

Owner's Manual

RangerRT



Spare Tire Storage	59
Obtaining Service	61
Specifications	62
Warranty	63
Registration	67
Regulatory Notices	69
HOWTO: Monitor Panel	70
HOWTO: Setting Up Your Campsite	76
HOWTO: Shore Power	80
HOWTO: Potable Water Use	84
HOWTO: Waste Water Dumping	87
HOWTO: Cable and TV Reception	93
HOWTO: Propane System	98
HOWTO: Water System Winterizing	104
HOWTO: De-Winterizing	109

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, all 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 optional gasoline generator



Battery disconnect switch



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 1250 watts maximum output. Larger loads such as the air conditioner are too big to run on the power produced by the inverter, and will not operate unless you plug in 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 1250 watt limit.

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

Water Pump Switch

The button to the right of the four leftmost 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

Your water heater switch is not on the monitor panel; it is on the water heater, in the cabinet to the left of the galley. This is an electric water heater that runs off 120 volt household current, so you need to be plugged in or running the optional generator to use it.

Never run the water heater without water in the tank. Fill your fresh water tank and turn the water pump on, then open a hot water faucet in the galley, bathroom, or outside shower. Once water is flowing out of the hot water faucet, you know there is water in the water heater.

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 side of the van. This gauge has finer gradations and will give you more information about your propane level than the indicator light display will.



Tank level indicators



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.



Filling your tanks

Technically, you could set up a sewer connection like the big rigs' semi-permanent giant sewer hose on an inclined pathway to the dump, but why bother? Just dispense with all that unsightly and potentially hazardous plumbing, and dump your tanks when they're full. 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 merely by stowing your electrical cord.

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? In general, if it's level enough to be comfortable for you, it's probably good enough for your plumbing. If you have a choice, it's better to have the front of the Roadtrek very slightly higher than the back both for plumbing 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.



Cord 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.



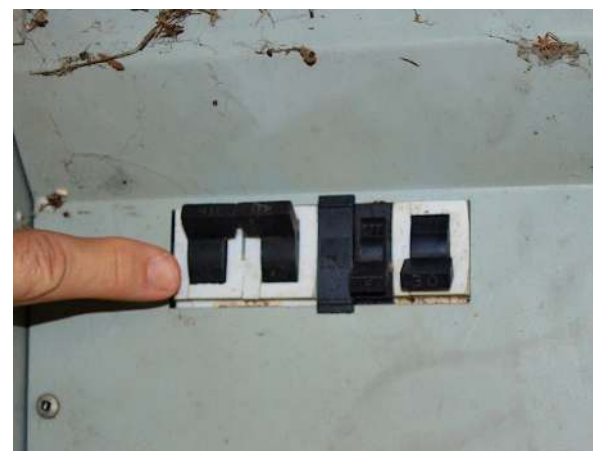
50A outlet



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 potable-water hose. These are usually white in color.



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.



Do not throw any paper towels, personal wipes, rags, baby wipes, tampons, hairballs, etc. into the toilet. The wastewater system is not capable of handling these types of solids and may clog up. Only use toilet paper that is 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 goeey 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. You should dump both tanks in sequence if possible.

Dumping the tanks



Gray and black tank valve handles



Waste water hose in stowed position

- 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.



Pin you need to remove to raise the flap and lower the hose pipe



Waste water hose pipe in lowered position

- Locate the R-shaped pin (spring type cotter pin) that retains the aluminum flap on the end of the waste water pipe. You can see this pin through the hole below the gray and back handles.
- Pull this pin loose - it won't get lost because it's on a retaining tether. Once the pin is out, swing the bottom of the flap toward you. The waste water pipe will drop a couple of inches as the flap clears the small rod attached to the pipe.
- Once the pipe is low enough to clear the bodywork, pull the end out slightly and undo the small black plastic cap on the end of the waste water hose. This lets air into the hose so you can extend it further. If you do not feel resistance as you pull the hose out, you probably left one of your waste water valves open, and should not remove either the small cap or the big hose end until you are as near the drain as possible. Check to make sure both the gray and black handles are pushed all the way in, and only loosen the small cap a small amount to allow air to bleed into the wastewater hose enough to extend it to the drain.



Waste water hose being pulled out of the pipe



Small cap at end of the hose removed to allow for hose extension

- When you have the wastewater hose extended to the drain, twist the end to detach the big cap from the lugs which hold it in place. Place the end of the hose down into the drain, weighting it with a rock or similar heavy object.



