

NORTHERN STAR

2025



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IMPORTANT

The content within this Owner's Guide is customized based on available standards and options determined by Newmar for the 2025 model year. This Guide may not include information for "specials," such as equipment and/or features selected outside of the available standard and options list.

IMPORTANT

This Owner's Guide is a compilation of quick start guides for various components in your coach and should not take the place of the complete Operation Manual(s) provided by the component manufacturer(s). Refer to the complete manuals provided by the component manufacturer(s), which may be located in your owner's information package and/or Newgle.

NOTICE

This Owner's Guide is published and printed from Newmar's online knowledgebase. For the most up-to-date version of this content, and for more product-specific information, how-to articles, and troubleshooting information, please refer to Newgle. All of the information in Newgle is believed to be accurate at the time of publication. However, it may be necessary to make revisions, and Newmar reserves the right to make any such changes without notice or obligation.

IMPORTANT

Reset all default keyless entry codes and WiFi system network passwords to prevent unauthorized access to the coach and its components.

For more information, refer to the Electronics chapter in this owner's guide.

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INTRODUCTION: ABOUT NEWMAR AND YOUR NEW COACH

This chapter provides you with an introduction to Newmar, our warranty process, and our seamless service promise.

New Coach Delivery Process and Limited Warranty

This article provides a detailed list of the customer and dealer responsibilities during the delivery process, as well as information about Newmar's limited warranty.

Introduction to Newmar

Welcome to the exciting world of recreational vehicles and the growing Newmar family! Congratulations on your purchase of a Newmar product! Your coach proudly carries the Newmar torch, as a new generation of RV'ing begins. We share your excitement at this moment, and with you look forward to the years and miles of adventure the RV lifestyle offers you in your coach.

Whether camping at your favorite remote fishing hole or tailgating at the big game with your friends, Newmar is with you every step of the way.

The Newmar Legacy

Your new coach was built with care using today's technology and old-world craftsmanship. At Newmar, we strive to build vehicles that are safe, dependable, and comfortable. Born on Christian principles and from the desire to build the best, the legacy associated with the name Newmar is one of family pride and quality. It is the culmination of decades of RV design and building experience.

We take humble pride in our history of innovation. We introduced the industry to the first slideout rooms, and continued our tradition of innovation with the first flush floor slideout in a motorized coach and the smooth, seamless fiberglass body. Your coach is at the forefront of current technology, built by the skilled hands and quality-conscious eyes of craftsmen.

At Newmar, we recognize that a craftsman's final product is only as good as the materials they use, so we are selective about what we put into our coaches. We start with a foundation forged in the strength of steel and aluminum. We fill it with beautiful, durable hardwoods, and select name-brand appliances and components, then build it on a chassis proven to stand the test of time. Then we finish our coaches with an artist's gentle touch.

The Newmar Warranty

We stand behind our work with an exceptional warranty and dependable service, so you can travel with the kind of confidence that comes from knowing you're protected. What helps Newmar stand out from other coach manufacturers is our commitment to following our customers throughout the repair process to ensure any issues get taken care of the right way, right away.

Please read the Newmar Limited Warranty and all other component warranties that apply to the equipment installed on your coach. A copy of the "Newmar Limited Warranty" is available in Newgle.

Chassis and Component Manufacturer Warranties

The limited warranties issued by the chassis and component manufacturers require periodic service and maintenance. The owner's failure to provide this service and/or maintenance may result in the loss of warranty coverage.

Be sure to file the appropriate warranty registration with the proper manufacturer to activate the warranties on the components within your Newmar coach.

If you, for any reason, have a problem obtaining satisfactory and timely warranty service that may substantially impair the use, value, or safety of your Newmar coach, please call Newmar Customer Service toll free at **1-800-731-8300** (select the appropriate menu option).

The Delivery Process

Throughout the manufacturing process, your vehicle has been inspected by Newmar qualified technicians. However, our final inspection at the factory is not to be the last one. The pre-delivery inspection and systems check your dealer performs are the final inspections done to the unit prior to you receiving your new coach. Your dealer may assist you in understanding the limited warranties and with completing all warranty forms for the various appliances and accessories installed in your unit.

Customer Responsibilities

To assist you in avoiding problems with your vehicle, we recommend you do the following:

1. Read the warranty. Go over it thoroughly with your dealer.
2. Inspect the vehicle. Do not accept delivery until you have gone through the coach with the dealer. Newmar has provided a checklist as part of the Owner's Registration to be used during retail delivery. Check each item on the list, and make sure the dealer does the same. Do not sign this checklist until you have checked off each item.

NOTICE

The sales literature versus actual specifics to the vehicle's measurements, weights, or quantities may vary.

3. Ask questions about anything that you do not understand concerning your recreational vehicle.

IMPORTANT

Reset all default keyless entry codes and WiFi system network passwords to prevent unauthorized access to the coach and its components. For more information, refer to Newgle and/or your coach owner's guide for keyless entry and WiFi security documentation.

For customers with SilverLeaf touchscreen(s) with version 1.81 or higher, LR 125 version 2.01 or higher, web version 5.0, and operating system version 4.0: An additional layer of SilverLeaf LR125/Control app security called "white listing" is available for the customer to use if they wish; however, it is not required. For more information about using white listing, refer to the PDF file in Newgle called "White Listing Devices via LR125 and System Control App."

Dealer Responsibilities

1. A pre-delivery inspection and systems check: thoroughly inspecting the vehicle and the operation of the factory-installed components.
2. A customer walk-through to familiarize the customer with the vehicle, its systems and components, and its operation.
3. Delivery of the Owner's Information Package. This package contains the warranty cards and registrations for the vehicle and factory-installed components that carry a separate warranty. The detailed operating and maintenance instructions on these components are also included in this package.
4. Assisting the customer in completing the component registration forms, at the customer's request. To avoid loss of warranty coverage, the dealer should review the limited warranty provisions with the customer, stressing the importance of filing warranty cards and registrations to the component manufacturers within the prescribed time limit.
5. Providing the customer with information regarding warranty and non-warranty work on the vehicle, as well as its separately warranted components, whether the customer is in or out of the area.

NEWMAR CORPORATION

PURCHASE DATE _____

SERIAL# _____

NEWMAR CORPORATION • 355 N DELAWARE ST • PO BOX 30 • NAPPANEE IN 46550-0030 2025 RECREATIONAL VEHICLE TWELVE MONTH LIMITED WARRANTY AND LIMITED 5-YEAR STRUCTURAL WARRANTY

BRANDS: BAY STAR SPORT • BAY STAR • CANYON STAR • SUPER STAR • SUPREME AIRE
NORTHERN STAR • VENTANA • DUTCH STAR • NEW AIRE • MOUNTAIN AIRE • LONDON AIRE • ESSEX • KING AIRE

Newmar Corporation warrants this recreational vehicle for twelve (12) months from the original retail owner's date of purchase under normal use and service while in operation in the United States and Canada excluding the exceptions set out below.

If any part of your new Newmar Corporation product fails because of a manufacturing defect within twelve (12) months from the original retail owner's date of purchase, it will be repaired without charge for either parts or labor by Newmar Corporation, providing the required maintenance as outlined in the Newmar Owner's Guide and claim procedures below are followed.

Upon discovery of a defect, you must notify the dealership where you purchased your Newmar recreational vehicle, or the local authorized Newmar Service Center and set up an appointment to have the defect corrected without charge for either parts or labor. It is the owner's obligation and an essential term of this warranty that they make the vehicle available for warranty service whenever it needs warranty service at the selling dealer or at an authorized Newmar service center. If you do not know the location of your closest Newmar Service Center, you must contact the Newmar Corporation warranty department by telephone at 800-731-8300, or by mail at PO BOX 30, NAPPANEE IN 46550-0030. Newmar will then direct you to the nearest service center. You must then call the service center and set up an appointment, or ask the warranty department to assist you in scheduling an appointment at the service center. Service performed by non-authorized service centers must have prior written approval from Newmar for warranty reimbursement. If you do not get an immediate response from any component manufacturer, call Newmar Customer Service and Newmar will assist you in obtaining warranty service from the component part supplier for the term of the Newmar warranty.

The repair or replacement of defective parts under this warranty shall be made by an authorized Newmar Corporation Dealership or Authorized Newmar Service Center.

THE LIMITED 5-YEAR STRUCTURAL WARRANTY. If any part of your Newmar recreational vehicle superstructure (which is the steel/aluminum structure of the sidewall, roof, or frame) fails to perform properly within five years from the date of purchase because of faulty workmanship or material supplied by Newmar, it will be repaired without charge for either parts or labor by Newmar providing the claim procedures stated above are followed. This structural warranty is available only to the original purchaser and is non-transferable.

THE TWELVE MONTH LIMITED AND LIMITED 5-YEAR STRUCTURAL WARRANTIES DO NOT COVER OR INCLUDE:

- Any deterioration of appearance items due to wear and/or exposure to natural elements, including, but not limited to, drapery, upholstery, carpeting, exterior paint and finish, rust and corrosion;
- Any Newmar Corporation product that is not used solely for personal and recreational uses, including but not limited to, commercial or business use purposes (any use for business for profit, or nonprofit,) held for rental or hire, or used as a residence, dwelling, or abode;
- Unauthorized Modifications. Installation of any 'aftermarket' devices or modifying any existing system originally installed by Newmar Corporation will be considered an unauthorized modification. Any condition or repair related to the performance or function of the Newmar unit as a result of an unauthorized modification will not be considered a warrantable defect in materials, workmanship, or components, and necessitated repairs as a result thereof will not be covered under the Newmar Limited Warranties;
- Any damage or defect caused by, but not limited to, collision, fire, theft, vandalism, riot, explosion, acts of God, war, objects striking the vehicle, neglect, misuse, abuse, overloading, accident, unauthorized repairs, alterations, improper dealer handling, improper or un-applied maintenance, or failure to follow operating instructions or the Newmar Owner's Guide;
- Normal Maintenance Cost and Requirements. Normal maintenance cost and requirements detailed in the Newmar Owner's Guide are the responsibility of the purchaser. For an itemized list of required maintenance procedures and schedules, please refer to your Newmar Owner's Guide;
- Cosmetic alignment of the slide out(s) and other cosmetic adjustments are considered routine maintenance and are not covered;
- Equipment and components supplied and separately warranted by other manufacturers, including but not limited to, tires, batteries, engines, chassis, including all items supplied by the chassis manufacturer, and other installed equipment or accessories. These suppliers provide their own warranties or extensions. These warranties are separate from the Newmar Limited Warranties. Please review each separate warranty for descriptions and details of their respective warranty. The terms, conditions and warranty periods of these warranties may vary from the Newmar Limited Warranties;
- Any undertaking, representation, or warranty made by dealers or other parties selling or representing the products covered by this warranty other than those specifically stated herein.

Newmar Corporation reserves the right to make changes in design and changes or improvements upon its products without imposing any obligation upon itself to install the same upon products theretofore manufactured.

This warranty is expressly in lieu of any other express warranties, written or verbal, made on the part of Newmar Corporation, which corporation does not undertake responsibility to any purchaser of its products for any undertaking, representation or warranty made by dealers beyond those herein expressed. **Any implied warranties as to the Newmar Corporation Recreational Vehicle including any warranty of merchantability or fitness for a particular purpose or use are limited to a period of twelve (12) months immediately following the original retail owner's date of purchase as therefore stipulated. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.**

This warranty is null and void unless the purchaser of and the dealer who sells the recreational vehicle fill out completely and mail the respective registration form supplied with this recreational vehicle within 10 days from date of original sale.

LEGAL REMEDIES: Purchaser and dealer further agree the courts (state or federal) located in the State of Indiana have exclusive jurisdiction to resolve any dispute based on this warranty, any implied warranty, or any alleged warranty breach, as well as any claim or cause filed in conjunction with a breach of warranty claim. Indiana Law shall apply to all agreements, disputes, negotiations, litigation, and settlements, without giving effect to any conflict of law rule that would result in the application of the laws of a different jurisdiction. Owner must provide written notice as described below and permit Newmar the opportunity to repair before owner may seek any action to seek legal or equitable remedies for breach of this limited warranty and any implied warranties. Any action for alleged warranty breach or revocation of acceptance or any action to enforce any portion of this warranty must be commenced no later than ninety (90) days of the expiration of the warranty period. Any warranty claim asserted or brought in violation of this Limited Warranty, or any claim brought against Newmar, directly or indirectly, under which the owner or any other person or entity seeks to broaden the terms of the Limited Warranty or under which the Purchaser or any other person fails to successfully prevail on any issue or matter of any type or nature, shall entitle Newmar to recover its costs, damages, and reasonable attorney's fees in connection with the same.

NEWMAR CORPORATION WILL NOT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING (BUT NOT LIMITED TO) LOSS OF USE OF VEHICLE, LOSS OF TIME, INCONVENIENCE, EXPENSES FOR TRAVEL, LODGING, TELEPHONE, TRANSPORTATION CHARGES, LOSS OR DAMAGES TO PERSONAL PROPERTY, OR LOSS OF INCOME.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

In addition to the above provisions, the purchaser has certain legal remedies provided by the MAGNUSON-MOSS WARRANTY ACT, Public Law 93-637, 88 Stat. 2183-2193; U.S. Code, Secs. 2301-2312.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

3/2023

NOTE FROM NEWMAR

Owner's Information Package (Black Bag) and Newmar Owner's Guide

A black canvas messenger bag with a silver buckle and a red and blue 'NEWMAR' logo. The bag has a top handle and a shoulder strap. The logo is on the lower left, and there is a small rectangular patch on the lower right.

IMPORTANT

Take time to get acquainted with your coach and how it operates. Should you have any questions, consult your dealer or the Newmar customer support team.

Appliance Data Sheet

- Your coach's Newmar Serial Number. This number is needed whenever making an appointment for service or ordering parts through your Newmar Dealer or Service Center.
- Your coach's Vehicle Identification Number (VIN). The VIN is the legal identification of the completed vehicle and is used by the state for vehicle registration.
- Your coach's Year, Model, Type, and Floorplan.
- Manufacturer, Model, and Serial Number of factory-installed equipment. Use these model numbers to quickly locate relevant information in Newgle about the parts, including links, files, and articles.

⚠ IMPORTANT

The manufacturer, model, and serial number of the appliances and accessories installed at the factory in your coach are listed on this label for convenience. It is important that the label remains in the coach for identification purposes. Do not remove or relocate this label.

[illegible]

Contacting Newmar

Newmar has a large pool of online tools and content to help our RV owners. Before you reach out to our Customer Service team, check Newgle, NewPar, or Newmar's website for additional resources that may answer your questions and/or solve your concerns.

Newgle



Visit Newgle (newgle.newmarcorp.com), which is Newmar's dynamic, multi-faceted knowledge center created specifically for Newmar coach owners and certified technicians. Because content about your coach is constantly evolving and changing, the only way we can provide you with access to the most up-to-date and relevant information is by linking you directly to it! Much of the information comes from various departments at Newmar, as well as the manufacturer or supplier of the items specific to your coach model and year.

We urge you to check out the site for any additional information that may not be included in your owner's guide or information package. Newmar reserves the right to make any such changes without notice or obligation. For questions or feedback about the Newgle knowledgebase, email the Newgle team at newgle@newmarcorp.com.

NewPar (Parts)

For parts inquiries or purchases, refer to NewPar (ComNet), Newmar's parts catalog (newpar.newmarcorp.com) or contact the parts department directly at 800-731-8300 (select the appropriate menu option).

Factory Service and New-Serv Mobile Service

If you wish to schedule maintenance work, schedule service work, or order parts, you should notify Newmar or your local authorized Newmar Service Center to set up an appointment.

In select areas, Newmar's mobile service team can come to you if you do not have the time, resources, or ability to take the coach to a service center or dealership for repairs. Some repairs and services include (but are not limited to) awnings, electrical, freshwater system, furnaces, plumbing, slideouts, and basic care and maintenance.

For assistance locating the closest authorized Service Center, or to inquire about or schedule a New-Serv appointment, please contact Customer Service at 800-731-8300 (select the appropriate menu option) or send an email to newserv@newmarcorp.com.

Customer Service

If you still have questions and/or would like to speak to a Customer Service Representative, please call 800-731-8300, email customerservice@newmarcorp.com, or contact your brand specialist per the chart below.

Bay Star / Bay Start Sport	866-379-0612	baystarservice@newmarcorp.com
Canyon Star	866-540-9594	canyonstarservice@newmarcorp.com
Northern Star	866-724-3734	northernstarservice@newmarcorp.com
Ventana	866-540-9595	ventanaservice@newmarcorp.com
Dutch Star	866-379-0613	dutchstarservice@newmarcorp.com
New Aire	866-540-9599	newaireservice@newmarcorp.com
Mountain Aire	866-540-9596	mountainaireservice@newmarcorp.com
London Aire	866-379-0632	londonaireservice@newmarcorp.com
Essex	866-540-9591	essexservice@newmarcorp.com
King Aire	866-379-0551	kingaireservice@newmarcorp.com
Super Star / Supreme Aire	866-290-3855	supercservice@newmarcorp.com

Sales and Factory Tour

To find out details about the factory tours, or to contact the Newmar Sales department, call 800-852-1731.

Newmar Corporation | 355 N Delaware Street | PO Box 30 | Nappanee, IN 46550-0030

Notices in Newgle and Newmar's Owner's Guide

Reference is made to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

DANGER

DANGER indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Failure to observe a **DANGER** may also result in damage to the equipment or unit.

WARNING

WARNING indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. Failure to observe a **WARNING** may also result in damage to the equipment or unit.

CAUTION

CAUTION indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. Failure to observe a **CAUTION** may also result in damage to the equipment or unit.

IMPORTANT

IMPORTANT notices are not related to personal injury, but provide additional information to make a step easier or clearer.

NOTICE

NOTICE indicates information that is not necessary or required, but may prove to be helpful.

NOTE FROM NEWMAR

NOTE FROM NEWMAR indicates helpful information to improve customer experience or satisfaction outside of what is provided by a component manufacturer or supplier.

Newgle Introduction and Navigational Overview

This article provides a brief overview of Newgle: what it is, how to access it, how to navigate it, and what information is available. It also explains the different types of search filters that can be utilized in Newgle to produce the most effective search results.

What is Newgle, and why do I need it?

Do you have trouble finding reliable and trustworthy resources about your coach? How much time do you spend trying to figure out how to operate your appliances or what cleaning products are safe to use on your floors? What about troubleshooting information when something in your coach just is not working quite right? Do you prefer to find the answer yourself rather than asking for advice online or your neighbor parked next to you at the RV resort, or even contacting your dealer or customer service? You have come to the right place!

Welcome to the wonderful world of Newgle! Our free online knowledgebase provides you with coach information directly from Newmar, as well as our manufacturers and suppliers. Content is added and updated regularly and is only available to current coach owners and authorized service technicians. As part of Newmar's seamless service promise, your questions can be answered quicker than ever before with just a few clicks on Newgle's search-focused platform right from your laptop, tablet, or smartphone.

Newgle consists of nearly a dozen categories, hundreds of knowledge articles, and thousands of parts with associated coach models and years, files, and links.

Leave the research to us. Our goal is to provide you with the most updated information at all times. Though not coach-specific, Newgle supplies endless documentation about your coach model and year, all verified by Newmar's Service Content department.

IMPORTANT

Newgle is an ever-changing knowledgebase. The Newgle Team strives to introduce new features and content regularly to improve the site. The included screenshots and navigational instructions may change without notice. Always refer to Newgle for the most up-to-date version of this content.

⚠ NOTICE

Any technical information published in Newgle is only intended for use by qualified, Newmar-authorized service technicians. Newmar is not responsible for misuse of this information.

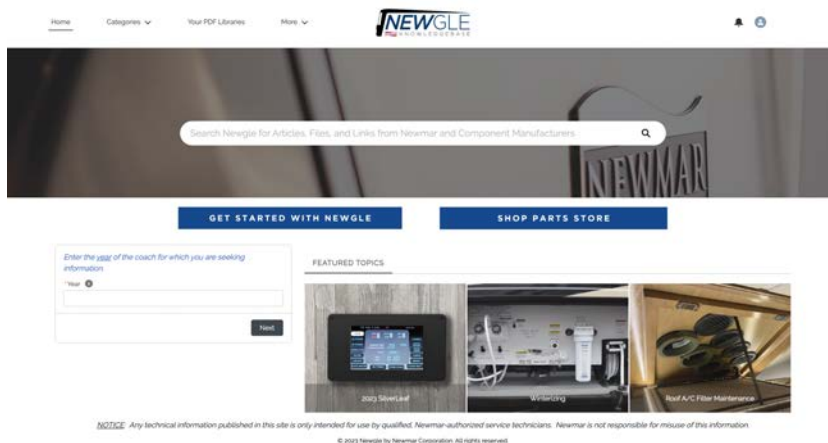
How do I navigate the website?

Home Page

The Home Page is a launching pad into the endless sea of knowledge.

You can easily return to the home page at any time by clicking the Newgle logo, the “Home” button at the top of the page, or by selecting the “Home” option from your username or nickname in the upper right-hand portion of the screen.

There are three key ways to navigate our website: the Category Drop-Downs, Coach Filter, and Search Bar.



Category Drop-Downs

Navigate through Newgle using the drop downs at the top of the page: Category, Sub-Category, and Product Manufacturer Name. From here, select the model number of the component installed in your coach. This type of navigation provides a basic overview of the site structure, but does not associate products with any coach models or years.

Coach Filter

To view products and parts related to your coach model and year, click through each option on the home page to narrow your results.

First, enter your coach model year, then your model. Then, select the category and sub-category of the information you are seeking. This will narrow your results down to the products and parts that are relevant to these specifications.

Then select the component installed in your coach to view the product page, which often includes associated features, files, links, and knowledge articles.

Search Bar

Search from the home page or from anywhere in the site using a key word or phrase, or by the product name, manufacturer, or model number. There is no need to search using coach information like the production number, VIN, model or year. Using the search bar produces the most results of the three different navigational options, which often contain one or more types of the following documentation:

- Products (Parts) by year and model - Specific components, items, and parts installed by Newmar, which can be refined by the coach model and year.
- Files - Attached documentation provided directly from Newmar's product manufacturers, suppliers, vendors, and distributors. The file results often include owner's guides, instruction manuals, installation guides, troubleshooting articles, care and maintenance guides, and much, much more. Files can be filtered on the left side of the screen by title and type of document.
- Links – Helpful web addresses of product manufacturers that often contain additional resources such as online warranty registrations, safety information, reference material, contact information, etc.
- Knowledge articles - Customer-friendly documentation written or revised by Newmar's Technical Publications department. These may contain basic operating instructions, additional safety information, product overviews, how-to and troubleshooting articles, as well as related videos produced by Newmar. In the past few years, Newmar's owner's guides for each model have been built from such articles, as they are meant to be an operational overview for a new coach owner. Note: The model-year coach filter on the Home screen bypasses these articles unless they are associated with a specific product or part. To view a more complete list of these articles, use the search bar.

After typing a search term or phrase, relevant results will populate on the screen; however, this is often not a comprehensive list. Instead, it only provides a “preview” of the results. For a more exhaustive list, click on the “View More” button in the top right corner of the section you wish to expand. Click on the Show More button at the bottom of the page if you wish to view even more results.

With so many results, it may be necessary to narrow them down. Refine your search results by choosing one of the categories on the left side of the screen: Products by Year Model, Files, Links, or Knowledge Articles, depending on what type of documentation you prefer to view. For example, review parts associated to your coach model and year by clicking on the “Products by Year Model” tab. Then refine your results using the filters shown on the left side of the screen, such as year, model, product description, etc.

Once you find the part that you are looking for, click on the blue link to review the product page for that part. On this page, you will find helpful resources such as a picture (if it is available in Newmar's online part's catalog), the product description and features, as well as relevant files, links, and knowledge articles, for all of the documentation provided by Newmar and the part's manufacturer or supplier.

What if I can't find what I'm looking for?

Now that you know how to navigate, feel free to explore! Forget Google, and surf Newgle to answer your coach-related questions!

Just like the RV industry, our site is always growing, changing, and improving. Our dedicated, full-time Newgle staff is working diligently to provide you with access to more model- and year-specific information directly from the manufacturers as quickly as we can. Help us prioritize our efforts!

If you have suggestions for a better user experience, or if you are unable to locate the information you need, feel free to contact us:

- Email the Newgle team: newgle@newmarcorp.com
- Email the Customer Service team: customerservice@newmarcorp.com
- Call to speak to a Customer Service Brand Specialist: 1-800-731-8300 (select the appropriate menu option).

Newgle Registration and Login Assistance

This article provides information about registration and login assistance for Newgle, Newmar's online knowledgebase.

How Do I Register for Newgle?

Visit Newgle at <https://newgle.newmarcorp.com> to register for an account.

⚠ NOTICE

Any technical information published in Newgle is only intended for use by qualified, Newmar-authorized service technicians. Newmar is not responsible for misuse of this information.

Customer Accounts

If you currently own a Newmar coach, click the link associated with an owner account, "Coach Owner Account Request." You will be asked to provide your coach information and some basic contact information, allowing the Newgle Team to verify ownership and set up an account just for you!

Once your account has been created, you will receive a verification email, which will include your new username and a link to create a password. The email address you provide when registering for an account will be used as your username, as well as for all Newgle-related communication, including account credentials, password resets, or any special updates from the Newgle team.

⚠ IMPORTANT

This link is only valid one time. Please use the direct URL - <https://newgle.newmarcorp.com> - for future access to the site.

The screenshot shows the Newgle Knowledgebase interface. At the top, it says "WELCOME TO NEWMAR'S NEWGLE KNOWLEDGEBASE". Below this is a "LOG IN TO AN EXISTING ACCOUNT" section with fields for "Username (Email Address)" and "Password", and a "Log In" button. A link for "Forgot your password?" is also present. Below the login section is a "REGISTER FOR A NEW ACCOUNT" section with a note: "Select the appropriate account type below! You will receive your account credentials via email as soon as your registration has been processed." There are two links: "Coach Owner Account Request" and "Dealer / Service Center Account Request". At the bottom, a "Notice" states: "Your account may be deactivated after 12 months of inactivity. If you do not receive an email after initiating a password reset, or if you purchase a different coach, please re-register using the link above to reactivate your account."

If you already have a Newgle account but have since purchased a different coach, please request a new account to ensure that we have the most up-to-date information in our system. Your login credentials may or may not change pending the newly provided email address.

Logout

Click the user profile icon in the upper right corner; then select "Logout" from the down-down menu to end your Newgle session quickly with the click of a button.

Having Trouble Logging In?

After three failed login attempts, your account will become locked for 15 minutes. Wait 15 minutes, and try to login again. If you forget or lose your password, or if it is no longer working, you can reset it from the login screen.

Click on the "Forgot Your Password?" link, and enter your username (the email address you used when registering for your account), then click or tap "Continue." You should receive an email with a link to reset your password. Remember, this link is only valid one time. Please use the direct URL - <https://newgle.newmarcorp.com> -for future access to the site.

If you do not receive an email, it may be necessary to re-register for an account. Rather than entering your username and password, click the "Coach Owner Account Request" and complete the registration form. Once it is submitted, your account will be re-activated and a password reset link will be sent to the email address used when registering.

! IMPORTANT

Your Newgle account may be deactivated after twelve months of inactivity. Log in to the site often to avoid account deactivation. You may not be notified prior to deactivation.

! IMPORTANT

You will be asked to change your password every 180 days to ensure the highest level of security available. A new password cannot match any of the previously-used three passwords. When prompted, follow the onscreen instructions to create a new password that meets all of the requirements.

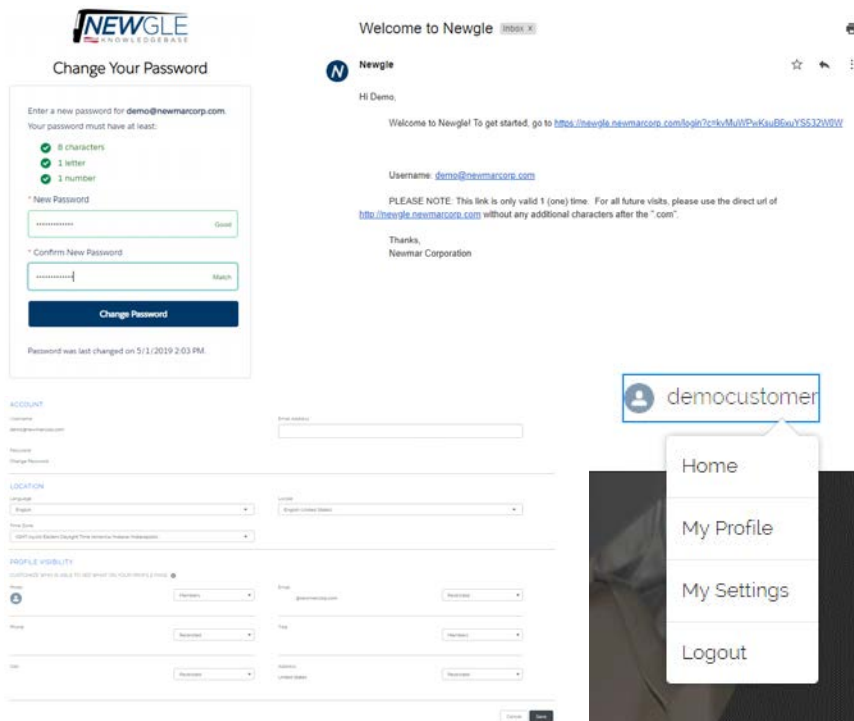
If you have any questions regarding your account, please email the Newgle Team at newgle@newmarcorp.com.

How to Locate a Coach Page in Newgle

This article provides instructions on how to locate a "Coach Page" in Newgle. These pages often include files (diagrams/schematics, owner's guides, brochures, etc.), links, and knowledge articles in Newgle, which may be relative to a coach's year and model and may even be specific to a particular floorplan or option.

! IMPORTANT

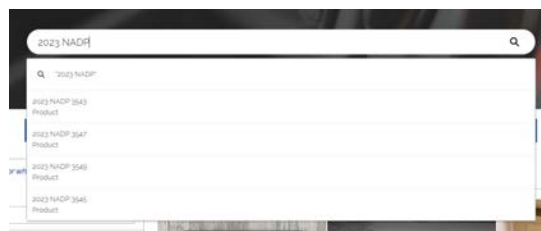
Newgle is an ever-changing knowledgebase. The Newgle Team strives to introduce new features and content regularly to improve the site. The included screenshots and navigational instructions may change without notice. Always refer to Newgle for the most up-to-date version of this content.



Navigating to a Coach Page

From the Newgle home page, click on the search bar.

Type in the coach production year, model abbreviation, and floorplan (separated by spaces). Coach pages may start displaying as "search recommendations," allowing you to select the relevant floorplan from the drop-down list.



- Example: 2023 NADP 3547
- If you are unsure of your model abbreviation, refer to the "How Do I Find My Coach model Abbreviation for Filtering" article in Newgle.

What Will I Find on a Coach Page?

Once on the coach page for the model, year, and floorplan of your choosing, you will have access to coach features and a copy of the owner support sticker, as well as any relevant files, links, and articles. The amount of content will vary by coach year and model.

IMPORTANT

The layout and location of components on this screen may vary due to device and/or screen size (desktop/laptop computer, tablet, or smartphone).

Relevant Files

Depending on the device used to access Newgle, the Files section may appear on the side or bottom of the screen or in a "Related" tab. The type of documentation located in the Files section will vary, but may include:

- Newmar's Original Coach Brochure, Owner's Guide, and Sales Data
- Newmar Diagrams and Schematics (A/V, Electrical, Plumbing, etc.)
- Chassis Manufacturer Manuals, Brochures, Specs, and/or Diagrams

Relevant Links

Depending on the device used to access Newgle, the Links section may appear on the side or bottom of the screen or in a "Related" tab. Depending on the year and model of the coach, you may have access to web links such as:

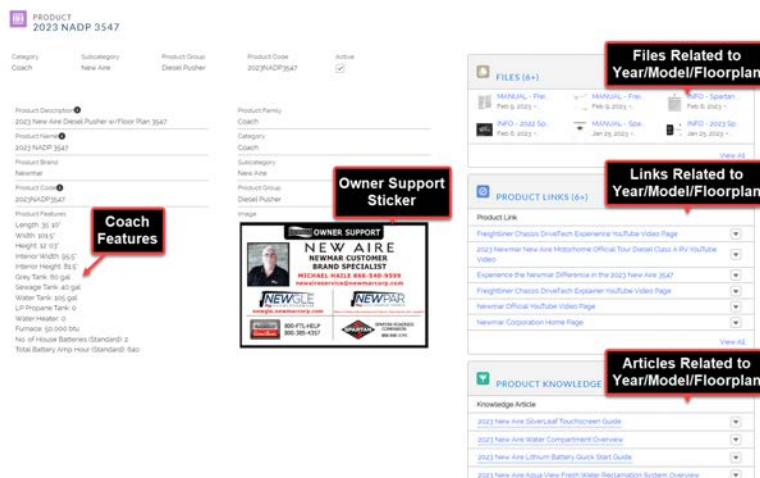
- Chassis Manufacturer Content (Brochures, Specs, Manuals, Contact Info, Videos, etc.)
- Newmar Sales Documentation (Brochures, Videos, Product Specs, etc.)
- Coach CPU Walkthroughs (Year/Model Specific when available)

Product Knowledge Associations

Depending on the device used to access Newgle, the Articles section may appear on the side or bottom of the screen or in a "Related" tab. Some Newgle knowledge articles are written to correspond with a particular coach model and year, so they may appear on the related coach pages.

IMPORTANT

Newer coaches may have more documentation available than previous model years due to the availability of data. Some coach years/models may have limited documentation available.



SAFETY

This chapter provides information about Newmar's compliance requirements, placards and labels, and driving safety. It also includes details about emergency exits and installed safety components (smoke, propane, and carbon monoxide detectors).

IMPORTANT

Any of the following quick start instructions should not take the place of the complete documentation provided by the product manufacturer and/or Newmar. Additional operating instructions, troubleshooting, care and maintenance, safety information, etc. may be available in Newgle for specific components. Read all literature provided, paying special attention to any references to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

Safety Resources and Compliance Requirements

This article provides information about Newmar's safety and compliance requirements.

Resource(s)

- [Recreation Vehicle Safety and Education Foundation \(RVSEF\)](#)
- [Transport Canada \(TC\)](#)
- [National Highway Traffic Safety Administration \(NHTSA\)](#)

IMPORTANT

If you believe that your vehicle has a significant defect which could cause a crash or could cause injury or death, inform the National Highway Traffic Safety Administration (NHTSA) or Transport Canada (TC), and Newmar Corporation immediately.

Compliance Requirements

Newmar motorhomes meet or exceed compliance for the following agencies:

Canada

- [Canada Motor Vehicle Safety Standards \(CMVSS\)](#)
- [QAI Laboratories](#) is Newmar's listing agent

Contacting Transport Canada

Mailing Address / Adresse postale	Phone / Téléphone	Online / Internet
Transport Canada - ASFAD 330 Sparks Street Ottawa, ON K1A 0N5	819-994-3328 (Ottawa - Gatineau area or internationally) 800-333-0510 (Toll free)	http://www.tc.gc.ca/recalls
Transports Canada -ASFAD 330, rue Sparks Ottawa (Ontario) K1A 0N5	819-994-3328 (dans la région de Ottawa-Gatineau et à l'extérieur du pays) Sans frais: 1-800-333-0510 (au Canada)	http://www.tc.gc.ca/rappels

United States

- [Federal Motor Vehicle Safety Standards](#) (FMVSS)
- Nebraska and Washington State Seals
- [National Fire Protection Association](#) (NFPA) 1192 through [Recreation Vehicle Industry Association](#) (RVIA)
- [National Fire Protection Association](#) (NFPA) 70 National Electrical Code
- [Ford Qualified Vehicle Modifiers \(QVM\)](#) (Ford Chassis Only)
- [Carb Compliant](#) Phase 2

Contacting National Highway Traffic Safety Administration (NHTSA)

Mailing Address	Phone	Online
NHTSA Headquarters 1200 New Jersey Avenue SE West Building Washington, DC 20590	800-424-9153 (Hearing-Impaired) 888-327-4236 (Toll free)	https://www.nhtsa.gov/recalls

Placards and Labels

A variety of placards and labels are located throughout your coach. These are installed to aid in the operation of a component, provide coach-specific information, or to warn of potential dangers while operating a specific appliance, accessory, or system.

IMPORTANT

Reading, understanding, and heeding all such labels and placards is critical to the safe, efficient use of your coach. These labels should not be removed for any reason.

Before Driving Away

This article provides a brief list of procedures that will aid in your driving safety and extend the life of your coach.

WARNING

Prior to driving your vehicle, be sure you have read your entire owner's guide and that you understand your vehicle's equipment completely. Read and understand all of the instructions and precautions in this owner's guide and the chassis manufacturer owner's manual before operating your new coach.

Listed below are some safety precautions that must be adhered to while your coach is in motion. These precautions, as well as others that involve possible damage to equipment, are also listed in the appropriate areas in this manual.

There are various adjustments that need to be made prior to starting and moving the vehicle. Among them are the driver's seat, the tilt steering, and the exterior side view mirrors, as well as checking the rear view monitoring system. In addition, the following procedures will aid in your driving safety and extend your equipment's life.

- Windows, mirrors, and light lenses are to be clean and unobstructed.
- Tires should be checked for proper cold inflation pressure.
- Wheel lug nuts should be checked for proper tightness.
- Fluid levels, including engine oil, transmission fluid, coolant, power steering fluid, brake fluid, and windshield washer solvent, should be checked and filled, if necessary.
- Disconnect the unit. Store the sewer and water supply hoses, as well as shoreline power cords.
- Secure all cargo in the storage compartments in the event of a sudden stop.
- Verify that the step has retracted prior to engine ignition and/or travel.
- Know the overall height of your coach to avoid overhead damage from low clearance bridges, overpasses, awnings, etc.

Dangerous Driving Conditions and Severe Weather Safety

This article provides safety tips to follow in the event of poor weather conditions.

Always Stay Informed

Avoid weather-related surprises by checking the forecast each day.

- If severe weather is a possibility, check a local weather website or phone application frequently for updates in your area. The National Weather Service (<https://www.weather.gov/>) is a great resource to check local forecasts. It may also be a wise decision to invest in a weather radio to receive up-to-date forecasts directly from the NWS.
- Know where you are at all times. Knowing which county you are in will help you know what is coming and when.
- For any extended stays, find out where the storm warning systems and alarms are located. It may also be helpful to know the days and times when these are typically tested to avoid any unnecessary concern.

Prepare Ahead of Time

If poor weather is in the forecast, preparing ahead of time can save you a lot of hassle.

- Check the function of your windshield wipers, brake lights, and headlights. Make sure you have plenty of fuel and that your tire pressure is correct to avoid hydroplaning.
- In the event of snow, freezing rain, or ice, make sure your coach is properly winterized. If you do not have to travel, wait until the roads are clear before proceeding to your next stop.

WARNING

The cruise control is not to be operated on icy roads, extremely wet roads, winding roads, heavy traffic, or in any other traffic situation where a constant speed cannot be maintained.

WARNING

While driving on slippery surfaces, use care when accelerating or decelerating. Skidding and loss of vehicle control may be the result of abrupt changes in speed.

- If parked, try to avoid surrounding trees or power lines. Secure all loose belongings that could blow away. Bring them inside the RV or store them securely in a basement compartment before a storm hits to prevent physical damage to you or the RV.
- Retract all awnings to prevent wind and water damage.
- Find out where local storm shelters are and have an evacuation plan in place.
- Pack an emergency bag of necessities (i.e. medical supplies, important documents, cell phone chargers, water, non-perishable food, etc.).

Take Cover

Your coach can protect you from most severe weather, but it is not always the safest option. If there is a threat (even a small one) of severe weather, plan indoor activities in a safe, sheltered place. Be prepared; have a plan in place; and use good judgment.

- If straight line winds or the threat of tornado(s) are in the forecast, leave the RV, and find a local storm shelter.
- If you are driving and severe weather or a tornado pops up, park the RV in a safe location (not under a bridge or overpass), lay down away from windows, and cover your head.
- In the event of heavy rain or floodwaters, do not attempt to drive through water that is crossing a road. **TURN AROUND; DON'T DROWN.**

WARNING

Driving through water deep enough to wet the brakes may affect the stopping distance or cause the vehicle to pull to one side. If you have driven through deep water, check the brake operation in a safe area to be sure they have not been affected.

WARNING

Never operate a vehicle if a difference in braking efficiency is noticeable. Extreme terrain and adverse weather may affect the handling and/or performance of your vehicle.

Seat Belt Safety

This article provides information about the seat belts installed in the coach, including operation and care and maintenance instructions.

One of the most important safety features in your vehicle is the restraint system. Research has shown that seat belts save lives. And they can reduce the seriousness of injuries in a collision. Some of the worst injuries happen when people are thrown from the vehicle. Everyone in a motor vehicle needs to be buckled up at all times.

WARNING

It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and seat belts. Be sure everyone in your vehicle is in a seat and is using a seat belt properly.

How to Operate Your Seat Belts and Restraint System

⚠ WARNING

If you wear your safety belt improperly, both the effectiveness and comfort will decrease.

Lap/Shoulder Combination Restraints

1. Enter the vehicle and close the door. Sit back, and adjust the seat.
2. The latch plate of the belt is above the back of your seat. Grasp the latch plate, and pull out the belt. Slide the latch plate up the webbing as far as necessary to make the belt go around your lap.
3. When the belt is long enough to fit, insert the latch plate into the buckle until you hear a “click.”
4. Position the lap belt across your thigh, below your abdomen. If you need the lap portion tighter, pull up a bit on the shoulder part. A snug belt reduces the risk of sliding under the belt in a collision. Position the shoulder belt on your chest so that it is comfortable and not resting on your neck. The retractor will withdraw any slack in the belt.
5. To release the belt, push the release button on the buckle.



⚠ NOTICE

Some shoulder belts can be adjusted upward or downward to help position the belt away from your neck. Push on the anchorage cover to release it, and then move it up or down to the position that serves you best.

Lap Belt Restraints without a Shoulder Harness

⚠ WARNING

Always wear your seat belt when the vehicle is in operation.

1. Slide the latch up the webbing as far as necessary to make the belt go around your lap.
2. Insert the latch plate into the buckle until you hear a “click.”
3. Adjust and position the belt low and snug across your hips by removing the slack from the belt.
4. To release the belt, push the release button on the buckle.

⚠ IMPORTANT

Each belt is intended to restrain only one person at a time. Do not put two people under one belt.

⚠ CAUTION

Never attempt to restrain a child in your lap using the lap belt around both you and the child. The child could be severely injured or killed in the event of a collision.

⚠ IMPORTANT

Seat belts are matched sets. Do not mix or use this belt or parts of this belt with other types of seat belts.

⚠ IMPORTANT

Everyone in your vehicle needs to be buckled up at all times. Every state in the United States and all Canadian provinces require that small children ride in proper restraint systems. This is the law, and you can be prosecuted for ignoring it.

There are different sizes and types of restraints for children from newborn to near-adult size children. Use the restraint that is correct for your child:

- The restraint must be appropriate for your child's weight and height. Check the label on the restraint for this, too.
- Carefully follow the instructions that come with the restraint. If you install the restraint improperly, it may not work when you need it.
- Buckle the child into the restraint exactly as the manufacturer's instructions have directed.

How to Maintain Your Seat Belts and Restraint System

Periodically examine your restraint equipment to be sure it functions correctly and to be sure there are no worn or broken components that either needs repair or replacement. Damaged parts must be replaced immediately. Do not disassemble or modify the system.

WARNING

A frayed or torn belt could rip apart in a collision and leave you with no protection. Inspect the belt system periodically, checking for cuts, frays, or loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the system. Seat belt assemblies must be replaced after an accident if they have been damaged (bent retractor, torn webbing, etc.)

Restraint equipment must be replaced after an accident if they have been damaged. If there is any question regarding belt or retractor condition, replace the belt. It is a good idea to have your restraint system inspected during each periodic scheduled maintenance session. If the belts need cleaning, use a mild soap solution or lukewarm water. Do not remove the belts from the vehicle to wash them.

WARNING

Do not bleach, dye or clean the belts with chemical solvents or abrasive cleaners. This may severely weaken the fabric. In a crash, they might not be able to provide adequate protection.

Fire Safety

This article provides information about the smoke detectors and fire extinguishers installed in the coach.

The possibility of fire exists in all areas of life, and the recreational lifestyle is no exception. Recreational vehicles are complex machines made up of many materials, some of which are flammable.

Like most hazards, the possibility of fire can be minimized, if not totally eliminated by recognizing the danger and practicing common sense safety and maintenance habits. For safety reasons, your unit is furnished with both a fire extinguisher and a smoke alarm.

DANGER

If a fire occurs in the vehicle, evacuate the vehicle as quickly and as safely as possible. Consider the cause and the severity of the fire and the risk involved before trying to extinguish it. If the fire is major or fuel fed, move away from and stand clear of the vehicle and wait for emergency assistance to arrive.

WARNING

Portable fuel-burning equipment, including wood and charcoal grills and stoves, shall not be used inside the coach, as they can cause fire or asphyxiation. Failure to comply could result in serious injury or death.

Smoke Detectors

The smoke detector installed in your coach is operated on a 9 volt battery. The smoke detector is mounted on the ceiling in the living area of the unit.

Read the operating instructions for details on the testing and care for this important safety device.

WARNING

Test the smoke detector after the unit has been in storage, before each trip, and at least once a week during use. Failure to do so can result in death or serious injury.

Check your smoke detector for the manufacturer's expiration date. The battery needs to be tested periodically and replaced once a year and/or when the low battery signal sounds.

When cleaning the case on any of the detectors, use a damp cloth or paper towel. Do not spray cleaners or wax directly into the case as it may cause false alarms.

WARNING

Test smoke alarm operation after vehicle has been in storage, before each trip, and at least once per week during use. Failure to do so can result in death or serious injury.

AVERTISSEMENT

Vérifier l'avertisseur de fumée si le véhicule a été entreposé, avant chaque déplacement et au moins une fois par semaine en service. L'absence de vérification peut entraîner des blessures graves ou la mort.

DD-94

⚠ IMPORTANT

The detector should never be disabled because of nuisance or false alarm from cooking smoke or a dusty furnace. Ventilate the unit with fresh air and the alarm will shut off. Never disconnect or remove the battery from the smoke alarm.

Fire Extinguishers

The fire extinguisher is rated for Class B (grease, gasoline, diesel fuel, flammable liquids) and Class C (electrical) fires. These are the most common types of fires in vehicles. Fire extinguishers are mechanical, pressurized devices. Care must be exercised when they are handled.

The extinguisher should be inspected at least once a month. More frequent inspections may be required if the extinguisher is exposed to the weather or to possible tampering. Do not test the extinguisher by partially discharging, as it will cause a loss of pressure. Your fire extinguisher must be maintained as the operator's manual instructs for proper and safe operation.

Read the operator's manual and the instructions on the fire extinguisher. Be sure to know how and when to use the extinguisher and where it is located.

⚠ DANGER

Failure to comply could result in an increased risk of fire, explosion, asphyxiation, serious injury, or death.

BRK Smoke Detector Quick Start (Model: FG250RV)

This article provides basic operation instructions for a BRK smoke detector (Model: FG250RV).

If the Smoke Alarm Sounds

During an alarm, you will hear a loud, repeating horn pattern: 3 beeps, pause, 3 beeps, pause; and the Red LED will flash rapidly.

⚠ WARNING

If the unit alarms and you are not testing the unit, it is warning you of a potentially dangerous situation that requires your immediate attention. NEVER ignore any alarm. Ignoring the alarm may result in injury or death.

⚠ WARNING

Never remove the batteries from a battery operated Smoke Alarm to stop an unwanted alarm (caused by cooking smoke, etc.). Removing batteries disables the alarm so it cannot sense smoke, and removes your protection. Instead open a window or fan the smoke away from the unit. The alarm will reset automatically.

⚠ WARNING

If the unit alarms get everyone out of the house immediately.

Weekly Testing

It is important to test this unit every week to make sure it is working properly. Using the test button is the recommended way to test this Smoke Alarm. Press and hold the test button on the cover of the unit until the alarm sounds (the unit may continue to alarm for a few seconds after you release the button). If it does not alarm, make sure the unit is receiving power and test it again. If it still does not alarm, replace it immediately. During testing you will hear a loud, repeating horn pattern: 3 beeps, pause, 3 beeps, pause; and the Red LED will flash rapidly.

⚠ WARNING

Never use an open flame of any kind to test this unit. You might accidentally damage or set fire to the unit or to your home. The built-in test switch accurately tests the unit's operation as required by Underwriters Laboratories, Inc. (UL).

⚠ WARNING

If the alarm ever fails to test properly, replace it immediately.

⚠ CAUTION

Do not stand close to the alarm when the horn is sounding. Exposure at close range may be harmful to your hearing. When testing, step away when horn starts sounding.

Regular Maintenance

This unit has been designed to be as maintenance free as possible, but there are a few simple things you must do to keep it working properly.

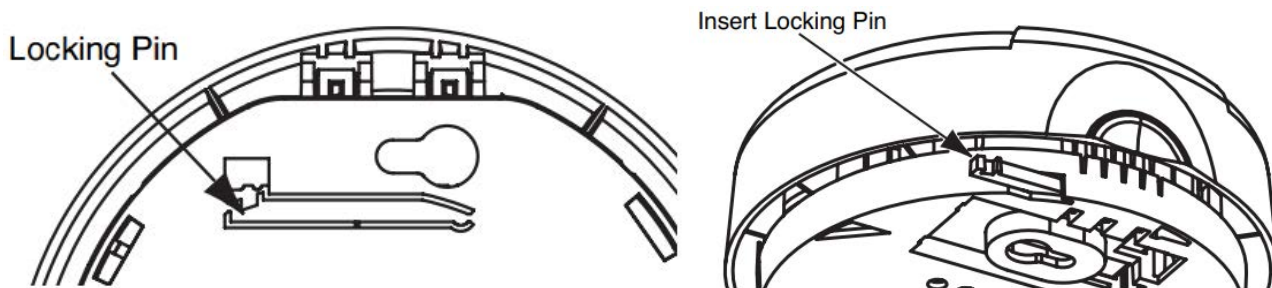
- Test it at least once a week.
- Clean the Smoke Alarm at least once a month; gently vacuum the outside of the Smoke Alarm using your household vacuum's soft brush attachment. Test the Smoke Alarm. Never use water, cleaners or solvents since they may damage the unit.
- If the Smoke Alarm becomes contaminated by excessive dirt, dust and/or grime, and cannot be cleaned to avoid unwanted alarms, replace the unit immediately.
- Relocate the unit if it sounds frequent unwanted alarms. See "Locations to Avoid for Smoke Alarms" for details.
- When the battery becomes weak, the Smoke Alarm unit will "chirp" about once a minute (the low battery warning). This low battery warning should last 7 days, but you should replace the battery immediately to continue your protection. Note: If locking pin is engaged see "Locking Feature" section for unlocking instructions.

Replacing the Battery

Your Smoke Alarm requires one standard 9V battery. The following batteries are acceptable as replacements: Duracell #MN1604, Eveready (Energizer) #522. You may also use a Lithium battery like the Ultralife U9VL-J, U9VL-J-P for longer service life between battery changes. These batteries are available at many local retail stores.

To lock/unlock the cover to the base:

1. Using needle-nose pliers or a utility knife, detach locking pin from back of alarm base.
2. Insert locking pin into the slot located on the front of the alarm as shown in the diagram.
3. Remove pin to unlock and replace battery.



Source(s): BRK Battery Powered Smoke Alarm User's Manual

Product(s): BRK Electronics Smoke Detector ([Model: FG250RV, Newmar Part Number: 119606](#))

Kidde 10 lbs. Fire Extinguisher UL Quick Start (Model: K2D82-110AC)

This article provides basic operation instructions for a Kidde fire extinguisher.

How to Use Fire Extinguishers

Stand 5 feet away from the fire and follow the four-step PASS procedure recommended by the National Fire Protection Association:

- P - Pull the pin and hold the extinguisher with the nozzle pointing away from you.
- A - Aim low at the base of the fire.
- S - Squeeze the lever slowly and evenly to discharge the extinguishing agent. When the agent first hits the fire, the fire may briefly flare up. This should be expected.
- S - Sweep the nozzle from side to side, moving carefully toward the fire. Keep the extinguisher aimed at the base of the fire.



When to Use Fire Extinguishers

It's important to remember that fire extinguishers are only one element of a complete fire survival plan. Only use your extinguisher after making sure:

- All residents of the home have been evacuated to safety
- The fire department has been notified
- There is a clear exit behind the person using the extinguisher

Use your extinguisher only to keep a small self-contained fire from growing, only when the room is not filled with smoke, or to create a safe pathway out of the home. Be sure to read the instructions and become familiar with your fire extinguisher's parts and operation before a fire breaks out.

Source(s): Kidde Fire Extinguisher Owner's Manual

Carbon Monoxide Safety

This article provides information about the safe use of carbon monoxide-producing coach components.

Carbon Monoxide Poisoning

Carbon monoxide is a colorless, tasteless, odorless gas. It is a by-product of the burning of fossil fuels (gasoline, propane gas, diesel fuel, etc.). The chassis and generator engines, furnaces, water heater, propane gas refrigerator, and range produce carbon monoxide constantly while they are operating.

DANGER

Carbon monoxide is deadly. Read and understand the following precautions, as well as any warning labels in your coach, to protect yourself and others from the effects of carbon monoxide poisoning.

DANGER

Vehicles and equipment powered by internal combustion engines and placed in recreational vehicles can cause carbon monoxide poisoning or asphyxiation, which could result in death or serious injury. The flammable liquids used to power these items can cause a fire or explosion, which can result in death or serious injury.

To reduce risk:

1. **Do not ride in the vehicle storage area when vehicles are present.**
2. **Do not sleep in the vehicle storage area when vehicles are present.**
3. **Close doors and windows in walls of separation (if installed) when any vehicle is present.**
4. **Run fuel out of engines of stored vehicles after shutting off fuel at the tank.**
5. **Do not store, transport, or dispense fuel inside this vehicle.**
6. **Open the windows, openings, or air ventilation systems provided for venting the transportation area when vehicles are present.**
7. **Do not operate propane appliances, pilot lights, or electrical equipment when motorized vehicles are present.**

If you, or anyone else, experience any of the following carbon monoxide poisoning symptoms, exit the coach immediately. Seek medical attention if the symptoms persist. Shut down the coach, and do not operate it until it has been thoroughly inspected and repaired. Symptoms include dizziness, nausea, vomiting, muscular twitching, throbbing in the temples, inability to think coherently, weakness and/or sleepiness, and/or intense headaches.

WARNING

Do not block the tailpipes or exhaust ports. Do not situate the vehicle in a place where the exhaust gases have any possibility of accumulating either outside, underneath, or inside your vehicle or any nearby vehicles. Outside air movements can carry exhaust gases inside the vehicle through windows or other openings remote from the exhaust outlet. Operate engines, carbon monoxide-producing systems, or components only when safe dispersion of exhaust gases can be assured. Monitor outside conditions to be sure that exhaust continues to be dispersed safely.

Carbon Monoxide (CO) Detectors

The detector is equipped with a "sensor activation strip," which must be removed for the detector to operate properly. This should have been done during the dealer's Pre-Delivery Inspection. Please check the detector to verify that the activation strip has been removed. The CO detectors are self-contained and do not require any maintenance other than normal cleaning and dusting.

Install battery or batteries into the battery holder, and observe the polarity. After approximately 30 seconds, the battery-operated detector will begin monitoring for carbon monoxide, making the device operational. The test/reset button is used to test the detector's electronics and reset the detector after an alarm. Test the detector weekly.

⚠ WARNING

Under no circumstance should you operate any engine while sleeping. When you are sleeping, you are not able to monitor outside conditions to ensure that engine exhaust does not enter the coach. Check the exhaust system frequently for damage. If damage is found, do not operate the system. Never modify the exhaust system(s) in any way.

BRK First Alert Carbon Monoxide Alarm Quick Start (Model: CO250RVA)

This article provides basic operation instructions for a BRK (First Alert) carbon monoxide alarm (Model: CO250RVA).

How Your CO Alarm Works

A CO Alarm measures the CO levels in the air. It will alarm if CO levels rise quickly (if the heat exchanger on your furnace breaks, for example), or if CO is consistently present (a slow CO leak on a fuel-burning appliance).

This Carbon Monoxide alarm features a permanently installed sensor and an 85 dB alarm horn. It also has a silence feature to temporarily quiet the alarm horn.



Understanding Your CO Alarm

Welcome Chirp	Horn chirps and light blinks once when batteries are first connected.
Alarm Receiving Battery Power	Light flashes every minute. Horn is silent.
Low Battery Warning	The light continues to flash (RED) and the horn also "chirps" once every minute. This warning should last for up to 30 days, but you should replace the batteries as soon as possible.
During Testing	Light flashes RED with the horn pattern (4 beeps, pause, 4 beeps), simulating a CO Alarm condition.
CO Alarm	Sensor has detected enough CO to trigger an alarm. Light flashes rapidly and horn sounds loudly (repeating 4 beeps, pause). During an alarm, move everyone to a source of fresh air. DO NOT move the CO Alarm!
CO Alarm Requires Service (Malfunction Signal)	The light flashes (RED) and the horn sounds 3 "chirps" every minute. CO Alarm needs to be replaced.
CO Alarm Has Reached End of Life	The light flashes (RED) and the horn sounds 3 "chirps" every minute. CO Alarm needs to be replaced.

If the CO Alarm Sounds

⚠ WARNING

Actuation of your CO Alarm indicates the presence of carbon monoxide (CO) which can kill you. In other words, when your CO Alarm sounds, you must not ignore it!

If the Alarm Signal Sounds

1. If you hear the alarm horn and the Red light is flashing, move everyone to a source of fresh air. DO NOT disconnect the battery from the CO Alarm! Do a head count to check that all persons are accounted for. Do not re-enter the premises, or move away from the open door or window until the emergency services responder has arrived, the premises have been aired out, and your CO Alarm remains in its normal condition.
2. Call your emergency services, fire department or 911.
3. After following steps 1-2, if your CO Alarm reactivates within a 24-hour period, repeat steps 1-2 and call a qualified appliance technician to investigate for sources of CO from fuel-burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection have the equipment serviced immediately.

Using the Silence Feature

WARNING

The Silence Feature is for your convenience only and will not correct a CO problem. Always check your home for a potential problem after any alarm. Failure to do so can result in injury or death.

WARNING

NEVER remove the batteries from your CO Alarm to silence the horn. Use the silence feature. Removing the batteries removes your protection!

The Silence Feature is intended to temporarily silence your CO Alarm's alarm horn while you correct the problem—it will not correct a CO problem. While the alarm is silenced it will continue to monitor the air for CO.

When CO reaches alarm levels the alarm will sound—repeating horn pattern: 4 beeps, a pause, 4 beeps, etc. Press and hold the Test/Silence button until the horn is silent. The initial Silence cycle will last approximately 4 minutes.

NOTE: After initial 4-minute Silence cycle, the CO Alarm re-evaluates present CO levels and responds accordingly. If CO levels remain potentially dangerous—or start rising higher—the horn will start sounding again.

When the detector is silenced:

- IF the CO alarm is silent for only 4 minutes, then starts sounding loudly - 4 beeps, pause, 4 beeps, pause... THEN the CO levels are still potentially dangerous.
- IF the CO alarm remains silent after you pressed the Test/Silence button... THEN the CO levels are dropping.

Silencing the Low Battery Warning

This silence feature can temporarily quiet the low battery warning “chirp” for up to 8 hours. You can silence the low battery warning “chirp” by pressing the Test/Silence button. The horn will chirp, acknowledging that the low battery silence feature has been activated.

After 8 hours, the low battery “chirp” will resume. Replace the battery as soon as possible; this unit will not operate without battery power!

To deactivate this feature: Press the Test/Silence button again. The unit will go into Test Mode and the low battery warning will resume (LED flashes and unit sounds “chirp” once a minute.)

If you cannot silence the low battery warning, replace the battery immediately.

Silencing the End of Life Signal

This silence feature can temporarily quiet the End of Life warning “chirp” for up to 2 days. You can silence the End of Life warning “chirp” by pressing the Test/Silence button. The horn will chirp, acknowledging that the End of Life silence feature has been activated.

- After approximately 2 days, the End of Life “chirp” will resume.
- After approximately 2-3 weeks the End of Life warning cannot be silenced.

Testing and Maintenance

Weekly Testing

WARNING

Test the CO Alarm once a week. If the CO Alarm ever fails to test correctly, have it replaced immediately! If the CO Alarm is not working properly, it cannot alert you to a problem.

WARNING

Do NOT stand close to the Alarm when the horn is sounding. Exposure at close range may be harmful to your hearing. When testing, step away when horn starts sounding.

Push and hold the Test/Silence button on the cover until the LED flashes. The alarm horn will sound 4 beeps, a pause, then 4 beeps. The ALARM (RED) light will flash.

The alarm sequence should last 5-6 seconds. If it does not alarm, make sure fresh batteries are correctly installed, and test it again. If the unit still does not alarm, replace it immediately.

If the alarm does not test properly:

1. Make sure the battery is installed correctly.
2. Be sure the Alarm is clean and dust-free.
3. Install a fresh 9V battery and test the Alarm again.

WARNING

DO NOT try fixing the Alarm yourself - this will void your warranty! Install a new CO Alarm immediately.

WARNING

The Test/Silence button is the only proper way to test the CO Alarm. NEVER use vehicle exhaust! Exhaust may cause permanent damage and voids your warranty.

Regular Maintenance

To keep the CO Alarm in good working order:

- Test it every week using the Test/Silence button.
- Vacuum the CO Alarm cover once a month, using the soft brush attachment. Never use water, cleaners, or solvents, since these may damage the unit. Test the CO Alarm again after vacuuming.
- Replace the batteries when the CO Alarm “chirps” about every minute (the low battery warning). The low battery warning should last for 30 days, but you should replace the battery immediately to continue your protection.

Choosing a replacement battery:

This CO Alarm requires one 9V alkaline battery. The following batteries are acceptable as replacements: Alkaline Batteries — Duracell MN1604 or Energizer 522; Lithium Batteries — Ultralife U9VL-J. These replacement batteries are commonly available at local retail stores.

WARNING

Always use the exact batteries specified by this User’s Manual. DO NOT use rechargeable batteries. For products requiring multiple batteries, replace all batteries of a set at the same time. Do Not Mix Old and New Batteries. Clean the battery contacts and also those of the device prior to battery installation. Install batteries correctly with regard to polarity (+ and -).

WARNING

Please dispose of or recycle used batteries properly, following any local regulations. Consult your local waste management authority or recycling organization to find an electronics recycling facility in your area. DO NOT DISPOSE OF BATTERIES IN FIRE. BATTERIES MAY EXPLODE OR LEAK.

Source(s): BRK Battery Powered Carbon Monoxide Alarm (CO250RVA-48B) User's Manual

Product(s): BRK Electronics Carbon Monoxide Alarm ([Model: CO250RVA, Newmar Part Number: 125654](#))

Propane Safety

This article provides details about the propane fuel system in a Newmar coach, including propane safety and maintenance.

Propane System Overview

Your coach may be equipped with an ASME (American Society of Mechanical Engineers) approved propane tank. This tank is controlled with an automatic pressure regulator. The propane tank contains liquid petroleum gas under high pressure. As the fuel is used, the liquid gas vaporizes and passes through the tank valve to a regulator that automatically reduces the pressure. The low-pressure gas is then distributed to the appliances throughout the pipe manifold system.

The components relating to the propane gas system in your coach have been approved for use in recreational vehicles by a nationally recognized testing laboratory. Propane gas is a clean-burning dependable fuel when properly handled.

IMPORTANT

While in high altitudes or extreme cold weather, a gas shortage may be experienced. Running one appliance at a time can help adjust to this problem.

DANGER

Exhaust gases contain carbon monoxide (an odorless, colorless, and poisonous gas) produced by burned gasoline, diesel, or propane gas. Items such as the range, furnace, water heater, refrigerator, chassis engine, or generator engine can produce these gases. These fumes should not be inhaled.

Propane (LP) Detector

The propane detector in your coach is located in the main living area close to the floor. It is wired to the 12 volt electrical system in your unit and may be controlled by a switch in the front overhead cabinet. Operating instructions and a test button are located on the face of the detector. The propane detector should be tested after the vehicle has been in storage, before each trip, and at least once per week during use.

Never attempt to repair the propane detector. Do not remove the fuse or disconnect wiring to the propane detector. If the propane detector will not function, check for 12 volt power at the detector. If an issue is found, or if the 12 volt electric circuit not operational, repair the 12 volt issue or replace the propane detector.

WARNING

Do not use the coach with a non-operational LP detector.

IMPORTANT

Never spray any type of aerosol or cleaner directly onto or into the propane detector. Spraying any type of material into the opening on any of these detectors can render them useless, and would not be covered by the manufacturer's warranty.

Refer to Newgle for more information about your coach's propane (LP) gas detector.

Propane Warning Labels

IMPORTANT

Read and understand the following precautions, as well as any warning labels in your coach, to protect yourself and others from the risks of operating an LP system.

If You Smell Propane or Suspect a Gas Leak

If the detector alarms while in use, or if you smell propane or suspect a gas leak (the odor smells similar to rotten eggs or sulfur), follow the warning labels in your coach.

DANGER

Never test for a leak by lighting a match or having an open flame where you suspect leaking gas.

DANGER

Ignition of flammable vapors could lead to a fire or explosion and result in death or serious injury. If you smell propane:

- Extinguish any open flames and all smoking materials.
- Shut off the propane supply at the container valve(s) or propane supply connection.
- Do not touch electrical switches.
- Open doors and other ventilating openings.
- Leave the area until the odor clears.
- Have the propane system checked and leakage source corrected before using again.

Propane Operation

⚠ DANGER

Do not use gas cooking appliances for comfort heating. Can lead to carbon monoxide poisoning, which can lead to death or serious injury.

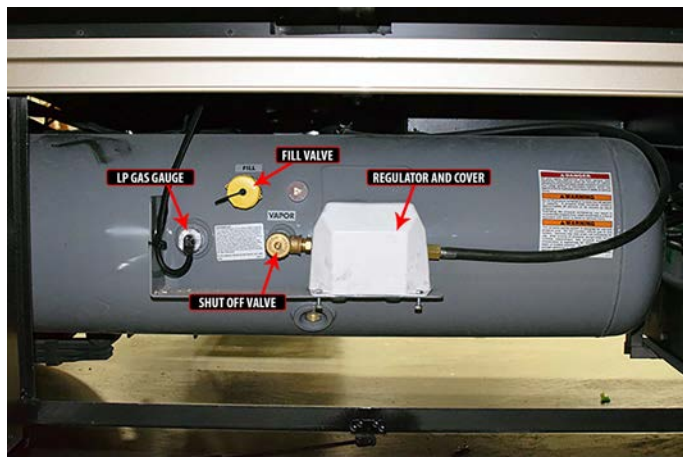
⚠ WARNING

Gas cooking appliances need fresh air for safe operation. Before operating:

- Open vents or windows slightly or turn on exhaust fan prior to using cooking appliance.
- Gas flames consume oxygen, which should be replaced to ensure proper combustion.
- Improper use can result in death or serious injury.

Check the LP level either from the monitor panel in the coach or the gauge on the LP tank to ensure an adequate fuel level. Make sure the LP valve is open. To open it, turn the valve counterclockwise.

When having the tank filled, or if the coach is in storage, or if LP is not currently needed, turn off the gas at the LP tank by turning the valve clockwise. The tank fill valve and the 80% bleeder valve should not be tampered with by the user. These valves are for filling purposes and should only be performed at a licensed filling station.



Propane System Maintenance

It is recommended to have the propane system inspected by an authorized service technician at least once a year and after every extended trip. This system is tested by both the manufacturer and the dealer; however, leaks may be caused by travel vibrations.

Filling the Propane System

Tank filling should only be performed by trained professionals. Prior to filling the propane tank, turn off all flame or spark-producing appliances, extinguish any smoking items, and turn off the coach engine.

⚠ WARNING

Inspect the propane fill valve for foreign materials before refueling. Introducing foreign material into the fill valve may cause leaking or overfilling, resulting in uncontrolled gas flow and a fire or explosion.

⚠ WARNING

While refilling the fuel or propane tank, the engine must be off, all pilot lights must be extinguished, and appliances turned off. The vehicle should be as level as possible, and the service valve should be turned off. Smoking is also prohibited at this time.

⚠ WARNING

Shut off the propane gas valve when refueling to avoid potential danger from pilot lights igniting fuel fumes. Some appliances, such as the refrigerator, water heater, and furnace, have DSI (direct spark ignition) boards, so it is important that you turn the appliances off when the propane gas is turned off. The ignition in the appliances may continue to spark even if there is no propane gas available.

⚠ IMPORTANT

All protective covers and caps must be replaced after filling the propane system. Once the valve is closed, securely latch the propane door.

