



USER GUIDE

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01 | OVERVIEW

Thank you for purchasing TrueVan! The following guide includes the care and operation of its systems.

ABOUT THIS USER GUIDE

This User Guide serves as a guide for operating TrueVan campers. Take the time to review details carefully. TrueVan campers are built on a Mercedes Sprinter, Ford Transit or Ram Promaster, depending on the model. Note that the model year may not correspond to the year the van was finished. Refer to the VIN number of your vehicle when working with Mercedes, Ford and Ram dealer services.

We are periodically updating our manual. For the latest version, visit

<https://www.truevan.com/owner-resources>

PRE-DELIVERY

TrueVan follows a detailed inspection process before vehicle delivery. Consult a TrueVan technician if you have any questions in regards to operation.

SAFETY

The TrueVan Vision is built on a high-power Lithium battery system with the voltage stepped up from 12V to 120V. Use a licensed electrician for any electrical service and repairs to avoid injury.

BEFORE OPERATING YOUR VEHICLE

Make sure you study and follow any local and state laws. Here is a recommended checklist to properly secure your vehicle before traveling. We are not responsible for any damage or injuries as a result of this list.

- Turn ON the Main battery red shutoff switch located on the rear wall panel near the back door by rotating the switch clockwise.
- For the 12V fridge, turn down temperature adjustment to “0” or “OFF”. This will turn off the refrigerator. For the 110V fridge, turn off the 110V circuit breaker located in the breaker panel under the fridge or the bed.
- Turn ON the inverter in the battery compartment next to the refrigerator under the bed panel by switching from OFF or CHARGE ONLY position to the middle position ON. Normally this should be left on at all times as it will automatically shut off when you turn off the main battery red switch.
- Turn ON the main 50A circuit breaker and all individual 20A breakers in the main breaker panel below the refrigerator or under the bed. To open the panel, push and release the top section of the cover, then pull it down. When all breakers on the microwave console LED light up, this indicates that 110V is in operation. Normally all breakers are left ON at all times, as they will automatically deactivate when the red shutoff switch is OFF. Set the microwave to the local time.
- Charge your batteries if needed. Make sure the inverter is in the “Charge Only” or “On” position, not in the middle “Off” position. Next, make sure the shore power circuit breaker is turned ON. There is typically a metal box next to the shore power source in RV parks or you can use a home EV Nema 14-50 plug for charging. When there is power, a blue LED will illuminate at the Vision power inlet cover. There are 2 ways to run or charge your electrical system in the Vision, 50A or 15A. To use the 50A system, with which you can operate multiple induction stoves and the AC at the same time, you need a cable which can be purchased on Amazon. Search for a cable with NEMA SS2-50R LOCKING FEMALE CONNECTOR and MALE NEMA 14-50P on the other end (NOT to be mistaken for an extension cable). The correct cable has a round locking NEMA SS2-50R (Nema SS2-50R cable to Nema 14-50P) that will twist on the camper shore power connector. Keep in mind that the cable is extremely bulky and heavy to carry. When using the

15A system, the camper can be charged through your standard home plug. Use the Miady 15A Male to 50A Female Locking Connector RV Adapter Cord that is included at the time of your purchase. When an extension cord is used, it must be at least a 12 gauge or heavier, and no longer than 100 feet. A lighter duty extension cord would cause overheating of the wire and trip the circuit break at your house. Power draw is limited to 12A from shore; however power usage over 12A will be drawn from the batteries automatically through the inverter bypass system. The 5-15P to SS2-50R adapter is included and recommended due to its compact size.

- The batteries are fully charged when the voltage in your Victron App on your phone displays approximately 14.2V when disconnected without turning on any heavy duty appliances such as your induction stove, water heater or A/C. In cold weather, if the inside compartment of the camper is below 24°F, turn on the diesel air heater by following the heater section of this manual and warm up the batteries before charging.
- Return both swivel seats to their original positions and make sure the swivel bases are locked.
- Turn OFF all internal LED lights so they will not interfere with your driving.
- For the privacy bathroom, lock the 3 bathroom door latches, including the one at the bottom, which is often forgotten. Firmly push on the door while turning the latches counter clockwise. For the 360° curtain bathroom there is no need to lock anything.
- Turn OFF the ceiling Maxx fan by pressing the off button next to the fan and closing the roof fan cover by pulling the knob downwards, then turning it clockwise. When you arrive at your destination, reverse the process to open the cover before turning on the fan. You can adjust the fan speed by pressing the ON button up to 3 times.
- Lift and fold the dinette table top, attach the strap hook to the catch above the wall then pull the end of the strap down to

tighten. Fold the two wing leg supports towards the wall and secure them by turning the T-latch to a horizontal position.

- Lift and fold up the bed frame, attach the strap hook to the hook above the window then pull the end of the strap down to tighten. If you wish to travel with the table or bed deployed, you may secure them by attaching the built-in gray strap to the floor anchor across the floor. If the table top and the bed board are not strapped down, they may bounce during travel.
- Secure the refrigerator and freezer doors by pulling the latches upwards.
- Latch all cabinet doors. Push them all the way in until the latch handles are completely closed.
- Unplug all appliances and ensure that they are securely stowed away.
- Turn off the air heater
- Close all windows and latch the side window behind the driver.
- Close all doors, including the sliding side door and rear doors (some may be obscured by window shades).
- Tighten or remove the Lagun table top latches. One option is to store it upside down on the optional headlining shelf and held down by a pillow or cushion. If removing, ensure that the table top is stowed away securely. For a double swivel table, just tighten the swivel knob below the table top.

