

Owner's Manual

170 Versatile



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Introduction to your 170 Versatile

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

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 10 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.
	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.

	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.
	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.
	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.
	BATTERY	Disconnect the inverter/charger prior to disconnecting the auxiliary battery.
	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 36 volt solar system. These systems need to be disconnected before working on them.
	GENERATOR	The generator is not compatible with E-85 fuel. If the vehicle is equipped with a generator, avoid the use of E-85 fuel.
	ENGINE BATTERY	The Chevrolet engine battery will be drawn down by the GM electronics to a no-start condition if left unattended for extended periods. Plug the vehicle in, drive the vehicle for at least three hours every two weeks to keep the engine and auxiliary batteries charged, or disconnect the engine battery to keep it in good condition. Battery maintenance is the vehicle owner's responsibility.

Before you head out

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

To prepare for your first trip, you should:

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

Then use this quick checklist.

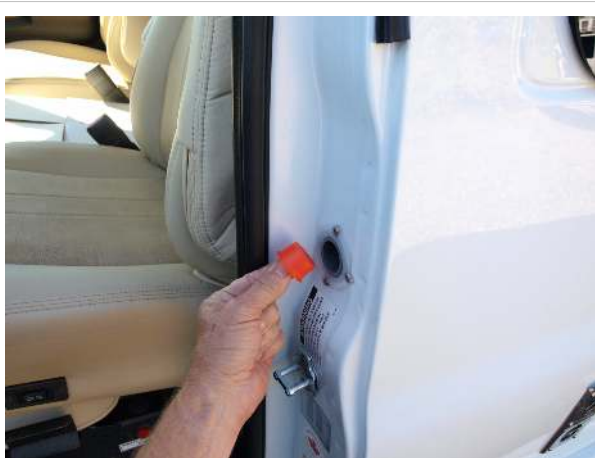
- The day before your trip:
 - charge your batteries by plugging in overnight
 - cool your refrigerator by turning it on
 - chill any beverages in your home refrigerator
 - fill your fresh water tank with clean tap water
- The day of the trip:
 - Load the refrigerator with cold food (from your home refrigerator)

Coming Home

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

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

- On your way home, dump the gray and black tanks at a convenient facility. See the HOWTO: Waste Water Dumping section for a concise description of the procedure to do this. Some RV parks and gas stations will let you dump for a fee, some city wastewater plants will let you dump for free, but there is no real pattern, so local knowledge is vital in locating dump stations. The website <http://www.sanidumps.com> is a good resource. The maps for each state and province are especially helpful: <http://www.sanidumps.com/maps/help.php>
- At home, flush the water tank and fill it with fresh chlorinated water if you will be using it in the next few days. Otherwise, drain the tank. Don't let water you are planning to use sit in your 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 driver's doorframe, and open the fresh water tank drain under the rear of the driver's doorstep.



Gravity fill in driver's doorframe



Fresh water tank drain, under driver's
doorstep

- Plug in overnight to fully charge batteries.
- Turn off and clean out the refrigerator and prop the door open to let it air out
- Turn off two important switches to keep from draining your batteries
 - the battery disconnect switch on your monitor panel
 - the inverter switch, either on your monitor panel with the standard inverter, or just to the left of it on the separate inverter switch if you have a big inverter



Battery disconnect switch



Standard inverter switch



Inverter switch for big inverter

- 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



Hidden latch along edge of cabinet door



Pushbutton latch on cabinet door



Locked pushbutton latch on cabinet door

Cabinet latches in your Roadtrek are different from the ones in your home and more like those on boats - they have to stay closed when the vehicle is in motion. The cabinet doors are secured with latches located along the edge of the cabinet door. Run your fingers along the edge and you will find the latch. Press the latch in and open the door.

The cabinet behind the driver's seat uses a pushbutton latch. Press the pushbutton in to latch the door securely; press again to release the latch so that you can pull the door open.

To close a cabinet door, shut it gently until you hear the latch click shut. You may need to press on the latch to get it to latch closed.



Do not slam the cabinet door in order to latch it - this will damage the latch.



Do not store 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.

Galley Counter and Cabinets



Galley counter extension



Galley counter extension support

You can extend the galley counter by flipping up the galley counter extension. Use the support brackets at each end to hold it up. To re-stow the extension in the down position, pull up with one hand while slipping the two supports out of the notches in the track on the extension top.

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

Lights



Fluorescent light



LED tap light

The battery disconnect switch must be on for any of the lights to work.

The fluorescent lights turn on and off with the integrated switch.

The oval ceiling lights are all individually controlled, and are tap lights - to turn them off or on, press on the lens area.

Tables



Front table in place



Rear seating area with table

There is one table for use either in the front or rear lounge areas for dining, playing cards, or computer use.



Table stowed under TV

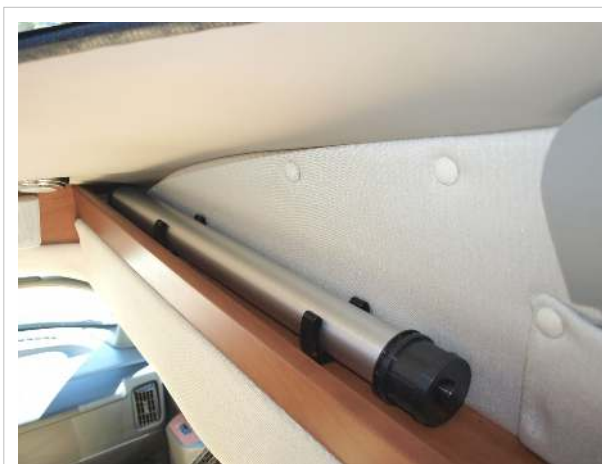


Table leg stowed in recess above side door

Unscrew the T-nut on the end of the leg fully. Insert the table leg into the front T-Nut base. Rotate the leg clockwise until you feel it tighten. Pull on it to check that it is secured. If not, extend the T-nut fully by unscrewing it, and try again. Place table top on leg so that top of leg fits into socket underneath table. Unfold the table leaves until the spring-loaded portion of the hinge pops into position, locking the leaves in the open position.



Table leg base and leg with T-Nut



Fold the hinge flat to put the leaf back into storage position

To stow the front table, fold the locking hinge component for each leaf back against the table top, which will allow the leaf to fold against the main part of the table top. Stow the table top under the TV and the leg above the passenger seat.

Front and Second Row Seats



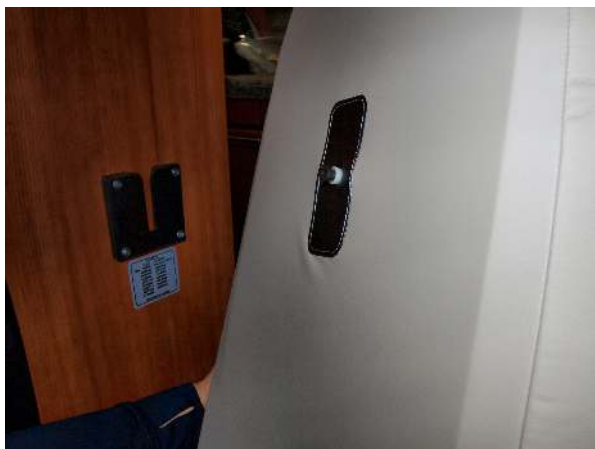
Front seats



Front seat swivel lever

The two captain's seats in the front of your 170V are adjustable fore and aft by pulling up on the bar under the front of the seat, and will swivel when the swivel lever - the black metal bar on the side of the chair base - is pressed up. Always return the seats to the forward-facing position when driving. They will lock into this position, and stay locked until the swivel lever is raised again.

The second row seats have an adjustment to the seat back and bottom cushion to change the seat back angle for more comfortable seating. The backs lift up and are held by a pin in a slot (see photo below). The seat bottom cushions can be lifted and moved forward approximately three inches (8 cm) because they are eccentrically mounted on a rod. Moving the bottom cushion forward and flipping the small panel at the base of the seat back out will configure the second row seats in a more reclined position.



Second row seat back pin and slot



Back seat configured in reclined position

To create a front lounge area by rotating the two front seats to face the back, first ensure that the seats are fully upright by loosening the recline adjustment and bringing the backs of the seats forward. Do not attempt to pivot a reclined seat. Use the fore-and-aft adjustment while pivoting the seats to allow the sides of the chairs to clear the armrests on the vehicle doors, the engine cover, and other obstructions. Do not force the seats around. Swiveling the driver's seat may require you to loosen the tilt steering wheel adjustment and move the steering wheel as far forward and up as possible.

Ventilation

Your Roadtrek is equipped with a ceiling mounted ventilation fan.

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

There is also a fuse in the body of the fan, in addition to the fuse in the distribution panel. Check both 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.

⚠ Turn the fan off and close the cover completely before driving. The cover will rattle if you drive with it open.

⚠ When using the aisle shower, leave the fan off, or the shower curtain will be sucked in and stick to you.



