# Owner's Manual

## 2016 SS Agile


Erwin Hymer Group North America, Inc.
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# HOWTO: Monitor Panel

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

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


Monitor Panel

## 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 when the switch is on.

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

If you hear a clunk-clunk, or nothing at all, it's possible that your batteries are depleted to the point where they cannot drive the relay. Take steps to charge your batteries.

Battery disconnect switch on

## Inverter Switch with 750 Watt Inverter

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

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

The inverter is rated for 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 or start your generator. The inverter will shut off if you try to draw too much power through it.

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

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

750 watt inverter switch


2500 watt inverter switch

## Inverter Switch with 2500 Watt Inverter

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

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

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

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

Your refrigerator will run on either 12 volt battery power or 120 volt inverter power.

## Patio Light

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


Water pump switch


Water heater switch and red indicator light


Tank level indicators

## Water Pump Switch

The button to the right of the patio light switch is the water pump switch. It should be on only when you have water in the fresh water tanks and wish to use the sinks, showers, or toilet. The pump 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, than 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.

## Tank Level and Battery Charge Indicators

To the right of the control 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 it maximum capacity. Due to the nature of propane, the maximum fill capacity is 80% of the volume of the tank.

## Generator Switch and Hour Meter

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

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

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

Generator switch and hour meter

# 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.

Filling your tanks

## 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.

## Simplify, Simplify

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

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

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

## Leveling your Roadtrek

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

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

Leveling blocks

# HOWTO: Shore Power

## Connecting To Shore Power

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

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

Power cord stored under sofa

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

Attached shore power cord

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

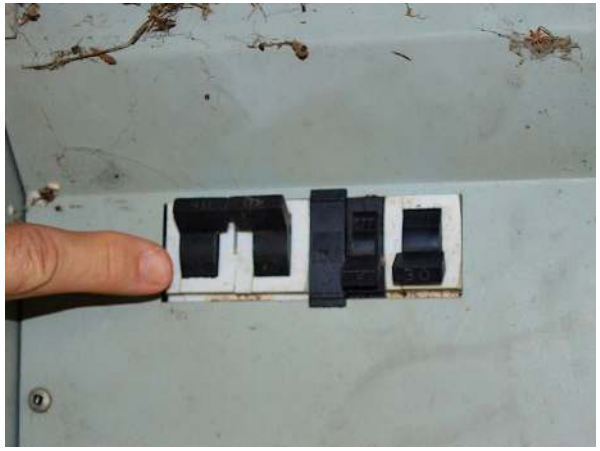
## Campsite Power Connections

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

50A / 240VAC outlet

30A / 120 VAC outlet

15A / 120 VAC 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 receptable 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

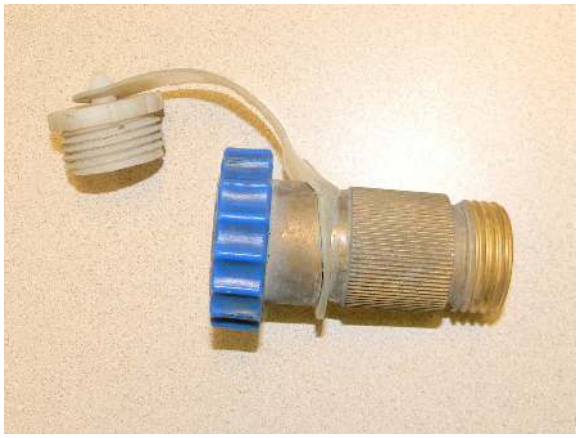
Your Roadtrek can operate in either fully self-contained mode, or can be connected to a water supply such as a campsite's faucet.

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

> Campgrounds and municipalities vary greatly in supplied water pressure. Before connecting to external water supplies, 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 preventor is there to protect the campground. You need the pressure regulator to protect yourself from excess pressure.