⚠ WARNING

Propane gas is extremely flammable. Propane gas containers, gasoline, or other flammable liquids shall not be placed or stored inside the vehicle. Propane cylinders are equipped with safety devices that relieve excessive pressure by discharging propane to the atmosphere. Failure to comply could result in serious injury or death.

⚠ WARNING

Do not fill propane container(s) to more than 80 percent capacity. Overfilling the propane container can result in uncontrolled propane flow, which can cause fire or explosion. A properly filled container contains approximately 80 percent of its volume as liquid propane. Failure to comply could result in serious injury or death.

⚠ WARNING

This propane piping system is designed for use with propane only. Do not connect natural gas to this system. Securely cap inlet when not connected for use. After turning on propane, except after normal cylinder replacement, test propane piping and connections to appliances for leakage with soapy water or bubble solution. Do not use product that contain ammonia or chlorine to test for leaks. May lead to a fire or explosion, which could result in death or serious injury.

⚠ WARNING

When removing or servicing any gas appliance, close the main gas valve on the propane tank before disconnecting the appliance to prevent dangerous gas leakage that could result in an explosion and possible serious injury. If a gas leak is suspected, have the system inspected and repaired by a qualified service technician as soon as possible.

Storing a Propane-Equipped Coach

Keep the tank valve closed and all of the appliances turned off when the unit is stored. If any of the Propane gas valves do not close leak-tight by hand, consult a service technician.

On older coaches, an LP switch may be located in the front overhead or toward the bottom of the passenger chair. This switch shuts off power to the propane detector to prevent an unnecessary draw from the battery bank while the coach is in storage.

Newer coaches are wired to the disconnect side of the battery disconnect solenoid to prevent the detector from draining the battery while the coach is in storage with the disconnect turned off. Keep this switch turned on when the coach is in use for the capability of detecting a leak in the propane system.

⚠ CAUTION

Shut off the main gas valve at the tank when the vehicle is not in use.

Servicing the Gas Distribution Lines

The primary gas supply manifold is a black steel pipe running the length of the unit. Most secondary lines leading to the gas appliances are made of copper tubing with flare fittings.

⚠ WARNING

If any of these lines rupture, do not attempt to splice them. Always run a new line. Gas distribution work must be performed by an authorized service technician.

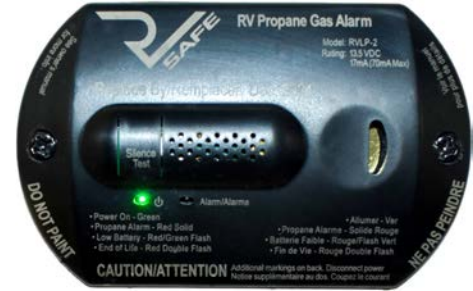
RV Safe 12 Volt Propane Leak Detector Quick Start (Model: RVLP-2B)

This article provides basic operation instructions for a RV Safe 12 Volt Propane Leak Detector (Model: RVLP-2B).

Understanding the Dangers of Propane Gas

Liquified petroleum (LP) gas is commonly called propane and is used as fuel for heating and cooking appliances, especially for RV's. Propane gas is explosive at the lower-explosive-limit (LEL), which is 21,000 parts per million (ppm). RV Safe will alarm at 10% LEL, or 2,100 ppm.

Propane gas is denser than air, and will usually accumulate close to the floor. Therefore, RV Safe should be placed near the floor in order to quickly detect propane gas leaks.



Alarm Features and Functions

RV Safe includes an 85dB audible horn, two LEDs, and a Silence/Test button. The chart below summarizes the alarm outputs in each state.

State	Green LED	Red LED	Audible Horn
Normal Operation	ON	OFF	OFF
Power Off	OFF	OFF	OFF
Self Test	OFF	ON/Flashing	4 Chirps constant beeps
Propane Alarm	OFF	ON	Constant beeps
Alarm Silenced (5 Minutes Max.)	OFF	Flash each second	OFF
Low Battery	Flash each minute	Flash each minute	Chirp each minute
End-of-Life or Other Failure	OFF	Double flash each minute	Chirp each minute

Normal Operation State

The green power LED is ON when the alarm is functioning normally and no CO or propane gas is present. Press the Silence/Test button to perform a self test and enter the Test State. Note: Supply current will remain higher for 30 seconds after power-up. Alarm will not detect CO or Propane for the first 30 seconds and will draw extra current.

Power Off State

If no LEDs are on, then the alarm is powered off. Apply power to the alarm to resume normal operation.

Self Test State

If the Silence/Test button is pressed while in normal operation, the alarm will perform a self test of the CO sensor, propane sensor and battery voltage. It is recommended to perform a self test weekly, after power up from storage, and before each trip. If the self test passes, the alarm will perform 2 cycles of the CO horn pattern (4 rapid chirps followed by a 4 second pause), followed by 2 cycles of the propane horn pattern (constantly beeping).

Propane Alarm State

If propane gas exceeds 10% of the lower-explosive-limit for more than 30 seconds, the alarm will enter propane alarm state. The horn will sound with constant beeps and the red LED will be on. Immediately turn off all propane appliances and gas valve at the propane tanks. Open doors and windows to properly ventilate the RV. Check for any gas leaks and contact a qualified RV technician to diagnose possible propane leaks. The alarm may be silence for 5 minutes by pressing the Silence/Test button.

Alarm Silence State

A CO alarm or propane alarm can be silenced for up to 5 minutes by pressing the Silence/Test button. The red LED will flash each second while the alarm is silenced. The original alarm state will resume after 5 minutes if the CO or propane levels still exceed safe levels.

Low Battery State

If the supply voltage drops below 8VDC, the alarm will enter Low Battery State. The horn will chirp every minute and both LEDs will flash every minute. Alarm performance cannot be guaranteed as the supply voltage drops below the low battery threshold. Charge or replace the RV battery immediately. Do NOT disconnect the alarm.

End-of-Life or other Failure State

If the CO or propane alarm fails a self test, or if the End-of-Life is reached (after 5 years of operation), the alarm will enter the Failure State. The horn will chirp every minute and both LEDs will do a double flash every minute. Replace the alarm immediately.

Maintaining Your Alarm

- Verify proper alarm function by pressing the Silence/Test button after storage, before every use and once per week during extended use.
- Vacuum the alarm with a soft brush attachment to remove dust monthly.

Source(s): RV Safe Propane Gas Alarm (RVLP-2 and RVLP-3) for RVs Owner's Manual

Product(s): RV Safe Alarm 12V Propane Detector ([Model: RVLP-2B, Newmar Part Number: 152865](#))

EMERGENCY EXITS

Hehr/LCI Emergency Exit and Vent Window Operation

This article provides instructions for opening and closing Hehr/LCI emergency exit and vent windows.

Hehr/LCI Egress Emergency Exit Window

Select Hehr windows have an opening window pane in the egress window for ventilation. This style of window can also be opened in the event of an emergency.

To open the vent: Unclip and lower the arm. Swing the arm 90 degrees, and push out on the arm until the red handle latches.

To close the vent: Unclip the red handle from the latch by lifting slightly while pushing outward. Once the latch releases, pull the arm in until the window is closed. Rotate the arm 90 degrees until it latches into the closed position.

In the event of an emergency, open the window: Remove the screen by pulling out on the red handle. Push and release the lever from the locking hook. Rotate the lever 90 degrees, and push it through the slot in the window frame. Escape through the opening.



Hehr/LCI Double-Latched Emergency Exit Window

To open the emergency exit double-latched window: Flip both latches up to the open position. Push out on the window.

To close the emergency exit double-latched window: Pull the window shut while holding the window track with one hand. With the other hand, rotate the latch up until it connects with the track on the window. Press the front side down until it latches. Repeat the steps for the second latch.



Emergency Egress Exit Door and Ladder Operation

This article provides the Newmar-recommended step-by-step instructions for operating the emergency exit door and ladder.

⚠ NOTICE

The emergency egress exit door and ladder is a feature only installed on select coach models and floor plans.

To use the emergency egress exit door:

1. Unlock the deadbolt by turning it in the direction specified on the label.
2. Make sure the door latch is unlocked.
3. Unlatch and completely open the door to avoid coach damage during ladder extension.
4. Grab and pull the tab to remove the ladder cover, and set it aside.
5. Grab and pull the tab on the Velcro strap to release the ladder.
6. Flip the ladder out, allowing it to extend to the ground.



To close the emergency exit door:

1. Lift the ladder from the bottom, stacking the rungs and pushing the ladder up into the door cavity.
2. Secure it in place with the Velcro strap.
3. Reinstall the ladder cover.
4. Close and latch the door.
5. Lock the door latch by sliding it into the locked position.
6. Lock the deadbolt by turning it in the direction specified on the label.



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APPLIANCES

This chapter provides information regarding each appliance available for your coach model and year, including cooktops and ranges, dishwashers, fireplaces, microwaves and convection ovens, refrigerators and freezers, central vacuum systems, and washers and dryers.

⚠ IMPORTANT

Any of the following quick start instructions should not take the place of the complete documentation provided by the product manufacturer and/or Newmar. Additional operating instructions, troubleshooting, care and maintenance, safety information, etc. may be available in Newgle for specific components. Read all literature provided, paying special attention to any references to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

Before Scheduling Service Work for Your Appliance

This article provides helpful tips to follow prior to scheduling service work for your coach appliances.

⚠ IMPORTANT

Most appliance manufacturers (i.e. Whirlpool, GE, Maytag, Samsung, Fisher Paykel) require that service work performed on their appliances be completed by one of their own authorized service technicians. However, most appliance service technicians will not remove any appliance from its secured location if it is installed inside an RV. Instead, most require the appliance to be removed from its secured location prior to completing any service work.

Complete the following steps prior to scheduling any appliance servicing, repairs, or replacement, as this requires the coordination of multiple parties to complete the repair.



⚠ NOTICE

It is recommended that you contact the appliance manufacturer right away so they can note the account/issue. They may also assist with locating an authorized service technician near your location.

To service an appliance in your coach, select one of the following options:

Option 1

1. Take the coach to your dealer, who can coordinate an appointment with a local manufacturer-specific appliance service technician to come on-site to make the repair.
2. In the meantime, one of the dealer technicians will remove the appliance from its mounted position so that the manufacturer-specific technician can service it.
3. Once repairs are complete on the appliance, the dealer technician will reinstall the appliance in its mounted position.

Option 2

1. Set an appointment with a local manufacturer-specific service technician.
2. Contact a local mobile technician to come to your location to remove the appliance prior to the appointment with a manufacturer-specific appliance technician.
3. Once the mobile technician has removed the appliance, the manufacturer-specific technician can then service the appliance.
4. After repairs are made, contact the mobile technician to come back to the coach and reinstall the appliance.

Option 3

1. Set an appointment with a local manufacturer-specific appliance service technician.
2. Remove your own appliance from its mounted position. Some instructions may be obtained on Newgle or by contacting Newmar Customer Service at 1-800-731-8300 (**select the appropriate menu option**).
3. Once the manufacturer-specific technician has serviced the appliance, reinstall it by reversing the procedure for removing it from its mounted position.

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COOKTOPS AND RANGES

Single or Double Solid Surface Cooktop Cover Overview

This article provides an overview of the solid surface cover for the range or cooktop. This cover may be made up of one or two solid surface pieces.

Your range may be equipped with a solid surface cover that matches your countertop material. This cover helps to protect the burners when they are not in use. Before cooking on the range top, the cover must be removed and stored during cooking. Some coaches with an induction cooktop may have a solid surface cover with a built-in cutting board.

IMPORTANT

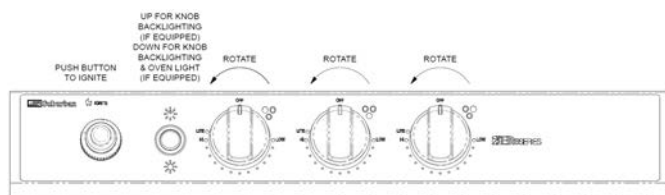
Never close the cover while the burners are in use. Never use the range while the RV is moving and remember to reinstall the solid surface cover when the range top is cool and not in use.



Suburban 3-Burner Propane Elite Series Slide-In Cooktop with Backlighting Quick Start (Models: 3634A, 3636A, 3684A, 3685A)

This article provides basic operation instructions for a Suburban 3-Burner Propane Elite Series Slide-In Cooktop with Backlighting (Models: 3634A, 3636A, 3684A, 3685A).

Operating Instructions



WARNING

Do not use surface burners with cover in closed position.

Top Burners

1. Know which knob controls which burner. Always be sure the correct burner is turned on.
2. Depress knob and turn fully counter-clockwise to "Lite" position.
 1. Verify sufficient gas supply before attempting to light the burner. Air in the gas line will significantly delay burner ignition. The burner may light unexpectedly as the air in the line clears and is replaced by propane gas. This unexpected ignition could burn you. Air in the gas lines may occur after the vehicle gas bottle and/or tank is refilled, during and after servicing other appliances on same gas line, etc.
 2. Do not attempt to light more than one burner at a time.

CAUTION

Hand held ignitors may be used but be sure they are the type designed for lighting open flame burners.

If your model ends with "EC", the burner can be lit by rotating piezo knob clockwise rapidly. This produces a spark at the burner which ignites the gas. If your model ends with "SC," the burners can be lit by depressing the button. This produces a spark at the burner which ignites the gas.

3. If any burner should extinguish after initial lighting or due to accidental blow-out, turn gas off by turning control knob clockwise to "OFF", wait five (5) minutes before attempting to relight the burner. Failure to follow these instructions could result in a fire or explosion.

If the burner should go out while cooking, or if there is an odor of gas, turn control knob(s) clockwise to "OFF." Wait five (5) minutes for gas odor to disappear. If gas odor is still present - do not relight burners.

4. To turn burner(s) "OFF," turn the appropriate control knob clockwise to "OFF."

⚠ WARNING

Be sure all control knobs are turned "OFF" when you are not cooking. Someone could be burned or a fire could start if a burner is accidentally left on or unattended even if only momentarily.

Light Operation

1. To operate the blue knob backlighting only, press the switch to the up position.
2. To operate the blue knob backlighting and oven cavity light, press the switch to the down position.
3. To turn all lights off, return the switch to the center position.



NOTE FROM NEWMAR

If the burners fail to light due to no spark, unscrew the ignitor cap. Check and replace the battery as needed.

Maintenance

1. Make sure all controls are "OFF" and the range cooktop and oven are cool before cleaning.
2. Make sure that all cooktop surfaces, burner grates, and burners are cool before cleaning or disassembling cooktop.
3. Do not use oven cleaners, bleach, or rust removers on the cooktop or burner grates.
4. Clean all surfaces as soon as possible after boilovers or spillovers.
5. Use warm soapy water only to clean the burner grates, cooktops, painted surfaces, porcelain surfaces, stainless steel surfaces and plastic items on your range. Do not use grit or acid-type cleaners. Do not use cleaners with ammonia. Cleaners of these types are corrosive and could damage component parts in the range.
6. Do not use steel wool or abrasive cleaners. They will damage the cooktop and oven finish. Use only non-abrasive plastic scrubbing pads.
7. Do not allow foods containing acids (such as lemon or tomato juice, or vinegar) to remain on porcelain or painted surfaces. Acids may remove the glossy finish.
8. Do not wash warm porcelain surfaces. Allow these areas to cool before cleaning. You could burn yourself or the porcelain could crack.
9. Pitting and discoloration will result if spills are allowed to remain for any length of time on stainless steel.
10. Do not allow spillovers to remain on the burner caps. The caps could be permanently stained if spillovers are not cleaned up promptly.
11. If any of the burner ports or the orifice are clogged, carefully clean with a small wire or needle. Be sure not to enlarge ports. Never use a wire brush for cleaning burner ports or orifices. Never use any brush which may "shed" bristles, which may become lodged in the orifice or burner ports and cause a fire or explosion.

To Remove the Wire Grate and Main Top for Service and Cleaning

1. Remove the wire grate by raising straight up. Use caution not to dislodge the grommets in the top (one at each corner).
2. Grasp top in the center and raise front up approximately 3". If your unit has sealed burners, disconnect the piezo wire at each burner.
3. Slide top forward off the two spring clips at rear of top. Lift up top.

To Reinstall

1. Reconnect piezo wires to each burner if they were removed.
2. Align slots in rear flange of top with the tabs on the spring clips. Push top in and press front of top down until the spring clip snaps into place.
3. Reinstall wire grate by aligning the four (4) legs on the wire grate with the four (4) grommets in the top. Press wire grate down into each grommet, being careful not to dislodge the grommets.

Source(s): Suburban RV Range and Cooktops Installation, Operation, and Maintenance Manual (All SRN/SRS Models)

FIREPLACES

Greystone 26" Flat Electric Fireplace Quick Start (Model: F2655BCFW)

This article provides basic operation instructions for a Greystone 26" Flat Electric Fireplace (Model: F2655BCFW).

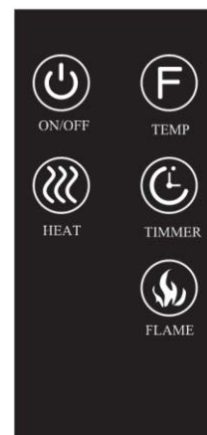
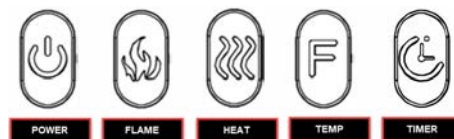
Operating Instructions

Ensure that all controls are in the "OFF" position before plugging the appliance in to a properly grounded electrical outlet.

Control Panel

Flame and heater can be presenting separately or at the same time. The fireplace control functions can be access in two ways:

1. Using the touch pad control panel, located on the upper right hand of the fireplace.
2. Using the multi-function remote control functions (same as control panel).



Power Button

Press the POWER button to turn on the unit. Press again to turn off the unit. As long as the unit is powered on, the log-set will be alight and all functions are access able.

Flame Button

Flame button controls the brightness of flame effect from the highest to lowest setting. There are five levels of the flame brightness.

- To change the flame color on manual button, hold down the flame button for 3 seconds. The coal bed flame will change from Yellow to Red.
- Hold down the flame button for 3 seconds again. The flame will change from Red to Blue.
- Hold down the flame button for 3 seconds again. The flame will change from Blue to Yellow and Blue.
- Hold down the flame button for a third time for 3 seconds. The flame color will come back to Yellow.

Heater Button

Press once to activate the low heat setting. Press the button a second time to activate the high heat setting. And a third time to activate the "Auto" function.

Temp Button

The highest temperature of thermostat is 82°F and the lowest is 62°F. Once the heater is activated, the display screen will display the heater setting in use.

Timer Button

Press once to activate the TIMER. Use the timer to have the unit turn off automatically after 1 hour, up to 8 hours. The display screen will display the setting shortly.

Zero Clearance Safety Technology

The electric fireplace has zero clearance safety technology. With the advanced zero clearance safety sensor, if there is something covering or closing the slide outs, after about 20 seconds, the appliance will switch off power automatically. Then pull the plug out and let the appliance cool down for three minutes. Plug the power cord in again and the fireplace will begin working again.

Maintenance

⚠ WARNING

Before attempting to perform any maintenance on this appliance, turn all controls to the "OFF" position and unplug. Allow the appliance to be "OFF" for at least 10 minutes before performing any maintenance in order to allow all components to cool properly.

Replacing Remote Control Battery

If the remote control stops functioning or operates poorly, the battery should be replaced with a new one (Mode # CR2025). The battery compartment can be found on the back side of the remote control. Press and slide the battery door to open and remove the old battery. Insert a new CR2025 coin battery, making sure that the polarity "+" and "-" matches properly. Close the battery door.

⚠ WARNING

Like any remote control unit, the remote control unit included with your fireplace may unwantedly affect or control other electric products such as TVs. If this occurs, refer to the complete fireplace owner's manual in Newgle for complete troubleshooting information.

Cleaning

- To remove dust from glass window, use clean dry cloth.
- To remove fingerprints or other marks from glass window, use clean damp cloth. Do not spray glass cleaner or other liquids directly onto the window.
- Clean metal surfaces with a clean damp cloth making sure not to push dust or debris into any air intake or exhaust vents.
- Do not use abrasive cleaners or spray liquids on any part of the appliance.
- Periodic cleaning/vacuuming of the fan/heater unit is strongly recommended to ensure that no dirt or foreign objects build up.

Source(s): F2655BCFW Greystone Operating and Troubleshooting Guide

Product(s): Greystone 26" Flat Electric Fireplace (Model: F2655BCFW, Newmar Part Number: 154052)

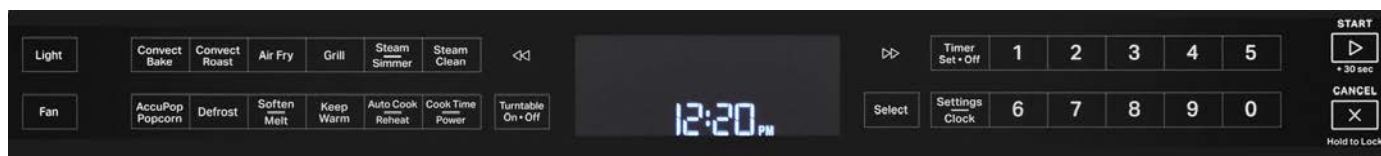
MICROWAVES AND CONVECTION OVENS

Whirlpool Convection Microwave with Air Fry Mode Quick Start (Model: YWMH78519LZ)

This article provides basic operation instructions for a Whirlpool Convection Microwave with Air Fry Mode (Model: YWMH78519LZ).

Operating Your Microwave Oven

Settings



Clock: The Clock is a 12-hour (12:00-11:59) or 24-hour (0:00-23:59) clock. Touch Settings/Clock to reach Clock submenu, and follow the prompts to set the Clock. Clock format (12 hours with AM and PM, 12 hours without AM and PM, or 24 hours) may also be set in the Clock submenu.

Timer: With the microwave oven in Standby mode, touch the Timer keypad, enter time, and then touch the Timer keypad or the Start keypad. Cook functions may be entered while the Timer is counting down. To cancel timer, touch Timer keypad while the Timer countdown is active in the display.



Control Lock: Activate to avoid unintended start. Touch and hold the Cancel keypad for about 3 seconds until 2 tones sound and Padlock icon appears in the display. Repeat to unlock control.

Settings/Clock: Settings/Clock may be adjusted: Set Clock; Scrolling Speed; Sound; Filter Reset; Fan Timer; Light Timer; Calibrate Temp; Demo Mode; Factory Reset.

Scroll Speed: Scroll speed of the text may be adjusted. Touch Settings/Clock to reach the Scroll Speed submenu and follow the prompts to set speed.

Sound (Tones): Programming tones and signals. Programming tones may be turned off or all tones (including end-of-function signals) may be turned off. Touch Settings/Clock to reach the Sound submenu, then follow the prompts to turn off or on the programming tones or all tones.

Filter Reset: If the charcoal filter is used for more than 6 months, from the last time the filter is reset, the 6 month duration will count continuously. If the Filter Alert condition is met, "Change the Charcoal Filter; Reset Alert through Setup or Settings" will shown on the display. Reset the filter status after replacing the charcoal filter. Touch Settings/Clock repeatedly to reach Filter Reset submenu. Touch Select or Start to reset. After reset, another 6 months duration will be resumed.

Vent Fan: Various speeds, ranging from high to low, and off. Comes on automatically as cooling fan during any cook function.

Fan Timer: Set vent fan to run for exactly 30 minutes or to run for only 30 minutes more (off after 30 minutes). The vent fan may be turned off at any time using the Vent Fan keypad. Touch Settings/Clock to reach the Fan Timer submenu and select the setting.

Light Timer: Set the cooktop light to turn on and off at certain times. Touch Settings/Clock to reach the Light Timer submenu and follow the prompts to set the light On time and light Off time in hours and minutes or to cancel Light Timer.

NOTE: Light Timer uses 12-hour clock only.

Calibration: The actual convection cooking temperature may be calibrated higher or lower than the displayed temperature. For example, if you want the microwave oven to be a bit hotter, you may try setting the calibration to +10°. Touch Settings/Clock to reach the Calibration submenu. Use number keypads to select temperature variations in degrees Fahrenheit: 1 = $\pm 0^\circ$ (reset to default), 2 = +5° (+2.8°C), 3 = +10° (+5.6°C), 4 = +15° (+8.3°C), 5 = +20° (+11.1°C), 6 = -5° (-2.8°C), 7 = -10° (-5.6°C), 8 = -15° (-8.3°C) and 9 = -20° (-11.1°C).

Demo Mode: Activate to practice using the keypad without actually turning on the magnetron. Touch Settings/Clock to reach the Demo mode submenu, then follow the prompts to activate. The Demo icon will light up in the display. Repeat to deactivate.

Standby Mode: When no functions are working (12-hour clock is displayed or if the clock has not been set), oven will switch to Standby Power mode and dim the LCD brightness after 5 minutes. Press any keypad or open/close the door, and display will return to the normal brightness.

Features

Convection Element and Fan: The convection element and fan are embedded in the wall of the microwave oven cavity, behind the metal screen.

Grill Element: Depending on your model, the grill element has either one 1,000 W halogen bulb and one 500 W quartz bulb or two 600 W quartz bulbs. The halogen bulb glows very brightly, but the quartz bulb has a very faint glow that might not be visible.

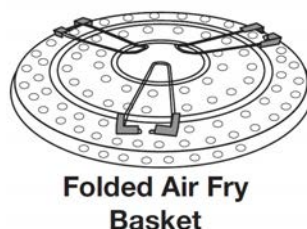
Turntable On/Off: Turntable may be turned off for manual cooking only. This is helpful when cooking with plates that are bigger than the turntable or when cooking with plates that are side by side. Turntable cannot be turned off during preset or sensor (on some models) functions.

Accessories

Air Fry Basket

Use the provided air fry basket for air frying and grilling. The air fry basket can be folded when cleaning in the dishwasher or storing.

NOTE: When cooking juicy meats, a microwave-safe, ovenproof dish or pan can be placed on the turntable and under the Air fry basket to catch the drippings.

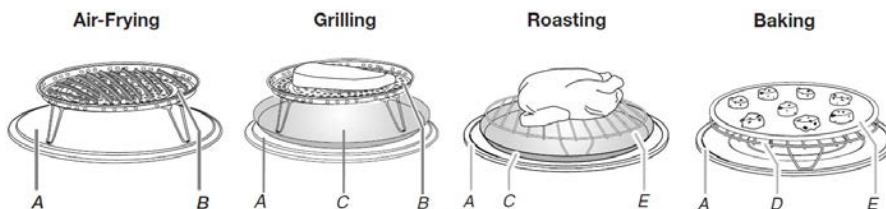


Convection Rack

Use the short convection rack for convection cycles (baking or roasting). Place cookware directly on rack for bake and for some roast functions. Some roast functions require that the food be placed directly on the rack. Use a microwave-safe, ovenproof dish or pan under the rack to catch the drippings.

Accessory Configurations

- (A) Turntable
- (B) Air Fry Basket
- (C) Microwave-Safe, Ovenproof Dish (Not Provided)
- (D) Convection Rack



Microwave Oven Use

To Cook with Only Microwave Power

Touch Cook Time/Power, touch number keypads to enter time, touch Cook Time/Power (if not 100%), touch number keypads to enter power level (10-90), then touch the Start keypad.

If programming additional stages (up to three), touch Settings/Clock to enter programming for the next stage, then enter the cook time and cook power of each, then touch the Start keypad.

Sensor Cooking

A sensor in the microwave oven detects moisture released from food as it heats and adjusts the cooking time accordingly.

Make sure microwave oven has been plugged in for at least 1 minute. Use microwave-safe dish with loose-fitting lid or cover microwave-safe dish with plastic wrap, and vent. For optimal performance, wait at least 30 minutes after convection cooking or grilling (on some models) before sensor cooking.

To Cook with Convection

Use the provided convection rack and a microwave-safe, oven-proof baking dish.

Microwave oven cavity, inside of the door, convection rack, and baking dish will be hot. Use oven mitts to remove the dish and to handle the hot convection rack.

Touch Convection Bake and Select Manual Convection Bake.

Use number keypads to enter a temperature, 250°F (121°C) to 450°F (232°C). Touch Time/Power, and enter time in hours and minutes, up to 4 hours.

Touch Convection Roast and Select Manual Convection Roast.

Use number keypads to enter a temperature, 250°F (121°C) to 450°F (232°C). Touch Time/Power, and enter time in hours and minutes, up to 4 hours. To add microwave power if desired, touch Time/Power, and enter power level, from 10% to 30%.

Touch START to begin preheat. Preheat may be skipped by touching START again. After preheat, place baking dish with food on the convection rack, then touch START to begin cooking.

Add More Time

At the end of any cycle using less than 100% cook power, "PRESS 0 TO ADD MORE TIME" scrolls in the display. Enter the additional time, if desired, and start the microwave oven. The cook power for all non-sensor cycles will be the same as in the finished cycle but may be changed. If Add More Time is used after a sensor cycle, the cook power will be 100% but may be changed.

Doneness

Adjust doneness for automatic cooking functions by touching Cook Time/Power repeatedly to scroll through "NORMAL," "MORE DONE," or "LESS DONE" within the first 20 seconds of starting the cook cycle. Doneness cannot be adjusted for Defrost functions.

Keep Warm

WARNING

Food Poisoning Hazard - Do not let food sit in oven more than one hour before or after cooking. Doing so can result in food poisoning or sickness.

Hot cooked food can be kept warm in the microwave oven. The Keep Warm function uses 10% cook power. Keep Warm can be used by itself or can be programmed to follow a cooking cycle. Opening the door during Keep Warm will cancel the function.

Microwave Oven Care

General Cleaning

IMPORTANT

Before cleaning, make sure all keypads are Off and the microwave oven is cool. Always follow label instructions on cleaning products.

To avoid damage to the microwave oven caused by arcing due to soil buildup, keep cavity, microwave inlet cover, cooking rack supports, and area where the door touches the frame clean.

Clean with mild soap, water, and a soft cloth or sponge or as indicated below.

- Grease filter: Mild soap and water or dishwasher.
- Door and exterior: Mild soap and water, or glass cleaner applied to paper towel.
- Control panel: Sponge or soft cloth and water.
- Stainless steel (on some models): Mild soap and water, then rinse with clean water and dry with soft cloth, or use stainless steel cleaner.
- Turntable: Mild soap and water or dishwasher.
- Rack(s): Mild soap, water, and washcloth. Dishwasher cleaning is not recommended.
- Air fry basket: Mild soap, water and washcloth. It is easy to clean in the dishwasher after folding the legs.
- Steamer vessel: Mild soap, water, and soft brush or dishwasher.

Installing/Replacing Filters and Light Bulbs

NOTICE

A filter status indicator appears in the display when it is time to replace the charcoal filter. See the “Settings” section to reset filter status.

- Grease filters: Grease filters are on the underside of the microwave oven. Clean at least monthly. Slide the filter away from the tab area and drop out the filter. To install, place end of the filter into the tab area, slide the other end into the opposite tab area.
- Charcoal filters: The Charcoal filters are behind the vent grille at the top front of the microwave oven. The charcoal filters cannot be cleaned and should be replaced every 6 months as prompted on the display. Remove 3 screws on the vent grille, tilt the grille forward, lift it out, and remove filters. To reinstall, place the filters into their slotted area wire mesh side up, replace vent grille, and secure with screws. After replace the charcoal filters. See the “Settings” section to reset filter status.
- Cooktop light: The cooktop light is located on the underside of the microwave oven and is replaceable. Remove bulb cover screw and open the bulb cover. Replace bulb, close bulb cover, and secure with screw.
- Cavity light: The cavity light bulb is located behind the vent grille at the top front of the microwave oven, under the bulb cover, and is replaceable. Remove three screws on the vent grille, tilt the grille forward, and lift it out. Open bulb cover and replace bulb. Close bulb cover, replace vent grille, and secure with screws.

Source(s): Whirlpool Microwave Hood Combination User Guide (REV W11603630B)

Product(s): [Whirlpool WMH78519LZ 1.9 Cu. Ft. Microwave with Air Fry Mode \(Model: WMH78519LZ, Newmar Part Number: 166325\)](#)

REFRIGERATORS, FREEZERS, AND ICE MAKERS

DC Compressor-Style Refrigerator Overview

This article provides a general overview of how a DC compressor-style refrigerator operates.

12 volt DC-powered (12v DC) refrigerators are Norcold's replacement product for gas-absorption style refrigerators previously used. Newmar has typically powered them using a 15 amp resettable breaker from the basement house fuse panel. The legend label for the fuse/circuit breaker panel in the basement should be marked as to which breaker it is on your coach.

For models with a built-in ice maker, a pressurized water supply and 120 volt to the icemaker is required. For the ice maker to operate, you must have water in the fresh tank and have the water pump turned on, or your coach must be connected to a city water supply.

When placing items on the racks and in the bins, leave enough space for air to flow throughout the entire refrigerator cabinet.

All models are equipped with a means to latch and secure the doors for a tight seal and to prevent the doors from opening during transit. Become familiar with the operation and always latch securely prior to traveling.

Norcold Polar Compressor-Style Refrigerator Quick Start (Models: N8DC and N10DC)

This article provides basic operation instructions for a Norcold DC Compressor-Style Refrigerator (Models: N8DC and N10DC).

About Your Refrigerator

This refrigerator is made for use within a recreational vehicle. As such, it is suitable for camping, but do not expose the refrigerator to rain.

⚠ CAUTION

The refrigerator is made to operate within 10° off level in all directions. Operating it at more than these limits can cause damage to the cooling system, increased noise and poor cooling performance. Make sure the vehicle is level before you operate the refrigerator.

Operation during travel:

While the refrigerator should be level when the vehicle is stopped, performance during travel is not usually affected.

Food compartment:

Start up the refrigerator and let it cool for eight hours before loading with food. If the refrigerator does not start to cool down after about two hours, contact your dealer or an authorized Norcold Service Center. For the best cooling performance: Let air move freely inside the entire food and freezer compartments. To decrease the amount of ice that collects on the rear wall of the refrigerator freezer and fresh food: Cover all liquids and moist foods. Let all hot foods cool before putting them in the refrigerator. Do not open the door any longer than necessary.

Freezer compartment:

The freezer compartment is made to keep pre-frozen food frozen and not to quick freeze food. Keep pre-frozen foods in the freezer compartment.

⚠ NOTICE

When making ice, put the ice cube tray directly on the bottom of freezer. Do not put other items on the ice cube tray while the water is freezing. The water freezes more rapidly if the power switch/thermostat is at the coldest temperature setting.

Door latch for travel:

During travel, the door latch prevents the door from opening. When closing each door, push the door toward the refrigerator until you hear a "click" sound. To open each door, pull the handle away from the refrigerator.



Interior light:

The interior light is located on the top of the fresh food compartment. The interior light comes on when the refrigerator is ON and the door is open. To replace the bulb: Use tape to hold the light switch down, which removes power from the light circuit. Remove the cover by pulling it toward the front of the refrigerator. Unplug wire harness connector. Install the replacement light. Install the cover. Remove the tape from the light switch.

Crisper(s):

The crisper(s) are located at the bottom of the fresh food compartment and supply a storage area to preserve fruit and vegetable freshness. Make sure that you always push the crispers fully in.

NOTICE

The crispers are not dishwasher safe.

Door bins:

You may put the door bins of the freezer and fresh food compartment in a location that best meets your needs. To remove the bins, lift them over the locator and pull them away from the door. To install the bins, push them onto the locator.

NOTICE

The door bins and bin slides are not dishwasher safe.

Adjustable shelves:

The shelves in the freezer and the fresh food compartment are made so you can remove them or move them. To remove or move each shelf of the fresh food compartment and freezer: Remove the screw from the retainer of each shelf at the side of the refrigerator. Slide the retainer out of the slot (cabinet shelves only). Pull each shelf forward out of the slot. Push each shelf fully into the slot that you wish. Slide the retainer into the slot (cabinet shelves only). Attach the retainer with the screw.

Operation

Controls:



Touch and release the ON/OFF [1] button to turn the refrigerator on. If the indicator light, below the button, glows solid blue, it means the refrigerator is operating correctly.

NOTICE

The freezer compartment and cabinet compartment work independently of each other and both must be adjusted to their desired temperature setting.

Touch the FREEZER COMPARTMENT [5] button to set the compartment temperature setting. Using the + [4] or – [2] buttons, adjust the temperature setting. The mode [3] will display the temperature setting: - 0 is off, - 1 is the warmest setting, - 5 is the coldest setting.

Touch the CABINET COMPARTMENT [6] button to set the compartment temperature setting. Using the + [4] or – [2] buttons, adjust the temperature setting. The mode [3] will display the temperature setting: 0 is off, 1 is the warmest setting, 5 is the coldest setting. Press any button to return the control to activate mode, the mode [3] will illuminate. The display will return to standby mode after 5 seconds.

Touch the NIGHT MODE [7] button to set the refrigerator to night mode. The blue indicator will illuminate. Night mode will turn off automatically after eight hours or if you push the night mode button again to turn the blue indicator light off. This 8 hour night mode setting can be changed by pressing the night mode button for 3 seconds. After the 3 seconds, the default 8 hours will be shown in the display. To change this setting, press the “+” or “-”, then press night mode button to make the setting go into effect.

The new setting is archived in the memory until it is changed. Shut down: To shut down the refrigerator, touch and hold the ON/OFF button [1] for 5 seconds and release. Once the refrigerator is turned OFF there is a 5 minute wait cycle before the refrigerator can be turned ON. The refrigerator will not turn on again until the 5 minute wait is up.

CAUTION

Do not operate the refrigerator when the ambient temperature is above 140°F operation above recommended ambient temperatures can cause permanent damage to the compressor. Operation when the ambient temperature is higher than 110°F can result in poor cooling performance.

Cleaning

A good time to clean the refrigerator is just after you defrost it. Clean the inside of the refrigerator as often as necessary to avoid food odors: Remove all food from the refrigerator. Wash the interior with a mild cleaner or a solution of liquid dish detergent and warm water. Rinse with a solution of baking soda and clean water. Dry with a clean cloth. Put all food back into the refrigerator.

NOTICE

Do not use abrasive cleaners, chemicals, or scouring pads because they can damage the interior of the refrigerator.

Source(s): Norcold N10DC and N8DC Electric Refrigerator Owner's Manual, Part No 640137F 1/9/2023

Norcold Polar Elite Compressor-Style Refrigerator Quick Start (Model: N15DC)

This article provides basic operation instructions for a Norcold DC Compressor-Style Refrigerator (Model: N15DC).

About Your Refrigerator

This refrigerator is made for use within a recreational vehicle. As such, it is suitable for camping, but do not expose the refrigerator to rain.

CAUTION

The refrigerator is made to operate within 10° off level in all directions. Operating it at more than these limits can cause damage to the cooling system, increased noise and poor cooling performance. Make sure the vehicle is level before you operate the refrigerator.

Operation during travel:

While the refrigerator should be level when the vehicle is stopped, performance during travel is not usually affected.



Food compartment:

Start up the refrigerator and let it cool for eight hours before loading with food. If the refrigerator does not start to cool down after about two hours, contact your dealer or an authorized Norcold Service Center. For the best cooling performance: Let air move freely inside the entire food and freezer compartments. To decrease the amount of ice that collects on the rear wall of the refrigerator freezer and fresh food: Cover all liquids and moist foods. Let all hot foods cool before putting them in the refrigerator. Do not open the door any longer than necessary.

Freezer compartment:

The freezer compartment is made to keep pre-frozen food frozen and not to quick freeze food. Keep pre-frozen foods in the freezer compartment.

Door latch for travel:

During travel, the door latch prevents the door from opening. When closing each door, push the door toward the refrigerator until you hear a “click” sound. To open each door, pull the handle away from the refrigerator.

Interior light:

The interior light is located on the top of the fresh food compartment. The interior light comes on when the refrigerator is ON and the door is open. To replace the light: Disconnect power from refrigerator. Remove the cover by pulling it toward the front of the refrigerator. Unplug wire harness connector. Install the replacement light. Install the cover.

Crisper(s):

The crisper(s) are located at the bottom of the fresh food compartment and supply a storage area to preserve fruit and vegetable freshness. Make sure that you always push the crispers fully in.

⚠ NOTICE

The crispers are not dishwasher safe.

Door bins:

You may put the door bins of the fresh food compartment in a location that best meets your needs. To remove the bins, lift them over the locator and pull them away from the door. The center door bins in each door are equipped with a screw to ensure compliance with Child Entrapment regulations. To remove the center door bin, remove the plastic cap and then remove the screw. To install the bins, push them onto the locator.

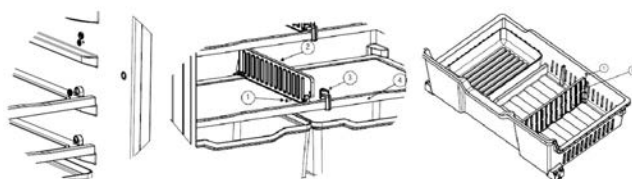
⚠ NOTICE

The door bins and bin slides are not dishwasher safe.

Adjustable Shelves:

The shelves in the freezer and the fresh food compartment are made so you can remove them or move them.

To remove or move each shelf of the fresh food compartment: Remove the cap and screw from the retainer of each shelf at the side of the refrigerator. Pull each shelf forward out of the slot. Push each shelf fully into the slot that you wish. Attach the retainer with the screw and replace cap.

**Shelf Divider:**

To remove or move the shelf divider: Remove the screw [1] from the divider [2] and fastening bracket [3]. Remove the cap and screw from the retainer of the shelf at the side of the refrigerator. Pull the shelf [4] forward. With the shelf forward, pull the divider [2] forward and down slightly to detach from the shelf then pull backward to remove. Slide the shelf back into place and reinstall the screw and cap.

Bin Divider - Freezer:

To remove or move the bin divider: Remove the screw (1) from the divider. Lift the divider [2] out of the bin.

Operation**Controls:**

Touch and release the ON/OFF [1] button to turn the refrigerator on. If the indicator light, below the button, glows solid blue, it means the refrigerator is operating correctly.

⚠ NOTICE

The freezer compartment and cabinet compartment work independently of each other and both must be adjusted to their desired temperature setting.

Touch the FREEZER COMPARTMENT [5] button to set the compartment temperature setting. Using the + [4] or – [2] buttons, adjust the temperature setting. The mode [3] will display the temperature setting: 1 is the warmest setting, 5 is the coldest setting.

Touch the CABINET COMPARTMENT [6] button to set the compartment temperature setting. Using the + [4] or – [2] buttons, adjust the temperature setting. The mode [3] will display the temperature setting: 1 is the warmest setting, 5 is the coldest setting. Press any button to return the control to activate mode, the mode [3] will illuminate. The display will return to standby mode after 3 seconds.

Touch the NIGHT MODE [7] button to set the refrigerator to night mode. Night mode will turn off automatically after eight hours or if you push the night mode button again to turn the blue indicator light off. This 8 hour night mode setting can be changed by pressing the night mode button for 3 seconds. After the 3 seconds, the default 8 hours will be shown in the display. To change this setting, press the “+” or “-”, then press night mode button to make the setting go into effect. The new setting is archived in the memory until it is changed.

Shut down:

To shut down the refrigerator, touch and hold the ON/OFF button [1] for 5 seconds and release. Once the refrigerator is turned OFF there is a 5 minute wait cycle before the compressor will turn ON.

⚠ CAUTION

Do not operate the refrigerator when the ambient temperature is above 140°F operation above recommended ambient temperatures can cause permanent damage to the compressor. Operation when the ambient temperature is higher than 110°F can result in poor cooling performance.

DC Operation Guidelines

The refrigerator gets DC power from the vehicle battery system. The battery system also supplies power to any other DC appliances or accessories of the vehicle.

Ice Maker

The ice maker is fully automatic and will operate in ambient temperatures above freezing (32°F). When the freezer temperature of the refrigerator is low enough, the ice maker opens the water solenoid valve and fills the mold. The ice maker ejects the ice into a storage bin. As the storage bin fills, the ice raises the shut-off arm until it turns off the ice maker. As you use the ice and lower the ice level in the storage bin, the shut-off arm also lowers. This turns the ice maker ON and begins the process of making ice.

The ice maker operates on:

- Cold potable water at a pressure of 15 psi - 125 psi.
- 120 volts AC (108 VAC min. - 132 VAC max.).

Ice Maker Operation

Make sure the ice maker AC power cord is plugged into a receptacle.

Open the water shutoff valve of the vehicle.

⚠ NOTICE

Make sure that the ice maker arm can move freely and does not touch the frozen foods in the freezer.

Push the ice maker arm down to the ON position.

⚠ CAUTION

If you operate the refrigerator without connecting the water supply line and/or opening the water shut off valve of the vehicle, make sure the ice maker arm is up in the OFF position.

Allow the freezer to cool enough and ice production will begin to fill the storage bin.

⚠ NOTICE

New plumbing connections and/or impurities in the water supply line after winterizing can cause the first ice to be discolored. Discard ice made after first few cycles.

To stop the ice maker, push the ice maker arm up to the OFF position.

Cleaning

A good time to clean the refrigerator is just after you defrost it. Clean the inside of the refrigerator as often as necessary to avoid food odors: Remove all food from the refrigerator. Wash the interior with a mild cleaner or a solution of liquid dish detergent and warm water. Rinse with a solution of baking soda and clean water. Dry with a clean cloth. Put all food back into the refrigerator.

⚠ NOTICE

Do not use abrasive cleaners, chemicals, or scouring pads because they can damage the interior of the refrigerator.

Source(s): Norcold N15DC and N20DC Electric Refrigerators Owner's Manual (Part No. 641013C 1/9/2023)

Residential-Style Refrigerator Overview

This article provides a general overview of how a residential-style refrigerator operates.

Residential-style refrigerators are the most popular option installed in Newmar coaches. The refrigerator operates on 120 volt AC power and uses freon and a compressor to keep your food cold and fresh. The power may be supplied by the electrical hookup at the campsite, generator power or (in most coaches) an inverter with a charged house battery bank.

For models with built-in ice maker, a pressurized water supply is required. In order for the ice maker to operate, you must have water in the fresh tank and have the water pump turned on, or your coach must be connected to city water supply.

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When placing items on the racks and in the bins, leave enough space for air to flow throughout the entire refrigerator cabinet.

All models are equipped with a means to latch and secure the doors for a tight seal and to prevent the doors from opening during transit. Become familiar with the latch operation and always lock prior to traveling.

Whirlpool Residential Refrigerator with Top Freezer Quick Start (Model: WRT112CZJZ)

This article provides basic operation instructions for a Whirlpool Residential Refrigerator with Top Freezer (Model: WRT112CZJZ).

Travel Lock Operation

NOTE FROM NEWMAR

The refrigerator is equipped with a travel lock to prevent the doors and drawer from opening during transit.

To lock the refrigerator, push the lock from right to left.

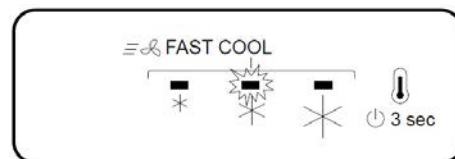
To unlock the refrigerator, push the lock from left to right.

Operating the Refrigerator

Temperature Control

For your convenience, the temperature control is preset at the factory. When you first install your refrigerator, make sure the control is still preset as shown.

Note: Neither compartment will cool when the control is set to OFF.



Recommended Setting

Adjusting the Temperature Control

If you need to adjust the temperature on either the refrigerator or freezer compartment, use the settings listed [below].

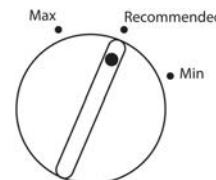
Note: Except when starting the refrigerator, do not adjust the control more than one setting at a time. Wait 24 hours between adjustments for the temperature to stabilize.

Press the Temp button to toggle among the third LED lights which indicate the temperature setting. Reading from left to right, the LED in the first position is the least cold. The LEDs indicate increasingly colder settings as you continue to the right until all third LEDs are illuminated.

- Condition/Reason: Refrigerator is too warm; Adjustment: Temperature control one setting higher
- Condition/Reason: Refrigerator is too warm/too little ice; Adjustment: Temperature control one setting higher
- Condition/Reason: Refrigerator too cold; Adjustment: Temperature control one setting lower
- Condition/Reason: Freezer too cool; Adjustment: Temperature control one setting lower

Airflow Control

The Airflow control is located on the back wall of the freezer. It regulates the amount of air flowing between the freezer and the refrigerator compartments. When you plug in the refrigerator for the first time, turn the Airflow control to the Recommended setting.



Adjust the Airflow Control

If you want to temporarily increase the cold airflow to a specific compartment, adjust the control.

NOTE FROM NEWMAR

Once the performance is achieved, return the Airflow control to the Recommended setting to keep the refrigerator operating at optimum efficiency.

- Condition/Reason: Heavy ice use, Adjustment: Max
- Condition/Reason: Hot room temperature; Adjustment: Max - To maintain ice making production rate
- Condition/Reason: Large quantity of groceries; Adjustment: Min - To quickly chill food and beverages

Crisper Humidity Control (on some models)

You control the amount of humidity in the moisture-sealed crisper. Depending on the produce you are storing, select the desired Humidity Level.



Humidity Level - Min Setting

MIN (open) lets moist air out of the crisper for best storage of fruits and vegetables with skins.

Fruit: Wash, let dry and store in refrigerator in plastic bag or crisper. Do not wash or cut berries until they are ready to use. Sort and keep berries in original container in crisper, or store in a loosely closed paper bag on a refrigerator shelf.

Vegetables with skins: Place in plastic bag or plastic container and store in crisper.

Humidity Level - Max Setting

MAX (closed) keeps moist air in the crisper for best storage of fresh, leafy vegetables.

Leafy vegetables: Wash in cold water, drain and trim or tear off bruised and discolored areas. Place in plastic bag or plastic container and store in crisper.

Source(s): Whirlpool User Guide Top Mount Refrigerator (W11331641B)

Whirlpool French Door Refrigerator with Water Dispenser Quick Start (Model: WRF560SE)

This article provides basic operation instructions for a Whirlpool French Door Refrigerator with Water Dispenser (Models: WRF560SEHZ and WRF560SEYM).

There are two refrigerator compartment doors. The doors can be opened and closed either separately or together.

There is a vertically-hinged seal on the left refrigerator door. When the left-hand refrigerator door is opened, the hinged seal automatically folds inward so that it is out of the way. When both doors are closed, the hinged seal automatically forms a seal between the 2 doors.

Using the Controls

IMPORTANT

Wait 24 hours for your refrigerator to cool completely before adding food. If you add food before the refrigerator has cooled completely, your food may spoil. Adjusting the refrigerator and freezer temperature controls to a colder than recommended setting will not cool the compartments any faster.

The recommended setting should be correct for normal household refrigerator use. The controls are set correctly when milk or juice is as cold as you like and when ice cream is firm.

If the temperature is too warm or too cold in the refrigerator or freezer, first check the air vents to be sure they are not blocked before adjusting the controls.

Depending on your model, your refrigerator has either an internal control panel, located at the top of the refrigerator compartment, or an external control panel, located above the external water dispenser. Follow the instructions specific to your model.

The display screen on the dispenser control panel will turn off automatically and enter “sleep” mode when the control buttons and dispenser paddles have not been used for 2 minutes or more. While in “sleep” mode, the first press of a control button will only reactivate the display screen, without changing any settings. After reactivation, changes to any settings can then be made. If no changes are made within 2 minutes, the display will re-enter “sleep” mode. Touch any control button on the dispenser panel to activate the display screen.

Temperature Control

For your convenience, the temperature control is preset at the factory. When you first install your refrigerator, make sure the control is still set to the recommended setting (3 Snowflakes).

Adjusting the Controls

If you need to adjust the temperature in either the refrigerator or freezer compartment, use the settings listed in the following chart as a guide. Press the Temp button to display the desired number of snowflakes from 1 snowflake (least cold) to all 5 snowflakes (coldest).

NOTE: Except when starting the refrigerator, do not adjust the control more than one setting at a time. Wait 24 hours between adjustments for the temperature to stabilize.

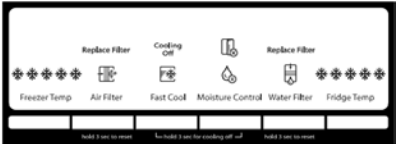
Condition/Reason	Adjustment
Refrigerator too warm	Fridge Temp: One more snowflake
Freezer too warm or too little ice	Freezer Temp: One more snowflake
Refrigerator too cold	Fridge Temp: One less snowflake
Freezer too cold	Freezer Temp: One less snowflake

Cooling On/Off

Internal Control Panel

To turn cooling off, press and hold both the Fast Cool and Moisture Control buttons at the same time for 3 seconds. When cooling is OFF, “Cooling Off” will appear on the display screen.

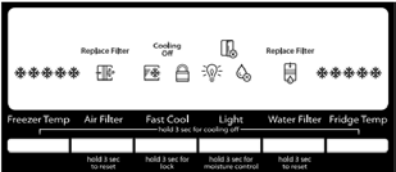
To turn cooling back on, press and hold both the Fast Cool and Moisture Control buttons at the same time for 3 seconds. When cooling is ON, “Cooling Off” will disappear and the previously selected settings will appear on the display screen.



External Control Panel

To turn cooling off, press and hold both the Freezer Temp and Fridge Temp buttons at the same time for 3 seconds. When cooling is off, “Cooling Off” will appear on the display screen.

To turn cooling back on. Press and hold both the Freezer Temp and Fridge Temp buttons at the same time for 3 seconds. When cooling is on, “Cooling Off” will disappear and the previously selected settings will appear on the display screen.



Additional Features

Door Open Alarm

The Door Open icon lights up whenever either door is opened.

When either door is open for 5 minutes and cooling is on, an alert tone will sound three times, and the Door Open icon will flash seven times. This pattern will repeat every 2 minutes until all the doors are closed properly. The feature then resets and will reactivate when either door is left open again for 5 minutes.

NOTES:

- To mute the audible alarm while keeping the doors open, such as while cleaning the inside of the refrigerator, press any button on the control panel. The alarm sound will be temporarily turned off, but the Door Open icon will still be displayed on the dispenser control panel.
- Both doors must be fully closed to turn off the Door Open icon.

Fast Cool

The Fast Cool feature assists during times of high refrigerator use, full grocery loads or temporarily warm room temperatures.

Press FAST COOL to set the freezer and refrigerator to the coldest temperature settings. Press FAST COOL again to return to the selected temperature set point.

NOTES:

- The Fast Cool icon will be illuminated while the refrigerator is in Fast Cool mode.
- The Fast Cool feature will turn off automatically after 24 hours.

Moisture Control

The moisture control feature turns on a heater to help reduce moisture on the door hinge seal. Use in humid environments or when you notice moisture on the door hinge seal. The refrigerator uses more energy when Moisture Control is ON.

NOTE: The moisture control icon will light up to indicate the feature is ON. To turn on/off the moisture control feature:

- Internal Control Panel - Press and hold MOISTURE CONTROL for 3 seconds.
- External Control Panel - Press and hold LIGHT for 3 seconds.

Water Filter Status Light and Reset

The filter reset control allows you to restart the water filter status tracking feature each time you replace the water filter.

Press and hold WATER FILTER for 3 seconds, to reset the water filter status to Good. The water filter icon will turn blue.

Air Filter Status Light and Reset

The filter reset control allows you to restart the air filter status tracking feature each time you replace the air filter.

Press and hold AIR FILTER for 3 seconds, to reset the air filter status to Good. The air filter icon will turn blue.

Water Dispenser (on some models)

IMPORTANT

Allow 3 hours for the refrigerator to cool down and chill water. Allow 24 hours to produce the first batch of ice. Discard the first three batches of ice produced. The dispensing system will not operate when the refrigerator door is open.

Flush the Water System

Air in the water dispensing system can cause the water dispenser to drip. After connecting the refrigerator to a water source or replacing the water filter, flush the water system. Flushing the water dispensing system forces air from the water line and filter and prepares the water filter for use. Additional flushing may be required in some households.

NOTE: As air is cleared from the system, water may spurt out of the dispenser.

1. Using a sturdy container, depress and hold the water dispenser paddle for 5 seconds.
2. Release the dispenser paddle for 5 seconds.
3. Repeat steps 1 and 2 until water begins to flow.
4. Once water begins to flow, continue depressing and releasing the dispenser paddle (5 seconds on, 5 seconds off) until a total of 4 gal. (15 L) has been dispensed.

Dispense Water

IMPORTANT

The dispensing system will not operate when the refrigerator door is open. The display screen on the dispenser control panel will turn off automatically and enter “sleep” mode when the control buttons and dispenser paddles have not been used for 2 minutes or more. While in “sleep” mode, the first press of a control button will only reactivate the display screen, without changing any settings. After reactivation, changes to any settings can then be made. If no changes are made within 2 minutes, the display will re-enter “sleep” mode.

To dispense water, press a sturdy glass against the water dispenser paddle. Remove the glass to stop dispensing.

Dispenser Light

When you use the dispenser, the light will automatically turn on. If you want the light to be on continuously, you may turn on the light. The light icon will illuminate when the light is ON.

ON: Press LIGHT quickly to turn on the dispenser light. OFF: Press LIGHT quickly to turn off the dispenser light.

NOTES:

- If you unintentionally press and hold the Light button for 3 seconds or longer, you will turn on the Moisture Control feature. If this happens, press and hold LIGHT for 3 seconds again to turn off the Moisture Control feature. The dispenser lights are LEDs that cannot be changed.

Dispenser Lock

The dispenser can be turned off for easy cleaning or to avoid unintentional dispensing by small children and pets.

NOTE: The lock feature does not shut off power to the refrigerator, to the ice maker, or to the dispenser light. It simply deactivates the controls and dispenser paddles.

- Press and hold FAST COOL for 3 seconds to lock the dispenser.
- Press and hold FAST COOL for 3 seconds again to unlock the dispenser. The lock icon will illuminate when the dispenser is locked.

Ice Maker

IMPORTANT

For models with a water filter, after connecting the refrigerator to a water source or replacing the water filter, fill and discard 3 full containers of ice to prepare the water filter for use.

Turning the Ice Maker On/Off

To turn on the ice maker, simply lower the wire shut-off arm. To manually turn off the ice maker, lift the wire shut-off arm to the OFF (arm up) position and listen for the click.

NOTE: Your ice maker has an automatic shutoff. As ice is made, the ice cubes will fill the ice storage bin and the ice cubes will raise the wire shut-off arm to the OFF (arm up) position. Do not force the wire shut-off arm up or down.

Ice Storage Bin

1. Wash the ice storage bin with mild soap and warm water.
2. Slide the ice storage bin under the ice maker and push it toward the back as far as it will go.
3. Lower the arm on the ice maker to the ON position.

NOTE: It usually takes approximately 24 hours for the ice maker to begin producing ice. You may notice the ice has an “off-taste.” If so, discard the first 3 batches of ice produced. After that the “off-taste” should be gone.

Ice Production Rate

The ice maker should produce approximately 8 to 12 batches of ice in a 24-hour period. Allow 3 days to completely fill the ice container.

To increase ice production, lower the freezer and refrigerator temperature. Wait 24 hours between adjustments.

The quality of your ice will be only as good as the quality of the water supplied to your ice maker. Avoid connecting the ice maker to a softened water supply. Water softener chemicals (such as salt) can damage parts of the ice maker and lead to poor quality ice. If a softened water supply cannot be avoided, make sure the water softener is operating properly and is well maintained.

Do not use anything sharp to break up the ice in the bin. This can cause damage to the ice storage bin and the dispenser mechanism.

Do not store anything on top of or in the ice maker or ice storage bin.

Source(s): Whirlpool WRF560 Refrigerator User Instructions

Product(s): Whirlpool Stainless Steel 20 Cu Ft Refrigerator with Water in Door (Model: WFR560SEHZ, Newmar Part Number: 146572) and Whirlpool 19.6 Cu Ft Monochromatic Stainless Steel French Door Refrigerator w/ Thru-the-Door Water Dispenser (Model: WRF560SEYM, Newmar Part Number: 130238)

VACUUMS

RoadVac by InterVac Central Vacuum Quick Start (Model: CS-RM)

This article provides basic operation instructions for a RoadVac by InterVac Central Vacuum system (Model: CS-RM).

Operating the Vacuum

To operate the vacuum, make sure 120 volt power is being supplied to the vacuum outlet. The vacuum must be plugged in, and the power switch must be in the OFF position when using the remote control on the pistol grip.

The vacuum will only turn ON when the Remote Control Pistol Grip button has been pressed or when the switch on the vacuum has been turned ON.



Pressing the Pistol Grip button for less than a second will turn the vacuum ON or OFF.

Do not hold down the button, as it will greatly reduce battery life. When the Pistol Grip Transmitter button is held down continuously, it will continue to transmit for 9 seconds, and then turn OFF.

If the performance (range) in which the Pistol Grip functions away from the receiver has reduced, replace the battery to correct the issues.

Note: Replacing the battery may require the Pistol Grip Remote to be reprogrammed. For more information about the Pistol Grip, refer to the file in Newgle named "Intervac Pistol Grip Remote Control Description, Installation and Programming".

Replacing the Vacuum Double-Collar Bag

Replacement bag: Part #Y11 high filtration 5-layer fiber bag

1. Remove the front panel on the vacuum cleaner by sliding the latch/lock and removing the front panel with dust bag attached.
2. Remove full bag and discard.
3. Notice: The #Y11 double-sided bag has two openings. The collar which attaches to the back of the vacuum chamber is clearly marked "Push this collar over pipe in the back of the vacuum chamber first."
4. Hold the dust bag by the edges of the cardboard in your hand. Push onto the pipe in the back of the chamber holding at about a 45 degree angle, and then push down the lower part of the collar against the back wall until flush.
5. Push the front cardboard collar of the dust bag all the way over the pipe on the front panel.
6. Slide the front panel into the small slots on the side of the vacuum's frame. Ensure dust bag is completely inside compartment, then push it into the frame until the lock/latch clicks into place.

Changing the Motor Filter

Replacement: Part #Y22

1. Remove the front panel with dust bag.
2. Inside the vacuum chamber, you will see the filter with the arrow pointing towards the back wall. Replace the filter with a new or cleaned filter, with the arrow pointing towards the back wall.
3. If the filter is dirty, you can wash it by hand in a mild soap solution. Do NOT clean in washing machine. Let filter dry completely before reusing.

Source(s): InterVac CS Series Installation and Operating Manual

Product(s): InterVac Central Vac System (Model: CS-RM, Newmar Part Number: 142013)

WASHERS AND DRYERS

Washer and Dryer Overview

This article provides an overview of the washer and dryer operation, information about coaches that are prepped for an after-market installation, as well as an explanation of the washer's p-trap.

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Overview

Depending on your model, year, and available options, your coach may be equipped with a stackable washer and dryer, or an all-in-one laundry center located in a cabinet. They are built for life on the road, so they are compact to save space, weight, and resources, without sacrificing performance.

Some coach floorplans may also provide the option for washer and dryer hookups, in lieu of the appliances. If a washer and dryer unit is not installed in your coach, it may be prepped at the factory so that a unit can be added later. Coaches not ordered and/or installed by the factory will not be covered by Newmar's warranty.



Operation

The plumbing and other preparations for the installation of a compact washer and dryer are optional features on your coach. The washers and dryers function like those in a home. Most operate on 120 volt electricity; however, some dryers may require 240 volt electricity.

Newmar does not recommend using your washer and dryer during transit.

For information about your installed washer and dryer, refer to Newgle's product pages, which are specific to the appliance manufacturer and model.

Washer Waste Water Drainage

Before operating the washing machine:

1. Remove the outside drain cap in the exterior water compartment. The drain cover is used to prevent leakage of waste material when not in use.
2. Attach the sewer or macerator hose to the drain outlet. The drain line or macerator hose should be used to direct waste to the dump station for proper disposal. For more information about draining the waste water holding tanks, refer to the Waste Water Disposal article in Newgle.
3. Open the gray tank valve by pulling on the appropriately labeled T-handle or operating the electric gate valve (if equipped). The tank will start to drain to the drain outlet or macerator hose (if equipped and connected) as soon as the T-handle is pulled or the electric gate valve is operated. Opening the gray tank valve will allow the washing machine water to drain instead of overflowing the waste water tank.



⚠ NOTICE

Remove outside drain cap before operating washing machine.

⚠ IMPORTANT

If the outside drain cap is not removed and the gray tank valve is not in the "open" position, the gray tank may overflow.

NOTICE

Remove outside drain cap before operating washing machine.

NI-12

P-Traps

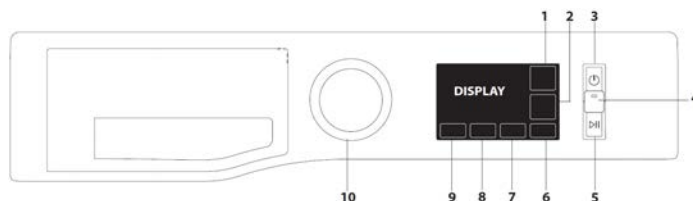
Each of the sink drains, the shower drain, and the washing machine drain (if equipped) has a water trap to prevent holding tank odors from entering the coach. These traps must have water in them in order to trap the odors. While stored, the water may evaporate, allowing an odor to enter the coach. If this occurs, run water from the faucet into the drain, allowing water to fill the trap. Run water into the washing machine. Set the cycle to spin to drain the water to fill the p-trap.

Splendide Front-Loading Washer Quick Start (Model: WFL1300XD)

This article provides basic operation instructions for a Splendide Front-Loading Washer (Model: WFL1300XD).

Control Panel

1. SUPER WASH / MUTE button
2. POST CYCLE CARE / KEY LOCK button
3. ON/OFF button
4. PREWASH button and indicator light
5. START/PAUSE button
6. EXTRA RINSE button
7. DELAY START button
8. SPIN button
9. TEMPERATURE button
10. WASH CYCLE SELECTOR KNOB



Detergent Dispenser Drawer

Compartment 1: Pre-wash detergent (powder)

Compartment 2: Detergent for the wash cycle (powder or liquid)

- If liquid detergent is used, it is recommended that the removable plastic partition A (supplied) be used for proper dosage.
- If powder detergent is used, place the partition into slot B.

Compartment 3: Additives (fabric softeners, etc.)

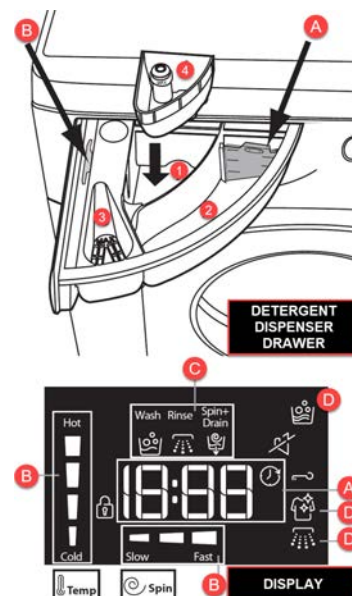
- The fabric softener should not overflow the grid.

Extra Compartment 4: Bleach

Note: Splendide recommends using 1 to 2 tbsp. of a bio-friendly fabric softener, or similar brand per wash load. These softeners tend to appear light in color and dissolve more quickly in less water, minimizing build-up within your machine.

Note: Use powder detergent for white cotton garments, for pre-washing, and for washing with hot temperatures.

Note: Follow the instructions given on the detergent packaging.



Display

The display is useful when programming the washing machine and provides plenty of information.

Section A: The duration of the available wash cycles and the remaining time of a running cycle appear in section A (Factors such as load size, modifiers, options selected, and water pressure may affect the time shown in the display. Tightly packed loads, unbalanced loads, or excessive suds may cause the washer to lengthen the cycle time as well); if the DELAYED START option has been set, the countdown to the start of the selected wash cycle will appear.

Section B: In section B, pressing the corresponding button allows you to view the maximum spin speed and temperature values attained by the machine during the set wash cycle, or the values selected most recently, if these are compatible with the set wash cycle.

Section C: The “wash cycle phases” corresponding to the selected wash cycle and the “wash cycle phase” of the running wash cycle appear in section C: Wash, Rinse, Spin + Drain.

Section D: References D indicate the wash options available.

Delay Start: The “Delay Start” symbol [clock icon], when lit, indicates that the set “delayed start” value has appeared on the display.

Mute: The “Mute” symbol [speaker icon] indicates the possibility to silence the key tones. While the mute is active, almost all sounds will be turned off. Only the sound signals and the alarms remain active, as well as the sound of the end of cycle. To activate/deactivate, press and hold the mute button.

Key Lock: To lock the control panel, press and hold the “Key lock” button for approximately 3 seconds. The symbol will light up on the display to indicate that the control panel has been locked (with the exception of the "ON/OFF" button). This prevents unintentional changes to programs, especially with children near the machine. To unlock the control panel, press and hold the “Key lock” button for approximately 3 seconds.

Locked Door Indicator: When lit, the symbol indicates that the door is locked. To prevent any damage, wait until the symbol turns off before opening the door. To open the door while a cycle is in progress, press the START/PAUSE button; if the LOCK symbol is off, the door can be opened.

First-Time Use: Once the appliance has been installed, and before it is used for the first time, run a “Clean Washer” cycle with liquid chlorine bleach and no laundry.