SAFETY DEFECTS If there is a safety defect, contact us or the National Highway Safety Administration.

TrueVan | 714-464-9165 | <http://www.truevan.com>

Vehicle Safety Hotline | 1-888-327-4236 (toll-free) | <http://www.safercar.gov>.

Follow the Mercedes Sprinter, Transit and Promaster’s manufacturer weight capacity guidelines when loading your camper. It is the responsibility of the driver not to overload the vehicle. The GVWR of a TrueVan Vision curb weight is approximately 7,850 pounds depending on configuration and options. Avoid filling the camper up with too much fresh water or storing too much waste water in the tanks during travel.

PERSONAL & VEHICLE INFORMATION

Owner Information

Owner’s Name(s)

Address

Phone

Vehicle Information

Vehicle Identification Number (VIN)

Vehicle Mileage at Delivery

Owner’s RV Insurance Policy

Company Policy Number

Agent

Phone

02 | SAFETY

SAFETY OVERVIEW

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.

DO NOT occupy a parked vehicle with the engine idled for prolonged periods of time. DO NOT run the engine in confined spaces for an extended period.

This camper van has been designed, manufactured and tested with concern for the protection of its occupants.

Recommended safety inspection checklist 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.
- SEAT BELTS** – Direct passengers to designated seats, ensure swivel seats are locked into position, and require use of seat belts. See operator's manual for occupancy and weight restrictions.
- APPLIANCES** – Turn off appliances.
- DOORS** – Lock and latch doors.

- EXITS** – Inspect release mechanism on emergency exit window, test both locks on main entrance door for proper operation and inform passengers how to use the exits.

Other General Safety Warnings:

- Have the exhaust system inspected periodically by a qualified RV service center.
- DO NOT operate the engine if the exhaust system malfunctions.
- Inspect the fire extinguisher monthly and before each trip for proper charge and operating conditions.
- Passengers should never use the bed or dinette bench while the vehicle is in motion.
- All seats must be locked in the travel position while the vehicle is moving.
- Passengers must only use seats with seatbelts while the vehicle is moving.
- Never use a car seat in the front passenger seat.

SMOKE & CARBON MONOXIDE ALARM

TrueVan is equipped with a smoke and carbon monoxide detector in your vehicle. It is located above the driver overhead cabinet/shelf or behind the top rear cabinet next to the rear door. Rotate it counter clockwise to remove and test the system by pressing the Test/Reset button before usage.

TrueVan may not activate the smoke and carbon monoxide detector to protect it during storage. It is the owner's responsibility to make sure it is activated before the vehicle is in operation.

Avoid inhaling exhaust gas from the diesel engine and diesel air heater, as they contain carbon monoxide, which is a colorless, odorless, and poisonous gas that can cause injury or death.

DRIVING PRECAUTIONS

- In the event of a flat tire, DO NOT panic and over turn the steering wheel.
- Grip the steering wheel firmly and steer the vehicle as straight as possible. Avoid quick maneuvers. You may need to counter-steer to compensate for pull created by the flat tire.
- DO NOT slam on the brake. Instead, ease back on the accelerator slowly and gently allow the vehicle to slow down. 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 and carefully after you are certain the lane is clear.
- Let the vehicle coast to a stop, gently steering to a safe stopping place away from moving traffic. Do not worry about damaging the tire or wheel rim by driving on it. A tire or wheel replacement is cheaper than damaging the vehicle or injuring yourself.
- When you have come to a stop, activate your hazard warnings to warn other motorists, then exit the vehicle carefully.
- Set out flares or other warning devices as needed.

FLAT TIRE CHANGE (MERCEDES SPRINTER ONLY)

In the event of a flat tire:

- The tire jack is located at the front passenger side step, below the metal chair base. It is the lower of the 2 plastic doors at the side of the chair. Open the door by pressing down on the 2 locking levers and pulling outwards. The wrench and spare tire removal tools are in different locations under the foot rest of the front passenger and the cover is secured by two flat head screws which can be opened with a coin. Use the provided six silver OEM 19mm head diameter lug bolts for the OEM Mercedes spare tire (DO NOT use the shorter black 17mm head diameter lug bolts, which are meant only for the upgraded

Method wheels). Failure to use the correct length lug bolts may cause the wheels to detach during travel, causing serious accidents. If your Vision comes with the upgraded Method wheels, DO NOT use the longer silver color OEM Mercedes lug bolts, which will not properly lock the Method wheels and will strip the wheel disc thread. Finally, remove the spare tire located at the rear of the vehicle. Refer to the Mercedes Sprinter owner's manual for the removal process.

Refer to the Mercedes Sprinter, Ford Transit or Ram Promaster owner's manual for further details.

FIRE EXTINGUISHER

The fire extinguisher is located behind the driver seat or under the side of the kitchen cabinet. Make sure it is recharged or replaced annually for proper operation. DO NOT partially discharge the fire extinguisher, as it can cause pressure leakage, which would render the unit inoperative. When using the fire extinguisher, aim the spray at the base of the flame.