Hose extended toward the dump site



Retaining lugs for hose end - the end has already been twisted open

- Open the black water tank gate valve by pulling the black handle out.

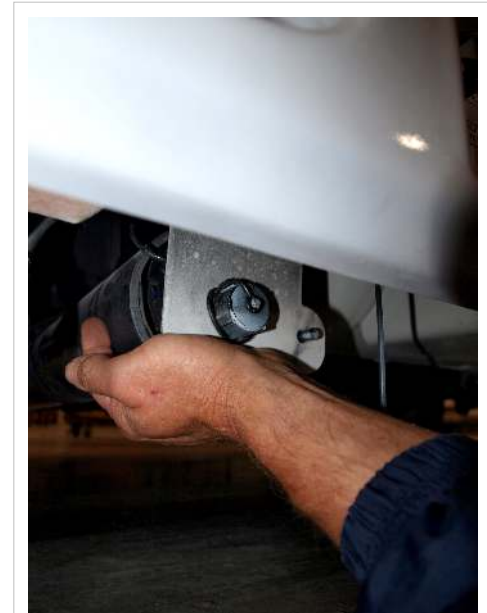
⚠ Open the valve slowly. Water is heavy, and if the tank is near full it will come out of the hose with surprising speed and force.

- After the black water 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.
- After the grey water 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.

- Use the dumpsite rinse hose to clean the end of the hose.
- Replace the big cap onto the end of the waste water hose, twisting it to lock it into place.
- Push the blue waste hose back into the waste hose pipe.
- Once the hose is back in the pipe, replace and tighten the small black plastic cap on the hose end.
- Push the waste hose pipe upward until you can swing the flap back over so the hole in the flap goes over the small rod sticking out of the pipe. Put the R-shaped pin back through the hole in the end of this rod.
- Add about ½ 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 wastewater system. Tear open the packet and pour the contents into the toilet, 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.



Pushing the wastewater pipe back up - the flap is over the end, and the pin can now be put through the hole in the rod.

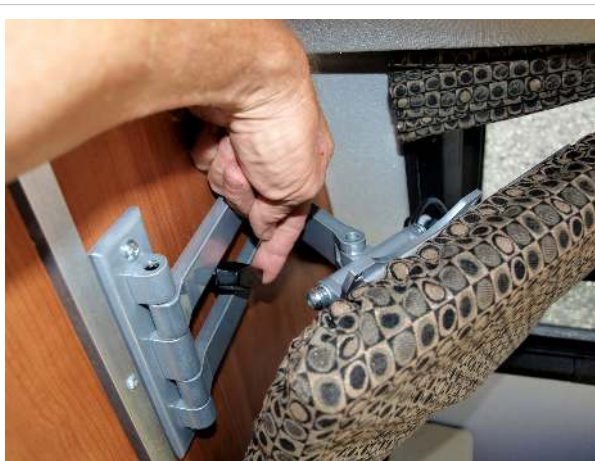
HOWTO: Cable and TV Reception

Your Roadtrek comes with a TV and a DVD player, along with a rooftop TV antenna and a cable TV connection.

The TV and DVD 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.

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

The TV and DVD are supplied with remote controls.



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

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)
- Turn on TV
- Make sure the power injector is on (the barrel connector is plugged into the top of the injector)
- Set the antenna/cable TV switch to Antenna

DVD

To watch a DVD:

- Have 120 volt AC power available (inverter on OR shore power plugged in)
- Turn on TV and DVD



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

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 in the small rearmost drivers side compartment. 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.

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.



TV cable connected



AB switch selected for
cable (bottom button)

Push the bottom button on the A-B 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.

HOWTO: Propane System

If you have the propane option, 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. With the propane option, you get a propane furnace and a propane cooktop.

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 in the large driver's side storage compartment along the bottom of the vehicle. To access the tank for filling and to turn the manual tank shutoff valve off and on, open the side compartment.

Main Shutoff valve



Propane tank



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 any propane appliance 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. Turn on one of the propane cooktop burners and light it until the air is purged and the burner lights.

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



Sending unit for propane level indicator.
There is also a needle gauge you can observe directly on the tank here which may be more accurate than the indicator lights inside.



Propane relief valve

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

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 seven gallon tank in your Roadtrek will hold 5.6 gallons / 20 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.

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

- Get three gallons of RV antifreeze.