Daily Use

1. Press the ON/OFF button.
2. Open the door. Load the laundry while making sure not to exceed the maximum load quantity indicated in the wash cycle table.
3. Pull out the detergent dispenser drawer and pour the detergent into the relevant compartments, as described in the “DETERGENT DISPENSER DRAWER” section. - Close the door.
4. The machine automatically displays the default temperature and spin speed values for the selected cycle, or the most recently used settings for that specific cycle.
5. Select the desired wash cycle.
6. Select the desired options.
7. Press and hold the START/PAUSE button to start the wash.

IMPORTANT

For more information about wash settings, cleaning and maintenance, and winterization, refer to Splendide's Instruction Manual.

Source(s): WFL1300XD Splendide Washing Machine Instruction Manual

Product(s): Splendide WFL1300XD 24-in Front-Loading Washer ([Model: WFL1300XD, Newmar Part Number: 156340](#))

Splendide Tumble Dryer Quick Start (Model: DV6500X)

This article provides basic operation instructions for a Splendide Tumble Dryer (Model: DV6500X).

Control Panel

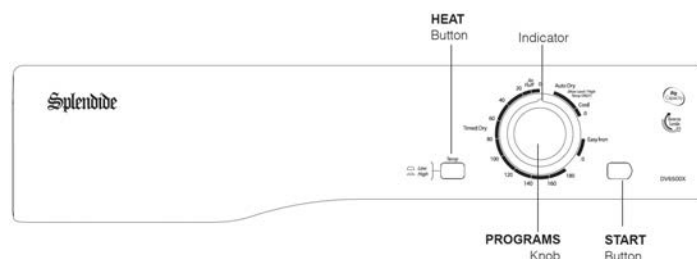
The START button begins drying a selected program.

The HEAT button selects drying temperature:

- IN: HIGH heat.
- OUT: LOW heat.

The Drying Guide allows you to consult a user friendly table of fabric types and load capacities. The Special Programs Guide gives a guide to the available programs.

The PROGRAMS knob sets the program: rotate it clockwise, never counter-clockwise, until the indicator is pointing to the program you want to select. The programs knob will advance to the '0' position after the program ends.



Choosing a Program

1. Plug dryer into a grounded 3 prong outlet.
2. Sort your laundry according to fabric type.
3. Open the door and make sure the filter is clean and in place.
4. Load the machine and make sure that the items are not in the way of the door seal. Close the door.
5. Choose the drying program by checking the Programs table as well as the indications for each type of fabric. Set the temperature with the HEAT button. Select a program or drying time by rotating the PROGRAMS knob clockwise.
6. Press the START button to begin. During the drying program, you can check on your laundry and take out items that are dry while others continue drying. When you close the door again, press START in order to resume drying.
7. About 10 minutes before the program is completed, it enters the final AIR FLUFF phase (fabrics are cooled), which should always be allowed to complete.
8. Open the door, take your laundry out, clean the filter and replace it.
9. Unplug the dryer.

Laundry

Sorting Your Laundry

- Check symbols on clothing labels to make sure that the articles can be tumble dried.
- Sort laundry by fabric type.
- Empty pockets and check buttons.
- Close zippers and hooks and tie loose belts and strings.
- Wring out each item in order to eliminate as much excess water as possible.
- Do not load dripping wet clothes into the dryer.

What not to tumble dry

- Articles that contain rubber or rubber-like materials or plastic film (pillows, cushions, or PVC rainwear), any other flammable objects, or objects that contain flammable substances (towels soiled with hair spray).
- Glass fibers (certain types of draperies).
- Items that have been dry cleaned.
- Items with the ITCL Code. These can be cleaned with special at-home dry cleaning products. Follow instructions completely.
- Large bulky items (quilts, sleeping bags, pillows, cushions, large bedspreads, etc.). These expand when drying and would prevent airflow through the dryer.

⚠ WARNING

No washer can completely remove oil. Do not dry anything that has ever had any type of oil on it (including cooking oils). Do not dry items containing foam, rubber, or plastic in this dryer. Doing so can result in death or fire.

⚠ WARNING

Keep flammable materials and vapors, such as gasoline, away from dryer. Do not dry anything that has ever had anything flammable on it (even after washing). Failure to follow these instructions can result in death, explosion, or fire.

Maximum Load Size

Do not load more than maximum capacity. These numbers refer to dry weight:

- Natural fibres: 6 kg max (13 lb)
- Synthetic fibres: 3 kg max (6.6 lb)

Do not overload the dryer as this could result in reduced drying performance.

Cleaning & Maintenance

When you should switch off the electricity

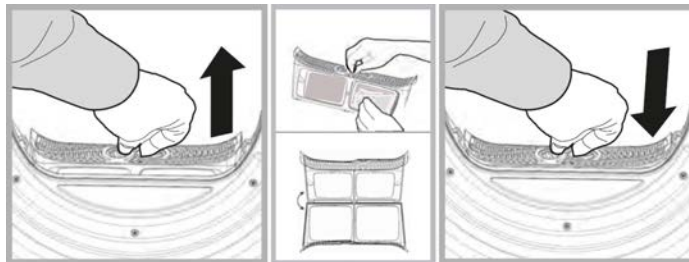
Unplug the dryer when not using it, when cleaning it and during maintenance activities.

Clean the filter after each cycle

The filter is an important part of your dryer: it accumulates lint and fluff that is formed while drying. Small items could also become trapped in the filter. When finished drying, therefore, clean the filter by rinsing it under running water or with your vacuum cleaner. Should the filter become clogged up, the airflow inside the dryer will be seriously compromised: drying times lengthen and you will consume more energy. It may also damage your dryer.

The filter is found in front of the dryer trim.

Removing the filter:



1. Pull the plastic grip of the filter upwards (see diagram).
2. Clean the filter in all its parts, opening it and removing the lint both outside and inside.
3. Properly insert the filter back in place. Ensure the filter is fully located flush into the tumble dryer trim.

Do not use the dryer without replacing the filter.

Check the drum after each cycle

Turn the drum manually in order to remove small items (handkerchiefs) that could have been left behind.

Cleaning the drum

Do not use abrasives, steel wool or stainless steel cleaning agents to clean the drum. A color film may start to appear on the stainless steel drum, this may be caused by a combination of water and, or cleaning agents such as fabric conditioner from the wash. This colored film will not affect the dryer performance.

Cleaning the dryer

- External parts in metal or plastic and rubber parts can be cleaned with a damp cloth.
- Periodically check the vent tube and any permanent venting fixture to make sure that there has been no accumulation of fluff or lint, and remove it.
- Remove lint that collects around the filter and the outlet vents.

Do not use solvents or abrasives. Your dryer uses special bearing components which do not need lubrication. Have your dryer checked regularly by authorized technicians to ensure electrical and mechanical safety.

Source(s): *Splendide Tumble Dryer DV6500X Care, Use, and Installation Booklet*

Product(s): [Splendide DV6500X 120v Dryer \(Model: DV6500X, Newmar Part Number: 162308\)](#)

MISCELLANEOUS SMALL APPLIANCES

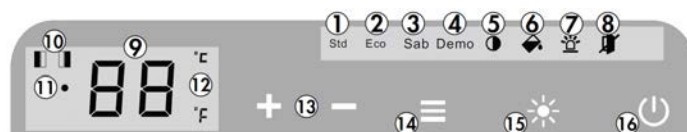
Silhouette Lorraine 24" French Door Beverage Centre Quick Start (Model: SPRBC047D1SS)

This article provides basic operation instructions for a Silhouette Lorraine 24" French Door Beverage Centre (Model: SPRBC047D1SS).

Operating Instructions

Control Panel

1. **Standard mode indicator light**
2. **Energy saving mode indicator light**
3. **Sabbath mode indicator light**
4. **Demo mode indicator light**
5. **Interior light setting indicator light**
6. **Interior light colour setting indicator light**
7. **Alarm indicator light**
8. **Disable door alarm indicator light**
9. **Display panel:** Shows the set temperature.
10. **Left and right chamber indicator lights:** Illuminates to show which chamber setting is being modied.
11. **Power indicator light:** Illuminates when the compressor is running.
12. **Temperature scale indicator lights**
13. **Increase and decrease buttons:** Used to increase or decrease the set temperature in 1° increments.
14. **Mode button:** Press to toggle between standard and energy saving mode. The relevant indicator light will illuminate. The appliance will default to standard mode.
15. **Light Button:** Used to set the light mode.
16. **Power button:** Press to turn the appliance on. Press and hold for 3 seconds to turn the appliance off.



Interior Light

The interior light will default to turning on and off when the door is opened or closed. Press the light button once to turn the light off while the door is open. The light will resume default functioning when the door is closed. There are four light mode settings:

- L1: The light will turn on and off when the door is opened and closed.
- L2: The light will remain on indefinitely at 100% illumination.
- L3: The light will remain on for 120 minutes at 100% illumination and then resume default operation.
- L4: The light will remain on for 120 minutes at 50% illumination and then resume default operation.

To change the light setting, press the light button once to display the current setting. Press the light button repeatedly to choose the desired light setting. The display will flash the chosen setting 5 times to confirm.

Interior Light Color

The interior light can be set to either white or blue. Press and hold the light button for 3 seconds until the interior light color symbol flashes, then press the light button to toggle between a white or blue light. The interior light colour setting indicator light will flash 5 times to confirm.

Beverage Zone (left side)

- The default temperature setting is 43°F (6°C).
- The temperature can be set as low as 34°F (1°C) or as high as 50°F (10°C).
- If the inner cabinet temperature is lower than 28.4°F (-2°C) the alarm indicator light will illuminate and an alarm will sound.
- If the inner cabinet temperature remains lower than 28.4°F (-2°C) for more than 30 minutes, the error code “CL” will show on the display, the alarm indicator light will illuminate and an alarm will sound. The appliance will stop functioning to prevent the contents from freezing.

Beverage Zone (right side)

- The default temperature setting is 54°F (12°C).
- The temperature can be set as low as 41°F (5°C) or as high as 64°F (18°C).
- If the inner cabinet temperature is lower than 32°F (0°C) the alarm indicator light will illuminate and an alarm will sound.
- If the inner cabinet temperature remains lower than 32°F (0°C) for more than 30 minutes, the error code “CL” will show on the display, the alarm indicator light will illuminate and an alarm will sound. The appliance will stop functioning to prevent the contents from freezing.

Actual temperature inside the appliance can vary based on ambient temperature, how often the door is opened and how many warm bottles have recently been added to the appliance.

The default temperature scale is °F. To switch the display between °F and °C, press the increase and decrease buttons simultaneously for approximately 3-5 seconds.

If the inner cabinet temperature in either zone is higher than 73°F (23°C) for one hour, the error code “HI” will show on the display, the alarm indicator light will illuminate and an alarm will sound.

If the appliance loses power, the control panel will remember the set temperature. Once power is restored, the appliance will return to normal functioning automatically.

Open Door Alarm

If the door is not closed completely for 5 minutes, the alarm indicator light will illuminate and an alarm will sound.

The open door alarm can be silenced temporarily by pressing the power button once. The alarm indicator light will remain illuminated and the interior light will continue to flash until the door is closed.

If the door is closed and the alarm continues to sound, check that the actuator at the bottom of the door is making contact with the switch on the appliance.

Disable Open Door Alarm

The audible door alarm can be permanently turned off if desired. The alarm indicator light and the interior light will continue to illuminate if the door is left open for more than 5 minutes.

To disable the open door alarm, press and hold the mode button and the light button at the same time for 3 seconds until the disable door alarm indicator light illuminates. In future if the door is left open the alarm indicator light and the interior light will still flash, but the audible door alarm will not sound.

Sabbath Mode

Sabbath mode can be used to disable all interior lights and sounds from the appliance.

Press and hold the increase button and the mode button at the same time for 5 seconds to enable Sabbath mode. The SAB symbol will illuminate and the display will show “Sb” to indicate that Sabbath mode is active.

Press and hold the increase button and the mode button for 5 seconds to return the appliance to standard mode.

Energy Saving Mode

Energy saving mode will turn off the interior light, the control panel lights and the display. The energy saving mode indicator light will illuminate.

Pressing the increase or decrease button will cause the display to turn on for 5 seconds before resuming energy saving mode.

Demo Mode

Demo mode is only intended to be used on the sales floor. It can be used to show how the appliance will look while running without engaging the compressor or the cooling function. The fan will run on low speed but all alarms and beeping will be disabled.

Press and hold the increase button and the power button at the same time for 10 seconds to enable demo mode. The demo mode indicator light will illuminate.

Press and hold the increase button and the power button at the same time for 10 seconds to return the appliance to standard mode.

Storage Instructions

The maximum capacity of this appliance is 21 (750 ml) wine bottles and 61 (355 ml) cans.

Wine Compartment (Right): It will be necessary to position the bottles alternately on the upper six shelves. This will allow for the storage of 4 750ml bottles on the top shelf, 3 bottles per rack on each of the four shelves and 5 bottles on the bottom.

Beverage Compartment (Left): It will be necessary to position the cans alternately on the upper three shelves. This will allow for the storage of 17 355ml cans per shelf in each of the top three shelves, and 10 cans on the bottom.

Shelf Instructions

To remove glass shelves:

1. Lift the back of the shelf up so the shelf pegs are above the lower rail.
2. Slide the shelf out of the unit with the pegs on the upper rail.

To remove wine shelves:

1. Fully extend the shelf you wish to remove.
2. Lift the front of the shelf up.
3. Holding the shelf track, push the shelf in, then up to release from the rear dampers.



IMPORTANT

Do not cover the gap on the shelves with aluminum foil or any other material that will prevent adequate air circulation within the cabinet.

Care and Maintenance

Cleaning

Ensure the appliance is unplugged before cleaning.

- To clean the inside of the appliance, use a soft cloth and a solution of a tablespoon of baking soda to one quart of water or a mild soap solution or some mild detergent.
- Wash removable shelves in a mild detergent solution, then dry and wipe with a soft cloth.
- Clean the outside with a soft, damp cloth and some mild detergent.
- It is important to keep the area clean where the door seals against the cabinet. Clean this area with a soapy cloth. Rinse with a damp cloth and let dry.

Note: Do not use cleaners containing ammonia or alcohol on the appliance. Ammonia or alcohol can damage the appearance of the appliance. Never use any commercial or abrasive cleaners or sharp objects on any part of the appliance.

Source(s): Silhouette Beverage Center SPRBC047D1SS Owner's Manual (2019.12.17)

Product(s): Silhouette Beverage Center (Model: SPRBC047D1SS, Newmar Part Number: 168896)

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CHASSIS

This chapter provides information from your chassis manufacturer, detailed operating instructions for the fuel, leveling, and steering systems installed in your coach, as well as guidelines for proper use and maintenance of your wheels and tires.

⚠ IMPORTANT

Any of the following quick start instructions should not take the place of the complete documentation provided by the product manufacturer and/or Newmar. Additional operating instructions, troubleshooting, care and maintenance, safety information, etc. may be available in Newgle for specific components. Read all literature provided, paying special attention to any references to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

⚠ IMPORTANT

Refer to your chassis owner's manual for information relating to vehicle identification and safety, dash instruments, controls, and switches, steering and braking systems, driver assistance features, maintenance recommendations, etc.

FREIGHTLINER

Freightliner Chassis Contact Information

This article provides contact information for Freightliner Chassis.

24/7 Direct: Customer Assistance or Concerns

- Phone: 1-800-FTL-HELP (800.385.4357)
 - For Super C coaches, press option 2; for all other Freightliner chassis, press option 1
- Web: <http://www.fccrv.com/owners/>
- Email: fccservice@daimler.com

Chassis Manuals

Refer to Freightliner's Driver and Maintenance Manuals in Newgle for all chassis-related information, including, but not limited to:

- Vehicle Identification
- Dash Instruments, Controls, and Switches
- Steering and Brake Systems
- Driver-Assistance Features
- Emergency Procedures
- Inspection and Maintenance

Freightliner Steering Wheel, Lighting, and Wiper Controls Operation (2020 and Newer)

This article provides an overview for the steering wheel, rotary-style headlight switch, and wiper controls on Freightliner coaches equipped with an OptiView dash.

Steering Wheel Overview



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Horn Control

The button for the horn is located in the center of the steering wheel. To sound the horn, press the center of the steering wheel pad.

Menu Switch Pods

Navigating through the system menus is done with the buttons on the side of the steering wheel. Press the "up" or "down" arrows to highlight a menu, then press the OK button to enter the highlighted menu. Press the "back" button to go back to the last menu that was displayed. Press the "home" button to return to the menus in their original order.

Favorites Button

The Favorites button can be preset to any menu by going to the desired menu, pressing, and holding the Favorites button for five seconds.

NOTE FROM NEWMAR

Starting with the 2023 model year, the Favorites button will be preset from the factory to quickly access Steering Effort (also known as Comfort Drive). If the Steering Effort does not come up, the Favorites button may have been inadvertently reset. The Favorites button can be reset at any time by pressing and holding it down for five seconds while on the desired setting.

Bluetooth Connectivity/Phone Accessibility

Freightliner coaches equipped with Bluetooth connectivity and the OptiView Instrument Panel may have the ability to view incoming phone calls within the driver message display area. The driver may have the ability to answer and/or end a call, or change the call volume, from the steering wheel control pods.

NOTE FROM NEWMAR

The cell phone in use must be connected to Freightliner via Bluetooth for these features to operate.

Cruise Control

⚠ WARNING

Do not use the cruise control system when driving conditions do not permit maintaining a constant speed, such as in heavy traffic or on roads that are winding, icy, snow-covered, slippery, or roads with a loose driving surface. Failure to follow this precaution could cause a collision or loss of vehicle control, possibly resulting in personal injury or property damage.

⚠ NOTICE

Maximum cruise control speed varies according to vehicle specifications, but cannot exceed 75 mph (121 km/h).

Cruise control allows the driver to automatically control the speed of the vehicle above 32 mph (51 km/h). The buttons that operate the cruise control system are located on the right-hand switch pod of the steering wheel.

Cruise On/Off Button: Press to turn cruise control on or off. When cruise control is on, the ICU message center displays relevant cruise control icons and the set speed. The speed memory will be retained until the cruise control is disabled with the on/off button, or the ignition is turned off.

Cruise Accelerate/RES Button: Press and hold to increase the set cruise speed. Press to resume the set speed.

CNCL Button: Press to pause the cruise control, while retaining the speed setting in memory. The cruise control can also be disengaged, while retaining the speed memory, by depressing the brake pedal.

Cruise Decelerate/SET Button: Press to set the cruise speed while the vehicle is traveling at the desired speed. Press and hold to decrease the set cruise speed.

To cruise at a particular speed: Press the on/off button to turn cruise control on. Depress the accelerator pedal until the speedometer reaches the desired speed. Press the cruise decelerate/SET button to set the desired speed.

⚠ NOTICE

Cruise control is cancelled if the brake pedal is depressed, or vehicle speed drops below the minimum cruise control speed.

⚠ NOTICE

The speed memory is lost whenever the ignition switch is turned to OFF, or cruise control is turned off.

To disengage the cruise control, do one of the following: Press the CNCL button in the center of the right-hand control pod or depress the brake pedal. To resume a preselected cruise speed: Ensure cruise control is on. Press the cruise accelerate/RES button. Cruise will return to the last set speed.

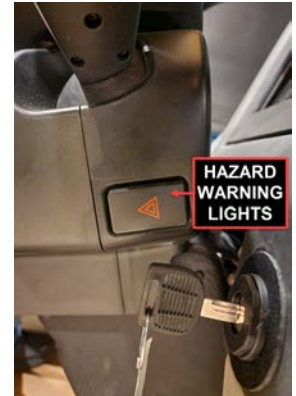
⚠ NOTICE

If vehicle speed drops below the minimum cruise control speed, cruise control will disengage. To resume to the preselected cruise speed, increase vehicle speed to above minimum cruise control speed and press the cruise accelerate/RES button.

To increase cruise speed, press the cruise accelerate/RES button until the vehicle accelerates to the desired speed. To decrease cruise speed, press the cruise decelerate/SET button until the vehicle decelerates to the desired speed.

Hazard Warning Lights

To activate the hazard warning lights, push the hazard warning light switch on the right side of the steering column. When the hazard warning lights are activated, all of the turn signal lights and both of the turn signal indicator lights on the instrument panel will ash. To cancel the warning lights, push the switch in on the right side of the steering column.



Lighting Controls

Automatic Ambient Headlight Sensor

⚠ IMPORTANT

This optional feature only activates or deactivates the panel lights, headlights and tail lights; there is no high-beam headlight sensing function.

The ambient sensor activates the panel lights, headlights and taillights when the brightness of the ambient light drops below a preset value for three seconds. Once activated, these lights remain on and require either a headlight switch cycle (Off/On/Off), or turning the ignition to the OFF position to deactivate them.

Headlights

The headlight switch is a rotary switch located to the left of the steering column. The headlights automatically turn on if the windshield wipers are on. The headlights can be deactivated by switching the windshield wipers off, cycle the headlight switch (Off/On/Off), or turning the ignition to the OFF position.

- (1) Fog lights: Activate by pulling the switch out when the marker lights or headlights are on.
- (2) Automatic Headlights (Optional)
- (3) Off
- (4) Marker Lights
- (5) Headlights



Fog Lights

⚠ NOTICE

Some vehicles may be equipped with a rocker switch to activate the fog lights. If so equipped, the rocker switch is installed by the body builder and the location will vary.

To activate the fog lights, do one of the following based on the vehicle controls: Pull the rotary switch out when the marker lights or headlights are on. Push the rocker switch (not shown).

Marker Lights

To turn the marker lights on, turn the headlight switch clockwise past the off position. The marker interrupt switch, located in the right-hand switch pod of the steering wheel, temporarily ashes the marker lights.

High-Beam Headlights

⚠ NOTICE

The ignition switch must be on for the high beams to work.

With the low-beam headlights on, push the turn-signal lever away from you to turn on the high-beam headlights. To turn off the high-beam headlights, pull the lever to the middle position. With the low-beam headlights on, pull the lever towards you to flash the high-beam headlights momentarily. When the high-beam headlights are on, a blue tell-tale illuminates on the instrument cluster.



Turn Signals

The turn signal lever is mounted on the left-hand side of the steering column. Moving the turn signal lever down activates the left turn signal lights; moving it up activates the right turn signal lights. The lever is a self-canceling combination turn signal, windshield wiper/washer switch, and high-beam headlight control unit. When a turn signal is activated, a green indicator arrow flashes at the far left or far right of the instrument panel. The lever automatically returns to the neutral position (self-cancels the switch) when the steering wheel returns to the straight-ahead position after a turn. To cancel the signal manually, move the lever to the neutral position.

Windshield Wiper Controls

⚠ NOTICE

Do not attempt to manually move the windshield wiper arms. Wiper motor damage will occur if the arms are forcibly moved.

The windshield wipers and washer controls are on the multi-function turn signal lever on the left-hand side of the steering column. The wipers are operated by a rotary switch on the turn signal lever. There are five settings, marked on the dial by symbols for off, two intermittent settings, and two continuous speeds.

Turn the wipers on by rotating the rotary switch up. Rotate the switch further to increase the speed of the wipers through the two intermittent settings, then to low and high speeds. Rotate the switch down to slow the wipers down. Rotate the switch as far down as it will go to turn the wipers off.

The windshield washer button is located at the end of the turn signal lever. Momentarily press the windshield washer button to initiate a single wipe without activating the washer pump. The wipers will swipe one full cycle and return to the inactive position. To operate the windshield washers, press and hold the button in. After a short delay, the washer will pump windshield washer fluid onto the windshield for as long as the washer button is pressed. The windshield wipers will turn on at low speed while the washer button is pressed. After the button is released, the wipers will continue to operate for one to several wipe cycles, depending on how long the wash button was pressed initially.

Source(s): Freightliner Recreational Vehicle Chassis Operation Manual (MAR 2021)

Freightliner OptiView 15" Digital Instrument Panel Quick Start Guide

This article provides an overview of the Freightliner OptiView Instrument Panel.

The OptiView instrument panel provides the driver with engine and vehicle information. It is comprised of standard and optional gauges, an audible alarm, a driver message center, information options (menu structured format), and warning and indicator lamps (also known as telltales). Warning and indicator lamps illuminate in red (danger), amber (caution), green (status advisory), or blue (high-beam headlights active).

⚠ NOTICE

The OptiView instrument panel can be customized by Freightliner and Newmar based on the model and year of coach, as well as the available standard and optional equipment. The location of gauges and icons on the instrument panel may vary from what is shown, but the operation of the instrument panel is the same.

Use the quick reference guide below to familiarize yourself with your dash warning lamps, indicators, and gauges.

Warning Lamps (EPA 10 and Newer Engines)



07/27/2022

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- | | |
|--|--|
| (1) Economy Mode Indicator | (23) Lane Departure Warning |
| (2) Service Soon | (24) Low Battery Voltage Warning |
| (3) Steerable Tag Axle Warning | (25) Low Secondary Air Pressure Warning |
| (4) Malfunction Indicator Lamp (MIL) | (26) Engine RPM |
| (5) Check Engine Warning | (27) Cruise Control Indicator |
| (6) Left-Turn Indicator | (28) Low Primary Air Pressure Warning |
| (7) Step Engine Warning | (29) Speed Limit Indicator |
| (8) Right-Turn Indicator | (30) Forward Collision Warning |
| (9) Parking Brake On Warning | (31) Low Diesel Exhaust Fluid (DEF) Warning |
| (10) Air Brake Warning | (32) Low Fuel Indicator |
| (11) Adaptive Cruise Control Indicator | (33) Water in Fuel Indicator |
| (12) Fasten Seat Belt Warning | (34) Low Oil Pressure Warning |
| (13) Wait to Start Indicator | (35) Diesel Particulate Filter (DPF) Lamp |
| (14) Pedestrian Collision Warning | (36) High Exhaust System Temperature (HEST) Lamp |
| (15) Low Windshield Washer Fluid Indicator | (37) High Coolant Temperature Warning |
| (16) Marker Light Indicator | (38) Shift Inhibit Indicator |
| (17) Automatic Traction Control Indicator | (39) Service Transmission Indicator |
| (18) Headlight/High-Beam/Automatic High-Beam Indicator | (40) Transmission Overheat Warning |
| (19) Fog Lamp Indicator | (41) Transmission Warning |
| (20) Electronic Stability Control (ESC) Indicator | (42) ABS Warning |
| (21) Tire Pressure Monitoring System Indicator | (43) Engine Brake Indicator |
| (22) Forward Collision System Indicator | (44) Bluetooth Smartphone Indicator |

Source(s): Freightliner Recreational Vehicle Chassis Operator's Manual STI-425-B (11/10/2023)

Freightliner OptiView 15" Digital Instrument Panel Quick Start Guide

This article provides an overview of the Freightliner OptiView Instrument Panel.

The OptiView instrument panel provides the driver with engine and vehicle information. It is comprised of standard and optional gauges, an audible alarm, a driver message center, information options (menu structured format), and warning and indicator lamps (also known as telltales). Warning and indicator lamps illuminate in red (danger), amber (caution), green (status advisory), or blue (high-beam headlights active).

⚠ NOTICE

The OptiView instrument panel can be customized by Freightliner and Newmar based on the model and year of coach, as well as the available standard and optional equipment. The location of gauges and icons on the instrument panel may vary from what is shown, but the operation of the instrument panel is the same.

Use the quick reference guide below to familiarize yourself with your dash warning lamps, indicators, and gauges.

Typical Instrument Panel (EPA 10 and Newer Engines)



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- | | |
|----------------------------------|--|
| (1) Tachometer | (7) Low Battery Voltage Warning |
| (2) Engine Oil Pressure Gauge | (8) Diesel Exhaust Fluid (DEF) Level Gauge |
| (3) Menu and Driver Message Area | (9) Fuel Level Gauge |
| (4) Speedometer | (10) Odometer |
| (5) Primary Air Pressure Gauge | (11) Coolant Temperature Gauge |
| (6) Secondary Air Pressure Gauge | (12) Gear Shift Position Indicator |







COLLISION WARNING SYSTEMS

Mobileye Collision Warning System Quick Start (Model: 8 Series)

This article provides basic operation instructions for the optional Mobileye Collision Warning System (Model: 8 Series).

⚠ NOTICE

Some of these settings may be locked.

FEATURE	IMAGE	EXPLANATION	ADJUSTMENT
Forward Collision Warning Urban Forward Collision Warning		<ul style="list-style-type: none"> Red vehicle icon warns of an imminent rear-end collision up to 2.5 seconds before. Active at any speed. Same red vehicle icon warns of a possible low speed collision, under 19 MPH. This alert is differentiated from the FCW by the sound of the alert. UFCW alerts with a double-beep vs. FCW which alerts with a series of beeps. This feature acts as a virtual bumper as well. 	This alert cannot be adjusted, disabled or muted. If system is turned off, no warnings will be issued.
Lane Departure Warning		<ul style="list-style-type: none"> Alerts when vehicle departs from driving lane without turn signals. Yellow lane icon appears when not active, white lane icon appears when active. Displays both lanes at all times. Dashed lane marking for departure side. Active above 25 MPH Newmar Note: On select models, a haptic feedback feature will vibrate the seat to alert the driver. 	<p>To Adjust Mobileye System, please refer to settings menus.</p> <p>0 =OFF; 1 =ON</p>
Headway Monitoring and Warning		<ul style="list-style-type: none"> Displays the amount of time, in seconds, to the vehicle in front when that time becomes 2.5 seconds or less. Green vehicle icon signifies safe headway; icon becomes red when headway time is 0.6 seconds or less. Note: If numbers appear dim that is an indication of low visibility conditions (bad weather, direct sunlight, dirt on windshield, etc.). System continues to work but there may be diminished detection ability. 	<p>To Adjust Mobileye System, please refer to settings menus.</p> <p>Available levels: 0.1-2.5 seconds.</p>
Pedestrian Collision Warning Pedestrian Detection Warning		<ul style="list-style-type: none"> Red pedestrian icon warns of an imminent collision with a pedestrian or bicyclist. Active under 31 MPH. Green pedestrian icon appears in area defined as the "Danger Zone". Time to collision is not critical, no audio alert. 	This alert cannot be adjusted or disabled.
Intelligent High-Beam Control (Optional)		<ul style="list-style-type: none"> Automatically turns the high-beams on/off depending upon the level of light and relative distance from other traffic. Green icon signifies the control is enabled. Blue icon signifies the feature is active. Active above 28 MPH. 	<p>To adjust Mobileye System, please refer to settings menus.</p> <p>0 = OFF; 1 = ON</p>
Speed Limit Sign (Optional)		<ul style="list-style-type: none"> Speed Limit Sign flashes when vehicle exceeds speed limit. Detected speed limit sign is shown as a large icon for one second, then minimizes and is shown as last posted speed sign. Vehicle's current speed can be displayed in upper right hand corner (optional feature). Last known Speed Limit Sign can be displayed in upper left hand corner (optional feature). 	<p>To adjust Mobileye System, please refer to settings menus.</p> <p>There are 6 available levels.</p>

NOTE FROM NEWMAR

Depending on the coach model and year, this information may be displayed on Mobileye's round remote monitor or integrated into the Xite Infotainment and/or chassis digital dashboard.

For more information, contact Mobileye at (877) 867-4900.

Source(s): XiteSolutions Mobileye Quick Reference Guide (V. 20190122.01) and RiverPark

Product(s): This source is associated with more than one product. Refer to Newgle for more information about the product(s) offered for your coach's model year.

FUEL SYSTEMS

Chassis Diesel Engine Fuel Overview

This article provides information regarding the chassis diesel engine fuel, fuel filler cap, and the refueling process.

⚠ IMPORTANT

Consult your chassis manufacturer information about your recommended fuel and fuel blends, additives, and maintenance requirements.

⚠ WARNING

CALIFORNIA Proposition 65: Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information, go to www.P65warnings.ca.gov/diesel.

**ULTRA LOW
SULFUR DIESEL
FUEL ONLY**

AD-117



Refueling/Filling the Tank

The fuel gauge indicates the amount of fuel remaining in the fuel tank. Avoid running out of fuel. When fueling your vehicle:

⚠ WARNING

Read and understand the complete instructions prior to operating the fuel system. Failure to do so may lead to damage, severe injury, or death.

⚠ WARNING

Make sure all possible sources of ignition are removed from the area or extinguished. Before dispensing fuel, turn off all engines, fuel-burning appliances, and their ignitors. Do not dispense fuel within 20 ft. of an ignition source. Can cause ignition of flammable vapors, which can lead to a fire or explosion and result in death or serious injury.

Diesel Exhaust Fluid (DEF) Overview for Class A Diesel Coaches

This article provides an overview about the DEF tank installed on a Class A diesel coach. Diesel exhaust fluid (DEF) is designed for use in diesel engine emissions systems and helps protect the environment from harmful contaminants.

The DEF tank will require filling a minimum of approximately every second diesel refuel depending on the DEF tank capacity. 10, 13, and 15-gallon tank capacities are available.

To find out the tank capacity of a coach, please contact the chassis manufacturer, as Newmar does not have this information available.

DEF consumption is approximately 2% of fuel consumption, dependent on vehicle operation. For every 50 gallons of diesel fuel consumed, approximately 1 gallon of DEF will be consumed.

Some vehicles are equipped with a remote DEF fill-port. If so equipped, the remote port is directly opposite the DEF tank on the other side of the vehicle, and has a blue cap over the fill-port. DEF parts, such as the fill cap or tank, are supplied by the chassis manufacturer and are not available via the Newmar Parts Department.



⚠ IMPORTANT

DEF consumption varies depending on ambient conditions and vehicle application.

Auxiliary Compressed Air Fitting on Diesel Pusher Coaches

This article provides an operational overview of the coach's air system connection on a diesel pusher coach.

Rear Air Fitting Overview

An auxiliary compressed air fitting is supplied at the rear of the coach in the engine compartment on select diesel pusher coaches. This connection can be used to either inflate the air system from an outside source (such as a shop air compressor) or to use the coach's air system and a hose to inflate floats, bike tires, or car tires.

If necessary, the compressor can be used to inflate a coach tire in an emergency when other sources of compressed air are unavailable; however, it will take some time due to low air pressure.

When using air from the connection, the engine should be running to operate the compressor. The air pressure is regulated by the air governor for the chassis air system. The approximate pressure can be monitored by the gauges on the dash. The air connections are supplied and plumbed by the chassis manufacturer.



NOTICE

You may not have enough air pressure to properly inflate tires, but you should be able to get enough to drive to the nearest tire service center.

Front Air Fitting Overview

Many coaches also have a connection at the front of the coach under the hood near the generator on the driver side. This connection (on some coaches) will only allow air pressure to be used as a customer connection for external use and will not allow compressed air to enter the system. Coaches plumbed in this manner will have an additional Schrader valve port to allow pressurization during production.



LEVELING SYSTEMS

Leveling System Overview

This article provides an overview of the leveling systems installed in a Newmar coach.

WARNING

Do not lift the wheels off of the ground while leveling the coach. The vehicle may drop and/or move forward or backward without warning, which may cause serious injury or death.

WARNING

Never attempt to move the unit with the leveling jacks deployed. Always visually inspect the jacks prior to moving to ensure they are fully retracted, are in the stored position, and the system is turned OFF.

WARNING

Be sure the ground on which you are parked will support the weight of your unit. Often material that seems "safe" to level on will not support the weight at the leveling jack points. Use caution when leveling on hot asphalt, sand, and grass, as the weight of the unit may cause the jacks to sink into the ground. Pads may need to be placed under the jacks to spread the weight over a larger area. Always look under your unit prior to leveling to make sure the jacks are clear of debris and other foreign materials that may interfere with leveling.

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⚠ WARNING

Never operate any leveling system with a person or pet under the unit. Serious injury or death may result!

Care and Maintenance**⚠ IMPORTANT**

The leveling system should be cycled at least once a month to keep the system in operating condition.

Leveling and Full Wall Slideout Sequence of Operation

This article provides step-by-step instructions for leveling the coach and operating the slideouts.

⚠ IMPORTANT

In the past, Newmar has recommended leveling the coach prior to deploying the slideouts. As of 2015, Newmar makes the following recommendation for the extension and retraction of slideouts. The following sequence of operation relates to ALL coach years and models.

Motorhomes, like all vehicles, flex in travel. Flexing may be different due to terrain and the coach's fulcrums (resting on tires or jacks). As the coach flexes, this movement is more noticeable in the outside reveal on a wider slideout.

Extending the Slideouts and Leveling the Coach

1. Park the coach on a reasonably level campsite.
2. Leave the coach at ride-height with air in the air bags (if equipped with air suspension) or on normal suspension (coaches without air suspension).
3. Plug the coach into shore power (if available) or start the generator to increase the voltage for better slideout operation.
4. Look at the "reveal" or "gap" of the two vertical wall trims around the slideouts to make sure there is plenty of clearance so the trim will not rub when extending the slideout. If the gap looks good, then the slideout can be operated. Most often, the gap will look best when sitting on the tires with the air suspension inflated (at ride-height), and not on the jacks.

⚠ IMPORTANT

In the unlikely occasion that the slideout trim has inadequate clearances, try leveling or repositioning the coach and rechecking the clearances before extending the slideout.

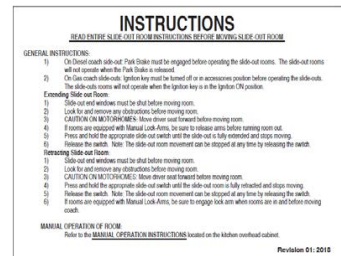
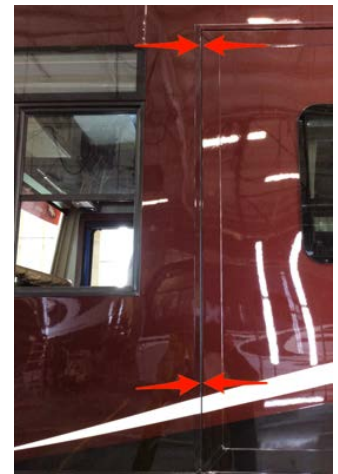
5. Close all compartment doors, and verify that the path of the slideout is unobstructed and free from any surrounding objects, both inside and outside of the coach.
6. Once the appropriate conditions are met, follow the operating instructions posted in your coach to extend the slideouts (image for example only).
7. Dump the air suspension (if equipped). This step is included in the auto-leveling process for most coaches.
8. Deploy the leveling jacks. (Refer to the leveling system manufacturer's documentation for complete operation instructions.)

⚠ NOTICE

To extend the jacks, the ignition may need to be in the engine run or on position and the park brake may need to be applied. If these conditions are not met, you may hear a deny tone from the leveling system keypad and the jacks may not deploy.

Retracting the Jacks and Slideouts

1. Retract the leveling jacks.
2. Start the coach.
3. Allow the coach air suspension to fill and return to ride height (units without air suspension will return to normal suspension).
4. Turn the engine off.
5. Close all compartment doors, and verify that the path of the slideout is unobstructed and free from any surrounding objects, both inside and outside of the coach, including any water or debris that may have collected on the slideout roof or the topper awning. Note: If pooling has occurred after rain, one way to remove water on the slideout roof or topper is to tilt the coach using the leveling system to aid in water runoff.)



⚠ IMPORTANT

Debris left on the roof or topper may prevent the slideout from sealing properly when retracted, as well as prevent the mechanical lock arms from closing properly when the slideout is extended.

- For a full wall slideout, visually inspect the front vertical trim for adequate clearance before complete retraction (when the slideout trim spacing can be observed). The spacing should look even from top to bottom (see image for reference).

⚠ IMPORTANT

In the unlikely occasion that the slideout trim has inadequate clearances, try leveling, or if necessary, repositioning the coach, and rechecking the clearances before fully retracting the slideout.

- Retract the slideouts. Inspect all slideouts for complete retraction.
- If the coach is equipped with manual lock arms, make sure to lock them.
- Unplug the coach from shore power when you are ready to depart.

Equalizer EQ Smart-Level Hydraulic Leveling System Quick Start

This article provides the step-by-step instructions for operating an Equalizer EQ Smart-Level leveling system, which began being installed in coaches in production after 5/17/2019.



Panel Indicator LED's

During typical operation, the LED's on the bottom left-hand corner of the keypad should NOT be illuminated. The only LED that should light is the OPERATING LED, which should flash during operation.

Power ON red when Power is ON OFF when power is OFF SLEEP MODE flashes every 1 second	Engage Park Brake ON red when park brake is not set OFF when park brake is set	Jack ON red when jack(s) are deployed OFF when jack(s) are stowed	Ignition On ON red when ignition is in the ON position OFF when ignition is off
Operating ON red w/ AUTO LEVEL or ALL RETRACT OFF when keypad is idle or sleeping	Excess Slope ON red following an AUTO LEVEL attempt if system cannot overcome slope OFF when slope is not excessive	Low Voltage ON red when voltage is below 10.5 VDC OFF when voltage is above 10.5 VDC	

If the LOW VOLTAGE or EXCESS SLOPE LED's illuminate, you have an error condition that must be corrected prior to operating the jacks.

⚠ NOTICE

After an AUTO LEVEL process, the operation light should turn off and the Excess Slope light should be off. This indicates that the system has finished leveling and is within the .5-degree (approx. 7/16 inch over 4 feet) front-to-rear and side-to-side leveling specification.

If the Excess Slope light is on, then the system was not able to complete the process within the .5-degree specification. There are several possibilities to, includ[ing], but not limited to: Low Voltage, jack(s) running out of travel, or system/component failure.

Auto Level Operation

Push and release the POWER button to engage power.

- The LED light next to the POWER button should be lit RED when power is on.
- Also, depending on if the park brake disable is connected and the park brake is released, you may not be able to extend jacks.

NOTE FROM NEWMAR

To extend the jacks, the ignition key must be in the engine run or on position and the park brake must be applied. If the ignition key is not in the run or on position, and/or if the park brake is not set, you will hear a deny tone from the keypad.

Press the AUTO LEVEL button and release. The system will send out a continuous series of beeps and the "Operating" LED will be on to let you know AUTO LEVEL is operat[ing] and will automatically level the coach.

- Do not move around or exit the coach during this operation doing so will fault out the operation or result in an incomplete leveling/stabilization operation.
- When completed, the Keypad will signal the successful completion with a dual-stage tone.
- The Keypad may be left on once level has been achieved.
- The Keypad will enter "sleep mode" after five minutes of inactivity.

⚠ NOTICE

AUTO LEVEL will be denied if the jack indicator lights are on. To clear this, press [ALL RETRACT], and then perform AUTO LEVEL.

Setting the Null

Null is the term used to indicate the "levelness" of the coach. A Null setting should have been performed by the installer [Newmar]. If the coach is not level following an attempt to AUTO LEVEL, you will need to level the coach and reset the null.

1. To set the null, push and release the POWER button on the Keypad to engage power. The LED light next to the POWER button should be lit RED when the power is on.
2. Level the coach by deploying jacks manually, or by simply parking the coach on a level site. You do not need to have the jacks deployed to set the null. Use a bubble level on a flat surface in the center of the coach as a reference.
3. Once the coach is level, turn the power off at the panel.
4. Depress and hold the AUTO LEVEL button and press and release the POWER button and listen for a series of beeps.
5. After the Keypad has beeped 5 to 6 times (the Keypad will continue to beep as long as the AUTO LEVEL button is held), release the AUTO LEVEL button. [Y]ou should get a confirmation beep. The new null has been set and the panel will store/remember this setting.
6. Press and release the ALL RETRACT button to retract the jacks to the stowed position.

Use the ALL RETRACT button to retract the jacks prior to travel. This system does provide the ability to retract the jacks using the UP buttons for each pair of jacks. However, these buttons are not intended to be used for retracting the jacks to their stowed position prior to travel. The Up arrows are to be used only for retracting the jacks to help level the coach. The ALL RETRACT button must be pressed to ensure the system is ready/safe for travel. All jacks should automatically retract and return to [the] stowed position when the ALL RETRACT button is pressed and released. The pump will run in retract for approximately 5 seconds after the last jack has been fully retracted - or until a time limit of 90 seconds has been reached.

⚠ IMPORTANT

It is always the responsibility of the coach operator to visually confirm that the jacks are fully retracted and safe for travel.

Helpful Hints

- Do not allow motion in the coach during the AUTO LEVEL operation (don't move around in the coach). This could cause the system to fault out or level/stabilize improperly.
- The Auto-Level is a microprocessor-controlled system. Proper and adequate battery voltage and permanent chassis ground are essential.
- Your system is equipped with override ability. Refer to the procedure for proper use of this. It is usually better to review this procedure prior to its actual use, rather than having to learn a new procedure in difficult environments and/or situations. This is designed to get the jacks retracted if there has been a power/control failure. [This information can be found in Newgle in the Equalizer EQ Smart-Level manual.]
- If the system has not been used (with the jacks stowed) for over 24 hours, it is recommended that you engage the ALL RETRACT button prior to travel in order to re-pressurize the system.
- A lubricant, like WD40, may be used to clean and lubricate the cylinder shafts.

Manual Operation

NOTE FROM NEWMAR

To extend the jacks, the ignition key must be in the engine run or on position and the park brake must be applied. If the ignition key is not in the run or on position, and/or if the park brake is not set, you will hear a deny tone from the keypad.

Push and release the Power Keypad button to engage power. All lights will come on, [and] then most will go out. The LED light next to the POWER button should be lit RED when power is on. You will need to have the ignition key switch in the [ON] position to extend the jacks. If you attempt to extend jacks by pressing the Down Keypad buttons or all the jacks with the Auto-Level button, you will hear a “deny” tone from the keypad if the ignition key is in the improper position. Also depending on if the park brake disable is connected, and the park brake is released, you may not be able to extend jacks.

Using the Down Keypad buttons, extend the jacks until they contact the ground (this is referred to as “planting” the jacks). As you extend the jacks, an LED light on the Keypad will indicate the jack(s) is out of the “stowed” position. Jacks may only be operated in pairs using the manual keypad buttons. Use a bubble level on a flat surface in the center of the coach. Level the vehicle by using the Down or Up Keypad buttons until the vehicle is level. Jacks may be operated only in pairs. Press the POWER button to turn off the control panel (Keypad).

To retract, push and release the Power Keypad button to engage power. Press the ALL RETRACT button to retract the jacks prior to travel. This system does provide the ability to retract the jacks using the UP buttons for each pair of jacks. However, these buttons are not intended to be used for retracting the jacks to their stowed position prior to travel. The Up arrows are to be used only for retracting the jacks to help level the coach. The ALL RETRACT button must be pressed to ensure the system is ready/safe for travel. All jacks should automatically retract and return to the stowed position when the ALL RETRACT button is pressed and released. The pump will run in retract for approximately 5 seconds after the last jack has been fully retracted - or until a time limit of 90 seconds has been reached.

EQ Smart-Level Bluetooth Operation

- If the face of your keypad indicates that your controller is compatible with a Bluetooth device, download EQ Smart-Level in the Android or Apple App Store. When downloading the app, make sure your Bluetooth setting is turned on or the app will not connect to your coach. Once the app is downloaded, please follow the instructions to level your coach.
- If your keypad does not indicate compatibility, your Bluetooth connectivity may be through your multiplex system.
- The operation of the system from a smartphone is the same as from the control panel with the exception that you cannot perform the orientation setting or null programming from the Bluetooth.



Source(s): Equalizer Systems EQ Smart-Level Motorized Version Installation/Operation/Warranty Guide (Effective June 2021, EQ021R4)

WHEELS AND TIRES

Wheels and Tires Size and D.O.T. Code

This article provides basic information about the wheels and tires, including the tire size, inflation, and D.O.T. codes. Newmar's quality extends to every inch of your coach, right down to the tires and wheels. The durability and longevity of your tires will provide you with the confidence and peace of mind you need to relax and enjoy the ride.

The primary areas of concern are the tire size, inflation, and operational information. The sidewall of the tire contains detailed information about the construction, inflation, and carrying capacity of the tire. Become familiar with this information, and operate the vehicle within the capacity parameters outlined.

⚠ WARNING

Proper tire maintenance is critical to the safety, operation, and durability of your coach. Failure to follow and monitor tire pressure guidelines may result in premature tire failure.

Tire Size

The sidewall of the tire contains information that is important to know to ensure proper use of the tire, as well as to maintain long life. Take the time to become familiar with the size, load rating, and pressure information listed on the sidewalls of the tires.

This tire size is 315 / 80 R 22.5. From this size, we can determine the physical dimensions of the tire, as well as its basic construction. The tire size breaks down like this:

- The first number, “315”, is the section width of the tire in millimeters. The section width is the measurement of the tire from the outside sidewall to the inside sidewall.
- The second number is the height of the sidewall, expressed as a percentage of the section width. In this case, the number is “80”, so the sidewall height accounts for 80 percent of the tire's section width.
- The “R” in the tire size indicates that this tire is “radial” in construction. The belts are wrapped around the tire in a radial design, from bead to bead.
- The final number is “22.5”, which is the rim size the tire was designed to fit. This tire fits a 22.5” diameter wheel.



D.O.T. Code

The last four digits on tires manufactured after the year 2000 signify the week and year of manufacture.

The tire in the example picture was made during the 29th week of 2017.



Tire Care and Maintenance Basics

This article provides information about the care and maintenance of your coach tires, including examples of labels and tire pressure charts. To ensure your tires are operating safely, regularly inspecting your tires and checking your tire pressure is absolutely mandatory.

⚠ NOTICE

For specific recommendations related to tire pressure, rotation, or replacement, please contact the tire and/or chassis manufacturer.

Tire Pressure Overview

Tire pressures should be checked and adjusted before and after each trip. Always check and adjust the pressures while the tires are cold. Never add or release pressure from the tires when they are hot (after having driven a mile or more).

For safe operation and maximum weight carrying capacity, it is imperative that the tires be inflated to and maintained at the listed tire pressures on the Federal ID Tag. This tag is affixed to the interior wall just behind the driver's seat in your coach.

⚠ WARNING

Failure to follow proper inflation guidelines may result in tire failure, which can cause loss of vehicle control or accidents resulting in property damage, bodily injury, or death.

⚠ IMPORTANT

The tire pressure settings can change depending on whether they are used in single or dual tire situations.

⚠ IMPORTANT

Make sure the tire pressures are the same across an axle, while never exceeding the maximum air pressure limit stamped on the wheels or tires, or leaving a tire below the minimum pressure listed on your tire inflation chart.



If you are operating your coach while staying significantly under the maximum weight carrying capacity, you may experience an unnecessarily firm ride. To correct this condition, it is recommended for you to weigh the coach when it is fully loaded as you would travel, with full fuel, water, and LP tanks, all travelers, and your belongings, as well as any towed equipment. Weigh each axle end separately, and use the heaviest end weight to determine the axle's cold inflation tire pressure.

For units operating significantly under maximum weight carrying capacity experiencing an unnecessarily firm ride. We recommend for you to weigh the coach loaded as you will be traveling with fuel, water, Lp, belongings, persons and weight of towed equipment, weighing each axle end separately and using the heaviest end weight to determine the axle's cold inflation tire pressure use the inflation chart provided by the tire manufacture for you specific brand, series,& size and load range of tire use the dual and single weight charts according to the tire configuration you are inflating.

Make sure tire pressures are the same across an axle, while NEVER exceeding the maximum air pressure limit stamped on the wheels or tires nor under inflating a tire below the lowest pressure on the tires inflation chart. For more detailed information refer to the tire inflation pressure article in Newgle.

295/60R22.5 J													
PSI		85	90	95	100	105	110	115	120	125	130	Maximum load & pressure on sidewall	
kPa		590	620	660	690	720	760	790	830	860	900		
LBS	Single	5260	5505	5750	5990	6230	6465	6700	6930	7160	7390	S	7390 LBS at 130 PSI
	Dual	9650	10100	10550	10990	11430	11860	12290	12720	13140	13560	D	6780 LBS at 130 PSI
KG	Single	2385	2495	2610	2715	2825	2930	3040	3145	3230	3350	S	3350 KG at 900 kPa
	Dual	4375	4580	4785	4985	5185	5380	5575	5770	5960	6150	D	3075 KG at 900 kPa

Example of a Tire Inflation Chart

Use the inflation chart provided by your specific tire manufacturer according to brand, series, size, and load range. Also, pay attention to the chart when referring to dual or single tire configurations, as they will change based on which tire you are inflating.

IMPORTANT

Do not use the example to find your recommended tire pressures. Refer to your tire manufacturer's owner's manual and specific tire inflation guidelines.

NOTICE

Exact tire inflation charts will not be provided by Newmar. Each tire manufacturer provides this information, as it changes by brand, make, tire series, tire size, as well as if it is used in a single or dual setup. For more information about your tires and the inflation specifications, please refer to the Item Home Page of your tire manufacturer.

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ELECTRICAL

This chapter includes overviews of the 12 volt and 120 volt electrical systems, as well as information about electrical equipment that may be installed in your coach, including, but not limited to fuse panels, lighting, EMS, generators, inverters, converters, solar panels, transfer switches, etc.

⚠ WARNING

Due to the risk of electrical shock, service should be performed by a qualified electrician or authorized service technician. The electrical system may have multiple 120/240 volt power sources. All power sources must be turned off, and any auto generator start features must be disabled before servicing.

⚠ IMPORTANT

Any of the following quick start instructions should not take the place of the complete documentation provided by the product manufacturer and/or Newmar. Additional operating instructions, troubleshooting, care and maintenance, safety information, etc. may be available in Newgle for specific components. Read all literature provided, paying special attention to any references to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

⚠ CAUTION

Newmar coaches are set up, configured, and tested to operate properly with the electrical system that was installed at the time of production, including, but not limited to the battery, solar, inverter, and any multiplex system(s). Modifications to any part of the electrical system may cause adverse effects to the coach function and should not be done. If the coach's electrical system is modified, including, but not limited to batteries, solar, or inverter systems, Newmar will not warranty or aid in the diagnosis of electrical, battery, multiplex, and/or charging system issues.

12 Volt Electrical System Overview

This article provides general information about the components and functions of the 12 Volt Electrical System (DC) in Newmar coaches.

Power Sources

The 12 Volt Electrical System allows certain components to maintain a low voltage from the battery bank. The battery bank is controlled by the coach charging system, which consists of a charge bridge solenoid, a bi-directional isolator relay delay (BIRD), or a battery isolation manager (BIM). When the coach engine is running, the alternator charges the chassis batteries and may assist in charging the house batteries through the BIM, BIRD, or Charge Bridge.

**THIS CONNECTION IS FOR
LOW-VOLTAGE BATTERY OR
DIRECT CURRENT ONLY. DO
NOT CONNECT TO 120 OR
240 VOLTS AC.**

AD-06

When the coach is connected to shore power or when the coach generator is in use (when shore power is unavailable), the converter or inverter/converter combination recharges the house batteries, and with the assistance of a BIM, BIRD, or Charge Bridge, it can also charge the chassis batteries.

In addition to the alternator and converter, the coach may also be equipped with solar panels to provide an additional option for charging your house batteries.

Alternator

The alternator is a belt-driven component attached to the coach engine and is supplied by the chassis manufacturer. The alternator supplies power for chassis components such as batteries, lights, wipers, dash HVAC, and power seats, as well as all of the driver controls located in the cockpit. The alternator charges the chassis batteries, but with the addition of a BIM, BIRD, or Charge Bridge, it may also assist in charging the coach's house batteries.

Generator

When shore power is unavailable, the generator takes mechanical energy and converts it into alternating current to supply 120 volts to the coach and charge the coach's house via the converter or inverter/converter and the chassis batteries via BIRD, BIM, or charge bridge.

The generator is typically located in the front of the unit between the frame rails on diesel coaches. On gas units, the generator may be located anywhere between the mid and rear section of the coach. Generators can be powered by gas, liquid propane, or diesel fuel.

Converter and Inverter/Converter Combination

All Newmar coaches are equipped with a converter or inverter/converter combination. A converter transforms alternating current or shore line power 120 Volts to low-voltage direct current to provide power to the coach's 12 Volt house and chassis batteries. On the other hand, an inverter transforms direct current to alternating current to provide power to specified appliances and entertainment systems.

Solar Panel

Some Newmar units are equipped with a 10 Watt solar panel wired to the chassis batteries. Prior models may have a five or 10 Watt solar panel and may be wired to the chassis-side KIB panel.

Batteries

Please refer to the Battery Basics article for more information.

Power Distribution

Battery Disconnect

Newmar uses an Intellitec disconnect relay connected to the battery bank to disconnect certain loads when placing the coach in storage. Keep in mind that not all loads are disconnected. This is very important to remember when a coach is put into storage and is not plugged into shore power. Before placing the battery disconnect in the "off" position, make sure the inverter (if equipped) is turned off.

Some coach models have a manual rotary key switch to disconnect power, which is located in the overhead above the entry door. Most other coaches have a single lighted switch located in the front overhead or on the passenger console near the entrance door that turns off the house voltage.

⚠ IMPORTANT

When the battery disconnect is 'off', meaning you have disconnected components from the batteries, there are still some loads on the batteries connected to the hot side of the Battery Disconnect Relay. Some of these loads may be Radio Memory, Entry Steps, and LP Detector. These will draw from the batteries, even when the disconnect is 'off'. Pull the fuse for each of the 'HOT' circuits to stop the batteries from being drained.

To learn more, visit the Battery Disconnect home page in Newgle.



Bi-Directional Isolator Relay Delay (BIRD)

Current gas coaches and some older diesel coaches, use an Intellitec Bi-Directional Isolator Relay Delay (BIRD) with a separate solenoid. The BIRD monitors both the chassis and house battery and is the only place in the coach where they both merge.

The BIRD only functions when the engine or generator is running or when the coach is connected to shore power.

To learn more, visit the Bi-Directional Isolator Relay Delay home page in Newgle.



Battery Isolation Manager (BIM)

All current Northern Star, Kountry Star, Super Star, Dutch Star, and Ventana diesel coaches use a Precision Circuits all-in-one Battery Isolation Manager (BIM).

The BIM monitors both the chassis and house battery and is the only place in the coach where they both merge.

The BIM only functions when the engine or generator is running or when the coach is connected to shore power.

To learn more, visit the Battery Isolation Manager home page in Newgle.



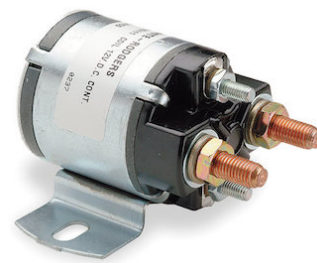
Charge Bridge Solenoid

All current model New Aire, Supreme Aire, Mountain Aire, London Aire, Essex, and King Aire coaches use Silverleaf, a computerized coach management system.

One of its many functions is to control the battery charging through the Charge Bridge Solenoid. The TM102 module monitors the battery state and senses the house and chassis battery voltage.

When the parameters are met, the TM102 module activates the solenoid, causing it to bridge or connect the chassis and house battery banks.

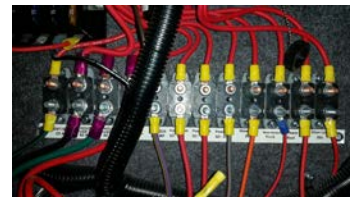
For more information on your coach's TM102 module, refer to the SilverLeaf Functional Guide in Newgle.



Fuse Blocks and Mini-Breakers

When a 12 Volt wire is ran, most of the circuits are protected with fuses or mini-breakers. These can be located at various areas in the coach but are typically located near the main breaker panel.

The following photos are examples only. However, they may also be found in areas such as:



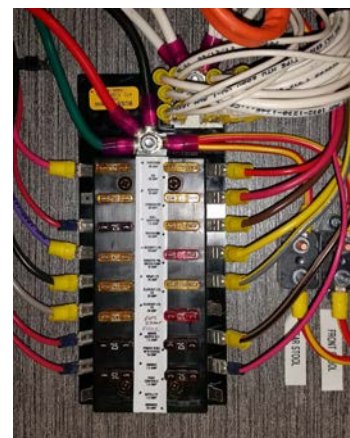
Interior

- Rear bedroom
- Rear bathroom
- Closet
- Front Overhead Cabinet

Exterior

- Power cord compartment
- Left, front electrical compartment (located beneath the driver window)
- Front firewall or basement compartment (gas coaches)

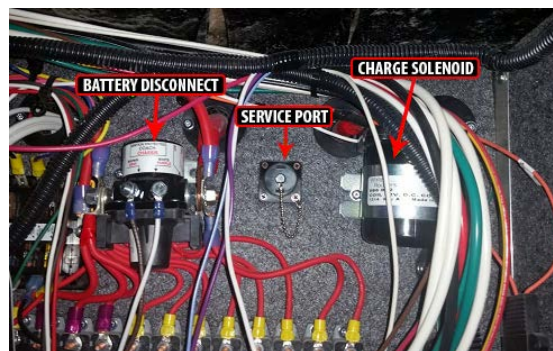
There are also some circuits that are protected with an inline fuse. Some fuse blocks have fixed relays integrated on a board. The fuses, mini breakers and relay board pictured are examples of the type of components that may be found in or near the the power cord compartment.



Basic 12 Volt Power Flow

Since a battery is only an electrical storage component, 120 Volt power must be present to charge the batteries from the converter or inverter/converter combination unit. It is necessary to have 12 Volt power supplied from the coach's house battery bank in order to operate the interior lights and other 12 Volt loads such as slideout control systems, water pumps, vent fans, monitoring systems, etc.

Most of this power flows through the battery disconnect to the fuse block or mini-breakers, which prevents overloading the circuit prior to progressing to the 12 Volt load. There are some 12 Volt circuits that do not go through the house battery disconnect; however, these loads still pass through a fuse or mini-breaker before progressing to the load.



⚠ IMPORTANT

When a 12 Volt load or component is not working, both 12 Volt power (+) and 12 Volt ground (-) are needed for the load to complete the 12 Volt circuit.

120 Volt Electrical System Overview

This article provides general information about the components and functions of the 120 Volt Electrical System (AC) in Newmar coaches.

Power Sources

There are three types of alternating current (AC) power sources available to the coach: shore power, generator power, and inverter power. Shore power is provided by the RV park or by home service outlets and should be used whenever possible. Generator power should mainly be used when shore power is not available, specifically while traveling, when 120 Volt power is necessary to run high amperage loads, or when dry camping requires 120 Volt for battery charging. Inverted power is mainly used for light 120 Volt loads when shore power is not available and generator power is not desired.

Inverter Power: This type of power starts at the battery bank. The battery bank supplies 12 Volt power through cables to the inverter, which uses the 12 Volt direct current to produce 120 Volt alternating current. The inverter performs this action by using a transformer to increase the voltage and modify the higher voltage into a useable alternating current power. Power then goes to the inverted sub panel, which is dispersed through the individual breakers to the outlets or appliances.



The inverter may provide battery charging while 120 Volts is supplied via the generator or shore power. The inverter performs this action by using the transformer to decrease the voltage and rectify the alternating current into useable direct current voltage. This is regulated by internal sensing circuitry based upon the battery bank's state of charge and several other factors, depending on the coach's particular inverter brand and type.

Generator Power: Generator power is produced within the generator and is output through the main wiring to the transfer switch. From the transfer switch, the power moves to the main breaker box where it is dispersed to individual circuits (outlets) and hard-wired components such as a water heater or boiler. From the inverted circuits, generator power will then travel through the inverter's internal transfer switch and back to the inverted subpanel to be dispersed through the individual breakers to the outlets or appliances.



Shore Power: Most RV parks provide 30 Amp, 120 Volt at the site; however, many parks also provide 50 Amp, 240 Volt service to accommodate the electrical needs of newer and larger coaches.

Shore power is supplied to the coach via a power cord. Two sizes of power cords are found in Newmar coaches: 50 Amp and 30 Amp. The 50 Amp cords are made up of four conductors #8 stranded wire and a molded plug. The 30 Amp cords are made up of three conductors #10 stranded wire and a molded plug.

Shore power enters through the 30 or 50 Amp power cord to the power cord reel (if equipped). From the power cord reel, it travels to the transfer switch and then to the main breaker box where it is dispersed to the individual circuits to supply power to hard-wired components such as air conditioners, water heaters, etc. and then to the inverter (if equipped).

The inverted circuits move from the inverter's internal transfer switch to the inverter subpanel (a smaller breaker box). From the subpanel, the power circulates to the individual breakers and to the electrical outlets and appliances.



Shore Power Adapters

⚠ IMPORTANT

Newmar Corporation does not recommend use of adapter, cheater, or dog-bone style connectors that will modify the existing shore power cord to a different style of outlet. Use of this type of adapter will greatly reduce the amount of available current in the unit, as well as create the potential for electrical failure and/or fire.

If an adapter is used, there are three common sizes of power cord adapters available to adjust to a smaller amperage outlet:

1. 30 amp to 20 amp
2. 50 amp to 20 amp
3. 50 amp to 30 amp



It is important to understand the risks involved and the possible effects of using adapters in conjunction with your coach. Some of these risks and possible effects include:

- Melted or damaged adapters causing poor connection (or no connection at all)
- Melted or damaged 30 or 50 Amp plugs causing fluctuations in voltage that may damage electronics
- Insufficient amperage causing the tripping of a breaker at the post or a limited use of appliances

Low voltage can also be caused by use of adapters, long extension cords, or extension cords with an insufficient wire size.

⚠ IMPORTANT

Newmar Corporation cannot assume liability for failures occurring to the RV, its electrical system, or any of its components from the use of any electrical adapter.

Automatic Transfer Switch: Current coaches with a generator will also have a transfer switch installed in the cord compartment. An automatic transfer switch converts two inputs and connects them to a single common output.

The shore power cord is connected to one of the inputs, while the generator is connected to the transfer switch's second input.

Automatic transfer switches are logic-controlled to convert under a given set of conditions. The transfer switches used in RVs are typically generator priority switches which connect to shore power under normal use. As soon as the transfer switch detects the presence of 120 Volt power on the generator input lines, it will switch over to the generator's inputs and drop the connection to shore power.

Transfer switches are designed so that only one input can be connected at a time in order to prevent any backfeeding of electrical power. In addition, RV transfer switches generally have a built-in delay allowing the generator to warm up and speed up before actually switching the load. This prevents stalling or stumbling while the engine is still cold and not producing full power.

Main Service Panel Breaker Box: The main service panel or 120 Volt breaker box is typically located inside a bathroom, bedroom, or front overhead cabinet depending on the coach model and floor plan. The breaker box contains the main 50 Amp (or 30 Amp if equipped) breaker and the individual breakers protecting each circuit from overload conditions. Any unit equipped with two air conditioners or more must have 50 Amp service. The task of the breaker is to "trip" if the current exceeds the amperage rating on the breaker to prevent damage to the wiring of the circuit.

The breakers are resettable by simply flipping the breaker to the 'off' position, and then back to the 'on' position once the overload condition is removed. All 120 Volt circuit breakers are located in the main service panel unless the coach is equipped with an inverter/charger. These units are also equipped with a subpanel.



⚠ IMPORTANT

Breakers positioned next to each other are on different poles in a 50 Amp panel. If only part of the electrical circuits are working, you may have a poor connection at shore power. In this instance, power is most likely only being provided to one pole or leg.

Subpanel: The subpanel is a smaller 120 Volt breaker box containing the breakers for the circuits which the inverter is wired to power.

It is typically located near the main breaker box unless the coach is equipped with an Energy Management System (EMS). In this case, the subpanel is often located within the EMS panel.

The subpanel is installed to limit the AC power use to specific circuits when the electricity is supplied by the inverter. Some inverters may be used to power a specific circuit. In this case, a subpanel is not used.

Automatic Generator Start (AGS): On coaches equipped with AGS, the generator will start and provide 120 Volt power if the incoming shore power voltage is not present and startup parameters are met. The AGS may be controlled via the KIB or SilverLeaf system.



⚠ IMPORTANT

This function must be enabled in order for the AGS to function properly.

This allows the AGS to start on demand from the A/C for either heat (heat pump only) or cool.

Follow Silverleaf or KIB L-Panel instructions for proper zones, heat, cool and AGS settings. For more information about AGS operation via the SilverLeaf system, refer the year/model-specific SilverLeaf Touchscreen Guide in Newgle.

Power Distribution

50 Amp Energy Management System (EMS): The 50 Amp Precision Circuits Energy Management System is currently offered as standard or optional equipment on all coaches not equipped with a SilverLeaf Coach Management System. Its function is to provide power management for certain 120 Volt loads and as a system of energy management to minimize the overloading and tripping of circuit breakers. The EMS contains a main distribution panel with a self-contained control module and a remote display panel, which is typically located in the dash overhead electrical control cabinet.

The EMS control module automatically senses the available power being supplied to the coach. The module determines whether it is connected to a 50 Amp (240 Volt) or the generator. On 120 Volt service, it is unable to determine if the source is providing 30, 20 or 15 Amp shore power. Depending on available power, it can control up to seven loads.

The EMS controls air conditioner loads using low-voltage switching and other 120 Volt, heavy-load appliances, such as block heaters, water heating elements, and air conditioners. The EMS will also control the 2012 Magnum inverter charge rate or switch to invert depending on the charging status. The charger will only reduce once it is in float status.

The current-sensing relay will display the amperage on each leg. The EMS will start shedding loads and look at the AC current when it sheds a load, determining when it has enough current available to turn on the load again.

When the EMS sheds a load, it only looks at one leg to see how much of a load was shed. For coaches equipped with the SilverLeaf system, refer to the SilverLeaf Functional Guide for more information on your EMS.

