

Owner's Manual

TS Adventurous



Contents

Articles

Introduction to your TS Adventurous	1
Copyright	2
Do's and Don'ts	3
Before You Head Out	7
Coming Home	8
Interior Living Space	10
Sleeping Facilities	20
Bathroom Facilities	24
Appliances	27
Outside your Roadtrek	31
Utilities	39
Heating and Cooling	42
Electrical System	48
Monitor Panel	55
Distribution Panel	59
Alarms and Warnings	66
Maintenance	69

Spare Tire Storage	73
Obtaining Service	77
Specifications	78
Warranty	80
Registration	84
HOWTO: Monitor Panel	86
HOWTO: Shore Power	91
HOWTO: Potable Water Use	95
HOWTO: Waste Water Dumping	98
HOWTO: Cable and TV Reception	105
HOWTO: Propane System	108
HOWTO: Water System Winterizing	114
HOWTO: De-Winterizing	120

Introduction to your TS 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 by turning the black plastic handle on the tank drain valve under the passenger doorstep. Don't let water you are planning to use sit in your tank for more than a week or so, and don't let ANY water sit in your tank 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, open freezer door, and prop the door open to let it air out
- Turn off two important switches to keep from draining your batteries:
 - the battery disconnect switch on your monitor panel
 - the inverter switch on your monitor panel



Battery disconnect switch



Inverter 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 closed



Pushbutton latch open

Your Roadtrek is equipped with cabinet latches which prevent the contents from falling out 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 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. Put these objects in floor-level storage.

❗ The overhead cabinets do not have internal partitions - behind the doors, they are open front to back down the entire length of the vehicle, and across the back. This allows you more flexibility in loading them, but also creates the need to secure any large, round and/or heavy objects in some other location than the overhead cabinets. Sudden braking or other emergency maneuvers could cause such objects to shift if stored overhead.



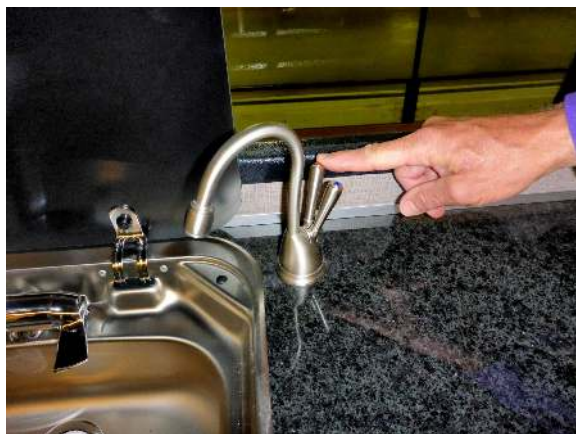
Overhead cabinet interior

Instant Hot Water Dispenser

If so equipped, the instant hot water dispensing system unit is in the drawer above the microwave convection oven, on the right side. The replaceable filter is accessed inside this cabinet.

To use the on-demand hot water dispenser, locate the galley inverter controls under the galley sink. Turn on the inverter, and then turn on the on-demand hot water dispenser using the timer switch.

❗ The galley inverter also provides the microwave power.



On-demand hot water system faucet



Unit and filter under counter



On-demand hot water system switch

Galley Drawers

Beneath the galley countertop there are drawers to the left of the food preparation surface to hold silverware and cooking utensils, and two more across the bottom of the cabinet. The right panel above the refrigerator 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 table locations to use either the front or rear lounge areas for dining, playing cards, or computer use. The table top is stored in the compartment above the driver's seat. The leg is stored in the compartment above the bed.



Front table position



Rear table position

To install either table, unscrew the T-nut in the end of the table leg completely, insert it into the slot in the floor socket, and rotate clockwise until the table leg is tight. Place the table top on the leg.

The front table has four leaves that fold out and snap into place. To fold up, press the hinge flat while folding the leaf.



T-nut



Table leg storage in rear upper cabinet



Front table leaves mechanism

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. For the full range of adjustments on the front seats, please refer to the Mercedes Sprinter manual.



Outboard front seat adjustments



Lumbar support adjustment on inboard side of seat

To move the front seats to their desired fore and aft position, pull up on the bar located under the front of the seat. Release the bar to lock the seat in place.

To swivel the front seats, locate the swivel bar positioned on the inboard side of the chair base and move the control downward against its spring to release the lock and swivel the chair.



Front seat swivel



Rear seat fore and aft adjustment



Rear seat swivel adjustment

The rear seat 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.



Always return the seats to the forward facing position when the vehicle is in motion - 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 front chairs to clear the armrests on the vehicle doors and other obstructions. Do not force the seats around. Swiveling the front seats is easier if you open the doors and/or loosen the tilt steering wheel adjustment and move the steering wheel as far forward and up as possible. Slide the rear seats forward before attempting to pivot them, then slide them back once pivoted.

Lights



Tap light off



Tap light on



Strip light switch



Gooseneck light

The overhead LED strip lights are in two sections, front and rear, which are individually controlled by the two dimmer switches located on the driver's side wall above the galley countertop. Touch the controls at different points along the arc to dim, brighten, or extinguish these lights. The individual lights along the edge of the ceiling and the gooseneck light over the passenger side rear seat are tap lights - to turn them off or on, press directly on the lens area. 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 Roadtrek have a partially opaque, "shade" window covering, and also a more opaque, "privacy" 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 "privacy" section over the windows to sleep or for privacy at night.



Shade



Privacy

Ventilation



Make sure that the fan is off and the cover completely closed before driving. The cover will rattle if you drive with it open.

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 control to set the desired speed.

There is a fuse in the body of the fan, in addition to the fuse in the distribution panel. Check both this fuse and the one on the 12 volt fuse panel if your fan stops working.

For more details, please refer to the fan manual.



Ceiling ventilation fan

Sleeping Facilities

Your Roadtrek has sleeping capacity for up to four people; two in the front of the vehicle with the optional front bed cushions, and two in the rear of the vehicle on the full or twin bed.

Sofa Bed



Sofa switch



Sofa upright

The power sofa located in the rear of the vehicle can be configured as a King or Twin bed depending on your preference or requirements. In order to create the bed arrangement the sofa must be lowered into position. Please follow these simple steps to properly lower the sofa;

1. Push the center seatbelts back through the sofa, between the seat and the back cushions, so the seat belts end up underneath the sofa.
2. Locate the power sofa switch under the television on the passenger side rear cabinet face.
3. Push down and hold the bottom part of the switch until the sofa is completely flat.



To make the full bed, first pull out the center board under the sofa and position it between the ottomans.



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.

1. Locate the pull-out panel in the center front of the power sofa base, and slide it out into the open space between the two side bench seats, securing it with the fold-down legs underneath the panel.
2. Reposition the larger bottom cushions of the side bench seats over this panel so they are side by side.
3. Place the smaller bench seat back cushions in the empty space between the wall and the larger bottom cushions.



