

Rover & RoverXL User Manual

2023-2024 Models



VANCRAFT



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ABOUT THIS USER GUIDE

This User Guide has information on how to operate and care for your Campervan as well as general safety information to help you have the best experience possible.

NOTE: This User Guide is general in coverage of the vehicle components and systems. Some of the exact equipment or functions may have been changed due to continuous product improvement. Your vehicle might differ slightly from the information included herein. Descriptions, images, and specifications were correct at the time of printing, but VanCraft LLC reserves the right to make changes, without notice, and without obligation to install the same products previously manufactured. In addition to this User Guide, your Campervan came with the manufacturer's user manuals for various appliances and systems in your Campervan. Many of these systems are covered in this User Guide, but some information may only be found in the manufacturer's manuals. Please keep these documents handy should you have questions

Your VanCraft Campervan was built on a Mercedes-Benz® Sprinter chassis. You will find references throughout this User Guide to the Sprinter chassis and Sprinter operating instructions provided with the vehicle. Please refer to the Sprinter operating instructions for information regarding the operation, safety, and maintenance of the original vehicle chassis.

SAFETY MESSAGES USED IN THIS USER GUIDE

This User Guide alerts you to common safety or vehicle hazards using the following labels:

WARNING
Indicates a hazard that may endanger your health or life, or the health or life of others.

Pre-Delivery Inspection: VanCraft Campervans takes pride in providing a high quality campervan product. Our team inspects every Campervan closely before delivery. Our team is responsible for completing a comprehensive pre-delivery inspection and correcting any issues with the chassis or Campervan components prior to delivery. Before driving, familiarize yourself with all local and state laws as different areas may have laws that apply to your Campervan.

GENERAL WARNINGS

- All seats should be locked in the travel position while the vehicle is moving. Passengers should only use seats with seatbelts while the vehicle is moving.
- Child restraints should be installed properly according to the manufacturer's instructions.
- Never let passengers stand or kneel on seats while the vehicle is moving.
- All tables should be stowed when the vehicle is moving.
- Verify doors and drawers are shut and latched, where applicable, when the vehicle is moving.
- Passengers should never use the beds while the vehicle is moving.
- Inspect the fire extinguisher monthly and before each trip for proper charge and operating condition.
- Adverse weather conditions and extremes in terrain may affect the handling and/or performance of your vehicle. Refer to your Sprinter Manual for more information.

WARNING
Operating, servicing and maintaining this vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to

www.P65Warnings.ca.gov/passenger-vehicle.

Pregnant Women never place a shoulder belt behind your back or under your arm. Adjust the lap belt across your hips/pelvis and below your belly. Place the shoulder belt across your chest (between your breasts) and away from your neck.

WARNING

This motorhome has been designed, manufactured and tested with concern for the protection of its occupants. We recommend you perform the following inspections for your safety and the safety of your passengers before starting your vehicle.

WHEELS – Inspect for damage and check lug nuts for tightness.

TIRES – Inspect for wear and damage and check for recommended air pressure.

LIGHTING – Test for proper operation of all interior and exterior lights including dash lights, headlights, and turn signals.

EXITS – Test both locks on the main entrance door for ease of operation and instruct passengers how to use both means of exit.

SEAT BELTS – Direct passengers to designated seats, be certain swivel seats are locked into position, and require use of a seat belt. See operator's manual for occupancy and weight restrictions.

APPLIANCES – Turn off and latch or lock doors where provided.

LOOSE PARCELS – Store securely.

CARBON MONOXIDE WARNING

WARNING

Avoid inhaling exhaust gasses, as they contain carbon monoxide, which is a colorless, odorless, and poisonous gas. Death or serious injury can result.

Combustion engines emit carbon monoxide (CO), which can be harmful or potentially deadly.

Keep CO out of the cabin by maintaining the vehicle exhaust and the ventilation systems.

Have the exhaust system inspected from time to time by a qualified RV service center:

- When the vehicle is serviced
- If the sound of the vehicle exhaust system changes
- When damage occurs to the exhaust, underbody, or rear of the vehicle

To allow for proper operation of the vehicle's ventilation system, keep the front grill clear of snow, leaves, or other obstructions.

WARNING

Do not occupy a parked vehicle with the engine running for an extended period. Do not run the engine in confined areas, such as a garage, except to move the vehicle in or out of the area.

SMOKE AND CARBON MONOXIDE ALARM

Your campervan is equipped with an alarm that will sound if it detects smoke or carbon monoxide in your vehicle. This system should be tested after the vehicle has been in storage, before each trip, and at least once per week during use by pressing the Test/Reset button.

WARNING

Test combination smoke / carbon monoxide alarm operation after the vehicle has been in storage, before each trip, and at least once per week during use. Failure to do so can result in death or serious injury.

California Proposition 65 Warning: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.

PINCH HAZARDS

Any time items open and close, like a door or cabinet, or move, like a rotating or folding seat, there is a potential pinch point. Avoid any moving areas of a mechanism to prevent injury.

FORMALDEHYDE INFORMATION

Like in every home and building, some materials in this Campervan may emit formaldehyde. Eye, nose, and throat irritation, headache, nausea, and asthma-like symptoms, including shortness of breath have been reported as a result of formaldehyde exposure. Reaction to formaldehyde exposure may vary among individuals and research is continuing on the possible long-term effects of exposure to formaldehyde. Inadequate ventilation may allow formaldehyde and other contaminants to accumulate in indoor air. Ventilate your RV before and during each use using the windows, exhaust fan or air conditioning system. If you have any questions regarding formaldehyde, consult your doctor.

MOLD

Mold is a natural part of our environment. It plays an important role in helping break down dead leaves and organic matter into fertile soil. The very nature of your RV being outside will bring it into contact with mold, but indoor mold growth should be avoided.

To reduce mold growth, reduce the things in your RV that could allow mold to grow. Mold only needs small amounts of moisture and nutrients from food spills or grease, or it could survive on as little as a fine layer of dirt or dust.

