.
4. Parts that come as a left and right pair are mirrored. Build one side as the mirror image of the other.

Closet unit (D parts)

1. Assemble the side panels and cross boards.
2. Fit the small wood tabs at the back. These bolt the closet to the wall rail later.
3. Fit the hinge mounting brackets.

4. Fit the fuse panel, which also carries the switches, and its cover. Depending on your van length the fuse panel is on the closet or on the combo unit.
5. Fit the top cabinet face and the mid cabinet face (three hinges).
6. Set the shelves at the height you want on dowel pins (Bag 12) in the side holes.

Pantry combo unit (H parts)

1. Lay the parts flat in a large protected area and assemble the carcass. The unit has three storage compartments at the top, a drawer below them, and a large fridge drawer at the bottom.
2. Fit the fuse panel if it belongs on this unit. The switches face the bed area.
3. Fit the upper cabinet faces (three hinges each) and the middle faces (two hinges each, on their own hinge mounting bracket).
4. Fit the drawer slides.
    a. Push three dowels into the alignment holes in the board.
    b. Rest the slide on the dowels, pressed against the back, and screw it on.
    c. Remove the dowels. The slide cannot retract with them in place.
    d. Fit the slides to the drawer carriage the same way.
5. Screw the fixed casters (Bag 13) to the lower cabinet with wood screws (Bag 14).

Kitchen island (F parts)

1. Start with one face board and add the bottom.
2. Fit the drawer support bars. The recess cut into each one guides the drawer slide.
3. Fit the countertop mounting brackets. Together they give four holes at the top.
4. Fit the remaining face and side pieces, then the hinge mounting brackets, drawers and faces.

Tray table mechanism (P parts)

1. Assemble the two sides as mirror images, with rectangular nuts and screws.
2. Fit each pivot pin and secure it at the back with an E-clip.
3. Fit the track that guides the pin as the tray folds down.

Swing latches

Most cabinet faces have a swing latch. You open the door by slotting a finger through and lifting the bar.

1. Tap a wooden dowel (Bag 12) into the latch until it sits partly recessed, at the depth that rides in the groove of the cabinet.
2. Fit a clevis pin (Bag 4) with one washer (Bag 8) underneath.
3. Add washers (Bag 8) on top, usually three, then snap on the E-clip. The washers take up slack so the latch does not rattle.
4. Check that the latch swings freely.

Window combo / open pantry unit (O parts), if ordered

1. Start with the curved side piece and fit the first board to it.
2. Curve the upper piece by hand and seat it in the slots at the top of the side plate.
3. Fit the middle section boards. The two matching boards are interchangeable.
4. Bolt the parts together as you go.
5. Bend the upper cabinet into its slots and fit the cap on the other side.
6. Slide the countertop into place and bolt it up from underneath.
7. Fit the two drawers.

Toilet closet, if ordered

Assemble the toilet closet with its own hardware pack (Bag 66), following the video.

> **TIP:** Use the scrap material from the packaging as a work surface to avoid scratches.

Step 9 - Bed: Raised Bed or Dinette

Follow **9A** for the Raised Bed layout or **9B** for the Dinette layout.

9A - Raised Bed

Video: Raised Bed Assembly

People: 1 possible, 2 recommended

Tools

- Drill (optional)
- T30 Torx bit
- Pliers (for E-clips)
- Hammer
- 4 mm and 5 mm Allen keys
- Socket or wrench to fit the lag bolt heads
- Moving blanket or cardboard to work on

Hardware

No.	Description	Quantity
1	M6 x 45 mm flat head screw	
2	M6 rectangular nut	
12	Wooden dowel, 1/2" x 1-1/2"	
57	Clevis pin, 45 mm, with E-clips (longer pin, bed mechanism only)	7
7	Nylon spacer, 3/8" ID x 3/4" OD x 1-1/4" long	6 or 7
5	Fender washer, 3/8" x 1.5"	
6	Fender washer, 3/8" x 2"	2 or 3
8	Washer, 3/8" x 7/8"	
4	Clevis pin, 40 mm, with E-clips	
29	Soft-close hinges	
45	Bamboo rotary latches	
10	M6 x 30 mm button head screw	
15	T-slot frame nut, M6	
11	M6 washer	
62	Lag bolts, 1/4" x 3-1/2"	

WARNING: The kit has two kinds of clevis pin. The bed mechanism uses the longer 45 mm pins from **Bag 57**. The cabinet latches use the 40 mm pins from **Bag 4**. Keep them separate.

Part A: Bed frames and upper cabinets (on the bench)

1. Gather the C parts and clear any debris from the pockets.
2. Assemble each bed side frame with Bag 1 screws and Bag 2 nuts. There is one large side piece per side, with a notch at the back for the recliner and a notch at the bottom for the floor mounting bracket.
3. The bed legs look alike. The rear ones are narrower and the front ones are thicker. Check each is in the right place.