Exhaust fan

Window Treatments



Roof window covers



Skylight cover storage

The roof windows in the 170 can be covered using the covers stored in a pouch above the side door. Place the cover against the glass and use the locking tabs to hold it in place.



Curtains



Curtain track and end clip

The window curtains for the regular windows slide on tracks. It's best to use two hands, one at each track, to pull curtains closed and open.

The curtains have snaps and clips at the end of the track to hold them in place.

Sleeping Facilities

Your Roadtrek 170 Versatile has a bed that can be a seating area during the day or while driving, and converts into a bed at night.

Power Sofa



Power sofa switch



Power sofa

The switch to lower the sofa into the bed position is located next to the thermostat on the passenger side in the rear.

The seatbelts for the power sofa are attached to the floor behind the power sofa. In order to use the power sofa as a seating position while driving, these seat belts must be threaded up through the gap between the seat back and bottom and used together with the shoulder belts to secure passengers in these seating positions.

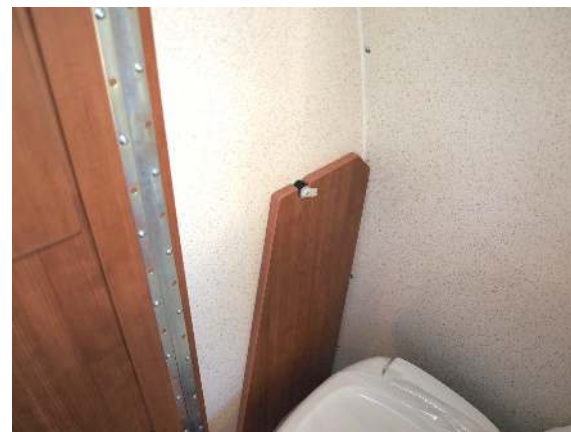
Bed



Bed



Making the bed



Bed support stowed

To make the bed, remove the bed support panel from inside the toilet enclosure and place it into the open space between the two bench seats. Secure the panel into the notches on the two inner surfaces of the bench seat bases. Move the bottom cushion for the bench seats together over this panel, and place the vertical cushions for the bench seats between these and the outer walls of the 170.

Optional Folding Mattresses for Front Seat Beds



Front captain's seat in position for folding mattress



Passenger side folding mattress in position

It is possible to set up two front beds by turning the front captain's seats so that they are facing outward toward the front doors, removing the second row seat backs by lifting them up, and placing the optional folding mattresses on the front and second row seat bottom cushions.

The driver side front seat must be swiveled 270 degrees clockwise to reach the proper position facing the driver's door - it will not turn 90 degrees counterclockwise. Move the steering wheel up and the armrests up and down as necessary to clear the armrest, steering wheel, and engine housing. Slide the seat back and forth as necessary to clear these obstacles. Do not force the seat around. When in position facing the door, slide both front seats as far back (toward the center aisle) as possible to accommodate the folding mattress.

Bathroom Facilities

Aisle Shower



Aisle shower



Aisle shower drain

To set up the stand-up aisle shower:

- Remove the lowered floor carpet to expose the floor drain.
- Remove floor drain cover from floor and loosen the drain plug/strainer.
- For privacy extend the bathroom door and close the galley, side door, and windshield curtains.
- Release the hook and loop retention straps from the shower curtain and move the hand held shower from its storage position to the shower position.
- Draw the shower curtain until you are completely surrounded.
- Using the hook and loop connectors, secure the edges of the curtain to the inside edges of the door.
- When adjusting the water temperature, be sure to allow enough time for the temperature adjusted water to exit the shower head before making further adjustments.
- Roof vent or the bathroom vent may be used on low speed to remove steam and moisture. However, the roof fan set on exhaust will suck the curtain inward and interfere with showering.

To put away the stand-up shower:

- Rinse the shower curtain after use and before you leave the shower.
- If possible allow the curtain to air dry completely, or towel it off and air dry. Run the power roof vent or the power bathroom vent for faster drying.
- Replace drain plug and floor drain cover when you are finished.

To prevent the grey water tank contents from spilling onto the floor while driving, keep the drain plug secured when not in use.

Toilet

The aisle toilet is configured so that the doors of the closet and the toilet can create privacy screens.

Open the doors, unlatch the inner partition, and secure the door against the other side of the aisle.

The toilet is a marine toilet that has a single flush pedal. After use, step on the pedal to flush.

Outside Shower

The outside shower faucet is located on the driver's side, in the small driver's side storage compartment just in front of the rear wheel. See Outside your Roadtrek for more details on location.



Door extended into privacy position

Appliances

TV and DVD player



TV Bracket release



DVD player

The TV and DVD player are located in the rear on the passenger side. Both the television and the DVD player use 120 volt current, so the inverter, generator, or shore power must be used. They are supplied with remote controls.

For more information see HOWTO: Cable and TV Reception.

Antenna and Cable Connections

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



TV antenna and cable connections



Rear speaker control switch

Controlling the Rear Speakers

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

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

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

❗ To ensure power is getting to the antenna, check to see if the blue indicator light on the antenna is illuminated, and that the indicator light on the power injector in the cabinet above the TV is illuminated.

Hot Water

The 170 Versatile is equipped with a 6 gallon water heater. The heater requires both 12VDC and propane for proper operation. See Monitor Panel for location and operation of the switch for the heater.

Refer to the Owner's Manual for the heater for details about the heater itself.

Refrigerator

The refrigerator is a 3-way electric and propane model which that can run on DC (battery) power, AC (shore / generator) power, or propane. Propane operation allows you to operate your refrigerator for weeks on one tank of propane while boondocking, but cannot be used while the vehicle is in motion. While driving, operate the refrigerator on DC 12 volt power - the vehicle alternator generates more than enough power to run the refrigerator and keep your batteries charged while driving. You can use AC when plugged into shore power when you don't want to use propane unnecessarily.

 Never run your refrigerator on propane while at a gas station. Shut the refrigerator off while at a gas station, and turn it back on after pulling away from the pumps. To ensure that neither your hot water heater nor your refrigerator generate dangerous open flames while handling fuel, always turn the battery disconnect switch OFF when refueling.

Refer to the refrigerator owner's manual for details of operation.

Oven

The oven is a standard microwave / convection oven. It operates much the same as the microwave at your house. It is probably lower powered, so cooking may take a bit longer.

You must be connected to shore power or have the generator running to use the microwave.

Cooktop

The two-burner propane cooktop needs fresh air for its safe operation. Make sure to open a window and open and/or turn on the overhead fan for proper ventilation. The burner igniters require 12 volt power to work, so turn on the battery disconnect switch to use them.

Refer to the cooktop owner's manual for details of operation.



Galley stove

Outside your Roadtrek

Awning



Awning power switch



Awning attachment



Stowed awning

Your Roadtrek has an electric roll up awning. The control for the awning is located above the passenger door on the inside. To open the awning push the rocker switch and the awning will extend. Lower the supports on each side and secure them to the two attachment points on the side of the Roadtrek. Refer to the awning manual for the proper way of securing the awning supports to the attachments. To stow the awning, detach the supports, stow them in the awning housing, and retract the awning. Electrical awnings have the switch inside the passenger door above the side window. Awnings are susceptible to damage from wind, and for this reason should never be left extended when you are away from the vehicle. If a thunderstorm or other windy weather is imminent, stow your awning until the wind calms down.

Exterior access doors and hatches

Driver's Side Doors



Driver's side access doors



Driver's side front access door showing tank dump valves and waste water hose



Driver's side access door houses power cord and waste water hose



Driver's side rear access door

On the driver's side, there are two doors that house items that you will use.

The large access door directly behind the driver's door has the dump valves for the gray and black tanks, a storage area for the macerator hose, and the shore power cord. The smaller door just in front of the rear tire has the outside shower, city water connection point and valve, and the cable TV connection.

Directly above the center access door and below the galley window you will see two vent hatches. The rectangular one is for the refrigerator and the square one is for the water heater. The water heater will vent hot gasses when the water heater is running. The chrome one forward of the water heater is the furnace vent and air intake, which will also vent hot gasses when the furnace is running.



Do not block any of these vents. They need to remain unobstructed to prevent dangerous fumes from entering the interior space.



Since all these sources of open flame are near the fuel fill door on the driver's side, please ensure that all propane appliances are off when refueling your Roadtrek. In addition to making sure your main propane tank valve is shut whenever the vehicle is stored or in motion, turn the battery disconnect switch off when refueling - this will disable the water heater igniter, the refrigerator igniter, and the furnace.

Propane Access Panel

The propane access cover is located in the rear, at the center of the bumper. Flip the side latches to expose the tank valve and filler.

Optional Rear Door Screen

Roadtreks have an optional rear screen which allows you to open the rear doors and get fresh air and a better view, without bugs coming in or (attended) pets going out. If you ordered this option, look for this screen in the white box that comes with your new Roadtrek. The screen attaches to the rear door frame and cargo area floor with a zipper and hook-and-loop fasteners.