Keep the inside of the vehicle as clean and dry as possible. Moisture plays a large part in mold growth. Don't allow condensation to build up inside the vehicle and keep the interior humidity levels low. Proper ventilation helps and using the air conditioner and or the auxil can remove excess moisture from the air.

Avoid and repair leaks immediately as they are a major contributing factor to mold growth. If mold develops, clean the area with soapy water followed by a bleach solution. If the items cannot be treated, they should be removed and replaced.

MOLD AND WARRANTY CLAIMS

If VanCraft determines that mold in your campervan was caused by a manufacturing defect reported to VanCraft within the warranty period, VanCraft will clean the affected area(s) and /or replace items it deems necessary. This is the only circumstance in which VanCraft will cover mold under its limited warranty.

VanCraft, LLC will not assume responsibility for mold deemed to be a result of a user's lack of timely and appropriate action to mitigate circumstances should a problem occur.

CONDENSATION

When it is humid in the van, condensation can develop inside the windows which can lead to damage if not properly addressed. It is best to keep moisture low with proper ventilation, but under certain circumstances ice can form if excessive condensation gets trapped between a window shade and the glass. If the ice or excessive sweating is not addressed and dried properly, it can melt and drip into the dashboard, electronics, upholstery or other areas that water may damage. Do not allow water to enter sensitive areas by carefully removing ice and drying the moisture to prevent damage.

TIP: When using window shades, position the shades as close to the glass as possible to prevent moisture build up. VanCraft, LLC does not assume responsibility for damage caused by water dripping into the dashboard, upholstery or other areas related to condensation or ice melting into those areas.

ELECTRICAL CAUTIONS

WARNING
Careless handling of electrical components can be fatal. Never touch or use electrical components or appliances while feet are bare, while hands are wet, while standing in water, or on wet ground.

Avoid overloading electrical circuits and only replace fuses or circuit breakers with those of the same size and amperage rating. Never use a higher rated fuse or breaker. Use caution when handling or working near energy storage systems and electrical components. Always remove any jewelry and wear protective clothing and eye covering and avoid creating sparks.

GENERAL VEHICLE INFORMATION

LOADING THE RV

Before driving, always secure loose items which can become dangerous projectiles in sudden stops, quick maneuvers, and accidents. Distribute weight evenly to help vehicle handling. Never exceed the GVWR (Gross Vehicle Weight Rating) or the GAWR (Gross Axle Weight Rating). GVWR is the total allowable weight of the vehicle, including passengers, cargo (including water), and possible tongue weight of a towed trailer.

The GAWR is the weight the axle is rated for. The combined measured weight at the front wheels plus the measured rear wheel weight should never exceed GVWR. Additionally, never exceed the individual tire weight ratings. Never exceed the GCWR (Gross Combination Weight Rating), the maximum total weight of the vehicle and anything towed.

WEIGHING THE RV

Weigh your fully loaded van to determine the proper load distribution of cargo in your vehicle. Weigh fully loaded, including fuel, fresh water, food, bedding, passengers, gear and other items you will carry.

FINDING A SCALE

Commercial truck stops usually have scales, but there are other commercial scales around that may charge a small fee.

WEIGHING PROCEDURE

Measure the front axle weight, rear axle weight, total vehicle weight. To get a front axle weight, drive only the front wheels onto the scale. To get a total vehicle weight, drive all wheels onto the scale. To get a rear axle weight, drive the rear wheels only onto the scale. Compare these measurements to the GVWR, and the GAWR for the front and rear axles, found on the Vehicle Certification label inside the driver door area.

TOWING WITH YOUR VAN

The Sprinter is rated to tow a maximum load of 5,000 lbs. Towing capacity may be less than the hitch rating based on the weight of your loaded vehicle. When towing, do not exceed the GVWR, the rear axle GAWR, or the chassis GCWR by the combined loaded weight of the VanCraft Campervan and the towed item. Towing will affect vehicle handling, durability, and

fuel economy. Exceeding any of the listed Gross Weight Ratings will result in unacceptable overall vehicle performance and, potentially, danger.

HITCH ASSEMBLY

If a towing brake system is required, we recommend use of a modulated braking device versus a surge-style system. The actual tongue weight should never exceed the stated hitch vertical load. This is typically defined as the tongue weight of a towed vehicle hitch, boat trailer tongue weight, or a receiver-mounted carrier rack.

ROADSIDE EMERGENCY

Due to the weight and size of the vehicle, we recommend you seek professional road service to help in the event of a roadside emergency such as a flat tire. If the situation requires you to change a flat tire yourself, be very careful and read all the information in your Sprinter Operating Instructions regarding the changing of a tire. Check your tires for proper inflation before each trip, and at least once a month, using an accurate tire gauge.

IF YOU GET A FLAT TIRE

Do not panic. Grip the steering wheel firmly and steer the vehicle as straight as possible. You may need to counter-steer to compensate for pull created by the failed tire. Do not stomp/slam on the brakes. Do not jerk your foot off the accelerator. Just ease back on the accelerator slowly and gently to continue the momentum. The deflated tire will slow the vehicle. If you must change lanes to get to a safe stopping place, use your signals to warn other motorists and change lanes smoothly after you are certain the lane is clear. Let the vehicle coast to a stop, gently steering to a safe stopping place, then activate the hazard flashers and exit the vehicle carefully. Set out flares or other warning devices.

RECOVERY TOWING

Due to modifications of the RV from its original chassis specifications, notify the towing service of the height and weight of the RV (Height is 9'+) as it may change how they recover the vehicle. This information is found on the Vehicle Certification Label. Refer to the Sprinter Operating Instructions on towing the Sprinter. VanCraft, LLC does not assume responsibility for damage incurred while towing this vehicle.

ENGINE OVERHEATING

If you see or hear steam escaping from the engine compartment or have reason to suspect an engine overheating condition, pull the vehicle over, stop the engine, get passengers out of the vehicle and consult the Sprinter Operating Instructions.

JUMP STARTING

If you wish to try jump-starting the engine, see the Sprinter Operating Instructions.

DRIVING YOUR CAMPERVAN

See your Sprinter Operating Instructions for information on items like driving controls, instrumentation, cruise control, climate controls, gauges, wipers, lights, safety belts, and other chassis related features.