4. Bend the upper cabinet piece into its slots on the frame and bolt it. Fit the upper hinge mount plate (BCC) now. It is harder to fit later.
5. Fit the floor mounting brackets into the notches at the bottom of each frame.
6. Fit the mounting blocks at the back of the upper cabinet. They are usually marked C and are sometimes unlabeled. They bolt the cabinet to the wall rail.

Part B: Tilt (recliner) mechanism

1. Fix the first tilt part to the frame with Bag 1 screws, Bag 2 nuts and two wooden dowels (Bag 12).
2. Fit the recliner board on a clevis pin (Bag 57) with a nylon spacer (Bag 7) and a fender washer (Bag 5).
3. On the far side of the pin add a large washer (Bag 5), three small washers (Bag 8) and the E-clip. Snap the E-clip on with pliers.
4. Repeat at each pivot. One pivot uses the 2" washers (Bag 6) with the nylon spacers (Bag 7) and small washers (Bag 8).
5. Build the opposite side as a mirror image. The main recliner bar itself may not be mirrored: it can have T-slots on one side only.
6. Move the mechanism by hand and check that it travels freely.

> **NOTE:** The tilt part has been updated since the video, so its notch looks different. The mounting method is the same.

Part C: Install in the van

The wall rails must already be mounted (Step 6).

1. Tilt one bed side assembly in through the rear doors, stand it up and line it up with the rail. Repeat on the other side. Drop one bed support bar across to hold the two sides while you work.
2. Loosely bolt each side to the rail.
   a. Slide T-slot nuts (Bag 15) into the rail.
   b. Bolt through the mounting blocks with M6 x 30 mm button head screws (Bag 10) and washers (Bag 11): one or two washers on the upper bolts and a couple more on the lower, so the bolts do not bottom out.
   c. If a bolt is hard to start, use a longer Bag 1 screw to pull the block in, then swap to the Bag 10 screw.
   d. Tuck all wires clear before tightening.
3. Position the bed almost all the way to the rear of the van, then tighten the rail bolts.
4. Fit the front face plate (the divider between bed and cabin) with Bag 1 and Bag 2, using the slots at the back along the bed.
5. Fit the large bed platform **early**. It is big and only goes in at an angle past the mechanism. It cannot be fitted once the rear boards are in.
6. Fit the cross bars, then the bed plate with Bag 1 and Bag 2. The slots there are oval, but use the rectangular nuts. Add a washer if you like.
7. Slide the tilt mechanism into the back and connect it with the Bag 57 pins, nylon spacers, washers and E-clips as in Part B.
8. Slide in the bed slats. Some positions are doubled. Move the large platform forward to make room, then slide it back and fit the two extra platform sections at the front.
9. Fit the bar you grab to operate the recliner, then the last board, bolted at each side.
10. If you set the bed at a higher position, fit the two extra upper plates with Bag 1 and Bag 2. At the lowest position they are not used.

Part D: Garage door, latch and floor fixing

1. Fit the hinge plates for the garage access door with Bag 1 and Bag 2, then hang the door on its soft-close hinges (Bag 29).
2. Shim under the door to set the clearance, and check that it does not drag. The hinge screw adjusts it up and down.
3. Fit the rotary latch (Item 45) with clevis pins (Bag 4), one washer (Bag 8) inside and a couple outside for a snug fit, and E-clips.
4. Fix the bed to the floor through the floor mounting brackets with lag bolts (Bag 62) and fender washers (Bag 5).

TIP: When a screw spins in a T-slot, hold the nut lightly from the other side until it bites.

9B - Dinette

Video: Dinette Assembly

People: 1 possible, 2 recommended

Tools

- Drill (optional)
- T30 Torx bit
- Hammer
- Moving blanket or cardboard to work on

Hardware

No.	Description	Quantity
1	M6 x 45 mm flat head screw	
2	M6 rectangular nut	
12	Wooden dowel, 1/2" x 1-1/2"	
29	Soft-close hinges	
60	Dinette cushions	
61	Table pedestals	
62	Lag bolts, 1/4" x 3-1/2"	
5	Fender washer, 3/8" x 1.5"	

NOTE: The dinette video is an animation. Pause it to check part letters as you go. The part codes below come from its captions.

Procedure

1. Bolt part ACC to part ACA with rectangular nuts and M6 x 45 mm screws, the same way as the rest of the kit.
2. At the bottom, put the screws through the lower part, place the rectangular nuts, and fit the cover board (AMH).
3. Fit the floor mounting bracket (ACE). This is what bolts the bed frame to the van floor.
4. Assemble each bed post this way, then fit the upper cabinetry. You can hang the cabinet faces now.
5. Build the opposite side as a mirror image.
6. Fit the rear face plate, which has an opening for a cabinet face, and the remaining AMB parts.
7. Fit the bench tops: nuts in the slots, screws through the top.