Familiarize yourself with the operating instructions and the location of the fire extinguisher.

Inspect the fire extinguisher for the proper charge at least once a month in accordance with the National Fire Protection Association (NFPA) recommendations, as stated on the label. If the extinguisher is past its expiration date or the charge is insufficient, the fire extinguisher must be replaced.

When you replace the fire extinguisher, the replacement must be the same type and size as the one provided.

03 | DRIVING, CAMPING & WINTER STORAGE

CAMPER VAN USAGE (MERCEDES SPRINTER ONLY)

Your van owner's manual may not have included some of the important functions for camper van usage.

When you lock your doors with your key fob before going to bed, the engine will not start until you unlock the doors with your key fob. For the Mercedes Sprinter, press and release the Start Button to start the car. It is not necessary to hold the Start Button while stepping on the brake.

The Sprinter is equipped with a sophisticated computer. If any of the functions are working improperly, such as A/C unable to activate or slow acceleration, a reset may be necessary. Simply pull over to the side of the road, park, turn off the engine and restart the engine. This process is similar to resetting your computer at home by turning the power off then on.

It is recommended that the DEF (diesel emission fluid) be topped off every 1,000–2,000 miles instead of waiting for 6,000 miles as recommended by the factory. When dried, DEF becomes a powdery mineral deposit that is a common cause of clogged fuel lines. The DEF fluid is critical to the operation of the diesel engine. Failure to fill this fluid will force the Sprinter into crawl mode at approximately 3mph.

The second button from left to right at the ceiling light control console must be carefully kept in a depressed position during camping. Failure to do so may drain out the AGM Mercedes house battery and not allow your car to start. Use the Vision LEDs for all your lighting needs.

DO NOT use BioDegradable Diesel, which is commonly available in rural area gas stations. Doing so will cause improper combustion, especially at idle. If the engine dies at low idle, do not panic. At higher idle with

foot on the gas pedal, drive to a nearby gas station and the BioDegradable diesel can be slowly diluted with Diesel #2. At high idle you should be able to temporarily use the BioDegradable fuel to drive until the tank is ready for new fuel.

The key fob lock/unlock can turn off the OEM lights quickly. Otherwise, it may take several minutes for Mercedes, Ford or Ram OEM lights to automatically shut off.

Refer to the Mercedes Sprinter, Ford Transit or Ram Promaster owner's manual for further details.

If your 4 wheel drive is unable to engage

You can only engage and disengage from and to 4x4 mode in neutral gear. There are 2 buttons that control the 4x4 gear switching, which are located on the control panel at the right side of the steering wheel. Put the car in neutral by tapping lightly on the gear shift. Press and release the left button until the red flashing LED becomes solid, press the right button to select high or low 4x4 gear. Reverse the process to disengage the 4x4 mode. If you are unable to disengage, try turning off the engine and restarting or pressing the low/high gear button on the right. It is important to disengage the 4x4 mode to the normal two wheel drive mode before parking your camper overnight. Failure to do so may cause the engine to disengage from the transfer case and you may not be able to engage the gear without turning the engine on/off numerous times. For additional information, refer to the Mercedes Sprinter, Ford Transit or Ram Promaster owner's manual.

MERCEDES, FORD AND RAM OPERATION

For the original manufacturer's lights, driving controls, instrumentation, cruise control, climate controls, gauges, wipers, safety belts, and other related features, refer to the Mercedes Sprinter, Ford Transit or Ram Promaster owner's manual. The Vision is delivered with a full tank of diesel fuel.

The Mercedes fuel gauge bars can often be confusing at first when it is completely full. When full, all bars will be completely lit in white and when fuel is depleted, the bars will be completely black.

FRONT SEATS

The front seats of your camper are adjustable in a number of configurations, including swiveling to face the rear of the vehicle.

To swivel the front seat backwards:

- Push the steering wheel all the way forward by releasing the lever below the steering wheel.
- Move the seat backwards to allow you to reach the release latch below the front.
- Slide the release circular lever to the side while turning the seat very slightly (about one inch). This will release the lock and you will no longer need to hold the release lever.
- Move the seat and the seat back all the way forward, then rotate towards the center of the vehicle. This is best done while sitting down on the seat.
- After you have rotated the seat facing the rear of the camper, move the chair backward to allow leg room in the lounge area.
- There are 3 memory buttons and we recommend you to program them by following the Mercedes Sprinter, Ford Transit or Ram Promaster owner's manual. We recommend programming 1 for driving, 2 for chair rotation setup and 3 for reversed ready to use position.

(To turn the seat back to driving position, reverse the process above)

WARNING: *Damage to interior door panels may result if the seat and seat back are not pushed all the way forward before rotation. To set the driver seat back to driving position, turn it only in a counterclockwise direction. And for the passenger seat, turn it only in a clockwise direction to return it back to normal position.*

WARNING: *When the vehicle is in motion, the driver and passenger seat swivel bases must be locked in the original forward-facing positions.*

SIDE WINDOW

(For Passenger vans only)

To access the side window behind the driver's seat, the window shade needs to be folded away. To do this, fold the window shade in half at the 3rd stitch line, then tuck it behind the bathroom wall.

Open or close the side window. Use the handle to pull the window inwards if needed.