FRONT SEATS

The front seats of your van are adjustable in various ways, the passenger seat also swivels to face the rear of the vehicle. See your Sprinter Operating Instructions for more information on front seat adjustments.

NOTE: Damage to interior door panels may result if seats are swiveled toward the doors. Do not turn the passenger seat clockwise, adjust the seat all the way toward the front of the van before spinning.

NOTE: When the vehicle is in motion, the driver and passenger seat must be locked in the forward position.

SEAT BELTS

All seating positions have seat belts which should be used anytime the vehicle is in motion.

WARNING

Never sit anywhere in the van that does not have a seatbelt while the vehicle is in motion.

NOTE: After any serious accident, all seat belts in use during the accident must be inspected and replaced if necessary

CHILD RESTRAINTS

When properly used, child restraint systems reduce the risk of injury in an accident or sudden maneuver. If installed or used incorrectly, child restraints can increase the risk of injury. Refer to your child restraint system's instructions for installation instructions.

NOTE: Rear bench seating can be used with a child restraint system designed for use with lap-only style seat belts.

NOTE: The rear bench seating does not have a ratcheting style belt retractor.

FACTORY DASH CLIMATE CONTROLS

The Sprinter dash climate controls were designed to heat and cool the front cabin area only, not the entire cabin. See Sprinter Operating Instructions for details and instructions covering dash A/C, heat, and defrost functions. See the Cabin Climate Control System section of this User Guide for details regarding the VanCraft Campervan heating and cooling systems. Infotainment Systems and Driver Assist Features Consult the Sprinter Operating Instructions for information and operation instructions regarding your Sprinter infotainment, radio, navigation, Bluetooth, cameras, external sensors and the like.

VEHICLE MAINTENANCE

The VanCraft Short and Long Wheelbase vans are built on a Sprinter chassis and require routine maintenance and service outlined in the Sprinter Operating Instructions

FRONT AXLE ALIGNMENT AND TIRE BALANCING

Once the campervan is fully loaded, get the alignment checked and adjusted, if necessary. After that, the alignment should be periodically inspected to help prevent uneven tire wear. Excessive or abnormal tire wear may indicate worn or misaligned suspension, an unbalanced tire, or other problems. Alignment can also be affected by incidents such as hitting a curb, pothole, or railroad track.

NOTE: Have your dealer, or RV service technician, inspect your vehicle's suspension and steering components periodically for misalignment or wear. Refer to the Sprinter Operating Instructions provided with your vehicle for further information.

TIRES

This vehicle came with tires different from the original Sprinter and has a modified tire label in the driver door area with information regarding proper tire pressures.

NOTE: Improper tire pressure can cause abnormal or premature wear, affect vehicle handling, and fuel economy. The wheel lug bolts needed to be checked and torqued periodically and any time the wheels were removed and reinstalled.

SPARE TIRE

Refer to the Sprinter factory manual for information on accessing the spare tire.

CONTROL PANELS AND FUNCTIONS

The VanCraft Long and Short Wheelbase campervans have various cabin controls. The main Renogy power system can be controlled either at the solar controller in the utility bay or via the Renogy BT app for Apple iOS and Android. Inverter and pump switches can be found in the main cabin, as well as controls for camper heat and A/C. Refer to each system's specific instructions section further in the manual for more information.

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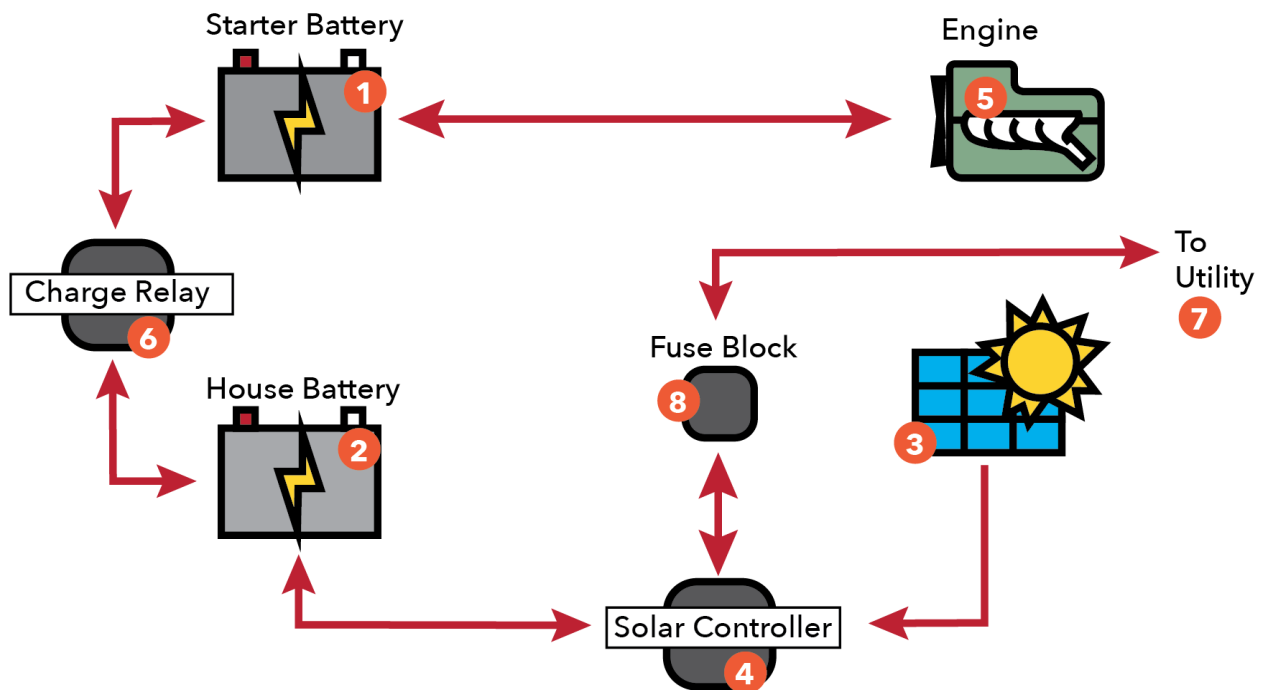
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OFF GRID 12V ELECTRICAL SYSTEM

Our robust power system is designed to provide fully self-sustainable electric supply for comfortable camping anywhere. This simple, maintenance-free system is made up of three main components: Battery, Charge, and Utility.

