

Owner's Manual

2016 CS Adventurous



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Introduction to your CS Adventurous

Congratulations on the purchase of your Roadtrek and welcome to the Roadtreking family. The information included in this manual is meant to help and guide you through the use of your vehicle so that you know how to properly use the many functions your Roadtrek has to offer.

Please keep this manual in your vehicle as a reference for when you are travelling. If you have any questions or comments on information found in this document please contact us at manuals@roadtrek.com^[1] or 1-888-ROADTREK.

References

[1] <mailto:manuals@roadtrek.com>

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References

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Do's and Don'ts

Symbol Legend



For your information. May be useful information to know.



Warning. Not following this can lead to bad results.



Caution. You really should follow this to avoid bad results.



Don't do it. Doing this can result in injury, severe damage, or death.

Information, cautions, and warnings

This table highlights some of the do's and don'ts of your Roadtrek. This list is by no means complete. Please refer to the individual sections in the manual for more details.

Level	Item	Comment
	SEAT BELTS	Use only forward facing seats equipped with factory installed seat belts while the vehicle is in motion. All passengers must be seated in these seats only, with the seat belts fastened while the vehicle is in motion.
	TV	Turn the TV off and stow it while the vehicle is in motion.
	TV	The flat screen TV should not be stored inside the Roadtrek in cold temperatures. Remove it to reduce the chance of damage from the cold. Check the Owner's Manual for the TV for storage and operating temperatures.
	TV	To remove the TV, remove the four mounting bolts on the back of the TV mounting bracket and remove the RCA cables, power supply cable and antenna cable.

	PROPANE	Do not store propane tanks inside your vehicle. Propane tanks are equipped with safety devices which relieve excessive pressure by discharging gas to the atmosphere.
	PROPANE	Do not refuel the propane tank to more than 80% of its capacity.
	PROPANE	The propane tank valve must be closed and ALL PILOT LIGHTS, APPLIANCES, AND THEIR IGNITERS, MUST BE TURNED OFF during refueling of the motor fuel tank and/or the propane fuel tank. Only qualified personnel should refuel your propane tank.
	PROPANE	Purchase propane from a reputable propane facility. Contaminated propane is a common cause of system failure and is not covered under any warranty.
	PROPANE	The BBQ quick disconnect is regulated to 15 P.S.I. Please ensure that all devices connected to this are either rated for "high pressure" or have their own regulator. Many grills sold in the United States are "low pressure" (1/2 P.S.I.) and will require an additional regulator to step the pressure down to a useable level. If hooked directly to the BBQ quick disconnect they will be a severe fire hazard.
	FLAMMABLE LIQUIDS AND GASSES	Do not store gasoline or other flammable liquids inside your vehicle.
	HEATING	Never use cooking appliances or unvented propane heaters for space heating purposes. They need fresh air for safe operation.
	HEATING	The heating furnace provides its own outside combustion air and exhausts to the outside.
	HEATING	Portable fuel burning equipment, including wood, charcoal, and liquid fuel grills and stoves, should not be used inside your vehicle. Use of this type of equipment inside your vehicle may cause a fire or asphyxiation.
	PROPANE LEAK DETECTOR	Do not block the air circulation in the area where the Propane Leak Detector is located.
	PROPANE LEAK DETECTOR	Battery disconnect switch must be in the "ON" position for the propane detector to function.

	CARBON MONOXIDE LEAK DETECTOR	Do not block the air circulation in the area where the Carbon Monoxide Leak Detector is located
	CARBON MONOXIDE LEAK DETECTOR	Battery disconnect switch must be in the "ON" position for the Carbon Monoxide Leak Detector to function.
	110 VOLT ELECTRICAL SERVICING	Prior to servicing the 110 volt Galley GFCI & Audio/Video cabinet interior receptacles, unplug the output lead from the power inverter.
	EXTERIOR ACCESS DOORS	Ensure the shore power cord and city water supply lines are disconnected and in their stored positions before the vehicle is put in motion.
	AWNINGS	Close the sliding side door prior to opening or closing the awning.
	CLOVERLEAF DINING TABLE	The cloverleaf dining table is heavy. Use proper lifting techniques.
	EXTRA COUNTER SPACE	Make sure the stove is off and has cooled prior to lowering the stove cover.
	AUXILIARY BATTERY	Battery acid can burn your skin and damage clothing. Protective eye wear and gloves should be worn while handling batteries. Effective June 2010 all Roadtrek installed batteries are sealed AGM batteries that do no require the addition of water.
	REPLACING THE AUXILIARY BATTERY	Disconnect the inverter/charger prior to disconnecting the auxiliary battery. Always replace the batteries with AGM batteries.
	GENERATOR	Never submerge the generator. Use a spotter when launching a boat or crossing streams.
	GENERATOR	When using the generator as the main power source to run the appliances, refer to the generator owner's manual for proper use and maintenance.
	GENERATOR	The generator cannot run all the appliances at the same time.
	WASTE WATER STORAGE AND DUMPING SYSTEM	Close both the black and gray water gate valves before using the waste water system.

	FREEZING	Under moderate subfreezing conditions, antifreeze is required in the exterior fresh water tank, black and gray waste water tanks. Use RV antifreeze in accordance with the manufacturer's instructions.
	ELECTRICAL SERVICING	This unit has 12 volt, 110 volt and potentially a solar system that can generate as much as 60 volts. These systems need to be disconnected before working on them.
	BATTERY	Never jump the under-hood battery. Use the jump points provided on the engine. See Owner's manual for proper jumping instructions. The engine battery is located under the driver's floorboards. The underhood battery is the coach battery. You may cause severe damage to the coach, batteries, and on-board electronics if you jump start the coach battery.
	LUG NUTS	Sprinters with the optional alloy wheels have a set of lug nuts in the toolbox in the passenger footwell. These lug nuts must be used when mouting the steel-rim spare.

Before You Head Out

Your new Roadtrek is ready to go with just a little bit of preparation.

To prepare for your first trip, you should:

- Read this manual.
- Contact your dealer with any questions.
- Plan your trip.

Then use this quick checklist.

- The day before your trip:
 - charge your batteries by plugging in overnight
 - cool your refrigerator by turning it on
 - chill any beverages in your home refrigerator
 - fill your fresh water tank with clean tap water
- The day of the trip:
 - Load the refrigerator with cold food (from your home refrigerator)

Coming Home

When you come home, there are a few maintenance tasks you should do to get your Roadtrek ready to go for next time.

Refer to other sections in this manual for the procedures listed here.

- On your way home, dump the gray and black tanks at a convenient facility. See the HOWTO: Waste Water Dumping section for a concise description of the procedure to do this. Some RV parks and gas stations will let you dump for a fee, some city wastewater plants will let you dump for free, but there is no real pattern, so local knowledge is vital in locating dump stations. The website <http://www.sanidumps.com> is a good resource. The maps for each state and province are especially helpful: <http://www.sanidumps.com/maps/help.php>
- At home, flush the water tank and fill it with fresh chlorinated water if you will be using it in the next few days. Otherwise, drain the tank. Don't let water you are planning to use sit in your tanks for more than a week or so, and don't let ANY water sit in your tanks for more than two weeks, whether you plan on using it or not. Over time, the chlorine goes away, and the microbes come out to play.

To flush the tank, fill it using the gravity fill in the passenger's doorframe, and open the fresh water tank drain under the rear of the passenger doorstep.



Gravity fill in
passenger doorframe



Drain for fresh water tank, under the
passenger door step

- Plug in overnight to fully charge batteries.
- Turn off and clean out the refrigerator and prop the door open to let it air out
- Turn off three important switches to keep from draining your batteries
 - the battery disconnect switch on your monitor panel
 - the inverter switch, either on the monitor panel with the standard inverter, or just to the left of it with the 2500 watt inverter
 - the Webasto control switch back by the TV, if you have this option



Battery disconnect switch



Inverter Switch



Webasto control switch

- If you turn everything off and you have solar panels, the panels will keep your coach batteries topped up while your Roadtrek is parked. If you don't have solar panels, it would be prudent to check your coach battery state of charge every month or so and charge them if necessary. If you don't turn everything off, even with solar panels, you will probably come back to dead batteries.

That's it! You're ready for the next trip.

Interior Living Space

Cabinets



Pushbutton latch open



Pushbutton latch closed

Your Roadtrek is equipped with cabinet latches which prevent the door from opening while the vehicle is in motion. The pushbuttons on the cabinet latches toggle from latched (button in) to openable (button out) by pressing the button.

To open a cabinet, press the button to pop the latch, pull gently on the latch, and the cabinet door will open.

To close a cabinet, make sure the latch is still open (button out), then close the door. Once the cabinet door is closed, press the latch button in to lock the cabinet.



Do not attempt to close the cabinet doors while the latch button is pressed in. This will break the latch. Always make sure the button is out before attempting to close a cabinet door.



Do not keep large, round, and/or heavy objects in a cabinet unsecured - they will roll around and apply excessive pressure to the inside of the cabinet doors as you drive. Even if the force of such objects doesn't break the latch, they can shift position with vehicle motion and be leaning against the inside of the cabinet door, waiting to fall when you open

the cabinet. For this reason, Roadtrek recommends that you not store anything in the overhead cabinets that you wouldn't want to get hit over the head with.

If you load a large amount of weight into a cabinet, experience large swings in temperature or humidity, ride on bumpy roads at high speeds frequently, or sometimes as part of normal wear and tear, the cabinet hinges may go out of adjustment. You will know the cabinet is out of adjustment when it will not open with the button out, or not latch with the button in.



Apply moderate upward pressure and GENTLE outward pressure with both thumbs on the bottom corners of the door to open a stuck cabinet



Turn screw clockwise to lower cabinet face (if it won't latch), counterclockwise to raise it (if it won't open)

To open a cabinet stuck shut with the button out, apply pressure UPWARD with your thumbs on both bottom corners of the cabinet door while simultaneously applying gentle pressure to open it, as shown above left.



DO NOT FORCE THE DOOR OPEN BY PULLING OR PRYING ON IT - you will break the latch.

The screw in the top part of the hinge nearest the pivot point adjusts the vertical location of the door. Screw out to raise the door and fix stuck doors; screw in to lower the door and fix doors that won't stay shut when latched, as shown above left.

Instant Hot Water Dispenser

The instant hot water dispensing system is in the cabinet below and to the right of the galley sink. The replaceable filter is accessed inside this cabinet.



On-demand hot water system filter



CS galley with induction cooktop

Galley Drawers

Beneath the galley countertop there are drawers to the left and right of the food preparation surface. The center panel is fixed, and is not a drawer.

All these drawers have conventional non-locking knobs, and a friction closure mechanism to secure them while the Roadtrek is in motion. Make sure they are completely closed before driving.

Tables

There are front and rear tables to use either the front or rear lounge areas for dining, playing cards, or computer use.

The front table top is stored behind the driver's seat. The rear tabletop is stored under the driver's side rear bench seat, and both table legs are stored in the wardrobe to the right of the bathroom.



Galley



CS Front table stowed



Table legs stowed in wardrobe



CS Rear table



T-bolt attachment for table leg base

To install either table, unscrew the T-nut in the lower end of the table leg as far as possible, remove the cap on the floor socket, and put the leg into the floor socket. Rotate the leg to tighten the T-nut inside the socket to ensure it is securely seated in the socket. If it does not tighten after a couple of turns, unscrew the T-nut in the leg, reinsert, and try again. Place the table top on the leg and push down - it will pop into place on the small round plastic knob on the top of the table leg.

Captain's Seats

There are three adjustments on the outboard side of each front seat: the knob in front raises and lowers the front of the seat, the lever where the back and base of the seat join raises and lowers the back of the seat, and the knob above that on the seat back reclines the seat back. The lumbar support adjustment is on the inboard side of the seat.

Template:gallery

To swivel the front seats, locate the swivel lever positioned in the rear of the seat, and move the control sideways against its spring to release the lock and swivel the chair.

The third seat's fore and aft adjustment is a lever extending forward at the front right corner of the seat base. Push this lever to the left (driver's) side of vehicle, and slide the seat. The swivel lever for the rear seat is on the right (passenger) side of the base. Push it backward to release the lock and swivel the seat.



Front seat swivel control



Rear seat swivel control



Rear seat fore and aft adjustment

⚠ Always return the seats to the forward-facing position when driving - the seats will lock in place as you swivel them to face forward.

To create a front lounge area, first ensure that the seats are fully upright by loosening the recline adjustment and bringing the backs of the seats forward. Do not attempt to pivot a reclined seat. Use the fore-and-aft adjustment while pivoting the seats to allow the sides of the chairs to clear the armrests on the vehicle doors and other obstructions. Do not force the seats around. Swiveling the driver's seat may require you to loosen the tilt steering wheel adjustment and move the steering wheel as far forward and up as possible. Opening the driver's and passenger front door will also facilitate swiveling the front seats. The third seat will swivel easily once it is brought forward from the bathroom wall.

Lights

The circular ceiling lights are all individually controlled, and are tap lights - to turn them off or on, press on the lens area. All lights are 12 volt lights, so the battery disconnect switch must be on for any of the lights to work. They work whether the inverter is off or on.

The lights have LED bulbs, which use less power and are cooler than typical incandescent bulbs.

Blinds

The blinds on the side and back windows of the CS Adventurous Roadtrek have a partially opaque, "shade" window covering, and also a completely opaque, "dark" window covering. Pull the blinds down for the "shade" window covering, and then pull the bar above this first section of blind material down to bring the "dark" section over the windows to sleep or for privacy at night. The blind above the galley area is an easy-to-clean metal blind which will also close completely for privacy.





Shade window covering



Opaque window covering

Ventilation

Your Roadtrek is equipped with a ceiling mounted ventilation fan.

The fan has a cover that must be raised by turning the large knurled knob. Raise the cover, then use the remote to the desired speed and temperature.

There is also a fuse in the body of the fan, in addition to the fuse in the distribution panel. Check both fuses if your fan stops working.

For more details, please refer to the fan manual.

 The fan cover may rattle if you drive with it open.



Sleeping Facilities

Your Roadtrek has sleeping capacity for up to three people, one in the front of the vehicle with the optional front bed cushion, and two in the rear of the vehicle.

Sofa Bed



Sofa switch



Sofa upright

You can configure the rear bed as a King or Twin bed depending on your preference or requirements. You begin by lowering the sofa.

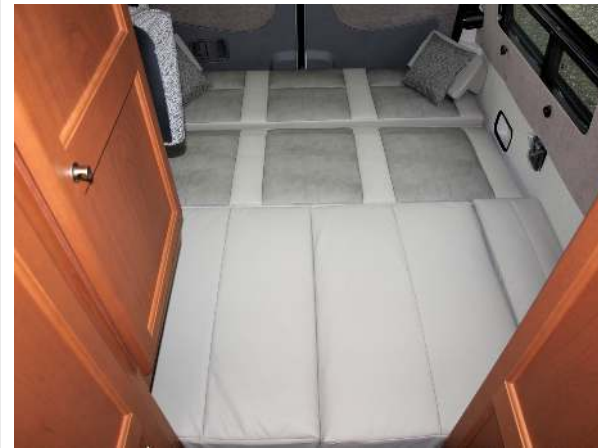
To lower the sofa please follow these steps:

- Remove any heavy or bulky objects from the sofa
- Clear the space in front of the sofa.
- Check underneath the sofa for objects that may be caught in the sofa as it moves.
- Push the center seatbelts back through the sofa, between the seat and the back cushions, so the seat belts end up underneath the sofa.
- Locate the power sofa switch under the television on the passenger side rear cabinet face.

- Push down and hold the bottom part of the switch until the sofa is completely flat.



Twin beds



King bed

Twin Beds

You create two twin beds by lowering the sofa. The sofa makes a continuous sleeping surface with the two bench seats, leaving the center aisle to make it easy to get in and out of bed.

King Bed

Once the sofa has been lowered fully, please use the following steps to make create a king bed configuration.

- Locate the panel under the bench cushions on the passenger's side, and slide it out into the open space between the two side bench seats. Secure it into the notches on the inner surface of both bench seat bases.
- Reposition the bottom cushions of the side bench seats over this panel so they are side by side.
- Place the long thin vertical bench seat cushions in the empty space between the wall and the larger bench seat cushions.



When you raise the sofa put the seat belts back in position. To do this, open the back door of the vehicle and push the seatbelts through the sofa between the seat and back cushions. NEVER use the rear seats for passengers without seatbelts.