Converters: All Newmar coaches are equipped with a converter or an inverter/converter combination. Converters are used to transform alternating current power (120 Volt AC) to direct current power (12 Volt DC). Converters supply the coach with 12 Volt power to operate systems in the coach and provide battery charging.

Newmar currently uses three sizes of converters: 45, 60, and 80 Amp models. Previous units may have a 55 or 75 Amp converter or two 45 Amp converters with a total of 90 Amps available.

When replacing a converter, it is necessary to use the same size converter to ensure sufficient wiring and breakers for the converter's input and output ratings.

Possible causes of converter failure:

- Overheating caused by cooling fan malfunction or inadequate ventilation causing damage to the converter
- Blown fuses

Inverters: An inverter changes 12 Volt DC power to 120 Volt AC power. Coaches with an inverter only typically use it for powering the entertainment equipment like the TV, DVD, and Blu-ray players. The inverters used for this purpose are usually 600 watt to 1000 watt (1000 Watt inverters may also power a small refrigerator) and do not have battery charging capability.

The inverters are usually located in a basement compartment of the coach. Some inverters have a remote panel for an on/off switch in the overhead driver area or above the entry door. When power is supplied by either the generator or shore power, the inverter merely allows the power to "pass through" and will then stop pulling power from the batteries to try and supply 120 Volt power. There is a protective breaker on the inverter to prevent circuit overload.

Possible causes for inverter failure:

- Overheating caused by inadequate ventilation causing damage to the inverter
- Overloading the circuit causing "tripped" breakers



Inverter/Converter Combinations: Many Newmar coaches are equipped with inverter/charger combination units, sometimes referred to as inverter/converter units. These units range from 1200 to 3000 watts and serve as a three-stage charger and an inverter. Coaches equipped with this option will also be equipped with a 120 Volt subpanel.



The subpanel is used to limit the circuits powered by the inverter(s). This is necessary to avoid draining the batteries by supplying inverted power to all circuits. The subpanel is located next to the main service panel. On units equipped with an EMS, the subpanel is located in the same breaker box but is separated in the interior of the main panel. The coach battery bank supplies the inverter 12 Volt power and has a high amp fuse link on the positive lead from the batteries and is located near the battery bank.

The inverter/charger can be controlled by a remote panel, from another system like SilverLeaf, or at the inverter itself. The remote panel is typically located in the front overhead compartment or above the entry door and is used to control the inverter and the battery charging functions. If a remote panel is connected to the inverter, then the remote panel takes priority.

Three-Stage Charging Process: The charging cycle uses three states: bulk, absorption, and float. During the initial bulk stage, the inverter charges at nearly its full current ability. This causes the battery voltage to rise over time. After the battery voltage reaches the bulk voltage setting, the charger starts the absorption stage.

During this phase, the charge rate is gradually reduced while the battery voltage is held near the bulk voltage setting. This ensures that the battery is fully charged. The float stage is initiated when the battery has been held at the bulk voltage setting for the absorption period. At this point the battery voltage is allowed to fall to the float voltage setting, where it is maintained until another charge cycle is initiated. This reduces gassing of the battery and keeps it fully charged. A new three-stage charging cycle is initiated after an AC source is reapplied to the AC input terminals.

120 Volt Outlets: Several 120 volt receptacles are located throughout the interior of the unit. These receptacles require three-pin plugs that provide proper grounding to protect you from electrical shock. The breaker for the outlets are usually located in the breaker box. If the breakers are on the inverted circuitry, they will be located in the subpanel near the main breaker box.



⚠ IMPORTANT

Do not use an adapter, cheater, or extension cord that breaks the continuity of the ground circuit to the ground pin. Never remove the ground pin from a plug to connect it to a two-pronged ungrounded outlet.

Ground Fault Circuit Interrupt (GFCI) Outlets: The Ground Fault Circuit Interrupt (GFCI) outlets protect the user from ground faults between a hot wire and ground. The 120 Volt electrical outlets in the kitchen and bath area are GFCI-protected receptacles. The electrical outlets located in the Slideouts are wired through the kitchen GFCI. The exterior electrical outlets are wired through the bathroom GFCI. On units equipped with the floor heat option, a separate GFCI is installed in the bathroom or near the main breaker box. Units with the holding tank heat pad option will have an additional GFCI located in the basement area; however, the exact location varies.



The GFCI outlets should be tested at least once a month. The 120 Volt electrical system must be energized to test the GFCI. The reset button needs to be pressed before starting the test. Then push the test button, which will cause the reset button to pop out, confirming the protected circuits have been disconnected. Push the reset button again until a click is heard to reactivate the protected circuit. If the GFCI is working properly, the reset button will remain in the "IN" position. If an item plugged into a Slideout or outside receptacle is not working, check for a tripped GFCI in the kitchen or bathroom. Likewise, if the floor heat or holding tank heat pads are not working, check the GFCI for that circuit.

⚠ WARNING

The GFCI will not reduce the shock hazard if the short is between a neutral and hot wire or two hot load wires.

Electrical Typical Amp Draw List

This article provides a basic overview of the typical amp draw of electrical components and appliances in a coach.

Amp Draw

Do you know how many Amps you are using at any single moment? It is surprising how quickly the current draw (Amps) of your appliances can add up for your coach's 30 or 50 Amp system. Knowing and understanding the electrical terminology, as well as the average amperage (current draw) of all the electrical appliances in your coach, can help you manage electrical use and prevent the inconvenience of tripping a breaker.

Below is a list of the typical appliances used and the approximate amps required to operate them.

- V= volt; volt is the measurement of electrical pressure
- A= amp; amp is the measurement of electrical current (volume) used by an electrical device.
- W=watt; watt is the measurement of how much electrical work is being done.

Appliance	Required Amps
Air Conditioner (depending on brand, BTU rating and options)	14.0 to 16.0 Amps
Inverter (depending on wattage rating, brand, and model)	9.0 to 18.0 Amps
Converter with continuous 12 volt power supply (depending on amp rating and brand)	11 to 17 Amps
Refrigerator (residential compressor-type)	8.5 to 12.0 Amps
RV Refrigerator (Absorption)	2.7 to 6.4 Amps
Microwave Oven	11.3 to 14.2 Amps
Washer and Dryer (2-piece)	16.0 Amps
Television (depending on size, brand, and type)	1.0 to 3.0 amps
Central Vacuum Cleaner	11.3 Amps
Electric Hot Water Heater (depending on brand and type)	11.7 to 12.5 Amps
Food Processor	6.0 Amps
Ice Maker	4.0 Amps
Electric Freezer (Compressor)	6.4 Amps
Hair Dryer (1500w)	12.5 Amps
Electric Coffee Pot	9.0 Amps
Iron	10.0 Amps
Radio	0.8 Amps
Toaster	8.0 Amps
Electric Frying Pan	10.0 Amps
Coffee Maker	10.0 Amps

Conversions

Look at your electrical appliances, find the label containing amperage or wattage ratings, and calculate exact usage with the formulas:

- Watts/Volts = Amps
- Amps x Volts = Watts
- Watts/Amps = Volts

Most products requiring electricity provide how many amps or watts they typically utilize. If your electric water heater is always in use (~12.5 amps), and you start your air conditioner (~15.0 Amps) and put on a pot of coffee (~9.0 amps) and make some toast (~8.0 amps) while watching TV (~2.0 amps), you have far exceeded the 30 amp service, resulting in a tripped breaker. Many people don't take into consideration how much power may be used by the inverters charging circuits mostly because they are working automatically in the background. 50 amp service has two 50 amp power legs, providing a total service of 100 amps.

BATTERIES

Battery Basics

Introduction

As with anything technical, greater knowledge of the basics may help you increase performance, reliability, and longevity, as well as prevent future problems with your batteries. This article will provide information regarding your coach batteries; however, this is only one aspect of your coach's electrical system. To learn more about your batteries' role within the system, please refer to the 12 Volt Electrical article.

Commercial lead acid batteries have been used for over 150 years. The same chemical principal used to store energy now was also used many generations ago. Present day chassis battery power requirements are tremendous, considering today's vehicles and all of the electrical devices that must be supplied. All of these electronics require a reliable power source, and poor battery condition may lead to expensive electronic component failure. A battery is like a piggy bank - it stores energy, but cannot produce it. If you continue to withdraw without making any deposits, you will soon have nothing left.

Life Span of a Battery

Not long ago, motor homes only used a single 12 Volt house battery. Today, however, it is standard to have at least two batteries, and up to 16 total in some Newmar coaches, powering inverters up to 3000 watts. As energy requirements increase, the average battery life decreases. The life span of a deep cycle battery will vary considerably with how it is used, how it is maintained and charged, temperature, and other factors. The life span is dependent upon usage but often ranges between six months to 48 months. Only 30 percent of all batteries actually reach the 48 month mark.

It is best practice to change the complete battery bank when a new battery becomes necessary, as the battery bank is only as good as the weakest cell. One simple way to extend battery life is to hook it up to a solar charger during the off months.

Common Battery Terms

Ampere (Amp) - A unit that defines the flow rate of electricity (current) in a circuit.

Amp Hour (AH) - Measurement of electrical storage capacity on a deep cycle battery. The standard amp rating is taken for 20 hours. Example: A 100 AH rated battery is determined like this: Draw from the battery for 20 hours provides a total of 100 amp hours, translating to about five amps an hour (5 amps x 20 hours = 100 AH). However, it is important to know that the total time of discharge and load applied is not a linear relationship. As your load increases, your realized capacity decreases. This means if you discharged that same 100 AH battery by a 100 amp load, it will not give you one hour of runtime. On the contrary, the perceived capacity of the battery will be about 64 AH.

Cold Cranking Amps (CCA) - Measures the number of amps a battery can deliver at 0° F for 30 seconds without dropping below 7.2 Volts (1.2 Volts per cell). A high CCA battery rating is especially important in engine-starting battery applications and in cold weather. This measurement is not particularly important in deep cycle batteries, though it is the most commonly known battery measurement.

Cranking Amps (CA) - Measures available current at 32° F and is also called marine cranking amps (MCA).

Depth of Discharge (DOD) - Measures the percent of rated capacity to which a cell or battery is discharged. It is the reciprocal of a battery's state of charge. Example: A battery that has a depth of discharge of 45 percent has a state of charge of 55 percent.

Reserve Capacity (RC) - Measures the number of minutes a fully charged battery can continuously deliver 25 amps at 80 ° F before the voltage drops below 10.5 Volts. This measurement represents the amount of time the battery can operate if a charging system failure occurs.

Electrolyte Specific Gravity (battery test) - Unit of measure that compares the weight of the electrolyte solution to the weight of water. This test is performed with a hydrometer or a refractometer that is made for testing batteries. This type of test is used to determine the battery's state of charge; however, it cannot be used on sealed batteries.

Battery Types

Liquid Lead Acid / Flooded

The Lead Acid battery consists of a plastic container with cells molded into it. Each cell contains plates, lead, and lead oxide (various other elements are used to change density, hardness, porosity, etc.) with 35 percent sulfuric acid and a 65 percent water solution. This solution is called an electrolyte, which causes a chemical reaction that releases electrons.

When testing a battery with a hydrometer, the amount of sulfuric acid in the electrolyte is measured. If the reading is low, the chemistry that makes electrons is lacking. The sulfur is now resting on the battery plates and will remain there until the battery is recharged and the sulfur returns to the electrolyte.

⚠ CAUTION

Use only distilled water to fill flooded / liquid lead acid batteries.

Absorbed Glass Mat (AGM) / Dry Cell

The Absorbed Glass Mat battery is just like a flooded battery, except the electricity is maintained in the glass mats, as opposed to freely flooding the plates. Very thin fibers are woven into a mat to increase the surface area to hold sufficient electrolyte on the cells for their lifetime. The construction allows the electrolyte to remain suspended in close proximity with the plate's active material, enhancing both the discharge and recharge efficiency.

When Deep Cycle AGM batteries are not discharged more than 60 percent, the cycle life could be approximately a few hundred cycles. If you do not use or operate your equipment daily, AGM batteries will hold their charge better than most other types. In most cases AGM batteries will provide a greater life span and cycle life than a Wet Cell battery.

AGM batteries are also often referred to as Sealed Regulated Valve, Dry Cell, Non-Spillable, and Valve-Regulated Lead Acid batteries.

⚠ CAUTION

Follow battery manufacturer instructions. Do not add any liquid to AGM batteries.

Gel Cell Batteries

The Gel Cell is similar to the AGM battery because the electrolyte is suspended; however, the AGM battery is still considered to be a wet cell. The electrolyte in a Gel Cell has a silica additive that causes it to set (gel) or stiffen. The recharge voltage on this type of cell is lower than the other types of lead acid batteries, due to the likelihood of an adverse reaction to over-voltage charging. Gel Cell batteries are best used in very deep cycle applications and may last longer in hot weather applications.

⚠ CAUTION

Follow battery manufacturer instructions. Do not add any liquid to gel cell batteries.

For more information about [Battery Inspection, Safety, Care, and Maintenance](#), refer to Newgle.

Lithium Batteries

Lithium batteries are made differently and have several different characteristics from AGM, gel cell, or lead-acid batteries. They charge at different rates, discharge differently, and are affected by temperature differently. For more information on lithium batteries installed in Newmar coaches, refer to the corresponding year and model "Lithium Battery Quick Start Guide" in Newgle. If the coach was not originally equipped with a lithium battery system, Newmar does not recommend, condone, or offer suggestions for battery replacement using lithium batteries.

⚠ CAUTION

Newmar coaches are set up, configured, and tested to operate properly with the electrical system that was installed at the time of production, including, but not limited to the battery, solar, inverter, and any multiplex system(s). Modifications to any part of the electrical system may cause adverse effects to the coach function and should not be done. If the coach's electrical system is modified, including, but not limited to batteries, solar, or inverter systems, Newmar will not warranty or aid in the diagnosis of electrical, battery, multiplex, and/or charging system issues.

Battery Bank Wiring

Parallel Battery Wiring

Parallel battery wiring refers to two or more batteries with all positive (+) terminals hooked together and all negative (-) terminals hooked together. This results in a battery voltage similar to that of the individual batteries, typically 12 Volt, to boost battery capacity. Two identical batteries wired parallel will provide twice the electrical storage capacity of one battery, without increasing voltage.

Series Battery Wiring

Series wiring refers to two or more batteries hooked together, with opposite terminals connected. The positive (+) terminal of the first battery should be connected to the negative (-) terminal of the second battery. The resulting voltage is the sum of the individual batteries. For example, if two six Volt batteries are hooked together, the resulting voltage will be 12 Volts.

Series/Parallel Wiring

Series/ Parallel battery wiring is used on Newmar units when four or more 6 Volt batteries are used for the house battery bank. Since 12 Volts is the desired working voltage from the battery bank, the batteries are connected to provide 12 Volts with more capacity. Two 6 volt batteries wired together in a series create a 12 Volt battery bank. Two or more of the 12 Volt battery banks can be connected together in a parallel format to provide more capacity.

In situations where multiple batteries are connected in a series, parallel or series/parallel, replacement batteries should be the same size, type, and manufacturer (if possible). Age and usage level should be the same as the companion batteries.

Battery Cycle vs. Battery Life

A battery cycle is one complete discharge and recharge cycle (100 percent to 20 percent, and then back to 100 percent). Battery life is directly related to how deep the battery is cycled each time. The most common cycles are 10, 20, and 50 percent. Be cautious of ratings that list the number of cycles, unless it also states how low the battery is being discharged.

For example, telephone type (float service) batteries have been advertised as having a 20-year life. However, the rating only stands true at five percent depth of discharge (DOD), and the life span is much less when used in an application where the batteries are cycled deeper on a regular basis. Those same batteries are rated at less than five years if cycled to 50 percent.

If a battery is discharged to 50 percent every day, it will last about twice as long as if it is cycled to 80 percent DOD. If cycled only 10 percent DOD, it will last about five times as long as one cycled to 50 percent. The most practical number to use is 50 percent DOD on a regular basis for the best use of effective storage and cost.

In addition, there is an upper limit. A battery that is continually cycled down five percent or less will usually not last as long as one cycled down 10 percent. At very shallow cycles, lead dioxide tends to build up in clumps on the positive plates rather than in an even layer.

Battery State/Voltage Chart (AGM, Lead Acid)

State of Charge	Specific Gravity	12 Volt	6 Volt
100%	1.265	12.7	6.3
75%	1.225	12.4	6.2
50%	1.190	12.2	6.1
25%	1.155	12.0	6.0
Discharged	1.120	11.9	6.0

IMPORTANT

This battery state voltage chart is used as an example. Your specific battery manufacturer's chart may vary.

Note: Both voltage and specific gravity tests should be performed with no load on the batteries and without any supplied charging. Turn off all draws and charging. Allow the batteries to stabilize, and then proceed with the test.

House and Chassis Battery Bank Overview

This article provides a brief overview of the two different battery banks in a Newmar coach: House and Chassis.

Chassis Battery Bank

The chassis battery bank supplies power to everything a customer requires to drive the unit. Currently, Newmar's chassis batteries are all Liquid Lead Acid. Spartan and Ford chassis have serviceable batteries and Freightliner chassis batteries are sealed.



CHASSIS BATTERY BANK EXAMPLE

The type and brand of chassis battery may vary depending on coach year, make, and model. Chassis batteries may need to be disconnected and removed from the coach to maintain proper electrolyte levels or perform routine battery maintenance. House batteries may be either serviceable Liquid Lead Acid/Flooded or AGM/Sealed Cell.

The chassis batteries on your motorhome are installed and warranted by the chassis manufacturer. The coach (or house) batteries on your motorhome are installed by Newmar Corporation, but warranted by the battery manufacturer. These batteries are used to operate the 12 volt items that are not a direct part of the chassis.

Depending on the coach, the batteries may be located in the front of the coach under the front cap or on a pull out tray in an outside compartment.

⚠ CAUTION

Do not use the motorhome with the coach batteries disconnected.

The chassis batteries are recharged by the vehicle's electrical system whenever the engine is running, with added BIRD, BIM, or Charge bridge solenoids the vehicle's charging system will also charge house batteries if parameters are met. A decline in the coach battery voltage may be noticed while the chassis batteries are being charged.

The converter will automatically charge the coach batteries when the unit is connected to a 120 volt outside power source. The chassis batteries are isolated from the coach batteries, however with certain parameters met the BIRD, BIM, or Charge bridge will activate and allow charge to the chassis battery also. This prevents the chassis batteries from being drained by the interior 12 volt equipment, allowing ample voltage for engine ignition.

House Battery Bank

The house battery bank is necessary to operate everything a customer may require to live in the coach.

These batteries can be either 6 Volt deep cycle (all diesel coaches except coaches equipped with a lithium battery bank) or 12 Volt deep cycle, depending on the model and brand of the coach. Newmar house batteries may be serviceable or sealed.

For more information about the lithium battery system, refer to Newgle.



Battery Boost (Emergency Engine Start) Switch Overview

This article provides the Newmar-recommended instructions for operating the battery boost switch. This switch is sometimes referenced in Newmar's sales materials as the "Emergency Engine Start Switch."

Dual Position Battery Boost Switch

2019 and newer diesel pusher coaches may have a dual position battery boost switch. This simply allows the chassis battery to be boosted from the house battery bank or the house battery bank boosted from the chassis battery, allowing the solenoid to operate from either source that has power to engage the boost solenoid. Once a click is heard, the solenoid has been energized and the battery voltage will be able to flow from the battery bank with the higher voltage to the battery bank with the lower voltage.

If you're in a situation where battery boost is necessary, press and hold down the switch while trying to start the coach. If the coach still does not start, try holding the switch in the opposite direction, and try again. If this is also unsuccessful in starting the coach, refer to the "Charging House and/or Chassis Batteries" article in Newgle for additional information prior to contacting Newmar for assistance.



Freightliner Diesel Pusher Chassis Battery Overview

This article provides an overview of the Freightliner chassis battery bank on a diesel pusher coach.

Freightliner chassis batteries are sealed, non-serviceable batteries. They are provided with the chassis and warrantied through the chassis manufacturer (Freightliner).

The type and brand of chassis battery may vary depending on coach year, make, and model. Chassis batteries may need to be disconnected and removed from the coach to perform routine battery maintenance.

The chassis batteries are recharged by the vehicle's electrical system whenever the engine is running. With an added BIRD, BIM, or charge bridge solenoid, the vehicle's charging system will also charge the house batteries if the parameters are met.

The inverter charger will automatically charge the coach batteries when the coach is connected to a 120 volt outside power source or if the generator is running.

The chassis batteries are isolated from the coach batteries; however, when certain parameters are met, the BIRD, BIM, or charge bridge will activate and allow charge to the chassis battery. This prevents the chassis batteries from being drained by the interior 12 volt equipment and allows ample voltage for engine ignition.



Freightliner Diesel Pusher Chassis Battery Disconnect Overview

This article provides basic operation instructions for a Freightliner diesel pusher chassis battery disconnect switch.

A single Freightliner chassis battery disconnect switch is located in the rear passenger side compartment on diesel pusher coaches.

To turn on the disconnect switch, rotate it to the ON position. To turn the disconnect off, rotate the switch to the off position. When turned off:

- it will disconnect most of the chassis battery loads to prevent unwanted drain from the batteries
- the ignition key and most dash components will not operate
- it will disable starting of the engine, which is necessary when placing the coach in storage or when working on the coach engine
- it can rapidly disconnect the power supply in the event of an emergency



House Battery Disconnect Overview for Diesel Pushers

This article provides basic operation instructions for a house battery disconnect switch on a diesel pusher.

The House Battery Disconnect Switch (labeled "Batt. Disc.") is used to control the disconnect relay connected to the battery bank and is typically located in the passenger side console. This switch disconnects most loads when placing the coach in storage or when the coach is not in use. This is done to prevent the coach batteries from being drained during storage.

Not all loads are disconnected, and, depending on the coach and its options, some systems may have memory circuits purposely not wired to the disconnect solenoid, including, but not limited to, the LP detector (if equipped), driver memory controls, and other memory-based features.

In addition, the inverter is typically not on the disconnect and will need to be powered off separately. This allows the inverter to charge the batteries when plugged into shore power with the battery disconnect turned off.

Some switches have a shield on the sides to help prevent accidental battery shutdown when trying to operate the baggage door lock switch.



To operate the battery disconnect:

1. Press up on the rocker switch to turn on the disconnect and reconnect the batteries. This will make the 12 volt system ready for use. When the battery disconnect is turned on, the indicator light will illuminate.
2. Press down on the rocker switch to turn off the battery disconnect and disconnect the batteries. When the battery disconnect is turned off, the indicator light will also turn off.

Battery Inspection, Safety, Care, and Maintenance

This article provides information regarding the inspection, care, and maintenance for coach batteries. Battery maintenance is an important issue often overlooked by many RV owners and technicians. As batteries age, their maintenance requirements change. This means longer charging time and/or higher finish rate (higher amperage at the end of the charge). Usually older, serviceable (unsealed) flooded batteries need to be watered more often, as their capacity decreases over time.

Safety Guidelines

WARNING

Prior to handling or working with a lead-acid battery, consult your battery owners' manual for instructions and safety precautions.

CAUTION

Disconnect the 120 volt electrical power cord and the negative terminal from the coach batteries, and make sure all power sources are disable (ignition, generator, shore power, inverter) before working on the electrical system.

WARNING

Remove rings, metal watch bands, and other metal jewelry before working around batteries. Use caution when using metal tools. If a tool contacts a battery terminal or metal connected to it, a short circuit could occur, which could cause personal injury, explosion, or fire.

Lead-acid batteries contain hydrogen-oxygen gases that may be explosive and sulfuric acid that may cause severe burns. To avoid injury, observe these precautions when handling or working with a lead-acid battery:

- Wear ANSI (American National Standards Institute) approved safety glasses or goggles, as well as a face shield.
- Wear proper clothing to protect your face, hands, and body.
- Work in a well-ventilated area.
- Never lean over a battery while boosting, testing, or charging.
- Keep all ignition sources away from the battery. Cigarettes, flames, or sparks could cause a battery to explode.
- Always shield eyes and face from the battery.
- Do not charge or use booster cables or adjust post connections without proper instructions and training.
- Keep vent caps tight and level.
- In the event of an accident, flush eyes or skin with water, and call a physician immediately.
- Keep out of reach of children.

Common Causes of Premature Battery Failure

- Deep discharges (leaving your lights on)
- Misapplication
- Replacement using an undersized battery not meeting Newmar's OEM specifications
- Loss of electrolyte due to overheating or overcharging
- Undercharging or loose alternator belt
- Excessive vibration (due to loose clamp or hold down on battery)
- Corrosion
- Freezing (A fully-charged vehicle battery will not freeze until the temperature is -75° F. Frozen batteries are not warrantable.)
- Failure to charge a battery during a period of six months or more (Inactivity can be extremely harmful to all lead acid batteries.)

Cleaning the Batteries

Check the vent plugs and replace them if they are cracked or broken. Keep the battery clean. Accumulations of acid film and dirt may permit current flow between the terminals, which could drain the battery.

To clean, wash the batteries with a diluted solution of baking soda and water to neutralize any acid present. This should be a mixture of a couple of tablespoons of baking soda per pint of water. Rinse thoroughly with clean water. Foaming around the terminals or on top of the battery is a sign that acid is being neutralized. Avoid getting the baking soda solution in the battery. Secure all vent caps.

Both house and chassis battery cable connections need to be cleaned and tightened, as battery problems are often caused by dirty and loose connections. Dry the battery cables and terminals to prevent corrosion. Do not use grease on the bare metal inside the cable terminals. Grease can act as an insulator, and electricity will not flow through it. A plastic ignition spray will protect the terminals after they have been cleaned.

WARNING

Do not allow the battery fluid to contact your skin, eyes, fabric, or painted surfaces. The fluid could cause serious personal injury or property damage. Wear eye protection when working with any battery.

Storing the Batteries

Remember that when batteries are not used for an extended period of time, they may lose their charge. Periodic charging of the batteries during storage of the unit will increase the life of the battery. Check the external condition of the battery periodically. Look for cracks in the cover.

The batteries should be removed and stored in a warm place when not using your motorhome for an extended period of time. This will prevent unnecessary drain and corrosion of the batteries. The coach batteries are 6 volt RV/Marine deep cycle batteries. Mark the cables, positive and negative, for easy identification. Batteries are not to be stored on concrete floors.

Preventing Corrosion

Newmar sprays the battery connections once they are tightened with a battery protector and sealer to help prevent corrosion. When performing battery maintenance, you should reseal the battery terminal connections. The following measures may also prevent future corrosion:

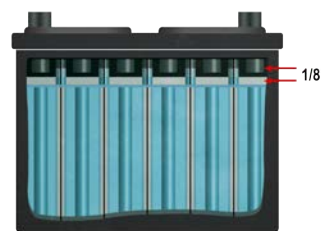
Use a small bead of silicone sealer at the base of the post where it meets the battery case. Place a felt battery washer over the post and into the bead of silicone. Coat the washer with high temperature grease or petroleum jelly (Vaseline), then place the cable on the post and tighten. Coat the exposed cable end with the grease. The gas condensation on metal parts of the battery cause most corrosion issues.

Lead-Acid Battery Maintenance: Checking the Fluid Level and Adding Fluid

This article provides information regarding the inspection, care, and maintenance for lead-acid coach batteries.

Checking the Fluid Level and Adding Fluid

A serviceable battery needs to have the fluid level checked, as they consume water and must be filled periodically. Please be sure to check the battery water level on a regular basis.



1. A serviceable battery needs to have the fluid level checked. AGM batteries do not require additional fluid. If the battery has removable vent caps, they can be twisted or pried off with a flat-head screwdriver. Once removed, the individual vent wells can be seen. Look down into each individual cell to make sure that the water is covering the lead plates and is at the proper level. Add water to any cells that are low on water. Ideally, the water level should be 1/8" below the bottom of the tubes
2. (there are six tubes in a 12 Volt battery) that go down into the battery. To avoid damage to the battery, make sure the fluid level never drops below the tops of the lead plates in each of the cells. Always use distilled water to fill the battery to prevent battery contamination. Do not overfill battery cells. Adding too much water may result in acid overflow and damage around the battery. In
3. addition, warmer weather may cause natural fluid expansion, forcing excess electrolytes from the battery.

⚠ CAUTION

Use only distilled water to fill flooded / liquid lead acid batteries. Non-serviceable (AGM, Gel Cell) batteries do NOT require the addition of ANY liquid. Adding liquid to non-serviceable AGM or Gel Cell batteries will result in damage to the batteries and will not be covered under warranty.

Battery Replacement Recommendations

This article provides information about general battery location and replacement recommendations.

Battery Location and Wiring

On diesel coaches, the house batteries are normally located in one of the lower compartments.

The chassis batteries are normally on the passenger side in the rear compartment on diesel pushers and under the driver's side cab on the front engine on Super C coaches.



On coaches built on a Ford chassis, batteries are normally located in the front of the coach and can be accessed by opening the hood.

A battery wiring label is located inside the battery compartment and shows how the batteries are wired together. Replacement batteries must be wired according to the diagram shown.

Battery Replacement

Replacement batteries should be of the same brand and capacity as the originals. Newmar has used several brands and sizes of batteries over the years. For specifics about your coach's batteries, check the labels on the batteries for brand and amp hour ratings.

⚠ CAUTION

Newmar coaches are set up, configured, and tested to operate properly with the electrical system that was installed at the time of production, including, but not limited to the battery, solar, inverter, and any multiplex system(s). Modifications to any part of the electrical system may cause adverse effects to the coach function and should not be done. If the coach's electrical system is modified, including, but not limited to batteries, solar, or inverter systems, Newmar will not warranty or aid in the diagnosis of electrical, battery, multiplex, and/or charging system issues.

Any time one battery is replaced, it is important to test the rest of the batteries in the system to make sure they are still functioning properly and efficiently. If one defective battery is replaced, while leaving another weak or defective battery, lowered performance, or ultimately damaging the new or good batteries, may result.

⚠ IMPORTANT

Serviceable Lead Acid Batteries Only: Charging batteries release gasses as the fluids inside boil, so it is critical to check the battery fluid levels regularly, particularly after extended periods of heavy use. Be sure to top off any battery that is showing signs of depleted fluid levels.

For more information about coach battery basics, as well as other inspection, safety, and care and maintenance recommendations, refer to Newgle.

SHORE POWER CORD AND CORD REELS

Shore Power Cord Overview

This article provides a functional and operational overview of the shore power cord as part of the coach's 120 volt power system.

30 Amp or 50 Amp Service

Most RV parks provide 30 Amp, 120 Volt at the site; however, many parks also provide 50 Amp, 240 Volt service to accommodate the electrical needs of newer and larger coaches.

Shore power is supplied to the coach via a power cord. Two sizes of power cords are found in Newmar coaches: 50 Amp and 30 Amp. The 50 Amp cords are made up of four conductors #8 stranded wire and a molded plug. The 30 Amp cords are made up of three conductors #10 stranded wire and a molded plug.

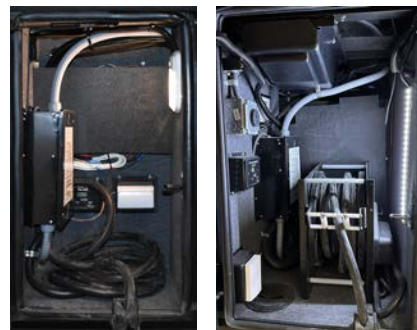


Operation

Shore power enters through the 30 or 50 Amp power cord to the power cord reel (if equipped). From the power cord reel, it travels to the transfer switch and then to the main breaker box where it is dispersed to the individual circuits to supply power to hard-wired components such as air conditioners, water heaters, etc., and then to the inverter (if equipped).

Pull out the power cord, and plug it into an appropriately rated electrical outlet. Make sure the power source is providing the correct voltage before plugging in the shore cord.

To store the cord, disconnect it from the power source outlet. Remove the cord from the channel in the compartment and roll it up as necessary.



Glendinning Cablemaster Power Cord Reel Quick Start (Models: CRR-50 and CRRA-50)

This article provides brief operation instructions for a Glendinning Cablemaster Power Cord Reel (Models: CRR-50 and CRRA-50).

Operation

To extend the power cord:

1. Pull out sufficient cord length that will allow you to route shore power cord to the electrical distribution box.
2. Plug the molded end into the receptacle.

To retract the power cord:

1. Detach plug from receptacle using lever on plug.
2. Press and hold the button and the power cord will automatically retract (CAUTION — it is advisable to monitor the progress of the power cord as it retracts and stores onto the reel).



Maintenance

Experience has shown that when only a short section of power cable is regularly used, the cable may be subject to “kinking”. To relieve this condition, routinely extend the power cable completely and stretch it on any smooth surface. Allow the Cablemaster to retract the cable onto the reel. At least once a year, inspect all AC and DC wiring connections and make sure they are free of corrosion and connections tight.

Periodically inspect the exterior jacket of the power cable for nicks or cuts. If your power cable is dirty, any cleaner should be compatible with the outer jacket material of the power cable.].

Source(s): Cablemaster CRR-50 Manual: Installation and Operation Instructions

Product(s): Glendinning Cablemaster 50 Amp Power Cord Reel w/50' Power Cord (Model: CRR-50, Newmar Part Number: 116690)

TRC Shoreline Power Cord Reel Quick Start (Model: RH5)

This article provides brief operation instructions for a TRC Shoreline Power Cord Reel (Model: RH5)

This unit is designed with a clutch type drive to allow direct engagement during retract and clutch disengagement to allow for free spooling during release. These features are controlled using the rocker switch assembly MH2021, RV2100, or equivalent previously installed.

To correctly operate the unit, follow the steps listed below. If the unit does not perform according to the instructions below, first recheck wiring for any issues.



Motor Operation

1. Ensure power is being supplied by the 12 VDC source.
2. Locate the switch installed. If using Southwire switches, identify the label markings “RETRACT” located at the top switch position and “RELEASE” located at the bottom switch position.
3. To retract the cord back onto the reel, press and hold the switch in the top “RETRACT” position until the desired amount of cord is returned to the reel.
4. To release the cord from the reel, press the switch MOMENTARILY in the bottom “RELEASE” position. This unlocks the spool and allows for the cord to be manually pulled to a desired length. DO NOT attempt to pull cord from the reel without first pressing the switch momentarily in the bottom “RELEASE” position. Only a MOMENTARY press of the switch in the “RELEASE” position will be needed. DO NOT attempt to continuously hold the “RELEASE” switch position, doing so will cause the cord to unravel on the spool.

Cord Operation

Use only approved applicable outlets. Cord connector has a built-in Easy-T-Pull handle for easy disconnect.

User Maintenance

This unit does not have any user serviceable parts. The user can perform periodic inspection of the cord to insure it is still in usable condition. DO NOT use if the cord is damaged.

Source(s): Southwire Shoreline Reels Operation Instructions Model #RH5

Product(s): TRC 50 Amp 34' Power Cord Reel w/Pigtail ([Model: RH54331RM, Newmar Part Number: 132025](#))

ENERGY MANAGEMENT SYSTEMS

Energy Management System Overview

This article provides an overview of the energy management systems used by Newmar.

The energy management and auto generator start systems work behind the scenes to monitor the power supply and demand within the coach. The system is designed to minimize the occurrence of tripped breakers for shore power and the generator while heavy loads are being used. The system turns off other loads temporarily while heavier loads are in use and restores power when heavy loads are turned back off.

When 50 amp service is available, no action is required; however, 30 amp service (or less) requires setting the value of incoming power to be selected.

⚠ NOTICE

Whenever possible, connect coaches equipped with 50 amp shore power cord to 50 amp service, and connect coaches with 30 amp shore power cords to 30 amp service accordingly. It is the best practice to avoid using adapters and cheater cord devices.

Auto generator features may vary by coach model and options. Most AGS systems start the generator if shore power is unavailable and the HVAC system signals for air conditioner operation. Many systems will also start automatically if battery levels reach the preset values.

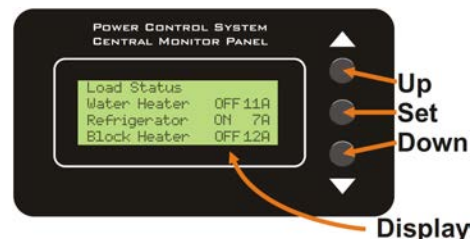
For more information about the energy management system, refer to the SilverLeaf Coach Management or Precision Circuits Power Control System documentation found in Newgle, depending on which system is installed in the coach.

Precision Circuits Power Control System Monitor Panel Quick Start (Model: 00-10019-050)

This article provides basic operation instructions for a Precision Circuits Power Control System Monitor Panel (Model: 00-10019-050).

Monitor Panel

The PCS Monitor displays pertinent Power Control System status information. The UP and DOWN buttons are used to step through each individual Screen of information. Pressing & releasing either the UP or Down button will step to either the Previous or Next Display Screen. Once all the Screens have been seen, the next press of the Button will wrap back around through all the Display Screens once again. The SET Button only functions when the Service Type screen is displayed, to Select between 30A Service and 20A Service.



(Note: 50A Service or Generator Service overrides the SET Button.) If there have not been any key presses for awhile, the PCS monitor turns off the backlighting to save on power. The first press of any key will only turn on the back lighting.

Service Type

- No Service: PCS has 12V Battery power to run the electronics, however, it does not sense any 120/240VAC Power.
- 50-amp Service: PCS senses 240/208VAC between L1 and L2 to determine this mode of operation. PCS controls the loads so that the current does not exceed L1 limit of 50amps, L2 limit of 50amps, and a combined limit of 100 amps.
- 30-amp Service: PCS senses 0VAC between L1 and L2. PCS adds the current of the two sensors and controls the loads so that the current does not exceed 30 amps.

- 20-amp Service: PCS senses 0VAC between L1 and L2, and the owner selects 20A on the Central Monitor Panel. PCS adds the current of the two sensors and controls the loads so that the current does not exceed 20 amps.
- Generator: PCS senses power to the Gen Hour Meter to determine this mode of operation. PCS controls the loads so that the current does not exceed the ratings of the installed Generator, for example L1 limit of 35amps, L2 limit of 35amps, and a combined Limit of 63 amps.

Operation Mode

This Screen gives the general information about Load Status.

The First Line shows the Status of the Magnum Battery Charger. It will either be: Bat Charge Normal, under complete Magnum Control, or Bat Charge Reduced, which means an Owner activated appliance would have caused a circuit breaker to trip but instead the Bat Charger Rate has been reduced. Reducing the Battery will be the 1st thing that PCS will attempt in order to reduce overall RV Power. Battery Charge may not be reduced if the Battery is Low, or the Magnum Inverter is on Line 1 Circuit Breaker and the Overload is on Line 2 only.

The Second Line show the Status of the Magnum Inverter. It will either show Inverter Normal, under complete Magnum Control.

- Inverter Assist, PCS is requesting that the Magnum Inverter assist by temporarily generating 120VAC power from the batteries.
- Inverter Assist 12A, the end of this line shows the amount of 120VAC current that the Inverter is supplying.
- Inverter Assist Deny, means the Magnum Inverter can not Assist at this time, for one of many Magnum Inverter reasons, i.e. Battery Low, Over-current, etc. (See Magnum Owner's Manual).
- The Last Line shows if any Loads have been Shed to prevent circuit breaker tripping. Load(s) Shed = 7, depending on the model RV, there can be up to 7 Loads that PCS can control.

Load Status

Where the last Screen gave general information about all the controlled Loads, these next two screens gives detailed information about the status of each Load under PCS control.

Water Heater OFF 11A, indicates that the Water Heater power has been temporarily turned OFF, and the current at the instant the Water Heater was turned off last was 11 amps.

Refrigerator ON 7A, indicates that the Refrigerator has power. Again the 7amps of current is NOT the present current draw, but rather the current at the instant the Refrigerator was turned off last. A/C #2 ON, indicates that the A/C #2 has power. Since there is no current displayed, that only indicates that this load has not been turned OFF even once since the Battery has been reconnected and 12V power applied to PCS. PCS has never had a chance to "Learn" the current. The Current Displayed, is re-learned each and every time that the Load is turned OFF.

Looking at the list, it appears that PCS does not turn off Loads in Order Preference. PCS will always start shedding loads from the top of the list when PCS in 30A or 20A Service. However, in 50A Service, or running on the Generator there are two Main Breaker, Line 1 & Line 2. PCS will only shed loads if there is an overload detected on its associated Line. In other words, if shedding the Load will not help, skip it and move on. If then sometime in the future an overload is detected on the other Line, PCS will start at the top of the list again. The same is true with Magnum Battery Charge Reduction and Inverter Assist. Magnum can only help on the Line it is wired to, so if it will not help to Assist, don't bother.

Power Management

When the current exceeds the limit, because possibly the owner has turned on the Microwave, the PCS will independently limit the current on each line by performing the following in order: Reduce Magnum Battery Charge Rate, Inverter Assist, Load Shed. (If the Magnum Inverter is wired to the opposite leg, only Load Shedding will occur.

As each appliance is shed, PCS learns the current for that specific appliance, to ensure that there will be sufficient headroom to turn the appliance back on and be under the current limit. To ensure that Air Conditioner compressor pressure is bled, and to reduce quick cycling, there is a 2 minute delay from the time a Load has been shed, to the time power is restored.

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Once the total RV current has dropped, for example because an owner operated appliance has been turned off, the PCS will reverse the above procedure, returning power to appliances whose operation was not immediately critical.

Line Status

PCS not only monitors total RV current but also has two built in Volt Meters, and monitors the voltage on each of the Lines.

L1 121Volts 15Amps, indicates that Line 1 has 121 Voltsrms and is presently drawing 15 amps.

! Brown Out !, if the display indicates Brown Out, the Display will hold the lowest captured voltage that may have occurred while the RV owner is away. Pressing any switch clears the display, and resumes displaying the present readings.

Wiring Status

Similar to an Outlet Tester that is plugged into outlets in your home to test for proper wiring, PCS monitors the wiring status of the Camp Ground Outlets you may plug into.

WARNING, IF THE DISPLAY EVER INDICATES "Wiring Status Error," IMMEDIATELY, unplug the RV from the outlet, and have the outlet inspected by a qualified technician.

The other lines on the Display to the right indicate proper wiring for 50A Service. For 30A Service L1=L2.

Source(s): Precision Circuits Power Control System 50A (Rev052207)

Product(s): Precision Circuit Energy Management System Remote Display ([Model: 00-10019-050, Newmar Part Number: 127558](#))

FUSE PANELS

House and Chassis Fuse Panel Overview (Freightliner Diesel Pusher)

This article provides information and the location of the house and chassis fuse panels on diesel pusher coaches built on a Freightliner chassis.

Inside the Coach

House Fuse Panel

On a diesel pusher coach, the house fuse panel, which controls most of the components and appliances inside the coach, is located in the bathroom, front overhead next to the 120 volt breaker panel, or the rear wardrobe.



This panel contains fuses and breakers that are connected to the main appliances in the coach, from the refrigerator and television to the lights in the bedroom and slideouts.

Some external components are fused in the house fuse panel. For example, the fuses for the water pump, water heater, security lights, and basement storage lights may be located in this panel.

Outside the Coach

House Fuse Panel

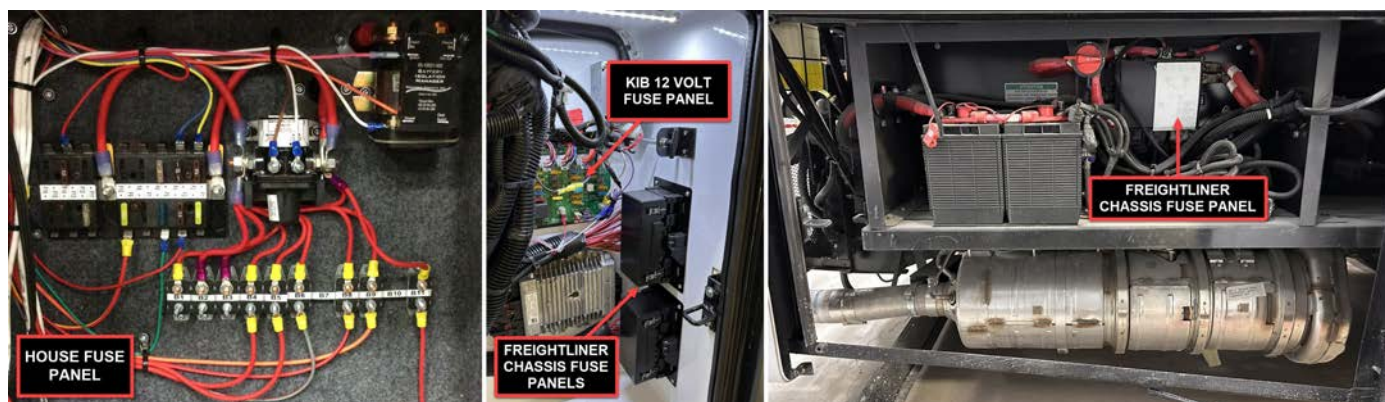
House battery and disconnect fuses are located in the compartment with the shore power cord. These fuses control the battery boost, battery disconnect, keyless entry, hydronic heat, LP detector, and entrance steps. In this same location, 12 volt circuit breakers provide power to the house fuse panel, slideout motors, power awnings, and the entry step.

Freightliner Chassis Fuse Panels

The Freightliner chassis fuse panels are located in the left front baggage compartment under the driver's seat. An additional chassis circuit fuse panel is located in the chassis battery compartment on the rear passenger side of the coach. The Freightliner chassis manuals contain detailed information on what fuses are located in these panels.

KIB 12 Volt Fuse Panel

The Newmar KIB fuse panel is also located in the left front baggage compartment under the driver's seat. This panel contains fuses that power the dome light, front visor, and solar panels (late 2015 model year), as well as for the entrance step, back-up monitors, navigation, cargo lights, and keyless entry. The ignition lock-out for the slideouts and shades is also located on this fuse panel.



GENERATORS

Generator Compartment Overview

This article provides basic information about the generator compartment.

⚠ WARNING

This compartment is not to be used as a storage area. Storage of combustible materials or containers on or near any appliance in this compartment may create a fire hazard. Do not store such materials or containers in this compartment.

Do not place anything in and/or around the generator; placing items in the generator may cause generator issues and/or overheating. Always disconnect or disable remote start wiring before attempting service work.



Generator and GenStart/Stop Switch Overview for Diesel Coaches

This article provides basic operation instructions for a generator and GenStart/GenStop switch on a diesel coach.

Generator Function and Location

The generator is wired into the Automatic Transfer Switch and will power all of the 120 volt circuits in your coach. Your generator may be located in a side compartment or at the front of the coach in between the frame rails of the chassis. Some generators are mounted on slides for easy access and may need to be unlocked before free movement is allowed. The main breakers for the output legs are located on the generator start panel.

Operating the Generator

The generator can be started from the rocker switch on the dash, from other remote start switches (if equipped), from the start switch on the generator itself, or from the SilverLeaf touchscreen (if equipped).

The generator in your coach runs on the same diesel fuel as your main engine. The diesel fuel is drawn through a separate supply tube that is positioned in the tank in a manner that will not allow the generator to draw fuel and run if the tank level dips below the $\frac{1}{4}$ level.

Depending on the ambient temperatures, the generator may pre-heat prior to cranking. This pre-heat condition is noted by flashing the light on the generator start switch until the cycle is complete (up to 15 seconds). Once it has pre-heated sufficiently, the starter will engage and the engine will start.



⚠ WARNING

It is critical that the AGS system be turned off any time the generator is going to be serviced. Failure to deactivate the AGS system may result in damage, injury, or death if the Genset should start unexpectedly. Also, if the AGS system is set and the generator is turned off at any switch, it will clear the AGS settings.

Before starting the generator:

1. Turn off the air conditioners and any other large electrical loads, as recommended by the generator manufacturer.
2. If the generator previously ran out of fuel, add fuel to the tank.
3. Prime the generator by holding the generator switch in the stop position.

To start the generator:

1. Press and hold the generator start switch in the "Start/Preheat" position. It will automatically delay and pre-heat.
2. The indicator light will flash rapidly while pre-heating, and the generator will crank and start.
3. When the generator starts, release the switch.
4. The indicator light will stay illuminated while the generator is running.

⚠ DANGER	⚠ DANGER
<p>Vehicles and equipment powered by internal combustion engines and placed in recreational vehicles can cause carbon monoxide poisoning or asphyxiation, which could result in death or serious injury.</p> <p>The flammable liquids used to power these items can cause a fire or explosion, which can result in death or serious injury.</p> <p>To reduce risk:</p> <p>a) Do not ride in the vehicle storage area when vehicles are present.</p> <p>b) Do not sleep in the vehicle storage area when vehicles are present.</p> <p>c) Close doors and windows in walls of separation (if installed) when any vehicle is present.</p> <p>d) Run fuel out of engines of stored vehicles after shutting off fuel at the tank.</p> <p>e) Do not store, transport, or dispense fuel inside this vehicle.</p> <p>f) Open the windows, openings, or air ventilation systems provided for venting the transportation area when vehicles are present.</p> <p>g) Do not operate propane appliances, pilot lights, or electrical equipment when motorized vehicles are present.</p>	<p>Les véhicules et l'équipement propulsés par un moteur à combustion interne placés dans un véhicule de camping peuvent causer un empoisonnement au monoxyde de carbone ou l'asphyxie, ce qui pourrait entraîner des blessures graves ou la mort.</p> <p>Les liquides inflammables utilisés pour propulser ces machines peuvent causer un incendie ou une explosion, ce qui peut entraîner des blessures graves ou la mort.</p> <p>Pour réduire le risque:</p> <p>a) Ne pas circuler dans l'aire de rangement du véhicule si des véhicules s'y trouvent.</p> <p>b) Ne pas dormir dans l'aire de rangement du véhicule si des véhicules s'y trouvent.</p> <p>c) Fermer les portes et fenêtres qui se trouvent dans les cloisons (le cas échéant) si au moins un véhicule est entreposé.</p> <p>d) Épuiser le carburant contenu dans les moteurs des véhicules entreposés après avoir coupé l'alimentation en carburant au réservoir.</p> <p>e) Ne pas entreposer, transporter ou distribuer de carburant à l'intérieur de ce véhicule.</p> <p>f) Ouvrir les fenêtres, ouvertures ou systèmes de ventilation d'air fournis pour ventiler la zone de transport lorsque des véhicules s'y trouvent.</p> <p>g) Ne pas faire fonctionner d'appareils au propane, de veilleuses ou d'équipement électrique en présence de véhicules motorisés.</p>

To stop the generator:

1. Press the generator switch in the "Stop" position.
2. Release the switch.
3. The indicator light will turn off when the generator stops.

Service Required Indicator

1. The generator switch indicator light may flash in a series of three quick flashes, followed by a short pause, and then quickly flash three more times. These flashes indicate that service is required.
2. Refer to the owner's manual for your specific generator for more in-depth descriptions of flashing codes.

⚠ IMPORTANT

Excessive cranking can damage the starter motor. Do not crank the generator more than 30 seconds at a time, and allow at least two minutes before trying again if the first attempt fails.

⚠ CAUTION

Failure to turn off the 120 volt appliances when starting or stopping the generator may damage the transfer switch and/or electrical appliances.

⚠ NOTICE

If your coach contains an Energy Management System, 8kw generator, and three roof air conditioners, the combined load may exceed the capabilities of the generator. Please remember to turn off one of the air conditioners as the 8kw generator is not intended to run all three roof air conditioners at the same time.

2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide: AGS

The AGS icon on the KIB 10.1" Central Monitor Capacitive Touch Panel displays the Automatic Generator Start pages to view and/or control the system statuses, quiet time feature, and generator run time for charging the house and chassis batteries.

⚠ IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

AGS is a control system that automatically starts the generator-based demands.

- HVAC requires AC voltage to operate.
- House or Chassis Battery is below set voltage and needs charged.

NOTE FROM NEWMAR

Once the AGS function is enabled to allow the generator to start based on the voltage parameters being met and/or the demand for air conditioning, the generator will start to provide 120 volt AC power. If the generator is manually started or stopped by a switch at any time after the AGS is enabled, it will disable the AGS system. In order for the AGS system to function again automatically, it will need to be enabled again.

There are four different screens to control the AGS: Status Page, Quiet Time Page, House Battery Page, and Chassis Battery Page.

Status Page

User Buttons/Icons

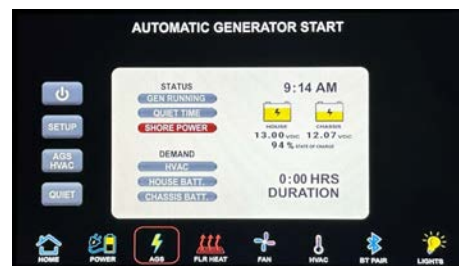
Power Button: Turns the AGS system ON/OFF.

Setup Button: Jump to the AGS Setup pages.

AGS HVAC Button: When enabled, the HVAC can request the generator to run.

Quiet Button: When enabled, the AGS will not start during "QUIET TIME."

Home Icon: Jump to the Home page. This icon is on every LCD page.



Status Indicators

The Status Indicators report that the AGS is operating or what is disabling AGS operation.

Running: Generator is running.

Quiet Time: Generator (AGS) is disabled because of "QUIET TIME."

Demand Indicators

The Demand Indicators report what items are currently requesting the Generator to start.

HVAC: HVAC has demand for the generator to run.

House & Chassis Batteries: Low Battery has demand for the generator to run. **House & Chassis Voltage Readout:** Displays the current battery voltages.

Duration: Displays how long the generator has been running (generator run time).

Setup Pages

Quiet Time Page

The purpose is to prevent the generator from automatically starting at specific times.

Start: Time after which the AGS will not be allowed to start. Use “HR” & “MIN” buttons to set the “START” time of “QUIET TIME.”

Stop: Time after which the AGS will be allowed to start. Use “HR” & “MIN” buttons to set the “STOP” time of “QUIET TIME.”

Note: The time of day is set in the HVAC section and must be set for operation. For example, RV parks have posted times when generators are not to run, and the user simply enters those times and enables the “QUIET” button on the status page. During this time, the generator will not run.



House Battery & Chassis Battery Pages

Duration: Time the AGS is to run the generator after a low battery demand occurs. Use “HR” & “MIN” buttons to set the amount of time the generator will run while charging the house or chassis batteries.

Volts: Low Battery Voltage selected setting for the generator to start. Use the up and down triangles to adjust the low voltage set point.

Example: If the house battery volts is “11.0 VDC” and the duration is “2:00 HRS,” when the house battery voltage is less than 11.0VDC, there will be a demand for the generator to start and run for 2:00 HRS. The chassis battery works the same way but with its own settings.



Notes: When there is a demand for the generator to run or stop, there can be up to two minutes of delay. During this time, the AGS is checking if there are any other demands.

2025 KIB 5" LCD Capacitive Touch Panel Guide: AGS

The AGS icon on the KIB 5" LCD Capacitive Touch Panel displays the Automatic Generator Start pages to view and/or control the system statuses, quiet time feature, and generator run time for charging the house and chassis batteries. This 5" vertical touch panel is only installed on coaches also equipped with a KIB 10.1" Central Monitor Capacitive Touch Panel. The same screens will also appear on the KIB Connected Solutions app once installed on a mobile device.

! IMPORTANT

The Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

AGS is a control system that automatically starts the generator-based demands.

- HVAC requires AC voltage to operate.
- House or Chassis Battery is below set voltage and needs charged.

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NOTE FROM NEWMAR

Once the AGS function is enabled to allow the generator to start based on the voltage parameters being met and/or the demand for air conditioning, the generator will start to provide 120 volt AC power. If the generator is manually started or stopped by a switch at any time after the AGS is enabled, it will disable the AGS system. In order for the AGS system to function again automatically, it will need to be enabled again.

There are four different screens to control the AGS: Status Page, Quiet Time Page, House Battery Page, and Chassis Battery Page.

Status Page

User Buttons/Icons

Power Button: Turns the AGS system ON/OFF.

Setup Button: Jump to the AGS Setup pages.

AGS HVAC Button: When enabled, the HVAC can request the generator to run.

Quiet Button: When enabled, the AGS will not start during “QUIET TIME.”

Home Icon: Jump to the Home page. This icon is on every LCD page.

Status Indicators

The Status Indicators report that the AGS is operating or what is disabling AGS operation.

Running: Generator is running.

Quiet Time: Generator (AGS) is disabled because of “QUIET TIME.”

Demand Indicators

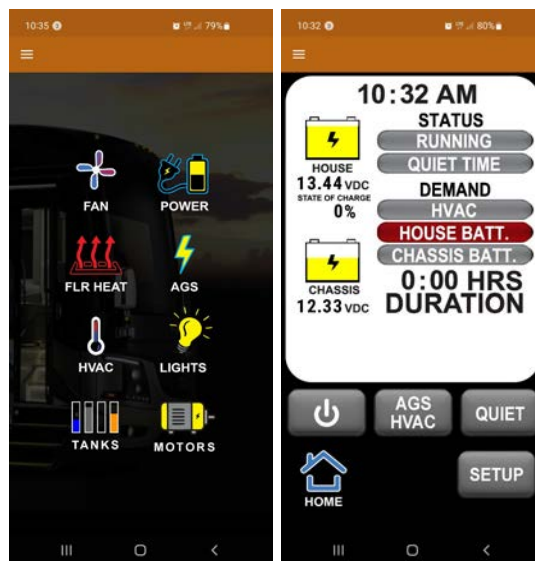
The Demand Indicators report what items are currently requesting the Generator to start.

HVAC: HVAC has demand for the generator to run.

House & Chassis Batteries: Low Battery has demand for the generator to run. **House**

& Chassis Voltage Readout: Displays the current battery voltages.

Duration: Displays how long the generator has been running (generator run time).



Setup Pages

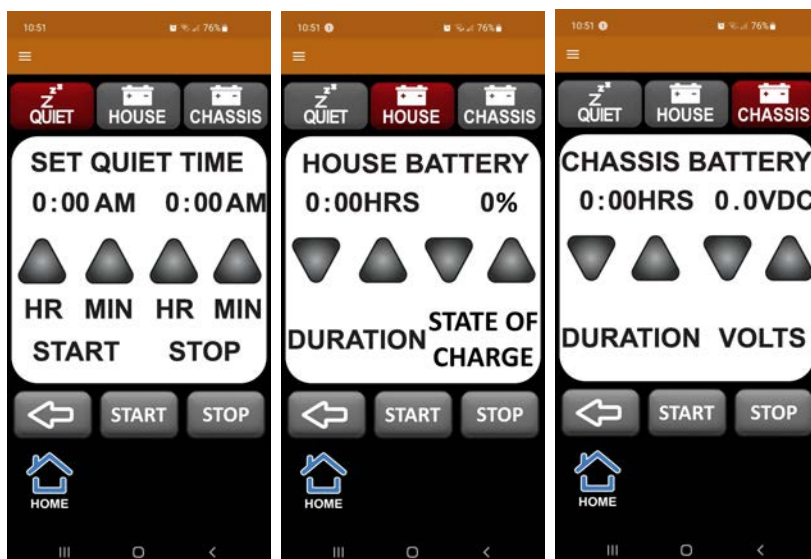
Quiet Time Page

The purpose is to prevent the generator from automatically starting at specific times.

Start: Time after which the AGS will not be allowed to start. Use “HR” & “MIN” buttons to set the “START” time of “QUIET TIME.”

Stop: Time after which the AGS will be allowed to start. Use “HR” & “MIN” buttons to set the “STOP” time of “QUIET TIME.”

Note: The time of day is set in the HVAC section and must be set for operation. For example, RV parks have posted times when generators are not to run, and the user simply enters those times and enables the “QUIET” button on the status page. During this time, the generator will not run.



House Battery & Chassis Battery Pages

Duration: Time the AGS is to run the generator after a low battery demand occurs. Use “HR” & “MIN” buttons to set the amount of time the generator will run while charging the house or chassis batteries.

Volts: Low Battery Voltage selected setting for the generator to start. Use the up and down triangles to adjust the low voltage set point.

Example: If the house battery volts is “11.0 VDC” and the duration is “2:00 HRS,” when the house battery voltage is less than 11.0VDC, there will be a demand for the generator to start and run for 2:00 HRS. The chassis battery works the same way but with its own settings.

Notes: When there is a demand for the generator to run or stop, there can be up to two minutes of delay. During this time, the AGS is checking if there are any other demands.

Generator Maintenance

This article provides information on the care and maintenance of the generator.

Before starting your generator for the first time each day, and subsequently after each eight-hour run cycle, perform the following checks to make sure it is ready to be used.

1. Make sure the carbon monoxide detectors in your unit are working.
2. Check for signs of fuel or exhaust leaks.
3. Make sure there is adequate clearance around the generator for proper ventilation. Also check for sloping ground or any other obstructions that may have occurred. Tall grass or other items that come in contact with the generator may interfere with ventilation or cause a fire.
4. Check the oil and coolant levels, and inspect for leaks.
5. Check the battery connections to make sure they are tight and clear of corrosion.
6. Inspect the generator compartment for road debris or damage that might affect the performance or safety.
7. Turn off major appliances (such as air conditioners, televisions, and other electronics that may excessively load the generator or may be sensitive to initial voltage surges).

The hour meter installed on the generator calculates the number of running hours of the generator motor. This is used for maintenance schedules. Regular oil changes and other maintenance performed at the prescribed intervals will greatly extend the life of your generator.

INVERTERS AND CONVERTERS

Inverter and Converter Overview

This article provides basic information about the role and operation of inverters, converters, and inverter/converter combination units.

Inverters: The inverter modifies direct current to alternating current to provide power to specified appliances and entertainment systems. The inverter performs this action by using a transformer to increase the voltage and modify the higher voltage into a usable alternating current power. For this function to occur, the inverter must be powered, set up, and turned on. A variety of inverters are used by Newmar; however, most have a control panel located in the overhead cabinet with other switches and controls.

Inverter/Converter Combination Units: The inverter/converter combination provides battery charging and allows the 120 volt power from shore power or the generator to pass through the inverter. The inverter performs this charging action by using the transformer to decrease the voltage and rectify the alternating current into useable direct current voltage. This is regulated by internal-sensing circuitry based upon the battery bank's state of charge and several other factors, depending on the coach's particular inverter brand and type.

This type of unit also performs the inverter function. For this function to occur, the inverter must be powered, set up, and turned on. A variety of combination units are used by Newmar; however, most have a control panel located in the overhead cabinet with other switches and controls.

Converters: A converter transforms alternating current or shore power 120 volts to low-voltage direct current to provide power to the coach's 12 volt house and chassis batteries. This function occurs automatically when 120 volts are supplied to the converter. Converters are usually located in the cord compartment of coaches that do not have an inverter/converter combination unit.

Xantrex Freedom X 1200 and 2000 Watt Sine Wave Inverter Quick Start (Models: XC Series)

This article provides basic operation instructions for a Xantrex Freedom X 1200 and 2000 Watt Sine Wave Inverter (Models: XC Series). Coaches requiring two or more 1200 watt inverters (Newmar option) will automatically be upgraded to a single Xantrex 2000 watt inverter with charger (Model 2080). The inverter is typically located in one of the baggage compartment on the passenger side.

LCD Screen or Remote Panel

The LCD Screen changes depending on the operating mode of the inverter.



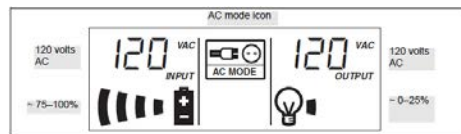
LCD Screen Icons and LED Light Indicators

Icon	Definition
	Appears in all modes. Indicates ~ 75–100% battery capacity.
	Appears in all modes. Indicates ~ 50–75% battery capacity.
	Appears in all modes. Indicates ~ 25–50% battery capacity.
	Appears in all modes. Indicates ~ 1–25% battery capacity.
	Appears in all modes. Indicates 0% battery capacity.
	Appears in AC mode only and sometimes in Fault mode. Indicates ~ 75–100% load capacity.
	Appears in AC mode only and sometimes in Fault mode. Indicates ~ 50–75% load capacity.
	Appears in AC mode only and sometimes in Fault mode. Indicates ~ 25–50% load capacity.
	Appears in AC mode only and sometimes in Fault mode. Indicates ~ 0–25% load capacity.
	Indicates AC mode in which shore power is available and passing through to the loads.
	Indicates Battery mode (Inverter mode) in which the inverter is running and supplying power to the loads from the battery.

Indicator	Definition
	Indicates AC mode in which shore power is available and passing through to the loads.
	Indicates Battery mode (Inverter mode) in which the inverter is running and supplying power to the loads from the battery.
	Indicates Fault mode and is accompanied by an error code displayed on the LCD screen.
	Indicates a Warning condition and is accompanied by an error code and a sounding alarm.

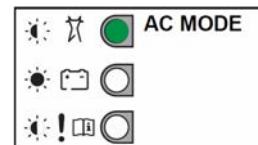
AC Mode

AC Mode is when AC shore power is available as input and the power is passing through as output. The display may look similar to this:



Operating in AC Mode

The Freedom X operates in AC mode when an AC source (a generator or utility power) is present at the AC input terminals. When the AC source is within operating range (meaning the voltage is), the Freedom X unit bypasses inverter mode and powers the appliances connected to the unit. The green status LED lights up to indicate the Freedom X is using utility (or generator) power.

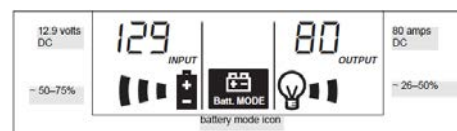


When shore power is present, AC power automatically passes through the Freedom X. Pressing the inverter Power button on the display panel does not interrupt the supply of shore power. AC Mode supersedes inverter operation.

When the Freedom X's inverter Power button is turned ON and the AC source is outside the operating range or is disconnected, the transfer switch automatically switches to Battery Mode.

Battery Mode

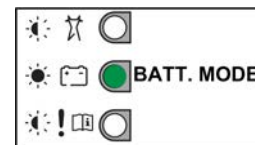
In Battery Mode (also called Inverter Mode), the AC output power comes from the battery. The LCD Screen switches to displaying battery mode information such as:



Operating in Battery Mode

The Freedom X is in Battery Mode (also called Inverter Mode) when all the following conditions exist:

- inverter power button is ON (down position) or ignition auto-on is activated
- shore power is not presently available
- battery has sufficient power



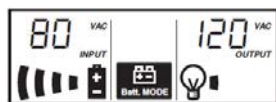
Inverter operation means that DC battery power is presently being converted to utility grade AC power, powering equipment and appliances connected to the AC output terminal of the unit.

The green status LED lights up to indicate the Freedom X is using the battery to power the equipment and appliances.

Viewing Information During Battery Mode

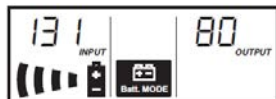
The LCD screen displays Inverter information as well as feature settings in coordination with the LED lights alongside the screen. Press the Scroll UP button to toggle between the following basic information:

Input Voltage/Output Voltage



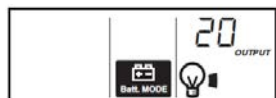
- Default screen
- Shore power voltage = 80V
- Output voltage = 120V

Battery Voltage/Battery Discharge Current



- Battery voltage = 13.1V
- Battery discharge current = 80A

Load Percent



- Load = 20%

Warning/Fault



- If a fault or warning is detected, this screen becomes the default screen.
- Error code = E02 "DC Input Over Voltage shutdown"

Idle Mode

When there is no AC output such as when an error or fault condition is detected, the Idle Mode is displayed on the LCD Screen. An example is shown below:



For definitions on battery capacity, load level, and error code indicators, refer to the "LCD Screen Icons" section.

Turning Inverter Operation ON and OFF

There are two ways to operate the Freedom X's inverter.

- Press the inverter Power button to a down position (it is Off in the up position).
- When the inverter's Ignition Control feature is set to Auto-on, and the Ignition Control switch is enabled and, a +12VDC signal is present.

⚠ WARNING

ELECTRICAL SHOCK HAZARD: Turning the inverter Power button off does not disconnect DC battery power from the Freedom X. You must disconnect both AC and DC power before working on any circuits connected to the unit. Failure to follow these instructions can result in death or serious injury.

To prevent unnecessary battery discharge, press the inverter Power button to turn it off when you are not using the Freedom X.

Checking Battery Status

During inverter operation (in battery mode), you can check the battery status by observing the battery capacity indicator on the LCD screen. The battery voltage appears in the left side of LCD screen. The normal operating battery voltage range is between 11 and 15 volts.

Checking Output Power

When the inverter is in operation (in battery mode), you can check how much power (displayed in Amps) the Freedom X is supplying to the connected loads by observing the load capacity indicator on the LCD screen. The battery discharge amperage appears in the right side of the LCD screen.

Operating Several Loads at Once

If you are going to operate several loads from the Freedom X, turn them on one at a time after you have turned the inverter on. Turning loads on separately helps to ensure that the inverter does not have to deliver the starting current for all the loads at once, and will help prevent an overload shutdown.