When the sofa is raised for seating, ensure the seat belts are 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 allow passengers to occupy

the power sofa seats without seatbelts while the vehicle is in motion.

Front Seat Beds

The captain seats located at the front of the vehicle can be configured into single bed arrangements with the optional folding mattresses. Use the following procedure to create one or two single front bed configurations. If you have both folding mattresses, the short one goes on the driver's side and the longer one goes on the passenger side.



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 captain seats around so that they face the aisle, and the seatbacks face the doors. 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 to the outside as possible.
- Push the tab in the mattress between the two seatbacks.
- Open the optional folding mattress across the seats.

- Pass the hook-and-loop straps behind the seatbacks to hold the mattress in position.



Mattress tab between seat backs



Pass hook-and-loop strap behind seatback



Hook-and-loop strap in place



Passenger side folding mattress in place

Bathroom Facilities

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

Using the Toilet

The bathroom in your Roadtrek contains a marine type toilet. To flush the toilet, use your foot to press the foot pedal located at the bottom of the toilet. When finished, 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.



Toilet flush pedal

Shower



Shower connection and knob



Shower floor drain stopper

Using the Shower

1. Unscrew the drain stopper in the center of the bathroom floor
2. Connect the shower hose to the threaded fitting, located behind the sink faucet handles
3. Release the hook and loop fastener straps retaining the shower curtain
4. Slide the shower curtain along its track to enclose the shower space
5. Once ready, pull up on the knob located between the sink faucet handles to start the flow of water
6. 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

1. Turn off the water using the hot and cold knobs on the sink faucet
2. Push the knob located between the sink faucet back down to switch the flow of water back to the sink faucet
3. 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)
4. Dry the shower curtain with a towel or allow it to air dry before storing it

Appliances

TV, Blu-Ray Player, and Soundbar

Your Roadtrek is equipped with a 120 volt TV, Blu-Ray player, and soundbar audio system with remote control for your enjoyment and viewing pleasure. To use these appliances, turn on the inverter. The inverter must be on even if connected to shore power.

Your TV can receive signals from either the over-the-air antenna located on the vehicle roof or from the cable TV connection in the front utility bay. To select the signal source (antenna or cable TV), locate the A-B switch in the overhead cabinet above the TV and the Blu-Ray player. The top button connects the TV's input to the rooftop antenna, and the bottom button connects it to the cable TV jack in the utility bay.

All three devices have their own remote control. For more information, see the HOWTO: Cable and TV Reception section of the manual, and the manuals for the three devices.

Controlling the Soundbar

The soundbar offered in your Roadtrek allows you to control the sound from the audio sources in your vehicle. Use the supplied remote control or the buttons along the right lower edge to control this system. The soundbar automatically detects and switches to the audio source being produced (either dash radio, TV, or Blu-Ray player), but may select the wrong source if you have two devices playing simultaneously. Turn the one you don't want to listen to off, and it will switch to the one you want, or manually select the source with the controls.

Hot Water

Hot water for washing and showering is supplied by the Alde hydronic system. See the Alde manual for details. The Alde system is powered by propane unless shore power is available, and also requires a small amount of 12 volt power to operate its control system. Turn the battery disconnect switch on and ensure that you have propane in your tank and the main valve on the propane tank is on before turning the Alde system on at the control panel. The Alde system will use approximately 20 amps of shore power, so be sure that the shore power connection you are using will supply adequate amperage. In situations where the shore power is too low amperage or not available, the Alde will run on propane.

The Alde will also run off the 120 volt electricity produced by the optional propane generator, but it is much more efficient just to burn the propane in the Alde than to convert it to electricity by running the generator and then using the electricity to power the Alde. It is also much quieter.

The water heater can heat the 2.5 gallons in the tank to a useable temperature in approximately one hour, depending on ambient temperature.

Refrigerator

The refrigerator in your Roadtrek is a 12 volt DC/120 volt AC compressor refrigerator. It is configured to run off 12 volt power, so it is supplied by the battery charger when plugged into shore power, and will operate whether or not the inverter is turned on or other sources of 120 volt power are available. The battery disconnect switch must be on for the refrigerator to operate.

The temperature control for the refrigerator is located to the right of the freezer. Lowering the thermostat setting will not cool the refrigerator off faster, but may freeze your produce. Find the minimum setting that will not freeze your lettuce and other delicate items overnight, and leave the setting there. Temperature swings can be minimized by prechilling items in your home refrigerator prior to placing them in the refrigerator.

To open the refrigerator, gently push down on the latch located on the upper left hand corner of the refrigerator to release the retaining pin and pull the door towards you.



Refrigerator latch



Do not block the vent between the galley cabinet top and the window by storing things in this space. This vent must be unobstructed for the refrigerator to work properly.

Microwave Oven

The microwave oven is a standard microwave oven operating on 120 volt AC. To power the microwave, you either turn your inverter on, or plug into shore power. Reheating meals and preparing beverages is easily accomplished using available battery power through the inverter, but because of the large current draw, you should either start your vehicle engine, plug into shore power, or start your optional propane generator in order to use the microwave oven for extended periods.



Microwave convection oven

Inductive Cooktop Stove

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

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



Induction cooktop

Outside your Roadtrek

Awning



Power awning switch



Awning support attachment point

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

1. Locate the power awning switch which can be found on the front monitor panel.
2. Press the switch to extend the awning and lower the supports on each side.
3. Once extended, secure the supports to the two attachment points on the side of the vehicle.

To stow the awning:

1. Detach the supports from the attachment points
2. Retract the awning using the power switch

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



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 extended



Step switch

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



Magnet securing
access door

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

The compartment behind the front door contains the propane tank, the waste water hose and controls, and the cable TV connection.

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



The access doors have friction roller clips holding each end of the door. **DO NOT** pull on the middle of the access door to open it, pull on each end separately.

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, see 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 potential;

1. Open the door to 90 degrees
2. Close the door slightly to relieve some of the tension on the door strap
3. Pull out the curved door strap by the tail light assembly an inch or so and open the door fully
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

Roadtreks have an optional rear screen which allows you to open the rear doors and get fresh air without bugs coming in or pets going out. Look in the hanging wardrobe behind the bathroom for this screen in your new Roadtrek. The screen 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 top hook-and-loop
fastener

At the top, close the flap with the hook-and-loop fastener strip where the zippers meet.

Use the double slider to unzip the bottom of the screen to allow access to the underbed storage area in the back of the Roadtrek without disturbing the top section.



Rear door screen storage opening



Rear door screen in place

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.

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 a tank in the passenger pedestal and below the passenger seat

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.

The tank is filled from the interior tank port. When the tank is full, water will overflow out of the vent tube and then the fill port.

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.



Fresh water fill on passenger door post

❗ Your Roadtrek has a pressure regulator built in.