Backflow preventer



Typical water pressure regulator (Owner supplied)

Built-in pressure regulator

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

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

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

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

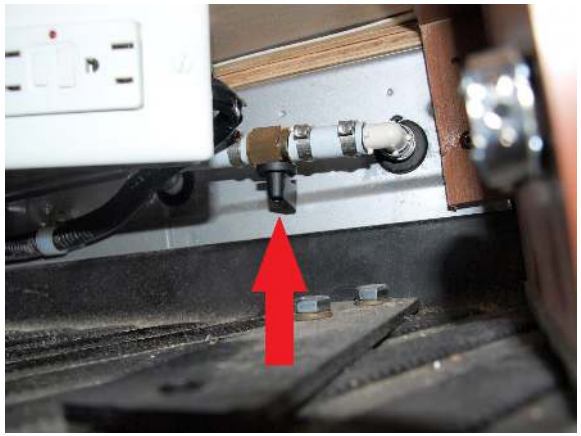
City water fill location

Access to the city water valve, side door area

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 across-the-line position. The city water valve is at the base of the back of the bathroom, to the left of the side door opening (see photo above).
- Close all interior faucets.
- Flush old water and any contaminants out of the water supply faucet.
- Connect your fresh water hose to the faucet.

- Attach your pressure regulator to the Roadtrek's city water connection.
- Attach 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. Turn your water pump off when connected to city water.



City water valve in closed (handle across the line) position

Attaching pressure regulator to city water fill location

Hose connected

To disconnect the city water connection:

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

If you hear your pump running constantly and water pressure is low inside the vehicle after disconnecting from an external water source, it is because you have not properly positioned the city water valve. Make sure the black plastic

handle is perpendicular to the water line when your water system is in self-contained mode.

# HOWTO: Waste Water Dumping

## Wastewater storage and dumping

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

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

## Tanks

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

## Waste Water Discharge Pump

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

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

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

If possible, you want to dump the tanks after driving as the movement of the vehicle will have sloshed the water in the tanks, loosening any solids.

Make sure the tanks are as full as possible before dumping - you may wish to use a hose or bucket to add water to the black water tank through the toilet if it is less than 1/2 full.

You should dump the black tank first, then the gray tank. The water in the gray tank is considerably cleaner, and will rinse any remaining solids from the hose and the macerator. You should dump both tanks in sequence if possible.

## Dumping the tanks

Sprinter side compartments

210 Popular side compartment

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

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

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

Macerator button on base of driver's seat


Macerator button on the B pillar behind driver

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

Extending the hose

Open the dump hose valve

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

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

Rubber doughnut installed on nozzle

Rock used as weight to hold the hose

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

Open the black valve

Open the gray valve

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

- Close the discharge valve on the end of the waste water hose.
- Rinse off the dump area and the dump hose.
- Return the waste water hose to its storage compartment by pushing the green hose back onto the reel.
- Add about 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 macerator. Tear open the packet and pour the contents into the black tank, and dispose of the packet in the trash. The contents of the powder packets can be irritating to your eyes and nose, so hold the packet low to the bowl and try to pour directly into the tank.

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

## Jammed waste water pump

Sprinter macerator manual crank knob

Chevy macerator manual crank knob

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

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

# HOWTO: 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 amplifier 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


Rear speaker switch

## Over-the-air TV

Antenna/cable AB switch

To watch TV using the Roadtrek rooftop antenna:

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

## DVD

To watch a DVD:

- Have 120VAC power available
- 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 at home, locate the Roadtrek's cable TV connection, behind the rear utility bay door on the bottom of the driver's side of the vehicle. It is the square gray plastic cover about 3 cm on each side which is hinged at the side, which opens to expose the barrel connector the cable connects to.

Cable TV connection location

Coaxial TV connecting wire with screw-on end

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

Screw the cable onto the barrel connectors at each end.

TV cable connected

AB switch

Push the small white on the panel to switch between cable and off-air TV.

# Rear 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 operated and maintained, will provide trouble and worry free operation of your propane fueled appliances.

## Regulatory Concerns

 The main shutoff valve must be closed whenever the vehicle is in motion.

Many jurisdictions place restrictions on propane on highways, in tunnels, on ferries, and on bridges. Please follow all local restrictions in all the jurisdictions along your trip. Some bridges/tunnels/ferries require you to have your main shutoff valve closed. Other bridges/tunnels/ferries ban vehicles with propane tanks entirely. Plan ahead and take an alternate route if passing through areas where vehicles with propane are prohibited.