Front Seat Folding Mattress

The captain seats located on the passenger side of the vehicle can be configured into a single bed arrangement with the optional folding mattress. Use the following procedure to create this single front bed configuration.

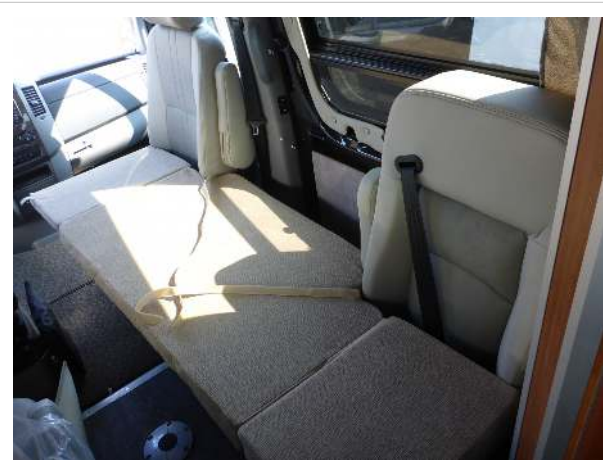


Front captain seat controls



Passenger seats in position for folding mattress

- Lower the front seat base as far as possible. To do this, look on the outboard side of the front seat, and you will see three knobs.
 - Turn the front seat base height knob clockwise until the front of the seat base is as low as possible.
 - Push down on the rear seat base height lever until the back of the seat base is as low as possible.
 - Use the recline knob to put the seat back in an upright position.
- Turn both passenger side captain seats around so that the backs of the chair are outboard, towards the doors, and the seats face the aisle. You will have to slide the rear seat forward before you can swivel it. Slide both seats all the way back in their tracks - as far toward the doors as possible.
- Open the optional folding mattress and find the tab in the center of the larger central panel. This tab fits between the seat backs.
- Place the mattress so that it sits across both the front and second row captain seats.



Tab in folding mattress between seatbacks; loosen the long hook-and-loop straps as shown



Passenger side folding mattress in place with long hook-and-loop straps around seatbacks

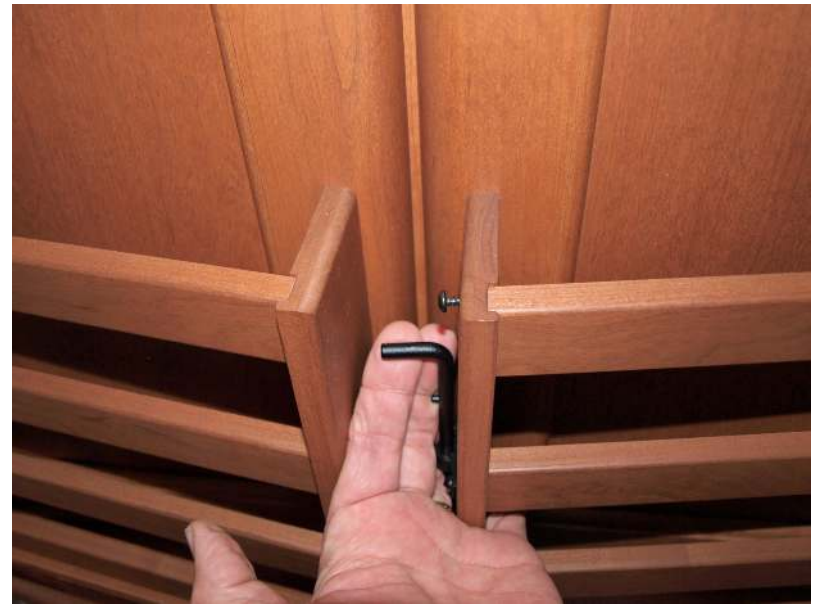
Bathroom Facilities

Your Roadtrek is equipped with a permanently enclosed bathroom that includes a sink and a stand up or sit down shower.

Securing Bathroom Door

The bathroom doors are secured by a latch and pin system. To secure the doors for driving:

- Close the left hand door first, followed by the right.
- Engage the latches at the top of the doors.
- Push the pin down so that it engages behind the lip at the front of the bathroom door
- Flip the latch closed and tighten the thumbscrew

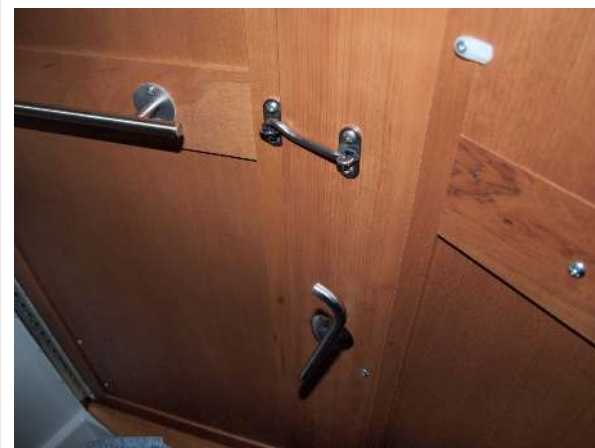


Door pin

Using the Toilet



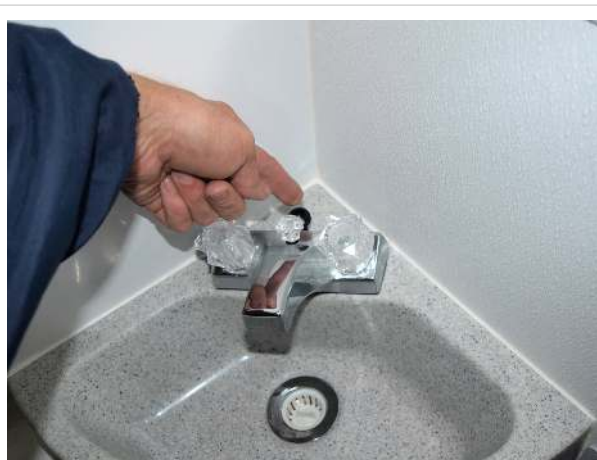
Toilet flush pedal



Inside latch and toilet paper holder

The bathroom in your Roadtrek contains a marine type toilet. To secure the doors once inside, use the inside latch. To flush the toilet, use your foot to press the foot pedal located at the bottom of the toilet, then release the foot pedal. Do not use toilet paper which will clog your black water tank and waste water pump - use only paper which will disintegrate easily when it gets wet.

Shower



Shower connection and knob



Shower floor drain stopper

Using the Shower

- Unscrew the drain stopper in the center of the bathroom floor
- If the shower hose is disconnected, connect it to the threaded fitting behind the sink faucet handles
- Release the hook and loop fastener straps retaining the shower curtain
- Slide the shower curtain along its track to enclose the shower space
- Once ready, pull up on the knob located between the sink faucet handles to start the flow of water
- Adjust the water temperature as needed using the cold and hot water knobs on the sink faucet



Shower curtain stowed



Shower curtain open

After Showering

- Turn off the water using the hot and cold knobs on the sink faucet
- Push the knob located between the sink faucet back down to switch the flow of water back to the sink faucet
- Refasten the drain stopper in the center of the bathroom floor (this is important as it stops the content of the grey water from sloshing into the shower area while the vehicle is in motion)
- Dry the shower curtain with a towel or allow it to air dry before storing it

Appliances

TV and Home Theatre System

Your Roadtrek is equipped with a 120 volt TV and home theatre system with remote control for your enjoyment and viewing pleasure. In order to generate power to these appliances, you must turn on the inverter, connect to shore power, or run the generator if so equipped.

Antenna and Cable Connections

There are two antenna connections in the cabinet above the DVD player. One is labeled for the antenna, the other for cable TV. Connect the cable to the appropriate jack.



TV antenna and cable connections



Rear speaker control switch

Controlling the Rear Speakers

The surround sound system offered in your Roadtrek allows you to control the rear speaker sound in your vehicle. Locate the speaker switch which can be found in the cabinet above the home theater system.

- Surround Setting: Allows back speakers to function as part of the TV/home theater system
- Off Setting: Turns the rear speakers off
- Automotive Setting: Connects the rear speakers to the front dash radio

❗ If you are experiencing problems with your TV reception while using the over-the-air antenna, check the connection to the antenna system booster located in the cabinet above the home theatre system is plugged in.

❗ If power is getting to the antenna, an indicator light both on the antenna itself and on the connection located in the cabinet will be illuminated.

Instant hot water dispenser



Instant hot water dispenser



Filter for hot water dispenser, located in the galley cabinet



Instant hot water dispenser switch, located above the counter on the right

Located at the top left hand corner of the kitchen sink is your instant hot water dispenser, which provides water at a sufficiently hot temperature to brew coffee or tea.

The switch for the instant hot water dispenser is above the counter on the right side of the refrigerator cabinet, next to the electrical outlet.



Turn this appliance off when not in use because it consumes a large amount of electricity. Leaving it on will significantly reduce the amount of time your batteries will supply power before needing to be recharged.

Hot Water

See Heating and Cooling.

Refrigerator

The refrigerator in your Roadtrek is a 12 volt DC/120 volt AC compressor refrigerator that switches automatically between voltages. The temperature controls for the refrigerator are located across the top. See the operating manual for instructions on this appliance.

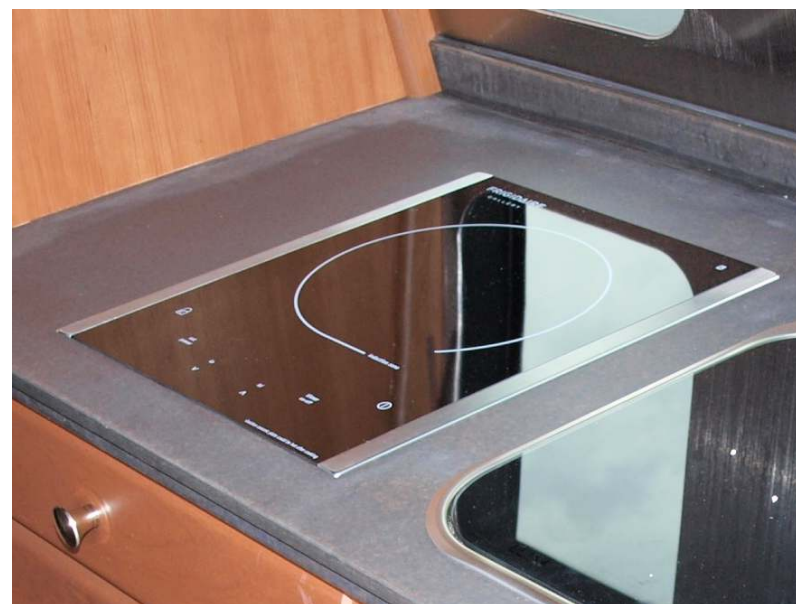
Microwave Oven

The microwave oven is a standard microwave convection oven operating on 120 volt AC. To draw power to the microwave for use, you must ensure your inverter is switched on or you are plugged into shore power.

Optional Inductive Cooktop Stove

The optional induction cooktop stove requires special induction ready cookware, which can be purchased anywhere cookware is sold. Since the induction stovetop depends on magnetic material to produce heat, copper or aluminum cookware will not get warm.

For instructions on how to use this appliance, please refer to the Inductive cooktop stove manual.



Induction stove

Outside your Roadtrek

Awning



Power awning



Awning switch above front passenger seat

Your Roadtrek is equipped with an easy to use power roll up awning. To use the awning please follow these steps:

- Check for tree granches and other obstructions.
- Press the switch inside the passenger side front door, above the doorframe to extend the awning and lower the supports on each side.
- Once extended, secure the supports to the two attachment points on the side of the vehicle or to the ground with the pins provided.

To stow the awning:

- Detach the supports from the attachment points
- Retract the awning using the power switch

Refer to the awning manual for proper methods of deploying and securing the awning.

❗ The awning will not operate with the ignition on.

⚠ Never leave your awning extended when you are away from your vehicle as awnings are susceptible to damage from heavy rain and wind. Stow the awning when bad weather is approaching.

Exterior Step



Step switch



Step extended

Your Roadtrek is equipped with a step that automatically extends when the side door is opened for easy entry and exit out of your vehicle. With the step switch on, the step will extend once when the door is open and remain extended even if the door is closed. With the switch off, the step will extend and retract every time the door is opened and closed.

⚠ For safety reasons, the step will automatically retract when the ignition is turned on, even if the step switch is on. This is to prevent damage caused by driving with the step extended.

Utility bays



Side compartments



Waste disposal and cable TV access



Shore power connection

On the driver's side of the vehicle, there are three exterior access doors along the bottom between the wheels.

The compartment behind the front door is for the city water connection and the propane tank.

The compartment behind the second door contains the waste water disposal hose, the gray water valve handle, the black water valve handle, the waste water disposal pump cleaning knob, and the cable TV connection point.

The compartment behind the third door contains the spare tire and the shore power connection point.

Fuel Fill



Fuel fill access



Fuel fill access

The fuel fill door is located directly behind the driver on the outside of the vehicle. To fill your Roadtrek with fuel;

1. Open the driver side door
2. Swing open the fuel fill cover
3. Shut the driver's door (to prevent fumes from entering the car)
4. Remove the fuel cap
5. Fill the tank with DIESEL FUEL ONLY
6. After fueling, replace the fuel cap
7. Re-open the driver's side door
8. Shut the fuel fill cover
9. For DEF fill, refer to the Sprinter owner's manual

Rear Doors



Rear door retaining strap



Rear door magnet

The rear doors of your Roadtrek have the ability to open all the way so they fold against the sides of the vehicle. To open the doors to their fullest extent;

1. Open the door to 90 degrees
2. Close them slightly to relieve some of the tension on the door strap
3. Pull out the curved door strap by the tail light assembly and fold it back against the door
4. To close the door, flip the door strap around and it will automatically engage as you close the door



There are magnetic door stops on the back of the door and on the side of the vehicle which prevent the door from swinging shut from its own weight.

Rear Door Screen

As an option, some Sprinter Roadtreks have a rear screen which will allow you to open the rear doors and get fresh air without bugs coming in. Look for this screen in the hanging wardrobe behind the bathroom in your new Roadtrek. It attaches to the rear door frame with a zipper and hook-and-loop fasteners.

Open the screen and locate the two tabs on one edge. This edge is the bottom, and the tabs snap onto the rear seat belt anchors. Fasten these two snaps on each anchor and use the hook-and-loop strips on the screen to attach it across the bottom of the door opening.



Rear screen tabs



Rear screen lower hook-and-loop fastener

Start the zipper at each bottom corner by pushing the bottom stop (the metal end) of the zipper into the two back-to-back zipper sliders, and zipping the top slider upward.



Rear door screen zipper



Rear door screen hook-and-loop fastener

Where they meet at the top, there is a flap which will close with a hook-and-loop fastener strip.

Because of the double slider arrangement, the bottom of the screen can be unzipped to allow access to the underbed storage area in the back of the E-Trek without disturbing the top section.

To remove and stow the screen, unzip it from the top down. Unzipping it from the bottom will not allow you to remove it from the doorframe surround.



Access to storage while screen is deployed



Rear door screen in place

 While sturdy enough to keep insects out, this screen is not designed to resist repeated and persistent attempts by pets to get out of the vehicle. Do not leave your pets unattended with the screen in place and the doors open. They may take themselves for a walk.

 The screen is not intended for use as a cargo net or any sort of restraint system.

Outside Shower

On the driver's side near the rear, there is a rectangular compartment which houses the outside shower. Like the inside shower, this will provide hot and cold running water should you choose to shower outside. Use the brass auxiliary key which came with your Roadtrek to unlock the compartment door. When finished, coil the hose back up so that it and the shower head fit inside the compartment.



Outside shower compartment

Utilities

Just like your house, your Roadtrek has fresh water, electricity, waste water disposal, heating, and cooling systems. In the Roadtrek, these systems are self contained and travel with you.

Fresh Water

Fresh water is contained in the fresh water tank. To fill your fresh water tank, open the passenger side front door and look on the doorsill near the door handle for an orange plug. Use a clean hose (these can be bought at camping supply stores and are usually white) to fill the tank. When the tank is full, water will overflow from the fill port and also the tank overflow vent, located under the front passenger seat.



Gravity fill



City water connection

- The fresh water fill is in the door post of the front passenger door, near the door handle. Look for the orange plug in the fill port.



Do not run the hose bib wide open. Fill the tank slowly.

- To use the water from the on-board tanks, the city water valve should be closed.

City Water

Your Roadtrek can operate in either fully self-contained mode, or can be connected to a water supply such as a campsite's faucet.