Batteries: All electrical systems in your van are powered by two different batteries.	
Starter Battery: This is the factory battery that starts and operates your van (1).	House Battery: Powers all the electric campervan systems in the back (2).
Charging: There are two different systems that keep your batteries at a healthy charge	
Solar: During the daytime, power is sent to keep your batteries maintained using a roof mounted solar panel (3) and solar charge controller (4).	Engine Alternator: While the van's engine (5) is running, the alternator sends power to both batteries using a smart charge relay (6).

Utility: Anything utilizing battery power in your van is considered a utility. All systems in your van were chosen for their low power consumption ratings. Power is fed from the solar charge controller (4) to fuse blocks and breaker switches (7), where fused power is safely distributed throughout the van to things like the refrigerator, overhead lights, inverter, and optional roof air conditioner (8). The two utilities that are not controlled via the solar controller are the inverter and the option air conditioner.



USING THE SYSTEM

The Solar portion of the charge system is more or less on auto pilot, thanks to the solar controller (4) handling the workload for you. The solar controller settings can be adjusted if needed, according to the instruction manual included with the van (see reference links/ QR codes at the end of this manual). The Charge Relay (6) also charges the house battery (2) automatically while the van is running.

You can monitor the solar controller by looking at the solar controller display screen in the utility bay under the bed. You can also see solar input/output on the Renogy BT app. Downloading and using the smart phone app for your solar controller will help you easily monitor your solar gain.

You can monitor battery charge rate from the Charge Relay (6) Using the battery control screen. Look for amp input to spike above 30 amps.

Charge Relay: It is important to understand that the charge relay values the Starter battery (1) over all else. This way, when the engine is turned on, the starter battery is charged first, preventing the possibility of a dead starter battery. If for some reason there is a draw on the starter battery when the engine is off (the radio is left on, there is a phone plugged into the dashboard 12V port, ect.) the charge relay will allow the solar system to charge the starter battery even if the van's engine is off.

POWER OUTLETS

Your campervan comes equipped with seven (6) USB plugs and five (3) 15amp AC GFCI outlets. Their locations are as follows:

Location Rover	Location Rover XL	Outlet Type
Sink Cabinet	Bench End Cabinet	Two (2) 15amp AC GFCI
Sink Cabinet	Bench End Cabinet	Four (4) USB Outlet
Rear Sleeping reading lights	Sleeping area reading lights	Two (2) USB - One 12V DC
On Inverter Under Closet	On Inverter Under Closet	One (1) 15amp AC GFCI
On Dashboard	On Dashboard	One (1) USB audio connect and charge

KNOWING YOUR BATTERY'S STATE OF CHARGE (SOC)

Your battery's state of charge or SOC is shown on the battery monitor screen. This screen is mounted in the bench end cabinet (Rover XL models) or in the passenger wall near the sink (Rover models).

This screen shows you the battery's current charge level, its charge input in amps/volts and its draw to your connected utilities. Your van is equipped with either a 200 or 400 amp hour lithium battery bank. Your state of charge is shown in both amp hours and by percentage.

MAXIMIZING YOUR BATTERY CAPACITY

While it's true that the your campervan has a fully off-grid electrical system designed to be self-sustaining on solar and alternator power, we always recommend taking the following steps to maximize your experience and battery capacity:

Park in direct sun when possible: Parking in the shade will prevent the solar panel from collecting enough energy to keep your batteries topped off. If parking in the shade is unavoidable, try to conserve power consumption as much as possible.

Drive the van: the engine's alternator charges your batteries at nearly quadruple the rate that solar does while driving. If at all possible, schedule your power consumption around your driving plans.

Charge your devices when the sun is out: Most of the devices we use in our day-to-day lives have batteries of their own. Take the opportunity, when the sun is out, to charge these devices. This way, you can use your personal devices at night without robbing from your house battery bank.

If you're not using it, turn it off: Leaving unused utilities turned off extends the utilities life-span and conserves your battery capacity. The inverter and water pumps use power even when not in use, that's why we've installed 'off switches' for them. It's important to note that things like the fridge, roof fan, and overhead lights are low power - we designed the system to run these all the time. If you would like to turn off ALL utilities to ensure absolutely NO power is being drawn from your battery bank:

1. Disconnect power to your fuse block with the master kill switch located in the utility bay.
2. Turn the power switch on the Inverter to "OFF" rather than "REMOTE".
3. [Optional AC package] Turn off the air conditioner on the unit itself.

LIGHTING

Main ceiling lights are turned on and off using the dimmer switch located on the passenger wall to the right of the slider door entrance (Rover only) or on the bench end-cabinet to the right of the sliding-door entrance. **Garage lights** are turned on and off using the switch on the rear face of the utility box next to the shower pump switch and fill port. **Kitchen area lights** are turned on by a small round switch located on the bottom left of the overhead cabinet above the refrigerator.

RESOLVING CHARGE SYSTEM ISSUES

If you are experiencing unusually low battery levels, or your utilities stop working all together - work through these fixes in order.

STEP 1 [IF NO UTILITIES WORK]: Turn the solar controller Off and On again using the “Right Arrow” key on the face of the controller located in the utility closet underneath the bed. This can also be achieved via APP control when your solar controller is connected via Bluetooth to the “Renogy solar BT” app on your smartphone.

STEP 2: Reset all power breakers under the sink (Rover XL only) or behind the Kitchen drawer set (Rover only).

STEP 3: Verify that your battery-to-battery charge relay is functioning. Note the house battery level with the engine off, after turning the engine on, the house battery level voltage should rise to match the engines alternator output within 60 seconds.

STEP 4: Check that inline fuses and breakers for the engine charge system are not blown or tripped. These can be found at both the starter battery and inside the kitchen base cabinet on the drivers side (refer to “**Fuse, Breaker and Power switch locations**” below.)