Propane access cover



Surround with zipper



Hook and loop fastener for bottom edge
of screen

Open the screen and locate the edge with hook and loop material along it. This edge is the bottom, so use the hook-and-loop strips on the screen to attach it across the bottom of the door opening.



Start the zipper on the left side



Installed screen

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.

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.

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.

Optional Side Door Screen

In addition to the rear door screen, there is also an optional side door screen which will allow you to keep the side door open for ventilation without admitting insects. There is a zipper in the screen so you can enter and exit without removing the screen.

Locate the screen in the white box that comes with your new Roadtrek, and shake it out. To orient the screen correctly, look for the zipper in the screen - hold the screen so that the zipper goes across near the top and then down the right side. Start the hook and loop fastener at a convenient corner and work your way around the perimeter until the screen is secured.

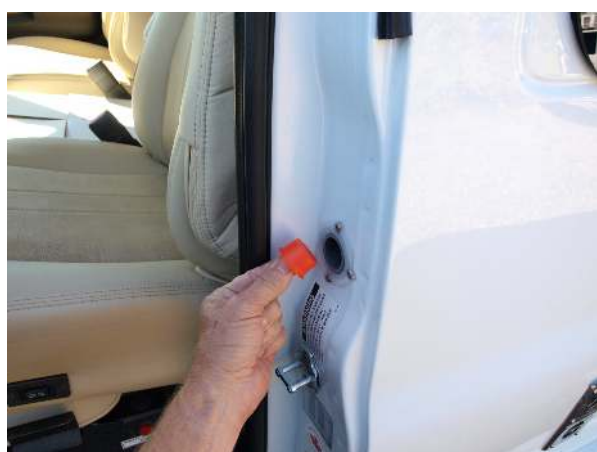
To enter or exit the vehicle through the side door while the screen is installed, unzip the opening and step through. While sturdy enough to keep insects out, neither this screen nor the rear screen are designed to resist repeated and persistent attempts by pets to get out of the vehicle. Do not leave your pets unattended with the screen in place and the door open.

Utilities

Just like your house, your 170 Versatile has fresh water, electricity, waste water disposal, heating, and cooling systems. In the 170 Versatile, these systems are self contained and travel with you.

Your vehicle should be reasonably level to allow normal operation of the system.

Fresh Water



Exterior tank fill location



City water connection

Fresh water is contained a tank underneath the vehicle's driver seat. The fill location is located on the driver's door near the door handle latch. Look for the orange plug in 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.



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



You can fill your tanks using the gravity fills.

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



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

To connect the Roadtrek's water system to an outside source refer to the HOWTO: Potable Water Use section of this manual.

Tanks

You can fill the fresh water tank from a convenient water spigot.

To fill the tank with fresh water, open the driver's side front door and remove the orange plug in the fresh water fill port. Fill until water comes out the hole.

Water Pump

To use the water in the tank, you need to turn on the water pump. See Monitor Panel for switch location.

Waste Water

Gray Tank

Galley sink, bathroom sink and shower drain water drains into the gray water tank. The shower and sink have traps to prevent tank odors from entering the living space. Be sure to replace the screw-in plug in the shower floor after use to prevent gray water from sloshing up into the shower pan from the gray water tank while driving.

Black Tank

The black water tanks contains toilet waste. Please refer to the HOWTO: Waste Water Dumping for information about what materials you can and cannot flush down the toilet, and a concise guide to the procedure for dumping your wastewater tanks.

Indicators

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

See Monitor Panel for more information.



Close both the black and grey water gate valves before using the waste water system. It is possible for the valves to open slightly especially after extensive driving. Black and grey water dump valves are accessed through the driver side storage door.

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.

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 tank valve closed. This valve must be closed whenever the vehicle is in motion in any case, not just in certain areas. Other bridge/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.

The propane tank is located across the rear of the vehicle. To access the tank for filling and to turn the manual tank shutoff valve off and on, turn the two retaining tabs on either side of the access cover, located in the center of the rear bumper, and remove the access cover.



Propane tank cover



Propane tank main shutoff

✖ 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.

In general, the propane system is set up at the factory and requires little to no adjustments or regular maintenance on your part.



High pressure BBQ pigtail, shown with yellow dustcap and valve in closed position



Propane pigtail with dustcap removed and valve in open position

The propane system has a high-pressure auxiliary BBQ takeoff. Locate the hose behind the access panel. The hose has a yellow dustcap, and an integral cutoff valve. This provides 15PSI regulated propane to appliances that have their own regulators or are built to use high-pressure propane.



Propane fill valve



Propane bleed

Roadtrek recommends that you take your van to a qualified LPG retailer to fill the tank. While filling, turn off all propane appliances, then turn off the tank shutoff valve.

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

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.

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



Propane tanks shall 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.



To reduce the danger of fire or explosion do not store gasoline or other flammable liquids inside your vehicle.



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.



The auxiliary BBQ male connector to connect to your BBQ pigtail is Cast Products part # 829000 or 829120. The hose assembly in varying lengths is available as MB Sturgis part no. 100476.

Heating and Cooling

Thermostat

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

Some models also have a small heat strip in the air conditioning which will blow warm air, but this produces heat directly from electricity and is not recommended for heating the cabin for extended periods of time unless you are attached to shore power or running the engine. For all other circumstances, use the regular heating system to heat the cabin. If your unit has the heat strip option, you can operate it by turning the thermostat to "furnace" and setting the desired temperature.

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



Thermostat

Heat Pump

The heat pump can provide both heating and cooling for your Roadtrek using electric shore power or generator power. The heat pump gives you the advantage of heating your unit with electricity if you would prefer to use electricity rather than the propane the furnace uses.

The heat pump can be operated normally when you are plugged in to shore power.

If you are running the heat pump using the generator, please follow the following steps.

- Set the battery disconnect switch on the monitor panel to the "ON" position.
 - Start the generator and run for several minutes until warm.
 - Set thermostat setting above ambient temperature.
 - Turn thermostat control to the "low cool" position.
 - Turn fan to the ON position.
 - Adjust the thermostat on the unit for the desired temperature. The compressor should start automatically.
 - Your vehicle should be parked as close to level as possible to maximize the air conditioner's efficiency. If you are parked very much off-level, it is possible for condensate to leak into the living space. If this happens park in a more level location.
- You can use the heat pump to warm the motorhome on cool nights. For colder temperatures, below 40°F (4°C), you should use the propane furnace.



Heat pump

Furnace

The furnace is controlled by the combination thermostat located above the rear bed. The furnace requires propane and 12 volt power. The furnace uses much less electricity compared to the heat pump, and can be used without shore power or generator use.

The fan on the furnace is thermostatically controlled, and will continue to run for a minute or so after you turn it off until the firebox cools down.

Keep the aisle in front of the furnace clear of any obstructions when using the furnace to allow air circulation.

The furnace can operate when outside temperatures are below freezing.



Propane furnace

Electrical System

Coach Battery

The coach battery in your Roadtrek is a sealed AGM battery. Do not attempt to open it. There is no user maintenance possible on this battery.

Battery Disconnect Switch

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

Charging your batteries

Inverter-Charger

Your Roadtrek is equipped with a inverter-charger which converts 120 volt AC (household current) to 12 volts DC when you are connected to shore power or running the optional gasoline generator. This 120 volt power is used to power your 12VDC appliances as well as charge your batteries. Whenever you are receiving either source of 120 volt power, you are charging your batteries.



Battery disconnect switch

Standard Alternator Charger and Battery Isolator

While driving, your Roadtrek will also charge the coach batteries from the vehicle alternator through an isolator. The isolator allows extra vehicle alternator-produced electricity to charge your coach batteries in addition to keeping your engine (chassis) battery charged. When the vehicle engine is not running, it breaks the electrical connection between your coach batteries and your engine battery, so your engine battery remains charged to start your engine even though you are using coach battery power while camped. This is all automatic - there are no user adjustments possible to the isolator.

Optional Engine Generator

Your vehicle may be 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.

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 also charging them as you drive. You will arrive at your camping destination with fully charged coach batteries.

There is no required maintenance for the engine generator.

Note, however, that your vehicle's serpentine belt (the belt which drives the vehicle's alternator, water pump, power steering, etc.) will be different than the one for similar vehicles without the engine generator, so carrying a spare belt may be prudent in case you have a serpentine belt failure while traveling.



Engine generator

Optional Solar Panels

The optional solar panels will charge your batteries when sufficient sunlight is available. The solar charge controller is installed at the factory for the type of panels and batteries installed on your vehicle, and Roadtrek strongly recommends that you make no adjustments or changes to the charge controller or its programming. The charge controller usually displays either system voltage or amperes generated by the panels.

On board 120 Volt AC power

Standard 750W Inverter

The standard configuration includes a 750W inverter. This inverter provides 120VAC (household current) for a few of the outlets in your Roadtrek; primarily the ones running the TV and the DVD player. It is not powerful enough to operate the air conditioner or the microwave.

The inverter is configured at the factory for the batteries and power sources in your Roadtrek. Please do not change any settings without consulting the factory.