Campgrounds and municipalities vary greatly in supplied water pressure. Before connecting to external water supplies, purchase and install a pressure regulator inline with the water connection.



You can always fill your tanks using the gravity fills and operate from the tanks if you are uncertain about the water pressure at a location.

The city water inlet connection is located in the small compartment just in front of the driver's side rear tire.



Roadtrek recommends that you use a dedicated single purpose potable-water hose. These are usually white in color. Buy a new one and use it only for filling your tanks and connecting to city water. View any hose lying around a campground with extreme skepticism, especially if there's a wastewater dump nearby. Large RVs use hoses to flush their wastewater system.

To connect the Roadtrek's water system to an outside source:

- Turn the water pump off.
- Close the city tank fill valve by turning the handle to the vertical (across the water line) position. This valve is behind the black plastic radiator cover on the left side of the sliding side door step.



City water valve access - loosen the screws (locations indicated by red arrows) and remove the radiator cover



City water valve (red arrow) in closed position - handle across line

- Close all interior faucets.
- Flush old water and any contaminants out of the water supply faucet.
- Connect your fresh water hose to the faucet.
- Attach your pressure regulator to the Roadtrek's city water connection.
- Attach a fresh water hose to the the pressure regulator.
- Slowly open the faucet of the city water source.
- The city water connection by-passes the water pump and fresh water tank. Therefore, the use of these items is not necessary when connected directly to an external water source.

To disconnect the city water connection:

- Turn off the external water source.
- Open a faucet to relieve the pressure in the system. Failure to do so will not damage your vehicle, but may result in an unexpected shower. The outside shower faucet next to the city water connection is a convenient place to do this.
- Make sure the city tank fill valve is closed (handle vertical and across the water line).
- Remove the hose from the city water connection, and replace the cap on the fill connection.

 If you hear your pump running and water pressure is low inside the vehicle after disconnecting from an external water source, it is because you have not properly positioned the city water valve. Make sure the black plastic handle is vertical, and perpendicular to the water line when your water system is in self-contained mode.

See HOWTO: Potable Water Use for a concise summary of how to operate your fresh water system.

Waste Water



Drain plug

Sink and shower drain water drains into the gray water tank; the black water tanks contains the material flushed down the toilet. The shower and sink have traps to prevent tank odors from entering the living space. Be sure to replace the screw-in plug in the shower floor after use to prevent gray water from sloshing up into the shower pan from the gray water tank while driving.

The gray and black water tank level indicators on the control panel will give you an approximate indicator of your tank levels. See HOWTO: Monitor_Panel for more information on indicators. When the gray water tank is full to capacity, water will no longer drain down the shower and sink drains, and you need to dump the tanks before running any more water. If you see fluid below the toilet valve in the bowl of the toilet, your black water tank is full

and also needs to be emptied before further use.

 Do not throw any paper towels, personal wipes, rags, baby wipes, tampons, hairballs, etc. into the toilet. The waste water pump is not capable of handling these types of solids and may jam or be damaged. Use toilet paper intended for RVs or septic systems.

 If in doubt, take a tissue, and leave it in a glass of water. Stir with a spoon a couple of times. If it falls apart into a gooey slurry after a few minutes it's safe for your tank. If it stays together, swells up, or clumps into a solid mass, it's not safe and should be disposed of in the trash and not down the toilet.

See HOWTO: Waste Water Dumping for a concise summary of how to operate your waste water system.

Heating and Cooling

Heating

Standard Alde Hydronic System

The Alde hydronic system provides hot water, coach heating, and engine preheating for your Roadtrek. Power is supplied by either shore power, power generated by the engine generator, heat from the engine, or propane. The Alde control unit is located on the driver's side of the coach, behind the cabinet to the left of the galley, facing the rear lounge/bed area.



Alde control unit



Vent for Alde unit on driver's side exterior

Press the ON button on the bottom left corner to access the menu. Follow the instructions for operation in your Alde manual.

Alde Coolant

The Alde system uses a VW G12++ specification anti-freeze. The anti-freeze reservoir is in the closet. To check the level of antifreeze, visually check the level in the bottle. If the level is low, add the specified antifreeze to the bottle. Run the system and check periodically. It may take several hours of operation for all the air bubbles to work themselves out of the system.

The anti-freeze level should be checked before and after storage, and the system should be flushed and anti-freeze replaced every 2 years.

Alde Frost Protection Mode

The Alde system will protect itself from freezing by dumping the water in its tank onto the ground beneath your vehicle if the temperature approaches freezing. This protects the Alde plumbing only; you still need to winterize the remaining water system in your Roadtrek to prevent damage to the water lines and other components. You can also drain the system manually by turning the valve to the tripped position.

If your Alde system has dumped, you need to reset the frost control valve in the compartment under the driver's side bench before using the water system again. Open the compartment, turn the valve 90 degrees from its tripped position pointing toward the valve in the blue water line to a position parallel to the blue line, and press the blue button at the base of the frost control valve on the side opposite the blue line. The Alde unit will now function normally, provided that the air temperature around the valve is high enough.



Alde frost control valve in operating position



Frost control valve in tripped position



Alde reset button

Alde Engine Heat Exchanger

The Alde system on the CS is provisioned with an engine heat exchanger. This heat exchanger can preheat your engine in cold temps, or it can use the engine heat to heat the cabin and provide hot water.



The heat exchanger access panel on the outboard side of the passenger seat pedestal



The heat exchanger valve. Valve open (as shown) allows the heat exchange to take place.



The switch is located on the inboard side of the passenger seat pedestal

To prevent any engine heat from warming the cabin (as in hot climates), shut off the heat exchanger valve.

Engine pre-heat

To use the Alde to pre-heat the engine in severely cold environments, turn the Alde on to heat using either propane or electric, open the valve, and turn on the switch.

Set the Alde pump to run continuously.



It may take an hour or two for the pre-heat to be effective, depending on ambient temperatures.

Modes of operation for heating and hot water

For all modes

Set the room temperature and water temperature as desired on the Alde panel.

To use engine heat

To heat the living space and make hot water with engine heat, turn off the two heat sources on the Alde panel (turn off propane and electric),

Open the valve at the heat exchanger. The engine must be running and at operating temperature.



Roadtrek recommends that you use engine heat while driving in cold climates. This will keep the floor heated for maximum comfort when you stop.

To use propane or electric

To use electric or propane, turn on that source at the Alde panel.

Optional Webasto Diesel-powered Heating System

! If you have the Webasto system you do not have the Alde system.

If your Roadtrek is equipped with the optional Webasto unit, this unit provides both cabin heat and hot water. The controls are located behind the TV. To access the Webasto hot water and cabin heating controls, swivel the television out of the way.

The controller has two dials; the left selects the mode and the right sets the heating level.

For the left dial, starting at the Lock position and going clockwise:

- Drain - the unit will lock out for 90 minutes and drain the system. This is done as a part of winterizing; see HOWTO: Water System Winterizing
- Off - unit is off and consumes no electricity
- Summer mode - first two positions are for Summer use - i.e., hot water but no cabin heat.
 - Selects 40 deg. C water temperature
 - Selects 70 deg. C water temperature
- Winter mode - these two positions are for Winter use - i.e., cabin heat with or without hot water. The right knob selects the level of cabin heat.
 - The first position selects cabin heat only and no hot water
 - Second position selects cabin heat and hot water production
- Frost protection - the last setting on the right is frost protection. In this mode the heater will operate to keep the the water in the boiler above freezing.



Webasto controls



This does not provide any protection for the pipes and faucets in the rest of the Roadtrek. To protect these, perform the winterization procedure.

For more information, please consult the Owner's Manual for the Webasto Dual Top Evo unit.

The Webasto unit is connected directly to the battery bank, and is not controlled by the battery disconnect switch. For this reason, please ensure the unit is turned off to avoid draining the batteries when the Roadtrek is not in use, or any time hot water and cabin heating is not needed.

Although there is no direct flame, the Webasto unit does burn diesel fuel, and you may notice an odor if you leave the rear doors or windows open.

Unlike direct flame water heaters, which heat water quickly, the Webasto unit takes approximately an hour to warm the water to the desired temperature, sometimes longer when the water going into the unit is very cold. Anticipate times when you will need hot water for the sink and shower, and turn the unit on in time to heat the water for your use.

Cooling

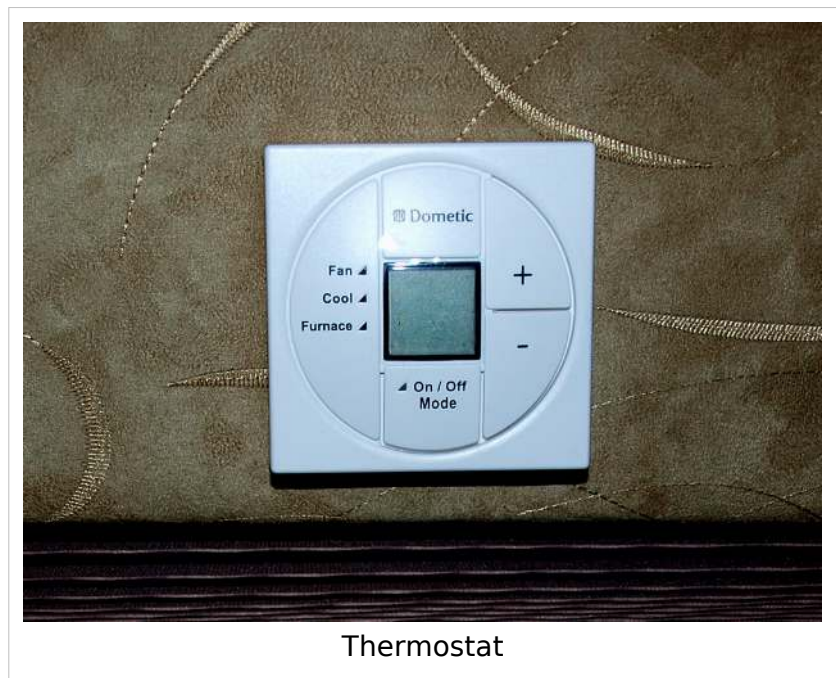
The roof-mounted air conditioner in your Roadtrek will provide cool air while camping, and will also operate for short intervals while driving with the optional engine generator and the 2,500W inverter. Do not operate the air conditioner while driving with the propane generator.

Refer to the air conditioner manual for details of use.

Thermostat

The thermostat controls the air conditioning unit. Set the thermostat on "cool" and set the desired temperature.

Some models also have a small heat strip in the air conditioning which will blow warm air, but this produces heat directly from



Thermostat

electricity and is not recommended for heating the cabin for extended periods of time unless you are attached to shore power or running the engine. For all other circumstances, use the regular heating system to heat the cabin. If your unit has the heat strip option, you can operate it by turning the thermostat to "furnace" and setting the desired temperature.

The third setting, "fan", recirculates cabin air using the fan inside the air conditioning unit.

Electrical System

Refer to Monitor Panel for locations of the controls referred to in this article.

Batteries

AGM

The standard batteries in your Roadtrek are sealed AGM (absorbed glass mat) batteries. Do not attempt to open them. There is no user maintenance possible on these batteries except keeping them charged - you never have to add water to them.



Do not add water to the batteries. Do not attempt to open them. There is no user maintenance possible on these batteries except keeping them charged.



Battery maintenance, i.e. keeping the batteries charged, is the responsibility of the dealer while the vehicle is unsold, and the responsibility of the owner once sold. Roadtrek does not cover warranty replacement of the batteries for lack of maintenance.

Roadtrek places the coach batteries under the hood, but the actual chassis battery that powers the engine, headlights, etc. is under the driver's floor. Mercedes has created jumper cable points under the hood in case you have to jump your battery to get your engine started. Use these. They will start your engine - jumping the coach batteries won't, and will probably damage your inverter and other sensitive electronic components in your Roadtrek.



Do NOT attach jumper cables to the 6 volt coach batteries under the hood on the driver's side. Attaching a high amperage 12 volt power supply to a 6 volt battery is very dangerous. Use the Mercedes jumper attachment points instead.

Lithium batteries



EcoTrek 400 dual controls



Jump starting an EcoTrek 200; note the left bank is off

Each EcoTrek 200 battery has its own control. A single EcoTrek 200 will have one rocker switch at the bottom and one pushbutton switch at the top of the panel. An EcoTrek 400 will have two sets of switches, and so on.

The lower rocker switch turns on the bank. In normal operation this switch should always be on. This powers the battery management system, which manages all functions of the EcoTrek 200, including charging, voltage protection, and the battery heaters when it gets cold.

The battery management system will turn off the batteries when they are run down to near empty. The system will still accept charge, but will no longer provide power.

Turning on the batteries

Press the lower rocker switch to turn it on. If the batteries don't come on right away (the blue indicator light does not come on) press the reset button for about 30 seconds to power up the Battery Management System.

If the batteries are depleted

Unplug from shore power. Turn off inverter. Start the engine. Allow about 30 seconds for the batteries to start. If necessary, press the RESET button on top of the panel. Once the batteries are on, plug into shore power if desired and turn off the engine.

When not in use, turn the batteries off. When storing the batteries for extended periods, charge them overnight first.



In cold weather, the battery management system will start the battery heaters first to warm up the batteries. Depending on the temperature, it could be a while until the batteries are at a temperature where they can be charged.



If you have more than one EcoTrek 200, and all have been depleted, start one first, allow it to charge for 30 minutes or an hour, then bring up the others. The current draw is the highest at the start, and this allows the charging system to keep up. Strictly speaking this is not necessary, but it is a useful guideline.



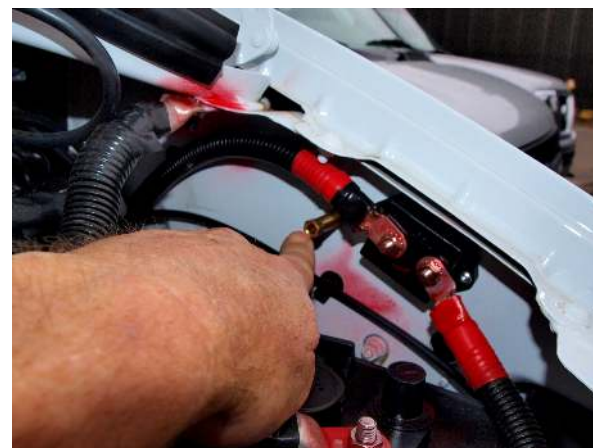
If you store your Roadtrek in cold weather, leave the EcoTrek batteries on and plug in so that the battery management system can continue to heat and charge the batteries as needed.

Jump starting your engine

To use jumper cables, refer to the Mercedes Owner's Manual for the procedure.



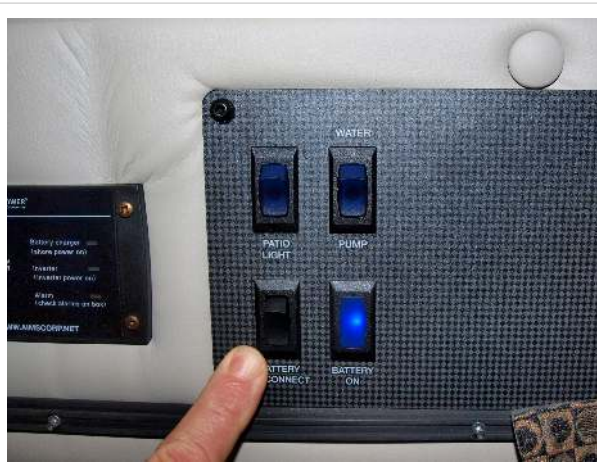
Positive jumper point, on driver's side of the engine. Red disc is pushed back to expose the contact.



Coach batteries and negative jumper attachment point - brass stud protruding from side wall of engine compartment

Battery Disconnect switch

The battery disconnect switch provides power to all 12 volt appliances, such as the water pump, the refrigerator, and so forth. This switch should be off when you are not using your Roadtrek, and on whenever you are driving or camping. The "Battery On" light next to it will indicate the position of the switch.



Battery disconnect switch



Monitor panel for units propane generator

Standard 2500 Watt Inverter

The inverter switch turns on the inverter, which produces 120 volt household current from the battery bank. Turn this switch on whenever you wish to use any 120 volt appliance, such as the television or DVD player, or want to plug one of your appliances into an electrical receptacle. Turn this switch off upon retiring at night or when the system is not in use, since the inverter produces a small but steady drain on the batteries even though none of the 120 volt electricity is being used.

