

Owner's Manual

E-Option Supplement



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Electrical System

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

Batteries

The batteries in your Roadtrek are sealed AGM (absorbed glass mat) batteries. Do not attempt to open them. There is no user maintenance possible on these batteries.



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



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

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



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

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



Positive jumper point, on passenger side of the engine. Push the red disc in to expose the contact.



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

Battery Disconnect Switch

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



Battery disconnect switch

Inverter

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

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



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



Inverter switch

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

Engine Generator

Driving down the road, you typically have all the electricity you can use because the engine generator is producing electrical power. However, once stopped, and particularly after sunset when the solar panel is not producing electricity, turning off electrical items when not in use will make the charge in your batteries last for a longer period of time.

Your vehicle is equipped with an engine generator. The engine generator is mounted on the vehicle engine and is operated by idling the vehicle engine. If your coach batteries are low, simply start the vehicle engine and let it idle until the batteries are sufficiently charged. Usually 30 minutes of idling are enough to restore moderately depleted coach batteries to a useful level of charge. The length of time required to charge your batteries will depend on many factors and may be longer than 30 minutes.



You must rev the engine to 2,500 RPM for 10 seconds to start charging your batteries.



Engine generator

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

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

There is no required maintenance for the engine generator. Note, however, that your vehicle's serpentine belt (the belt which drives the vehicle's alternator, water pump, power steering, etc.) will be different than the one for similar vehicles without the engine generator, so carrying a spare belt may be prudent in case you have a serpentine belt failure while traveling. The NAPA belt number for long wheelbase Sprinter Roadtreks with the engine generator is 060523HD, and the belt dimensions are 13/16" x 52 7/8" or 20 mm x 1342 mm outside circumference.

Solar Panels

The solar panels operate automatically and the charger and controller are configured at the factory. Please do not change the settings on the controller. The controller is located in the cabinet above the galley. It will display either system voltage or current amperage being produced.

Shore Power

The shore power connector is located on the driver's side, just in front of the rear wheel. See Outside Your Roadtrek for location and a concise guide to plugging in and unplugging. The switchover from shore power to inverter is automatic - the inverter will sense the incoming shore power as soon as you plug it in.



Solar controller



Inverter LEDs

To connect to external (shore) power, open the rear doors and remove the power cord from underneath the sofa bed. The rearmost of the utility bays on the bottom of the driver's side contains the connection point for the power cord. Plug the power cord into the campsite 30A power source and the other end into the E-Trek. Your remote inverter display has an indicator light to tell you when you are connected to shore power. If the indicator light is not lit, check the breakers on the campsite power source. For a concise summary of how to connect and disconnect shore power see HOWTO: Shore Power.

Electrical Outlets

The outlets are powered from the inverter at all times. The outlets are protected by GFCI (ground fault circuit

interrupters). All the outlets in your E-Trek should have power when the inverter is on.



Galley GFCI outlet



GFCI outlet behind rear captain's seat

The electrical outlets above the galley and behind the passenger side rear captain's seat have ground fault circuitry (GFCI) - the button in the middle of the outlet pops out when they sense an anomaly or sometimes when the circuit undergoes transitional load conditions. If you are not getting power from an outlet, check and reset this button if needed by pushing it in. The one over the galley provides protection for outlets on the driver's side of the E-Trek. The outlet behind the passenger side rear captain's chair provides GFCI protection for the TV and DVD player, so check it if your TV is not receiving power. There is also a 12 volt power socket behind this chair.



The inverter must be on to power the 120V outlets even if plugged in to shore power.



The inverter must be on to test or reset the GFCI outlets.

Keeping Your Batteries Charged

Just as you have limited amounts of food and water in your Roadtrek, your ability to store electricity, although large, is not unlimited. Knowing how to maintain your batteries' state of charge is an important component of the E-Trek's operation. Read the FAQ:Electrical System to better understand your E-Trek's capabilities and how to maintain them.