❗ If you have any doubts about water pressure, you can always fill your tank using the gravity fill, and use your water pump to supply water.

The city water inlet connection is located under the rear bumper on the driver's side of the vehicle.

⚠ 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 all interior faucets.
- Flush old water and any contaminants out of the water supply faucet.
- Connect your fresh water hose to the faucet.
- 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 galley sink is a convenient place to do this.



City water connection, on driver's side below rear bumper

- Remove the hose from the city water connection, and replace the cap on the fill connection. See HOWTO: Potable Water Use for more information on your fresh water system.

Waste Water

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 devices 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 Monitor_Panel for more information on indicators. When the gray water tanks 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 about any type of toilet paper, take a square of it 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 to use in your wastewater system, and should be disposed of in the trash and not down the toilet.

See HOWTO: Waste Water Dumping for more information on dumping.



Drain plug

Heating and Cooling

Heating

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 in the distribution panel, in the overhead cabinets on the driver's side at the rear. The main Alde unit itself is located in the galvanized metal enclosure mounted under the rear floor directly in front of the rear bumper.



Alde control unit, in distribution panel



Vent for Alde unit under rear bumper

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 G13 specification anti-freeze. The anti-freeze bottle is under the sink in the bathroom. To check the level of antifreeze, remove the protective cover under the bathroom sink and 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 or at least twice a year, and the system should be flushed and anti-freeze replaced every 2 years.

Alde Frost Protection Mode

The Alde system will protect itself from frost damage 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. The frost control valve will activate when the temperature gets near freezing even if the system has been winterized with RV antifreeze. Follow the winterization instructions in this manual.

If your Alde system has dumped, you need to reset the frost control valve before using the water system again. Lift the cover on the floor just inside the rear doors, open the compartment, and look for the access hole on the left side of the metal Alde enclosure. Reach down into the access hole and 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.



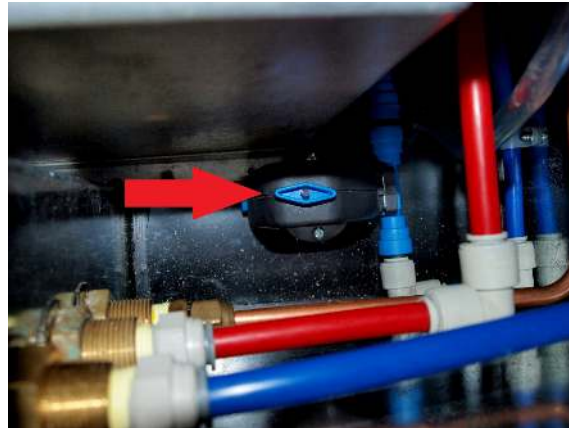
Open floor hatch under rear sofa



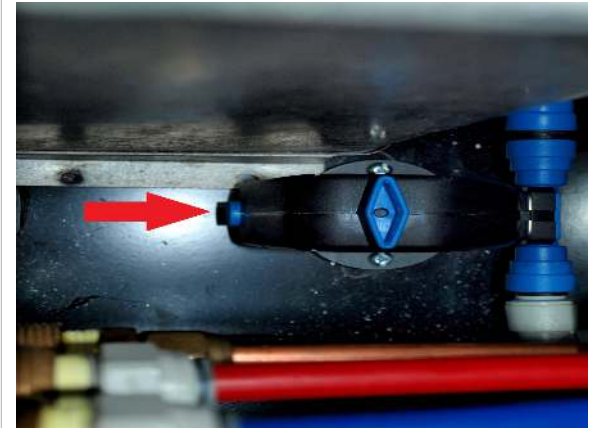
Remove 8 screws and lift up metal cover



Alde valve in operating position



Alde frost control valve in bypass
(tripped) position



Button for resetting the tripped valve

Alde Floor Heat Bypass

The Alde system provides cabin heat through two radiators, one under the power sofa and one on the side door step by the second row passenger side seat. The floor is also heated. To reduce the amount of heat supplied through the floor system, open the lid under the cushion of the passenger side ottoman directly behind the bathroom, and look for a red handled valve on the floor. When this valve's handle is sideways across the line, the Alde unit supplies full floor heat. To reduce floor heat, turn the valve 90 degrees so that it is parallel to the line (pointing from the front to the back of the vehicle). Some floor heat will still be produced, but most of the Alde's heated glycol fluid will go through the shunt, bypassing the coils in the floor.

 **WARNING** - turning this valve to allow less than full floor heat will disable the below-freezing protection to the fresh water system. The system relies on heat from the floor to maintain the temperature of the water lines below the floor. If you operate your TS Adventurous in below-freezing temperatures, always leave the Alde unit turned on and this valve with the handle sideways across the line.



Alde radiator cover on side step



Valve to adjust floor heat, in full floor heat position

Alde Engine Coolant Heat Exchanger

The Alde system uses and automatically selects from a variety of heat sources - 120 volt shore power when available, heat from the Mercedes chassis engine, or propane. When driving or idling the engine, heat is transferred from the engine to the Alde coolant through a liquid-to-liquid heat exchanger mounted on the firewall of the engine compartment, on the passenger side. This is "free" heat - your engine is going to produce heat as a natural byproduct of the combustion process, and this heat is captured by the Alde system instead of being dissipated by the engine's radiator, reducing the need to burn propane or use shore power. In addition, the heat exchange works both ways - on very cold nights, you can flip the switch on the front passenger seat pedestal. This will activate a low-power pump that circulates engine coolant past the warm Alde coolant in the heat exchanger and through the engine coolant passages, ensuring that your engine will start easily even in temperatures well below freezing. Leave this switch off unless you wish to use the engine pre-heat feature.



Heat exchanger on engine compartment
firewall



Switch for engine preheat

Cooling

The roof-mounted air conditioner in your Roadtrek will provide cool air while camping with the inverter supplying power from the batteries, and will also operate while driving or idling the engine, using the optional engine generator. Do not operate the air conditioner while driving with the propane generator. Your engine generator will provide enough electricity to operate it.

Refer to the air conditioner manual for details of use.

Thermostat

The thermostat controls the air conditioning unit. To run the air conditioner, set the thermostat on "cool" and set the desired temperature. The other setting, "fan", recirculates cabin air using the fan inside the air conditioning unit.



Thermostat

Electrical System

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

Batteries



The batteries in your Roadtrek are sealed AGM batteries. You do not need to add water to them. Do not attempt to open them. There is no user maintenance possible on these batteries except to keep them charged.

Roadtrek places some of the coach batteries under the hood, but the actual chassis battery that powers the engine, starter, 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 the inverter and other sensitive electronic components in your Roadtrek.