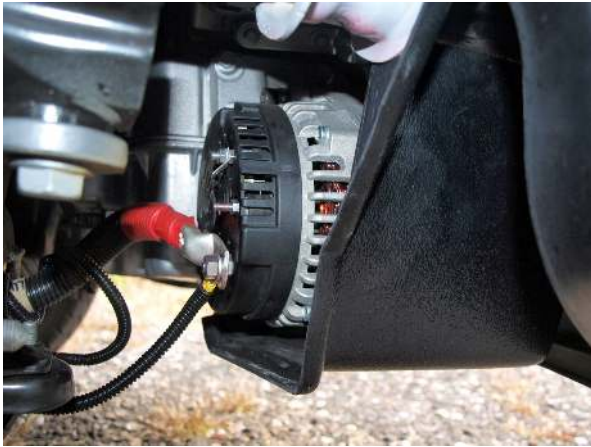
The inverter is configured at the factory for the batteries and power sources in the Roadtrek. Please do not change any settings without consulting your owner's manual and dealer. If you still have questions, contact the factory.



The inverter must be on to charge your batteries from shore power.

Optional Engine Generator

Your vehicle may be equipped with this option. If so, you typically have all the electricity you can use driving down the road because the engine generator is producing electrical power. However, once stopped, and particularly after sunset when the solar panel is not producing electricity, turning off electrical items when not in use will make the charge in your batteries last for a longer period of time.



Engine generator



2500 watt inverter

If your vehicle is equipped with an engine generator, the engine generator is mounted on the vehicle engine and is operated by idling the vehicle engine. If your coach batteries are low, simply start the vehicle engine and let it idle until the batteries are sufficiently charged. Usually 30 minutes of idling are enough to restore moderately depleted coach batteries to a useful level of charge.

As with a conventional generator, always close the rear windows of the vehicle and turn off the roof ventilation fan when the engine generator is charging the batteries to avoid exhaust entering the vehicle's interior.

The engine generator is charging the coach batteries whenever the vehicle's engine is in operation, which means you are charging them as you drive. You will arrive at your camping destination with fully charged coach batteries.

There is no required maintenance for the engine generator. Note, however, that your vehicle's serpentine belt (the belt which drives the vehicle's alternator, water pump, power steering, etc.) will be different than the one for similar vehicles without the engine generator, so carrying a spare belt may be prudent in case you have a serpentine belt failure while traveling. The

NAPA belt number for long wheelbase Sprinter Roadtreks with the engine generator is 060523HD, and the belt dimensions are 13/16" x 52 7/8" or 20 mm x 1342 mm outside circumference.



Solar controller in cabinet above galley

Solar Panels

The solar panels operate automatically and the charger and controller are configured at the factory. There are no user-configurable options on the controller.

Shore Power

The shore power connector is located on the driver's side, on the right of the rear side compartment, just in front of the rear wheel. See HOWTO: Shore Power for a concise description of how to connect to shore power. The switchover from shore power to inverter is automatic - the inverter will sense the incoming shore power as soon as you plug it in.



Shore power connection point



Power cord stored beneath sofa



L-shaped prong on plug, and corresponding L-shaped hole in cord end



Attached shore power cord

This plug goes in only one way - find the prong with the right angle (L-shaped) on the cord end and on the socket, and align them. Once the plug is pushed in all the way, turn it slightly clockwise to lock it into place and tighten the black plastic

threaded ring around the outside of the socket.

To disconnect, unthread the black plastic ring and rotate the plug slightly counterclockwise to pull it out.

Electrical Outlets

The outlets are powered from the inverter. The outlets are protected by GFCI (ground fault circuit interrupters). All the outlets in your Roadtrek should have power if your inverter is on.

The electrical outlets above the galley and in the compartment behind the passenger side rear captain's seat have ground fault circuitry (GFCI) - the button in the middle of the outlet pops out when they sense an anomaly or sometimes when the circuit undergoes transitional load conditions.



GFCI plug behind rear captain's seat



GFCI plug over galley (exact location may vary)

If you are not getting power from an outlet, check and reset this button if needed by pushing it in. The one over the galley provides protection for outlets on the driver's side of the Roadtrek. The outlet behind the passenger side rear captain's chair provides GFCI protection for the TV and DVD player, so check it if your TV is not receiving power. There is also a 12 volt cigarette type power outlet behind the rear captain's chair.

Optional Propane Generator

Your Roadtrek may be equipped with a 2500 watt propane generator. This generator, when running, will power your air conditioner, microwave, and all other electrical appliances, plus charge your batteries. To start the generator, push START. Allow the generator to run for a couple of minutes before turning on heavy loads such as the air conditioner. The counter to the right of the generator start switch measures hours of generator operation.

To stop the generator, first shut down all heavy loads, let the generator run for 5-10 minutes to cool down, then press the STOP side of the rocker switch.

The hour meter to the right of the generator switch measures accumulated generator use in hours. Consult your generator manual for required maintenance. There is a break-in oil change scheduled fairly early in the generator's use.



Propane generator control

Monitor Panel

Location

The monitor panel is located inside the side door, above the rear captain's seat. To the left of the main monitor panel is the inverter switch.

Power Sources



Monitor Panel



Inverter Control Panel

The monitor panel controls two separate power sources; the 12 volt DC power and the 120 volt AC power via the inverter. The inverter switch also has a shore power and battery charging indicator.

12 Volt DC Power

The EcoTrek Batteries

If your Roadtrek has the optional EcoTrek batteries, you have individual switches for each EcoTrek 200 module.



EcoTrek 400 dual controls



Jump starting an EcoTrek 200; note the left bank is off

A single EcoTrek 200 will have one rocker switch at the bottom and one pushbutton switch at the top of the panel. An EcoTrek 400 will have two sets of switches, and so on.

The lower rocker switch turns on the bank. In normal operation this switch should always be on. This powers the battery management system, which manages all functions of the EcoTrek 200, including charging, voltage protection, and the battery heaters when it gets cold.

The battery management system will turn off the batteries when they are run down to near empty. The system will still accept charge, but will no longer provide power.

Turning on the batteries

Press the lower rocker switch to turn it on. Press the reset button for about 30 seconds to power up the Battery Management System.

When not in use, turn the batteries off. When storing the batteries for extended periods, charge them overnight first.



In cold weather, the battery management system will start the battery heaters first to warm up the batteries. Depending on the temperature, it could be a while until the batteries are at a temperature where they can be charged.



If you have more than one EcoTrek 200, and all have been depleted, start one first, allow it to charge for 30 minutes or an hour, then bring up the others. The current draw is the highest at the start, and this allows the charging system to keep up. Strictly speaking this is not necessary, but it is a useful guideline.



If you store your Roadtrek in cold weather, leave the EcoTrek batteries on and plug in so that the battery management system can continue to heat and charge the batteries as needed.

The 12V main power switch



Battery disconnect switch



Generator switch and hour meter (optional)

The power to the 12 volt DC outlets and appliances is controlled by the battery disconnect switch to the lower left.



If you have the optional EcoTrek battery modules, they must be powered on first.

On the bottom left is the battery disconnect switch, which supplies 12 volt battery power to the 12 volt light and other cabin appliances. This switch must be on for any of the 12 volt electrical devices to work, with the exception of the Webasto diesel-burning water heating system, which has its own on-off switch on the main control back by the television. Remember to turn off three switches - the inverter switch, the battery disconnect switch, and the Webasto system all off when your E-Trek is not being used to avoid discharging the batteries.

The battery disconnect switch has a blue indicator light to the right of it to show you that the battery power is on.

Inverter

The inverter provides 120 volt AC (household current) to the 120 volt appliances and wall outlets.

Turn the inverter on only when you need household power. It uses a fair amount of energy just being on, so turn it on when you need power and turn it off when you don't.



Do not change the setting on the inverter itself. That switch must be OFF for the remote panel to have any effect.

Shore Power and Battery Charge Indicator

There is a shore power indicator and battery charging indicator light on the right side of the remote inverter switch to show you when the system is receiving shore power and charging your batteries.

Optional Propane Generator



The generator is an option that is only available on specific models. It is not available on any ETrek optioned models.

To start the generator, push the generator toggle switch on the top end (START). Allow the generator to run for a couple of minutes before turning on heavy loads such as the air conditioner. The hour meter to the right of the generator start switch measures hours of generator operation.

To stop the generator, first shut down all heavy loads, let the generator run for a few minutes to cool down, then press the bottom (STOP) end of the rocker switch.

Other Switches

Patio Light

On the control panel, the top left switch is the patio lights switch. Press the top of the button to turn the lights on, and the bottom to turn them off. These are LED lights and use very little power.



Patio light switch



Water pump switch



Tank and battery level indicators

Water Pump Switch

The button to the right of the patio light switch is the water pump switch. It should be on only when you have water in the fresh water tanks and wish to use the sinks, showers, or toilet. The pump makes a characteristic noise when it is out of water, and should not be run without water. If your fresh water tank runs dry, turn the pump off until you refill the tank. As with the patio light switch, pressing the top of the button turns the pump on, and pressing the bottom turns it off.

The water pump can be left on to provide on-demand water as long as the tank has water in it and the pump is not running dry.

Tank Levels and Battery Charge Indicators

To the right of the control panel are the indicator lights for the battery charge level, the fresh water tank level, and the black and gray water tank levels. Press the button for each to see the display.

These indicator lights will give you an approximate reading, to the nearest third, of how much is in each tank. The four indicator light levels for the battery represent low, fair, good, and charging states of charge.

Distribution Panel

The distribution panel is located over the driver's head on the overhead panel. The 120 volt AC breakers and 12 volt DC fuses are each behind their own black plastic cover. Information on what light or appliance each breaker and fuse supplies power to is written on the inside of the lid for each compartment.



120 volt AC distribution center



12 volt DC fuse box

AC Breaker Panel

The 120 volt breakers are located on the driver's side on the flat wood panel above the driver's seat, behind a black plastic panel. Flip the cover down and note the sticker under the cover with the identifying information on each breaker. When storing the Roadtrek for the winter, turn off the battery disconnect switch, your inverter, and all circuit breakers in this panel.

12 Volt Fuse Panel

The 12 volt fuses are located beside the 120 volt AC circuit breaker box, in the wood panel above the driver's head. The sticker on the inside of the cover has identifying information for each fuse telling you what light or appliance each fuse supplies power to.

Alarms and Warnings

CO Monitor

Your vehicle has been equipped with a combination propane leak and carbon monoxide detection device for your protection. The carbon monoxide and propane detector is located on the passenger side, near the floor under the TV.

Be sure the detector is operating while using your vehicle. Do not block air circulation in the area where the propane leak detector is located. The detector runs on 12 volt power supplied by the coach batteries, and is operational whenever the battery disconnect switch is on. For this reason, whenever the vehicle is occupied, particularly if you are asleep, the battery disconnect switch should be in the "on" position.

 Coach power on the Monitor Panel must be on for detector operation. Make sure your battery disconnect switch is on.

 Do not disable, unplug, or otherwise hinder the operation of this detector or the smoke detector.

 The detector has a useful service life, beyond which it needs to be replaced. See Manufacturer's Owner's Manual for other operating instructions, or look for the sticker which is sometimes placed on the detector to see the replacement date.

 The detector may chirp if the coach batteries are running low.



Propane and Carbon Monoxide alarm

Smoke Detector



Smoke Detector

The smoke detector is located to the right of the monitor panel. It is powered by a commonly available 9 volt battery which needs periodic replacement.

Refer to the Owner's Manual for the smoke detector for replacement interval for the battery and for the detector itself.

Fire Extinguisher

Your Roadtrek comes equipped with a dry chemical fire extinguisher suitable for all fires. Before every trip, check to see that the needle on the dial is in the green range. If not, replace the fire extinguisher. DO NOT test your fire extinguisher by discharging it - total discharge time is 8 to 12 seconds, so it will become rapidly depleted if you test it this way. Service life on fire extinguishers currently supplied is 12 years; replace the fire extinguisher if it is more than 12 years past the year of manufacture stamped on the base of the cylinder.



Fire extinguisher located behind front passenger seat

Maintenance

Tires

See the automotive chassis manufacturer's owner's manual and documents for tire warranty information. Inflation pressure information is on the sticker inside the galley cabinet door. The current Mercedes Sprinter manual recommends checking tire pressures regularly - at least every other week, and definitely before a long trip. Tire rotation intervals depend on wear and other factors, but tires should be rotated at least every maintenance interval - every 40,000 km/24,000 miles. Follow the tire rotation pattern for dual rear wheel models in your owner's manual.

Cargo Carrying Capacity

See the information labels attached to the driver door post, and the inside of the lower galley cabinet door.

Owner Maintenance Checks

Listed below are vehicle maintenance checks and inspections that should be performed by the owner or qualified service technician at the indicated intervals. Any adverse conditions should be brought to the attention of your dealer or qualified service technician for expert service advice as soon as possible. The owner maintenance checks are generally not covered by warranties and you may be charged for labor, parts and supplies used.

When You Stop for Fuel, or Weekly

Check engine oil level.

Look for low or underinflated tires.

Every Other Week

Check tire pressure on all tires and your spare.

At Least Monthly

Check coolant level in the coolant recovery reservoir.

Check windshield washer fluid, brake fluid and power steering fluid levels.

Check operation of all exterior lamps, including brake lamps, turn signals and hazard warning flashers.

At Least Every Three Months

Flush black water holding tank. Use a hose or bucket to fill the tank through the toilet, and dump.

Flush grey water holding tank. Use a hose or bucket to fill the tank through the galley sink, and dump.

Flush and sanitize fresh water tank. To flush the tank, fill it completely using the gravity fill, and drain using the freshwater tank drain underneath the passenger side door sill. Sanitize by adding 1/2 cup chlorine bleach to the tank, fill with water, let sit for at least two hours, and drain. 1/2 cup vinegar added to the next tankful, which will also be drained before filling with fresh water for use, will help dissipate the chlorine smell.

Refer to other sections in this manual for drain and fill locations.

At Least Twice A Year

Check windshield wiper operation. Clean wiper blades with clean cloth dampened with washer fluid. Wiper blades should be replaced at least once a year.

Check radiator, heater and air-conditioning hoses for leaks or damage.

Check for worn tires and loose wheel lug nuts.

Check parking brake system - put the brake on and see if it will hold on a moderate hill. If not, get it repaired.

Check head lamp alignment - shine your low beam headlights on a wall. The light patterns should be the same height. Measure headlight height at the vehicle with a yardstick - the light patterns should be the almost same height or slightly less with your vehicle level. If not, get the headlights aligned.

Check lap and shoulder belts for wear and function. Replace any belts with frayed spots or that do not smoothly retract into their holders.

Inspect appliance vents to ensure they are free from dirt, insects, spider webs and/or nests.

Inspect black water tank vent and remove any debris or other obstructions. The black water tank vent is on the roof, passenger side, in the bathroom area.

Clean air conditioner filter. See air conditioner manual for details.

Thoroughly clean and wax the roof of the van. To wash the solar panel, use a garden hose to rinse dirt off the panel. Do not scrub it with a brush or otherwise apply any abrasive material to the solar panel surface. Rinsing the panel two or three times a year to remove excess dirt is all you need to do to keep the panel operating at full output.

With the tanks empty, add one cup of mineral oil and one cup of hot water to the black and grey tanks.

At Least Once a Year

Lubricate all door hinges, locks and latches, especially the exposed hinges on exterior doors. These will freeze up and cause damage to the doors if neglected.

Have appliances tested and cleaned.

Wax & polish and protect exterior surfaces. The wheels are coated aluminum - there is no bare aluminum on the vehicle, so do not use aluminum polish on any surface of your Roadtrek. The wheel center caps are chrome.

To prevent water from entering your vehicle, avoid spraying water directly into exterior vents or grills. Do not use a power washer to clean your Roadtrek - damage to the paint, removal of decals, and water leaks will result. Hand washing or commercial car washes accommodating large vehicles are the best way to keep your Roadtrek clean and shiny.

Other maintenance checks

Follow the maintenance for your appliances per the appliance manufacturer's manual.

Spare Tire Storage

The spare tire is located on the driver's side, behind the third utility bay door just in front of the rear tire and below the vehicle.

The jack is stored beneath the front passenger's feet behind a plastic panel. Pull up the floormat, turn the plastic plug 90 degrees with a coin or key in the slot on the plug, and the panel will come loose to reveal the jack and lug nut wrench.



Tool access in front passenger footwell. Use a coin to turn the retaining clip and access the compartment.



Jack, handle, and "banana" lever to lower spare tire carrier. Red arrow points to special lug nuts which **MUST** be used on steel spare wheel.

