GR8MOD



COMPLETE FEATURE GUIDE

GRADE8 XL45

Every system, switch, screen and setting · by Grade8

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This guide explains every system on the GR8MOD XL45, every switch, button, latch and screen in the cab and the coach, and how to get the best out of the motorhome. For installation and a quick start, see "GR8MOD XL45 - READ ME FIRST.pdf".

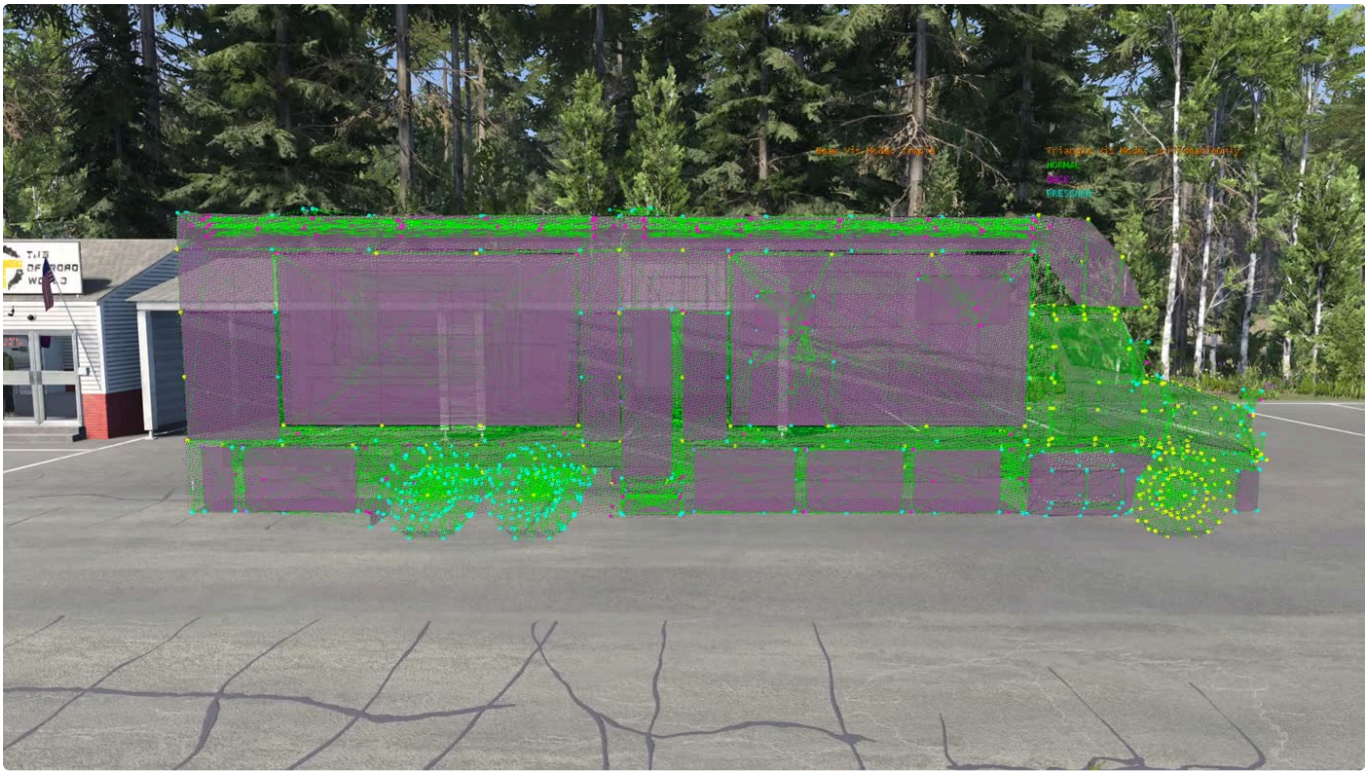
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1. The motorhome



The XL45: a Super C motorhome on a Cascadia chassis



Under the skin: a fully physical coach, chassis and interior

The GR8MOD XL45 is a 45 ft Super C diesel motorhome on a Freightliner Cascadia chassis, in the style of the Renegade XL. Everything on it is a real, physical BeamNG part with its real weight:

- A Cascadia cab with a tilting hood, opening doors, breakable glass, air-suspension seats, a live driver display, a 10 in centre screen with a real backup camera and a cab radio with door speakers.
- A Detroit DD16 (600 hp) or DD13 (525 hp) diesel and a Detroit DT12 12-speed automated manual gearbox, with a cold start, a fan clutch, an engine brake and full DEF / DPF aftertreatment (or a delete pipe with a dash tuner).
- Front air ride, a tandem air rear axle and automatic leveling on the airbags, plus four hydraulic leveling jacks.
- A coach with four powered slide-outs, an entry door with a screen door and a fold-out double step, 13 storage bay doors with a power lock, two patio awnings, a fold-down satellite dish and roof A/C units.
- A full interior: kitchen, bath, shower, toilet, bedroom and living room, with working taps, a shower with three spray modes, a flushing toilet, real fresh / grey / black tanks you fill and dump, house batteries, solar, inverters, a 12.5 kW generator, climate control, two TVs, window blinds, tilt-out windows with insect screens and sliding pocket doors.
- Furniture and cushions that collide with the floors and walls, stay put while you drive, and break loose in a hard crash.

2. Configurations, parts and paints



DD16



DD16 Touring



DD16 Signature



DD16 Blackout (Deleted + Tuner)



DD16 (Performance Interior)



DD13



DD13 (Performance Interior)

The seven factory configurations

Factory configurations (vehicle selector, Grade8 XL45):

DD16 (default)	The standard XL45: Detroit DD16 600 hp, DT12 direct drive on 3.08 axles, white with the red Renegade swoosh, chestnut maple and cognac leather.
DD13	The Cascadia 116 chassis option with the Detroit DD13 525 hp. Silver over graphite, natural maple and saddle leather.
DD16 Touring	Long-haul setup: the DT12 overdrive gearbox with 3.36 axles for a lower cruise rpm. Champagne over graphite, driftwood and dove grey leather.
DD16 Signature	Midnight blue over silver with gloss black wheels, espresso maple and charcoal leather.
DD16 Blackout (Deleted + Tuner)	Gloss black with every black option (wheels, grille, hood inserts, lower grille, hood mirrors, step treads, awning cases), the 40 in LED light bar, ebony and black leather, and the DPF / SCR delete with the 3-stage dash tuner and a hidden side exit.
DD16 / DD13 (Performance)	The same coaches with the lighter interior for slower PCs (section 28). Same weight, same look from outside.

Paints: Arctic White, Renegade Red, Obsidian Black, Graphite Grey Metallic, Silver Metallic, Champagne Metallic and Midnight Blue Metallic. With the Renegade Swoosh paint design, paint 1 colours the white parts and paint 2

the red parts; the lower skin under the bay doors follows paint 1. Plain Paint uses paint 1 all over.

Parts you can change in the Parts menu (Vehicle Config). The coach options are sorted into folders: Frame > Chassis, and Coach Body > Paint & Finish / Exterior / Storage Bays / Roof / Slide-Outs / Interior / Systems.

Paint Design	Renegade Swoosh (paint 1 + paint 2) / Plain Paint (paint 1)
Wheel Finish	Chrome / Gloss Black
Awning Case Colour	White / Black / Body Colour (paint 1)
Interior Scheme	Chestnut Maple & Cognac Leather (default), Natural Maple & Saddle Leather, Espresso Maple & Charcoal Leather, Driftwood & Dove Grey Leather, Ebony & Black Leather
Interior Detail	Full Physics Interior / Performance Interior (for slower PCs)
Engine	Detroit DD16 15.6L (600 hp / 1850 lb-ft) / Detroit DD13 12.8L (525 hp / 1850 lb-ft)
Transmission	DT12-DHE 12-speed (direct drive) / DT12-OHE 12-speed (overdrive)
Final drive	2.79:1 / 3.08:1 / 3.36:1 (each rear axle)
Aftertreatment	Detroit GHG17 (DOC + DPF + SCR) / Delete Pipe + Dash Tuner
Grille	Chrome / Body Colour / Black Plastic
Hood inserts	Chrome / Body Colour / Black Plastic
Lower grille	Chrome / Body Colour / Black Plastic surround
Hood mirrors	Chrome / Body Colour / Black (left and right)
Cab steps	Standard / Black Treads (left and right)
Front bumper	40 in LED Light Bar (on with the high beams), or empty
Horn	Semi Truck / Heavy Truck / Coach Air Horn
Hitch insert	2-5/16 in ball mount / pintle hook (in the receiver hitch plate)
Front suspension	Front Air-Ride (default) / Front Leaf Springs
Roof	3 roof A/C units, satellite dish, Starlink on a mobility mount, Winegard Everest 5G antenna, cell booster antenna and six 200 W solar panels (each can be removed)
Storage bays	a "Bay contents" slot for every bay: keep the gear or empty the bay
Coach parts	awnings, blinds, jacks, outdoor TV, bedroom TV, mud flaps, water tanks, DEF filler and more are their own parts and can be removed

Tuning menu: DEF Level and DPF Soot Load at spawn, fuel in each tank, air tank pressure, suspension height, tyre pressures, brake force, toe and headlight pitch.