Turning the Audible Alarm ON or OFF

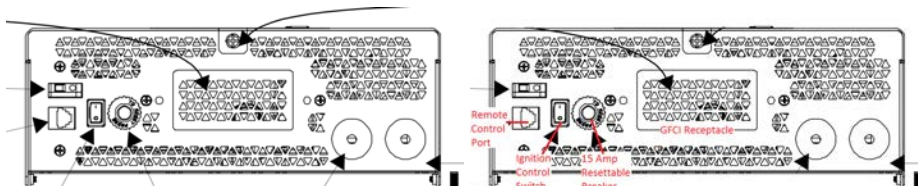
The Freedom X's audible alarm can be silenced. Any warnings such as fault conditions or imminent shutdown are both displayed on the LCD screen and sounded on the alarm speakers. It is not possible to turn OFF the screen and prevent it from displaying error codes but it is possible to turn OFF the audible alarm.

To reset the alarm:

- Press the inverter Power button to turn it Off (from a down position to up) and press again to turn it On to reset an active alarm and clear the fault.

Resetting AC Output

The 15 amp resettable breaker is located on the inverter near the outlet.



Source(s): Xantrex Freedom XC Series Inverter Charger Owner's Guide

Product(s): Xantrex 1200 watt Pure Sine Freedom Inverter ([Model: 806-1212, Newmar Part Number: 144620](#)) and Xantrex True Sine 2000 Watt Inverter ([Model: 817-2080, Newmar Part Number: 145171](#))

LIGHTING

Interior and Exterior Lights Overview

This article provides basic information about operation, maintenance, and replacement of interior and exterior lights.

Interior Lights

A Newmar coach's electrical and lighting system is designed for maximum reliability, functionality, and style. Your coach may feature traditional on/off switches or multi-switch touch panel light and accessory switch panels. Located throughout the unit, these switching devices are used to turn lights on and off, as well as to operate power shades and window treatments. Many coach models boast LED accent lights and LED wall sconces custom-designed for Newmar.

Flip the switch or touch the switch panel to operate the light or accessory you desire. Some lights may also have dimming features, allowing you to adjust the interior lighting for mood or comfort. For more details about the interior lights, refer to the documentation in Newgle.

Many of these bulbs are made as both filament and LED. Most LED bulbs are polarity-sensitive unlike filament bulbs. When attempting to replace filament-type bulbs with LED-type bulbs, it is possible for the light fixture to be wired in reverse polarity for the LED replacement bulbs. Switching to a different type of bulb may require a wiring change. Newmar recommends any wiring modifications be performed by an authorized service technician.

⚠ IMPORTANT

When replacing halogen bulbs, do not touch the bulb, as the oil from your hands will reduce the bulb's life.

Turn off the lights to avoid possible short circuits, blown fuses, and burns while removing and replacing bulbs or lights. Depending on the year and model of your coach, it may be equipped with LED light fixtures with the lights embedded into the light housing.

⚠ NOTICE

Many of the LED light fixtures have integrated LED assemblies that are non-serviceable and non-replaceable. When LED light bulbs burn out in this type of fixture, the complete light must be replaced. Replacement bulbs or light fixtures are available for purchase through the Newmar Parts Department.

⚠ WARNING

Do not substitute bulbs just because they will fit, as it may cause overheating, back feed, or damage to the light fixture or lens.

Exterior Lights

Replace any exterior light bulbs or fixtures as needed to maintain DOT safety requirements. When servicing interior or exterior lights, make sure you replace any light bulb with the same bulb number (normally stamped on the base of the bulb or printed on the bulb). Replacing the bulb with the identical part number will ensure the wattage and base are the same.

The coach may have headlights installed that are atmospherically vented, so condensation may occur in these headlight assemblies. Under normal driving conditions with the headlights turned on, the condensation will dissipate, allowing it to escape through the vent.

⚠ IMPORTANT

Always check the operation of all headlights, turn signals, and clearance lights prior to traveling.

It is necessary to keep exterior lights clean, as dirty lights have diminished output and reduced visibility. To clean your exterior lights, use a mild soap designed for automotive car washing. Avoid using harsh cleaners, abrasive products, and petroleum-based products or other chemicals.

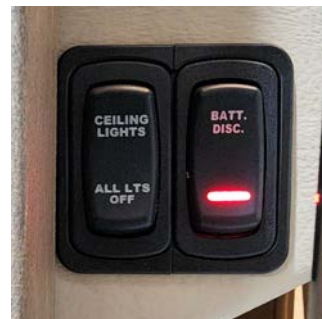
Ceiling Lights (All LTS) Switch Overview

This provides a basic operational overview for the Ceiling Lights (ALL LTS OFF) switch on 2025 and newer coaches.

The Ceiling Lights (ALL LTS OFF) switch may be located near the entrance door to provide easier access to turn the lights on and off. The switch will only turn on ceiling lights but will turn off all lights on the ATC/KIB network. The switch may be equipped with backlighting to provide better visibility in the dark.

⚠ NOTICE

This switch only operates lights connected to the KIB/ATC system and may not affect any manual on/off lights installed in closets, wardrobes, compartments, etc.



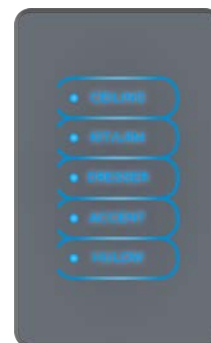
KIB Backlit Multiplex Switch Panel Operation

This article provides brief operating instructions for KIB backlit multiplex switches.

The KIB multiplex switch panel controls the lights, water pump, floor heat, and fans when wired to the corresponding switch label. The switch panels will vary by coach model and floorplan.

Press the switch labeled with the circuit you wish to operate. The green LED indicator will illuminate on the KIB switch panel when the circuit is activated. Pressing the switch again will turn the circuit off and the indicator will change to blue when it is turned off.

Some of the buttons and functions displayed on the KIB multiplex switch panels include, but are not limited to: CEILING, KIT/LRM, DRESSER, ACCENT, HI/LOW, WALL, RH RD, LH RD, W. PUMP, DINETTE, SEATING, KIT OVH, BKLTG, VANITY



2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide: Lights

The Lights icon on the KIB 10.1" Central Monitor Capacitive Touch Panel displays the controls for the lighting settings for each area, such as outdoor, living room, kitchen, bedroom, and bathroom(s).

IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

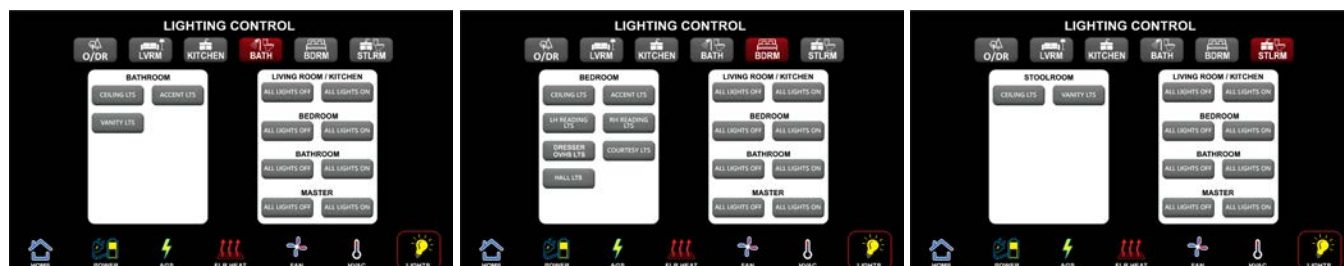
Based on the coach model and floor plan, the following rooms, lights, and light switches will vary. The main/master light switch panel on the right side of the screen does not change based on the room selection. However, the panel on the left changes based on what lights may be controlled in the selected space, such as the living room, bedroom, kitchen, etc.

The following may appear:

- O/DR = Outdoor
- LVRM = Living Room
- KITCHEN = Kitchen
- BATH = Full Bath
- BDRM = Bedroom
- STLRM = Stool Room or 1/2 Bath



Simply touch the desired light button to turn the light on or off.



2025 KIB 5" LCD Capacitive Touch Panel Guide: Lights

The Lights icon on the KIB 5" LCD Capacitive Touch Panel displays the controls for the lighting settings for each area, such as outdoor, living room, kitchen, bedroom, and bathroom(s). This 5" vertical touch panel is only installed on coaches also equipped with a KIB 10.1" Central Monitor Capacitive Touch Panel. The same screens will also appear on the KIB Connected Solutions app once installed on a mobile device.

IMPORTANT

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Simply touch the desired light button to turn the light on or off.



RECEPTACLES AND ACCESSORY CHARGERS

120 Volt Outlets Overview

This article provides information about the 120 Volt outlets located throughout the interior of the coach.

Several 120 volt receptacles are located throughout the interior of the unit. These receptacles require three-pin plugs that provide proper grounding to protect you from electrical shock. The breaker for the outlets are usually located in the breaker box. If the breakers are on the inverted circuitry, they will be located in the subpanel near the main breaker box.

In addition, some 120 outlets may also provide USB charge ports as well. Outlets with USB charge ports are powered when the outlet has 120 volts available from either shore power, the generator, or the inverter.

⚠ IMPORTANT

Do not use an adapter, cheater, or extension cord that breaks the continuity of the ground circuit to the ground pin. Never remove the ground pin from a plug in order to connect it to a two-pronged ungrounded outlet.



USB Outlet, Auxiliary Input, and 12 Volt Receptacle Overview

This article provides a functional overview of the USB outlet, auxiliary input, and 12 volt receptacles in a coach.

Standard USB and/or USB-C Outlets

USB outlets may be located in various places throughout the coach. The number of ports may vary. The USB and/or USB-C outlets are for charging only and are not connected to any entertainment equipment. They simply provide convenient accessory charging without filling your 120 volt outlets with chargers. The round USB/USB-C outlets typically work from the 12 volt electrical system; depending on the location, they may be powered from the house or the chassis 12 volt system.



Auxiliary Inputs

USB ports labeled with auxiliary input are normally connected to the dash radio and allow input to the radio via USB and or 3.5 mm cable. Refer to the radio's operating manual for information about selecting auxiliary inputs.



12 Volt Receptacles

Your coach may be equipped with one or more 12 volt receptacles conveniently located in the dash area. These 12 volt receptacles allow you to plug in a variety of 12 volt DC accessories, including cell phone battery chargers, camera battery chargers, etc. These are fused at 20 amps.



Ground Fault Circuit Interrupt Outlets (GFCI) Overview

This article provides an overview of the purpose and function of a ground fault circuit interrupt (GFCI) outlet.

The Ground Fault Circuit Interrupt (GFCI) outlets protect the user from ground faults between a hot wire and ground. The 120 volt electrical outlets in the kitchen and bath area are GFCI-protected receptacles.

⚠ IMPORTANT

This information is generic in nature and IS NOT specific to your coach. The exact location of GFCI outlets vary by year, model, and floorplan and/or component options. The following location descriptions and images are for example use only.

Location Tips and Examples

The electrical outlets located in the slideouts are typically wired through the kitchen GFCI. The exterior electrical outlets are typically wired through a bathroom GFCI.

On coaches equipped with the floor heat option, separate GFCI(s) are installed in a bathroom, cabinet, or closet and/or near the main breaker box. Some may be difficult to find and may require using a flashlight while looking inside cabinets.

Coaches with the holding tank heat pad option will have an additional GFCI located in the basement area; however, the exact location varies.

Note: Any component that gets plugged into a GFCI-protected circuit will not operate if the GFCI has tripped. In some cases, this may include other components and/or options installed, such as powered theater seating.

⚠ IMPORTANT

Newmar recommends checking and resetting all GFCI outlets and 120 volt breakers, as well as replacing any blown 12 volt fuses when component(s) are inoperable.



Testing and Resetting GFCI Outlets

The GFCI outlets should be tested at least once a month. The Reset button needs to be pressed before starting the test.

1. The GFCI outlet must be supplied with 120 volt power for testing and general use.
2. Pressing the Test button on the GFCI outlet will trip and cease to supply power to the outlets on the GFCI, as well as any other outlets that are wired downstream of the GFCI outlet.
3. Pressing the Reset button will reset the GFCI outlet and all outlets downstream of the outlet. Some GFCI outlets may have a LED light as a visual indicator of the power status.
4. If a tripped GFCI outlet will not reset, disconnect everything plugged into them (i.e. hairdryer, coffee pot, or fan) or hooked up downstream; then try resetting the GFCI again.
5. If all loads are disconnected and 120 volt power is present to the GFCI outlet and the GFCI outlet will still not reset, it may require service or replacement by a qualified technician.

If the GFCI is working properly, the reset button will remain in the "IN" position. If an item plugged into a slideout or outside receptacle is not working, check for a tripped GFCI in the kitchen or bathroom. Likewise, if the floor heat or holding tank heat pads are not working, check the GFCI for that circuit.

⚠ WARNING

The GFCI will not reduce the shock hazard if the short is between a neutral and hot wire or two hot load wires.

BrandMotion FreedomCharge MAX Qi Wireless Dash Charger Quick Start (Model: FDMC-1312)

This article provides an overview of the BrandMotion Dash Wireless Charging Station (Models: FDMC-1312), which may be built-in to the dash or cockpit area.

Charging your phone has never been easier. FreedomCharge uses the wireless charging standard, Qi, to keep your phone going without the hassle of plugging it in. This type of charging has taken off with use in homes, but not until recently have you been able to get this convenient and easy to use technology in your vehicle. Some coaches may have more than one wireless charging station installed; however, the size and shape of the charging area may vary. Some chargers may be mat-style (flat on a driver or passenger side console), and some may be vertically installed as a bucket-style.



Operation

The wireless charging stations typically turn on at the same time as the battery disconnect. Dash-mounted chargers are powered from the fuse panel in the shore cord compartment (usually the USB F18 fuse).

It works by using inductive charging technology to allow your smartphone to charge without connecting a charger. No longer will you have to search for your charger and orient it the correct way just to plug in your phone. Add a new level of convenience to your car and keep your eyes on the road, instead of fumbling with a tangled mess of cords. When a compatible device is placed on top of the charger, the audible tone sounds as the charger begins to charge phone, and the phone will also indicate it is charging. The updated triple coil allows charging through most thick cases, including Otterbox.

⚠ IMPORTANT

To find out if your cell phone is Qi compatible, refer to your phone's user guide or contact your network service provider.

Features

- Utilizes the wireless charging standard, Qi to charge your phones without cables
- Does not interfere with your vehicle's Bluetooth functionality while using your infotainment system.
- Charge's your phone to 100% battery and tapers off to avoid overcharging.
- Uses an initial audible tone to indicate charging when the phone starts charging.
- Easy cut-to-fit design converts most any vehicle phone storage tray into a seamless factory-look charging tray without unsightly cables.
- The non-slip charging mat holds your phone securely in place while driving.

Source(s): BrandMotion FDMC-1310 Landing Page

Product(s): BrandMotion Wireless Charging Unit ([Model: FDMC-1312, Newmar Part Number: 153213](#))

Block Heater Outlet Overview

This article provides a basic overview of the block heater outlet.

Diesel coaches may have an outlet designed for use with the engine block heater. It may be located in the engine compartment or in one of the rear compartment bays.

This outlet may be controlled by the block heater button on coaches equipped with a SilverLeaf touchscreen. Coaches without SilverLeaf may have a switch in the overhead cabinet to turn the power to the outlet on or off, while others may be wired directly from the breaker box.

Coaches equipped with energy management systems operating on shore power of 30 amps or less may have power shed to the block heater if the other loads exceed the amperage set on the energy management system.



SOLAR POWER

Dometic GoPower! 10-Watt Solar Panel Quick Start for Diesel Pusher Coaches (Model: Flex-10-HB)

This article provides basic information about Dometic GoPower! 10-watt solar panels that began being installed on select diesel pusher coaches during the 2023 model year. If installed, this 10-watt solar panel will trickle charge the chassis batteries when exposed to sunlight.

The solar panel is protected by a fuse normally located in the rear battery compartment on diesel pusher coaches (close to the chassis battery/batteries). The fuse is often marked with a label noting the solar panel.

The panel does not have an indicator or regulator since it is only a trickle charge and is not capable of producing enough voltage to damage batteries.

Larger solar panels (optional equipment on select coaches, such as option # L010) may also charge the house battery bank. For more information about larger solar panels, as well as the associated remote panel and controller, please refer to Newgle.



TRANSFER SWITCHES AND SURGE PROTECTORS

Transfer Switch and Surge Protector Overview

This article provides an overview of the transfer switch and the integrated surge protector.

The transfer switch allows your coach to be powered by more than one power source, while only allowing one active power source connection at a time. When the generator is turned on, this switch automatically transfers to generator power.

Surge protection was used on select coaches to protect the coach from power surges during storms and poor shore power conditions from the incoming shore power connection. Today, most transfer switches have integrated surge protection.

⚠ WARNING

Due to the risk of electrical shock, service should be performed by a qualified electrician or authorized service technician. The electrical system may have multiple 120/240 volt power sources. All power sources must be turned off, and any auto generator start features must be disabled before servicing.

There will be a slight delay between the start of the generator and the electrical connection. This delay allows the generator to reach normal operating speed without needing to supply a required load. When the unit is plugged into shore power, an audible click will be heard in the transfer switch box. The sound is normal and indicates that the relay inside the transfer switch is engaging the outside power source.

NOTE FROM NEWMAR

After market surge protection placed at the shore power supply source is an optional product, which provides an increased layer of surge protection. However, it is not required or installed by Newmar.

Southwire 50 Amp Automatic Transfer Switch Quick Start (Model: 40101)

This article provides basic operation instructions for a Southwire 50 Amp Automatic Transfer Switch (Model: 40101).

Testing Operation

Plug the shore power cord into a good shore power source and, after a short delay, shore power should be transferred through and available for use. If the generator is started after approximately 40 seconds, the transfer switch should transfer power from shore power to generator power. Turn the generator off and, after a short delay, the transfer switch should switch back to the shore power. (Source: Doc 505-00175a)

This transfer switch has two visual indicators designed to give the user a quick indication of power conditions that need to be corrected before using the coach.

Open Ground Indicator Illuminated: Unplug shore power. Use a voltmeter to check ground and neutral. Voltage should read -0-. If not, finding another power source is recommended.

Reverse Polarity Indicator Illuminated: Unplug shore power. Use a voltmeter to check ground and neutral. Voltage should read -0-. If not, finding another power source is recommended.

Source(s): Southwire Automatic Transfer Switch Troubleshooting Guide (Models 40100, 40101, 40140, 41300, 41301)

Product(s): Southwire 50 Amp Automatic Transfer Switch (Model: 40101, Newmar Part Number: 157536)



Southwire Surge Guard 50 Amp Automatic Transfer Switch Quick Start (Model: 40350RVC)

This article provides basic operation instructions for a Southwire Surge Guard 50 Amp Automatic Transfer Switch (Model: 40350RVC).

The 40350 series automatic transfer switch (ATS) has many different protective features to protect your coach from low quality power. Included in these are protection against high voltage, low voltage, and an incorrectly connected chassis ground. If one of these fault conditions is encountered, the ATS will open both contactors in order to protect the coach. Once the fault condition goes away, the ATS will delay for approximately 2.5 minutes before trying to close the appropriate contactor again.

A remote power monitor may be installed in select coaches and allows for continuous visual indication of source voltage and load current or diagnostics.

If the ATS fails to close the contactor or transfer when expected, check the 40450 display to see if an error message is displayed. The screen will flash an error message for that failure such as "Loss of Ground", "High Volt", or "Reverse Polarity". The error condition must be corrected in order for the transfer switch to function correctly.

If there is no error message and the display instead reads "Delay Active" this means that the fault condition has cleared and that the switch is going through a 2.5 minute delay before it will attempt to close the contactor again. Wait until this delay is over to see if the ATS correctly closes its contactor.



If no display is available, check the level of the input voltage to ensure it is within the proper operating limits. Also check that the ATS is correctly connected to chassis ground and that the neutral conductor is correctly connected to ground at the power pedestal. Wait 2.5 minutes to check if the fault condition was temporary and has cleared. If so, the contactor will pull in at the end of the 2.5 minute period.

Test Procedure

1. Plug RV's shore power cord into utility power source.
2. Wait for the time delay, then observe remote display of shore power status.***
3. Turn on RV's generator (generator power source is dominant over shore power). A 30 second delay will occur.
4. Observe remote display for generator output status (Volts/Amps).
5. Switch off generator, observe remote display of transfer "Delay Active-Shore Power."
6. Shore power activated, observe remote display (Voltage/Amps). ***Acceptable shore and/or generator power range is 100-135 Volts. Load (Amperes) 0-50 Amps.

Note: During generator (only) power-up, the monitor display will be blank for approximately 30 seconds for generator warm-up.

Source(s): Southwire Surge Guard Installation and Operating Instructions Model 40350RVC/ Southwire Surge Guard Model 40350 RVC Troubleshooting Guide
Product(s): Southwire Surge Guard 50 Amp Automatic Transfer Switch (Model: 40350RVC, Newmar Part Number: 142469)

Southwire Surge Guard 50 Amp Automatic Transfer Switch Quick Start (Model: 40450RVC)

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Note: During generator (only) power-up, the monitor display will be blank for approximately 30 seconds for generator warm-up.

Source(s): Southwire Surge Guard Installation and Operating Instructions Model 40450RVC/ Southwire Surge Guard Model 40450 RVC Troubleshooting Guide
Product(s): Southwire Surge Guard 50 Amp Automatic Transfer Switch (Model: 40450RVC, Newmar Part Number: 152216)

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Surge Guard Automatic Transfer Switch Remote LCD Display Quick Start (Model: 40299)

This article provides basic operation instructions for a Surge Guard Automatic Transfer Switch Remote LCD Display (Model: 40299).

The optional Remote LCD Display is intended for use with Automatic Transfer Switch (ATS) unit 40350-RVC or 41390-RVC.

The Remote Power Control allows you to see detailed information such as voltages for Line 1 and Line 2, (typically 110-120VAC), current draws (0 to 50Amps), and status and conditions of the ATS, including time and date. Electrical faults, such as low voltage or an open ground connection, that cause the ATS to shut off power are shown on the remote display, allowing you to retrieve via the joystick a log of fault conditions kept by the ATS of electrical power at your location.

This is a helpful diagnostic tool that allows you to comprehend and correct problems with your RV's power. The display also features a right/left navigation lever allowing navigation through the various screens.



Features and Displayed Information

Main Screen

- Display of normal operating voltages and currents, for example 120V 25Amps for each Line (240V system). Shore power or generator power.
- Display of faulty power conditions responded to by ATS such as low voltages, high voltages, open ground, open neutral, reverse polarity, high frequency, etc.
- Display of delay condition when recovering from faulty conditions.

L1/L2 Volt and Current Screens: Displays line 1/2 voltage or current. This is handy as it allows you to view the voltage or current when there is a fault condition being displayed on the main screen.

Faults Screen: Allows you to view a history of up to 50 faults which have been logged by the ATS. Each fault that has been logged contains the fault, the voltages and currents at the time of the fault, and the time and date when it occurred.

Time/Date Screen: Displays the current time and date and allows you to set the current time and date on the ATS unit.

Joystick Lever: To navigate through screens and set the time and date.

Operating Instructions

Screen Navigation Using the Button/Lever

There are several information screens associated with the Remote Display which can be selected via the lever on the front of the unit. Pushing the lever to the RIGHT repeatedly will access the screens in the following order. Pushing the lever to the LEFT accesses the screens in the reverse order.

When the VIEW FAULTS screen is displayed, momentarily pushing the lever in accesses a log of faults which have been stored by the ATS unit. Viewing the fault log data will be explained in more detail below.

Display for Normal Operation

During normal operation, the Remote Display screen reads the status of the RV electrical power, showing continuous voltages and currents for power lines 1 and 2 coming into the RV on the main screen. A secondary screen showing SHORE or GEN will momentarily display approximately every 8 seconds, indicating whether your RV is running on power for your shore connection or whether the ATS has transferred you over to generator power.

Display During Fault Conditions

If there are any faults or problems with your electrical power, the Remote Display will show the particular faults on the LCD screen with a 3 second interval between each item. The faults displayed can be any combination of the ATS fault codes.

Display During Delay State

When the ATS is powered up, the Remote Display will display "Delay" and the elapsed time in seconds until it reaches 128 seconds. After the delay is completed, if shore power is good the ATS will connect power to the RV, and the unit will go to the normal operating screen showing voltages and currents as described above.

L1 VOLT | L2 VOLT Screens

These screens are useful for viewing the line voltages when the main screen is in delay or when L1 or L2 have a fault (line voltage that is too low or too high). The main screen will display line voltage between 102 and 132 volts; otherwise it will show that the line has a fault. The L1 VOLT and L2 VOLT screens however display a greater range, from 90 to 140 Volts. The L2 VOLT screen is only shown when using a 50 Amp ATS.

L1 CURR | L2 CURR

These screens are useful for viewing the line currents in amps when the Main Screen is in Delay or when it shows that L1 or L2 have a fault. The L2 CURR screen is only shown when using a 50 Amp ATS.

TIME/DATE Screen

View and/or set the current time and date on the ATS. To get to the TIME/DATE screen from the main screen, push the front lever right or left repeatedly until you see the time and date. To set, press the lever IN once quickly. You will see a blinking cursor. Push the lever left until the cursor is over the minutes digit. (Do not try to set the seconds - they reset to zero.) Once you have the correct setting for the minutes, continue on with setting the hour, date, month, year and so on by pushing the lever to the left.

Once you have entered the correct time and date, press and HOLD the lever IN for 3 seconds. You will see "TIME IS SET" once complete. You can now release the lever.

When you are on the TIME DATE screen and the cursor is not blinking, you can navigate to the other top level screens such as the main screen, or the L1 volts screen, etc.

VIEW FAULTS Screen

This allows you to view the faults recorded whenever the ATS detected a fault with electrical power. To view, momentarily push the front lever DOWN or IN. The screen will display fault 1, which is the most recent fault that occurred and was detected by the ATS. The screen will scroll through the following items for fault 1 every 3 seconds:

1. MODE- State of ATS when fault occurred (MODE SHORE = shore power; MODE TGEN = transferring to Gen power, etc.)
2. FAULT CODE (L1 LO, L2 LO, etc.)
3. L1/L2 Volts and Currents at the time of the fault.
4. Frequency of Line 2
5. Time of Fault
6. Date of Fault

To see the next fault, push lever right, showing fault 2. Keep pushing the lever right to see up to 50 faults. Pushing the lever left goes backwards through the faults.

If no faults have occurred, you will still see fault number headings, but the information will be zeroed out. Voltages/currents will be zero, time will be 00:00:00 and date will be 00-00-00; or you may have only 5 faults and the other 45 fault numbers will be zeroed out as described, etc.

To exit the fault screens, push the lever DOWN/IN momentarily, returning to VIEW FAULTS screen from which you can navigate as previously described.

Source(s): Southwire Surge Guard Remote Power Control Monitor LCD Display with Navigation Installation and Operating Instructions

Product(s): This source is associated with more than one product. Refer to Newgle for more information about the product(s) offered for your coach's model year.

L1 LO	Line 1 voltage is low (below 102 VAC)
L1 HI	Line 1 voltage is high (above 132 VAC)
L2 LO	Line 2 voltage is low (below 102 VAC)
L2 HI	Line 2 voltage is high (above 132 VAC)
REV POL	Reverse polarity condition (hot wire and neutral are swapped)
OPEN NEUTRAL	Neutral wire connection is missing or mis-wired
L1 OPEN	Line 1 connection missing or mis-wired
L2 OPEN	Line 2 connection missing or mis-wired
SHORE	RV connected to Shore Power
GEN	RV connected to Generator Power
DELAY	Delay mode waiting for power to come back on
SINGLPH	Connection at 110V instead of 220V
POWER REM	Power has been removed due to fault
OPEN GND	Open ground fault condition (ground wire missing or miswired)
HI FREQ	AC line frequency high (more than 60Hz)
LO FREQ	AC line frequency low (less than 60Hz)

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ELECTRONICS

This chapter provides operational instructions for the electronic systems installed in the coach, including camera and video, holding tank monitoring, multiplex systems, navigation, security and keyless entry, as well as WiFi.

NOTE: Audio-Visual (AV) equipment information is located in the Entertainment Systems category.

! IMPORTANT

Any of the following quick start instructions should not take the place of the complete documentation provided by the product manufacturer and/or Newmar. Additional operating instructions, troubleshooting, care and maintenance, safety information, etc. may be available in Newgle for specific components. Read all literature provided, paying special attention to any references to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

DASH INFOTAINMENT SYSTEMS

Sony 10.1" Mobile ES™ High-Resolution Digital Media Receiver Quick Start (Model: XAV-9500ES)

This article provides basic operation instructions for a Sony 10.1" Mobile ES™ High-Resolution Digital Media Receiver (Model: XAV-9500ES).

Main Unit

- (1) **HOME:** Displays the HOME screen. **STANDBY:** Press and hold to turn off the unit. Press and hold for more than 10 seconds to reset the unit.
- (2) **VOL +/- (volume):** The VOL (volume) +/- NEXT buttons have a tactile dot.
- (3) **PREVIOUS/NEXT:** Functions differently depending on the selected source:
 - Radio: Select a preset station.
 - USB/Bluetooth Audio: Move to the previous/next content.
 - Apple CarPlay/Android Auto: Move to the previous/next content.

Press and hold to:

- Radio: Tune into a station automatically (SEEK+/SEEK-).
- USB/Bluetooth Audio: Fast-reverse/Fast-forward.

- (4) **VOICE:** Activates the voice command function for Apple CarPlay and Android Auto.

(5) DISPLAY/TOUCHSCREEN

- (6) **CUSTOM KEY 1/2:** Registers functions (Mute, Disp. Off, Source Change, Home, Next, Previous, Vol+, Vol-, None). To register, select [Settings] -> [Customize]->[Custom Key].



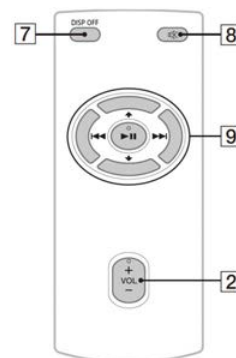
RM-X400 Remote Commander

The remote commander can be used to operate the audio controls. For menu operations, use the touch screen.

- (7) **DISP OFF (display off):** Turns off the display. To turn back on, press again.
- (8) **MUTE:** Mutes the sound. To cancel, press again.
- (9) **PLAY/PAUSE/PREVIOUS/NEXT:** Functions differently depending on the selected source:
 - Radio: Select a preset station.
 - USB/Bluetooth Audio: Move to the previous/next content.
 - Apple CarPlay/Android Auto: Move to the previous/next content.

Press and hold to:

- Radio: Tune into a station automatically (SEEK+/SEEK-).
- USB/Bluetooth Audio: Fast-reverse/Fast-forward.



Screen Displays

(1) Status Indication (left side): See chart.

(2) Status Indication (right side): See chart.

(3) Application Specific Area:

Displays playback controls/indications or show the unit's status. Displayed items differ depending on the source.

(4) Apple CarPlay / Android Auto: Displays when connecting Apple CarPlay / Android Auto.

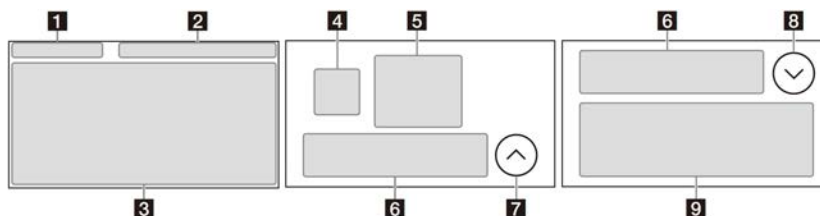
(5) Clock: Displays the date and time which were set on the Date/Time setting.

(6) Apps Area (Favorite): Up to 5 Apps can be set. Apps can be changed. You can set your Favorite Apps.

(7) All Apps: Opens the HOME2 screen.

(8) Close: Returns to the HOME1 screen.

(9) Apps Area: Displays all Apps except for Favorite Apps.



Apps icon list

Android Auto*	Apple CarPlay*	Radio
Bluetooth	USB	Phone
Settings	RearCam	Camera 1
Camera 2	Devices	

1 Status indication (left side)

(back)	Returns to the previous display.
(list)	Opens the list. The available lists differ depending on the source.

2 Status indication (right side)

Clock	Displays the time which was set on the Date/Time setting.
(mute)	Lights up when the sound is muted.
... (option)	Opens the source option menu. The available items differ depending on the source.
(device)	Displays the device's name to connect to the unit.
(antenna)	Indicates the signal strength status of the connected mobile phone.
(battery)	Indicates the remaining battery status of the connected mobile phone.

Basic Operations

Switching the FM/AM Tuning Step: Set the FM/AM tuning step of your country or region. Press HOME, touch Settings -> Application -> Radio Tuning Steps, then set the FM/AM tuning step. To exit the setup menu, touch Back three times.

Using Apple CarPlay Wirelessly: When using Apple CarPlay for the first time, device registration is required. Follow the procedure in "Pairing with a Bluetooth Device." Note: Make sure the GPS antenna (aerial) is connected.

Using Android Auto: When using Android Auto for the first time, device registration is required. Follow the procedure in "Pairing with a Bluetooth Device." When using Android Auto with a USB cable, connect the Android Auto compatible Android phone to the unit with the USB cable.

Pairing with a Bluetooth Device: When connecting a Bluetooth device for the first time, mutual registration (called "pairing") is required. Pairing enables this unit and other devices to recognize each other. When turning on the unit, the unit sends the Bluetooth signal.

To pair from the settings of this unit: Press HOME, then touch Settings. If Settings is not set in the Favorite area, touch All Apps to display the HOME2 screen, then select Settings. Touch Device Connection. Touch +Add New Device. Operate the Bluetooth device according to its message on the Add New Device screen.

If a passkey input is required on the Bluetooth device, input "0000." The registered device name appears on the Device Connection screen. You can connect or disconnect the registered device on this screen.

To pair from the Bluetooth device: When setting the Bluetooth setting of the Bluetooth device to ON, select "XAV-9500ES" on the setting screen of your Bluetooth device and then proceed to the pairing steps. Follow the instructions on the screen of the unit.

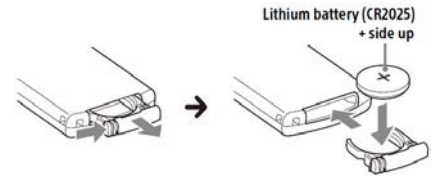
Canceling the Demonstration Mode: Press HOME, then touch Settings. If Settings is not set in the Favorite area, touch All Apps to display the HOME2 screen, then select Settings. Touch System, then touch Demo Mode to set to Off. To exit the setup menu, touch Back twice.

NOTE FROM NEWMAR

Select the Camera app to view the backup camera. The camera screen will automatically display and show the corresponding image when either of the turn signals are activated and/or the coach is put into reverse. When in reverse, static grid lines will also appear on the screen as well. The Camera app can be selected to view the camera of your choice while driving by pressing camera 1 (left), camera 2 (right), or rear camera.

Maintenance

Replacing the lithium battery (CR2025) of the remote commander: When the battery becomes weak, the range of the remote commander becomes shorter.



⚠ CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

⚠ WARNING

Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.

Source(s): Sony AV Receiver XAV-9500ES 5-021-903-87(1) Operating Instructions

CAMERA AND VIDEO MONITORING SYSTEMS

Camera and Video Monitoring System Overview

This article provides an overview of the camera and video monitoring system.

The video system features cameras mounted on the exterior of your coach and is connected to the in-dash video screen. This system comes on automatically when you put the transmission in reverse to allow you to see behind your unit when backing up. Additionally, it can be manually turned on in transit to allow you to monitor your towed vehicle or for additional assistance in passing maneuvers.

Rear View Cameras: Installed as a standard feature, the rear view monitor system assists the driver in the backing and parking of the vehicle. This system consists of a camera mounted on the rear cap and a monitor located on the dash.

Side View Cameras: As an option for the rear vision system, your coach may be equipped with "side view" cameras. These cameras are tied into the rear vision system and are activated by the turn signals. When a turn signal is activated, the monitor will switch to display that side of the coach. Once the turn signal cycle is complete, the display will revert to the previous camera for the Voyager, Sony, Axxera, or Xite system. In some Xite systems, the camera selection may default back to the rear camera.

Camera Selection: If the rear vision monitor is turned on manually, you can toggle through the cameras using one of the following methods (depending on the installed equipment), allowing you to stay on any given camera that you choose (unless a reverse or turn signal is detected):

- Voyager system: Source button
- Axerra radio: Source camera icon, followed by the Camera Select switch
- Sony radio: Apps icon, followed by the camera icons
- Xite infotainment system: Menu button, followed by the Camera Select icon. Select Xite systems may have a "CAM" button that serves as a shortcut to the camera settings. Xite systems with a "360 Camera Select" switch allow the user to toggle through and select multiple camera views.

HOLDING TANK MONITORING SYSTEMS

2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide: Tank Monitoring and Heat

The Home screen on the KIB 10.1" Central Monitor Capacitive Touch Panel displays settings for tank heat, as well as the tank capacities for the fresh, grey, black, and LP tanks (if equipped).

⚠ IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.



Tank Monitoring

This area shows the different tank levels. The Graph displays from 0%-100% with 5% increments.

- Fresh tank = Blue fill
- LPG tank = Orange fill (Optional)
- Grey tank = Grey fill
- Black2 tank = Black fill (Optional)
- Black tank = Black fill
- Grey2 tank = Grey fill (Optional)

Note: Percent vs Gallons is not guaranteed in the 0%-100% display. There are factors outside of the system that make this imperfect.

Tank Heat

The tank heat icon will only appear on coaches equipped with tank heat pads installed on the coach. This allows the user to enable the tank heat circuit from the KIB screen and power to be activated to the tank heat pads. The tank heat will only turn on if the tank level is at or above five percent (5%) and the sensor in the heat pad detects heat is needed.

Coaches equipped with a KIB system without tank heat on the screen have compartment bay heat provided by a furnace or an Oasis hydronic heating system (if the heat source is enabled).

2025 KIB 5" LCD Capacitive Touch Panel Guide: Tank Monitoring and Heat

The Home screen on the KIB 5" Capacitive Touch Panel displays settings for tank heat, as well as the tank capacities for the fresh, grey, black, and LP tanks (if equipped). This 5" vertical touch panel is only installed on coaches also equipped with a KIB 10.1" Central Monitor Capacitive Touch Panel. The same screens will also appear on the KIB Connected Solutions app once installed on a mobile device.

⚠ IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

Tank Monitoring

This area shows the different tank levels. The Graph displays from 0%-100% with 5% increments.

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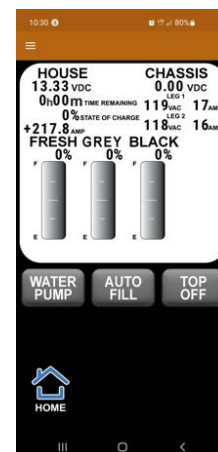
Allows user to turn the pump, auto fill, top off or tank heat (if equipped) functions on or off via the corresponding button.

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Tank Heat

The tank heat icon will only appear on coaches equipped with tank heat pads installed on the coach. This allows the user to enable the tank heat circuit from the KIB screen and power to be activated to the tank heat pads. The tank heat will only turn on if the tank level is at or above five percent (5%) and the sensor in the heat pad detects heat is needed.

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COACH MANAGEMENT AND MULTIPLEX SYSTEMS

KIB Multiplex System

KIB Backlit Multiplex Switch Panel Operation

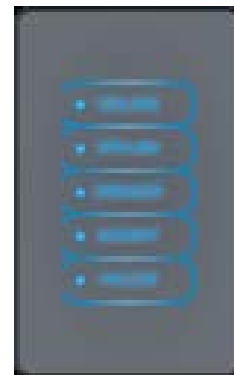
This article provides brief operating instructions for KIB backlit multiplex switches.

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The KIB multiplex switch panel controls the lights, water pump, floor heat, and fans when wired to the corresponding switch label. The switch panels will vary by coach model and floorplan.

Press the switch labeled with the circuit you wish to operate. The green LED indicator will illuminate on the KIB switch panel when the circuit is activated. Pressing the switch again will turn the circuit off and the indicator will change to blue when it is turned off.

Some of the buttons and functions displayed on the KIB multiplex switch panels include, but are not limited to: CEILING, KIT/LRM, DRESSER, ACCENT, HI/LOW, WALL, RH RD, LH RD, W. PUMP, DINETTE, SEATING, KIT OVH, BKLGTG, VANITY



2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide

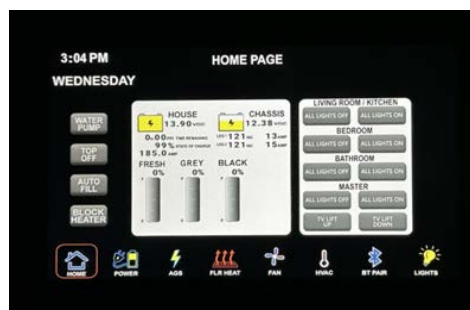
This guide provides information about the features and settings within the KIB 10.1" Central Monitor Capacitive Touch Panel installed in select 2025 coach models: Bay Star, Bay Star Sport, Canyon Star, Northern Star, Ventana, Super Star, and Dutch Star. Refer to the associated article in Newgle to view graphics and an explanation for each screen.

⚠ IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

The KIB 10.1" PANEL is a centralized "V-BUS" LCD interface to the following:

- KIB Tank Monitoring System Control (TMSC-100)
- Dometic Roof Top Units through the KIB (HVAC-GEN1)
- KIB Auto Generator Start "AGS" system (if equipped)
- Tank Heat (if equipped)
- Ventilation Fan Control (if equipped)
- Floor Heat Control (if equipped)
- Lithium Power Display (if equipped)
- Solar Power (if equipped)



Splash Screen: The Splash screen displays the Newmar logo, as well as the user icons to access the Home, Power, AGS, Floor Heat, Fans, HVAC, BT Pair, and Lights screens.

Home Screen: The Home screen displays Tank and Voltage Monitoring, Main Lighting Controls, and water-related switches, as well as buttons for main functions, including: Power, AGS, Floor Heat, Fans, HVAC, BT Pair, and Lights.

Water Pump and Auto Fill Buttons: The Home screen displays water-related switches for controlling the water pump, as well as the settings for top off and auto fill.

Tank Monitoring and Heat Buttons: The Home screen displays settings for tank heat, as well as the tank capacities for the fresh, grey, black, and LP tanks (if equipped).

TV Lift: The Home screen displays the televator (television lift) controls.

Power: The Power icon displays the Battery Management System page to provide the user with access to the Gen Start and Stop buttons to start or stop the generator. This feature is only available on coaches equipped with a factory-installed lithium package.

Energy Management: The Power icon displays the Battery Management System page to provide access to the Energy Management System page via the EMS button. This feature is only available on coaches equipped with a factory-installed lithium package.

AGS: The AGS icon displays the Automatic Generator Start pages to view and/or control the system statuses, quiet time feature, and generator run time for charging the house and chassis batteries.

Floor Heat: The Floor Heat icon displays the floor heat controls and settings for floor heat in the front, mid, and rear zones of the coach.

Fans: The Fans icon displays the Exhaust Fan Control page to turn the fans and rain sensor override on or off and control the fan speed.

HVAC: The HVAC icon displays the controls for the rooftop air conditioners, furnace, or Oasis hydronic heating system, and provides access to the HVAC settings for the entire coach.

BT Pair: The BT Pair (Bluetooth) screen displays steps for pairing your smartphone or tablet to the touch panel using the Connected Solutions app.

Lights: The Lights icon displays the controls for the lighting settings for each area, such as outdoor, living room, kitchen, bedroom, and bathroom(s).

Solar: The Solar icon on the KIB 10.1" Central Monitor Capacitive Touch Panel displays the Solar Management System information broadcasted from the Victron MMPT controller.

Bluetooth App: This article provides an overview of the KIB Connected Solutions Bluetooth App.

****Note:** Portions of this guide were sourced from L-Panel 2A-4.3" User Guide RevD02 (6/27/2019) and ATC/KIB LCD Overview 2023.

2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide: Home

The Home screen on the KIB 10.1" Central Monitor Capacitive Touch Panel displays the Tank and Voltage Monitoring, Main Lighting Controls, and water-related switches, as well as the main icons at the bottom of the screen: Power, AGS, Floor Heat, Fans, HVAC, BT Pair, and Lights.

Home

User Icons

POWER: Page jump to the LITHIUM POWER control page (must have factory-installed lithium battery option for this icon to appear).

AGS: Page jump to the AGS control page.

FLOOR HEAT: Page jump to the FLOOR HEAT control page.

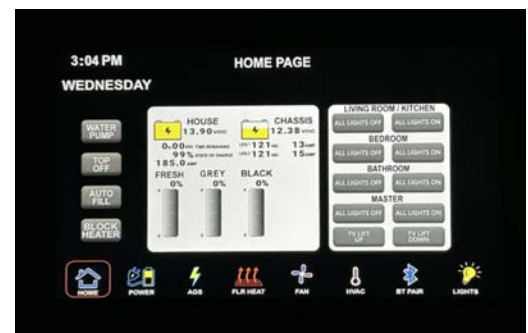
FAN: Page jump to the FAN control page.

HVAC: Page jump to HVAC control page.

BT PAIR: Page jump to BLUETOOTH control page.

LIGHTS: Page jump to the LIGHTS control page.

Note: Information displayed on the screen above between the house and chassis battery and the tank levels will not appear on coaches not equipped with a factory-installed lithium battery package.

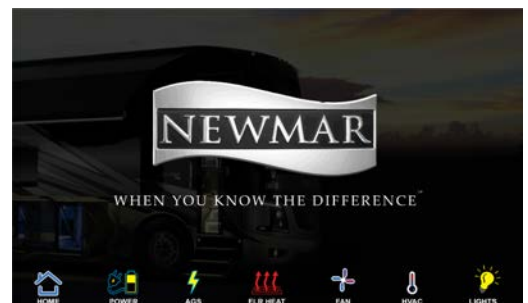


2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide: Splash Screen

The Splash screen on the KIB 10.1" Central Monitor Capacitive Touch Panel displays the Newmar logo, as well as the user icons to access the Home, Power, AGS, Floor Heat, Fans, HVAC, and Lights screens.

Sleep

While on the home page the LCD will go to sleep after two minutes of inactivity. Touching the sleeping LCD screen anywhere will wake it up.

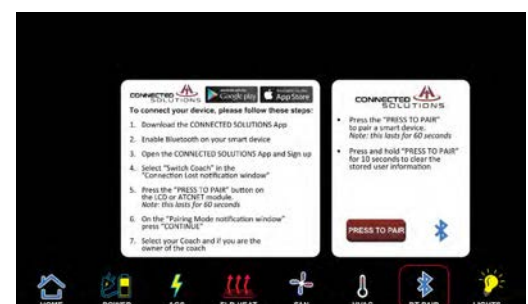


2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide: BT Pair

The BT Pair (Bluetooth) screen on the KIB 10.1" Central Monitor Capacitive Touch Panel displays steps for pairing your smartphone or tablet to the touch panel using the Connected Solutions app.

Connected Solutions App

Follow the onscreen instructions to connect your smart device using the Connected Solutions App, which will need to be downloaded from the App store, and Bluetooth will need to be enabled.



2025 KIB 5" LCD Capacitive Touch Panel Guide

This guide provides information about the features and settings within the KIB 5" LCD Capacitive Touch Panel installed in select 2025 coach models: Bay Star, Bay Star Sport, Canyon Star, Northern Star, Ventana, Super Star, and Dutch Star. The same screens will also appear on the KIB Connected Solutions app once installed on a mobile device.

IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

The KIB 5" PANEL is a centralized "V-BUS" LCD interface to the following:

- KIB Tank Monitoring System Control (TMSC-100)
- Dometic Roof Top Units through the KIB (HVAC-GEN1)
- KIB Auto Generator Start "AGS" system (if equipped)
- Tank Heat (if equipped)
- Ventilation Fan Control (if equipped)
- Floor Heat Control (if equipped)
- Lithium Power Display (if equipped)
- Solar Power (if equipped)

Refer to the associated article in Newgle to view graphics and an explanation for each screen.

Home: The Home screen displays the Tank and Voltage Monitoring, Main Lighting Controls, and water-related switches, as well as the main icons at the bottom of the screen: Power, AGS, Floor Heat, Fans, HVAC, BT Pair, and Lights.

Water Pump and Auto Fill: The Home screen displays water-related switches for controlling the water pump, as well as the settings for top off and auto fill.

Tank Monitoring and Heat: The Home screen displays settings for tank heat, as well as the tank capacities for the fresh, grey, black, and LP tanks (if equipped).

TV Lift: The Home screen displays the televator (television lift) controls.

Power: The Power icon displays the Battery Management System page to provide the user with access to the Gen Start and Stop buttons to start or stop the generator. This feature is only available on coaches equipped with a factory-installed lithium package.

Energy Management: The Power icon displays the Battery Management System page to provide access to the Energy Management System page via the EMS button. This feature is only available on coaches equipped with a factory-installed lithium package. This system can shed various A/C loads, including the Oasis system electric elements, air conditioners, block heater, and floor heat.

AGS: The AGS icon displays the Automatic Generator Start pages to view and/or control the system statuses, quiet time feature, and generator run time for charging the house and chassis batteries.

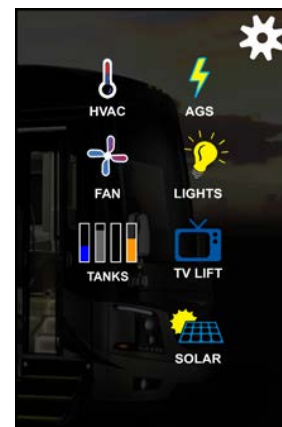
Floor Heat: The Floor Heat icon displays the floor heat controls and settings for floor heat in the front, mid, and rear zones of the coach.

Fans: The Fans icon displays the Exhaust Fan Control page to turn the fans and rain sensor override on or off and control the fan speed.

HVAC: The HVAC icon displays the controls for the rooftop air conditioners, furnace, or Oasis hydronic heating system, and provides access to the HVAC settings for the entire coach.

Lights: The Lights icon displays the controls for the lighting settings for each area, such as outdoor, living room, kitchen, bedroom, and bathroom(s).

Solar: The Solar icon on the KIB 10.1" Central Monitor Capacitive Touch Panel displays the Solar Management System information broadcasted from the Victron MMPT controller.



****Note:** Portions of this guide were sourced from L-Panel 2A-4.3" User Guide RevD02 (6/27/2019) and ATC/KIB LCD Overview 2023.

2025 KIB 5" LCD Capacitive Touch Panel Guide: Home

The Home screen on the KIB 5" Capacitive Touch Panel displays the main icons: Power, AGS, Floor Heat, Fans, HVAC, and Lights. This 5" vertical touch panel is only installed on coaches also equipped with a KIB 10.1" Central Monitor Capacitive Touch Panel. The same screens will also appear on the KIB Connected Solutions app once installed on a mobile device.

Home

Refer to the associated article in Newgle to view graphics and an explanation for each screen.

User Icons

POWER: Page jump to the LITHIUM POWER status page (must have factory-installed lithium battery option for this icon to appear).

AGS: Page jump to the AGS control page.

FLOOR HEAT: Page jump to the FLOOR HEAT control page (must have factory-installed floor heat option for this icon to appear).

FAN: Page jump to the FAN control page (must have factory-installed fan option for this icon to appear).

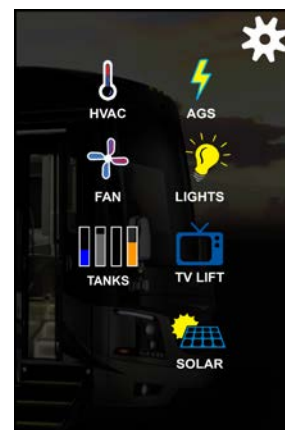
HVAC: Page jump to HVAC control page.

LIGHTS: Page jump to the LIGHTS control page.

TANKS: Page jump to the TANK STATUS page.

MOTORS (TV LIFT): Page jump to the TV LIFT page (must have factory-installed television lift option for this icon to appear).

SOLAR: Page jump to SOLAR STATUS page (must have factory-installed solar option for this icon to appear).



WIFI SYSTEMS

WiFi Ranger Converge LTE Indoor/Outdoor Router Quick Start

This article provides an operational overview of the WiFi Ranger Converge LTE Indoor/Outdoor Router (Model: Teton/Poplar Combo, Denali/Spruce Combo, and Aspen/Everest Combo). This information only applies to coaches equipped with an optional WiFi Ranger Converge Router.

Components

Get the most out of a WiFi Ranger system with an indoor & outdoor pack [...] for more network versatility and functionality when compared to a standalone unit. All of the long-range WiFi, LAN ports, USB tethering, and upgradability features unite in these Packs. Furthermore, you will enjoy maximum wireless coverage, performance, and reliability when using a Pack.

Indoor Routers

Poplar: WiFiRanger Poplar is an entry-level mobile router with 2.4GHz WiFi, a USB port for LTE tethering, 100Mbps LAN ports, and an integrated LTE modem (optional).

Spruce: WiFiRanger Spruce is a mid-performance mobile router with 2.4GHz / 5.8GHz WiFi, a USB port for LTE tethering, and 1000Mbps LAN ports.

Aspen: WiFiRanger Aspen is a high-performance indoor mobile router with Gigabit LAN, 2.4GHz / 5.8GHz WiFi, USB 3.0 LTE Tethering, and LTE Modem (optional).

Outdoor Routers

Teton: WiFiRanger Teton is an entry-level outdoor router with 2.4GHz WiFi, 1mi range, a 100Mbps LAN port, and an integrated LTE modem (optional).



Denali: WiFiRanger Denali is a mid-performance outdoor router with 2.4GHz WiFi, 1.5mi range, a 100Mbps LAN port, and an integrated LTE modem (optional).

Everest: WiFiRanger Everest is a high-performance outdoor mobile router with Gigabit LAN, 2mi Max Range, 2.4GHz / 5.8GHz WiFi, and LTE Modem(s) (optional).

Quick Start Guide

Power up your WiFi Ranger(s). Follow steps from Rooftop Installation and Interior Installation in order to power up unit(s), then wait 5 minutes.

Wirelessly connect your device to your WiFi Ranger. Network names vary depending on which WiFi Ranger model(s) you have. Note that the blank space need to be filled in with the 4 unique digits of your WiFi Ranger(s).

Pvt. WFR__Teton.___ __ __ __ Pvt. WFR__Poplar.___ __ __ __

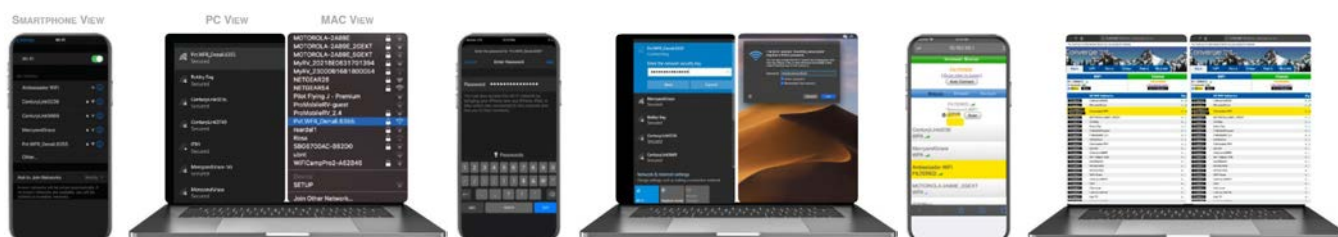
Pvt. WFR__Denali.___ __ __ __ Pvt. WFR__Spruce.___ __ __ __

Pvt. WFR__Everest.___ __ __ __ Pvt. WFR__Aspen.___ __ __ __

Enter Password: changemenow__ __ __ __. Enter password in lower case with no spaces. Note that the blank spaces need to be filled in with the 4 unique digits of your WiFiRanger(s).



Visit mywifiranger.com. This brings up the WiFiRanger Control Panel which can be bookmarked for future access.



Click Connect on WiFi network or Cellular device. For filtered WiFi networks, proceed to the captive portal or login page and enter the necessary credentials or terms of service.

LTE Activation

WiFiRanger is pleased to provide LTE solutions that are not locked into a specific cellular carrier. This approach gives the customer increased flexibility over other competing offerings which are tied to singular carriers or data plans. The WiFiRanger LTE solution gives you the freedom to find the perfect plan for you. The cellular landscape is always evolving and advancing, so our goal is to assist you in making the most of the myriad of data options available. The following advice is to help you navigate the data plan and activation topics that are applicable to our LTE solutions. The LTE solutions offered by WiFiRanger are subject to change based on the evolving cellular landscape.

Important Considerations

Data Plan Availability Varies by Region: Some cellular carriers offer certain data plans by region. As such, you may find that the data plan that you desire is available through a cellular reseller or representative in another area while your local representative has more limited options. Check around or call a representative in another region if you can't find what you want locally.

SIM Card Type May Affect Data Plan Options: WiFiRanger provides standard consumer SIM cards with their LTE modems. These SIM cards may not work on business data plans, but should support most consumer data plans. It is important to ask your cellular carrier if the SIM card you provide them is the right kind to meet your data needs.

Ease of Modem Activation Varies by Reseller / Carrier: In some cases, it can be difficult to activate the WiFiRanger LTE modem and SIM card depending on the representative you speak with. Some representatives work for a cellular reseller that does not have the offerings you desire, or you may need a more knowledgeable representative to handle your request. Ask different cellular stores, resellers, or a direct Carrier representative until you find the right person to activate your modem and SIM card on the desired plan.

Data Plan Pricing Depends on Your Cellular Account: In large part, the price of data plans for the WiFiRanger LTE modem are affected by your cellular account type and other data plan(s) on your account. In some cases, the WiFiRanger LTE modem will require having a data-only plan that is separate from the data plan attached to your smartphones or other devices. Checking with your carrier on costs will help you to understand how the carrier will handle the WiFiRanger LTE modem pricing and data amounts available.

Upgrading from Non-LTE WiFiRanger to LTE Modem May Require Additional Steps: If you are upgrading from a non-LTE WiFiRanger router to an embedded LTE modem, please be sure to click Check for Updates on the WiFiRanger Control Panel after installing the modem or upgrade kit. If you are experiencing problems or have questions about the new LTE modem, contact WiFiRanger to assist in getting your WiFiRanger configured to support the new modem. Our contact info is listed on the bottom of this guide.

Changing Cellular Carriers Should Only be Done After Verifying Supported Bands: If you plan on changing cellular carriers, ensure that your modem supports the necessary bands. Supported bands listed below:

- Category 4 Modem: Quectel EC25-AF 2 / 4 / 5 / 12 / 13 / 14 / 66 / 71
- Category 6 Modem: Quectel EP06-A 2 / 4 / 5 / 7 / 12 / 13 / 25 / 26 / 29 / 30 / 66

Identify modem model on Setup tab of Control Panel under Cellular settings.

Activation Contact Information

Carrier: AT&T

- **Consumer:** 888.333.6651
- **Business:** 888.444.4410
- att.wifiranger.com

Carrier: VERIZON

- Not Officially Supported
(Cannot guarantee Verizon data plans at this time.)

Carrier: MILLENICOM

- **Consumer:** 800.996.1285
- **Business:** 800.996.1285
- millenicom.wifiranger.com

LTE Setup

Accessing Cellular Settings

1. Power up the WiFiRanger system with embedded LTE modem(s).
2. Connect over ethernet or wirelessly to the WiFiRanger's network.
3. Access Control Panel of the WiFiRanger and select the "Setup" tab.
4. Expand modem settings by clicking the appropriate gear icon:
 1. Standalone WiFiRanger (indoor or outdoor unit): Click "Cellular" gear icon.
 2. Pack WiFiRangers (indoor and outdoor units): Click "Cellular" gear icon to access indoor unit modem. Click "WFRControl" gear icon to access outdoor unit modem.

Viewing SIM & IMEI Numbers

If you need the SIM or IMEI numbers for Cellular plan activation or support, then follow the steps below:

Follow steps for "Accessing Cellular Settings." View SIM & IMEI numbers after expanding the modem settings. Converge Routers & Modems Only Support Standard SIM Size.

Be sure that SIM card is Standard size as Nano and Micro sizes will not fit properly within Converge routers or LTE modems. A SIM card size adapter kit may be used to resize the SIM.



Refreshing SIM Number

If you've changed the SIM card in your WiFiRanger modem and need to refresh the SIM number, follow the steps below:

Follow steps for "Accessing Cellular Settings." Click on "Clear SIM Details" then wait 30 seconds. Click on "Reboot Cellular" then wait 60 seconds. Reload the Control Panel and verify the new SIM number appears.

Manually Setting an APN

(This is usually unnecessary on latest firmware since APN is automatically detected.) If you are unable to connect to the internet using the WiFiRanger modem even though your data plan is active, then there may be an issue with the modem's APN. An APN is a password used by the modem for authenticating with your cellular Carrier. To change the APN, follow the steps below:

Follow steps for "Accessing Cellular Settings." Enter correct APN into the APN field: Default APN shown (most common)

- Carrier: Verizon
 - Default APN: vzwinternet
- Carrier: AT&T
 - Default APN: broadband
- Carrier: T-Mobile / Millenicom
 - Default APN: fast.t-mobile.com



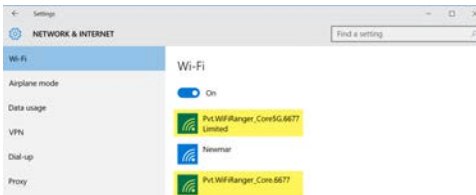
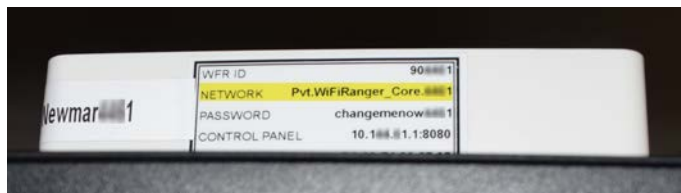
Unique APN on your Cellular account (only if applicable). Click "Save Changes."

Source(s): WiFi Ranger Converge Indoor/Outdoor Routers Owners Manual (2020)

Activating the WiFi Ranger Converge LTE Indoor/Outdoor Router

This article provides activation instructions for the WiFi Ranger Converge LTE Indoor/Outdoor Router.

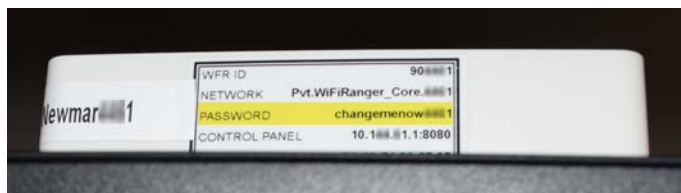
Connect via WiFi to "WiFi Ranger Core" using an electronic device (computer, laptop, tablet, smartphone, etc.) using the Network code located on your router (typically located in an overhead cabinet in the cockpit area or living room).



NOTE FROM NEWMAR

The electronic device can connect to either a standard or 5G core signal.

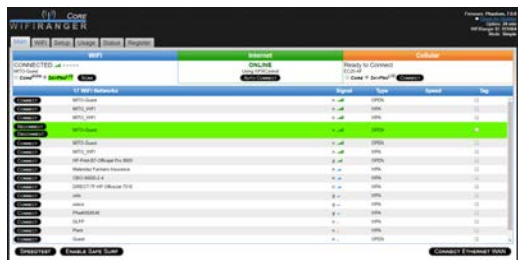
When prompted, enter the password listed on the router (this is the factory default setting).



Using the device's web browser (Internet Explorer, Chrome, Safari, etc.), type in the digits listed as "Control Panel" on the router in the address bar.



This will open the WiFi Ranger control panel. Select the [Setup] Tab.



Locate the "WFRControl SkyProLTE" row, and click the blue gear Settings icon on the far right of same row.

SIM and IMEI numbers needed for activation are displayed in the expanded WFRControl Cellular by accessing the Setup tab and clicking on the Setting icon (blue cog wheel).

Use your cellular data provider's website link or call to activate service to the LTE (i.e. Verizon, AT&T, T-Mobile). Provide the SIM and IMEI numbers when prompted.



NOTE FROM NEWMAR

Coach-specific information from WiFi Ranger can be found in the information package (black bag) provided by Newmar. This documentation must not be removed from the vehicle if the coach is sold. These items should remain with the coach for the next owner.

Starlink Satellite Internet System Quick Start (Model: Flat High Performance)

This article provides a quick start guide for a Starlink satellite internet system, which is an option for select 2025 and newer coaches.

Starlink delivers high-speed Internet almost anywhere on Earth. The Starlink app helps you find the best location for Starlink, check for obstructions, customize settings, receive updates, and access Support. The app has access to important troubleshooting data which helps resolve your issue faster, so we recommend contacting Support through the app.

The Starlink app is here to help you:

- Identify the install location that will ensure the best quality of service
- Set up your Starlink hardware
- Check for obstructions that can interfere with service
- Verify your WiFi connection
- Receive alerts for service issues
- View connectivity statistics
- Identify devices connected to your network
- Troubleshoot connectivity issues
- Contact support



Operation Instructions

Download the Starlink app on your phone. Before installation, use the "Check for Obstructions" tool in the app to identify the best location for uninterrupted service. Setup your Starlink. After connecting, confirm your setup location is obstruction-free by reviewing the data coming from your Starlink.

Source(s): *Starlink Wedge Mount Guide_Mobile HP 2022* and <https://support.starlink.com/>

Coach WiFi Security Alert - Changing Your Newmar Network Password(s) - WiFi Ranger Systems Only

Newmar Corporation has determined that the potential exists for unauthorized persons to gain unauthorized access to certain WiFi-connected components on some Newmar products via factory-installed WiFi routers which utilize factory password settings. The factory password setting is unique to each coach and there are no known instances of any such unauthorized access having ever occurred on any Newmar product. However, if an unauthorized person were to gain access to the factory-installed WiFi system there is a potential on some products for the unauthorized person to gain access to the WiFi-connected systems in the coach including certain televisions, sound equipment, cameras, and some coach management systems.

In order to protect against the potential for such unauthorized access to occur on Newmar products, Newmar Corporation highly recommends that customers owning the subject coaches change the factory password settings on the WiFi router to new passwords that have been chosen by the customer by following the directions provided below. Changing the factory passwords on the WiFi router will eliminate the potential for unauthorized persons to gain access to Newmar products via the factory password settings.

Note that changing the factory passwords to new passwords selected by the customer will cause a loss of pairing or connectivity between existing WiFi devices in the coach and the WiFi router. It will then be necessary to update the passwords on each of the individual WiFi-connected devices in the coach to have the same new password as the router in order to re-establish the pairing and connectivity between each of those WiFi devices and the router.

Please refer to the manufacturer's operation manual for pairing instructions for each WiFi-enabled component.

If the passwords are not updated on the WiFi devices in the coach after the WiFi router password has been changed, the devices will still function on their individual remote controls and on their individual in-coach control panels but those devices will no longer have any internet functionality or remote connectivity functionality until their passwords are updated to match the new WiFi router password.

If a customer is not able to make the recommended password changes to the factory-installed WiFi router immediately, the potential for unauthorized users to gain access to the coach WiFi systems can be easily blocked by simply turning off or unplugging the WiFi router until such time as the passwords can be reset.

- a. Example: 10.189.90.1:8080/admin
- b. This will go to a username and password screen for the admin credentials.

5. Enter USERNAME: admin
6. Enter PASSWORD: wfradmin



7. In the WPA KEY setting, change the password to one decided by the customer. After the password is changed click 'SAVE CHANGES'.
8. A banner will show up when the changes are being made. When the password is changed, the banner should show.



9. Once the settings have been changed, reconnect to the network using the new password.
10. Set up is complete!

Changing the WiFi Ranger Control Panel Password

For more security in the WiFi Ranger (WFR), it is suggested to make a change in the Control Panel that will require a USERNAME and PASSWORD when trying to get access to the WFR Control Panel. Complete the following procedure to further enhance the security.

1. Enter the control panel by first connecting to the Newmar Network in the coach as explained previously in the "Connect to the Coach Network" section.
2. When connected, go to the SETUP tab and make sure the HIDE ADVANCED FEATURES selection is turned off. If it is ON, select OFF, and click SAVE CHANGES.
3. From there, click the ADVANCED tab.
4. In the last box labeled ADMIN ACCESS, choose "ON."
5. Change the USERNAME and PASSWORD to something different. To make this as safe and secure as possible, do not share this password.



6. Click SAVE CHANGES.
 - a. The next time you try and enter the Control Panel, you will need this username and password to gain access.
7. Passwords to WiFi-enabled devices like televisions, cameras, and sound bars (i.e.: Bose 700 sound bar used on select Mountain Aire, London Aire, Supreme Aire, Essex, and King Aire coaches) will also need to be updated to have the same new password as the router in order to re-establish the pairing and connectivity between each of those WiFi devices and the router. Please refer to the manufacturer's operation manual for pairing instructions for each WiFi-enabled component.
8. Setup is complete!

ENTERTAINMENT SYSTEMS

This chapter provides information on entertainment components, including televisions, dash-mounted audio equipment, multi-disc players, home theater systems, and satellite antennas. Such components may be located within your coach's living room, bedroom, cargo area, or even outside the coach in an optional exterior entertainment center.