The spare wheel is located on the driver side behind the rear storage door.



The spare wheel on the 3500 Sprinter-based vehicles with the dual rear wheels is very heavy. If you are not confident you can handle the weight it would be better to have a technician perform a wheel change.



The alloy wheels on the Roadtrek use different lug nuts than the steel spare. There is an adapter in the tire change tool set which will fit these larger lug nuts and the standard lug nut wrench. There is also a set of lug nuts stored with the jack and lug nut wrench - use these, **NOT** the ones that held the alloy wheel on, to mount your steel spare wheel.

- DO NOT jack up the vehicle before you remove the spare tire. You need the vehicle flat on the ground with the front tires chocked and the emergency brake securely applied to remove the spare tire.
- Locate the jack handle (three pieces of steel tubing in the pouch) and the "banana" lever in the jack compartment.
- Locate the 19 mm - 3/4 inch wrench which came in the white box of Roadtrek accessories. Roadtrek recommends you keep this in the glovebox when not in use so that it will be readily available.



Jack handle pouch and "banana" lever
ready to assemble



Assembled lever to lower spare tire
carrier

- Connect the three pieces of the jack handle, and insert the assembled handle into the open end of the "banana" lever.
- Raise and secure the utility bay access door covering the spare tire carrier.



Lever in place to take the weight off the bolts



Use supplied wrench to loosen nuts 1/2 inch or so

- Hook the crosspiece channel on the other end of the banana lever to the bar across the spare tire carrier, and push down on the jack handle. Kneeling on the jack handle to secure it, use the wrench to loosen the long nuts on the two long bolts on either side of the tire carrier about a half inch or so.



Move bolt to the side once it is loose



Lower tire carrier to the ground and remove tire

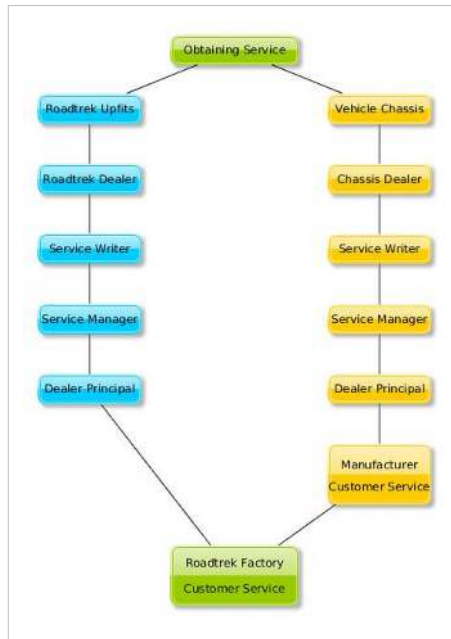
- When sufficiently loose, the long bolts will swing to the side out of the slot they normally occupy in the tire carrier. Lower the tire carrier by lifting the jack handle, and pull the spare tire out.
- Jack up the vehicle using the jack and change the tire. Follow the instructions in the Sprinter manual for proper use.
- Secure the tire carrier by putting the flat tire in it, using the banana lever and jack handle to raise it enough to reattach the bolts, and tightening the nuts five or six turns after they make contact. You are compressing the tire, so the nuts will not get tight on the bolts like a metal-to-metal contact will. Repair or replace the flat spare tire at your earliest opportunity, and reinstall the good spare in the spare tire carrier.

Obtaining Service

When your Roadtrek needs service, determine if the issue is with the Roadtrek upfits or the Sprinter Chassis.

For Roadtrek upfits, contact your Roadtrek dealer.

For chassis-related issues, contact Mercedes service. Advise the service writer that you have an extended 3500 van, rather than a "motorhome". Some dealerships do not want to work on motorhomes, but most can service a 1 ton van.



Specifications

For general chassis specifications, please refer to the Mercedes manual. For specifications relating to your vehicle, including occupancy, weight rating, tire size, inflation, and so on refer to the sticker on the driver's side B pillar (right side of the door frame, near the latch). This specification refers to the Roadtrek upfits.

Roadtrek upfits only

Total fresh water capacity (includes water heater)	21 gallons/ 125 liters
Fresh water tank capacity	18 gallons/ 114 liters
Gray water tank capacity	21 gallons/ 79 liters
Black water tank capacity	10 gallons/ 38 liters
Battery type	AGM, maintenance free
Battery Capacity	190 amp hours (standard) 380 amp hours (optional)
Propane tank size	16 gallons/ 61 liters
Propane tank capacity at 80%	12.8 gallons/ 48 liters
Water heater capacity	3 gallons/ 11.4 liters
Furnace	16,000 BTUs/hour
Refrigerator	2-way (12VDC, 120VAC)
Air Conditioner	11,000 BTUs/hour

Warranty

Chassis Manufacturer's Warranty

The automotive chassis is warranted by Mercedes Benz of North America. Please refer to the Mercedes Warranty Information booklet for details.

All automotive service, maintenance and repairs are to be performed by any Mercedes dealer. See the Mercedes Warranty Information booklet for details. Such items are not warranted by Roadtrek. Roadtrek will pay for the removal and reinstallation of motorhome components necessary to perform automotive recalls and warranty for the duration of the original Manufacturer's warranty. After this period such costs are considered to be inherent in the ownership of a motorhome and Roadtrek will not pay for the removal and reinstallation of motorhome components necessary to perform automotive service or maintenance.

Roadtrek Motorhomes Six Year *Peace of Mind* Warranty

Roadtrek Motorhomes warrants to the Purchaser that the Motorhome is free from defects in material and workmanship on the portion manufactured by Roadtrek Motorhomes, under normal use and service, for six (6) years, from date of purchase by the first Purchaser or the date the Motorhome was first put into service (for example, as a demo or rental), whichever is earlier.

This warranty shall be fulfilled at a Roadtrek Motorhomes Dealer or authorized Roadtrek repair facility. For in transit emergency repairs, you may choose to deal with a non-authorized RV service facility. However all warranty repairs at non-authorized RV service facilities must be preauthorized by Roadtrek Motorhomes. Roadtrek Motorhomes will, at its option, replace or repair free of charge (including related labor) any defective part, about which the Purchaser shall notify their Roadtrek Dealer within the warranty period. The obligation of Roadtrek Motorhomes under this warranty is expressly limited to such replacement or repair.

The provisions of this limited warranty shall not apply to the following:

1. Accident.
2. Unauthorized repairs or alterations.
3. Normal maintenance.
4. Changes made to other units manufactured after this Motorhome was manufactured. (This is not an engineer upgrade warranty.)

5. Incidental damages connected with the failure of the Motorhome such as lost time, inconvenience, loss of use of the Motorhome, cost of rental cars, gasoline, telephone, travel or lodging.
6. Damages caused by environmental factors including, but not limited to, hailstorms, tornadoes, sandstorms, stone chips, lightning, floods, earthquakes, airborne fallout, chemicals, tree sap, ocean spray, road hazards.
7. Motorhome that has been declared a total loss by an insurance company (demolished) or a Motorhome whose title indicates that it is designated as "salvage", "junk", or "rebuilt" or words of similar impact.
8. There will be no allowance for emergency road repair, towing, labor, meals accommodations, etc. Such will not be accepted if claimed under warranty.
9. Aluminum wheels are not warranted against corrosion that is a result of road salt, sea salt, cleaning chemicals or harsh driving conditions.
10. Warranty is voided if the EcoTrek batteries are tampered with, opened, or modified in any way, including attempts to change the Battery Management System programming or setpoints.
11. Warranty is voided if the EcoTrek batteries are allowed to remain in a discharged condition for extensive periods.

The provisions of this limited warranty shall not apply to deterioration due to wear and exposure beyond the following limitations:

1. For ninety (90) days after the "QualityCare" Pre-Delivery Report is completed by the dealer for appliance adjustments, door latch adjustments, light bulbs, fuses, battery in the smoke detector and window screens. After 90 days these items are considered part of normal maintenance.

Roadtrek Motorhomes Limited Motorhome Warranty is void unless the following conditions are adhered to:

1. Warranty Card on Motorhome must be completed by the Dealer and faxed to Roadtrek Motorhomes within 48 hours of date of retail delivery. When warranty applications are made and Warranty Card is not on file at Roadtrek Motorhomes, reimbursement of claim will be delayed until proof of original purchase is submitted to Roadtrek Motorhomes.
2. Warranty claims and authorization requests should be submitted using the Electronic Warranty Management system found on the Dealer Website. Including the last 8 digits of the Vehicle Identification Number (V.I.N.) and odometer reading. All claims must be submitted within 30 days of the date of repair.
3. Warranty work that will exceed \$200 must first be authorized by Roadtrek Motorhomes before proceeding with such work. The authorization number issued by Roadtrek Motorhomes must be noted on the warranty claim. See item #2 above.
4. Roadtrek Motorhomes reserves the right to inspect defective parts that have been replaced under warranty. Dealer is expected to hold selected parts for a period of not to exceed 60 days. (See below).
5. Only parts and accessories and other material, available through Roadtrek Motorhomes are to be used in the performance of warranty service. Express shipping costs are not covered by this warranty policy.

6. Warranty repairs performed a second time by a Dealer (due to incorrect or inadequate diagnosis, improper assembly or repair, or lack of proper testing when the original warranty repair was performed) are considered as shop comebacks and are not reimbursable. Costs of such repairs must be adsorbed by the Dealer.
7. Purchasers are responsible for presenting their motorhome to a Roadtrek Dealer as soon as problem exists. The warranty repairs should be completed in a reasonable amount of time from date of authorization.

This limited warranty is expressly in lieu of any other expressed or implied warranty, including any implied warranty of merchantability or fitness for a particular purpose and of any other obligations or liabilities on Roadtrek Motorhomes which neither assumes nor authorizes any other person to assume for it any other liability in connection with motorhome manufactured by it.

Appliance Warranty

The following are not initially warranted by Roadtrek Motorhomes, but are covered by individual warranties offered by their respective manufacturers to which terms both Purchaser and Dealer must comply:

- air conditioner
- electrical inverter/charger
- electronic equipment (TV, DVD player, etc.)
- furnace or other heating system
- microwave oven
- refrigerator
- stove
- toilet
- water pump
- macerator
- water heater.

The 6 year Roadtrek warranty coverage will take over the warranty once the original manufacturer warranties expire for the remainder of the 6 year period from the date of original purchase.

While still within the terms of the appliance warranty Purchaser and/or Dealer are required to deal directly with the nearest service center for such manufactured components and abide by the warranty policy as allowed by such component manufacturers.

AGM Battery Warranty

Batteries are warranted by the battery manufacturer for one year from the "In Service Date" of the Roadtrek.

1. Warranty is voided if AGM batteries are tampered with, topped off with distilled water or allowed to sulfate or freeze due to lack of charge.

Diesel Particle Filter Warranty

For diesel vehicles equipped with the underhood generator (GU Option) Roadtrek will warranty the performance of the Diesel Particle Filter for 6 years. Contact Roadtrek directly for servicing instructions.

Warranty Intent

The intent of this extended warranty is to ensure the new owner of a Roadtrek that it is worry free from manufacturer caused defects (excluding the chassis) for the first six (6) years of use. Roadtrek owners can feel comfortable that Roadtrek is fully behind them for six (6) years, including the EcoTrek Batteries!!!

Registration

Please send this form in or email the information to sales@roadtrek.com ^[1] when you purchase your Roadtrek.

CHANGE OF OWNER NAME OR ADDRESS FORM

IMPORTANT - To owner with New Address or Used-Vehicle Buyer -
complete and mail for accuracy of recall mailing records.

PLEASE TYPE OR PRINT LEGIBLY:

1. VEHICLE IDENTIFICATION NUMBER (17 character number found on top left of instrument panel)

2. PRINT Last Name (including Jr., Sr., etc.)

3. PRINT First Name (or Initial) and Middle Name (or Initial)

4. PRINT NEW mailing Address: House/Building Number and Street Name (including St., Ave., Rd., Ct., etc.)

Apt./Suite No.

or

P.O. Box No.

or ☐RR/☐HCR (check one)

☐RR/☐HCR Box No.

City

State

ZIP Code

ZIP + 4

Area Code

Phone No.

Prov.

Postal Code

Month

Day

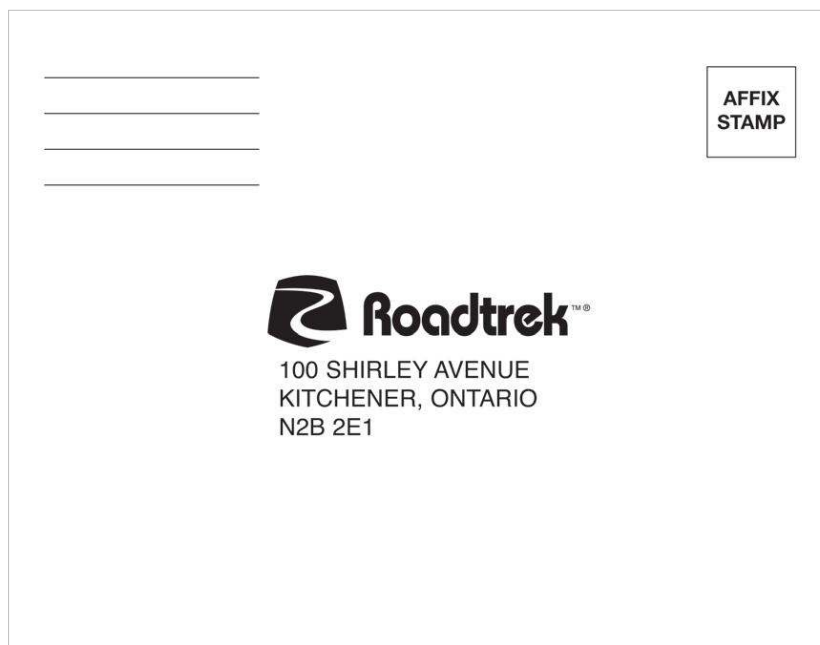
Year

Current Date

Email Address



Form 2, February 1999
M196204



References

[1] <mailto:sales@roadtrek.com>

Regulatory Notices

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration, (NHTSA) in addition to notifying Roadtrek Motorhomes.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, and/or Roadtrek Motor Homes.

To contact NHTSA, you may call the Auto Safety Hotline toll-free at 1-888-327-4236, (or 366-0123 in Washington, DC area) or write to:

NHTSA
U.S. Department of Transportation
Washington, DC 20590

You can also obtain other information about motor vehicle safety from the Hotline.

HOWTO: Monitor Panel



Monitor Panel with 1250 watt inverter
and optional propane generator



Monitor Panel for CS with optional 2500
watt inverter and engine generator

The monitor panel is located inside the side door, above the passenger side rear captain's seat. Depending on the options you have, there may be an inverter switch to the left of the main control panel and there may be a propane generator starter switch and hour run meter to the right.

The monitor panel monitors your battery and tank status, and provides controls for all of the on-board utilities.

Battery Disconnect Switch

The battery disconnect switch turns the coach battery power off and on. When off, it prevents your coach batteries from being drained while the Roadtrek is not in use. The lights, the water pump, the fan, the refrigerator, even the igniters for the propane cooktop need 12 volt power from the batteries. If something electrical in your Roadtrek doesn't work, the first thing to check is to make sure the battery disconnect switch is on.

The battery disconnect switch is on the bottom left corner of the monitor panel. To its immediate right is a blue indicator light which illuminates when the switch is on.

You will hear a "clunk" as the battery disconnect switch is pressed - this is a big relay connecting the coach batteries to the electrical loads.

If you hear a clunk-clunk, or nothing at all, it's possible that your batteries are depleted to the point where they cannot drive the relay. Take steps to charge your batteries, such as starting the vehicle engine, and try again after building the batteries up to a charge level where they will power the relay.



Battery disconnect switch on

Inverter Switch with 1250 Watt Inverter

Just as the battery disconnect switch powers the lights, fan, and other 12 volt electrical loads, the inverter powers some of the 120 volt alternating current loads. This is the regular electricity you have in your house.

The inverter takes 12 volt power from your coach batteries and changes it into 120 volt electricity. It powers the television and home theatre system, plus some other outlet or outlets, depending on model. With this inverter, you can watch television or play a DVD while you are camping, without the need to plug into shore power or run your generator.

The inverter is rated for 1250 watts maximum output, larger loads such as the air conditioner are too big to run on the power produced by the inverter, and will not operate unless you plug in or start your generator. The inverter will shut off if you try to draw too much power through it.