3. Cameras, cab doors and the hood



The driver's seat view



Cascadia cab, tilt hood and LED headlights

Cameras. Use BeamNG's normal camera keys. The driver and passenger views sit on the air-suspension seats and ride up and down with them. The outside orbit camera is centred on the whole coach.

Clicking controls. In any camera, point at a switch, handle, latch, tap or button and click it. Section 29 lists every one.

Cab doors. Both cab doors open and close: click the outside or inside handle, or use BeamNG's door actions. The door windows break in a hard hit. With a door open you hear the outside louder in the cab, and the radio plays louder outside.

Hood. The Cascadia hood tilts forward. Click the hood latch on each side (or use BeamNG's hood latch actions) to release it.

Seats. Both seats are ISRI-style air seats: they float up and down on their own suspension and damper as you drive, and the camera rides along with them.

4. Starting the engine (cold start)



Key on: the dash and the centre screen light up



A cold diesel coughs white smoke until it warms up

The XL45 spawns with the engine running and warm, ready to drive. Switch the engine off and on with your normal BeamNG ignition / starter control.

Turning the key on:

- A relay clicks and the key-on chime sounds.
- The driver display shows a FREIGHTLINER CASCADIA splash for a few seconds.
- The DEF, DPF and HEST lamps light for 5 seconds as a bulb check.

Cold engine. If the engine has stood long enough to cool down, a start behaves like a real cold diesel:

- The starter turns slower when the engine is cold.
- On the catch, a white haze comes out of the exhaust and thins out over about a minute as the cylinders warm up (only a faint haze through the DPF, more on the delete pipe, plus a short grey puff on the delete).
- The idle is slightly uneven for the first 20 seconds or so.
- With the parking brake set, the idle runs faster while the coolant is cold (up to about 750 rpm instead of 600) and settles as it warms.
- A warm engine restarts quickly and cleanly.

Overcrank protection. If you crank for more than 20 seconds, the starter cuts out and you must wait 60 seconds before cranking again ("Starter overcrank protection").

Tip: let a cold engine idle for a minute before pulling a hill. Watch the coolant gauge climb.

5. Engine, transmission and the speed limiter



Detroit DD16 and DT12 on the open road

Engines.

DD16	Detroit DD16 15.6 litre, 600 hp, 1850 lb-ft, 2100 rpm governor
DD13	Detroit DD13 12.8 litre, 525 hp, 1850 lb-ft, 2000 rpm governor

Both idle at 600 rpm and have peak torque from about 1100 rpm. Both have a 75 mph road-speed limiter.

Engine brake. Use BeamNG's engine brake control. The driver display shows the setting: OFF, LOW, MED or HIGH. On a long downhill the engine brake keeps the speed down without cooking the drum brakes.

Fan clutch. The engine fan is an on / off clutch fan like the real Cascadia. It engages when the coolant reaches 105 C and lets go at about 94.5 C. It also engages when you hold the engine brake for 2 seconds while moving (and stays on at least 20 seconds), and locks on if the air pressure is lost. You hear it roar up in about 1.5 seconds and coast down over about 6 seconds. The easiest place to hear it: a long downhill on the engine brake.

Transmission. The Detroit DT12 is a 12-speed automated manual. It shifts by itself; use your normal BeamNG gear controls to select drive, neutral and reverse, or to shift manually. The driver display shows the gear (for example "D7") and "DT12 AUTO" or "DT12 MANUAL". The gear stalk on the right of the steering column moves with your selection: up for reverse, level for neutral, down for drive, with a small nudge on each shift.

DT12-DHE (direct drive)	top gear 1.00:1 - standard, with 3.08 axles
DT12-OHE (overdrive)	top gear 0.78:1 - Touring, with 3.36 axles for a lower cruise rpm

Differentials. The two rear axles and the inter-axle (centre) differential can be locked with BeamNG's normal differential lock controls. Lock them only for slippery ground at low speed.

Speed limiter. The stock engine management limits the road speed to 75 mph. The dash tuner on the delete option can remove it (section 10).

6. Driving: air suspension, brakes and alerts



Air ride on the highway

Air suspension. The front axle has an AIRTEK-style air-ride conversion, and the tandem rear has airbags on both axles. The height control keeps the coach at ride height while you drive. "Suspension Height" in the Tuning menu sets the starting height. When you park, the same airbags level the coach (section 16).

Brakes. Air drum brakes on all three axles. Your normal BeamNG brake is the service brake (treadle pedal) and the normal parking brake control sets the spring brakes. The cab gauges show the primary and secondary air pressure and the brake application pressure.

Handling tips:

- The XL45 weighs about 22.7 tonnes and is 45 ft long. Brake early and take corners wide: the rear tandem cuts inside the front wheels.
- Use the engine brake on hills.
- Watch the overhang behind the rear axle when you turn out of a tight spot.
- The backup camera comes up by itself in reverse (section 8).

Cascadia alerts. With the key on, one warning buzzer sounds and a message pops up for:

Brake Air Supply Pressure Low	below about 70 psi (silent with the parking brake set)
Parking Brake Set	the parking brake is on above 2 mph
Engine Oil Pressure Low - Stop Engine	engine running with critically low oil
Engine Coolant Temperature High	the engine is overheating

The buzzer stops when the fault clears.

Door ajar. A chime sounds if a cab door is open with the key on and the parking brake off (or above 5 mph), or if the entry door is open while the coach rolls.

7. The dash: gauges and the driver display



Gauges and the driver display

Gauges. The Cascadia cluster's needles all work: speedometer, tachometer, oil pressure, fuel, coolant temperature, primary and secondary air pressure and brake application pressure. The gauge glass is clear and the legends on the dash switches, gauges and wheel buttons are backlit when the headlights are on.

DEF light bar. A 4-segment light bar under the fuel gauge shows the DEF level: green segments when it is fine, one amber segment when very low, one red segment (and a flashing lamp) when empty.

Driver display. The colour screen in the middle of the cluster comes on with the key. It shows:

Top row	clock and outside temperature
GEAR	the current gear in big letters, and DT12 AUTO / DT12 MANUAL
ODOMETER	total distance
TRIP A	trip distance
AVG MPG	average fuel economy (AVG L/100KM in metric)
RANGE	distance left on the fuel in the tanks
COACH	the coach's inside temperature, the climate mode (OFF / COOL / HEAT / AUTO) with a snowflake or heat mark while it runs, and the set point
ENGINE BRAKE	three bars: OFF / LOW / MED / HIGH
DEF	DEF lamp, a 4-segment bar from E to F and the gallons left
DPF	DPF lamp, HEST lamp, the soot bar (marks at 60 % and 80 %) and the state: soot %, REGEN, PARKED or INHIBIT
TUNER	on the delete option this row replaces DEF and DPF: STOCK / 1 / 2 / 3

Warnings	up to three messages, red first: STOP ENGINE: DPF FULL, DPF FULL: DERATE - PARKED REGEN NOW, PARKED REGEN REQUIRED, PARKED REGEN IN PROGRESS, DPF REGEN REQUIRED, DPF APPROACHING FULL, STOP ENGINE: DEF EMPTY - 5 MPH LIMIT, DEF EMPTY: ENGINE DERATED - 55 MPH, DEF LEVEL VERY LOW - REFILL DEF, LOW AIR PRESSURE (with the psi), PARKING BRAKE SET, CHECK ENGINE, ENGINE COOLANT HOT, DOOR AJAR, HOOD UNLATCHED, LOW FUEL

The display follows the game's units setting (miles / km, F / C).

Moving cab controls. The steering wheel turns (about 5 turns lock to lock), the accelerator and brake treadle move, the turn-signal stalk and the DT12 gear stalk move with your inputs.