Helpful tip: *Make sure the window screen is tucked close around the edge of the window frame so that it is not pulled off when removing the window shade.*

SEAT BELTS

Only seats equipped with seat belts should be used when the vehicle is in motion. Ensure that all passengers have seat belts fastened correctly and securely.

CHANGING SPARE TIRE WARNING!!!!

When using the OEM Mercedes Sprinter Spare Tire

Make sure you use the Mercedes factory original lug bolts and lug bolt hex tool in the owner's kit. The Method wheels DO NOT share the same lug bolts as the Mercedes OEM spare tire wheel.

When using the custom TrueVan Vision Method Wheels

Make sure you use the black custom lug bolts. The TrueVan Vision may come with optional custom Method wheels, which use shorter black lug bolts that DO NOT fit the stock Mercedes Sprinter spare wheels.

WARNING: *DO NOT use the stock Sprinter factory wheel lug bolts when attaching TrueVan's custom Method wheels. The Sprinter factory lug bolts are approximately ¼" too long and will not allow you to completely tighten the Sprinter stock wheel, which can result in the wheel detaching from the vehicle while driving, a very dangerous situation. Use only the shorter black custom lug bolts that came with the TrueVan custom Method wheels and the longer silver OEM lug bolts for the spare tire wheel.*

Refer to the Mercedes Sprinter, Ford Transit or Ram Promaster owner's manual for further details.

WINTERIZATION

Diesel Anti-Gel Additive

Please ignore this section if you have a gasoline powered Truevan.

Diesel fuel gels (or crystallizes) at approximately **15°F**, so when operating below this temperature it may be necessary to add anti-gel additive to the fuel tank. Anti-gel additives drop the freezing point of diesel fuel so that it is less likely to freeze in cold temperatures. When fueling up in cold weather locations, most diesel already contains an anti-gel additive. Consult a Mercedes, Ford or Ram dealership for recommendations, since many anti-gel additives (such as 911) may clog up the fuel injector and the diesel fuel line. One popular anti-gel additive used by campers is Howes diesel anti-gel, which is available at Amazon and linked below. Please note that Truevan cannot be held liable for any damages to the van as a result.

https://www.amazon.com/Howes-103060-Diesel-Conditioner-Anti-Gel/dp/B001JT310U/ref=sr_1_2?crid=1CHY5RZ3DJ3P0&keywords=howes+diesel+treatment&qid=1672361218&sprefix=howes%2Caps%2C226&sr=8-2

It is the customer's responsibility to ensure that the diesel fuel does not gel, which may clog the diesel heater fuel line in cold weather and is not covered under our warranty.

Turn on the diesel air heater by following Section 04 and running the heater for approximately 15 minutes until the anti-gel additive has completely filled the external diesel fuel line. A frozen diesel line without anti-gel additive will cease or damage the diesel heater pump and may trigger an E10 error message on the heater controller screen. Once the diesel air heater is working, make sure the cabin temperature is high enough so that the batteries will accept a charge (at an internal cell temperature above 24°F). As for discharging, the battery will be able to power your devices for normal operations even down to -4°F.

Marine Antifreeze in Fresh Water Tank

When storing the camper in below freezing temperatures, it is important to add marine antifreeze to the fresh tank and circulate it through the entire plumbing pipe system. Follow instructions for the antifreeze additive, ensuring it is marine grade and not the automotive grade, which is poisonous and normally used for engines. Pour antifreeze into the fresh tank by following its instructions and turn on the water pump. Turn on both the hot and cold knobs for the inside and outside shower as well as the kitchen faucet, and run the water for at least one minute. Keep on flushing the toilet for one minute and turn off all faucets when finished. In below freezing weather, turn on the DE-ICE power button at the control panel, which will automatically heat the gray and black water tanks. It is also very important to keep the internal cabin above **50°F** at all times when antifreeze is absent in your freshwater. This will prevent pipes, connectors and tanks from ice damage. Failure to follow the winterization and operating procedures may result in a plumbing failure and will void your warranty. For weather below **32°F**, we highly recommend adding marine antifreeze to your freshwater and to drink only from bottled water.

04 | BATTERIES & APPLIANCES

ELECTRICAL & BATTERIES

The TrueVan Vision is equipped with state-of-the-art lithium phosphate Batteries that can cycle more than 5,000 times. It features a sophisticated battery management system (BMS) that protects the cells from overcharging, charging at freezing temperatures, and shorting. The batteries carry a 10–11 year warranty. To operate, turn on the main battery connect/disconnect switch, which is located at the rear cabinet and can be accessed by opening the rear door.

There are 4 types of charging systems that replenish the batteries' power: SHORE POWER, SOLAR POWER, SECOND ALTERNATOR and ALTERNATOR ASSIST.

- **SHORE POWER** – The shore power operates only when the inverter switch is in the ON or CHARGE ONLY position and will not charge in the OFF position. The main battery switch located behind the battery compartment must be ON. Plug the provided 15A power cord adapter (provided) or the 50A power cord (optional) from the driver side of the vehicle into the shore 110V power port (e.g. NEMA 14–50 plug at 50A used for your EV or one that is available in a RV park).

WARNING: Any extension cord used to charge at 110V must be at least 12 gauge not exceeding 100 ft.