## Propane Tank Location

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

## Main Shutoff valve

Propane tank


Support for side compartment cover


Main valve

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

The propane valve has arrows on it indicating which way to turn it - clockwise is closed and counterclockwise is open.

If you close the main valve for an extended period of time it is possible for the distribution lines to fill with air. It may take a while for propane to fill the lines again. The furnace and water heater handle this automatically; for the stove you can smell the difference between propane and air.

## BBQ connection

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

Propane connection with dustcap

Valve in open position

The propane system has a high-pressure auxiliary BBQ connection. The hose is located in front of the rear passenger tire and pull it out of the channel it is stowed in. The hose has a yellow dustcap, and an integral cutoff valve which is closed when the brass handle is across the line, and open when the handle is parallel to the line. This connection provides 15PSI regulated propane to appliances that have their own regulators or are built to use high-pressure propane. Many grills in North America are low pressure (.5 PSI) and cannot use this connection without an additional regulator. The auxiliary BBQ male connector is Cast Products part # 829000 or 829120. The hose assembly in varying lengths is available as MB Sturgis part no. 100476.

# Propane Tank Filling

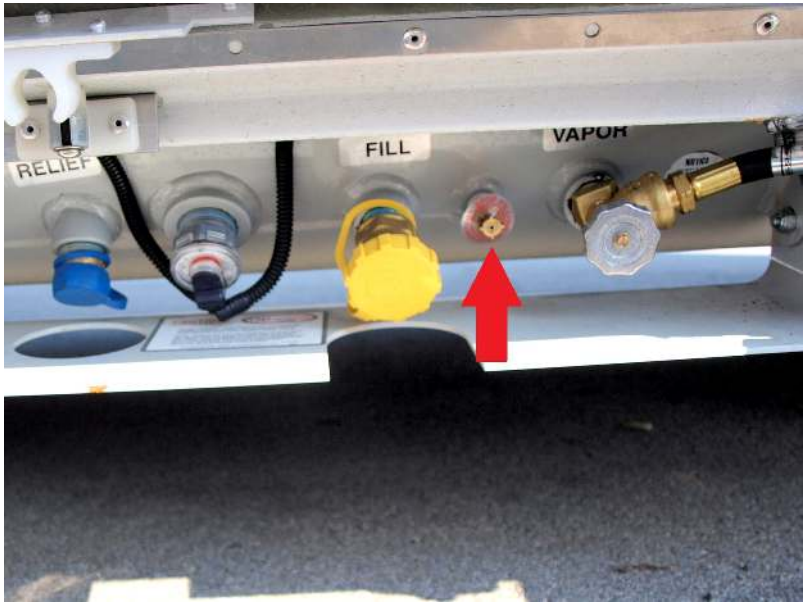
Do not attempt to fill the tank unless you have had appropriate training. Reading this manual does not constitute sufficient training to safely fill propane. If you overfill the tank, propane will vent uncontrollably out of the relief valve.

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

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

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

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



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

Under no circumstances should the tank be filled 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 Level Gauge Sender

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

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

## Slam shut valve

The propane system is equipped with a slam-shut valve. If this valve detects a sudden increase in flow (as if from a ruptured line) or a shock (as if from an accident) the valve will shut down the propane system. If you detect no propane flow, and you have checked that you have propane in the tank, turn 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, **do not operate any switches**, 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 connection 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, under sofa and behind drivers side rear door

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 2-3 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 fresh water tank drain valve, located under the passenger front door step. 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 connected to city water.

Water Heater Anode

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

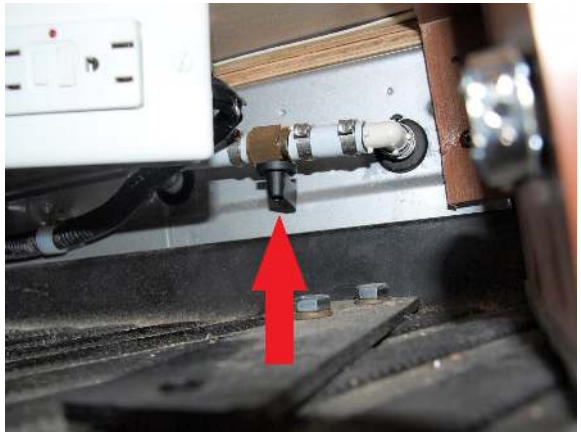
- Drain the water heater by removing the anode rod. You will need a 1-1/16” socket and a ratchet or breaker bar.