8. The 10 in centre screen



The centre screen



Backup camera with steering guide lines

The 10 in screen in the centre of the dash comes on with the key. Five keys under it:

MENU	cycles the pages: NAV -> RV -> DEF
NAV	the moving map
CAM	backup camera on / off
RV	the RV systems page
DEF	the DEF / aftertreatment page

The top bar always shows DETROIT CONNECT, the page name, the gear and the speed in mph.

NAV PAGE

A moving map that follows the coach (it zooms out as you go faster). On the right, a strip shows the four SLIDE ROOMS (LIVING, BEDROOM, KITCHEN, CLOSET: IN / OUT / EXTENDING / RETRACTING), a small LEVEL bubble with LEVEL / WORKING / OFF, and the DEF level.

RV PAGE

A top view of the coach with the four slide rooms drawn in their real position (blue = in, green = out, amber = moving), the four jacks (they light when down) and the entry door. On the right:

LEVEL	a bubble level (green within 0.5 degrees, amber within 1.5, red beyond), PITCH and ROLL in degrees, and the leveling state: AUTO-LEVEL OFF, LEVELING ON AIR..., LEVEL (AIR), AIR AT LIMIT - USE JACKS, JACKS LOWERING..., LEVELING ON JACKS..., LEVEL ON JACKS, JACKS AT FULL STROKE, JACKS RETRACTING
STATUS	PARKING BRAKE (SET / RELEASED), ENTRY DOOR (OPEN / CLOSED), ENTRY STEP (OUT / STOWED)

DEF PAGE

A big DEF tank gauge with the percentage, the gallons out of 13.0, the current message, and the three Detroit stages (very low, empty, empty + ignored) with the current one highlighted, plus a reminder of where to refill.

POP-UPS

Whatever page you are on, a pop-up appears for 6 seconds when a slide starts or finishes moving, the leveling state changes, the DEF gets worse, or the entry door opens while you drive above 3 mph ("ENTRY DOOR OPEN").

BACKUP CAMERA

A real camera on the rear cap. It comes up by itself when you select reverse with the key on, and goes away when you leave reverse. Press CAM to show it at any time (it drops off by itself above about 15 mph).

- The picture is mirrored, like a real backup monitor.
- Guide lines bend as you turn the steering wheel and show where the rear corners will go: red for the first metre, yellow to 2 m, green to about 4.5 m.
- "REAR CAMERA" and "CHECK SURROUNDINGS FOR SAFETY" show on the picture.
- If it says "CAMERA OFF", BeamNG's graphics preset is Normal or lower. Set High or Ultra to use it.

9. DEF and the DPF (aftertreatment)



The DEF page



Parked regeneration

The stock Detroit GHG17 aftertreatment needs diesel exhaust fluid and cleans its particulate filter like the real thing. (On the delete option none of this applies - see section 10.)

DEF TANK

The 13 gal DEF tank is used at 2.5 % of the diesel you burn. It starts full (see Tuning > DEF Level). Detroit's stages:

VERY LOW (10 %)	DEF lamp on: refill soon
EMPTY	DEF lamp flashing: engine derated to 75 % torque and 55 mph
EMPTY + IGNORED	after a restart while empty, or 30 minutes running empty: 5 mph until refilled

Refill: stop the coach and click the blue DEF cap on the coach wall behind the driver's door, or use the "Refill DEF" / "XL45: refill DEF" action. It fills the tank and the derate clears.

DPF SOOT

Soot builds up in the filter as the engine burns fuel. Hot exhaust at highway load burns some of it off by itself (passive regen). Active regen: when the soot reaches about 30 %, the engine cleans the filter automatically while you drive above 20 mph, until it is down to about 5 %. It pauses when you slow down. Soot zones (the soot bar and the warnings on the driver display):

60 %	DPF lamp on: "Approaching Full" - drive at highway speed or do a parked regen
70 %	DPF lamp flashing: "Regen Required" - do a parked regen
80 %	"Parked Regen Required" - active regen can no longer do it
90 %	"DPF FULL": engine derated - do a parked regen now

100 %	engine protection shutdown. If you restart, you have 30 seconds to start a parked regen or it shuts down again.

PARKED REGEN

Use the "DPF: parked regen start / stop" action (bind it to a key in Options > Controls). It needs:

- the DPF lamp on (soot 60 % or more),
- the engine running and the coolant at 66 C or more,
- the parking brake set, the gearbox in neutral and the coach stopped,
- no pedals pressed.

The idle rises to 1100 rpm and the regen takes about 30 minutes. The display shows PARKED and "Parked regen in progress", and the HEST lamp flashes. It finishes by itself ("parked regen complete"). Pressing a pedal, shifting, releasing the parking brake or stopping the engine aborts it; the same action stops it on purpose.

REGEN INHIBIT

The "DPF: regen inhibit on / off" action stops any regen and prevents new ones (for example where hot exhaust is not welcome). The display shows INHIBIT. Don't forget to switch it off again.

HEST LAMP

The high exhaust system temperature lamp lights when the exhaust is very hot and you are moving slower than 5 mph. Park away from dry grass while it is lit.

Regen haze. While a regen heats the filter up you may see a thin white haze at the tailpipe. It clears once the filter is hot. A stock DPF coach makes no visible smoke otherwise.

Tip: to see a parked regen right away, set Tuning > Engine > DPF Soot Load to 85 % and respawn.

10. Delete pipe and the dash tuner



The Blackout config: delete pipe and tuner smoke

The "Delete Pipe + Dash Tuner" aftertreatment option (standard on the DD16 Blackout) removes the DPF and SCR: no DEF use, no regens, no derates. A tuner pod sits on the dash above the left vent, with backlit legends and an LED for each stage. Click its knob (or use the "Tuner: next stage" action) to step through:

STOCK	stock boost, 2100 rpm governor, 75 mph limiter
STAGE 1	+8 psi boost, 2300 rpm governor, speed limiter off
STAGE 2	+16 psi boost, 2500 rpm governor, speed limiter off
STAGE 3	+25 psi boost, 2700 rpm governor, speed limiter off

Each stage also adds torque and strengthens the gearbox clutches so they can carry it. The stage shows on the driver display.

Smoke. The tuner fuels against the air the turbo supplies:

- no smoke at idle or on STOCK;
- on a sudden stab of throttle the smoke comes while the turbo builds boost;
- Stage 1 clears up once the turbo has spooled, Stage 2 smokes lightly under load, Stage 3 rolls coal under load.

The exhaust leaves through a hidden side exit ahead of the rear tyres, angled out so the smoke billows to the side.

11. Entry door, screen door and entry steps



Entry door with the fold-out steps



The screen door

Entry door. Click the door handle from outside, from inside or on the door jamb to open or close it. It opens against a stop, is held open by its hold-open, and latches when you shut it. A two-tone door chime sounds when it opens.

Screen door. The screen door rides on the open entry door. With the entry door open, click the screen door's handle to pull it shut on its own (door open, screen shut) - perfect for letting air in. Click it again to hook it back

onto the open door. Shutting the entry door takes the screen door along with it.

Entry steps. A Kwikee-style electric double step folds out from under the door:

- AUTO (default): the steps come out when the door opens and fold in when it shuts.
- They always fold in when the coach drives off (above about 4 mph).
- The "Entry step switch" action cycles AUTO -> OUT -> IN, if you want the steps out with the door shut, or in with the door open. It has no switch in the coach: bind it to a key if you want it.
- A step alarm beeps while the steps are out with the key on, so you don't drive off with them.

The steps are built to take a person standing on them.

12. Storage bays and the bay lock



Storage bays open



Pass-through bays

The XL45 has 13 storage bays: L1 to L8 on the driver side and R1 to R5 on the door side. Each bay door swings open on a piano hinge, slowly and damped, and is held open at 90 degrees. Click a bay's paddle latch to open it; click again to pull it shut. A light comes on inside each bay while its door is open.

Power lock. The "Storage bays: power lock" action (also "XL45: storage bay power lock") locks or unlocks all the bay doors at once, like the key fob button. Locked, the paddles do nothing, but you can still shut a door that was left open. Locking never slams an open door: the message lists the doors that are still open. The outdoor TV compartment door locks with the bays too. These actions have no switch in the coach: bind a key.

What's in the bays. The bays are spray-lined and the gear in them is strapped down. Every bay has a "Bay contents" slot in the Parts menu, so you can empty any bay. You will find, for example:

- tools: a tool box, tyre inflator, road triangles;
- wash gear: bucket, wash brush on a pole, spray bottles;
- outdoor living: folding camp chairs, folding tables, a patio mat, string-lights tote, firewood;
- camp kitchen: totes, a lantern, a griddle, propane bottles and a cooler;
- setup gear: wheel chocks, jack pads, leveling blocks and a surge protector;
- water and sewer gear: drinking and flush hoses, a filter, a sewer hose kit and hose support;
- a powered shore cord reel, a tackle box and a water jug.