STEP 5: Lastly, inside the utility bay is the master utility shutoff switch - turn this switch off and wait 60 seconds before turning back on again (note: this will reset all stored settings for your campers 12V electrical appliances)

NOTE FOR OPTIONAL OFF-GRID A/C UNITS: Your air conditioner is connected to the house battery bank on a dedicated circuit, not monitored by the solar controller. When viewing battery voltage on the solar controller, the reading may be flawed, if the air conditioner is running.

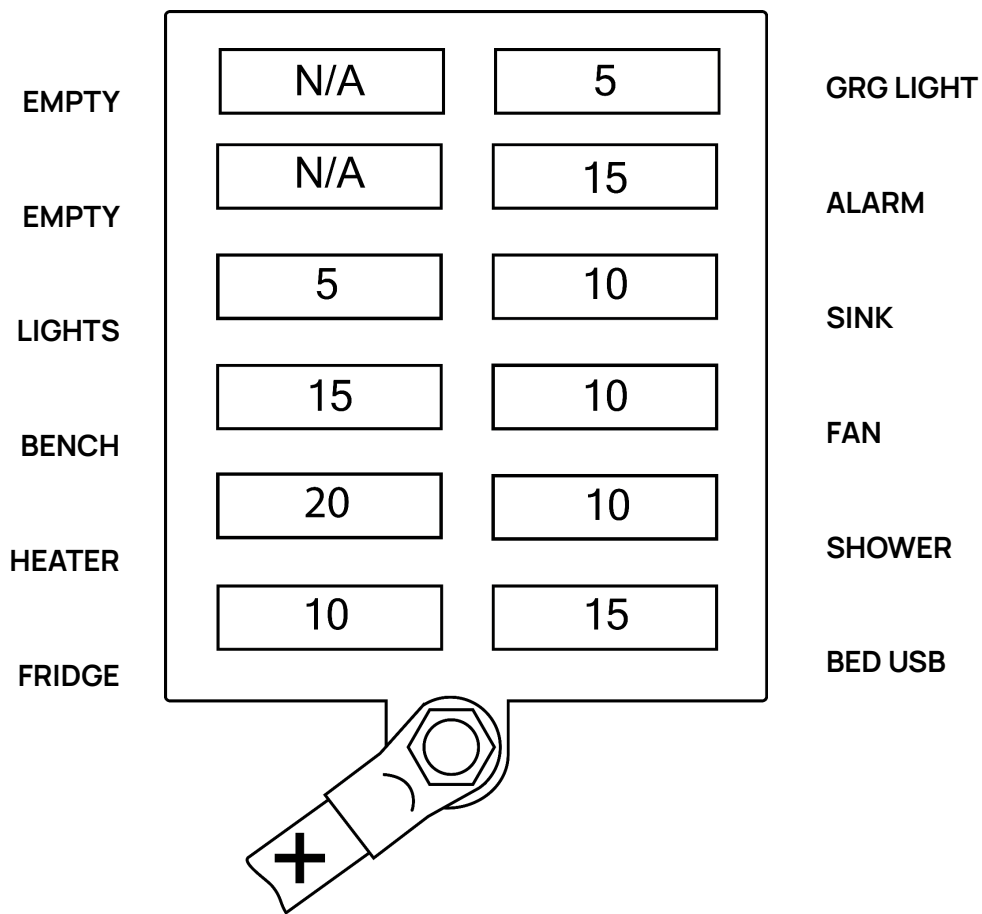
FUSE, BREAKER, AND POWER SWITCH LOCATIONS

FUSE BOXES

Mercedes install fuses in three major locations in the chassis. Refer to your Mercedes owners manual for detailed information about chassis fuse locations and accessibility.

VanCraft utilizes fuses for all 12v utilities that are controlled by the Solar Controller. These fuses are in a fuse box inside the utility bay in the garage area of the van.

12V FUSE BLOCK DIAGRAM



NOTE: Always replace fuses with fuses of the same size and amperage rating.

Fuses can also be found here:

- The starter battery connection below the driver footwell for the battery-to-battery charge system.
- In the house battery box for the optional air conditioner.
- In the driver's seat base main fuse bay for the optional audio system, bumper mounted light pods, and the diesel heater.

BREAKERS

Breaker switches protect power leaving the battery compartment to larger draw utilities in the van. In the kitchen base cabinet next to the refrigerator controller are three-four (3-4) breakers for:

1. Power inverter
2. Solar controller
3. Battery-to-battery charge relay
4. Solar controller (optional)

These breakers trip if they are overloaded. If they are tripped in the open position, they should be closed to be reset. If the breaker continues to trip open, their corresponding device is pulling too many amps due to misuse or internal failure.

110V AC SYSTEM

The 110V system is powered via the inverter, 12V DC current is inverted to output 115V AC similar to the power found in your home. The inverter sends power to the 15 amp 110V GFCI protected wall outlets and cooktop. To run the 110V system, the inverter power switch must be turned to "Remote", then turn on your remote inverter switch located on the passenger side of the van.

110V SYSTEM PROTECTIONS

The power fed to your inverter from the House Battery Bank is first protected by a breaker switch. This breaker is located behind the lower drawers in the galley base cabinet (Rover only) or under the sink (Rover XL only).

Power is inverted and then sent out to utility via GFCI Protected outlets. Both the induction cooktop and wall outlet in your van utilize 15 amp GFCI protected outlets on the side of the inverter. An extra 15 amp socket remains for garage area power as needed.

Please refer to the Inverter's manufacturer specific manual for more information and safety warnings.

WARNING

The GFCI will not completely eliminate the risk of electrical shock. Infants and small children may still be affected.
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CABIN CLIMATE CONTROL

OPTIONAL AIR CONDITIONING

Before using the air conditioner, first familiarize yourself with its included instruction manual. Your air conditioner is designed for off-grid style 12V DC power systems. It accomplishes this with its included "ECCO" run mode. "ECCO" mode cools your cabin at a max of an 18 amp draw. All other run modes are designed for units with "Shore Power" connections or onboard generators. It is possible to run the air conditioner on other modes for short periods of time but be advised that it will use large amounts of available power quickly. Like the Power Inverter, the air conditioner is individually connected to the battery bank and therefore has no reference to the battery's output to other utilities in use. While using the air conditioner, try to conserve power usage from other utilities as much as possible to conserve battery draw.