Solar charge controller



Inverter switch with standard 750 watt inverter



2500 watt inverter switch

Optional 2500 Watt Inverter

If your vehicle has the engine generator option, you also have a 2500 watt inverter. This is sufficient to run all your appliances. However, running large, high-energy appliances such as microwave ovens, air conditioning, toasters, etc. drains your batteries very quickly. If you operate these appliances do so for a limited time unless you also have additional sources of power.

Instead of the regular inverter switch on the monitor panel, your inverter switch will be on its own smaller panel back just to the right of the thermostat on the passenger side of the rear lounge area. The switch has three positions: off in the middle position, power save auto in the top position, and power save off in the bottom position.

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

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

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

Your refrigerator will run on either 12 volt battery power or 120 volt inverter power, or propane if you wish to save electricity.

Optional Gasoline Generator

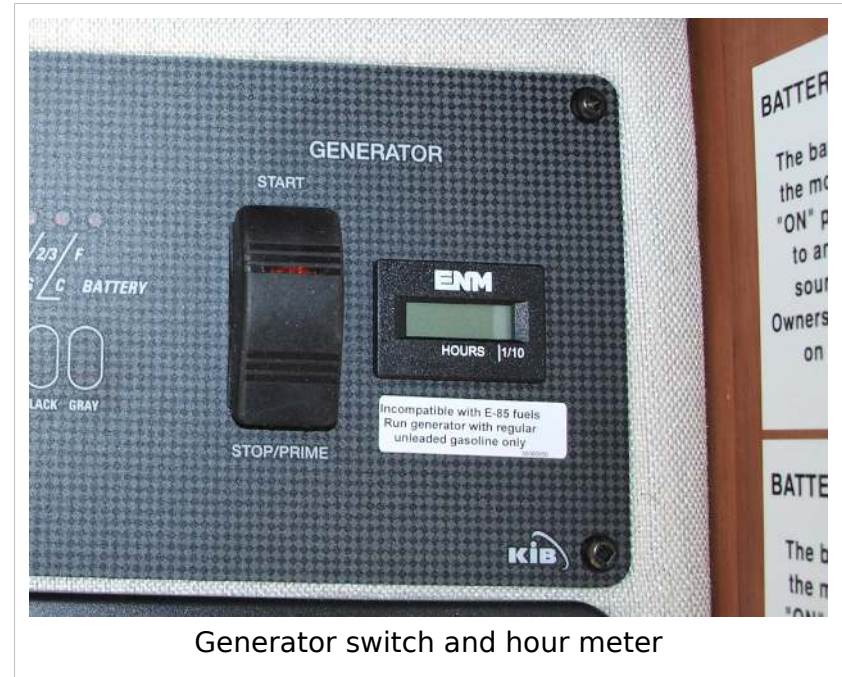
The gasoline powered generator provides up to 2800 watts of 120 volt household current, enough to run all your appliances and recharge your batteries. Please refer to the Onan Generator manual for operation and maintenance.

Always close the rear windows of the vehicle and turn off the roof ventilation fan to avoid exhaust entering the vehicle's interior.

There is an hour meter to the right of the switch which displays hours of generator use. Maintenance on the generator is scheduled according to hours of use. There is a break-in oil change scheduled after 20 to 50 hours of generator use, so check your Onan manual for particulars.



Please be sure to operate the generator at half load or more (at least 1200 watts, either the heat pump or an electric heater) for one hour every month. Failure to do this can lead to internal corrosion, gumming up of the float bowl, and eventual failure.



Generator switch and hour meter

Shore Power

The shore power connection is through the shore power cord, stored in the driver's side large compartment. See Outside your Roadtrek for location. The switchover from shore power to inverter is automatic.

To connect to external (shore) power, open the side compartment and remove the power cord. Plug the power cord into the campsite 30A power source. See HOWTO: Shore Power for a concise guide on how to connect and disconnect to shore power.

Outlets

The outlets are operated from the inverter, generator, or shore power. Further, the outlets are protected by GFCI. Only some of the outlets are powered by the standard 750 watt inverter.

The electrical outlets above the galley and under the passenger side rear captain's seat have ground fault circuitry (GFCI) - the button in the middle of the outlet pops out when they sense an anomaly or sometimes when the circuit undergoes transitional conditions. If you are not getting power from an outlet, check and reset this button if needed. The outlet under the passenger side chair powers the TV and DVD player, so check it if your TV is not receiving power.



GFCI outlet under rear passenger side seat

Monitor Panel

The monitor panel is located inside the side door, above the passenger side rear captain's seat.

Power Sources

The monitor panel controls 2 separate power sources; the 12 volt DC power and the 120 volt AC power via the inverter, shore power, or optional generator.

12 Volt DC Power

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

On the bottom left is the battery disconnect switch, which supplies 12 volt battery power to the 12 volt light and other cabin appliances. This switch must be on for any of the 12 volt electrical devices to work. Remember to turn off two switches - the inverter switch and the battery disconnect switch when your Roadtrek is not being used to avoid discharging the batteries.

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



Monitor Panel with standard 750 watt inverter and optional gasoline generator



Battery Disconnect



Inverter switch for standard 750 watt inverter



Inverter switch for optional 2500 watt inverter

Inverter

The inverter provides 120 volt AC (household current) to the 120 volt appliances and wall outlets. If you have the optional engine generator and 2500 watt inverter, your inverter switch is back by the thermostat on the passenger side of the rear lounge area. See the Optional Engine Generator and 2500 Watt Inverter portion of the Electrical System section for further information.

Shore Power

Shore power is the name for power supplied by a utility company that you plug into to provide power to your Roadtrek. See HOWTO: Shore Power for a concise guide to plugging in and unplugging from shore power.

Other Switches

Patio Light

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



Patio light switch



Water pump switch

Water Pump Switch

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

Water Heater Switch

The water heater switch is to the right of the water pump switch. As with all the other switches on the monitor panel, the battery disconnect switch must be on for the water heater to work. Even though the water heater uses propane to heat the water, all the igniters and controls are electrical.



Water heater switch



Tank status lights

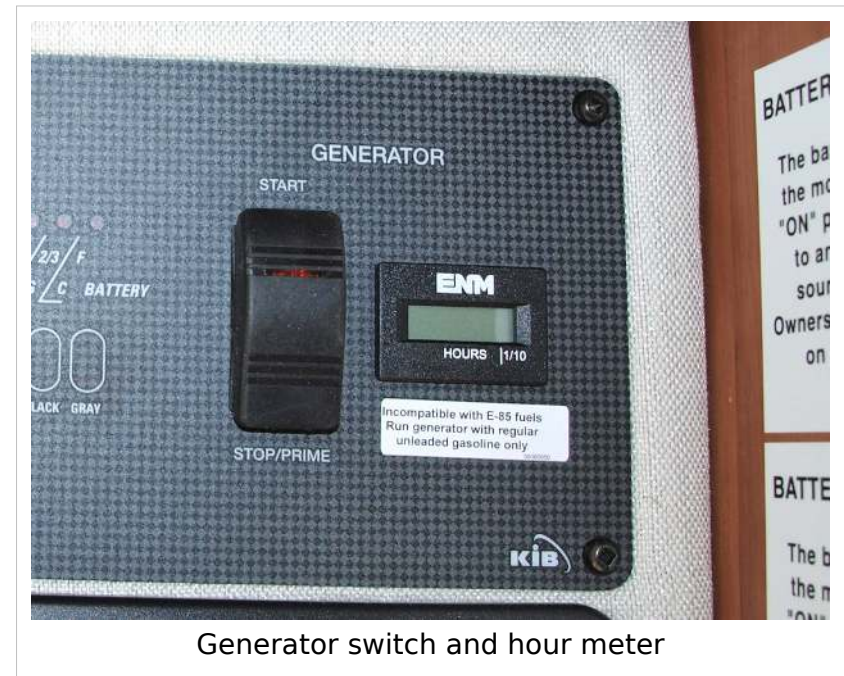
Tank and charge indicators

To the right of the monitor panel are the indicator lights for the battery charge level, the fresh water tank level, and the black and gray water tank levels. The battery disconnect switch has to be on for this display to work. Press the button for each to see the display. These will give you an approximate reading, to the nearest third, of how much is in each tank. The four indicator lights for the battery are low, fair, good, and charging.

Optional Generator Switch and Hour Meter

If you have the optional 2800 watt gasoline generator, the switch is to the right of the tank and charge indicators. Press the bottom of the switch for about five seconds to prime the generator, then the top to start. Press the bottom again to turn it off.

The hour meter to the right of the switch keeps track of how many hours your generator has been running. There is a break-in oil change after 20 to 50 hours of operation, and other required maintenance at other intervals later on - see the generator manual for details.



Generator switch and hour meter

Distribution Panel

AC Breaker Panel

The 120 volt breakers are located above the side door, just below the monitor panel, behind a black plastic cover. Flip the cover to the right and note the label under the cover with the identifying information on each breaker, telling you what each circuit breaker supplies power to. When storing the Roadtrek for the winter, turn off the battery disconnect switch and all circuit breakers in this panel.