Special bays:

L7	the wet bay: tank valves, tank monitor, hose reel and outside faucet (section 22).
R3	the exterior fridge + freezer on a slide tray. Open the bay door, then click the tray handle to pull the tray out; click again to push it in. It only comes out with the bay open and the coach stopped, and it pushes itself back in if you drive off.

R4	the 12.5 kW Onan diesel generator (section 14). Its own START / STOP rocker is on its control panel, reachable with the bay door open.

Tip: open bays let cargo in. Close and lock them before you drive.

13. The coach control panel



Touch screen, slide rooms, patio awnings and the Firefly rockers

Just inside the entry door you find the coach's control centre: a VegaTouch-style touch screen and a Firefly-style switch panel, the SLIDE ROOMS switch plate (section 17) and the PATIO AWNINGS switches (section 18). Every button beeps when you press it, and the legends are lit at night.

THE TOUCH SCREEN

Top bar: VEGATOUCH, the INSIDE temperature and the OUTSIDE temperature (C). Sixteen touch buttons. Each lights blue when on and shows a small status line:

ALL LIGHTS	all coach lights: if any is on, all go off; if none is on, all come on
LIVING	living room lights
KITCHEN	kitchen lights
BEDROOM	bedroom lights
BATH	bath lights
PORCH	the outside scene lights: awning LEDs, LED strips under the slides and ground lights
WATER PUMP	the fresh water pump (status: PRESSURE / RUNNING / DRY!)
AQUA-HOT	hot water and backup heat

GENERATOR	start / stop the generator (blinks amber while it starts; status PREHEAT / CRANK / STOPPING / RUNNING)
AUTO GEN	automatic generator start (status AGS ON)
INVERTER	120 V from the batteries
CLIMATE	climate mode: OFF -> COOL -> HEAT -> AUTO
SET -	set point 1 degree colder (lowest 15 C)
SET +	set point 1 degree warmer (highest 30 C)
DUMP GREY	open / close the grey tank dump valve (shows OPEN and the tank %)
DUMP BLACK	open / close the black tank dump valve (shows OPEN and the tank %)

Side panel:

CLIMATE	MODE (and in AUTO what it is doing), SET, A/C UNITS running out of 3
TANKS	FRESH, GREY and BLACK bars in %
POWER	BATTERY volts and %, SOLAR watts, LOAD watts and the GENERATOR state

THE SWITCH PANEL

Labelled rocker switches with an LED each, for when you just want a switch: Living, Kitchen, Bedroom, Bath, Porch, All Lights, Water Pump, Aqua-Hot, Generator, Inverter, Sat Dish They do exactly the same as the touch buttons. SAT DISH raises and stows the satellite dish (section 24).

Each action shows a short "Coach:" message on screen.

14. House power: batteries, solar, inverter and generator



The generator bay and the outdoor TV

The coach runs on its own 12 V house system, separate from the truck's.

Batteries	four 12.8 V lithium batteries. The touch screen shows the volts and the state of charge.
Solar	six 200 W roof panels (1200 W) charge the batteries by day, following the time of day.
Alternator	the running engine also charges the house batteries.
Inverters	two 3000 W inverters make 120 V from the batteries (INVERTER, on by default). They run the TVs and up to two roof A/C units.
Generator	a 12.5 kW Onan diesel generator in bay R4. It runs all three A/C units and charges the batteries at the same time.

The base load (fridge, electronics) is always there; lights, the water pump, the A/C and the Aqua-Hot electric element add to it. The LOAD figure on the touch screen shows the total.

Starting the generator. Press GENERATOR on the touch screen or the switch panel, or open bay R4 and press the START / STOP rocker on the generator itself. It preheats for about 3 seconds (the button blinks), cranks, catches and runs up to speed - you hear a real diesel genset at the back of the coach. Press again to stop: it winds down over about 6 seconds.

AUTO GEN (automatic generator start, on by default). The generator starts by itself when:

- the battery drops below 30 %, or
- the climate needs more A/C units than the inverters can run.

It stops itself again once the battery is above 90 %, no A/C is needed, and it has run for at least 2 minutes. Turn AUTO GEN off if you want full control.

Tip: running the A/C on batteries alone drains them quickly. Start the generator for long A/C use, or let the automatic start do it.

15. Climate: roof A/C, heat pumps and aqua-hot



Three roof A/C units, solar and the satellite dish

The coach has its own inside temperature, which drifts towards the outside temperature, warms up in the sun and responds to the climate system. The touch screen shows INSIDE and OUTSIDE, and the driver display's COACH row shows the inside temperature, mode and set point.

Three 15,000 BTU roof A/C units with heat pumps do the work. Press CLIMATE to choose the mode, and SET - / SET + for the set point (15 to 30 C, starts at 22 C):

OFF	nothing runs
COOL	the units cool towards the set point
HEAT	the heat pumps heat towards the set point
AUTO	cools when it is more than 1 degree too warm, heats when it is more than 1 degree too cold

The further the inside temperature is from the set point, the more units run (1, 2 or 3). The fans keep circulating air in between. Cooling a hot coach down by 10 degrees takes the best part of an hour, like the real thing.

Power. Up to two units can run on the inverters; the third needs the generator (AUTO GEN starts it for you). With no 120 V at all, the A/C cannot run.

Cold weather. The heat pumps lose power as it gets colder outside and stop below about 2 C. Then the Aqua-Hot diesel heater takes over the heating.

Aqua-Hot. Press AQUA-HOT to turn on the hydronic system. It gives you hot water at the taps and shower (section 21) and heat for the coach in cold weather. You hear its burner and circulation pump.

You hear each roof unit's fan and compressor (the compressor kicks in with a clunk), inside and outside.

16. Leveling: air auto-leveling and hydraulic jacks



Hydraulic leveling jacks down

The XL45 levels itself in two ways: automatically on its airbags, and on four hydraulic jacks when you ask for them.

AIR AUTO-LEVELING

- Set the parking brake and stop. After 2 seconds the coach starts to level on its airbags ("Auto-level: parking brake set, leveling on the airbags").
- It pulses air into the low corners (and lets air out of the high ones only if it has to), settles, measures, and repeats until the floor is level within about 0.2 degrees ("Auto-level: level").
- If it can't get level within about a minute, the slope is beyond the airbags: "use the jack pad (left of the wheel) to lower the jacks".
- Release the parking brake and it goes back to ride height.

HYDRAULIC JACKS

The HWH-style jack pad is on the dash, left of the steering column. It has a LEVELING: JACKS key with arrows and four LEDs:

JACKS DOWN	blinks while the jacks move, steady when they are down and set
LEVEL	on when the coach is level (on air or on the jacks)
PARK BRAKE	blinks for 5 seconds if you pressed a control without the parking brake set
AIR LEVEL	blinks while leveling on the airbags, steady when level on air

PUSH: LOWER / RAISE.

Lowering: set the parking brake, stop, and press the pad (or use the "Leveling jacks" action). The airbags hold their air, all four jacks come down until each foot touches the ground, then the low corners lift until the coach is level, and every foot presses down firmly so the coach doesn't rock. Messages: "lowering the leveling jacks", "jacks on the ground, leveling", "level and stabilized (on the jacks)". A full stroke takes about 25 seconds. If a jack reaches the end of its stroke you get "jacks at full stroke, xx mm off level".

Raising: press the pad again, or simply release the parking brake (drive-off protection). The jacks come up first; as soon as they no longer carry the coach, the airbags go back to ride height so it settles gently.

You hear the hydraulic pump and a beeper while the jacks move. If the jacks are down with the key on and the parking brake off, an alarm sounds.

The RV page of the centre screen shows the bubble level, pitch, roll, the jacks and the leveling state.

17. Slide-outs



All four slides out



Inside with the slides out

Four powered slide-out rooms make the coach much wider when parked:

LIVING	front left: the living room with the sofa runs out 0.84 m
BEDROOM	rear left: the bedroom runs out 0.57 m
KITCHEN	front right: the kitchen run and the recliners runs out 0.39 m
CLOSET	rear right: the closet and the bedroom TV runs out 0.39 m

The SLIDE ROOMS switch plate is on the cabinet face next to the entry door, about 1.1 m up, above the fire extinguisher. Its rockers are, left to right, LIVING, BEDROOM, KITCHEN and CLOSET, each marked OUT / IN, plus a SET PARK BRAKE LED. Click a rocker once to run that room out; click it again to bring it in.