Other power saving tips include deploying the awning whenever possible, and only using the air conditioner when the window covers are installed.

USING THE EXHAUST FAN

Vans without a roof air conditioner have an exhaust fan and roof vent. Use this fan to prevent harmful gasses from building up inside the living quarters of the van, remove cooking odor from the van, and draw cool or hot air from the vans dashboard HVAC system to the rear of the van.

Only open the roof vent a quarter of the way while the van is in motion. Use the lock when closed.

DIESEL CABIN HEATER

Before using the cabin diesel heater, first read the included instruction manual. The heating system uses diesel from the Sprinter's primary fuel tank to fire a small furnace for heating

cabin air. The heater can be run with the van's engine off and the inverter does not need to be on. Follow instructions in the heater manual to turn the unit on and off and adjust cabin temperature.

NOTE: The diesel-fired furnace will not operate if the vehicle's fuel tank level is under 1/8 tank.

NOTE: It is normal for the interior lights to flicker slightly while the furnace starts.

NOTE: Do NOT turn off the 12V power system system if the furnace is on. This includes breakers, fuses, master power disconnect switch, and the solar controller itself. Turn the furnace switch to OFF on the heater controller only, then wait at least 10 minutes for the furnace to shut down properly.

TROUBLESHOOTING THE DIESEL HEATER

Troubleshooting steps can be found in the heaters instruction manual. If you are having a tough time starting the heater check that:

- The diesel tank is above 1/8 full
- The battery system is sufficiently charged (12.5V minimum)
- You're operating the heater below 10,000 feet of elevation.

PLUMBING SYSTEMS

Your campervan is outfitted with a self-contained water system. Your campervan does not support the use of a city water connection and is tank fed only.

WARNING

Standing water left unattended in the van can cause damage to cabinets, floor, electronics and other components found in your campervan. Always take immediate action to clean up water spills and fix leaks in plumbing systems. If a leak cannot be fixed, drain all holding tanks until your van can be brought to a qualified service station for repair.

Lastly, failure to winterize plumbing systems before the onset of below freezing temperatures can result in water leaks and subsequent water damage.

OUTDOOR SHOWER

The utility box, on the passenger side of your garage area (under the bed), houses a 40 gallon water tank. This tank supplies water to all plumbing fixtures in your van via a water

pump/accumulator combo, located behind the water control panel in the front of the utility box.

NOTE: Never leave the water pump on when not in use or when unattended.

FILLING THE WATER TANK

The water-fill port is located on the bottom left of the water control panel on the front face of the utility box (under the bed).

- Unscrew the cap on the fill-port.
- Using a standard garden hose (it is helpful to have a spray nozzle attached), press the hose into the fill port opening and then begin the flow of water to fill the tank.
- As the tank fills, the tank fill gauge will read its level. If it is difficult to read the gauge, turn on the garage lights to illuminate the gauge.
- When the tank gauge reads full, turn off water flow from the gauge and screw the fill port cap back on.

NOTE: It is important to clean up any spilled water immediately to avoid damage to the campervan's cabinets, flooring, and other systems..

CLEANING THE TANK

- Fill the shower water tank half way and mix in $\frac{3}{8}$ cup of household bleach into the tank before completely filling the tank with a total of 18 gallons of fresh water.
- Let the full tank sit for 4 to 8 hours.
- Run the water tank dry by turning on the shower pump and running 18 gallons of water through the shower head.
- Refill the water tank with fresh water and drain several times to flush the system.

DRAINING THE TANK

The water tank can be drained by running the outdoor shower until the tank is empty.

USING THE OUTDOOR SHOWER

Your outdoor shower can be used for many different purposes. Because it is the only hot water source in your van, it not only is a great way to take a shower but also serves an excellent utility for outdoor dish cleanup.

WARNING

This accessory hot water shower is designed for use in areas with direct airflow to the outdoors. NEVER use the hot water heater with the rear cargo door closed. NEVER leave the low pressure propane canister connected while the water heater is not in use or unattended. ALWAYS turn the hot water heater igniter switch to the "OFF" position when not in use. And only ever open the water supply valve to the water heater when in use, NEVER LEAVE THE WATER SUPPLY BALL VALVE ON WHEN THE SHOWER IS NOT IN USE.

Please follow the steps below to operate your shower:

1. Make sure the shower hose, shower head, and shower water flow are connected together firmly and that the entire hose assembly is connected firmly to the shower heater.
2. Connect propane to the low pressure regulator.
3. Turn on the water heater flame igniter (located on the bottom of the water heater).
4. Turn water flow to the water heater "ON" using the ball valve on the bottom of the heater.
5. Turn on the water pump switch, water will then flow through the heater and out of the shower head. You can hear the igniter clicking before igniting flame visible through the three water droplet icons on the front face of the water heater.
6. Adjust water temperature using the control knobs on the face of the heater.
7. You can limit water flow or stop the flow of water completely using the flow adjustment on the shower head.
8. When done, turn the water pump switch OFF.
9. Open the shower head flow restrictor valve and release any residual water from the line by placing the shower head below the tank and shaking firmly.
10. Immediately wipe up and water that may have dripped inside the van.

NOTE: Always be sure to winterize your shower if you are camping or leaving your vehicle in freezing weather conditions.

WINTERIZING YOUR WATER SYSTEM

If your van is in freezing temperatures, or will be when you get to where you are driving, it is imperative that you winterize the vans water system to prevent damage to your plumbing system, electrical systems, and cabinet features.