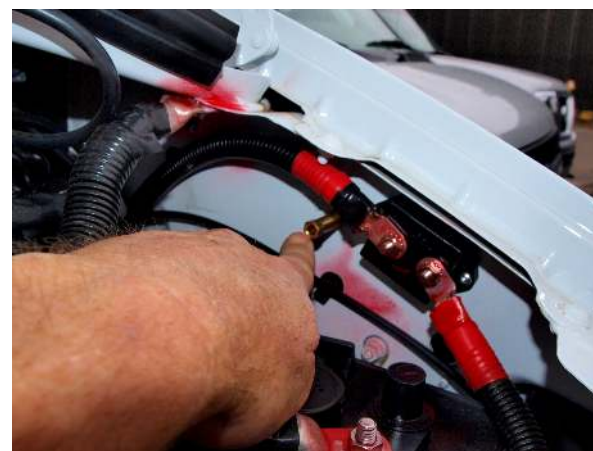
Do NOT attach jumper cables to the 6 volt coach batteries under the hood on the driver's side. Attaching a high amperage 12 volt power supply to a 6 volt battery is very dangerous. Use the Mercedes jumper attachment points instead.

To use jumper cables, attach to the attachment points provided by Mercedes, according to the owner's manual. There is a brass stud immediately above these coach batteries on the driver's side engine compartment wall where the negative jumper cable goes. The positive jumper cable goes on another stud behind the red disc on the driver's side of the engine on RS Adventurous models. See photos below.

This is not a complete description of the jump starting procedure - refer to the Mercedes owner's manual for the procedure.



Positive jumper point, on passenger side of the engine. Align the slots and push the red disc in 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 light on the switch will indicate the position of the switch.



Battery disconnect switch



Inverter switch

Onboard 120 Volt AC power

The inverter switch in the upper right corner of the rear electrical panel 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 "Power Saver On" setting will shut the inverter down to save power when there are no loads being used. There will be a 20 second delay if you turn something on, after which the inverter will be out of sleep mode and supplying power. To avoid this delay (and consequently use more power), select the "Power Save Off" setting.

❗ The inverter checks for a load by turning on the power briefly and checking if appliances are connected. This can cause some appliances, such as the microwave to turn on and off. If this happens, either unplug the appliance or turn the inverter off or on.

❗ The inverter is configured at the factory for the batteries and power sources in the Roadtrek. Please do not change any settings without consulting the factory. The inverter switches on the inverter itself under the power sofa on the driver's side of the vehicle should be left in the position set by the factory.

Driving down the road, you typically have all the electricity you can use 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 longer.

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, 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. Checking the voltage on the display in the distribution panel will tell you when the engine generator has charged the batteries to the point where further idling isn't worth the extra fuel - the voltage will climb early in the charging process, and then level off somewhere around 14.0 volts.

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.



Engine generator mounted on engine

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. Roadtrek recommends carrying a spare belt in case you have a serpentine belt failure while traveling.

Solar Panels

The solar panels operate automatically and the charger and controller are configured at the factory.



Shore power connection point



Some power cords have an LED on plug indicating shore power is being supplied

Shore Power

The shore power connector is located on the driver's side, just in front of the rear wheel. See HOWTO: Shore Power for location of the connection point, and 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.

To connect to external (shore) power, open the rear doors and remove the power cord from underneath the sofa bed. The connection point is on the right of the rear compartment on the bottom of the driver's side, just in front of the rear wheel. Plug the power cord into the campsite 30A power source and the other end into the Roadtrek. There is an LED indicator light

on the plug to indicate when shore power is sensed on the incoming connection.

Electrical Outlets

The outlets are powered either from the inverter or from shore power when connected. The outlets are protected by GFCI (ground fault circuit interrupters).

There are two outlets on either side of the power sofa in the rear, and one near each of the second row captain's chairs. Each have triple outlet panels with 120 volt, 12 volt and USB plugs.

These outlets can be switched on and off at both the distribution panel in the rear and the control panel in the front of the Roadtrek. If you have no power at an outlet, check to make sure the rocker switch or touch screen is correctly positioned.

⚠ These outlets may have an ATC fuse built in. If the outlet is not working, have a technician check the fuse.



120 volt outlet



12 volt outlet



USB power outlet



Outside electrical outlet

Outside Electrical Outlet

On the passenger side of the vehicle, just behind the sliding door and in front of the rear wheel, there is an electrical outlet to power 120 volt lights or other appliances you may wish to use outdoors. This outlet is GFCI protected, and the breaker controlling it is on the distribution panel. Make sure that any extension cords you use are three prong (grounded) and rated for the size load you plan to draw.

Monitor Panel

Location

The monitor panel is located directly behind and above the drivers seat to the right of the drivers side overhead cabinets.

Touch Screen Controls



Monitor panel location



Touch screen main menu

The touch screen panel allows you to monitor and control the different systems of your Roadtrek. When the system is powered on, the touch screen will boot up in less than a minute, and display the home screen with six icons on it:

- climate
- plumbing
- power
- lighting
- outlet control center
- interior camera

Touching each of these icons will give you the respective monitoring and control menus in each system area. Touching the looping arrow "Back" symbol in the lower left corner of the touch screen returns you to the main menu.

Refer to the Coach Connect manual for specific instructions for this system.

Switches Below the Touch Screen

Battery Disconnect

The battery disconnect switch controls all 12 volt power to the appliances in the Roadtrek. Turn this switch on to use them, and turn it off when you are storing the vehicle or otherwise leaving for an extended time. This switch should always be on when the Roadtrek is occupied, especially when people are sleeping in it, because the switch supplies power to the smoke and CO/propane detectors.

Power Step Switch

Your Roadtrek is equipped with a step that automatically extends when the side door is opened for easy entry and exit from your vehicle. To lock the step in the extended position, push the top of this switch in. A green indicator light will illuminate, showing that the step is locked in the extended position. This switch is useful to keep the step stationary and extended while camping, rather than have it extend and retract every time the door is opened and shut.

 For safety reasons, the step will automatically retract when the ignition is turned on, even when the step is in the locked position. This is to prevent damage caused by driving with the step extended. If you turn the ignition on for any reason, such as to use the engine generator to recharge your batteries, please ensure that no one is attempting to enter or exit the vehicle through the side door.



Battery disconnect switch



Power step switch



Awning switch

Awning Switch

The rightmost switch extends and retracts the awning. Each activation of the switch will power the awning motor for approximately three seconds. Press the switch as often as needed to extend the awning to the position you prefer.

Distribution Panel

The distribution panel is located behind the rearmost door at the end of the drivers-side overhead cabinets. The 120 volt AC breakers are on the right side of the panel, and the 12 volt DC rocker switches are on the left side of the panel. The breakers are labeled.

AC Breaker Panel

Lift the distribution panel door up and locate the breakers on the lower right corner, with the identifying information on each breaker, telling you what appliance each breaker supplies power to. When storing the TS for the winter, turn off the battery disconnect switch, the Alde hot water system, your inverter, and all circuit breakers in this panel.