Interlocks:

- The parking brake must be set and the coach stopped ("set the parking brake first" / "stop the coach first"; the SET PARK BRAKE LED blinks).
- The KITCHEN slide only moves with the outdoor TV folded into its bay and the TV bay door shut, because the TV lives in that slide's wall.

A slide takes about 12 seconds. You hear the slide pump while it moves, and the screen shows a pop-up. The cabinets, drawers, furniture and everything on the slide floor travel with it. In and out, each room is pulled tight against its stops so it doesn't rattle on the road.

Important: the slides do NOT come in by themselves. Always bring all four in before you drive off.

Tip: watch the centre screen's RV page - it shows each room IN, OUT, EXTENDING or RETRACTING.

18. Patio awnings



Patio awnings out



Awning and underbody lights at dusk

Two Girard-style power awnings are mounted end to end along the roof on the door side, with real hinged arms and fabric. Their switch plate, PATIO AWNINGS, is next to the coach control panel by the entry door: one switch for the front awning, one for the rear.

- Click a switch to roll that awning out; click it again to roll it in. It takes about 15 seconds.

• The awnings spawn rolled in and held by a travel lock at three points. The lock lets go when the awning rolls out and catches again when it is fully in.

• Motion sensor: the moment the coach moves off, any open awning rolls itself in ("Awnings rolling in (coach moving)"). You can't roll one out while moving.

• The PORCH lights include LED strips in the front and rear caps that light the ground under the awnings.

• The awning case colour is a part option: White, Black or Body Colour.

19. Windows, insect screens and blinds



A tilt-out window open



Kitchen window from inside



Pleated blinds

TILT-OUT WINDOWS

Five coach windows open: the living room window, the two kitchen windows (front and rear) and the two bedroom windows (front and rear). They are top-hinged and tilt out to about 25 degrees on gas struts. Click the window's bottom latch (from inside or outside) to open it; click again to pull it shut.

INSECT SCREENS

Each opening window has a pleated pull-down insect screen that folds into a cassette at the top. The screens start DOWN. Click a screen's handle rail to push it up or pull it down.

- The window latch is behind the screen, so you must raise the screen before you can open the window ("Raise the insect screen first").
- Once the window is open you can pull the screen back down over it - fresh air, no bugs.

The screen door at the entry has the same coarse screen weave.

Open windows and doors let more outside sound in, and more inside sound out.

BLINDS

Nine pleated day shades: living room front, rear and end, recliners, kitchen, bedroom, bedroom rear end, bedroom front end and bath. They start up. Click a blind's bottom rail to lower it; click again to raise it. (The Performance Interior has no blinds.)

All the coach windows are tinted dual-pane glass and break individually in a hard hit.

20. Interior doors



Bath pocket door

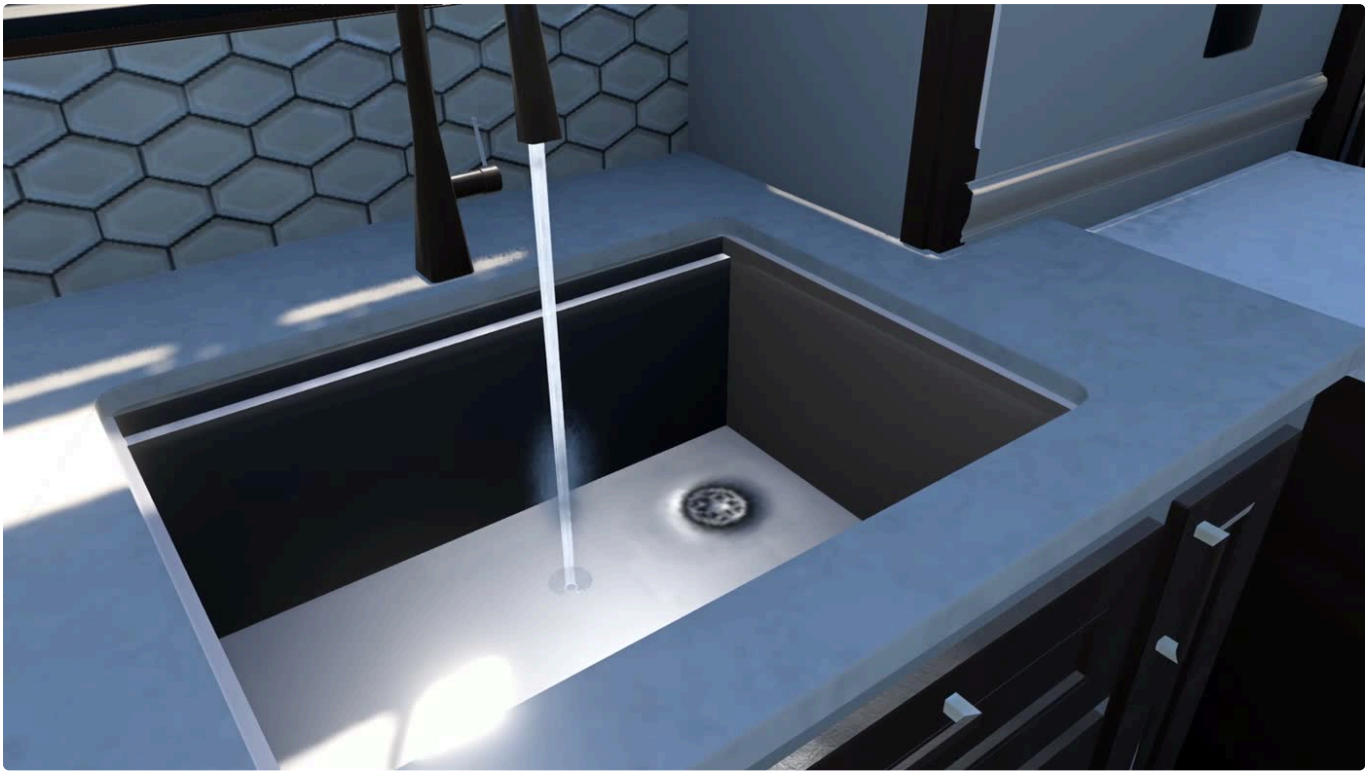


Toilet room door

Bath pocket door	slides out of its pocket to close off the bath area; click the recessed pull
Bedroom pocket door	slides out of its pocket to close off the bedroom; click the recessed pull
Toilet room door	swings out into the aisle; click the knob. It latches shut and has a hold-open
Shower door	sliding glass doors; click the pull to slide them open or shut

The pocket doors start open, the toilet room door and the shower doors start shut. All of them stay where you put them through a hard stop. The shower glass is clear and breakable.