The inverter switch is on the left side of the monitor panel, above and to the right of the battery disconnect switch. It has an indicator light inside it that comes on to let you it's on. If you are not using any 120 volt electricity, turn the inverter off to conserve battery power, since it uses a small amount of electricity even when it's not powering any appliances.

The inverter will shut off if the battery voltage falls below a certain level. This is to protect your batteries, wiring, and the inverter itself from damage. Battery voltage drops under load, so it is possible to have the inverter cut off under high load and then the battery voltage will come back up to normal with no load.



1250 watt inverter switch



2500 watt inverter switch

Inverter Switch with 2500 Watt Inverter

If your Roadtrek has the engine generator and 2500 watt inverter option, your inverter switch will be on its own smaller panel to the left of the main monitor panel. The switch has three positions: off in the middle position, power save auto in the top position, and power save off in the bottom position.

In the power save auto setting, when you're not using anything with 120 volt power, the inverter will put itself to sleep. In this mode, it still uses a small amount of power. If you turn on a 120 volt appliance, it senses a load and will come back on in about 20 seconds. If you select power save auto you'll reduce the electricity it takes to keep the inverter powered, and your batteries will require less recharging.

Pressing the bottom of the switch selects power save off. When this setting is selected, the inverter will be on continuously.

There is a shore power indicator light to the right of the switch to tell you the system is receiving shore power. There is also a battery charging indicator light to tell you when the batteries are being charged by shore power.

Your refrigerator will run on either 12 volt battery power or 120 volt inverter power, but will use less electricity if the inverter switch is off because of the conversion loss. If all you're running is your refrigerator, turn the inverter off.

Patio Light

On the control panel, the top left switch is the patio light switch. Press the top of the button to turn the lights on, and the bottom to turn them off. These are LED lights and use very little power.



Patio light switch



Water pump switch with standard inverter



Water pump switch with 2500 watt inverter

Water Pump Switch

The button to the right of the patio light switch is the water pump switch. It should be on only when you have water in the fresh water tanks and wish to use the sinks, showers, or toilet. The pump should not be run without water. As with the patio light switch, pressing the top of the button turns the pump on, and pressing the bottom turns it off.

Water Heater Switch

There is no water heater switch on the monitor panel. Most CS Adventurous models come with Alde hydronic propane-powered water heating systems. These have their own control panel mounted in the rear lounge area behind the driver's side bulkhead to the left of the galley. Some CS Adventurous models have the optional Webasto diesel-fueled heating and hot water system. The control for this unit is behind the television on the passenger side of the rear lounge area. Follow the instructions in the Alde and Webasto manuals.

Tank Level and Battery Charge Indicators

To the right of the monitor switches are the indicator lights for the battery charge level, the propane tank level (if you have propane), the fresh water tank level, and the black and gray water tank levels. Press the button for each to see the display. These will give you an approximate reading, to the nearest third, of how much is in each tank.

Roadtrek recommends that you keep a small amount of water in your gray and black tanks at all times. This will reduce the likelihood of material sticking to the inside of the tank.

The four indicator lights for the battery are low, fair, good, and charging. Battery voltage dips under load; the greater the load the greater the voltage dip. A battery under heavy load will show much lower state than one at rest.

The propane indicators will show full when the tank is at its maximum capacity. Because of the safety-related need for a vapor space at the top of the propane tank, the maximum fill capacity is 80% of the volume of the tank. Your 60 liter/16 gallon propane tank is full when it holds 48 liters/12.8 gallons of propane. There is another gauge directly on the tank that you can see behind the front utility bay door at the bottom of the driver's side. This gauge has finer gradations and will give you more information about your propane level than the indicator light display will.



Tank level and battery charge indicators



Generator switch and hour meter

Optional Propane Generator Switch and Hour Meter

To start the generator, push START until the engine catches, then release. Allow the generator to run for a couple of minutes before turning on heavy loads such as the air conditioner.

To stop the generator, first shut down all heavy loads, let the generator run for a few minutes to cool down, then press the STOP side of the rocker switch.

The hour meter keeps track of how many hours your generator has been running. This is important for servicing intervals such as oil changes, etc. See your Cummings/Onan generator service manual for details. There is a break-in oil change after the first 20 to 50 hours of use.

HOWTO: Setting Up Your Campsite

What Do You Need To Hook Up?

In a Roadtrek, the answer to this question is - a lot less than you think. Rather than slog through the setup ordeal that Class As and fifth wheels and other trailers go through, Class Bs are much more nimble. We travel light and can set up and pack up in minutes. Let's look at the differences in these different types of units and see why.

Most big rigs and trailers don't really have a self-contained philosophy - they're basically like sticks and bricks homes on wheels, which require what campgrounds call "full hookups" (electricity, water, and sewer connections at each campsite) to function. Roadtreks have big fresh water and holding tanks that the other types of RVs lack, so it's usually easier just to plug into the electricity, and not bother with the water and sewer hookups. This makes your hookup procedure a five minute process - park in a level spot and plug in. Maybe hook up the cable TV, too, if they have it at the campsite, but that's about it.

It's a different philosophy because most large RVs plunk down and don't move once they get to a campsite. They have a towed vehicle - or the truck they haul their trailer with - to take short trips around the area. Since you don't have a tow vehicle like the big rigs, you need to be able to head out to the store or go sightseeing in your Roadtrek, so the less elaborate the set-up and pack-up procedures, the better.



Full hookups - electric, water, and sewer - plus lots of company

Connected Fresh Water vs. Using your Tanks

There's no real advantage to leaving the water hooked up all the time - it's easier just to get your hose out and fill your tanks, and then put the hose away. No leaks, no hose to trip over, no need to disassemble and store all that stuff when it's time to hit the road again. In a campground with shower facilities, your water supply will last for days, and when it runs out you just get the hose back out, fill it up again, and you're ready for another few days.

Sewer Hookup vs. Dumping

The advantage of using your tanks for fresh water over a more permanent water hookup is that you're automatically reminded of when your waste water tanks are full. When you're close to running out of fresh water, that means it's time to dump your wastewater tanks. With a more permanent hookup, the reminder may be waste water backing up in your sink or toilet, which is not nearly as pleasant. The tank level indicators only tell you to the nearest third what your tank levels are.

Since you have a waste water discharge pump, the big rig's semi-permanent giant sewer hose on an inclined pathway to the dump won't work for you - you have to run the pump anyway, so why not just dispense with all that unsightly and potentially hazardous plumbing? Full hookup sites have a handy sewer dump right at your campsite. When your fresh water runs low, refill your fresh water tanks, dump your waste water holding tanks, and you're good to go, plus you can drive off anytime merely by stowing your electrical cord.



Filling your tanks

Simplify, Simplify

Campgrounds capitalize on the helplessness of non-self-contained RVs by charging a premium for full hookup sites. You aren't helpless. With an electric-only hookup, you drive a short distance to the campground's fresh water source and waste water dump every few days. Do it on the way to the store or other trip that you're going to take anyway, and it's no bother. In addition to saving money, you'll also have a choice of more campsites, since not all of them have full hookups, or the even better choice of no campsite at all to take advantage of the E-Trek's extended boondocking capability. You can stay out there until you run out of groceries if you want.

Freedom from hookups also opens up a whole range of national and provincial forest campgrounds with limited or no hookups to you. There is also dispersed camping in national forests and crown lands and other boondocking options, where you find your own campsite. There are rules for where you can and can't boondock, so check the forest websites or drop in at the ranger station for information. Once you're out there, don't look around for those big rigs who are dependent on hookups - they're all back in town. It's just you and nature, with the occasional backpacker.



Why drive all the way back to town just to smell someone else's woodsmoke? Camp where you are.

Leveling your Roadtrek

Roadtreks don't have or need the built-in leveling jacks and stands large RVs have - it's usually easy enough to move back and forth in your campsite until you're reasonably level. However, many Roadtrek owners buy and carry leveling blocks for those places where finding a level spot is difficult. These are available in most camping supply stores or can be ordered online. They go under your tires, and can be stacked in various combinations to lift the low corner or end of your vehicle enough to get comfortable. Many Roadtrek owners install a small bubble level in an inconspicuous place visible from the driver's seat to assist with the leveling process.

How level is level? In general, if it's level enough to be comfortable for you, it's probably good enough for your plumbing. If you have a choice, it's better to have the front of the Roadtrek very slightly higher than the back for air conditioner condensate drainage. If you're not running your air conditioner, it doesn't matter.



Leveling blocks

HOWTO: Shore Power

Connecting To Shore Power

Your Roadtek has a shore power cord; depending on the model it may be removable or permanently attached. Refer to the Electrical Section in this manual for details.

The power cord is designed to fit into a standard 30A RV outlet.

Campsite Power Connections

Most RV parks and campgrounds have AC power of various voltages and amperages available at each site. The power will typically be in a pedestal with a cover that flips up. If you cannot find your power pedestal or you're not sure how to open it, ask the campground personnel.



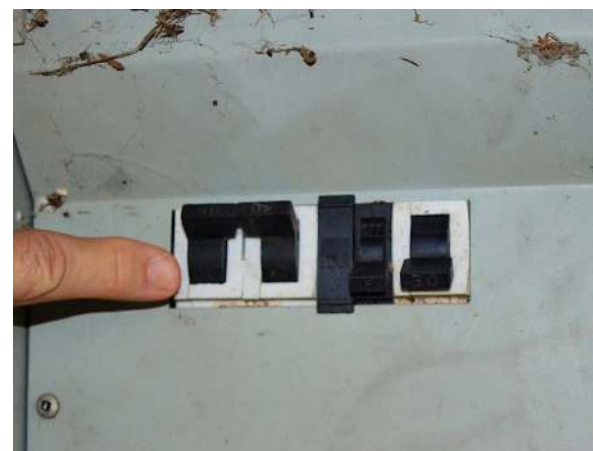
50A outlet



30A outlet



15A outlet



Breakers

A typical campsite's power pedestal will have three types of plug-in receptacles: 15 amp, 30 amp and 50 amp. The 15A receptacle is typically the same as you would find in your home. The 30A and 50A receptacles are specific to the RV industry. Other receptacles look similar but may not be wired the same. If in doubt, check with campground personnel.

The pedestal will also typically have individual breakers for the 15A, 30A, and 50A services. Many campgrounds turn off unused breakers so check that the breaker for the plug you will be using is turned on.

Your Roadtrek is equipped with a 30 Amp cord. Most power pedestals have a 30 amp receptacle.



15A to 30A adapter



50A to 30A adapter

It is possible that a campground (or perhaps a friend's driveway) will not have a 30A receptacle available for your use. You can purchase a 15A to 30A adapter and connect to an ordinary 15A household outlet.

Be aware that in those situations, you will have limited power compared to a 30A circuit. You will be able to run a single large appliance at a time; you may need to turn off your air conditioner if you want to use the microwave, for example.

If you exceed the current capacity of the receptacle you may pop the breakers in the pedestal. If this happens, turn off some appliances and reset the breaker.

It is also possible that you will find a 50A receptacle. Again, you can purchase a 50A to 30A adapter. In this case your power should not be limited as you will have the full 30 amps available. Although you are connected to a 50A service, you can only draw 30A; there is no advantage to connecting to a 50A service if a 30A service is available.

HOWTO: Potable Water Use

Your Roadtrek can operate in either fully self-contained mode, or can be connected to a water supply such as a campsite's faucet.

The city water connection is in the driver's side front access bay, to the left of the propane tank. Unscrew the white plastic protective cap and connect your clean hose to the water faucet and to a water pressure regulator attached to this connection point. Turn the faucet on and check for leaks, tightening the connections as necessary.

 Campgrounds and municipalities vary greatly in supplied water pressure. Before connecting to external water supplies, purchase and install a pressure regulator inline with the water connection.

In a typical campground you may see the faucet with a backflow preventer attached. These look similar to a pressure regulator but do not affect the pressure. The backflow preventer is there to protect the campground. You need the pressure regulator to protect yourself from excess pressure.



Backflow preventer



Typical water pressure regulator (Owner supplied)



City water fill location



Built-in pressure regulator

! If you have the words "Pressure Regulator" stamped on your city water connection, you do not need an external pressure regulator. If in doubt, use an external pressure regulator.

! If you have any doubts about a water supply pressure situation, you can always fill your tanks from the water source using the gravity fill, and use the water pump to supply water from the tanks.

The city water inlet connection is located in the front driver's side compartment, to the left of the propane tank.

! Roadtrek recommends that you use a dedicated single purpose potable-water hose. These are usually white in color. Buy a new one and use it only for filling your tanks and connecting to city water. View any hose lying around a campground with extreme skepticism, especially if there's a wastewater dump nearby. Large RVs use hoses to flush their wastewater system.



Access to the city water valve, side door



Screws holding plastic radiator cover on



City water valve in closed, across-the-line position

To connect the Roadtrek's water system to an outside source:

- Turn the water pump off.
- Close the city tank fill valve. To do this, bend the plastic radiator cover slightly so that the notches held by screws slip loose. Remove the plastic cover and the city valve is inside the exposed opening on the left side of the side door step. Turn the handle vertically to the across-the-line position (see photos above).
- Close all interior faucets.
- Flush old water and any contaminants out of the water supply faucet.
- Connect your fresh water hose to the faucet.
- Attach your pressure regulator to the Roadtrek's city water connection.
- Attach your fresh water hose to the the pressure regulator.
- Slowly open the faucet of the city water source.
- The city water connection by-passes the water pump and fresh water tank. Therefore, the use of these items is not necessary when connected directly to an external water source. Leave your water pump turned off when connected to city water.



Attaching pressure
regulator to city water
fill location



Hose connected

To disconnect the city water connection:

- Turn off the external water source.
- Open a faucet to relieve the pressure in the system. Failure to do so will not damage your vehicle, but may result in an unexpected shower when you disconnect the hose. The galley sink is a convenient place to do this.
- Make sure the city tank fill valve is closed (handle across the line).
- Remove the hose from the city water connection, and replace the cap on the fill connection.
- Disconnect the hose from the supply faucet and stow it inside your vehicle. Connecting the ends is a handy way to prevent dirt or other contaminants from entering the hose while stored, and residual water from leaking out.

 If you hear your pump running constantly, and water pressure is low inside the vehicle after disconnecting from an external water source, it is because you have not properly positioned the city water valve. Make sure the black plastic handle is perpendicular to (across) the water line when your water system is in self-contained mode.

HOWTO: Waste Water Dumping

Wastewater storage and dumping

Your house is permanently connected to your septic system or a municipal sewer; you don't have to worry about the wastewater you generate because gravity takes it away. Your Roadtrek doesn't have that connection, and has to hold any wastewater until you have the opportunity to dump it at an approved dump station.



Most municipalities have severe penalties for improper disposal of human waste, especially into a watershed - fines can be several thousand dollars, and it's often a felony. Even if it's "just gray water", it will still flunk a coliform bacteria test because of the common discharge hose, which is difficult to explain to a judge. Never dispose of wastewater unless you're sure you are at an approved dump station.

Tanks

Your vehicle is equipped with a gray holding tank and a black holding tank. The gray tank holds the sink and shower water. The black tank holds the toilet waste. As a result the black tank is a lot nastier than the gray tank.

Waste Water Discharge Pump

Your Roadtrek is equipped with a waste water disposal pump to make dumping your tanks easier and cleaner. The macerator in this pump grinds up any solids in the system and pumps the resulting wastewater out to the dump station.



Do not throw any paper towels, personal wipes, rags, baby wipes, tampons, hairballs, etc. into the toilet. The macerator is not capable of handling these types of solids and will jam or be damaged. Use toilet paper intended for RVs or septic systems.



If in doubt, take a tissue, and leave it in a glass of water. Stir with a spoon a couple of times. If it falls apart into a gooey slurry after a few minutes it's safe for your tank. If it stays together, swells up, or clumps into a solid mass, it's not safe and should be disposed of in the trash and not down the toilet.

- ❗ If possible, you want to dump the tanks after driving as the movement of the vehicle will have sloshed the water in the tanks, loosening any solids.
- ❗ Make sure the tanks are as full as possible before dumping - you may wish to use a hose or bucket to add water to the black water tank through the toilet if it is less than 1/2 full.
- ❗ You should dump the black tank first, then the gray tank. The water in the gray tank is considerably cleaner, and will rinse any remaining solids from the hose and the macerator. You should dump both tanks in sequence if possible.