⚠ IMPORTANT

Any of the following quick start instructions should not take the place of the complete documentation provided by the product manufacturer and/or Newmar. Additional operating instructions, troubleshooting, care and maintenance, safety information, etc. may be available in Newgle for specific components. Read all literature provided, paying special attention to any references to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

ANTENNAS, CABLE, AND SATELLITE SYSTEMS

Antenna and Cable Overview

This article provides an overview of the antenna and cable system in the coach. Your coach may be equipped with an exterior antenna jack and interior antenna jacks or wiring at each television location.

Antenna Power Booster

An antenna with a power booster may be installed in your coach and is designed for reception of all local color and black-and-white channels. The antenna may be automatic, stationary, or manual lift. The power booster supplies voltage to the antenna when using over-the-air signal. However, it transfers the connection from the antenna to park cable when it is available and connected.

To operate the power booster for the television signal, press the switch on the booster plate to illuminate the green LED light. This will supply power to the antenna and boost the television signal.

When using park cable, the booster must be turned off to allow the signal to bypass the antenna and connect to the television or selector switch through the same coax cable. The green LED light should not be illuminated.

A 12 volt outlet is also provided for 12 volt accessories. Do not use this outlet for a cigarette lighter.



Over-the-Air Signal

If the reception is poor, make sure the power switch for the power booster is in the "ON" position and all of the coax connections are tight. This switch is usually located beside the passenger chair or on the video selector box (select units only).

On coaches with a Rayzar automatic TV antenna, this switch is integrated into the power on/off switch typically located in the overhead control center. After traveling, it may be necessary to auto-program your televisions to pick up local stations.

Cable Connection

An exterior cable jack and receptacle may be available on your coach. If installed, they may be located in an outside storage compartment, usually near the power cord.

When using park cable, it is necessary to turn the antenna booster off in order to allow the signal to travel to the television or selector switch (if equipped). This switch is usually located beside the passenger chair; it can also be the power button on the video selector box (select units only).

On coaches with a Rayzar automatic TV antenna, this switch is integrated into the power on/off switch typically located in the overhead control center.



⚠ IMPORTANT

Failure to turn off the power booster switch to the antenna while using the park cable system may cause poor picture quality.

Basic Troubleshooting

If you have poor reception, try these simple solutions:

1. Make sure the power booster or Rayzar antenna system is turned off.
2. Make sure the coax cable from the park cable hookup to the basement of the coach is in good, working condition and does not have a shorted shield wire.
3. Each TV will need to be set for cable and auto programmed at each new campsite location.
4. Any further troubleshooting and diagnosis should be performed by an authorized service technician.

Winegard Manual Antenna Quick Start (Model: Sensar Series)

This article provides instructions for raising, lowering, and rotating the Winegard Sensar Manual Antenna, as well as information about the booster switch and cable mode.

Operation

Raising Antenna to Operating Position

Check parking location for obstructions before raising antenna. Carefully raise, lower, and rotate. If this is difficult, check for cause.

Turn elevating crank (clockwise) in "UP" direction about 13 turns or until some resistance to turning is noted.



AMPLIFIED MODELS ONLY: Turn power supply ON to use either front or rear TV outlet. Neither outlet will work unless power supply switch is ON.

Do NOT connect high current devices such as hair dryers to this receptacle. Maximum current rating of this receptacle is 8 amps at +12 VDC.



Rotating the Antenna for Best Picture

Rotate slowly when selecting station and check fine tuning on TV set to make sure it is properly adjusted.

Make sure antenna is in "UP" position. Pull down with both hands to disengage ceiling plate. Rotate for best picture.

Lowering the Antenna

Lower antenna before moving vehicle.

Rotate antenna until pointer on directional handle aligns with pointer on ceiling plate. Turn elevating crank (counter clockwise) in "DOWN" direction about 13 turns or until resistance is noted. Antenna is now locked in travel position.

⚠ CAUTION

Under no conditions should the antenna be raised while traveling.

Booster Switch and Cable Mode

For more information about the booster switch and cable mode, refer to the Antenna and Cable Overview article in Newgle.

Source(s): Sensar (All Models) Winegard Installation Operation Manual MAY 2013

Product(s): Winegard RV-6005 Sensar III Amplifier w/Lift Antenna (Model: RV-6005, Newmar Part Number: 119818)

Winegard Rayzar Automatic Antenna Quick Start (Models: RZ-7500, RZ-7535, RZ-8500, RZ-8535)

This article provides information about the control panel, cable, and antenna mode, as well as the automatic search function of a Winegard Rayzar Automatic Antenna (Models: RZ-7500, RZ-7535, RZ-8500, RZ-8535).

Control Panel

Coaches equipped with a Rayzar Automatic Antenna will also be equipped with a control panel in the overhead cabinet.

Cable Mode

When the control panel is powered off, park cable signals will be passed to the TV. In this mode, all LEDs are turned off.

IMPORTANT

Failure to turn off the power booster switch to the antenna while using the park cable system may cause poor picture quality.

Antenna Mode

When the Control panel is powered on by pressing the On/Off button, the LEDs will flash and begin their power-on process. At this time the antenna amplifier is powered on and TV antenna signals will be passed. Initially, GREEN "Positional LED(s)" will be lit to indicate the direction the antenna is positioned.

Automatic Search Function

The system does not move until the Search button is pressed. Channels will be received whenever the system is powered on.

To begin a new search, press the Search button. The antenna will go through its initialization process and begin searching for TV frequencies. A typical search will take 2-3 minutes. A RED LED will quickly cycle through the positional LED position to indicate the antenna is moving and [the] direction it is moving. After the search is complete, the antenna will automatically go to the position which results in the most watchable TV channels. The 2-digit display will show the number of frequencies seen at that position, and both the GREEN and RED LED(s) will be lit to indicate the successful search location.

Additional RED LEDs will also light to show any other channels found at alternate positions. Pressing the Search button again will move the antenna to the next best location. Continuing to press Search again will cycle through other positions that provided additional channels, until returning to the main search location. To clear search results and initiate a new search, press and hold the Search button for 2 seconds. The system will also clear all search results each time it is powered off.

Source(s): Winegard Rayzar Automatic Antenna User Guide

Product(s): This source is associated with more than one product. Refer to Newgle for more information about the product(s) offered for your coach's model year.

Winegard RoadTrip T4 Automatic In-Motion Satellite Quick Start (Model: RTT-20B/RT2000T)

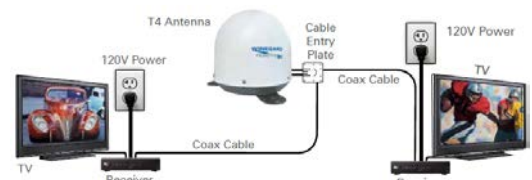
This article provides basic operation instructions for a Winegard RoadTrip T4 Automatic In-Motion Satellite (Model: RTT-20B/RT2000T).

Operating the RoadTrip® T4 Antenna

Turn on receiver and television set. The RoadTrip® T4 antenna must be connected to a receiver plugged into 120VAC.

Verify that you are getting the receiver's menu screens on the television. These screens are available with or without the dish finding the signal.

Ensure receiver is properly configured for your provider.



Turn the power switch on for the antenna. Within 10–15 seconds, the dish will begin moving and should make one or two revolutions during startup. During this process, it is normal to hear a slight grinding sound as the unit checks its rotational limits. This does not harm the unit. The system will pause to acquire GPS.

Once the dish begins its search, it pauses on signals long enough to determine which satellite it has found. The antenna may move off the signal in an effort to verify the signal and should return shortly.

TIP: Because the T4 antenna uses information from the last location where it was on signal, satellite acquisition may take longer if the dish is inactive over long distance traveling.

After the T4 has verified the correct satellite, it will continue to track the signal. The unit will go into “Sleep Mode” if the vehicle is stationary for 6 minutes. This involves a quick verification process where signal may be lost, then return to the signal and be silent. If the vehicle begins moving greater than 10 MPH, the in-motion T4 will resume tracking mode. For smoother operation, use your on-screen guide to locate your channel rather than “channel surfing.”

NOTE There are certain areas within the U.S. where the T4 antenna may experience limited or no coverage of the 129° satellite for HD programming. DISH home coverage has the same limitations. Problem areas include Washington, Oregon and California, but limited coverage may extend past these areas. Contact DISH for additional coverage questions (1-888-825-2557).

ALSO when the T4 dome is blocked (example: while going through a tunnel, under a bridge, by a building, etc.) programming will not be available. Once the block is removed, the programming will return.

DIRECTV®

The RoadTrip® T4 antenna switch settings are preset for DIRECTV. If you have a DISH or Bell TV receiver, you **must** change the numbered switches found on the electronics box under the dome.

Receiver Setup: Connect the receiver to a power source, and complete receiver setup. Check out online receiver setup guides for your antenna at www.winegard.com/support.

Receiver Recommendations: The RoadTrip® T4 antenna will operate with most DIRECTV receivers. Winegard does not recommend using receivers with hard drives, as they are not intended for mobile applications. Winegard does not recommend using an HD receiver since HD programming will not be available. SWM only receivers require a SWM-840 kit.

Satellite Coverage: The antenna will locate and toggle between satellites 101° and 119°. The RoadTrip® T4 antenna will not operate in all areas where satellites 101° and 119° are available. The T4 antenna is not compatible with 110° or KA-band satellites 99° and 103°. Satellite coverage maps are based on level, stationary operation. Reception interruption may also occur during adverse weather conditions.

Maintenance

The RoadTrip® T4 antenna is designed to be maintenance free. However, it is a good idea to clean the dome from time to time with a soft cloth, water, and dish soap.

Source(s): Winegard RoadTrip T4 Automatic In-Motion Roof-Mounted Satellite TV Antenna User Guide

Product(s): Winegard T4 RoadTrip In-Motion Satellite (Model: RTT-20B, Newmar Part Number: 135606P)

Winegard RoadTrip P4 Automatic Stationary Satellite Quick Start (Model: RTS-20B)

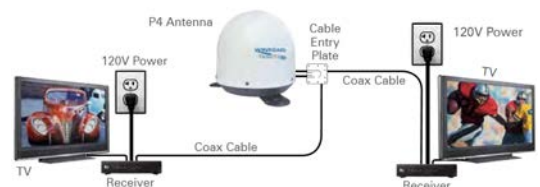
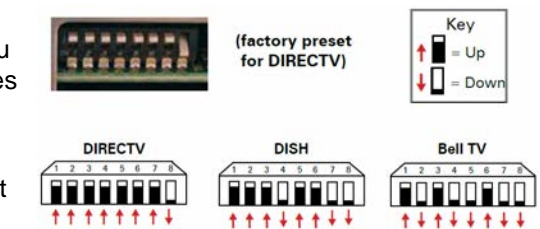
This article provides basic operation instructions for a Winegard RoadTrip P4 Automatic Stationary Satellite (Model: RTS-20B).

Operating the RoadTrip® P4 Antenna

Turn on receiver and television set. The RoadTrip® P4 antenna must be connected to a receiver plugged into 120VAC.

Verify that you are getting the receiver's menu screens on the television. These screens are available with or without the dish finding the signal.

Ensure receiver is properly configured for your provider.



Turn the power switch on for the antenna. Within 10–15 seconds, the dish will begin moving and should make one or two revolutions during startup. During this process, it is normal to hear a slight grinding sound as the unit checks its rotational limits. This does not harm the unit. The system will pause to acquire GPS.

Once the dish begins its search, it pauses on signals long enough to determine which satellite it has found. The antenna may move off the signal in an effort to verify the signal and should return shortly.

TIP: Because the P4 antenna uses information from the last location where it was on signal, satellite acquisition may take longer if the dish is inactive over long distance traveling.

NOTE There are certain areas within the U.S. where the P4 antenna may experience limited or no coverage of the 129° satellite for HD programming. DISH home coverage has the same limitations. Problem areas include Washington, Oregon and California, but limited coverage may extend past these areas. Contact DISH for additional coverage questions (1-888-825-2557).

ALSO when the P4 dome is blocked (example: while going through a tunnel, under a bridge, by a building, etc.) programming will not be available. Once the block is removed, the programming will return.

DIRECTV®

The RoadTrip® P4 antenna switch settings are preset for DIRECTV. If you have a DISH or Bell TV receiver, you **must** change the numbered switches found on the electronics box under the dome.

Receiver Setup: Connect the receiver to a power source, and complete receiver setup. Check out online receiver setup guides for your antenna at www.winegard.com/support.

Receiver Recommendations: The RoadTrip® P4 antenna will operate with most DIRECTV receivers. Winegard does not recommend using receivers with hard drives, as they are not intended for mobile applications. Winegard does not recommend using an HD receiver since HD programming will not be available. SWM only receivers require a SWM-840 kit.

Satellite Coverage: The antenna will locate and toggle between satellites 101° and 119°. The RoadTrip® P4 antenna will not operate in all areas where satellites 101° and 119° are available. The P4 antenna is not compatible with 110° or KA-band satellites 99° and 103°. Satellite coverage maps are based on level, stationary operation. Reception interruption may also occur during adverse weather conditions.

Maintenance

The RoadTrip® P4 antenna is designed to be maintenance free. However, it is a good idea to clean the dome from time to time with a soft cloth, water, and dish soap.

Source(s): Winegard RoadTrip P4 Automatic Stationary Roof-Mounted Satellite TV Antenna

Product(s): Winegard RoadTrip Automatic Stationary Roof-Mounted Satellite TV Antenna (Model: RTS-20B, Newmar Part Number: 135607)

Winegard Trav'ler Pro Automatic Multi-Satellite TV Antenna Quick Start (Models: SK2-100/SK2DISH and SK2-300/SK2SWM3)

This article provides basic operation instructions for a Winegard Trav'ler Pro Automatic Multi-Satellite TV Antenna (Models: SK2-100/SK2DISH and SK2-300/SK2SWM3).

IDU Operation

The already simple Winegard® Trav'ler® operation is even easier and can now be done from your smartphone with the Winegard-Connected app. To take advantage of advanced features and over-the-air updates, please download the Winegard-Connected app from the Google Play or the App Store. Simply plug in the 48 VDC power cable to power on the interface box (IDU) and start enjoying the Winegard Trav'ler Pro.

The IDU will power on as soon as the 48 VDC power cord is plugged into the IDU. This will not raise the antenna.

Upon power up, the IDU will display current hardware and software versions. If connected to an internet source (WiFi configuration requires the Winegard-Connected app), the IDU will check to see if any updates are available to download. **NOTE:** When downloading a software update, make sure you have a good, reliable internet source and connection.



Once the IDU has loaded and is in the ready state, press and hold the Search button to perform a search. To stow the antenna press and hold the Stow button until the satellite antenna starts the stow process.

The IDU includes advanced features as well as system information within the Settings Menu. To access the Settings Menu press and hold the Power button for five seconds until the Settings Menu options appear. Press Search to scroll up and Stow scroll down. An asterisk icon shows which menu item is currently selected. Press the Power button to confirm your selection. To exit a selected Power Mode, press and hold the Power button for five seconds and select the desired mode.

Smart Phone Operation and Features

To pair your smartphone with the IDU, open the Winegard-Connected app and log in to your account.

NOTE: Account creation is required to proceed. If you need to create an account press "Don't have an account? Create one" under "SIGN IN" and complete the prompted elds. Once submitted, you will receive a confirmation link sent via email. If the email is not in your [email inbox] be sure to check your spam/junk folder. Once the link has been confirmed, you can now sign in to your account.

App Functions

The Main Menu shows all the additional features of the Winegard-Connected app. Available functions include: Power Modes, Search Mode, Stow Mode, Setting up WiFi, Disconnect and Reconnect to IDU, and Settings. For more information about available functions and settings (antenna type, search mode, raise antenna, adjust antenna, WiFi network, EL calibration), refer to the complete operation manual.

Support

Download the product manual through the Winegard-Connected App. The app will prompt you to select a product. Once selected, press "GET MANUAL" to start the download process.

System Information

The System Information option provides specific details about your Trav'ler Pro antenna, including its hardware version, software version, WiFi MAC address, SSID, and Bluetooth® MAC address. To exit, scroll through the information screens until Exit Info is shown, then press and hold "Power". The same information is available in the Winegard-Connected app and can be accessed through the System Info tab in the Trav'ler Pro Main Menu.

Update Software

Software updates require a reliable internet source and connection. Having a weak connection may create issues with the software download. When a software update is available, there will be an exclamation mark within the cloud icon on the IDU display. In the Winegard-Connected app there will also be a red circle with an exclamation mark within the messaging portion of the Trav'ler Pro Main Menu indicating a software update is available.

WARNING

It is highly recommended that the unit is stowed before performing any updates.

NOTE: When first setting up the Winegard Trav'ler Pro, it is recommended to connect to an internet source and check for software updates. For more information about software updates, refer to the complete operation manual.

Miscellaneous

Emergency Power Off

The antenna comes with an emergency power off feature. If you need to stop the Trav'ler Pro antenna at any time during a Search or Stow sequence, press "Search", or "Stow" again (i.e. repeat the same command) to stop the antenna. The antenna will stop in its current position and power will be disconnected from the ODU. Once the antenna has stopped, the ODU will automatically reboot and wait for the next command. If the emergency power off feature is used, the antenna may not be in a safe position for travel. Do not move the vehicle until the unit is stowed.

In addition to the Emergency Power Off, you can also perform an Emergency Reset. To do this you need to press all three buttons (Power, Search, and Stow) at the same time. This will immediately cycle power to the IDU and force a restart. Once the IDU restarts, it will come to the ready state and wait for a request.

Emergency Manual Stow

If unable to stow the Trav'ler Pro antenna, it may be necessary to manually stow the antenna in order to travel. Emergency Manual Stow is meant to be used as a last resort and is not meant for common usage.

1. To perform the Emergency Manual Stow, make sure the power to the IDU is disconnected.
2. Once disconnected, proceed to the roof and remove the six Phillips screws and housing from the turret.
3. Disconnect the motor assembly cable from the motor and three 9/64" Allen screws to remove the motor from the turret.
4. To lower the antenna, use a 12mm 6-point socket on the elevation motor's square shaft and turn the shaft clockwise to lower the antenna.
5. Once lowered to the stow position, reconnect the motor assembly cable prior reinstalling the motor.
6. Once the assembly cable is connected, be sure the motor coupler is aligned with the shaft.
7. After aligning the motor, install the three 9/64" Allen screws (Torque – 25 in-lbs).
8. Verify the seal of the gasket prior to aligning the plastic housing over the screw holes, and seat the housing on the gasket.
9. Reinstall the six Phillips screws. Do not use a drill, as you can strip the base.

NOTICE

Before lowering the antenna be sure to antenna will stow towards the back of the vehicle. On the mount base, the transition plate is marked "FRONT" and "BACK." If the antenna is not in a position to stow towards the back of the vehicle, remove the AZ motor assembly cable from the top of the motor and rotate the antenna by hand until the antenna is aligned with "BACK" on the transition plate. Once aligned, reconnected the AZ motor assembly cable and lower the antenna.

Manage Devices

Managing devices can be done from the Device Selection/Add New Device page by pressing the Menu button (3 bars top left) and selecting Manage Devices under My Tools. The Manage Devices screen gives you the ability to register a new device, remove a device, and manage authorized users for devices.

To register a new device, press the green plus sign next to Register New Device at the bottom of the page. To remove a device, press the trash icon.

Add an authorized user by pressing the green plus sign next to the device. Then select "Add New User". At this point, you will be asked to enter the person's name, email address, and select if they are the owner or a guest. Owner access will not expire whereas if you want to give someone temporary access, set the owner field to "false" and set "expires on" to the desired date. The guest access is intended to be set up for anyone needing temporary access such as a dealer or mobile technician. The IDU has the ability to pair five devices to it.

Source(s): Winegard Trav'ler Pro Automatic Multi-Satellite TV Antenna Operation Manual Rev5-21 (Models: SK2DISH, SK2SWM3)

Product(s): Winegard Trav'ler Pro Automatic Multi-Satellite TV Antenna (Models: SK2-100/SK2DISH, Newmar Part Number: 161392)

Winegard Trav'ler Pro Automatic Multi-Satellite TV Antenna (Models: SK2-300/SK2SWM3, Newmar Part Number: 161393)

Winegard Trav'ler Pro Satellite TV Antenna AutoStow Operation

This article provides important information about the Winegard Trav'ler Pro Satellite TV Antenna AutoStow feature available in select coaches (beginning with the 2024 model year).

NOTE FROM NEWMAR

Be aware! Since the Trav'ler Pro controller is 120-volt-operated, Winegard's AutoStow feature will only operate properly when the control box is powered by 120-volt power. In Newmar coaches, this means the coach must be plugged into shore power, the generator running, or the inverter on and supplying 120 volts to provide the necessary voltage. It is possible that if the antenna is raised while the coach is plugged into shore power, and then unplugged from shore power without the inverter or generator on, the dash antenna up warning indicator may not activate, and the antenna may NOT AutoStow when the coach's park brake is released.

Theory of AutoStow Operation for Newmar Coaches

Terminology and Modes

- **Gnd** - The brake is being pressed and ground is being applied to J7 Pin 4 on rear panel of the IDU.
- **Buzzer** – The internal IDU buzzer.
- **Dash Indicator** - J7 Pin 1 is pulled low, which will illuminate the RV dash indicator.

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Normal Mode

- **Stowed Position:** When Gnd is applied, nothing happens. (No dash indicator, no buzzer, and the unit stays stowed.) If Search or Stow is pressed on the IDU and Gnd is present: The IDU displays “Back-Panel LOCKED”, the buzzer turns on and dash indicator turns on for ~2 seconds. Same thing happens when Stow, Search, Install Antenna, or Adjust Antenna is activated from the App.
- **Search in Progress:** When Gnd is applied, the search stops, buzzer turns on, dash indicator turns on, and the unit stows. Once stow is complete, the buzzer and dash indicator turn off.
- **Search Completed:** When Gnd is applied, the buzzer turns on, dash indicator turns on, and the unit stows. Once stow is complete, the buzzer and dash indicator turn off.

Service Mode

In Service Mode, the antenna is raised to 70 degrees elevation. When Gnd is applied, the buzzer turns on and the dash indicator turns on until the Gnd is removed. The unit doesn't stow as a safety precaution. If the unit is in Service Mode, there are situations where someone could be on the RV roof working on the unit and someone else turns on the ignition key or taps the brake; in this condition, it wouldn't be safe to move the antenna.

Travel Mode

In Travel Mode, the unit is automatically stowed, so when Gnd is applied, the unit remains stowed with no buzzer or dash indicator.

Low-Power Mode

- **Not stowed:** When Gnd is applied, the buzzer turns on, dash indicator turns on, and the unit stows. Once stow is complete, the buzzer and dash indicator turn off.
- **Stowed:** When Gnd is applied, nothing happens. (No dash indicator, no buzzer, and unit stays stowed.)

Additional Conditions

If a Stow is started from the IDU front panel or App, then Gnd is applied, the buzzer turns on and dash indicator turns on. The stow that was already started continues without interruption. When stow is complete, the buzzer and dash indicator turn off.

Not Stowed: If Gnd is applied, the buzzer turns on, dash indicator turns on, and the unit starts to stow. If Stow is pressed on the IDU front panel or App before the stow is complete, the stow is interrupted and re-started. Once the stow is complete, the buzzer and dash indicator turn off.

Source(s): Trav'ler Pro AutoStow Customer Interface Theory of Operation (Provided by Winegard; Version 8/29/2022)

AUDIO SYSTEMS

Bose TV Speaker Quick Start (Model: 838309-1100)

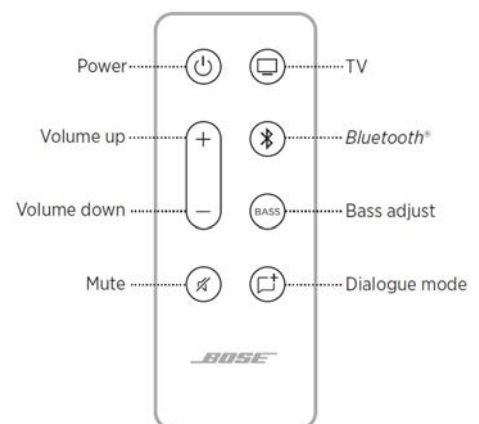
This article provides basic operation instructions for a Bose TV Speaker (Model: 838309-1100).

Remote Control

Power

On the remote, press the Power button to power the speaker on/off. When powered on, the speaker defaults to the last active source.

- When you plug the speaker into an AC (mains) outlet, the speaker automatically powers on.
- The first time the speaker is powered on, the speaker defaults to the TV source.
- If the speaker is connected to the TV using an HDMI cable, the speaker changes to the TV source whenever the TV is powered on.



Auto-Wake

You can set the speaker to power on whenever a sound signal is received from an optical or analog cable. On the remote press and hold the Power button I until you hear a tone and the TV and Bluetooth lights on the speaker blink amber 3 times to switch between auto-wake and default power settings.

Volume

Volume Up: Press +. NOTE: To quickly increase the volume, press and hold +.

Volume Down: Press -. NOTE: To quickly decrease the volume, press and hold -.

Mute/Unmute: Press the Mute button. When audio is muted, the light on the speaker of the current source (TV or Bluetooth) pulses white until audio resumes. TIP: You can also press + to resume audio.

Sources

You can control your TV and Bluetooth connections using your remote. To control a source, press the TV button or Bluetooth button) on the remote for the source you want to control.

Dialogue Mode

Dialogue mode improves the clarity of dialogue and vocals in movies, TV programs, and podcasts by adjusting the audio balance of the system. On the remote, press the Dialogue mode button to switch between Dialogue mode and your default audio settings. When Dialogue mode is enabled, the light for the current source glows green.

Note: When you enable Dialogue mode, it stays enabled for your current source even if you switch to another source or turn off the speaker. To disable Dialogue mode for a source, press the Dialogue mode button again.

Adjust the Bass

On the remote, press BASS. On the speaker, the TV and Bluetooth lights blink white 3 times. Adjust the bass by doing one of the following:

- Press Volume up (+) to increase the bass.
- Press Volume down (-) to decrease the bass.

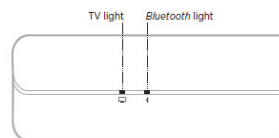
The TV and Bluetooth lights on the speaker glow to show the current bass setting. Press BASS. The speaker saves the current bass setting.

Reset the Bass

On the remote, press and hold BASS until the TV and Bluetooth lights on the speaker blink 3 times. The bass settings reset to original factory settings.

Bluetooth

On the remote, press the Bluetooth button. The Bluetooth light slowly pulses blue.



LIGHT ACTIVITY	TV	Bluetooth	SYSTEM STATE
Bluetooth light slowly pulses blue	■	⬢	Ready to connect
Bluetooth light blinks white	■	⬢	Connecting
Bluetooth light glows white	■	■	Connected

On your mobile device, enable the Bluetooth feature. TIP: The Bluetooth menu is usually found in the Settings menu.

Select Bose TV Speaker from the device list. Once connected, you hear a tone. The Bluetooth light glows solid white. Bose TV Speaker appears in the mobile device list.

Speaker Status

The LED lights located on the front of speaker show the speaker status. The lights display the current sources highest priority status.

Media Playback and Volume Status

- **TV light is solid white:** Power on TV
- **Bluetooth light is solid white:** Connected to a Bluetooth device
- **TV light is solid green:** Dialogue mode enabled for TV
- **Bluetooth light is solid green:** Dialogue mode enabled for Bluetooth-connected device
- **TV light blinks white:** Changing volume for TV

- **Bluetooth light blinks white:** Changing volume for Bluetooth-connected device
- **TV light blinks green:** Changing volume in Dialogue mode for TV
- **Bluetooth light blinks green:** Changing volume in Dialogue mode for Bluetooth-connected device **TV**
- **light slowly pulses white:** Mute enabled for TV
- **Bluetooth light slowly pulses white:** Mute enabled for Bluetooth-connected device
- **TV light slowly pulses green:** Mute enabled in Dialogue mode for TV
- **Bluetooth light slowly pulses green:** Mute enabled in Dialogue mode for Bluetooth-connected device
- **TV light blinks red:** Speaker error - disconnect from power then reconnect.

If error persists, contact Bose customer service.

Source(s): Bose TV Speaker Start Guide

Product(s): Bose TV Speaker (Model: 838309-1100, Newmar Part Number: 155172)

Sony 10.1" Mobile ES™ High-Resolution Digital Media Receiver Quick Start (Model: XAV-9500ES)

This article provides basic operation instructions for a Sony 10.1" Mobile ES™ High-Resolution Digital Media Receiver (Model: XAV-9500ES).

Main Unit

- (1) **HOME:** Displays the HOME screen. **STANDBY:** Press and hold to turn off the unit. Press and hold for more than 10 seconds to reset the unit.
- (2) **VOL +/- (volume):** The VOL (volume) +/- NEXT buttons have a tactile dot.
- (3) **PREVIOUS/NEXT:** Functions differently depending on the selected source:
- Radio: Select a preset station.
 - USB/Bluetooth Audio: Move to the previous/next content.
 - Apple CarPlay/Android Auto: Move to the previous/next content.

Press and hold to:

- Radio: Tune into a station automatically (SEEK+/SEEK-).
 - USB/Bluetooth Audio: Fast-reverse/Fast-forward.
- (4) **VOICE:** Activates the voice command function for Apple CarPlay and Android Auto.
- (5) **DISPLAY/TOUCHSCREEN**
- (6) **CUSTOM KEY 1/2:** Registers functions (Mute, Disp. Off, Source Change, Home, Next, Previous, Vol+, Vol-, None). To register, select [Settings] -> [Customize]-> [Custom Key].



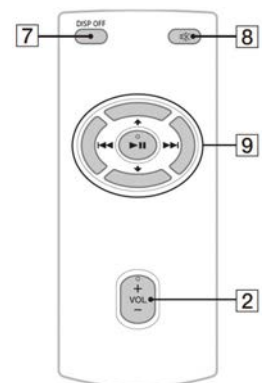
RM-X400 Remote Commander

The remote commander can be used to operate the audio controls. For menu operations, use the touch screen.

- (7) **DISP OFF (display off):** Turns off the display. To turn back on, press again.
- (8) **MUTE:** Mutes the sound. To cancel, press again.
- (9) **PLAY/PAUSE/PREVIOUS/NEXT:** Functions differently depending on the selected source:
- Radio: Select a preset station.
 - USB/Bluetooth Audio: Move to the previous/next content.
 - Apple CarPlay/Android Auto: Move to the previous/next content.

Press and hold to:

- Radio: Tune into a station automatically (SEEK+/SEEK-).
- USB/Bluetooth Audio: Fast-reverse/Fast-forward.



Screen Displays

(1) Status Indication (left side): See chart.

(2) Status Indication (right side): See chart.

(3) Application Specific Area:

Displays playback controls/indications or show the unit's status. Displayed items differ depending on the source.

(4) Apple CarPlay / Android Auto: Displays when connecting Apple CarPlay / Android Auto.

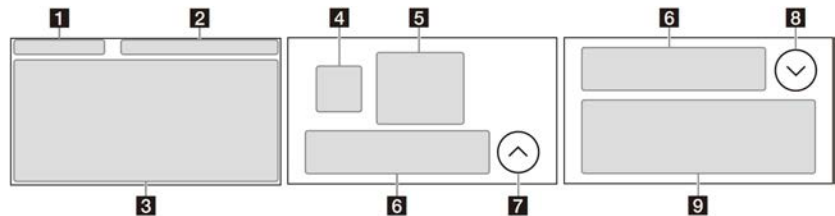
(5) Clock: Displays the date and time which were set on the Date/Time setting.

(6) Apps Area (Favorite): Up to 5 Apps can be set. Apps can be changed. You can set your Favorite Apps.

(7) All Apps: Opens the HOME2 screen.

(8) Close: Returns to the HOME1 screen.

(9) Apps Area: Displays all Apps except for Favorite Apps.



Apps icon list

Android Auto*	Apple CarPlay*	Radio
Bluetooth	USB	Phone
Settings	RearCam	Camera 1
Camera 2	Devices	

1 Status indication (left side)

(back)	Returns to the previous display.
(list)	Opens the list. The available lists differ depending on the source.

2 Status indication (right side)

Clock	Displays the time which was set on the Date/Time setting.
(mute)	Lights up when the sound is muted.
... (option)	Opens the source option menu. The available items differ depending on the source.
(device)	Displays the device's name to connect to the unit.
(antenna)	Indicates the signal strength status of the connected mobile phone.
(battery)	Indicates the remaining battery status of the connected mobile phone.

Basic Operations

Switching the FM/AM Tuning Step: Set the FM/AM tuning step of your country or region. Press HOME, touch Settings -> Application -> Radio Tuning Steps, then set the FM/AM tuning step. To exit the setup menu, touch Back three times.

Using Apple CarPlay Wirelessly: When using Apple CarPlay for the first time, device registration is required. Follow the procedure in "Pairing with a Bluetooth Device." Note: Make sure the GPS antenna (aerial) is connected.

Using Android Auto: When using Android Auto for the first time, device registration is required. Follow the procedure in "Pairing with a Bluetooth Device." When using Android Auto with a USB cable, connect the Android Auto compatible Android phone to the unit with the USB cable.

Pairing with a Bluetooth Device: When connecting a Bluetooth device for the first time, mutual registration (called "pairing") is required. Pairing enables this unit and other devices to recognize each other. When turning on the unit, the unit sends the Bluetooth signal.

To pair from the settings of this unit: Press HOME, then touch Settings. If Settings is not set in the Favorite area, touch All Apps to display the HOME2 screen, then select Settings. Touch Device Connection. Touch +Add New Device. Operate the Bluetooth device according to its message on the Add New Device screen.

If a passkey input is required on the Bluetooth device, input "0000." The registered device name appears on the Device Connection screen. You can connect or disconnect the registered device on this screen.

To pair from the Bluetooth device: When setting the Bluetooth setting of the Bluetooth device to ON, select "XAV-9500ES" on the setting screen of your Bluetooth device and then proceed to the pairing steps. Follow the instructions on the screen of the unit.

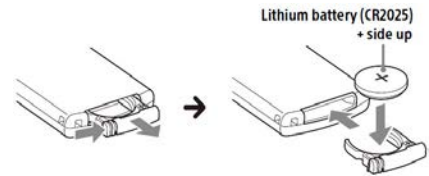
Canceling the Demonstration Mode: Press HOME, then touch Settings. If Settings is not set in the Favorite area, touch All Apps to display the HOME2 screen, then select Settings. Touch System, then touch Demo Mode to set to Off. To exit the setup menu, touch Back twice.

NOTE FROM NEWMAR

Select the Camera app to view the backup camera. The camera screen will automatically display and show the corresponding image when either of the turn signals are activated and/or the coach is put into reverse. When in reverse, static grid lines will also appear on the screen as well. The Camera app can be selected to view the camera of your choice while driving by pressing camera 1 (left), camera 2 (right), or rear camera.

Maintenance

Replacing the lithium battery (CR2025) of the remote commander: When the battery becomes weak, the range of the remote commander becomes shorter.



⚠ CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

⚠ WARNING

Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.

Source(s): Sony AV Receiver XAV-9500ES 5-021-903-87(1) Operating Instructions

TELEVISIONS

Television Overview

This article provides an overview of the televisions and related equipment installed in the coach. Your coach may be cable ready, and (depending on your floorplan) may have multiple flat screen televisions installed throughout the unit. The televisions are powered by 120 volt electricity, and the coach must be plugged into shore power, using the inverter (if equipped) or have the generator running in order for the televisions to function. The television operation is similar to most televisions used in the home.

The LED television(s) in your coach may be HD (High Definition) compatible, meaning they are capable of displaying the resolution and clarity of High Definition broadcasts and video sources.

⚠ IMPORTANT

The television in the front overhead cabinet will not operate while in transit. Federal regulations require this television to be inoperative while the vehicle is in use, so the power supply is switched off automatically when the ignition is turned on.

Exterior Entertainment Center with Samsung Television

This article provides a basic overview of the exterior entertainment center.

For your convenience and pleasure, an Exterior Entertainment Center may be an option on selected floorplans. It may be located in either a basement compartment or in the sidewall of the passenger side of the coach and features a flat screen television



Television

The television is mounted on a swivel bracket that allows you to swing the television out and away from the coach to provide better viewing angles. To release the television from its retainers, grasp the sides of the television firmly and pull it directly toward you. It will release and swing freely to the desired viewing position. To store the television for travel, swing it back into the opening, making sure that it is fully latched.

⚠ IMPORTANT

It is important to make sure the TV is securely locked into position prior to closing the compartment door. Failure to do so can result in damage to the television case and screen.

Soundbar Operation in Conjunction with Xite Radio

Depending on the year, model, and floorplan of your coach, this entertainment center may also feature a soundbar that will play whatever source is selected from the television when it is turned on (i.e. park cable, blu-ray player, satellite). While using the exterior television, the radio cannot be played through the soundbar.

The radio may be played through the soundbar via the Xite radio's House Mode feature; however, the exterior television must be turned off. To play media through the soundbar using a separate device such as iPad, smartphone, etc., press the Bluetooth button on the soundbar and pair it with the desired device. For more information about the Bluetooth functionality, refer to the owner's manual for your specific soundbar, which can be located in Newgle.

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⚠ IMPORTANT

The electronics used in the Exterior Entertainment Center are not designed for use in wet weather. The TV should be stored securely in the “travel” position and the basement door closed during rain or other adverse weather conditions. Caution should also be exercised when washing the exterior of your coach to make sure high pressure water does not enter the compartment. Spraying high pressure water at the seal between the doors can cause leaks, and potentially damage the electronics housed in this compartment.

Accessing Samsung's E-Manual Using Your Television

This article provides instructions on accessing Samsung's e-Manual from your television.

Your instruction manual is an informative document designed to give you all the information needed to operate your TV. With information on how to navigate the TV, tips on care, and information on all its functions, the instruction manual offers comprehensive solutions and answers to many of your TV questions. You can access your user manual directly through your TV.

1. Navigate to Menu.
2. Select Settings.
3. Select All Settings.
4. Select Support.
5. Select Open e-Manual.



NOTE FROM NEWMAR

The Samsung e-Manual may contain features not applicable to your television.

Source(s): "How to find instruction manual & user guide for your Samsung TV"

(<https://www.samsung.com/uk/support/tv-audio-video/how-do-i-find-the-instruction-manual-or-user-manual-for-my-samsung-tv/>)

Samsung Television Care and Maintenance

This article provides basic care and maintenance instructions for a Samsung television.

Clean your Samsung TV

There's nothing worse than straining to watch a show or movie because the screen is smudged or covered in dust. If you don't clean your TV [...] occasionally, dust and fingerprint smudges can build up. Periodically clean your TV [...] so it keeps looking brand new and you can keep seeing the picture clearly.

⚠ IMPORTANT

Never use any type of window cleaner, soap, scouring powder, wax, or any cleanser with solvents such as alcohol, benzene, ammonia, or acetone. Never use abrasive pads or paper towels. If you do, you can scratch the screen or strip the anti-glare coating off the screen and cause permanent damage. Never spray water directly onto the TV. Make sure to wipe the TV as gently as possible. TV screens are fragile and can be damaged when pressed too hard.

How to Clean Your Samsung TV

1. Turn the TV off and let it cool down for a few minutes before unplugging it.
2. To clean the frame and screen, gently wipe it with a microfiber cleaning cloth. Make sure to wipe the TV frame and screen as gently as possible. TV screens are fragile and can be damaged when pressed too hard.
3. If you don't see results, spray distilled water onto your microfiber cleaning cloth, and gently wipe the frame and screen.
4. Let the TV dry completely before you plug the TV back in.

Source(s): <https://www.samsung.com/us/support/> (2023.03.16)

Samsung Television Channel Programming Overview

This article provides the basic channel programming instructions for a Samsung TV.

⚠ NOTICE

The following steps will need to be completed each time the coach is moved to a new location.

[...]Your TV has a tuner that can scan for and automatically program local channels that will appear on your channel list. Plus, an antenna will help your TV find even more channels and improve the quality of the signal.

Connect a cable or antenna and scan for channels

Channels and broadcasts just don't magically appear on your TV. You have to connect an antenna or cable and then scan for local stations. Once you do this, available channels nearby will be yours to watch!

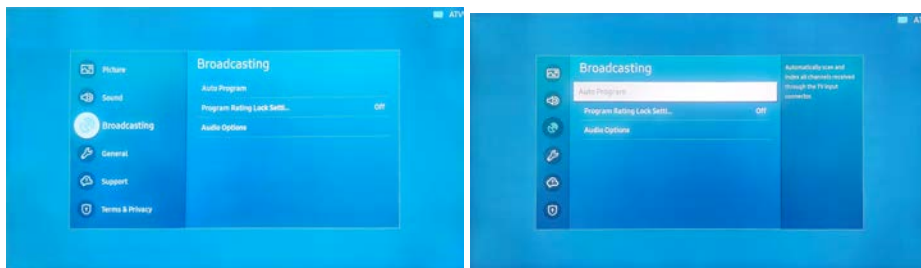
First, make sure you have an antenna or a cable box already installed and set up to go. Change the source on your TV to "TV." There are a few ways to do this.

- You can press the **Source** button on your remote and then select the source labeled **TV**.
 - **The Broadcasting menu will be greyed out if you do not first change the source to TV.**
- You can press **Home**, navigate to **Menu**, and then select **Connected Devices**. From here you can select which source your TV is connected to.

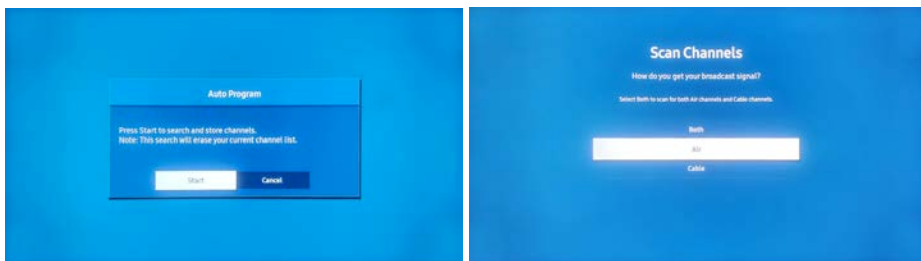
Once you are on the TV source, use the directional pad or arrow buttons on your remote to select **Settings (All Settings)**.



Select **Broadcasting**, and then select **Auto Program**.



Select **Start** to begin auto-programming, and then select either **Air** or **Cable**.



Both

NOTE FROM NEWMAR

From the "Scan Channels" screen, do not select the BOTH option, as you can only receive signal from over-the-air OR cable, based on the ON/OFF position of the antenna power booster or Rayzar antenna power switch.

Air

To receive local over-the-air channels:

1. Turn the antenna power booster or Rayzar antenna power switch ON. The green LED light should be illuminated.
2. Select **Air** from the TV programming menu if you are using an antenna.

Cable

To use park cable:

1. Connect the coach to the park cable connection via coax cable.
2. Turn off the antenna power booster or Rayzar antenna power switch to allow the signal to bypass the antenna and connect to the television or selector switch through the same coax cable. The green LED light should not be illuminated.
3. Select **Cable** from the TV programming menu if you are using park cable.

Your TV will begin to scan for channels. After it's done, select **Close** to finish.

For more information, refer to the Antenna and Cable Overview article in Newgle or the television's built-in e-Manual.

Source(s): Portions of this content are derived from a Samsung support article "[Scan for Channels from an Antenna or Cable Box on Your Samsung TV](#)" (on 7/18/2023)

Skyworth LED HD TV/DVD Combo Quick Start (Model: SLC-1921A)

This article provides basic operation instructions for a Skyworth LED HD TV/DVD Combo (Model: SLC-1921A).

Controls

(01) SPEAKER

(02) **POWER INDICATOR**: Green - In power on mode. Red - In standby mode.

(03) REMOTE CONTROL SENSOR

(04) **SOURCE**: Change and select the desired mode (TV, AV, Component, DVD, HDMI, PC, USB).

(05) **MENU**: Press to see an on-screen menu of your TV's features.

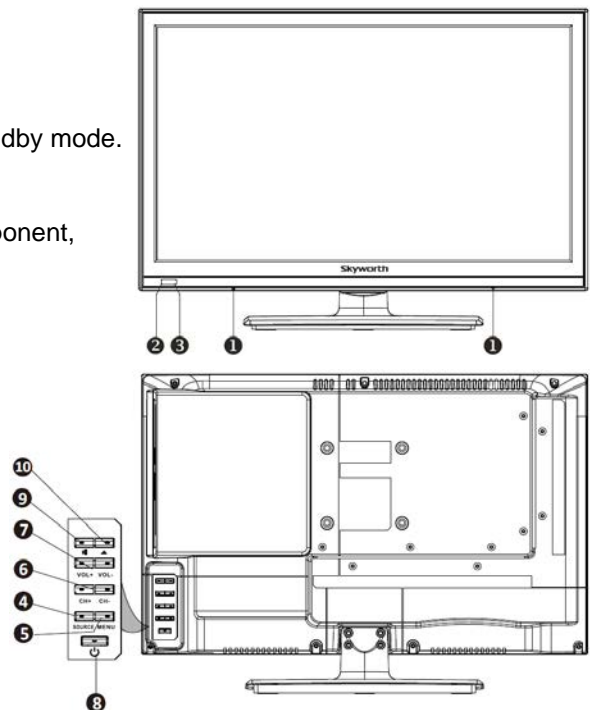
(06) **CH +/-**: Press to change channels. In the on-screen menu, use the CH +/- as up/down arrow buttons.

(07) **VOL +/-**: Press to increase or decrease the volume. In the on-screen menu, use the VOL +/- buttons as left/right arrow buttons.

(08) **POWER (STANDBY)**: Press this button to turn on/off the TV.

(09) **PLAY/PAUSE**: After you load a disc, press to play the disc, and press twice to pause.

(10) **EJECT**: Press the Eject button when the power is on to eject the disk. Press it again to load the disc automatically.



Input Options

(01) **EARPHONE**: Connect a set of headphones for private listening.

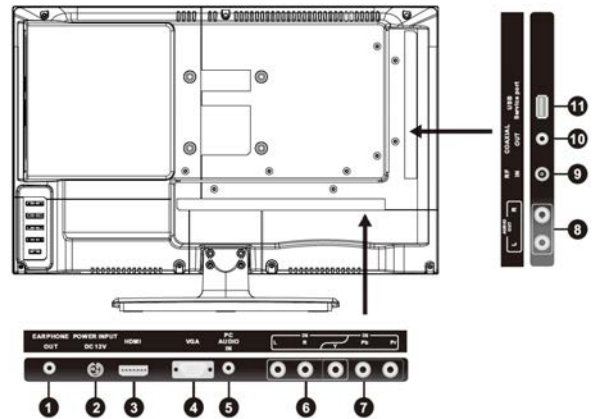
(02) **POWER (DC 12V) INPUT**

(03) **HDMI**: Connect a device with a HDMI output.

(04) **VGA/PC IN**: Connect your PC.

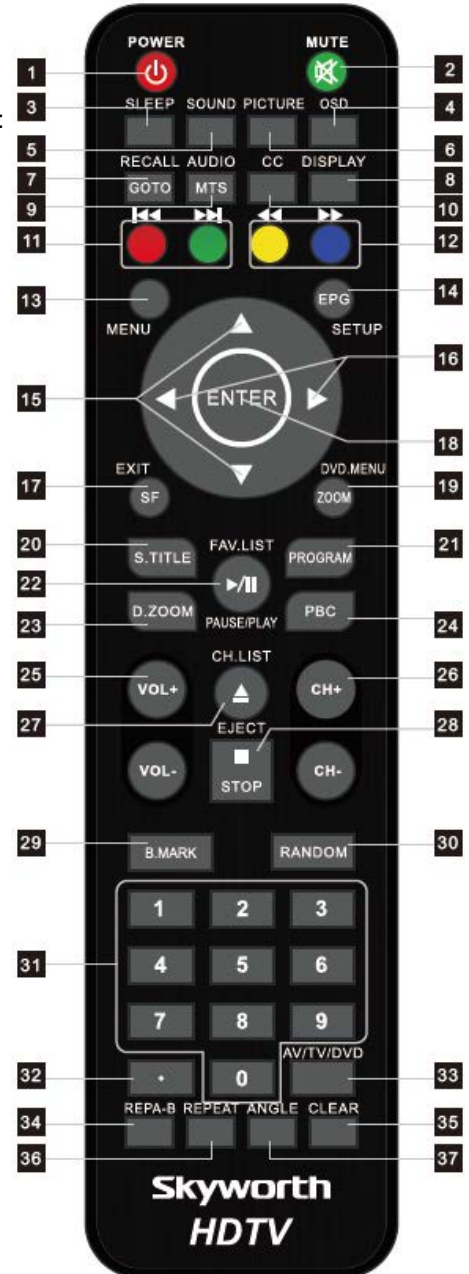
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- (05) PC AUDIO:** Audio input for external devices.
- (06) COMPOSITE VIDEO:** Video input for external devices, such as a camcorder or VCR.
- (07) COMPONENT:** Connect Component video.
- (08) L/R AUDIO OUTPUT:** Audio outputs for external devices.
- (09) RF:** Connect to an antenna or cable NTSC & ATSC.
- (10) COAXIAL:** Connect to a Digital Audio device.
- (11) USB:** Service port.



Remote Control

- (01) POWER:** Press this button to turn the TV on or into standby mode.
- (02) MUTE:** Press this button to mute the sound.
- (03) SLEEP:** Press this button to set the sleep timer. The sleep timer values are: OFF, 5, 10, 15, 30, 45, 60, 90, 120, 180, or 240 minutes.
- (04) OSD:** Press this button once to show main playback information on TV screen and press it again to show playback time. Press this button at the fifth time and then the display will be cancelled.
- (05) SOUND:** Press this button to select desired sound mode.
- (06) PICTURE:** Press this button select desired picture mode.
- (07) RECALL:** This button is used to return to the previous channel. Go To: Press this button to go to desired position; the player provides three search modes. When the items are showed on LED screen, you can input number to locate desired selector, then press PLAY to commence play. The number you input is invalid if it is beyond the track's capacity.
- (08) DISPLAY:** Press this button to display the information on current input.
- (09) AUDIO:** When playing DVD, press this button to change the audio language from the one selected at the initial settings to a different language, if available. MTS: When stereo program is received, press this button to switch sound system between mono and stereo. When SAP program is received, press this button to switch sound system between mono and SAP. When stereo and SAP program is received, press this button to switch among mono, stereo, and SAP.
- (10) CC:** Press to turn ON/OFF closed captions.
- (11) PREV/NEXT:** Press these buttons to go to the previous/next chapter (DVD). When playing CD disc, press button twice to select previous song.
- (12) FR/FF:** These buttons allow skipping ahead/back at 5-level speeds. Press the Play button to return to normal playback.
- (13) MENU:** Press this button to enter the menu mode for various optional adjustable settings or quit from current menu.
- (14) ELECTRONIC PROGRAM GUIDE (EPG):** Press this button to call up the Electronic Program Guide. Setup Button: Press this button to get the setup menu you can select the desired settings.
- (15) UP/DOWN:** Press these buttons to select the desired items in the menu.
- (16) LEFT/RIGHT:** Press these buttons to select the desired items in the menu, or enter the selected.
- (17) EXIT:** Press this button to escape from the current operation. SF button: Press this button to play the disc slow Forward.
- (18) ENTER:** Press this button to enter the selected item.



(19) ZOOM: Press this button to Zoom pictures. DVD Menu: If playing some DVD discs, press this button back to root menu screen. If playing DVD, you can use the function of MENU, PROGRAM, and RANDOM.

(20) S. TITLE: Press this button you can change the subtitle language from the one selected at the initial settings to a different language if available.

(21) PROGRAM (PROG): When you want to play only partial tracks/chapters of a disc "DVD" or to arrange the tracks/chapters playback order, you need to program the following. Press PROGRAM button, then PROGRAM will appear on TV screen. Press the track number in the order you want. For example, if the track numbers you want to play are 1, 3, and 8, just input in the order of 1-3-8. You can press the CLEAR button to cancel and input again if you miss input track numbers. Now you can press the "four-directional arrow button" and "OK" button to select "START" option and enjoy the desired tracks.

(22) FAVORITE LIST (FAV.LIST): Press this button to start playback. Press this button again to pause playback.

(23) D.ZOOM: Press this button during normal zoom in or zoom out playback mode. This player can magnify a picture at three levels. Press this button to magnify picture and use the "four-directional arrow" button to select desired part of the zoomed picture.

(24) PBC: Press this button to return to the menu of the disc and play the disc from the first track.

(25) VOL +/- : Press these buttons to increase or decrease the volume.

(26) CH+ / CH- : Press these buttons to select channels in ascending or descending order.

(27) CH.LIST: Press this button to display the channel list in TV mode.

(28) STOP: When this button is pressed once, the unit records the stopped point from where playback will resume (resume function) if PLAY is pressed afterwards. But if STOP button is pressed again instead of the PLAY button, there will be no resume function.

(29) B.MARK: When playing DVD disc, press this key to mark the place where you want to replay again.

(30) RANDOM (DVD ONLY): Random mode allows you to play tracks randomly by pressing this button. Pressing again will cancel random playback.

(31) NUMBER (0-9): Enter digits for channel selection or password setting.

(32) BLACK DOT: For sub-channel selection.

(33) AV/TV/DVD: Press this button to display the input source. Using UP/DOWN button to select and RIGHT or ENTER button to confirm.

(34) A-B REPEAT (REP A-B): You can repeatedly play a given portion by operating as follows: Press this button once to define the portion head (start). Press this button again to define the portion toe (end). Then the portion will be played repeatedly. Press this button again to return to normal playback.

(35) CLEAR: Press this button to cancel the numbers you input, just like an eraser.

(36) REPEAT: Press this button to repeatedly play a chapter (DVD). You can repeatedly play a title (DVD). You can also repeatedly play the whole disc (DVD) and cancel the repeat function.

(37) ANGLE: Some DVDs contain several scenes taken at the same time in different angles. Press this key to select a different angle (if the disc supports this function).

NOTICE

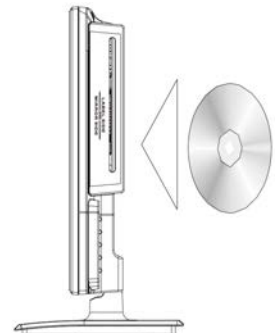
If an universal remote is used to control this TV, please program the universal remote using the Philips code.

Basic Operation

DVD Operation: Press the Eject button on the side panel or on the remote. After placing a disc in the disc tray, press the Play/Pause button to play the disk, and press the Play/Pause button twice to pause the disk.

Turning the TV on or off: After attaching cable to either an antenna or a cable service, insert the power cord plug into a polarize AC outlet. Press the POWER button on the LED TV. The normal picture will be displayed on the screen after six seconds. If no signal, "No Signal" will display on the screen. If temporary POWER of is required, press the POWER button on the LED TV. If you want to completely switch off the power for this unit, unplug the power cord plug. After switching off the unit, you should turn on the TV again at least five seconds later.

Status Indication Lamp: Green: In power on mode. Red: In standby mode.



Auto Power Off: If there is no signal input in any mode, the TV will automatically access the standby state after approximately 15 minutes.

Memory before turning TV off: The settings of picture and the preset channels will be memorized at turning off the unit. When it is started up again, the unit will work according to the mode set before being turned off.

Source(s): Skyworth LED HD TV/DVD Combo User's Manual

TELEVISION LIFTS

2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide: TV Lift

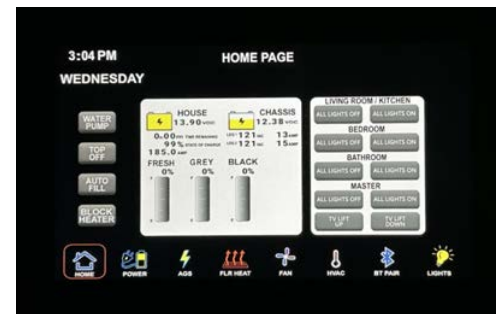
This article provides an operational overview for coaches equipped with a KIB 10.1" Central Monitor Capacitive Touch Panel and a TV lift. The Home screen on the KIB 10.1" Central Monitor Capacitive Touch Panel displays the televotor (television lift) controls.

! IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

From the Home screen on the 10.1" touch panel, control the TV lift using the up and down buttons.

1. Press and release the TV Lift Up button to raise the TV.
2. Press and release the TV Lift Down button to lower the TV.
3. The lift will continue in the selected direction until it reaches the end of travel. If you need to stop it at any time during the travel process, press the switch again in either direction.
4. Under normal operation, the user will raise the televotor to watch the TV, then lower it before traveling. However, when raising the televotor and then immediately lowering it, the switch may need to be pressed a second time, as the control circuit timer may still be active.



! IMPORTANT

Stow the television in the lowered position before travel.

2025 KIB 5" LCD Capacitive Touch Panel Guide: TV Lift

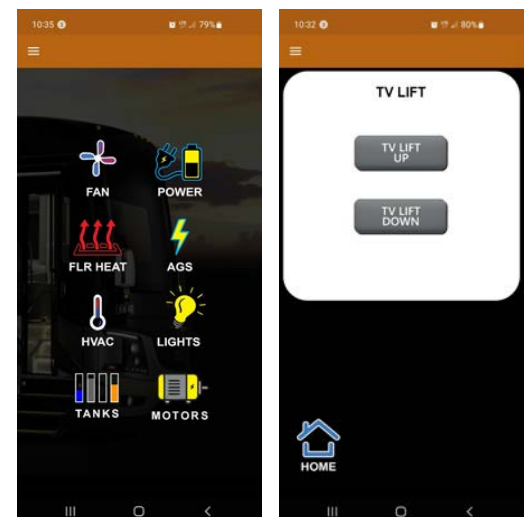
This article provides an operational overview for coaches equipped with a KIB 5" Capacitive Touch Panel and a TV lift. Pressing the TV Lift icon on the Home screen on the KIB 5" Capacitive Touch Panel displays the televotor (television lift) controls. This 5" vertical touch panel is only installed on coaches also equipped with a KIB 10.1" Central Monitor Capacitive Touch Panel. The same screens will also appear on the KIB Connected Solutions app once installed on a mobile device.

! IMPORTANT

The Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

From the TV Lift screen on the 5" touch panel (or from the Motors icon on the app), control the TV lift using the up and down buttons.

1. Press and release the TV Lift Up button to raise the TV.
2. Press and release the TV Lift Down button to lower the TV.
3. The lift will continue in the selected direction until it reaches the end of travel. If you need to stop it at any time during the travel process, press the switch again in either direction.



4. Under normal operation, the user will raise the televator to watch the TV, then lower it before traveling. However, when raising the televator and then immediately lowering it, the switch may need to be pressed a second time, as the control circuit timer may still be active.

**IMPORTANT**

Stow the television in the lowered position before travel.

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EXTERIOR

This chapter provides information regarding the coach's exterior components, such as awnings, compartments, doors, steps, and the overall exterior construction of the coach. If applicable to the model, this chapter also contains information for components installed in handicap-accessible coaches and toy haulers.

⚠ IMPORTANT

Any of the following quick start instructions should not take the place of the complete documentation provided by the product manufacturer and/or Newmar. Additional operating instructions, troubleshooting, care and maintenance, safety information, etc. may be available in Newgle for specific components. Read all literature provided, paying special attention to any references to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

AIR HORNS

Class A Air Horn Operation

This article provides basic operation instructions for an Air Horn installed on class A coaches. This information is not specific to any coach model or chassis manufacturer.

Overview

Generally, the driver can push the center of the steering wheel (or the designated horn button) to operate the standard electric chassis horn, which is similar to the type of horn installed on most passenger cars and trucks.

In addition, air horns are also standard (or optional) on many coach models and are installed at the factory during the production process. When equipped, the air horns may be mounted on the roof or under the front cap.



Air Horn Switch

If the air horns were factory-installed, there should be a horn selector switch located in the driver cockpit area (the exact location on the dash or driver console may vary). The Air Horn Switch allows the driver to choose between the air horn or the standard city horn.

Normally, the air horn and the electric chassis horn blow at the same time. Some coach models may be wired to blow only the horn that is selected at the time of activation. When the air horn is selected, the air solenoid located under the front hood or in the front driver side compartment is activated when the horn button is pressed on the steering wheel, which subsequently opens the air valve and supplies air to the horn.

The Air Horn Switch may be located in one of various locations based on coach model and year, but will always be within the driver's reach.

1. With the Air Horn Switch turned on and adequate air pressure in the air tanks, press the horn icon on the steering wheel to sound the air horn. Some coach models may require the ignition switch to be active for horn operation.
2. With the Air Horn Switch turned off, press the horn icon on the steering wheel to sound the standard city horn.



AWNINGS

Awning and Slideout Topper Overview

This article provides a brief operational and maintenance overview of the awnings and slideout toppers.

Slideout Toppers

Slideout toppers operate as the slideouts are extended and retracted. Check the slideout topper for debris (leaves, branches, ice, snow, etc.) before retracting the slideout. If pooling has occurred after rain, one way to remove water on the slideout roof or topper is to tilt the coach using the leveling system to aid in water runoff.

⚠ CAUTION

Slideout toppers should be retracted when snow, heavy rain, wind, and severe weather conditions are expected. Never leave slideout toppers open or unattended during severe weather and/or accumulating rain.

Awnings

Awnings are a standard feature on your coach. Newmar offers a variety of brands and types of awnings, depending on the year and model of your coach, as well as the available options that were selected when your coach was built. Select models may feature entrance door, window awnings, and/or patio awnings. The patio awning is the larger-sized awning on the coach and is the main awning. These awnings connect at or near the roof, providing shade and light rain protection on the passenger side of the coach. Awnings with LED strips may also provide lighting when desired.

The powered patio, window, and door awnings (if equipped) on your coach can be operated with ease using the appropriate switch(es) to extend or retract the awnings as desired. The switch is typically located in the overhead control panel. If they are not at this location, check above the passenger window, as it may be hidden by the window shade. Some coach awnings may also operate via remote control or the SilverLeaf touchscreen (if equipped). For more information about your specific awnings, refer to the manufacturer's information in Newgle.

⚠ IMPORTANT

Before extending any of your coach awnings, check for any obstructions that may prevent the awnings from deploying properly. Inspect the area around your coach where the awning will extend to ensure proper clearance. Check the awning for debris (leaves, branches, ice, snow, etc.) before retracting.

⚠ CAUTION

Awnings should be retracted during accumulating rains. Pooling water on the awning can result in damage to the awning hardware and/or fabric.

⚠ CAUTION

Awnings should be retracted when snow, heavy rain, wind, and severe weather conditions are expected. Never leave awnings open or unattended during severe weather and/or accumulating rain.

⚠ NOTICE

Damage to your awnings as a result of weather is not covered by warranty.

Carefree Travel'r Patio Awning Operation via Bluetooth Wireless Control System (Model: BT12)

This article provides basic operation instructions for a Carefree Patio Awning via Bluetooth Wireless Control System (Model: BT12). The BT12 Wireless Awning Control System offers multiple methods of operating the awning, including standard switch operation, the Carefree Connects Mobile App, and the BT Remote.

Components

Control Switches: Illustrations show the standard Carefree switches. The switch(es) installed in the coach may vary by appearance and function.

BT Motion Sensor: The optional BT Motion sensor detects awning motion caused by windy conditions. The system gauges the motion of the awning's front edge (roller tube or lead rail). When the motion exceeds the preset threshold, the system retracts the awning. The factory default is set at "3" on a scale from 1 to 5. When using the mobile app, the sensitivity can be adjusted for personal preference.

BT Remote: The optional BT Remote provides the ability to operate the awning from any location. The remote has an operating range of approximately 30 feet.

**Additional System Features****Ignition Lockout**

The BT12 Control System provides two options for transportation safety using ignition lockout.

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Standard - The system disables the extend function while the vehicle ignition key is in the ON position.

RTL – The system fully retracts the awning and disables the extend function when the vehicle ignition key is in the ON position.

Functions will return to normal operation when the ignition key is turned OFF. Contact your vehicle dealer to find out if you have the ignition lockout option connected and which version is active in your vehicle.

LED'S

White (monotone) LEDs are a popular option providing lighting beneath the awning. Factory installed LEDs are located on the leading edge (roller tube or lead rail) or can be mounted at the awning rail when present.

The BT12 Control System provides controls to allow you to set the lights to match your preference with ON/OFF and dimming controls through the app and/or the BT Remote.

To operate the White LED lights, you must have the awning lights power switch ON. The factory default for the lights is full bright. When the light is adjusted with the BT Remote or the app, the system will remember the setting for the next time the lights are turned on.

Carefree Connects Mobile App

The app communicates directly with the Control Module. Features include: Real-time extension and retraction at the click of a button, LED lighting control, Adjust the rollback feature for LED positioning when the awning is extended (not available with box awnings), Review awning status, Name the awning(s), and Adjust the motion sensitivity for wind retraction (when the optional BT Motion Sensor is installed).



Download the App

The Carefree Connects Mobile App is downloadable to any device that supports: Current iOS or Android operating systems and, Bluetooth low energy technology. The Carefree Connects Mobile App is free to download from the App Store for Apple products or on Google Play for Android devices. Download the app. When finished, close out of your app store. Locate the BT12 icon on your Home screen. Tap on the icon to launch the app.

Pairing

To begin controlling your awnings with the mobile app, you must first: Ensure Bluetooth is turned ON in the settings page for your mobile device. Open pairing mode on your awning. Pair to your awning with the mobile app.

NOTICE

Do not attempt to pair to the awning directly through your mobile device. Pairing must be done through the app.

Set the System into Pairing Mode

To put the system into pairing mode for the mobile app and/or additional peripherals that may be added (i.e. additional remotes):

Turn power to the awning ON. Extend the awning. Note that the awning does not have to be opened completely. Retract the awning. When the awning is fully retracted, press and hold the retract switch for 3 seconds. The awning is now in pairing mode for 5 minutes. The BT12 control module will automatically pair to the device then go to working mode.

NOTES: The module will pair to the physically closest unpaired device first. Repeat the pairing steps for each additional device (the module remembers the devices that have been paired). Refer to the Carefree Connects Mobile App manual for setting up and pairing a smart device (such as a smart phone or tablet).

Multiple devices can be paired to the awning up to a maximum of 8 peripheral devices.

- Only one active BT Motion Sensor can be paired to the BT12 Control Module.
- Only one active BT Remote can be paired to the BT12 Control Module.
- Multiple mobile devices (smartphone or tablet) can be paired to the BT12 Module but only 1 can be active at a time.

Pair Your Mobile Device to Your Awning

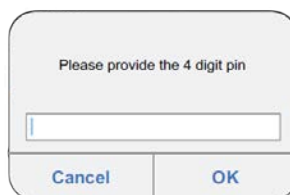
NOTE: If you have multiple devices to pair to your awning but wish to pair your mobile device first, ensure your mobile device is positioned closest to the awning prior to completing the following steps:

Upon launching the app, you will land on the home screen. Tap on the grid icon on the top left of your screen to enter the Awning Management screen. Locate the awning you wish to claim in the Available Awnings section, and tap on its icon. Tap the Add to My Awnings button in the pop-up window. The selected awning will move into the My Awnings section of the screen.

Your paired awning should now be located at the top of your home screen. Tap on the icon from either the My Awnings area of the Awning Management page or from the top of your home page to connect to it. If you enabled the passcode but did not specify a personal pin, the default pin number is "1 2 3 4".

Awning Operation via Connects Mobile App

NOTE: When the passcode lockout is enabled, a screen will popup requesting your 4 digit pin before allowing you to use the app.



Extending Your Awning: Once your device(s) have been paired to your awning, you can begin to operate your awning. The awning can be extended using the physical switch, the mobile app, or the BT Remote.

Retracting Your Awning: If you wish to retract your awning, you can do so using the physical switch, mobile app, or the BT Remote. Again, the physical switch must be in the ON position before the awning can operate.



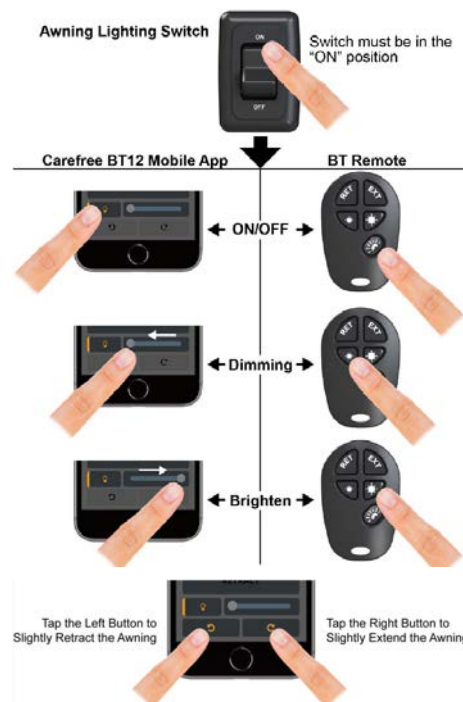
Controlling Your Awning LED Lights

Turn the awning lighting switch "ON". **NOTE:** The physical switch must be in the ON position. If the lighting switch is off, a popup will appear on the home screen when you try to turn the lights on.

Turn the lights on or off by tapping the light bulb icon on the app or on the BT Remote, press the bottom button with the sun symbol.