When connected to shore power, the Victron inverter/charger will automatically charge and detect shore power and pass a maximum of 50A 110V current to all the Vision power plugs and appliances without using any battery power. You should monitor its progress to ensure it is charging by opening the Victron Connect application on your phone under CURRENT in amperage, POWER in percentage or verifying that the voltage

display on top of the control panel has been increased by approximately 0.5V. The charge current will drop off sharply when the battery is almost full and should not be mistaken as charge failure. Please make sure the ventilation grill below the bed is unobstructed during charging and running heavy duty 110V appliance(s).

- **SOLAR POWER** – If your camper is equipped with a solar panel, due to the flat angle on the roof, a setting sun and the 12V conversion process, it is typical to get half of the specified current. It would take approximately 3–6 weeks for the solar panels to charge up the large 1100A battery bank, so we do not recommend relying solely on solar charging for the high power battery system. Use the fast charging system from the alternator(s) by turning on the engine or charging it from shore power before your trip.
- **SECOND ALTERNATOR** – Some of the models are equipped with a state of the art Alternator-Charging-System that allows you to charge in almost complete silence with the engine running at idle. This is accomplished by using a second dedicated ALTERNATOR. No driving or noisy high idle is needed to charge the batteries, giving you unlimited power at any time, anywhere even when you are parked. While driving, the charge rate is approximately 2500Wh and at idle the charge is virtually silent at a rate of approximately 2,000Wh. Please note that when batteries are past 80% full, the charge rate drops significantly and should not be mistaken as a charge failure. You may monitor the charging status by opening the Victron Connect application (see next section: Power Management & Inverter) on your phone under CURRENT, POWER displayed or verifying that the voltage display on top the control panel has increased by approximately 0.5V. The main battery switch does not need to be ON for alternator charging but it is required to be on for shore power charging. Note that the

SECOND ALTERNATOR cannot coexist with the ALTERNATOR ASSIST, which charges at a different current.

- **ALTERNATOR ASSIST**– Some models of the TrueVan use the OEM alternator to assist battery charging up to 500–800Wh. The charging can operate with the engine on at slow idle without the need to drive the vehicle. Note that the ALTERNATOR ASSIST cannot coexist with the SECOND ALTERNATOR, which charges at a different current.

POWER MANAGEMENT & INVERTER

The battery voltage can be monitored through the Victron Connect app on your phone or on the control panel LED display.

When the battery is full, the voltage is approximately at 13.6V with all charging sources disconnected or when the batteries are fully charged at 14V when a charging source is connected and at about 12V under heavy load. When the battery is near empty, the voltage drops to approximately 12.5V with all charging sources disconnected and without load. The inverter enters into a shut down mode at 12.3V without load and all the 110V plugs and appliances will cease to function. Under heavy load running appliances such as A/C, induction stove or water heater, it is normal for the voltage to go slightly below 12V even if the batteries are completely full. Do not be confused on the voltage reading as it is different with and without load. Even though the inverter shuts off, the 12V power plugs will continue to function until the voltage drops to 10.5V or below without load. The water pump, LED lights, control console USB ports and USB ports on the reading lights will remain operational, as they do not rely on the inverter 110V power source.

To monitor your power, use the Victron Connect smartphone application.

- **Turn on your phone's bluetooth**
- **Install and open the Victron Connect app**
- **Enter password 000000**
- **Open app to monitor your power**

The Victron application runs on bluetooth, which works for up to a 15 feet radius and does not require internet connection or data usage. However, only one user is able to monitor at a time. The battery storage is measured in % and is set up to automatically calibrate itself to 100% each time the battery is charged to full. The battery settings in Victron Connect are preset when you have a 1100Ah system as follows:

- **BATTERY CAPACITY** – 1100Ah for TrueVan Vision X / 220–800Ah for other models
- **CHARGED VOLTAGE** – 14.2V
- **DISCHARGE FLOOR** – 0%
- **TAIL CURRENT** – 4.00%
- **CHARGE DETECTION TIME** – 3m
- **PEUKERT EXPONENT**– 1.05
- **CHARGE EFFICIENCY FACTOR** – 99%
- **CURRENT THRESHOLD** –0.10A
- **TIME-TO-GO AVERAGING PERIOD** – 3m
- **BATTERY STARTS SYNCHRONIZED** – On
- **STATE-OF-CHARGE** – Can be manually set but will recalibrate when batteries are fully charged

The inverter converts the 12V current from the battery to 110V, which powers the 110V wall outlets with USB, 110V refrigerator, cooktop, 110V rooftop AC, water heater and microwave. To run the 110V when connected to shore power 50A, the inverter automatically passes through the current so that the inverter is no longer drawing from the batteries.

The inverter can be switched off when not needed. Keep in mind that some refrigerators use 110V from the inverter, so it is good practice to keep your inverter on during the camping trip and to remember to turn it off after the trip. The main battery switch can be left on at all times even during storage if the camper is stored in a sunny location and the

power consumption is below 10Wh by turning off the inverter and all 12V high power appliances. The solar charge controller will charge the batteries even if the main battery switch is off. The batteries are charged by solar when stored outside where there is sunlight which is enough to provide 10Wh and trickle charge the battery at the same time. The inverter can be turned On/Off for troubleshooting by accessing the Inverter On/Off/Charge-only button through the round hole located above the bed at the passenger side. Remove the round gray plastic cap by pulling it upwards, reach in with your finger and switch the 3 position rocker. Forward is ON, middle is OFF and backwards is CHARGE ONLY. It may be necessary to remove the entire battery cover the first time to see how the inverter rocker switch operates, thereafter you can use the small round opening to access the switch. The inverter consumes approximately 35Wh of power even when it is not in use, so please follow shutdown procedure to avoid draining the battery before you put your Vision into long term storage. For winter storage during which the camper won't be parked under sunlight, you will need to shut off the main battery switch and the inverter will automatically shut off.