12 Volt Fuse Panel

The 12 volt fuses are located to the right of the 120 volt AC breakers. The label on the inside of the cover has identifying information for each fuse, telling you which light or appliance it supplies power to.



120 volt AC breaker panel and 12 volt fuses

Alarms and Warnings



Propane and CO alarm



Smoke detector

Propane and CO alarm

Your vehicle has been equipped with a combination propane leak and carbon monoxide detection device for your protection. It is located slightly above floor level directly behind the rear bathroom door on the passenger side of the vehicle.

Be sure the detector is operating while using your vehicle, especially when you are asleep inside it.

When storing things on the floor, do not block air circulation to the propane leak detector. You should be able to see it at all times from the front of the vehicle.

The detector runs on 12 volt power, and is operational whenever the battery disconnect switch is on. There is no separate switch for the detector. There is an indicator light on the detector so that you can tell whether it's working or not. For this reason, whenever the vehicle is occupied 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.

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

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

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

Smoke Detector

The smoke detector is located to the right of the Monitor Panel. It requires a commonly available 9 volt battery and periodic replacement for both the battery and the unit as a whole. Please refer to the Owner's Manual of the unit in your vehicle.

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 under second row passenger side 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 Chevrolet Express manual recommends checking tire pressures regularly - at least every month, and definitely before a long trip. Tire rotation intervals depend on wear and other factors, but the current Chevrolet Express manual recommends tires should be rotated at least every maintenance interval - every 12,000 km/7500 miles. Follow the tire rotation pattern in your owner's manual.

Cargo Carrying Capacity

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

Owner Maintenance Checks

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

When You Stop for Fuel, or Weekly

Check engine oil level.

Look for low or underinflated tires.

At Least Monthly

Check tire pressure, including your spare.

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 right side of the driver's doorsill. 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 tankfull, which will also be drained before filling with fresh water for use, will help dissipate the chlorine smell.



Gravity fill, on driver's doorpost



Freshwater tank drain, under drivers
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.

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.

At Least Once a Year

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

Have appliances tested and cleaned.

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

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

Spare Tire Storage

Rear Door Spare Tire



Spare tire retaining pin



Spare tire lift latch

! Supplied with your new Roadtrek are two types of small keys. One is for the storage compartments, and the other is to unlock the chrome surround on your spare tire. Find both keys, put one of each on your key ring, and carry them with you whenever you drive your Roadtrek. If you ever need to change a tire, you will need this key.

! If your new Roadtrek still has the blue protective coating on the chrome spare tire cover, remove it as soon as you can. If left on for an extended period of time, particularly in the hot sun, it will become very difficult to remove.

In order to open the driver's side rear door you must lower the spare tire.

To lower the continental kit spare tire and gain access to the driver's side rear door of the Roadtrek, unlatch the retaining spring and pull the pin out while supporting the top of the tire with your other hand. It helps to wiggle the tire back and forth to allow the pin to slide out. Place the pin where you won't lose it, and grasp the top of the tire with both hands. Lower it into a horizontal position to allow the driver's side rear door to open freely. The tire will latch when horizontal.



While the tire is spring loaded it is still fairly heavy. Use proper lifting technique or get help.

To raise the spare tire back into position, lift the guard over the cable mechanism enough for the catch to clear and allow the tire to be raised. Raise the tire back up into position, and insert the pin. Flip the retaining spring over the end of the pin to secure it.

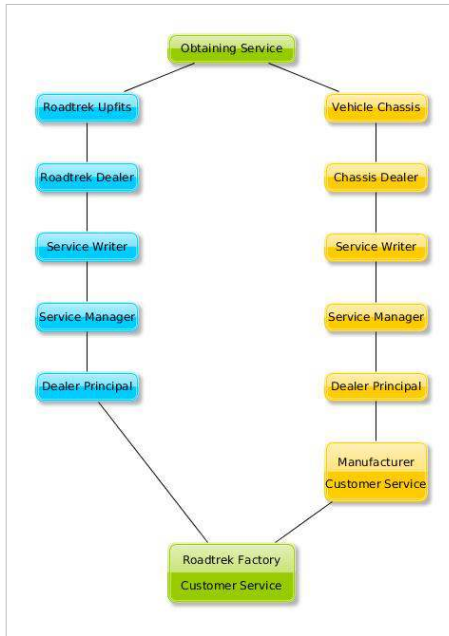
To use the spare tire, lower the tire, unlock the chrome surround with the key supplied with your Roadtrek, unbolt the tire from the carrier with your lug wrench, and lift the tire off the carrier. Follow the Chevrolet manual for instructions on the use of the jack and other tire change procedures. Install the flat tire on the spare tire carrier and reattach the chrome surround.



Do not attempt to raise an empty tire carrier - if you change the tire, put the flat on the carrier before attempting to raise it. NEVER release the latch on a tire carrier without a tire on it. The spring will move the arm of the carrier upward with great force and speed.

Obtaining Service

When your Roadtrek needs service, determine if the issue is with the Roadtrek upfits or the Chevrolet chassis. For Roadtrek upfits, contact your Roadtrek dealer.



For chassis-related issues, contact GM / Chevrolet service. Advise the service writer that you have a Chevrolet Express 2500 3/4 ton van, rather than a "motorhome". Some GM dealerships do not want to work on motorhomes, but most can service a 3/4 ton van.

Specifications

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

Roadtrek upfits only

Total fresh water capacity (includes water heater)	20 gallons/ 76 liters	
Fresh water tank capacity	14 gallons/ 53 liters	
Gray water tank capacity	23 gallons/ 85 liters	
Black water tank capacity	8 gallons/ 30 liters	
Battery type	AGM, maintenance free	
Battery Capacity	95 amp hours (standard)	190 amp hours (optional)
Propane tank size	10 gallons/ 38 liters	
Propane tank capacity at 80%	8 gallons/ 30 liters	
Water heater capacity	6 gallons/ 28.5 liters	
Furnace	16,000 BTUs/hour	
Refrigerator	3-way (propane, 12VDC, 120VAC)	
Air Conditioner	10,200 BTUs/hour	

Warranty

Chassis Manufacturer's Warranty

The automotive Chassis is warranted by General Motors. Please refer to the Chevrolet Warranty Information booklet for details.

All automotive service, maintenance and repairs are to be performed by any Chevrolet dealer. See the Chevrolet 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 such a vehicle and Roadtrek will not pay for the removal and reinstallation of motorhome components necessary to perform automotive service or maintenance.

Roadtrek Motorhomes 5 Year Upfit Warranty

Roadtrek Motorhomes warrants to the Purchaser that the Vehicle is free from defects in material and workmanship on the portion manufactured by Roadtrek Motorhomes, under normal use and service, for five (5) years, from date of purchase by the first Purchaser or the date the Vehicle 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 Vehicle was manufactured. (This is not an engineer upgrade warranty.)

5. Incidental damages connected with the failure of the Vehicle such as lost time, inconvenience, loss of use of the Vehicle, 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. Vehicle that has been declared a total loss by an insurance company (demolished) or a Vehicle whose title indicates that it is designated as "salvage", "junk", or "rebuilt" or words of similar impact.
8. Exterior side storage compartments may not be moisture free. It is advised that you store items accordingly. Roadtrek Motorhomes is not responsible for goods damaged while stored in exterior storage compartments.
9. There will be no allowance for emergency road repair, towing, labor, meals accommodations, etc. Such will not be accepted if claimed under warranty.
10. Aluminum wheels are not warranted against corrosion that is a result of road salt, sea salt, cleaning chemicals or harsh driving conditions.

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.
2. For one (1) year from the date of original purchase sewage hose, curtain fabric, seating fabric, carpet, cup holders, exterior stripping and decals, running board trim, propane regulators and black and grey water tank valves. After one year, these items are considered part of normal wear and tear, and maintenance.

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

1. Warranty Card on Vehicle 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 vehicle 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 Vehicle manufactured by it.

Appliance Warranty

The following are not 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, in-dash radio, etc.)
- furnace or other heating system
- hydronic heating system
- microwave oven
- refrigerator
- stove
- toilet
- water pump
- macerator
- water heater.

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.

Propane or Gasoline Generator

The generator is covered by the manufacturer's warranty.

1. The generator warranty may be voided if the manufacturer's maintenance and run requirements are not met.

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 5 years.

1. Should the filter need servicing, contact Roadtrek directly for servicing instructions.

Warranty Intent

The intent of this extended warranty is to assure the new owner of a Roadtrek that it is worry free from manufacturer caused defects for the first five (5) years of use. The first owners of this unit can feel comfortable that Roadtrek is behind them for five (5) years.

Registration

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

CHANGE OF OWNER NAME OR ADDRESS FORM

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

PLEASE TYPE OR PRINT LEGIBLY:

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

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

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

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

Apt./Suite No.

or

P.O. Box No.

or ☐RR/☐HCR (check one)

☐RR/☐HCR Box No.