Distribution panel location, behind rearmost overhead cabinet door on drivers side; 120VAC breakers and labels on the right

12 Volt Switch Panel



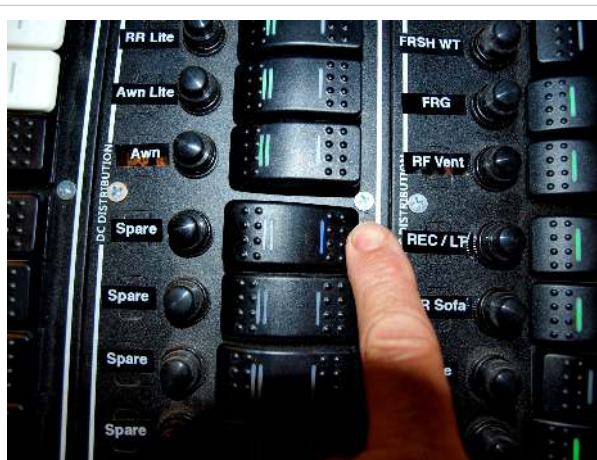
12 volt rocker switches



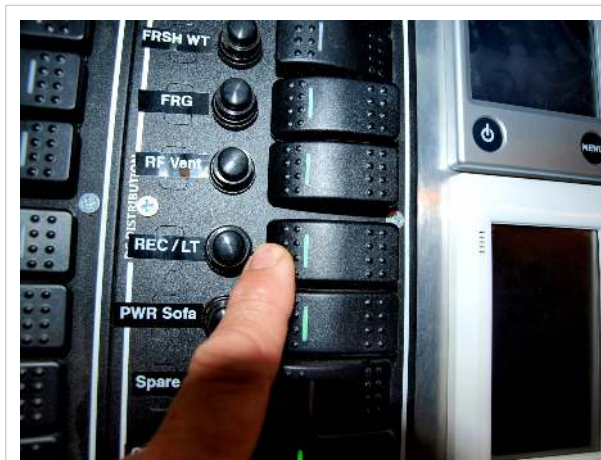
12 volt three-way switch in automatic position (two green lights illuminated)

The 12 volt rocker switches are located on the left side of the distribution panel in three vertical rows.

The left two columns of switches are three-position switches, automatic/off/manual. For each three-position rocker switch, the center position is off (no lights on the switch), the right position (one blue light on the switch) provides unswitched power to the device, and the left position (two green lights on the switch) provides power to the device and also enables remote control by the tablet or internet interface.



12 volt three-way switch in manual position (one blue light illuminated)



12 volt two-way switch in on position (one green light illuminated)

On the two-position off/on switches in the leftmost of the three columns, the right position is off, (no lights on the switch), and the left position (one green light on the switch) provides unswitched power to the device.

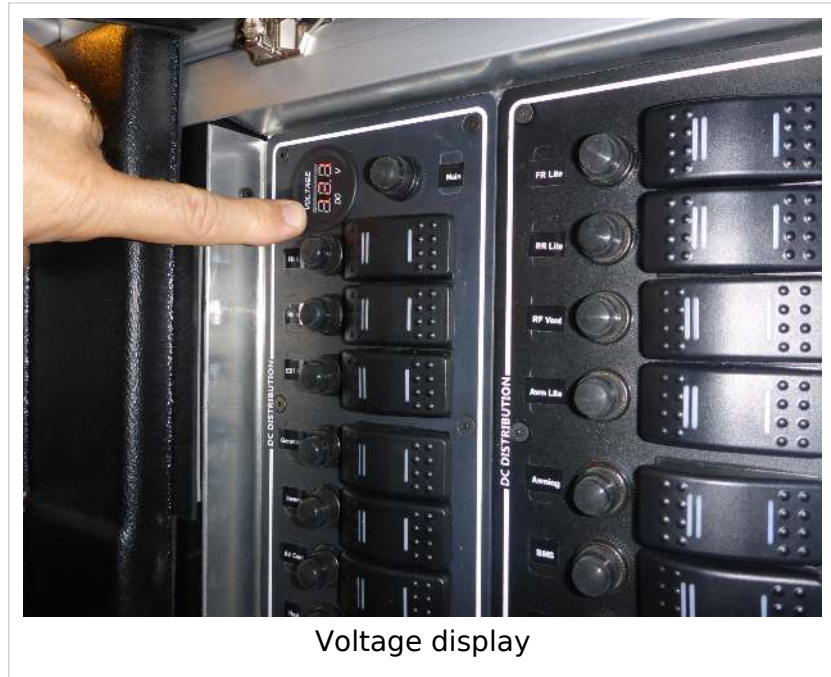
Each switch has a label and a button to the left. The button is the reset for the circuit breaker on that switch. If one of the circuit breakers trips, press the button to reset it.

Battery Voltage Display

In the upper left corner of the distribution panel there is a battery voltage display. This display shows the voltage across the battery terminals in a twelve volt configuration (two six volt batteries in series), NOT the actual state of charge of the batteries. Fully charged batteries at rest have approximately 12.85 volts; fully discharged batteries have approximately 12.0 volts. HOWEVER, to precisely determine the true charge you must disconnect all loads and wait a considerable period, a task more suited to engineering students than to someone camped in a beautiful spot and enjoying the outdoors. Real-life display voltages can be anywhere in this range, or above or below it, depending on load outputs and charging inputs. Gain familiarity with your system by operating it under various conditions before attempting to determine battery state of charge by looking at this meter reading.

Most people run the engine generator until the battery voltage display is up to a certain voltage, somewhere around 14.0 volts, because you reach the point of diminishing returns where further engine generator operation provides little additional charging. Your batteries aren't 100% charged, but it's not worth the extra fuel to put the last little bit in. Likewise, you will see voltages near or even below 12.0 when running high-amperage loads such as the air conditioner or microwave with the inverter. As soon as you turn these off, the voltage will rebound to a reading closer to the true battery voltage. The inverter has a low voltage cutoff with an audible alarm to protect the batteries; you don't have to monitor voltage constantly, because the system does that for you. If you hear the alarm, start your engine generator or plug in; otherwise, just use the system as you wish. It will take care of itself.

When your solar panel or the charging portion of the inverter has fully charged the battery bank, it goes from a higher voltage down to approximately 13.5 volts (up to 14.0 volts at lower battery temperatures) which is the "float" voltage - the sensors in these components have determined that the batteries are at full charge, and the float voltage is all the power needed to maintain them at that level. If you stay plugged into shore power, after a few hours your voltage display will show this float voltage.



Voltage display

Alde Control

The Alde unit control is the small square display screen with two buttons beneath it. Please refer to the Alde manual for specifics about configuring and operating your Alde unit. The breaker and remote control panel turn it off and on, but thermostatic settings etc. are controlled by this control unit.