Dumping the tanks



Sprinter side compartments



210 Popular side compartment

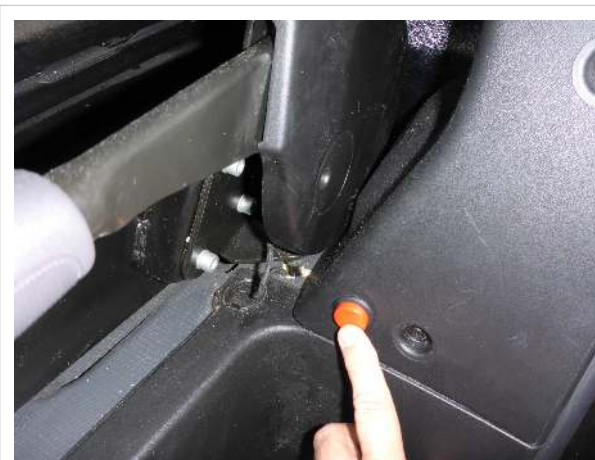
- Open the compartment doors or drawer behind the driver. This will expose the green waste water discharge hose and controls.

⚠ Depending on your model, your hose and dump valve location may look a bit different. Take the time to identify all of the components before you start.

- Open the driver's door and locate the waste water pump switch. It is a red pushbutton located on the driver's seat base or on the B pillar.



Macerator button on base of driver's seat



Macerator button on the B pillar behind driver

- Remove the waste water discharge hose from storage by pulling it straight out far enough to reach the dump.
- Insert the waste water discharge hose outlet into the dump station waste receptacle.
- Open the valve on the end of the sewage discharge hose by turning the black plastic handle to align with the hose.



Extending the hose



Open the dump hose valve

- There are two ways to secure the hose in the dump station waste receptacle four inch pipe. In the white box that came with your Roadtrek there is a rubber doughnut, which goes over the discharge nozzle and can be wedged into the waste receptacle to hold the waste water discharge hose in place. Some RV parks require you to use a doughnut. If you trust gravity more than friction, or don't want to store the doughnut between uses, use a rock to weight the hose down. Either way, make sure the hose doesn't get loose when you turn the pump on.



The discharge stream is forceful and will knock the hose out of the drain if you do not weight it down or secure it in the drain with the doughnut. It is much easier and more sanitary to secure it before turning the pump on than it is to chase it around afterwards.



Rubber doughnut installed on nozzle



Rock used as weight to hold the hose

- Push the jogger handle in and turn it to loosen any materials in the macerator. Pull the jogger handle out.
- Open the black water tank gate valve by pulling the black handle out. It will come out approximately three inches (8 cm) and stop.
- Press and hold the waste water pump button until the tank is empty.
- Close the black water tank valve by pushing in on the handle.
- Open the grey water tank gate valve by pulling the grey handle out. It will come out approximately 1 1/2 inches (4 cm) and stop.
- Press and hold the waste water pump red button until the grey waste tank is empty.
- Close the gray tank valve by pushing it back in to the original position.



Open the black valve



Open the gray valve

 Always dump the black tank first and the gray tank second. The graywater will help flush any remaining solids from the dump hose. If you wish to rinse the system, pour water down the toilet and sink, and dump again.

- Close the discharge valve on the end of the waste water hose.
- Rinse off the dump area and the dump hose.
- Return the waste water hose to its storage compartment by pushing the green hose back onto the reel.
- Add about $\frac{1}{2}$ gallon of fresh water to the black tank. While you're doing this, add a packet of black holding tank chemicals to the tank.

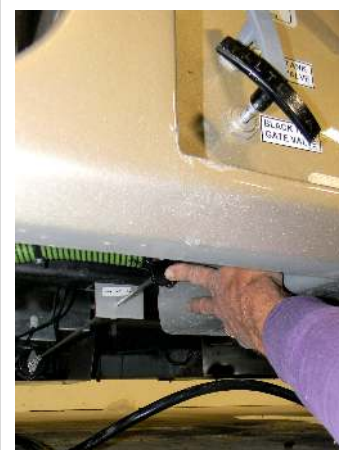
 Do not toss the packet into the toilet, even if it claims to be `dissolvable`. It may not be dissolvable enough for the macerator. Tear open the packet and pour the contents into the black tank, and dispose of the packet in the trash. The contents of the powder packets can be irritating to your eyes and nose, so hold the packet low to the bowl and try to pour directly into the tank.

 The waste water discharge pump will be damaged if allowed to operate dry for any length of time. Turn off the pump as soon as the solid stream of liquid begins to sputter, and the pump's sound changes.

Jammed waste water pump



Sprinter macerator manual crank knob



Chevy macerator manual crank knob

If the waste water discharge pump stops while you are pushing the button, it's jammed. Something has gotten caught up in the blades. Release the button to stop the pump.

- Locate the manual waste water pump knob.
- Push in on the knob and turn clockwise; you will feel the knob engage the pump shaft.
- Turn the knob first in one direction and then the other to loosen the obstruction.
- Once the obstruction is loose, continue dumping.

HOWTO: Propane System

Your vehicle is equipped with a propane system which, when properly handled and maintained, will provide trouble and worry free operation of your propane fueled appliances.

Regulatory Concerns

Many jurisdictions place restrictions on propane on highways, in tunnels, on ferries, and on bridges. Please follow all local restrictions in all the jurisdictions along your trip. Some bridges/tunnels/ferries require you to have your main shutoff valve closed. This valve must be closed whenever the vehicle is in motion in any case, not just in certain areas. Other bridges/tunnels/ferries ban vehicles with propane tanks entirely. Plan ahead and take an alternate route if passing through areas where vehicles with propane are prohibited.

Propane Tank Location

The propane tank is located behind the front utility access door along the bottom driver's side of the vehicle. To access the tank for filling and to turn the manual tank shutoff valve off and on, pull the door up and secure it with the rotating tab.

Main Shutoff valve



Propane tank



Support for side compartment cover



Main valve

✗ You must close the tank shutoff valve when the vehicle is not in daily use. Further, you must close the shutoff valve when the vehicle is traveling. Never operate any propane appliance while the vehicle is in motion.

The propane shutoff valve has arrows on it to tell you which way to turn it - clockwise is closed and counterclockwise is open. If you close the main valve for an extended period of time it is possible for the distribution lines to fill with air. It may take a while for propane to fill the lines again. The fridge and water heater handle this automatically; for the stove you can hear the difference between propane and air.

BBQ pigtail



High pressure BBQ pigtail, in stowed position in front of passenger rear tire



Propane pigtail, removed from retaining enclosure



With yellow dustcap removed and valve in open position

The propane system has a high-pressure auxiliary BBQ takeoff. Locate the hose by reaching under the edge of the Roadtrek about halfway between the rear passenger tire opening and the side door. Pull the hose toward the back of the Roadtrek to release it from the channel it is stowed in. The hose has a yellow dustcap, and an integral cutoff valve which is closed when the brass handle is across the line, and open when the handle is parallel to the line. This takeoff provides 15PSI regulated propane to appliances that have their own regulators or are built to use high-pressure propane. Many grills in the US are low pressure (.5 PSI) and cannot use this connection without an additional regulator. The auxiliary BBQ male connector is Cast Products part # 829000 or 829120. The hose assembly in varying lengths is available as MB Sturgis part no. 100476.

 Always store the hose back in the channel it was in when you removed it - do not let it dangle loose beneath the Roadtrek while driving.

 The hose is available from your Roadtrek dealer. Roadtrek strongly cautions against home-made hoses due to risk of failure.

Propane Tank Filling

✗ Do not attempt to fill the tank unless you have had appropriate training. Reading this manual does not constitute sufficient training to safely fill propane. If you overfill the tank, propane will vent uncontrollably out of the relief valve.

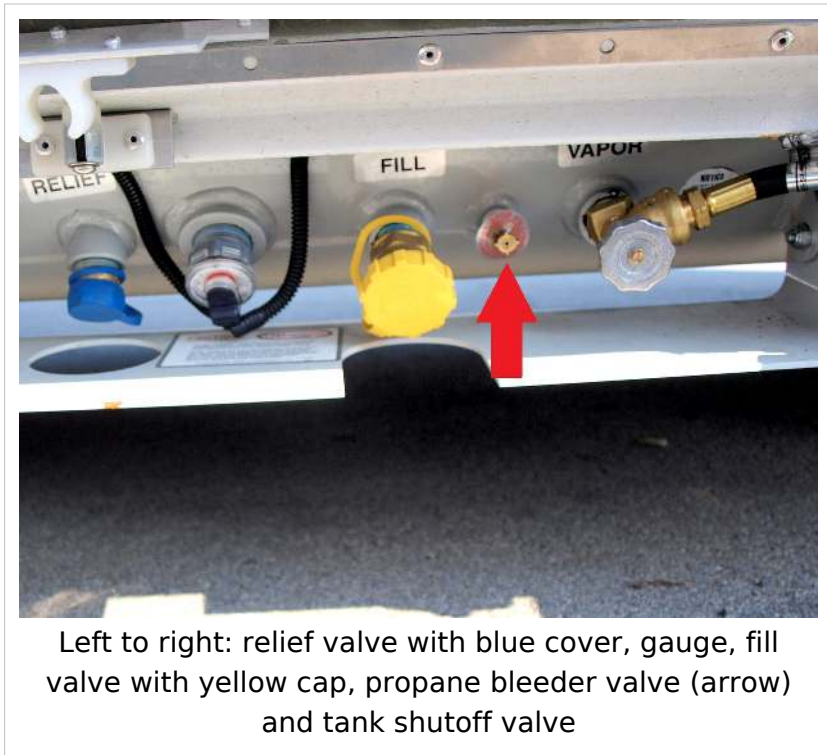
To fill the tank, first turn off all propane appliances, then turn off the tank shutoff valve.

We recommend that you find a qualified LPG technician to fill the tank. The following is an outline of the process to help you understand and not intended to be complete, nor to substitute for formal training or instruction.

Attach the fill hose to the fill valve, open the bleeder valve slightly, and fill the tank to 80% capacity. The stop-fill valve should automatically stop the filling process. You may also see liquid propane spit out of the bleeder valve as the tank reaches the 80% fill level. Stop filling immediately and close the bleeder valve.

Under no circumstances should anyone fill the tank to more than 80% capacity; doing so can cause liquid propane to flow into the regulators. If this happens the regulators will have to be replaced. The relief valve with the blue plastic cover will automatically vent propane if the tank is overfilled or overheats. This is not a user-serviceable item; never attempt to remove the cover, test, or otherwise interfere with the operation of this valve. Sometimes an overfilled tank will not start venting until the temperature rises. If this valve should open, it is best to remove all sources of ignition and expeditiously leave the area until propane odor is no longer detectable. Venting unburned propane is a slightly more advantageous situation than a tank explosion, which is what this valve is designed to prevent.

We recommend that you use only propane from certified LPG retailers.



Left to right: relief valve with blue cover, gauge, fill valve with yellow cap, propane bleeder valve (arrow) and tank shutoff valve

Propane Level Gauge Sender

The propane tank has a level indicator with a remote sender to the Monitor Panel. The black wire you see of this gauge connects to the monitor panel, and allows you to check your propane level while inside the Roadtrek.

Both the three-light system on the monitor panel and the gauge on the tank will give you a rough idea of your propane level; you will get a more accurate indication when you fill up. Note the amount it takes to fill your tank. The 16 gallon tank in your Roadtrek will hold 12.8 gallons / 48 liters when completely empty and filled to the correct 80% full level. Subtract the amount you buy from this number, and you'll know how much was in the tank when you filled it. You may find that the gauge will read one light when you still have a considerable reserve, or you may find that empty means empty, and you'd be wise to refill as soon as it goes down to one light. It depends on the characteristics of your individual propane system.

Slam shut valve

The propane system is equipped with a slam-shut valve. If this valve detects a sudden increase in flow (as if from a ruptured line) or a shock (as if from an accident) the valve will shut down the propane system. If you detect no propane flow, and you have checked that you have propane in the tank, shut off all appliances, shut off the main valve, and wait 10 minutes.

Slowly turn on the propane, turning the main valve 1/4 turn a minute until the valve is open. Check for propane smell as you turn on the valve.

Once the valve is open, turn on the stove and try to light it. If air entered the line, it may take a short time to purge the air out of the line.

If you still have no propane at the stove, and you detect no propane smell, have a qualified technician check the system.

About Propane

Propane fuel is colourless, heavier than air and smells like garlic or rotten eggs. The odor is added by the distributor so propane may smell differently as you travel and purchase propane from various distributors. Being heavier than air it will collect in low spots and along the floor of your vehicle.

If you smell propane or your propane detector sounds, immediately get all occupants out of the vehicle and turn the manual shutoff valve off. Wait for the propane to dissipate. Once the smell is gone, take the vehicle to a qualified repair facility to find and fix the problem before using the propane system again. If closing the manual shutoff valve does not stop the propane leak and you still smell propane, do not attempt to start, drive, occupy or otherwise use the vehicle in the presence of a

propane smell.



Propane tanks must not be placed or stored inside your vehicle. Propane tanks are equipped with safety devices which relieve excessive pressure by discharging gas to the atmosphere. The Roadtrek's propane tank is mounted outside the vehicle and will vent propane where it can dissipate; any tank inside the vehicle will vent into the passenger compartment, creating an explosive propane-air mixture inside the enclosed space, which also contains many potential sources of ignition.



To reduce the danger of fire or explosion do not store gasoline or other flammable liquids inside your vehicle. In a moving vehicle, containers get tipped over or jostled and leak, and flammable vapors will create an explosive air-vapor mixture inside your passenger compartment, which also contains many potential sources of ignition.



Purchase propane from a reputable propane facility. Contaminated propane is a common cause of system failure.



The auxiliary BBQ outlet is regulated to 15 P.S.I. If you are using an external grill with this hookup, ensure that the appliance is rated for that pressure or has its own regulator for lower pressure.

HOWTO: Cable and TV Reception

Your Roadtrek comes with a home theatre system. This consists of a TV, a DVD player, the speaker system and the radio in the dash, along with a rooftop TV antenna and a cable TV connection.

The TV and home theatre system are located in the rear on the passenger side. The Cable TV/Antenna switch and power injector for the built-in antenna are in the cabinet just above the DVD player.

The TV and the home theatre system must be on to use the system. Both the television and the DVD player use 120 volt current, so the inverter, generator, or shore power must be used. Refer to the Electrical System for instructions on 120 volt AC power.

The TV and DVD are supplied with remote controls.

The home theatre system has inputs for media devices. Read the Owner's manual for full details.



TV Bracket release



DVD player

The TV is stowed against the wall on a hinged bracket. The bracket is secured with a large thumbscrew. Turn the thumbscrew horizontally to release the bracket and vertically to secure the bracket to the wall.

Once released, you can swing the TV to a comfortable viewing position.



Always stow the TV with the bracket secured to the wall for travel.



TV antenna switch and power injector



Rear speaker switch

Over-the-air TV



Antenna/cable switch (small white button on cover)

To watch TV using the Roadtrek rooftop antenna:

- Have 120 volt AC power available (inverter on OR shore power plugged in OR generator running)
- Turn on TV and home theatre system
- Set the speaker selector to "SURROUND"
- Set the antenna/cable TV switch to Antenna by pressing the button

DVD

To watch a DVD:

- Have 120 volt AC power available (inverter on OR shore power plugged in OR generator running)
- Turn on TV and home theatre system
- Set the speaker selector to "SURROUND"
- Use the DVD remote control to start the movie

Cable TV

To connect your Roadtrek to cable TV at a campsite or even in your driveway, first locate the Roadtrek's cable TV connection. It is behind the middle utility bay door on the bottom of the driver's side of the vehicle, just to the right of the waste water hose and handles, and has a square gray plastic cover about 3 cm on each side which is hinged at the side, which opens to expose the barrel connector the cable hooks to.



Cable TV connection location



Coaxial TV connecting wire with screw-on end

You need a length of coaxial TV cable to reach from the cable TV outlet to your Roadtrek's connection point. These are sold in electronic supply and camping supply stores and come in lengths of 25, 50, and 100 feet. The cable is typically sold as RG-59U or RG-6 with F-type connectors. The RG-6 is preferable but either will work.

Screw the cable onto the barrel connectors at each end.



TV cable connected

Push the white button on the panel in the cabinet above the TV to switch between cable and antenna.

Speaker Switch

The speaker switch is located in the same cabinet as the Cable/Antenna switch. You can select Surround, Off, or Automotive.

In the Surround position, the rear speakers (the speakers above the bed) will work with the TV/home theatre system. In the Off position the speakers are off. In the Automotive position, the speakers are connected to the dash radio.



Rear speaker switch

HOWTO: Water System Winterizing

Do you really need to winterize?