WARNING: DO NOT block the white inverter venting grill below the dinette table.

12 VOLT FUSE PANEL

The 12V system has a fuse panel that can be accessed next to the 110V breakers. If too much power is drawn by a device plugged into the 12V system, a fuse will blow and power will be cut off to that circuit. Blown fuses can be removed and replaced to restore power to the circuit with the same amperage fuse.

WARNING: Always replace fuses with fuses of the same size and amperage rating. The first 12 fuses are in a fuse box located above the microwave.

- **REAR PANEL** – 20A
- **READING LED** – 15A
- **MAXX FAN** – 20A
- **TANK SENSORS** – 10A
- **AUTOMATION CPU** – 5A
- **CTR PANEL USB** – 20A
- **FRONT LED** – 10A
- **REAR LED** – 10A
- **OUTSIDE LED** – 5A
- **HEAT PADS** – 30A
- **WATER PUMP** – 15A
- **BATH LED** – 5A
- **DIESEL HEATER** – 20A (Fuse located under passenger seat)
- **DRIVING LIGHT** – 50A (Fuse located next to Victron inverter, NOT in the fuse box)

BREAKER PANEL (110V)

The 110V is supplied by the Victron inverter located beneath the bed. The circuit breaker panel for 110V is located below the refrigerator. The breaker panel cover can be opened by pushing in, then pulling out at the top edge. The main 50A breaker is located at the right side of the panel. Each circuit is labeled on the panel of the area or appliance it controls.

PHYSICAL SWITCHES

Aside from the stock interior lights, the switch for the main battery connect/disconnect is located below the dinette table. This switch must be ON in order to run the interior lights and the 110V power inverter.

- **WATER PUMP, DE-ICE, OUTSIDE, FRONT, REAR AND BATHROOM LIGHTS**—can be controlled from the control panel switches next to the kitchen counter.

- **READING LIGHTS (UNDER CABINET)** – The under-cabinet reading lights are turned ON and OFF independently by pressing on the center of each light. Each reading light is equipped with a USB port and can charge your phone without the inverter being on. Press and release the blue LED button to turn the light ON and OFF, press and hold to dim, and press again to turn off. These lights are not controlled from the control panel.
- **BATHROOM LIGHT** – The bathroom light is located on the control panel (last button on the right).

AIR CONDITIONING

TrueVan comes with a low profile Coleman Mach 10 or a 12V ceiling AC. To operate, make sure the inverter is ON or that the camper is plugged into shore line power. To turn on, locate the ceiling AC above the kitchen, and rotate its switch clockwise. The COOL LOW or COOL HIGH draw almost the same power. Only the speed of the fan changes. The AC can run from the inverter, but it needs to be managed with care, as it draws a tremendous amount of power. However, the optional 12V AC uses 200–600Wh at less than half the power.

DIESEL HEATER

The TrueVan is equipped with a diesel or gasoline heater that draws fuel from the main tank.

To use the diesel heater:

- At the top of the control panel you will find a diesel air heater controller. Please ignore this section if your camper is equipped with a Webesto heater.
- Press the center power button located on the left side of the controller and ON will flash and display for 3 seconds. The fan

behind the passenger seat will begin to blow cool air. Fan icon blades on the display will rotate and the green/red LEDs below will blink.

WARNING: To prevent overheating, DO NOT block the heat vent behind the passenger seat near the sliding door entrance.

- Adjust Hertz Temperature setting to a min of 0.9 Hz or a maximum of 3.0 Hz by pressing the up/down key next to the power button.
- Wait 5 min for hot air to start.
- Before shutting off the heater, it is recommended to periodically increase temperature to 3.0 Hz and run heater for 3 min to clear any carbon deposits inside the heat chamber.
- Press and hold the Power Button to shut down, while paying attention to the display, which will flash OFF for 3 seconds. Auto shutdown will begin. The red/yellow/green bars on the lower screen represent the heat chamber temperature.
- Wait for the temperature to slowly reduce down to one green bar (internal combustion temperature) on the heater controller screen, which indicates that shutdown is complete.

WARNING: DO NOT turn off the diesel battery switch located inside the 110V breaker panel, as the diesel heat chamber must be cooled down with the fan on.

WARNING: DO NOT leave the diesel heater running unsupervised.

FRESH WATER SYSTEM

The fresh water system provides water to the kitchen sink and showers, either through a water storage tank or through pressurized water from the City Water Connection. TrueVan comes with a built-in pressure regulator that protects you from irregular water pressure in RV parks or any shore water with pressure. There is a one way valve that prevents

the city water from entering the fresh water storage tank. The water filtration filter is coarse and sometimes if the water contains fine mineral deposits, it can clog up the kitchen sink faucet.