Alde control



Tank level display

Water and Propane Tank Levels Display

Touch the rectangular screen below the Alde control to activate the tank levels display. This display indicates propane, fresh water, gray water, and black water tank levels of your vehicle. The lighted display will turn itself off after an interval, but can be reactivated by touching it again.

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.

Inverter Control

Just as the battery disconnect switch powers the lights, fan, and other 12 volt electrical loads, the inverter powers 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. With this inverter, you can operate your 120 volt appliances while you are camping, without the need to plug into shore power or run your generator.

The inverter switch has an indicator light inside it that comes on to let you know 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.

Press the top of the toggle switch to select "Power Save Auto". In this setting, when you're not drawing 120 volt power, the inverter will shut itself off. 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 avoid using the electricity it takes to keep the inverter powered, and your batteries will require less recharging.

The middle position of the inverter switch is off, and pressing the bottom of the switch selects "Power Save Off". When this setting is selected the inverter will be on continuously.

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

On the right side of the inverter switch are three lights. There is a shore power indicator light to show you the system that is receiving shore power. There is also a battery charging indicator light to tell you when the batteries are being charged by shore power. The third light will alert you to any inverter error messages, which are displayed on the inverter display panel. Should you get an error message, the inverter manual has information about what these error messages mean.



Inverter switch

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. These detectors have a service life, beyond which point they need to be replaced. The detector requires no maintenance other than periodic replacement. See the User Manual supplied with the unit for replacement intervals.

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 from the coach batteries, which is supplied to the detector whenever the battery disconnect switch is on. For this reason, whenever the vehicle is occupied, particularly when you are asleep, the battery disconnect switch should be on 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.



Propane and Carbon Monoxide alarm

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

Smoke Detector



Smoke Alarm

The smoke detector is located on the bulkhead across the front seating area. 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 the replacement interval of both the battery and 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 passenger side front 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 and on following pages 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.



Gravity fill on passenger doorframe



Drain for freshwater tank, beneath passenger doorstep

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.

Inspect the Alde coolant reservoir under the bathroom sink. Fill with VW GS12++ fluid if required.

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.

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.

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 floor mat, 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 a Sprinter 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



Sticker on driver side B pillar with passenger capacity, chassis weight and tire specs; your sticker will be different

Total fresh water capacity (includes water heater)	33 gallons/ 125 liters
Fresh water tank capacity	30 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	220 amp hours (standard) 440 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.

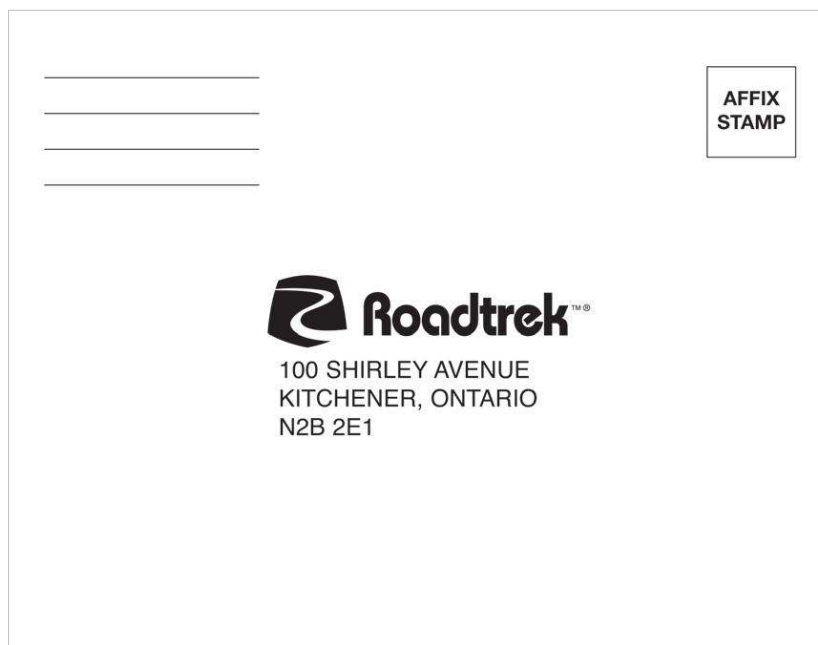
Warranty Intent

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. Roadtrek maintains a database of all units, and correct information on the current owner will allow service personnel to identify the unit by owner name if this information is current, which will make answering any questions you or your dealership have about parts, repairs or options much easier.

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			Prov.		Postal Code				
Phone No.			Email Address						
Current Date			Month		Day		Year		
									
Form 2, February 1999 M190204									



References

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

HOWTO: Monitor Panel

Location

The monitor panel is located directly behind and above the drivers seat to the right of the drivers side overhead cabinets.

Touch Screen Controls



Monitor panel location



Touch screen main menu

The touch screen panel allows you to monitor and control the different systems of your Roadtrek. When the system is powered on, the touch screen will boot up in less than a minute, and display the home screen with six icons on it:

- climate
- plumbing
- power
- lighting
- outlet control center
- interior camera

Touching each of these icons will give you the respective monitoring and control menus in each system area. Touching the looping arrow "Back" symbol in the lower left corner of the touch screen returns you to the main menu.

The "Climate" menu will allow you to turn the air conditioning and heating systems off and on, as well as tell you current cabin temperature and the thermostat set point of the system in use. To change the thermostat temperature set point, use the Alde and air conditioner controls in the rear of the cabin.



Climate menu



Plumbing menu

The "Plumbing" menu displays current fresh, gray and black water tank levels.

The "Power" menu has at the top displays for current propane tank level and battery bank state of charge, plus three icons across the bottom,

- inverter center - displays AC input (shore power) and AC output (inverter), plus battery bank load in percent and auxiliary (chassis) battery voltage
- charging center - displays charging voltages for the engine generator or optional propane generator, plus solar charging system voltage
- battery management - displays cell status for each of the batteries in the battery bank in voltage, plus temperature for the optional lithium battery



Power menu



Lighting menu

The "Lighting" menu gives you control over the front and rear cabin strip lighting, plus the awning lights. It also allows you to extend and retract the awning.

The "Outlet Control" menu allows you to turn the two sets of outlets at the second row seats and rear power sofa on and off.

The "Interior Camera" menu activates the interior camera mounted above the front seats pointing rearward, which gives you a view of the cabin interior.

Switches Below the Touch Screen

Battery Disconnect

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 control board, 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. This switch should always be on when the Roadtrek is occupied, especially when people are sleeping in it, because the switch supplies power to the smoke and CO/propane detectors.

Because the switch is just a momentary contact to activate the relay, there is no indicator light to show that the battery disconnect switch is in the on position. The touch screen above the switches will be illuminated if the switch is on, and dark if it is off. 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



Generator switch

Power Step Switch

Your Roadtrek is equipped with a step that automatically extends when the side door is opened for easy entry and exit from your vehicle. To lock the step in the extended position, push the top of this switch in. A green indicator light will illuminate, showing that the step is locked in the extended position. This switch is useful to keep the step stationary and extended while camping, rather than have it extend and retract every time the door is opened and shut.