City

State

ZIP Code

ZIP + 4

Area Code

Phone No.

Prov.

Postal Code

Month

Day

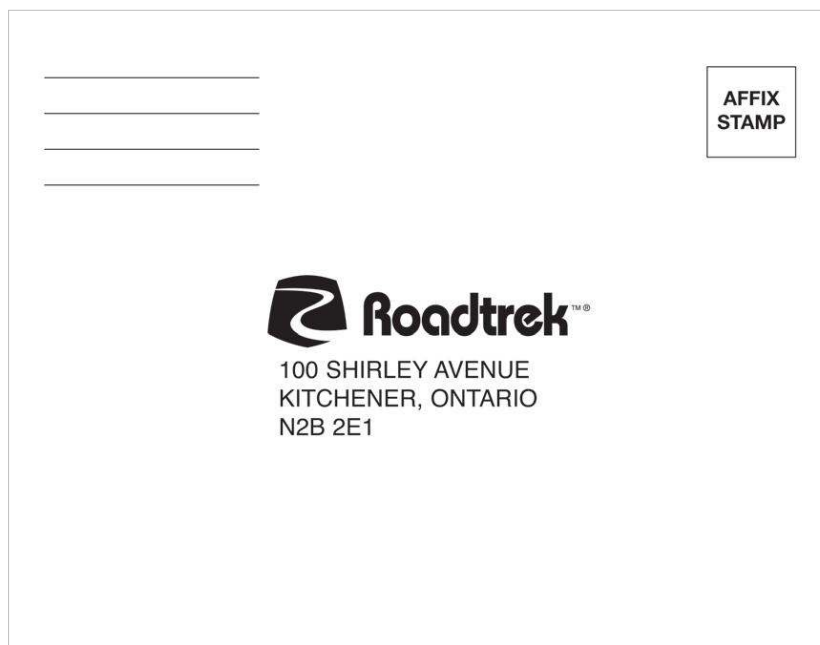
Year

Current Date

Email Address



Form 2, February 1999
M196204



References

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

Regulatory Notices

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

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

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

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

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

HOWTO: Monitor Panel

The monitor panel is located inside the side door, above the doorframe. Depending on the options you have, there may be a gasoline generator starter switch and hour run meter to the right.

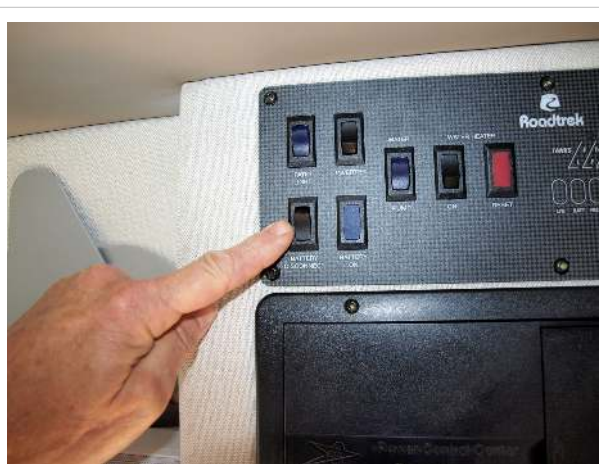
Battery Disconnect Switch

The battery disconnect switch turns the coach battery power off and on. When off, it prevents your coach batteries from being drained while the Roadtrek is not in use. The lights, the water pump, the fan, the refrigerator 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.

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



Monitor Panel with standard inverter and optional gasoline generator



Battery disconnect switch



Standard inverter switch

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. The best way to charge your batteries in this situation is to start your vehicle engine and try again after it has charged for a while. Once the relay is working, you can continue to charge with the generator or shore power.

Inverter Switch

Just as the battery disconnect switch powers the lights, fan, and other 12 volt electrical loads, the standard inverter takes 12 volt power from your coach batteries and changes it into 120 volt electricity. It powers some of the smaller 120 volt alternating current loads, such as the TV and DVD player. This is the regular electricity you have in your house. With this inverter, you can watch television or play a DVD while you are camping, without the need to plug into shore power or run your generator.

The inverter is rated for 750 watts maximum output. Larger loads such as the air conditioner or microwave are too big to run on the power produced by the inverter, and will not operate unless you plug in to shore power or start your generator. The inverter will shut off if you try to draw too much power through it.

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

The inverter will also shut off if the battery voltage falls below a certain level. This is to protect your batteries, wiring, and the inverter itself from damage. Your battery voltage drops under load, so it is possible to have the inverter cut off under high load when the battery voltage is normal with no load. If this happens, try turning off any power-hungry appliances and trying again. Things like electric toasters, electric curlers and hair dryers, or anything else that produces heat are usually energy hogs. Most appliances have the wattage indicated on a label somewhere on the appliance. With practice, you will learn what you can and can't run within the 750 watt limit.

Inverter Switch With Optional Engine Generator and 2500 Watt Inverter

Instead of the regular inverter switch on the monitor panel, your inverter switch will be back in the rear lounge area on the passenger side, just to the right of the thermostat. The switch has three positions: off in the middle position, power save auto in the top position, and power save off in the bottom position.

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

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

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



2500 watt inverter switch

Patio Light

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



Patio light switch



Water pump switch on (blue indicator light lit)

Water Pump Switch

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

Water Heater Switch

The water heater switch is to the right of the water pump switch. As with all the other switches on the monitor panel, the battery disconnect switch must be on for the water heater to work. Even though the water heater uses propane to heat the water, all the igniters and controls are electrical. Be sure that the water heater is full of water before turning it on - if water

comes out of the hot water faucets when they are opened, the water heater has water in it. After turning it on, the red light to the right of the switch will come on for a few seconds, then go off as the burner ignites. If the light keeps going off and on, your burner is not lighting. Make sure that you have propane in your propane tank and that the main valve is open. If the stove burners light, your propane supply is good.



Water heater switch and red indicator light



Tank level indicators

Tank Levels and Battery Charge Indicator

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

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

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

The propane indicators will show full when the tank is at its maximum capacity. Because of the safety-related need for a vapor space at the top of the propane tank, the maximum fill capacity is 80% of the volume of the tank. Your 38 liter/10 gallon

propane tank is full when it holds 30.4 liters/8 gallons of propane. There is another gauge directly on the tank that you can see behind the propane fill door on the back bumper. This gauge has finer gradations and will give you more information about your propane level than the indicator light display will.



Generator switch, prime/off position



Generator hour meter

Optional Gasoline Generator Switch and Hour Meter

To start the generator, first push the bottom of the rocker switch for 5 seconds to PRIME, then push the top of the switch to START. Allow the generator to run for a couple of minutes before turning on heavy loads such as the air conditioner.

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

The hour meter keeps track of how many hours your generator has been running. This is important for servicing intervals such as oil changes, etc. See your Cummings/Onan generator service manual for details. There is a break-in oil change after the first 20 to 50 hours of use. You also need to exercise your generator every month by running it for an hour under moderate load.

HOWTO: Setting Up Your Campsite

What Do You Need To Hook Up?

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

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

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



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

Connected Fresh Water vs. Using your Tanks

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

Sewer Hookup vs. Dumping

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

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



Filling your tanks

Simplify, Simplify

Campgrounds capitalize on the helplessness of non-self-contained RVs by charging a premium for full hookup sites. You aren't helpless. With an electric-only hookup, you drive a short distance to the campground's fresh water source and waste water dump every few days. Do it on the way to the store or other trip that you're going to take anyway, and it's no bother. In addition to saving money, you'll also have a choice of more campsites, since not all of them have full hookups, or the even better choice of no campsite at all if you have extra batteries and solar or generator capability, or are just careful about your electricity use.

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



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

Leveling your Roadtrek

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

How level is level? Refrigerators that run on propane require a fairly level setting to operate properly, since the refrigerant relies on gravity to circulate. Your unit has such a refrigerator. Check the manual for the specific leveling requirements for your unit, but in general, if it's level enough to be comfortable for you, it's probably good enough for your refrigerator. Front-to-back leveling is more important than side-to-side leveling. If you have a choice, it's better to have the front of the Roadtrek very slightly higher than the back both for shower drainage and heat pump condensate drainage.



Leveling blocks

HOWTO: Shore Power

Connecting To Shore Power

Your Roadtrek has a shore power cord, which is permanently attached inside the driver's side storage compartment. Open this compartment and pull the cord out to attach to the campsite or house electrical outlet. There is a "mousehole" in the rear of the storage compartment to thread the cable through if you wish to close the compartment while plugged in.



Driver's side storage compartment



"Mousehole" with small opening for cord opened. The larger hinged plastic door opens to allow the plug through.