If your Roadtrek is going to remain heated to comfortable temperatures, and the temperatures during the day are well above freezing (above 40 deg. F or above 4 deg. C) and the forecast is for temperatures just below freezing for a few hours at night with calm winds, then you don't need to winterize. The heat in your Roadtrek is enough to keep the lines from freezing.



If the forecast is for extended cold periods, with daytime temperatures at or below freezing, if you're not heating your Roadtrek, or if you expect sustained winds and the roads and ground is already frozen, you need to winterize.



As always, you are final judge and you need to do what is comfortable and makes you feel good. If you are not comfortable with leaving water in your lines when it gets cold, and you will sleep better, go ahead and winterize.

How to winterize using anti-freeze

This procedure can be done in less an hour with no specialized tools. You will need a funnel and your Robertson head screwdriver that came with your Roadtrek.

- Get 2-3 gallons of RV antifreeze.



DO NOT use automotive antifreeze. RV antifreeze is non-toxic and safe for potable water lines.

- Drain the fresh water tank by opening the fresh water tank drain valve, located under the passenger front door step. It may take as long as 30 minutes to drain the tank. Close the drain for the exterior tank.
- Run the galley faucet until it sputters to empty as much water as possible.
- Turn off the water pump.
- Dump and rinse the gray and black tanks.
- Open your single lever galley faucet, putting it in the middle halfway between the hot and cold settings.



Typical non-toxic RV
antifreeze



Freshwater tank drain valve

❗ If you have the standard Alde hydronic hot water/heating system, continue on through these steps. If you have the optional Webasto diesel-fueled hot water system, skip steps the dealing with the Alde system water heater and its bypass valves, go to the bottom of this article and perform the steps pertinent to your unit.

Alde bypass instructions

- Lift the cushions and stowed rear table off the driver's side bench behind the wardrobe and loosen the screw securing the hinged cover.
- Lift the cover up to expose the three bypass valves on the water lines, and the Alde frost protection valve.



Bypass valves in normal position - all black handles horizontal



Valves turned to bypass position - all black handles vertical

- Turn the three black plastic handled valves so that they are all pointing toward the side of the Roadtrek. See photo above.



Location of Alde frost valve



Alde frost protection normal position - blue handle is pointing parallel to the water line, blue button at base (see arrow) is in



Frost protection valves turned to dump position - blue handle pointing toward water line, blue button at base is out

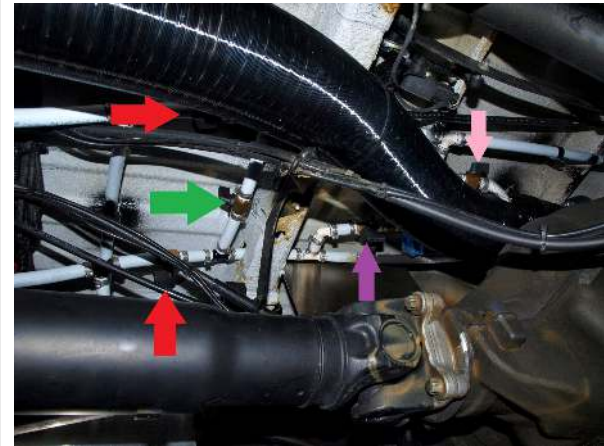
- Turn the frost protection valve on the Alde unit so that the handle is across the line. The system will drain the water in the unit to ground, which might take 15 minutes or more. Go back to the middle of the winterization procedure and complete steps 10 through 19.

Webasto bypass Instructions

- Locate the Webasto unit control on the cabinet face behind the television. Turn the left knob to the dump position (all the way counterclockwise). Open the galley sink hot water faucet to allow air into the hot water system. It will take approximately 10 to 15 minutes for the unit to drain completely. The Webasto unit will reset after 90 minutes to close the dump valve.



Webasto control

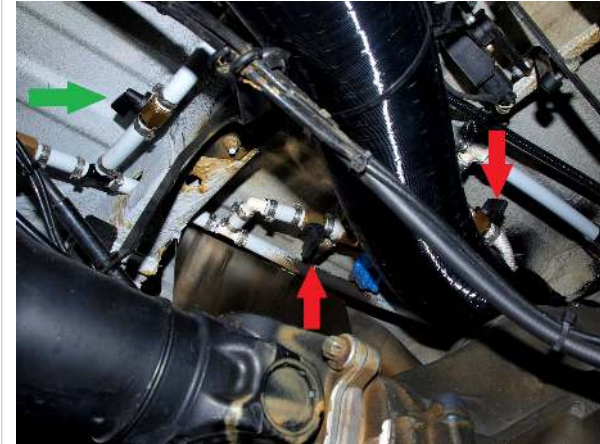


Valves at red arrows should be left alone (always open). Green arrow points to shunt valve; pink and purple arrows point to hot and cold supply lines for Webasto

- Locate the diesel-fueled hot water unit underneath the vehicle. It is immediately behind the center of the rear axle (the differential). There are two air ducts on the front side of the unit, near the top. There are also two white water lines coming back from the front of the Roadtrek, one on each side of the chassis centerline. Just before these lines get to the Webasto unit, there is a transverse white hose connecting them, with a valve on it. This is the shunt valve. To winterize, you open the shunt valve, and close the two valves on the hot and cold lines going into the Webasto **BETWEEN THE SHUNT (TRANSVERSE) LINE AND THE UNIT**. There may be other valves on the hot and cold lines forward of the transverse white hose connecting the two water lines - **DO NOT TURN THESE VALVES**. (see photos above and below). If your outside shower quits working, you turned the wrong valves.



Shunt and Webasto supply line valves in normal position (shunt closed, supply valves open)



Shunt and Webasto supply line valves in bypass position (shunt open, supply valves closed))

- From the passenger side of the differential you will see two valves. The one on the transverse line is the shunt valve, and the one on the line between the transverse line and the Webasto unit leading to the blue overpressure relief valve is the cold side supply valve. Turn each 90 degrees so the shunt valve is parallel to the water line (open) and the cold side supply valve is across the line (closed).
- Now go around to the other side (driver's side) of the differential, and look for the hot water line. It will be white and may have a piece of red tape on it. Look on this line for a valve BETWEEN THE SHUNT (TRANSVERSE) LINE AND THE WEBASTO UNIT which is open in normal operating mode. Turn it so that the black plastic handle is across the line (closed). There may be other valves on the hot water line forward of the transverse (shunt) line - DO NOT TURN THESE VALVES. If your outside shower quits working, you turned the wrong valves.

Complete the winterization

- Check to be sure that the drain on the fresh water tank and the black and gray waste water tank valves are all closed. Move the single lever galley faucet all the way to the cold side, and leave it open.
- Add 2 gallons of non-toxic RV approved antifreeze to the fresh water tank gravity fill using a spout or funnel, and wash any spillage off the paint.
- Turn the water pump on and allow to prime. Close cold galley sink faucet once you see pink antifreeze coming out.
- Run antifreeze from all fixtures.
 - Move the single lever galley faucet to the hot side, and run until you see pink antifreeze come out.
 - Open both hot and cold faucets in the bathroom sink
 - Flush the toilet.
 - Open the hot and cold faucets on the outside shower
 - Press and hold the cold handle on the instant hot water dispenser until undiluted pink RV antifreeze emerges from the faucet. Then do the same thing with the hot handle. You will be filling the hot water reservoir with antifreeze, which takes approximately a gallon, so this may take some time.
 - In the cabinet under the convection oven there is a water filter for the instant hot water dispenser. After running antifreeze through the system, twist and remove this filter, pour the antifreeze in the filter down the galley sink, and reinstall the old filter. Buy a new filter to have on hand for dewinterizing in the spring, but do NOT install the new filter until you have purged all the antifreeze from the system. This filter should be replaced annually, so it's most convenient to replace it at the time of dewinterizing.
- Ensure antifreeze flows into all P-traps (galley sink, washroom sink, and shower drain). Add any extra antifreeze to the galley, bathroom sink, and shower drains.
- If the water pump loses its prime in this process, add more antifreeze to the fresh water tank.
- Open the grey and black waste tank valves, and operate the waste water discharge pump for about 10 seconds. You should see pink antifreeze coming out of the waste water discharge hose.



Access to the city water valve, side door



Screws holding plastic radiator cover on



City water valve in open, along-the-line position

- Open the city water valve. To do this, loosen the Robertson head screws holding the plastic radiator cover on the side door step. Remove the plastic cover, and the city valve is inside the exposed opening on the left side of the side door step. Turn the handle horizontally to the parallel-to-the-line position (see photos above). The water pump will operate. Allow it to run about 20 seconds. Turn city water valve off (black plastic handle will be vertical).



Water pump access inside passenger side bench enclosure



Water pump filter

- Turn the water pump off and open a galley sink faucet to release back pressure.
- Open the fresh water tank drain line under the passenger front door briefly until antifreeze flows out.
- Remove and clean the water pump filter if so equipped. To access the water pump filter, loosen the screw on the lid of the passenger side bench just behind the bathroom, and lift the lid. Replace water pump filter.



Only dump at approved dump stations or collect the macerator discharge into a bucket and dump into a toilet. Do not dump into storm sewers.

- Run the macerator until you see pink antifreeze.

Winterizing using compressed air

Roadtrek recommends against using compressed air for winterizing.

Other methods of winterizing

Roadtrek only recommends the winterizing method outlined above using RV antifreeze.

HOWTO: De-Winterizing

If you winterized only for a short time (less than a week) you can skip to the second step.

First step

You will need 2 gallons of water and 1 cup of fresh bleach. (Bleach loses its potency over time; always start with bleach that is less than 6 months old.)



Fresh water tank drain, under passenger front door step



Gravity fill on front passenger door post

1. Check to be sure the fresh water tank drain valve is closed, then add the water/bleach mixture to the fresh water tank through the gravity fill.
2. This is a good time to get some stuff for spring cleaning of your Roadtrek, so drive around for an hour. Let it sit for a couple more hours.
3. Open the fresh water tank drain valve and let the bleach/water mixture drain to ground. This can take 10 minutes or more. This kills any bacteria in the tanks before you distribute them through the entire water system.

Second step

You will need a good supply of fresh water and a cup of chlorine

- Fill the fresh water tank approximately 1/2 full, adding a cup of chlorine bleach halfway through the filling process.
- Turn on the water pump, and circulate the dilute bleach solution through the entire system. The water heater is still winterized. Run water out of all three faucets (galley, bathroom, and outside shower), hot and cold, until you smell chlorine. With the water pump on, open the city water valve and let the pump push water through the fill line for a minute or so.



Access to the city water valve, side door



Screws holding plastic radiator cover on



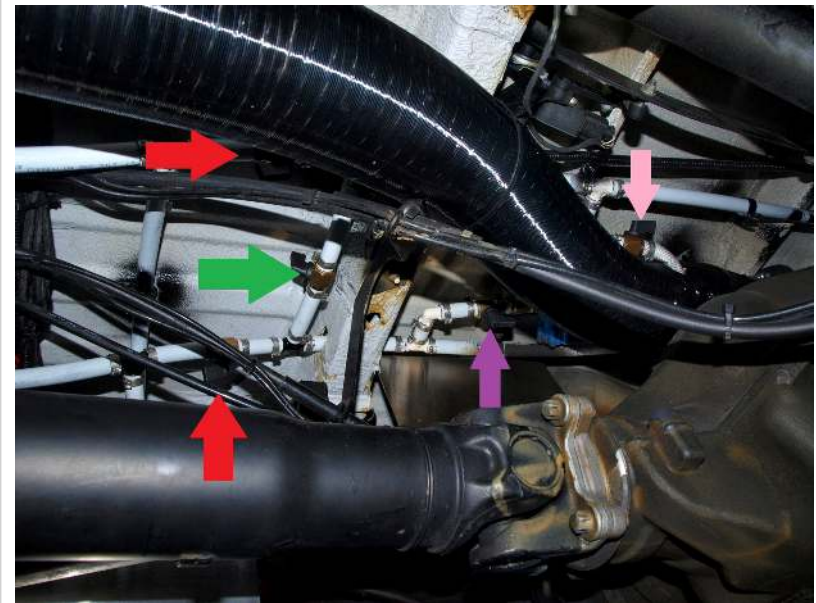
City water valve in open, along-the-line position

- To open the valve, loosen the Robertson head screws holding the plastic radiator cover on the side door step. Remove the plastic cover, and the city valve is inside the exposed opening on the left side of the side door step. Turn the handle horizontally to the parallel-to-the-line position (see photos above). The water pump will operate. Allow it to run about 20 seconds. Turn city water valve off (black plastic handle will be vertical).

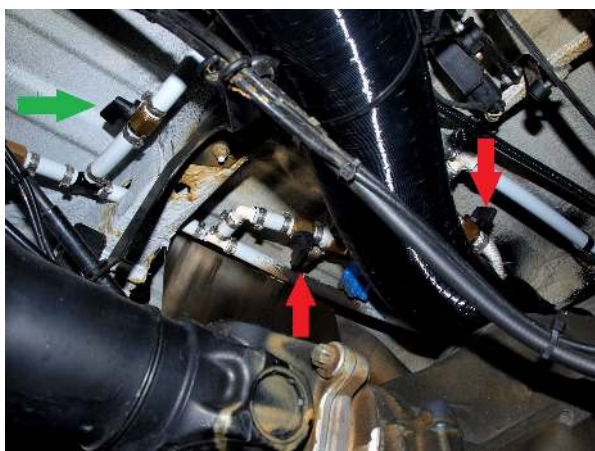


If your CS Adventurous has the Webasto diesel-powered hot water system instead of the standard Alde water heater, perform this step and skip the following step beginning "Open the galley sink...". If your CS Adventurous has the Alde system, skip to the next step beginning "Lift the cushions...".

- Locate the Webasto diesel-fueled hot water unit underneath the vehicle. It is immediately behind the center of the rear axle (the differential). There are two air ducts on the front side of the unit, near the top. There are also two white water lines coming rearward from the front of the Roadtrek, one on each side of the centerline. Just before these lines get to the Webasto unit, there is a transverse white hose connecting them, with a valve on it. This is the shunt valve. To de-winterize, you close the shunt valve, and open the two valves on the hot and cold lines going into the Webasto **BETWEEN THE SHUNT (TRANSVERSE) LINE AND THE WEBASTO UNIT**. There may be other valves on the hot and cold lines forward of the transverse white hose connecting the two water lines - **DO NOT TURN THESE VALVES**. (see photos right and below). The valve on the line between the transverse line and the Webasto unit leading to the blue overpressure relief valve is the cold side bypass valve. Turn all three valves 90 degrees so the shunt valve handle is across the water line (closed) and the cold and hot line valve handles are along the line (open).



Wide view of the valves on the water lines forward of the Webasto unit. The two valves (red arrows) forward (left) of the shunt valve (green arrow) are to be left open whether the system is winterized or not. The hot (pink arrow) and cold (purple arrow) valves between the transverse shunt line and the Webasto unit are open normally, closed when winterized.



Webasto line valves in bypass position. Green arrow means valve is open, red closed. Front of vehicle is to the upper left.



Webasto line valves in normal operating position. Green arrow means valve is open, red closed.

- Lift the cushions and stowed rear table off the driver's side bench behind the wardrobe and loosen the screw securing the hinged cover. Lift the cover up to expose the three bypass valves on the water lines, and the Alde frost protection valve. Turn the three black plastic valves so that they all face forward (see photo below). Push the blue button at the base of the Alde frost protection valve in, and turn the blue handle on top 90 degrees so that it is parallel to the water line - pointing forward (see photo below).



Alde bypass valves in normal operating position



Frost protection valve in normal operating position

- Open the galley sink, move the handle in the hot water direction, and run the water pump until water flows from hot water tap at sink and you smell chlorine. The water heater holds several gallons, so it will take a while for it to fill up.
- Allow the system to sit overnight.
- Drain the fresh water tank completely, fill with clean water, and run all faucets (galley sink, bathroom, and outside shower) for 2-3 minutes each.
- Hold the instant hot water dispenser taps, both hot and cold, open for several minutes until the water runs clear and smells like chlorine. The hot water reservoir has a capacity of about a gallon, so this will take some time. After all the antifreeze is out of the system, remove the old water filter cartridge in the cabinet under the microwave, and replace with a fresh filter cartridge.
- To help get rid of the residual chlorine smell, pour a cup of vinegar into the fresh water tank, fill, let sit for a few hours, run the faucets for a minute or so apiece, drain the tank to ground, and refill with fresh water.