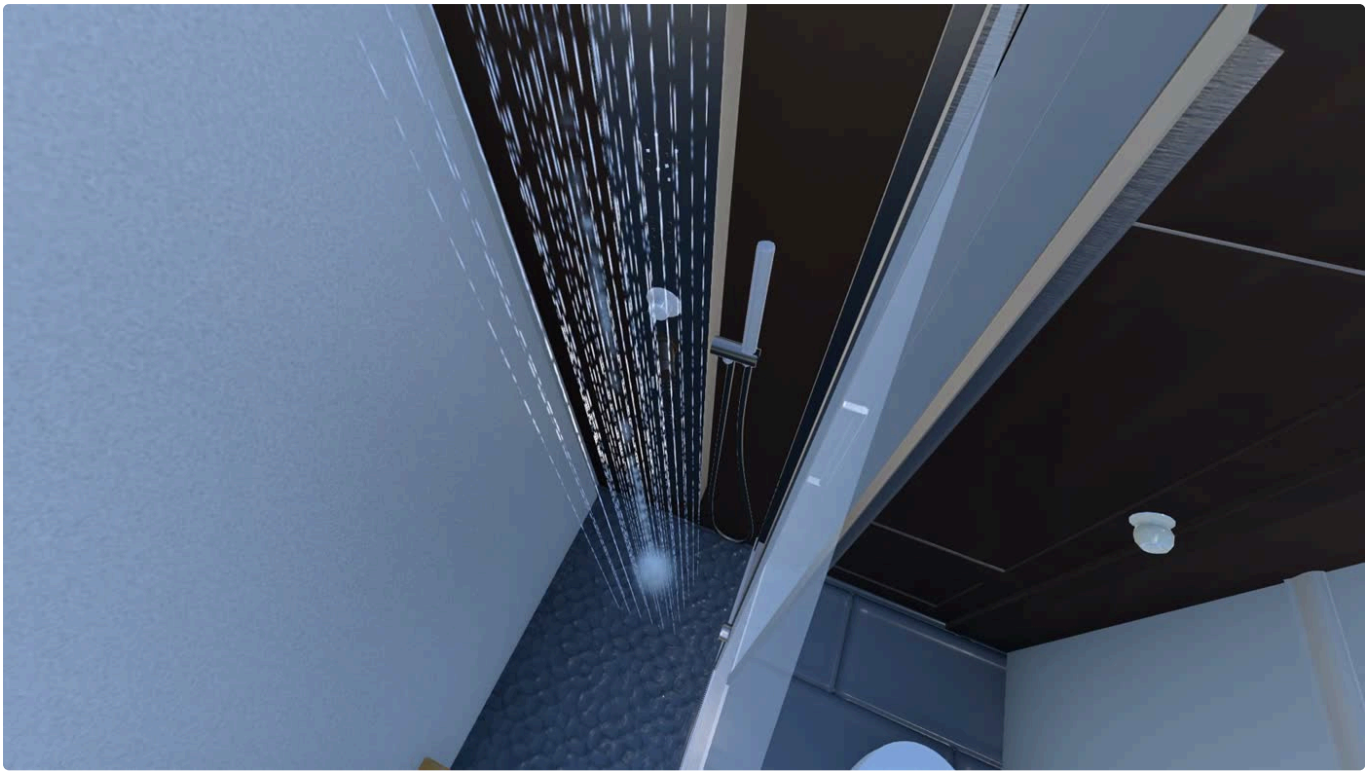
21. Kitchen, bath, shower and toilet



Kitchen faucet



Bath vanity



The shower

All the water fixtures work, using the water in the fresh tank. Turn the WATER PUMP on first (coach panel). The pump runs until the lines are at pressure and switches off; one tap makes it pulse, the shower or two taps keep it running. A tap still runs for a moment after you switch the pump off.

TAPS

Kitchen faucet, front vanity faucet, rear vanity faucet.

- Click a handle: water on / off. The handle moves, the water runs, splashes and drains.
- Mouse wheel over the handle: colder / hotter. A message shows the water temperature.
- Hot water needs the AQUA-HOT on. Without it the water stays cold ("no hot water: Aqua-Hot off"). Hot taps steam a little.

SHOWER

- Thermostat dial: click to turn the shower on / off; mouse wheel over it for colder / hotter.
- Lever: click to step through OFF -> RAIN -> JETS -> HAND (rain head, body jets, hand shower).
- ShowerMiser: when you start a hot shower, the cold water sitting in the line is sent back to the fresh tank for about 20 seconds first ("ShowerMiser: warming up"), then the hot water comes ("hot water at the shower"). No water wasted.
- A hot shower steams up.

TOILET

- Click the lid: lid up -> seat up -> both down.
- Click the flush button: the macerating toilet rinses, swirls, drains and refills, using about 1.5 litres of fresh water that goes into the black tank.
- It won't flush with the pump off or the fresh tank empty, or when the black tank is full ("black tank FULL - dump it before flushing").

Where the water goes: taps and shower drain into the grey tank, the toilet into the black tank. When the grey tank is full the sinks and shower back up ("grey tank FULL"). When the fresh tank is empty the pump runs dry with a higher whine ("water pump running DRY").

22. Water tanks and the wet bay



The wet bay: tank monitor, dump valves and hose reel

TANKS

Fresh	150 gal (starts 70 % full)
Grey	75 gal (starts 10 %)
Black	75 gal (starts 5 %)

The water really weighs what it should: a full fresh tank adds over half a tonne. The tank levels show on the touch screen and on the wet bay's tank monitor. The tanks are strapped under the coach and can fall off in a bad crash.

THE WET BAY (bay L7, driver side behind the tandem) Open bay L7 to find the coach's service centre. Everything here works only while the coach is parked.

SeeLevel II tank monitor	FRESH, GRAY and BLACK bars in %, amber / red when the fresh tank is low or a holding tank is nearly full, and the status: FILLING, BLACK DUMP OPEN, GRAY DUMP OPEN, PUMP ON / PUMP OFF
Fresh tank fill valve	city water into the fresh tank, about 15 litres a minute. It closes by itself when the tank is full ("fresh tank FULL")
Black tank flush valve	rinse water into the black tank - use it together with the black dump
BLACK dump valve	electric gate valve: empties the black tank
GRAY dump valve	electric gate valve: empties the grey tank

Macerator	pumps the open tank out through the macerator (about 45 litres a minute)
Hose reel	powered reel: each click winds it out or in
Outside faucet	fresh water sprayer; click on / off

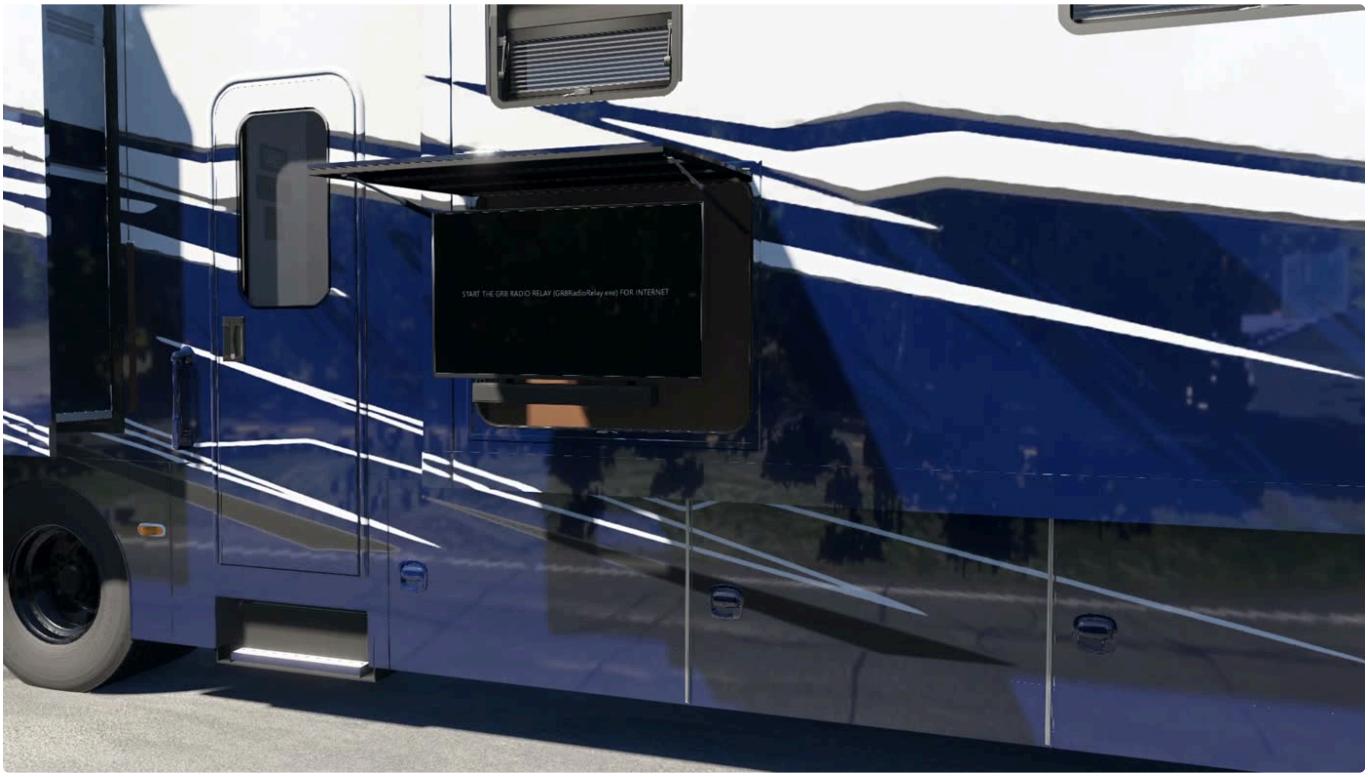
The dump valves are also on the touch screen (DUMP GREY / DUMP BLACK). A dump valve opened while driving only starts dumping once you park.

No sewer hose is connected, so whatever you dump goes on the ground: a brown sludge from the black tank or dirty grey water spills out under the wet bay and grows into a puddle. The puddles stay until the map is reloaded. Dump where it's allowed!

You hear the fill water, the gush of a dump and the macerator pump.