  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, discard and replace with a new anode rod. Use teflon tape on the threads to reinstall the anode rod. Do not overtighten.

Water heater bypass valves in the normal position, all pointing to the left. Green means open, red closed.

Water heater bypass valves in the bypass position, all handles vertical. Green means open, red closed.

- Set the valves at the water heater to the by-pass position (at right angles to the water lines). 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 drain on the fresh water tank and the black and and gray waste water tank valves are all closed. Move the single lever galley faucet all the way to the cold side, and leave it open.
- Add 2 gallons of non-toxic RV approved antifreeze to the fresh water tank gravity fill using a spout or funnel, and wash any spillage off the paint.
- Turn the water pump on and allow to prime. Close cold galley sink faucet once you see pink antifreeze coming out.
- 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 drain). Add antifreeze any extra antifreeze to the galley, bathroom sink, and shower drains.
- If the water pump loses its prime in this process, add more antifreeze to the fresh water tank.
- Open the grey and black waste tank valves, and operate the waste water discharge pump for about 10 seconds. You should see pink antifreeze coming out of the waste water discharge hose.



City water connection valve, shown closed

Water pump access inside passenger side bench enclosure

Water pump filter

- Open the city water valve. This valve is behind the access panel to the left of the side door step, under the back of the bathroom. The water pump will operate. Allow it to run about 20 seconds. Turn city water valve off.
- Turn the water pump off and open a galley sink faucet to release back pressure.
- Open the fresh water tank drain line under the passenger front door briefly until antifreeze flows out.
- Remove and clean the water pump filter if so equipped. To access the water pump filter, remove the two screws on the lid of the passenger side bench just behind the bathroom, and lift the lid. Replace water pump filter.

## Winterizing using compressed air

Roadtrek recommends against using compressed air for winterizing.

## Other methods of winterizing

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

# HOWTO: De-Winterizing

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

## First step

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

Fresh water tank drain, under passenger front door step

Gravity fill on front door post

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

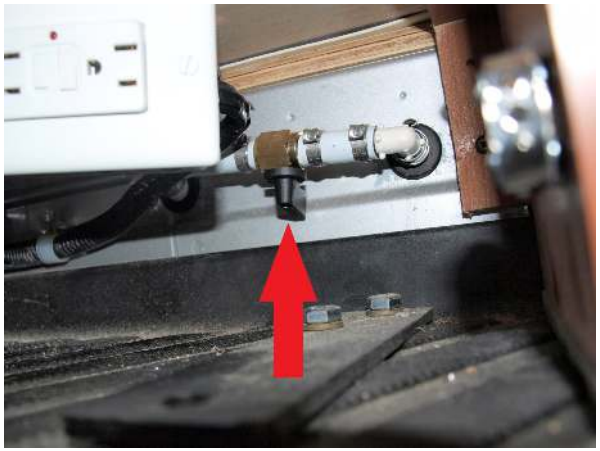
This kills any bacteria in the tanks before you distribute them through the entire water system.

## Second step

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

- Fill the fresh water tank approximately 1/2 full, adding a cup of chlorine bleach halfway through the filling process.
- Turn on the water pump, and circulate the dilute bleach solution through the entire system. The water heater is still winterized. Run water out of all three faucets (galley, 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. The city water valve is behind an access panel at the bottom of the back of the bathroom, to the left of the side door opening. Close the city water valve by turning the handle across the water line.

Access to city water valve



City water valve in shut 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 so that the handles all point toward the left.

Anode rod location

Water heater valves in normal position - green arrow means valve is open; red means shut. All handles point to the left.

- 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, fill with clean water, and run all faucets for 2-3 minutes each. To help get rid of the residual chlorine smell, pour a cup of vinegar into the fresh water tank, fill, let sit for a few hours, run each faucet for a minute or so, drain the tank to ground, and refill with fresh water.