The awning LED lights must be powered ON for the LED dimmer to function. Using the mobile app, you can slide the LED slider to the left to dim the LED lights, or to the right to brighten them.

To dim the LED lights using the BT Remote, press the left button with the small star icon. To brighten the lights, press the right button with the large star icon.



Adjust the Position of Your LED Lights

Upon extending your awning, the LED lights will automatically position themselves at approximately a 45° angle toward your coach. If you wish to point them in a different direction or at a different angle, you can use the mobile app to reposition the roller tube.

Open your mobile app and extend your awning. Once the awning is fully extended and has settled into the default rollback position, press the rollback adjustment buttons at the bottom of the Home screen until you reach the desired position. Tapping the left button will slightly retract the awning, while tapping the right button will slightly extend it. Once you have found the position you like, retract the awning to save the position. Now, every future extension should roll out to your saved position.

Navigation Buttons

The Awning Management button icon on the home screen resembles a square grid and will take you to the Awning Management page when pressed. This is where you can claim the awnings you wish to control via the app. See the next section of this manual for additional information. Pressing the Carefree icon will take you to the Carefree website when you wish to add to your awning collection or to contact Carefree. Pressing the gear icon will provide access to the following pages:

Settings Page: If your awning is equipped with the BT Motion sensor, you can adjust the motion sensitivity level of the awning.

Peripherals Page: This page displays the status of the peripheral devices. The Notifications area offers status information about your awning.

About Page: This page displays your awning's firmware version, identification numbers, and ignition lockout status (if applicable).

Source(s): Carefree Connects Mobile App User's Guide

COMPARTMENTS

Compartment Overview

This article provides an overview of the exterior compartments of a coach.

Storage compartments are located on the exterior sides of your unit. These compartments provide additional space for your belongings while you are traveling. Select coach models feature optional manual slide trays and standard lighting, while others may feature compartments complete with power slide trays, dual side access, and automatic LED lighting throughout the storage area.

IMPORTANT

Before traveling, perform a pre-trip inspection that includes checking each baggage door to ensure each one is latched and locked securely.

CAUTION

Use caution when packing the storage areas. Do not pack items around water heaters, refrigerators, furnaces, hydronic heating units, or any other heat-producing appliances.



Hood Release Operation on a Core Diesel Coach

This article provides instructions for opening and closing the front hood on a core diesel coach.

To Open the Front Hood: Pull the t-handle hood release typically located in the front compartment on the driver's side. Pull the hood open, and lift up from the outside. Release the prop rod from the clip, and place it over the striker or insert it into the cavity in the front cap to hold the hood in place.

To Close the Front Hood: Lift the front hood, and remove the prop rod from the striker bolt or from the cavity in the front cap. Place the prop rod in the holder clip. Lower the hood, and release it just before it is closed. Do not allow the hood to slam closed. Make sure the latch is securely fastened before travel.



DOORS, HANDLES, AND CHIMES

Doors, Handles, and Chimes Overview

This article provides basic information about the doors, handles, and chimes installed in a Newmar coach. The front entrance door is equipped with a dead bolt lock for added security, and select coach models may have a power flush step well cover.

For your safety and convenience, all current models feature a grab handle at the entrance door to assist you in entering and exiting the coach. Select models may incorporate the keyless entry system, and many have a doorbell button integrated into the grab handle as well.

When the door is opened fully, the door has a "door check" feature that will automatically hold the door open. To close the door, simply pull to release the detent, then close and latch the door. Center entry doors may incorporate a gas strut to hold the door open.

Entry and Screen Door Overview

This article provides an operational overview of the entry and screen door.

Deadbolt Operation

From the inside of the coach, operate the dead bolt by first making sure the door is closed securely in the second stage latch. Rotate the dead bolt lever clockwise. From the outside of the coach, use the key and rotate it counter-clockwise to engage the dead bolt.

NOTICE

Do not extend the deadbolt before closing the door, as damage may occur.

To lock the door without using the deadbolt, press and hold the number one key on the keyless entry touchpad (if equipped). Flip the red lever before shutting the door, or use the key fob (if equipped).



Entry Screen Door Operation

Store the entry screen door's top screen for travel by pulling down in the center and unlatching the two hooks at the bottom. Allow the screen to retract gently while continuing to hold the bottom of the screen. When not traveling, pull the screen down in the center, and latch the screen using the hooks or snap at the bottom.

Entry Door Lock Switch Overview

This article provides an overview about the Entry Door Lock Switch, which may be labeled "ENTR LOCK" or "ENT DOOR."

The entry door lock switch is located on the dash and will lock or unlock the entry door. This switch also allows you to control the cargo locks from inside the coach without arming the security alarm. The entrance door can also be manually unlocked and opened from the inside without the alarm sounding.

1. Flip the switch down to lock the doors.
2. Flip the switch up to unlock the doors.

Select coaches may be equipped to automatically lock the front entry door when the park brake is released for travel or unlock the front entry door when the park brake is engaged.



ENTRANCE STEPS

Electric Exterior Entrance Steps Overview

This article provides an operational overview of the electric exterior entrance steps installed on select coach models.

With the Entrance Step switch in the overhead cabinet flipped in the operational position, the entrance step will operate each time the entrance door is opened or closed.

If the door is closed when the Entrance Step switch is flipped opposite of the operational position, the step will extend one time. If the door is open when the Entrance Step switch is flipped opposite of the operational position, the step will stay extended. The step will remain in the extended position unless the ignition signal is activated, which overrides the Entrance Step switch. In this case, the step will extend or retract when the door is opened or closed.



Kwikee Electric Entrance Step Quick Start (Model: 22-40 Series)

This article provides basic operation instructions for a Kwikee Electric Entrance Step (Model: 22-40 Series).

Operation

Close the door. The step should retract and lock in the UP position. Open the door. The step should extend and lock in the DOWN position with the under step light illuminated. The under step light operation is as follows:

- The light is on when the step is extended.
- The light is off when the step is retracted.
- In the event the coach door/screen door is left open, the light will turn off after five minutes.
- The under step light is not available on all step models.



Kwikee® Electric Step Assembly - Various Options

⚠ CAUTION

Step safely supports up to 300 lbs. DO NOT OVERLOAD THE STEP ASSEMBLY.

⚠ WARNING

RISK OF FALL OR SERIOUS INJURY - This vehicle is equipped with a Lippert automatic electric step. Turning the ignition switch to the "ON" position while the entry door is closed will cause the step to retract. Visually confirm that the step is fully extended prior to exiting the vehicle.

⚠ WARNING

If the vehicle is driven with the step in the extended position, there is the possibility of causing major damage to both the step and the coach. Always be sure that the step is fully retracted before traveling. If the step is left extended and strikes an obstruction while the vehicle is moving, major damage to both the step and the vehicle could result.



Lock/Stationary Extended Mode

1. If your step is equipped with a step switch, and you would like the step to remain in the extended position while the door is opened and closed, place the step switch in the position for the step to extend when the door is opened and retracted when the door is closed (step assembly follows the door). The step should remain in the extended position with the under step light off when the door is closed.
2. With the step switch in the appropriate step lock position, the step extended, and the entrance door closed, turn the vehicle ignition on. The ignition override system will go into effect and the step will automatically retract.
3. Turn the vehicle ignition off and open the door. The step will extend and lock in the DOWN position. This is the "Auto Extend" feature. When the vehicle ignition is turned on, the step will always activate with the door movement, regardless of the step switch position.

Maintenance

Step Assembly Lubrication

Clean all mud, salt, and road grime from the step before lubricating. Lubricate all moving parts (bearings, pivot points, slides, clevis pin, and drive linkage ball) every 30 days with a good quality moisture and heat resistant penetrating grease. KwikLube Spray Grease is specially formulated to lubricate Kwikee® Electric Steps and is recommended for lubricating all moving parts. Refer to the complete Kwikee manual for more information.

NOTE: Silicone lubricants and WD-40® are not recommended for use. They have a tendency to evaporate and dry the mating surfaces which leave them vulnerable to the elements.

Source(s): Kwikee by Lippert Components Electric Steps #888 Owner's Manual (2017 and 2021)

HITCHES AND TOWING COMPONENTS

Hitches and Towing Overview

This article provides an overview of the hitch and towing components.

Your motorhome is equipped with a hitch and tow plug, as it is designed for towing light loads. Your hitch may provide you with the capability of towing your car or trailer while traveling. A wiring harness or pigtail is needed to connect the tail lights, brake lights, turn lights, etc. of the towed vehicle with that of the coach. Some coach models feature rear docking lights to assist with tow vehicle hookup at night.

Before Towing

Before towing, inspect all towing connections, including the hitch mounting bolts for unusual wear or corrosion. Check the mounting flanges for any deformation, as well as the hitch welds for any cracks, signs of movement, or fatigue in the hitch assembly. Safe and satisfactory performance of the towing system depends on the type of towing equipment connected to the hitch receiver. The assembled length of the drawbar/towing system used should be kept to a minimum. Do not exceed the rated capacities of the hitch or the components used to attach the towed vehicle or trailer.

⚠ IMPORTANT

Newmar is not responsible for damage or failure of the hitch receiver caused by the use of excessively long drawbars or other styles of drawbars that create leverage loads on the hitch receiver beyond its designed capabilities.

⚠ WARNING

Do NOT cut, drill, weld, or modify hitch.



Towing Capacity

The total weight of the motorhome and any vehicle towed must not exceed the GCWR (Gross Combined Weight Rating). When planning to tow, approaching the GVWR (Gross Vehicle Weight Rating) may reduce the motorhome's towing capacity. When weighing the motorhome, be sure to take passenger locations into consideration. The towed vehicles must have adequate active brakes. Contact your state Department of Transportation or your local Newmar dealer for your state requirements.

⚠ IMPORTANT

The hitch is typically supplied and installed by the chassis manufacturer, and it may be necessary to contact them directly for weight ratings and towing recommendations. Some information may also be available on a data label adhered near the hitch.

LADDERS

Ladder Overview

This article provides safety information for using a ladder that may be installed on a Newmar coach. Ladders may not be optional on all coach models and/or floorplans.

⚠ IMPORTANT

When going up or down the ladder, make sure the ladder is clear of debris, ice, water, and any other slippery substance. Wear shoes that provide good traction. Slip-on shoes are not recommended when using the ladder.

⚠ IMPORTANT

The rear ladder maximum weight capacity may differ by manufacturer and dimensions of the ladder. Observe and do not exceed the weight rating for your ladder, which may be noted on a visible warning label or on the bottom of one of the ladder rungs.



MIRRORS

Exterior Mirror Multi-Directional Adjustment and Heat Toggle Switch Operation

This article provides basic operation instructions for an exterior mirror, including the multi-directional adjustment and heat toggle switch.

NOTE FROM NEWMAR

These brief operation instructions are for quick reference only and should not take the place of the complete Operation Manual provided by this item's manufacturer.

Overview

Your coach may be equipped with convex remote-controlled, two-part exterior rear-view mirrors. The top portion of the mirror is flat, providing conventional reflected views down the sides of the RV, while the bottom portion is convex to provide an expanded view, helping to eliminate blind spots.

These mirrors may also contain heating elements to defog, defrost, or de-ice the mirror glass during cold weather operation, which is controlled using the red toggle switch. The switch may or may not be labeled "Defrost."

Operation

Some mirrors can be operated via remote control. These mirrors are adjusted by using the multi-directional switches located on the driver's door (optional on some models) or console, depending on the coach year and model.

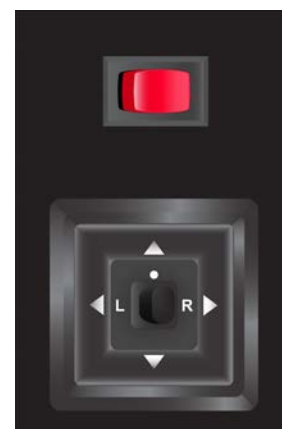
Make sure the seat is positioned for proper vehicle control, and then adjust the mirrors for maximum rear visibility prior to driving.

Adjustment Control

The Mirror Control switch operates the electric portion of the mirror and adjusts the mirror up, down, back, and forth.

To select which mirror to adjust, flip the selector to the left or right position. Move the selector to the center position to obtain the best view and make the directional arrows inactive.

The adjustment control moves the top half of both mirrors. The bottom half of the mirror is convex and is adjusted manually.



Heat

The red toggle switch located near the mirror adjustment control operates the mirror heat (if equipped). The ignition switch must be on for the mirror heat switch to operate.

1. To turn the mirror heat on, turn the switch to the "ON" position. The light will illuminate on the switch when the mirror heat is operating.
2. To turn the mirror heat off, turn the switch to the "OFF" position. The light on the switch will turn off when the mirror heat is no longer operating.

⚠ IMPORTANT

Objects viewed in the convex mirrors are closer than they appear.

OPTIONAL ACCESSORIES

Flagpole Assembly Overview

This provides information about the flagpole option available on some coach models (Option # R045).

Assembly Components

The flagpole assembly (Newmar part # 143894 or 138708) should handle any standard 1-inch flagpole that may mount on the side of a house. If the coach is equipped with the optional flagpole mount (Newmar option # R045, Newmar part # 138682 and 138683), it is typically located on the front of the coach just in front of the entrance door. The flag assembly may be shipped from the factory in a kitchen drawer.



Assembly Installation and Removal

The mount's slot allows the angled flag assembly to easily be installed while displaying a flag and easily removed for travel. To display a flag, simply slide the assembly down into the mounting bracket, then install the flagpole (not provided by Newmar). To remove the flag and assembly, reverse the order of installation. For coach owners who wish to have a flagpole assembly installed on their coach, contact the Newmar Parts Department to order the proper assembly components. Newmar recommends having the mount installed by an Authorized Service Center.



Flagpole Safety

⚠ CAUTION

The flagpole assembly is not intended to be used in high wind conditions.

⚠ WARNING

When installing a flagpole assembly, ensure you have proper clearance away from overhead electrical lines or other obstructions.

⚠ DANGER

Do not leave flagpole assembly in mounting bracket while vehicle is in motion.

PAINT, ROOF, AND SIDING

Roof and Sidewalls Overview and Maintenance

This article provides a basic overview and maintenance of the roof and sidewalls.

Sidewalls

Newmar RV sidewalls are designed with structure to make them more rigid and dependable. By building aluminum frames with studs 16 inches on center, your sidewalls and roof will form a strong, lightweight, integrated structure so you can enjoy superior insulation. The sidewalls and end caps of your coach are constructed of smooth fiberglass, which is features an automotive style "Clear-Coat / Color Coat" painted finish.

Sidewalls Maintenance: Clean any unpainted fiberglass material with a mild cleanser and warm water. Use only soft cloths. Using stiff bristle brushes may cause scratches in the fiberglass surface.

IMPORTANT

Newmar is not responsible for weathering/oxidation of gel-coated surfaces.

Exterior Paint Maintenance: For cleaning and waxing instructions and recommended products, refer to the Miscellaneous Care and Maintenance section in Newgle. Paint codes are typically posted on the back side of one of the upper kitchen cabinet doors.

Roof

This unit is manufactured with a 7mm decking material covered with fiberglass or rubber membrane. Proper care and routine maintenance of your roof is necessary for trouble-free performance. Frequent inspection (at least annually) of roof drains, seams, and joints should be performed by an Newmar Authorized Service Center.

NOTE FROM NEWMAR

For information about cleaning your roof drains and gutters, refer to the Roof Drains article in Newgle.

Roof Maintenance: Regular cleaning and maintenance is essential to insuring a long, trouble-free life. Before cleaning, it is important that you inspect the sealants and gaskets used to seal components to the roof structure to be certain there is no leakage during the cleaning process. Any cracks or voids in the sealants and seals **MUST** be repaired prior to spraying the roof with water. Extreme caution should be used when inspecting or cleaning the roof.

WARNING

It is recommended that access, cleaning, and maintenance be conducted by a qualified professional at your local dealership. Use caution if working on top of your vehicle. The wet roof surface is extremely slippery.

If inspection and/or maintenance becomes necessary, stay on the main roof area. Do not walk or stand on the raised portions of the roof or the gutter rail area (if applicable). Do not exceed 300 pounds on the roof.

NOTICE

Do not place items on the roof for transportation. The roof was not designed to support the transportation of luggage or other items.

Exterior Paint Overview

We're passionate about paint. And we believe that the RV we create for you should be as beautiful as it is comfortable. Our coaches are more gorgeous than ever, with a sleek, stunning exterior showcased by all-new graphics and the exquisite Full-Paint Masterpiece™ Finish. Our goal is to create a perfect finish every time we paint a Newmar. This is how we do it:

- Between 12 and 16 gallons of paint are used on each model.
- Several types of primer are applied, followed by a base coat, color for graphics and a final, clear coat.
- We use materials of only the highest quality and integrity.
- Our technicians are among the most knowledgeable and highly experienced.
- The equipment and techniques we have created are among the most advanced.

We always ensure that each coat of paint lays flat and smooth to produce a stunning brilliance. That's how we can promise that your Newmar RV will offer you an exterior of the highest quality and durability.

For cleaning and waxing instructions and recommended products, refer to the Miscellaneous Care and Maintenance section in Newgle. Paint codes are typically posted on the back side of one of the upper kitchen cabinet doors. For more details about paint codes, refer NewPar, Newmar's online parts catalog. To search by a specific coach:

1. Enter the Newmar Coach Serial Number, followed by 'CS' in the "Search Catalog" box. Click "Go."
2. Click on the hyperlink with the serial number, year/model/floorplan, VIN, and In Production Date.
3. Click on the "Decor Exterior - Full Paint" option to view coach-specific paint details.

Diamond Shield Advanced Paint Protection Use and Care Guidelines

This article provides basic care and maintenance guidelines for the Diamond Shield paint protection. Follow the use and care guidelines as outlined by Diamond Shield.

⚠ IMPORTANT

Once applied, refrain from washing for 48 hours, washing after that time presents no problems. Do NOT use harsh or abrasive cleaners or detergents.

Step 1: Wipe Regularly

Wiping bugs and road grime off your vehicle, with a wet soft cloth, as soon as you get a chance is essential to keeping your film looking great. This will also reduce the risk of staining and discoloration from bug acids, runoff stains, and road grime left on for an extended period. When done, apply 303 Aerospace Protectant!

Step 2: Wash Monthly

Washing monthly will give your film the deep clean it deserves and will ensure the film remains crystal clear. We recommend using Advanced RV & Auto Wash and a soft cotton or lambswool mitt to apply. Do not use any abrasive brushes, rags, cloths, or compounds. When you're done, apply 303 Aerospace Protectant!

⚠ IMPORTANT

Do not use Rain-Ex products or bug and tar removers.

Step 3: Wax Quarterly

Waxing your film on a quarterly basis, or more, will add that extra layer of protection to your film. Keeping it waxed will prevent damage from bug acids and road grime, and allow the film to effortlessly be wiped clean. We recommend using Advanced RV & Auto Wax, a synthetic polymer cream wax designed specifically for Diamond Shield.

General Care Precautions

Several cleaning techniques and cleaning products should NEVER be used on the areas protected by Diamond Shield on your vehicle.

- Do not pressure wash.
- Do not use Rain-X products.
- Do not use any abrasive brushes, rags, cloths or compounds.

This general care list is not comprehensive. Please call Diamond Shield at 1-888-806-5862 before using any products not specifically listed on [Diamond Shield's website](#). Using unapproved sprays, cloths, or waxes may cause damage to the film, which may not be covered under warranty.

WHEELCHAIR LIFTS

BraunAbility Century 2 Wheelchair Lift Quick Start (Model: NDCC)

This article provides brief operation instructions for a BraunAbility Century 2 Wheelchair Lift (Model: NDCC).

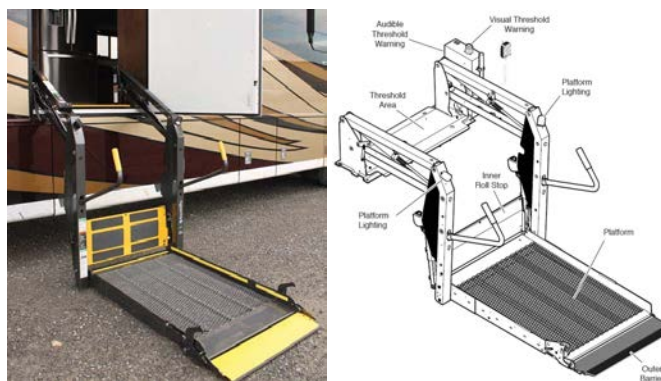
Safety Overview

⚠ WARNING

Read and become familiar with all lift operation safety precautions, operation notes and details, operating instructions and manual operating instructions prior to operating the lift.

⚠ WARNING

Failure to follow these rules may result in serious bodily injury and/or property damage.



1. Load and unload on a level surface only.
2. Engage the vehicle parking brake before operating the lift.
3. Provide adequate clearance outside of the vehicle to accommodate the lift.
4. Do not operate the lift if you suspect lift damage, wear, or any abnormal condition.
5. Keep the operator and bystanders clear of the area in which lift operates.

⚠ CAUTION

This lift is not intended to be independently operated by an individual occupying a wheelchair or similar conveyance. This lift should only be operated by a capable, qualified attendant who is positioned on the exterior of the vehicle and is clear of the travel path of the lift platform. Do not operate the lift from the inside of the vehicle.

Whenever a wheelchair passenger is on the platform, the:

- Passenger must be positioned fully inside yellow boundaries.
- Wheelchair brakes must be locked.
- Inner roll stop and outer barrier must be up.



Lift Operating Instructions

Before lift operation, park on a level surface, away from vehicular traffic. Place the vehicle transmission in "Park" and engage the parking brake. Vehicle engine must be running. If your lift does not function as intended or a visual or audible warning signal is activated, review the FMVSS 403/404 Certification Checklist.

NOTE FROM NEWMAR

Operation Pre-Requisites for Wheelchair Lifts Mounted on Class A Gas or Front Diesel Coaches:

- 12 volt batteries must be charged
- Ignition switch must be off
- Transmission must be in Park
- Lift door must be open
- Park brake must be set (Units built after 10/23/20)

NOTE FROM NEWMAR

Operation Pre-Requisites for Wheelchair Lifts Mounted on Diesel Coaches:

- 12 volt batteries must be charged
- Ignition switch can be off or on
- Park brake must be set
- Lift door must be open

⚠ CAUTION

Diesel coaches equipped with the R500 wheelchair lift: The lift is intended to be used with the suspension air bags dumped to ensure adequate ground contact of the lift platform.

Open door(s) and Secure to Unfold Platform

Stand clear and press UNFOLD switch until platform stops (reaches floor level). Release switch.

Note: In event platform does not unfold, press FOLD switch to release Lift-Tite latches.

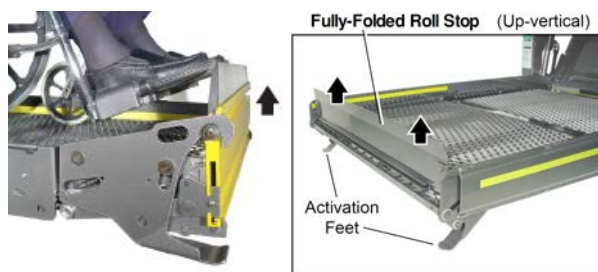
To Unload Passenger

Load passenger onto platform and lock wheelchair brakes.

Note: Outer Barrier must be UP.

Press DOWN switch until entire platform reaches ground level and outer barrier unfolds fully (ramp position). Release switch. Unlock wheelchair brakes and unload passenger from platform.

Note: Outer barrier must be fully unfolded (ramp position) until the entire wheelchair (or standee) has crossed the outer barrier.



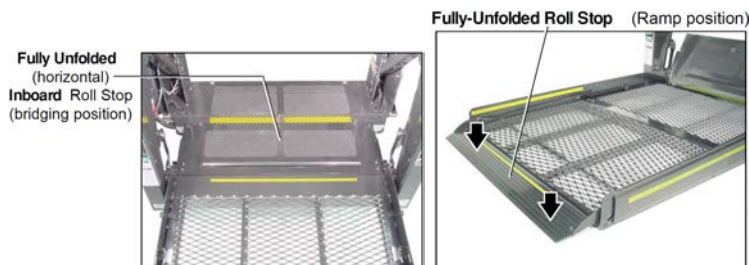
To Load Passenger

Load passenger onto platform and lock wheelchair brakes. Press UP switch to fold outer barrier up fully and raise the platform to floor level. Release switch. Unlock wheelchair brakes and unload passenger from platform.

Note: Outer barrier must be fully unfolded (ramp position) until the entire wheelchair (or standee) has crossed the outer barrier.

To Fold Platform

Press FOLD (IN) switch until platform stops (fully loaded). Release switch. Close door(s).



Manual Operation

Instructions are provided for all steps that differ from standard lift operation procedures. Manual Operation decal 32940 also provides manual operating instructions (posted on pump cover). Refer to the Lift Operating Instructions for all normal lift operation procedures. Follow all Lift Operation Safety Precautions!

To Unfold Platform (Out)

Using hand pump handle:

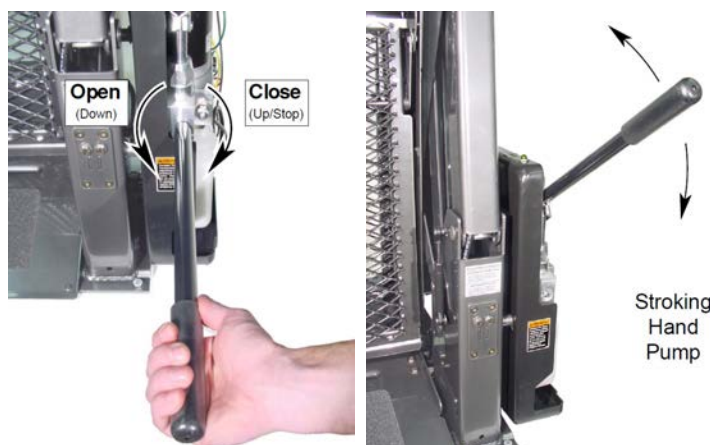
1. Close hand pump valve (place slotted end of pump handle onto backup pump release valve and turn clockwise.)
2. Insert handle in pump and stroke until platform folds fully (stops).
3. Open hand pump valve (turn counterclockwise) until platform reaches floor level. Open 1/2 turn only.
4. Close hand pump valve (turn clockwise). Note: Valve must be tight, but do not overtighten.

Down (to Lower)

Place slotted end of pump handle onto back-up pump release valve and turn counterclockwise (open 1/2 turn only) until the platform reaches ground level and the outer barrier unfolds.

Up (to Raise)

1. Place slotted end of pump handle into back-up pump release valve and turn clockwise to close securely.
Note: Valve must be tight, but do not overtighten.
2. Insert handle into back-up pump and stroke until platform reaches floor level.



To Fold Platform (In)

Insert handle into back-up pump and stroke until platform stops (fold fully).

Note: Close back-up pump release valve securely before operating electric pump. Store pump handle in clamps.

Weight Restrictions

Do not exceed the weight limit posted in your coach for any reason.

Maintenance and Lubrication Schedule

WARNING

Maintenance and lubrication procedures must be performed as specified by an authorized service technician. Failure to do so may result in serious bodily injury and/or property damage.

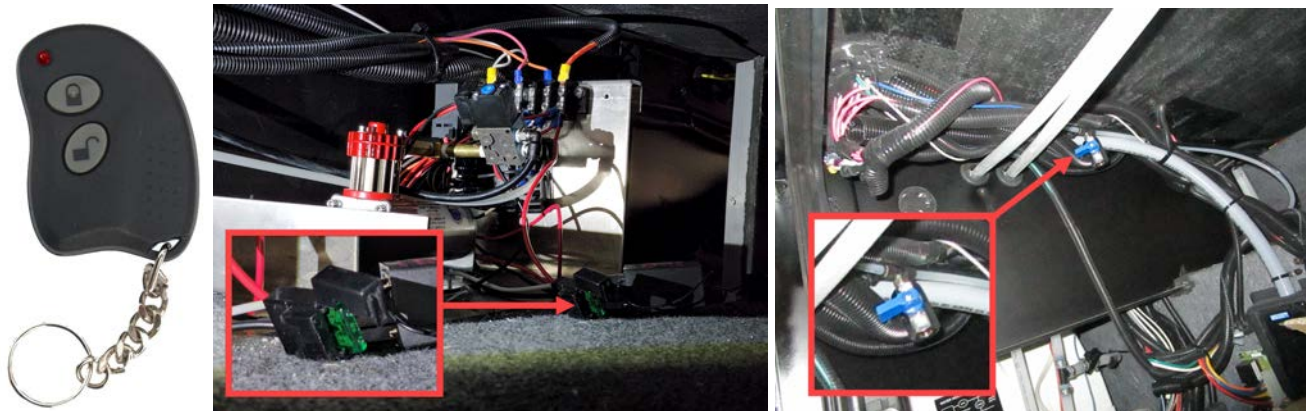
Source(s): Braun Corporation FMVSS No. 403 Quick Reference Installation Sheet 32941 (Rev. F)

Wheelchair Lift Access Door Key Fob Operation and Troubleshooting

This article provides basic operation, programming, and battery replacement instructions for a Challenger Door wheelchair lift access door POP Locks key fob.

Key Fob Operation

1. Press the top button to lock the wheelchair lift access door.
2. Press the bottom button to unlock the wheelchair lift access door.



Key Fob Programming

If the key fob's light turns on but does not lock or unlock the access door, the key fob may need to be programmed.

Disconnect or turn off power to the module, which is typically located in a storage compartment behind an access cover. To disconnect it, unplug the 30 amp fuse located near the module. Then reinsert the fuse. If necessary, replace it.

When the power is turned on, within 5 seconds, press button 1 and 2 (lock and unlock) at the same time. The system will then enter the code learning mode. The UNLOCK OUTPUT will trigger to remind you that the system is in code learning mode.

Within five seconds after entering the code learning mode, press any button on the (key fob) transmitter. The UNLOCK OUTPUT will trigger to tell you the transmitter has been recognized and is compatible with the system. A maximum of 12 transmitters can be coded per system.

During code learning, if there is no action after 5 seconds, the system will exit the code learning mode. The UNLOCK OUTPUT will be the reminder.

IMPORTANT

To prevent the door from opening during this process, open the air valve (blue) in the storage area while programming the key fob.

Key Fob Battery Replacement

To replace the T-25 Key Fob battery, the shell of the transmitter must be removed. Pry between the depression around the shell and separate the fob into 2 pieces exposing the battery as shown.

- Replacement batteries are 12v part # GP23A, CN23A, EL12 and VR22 or similar class battery.
- Replacement battery must be installed as shown.
- Its orientation is specific to - + polarities clearly marked.



Replace cover and test.

Source(s): Challenger Door POP Locks Keyless Entry Timed Relay and Key Fob Code Learning and Configuration Instructions

Product(s): Challenger Wheelchair Lift Access Door Keyless Entry FOB

Wheelchair Lift Access Door Retractable Solutions Phantom Screen Quick Start

This article provides basic operation instructions for a retractable door screen installed on some wheelchair-accessible coaches. These instructions apply to option numbers: _T015, _T035, and _T045.

Operation

Close the Door (Extend): To use the screen door in the wheelchair lift area, grab the handle, slide it over, and firmly press it against the wall until it latches. If you pull it over and you do not press it firmly against the wall, you may end up with a gap.

Open the Door (Retract): To retract the door, press on the release lever on the handle, and slide the door to allow it to retract back inside the door frame.

Care and Maintenance

Phantom recommends "cleaning the screens once or twice a season to eliminate any small dust particles in the mesh... Clean the retractable screens with mild detergent and water and gently wipe them off."

Source(s): phantomscreens.com

Product(s): Retractable Solutions Screen Door (Newmar Part Number: 145524 and 145933)



WINDOWS AND WINDSHIELDS

Hehr/LCI Emergency Exit and Vent Window Operation

This article provides instructions for opening and closing Hehr/LCI emergency exit and vent windows.

Hehr/LCI Egress Emergency Exit Window

Select Hehr windows have an opening window pane in the egress window for ventilation. This style of window can also be opened in the event of an emergency.

To open the vent: Unclip and lower the arm. Swing the arm 90 degrees, and push out on the arm until the red handle latches.

To close the vent: Unclip the red handle from the latch by lifting slightly while pushing outward. Once the latch releases, pull the arm in until the window is closed. Rotate the arm 90 degrees until it latches into the closed position.

In the event of an emergency, open the window: Remove the screen by pulling out on the red handle. Push and release the lever from the locking hook. Rotate the lever 90 degrees, and push it through the slot in the window frame. Escape through the opening.



Hehr/LCI Double-Latched Emergency Exit Window

To open the emergency exit double-latched window: Flip both latches up to the open position. Push out on the window.

To close the emergency exit double-latched window: Pull the window shut while holding the window track with one hand. With the other hand, rotate the latch up until it connects with the track on the window. Press the front side down until it latches. Repeat the steps for the second latch.



How to Prevent Window Condensation

This article provides a preventative overview of condensation on the inside of the windows and within the coach. Accumulation of condensation on surfaces within your unit occurs when warm, moist air contacts a cool surface. It is most evident on the inside of windows.

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⚠ IMPORTANT

Since surface condensation within the coach cannot be controlled by the manufacturer, damage caused by condensation is not covered by your Newmar Limited Warranty.

Damage may occur to your unit if excessive condensation exists. This problem can be controlled by:

1. Slightly opening a window or roof vent to allow the moisture to escape from the unit.
2. A small dehumidifier is also very effective in removing moisture from the air.

Condensation levels are highest during times when a person is cooking or taking a shower in the unit, but these are not the only times condensation is present. Condensation can migrate through ceiling panels and saturate the fiberglass insulation in your ceiling cavity. This condition often causes the occupants to believe the recreational vehicle has a roof leak. Walls and ceiling panels may also become wet when the moisture accumulates on these surfaces.

⚠ IMPORTANT

Newmar Corporation does not recommend the use of any catalytic heaters.

Windshield Maintenance and Replacement

Care and Maintenance

Keeping your windshield clean will provide optimum visibility to view the road ahead. Should you encounter rock chips or cracks, have them fixed by an automotive glass professional immediately to avoid costly windshield replacement. If the crack spreads, replacement may be necessary.

⚠ CAUTION

Do not operate the windshield wipers with damaged blades, as they may cause damage to the glass. Damage to glass by rocks, damaged wipers, or other foreign objects are not warrantable repairs.

Check the windshield washer fluid level prior to each trip, and top off the fluid reservoir as needed.

Windshield Replacement

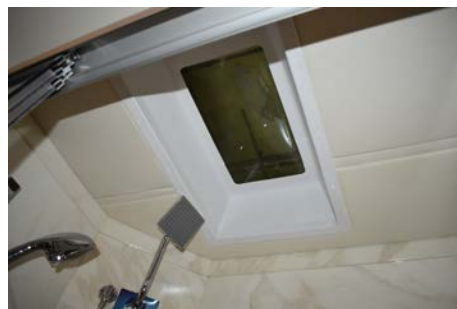
When replacing a windshield, Newmar highly recommends purchasing the new windshield through the Newmar Parts department to ensure proper windshield fit. Customers and dealers have experienced many size and installation issues when attempting to use aftermarket windshields. If your windshield needs replaced, make sure that your dealer or glass replacement company purchases the replacement windshield directly from Newmar.

Skylights Overview

This article provides basic information about the skylight installed in the coach.

For improved lighting and headroom, a skylight may also be installed in the bathroom over the shower. The opening provides additional light during daylight hours, and the skylight is tinted to provide privacy and reduce glare.

The skylight should be inspected with the roof and components, and the sealant should be maintained. Some sealants are not compatible with the skylight material. Newmar recommends using Surebond SB-140 butyl sealant around the skylight. Periodic cleaning using a mild detergent or cleaner specifically designed for plastics (such as Novus No. 1) is necessary; cleaning frequency may depend on the surrounding conditions while driving, parking, or storing the coach.

**⚠ WARNING**

It is recommended that access, cleaning, and maintenance be conducted by a qualified professional at your local dealership. Use caution if working on top of your vehicle. The wet roof surface is extremely slippery.

WIPER SYSTEMS

Wiper System Care and Maintenance

This article provides basic care and maintenance about the coach's wiper system, as well as information about wiper blade replacement.

Maintaining the Wiper Blades

Proper care and maintenance of your wiper blades is critical to maintaining good visibility and safe operation of the coach. Clean the rubber element every time you fill your gas tank, and remove loose dirt and road grime from the windshield. When washing your coach, use a small amount of non-abrasive glass cleaner on a wet sponge to clean both the windshield and the rubber wiping elements. In colder climates, use an ice scraper to remove snow and ice. Using your wipers to de-ice your windshield can damage the blades, as well as the arm and wiper motor.

Streaking, chattering, and worn blades may be caused by dry rubber that has hardened and cracked. Streaking can also be caused by oil, tree sap, road tar, or other foreign substances on the blade rubber or windshield. Chattering sounds as the blade passes across the windshield are caused by the “deformity” or “curve” in the rubber that some wiper blades develop over time.

Worn, damaged, or split rubber around the wiping edge is generally caused by age and use, but may be due to the effects of the sun's ultraviolet rays on the rubber. Damage may also be caused by ice scrapers, automatic car washes, or vandalism. Damage to glass by rocks, damaged wipers, or other foreign objects is not warrantable repairs.

Replacing the Wiper Blades

WARNING

Replace your windshield wiper blades when they become worn or damaged. Worn or damaged wiper blades may cause damage to the windshield, as well as interfere with the driver's ability, possibly resulting in a crash leading to injury or death.

To inquire about replacement wiper blades or other components, refer to the NewPar (formerly ComNet) [parts catalog](#) or contact the parts department at **1-800-731-8300 (select the appropriate menu option)**. This will help ensure the proper wiper fit.

HVAC

This chapter provides operational instructions for components related to dash and roof air conditioning, fans and ventilation, heating systems, and climate control.

⚠ IMPORTANT

Any of the following quick start instructions should not take the place of the complete documentation provided by the product manufacturer and/or Newmar. Additional operating instructions, troubleshooting, care and maintenance, safety information, etc. may be available in Newgle for specific components. Read all literature provided, paying special attention to any references to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

⚠ WARNING

Newmar has installed heat sources designed to adequately heat the coach under normal circumstances and temperatures. Newmar does NOT recommend the use of other space heating devices. The use of space heaters or other similar devices may increase the risk of fire and may result in tripped breakers within the coach's electrical system and/or the electrical supply to the coach.

AIR CONDITIONING AND HEAT, DASH

Bergstrom Single Zone Dash Air Conditioning and Heat Operation

This article provides basic operation instructions for a Bergstrom Single Zone Dash Air Conditioning and Heating system.

Control Panel Operation

Blower Speed Control: One of the best ways of controlling temperature is by changing the speed of the blower. The blower switch controls the system on/off and provides several different speeds in any mode.

Temperature Control: The temperature control dial controls only the heat content of the discharge air. The temperature control dial will also control the overall temperature of the discharge air if the AC system is operating. Turn the knob to the right (red area) for warmer air, and to the left (blue area) for cooler air. Use of the temperature control will also moderate the discharge temperature when the cooling system is engaged.

A/C Clutch Button: Illuminates when compressor clutch is engaged. This means the compressor is on and discharging refrigerant.

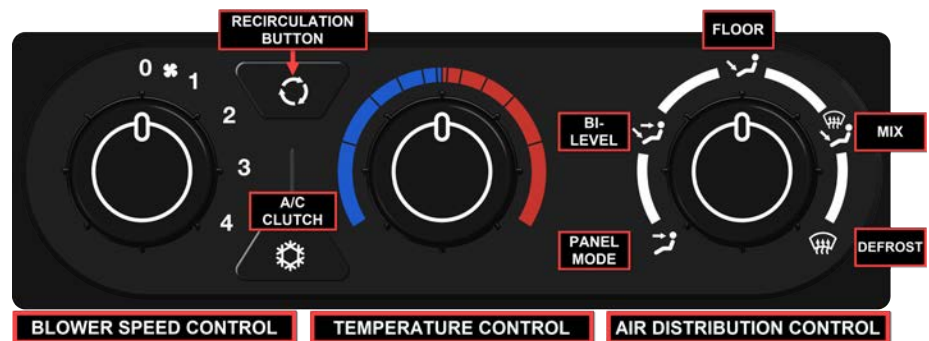
Recirculation Button: Your driver/passenger heater and air conditioning system is designed to operate in fresh air mode by default. The recirculating air feature is primarily used for faster passenger area cool downs during the summer and warmups during the winter by closing off the fresh air source and recirculating the passenger compartment air. Pressing this switch will place your system in the recirculated air mode. NOTE: Prolonged use of this feature can cause stale air quality and moisture to form on the windows.

Air Distribution Control: To achieve the maximum comfort in your vehicle, the air must be directed where it is needed. The mode switch (right of center) gives the user the ability to select where the air will flow.

- Panel Mode – Air is drawn into the system and discharged through the dash louvers only.
- Bi-level – Air is drawn into the system and discharged through the dash louvers and floor outlets.
- Floor – Air is drawn into the system and discharged through the floor outlets.
- Mix – Air is drawn into the system and discharged through the floor outlets and defrost outlets.
- Defrost – Air is drawn into the system and discharged through the defrost and demist outlets.

Operating Features

The A/C system is designed to operate in all air distribution modes. This provides significant moisture, dust, and pollen removal for enhanced passenger comfort.



The Bergstrom vehicle A/C system will not function if the outside temperature is below approximately 40 degrees F. For cool air circulation during low temperatures, it is suggested the operator utilize fresh air mode.

Important Operating Features and Tips

Window Fogging: In mild, but rainy or humid weather, windows may fog on the inside. To clear the fog of all driver area windows, turn on the air conditioning, set the system air intake to FRESH AIR by disengaging the RECIRC button, adjust the temperature and fan control to maintain comfort, position the mode control to DEFROST.

NOTE FROM NEWMAR

It may also be helpful to use the dash overhead fan to assist with window fogging and defrosting.

Winter Operation: Remove snow and ice from windshields and system air intakes if applicable. The discharge air will heat up faster if the blower is operated on lower speeds until the engine is hot and the recirculation switch is engaged. For windshield de-icing, use defrost mode. Ensure the air intake is free of ice and slush.

Summer Operation: Air-conditioned vehicles must be protected with a high-quality antifreeze coolant during summer to provide corrosion protection and to raise the boiling point of the coolant for protection against overheating. A 50% concentration is recommended. Use recirculated air control for a quick cool down. Close all windows and vents to hot humid outside air. Close all curtains which do not obstruct the driver's vision.

Care and Service

- Keep the condenser and radiator free of bugs and debris.
- During periods of little use, operate the A/C system monthly to keep the compressor seals lubricated.
- Periodically inspect the belts and hoses for wear and proper tension.
- Periodically check the proper coolant levels.

⚠ WARNING

The A/C system contains refrigerant 134a under high pressure and should be serviced by qualified personnel only. Repairs that alter the design of the Bergstrom system including the use of non-Bergstrom supplied parts will void the warranty and any Bergstrom liability for the system.

Source(s): Bergstrom Single Zone A/C heater Owner's Manual Operating Instructions

AIR CONDITIONING AND HEAT, ROOF

Roof Air Conditioning and Heat Overview

This article provides a brief overview of the roof air conditioning and heat pump, as well as filter maintenance. Keep your coach comfortable year-round!

Your coach's air conditioners can be operated using the Comfort Control thermostat, KIB V-Bus LCD touchscreen, or the appropriate SilverLeaf screen. For more detailed information about climate control, refer to the appropriate product page(s) and associated content in Newgle.

Some roof top air conditioners can work as a heat pump when desired to produce heat instead of cooling. These models are effective at producing heat at ambient temperatures (above approximately 40 degrees). If the temperature drops below the threshold, most controls will revert to the furnace or hydronic heating system to produce the necessary heat.

Most air conditioning systems have a two-minute built-in time delay, so there may be a slight delay in the operation of the air conditioner after the thermostat is set.



Filter Maintenance

On some coach models, grills with filters may be located behind decorative covers on the ceiling.

1. Remove the vent cover grill from the return air duct or the grill from the air conditioner ceiling assembly.
2. Remove the filter.

3. Wash, rinse, and dry the filter. If the filter does not come clean, or is damaged, replace it with a new filter. Do not substitute other types of filters, as this may restrict air flow and cause other issues. Do not operate the air conditioners without filters.
4. Reinstall the filter on the cover, and place it back into the vent.
5. Repeat the process for each return air vent.

For more information about accessing filters underneath decorative covers, refer to other Newgle articles (How to Access and Clean Air Conditioner Filters with... louvered wood covers, friction, mechanical, or magnetic latch covers, etc.).

FANS AND VENTILATION

Urea-formaldehyde Safety Guidelines

This article provides information about proper ventilation to prevent issues such as condensation and the release of urea-formaldehyde from coach products. Depending on your vent setup, they may be controlled by a switch directly on the vent assembly or the switches located on the wall. Dash fans may also be installed on or in the front overhead cabinet and aid in windshield defrosting and air circulation in the cockpit area of the coach.

Urea-formaldehyde is used in the production of particle board, hardwood plywood, and most paneling. Urea-formaldehyde resin may release formaldehyde vapors into the air, which may cause headaches, and in some people, eye, nose and throat irritation. Formaldehyde may intensify some allergies or upper respiratory problems like asthma.

Providing proper ventilation as needed by operating the power roof vents and opening windows should reduce the risk of such problems.

NOTICE

This vehicle is TSCA TITLE VI COMPLIANT and contains composite wood products that comply with the applicable California Code of Regulations Section 93120.2(a) Phase 2 (P2) formaldehyde emission standards specified on the above date of manufacture.

NI-151

NOTICE

This vehicle is TSCA TITLE VI COMPLIANT (conforme au titre VI de la TSCA) and contains composite wood products that comply with the applicable California Code of Regulations Section 93120.2(a) Phase 2 (P2) formaldehyde emission standards specified on the above date of manufacture.

NI-151

NOTICE

This vehicle is designed as a Recreational Vehicle.

When used for an extended period of time, while furnace heating is required, sweating and condensation conditions may occur.

The following precautions should be taken to minimize these conditions:

- (1) Use range hood when cooking.
- (2) Use the bathroom power vent when bathing or showering.
- (3) Open windows slightly for ventilation whenever possible.
- (4) Use dehumidifier to keep humidity as low as possible.

NI-13

IMPORTANT NOTICE

Certain of our forest product suppliers have advised that urea-formaldehyde is used in the production of particle board, hardwood plywood or paneling which they supply us and which we utilize in our finish product. These suppliers have requested that we communicate this to our customers.

For your information, we are reproducing samples of statements which have been provided to us by our suppliers.

WARNING: THIS PRODUCT CONTAINS A UREA-FORMALDEHYDE RESIN AND MAY RELEASE FORMALDEHYDE VAPORS IN LOW CONCENTRATIONS. FORMALDEHYDE CAN BE IRRITATING TO THE EYES AND UPPER RESPIRATORY SYSTEM OF ESPECIALLY SUSCEPTIBLE PERSONS SUCH AS THOSE WITH ALLERGIES OR RESPIRATORY AILMENTS. PROPER VENTILATION SHOULD REDUCE THE RISK OF SUCH PROBLEMS. IF SYMPTOMS DEVELOP, CONSULT YOUR PHYSICIAN.

Adorn, Inc.

WARNING: IRRITANT: THIS PRODUCT CONTAINS A UREA-FORMALDEHYDE RESIN AND MAY RELEASE FORMALDEHYDE VAPORS IN LOW CONCENTRATIONS. FORMALDEHYDE VAPOR MAY, IN SOME PEOPLE, CAUSE HEADACHES, EYE, NOSE, AND THROAT IRRITATION AND AGGRAVATION OF ALLERGIES AND RESPIRATORY PROBLEMS, SUCH AS ASTHMA. PROPER VENTILATION SHOULD REDUCE THE RISK OF SUCH PROBLEMS. IF SYMPTOMS DEVELOP, CONSULT YOUR PHYSICIAN.

Woodbridge, Inc.

WARNING: THIS PRODUCT CONTAINS A UREA-FORMALDEHYDE RESIN AND MAY RELEASE FORMALDEHYDE VAPORS IN LOW CONCENTRATIONS. FORMALDEHYDE VAPOR MAY, IN SOME PEOPLE, CAUSE HEADACHES, EYE, NOSE, AND THROAT IRRITATION AND AGGRAVATION OF ALLERGIES AND RESPIRATORY PROBLEMS, SUCH AS ASTHMA. PROPER VENTILATION SHOULD REDUCE THE RISK OF SUCH PROBLEMS.

Robert Weed Plywood Corp

Ventilation is important in maintaining a comfortable environment and we direct your attention to the discussion of ventilation contained in your Owner's Manual.

Dash Overhead Fan Operation (Diesel Coaches)

This article provides an operational overview of the dash overhead fans for a diesel coach.

With the ignition key on, the O.H. Fans dash switch turns the overhead fan(s) on or off. The switch next to it labeled "High / Med / Low" allows the user to select the desired fan speed.

The fan's purpose is to help circulate air around the windshield to minimize fog or ice buildup.



Dometic Fan-Tastic Vent Fan and Wall-Mounted Controls Quick Start (Models: 5300 and 5350)

This article provides basic operating instructions for a Dometic Fan-Tastic Vent and associated wall-mounted controller (Model: 5300 and 5350).

Vent Fan Operation

The Dometic Fan-Tastic Vent Fan (“vent fan”) is a roof ventilation system designed for use in RVs to allow maximum airflow and additional protection from the elements while using a vented opening. In addition to speed settings and manual or automatic lid operation, options may include a rain sensor to stop the vent fan and close the lid when it senses moisture.



⚠ CAUTION

WATER DAMAGE/LEAK HAZARD. Failure to obey the following instructions could result in minor or moderate injury or property damage:

- Do not leave the vent lid open and unattended for extended periods of time, or under unusual weather conditions that may result in leakage and serious damage.
- Do not use this product in inclement weather.

Using Wall-Mounted Controls (Models 5300 and 5350)

When the fan is running: Closing the lid by pressing the UP/DOWN button shuts OFF the fan blade. Re-opening the lid using the UP/DOWN button will revert the fan blade movement to its previous set speed. Using the ON/OFF button will not do this; the ON/OFF button resets the fan to normal operation.

Fan Power ON/OFF - Model 5300 and 5350:

- Press to turn ON the fan. This will start the fan on HIGH.
- Press to turn OFF the fan. This will stop the fan and close the lid.

Rain Sensor LED - Model 5300 and 5350:

- This LED will illuminate when the rain sensor has been turned OFF at the wall control.
- The rain sensor can be turned ON or OFF by pressing the DOWN button for three seconds.

Fan Speed - Model 5300 and 5350:

- Press UP to increase the fan speed.
- Press DOWN to decrease the fan speed.
- The fan has 13 speeds, not including OFF.

Vent Lid OPEN/CLOSE - Model 5300:

- When the vent lid is closed, press the UP button once to open the vent lid.
- When the vent lid is open, press the DOWN button once to close the vent lid.
- The rain sensor can be turned ON or OFF by pressing this button for three seconds.

Vent Lid OPEN/CLOSE - Model 5350:

- When the vent lid is closed, press this button once to open the vent lid.
- When the vent lid is open, press this button once to close the lid.
- The rain sensor can be turned ON or OFF by pressing this button for three seconds.

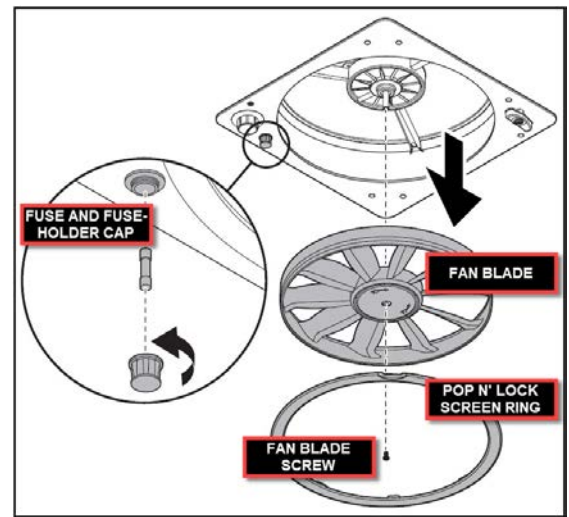
Air OUT/IN - Model 5350:

- When the vent lid is open, press this button once to reverse the fan blade direction; press it again for the opposite direction. Once pressed, the motor will slow and then reverse direction.
- If the button is pressed again during the reversing cycle, a double-beep will indicate the cycle is in progress.
- The function can only be changed after the reversing cycle is complete.



Cleaning the Fan

1. Remove and inspect the fuse, and replace if necessary. For fuse removal instructions, refer to the Installation and Operation Manual.
2. Remove the Pop N' Lock™ screen ring by grasping the finger tab with one hand and pulling straight down. Use your free hand to brace against the screen assembly (control panel) to prevent breaking the Pop N' Lock™ screen. Removing the Pop N' Lock may be difficult at first, but will get easier with repeated removal.
3. Use one hand to hold the fan blade to prevent it from turning and remove the Phillips-head screw from the center hub face of the fan blade. With the fan-blade screw removed, grasp the fan blade with two hands on opposite sides (for example, the 3:00 and 9:00 positions) and pull down firmly. It may be necessary to wiggle the fan blade up-and-down and side-to-side until it slides off the motor shaft.
4. Clean the Pop N' Lock™ screen insert and fan blade with window cleaner or non-abrasive dish soap and warm water. You may also place the screen insert and fan blade in the top rack of an automatic dishwasher. (Optional: Once the screen and blade are clean and dry, wipe or spray a water-based (not petroleum-based) protectant on the screen and blade, and buff to a high gloss. This minimizes dust and dirt build-up and eases future cleaning.)
5. Re-assemble the fan by reversing the steps above.



Source(s): Dometic Fan-Tastic Vent Fans and Controls Installation and Operation Manual, Revision D 10/2020

Product(s): [Dometic 9071-09 5350 Vent Controller \(Model: 5350, Newmar Part Number: 156306\)](#); [Dometic 90709-09 5300 Vent Controller \(Model: 5300, Newmar Part Number: 160474\)](#)

FURNACES

Furnace Operation and Maintenance Overview

This article provides basic operation and maintenance instructions for a forced-air furnace. The furnace installed in your coach is a forced-air furnace fueled by propane gas and is controlled by the air conditioner wall thermostat or the KIB touchscreen panel. This thermostat controls both the heating and cooling of the coach. The heat is supplied throughout the coach via the ducts in the floor.

For more information about the thermostat and KIB touchscreen, refer to Newgle.

⚠ WARNING

There are no owner-serviceable parts on the furnace. Never attempt to modify this furnace. Fire, explosion, asphyxiation, or carbon monoxide poisoning may occur. If the furnace malfunctions, consult a trained service technician.

Proceed with caution when storing items under the cabinets to prevent crushing or damaging the furnace ducting or blocking the cold air return.

The furnace will not operate properly if the air flow at the floor registers, or the air return to the furnace, is blocked by personal, storage items, or rugs.



Operating the Furnace

To operate, set the thermostat to the desired temperature setting and turn the thermostat ON. Allow 60 seconds for the furnace to begin operating. To shut down the furnace, turn the thermostat OFF. After the furnace has been turned off, the fan will run for approximately 60 seconds to cool down.

⚠ WARNING

For your safety, do not use gasoline or other flammable liquids near the furnace or any other appliance.

Smoke and fumes may be created as a result of the residual burn off of the manufacturing compounds that are sometimes present the first time the furnace is used.

This is normal; however, to minimize the smoke and fumes, the initial lighting of the furnace should be completed with the windows and doors open.



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Water Compartment Heat via furnace

Coaches equipped with a forced-air furnace(s) have a designated heat duct for the water compartment in the basement to reduce the risk of freezing.

IMPORTANT

Heat output to the water compartment is only operational when the furnace is heating the interior of the coach.

Maintaining the Furnace

Check the gas system for leaks at least once a year. On the exterior of the coach you will find a furnace cover. This cover should be removed by authorized service technicians only.

Clean the complete furnace and air tube passageways periodically to remove dust, lint, etc. The furnace should be thoroughly cleaned before the start of each heating season. Any debris in the system may restrict air flow for combustion, bind the combustion air impeller, or prevent the blower motor from running properly.

Also, check the burner pilot orifices for debris. Lint accumulations may cause the blower to become unbalanced, vibrate, and restrict the ability of the blower to move air. If lint is blown into the heat exchanger, it may cause odors or create a fire hazard. Contact an authorized service technician for annual cleaning.

WARNING

Use caution when washing the exterior of your vehicle. Water should not be sprayed directly into the furnace vent. If water is forced beyond the rain baffles into the furnace vent, rusting of the furnace could occur. This could also cause improper combustion.

Suburban Furnace Quick Start (Model: SF and SFV Series)

This article provides basic operation instructions for a Suburban Furnace (Model: SF and SFV Series).

WARNING

Do not operate furnace while vehicle is in motion or being towed.

WARNING

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not light the burner by hand. Before operating, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

DANGER

WHAT TO DO IF YOU SMELL GAS:

- Extinguish any open flame.
- Evacuate all persons from the vehicle.
- Shut off the gas supply at the gas container or source.
- Do not touch any electric switch or use any phone or radio in the vehicle.
- Do not start the vehicle's engine or electric generator.
- Contact the nearest gas supplier or qualified service technician for repairs.
- If you cannot reach a gas supplier or qualified service technician, contact the nearest fire department.
- Do not turn on the gas supply until the gas leak(s) has been repaired.

Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

Operating Instructions

1. STOP! Read Users Information Manual supplied with furnace.
2. Turn the manual valve (if so equipped) or the valve at the outside LP tank to the "OFF" position. Do not force.
3. Set thermostat above room temperature to begin blower operation. A slight delay will occur before the blower comes on. Allow blower to run for 5 minutes for combustion chamber purge cycle. If blower does not come on or stops before ignition cycle, go to shut down and contact your dealer or a local recreational vehicle service agency.

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4. After 5 minutes, move thermostat lever below room temperature. Blower will remain on. Wait approximately 2 minutes for blower to go off.
5. Open manual shut-off valve (if so equipped) or the valve at the outside LP tank. Correct operating characteristics depend on the valve being positioned fully open. Never attempt to operate with a valve partially closed. Note: This furnace is equipped with a valve shut-off switch. With switch in OFF position, gas will not flow to burner nor will the furnace operate.
6. Set thermostat lever to desired setting. Note: Motor will not come on instantly. Allow approximately 30 seconds for motor operation gas flow and sparks.
7. Allow 30 seconds for main burner to light after blower comes on. This furnace is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
8. If burner does not light, repeat Steps 1 through 7.
9. If after three (3) attempts with no ignition, go to shut down and contact your dealer or a local recreational vehicle service agency. Do not continue to cycle furnace through thermostat in an attempt to get ignition. Note: If furnace should lock out, the blower will go off in 5 minutes and remain off until unit is reset by reactivating thermostat.

Maintenance and Cleaning

You, as the owner/user, should inspect the furnace monthly during the heating season for presence of soot on vent. Operating the furnace under this condition could lead to serious property damage, personal injury or loss of life. If soot is observed on the vent, immediately shut furnace down and contact a qualified service agency.

Source(s): Suburban User's Information Manual for SF, SFV, SH, and SHD Models

Suburban Furnace Quick Start (Model: NT-20SQ)

This article provides basic operation instructions for a Suburban 20,000 BTU Furnace (Model: NT-20SQ).

WARNING

Do not operate furnace while vehicle is in motion or being towed.

This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not light the burner by hand.

Before operating, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

DANGER

WHAT TO DO IF YOU SMELL GAS

- Extinguish any open flame.
- Evacuate all persons from the vehicle.
- Shut off the gas supply at the gas container or source.
- Do not touch any electric switch or use any phone or radio in the vehicle.
- Do not start the vehicle's engine or electric generator.
- Contact the nearest gas supplier or qualified service technician for repairs.
- If you cannot reach a gas supplier or qualified service technician, contact the nearest fire department.
- Do not turn on the gas supply until the gas leak(s) has been repaired.

Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

Operating Instructions

1. STOP! Read Users Information Manual supplied with furnace.
2. Turn the manual valve (if so equipped) or the valve at the outside LP tank to the "OFF" position. Do not force.
3. Set thermostat above room temperature to begin blower operation. A slight delay will occur before the blower comes on. Allow blower to run for 5 minutes for combustion chamber purge cycle. If blower does not come on or stops before ignition cycle, go to shut down and contact your dealer or a local recreational vehicle service agency.
4. After 5 minutes, move thermostat lever below room temperature. Blower will remain on. Wait approximately 2 minutes for blower to go off.
5. Wait five (5) minutes to clear out any gas. Then smell for gas including near the floor. If you then smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to next step.
6. Open manual shut-off valve or the valve at the outside LP tank. Correct operating characteristics depend on the valve being positioned fully open. Never attempt to operate with a valve partially closed.

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1. NOTE: Furnace Models NT-16SQ and NT-20SQ are equipped with a valve shut-off switch, with switch in "OFF" position, gas will not flow through to burner nor will the furnace operate.
7. Set thermostat lever to desired setting. If set above room temperature, blower will come on.
8. Allow 30 seconds for main burner to light after blower comes on. This furnace is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
9. If burner does not light, repeat Steps 1 through 9.
10. If after three (3) attempts with no ignition, go to shut down and contact your dealer or a local recreational vehicle service agency. Do not continue to cycle furnace through thermostat in an attempt to get ignition.

Maintenance and Cleaning

You, as the owner/user, should inspect the furnace monthly during the heating season for presence of soot on vent. Operating the furnace under this condition could lead to serious property damage, personal injury or loss of life. If soot is observed on the vent, immediately shut furnace down and contact a qualified service agency.

[There are] several safety related items that you should follow during the heating season to assure continued safe operation of the furnace. [For a complete list of these items, refer to your product's user manual in Newgle.]

Source(s): Suburban NT-20SQ User's Information Manual

Product(s): Suburban 20,000 BTU Furnace (Model: NT-20SQ, Newmar Part Number: 119703)

RADIANT HEATING

2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide: Floor Heat

The Floor Heat icon on the KIB 10.1" Central Monitor Capacitive Touch Panel displays the floor heat controls and settings for floor heat in the front, mid, and rear zones of the coach.

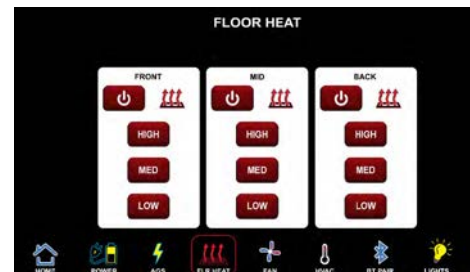
⚠ IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

Press the Front, Mid, or Back floor heat power button once to activate the floor heat. Press the desired setting:

- High (30 Minutes ON, 15 Minutes OFF)
- Medium (15 Minutes ON, 15 Minutes OFF)
- Low (7.5 Minutes ON, 7.5 Minutes OFF)

The different settings have specific on and off time intervals for heating. The heating indicator icon will illuminate when voltage is being sent to the heating element. For floor heat operation, 120 volts must be present from shore power or the generator.



⚠ CAUTION

Per the Aries Engineering (Gold Heat) Radiant Floor Heat Installation Instructions and Owner's Manual, "Don't place rubber backed area or throw rugs over the heated area to avoid excessive heat from building in these areas."

2025 KIB 5" LCD Capacitive Touch Panel Guide: Floor Heat

The Floor Heat icon on the KIB 5" LCD Capacitive Touch Panel displays the floor heat controls and settings for floor heat in the front, mid, and rear zones of the coach. This 5" vertical touch panel is only installed on coaches also equipped with a KIB 10.1" Central Monitor Capacitive Touch Panel. The same screens will also appear on the KIB Connected Solutions app once installed on a mobile device.

⚠ IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

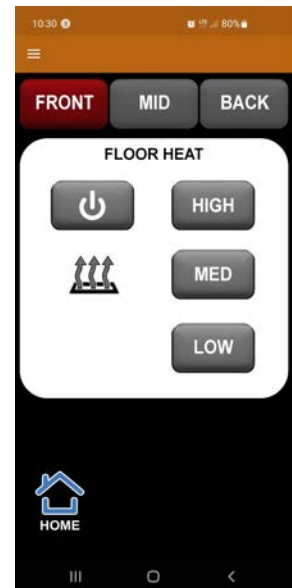
Press the Front, Mid, or Back button for the desired zone. Then press the Power button, followed by the preferred heat setting button to activate the floor heat in that zone. Press the desired setting:

- High (30 Minutes ON, 15 Minutes OFF)
- Medium (15 Minutes ON, 15 Minutes OFF)
- Low (7.5 Minutes ON, 7.5 Minutes OFF)

The different settings have specific on and off time intervals for heating. The heating indicator icon will illuminate when voltage is being sent to the heating element. For floor heat operation, 120 volts must be present from shore power or the generator.

CAUTION

Per the Aries Engineering (Gold Heat) Radiant Floor Heat Installation Instructions and Owner's Manual, "Don't place rubber backed area or throw rugs over the heated area to avoid excessive heat from building in these areas."



THERMOSTATS

2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide: HVAC

The HVAC icon on the KIB 10.1" Central Monitor Capacitive Touch Panel displays the controls for the rooftop air conditioners, furnace or Oasis heating system, and provides access to the HVAC settings for the entire coach.

IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

Overview

HVAC is a control system interface to the RV's heating and cooling system, and:

- Controls the Dometic rooftop air conditioners
- Controls the furnace or Oasis heating system, which also serves as the water heater
- Allows Heat/Cool temperature setting within 55 to 90-degree range
- Contains the Oasis hydronic system burner, A/C electric element 1 and A/C electric element 1 and 2 ON/OFF switch buttons (only on coaches equipped with an Oasis hydronic heating system).
- Contains a Stool Room fan switch in the Oasis section (if coach is equipped with a stool room and Oasis)

The main screens of the HVAC are:

Now/Status Page: The main page where adjustments and room temperatures are displayed.

Room Selection: Controls one of the three roof AC units (some RVs only have two roof units).

Setup Page: Opens the page to set up heating and cooling schedules.

Scheduling: Used to set up temperature programs that can change two times a day with up to three different programs that can run on different days of the week.

Time Clock: The HVAC controller is where the time of day is set and stored, there is a battery backup so even without power turned on the time of day is kept.



Now/Status Page

User Buttons and Icons

POWER: Turns the HVAC system ON/OFF.

SETUP: Page jump to the HVAC setup pages.

HOLD: Forces the system to hold the current temperature setting, regardless of schedules.

ECO: Allows the user to select up to a 10-degree offset to allow more or less temperature variance from setpoint to reduce the energy used by the HVAC system while away from the RV.

Room Selection

There are 1-3 rooms to choose from depending on the floor plan, including:

LVRM — Selecting this will display the current "LIVING ROOM" settings.

KITCHEN — Selecting this will display the current "KITCHEN" settings.

BDRM — Selecting this will display the current "BEDROOM" settings.



Individual Room Settings

MODE — Selects OFF, AUTO, COOL, HEAT PUMP, FURNACE, or FAN. Not all rooms have the FURNACE button.

FAN — Selects AUTO, LOW, MED, OR HIGH.

TEMPERATURE — Use UP/DOWN triangles to adjust room temperature set point.

Status Display

SET TEMPERATURE — The target temperature for the room.

HOOR GLASS — The system is waiting on the room's roof top compressor to run.

PROG O-RIDE — The "DAY/NIGHT" settings are being overridden by "HOLD."

FIRE FLAME — Indicates the furnace is turned on.

SNOWFLAKE — Indicates the air conditioner compressor is turned on.

RED WAVES — Indicates the heat pump compressor is turned on.

Setup Page

User Buttons

BACK ARROW — Page jump back to the Now/Status page.

SET TIME — Page jump to the time-of-day settings.

SET PROG — Page jump to the scheduling program setup.

SET WEEK — Page jump to set a weekly program if desired. Set which program to run on that specific day. Different days can run different programs.

Settings Buttons

RUN PROG — Enables/disables the program settings to be observed or ignored.

WEEK PROG — Enables/disables the week program settings to be observed or ignored.

AGS HVAC — Enables/disables auto gen start to operate based on HVAC demand. Generator is only started when the RV has no shore power and only when the HVAC has a demand present.

°F/°C — Allows choice of displaying temperatures in degrees Fahrenheit or Celsius.



Setup: Set Time Page

Use "HR" & "MIN" buttons to set the time of day. Use "MM," "DD," and "YY" buttons to set the month, day, and year.

Setup: Set PROG Page (DAY/NIGHT)

ARROW — Page jump back to the Setup page.

DAY — Displays the DAY setup for the room selected.

NIGHT — Displays the NIGHT setup for the room selected. On a per-room-basis, the DAY, NIGHT, TIME, TEMP, MODE, & FAN can be setup for a "RUN PROG" schedule. The individual room settings are changed to "DAY/NIGHT" setting the time of day is the same as the time set in the DAY/NIGHT program.

Example: DAY/LVRM program settings are 8:00 AM, MODE = COOL, FAN = AUTO, TEMP = 70°F. When the time of day is 8:00 AM on the LVRM "NOW/STATUS" page all settings will change to the for mentioned.

PROG Button – Assuming "Week Prog" is enabled from the "Setup Page," this button will cycle through one of three different program settings.