For safety reasons, the step will automatically retract when the ignition is turned on, even when the step is in the locked position. This is to prevent damage caused by driving with the step extended. If you turn the ignition on for any reason, such as to use the engine generator to recharge your batteries, please ensure that no one is attempting to enter

or exit the vehicle through the side door.



Power step switch



Awning switch

Awning Switch

The rightmost switch extends and retracts the awning. Each activation of the switch will power the awning motor for approximately three seconds. Press the switch as often as needed to extend the awning to the position you prefer. The top position of this switch (two green indicator light) is the automatic position, which allows the awning to be controlled by the monitor panel or the handheld tablet. The bottom position of this switch is the manual mode, which restricts operation to just the switch.

HOWTO: Shore Power

Connecting To Shore Power

Your TS Adventurous has a shore power cord, which is stored beneath the sofa. Plug the large yellow end of this cord into your shore power connection point directly in front of the driver's side rear wheel in the rear utility bay.

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.



Power cord stored under sofa



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



Attached shore power cord

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

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. There is an indicator light on the yellow plug at the end of your shore power connection cord that will let you know when you have power, and also an indicator inside on the inverter switch on the distribution panel.

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 under the back bumper on the driver's side. 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, make sure your Roadtrek is equipped with a pressure regulator. If not, purchase and install a pressure regulator inline with the water connection.



Typical external water pressure regulator



Roadtrek built-in pressure regulator has the words "Water Pressure Regulator" on the plastic collar

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 preventor is there to protect the campground. You need the pressure regulator to protect yourself from excess pressure.



Backflow preventer



City water fill location

❗ 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.

⚠ 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 all interior faucets.
- Flush old water and any contaminants out of the water supply faucet.
- Connect your fresh water hose to the faucet.
- If required, attach your pressure regulator to the Roadtrek's city water connection.
- Attach your fresh water hose.
- 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 handy place to do this.
- 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.

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



Side compartments



Swivel the support to prop the access bay door open

- Open the front utility bay along the bottom of the drivers side. Pull on each end of the utility bay door to pop the clips loose, not the middle of the door. This will expose the propane tank on the left, and the green waste water discharge hose and controls on the right. Support the door in the open position by swiveling the support so that the long end points toward the Roadtrek's body.
- Open the driver's door and locate the waste water pump switch. It is a red pushbutton located on the driver's seat base.



Waste water controls
compartment_contents



Extending the hose

- 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.



Waste water pump button on base of driver's seat



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.



Doughnut installed on nozzle



Rock used to weigh the hose down



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.

- 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 sewage discharge valve on the end of the sewage hose.
- Rinse off the dump area and the dump hose.
- Return the sewage 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

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 just to the right of the gray and black valve handles.
- 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 by pressing the wastewater pump button again.



Waste water pump manual crank knob

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. Always secure the TV before driving, or vehicle motion will cause the TV to swing back and forth, possibly damaging it.

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.

Over-the-air TV

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
- Set the antenna/cable TV selection in the TV menu to "antenna"

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 DVD player
- Set the antenna/cable TV selection in the TV menu to "HDMI"

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 front 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

TV cable connected

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.

Set the antenna/cable TV selection in the TV menu to "cable".

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.

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.

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.

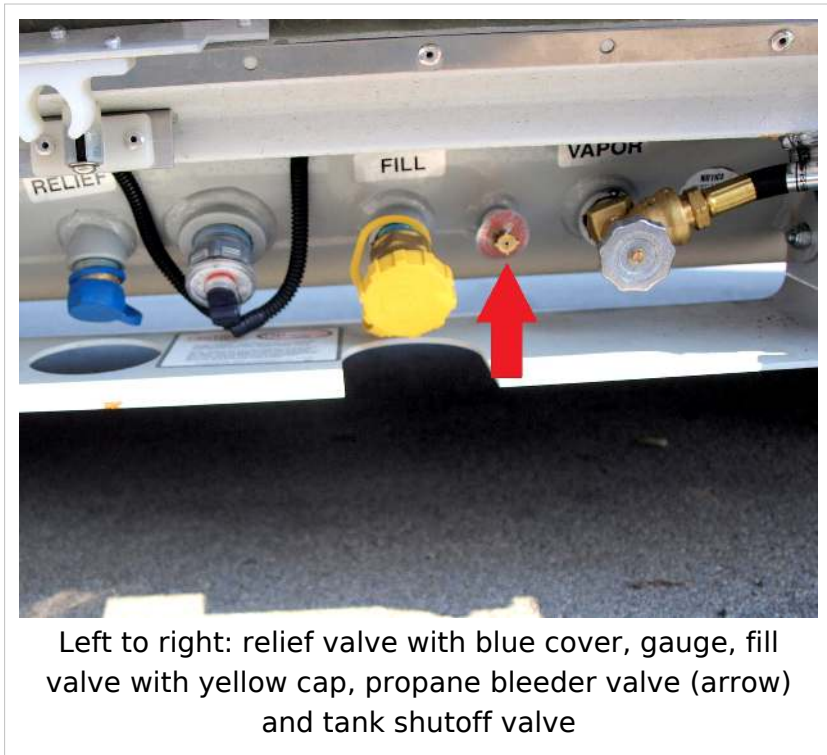
We recommend that you find a qualified LPG technician to fill the tank. The following is an outline of the process to help you understand and not intended to be complete, nor to substitute for formal training or instruction.

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. In warmer weather overfilled tanks will exceed the pressure the relief valve is set for, and a jet of (hopefully unignited) propane will shoot out of the valve. If this happens, immediately leave the area until the tank has stopped venting and you can no longer smell propane.

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

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.



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: Water System Winterizing

How to use your TS Adventurous in freezing conditions

When not in use, the TS needs to be winterized when temperatures approach freezing. The frost valve will open at approximately 4 deg. C or 40 deg. F, allowing the fresh water to drain when the temperature approaches freezing.



TS water lines underneath the floor



Alde floor bypass valve in full heat position (handle across the line)



Always have the Alde floor bypass valve in the full heat position when using the TS Adventurous in subfreezing conditions. This valve is in the Ottoman box on the passenger side.

The waste water system can also be used below freezing, provided that you add RV antifreeze to the tanks. A 25% solution of RV antifreeze will typically provide burst protection down to 0 degrees F/ -18 C, so two gallons of RV antifreeze in your black water tank will allow you to use it down to this temperature. The gray water tank can also be used, but will require four gallons of RV antifreeze to protect it down to 0 F/ -18 C. Check the label of the RV antifreeze you buy for the concentration necessary to protect your system - concentrations vary. If you don't want to use the wastewater system, leave it empty and winterized.