Campsite Connections

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



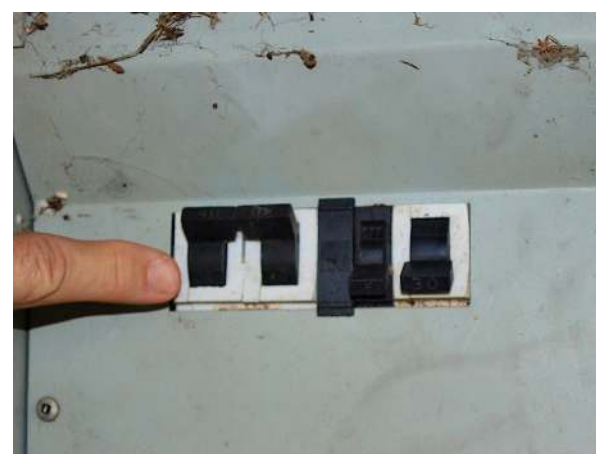
50A outlet



30A outlet



15A outlet



Breakers

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

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

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



15A to 30A adapter



50A to 30A adapter

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

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

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

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

HOWTO: Potable Water Use

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

The city water connection is in the driver's side rearmost compartment. Unscrew the white plastic protective cap and connect your clean hose to the water faucet and this connection point. Turn the faucet on and check for leaks, tightening the connections as necessary.

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

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



Backflow preventer



Typical water pressure regulator)

 You can fill your tanks using the gravity fills.

You can connect to a city water connection whenever your Roadtrek is not winterized. The city water inlet connection is located in the small compartment just in front of the driver's side rear tire.

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



City water fill location



City water valve in closed (handle vertical) position



Attaching pressure regulator to city water fill location

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

- Turn the water pump off.
- Close the city tank fill valve by turning the handle to the vertical position.
- Close all interior faucets.
- Flush old water and any contaminants out of the water supply faucet.
- Connect your fresh water hose to the faucet.
- Attach your pressure regulator to the Roadtrek's city water connection.
- Attach a fresh water hose to the the pressure regulator.
- Slowly open the faucet of the city water source.

- The city water connection by-passes the water pump and fresh water tank. Therefore, the use of these items is not necessary when connected directly to an external water source.

To disconnect the city water connection:

- Turn off the external water source.
- Open a faucet to relieve the pressure in the system. Failure to do so will not damage your vehicle, but may result in an unexpected shower when you disconnect the hose. The outside shower faucet next to the city water connection is a convenient place to do this.
- Make sure the the city tank fill valve is closed (handle vertical).
- 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 in your storage compartment. Connecting the ends is a handy way to prevent dirt or other contaminants from entering the hose while stored.



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



Relieving water pressure by opening outside shower faucet

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 discharge 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 may jam or be damaged. Use toilet paper intended for RVs or septic systems.



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

⚠ 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.

! 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



Compartment with waste water discharge hose



Waste water discharge hose with black and gray water valves

- Open the access door just to the rear of the driver's side door. This will expose the black and gray water valves. Support the door in the open position by using the support arm.



Support arm for access door



Waste water pump button on base of driver's seat

- Open the long compartment behind the driver. This will expose the waste water discharge hose. Support the door in the open position by using the support arm.



Extending the hose



Press and hold the button to activate the pump

- Open the driver's door and locate the waste water pump switch. It is a red pushbutton located on the driver's seat base.
- Remove the waste water discharge hose from storage.



Open the waste water discharge hose valve



Weigh the hose down to prevent accidents

- Open the valve on the end of the sewage discharge hose.
- Insert the waste water discharge hose outlet into the dump station waste receptacle.
- 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 that hose doesn't get loose when you turn the pump on.

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



Rubber doughnut installed on nozzle



Open the black valve



Open the gray valve

- Open the black water tank gate valve by pulling the black handle out. It will come out about 3 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 about 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.



Always dump the black tank first and the gray tank second. The graywater will help flush any remaining solids from the dump hose.

- Close the valve on the end of the waste water hose.
- Rinse off the dump area and the waste water hose.
- Return the waste water hose to its storage compartment.
- Add about 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 pump can be damaged if allowed to operate dry for any length of time. Turn off the pump as soon as the continuous discharge stream begins to sputter and the pump's sound changes.

Jammed macerator

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

- Locate the manual macerator crank knob underneath the vehicle. It is directly behind the black and gray 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 loose, continue dumping.



Macerator manual crank knob

HOWTO: Cable and TV Reception

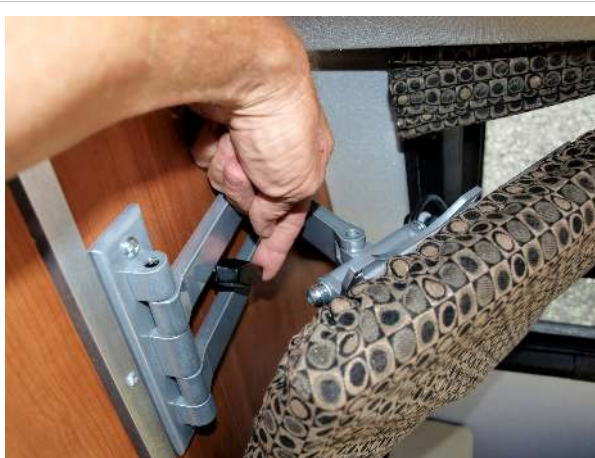
Your Roadtrek comes with a home theatre system. This consists of a TV, a DVD player, the speaker system and the radio in the dash, along with a rooftop TV antenna and a cable TV connection.

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 120VAC power.

The TV and DVD are supplied with remote controls.

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



TV Bracket release



DVD player

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

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



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



TV antenna switch and power injector



Antenna/cable AB switch set for antenna (top button)

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 and home theatre system
- Make sure the power injector is on (the barrel connector is plugged into the top of the injector)
- Set the speaker selector to "SURROUND"
- Set the antenna/cable AB Switch to antenna by pressing the top button

DVD

To watch a DVD:

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

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 has a square gray plastic cover about 3 cm on each side which is hinged at the top, and opens to expose the barrel connector the cable hooks to.



Cable TV connection location



Coaxial TV connecting wire with screw-on end

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



TV cable connected



antenna/cable AB
switch selected for
cable (bottom button)

Screw the cable onto the barrel connectors at each end. If you loop it underneath the crossbar at the bottom of the compartment door opening, you can close the compartment door without crimping the wire.

Push the bottom button on the antenna/cable AB switch in the cabinet above the TV. The bottom button connects your TV to the cable connection, and the top button connects it to the over-the-air signals from your rooftop antenna.

Speaker Switch

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

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



Rear speaker switch

HOWTO: 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 tank valve closed. This valve must be closed whenever the vehicle is in motion in any case, not just in certain areas. Other bridge/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 across the rear of the vehicle. To access the tank for filling and to turn the manual tank shutoff valve off and on, turn the two retaining tabs on either side of the access cover, located in the center of the rear bumper, and remove the access cover.

Main Shutoff valve



Propane tank cover



Propane tank main shutoff 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 the refrigerator on propane while the vehicle is in motion.

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, shown with yellow dustcap and valve in closed position



Propane pigtail with dustcap removed and valve in open position

The propane system has a high-pressure auxiliary BBQ takeoff. Locate the hose behind the access panel. The hose has a yellow dustcap, and an integral cutoff valve. This provides 15PSI regulated propane to appliances that have their own regulators or are built to use high-pressure propane. 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.

Propane Tank Filling



Propane fill valve



Propane bleed

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.

✗ 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.

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. Stop filling immediately and close the bleeder valve.

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

Propane relief valve



Propane relief valve



Propane gauge and sender

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

Propane Sender

The propane tank has a level indicator with a remote sender to the Monitor Panel. 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 ten gallon tank in your Roadtrek will hold eight gallons / 30.4 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

Do you really need to winterize?



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



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

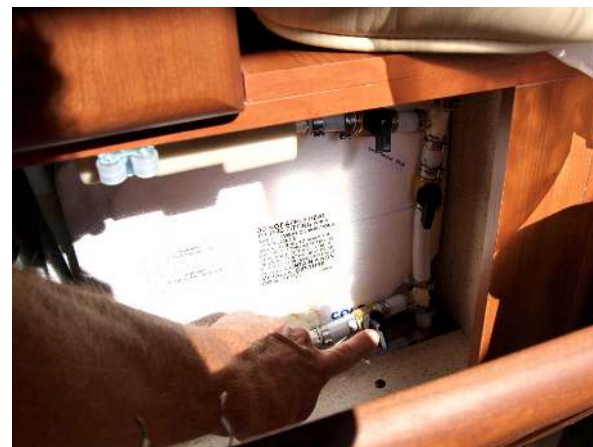


As always, you are final judge and you need to do what is comfortable and makes you feel good. If you are not comfortable with leaving water in your lines when it gets cold, and you will sleep better, go ahead and winterize.

How to winterize using anti-freeze



Typical non-toxic RV antifreeze



Water heater enclosure

This procedure can be done in less an hour with only one specialized tool, a 1-1/16 inch (27 mm) socket and a ratchet or breaker bar.

- Get 2 gallons of RV antifreeze.



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

- Dump and rinse the gray and black tanks if they are not already empty.
- Turn off the water pump and open your single lever galley faucet, putting it in the middle halfway between the hot and cold settings.