Tip: the proper order is black first (with the flush valve on to rinse), then grey to wash the hose out.

23. TVs



Outdoor entertainment center



Bedroom TV

OUTDOOR ENTERTAINMENT CENTER

A 43 in TV with a soundbar lives in a bay in the kitchen slide's wall, on the door side.

1. Click the compartment door's latch: the top-hinged door lifts up and holds open. A light comes on in the bay. (It is power-locked with the storage bays.)
2. Click the pull handle under the bezel: the TV comes out on its articulating arm.
3. Click the swivel control to turn it towards the awning; click again to turn it back square.
4. Click the power button: the TV and soundbar come on. It needs 120 V: the inverter on with battery left, or the generator running ("no 120 V").
5. Click the screen to change the input.

To put it away: power off, turn it square, click the handle to fold it back in (the door won't shut on a TV that is out), then shut the door. A magnet catch holds the stowed TV.

Inputs: Internet, Bluetooth audio, Weather channel, Sports and Nature channel. The channels have their own picture and sound from the soundbar.

INTERNET AND TV MODE

On the Internet input the TV shows a real web browser (YouTube, Google and so on), with sound coming from the TV. This needs the GR8 Radio Relay helper program running on your PC (the TV says "START THE GR8 RADIO RELAY (GR8RadioRelay.exe) FOR INTERNET" if it isn't). Click the picture to enter TV mode:

- The camera moves square in front of the TV and a remote bar appears at the top of your screen: EXIT, BACK, HOME, YOUTUBE, GOOGLE, VOL - / VOL +, INPUT and a text box.
- Point and click on the TV like a mouse, scroll with the mouse wheel, and type in the text box (Enter sends).
- EXIT or Esc leaves TV mode and gives you your camera back.

BEDROOM TV

A TV on the bedroom's closet slide. Click its power button (it also needs 120 V). On the Internet input it shows the same browser as the outdoor TV, and clicking the picture enters TV mode; on the other inputs a click changes the channel.

(The Performance Interior has no TV pictures.)

24. Satellite dish and roof gear



The satellite dish up

Satellite dish. A Winegard Trav'ler-style dish folds flat on the roof for travel. Press SAT DISH on the switch panel to raise it: the reflector lifts first (about 17 seconds), then the feed arm swings out (about 8 seconds). Press again to stow it in the reverse order.

- It only raises with the ignition off and the coach stopped ("turn the ignition off and stop to raise it").
- It stows itself automatically when you turn the ignition on or the coach moves ("sat dish: auto-stow").

Other roof gear (each a removable part): three roof A/C shrouds, Starlink on a mobility mount, a Winegard Everest 5G antenna, a cell booster antenna and six 200 W solar panels. The A/C units and the dish are bolted on and can be torn off in a hard hit.

25. Lights



LED headlights and the light bar



Porch, step and underbody lights



Interior lighting

Exterior (your normal BeamNG light controls):

- LED headlights with low and high beam and daytime running lights.
- Fog lights in the front bumper (BeamNG's fog light control).
- The 40 in LED light bar (option, standard on the Blackout) comes on with the high beams, with a spot and a flood beam.
- Turn signals, tail, brake and reverse lights, amber front marker and clearance lamps, side markers.

Coach (touch screen or switch panel):

- Living, Kitchen, Bedroom and Bath room lights, each a real light source in its room.
- Porch: the awning LEDs in the front and rear caps, the LED strips and downlights under the slides and the ground lights.
- All Lights switches everything at once.
- A light in every storage bay comes on while its door is open; the outdoor TV bay has its own light.

Night. The legends on the jack pad, slide plate, coach panel, tuner and dash switches glow with the lights, and the LEDs show the real state of each system.

26. Cab radio



The dash radio on a live station

The stock Cascadia head unit on the dash works, with a live LCD and two speakers in the cab door grilles. It needs the key on and switches off with the key.

PWR	radio on / off
Volume knob	each click +10 %, wraps back to low after full
NEXT / PREV	next / previous station or track
FM1	source: LIVE RADIO -> SPOTIFY -> LOCAL MUSIC
1 to 6	presets: station or track 1 to 6

Sources:

LIVE RADIO	six internet stations (KEXP 90.3 Seattle, Radio Paradise, SomaFM Boot Liquor, SomaFM Groove Salad, SomaFM Indie Pop Rocks, SomaFM Left Coast 70s). Needs the GR8 Radio Relay running.
SPOTIFY	plays the Spotify desktop app through the cab speakers; NEXT / PREV skip tracks. Needs the GR8 Radio Relay and Spotify running ("OPEN SPOTIFY" if it isn't).
LOCAL MUSIC	your own music files: put them in a folder called "music" in your BeamNG user folder (the one that holds your mods folder; sub-folders work too). mp3, ogg, wav, m4a, aac, flac, opus and webm are supported. Works without any helper program. "NO MUSIC FILES" means the folder is empty.

The LCD shows the station or track and a status such as LIVE, TUNING, LOCAL 3/12, "RELAY OFF" or "SIGNAL LOST". The sound comes from the two door speakers: clear in the cab, muffled from outside, louder with a cab door open. If two XL45s have their radios on, the one you are in plays.

27. Sounds, chimes and alarms

Everything you'd hear in a real coach, placed where it really is:

Cab	key-on relay click and chime, door-ajar chime, the Cascadia warning buzzer, the jack pad beeper and jacks-down alarm, the tuner click
Engine	the fan clutch roaring up and coasting down, DD16 / DD13 engine and engine brake
Entry	a two-tone chime when the entry door opens, the step alarm while the steps are out
Coach panel	a beep for every button
Machinery	the hydraulic pump for the jacks and for the slides
Systems	three roof A/C fans and compressors with their start-up kick, a real diesel generator (crank, run and wind-down) at bay R4, the inverter fan under heavy load, the water pump (pitch drops as pressure builds; a higher whine when dry), the Aqua-Hot burner and circulation pump
Water	kitchen and vanity taps, the shower (different for rain / jets / hand), the toilet flush, city water filling, the dump gush and the macerator
Outdoor TV	the soundbar playing each channel, and a click when you switch it on

Muffling. When your camera is inside the cab or coach, outside sounds (engine, tyres, wind, the generator) are muffled and inside sounds (taps, chimes, A/C fans) are clear; from outside it is the other way round. Open doors and windows let more sound through in both directions. A few sounds carry through on both sides, such as the water pump and the roof A/C compressors.

28. Performance interior



DD16 with the Performance Interior

The full interior is a lot of physics: furniture, cushions, blinds and live screens. For slower PCs, pick a "(Performance Interior)" configuration, or set Coach Body > Interior Detail to "Performance Interior (for slower PCs)" in the Parts menu.

Performance Interior:

- the furniture is fixed in place (no loose or breakable pieces);
- no blinds (the windows look the same);
- the interior screens are off: the touch screen, the wet bay tank monitor, the 10 in centre screen and the backup camera, and both TVs;
- a much lighter physics model, so the game runs faster on slower PCs;
- the same weight and the same look from outside;
- the slides, doors, windows, taps, tanks, generator and everything else still work.

29. Every control, one by one

Click any of these in any camera. All of them are also actions in Options > Controls > Bindings (Vehicle Specific, with the XL45 spawned), so you can put them on keys. None has a key by default.

CAB - DASH AND WHEEL

Horn pad	centre of the steering wheel; sounds the horn while held
Jack pad	dash, left of the steering column: lower / raise the leveling jacks (section 16)
Screen MENU	cycles NAV -> RV -> DEF (section 8)

Screen NAV	map page
Screen CAM	backup camera on / off
Screen RV	RV systems page
Screen DEF	DEF / aftertreatment page
Radio PWR	radio on / off (section 26)
Radio volume knob	+10 % per click
Radio NEXT / PREV	next / previous station or track
Radio FM1	source: live / Spotify / local music
Radio presets 1-6	station or track 1-6
Tuner knob	delete option only: STOCK / 1 / 2 / 3 (section 10)
Cab door handles	inside and outside, both doors
Hood latches	one each side, to tilt the hood

COACH OUTSIDE

Entry door handle	outside, inside and on the jamb: open / close the entry door
Screen door handle	pull the screen door shut / hook it back onto the open door
Bay paddle latches	L1-L8 and R1-R5: open / close each storage bay
Blue DEF cap	coach wall behind the driver's door: refill DEF (coach stopped)
Fridge tray handle	bay R3: tray out / in (bay open, coach stopped)
Generator rocker	bay R4, on the generator's panel: START / STOP (bay open)
Wet bay (L7)	fresh tank fill valve, black tank flush valve, BLACK dump valve, GRAY dump valve, macerator, hose reel, outside faucet
Outdoor TV	compartment door latch, pull handle (out / in), swivel, power, screen