Warranty

Chassis Manufacturer's Warranty

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

All automotive service, maintenance and repairs are to be performed by any Mercedes dealer. See the Mercedes Warranty Information booklet for details. Such items are not warranted by Roadtrek. Roadtrek will pay for the removal and reinstallation of motorhome components necessary to perform automotive recalls and warranty for the duration of the original Manufacturer's warranty. After this period such costs are considered to be inherent in the ownership of 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 Six Year E-trek 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 six (6) 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. There will be no allowance for emergency road repair, towing, labor, meals accommodations, etc. Such will not be accepted if claimed under warranty.
9. Aluminum wheels are not warranted against corrosion that is a result of road salt, sea salt, cleaning chemicals or harsh driving conditions.
10. Warranty is voided, if AGM batteries are tampered with, batteries that have been topped off with distilled water or batteries that are sulfated due to lack of charge.

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

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

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

1. Warranty Card on 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 initially warranted by Roadtrek Motorhomes, but are covered by individual warranties offered by their respective manufacturers to which terms both Purchaser and Dealer must comply:

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

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

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

AGM Battery Warranty

Roadtrek Motorhomes will, under the six year warranty, at its option, replace or rebuild free of charge (including related labor) any defective AGM coach battery 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.

Lithium Ion Battery Warranty

The optional Lithium Ion Batteries is still under review with regard to warranty coverage.

Diesel Particle Filter Warranty

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

Warranty Intent

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

FAQ:Electrical System

Electricity

Battery Bank

The heart of the E-Trek electrical system is the battery bank. The eight AGM (absorbed glass mat) batteries require no maintenance, and store electrical power created by the solar panel, engine generator, vehicle alternator, and shore power for future use. When driving the vehicle, the engine generator will charge your batteries so that you will arrive at your camping location with fully charged batteries. As you use power, the batteries will be depleted. The solar panel continuously charges the batteries under daylight conditions, and will extend the time between recharges, but typical electrical usage levels are greater than the panel will produce. When your battery indicator level gets low, or if you hear the inverter low voltage audible alarm, idle the engine to allow the engine generator to recharge the coach and chassis batteries. Typically, 30-40 minutes will restore a moderately depleted battery bank to an adequately charged condition. In instances when the batteries are depleted further, such as when running the air conditioner for extended periods, you may need to idle the engine for longer periods.

How Long to Charge

When running the inverter, a minimum battery charge will be preserved by a "power save" setting in the inverter that emits a small alarm telling you to charge the batteries. From the point of that alarm, assuming you are not running a lot of appliances at the same time, you can charge your batteries to the point that will allow you to return to normal usage in 30-40 minutes (do not stop charging at that point). If you run the batteries right down with the inverter off, you may need to charge them for up to 2 hours before you can return to normal use.

Multiple Charging Sources and Charge Times

The battery system holds a theoretical maximum of 9600 watt-hours of power, and how long a battery charge lasts depends on what all you are using to recharge and what you are running. If you run nothing in the coach you can recharge with just the engine alternator/generators at a rate of up to 3500 watts per hr. If you are plugged in to a 110 volt electrical outlet, you

can also be adding another 1400 watts an hour. The solar panels will also be adding up to 245 watts per hour depending on the amount of light available to them. As you can see there are many variables and the choices are yours depending on what you want or need to do. Everything you run in the coach or attached to it will reduce the number of watts going into the batteries. Information on their consumption is usually available on the backs or bottom of most electrical equipment/appliances.

Energy Hogs on your E-Trek

Major electricity consumers are the air conditioner, the convection oven, and the instant hot water dispenser. All of these use more than 1000 watts, so ongoing operation of them, especially in combination, will deplete your battery state of charge. The hot water dispenser has an on-off switch on the cabinet front behind the driver's side second row captain's seat. Turning it off when not in use unless driving or plugged into shore power will extend your ability to go longer between recharges when running the air conditioner or using other electrical appliances.