- Drain the fresh water tanks by opening the drain for the exterior tank under the driver's door. Let this drain for at least 10 minutes. Close the drain for the exterior tank.
- Turn the water pump back on. Put the galley faucet in the cold position, and open it. If the fresh water tank is empty, the open galley sink faucet should sputter. If it emits a steady stream of water, the tank is not empty. You will need to run the water until it is empty, either catching it in a container and throwing it outside, or running it down the sink and re-dumping the gray water tank. Do so if necessary, and then turn the water pump off. Return the galley sink lever to its open position halfway between hot and cold.



Freshwater tank drain valve



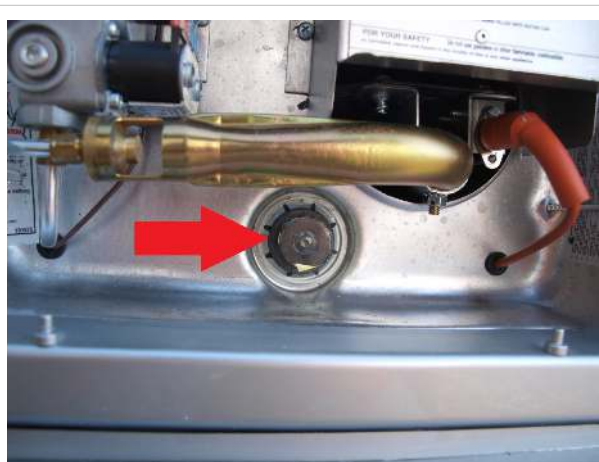
Water heater cover removal (turn tab vertically to remove cover)



Water heater pressure relief valve

- Make sure the water heater is turned off on the control panel switch. Go outside and take the cover off the water heater. Pop open the pressure relief valve at the top of the water heater. A small amount of water might flow out.

✗ If water is gushing out continuously, STOP! Go back to the beginning of this guide. DO NOT remove the anode rod until you figure out what's going on. You either left the water pump on, or you are hooked up to city water.



Water Heater Anode



Water heater anode with some corrosion, but probably cleanable and usable for another year.

- Drain the water heater by removing the anode rod. You will need a 1-1/16" socket and a ratchet or breaker bar.

⚠ This is a good time to rinse out the water heater and inspect the anode rod. If the anode rod looks spongy or all that is left is a rusty iron rod, throw it away and buy and install a new anode rod. Use teflon tape on the threads to reinstall the anode rod. Do not overtighten.



Water heater bypass valves in the open position. In the open position, all handles are horizontal



Water heater bypass valves in the bypass position. In the bypass position, all handles are vertical

- Set the valves at the water heater to the by-pass position. The “middle valve” (the one on the water line connecting the line at the top of the water heater to the inlet at the bottom of the heater) should be turned in line with the tubing. Turn each one 90 degrees to achieve the bypass position.
- Check to be sure that the fresh water drain on the exterior tank and the black and gray tank valves are all closed. Move the single lever galley faucet all the way to the cold side, and leave it open.
- Add 1 1/2 gallons of non-toxic RV approved antifreeze to the fresh water tank through the gravity fill. Use a funnel and wash any spillage off the paint.
- Turn the water pump on and allow to prime. Close cold galley sink faucet once you see pink antifreeze coming out. Switch the red handle to the interior tank position.
- Move the single lever galley faucet to the hot side, and run until you see pink antifreeze come out. Open both hot and cold faucets in the bathroom sink. Open the toilet valve. Open the hot and cold faucets on the outside shower. Observe the antifreeze flow through all fixtures, then close each fixture. Ensure antifreeze flows into all P-traps (galley sink, washroom sink, and shower). You may also consider adding antifreeze from the extra half gallon in the container jug to the shower floor-pan trap.
- If the water pump loses its prime in this process, add more antifreeze to the interior fresh water tank.

- Open the grey and black waste tank valves, and operate the waste water discharge pump for about 10 seconds. You should see pink antifreeze coming out of the waste water discharge hose.



City water connection valve, shown closed



Water pump filter

- Turn the city water connection valve on. The water pump will operate. Allow it to run about 20 seconds. Turn city water connection valve off.
- Turn the water pump off and open a galley sink faucet to release back pressure.
- Open the fresh tank drain line briefly until antifreeze flows out.
- Remove water pump filter if so equipped. Replace water pump filter lid.

Winterizing using compressed air

Roadtrek recommends against using compressed air for winterizing.

Other methods of winterizing

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

HOWTO: De-Winterizing

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

First step

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

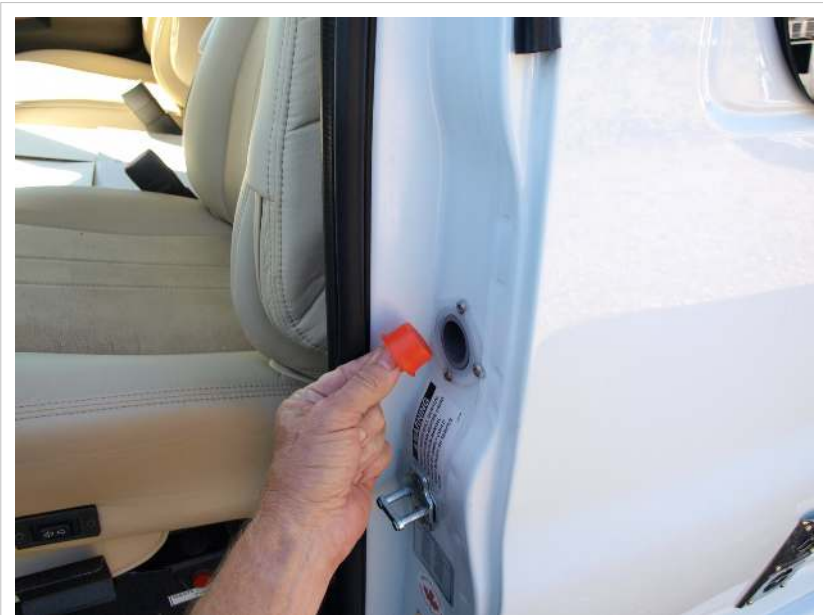
1. Mix up two gallons of water and one cup of chlorine bleach. Add to the fresh water tank gravity fill in the driver's door post.
2. This is a good time to get some stuff for spring cleaning of your Roadtrek, so drive around for an hour. Let it sit for a couple more hours.
3. Open the fresh water tank drain valve under the driver's door and drain the fresh water tank.

This kills any bacteria in the tank before you distribute them through the entire water system.

Second step

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

- Fill the fresh water tank approximately 1/2 full, adding a cup of chlorine bleach halfway through the filling process.



Fresh water fill in driver's door post

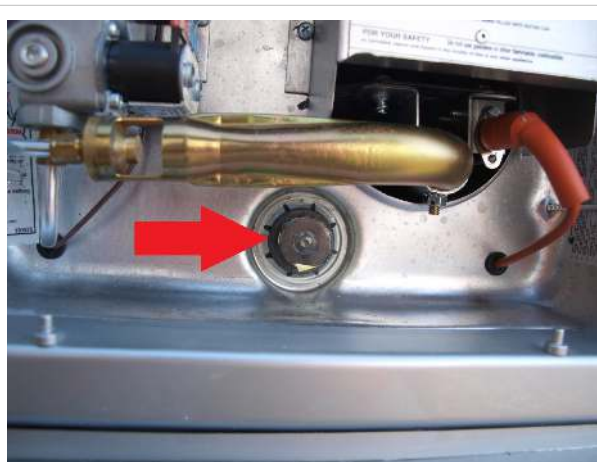


Fresh tank drain under driver's door



City water valve, in small compartment in front of driver's side rear tire

- Turn on the water pump, and circulate the dilute bleach solution through the entire system. The water heater is still winterized. Run water out of all three faucets (galley, washroom, and outside shower), hot and cold, until you smell chlorine. With the water pump on, open the city water valve and let the pump push water through the fill line for a minute or so by turning the black plastic handle horizontally. Close the city water valve by turning the handle back to the vertical position.
- Pull the anode rod out of the water heater and flush out the water heater tank with a hose. Install the new anode rod using Teflon tape on the threads, and close the pressure relief valve. Take the system out of water heater bypass mode by turning the three valves on the lines in front of the water heater 90 degrees so that the handles all point horizontally (see photo).



Anode rod location



Water heater bypass in normal position -
green arrow means valve is open; red
means shut

- Open the galley sink, move the handle in the hot water direction, and run the water pump until water flows from hot water tap at sink and you smell chlorine. The water heater holds six gallons, so it will take a while for it to fill up.
- Allow the system to sit overnight.
- Drain the fresh water tank completely, then fill it with clean water, and run all faucets for 2-3 minutes each. You will need to run the hot water more than the cold to flush the hot water heater tank. Run the toilet a bit, too. To help get rid of the residual chlorine smell, pour a half cup of vinegar into the fresh water tank, fill, let sit for a few hours, drain, and refill with fresh water.