No water coming out of the faucet

If water is not coming out of the faucet, then most likely the water pump is not turned on or the filter at the kitchen faucet head is clogged. Turn on the pump, shut off the water and twist the faucet head counter-clockwise to detach it. You should test to see if water comes out without the faucet head. Flush any sediments off the faucet head screen with some water, then replace the head by aligning the thread to the flex pipe in a straight line and slowly reattaching by turning it clockwise.

WATER FILL

There are 2 ways to refill your water: Gravity Water Fill or City Water Connection. Refilling must be done with the camper leveled for more accurate tank readings. The TrueVan Horizon (Transit and Promaster) comes with a single tank. For added capacity, the TrueVan Vision X (Sprinter) comes with an optional dual water tank system which may require 3-5 minutes to balance the water between the 2 tanks. It may temporarily give you an inaccurate tank reading if you fill it up too quickly.

Gravity Water Fill

The gravity water fill that feeds water into the water storage tank is located above the diesel fill inlet.

- Open the driver's side diesel fill inlet cover and locate the fill hole above the diesel fill.
- Engage the blue rubber funnel by aligning it sideways at 9 o'clock position and rotating it clockwise.
- Pour water in slowly and monitor the fill using your phone Home Assistant app or by watching the control panel display.

There is also a peak slotted hole to view the fresh tank under the second row passenger seat. To maximize the fresh water storage, the TrueVan Vision has twin fresh water tanks that are connected with several pipes. Allow the water level to balance to obtain an accurate water level reading. To completely top off the fresh water tank, wait approximately 30-50 seconds for the water level to balance before continuing filling.

- You may use the Home Automation system with the Home Assistants app on your smartphone to monitor the water level.

City Water Connection

The second way to obtain water is by connecting the camper to a pressurized city water source. The city water inlet is located at the side of the camper or at the driver's side rear wheel well above the rear tire labeled CITY WATER.

Disconnecting City Water

- Turn off city water supply.
- Open the sink faucet to relieve the water pressure.
- Disconnect the city water hose from the RV.

FRESH WATER PUMP

You can pump the water stored from the fresh water tanks using the switch located on the control panel. This pump contains a pressure sensor that automatically shuts off when the faucet is turned off, and is not required to operate while you are connected to city water. The pump may continue to run if the water storage tank is empty. The fresh water tank level can be monitored on the screen and at 0% you will have approximately 15% on reserve. It is recommended to turn the pump off when it will not be used for a prolonged time.

WARNING: DO NOT run the water storage tank dry for extended time periods, as this may damage the pump.

BLACK & GRAY WATER SYSTEM

Black Water Tank

The black water tank is used to store waste water from the toilet. It is recommended to use toilet treatments to reduce odors in the black tank. Read the label carefully, as enzyme packs often contain acid, which will chemically react with bleach and release a toxic film. Avoid using excessive tissue paper which may clog the water level sensor. If the sensor becomes inaccurate, fill the black tank to full and drive the camper around to shake debris loose.

Emptying the Black Water Tank

- If you own a single family home, you should be able to locate a drain cleanout service plug between your bathroom and the street for dumping.
- Find a nearby RV dump station: <https://www.rvdumps.com/>
- Locate the black water release valve (on the driver's side).
- Connect the drain hose from the black water drain outlet located at the driver side below the power inlet (on one side of the hose) to the dump station hole (on the other side of the hose).
- Pull the latch valve next to the drain outlet outwards to drain.
- After the tank has been emptied, connect a garden hose to the flush inlet located at the rear wheel well at the front of the rear tire labeled TANK FLUSH.
- When finished, push in to close the valve and detach the hose.

WARNING: DO NOT flush excessive toilet paper or non biodegradable pads in the toilet.

Gray Water Tank

The gray water tank is used to store waste water from the sink and the shower. Its tank level is displayed at the control panel above the sink.

Emptying the Gray Water Tank

- Find a nearby RV dump station: <https://www.rvdumps.com/>
- Locate the gray water release valve (on the passenger's side).
- Connect the drain hose from the gray water drain outlet located at the passenger side behind the sliding door (on one side of the hose) to the dump station hole (on the other side of the hose).
- Pull the latch valve next to the drain outlet outwards to drain.
- When finished, close the valve and detach the hose.

MAIN SHOWER (IN BATHROOM)

The TrueVan uses an electric water heater. To operate, press the 10 min or 15 min button on colder days and wait for 10 minutes before showering. This timer switch is located at the control panel next to the control panel kitchen plugs. The power is automatically turned off by the time you set it to conserve energy or you can manually switch it off by pressing the button on its right. When hot water is ready, press the water pump button located at the control panel next to the microwave. To properly mix hot and cold water, first turn on the hot water and wait until it gets hot, then turn on the cold water to mix to warm. If there is not enough water flow, the filter is likely clogged due to poor water quality. To unclog, twist the shower head off by rotating it counter clockwise while holding the flexible shower head pipe. Spray some water to clear the clogged metal screen filter located at the inlet and reattach the head back by turning it clockwise.

The TrueVan Vision X is equipped with an expandable bathroom and a hybrid dry bath which allows you to dry off and get dressed in the privacy of your room outside the shower.

- Before entering, open the privacy bathroom door.
- Release and unfold the triple black acrylic panel door.
- Push and lock the door against the two refrigerator door locks.
- Close the curtain.
- Pull the shower rod outwards with both hands to expand the shower space.
- Reverse the process after using the shower.