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



Typical RV anti-freeze



Compartment lid screw

- Buy three gallons of pink RV/marine antifreeze.
- Take your Ranger to a dump site and drain the gray and black water tanks.
- Turn off the water pump.



First two water heater bypass valves



Third water heater bypass valve

- To access the water heater bypass valves, remove the cushion from the driver's side rear seat and undo the Robertson screw securing the compartment lid. Lift the lid and locate the three bypass valves with black handles on the water lines. The third valve is hidden behind the water pump. Turn each valve 90 degrees - in the winterized position all three valve handles are horizontal - the handles are across the two vertical lines, and in line with the horizontal line beneath the water pump. Put the valves in the winterized position, and close the compartment lid.



Water heater fittings



Fresh tank drain



Water pump filter

- To remove and drain the water heater, open the wardrobe to the left of the galley counter. Turn off and unplug the water heater, and loosen the two water line fittings on the left side of the top of the water heater. These are plastic fittings- unscrew them counterclockwise by hand if possible, or gently use a pair of pliers cushioned with a cloth rag. **DO NOT APPLY EXCESSIVE PRESSURE TO THESE FITTINGS.** After you loosen the intake (blue) and outlet (red) lines, move them over to the left side of the wardrobe wall and lift the entire water heater up. The large pipe on top is an overflow line which goes down through a hole in the floor and is not fastened to the body - it will pull right out.
- Take the water heater unit outside and invert it for approximately 30 minutes to drain. Shake and tilt it as necessary to remove all water. Once it is drained, either plug the intake and outlet holes and store it in a secure location, or return it to its position inside the wardrobe and reattach the water lines. Make sure it remains unplugged and turned off while drained of water. Operating the water heater while drained will damage the unit.
- Look for the drain underneath the driver's door for the fresh water tank drain. Open the valve and allow the tank to drain until empty. Close the drain valve, open the driver's door, remove the orange plug in the fresh water tank gravity fill, and pour in 2 1/2 of the three gallons of pink antifreeze, saving a half gallon for the drains. Replace the orange plug.
- Turn the water pump on.
- Open the galley sink faucet, both hot and cold sides, until you see undiluted pink antifreeze come out. Do the same with the bathroom sink. Flush the toilet until you see pink antifreeze coming down into the bowl. Open both outside shower faucets until you see undiluted antifreeze coming out of them.

- Divide the remaining half gallon of antifreeze between the three drains - shower, bathroom sink, and galley sink - and the toilet.
- Open the fresh water drain valve and allow a small amount of antifreeze to leak out.
- Remove water pump filter if so equipped. Replace water pump filter lid.

HOWTO: De-Winterizing

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

First step

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

1. Mix up two gallons of water and one cup of chlorine bleach. Add to the fresh water fill in the driver's door post, using a funnel.
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 step, and drain the tank.

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

Second step

- Fill and drain to ground the fresh water tank. Fill again so that the tank is filled with fresh water, adding a cup of chlorine bleach halfway through the filling process.
- Turn the water pump on.
- Run both hot and cold water through the galley and bathroom sink until all pink antifreeze is out of the lines, and the faucets are running clear. Depress the toilet valve until the water runs clear. Run the outside shower faucets until they are clear.



Water heater fittings



Fresh tank drain

- Re-install the water heater if you stored it outside the vehicle. Leave it unplugged and off. Check to be sure the two fittings at the top of the water heater are hand tight. Tighten slightly at this stage and recheck after you undo the bypass valves, repressurizing the water heater.
- Return the three valves under the side bench down by the water pump to their summer positions - vertical for all three valves. The handles should be turned 90 degrees from their winterized positions so that they parallel the two vertical lines, and the third valve on the bottom horizontal line is across the line.



Water heater bypass valves



Third water heater
bypass valve

- Open a hot water faucet and fill the water heater with water. Check for leaks at the two fittings at the top of the water heater. These are plastic fittings - tighten them clockwise by hand if possible, or gently use a pair of pliers cushioned with a cloth rag. **DO NOT APPLY EXCESSIVE PRESSURE TO THESE FITTINGS.** Do not overtighten past the point where they are sealed from water leaks.
- Drain the remaining contents of the fresh water tank to ground, and refill with fresh water. You can help get rid of any residual chlorine smell by adding a half cup of vinegar to this tankful, letting it sit a few hours or overnight, and then draining and refilling the tank.
- You do not have to dump the water in your gray and black water tanks after dewinterizing immediately, since it's just water and antifreeze.