8. Fit the floor support pieces (AMG), located on dowels (Bag 12), in all three sections of each bench.
9. Hang the cabinet face that opens toward the rear of the van.
10. Slide both bench assemblies into place in the van and fix them to the floor through the floor mounting brackets (ACE) with lag bolts (Bag 62) and fender washers (Bag 5).
11. Fit the central floor section, then the gray floor cover plates.
12. Fit the bamboo cover plates on the benches.

Step 10 - Module Installation

Video: Module Installation

People: 2 recommended

Tools

- Drill (optional)
- 4 mm Allen key
- 5 mm Allen key
- Socket or wrench to fit the lag bolt heads

Hardware

No.	Description	Quantity
62	Lag bolts, 1/4" x 3-1/2"	14 (159), 12 (136)
5	Fender washer, 3/8" x 1.5"	
15	T-slot frame nut, M6	16 to 18
10	M6 x 30 mm button head screw	16 to 18
11	M6 washer	80 to 100
64	Anti-seize, thread locker, and foam dots for sound damping	1

Procedure

1. Before a module goes in, stick the foam dots (Bag 64) wherever it will touch a wall or the ceiling. They damp rattles and squeaks.
2. Install the bed first (Step 9), through the rear doors.
3. Bring the closet in through the sliding door, back first and tilted, then stand it up and slide it into place.
4. Bring in the pantry combo unit and stand it in place.
5. Lift each upper cabinet (spice cabinet or accessory cabinet) into place on the driver side and the passenger side.
6. Bolt every module to the wall rail.
    a. Slide T-slot nuts (Bag 15) into the rail.
    b. Bolt through the slotted wood mounting tabs with M6 x 30 mm button head screws (Bag 10) and washers (Bag 11).
7. Bolt every floor-standing module to the floor.
    a. Use lag bolts (Bag 62) with fender washers (Bag 5) through each floor mounting bracket.
8. Bring in the kitchen island last and bolt it down.

TIP: Large modules are a tight fit. Follow the angles shown in the animation, and leave the bolts loose until everything is in position.

Step 11 - Finishing Details

Video: Finishing Touches

People: 1

Tools

- Drill
- Phillips bit
- T30 Torx bit
- Needle nose pliers
- Hammer
- Bamboo oil

Hardware

No.	Description	Quantity
25	Drawer slides, 20"	2 pairs
12	Wooden dowel, 1/2" x 1-1/2"	
29	Soft-close hinges	32
4	Clevis pin, 40 mm, with E-clips	27
8	Washer, 3/8" x 7/8"	200
16	M8 eye bolts	4
9	M6 x 70 mm flat head screw	
43	Bamboo countertops / tray tables, brass inserts installed	
44	Bamboo cabinet and drawer faces	
45	Bamboo rotary latches	
46	Bamboo swing latches, "L" type	
59	Bamboo swing latches, "R" type	

Countertop

1. Set the bamboo countertop (Item 43) on the island. Its pre-installed threaded inserts line up with the four holes in the mounting brackets.
2. From underneath, fit an M6 x 45 mm screw (Bag 1) with one large washer (Bag 5) and two small washers (Bag 8) at each hole. Start each by hand so it does not cross-thread, then tighten.

Tray tables

1. Slide rectangular nuts (Bag 2) into the side slots and bolt the tray mechanism on from the inside. There are several height holes. The top position is the usual choice.
2. Pass the M6 x 70 mm flat head screws (Bag 9) through the tray mechanism into the inserts in the bamboo tray table. You may need to tilt each screw to get it through.
3. Tighten by hand first, then fully.

Cabinet faces, drawers and latches

1. Screw the soft-close hinges (Bag 29) to each bamboo face (Item 44) first, then mount the face to its hinge bracket.
2. Fit the drawer slides and drawers using the dowel alignment method from Step 8.

3. Fit any remaining swing latches (Step 8).
4. Fit the rotary latches (Item 45). They hold drawers shut while driving.
    a. Each has two pins with washers on the inside.
    b. On the outside add four washers and an E-clip. If it feels too tight use three. It should be snug.

Upper cabinets (144: two spice racks)

1. The taller cabinet goes behind the driver seat. The other goes above the kitchen island and has a bent panel like the bed cabinets.
2. Assemble both with the standard box joints and T-slots. The slots in the center piece take the wood brackets that bolt to the wall rail.

Cover boards and transition piece

1. Find the unlabeled wire cover boards on sheet B3. Two go in the closet unit and two in the combo unit.
2. Fit one board from each end so the wiring passes loosely through the slot between them. There are no pre-drilled holes. Fix them with ordinary wood screws so you can still get to the wiring later.
3. Fit the front transition piece between the upper cabinet and the front of the van to cover any gap in the beadboard. Its notch matches the van body. Trim it to fit if needed, and fix it with a couple of screws.

Final touches

1. Thread the M8 eye bolts (Bag 16) into the floor or header inserts wherever you want tie-down points.
2. Wipe all bamboo surfaces with bamboo oil.
3. Go around the van and check every bolt, hinge and latch.