Winterize your campervan's shower with the following steps:

1. Turn the Winterise valve on your water control panel to "WINTERIZE".
2. Be certain that the water supply ball valve to the shower heater is "OFF".
3. Turn the sink faucet on.
4. Turn on the water pump and wait for the flow of water to stop then turn off the faucet.
5. Turn on the shower water supply ball valve and run the shower until water stops flowing from the shower head.
6. Turn off the shower head and turn off the water supply ball valve.
7. Turn the water pump off.
8. Connect compressed air to the blow out port on the bottom plate of the utility bay. You can use a home compressor, portable compressor, or gas station tire fill center. Be sure the compressor is set to supply a minimum 30 PSI and no more than 50 PSI of air pressure.
9. Repeat steps 4-6 with the water pump OFF, giving ample time for the compressed air to blow out as much moisture as possible from both the faucet and the shower plumbing.

In mild temperatures, while camping in the van with the heater on, you can use the sink by turning the winterize valve back to "ON". Do not turn the shower water supply ball valve on or the shower will fill with water. The shower is EXTREMELY susceptible to freeze damage.

In extreme cold, or when storing the van through winter season, extra precaution should be taken by:

- Drawing the water tank.
- Filling the plumbing system with RV antifreeze via the blow out port.

KITCHEN SINK

The sink is pressurized by the water pump in the rear of the van.

NOTE: Never leave the water pump on when not in use or when unattended. Always confirm the shower water supply valve is OFF before turning on the water pump.

KITCHEN SINK DRAIN

The sink drains directly to the ground beneath the van. For this reason it is important to monitor what is flushed down the drain. Do not pour chemicals, food scraps, or other items harmful to the environment down your sink drain. If it is necessary to run chemicals through the drain to winterize the system or clean out a clogged drain, be sure a receptacle is placed below the drain outlet under the van to catch the draining liquid.

NOTE: Always use the included sink strainer to protect the drain from items that may cause clogs.

REFILLING THE SINK SOAP DISPENSER

The sink comes equipped with a soap reservoir and pump. You must fill the soap pump from the top of the sink by pulling up on the pump head. Remove the pump head and pickup tube.

WARNING
Never remove and fill the soap pump reservoir bottle from the bottom of the cabinet. Removal and reinstallation of the reservoir may damage the threads of the reservoir.

REFRIGERATOR

The refrigerator is located under the countertop on the left side of the kitchen base cabinets located on the driver side of the vehicle. It is designed to run all the time and can only be turned off by disconnecting its power cord or disconnecting all utility from the solar controller via the app or main switch (under the bed in the utility box). Refer to the manufacturer's instruction manual for specific operation and warranty information.

NOTE: Always run the refrigerator on "Low-Speed" mode.

NOTE: NEVER remove the drain plug without first removing the fridge from the campervan. Always remove the refrigerator before draining.

ADJUSTING REFRIGERATOR SETTINGS

The refrigerator control panel is accessible by opening or removing the middle drawer in the kitchen base cab (Rover only) or under the sink on the left side wall of the cabinet (Rover XL only). Set the refrigerator to "Low Speed" mode every time the refrigerator is turned off by power reset or after removal. Press "Mode" repeatedly until the "Low Speed" green light is illuminated to the right of the control screen.

REMOVING THE REFRIGERATOR

In order to clean the refrigerator, repair or send it in for warranty, or to access the Solar Battery Bank, the refrigerator will need to be removed.

1. Remove the hinge screws holding the refrigerator lid to the countertop.
2. Unplug the refrigerator (plug is located next to the control screen).
3. Remove fridge baskets and all food items.
4. Pull the refrigerator upward to remove.

INDUCTION STOVETOP

Some vans are equipped with an optional 1600W single burner induction cooktop. The cooktop runs on 110V AC electricity, so the power inverter must be on to use the cooktop. Please monitor your batteries power consumption closely when using the cooktop, it consumes power quickly.

NOTE: Induction compatible cookware is required. (minimum 4" diameter, magnetic)

NOTE: Refer to the manufacturer's user guide provided for complete instructions.

SLEEPING AND SEATING SYSTEMS

SWIVEL SEAT

The front passenger seat has a seat-base swivel system, allowing it to rotate towards the rear of the van. Before rotating the seat, adjust it all the way forward to prevent it from rubbing or scratching the vehicle's door trim.

While standing next to the seat or outside the open passenger door, use the red lever, located below the front-center seat cushion, to rotate the seat counterclockwise. Use the lever again to unlock and rotate the seat further or back to the forward position.

NOTE: Never travel in the campervan with the seat facing backward. Never rotate the seat 360° to prevent the seat belt from twisting.

REAR BENCH

The rear bench-seat has room to seat two (2) passengers (Rover) and four (4) passengers (Rover XL). There are type-1 lap-belt style seat belts installed for each passenger. When the van is in motion all passengers **MUST** wear seat belts.

The cushioned horizontal bench-back folds up to extend the sleeping area of the bed. Be conscious and attentive to make sure bedding is not pinched in the latch when engaging the bench-back to prevent damage to both the bench-back hardware and your bedding. Make sure both latches are engaged, by pushing down on the bench-back, before climbing up into bed.

Do not try to collapse the bench back from on top of the bed. First climb out the bed and stand on the ground while lowering the bench back. Release the latches by pushing upward on the latch triggers.

MAIN SLEEPING AREA

The elevated bed above the garage is designed to utilize the extension provided by the bench back when in the upright position. The recommended sleeping position is to place your head towards the rear of the vehicle and your heels resting on the bench-back extension.

BENCH SLEEPING

There is enough room for a child under 4' tall to sleep horizontally on the Rover bench seat. The Rover XL L-bench offers an additional sleeping surface for an adult up to 6' tall. There is also an optional Bed-to-Bench conversion kit for the Rover XL model.

Sleeping with your head under the bench-back when it is in the upright position is prohibited. It is important that if any passengers are sleeping on the bench that the bench back is first locked into place and tested for security to prevent the bench-back from falling on a passenger sleeping below.

OPTIONAL: UPGRADED SOUND SYSTEM

FOR VANS WITH OEM TOUCH SCREEN MULTIMEDIA CENTER

For specific information on controlling your Mercedes Benz Multimedia system please read the Mercedes Benz Sprinter owners manual.