Before using your waste water system in subfreezing temperatures, dump your system, put at least a half gallon of RV antifreeze in either the gray or black water tanks, open the gray or black valve, and run the wastewater pump until RV antifreeze comes out the discharge hose. This protects the wastewater pump from freeze damage. Every time you run wastewater without RV antifreeze through your discharge pump, repeat this procedure.

General guidelines for when 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 tanks and 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 your TS Adventurous



Fresh water tank drain, under passenger front door step



Typical non-toxic RV antifreeze

This procedure can be done in less than 30 minutes with no specialized tools. The TS Adventurous has a unique water system which allows you to winterize the system without adding RV antifreeze to the fresh water supply. However, RV antifreeze is still needed to winterize the waste water system. Freezing the waste water system will cause damage to the waste water discharge pump and other waste water system components.

- 1. Get one gallon of RV antifreeze.



DO NOT use automotive antifreeze. RV antifreeze is non-toxic and safe for use in RVs. Although the TS winterizing process does not use RV antifreeze in the fresh water system, the incorrect antifreeze in the waste water system may damage the seals.

- 2. Dump and rinse the gray and black tanks if they are not already empty.
- 3. Turn the water pump off and park your vehicle as level as possible to facilitate draining the system. If you have any doubts about whether your unit is level, drive it a short distance after completing the winterization process to allow all water to drain from the fresh water system.

- 4. Drain the fresh water tank by opening the fresh water tank drain valve, located under the passenger front door step. Let this drain for at least 10 minutes. Leave the valve open.

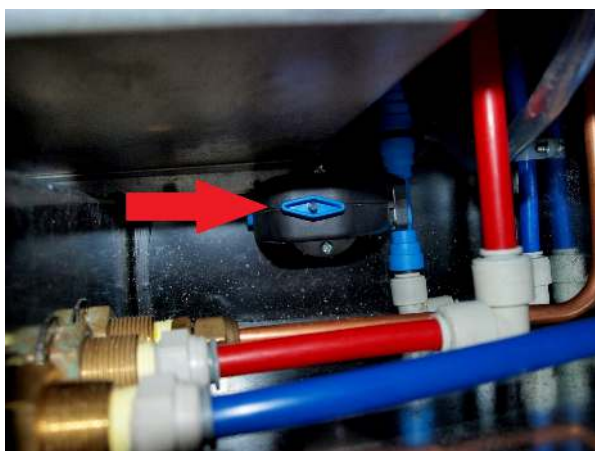


Alde valve access



Alde valve in normal operating position

- 5. Trigger the Alde dump valve by opening the back doors, removing the panel over the Alde unit, and look on the left side for the Alde valve access hole. Reach down into the hole and turn the light blue handle from its operating position parallel to the water line to the dump position perpendicular to the line (see photos). Water should drain out the blue nipple at the bottom of the Alde enclosure immediately in front of the rear bumper.



Alde valve in dump position



Water pump filter. View is from centerline of vehicle back toward passenger side rear corner.

- 6. Position the handle of the galley faucet halfway between hot and cold and open it for at least ten seconds. This allows air into the water lines to facilitate draining the fresh water system. Open each hot and cold knob for the shower and bathroom sink for ten seconds. Depress the toilet flush pedal for ten seconds, then release.
- 7. Pour half the gallon of RV antifreeze into the toilet, and divide the other half gallon among the galley sink, shower drain, and bathroom sink drain. 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.
- 8. Remove and clean the water pump filter. To access the water pump filter, reach underneath the passenger side rear corner of the Roadtrek to the front of the Alde unit. You will see where the water line enters the Alde unit, and the clear plastic water pump filter housing will be on the top of this water line. Unscrew the clear plastic housing and let the water drain from the housing. Clean and replace the filter and housing.

Winterizing using compressed air

Roadtrek recommends against using compressed air for winterizing.

Other methods of winterizing

Roadtrek only recommends the winterizing method outlined above. The TS Adventurous has a fresh water system unlike any other RV in production, so procedures designed for other vehicles may either be unnecessary or may not be effective in preventing damage from freezing.

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.

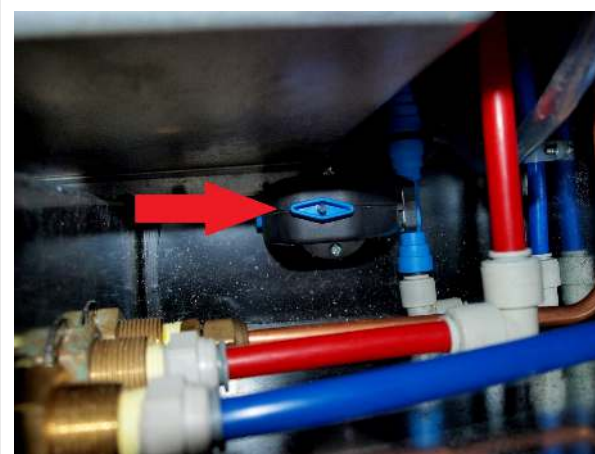
Second step

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

- Close the drain valve on the fresh water tank, and fill it approximately 1/2 full, adding a cup of chlorine bleach halfway through the filling process.



Alde valve access

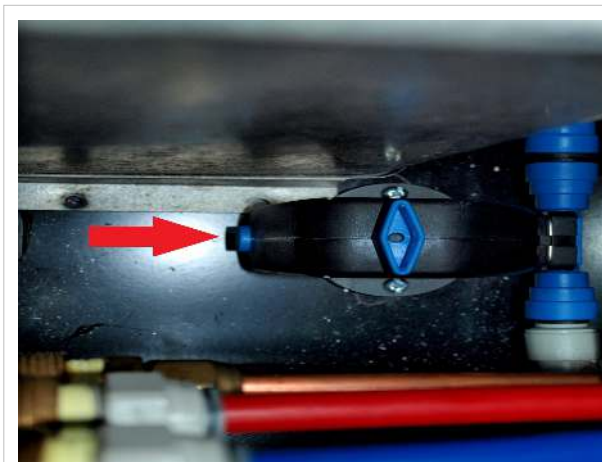


Alde valve in dump position

- Reset the Alde dump valve by opening the back doors, removing the panel over the Alde unit, and look on the left side for the Alde valve access hole. Reach down into the hole and turn the light blue handle from its dump position across the water line to the reset position parallel to the line. Press the blue button at the base of the valve.



Alde valve in reset position



Reset button

- Turn on the water pump, and circulate the dilute bleach solution through the entire system. Run water out of all three faucets (galley, shower, bathroom sink), hot and cold, until you smell chlorine.
- Allow the system to sit overnight.
- Drain the fresh water tank completely, fill with clean water, and run all faucets for 2-3 minutes each. Run the hot water long enough to flush the chlorine water out of the 2-3 gallon Alde hot water tank - probably five minutes or more. 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 (again, run the hot water long enough to flush the tank), drain the tank to ground, and refill with fresh water.