COACH CONTROL PANEL (BY THE ENTRY DOOR)

Touch screen	ALL LIGHTS, LIVING, KITCHEN, BEDROOM, BATH, PORCH, WATER PUMP, AQUA-HOT, GENERATOR, AUTO GEN, INVERTER, CLIMATE, SET -, SET +, DUMP GREY, DUMP BLACK
Switch panel	Living, Kitchen, Bedroom, Bath, Porch, All Lights, Water Pump, Aqua-Hot, Generator, Inverter, Sat Dish
SLIDE ROOMS plate	LIVING, BEDROOM, KITCHEN, CLOSET: out / in (section 17)
PATIO AWNINGS	front awning out / in, rear awning out / in (section 18)

COACH INSIDE

Window latches	living room, kitchen front, kitchen rear, bedroom rear, bedroom front
Insect screen rails	the same five windows: screen up / down

Blind rails	living room front / rear / end, recliners, kitchen, bedroom, bedroom rear end, bedroom front end, bath
Bath pocket door	recessed pull
Bedroom pocket door	recessed pull
Toilet room door	knob
Shower door	glass door pull
Kitchen faucet	click on / off, wheel for temperature
Vanity faucets	front and rear, click on / off, wheel for temperature
Shower thermostat	click on / off, wheel for temperature
Shower lever	off / rain / jets / hand
Toilet lid	lid up / seat up / both down
Toilet flush	flush (1.5 L into the black tank)
Bedroom TV	power button, screen

ACTIONS WITH NO SWITCH (BIND A KEY IF YOU WANT THEM)

Entry step switch	entry steps AUTO / OUT / IN (section 11)
Storage bays: power lock	lock / unlock every bay door (also "XL45: storage bay power lock")
DPF: parked regen	start / stop a parked regen (section 9)
DPF: regen inhibit	stop and prevent regens (section 9)

Key versions of two pad controls also exist: "XL45: leveling jacks" and "XL45: refill DEF".

30. Damage



A soft-body crash



Loose furniture moves in a hard stop

The XL45 is built like the real thing, so it gets hurt like the real thing.

- Glass. The cab windscreen and door glass, all 12 coach windows and the shower glass break, each on its own.
- Interior. The furniture is bolted in and stays put through normal driving and hard stops. In a real crash the sofa, chairs, table, loveseat and mattress tear loose, and cushions and pillows fly off in a hard stop. The heavy

cabinets hold much longer. Everything that breaks loose still collides with the floors, walls and each other, so it stays inside the coach.

• Bolt-on parts. The mirrors, the light bar, the roof A/C units, the satellite dish and the rubber mud flaps are mounted like the real parts and tear off in a hard hit.

• Tanks. The water tanks are strapped under the coach and can fall off in a bad crash.

• Doors and slides. A heavy hit can bend the coach, its doors and the slide rooms like any BeamNG body.

• Engine. The engine can overheat and be damaged like any BeamNG engine. The aftertreatment can derate or stop the engine (section 9) if you ignore the DEF and DPF warnings.

• Bay gear. The strapped gear stays put on the road and shifts only in a crash.

Use BeamNG's normal vehicle reset to repair everything. A reset also puts every system back to its spawn state: slides in, jacks up, awnings latched, tanks at their starting levels, DEF and soot at their Tuning values.

31. Specifications



Grade8 XL45

Vehicle	45 ft Super C diesel motorhome on a Freightliner Cascadia chassis
Engine (DD16)	Detroit DD16 15.6 L, 600 hp at 1,600 rpm, 1,850 lb-ft (2,508 Nm) at 1,100 rpm
Engine (DD13)	Detroit DD13 12.8 L, 525 hp at 1,625 rpm, 1,850 lb-ft (2,508 Nm) at 1,100 rpm
Governor	2,100 rpm (DD16) / 2,000 rpm (DD13); idle 600 rpm
Transmission	Detroit DT12 12-speed automated manual: DHE direct drive or OHE overdrive
Axles	6x4 tandem, 3.08:1 standard (2.79 and 3.36 available), lockable diffs

Top speed	75 mph limited (121 km/h)
Suspension	front air ride, tandem rear airbags, air auto-leveling, 4 hydraulic jacks
Brakes	air drum brakes
Tyres and wheels	315/80R22.5 on polished 22.5 in Alcoa-style wheels
Weight	22,742 kg / about 50,100 lb (DD16), 22,543 kg (DD13)
Fuel	2 x 227 L (120 gal total) diesel
DEF	13 gal
Water	150 gal fresh, 75 gal grey, 75 gal black
Generator	12.5 kW Onan diesel with automatic start
House power	4 lithium batteries, 6 x 200 W solar, 2 x 3,000 W inverters
Climate	3 x 15,000 BTU roof A/C with heat pumps, Aqua-Hot hydronic heat and hot water
Slide-outs	4 (0.84 / 0.57 / 0.39 / 0.39 m)
Storage bays	13
Real coach	44 ft 11 in long, 13 ft 6 in high, 99.25 in wide, 345 in wheelbase (X45 on Cascadia), towing rated 30,000 lb with a 3,000 lb tongue weight
Value	US$ 845,000 to 945,000 depending on configuration

32. Troubleshooting and FAQ

A slide-out won't move. Set the parking brake and stop. For the KITCHEN slide, fold the outdoor TV in and shut its bay door first.

The coach won't level / says the slope is beyond the airbags. Use the jack pad on the dash. On a very steep slope even the jacks run out of stroke - find flatter ground.

The jacks won't go down. Set the parking brake and stop. The PARK BRAKE LED on the pad blinks if it isn't set.

The jacks came up on their own. You released the parking brake - that's the drive-off protection.

An alarm keeps beeping. Steps out with the key on (step alarm), jacks down with the parking brake off (jack alarm), or a Cascadia alert (low air, parking brake on while moving, low oil, overheating). Check the driver display.

A window won't open. Raise its insect screen first.

No water from the taps / the toilet won't flush. Turn the WATER PUMP on. Check the fresh tank on the touch screen - fill it at the wet bay (L7). The toilet also refuses when the black tank is full.

Only cold water. Turn the AQUA-HOT on.

The sinks are backing up. The grey tank is full. Dump it (DUMP GREY or the wet bay's GRAY valve) while parked.

The A/C only runs one or two units / doesn't cool. On the inverters only two units can run. Start the generator (or leave AUTO GEN on). Below about 2 C outside the heat pumps stop - use the Aqua-Hot for heat.

The battery is flat. Start the generator or the engine, or leave AUTO GEN on. Solar only charges by day.

The TV won't turn on / the Internet input is black. It needs 120 V (inverter on with battery left, or the generator). The Internet input and the radio's live stations and Spotify need the GR8 Radio Relay running.

The outdoor TV door won't open. The bays are locked - unlock them with the power lock action.

The bay paddles do nothing. The bays are locked. Use "Storage bays: power lock" to unlock them.

The fridge tray won't come out. Open bay R3 first and stop the coach.

The generator rocker in bay R4 does nothing. The bay door must be open.

The sat dish won't raise. Turn the ignition off and stop.

The engine is derated / limited to 55 mph or 5 mph. The DEF tank is empty: stop and click the blue DEF cap. Or the DPF is at 90 %: do a parked regen.

The parked regen won't start. It needs the DPF lamp on (60 % soot), engine running and warm (66 C coolant), parking brake set, neutral, no pedals, and the regen inhibit off. The message tells you what's missing.

The engine shut down by itself. The DPF reached 100 %. Restart and start a parked regen within 30 seconds.

The starter stopped and won't crank. Overcrank protection after 20 seconds of cranking. Wait 60 seconds.

The backup camera says CAMERA OFF. Set BeamNG's graphics preset to High or Ultra.

The screens are black. Turn the key on. On a Performance Interior configuration the interior screens are always off.

The radio is silent. Turn the key on and press PWR. LIVE and SPOTIFY need the GR8 Radio Relay ("RELAY OFF"); LOCAL MUSIC needs files in your "music" folder.

Low frame rate. The XL45 is a very detailed physical vehicle. Run one at a time, and try a Performance Interior configuration.

I want keys for the coach controls. Options > Controls > Bindings, Vehicle Specific section (with the XL45 spawned): click an action and press a key.

How do I reset everything? BeamNG's normal vehicle reset repairs all damage and returns every system to its spawn state.

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