All audio tuning adjustments for your system can be adjusted using the controls offered on the LCQ-1 unit located behind the bottom drawer in the kitchen base cabinet. This unit is installed to adapt new audio hardware to your existing Mercedes Multimedia System. Added systems that are controlled by the LCQ-1 include:

- Front Speakers (L/R)
- Rear Speakers (L/R)
- Amplifier
- Subwoofer

Audio settings for these systems have been tuned and adjusted during the quality control process at our factory. To make changes to the speaker levels and system settings, please refer to the LCQ-1 Manual. Be careful making these adjustments, these systems have a multitude of settings and a thorough understanding of their function is necessary to prevent damage to your system.

The volume of your added 10" Pioneer subwoofer can be adjusted via the bass control knob if equipped (low to the left of the steering column), or on your Mercedes Multimedia System.

FOR VANS WITH AN UPGRADED PIONEER TOUCH SCREEN STEREO

For specific instructions on operation of the Pioneer Stereo system, including output settings, navigation, and connectivity - please refer to the provided Pioneer Operators Manual.

For Apple Carplay and the best phone connectivity experience, plug your phone directly into the provided phone connectivity port on the top center of the dashboard.

Your system is made up of several components that interact together to bring you a balanced stereo experience:

- Stereo/touch screen media center
- Two (2) Front Speakers
- Two (2) Front Tweeters
- Two (2) Rear Speakers
- One (1) 1600W Amplifier
- One (1) 10" 1200W Subwoofer

NOTE: Control speaker output, balance, and fade directly in the options menu of your Stereo Screen.

EXTERIOR ACCESSORIES


FRONT BUMPER LIGHT PODS

Your campervan's two-stage LED light pod system is integrated into the front bumper and is turned on via two red switches (to the right of the steering column). If the switches are illuminated red, the lights are turned on.

The white lights are intended for low light conditions, while the yellow lights are designed to cut through fog and snow. Like all electrical systems in your van, prolonged use could result in a dead battery.

AWNING

To best learn to operate your awning, refer to the included Thule manual. A how to video can be viewed here:

https://www.youtube.com/watch?v=drN1j8AsiuA	
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The awning crank rod is stored under the bed on the driver-side wall. The awning pitch adjustment screws have been adjusted to avoid the awning form hitting the top of the slider door when in the open position.

LADDER

Your rear door ladder has a weight rating of 275lbs. Be careful when climbing up and down the ladder.

WARNING
DO NOT CLIMB ON THE LADDER WITH THE DOOR OPEN. Standing on the ladder with the door open will damage the door and hardware.

CAMPERVAN REGULAR MAINTENANCE

BUTCHER BLOCK COUNTERTOPS

VanCraft campervans come standard with solid oak butcher block countertops. These beautiful countertops are chosen for their elegance, durable makeup, and ease of maintenance. They are treated before installation with a 3-day soak in our favorite butcher block oil to seal them from water and stain intrusion.






Over time, your countertops will encounter stains and normal wear-and-tear. Spot treating and refinishing the butcher block is a regular part of campervan ownership. Additionally, your countertops will need regular re-applications of a good butcher block oil to keep them sealed and protected.

We recommend applying a nice sealant layer of oil every 4-6 weeks, when used regularly. You can find butcher block oil at your local hardware store or at many online retailers. Simply apply with a cloth and let soak for 2-3 hours before wiping away with a clean cloth. For more intensive spot treatment and refinishing, sand the oil into the grain of the wood using 120-200 grit sandpaper.

ROOF SEALANT

Your vans roof accessories are sealed with a coating of "RV Lap Sealant" as an extra layer of protection from water intrusion, where fasteners penetrate the roof structure. Like all RV's this lap sealant should be inspected and re-coated every 3 years. This can take place at any RV service center or can be done easily yourself.

EXTERNAL LINKS

Winterizing Your water System		
Resetting Your Vans Electrical System		
Lithium Batteries	https://www.renogy.com/content/RBT100LFP12S-G1/LFP100S-Manual.pdf	
Lithium Battery Monitor	https://www.renogy.com/content/RMS-LFPS/MSLFPS-Manual.pdf	
Power Inverter	https://www.renogy.com/content/files/Manuals/RNG-INT-700&1000&2000&3000-12V-P2%20Manual.pdf	
Solar Charge Controller	https://www.renogy.com/content/RNG-CTRL-RVR20/RVR203040-Manual.pdf	
Air Conditioner (Optional)	https://epi.dometic.com/externalassets/dometic-coolair-rtx-1000_9600028489_76954.pdf?ref=1666669982	

Roof Vent Fan	https://www.airxcel.com/docs/default-source/maxxfan/fans/maxxfan-maxxfan-plus/11f90000k_maxxfanmini-maxxfan-maxxfan-plus-install-01-2018.pdf?sfvrsn=a073076b_6	
Diesel Heater controller	https://drive.google.com/file/d/1CbO3J35yhUr34ZhtxTvH DJ1Rkr3BI_bN/view?usp=sharing	
Diesel Heater repair/trouble-shooting	https://drive.google.com/file/d/1QbvgKqiMlonjEKOc2M72hspRYTL0CdFd/view?usp=sharing	
Refrigerator	https://www.whynter.com/wp-content/uploads/MANUAL-FM-45CAM.pdf	
Induction Stove Top	https://wdbmedia.com/TRUE-INDUCTION/DOCUMENTS/Single_Burner_TI-1B_Manual.pdf	
Awning	https://www.etrailer.com/instructions.aspx?pn=TH620001	

LCQ-1	https://www.audiocontrol.com/downloads/car/current/lcq-1/lcq-1-user-manual.pdf	
AMP (JBL)	https://www.jbl.com/on/demandware.static/-/Sites-masterCatalog_Harman/default/dw5779018a/pdfs/CA_JBL_Club%20A754%20and%20A5055_QSG_CR_V9.pdf	
AMP (Pioneer)	https://www.pioneerelectronics.com/StaticFiles/Manuals/Car/GM-D8701_DX871_D9701_DX971_OwnersManual031319.pdf	
Head Unit (Pioneer)	https://www.pioneerelectronics.com/StaticFiles/Manuals/Car/DMH-1500NEX_OperationManual111020.pdf	