SECONDARY SHOWER (AT REAR)

The secondary shower, which can be used for outdoor showers, is enclosed inside the black shower box at the rear of the camper. Pull the shower handle out and turn on the faucet handles. Please note that sometimes the faucet knob operates in the reverse direction. Make sure you open the handle valve and clear the remaining water in the pipe by holding it upside down while shaking it before storing the handle back. Failure to do so may cause flooding on the floor. You may use the Home Automation system with the Home Assistants app in your smartphone to turn the water pump ON and OFF.

KITCHEN SINK FAUCET

To use the kitchen faucet, press the water pump button located on top of the control console next to the microwave. If hot water is required, press the 5 min water heater button located next to the GFCI kitchen wall plugs. Move the faucet lever outwards and adjust the temperature if needed. If there is inadequate water flow, the filter is likely clogged due to poor city water quality. To unclog, twist the spray nozzle head off by rotating it counter clockwise while holding the flexible pipe with your other hand. Spray water to clear the clogged metal screen filter located at the inlet and reattach the head back by turning it clockwise.

BEDROOM, OFFICE & GARAGE

TrueVan's 3-in-1 System converts between a bedroom, office and garage all in 15 seconds.

Bedroom (Trapezoid Bed)

The TrueVan trapezoid bed is a fold away system that is supported by two swing out leg supports on each side.

- Supports up to 1,000 pounds.
- Designed to accommodate the human form (wider at the shoulder and narrower at the feet).
- Near-queen size, at 57" width (at the shoulder) and 77" length (accommodates up to 6'5" in height).
- 4" memory foam mattress folds in thirds. The fabric is resistant to stains, water, UV, mold and bacteria.

To set up the bed:

- Unlatch the wing legs (on passenger's side) so that they are perpendicular to the dinette table top. There is a safety rubber bumper for each leg to prevent the table from setting up until the legs are completely deployed. The dinette top is protected by a pneumatic strut to prevent it from crashing down, but care should still be used.
- Unlatch and release the strap buckle for the bed frame (on driver's side).
- Fold the bed frame down slowly (the lighter side of the bed does not have a pneumatic strut, so take caution).
- Unfold the memory foam mattress.

WARNING: Letting the bed board and dinette table top down without the support of both legs will damage the bed system and may cause serious accidents.

Office (Dinette and Bench)

To set up the office:

- Unlatch the wing legs (on passenger’s side) so that they are perpendicular to the dinette table top. The dinette top is protected by a pneumatic strut to prevent it from crashing down, but care should still be used.
- Unlatch the wing legs lever below the frame of the lower bench (on driver’s side) and deploy so that they are perpendicular to the side camper wall. For safety, the table and bench cannot be deployed until the legs are fully deployed.
- Drop down the bench board.
- Place the bench cushion on top.

ROOF RACK & LADDER

WARNING: Caution should be exercised when using the rear ladder and roof rack, as they can be extremely slippery from water, mud, or ice. Severe injuries can occur from falling or slipping. DO NOT stay on the roof when it is wet or while the vehicle is in motion.

05 | LONG TERM or OVERNIGHT STORAGE

Properly preparing your TrueVan Vision for storage will protect your vehicle, batteries and appliances.

- Ensure the diesel air heater is turned OFF on top of the control panel. Allow the heater to go through its automatic shutoff process. It is completely shutdown when the fan located below the rear of the front passenger seat is off and the fan icon on the controller stops turning. Refer to the shutdown procedure outlined in Section 4: Diesel Heater.

- Turn the red main battery shut off switch located at the rear door (or for some models below the dinette table) counterclockwise to turn OFF. This action will completely shut off all 110V outlets so there is no need to turn off the 110V breakers or the inverter.
- To completely shut off the power, the main battery shut off switch. The solar panels will continue to charge the batteries under sunlight, which acts as a fail safe system to trickle charge the batteries.
- Securely lock the 3 bathroom door latches by turning them counter clockwise while firmly pushing in the door. The latches should be horizontally leveled.
- Empty the refrigerator and clean it with bleach if needed. Both the freezer and fridge doors should remain open to air out until completely dry. With the doors open, the door latches can be in a closed position to prevent them from closing.
- Turn OFF the Maxx fan. Pull the latch knob downwards then turn it clockwise to close the top lid.
- Drain all black water, flush to clean followed by dumping the Gray water. We recommend using the Camco TST Ultra-Concentrate Orange Scent RV Treatment (can be purchased on Amazon) in both tanks before storage. Avoid using acid based enzymes, as they will react with bleach and release toxic fumes. The fresh water can be left in the tank for a much longer period, however we recommend drinking only bottled water on camping trips.
- Close and lock all doors and windows.

- Avoid storing the lithium batteries longer than 8 months with less than 80% charge before long term storage unless the camper solar panels are exposed to sunlight. The solar panel will top off the batteries automatically. Never store the battery empty or they will be damaged, as all batteries will self discharge and bleed off over time.

- Avoid storing the house OEM Mercedes, Ford or Ram battery longer than 1 month without replenishing the charge. Due to the much shorter storage period of an AGM or lead acid battery, it may be a good idea to connect it to a small trickle charge solar panel with a good built-in charge controller. Refer to the Mercedes, Ford or Ram manual for other long term storage information.

- If needed, follow the winter storage procedure in Section 3 > Winterization.