Important: This is done on per DAY/NIGHT & per room. This is not to simply set up one DAY/NIGHT.

Example: Prog 1 requires all three rooms and their DAY/NIGHT to be set (6 different pages of settings). Prog 2 will be completely different setup pages.

Setup: Set ECO Page

Purpose: To save energy when leaving the RV by simply pushing a button when you leave and return.

Room Selection: Each room can be set for a different "SET ECO OFFSET".

Example: The bedroom door is closed -- set the bedroom offset to "ECO O-RIDE" while setting the LVRM&KIT to 10°. In this situation, the bedroom will try to maintain the temperature while the LVRM&KIT changes by 10° to save energy.

Set ECO Offset: Value to offset temperature when ECO button is activated on main HVAC page. Example: If cooling and the ECO button is active, the room's temperature will increase by the offset value.

ECO O-RIDE: When activated, this zone will not use the ECO settings when the ECO button is activated on the main HVAC page.

Setup: Set Week Program Page

Purpose: To set which one of three different programs which will run on a specific day.

Example: The RV is only used on Saturday and Sunday and is empty throughout the week.

Program 1 - Setup to turn on all three air conditioners at 70°F at 7:00 AM and 68°F at 9:00 PM (set on Saturday and Sunday)

Program 2 – Setup to run a single air conditioner at 85°F all the time (set on Monday - Friday)

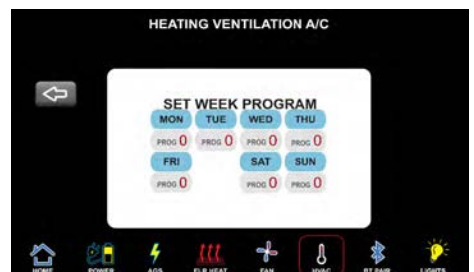
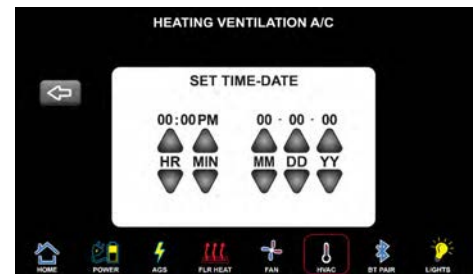
Each day of the week is set by pressing the program button below the day.

Mode Button Description

Note: Information was copied from the "Dometic Comfort Control 2" thermostat manual and specifications.

OFF — Off Mode

- Displays "OFF" mode in a zone.



COOL — Cool Mode

In COOL mode, the system will cycle the compressor ON and OFF based on the room air temperature and the room's temperature set-point on the LCD. When the system calls for cooling the first time, there will be a delay of approximately two minutes. During this delay, the hour glass icon will be displayed on the LCD. In auto fan, the fan will turn ON first followed by the compressor in approximately 15 seconds. After the first ON/OFF cycle the compressor/ fan will cycle ON without delay.

In COOL mode, there are four fan selections: LOW / MED / HIGH / AUTO.

- LOW / MED / HIGH: The fan operates continuously at the selected speed. The compressor only cycles ON and OFF.
- AUTO: When auto fan is selected, the fan speed will vary depending on the difference between the room's temperature set-point and the room temperature. In auto fan, the compressor and the fan will both cycle ON and OFF. The compressor shuts OFF first followed by the fan in approximately 15 seconds.

HEAT PUMP — Heat Pump Mode

In HP mode, the system will cycle the compressor ON and OFF based on the room air temperature and the temperature set-point on the LCD. When the system calls for heating the first time, there will be a delay of approximately two minutes. During this delay, the hour glass icon will be displayed on the LCD. In auto fan, the compressor will turn ON first followed by the fan in approximately 15 seconds. After the first ON/OFF cycle the compressor/ fan will cycle ON without delay.

In HP mode, there are four fan selections: LOW / MED / HIGH / AUTO.

- LOW / MED / HIGH: The fan operates continuously at the selected speed. The compressor only cycles ON and OFF.
- AUTO: When auto fan is selected, the fan speed will vary depending on the difference between the temperature set-point and the room temperature. In auto fan mode, the compressor and the fan will both cycle ON and OFF. The compressor shuts OFF first followed by the fan in approximately 15 seconds.

FAN — Fan Only Mode

In FAN mode, there are (4) fan speed selections:

- LOW / MED / HIGH: The fan operates continuously at LOW / MED / HIGH speed.
- AUTO: The fan will be OFF.

NOTE FROM NEWMAR

The HIGH / MED/ LOW / AUTO fan settings on the 10.1" Central Monitor Capacitive Touch Panel only control the fan on the air conditioner/heat pump unit(s). Each Oasis heating convactor has its own fan and is only ON or OFF; there is no speed adjustment on convactor fans. Convactor fans are automatically controlled through the Oasis zone control board. However, there may be additional switches in the bathroom and/or front dash area, enabling the user to manually turn off the fan when not desired.

FURNACE — Furnace or Aqua (Hydronic) Heating Mode

In the FURN / AQUA mode, the system will cycle the RV's furnace/aqua ON and OFF based on the room air temperature and the temperature set-point on the LCD.

In FURNACE mode, there are (4) fan speed selections:

- LOW / MED / HIGH. The fan operates continuously at LOW / MED / HIGH speed.
- AUTO: The fan is OFF.

AUTO — Auto Change Over Mode

In the AUTO mode, the system will automatically change the mode of operation from cool to heat or from heat to cool. In order for this mode to operate, the zone being programmed must contain either a heat pump, heat strip, or furnace heating source. When in the AUTO mode, all preprogrammed operations for the heat pump, heat strip, and furnace will apply.

Auto Change Over Cooling: If the room temperature rises above the temperature set-point by 2 °F / °C, the air conditioner will turn ON until the room temperature reaches the temperature set-point at which time the air conditioner will cycle OFF.

Auto Change Over Heating: If the room temperature goes below the temperature set-point by 2 °F / °C, the available heat source will be cycled ON until the room temperature reaches the temperature set point at which time it will cycle OFF.

If more than one heat source is available on this zone, the priority for selecting the heat source will be heat pump (first), and furnace (second).

AUTO FAN — All Modes

When “AUTO” fan is selected, the fan speed will vary depending on the difference between the temperature set-point and the room temperature. In “AUTO” fan, the compressor and fan will both cycle ON and OFF.

When the difference is:

- 8 °F / °C or more, the fan operates on HIGH.
- 5 to 7 °F / °C, the fan operates on MED.
- 4 °F / °C or less, the fan operates on LOW.

2025 KIB 5" LCD Capacitive Touch Panel Guide: HVAC

The HVAC icon on the KIB 5" LCD Capacitive Touch Panel displays the controls for the rooftop air conditioners, furnace or Oasis heating system, and provides access to the HVAC settings for the entire coach. This 5" vertical touch panel is only installed on coaches also equipped with a KIB 10.1" Central Monitor Capacitive Touch Panel. The same screens will also appear on the KIB Connected Solutions app once installed on a mobile device.

⚠ IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

Overview

HVAC is a control system interface to the RV's heating and cooling system, and:

- Controls the Dometic rooftop air conditioners
- Controls the furnace or Oasis heating system, which also serves as the water heater
- Allows Heat/Cool temperature setting within 55 to 90-degree range
- Contains the Oasis hydronic system burner, A/C electric element 1 and A/C electric element 2 ON/OFF switch buttons (only on coaches equipped with an Oasis hydronic heating system).
- Contains a Stool Room fan switch in the Oasis section (if coach is equipped with a stool room and Oasis)

The main screens of the HVAC are:

- **Now/Status Page:** The main page where adjustments and room temperatures are displayed.
- **Room Selection:** Controls one of the three roof AC units (some RVs only have two roof units).
- **Setup Page:** Opens the page to set up heating and cooling schedules.
- **Scheduling:** Used to set up temperature programs that can change two times a day with up to three different programs that can run on different days of the week.
- **Time Clock:** The HVAC controller is where the time of day is set and stored, there is a battery backup so even without power turned on the time of day is kept.



Now/Status Page

User Buttons and Icons

- **POWER:** Turns the HVAC system ON/OFF.
- **SETUP:** Page jump to the HVAC setup pages.
- **HOLD:** Forces the system to hold the current temperature setting, regardless of schedules.
- **ECO:** Allows the user to select up to a 10-degree offset to allow more or less temperature variance from setpoint to reduce the energy used by the HVAC system while away from the RV.



Room Selection

There are 1-3 rooms to choose from depending on the floor plan, including:

- **LVRM** — Selecting this will display the current "LIVING ROOM" settings.
- **KITCHEN** — Selecting this will display the current "KITCHEN" settings.
- **BDRM** — Selecting this will display the current "BEDROOM" settings.

Individual Room Settings

- **MODE** — Selects OFF, AUTO, COOL, HEAT PUMP, FURNACE, or FAN. Not all rooms have the FURNACE button.
- **FAN** — Selects AUTO, LOW, MED, OR HIGH.
- **TEMPERATURE** — Use UP/DOWN triangles to adjust room temperature set point.

Status Display

- **SET TEMPERATURE** — The target temperature for the room.
- **HOOR GLASS** — The system is waiting on the room's roof top compressor to run.
- **PROG O-RIDE** — The "DAY/NIGHT" settings are being overridden by "HOLD."
- **FIRE FLAME** — Indicates the furnace is turned on.
- **SNOWFLAKE** — Indicates the air conditioner compressor is turned on.
- **RED WAVES** — Indicates the heat pump compressor is turned on.

Setup Page

User Buttons

- **BACK ARROW** — Page jump back to the Now/Status page.
- **SET TIME** — Page jump to the time-of-day settings.
- **SET PROG** — Page jump to the scheduling program setup.
- **SET WEEK** — Page jump to set a weekly program if desired. Set which program to run on that specific day. Different days can run different programs.

Settings Buttons

- **RUN PROG** — Enables/disables the program settings to be observed or ignored.
- **WEEK PROG** — Enables/disables the week program settings to be observed or ignored.
- **AGS HVAC** — Enables/disables auto gen start to operate based on HVAC demand. Generator is only started when the RV has no shore power and only when the HVAC has a demand present.
- **°F/°C** — Allows choice of displaying temperatures in degrees Fahrenheit or Celsius.



Setup: Set Time Page

Use "HR" & "MIN" buttons to set the time of day. Use "MM," "DD," and "YY" buttons to set the month, day, and year.

Setup: Set PROG Page (DAY/NIGHT)

ARROW — Page jump back to the Setup page.

DAY — Displays the DAY setup for the room selected.

NIGHT — Displays the NIGHT setup for the room selected. On a per-room-basis, the DAY, NIGHT, TIME, TEMP, MODE, & FAN can be set up for a "RUN PROG" schedule. The individual room settings are changed to "DAY/NIGHT" setting the time of day is the same as the time set in the DAY/NIGHT program.

Example: DAY/LVRM program settings are 8:00 AM, MODE = COOL, FAN = AUTO, TEMP = 70°F. When the time of day is 8:00 AM on the LVRM "NOW/STATUS" page all settings will change to the for mentioned.

PROG Button — Assuming "Week Prog" is enabled from the "Setup Page," this button will cycle through one of three different program settings.

Important: This is done per DAY/NIGHT and per room. This is not to simply set up one DAY/NIGHT.

Example: Prog 1 requires all three rooms and their DAY/NIGHT to be set (6 different pages of settings). Prog 2 will be completely different setup pages.



Setup: Set ECO Page

Purpose: To save energy when leaving the RV by simply pushing a button when you leave and return.

Room Selection: Each room can be set for a different “SET ECO OFFSET”.

Example: The bedroom door is closed -- set the bedroom offset to “ECO O-RIDE” while setting the LVRM&KIT to 10°. In this situation, the bedroom will try to maintain the temperature while the LVRM&KIT changes by 10° to save energy.

Set ECO Offset: Value to offset temperature when ECO button is activated on main HVAC page. Example: If cooling and the ECO button is active, the room's temperature will increase by the offset value.

ECO O-RIDE: When activated, this zone will not use the ECO settings when the ECO button is activated on the main HVAC page.



Setup: Set Week Program Page

Purpose: To set which one of three different programs which will run on a specific day.

Example: The RV is only used on Saturday and Sunday and is empty throughout the week.

Program 1 - Setup to turn on all three air conditioners at 70°F at 7:00 AM and 68°F at 9:00 PM (set on Saturday and Sunday)

Program 2 – Setup to run a single air conditioner at 85°F all the time (set on Monday - Friday)

Each day of the week is set by pressing the program button below the day.

Mode Button Description

Note: Information was copied from the “Dometic Comfort Control 2” thermostat manual and specifications.

OFF — Off Mode

- Displays “OFF” mode in a zone.

COOL — Cool Mode

In COOL mode, the system will cycle the compressor ON and OFF based on the room air temperature and the room's temperature set-point on the LCD. When the system calls for cooling the first time, there will be a delay of approximately two minutes. During this delay, the hour glass icon will be displayed on the LCD. In auto fan, the fan will turn ON first followed by the compressor in approximately 15 seconds. After the first ON/OFF cycle the compressor/ fan will cycle ON without delay.

In COOL mode, there are four fan selections: LOW / MED / HIGH / AUTO.

- LOW / MED / HIGH: The fan operates continuously at the selected speed. The compressor only cycles ON and OFF.
- AUTO: When auto fan is selected, the fan speed will vary depending on the difference between the room's temperature set-point and the room temperature. In auto fan, the compressor and the fan will both cycle ON and OFF. The compressor shuts OFF first followed by the fan in approximately 15 seconds.

HEAT PUMP — Heat Pump Mode

In HP mode, the system will cycle the compressor ON and OFF based on the room air temperature and the temperature set-point on the LCD. When the system calls for heating the first time, there will be a delay of approximately two minutes. During this delay, the hour glass icon will be displayed on the LCD. In auto fan, the compressor will turn ON first followed by the fan in approximately 15 seconds. After the first ON/OFF cycle the compressor/ fan will cycle ON without delay.

In HP mode, there are four fan selections: LOW / MED / HIGH / AUTO.

- LOW / MED / HIGH: The fan operates continuously at the selected speed. The compressor only cycles ON and OFF.
- AUTO: When auto fan is selected, the fan speed will vary depending on the difference between the temperature set-point and the room temperature. In auto fan mode, the compressor and the fan will both cycle ON and OFF. The compressor shuts OFF first followed by the fan in approximately 15 seconds.

FAN — Fan Only Mode

In FAN mode, there are (4) fan speed selections:

- LOW / MED / HIGH: The fan operates continuously at LOW / MED / HIGH speed.
- AUTO: The fan will be OFF.

NOTE FROM NEWMAR

The HIGH / MED / LOW / AUTO fan settings on the 10.1" Central Monitor Capacitive Touch Panel only control the fan on the air conditioner/heat pump unit(s). Each Oasis heating convector has its own fan and is only ON or OFF; there is no speed adjustment on convector fans. Convector fans are automatically controlled through the Oasis zone control board. However, there may be additional switches in the bathroom and/or front dash area, enabling the user to manually turn off the fan when not desired.

FURNACE — Furnace or Aqua (Hydronic) Heating Mode

In the FURN / AQUA mode, the system will cycle the RV's furnace/aqua ON and OFF based on the room air temperature and the temperature set-point on the LCD.

In FURNACE mode, there are (4) fan speed selections:

- LOW / MED / HIGH. The fan operates continuously at LOW / MED / HIGH speed.
- AUTO: The fan is OFF.

AUTO — Auto Change Over Mode

In the AUTO mode, the system will automatically change the mode of operation from cool to heat or from heat to cool. In order for this mode to operate, the zone being programmed must contain either a heat pump, heat strip, or furnace heating source. When in the AUTO mode, all preprogrammed operations for the heat pump, heat strip, and furnace will apply.

Auto Change Over Cooling: If the room temperature rises above the temperature set-point by 2 °F / °C, the air conditioner will turn ON until the room temperature reaches the temperature set-point at which time the air conditioner will cycle OFF.

Auto Change Over Heating: If the room temperature goes below the temperature set-point by 2 °F / °C, the available heat source will be cycled ON until the room temperature reaches the temperature set point at which time it will cycle OFF.

If more than one heat source is available on this zone, the priority for selecting the heat source will be heat pump (first), and furnace (second).

AUTO FAN — All Modes

When "AUTO" fan is selected, the fan speed will vary depending on the difference between the temperature set-point and the room temperature. In "AUTO" fan, the compressor and fan will both cycle ON and OFF.

When the difference is:

- 8 °F / °C or more, the fan operates on HIGH.
- 5 to 7 °F / °C, the fan operates on MED.
- 4 °F / °C or less, the fan operates on LOW.



INTERIOR

This chapter provides information about the furniture, cabinetry, flooring, fabrics, window coverings, interior accessories, and finishing touches that turn your coach into a home.

⚠ IMPORTANT

Any of the following quick start instructions should not take the place of the complete documentation provided by the product manufacturer and/or Newmar. Additional operating instructions, troubleshooting, care and maintenance, safety information, etc. may be available in Newgle for specific components. Read all literature provided, paying special attention to any references to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

BEDS AND MATTRESSES

InnoMax Comfort Craft 2.0 Digital Air Mattress Quick Start (Model: Vista)

This article provides basic operation instructions for an InnoMax Comfort Craft 2.0 Digital Air Mattress (Model: Vista).

Wireless Digital Comfort Controls

Remote controls feature four functions inflate (firm), deflate (soft), select side (left/right) & memory.

NOTE FROM NEWMAR

The remote allows the user to select the left or right side of bed and adjust the firmness setting using the up and down arrows: the higher the number, the firmer the support. The user is also able to program their favorite firmness setting number into memory.

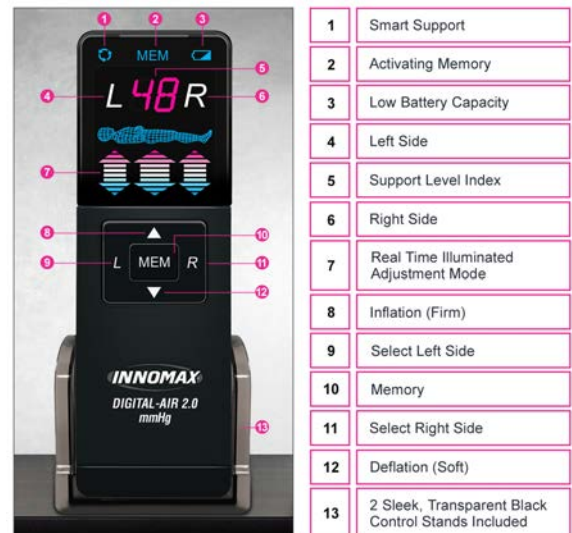
⚠ IMPORTANT

Only one control operates at a time.

Source(s): Digital Air Sleep System Assembly Instructions

Product(s): [Innomax Vista 8" Digital Air Bed Mattress \(Model: Vista\)](#)

Newmar Part Numbers: 166269, 166268, 166273, 166274)



Lippert EuroLoft™ Bed Lift Quick Start

This article provides basic operation instructions for a Lippert EuroLoft™ Bed Lift.

The EuroLoft™ Bed Lift distributed by Lippert Components, utilizes a unique nylon strap-based system, adaptable to a broad range of applications... The straps retract into the bed base, concealing the lifting system in the retracted position.



Safety Information

⚠ WARNING

Failure to act in accordance with the following instructions may result in death, serious injury or property damage.

⚠ CAUTION

Moving parts can pinch, crush or cut. Keep clear and use caution during assembly.

- Safety devices shall not be tampered with for any reason.
- It is strictly forbidden to be on the bed lifting system while it is being operated.
- Do not interfere with the bed lifting system while operated, neither with any objects or with hands.
- Before starting the vehicle engine and driving, always make sure the bed lifting system is in its highest position and the safety belts are fastened (excluding garage bed).

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- Do not operate the system improperly (e.g. with people on it).
- The bed lifting system shall only be used by adults and responsible staff.
- It is forbidden to use the bed lifting system while the vehicle is running.
- Do not move the bed lifting system if people or animals or items are around, under or on it.
- The bed lifting system must never be used while the vehicle is running.
- It is forbidden to start the bed lift system manually with disconnected wires from motor unit to control unit.
- Should the mechanism not work, do not use the bed and ask for assistance at the next service center.

Weight Capacity

Always install the bed lifting system taking into account the system maximum load. The bed unit, as a whole - Including bed lifting system, mattress, pillow, blankets, etc. - must not weigh more than 132 lbs. The bed lifting system can bear a total maximum weight of 800 lbs.

NOTE FROM NEWMAR

Newmar recommends a maximum load capacity of 500 lbs.



Operation

⚠ WARNING

Always make sure that the EuroLoft Bed Lift path is clear of people, pets and objects before and during operation. Always keep away from the slide rails when the bed is being operated.

Prior to Operating the EuroLoft Bed Lift System

⚠ WARNING

The bed lifting system must never be used while the vehicle is in motion.

Make sure the vehicle is parked, secured and stabilized before starting bed lift operations. Set the parking brake, if applicable.

NOTE FROM NEWMAR

Adjust and/or lower the driver and passenger seats to ensure the bed does not rest on top of the seat backs.

Lowering the Bed Lift

Make sure the safety belts are unfastened.

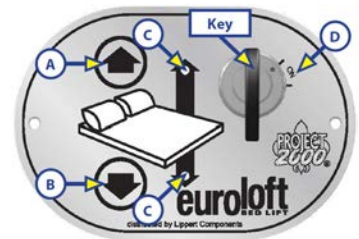
NOTE FROM NEWMAR

Newmar does not install any safety belts, as they are optional equipment not required by Lippert Components. Skip step one and proceed to step two.

Turn the key switch to the ON position (D) located on the key pad. Press and hold the DOWN arrow-shaped button (B) on the key pad. A green LED light (C) on the key pad will turn on in the direction the bed is moving. The bed will keep moving until it reaches the pre-set stop position.

NOTE: The bed will stop moving when the button is released. Continue to press and hold the button until the stop position has been reached.

Release the DOWN arrow-shaped button. Turn the key to the OFF position.



Raising the Bed Lift

Turn the key switch to the ON position (D) located on the key pad. Press and hold the UP arrow-shaped switch (A) on the key pad. A green LED light (Fig. 1C) on the key pad will turn on in the direction the bed is moving. The bed lift will keep moving until it reaches the pre-set stop position.

NOTE: The bed will stop moving when the button is released. Continue to press and hold the button until the stop position has been reached.

Release the UP arrow-shaped button. Make sure safety belts are fastened. Turn the key to the OFF position.

NOTE FROM NEWMAR

Newmar does not install any safety belts, as they are optional equipment not required by Lippert Components. Skip step four and proceed to step five.

⚠ WARNING

Bed lifting systems may cause death, serious injury or property damage if improperly used. When operating the bed lifting system, clear operation area of obstructions. Do not reach into the bed lifting system components while the system is being operated.

Manual Override**⚠ WARNING**

Always disconnect from power source before performing any operation on the bed lifting system.

To raise or lower the bed lift in case of emergency, it is possible to operate the system manually.

NOTE FROM NEWMAR

Remove the plastic cover on the bottom side of the bed above the driver's seat. Insert a 1/4" Hex Allen wrench or Allen bit socket and ratchet.

Turn clockwise to raise or counterclockwise to lower the bed. Have the bed lift serviced by an OEM-authorized dealer as soon as possible. Do not operate the bed lift until service is complete, as damage to the bed lift system may result.

**Maintenance**

The EuroLoft Bed Lift system has been designed to require very little maintenance. To ensure the long life of your EuroLoft Bed Lift system, read and follow these few simple procedures:

When the bed is raised, visually inspect the slide rail assemblies. Check for excess buildup of dirt or other foreign material. Remove any debris that may be present.

If the system squeaks or makes any noises, blow out any debris from the drive shaft and apply a dry lubricant to prevent and/or stop squeaking.

Source(s): Lippert Components (ECI) EuroLoft™ Bed Lift Owner's Manual (Rev 09.11.20)

Product(s): Lippert EuroLoft™ Bed Lift (Model: EuroLoft™, Newmar Part Number: 161856)

CABINETRY AND WOODWORK**Cabinetry and Woodwork Care and Maintenance**

This article provides an overview of the cabinetry and woodwork in a coach.

Newmar's exquisitely crafted cabinetry newly gleams with chrome-finished hardware, the perfect complement to the array of appliances that make cooking and clean-up a breeze. Amish craftsmanship and elegance in design meld the wood cabinetry and furniture seamlessly with the Newmar interior. All Newmar cabinetry is custom built in our facility and designed with function and convenience in mind, as well as to provide as much storage as possible in your coach.

Construction

All joints on Newmar hardwood cabinets are glued, and then screwed together for extra durability. Hardwood raised panel cabinet doors are standard throughout the coach.

Depending on your coach model, you may have hardwood cabinets or vinyl veneer finished cabinets. A variety of vinyl veneer and stain finishes are available for the cabinetry. A hand-sanded finish helps minimize seams so your hardwood cabinetry is as beautiful as it is durable.

Metal drawer guides provide a smooth opening and closing of the drawers in your coach. To open a drawer, lift up slightly and pull open. This features helps prevent the drawers from opening during transit. Your unit may also include features such as adjustable pull out pantry boxes in the kitchen, soft-close drawers, or a molded silverware divider tray for added storage.

NOTICE

This vehicle is TSCA TITLE VI COMPLIANT and contains composite wood products that comply with the applicable California Code of Regulations Section 93120.2(a) Phase 2 (P2) formaldehyde emission standards specified on the above date of manufacture.

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NOTICE

This vehicle is TSCA TITLE VI COMPLIANT (conforme au titre VI de la TSCA) and contains composite wood products that comply with the applicable California Code of Regulations Section 93120.2(a) Phase 2 (P2) formaldehyde emission standards specified on the above date of manufacture.

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Humidity and Climate Change

Controlling the coach environment is the first priority of cabinet care and maintenance. Wood products shrink and grow according to the environment in which they are placed. These changes are in direct relationship to the relative humidity levels. As the humidity increases, the wood expands, and as the humidity decreases, the wood shrinks. This process does not happen instantaneously the longer the wood is exposed to low humidity, the more it will shrink as it dries out, and visa versa.

Coach owners who travel around the country may be more prone to this issue, as their coach is exposed to both extreme humidity and extreme dryness. It is necessary to acknowledge the fact that wood changes according its environment. Newmar recommends maintaining relative humidity levels between the range of 35-50 percent and temperature levels between the range of 40-90 degrees. The air conditioner or a dehumidifier will reduce the humidity level; however in dry climates, a humidifier may also aid in maintaining the appropriate humidity levels by raising the humidity level.

The labels included in this article are examples of the notices that may be posted in the coach in regards to condensation prevention and formaldehyde exposure.

Care and Maintenance

The cabinetry should be wiped down with furniture polish to sustain the natural beauty and luster of the wood.

⚠ NOTICE

Hardwoods may change color or darken when exposed to sunlight. It is important that the window shades be down during long periods of storage. Changing shades of color, or discoloration, from exposure to sunlight is not a warrantable repair, as it is the nature of the hardwood products in your coach.

⚠ IMPORTANT

As with any wood product, do not saturate these cabinets with water or any other liquid. Be sure to wipe up spills as they occur to avoid staining.

Kitchen Cabinet Extensions and Peninsulas Overview

This article provides basic information about kitchen extensions and peninsulas.

Stationary Peninsulas

The stationary peninsula provides additional storage and countertop space. The kitchen slideout extends and retracts around the peninsula while it stays in place.

⚠ IMPORTANT

Make sure the countertop is clear of obstructions or debris in the path of the slideout before extending or retracting the slideout. Do not allow any objects to fall between the peninsula and the slideout, as they may cause damage.

Pull-Out Cabinet Extensions

The cabinet “extension” is incorporated directly into the kitchen cabinetry, and glides out on drawer guides to provide additional counter space when needed.

Most 2017 and newer coaches are equipped with a counter extension and an electric latch release. To extend the counter:

1. Turn on the coach battery disconnect.
2. Extend the slideout.
3. Press the button right above the pull-out island (between the counter extension and the main countertop) to release the island extension.
4. Pull out on the extension until the magnetic catches engage.

To retract the counter, push in the extension until it latches.

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NOTICE

This vehicle is designed as a Recreational Vehicle.

When used for an extended period of time, while furnace heating is required, sweating and condensation conditions may occur.

The following precautions should be taken to minimize these conditions:

- (1) Use range hood when cooking.
- (2) Use the bathroom power vent when bathing or showering.
- (3) Open windows slightly for ventilation whenever possible.
- (4) Use dehumidifier to keep humidity as low as possible.

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IMPORTANT NOTICE

Certain of our forest product suppliers have advised that urea-formaldehyde is used in the production of particle board, hardwood plywood or paneling which they supply us and which we utilize in our finish product. These suppliers have requested that we communicate this to our customers.

For your information, we are reproducing samples of statements which have been provided to us by our suppliers.

WARNING: THIS PRODUCT CONTAINS A UREA-FORMALDEHYDE RESIN AND MAY RELEASE FORMALDEHYDE VAPORS IN LOW CONCENTRATIONS. FORMALDEHYDE CAN BE IRRITATING TO THE EYES AND UPPER RESPIRATORY SYSTEM OF ESPECIALLY SUSCEPTIBLE PERSONS SUCH AS THOSE WITH ALLERGIES OR RESPIRATORY AILMENTS. PROPER VENTILATION SHOULD REDUCE THE RISK OF SUCH PROBLEMS. IF SYMPTOMS DEVELOP, CONSULT YOUR PHYSICIAN.

Adams, Inc.

WARNING: IRRITANT: THIS PRODUCT CONTAINS A UREA-FORMALDEHYDE RESIN AND MAY RELEASE FORMALDEHYDE VAPORS IN LOW CONCENTRATIONS. FORMALDEHYDE CAN BE IRRITATING TO THE EYES AND UPPER RESPIRATORY SYSTEM OF ESPECIALLY SUSCEPTIBLE PERSONS SUCH AS THOSE WITH ALLERGIES OR RESPIRATORY AILMENTS. PROPER VENTILATION SHOULD REDUCE THE RISK OF SUCH PROBLEMS. IF SYMPTOMS DEVELOP, CONSULT YOUR PHYSICIAN.

Woodbridge, Inc.

WARNING: THIS PRODUCT CONTAINS A UREA-FORMALDEHYDE RESIN AND MAY RELEASE FORMALDEHYDE VAPORS IN LOW CONCENTRATIONS. FORMALDEHYDE VAPOR MAY, IN SOME PEOPLE, CAUSE HEADACHES, EYE, NOSE, AND THROAT IRRITATION AND AGGRAVATION OF ALLERGIES AND RESPIRATORY PROBLEMS, SUCH AS ASTHMA. PROPER VENTILATION SHOULD REDUCE THE RISK OF SUCH PROBLEMS.

Robert Wood Plywood Corp

Ventilation is important in maintaining a comfortable environment and we direct your attention to the discussion of ventilation contained in your Owner's Manual.



CEILING AND WALLS

Ceiling and Walls Care and Maintenance

The ceiling in your coach may be covered with a padded vinyl ceiling headliner and should be cleaned periodically to maintain a new appearance. Use a non-abrasive cleaner with a soft cloth. Do not use solvents of any kind, as they may damage the surface.

The decorative wall coverings can easily be maintained and are not much different from wallpaper and should be cleaned with a solution of mild soap and water or a non-abrasive cleaner with a soft cloth.

CAUTION

For stubborn spots, test any cleaner on a area that is hidden, as some cleaners may fade or discolor the wall covering. Do not use solvents of any kind, as they may damage the surface.

COUNTERTOPS AND BACKSPLASHES

Solid Surface Countertop and Backsplash Care and Maintenance

This article provides proper care and maintenance instructions for solid surface countertops and backsplashes. No special cleaning products are necessary; however, the countertops and backsplashes can be damaged if they are not cared for properly.

Cleaning

The solid surface composite countertops are non-porous, so most dirt and liquids sit on the surface and can easily be cleaned with a soap or mild detergent.

IMPORTANT

Avoid using window cleaners that may leave a waxy build-up that dulls the surface.

Wipe up spills as soon as they occur. Film can also build up on the countertop if water is left to dry, making it appear blotchy and uneven. Always wipe the countertop completely dry with a soft cloth after spills and cleaning.

Spray the surfaces with a hard-surface cleaner, and leave it for a few minutes before wiping clean with a damp cloth. Strong chemicals and solvents may damage the surface and should be wiped up immediately, then rinsed with water.

Avoiding Damage

Heat

The solid surface countertops can be damaged with excessive heat or the use of harsh chemicals. Never put hot pans directly on the counter or in the sink. Avoid pouring hot liquids directly into a solid surface sink; run cold water while pouring hot liquid into the sink to avoid damage. If possible, allow the pan or pot to cool first.

Use caution when using heated appliances, such as crock-pots, electric frying pans, toaster ovens, etc. When possible, never use these appliances directly on the countertop.

IMPORTANT

Always use a heat pad or trivet to protect the surface from heat that may mar or damage the surface.

Scratches

Try not to cut or chop food directly on the countertop, as you can score and scratch it. Slight abrasion marks may occur during normal daily use; cleaning regularly will ensure the durability and longevity of the countertops. Darker and heavily pigmented colors may show wear and tear more readily, and may require additional or more frequent maintenance.

IMPORTANT

Always use a cutting board when cutting or chopping. Never cut or chop food directly on the countertop.

Some deep scratches can be sanded out, and defects in solid surface countertops can be repaired, by trained professionals.

Chemical Spills

Strong acids and cleaners may discolor the surfaces and should be wiped up immediately and cleaned with soapy water to prevent damage to the surface. Prolonged exposure may require professional repair or replacement.

Countertop Extension Operation

This article provides an operational overview of the countertop extension.

To raise the countertop extension leaf: Lift up on the extension. Pull down on the support bracket to latch each support.

To lower and store the countertop extension leaf: Lift up on the extension to take the pressure off of the support brackets. Fold the support brackets. Lower the extension until it is completely folded down.



FABRICS AND MATERIALS

Dash Material Maintenance

This article provides suggested maintenance instructions for the dash material. In order to keep the dash in like-new condition, follow these guidelines:

Do—

- Dust and clean the dash with a soft, damp cloth, or chamois, wiping the surface gently.
- Use a mild detergent and lukewarm water.
- Dry the surface, after washing and rinsing, by blotting with a damp cloth or chamois.

Do Not—

- Use harsh chemicals that may damage the dash.
- Use cloths containing grit or abrasive particles or kitchen scouring compounds to clean or dust the dash.
- Subject the dash to hard, direct blows.
- Use boiling water or strong solvents to clean the dash, as they will soften the plastic.

Fabrics and Materials Care and Maintenance

This article provides care and maintenance recommendations for the fabrics and materials installed in a Newmar coach.

⚠ IMPORTANT

The fading of upholstery, carpet, and other interior fabrics can be caused by excessive sunlight. The drapes, blinds, or shades should be kept closed if the coach will be parked for an extended period of time to minimize fading. Normal deterioration due to wear and/or exposure to sunlight is not covered by the Newmar Limited Warranty.

The fabrics used in your coach may contain fire-retardant additives that may be damaged by use of improper cleaning products. Cleaning instructions for these items are DRY CLEAN ONLY. Water-based products are not recommended for cleaning the fabrics in your new unit. Most water-based household cleaning products are not formulated for use on these fabrics and may cause excessive shrinkage or fading. For best results, the fabrics in this unit should be cleaned by a professional carpet and upholstery cleaner.

Spills, spots, or stains should be treated as soon as possible to avoid permanent damage. If a spill occurs, blot the fluid with a dry towel. Do not rub the spill. Rubbing may cause the liquid to “set” in the fabric. When attempting to clean a spot or stain, always start from the outside and work inward to avoid spreading it further.

⚠ IMPORTANT

Some stains or soils are extremely difficult or impossible to remove completely. These should receive immediate, professional attention. Spills, spots, stains, or soils are the responsibility of the owner and are not covered by the Newmar Limited Warranty.

⚠ WARNING

When cleaning the upholstery and fabric in the unit, do not use lacquer thinner, nail polish remover, laundry soaps, or bleach. Never use carbon tetrachloride or gasoline for cleaning purposes. These items may cause damage to the materials being cleaned, and most are highly flammable.

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FLOORING

Carpet Care and Maintenance

This article provides care and maintenance recommendations for carpets. The installed carpeting is made of synthetic materials, mostly nylon fiber, and is easy to maintain.

IMPORTANT

In carpet areas that receive the most sunlight, close the curtains, blinds, or shades to prevent fading.

Vacuum regularly to remove dirt, dust, lint, and other abrasive grit. Water-based spills and spots should be soaked up and removed immediately with a damp cloth. Grease or oil-based stains and spots should be spot-cleaned with a commercial spot cleaner intended for this purpose.

IMPORTANT

Act quickly to clean up when anything is spilled or dropped on the carpet.

When complete shampooing is desired or necessary, it is best to have it done by a professional carpet cleaner. Wait for the carpeting to dry thoroughly before walking on it.

IMPORTANT

Do not soak or water-log your carpeting.

IMPORTANT

Slideout rollers may leave indentations in the flooring. This condition is normal and does NOT warrant flooring replacement.

Vinyl Flooring Care and Maintenance

This article provides care and maintenance recommendations for vinyl flooring, which is placed with the highest level of care.

For routine cleaning, sweep or vacuum regularly. Then, use a damp mop with warm water to clean a small area at a time. Rinse the mop frequently as to not redistribute the picked up dirt. If washing is needed, use a product designed for no-wax flooring.

IMPORTANT

Do not use solvent-based waxes or polishes, as damage to the flooring may result.

IMPORTANT

Slideout rollers may leave indentations in the flooring. This condition is normal and does NOT warrant flooring replacement.

INTERIOR DOORS AND HARDWARE

Interior Doors and Hardware Overview

The interior doors add to the beauty and privacy of your coach. Newmar installs a variety of functional doors from the basic hinged-swinging door, recessed hardwood pocket doors, and even pivoting doors on select floorplans. Each interior door is designed to fit and function for trouble-free operation.

IMPORTANT

Always secure all interior doors prior to travel to prevent damage to the doors and any surrounding objects.

INTERIOR FURNISHINGS AND FURNITURE

Interior Furnishings Overview

Interior furnishings such as clocks, artwork, and other decorations help make your coach feel like home. Other furnishings may be installed to provide the essentials and the amenities for your convenience while traveling.

Most pictures, clocks, and wall art installed at the factory have a hanger at the top and Velcro at or near the bottom. There may also be Velcro on the sides. To remove the picture or wall art, pull the Velcro loose at the bottom and sides, and then remove it from the hanging device. Some decorations without a frame may have exposed screws that may be difficult to find. For this type of decor, locate the screws, and remove them.



Furniture Overview

This article provides an overview of the furniture available in coaches.

Covered in coordinating fabrics and accented with pillows, a variety of furniture is available in your coach depending on the coach model and floorplan, as well as the options that were ordered. Options may include recliners, theater seating, sofa beds, dinettes, and booths.

Your furniture is designed with function and style in mind. Many of the furniture pieces are multi-functional and may recline, turn into sleeping areas, open to access hidden storage areas, etc. Any furniture with seatbelts installed from the factory has been tested and is intended only to be used in the seating position when the slideouts are in the retracted position for travel.

⚠ WARNING

Do not attempt to use recliners, theater seating, or any furniture that opens or reclines and changes from the basic seating position unless the coach is in the set-up position (i.e., parked and with the slides open). Otherwise, occupants may become injured, and furniture and surrounding items may become damaged.

Driver and Passenger Seat Overview

This article provides an overview of driver and passenger chairs installed on a Newmar coach.

⚠ IMPORTANT

This article is intended to provide a basic overview of the driver and passenger seats and is NOT all-inclusive of available features on any one particular seat. Chair manufacturers, styles, and features vary by coach. Seat features may be controlled via rocker or joystick-style switches, levers, knobs, or buttons. For additional information about driver and passenger seat operation, refer to Newgle.

The fabric and color of the chairs is based upon the décor package selected at the time of production. The driver and passenger seats may be standard or wide-width and are covered in vinyl or leather. Some coach models feature branded seats with the logo of the coach model. Other variations may include notched arms and/or skirt panels. The seats have a three-point seat belt, which may be integrated into the seat. Some seats may also be operated via a remote control with additional features.

Standard and Optional Features of Driver and Passenger Chairs

Adjustable Base: Chairs may have a powered or manual adjustable base. Powered driver and passenger front seats are mounted on power pedestals that offer a wide range of adjustments. A multiple axis switch typically moves the seat horizontally and vertically, a rocker switch tilts the front of the seat up and down, and another switch often controls the tilt of the rear of the seat base. Additional switches or knobs, depending on the coach year and model, control the recline angle of the seat back.

⚠ WARNING

Be sure that driver's seat is in the forward position before activating the slide out room.

NI-043

Swivel: When the coach is not in motion, some seats may have the option to swivel (turn around) to face the living room of the coach via a release lever on the pedestal. Before turning the chairs, follow this procedure:

- First extend the slideout room.
- Tilt the steering wheel up and toward the dash.
- Position the armrest to provide maximum clearance.
- Straighten the seat back.
- Move the seat forward or backward to provide enough clearance for the steering wheel. Additional adjustments may be necessary during this process.

Once these steps are completed, the chairs will swivel without interference.

Adjustable Lumbar Support: Some driver and passenger seats may be equipped with lumbar support in the lower back region of the seat. The power lumbar control switch is located on the side of the seat and can be used to adjust the lumbar portion of the seat. This setting determines the amount of pressure applied to the user's lower back.

Foot Rest: Some driver and/or passenger seats feature a manual or power footrest. If equipped, powered footrests may be extended or retracted via a control switch located on the seat.

Adjustable Arms: Some driver and passenger seats have adjustable arms that can be raised or lowered based on the user's preference. These can often be adjusted via a lever located on the armrest. Some armrests automatically move when adjustments are made to the angle of the seat back.

Power Adjustable Headrest: Select seats may have an adjustable headrest and operate using a switch located on the seat base or remote control.

Heated Seats: Some seats may feature heat, which can be controlled via remote control (if equipped) or a switch located on the base of the seat. This switch is often red in color and/or has a graphic with upward-moving "heat rays." Seats equipped with a remote control have adjustable heat settings.

Cooled Seats: Select seats may have adjustable cooling settings via a control switch located on the seat base or remote control.

Seat Memory: Select coaches may be equipped with a memory package that allows you to set and store up different combinations of seat, steering wheel, pedal, and exterior rear-view mirror positions for up to three drivers. For more information about the driver control memory system, refer to Newgle.

Massage: Select seats equipped with a remote control may have various massage modes and intensity settings.

Haptic Feedback: This feature is used on coaches with a Mobileye lane departure warning system. The seat will vibrate to notify the driver if the coach leaves the intended lane.

Troubleshooting

If you experience issues with your power seats, please refer to the Fuse Panel portion of Newgle. Select your coach year, model, and floor plan to view the appropriate fuse location diagrams. These will often prove to be helpful when locating your fuse panels, positions, and ratings. If all fuses are good, check under the seat for any loose or damaged wiring. If additional troubleshooting is required, take the coach to an authorized service center or dealer. Contact Newmar Customer Service for service locator assistance.

INTERIOR STEPS AND STEP COVERS

Interior Steps, Cover, Lighting, and Storage Overview

This article provides basic information about the interior steps, step covers, step well lighting, and step well storage.

Step Well Lighting

Some coaches may also have a switch that operates the step well lighting, and others may have step well lights that turn on with the patio light switch.

⚠ CAUTION

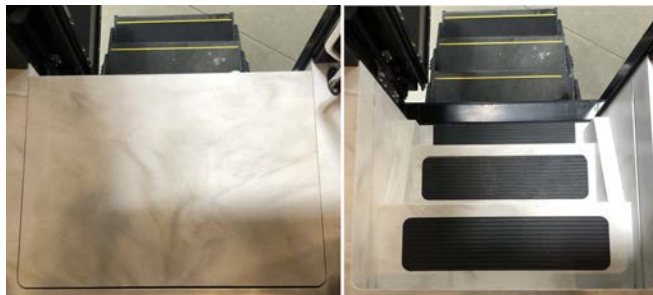
For safety purposes, keep your steps clear of debris and other personal objects.



Step Cover

The step cover switch operates the front or mid-entry step cover installed on select coach models. When extended, it covers the steps to prevent falls, allows you to freely walk inside the coach when parked, and provides extra surface area for the passenger's feet during transit (front entry coaches only).

On select coaches, the switch for the interior step cover is located either on the side of the passenger console, on the dash console near the center, or near the mid-entry step well. Press the switch forward to extend the step cover to make it level with the coach floor. Press the switch backward to lower and retract the cover in the stored position.



Stepwell Storage

Select coaches are equipped with step treads that can be lifted for additional storage.

⚠ CAUTION

Make sure all stored contents fit entirely inside of the step box. Raised step treads or loose items in the stepwell can create a trip or fall hazard.



SHADES AND WINDOW COVERINGS

Manual Day and Night Shade Operation

This article provides basic operation instructions for manual day and night shades.

⚠ CAUTION

When lowering the day or night shades, be careful not to overextend by pulling them down too far. Overextension may require shade service and/or replacement.



Day Shades

The first section visible when closing the shade is the “DAY” section. This material is translucent. Sunlight passes easily through the material into the unit while allowing a degree of privacy.

To lower the day shade: Grasp the shade near the center, and gently pull it down to the desired position. Release it slowly and gently to maintain the desired position.

To raise the day shade: Quickly pull down the shade and gently release it, allowing it to retract. If necessary, hold on to the bottom to control the speed of the retraction.

Night Shades

The second visible section is the “NIGHT” section. This material is a heavier, more opaque material. Very little to no light passes through it, so these shades are generally used in the evening or when more privacy is desired, though under certain light conditions, it can cast shadows and silhouettes.

To lower the night shade: Grasp the shade near the center, and gently pull it down to the desired position. Release it slowly and gently to maintain the desired position.

To raise the night shade: Quickly pull down the shade and gently release it, allowing it to retract. If necessary, hold on to the bottom to control the speed of the retraction.

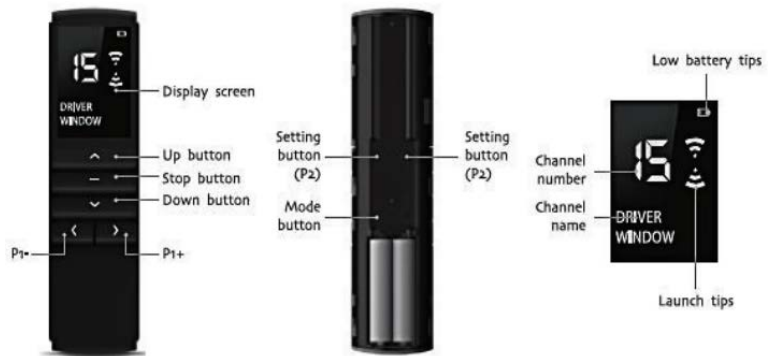
MCD Powered Shade Operation via 15-Channel Remote

This article provides basic operation instructions for a MCD Shade via a 15-Channel Remote.

To select which shade(s) to operate, use the side arrows to scroll through the selections as they appear on the LCD screen. Once the chosen shade is selected, use the up or down arrows to perform the desired operation.

To stop the shade movement mid-travel, use the “minus” button between the up and down arrows. This will send a command to stop the selected shade operation, regardless of the direction of travel.

The living room and bedroom remotes both operate in the same manner. Depending on the coach floorplan, the channel names may change, and some channels may be extra and may not be named.



Living Room Channel Example:

0 = All Shades	8 = Driver Side Front Slideout Night Shades
1 = All Day Shades	9 = Dining Day Shades
2 = All Night Shades	10 = Dining Night Shades
3 = Driver Night Shade	11 = Chair Day Shades
4 = Passenger Night Shade	12 = Chair Night Shades
5 = Passenger Sofa Day Shade	13 = Kitchen Day Shades
6 = Passenger Sofa Night Shade	14 = Kitchen Night Shades
7 = Driver Side Front Slideout Day Shades	15 = Not Archived

Remote Battery Replacement

To replace the battery in an MCD 15-channel remote, slide the wall mount straight up and off of the remote. If mounted, slide the remote down and off of the mount. Slide the back panel of the remote down about 1/8" (as far down as it can go). Pull out on the back panel to remove it from the remote.

Before you remove the dead batteries, take a look at how they are placed so you know how to put the new batteries in correctly. Most battery compartments in remotes use a plus sign (+) to indicate where the positive end of the battery should go.

Replace the batteries. It is best to replace both batteries. If one defective battery is replaced, while leaving another weak or defective battery, lowered performance, or ultimately damaging the new or good batteries, may result. Reinstall the cover by placing it on the back of the remote and sliding it upward into place. To remount the remote, slide it back up into the wall mount.



Power Windshield Shade Operation

This article provides basic operation instructions for a Power Windshield Shade.

IMPORTANT

Do not manually pull down on the power shades, as damage may result.



Visor / Shade (Day Shade)

The Visor switch is located on the dash and adjusts the windshield screen up or down. When the ignition switch is turned on it limits the visor travel to approximately 1/2 way down and with the key off it travels all the way down to the dash. The screen will travel up until it reaches the stop setting.

Front Privacy Drape / Shade (Night Shade)

Press the UP or DOWN button for the appropriate shade. Switches may be labeled "Front Privacy Drape" or "Shade." Switch-operated shades require the switch to be held until the shade either reaches its limit or the desired intermediate position (the shade can be stopped at any point by simply releasing the switch).

The switch labeled "Front Privacy Drape" or "Shade" is located in the overhead cabinet or on the dash and adjusts the windshield shade up or down.

1. With the ignition on, press and hold the switch in the down direction to extend the drape to the ignition stop set limit, which is approximately half-way. This is to allow the driver to see out the window.
2. With the ignition off, press and hold the switch in the down position to extend the drape until it reaches the "down" stop set limit.
3. With the ignition on or off, press and hold the switch in the up position to retract the drape until it reaches the "up" stop set limit.
4. Release the switch during travel to stop the drape extension or retraction between the "up" and "down" stop set limits.



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PLUMBING

This chapter provides detailed information about the coach's fresh and waste water system and all of the related components: faucets and fixtures, filters, sinks and showers, toilets, and much more.

⚠ IMPORTANT

Any of the following quick start instructions should not take the place of the complete documentation provided by the product manufacturer and/or Newmar. Additional operating instructions, troubleshooting, care and maintenance, safety information, etc. may be available in Newgle for specific components. Read all literature provided, paying special attention to any references to the following terms throughout Newgle and the Owner's Guide: Danger, Warning, Caution, Important, Notice, and Note From Newmar. These terms indicate important information that must be understood and followed.

⚠ CAUTION

Read and understand all operating instructions for the plumbing system before using your coach. Failure to connect and operate the system correctly may result in damage not covered by the Newmar Limited Warranty.

WATER COMPARTMENT OVERVIEW

2025 Northern Star Water Compartment Overview

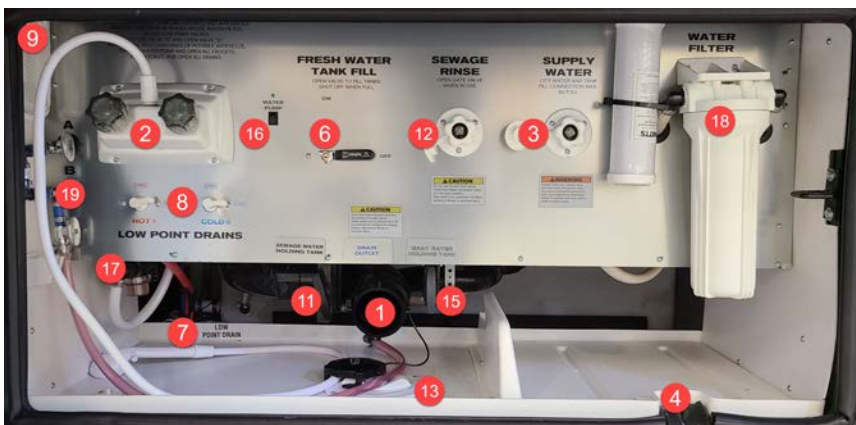
This article provides a general breakdown of the components installed in a 2025 Northern Star water compartment.

Overview

The water compartment in the coach typically contains the tanks and most of the controls for the plumbing system. It is usually located on the driver side of the coach immediately in front of the rear wheels, as it is isolated from other compartments and is heated and insulated. The water compartment contains parts of both the fresh and waste water systems.

Water Pressure Requirements: Ease of operation was the key element in the design of the water compartment and plumbing systems. The fresh water system in your coach is designed to operate at a maximum of 60 PSI.

Water pressure levels above this level can damage the fresh water plumbing. If the water pressure ever surpasses 60 PSI, a pressure regulator must be installed to reduce the incoming pressure, or fill the fresh water tank and use the internal water pump to supply water to your coach.



Example of a Water Compartment and Component Definitions

⚠ IMPORTANT

The following information is generic for the 2025 Northern Star. Components installed may vary by floorplan or optional equipment. Some plumbing components may be located in other compartment(s) and may not be mentioned in this article or labeled in the graphic.

(1) Drain Outlet and Cover: The drain outlet is used to attach a 4" sewer hose, and the drain cover is used to prevent leakage of waste material. Make sure the drain cover is securely installed on the drain outlet unless actively dumping the tanks via a 4" sewer hose.

(2) Exterior Shower: An exterior shower faucet with a wand can be used to rinse off shoes and/or feet, bathe a pet, wash your hands, or rinse off the sewer hose after dumping the waste water tanks. When finished using the exterior shower, shut off both the hot and cold valves. Do not simply shut off the valve on the shower head itself, as it may cause hot and cold water to mix at the exterior shower and could allow drastic changes in water temperature throughout the coach.

(3) Fresh (City) Water Connection via Hose: This potable water connection is used in conjunction with the Fresh Water Fill Valve for a number of purposes, including pressurizing the plumbing in the coach and filling the fresh water tank. Connect the coach to the water source via a potable hose and the city water connection.

(4) Fresh Water Hose Channel: This channel prevents the compartment door from crushing the potable water hose when the door is closed.

(5) Fresh Water Tank (Not Shown): This tank is used to hold fresh potable water for use throughout the water system and is usually located on the floor of the water compartment; however, some coach floorplans may be equipped with a water tank located in another compartment. The fresh water tank is filled from the city water connection with a hose or hose reel via the fresh water tank fill valve or auto fill system. This tank may be located behind a panel, cover, or the macerator and may not be visible from the outside.

(6) Fresh Water Tank Fill Valve: The rotating fresh water tank fill valve is used to pressurize the fresh water system in your coach, as well as to fill the fresh water tank when the coach is connected to city water. With pressurized water supply connected, simply rotate the valve to the desired position:

- Manual fill position fills the fresh water tank when connected to a pressurized water source
- Auto fill position supplies pressurized water to the coach on demand from the city water connection and, if the auto fill function is enabled on the coach's tank monitoring system (i.e. Silverleaf, KIB, or Digi-Level), fills the fresh water tank to match the auto fill settings.

(7) Fresh Water Tank Low Point Drain: The fresh water tank low point drain is used to empty the fresh water tank. Open the low point drain valve to drain the fresh water tank, and close the low point drain valve when filling the fresh water tank or storing fresh water in the tank. This low point drain is located near the fresh water tank and may be difficult to see from the outside. It is often located just behind the lip of the white drain pan when the fresh water holding tank is located in the main water compartment. When the fresh water holding tank is located outside of the main water compartment, the fresh water tank low point drain is typically near it.

(8) Hot and Cold Low Point Drains: Typically the coach has one hot water low point drain and one cold water low point drain, which are used to empty the water lines. Open the valves to relieve water pressure and drain the water lines. Close the valves for normal operation of the pressurized water system.

(9) LED Pancake Light: Some lights in the compartment have built-in switches on the light housing to turn the light on and off. Other lights are operated automatically via a plunger switch that activates the lights when the compartment door is opened.

(10) Sewage (Black) Tank (Not Shown): The black tank is generally for sewage waste from the stool. It is typically located between the frame rails in the water compartment. This tank may be located behind a panel or cover and may not be visible from the outside.

(11) Sewage (Black) Tank Dump Gate Valve with T-Handle: In conjunction with the sewage holding tank, the sewage tank dump valve provides adequate and safe storage and/or controls the disposal of waste materials. Open the black tank gate valve all the way by pulling on the T-handle. The tank will start to drain to the macerator or drain outlet as soon as the T-handle is pulled. The 4" drain line or macerator hose should be used to direct waste to the dump station for proper disposal.

(12) Sewage (Black) Tank Rinse Connection: When draining your sewer tank, attach a water hose to the sewage tank rinse connection. After the tank is drained, leave the gate valve open, and open the water valve to the attached hose, allowing water to spray inside the sewage tank for several minutes to flush and rinse the tank.

(13) Sewer Hose Hatch (Access Port): The sewer hose hatch is a removable cover that allows the sewer hose or the small macerator hose to exit through the compartment floor in order to connect to a proper dump station. This allows the compartment baggage door to close without hindrance from the hose. The cover may be threaded or clipped.

Note: When routing the sewer or macerator hose through the hatch, do not place on or near the Oasis, generator, or engine exhaust pipes. Otherwise, damage may occur.

(14) Waste (Gray) Water Tank (Not Shown): The gray water holding tank is typically located in the underbelly of the coach, sometimes on top of the fresh water tank. It is primarily used for the drainage from the kitchen and bath sinks, shower, and the washing machine (if equipped). This tank may be located behind a panel or cover and may not be visible from the outside.

(15) Waste (Gray) Water Tank Dump Gate Valve with T-Handle: In conjunction with the gray (waste) water holding tank, the gray (waste) tank dump valve provides adequate and safe storage and/or controls the disposal of waste water. Open the gray (waste) gate valve all the way by pulling on the T-handle. The tank will start to drain to the macerator or drain outlet as soon as the T-handle is pulled. The 4" drain line or macerator hose should be used to direct waste to the dump station for proper disposal. Newmar recommends dumping and flushing the gray (waste) water holding tank after the black (sewage) holding tank.

(16) Water Pump Switch with LED Indicator: Press the water pump switch momentarily to activate the water pump. The LED illuminates when the pump is activated.

(17) Water Pump with Filter: When not connected to city water, the coach's water pump is used to pump and pressurize water from the fresh tank for distribution through the hot and cold water lines. When activated, the water pump will automatically turn on and off to maintain proper water pressure in the coach.

(18) Whole House Water Filter: The whole house water filter system uses a replaceable extruded carbon filter cartridge to remove sediment and certain impurities from the incoming water supply. This filters the fresh water as it is brought in to the coach from the city water connection through the hose or hose reel.

(19) Winterizing and Antifreeze Inlet Valves (A and B): The winterizing valves are only used during the coach winterization process. To determine proper valve positioning throughout the process, follow the posted instructions in the coach water compartment for the A and B valves. These valves may be located outside of the main water compartment on some coaches.

Water Compartment Heating via a Forced-Air Furnace

This article provides an overview of the water compartment heating via a forced-air furnace.

Coaches equipped with a forced-air furnace have a designated heat duct for the water compartment in the basement to reduce the risk of freezing.

IMPORTANT

Heat output to the water compartment is only operational when the furnace is heating the interior of the coach.



FRESH WATER SYSTEM

The Fresh Water System consists of the fresh water holding tank, water pump, valves, connection hoses, and fresh water plumbing lines. This system is responsible for providing potable water for drinking, cooking, bathing, and all other activities that require clean water.

The fresh water system begins with a hose or hose reel, which provides the connection to the fresh potable water. Then, via the fresh water valve, the water is diverted through the coach to be distributed through the cold water plumbing lines to the fresh water holding tank or to the cold water connections of each faucet and the water heater. From the water heater, the water is then dispersed through a series of water lines to each faucet on the hot water inlet and the hot water spigots (if equipped).

Fresh Water City Connection Overview

This article provides a basic overview of the City Water Connection for coaches not equipped with a hose reel.

Located in the water compartment, the city water connection is made using a potable water hose. In conjunction with the "Fresh Water Tank Fill Valve," this water source is used for several purposes, including pressurizing the plumbing in the coach and filling the fresh water tank.

For coaches not equipped with a hose reel, use a water hose manufactured and labeled for potable water to ensure that the hose is drinking water-safe and will not alter the taste of the water.

The fresh water system in the coach is designed to operate at a maximum of 60 PSI. Water pressure levels above this level can damage the fresh water plumbing in the coach. If the water pressure ever surpasses 60 PSI, a pressure regulator must be installed to reduce the incoming pressure, or fill the fresh water tank and use the internal water pump to supply water to the coach.

Before connecting to the coach, use a potable water source to purge any remaining air and stale water in the hose. Then, connect the hose from the potable water source to the coach. Turn on the supply valve at the water source, and open each of the faucets to remove any air pockets in the coach plumbing lines. Once the water flows freely, close the faucet(s).



To disconnect from the city water supply, close the valve from the water supply. Release the pressure by rotating the fresh water valve to the tank fill position. Remove the hose from the city water supply, and store it in the water compartment. Once the pressure is relieved, rotate the fresh water valve to the appropriate operating position.

⚠ WARNING

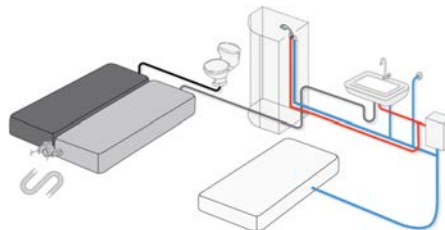
Potable water only. Sanitize, flush, and drain water tank before using. Failure to maintain tank can result in death or serious injury.

Fresh Water Lines and Low Point Drains Overview

This article provides a basic overview of Fresh Water Lines and Low Point Drains.

Fresh Water Lines

Fresh water lines are used to distribute potable water throughout the coach. The hot water lines are typically red in color or translucent with red lettering. The cold water lines are typically blue in color or translucent with blue or black lettering.



The hot and cold plumbing lines connecting slideout-installed components, such as the kitchen sink and other optional equipment utilizing the coach water supply, are typically hard-plumbed within the slideout. To ensure flexibility, a braided hose connects the rigid plumbing from within the slideout to the rest of the plumbing in the coach. This hose easily moves with the slideout as it extends and retracts. The plumbing lines are normally tied to the flexible drain pipe and extend and retract smoothly as the slideout travels.

Heated Fresh Water Lines

Fresh water lines located beneath the slideout floor are typically heated to prevent freezing (i.e. refrigerator water supply). The water lines are routed in the heated water bay and inside the heated living area as much as possible. Heated fresh water lines are typically used on floorplans with bath fixtures or a refrigerator containing an ice maker or water dispenser located in a slideout.

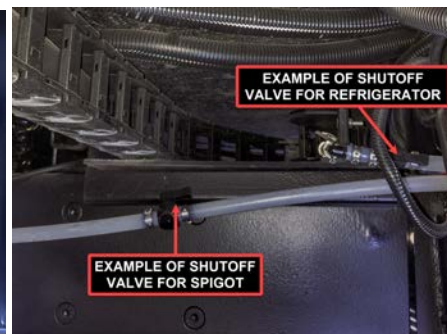
Heated water lines are used to connect the plumbing from the basement area to the refrigerator where the water lines are exposed under the slideout. The 12 volt power to the heated water line is usually fused in the cord compartment fuse panel in diesel coaches and on the firewall fuse panel on gas coaches.



Water Distribution Manifold and Inline Water Valves

Some coaches may be equipped with a water distribution manifold that allows water to be shutoff to individual water lines. For more information, refer to Newgle.

Some coaches may incorporate inline water valves on some water lines which may include the water spigot to the generator area or other non-heated compartment bays, ice maker water lines, and/or inline water filters. The valve(s) could be located various places depending on the coach year, model, and floorplan (i.e. under the kitchen sink, under the dinette booth, in the false pantry floor bottom, under the couch, or in the basement).



Hot and Cold Low Point Drains

Low point drains are normally located in the water compartment and are marked "Low Point Drains." Some valves are mounted in the water control panel and others are placed close to the water compartment and marked with a sticker nearby. Typically the coach has one hot water low point drain and one cold water low point drain, which are used to empty the water lines. Open the valves to relieve water pressure and drain the water lines. Close the valves for normal operation of the pressurized water system.

On coaches equipped with tank rinse low point drain(s), turning the tank rinse drain valve to the "open" position will remove pressure and drain the tank rinse line. When finished using the tank rinse, it is recommended to turn off the water supply to the tank rinse connection. Open the valve, and drain off the pressure in the line before disconnecting the water hose.



Preventing, Stopping, and Repairing Plumbing Leaks

⚠ IMPORTANT

In the event of a water leak, immediately shut off the water pump and/or disconnect the coach from the pressurized water source. Open the low point drains in the water compartment. This will relieve pressure and allow time to locate the leak and/or a shutoff valve (if the coach is equipped).

Poor or improper winterization may cause leaks, and/or vibration and flexing during travel can cause pipes and fittings to work loose. Follow this checklist to prevent or repair any plumbing leaks:

- Check all of the plumbing connections for leaks yearly.
- If the water pump runs when all faucets are turned off, check for a leak.
- Be sure the drain valves are closed.
- Tighten any loose faucet connections with a wrench.
- Disconnect the leaking connections completely, and check for mineral deposits or foreign material on the sealing surfaces. Clean the surfaces thoroughly, and reinstall the fitting.

⚠ IMPORTANT

Plumbing repairs should be performed by an authorized service center, followed by a pressure test.

Fresh Water Tank and Drain Overview

This article provides a basic overview of the fresh water tank and drain.

Fresh Water Tank and Fill Valve

The fresh water tank is used to hold fresh potable water for use throughout the water system and is usually located on the floor of the water compartment; however, some coach floorplans may be equipped with a water tank located in another compartment. The fresh water tank is filled from the city water hook-up with a hose or hose reel.

The fresh water fill valve located in the water compartment near the water hook-up determines whether the city water is going through the water system or into the fresh water tank. The excess water will be vented from an overflow vent pipe onto the ground when the tank capacity has been reached. This pipe is installed in the fresh water tank to prevent tank rupture from overfilling. For more information about the fresh water tank fill valves, refer to the [Fresh Water Valve Overview](#) in Newgle.

Fresh Water Tank Drains

Fresh water tank drains are located a few inches in front of or beside the fresh water tank and are connected to the fresh water tank with a 1/2" or 1" water line. Whenever possible, drain the fresh water tank before traveling or only carry what you will need to get to your destination, as water in the tank will reduce the carrying capacity of the coach. All of the water should be drained from the fresh water system when the coach is not in use for more than one week to prevent stagnant water and reduce organic growth.



⚠ WARNING

Potable water only. Sanitize, flush, and drain water tank before using. Failure to maintain tank can result in death or serious injury.

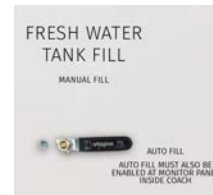
To drain the fresh water tank, open the low point drain valve located near the fresh water tank. The following images are example fresh water tank drain configurations.



Fresh Water Valve Overview

The article provides a basic overview for the fresh water valve in a coach.

The rotating Fresh Water Valve (Tank Fill) located in the water compartment is used to pressurize the fresh water system in your coach, as well as to fill the fresh water tank when the coach is connected to city water. The valve position determines whether the water supply fills the tank or pressurizes the fresh water system in the coach. Simply rotate the valve to the appropriate position to perform the desired function.

**⚠ IMPORTANT**

If you leave this valve in the manual tank fill position, you may experience low water pressure while operating the water pump.

Auto Fill

For coaches equipped with an Auto Fill function, the coach must be connected to a pressurized water source and have the Fresh Water Valve in the "Auto Fill" position. In addition to turning the valve, the coach must also have the Auto Fill function enabled within the tank monitoring system. This function is used to automatically fill the fresh water tank and shut off the water supply based on the tank levels. The system will turn on the Auto Fill valve when necessary and turn it off when the tank reaches capacity.

Both the Precision Circuit Digi-level and the KIB TMSC-100 systems control the electric auto fill valve via the monitor panel in an overhead panel and are fused in the 12 volt house fuse panel. The KIB TMSC-100 system's circuit board is typically located in the shore cord compartment, and the Digi-Level does not use a separate circuit board.

The SilverLeaf system allows the Auto Fill feature to be activated via the touchscreen or the SPX-300 panel located in the water compartment. It is controlled by the TM102 module and uses the fuse panel and relay board typically located in the shore cord compartment. For more information about the coach's tank monitoring system, refer to the sub-category within the Electronics section.

City Water Connection

Before connecting to your coach, use a potable water source to purge any remaining air and stale water in the hose. Then, connect the hose from the potable water source to your coach or the hose from your coach to the city water supply (if equipped with a hose reel). Turn on the supply valve at the water source, and open each of the faucets to remove any air pockets in the coach plumbing lines. Once the water flows freely, close the faucet(s).

Water Pump

The water pump is used to pressurize the fresh water system when the unit is not connected to city water. The city water supply is under pressure, so the water pump is not necessary while you are connected to city water. Once the city water fill valve is not in the manual fill position, the water is supplied to the fresh water system components, including the hot water heater and faucets.

To disconnect from the city water supply, close the valve from the water supply. Release the pressure by rotating the fresh water valve to the tank fill position. Remove the hose from the city water supply, and store it in the water compartment. Once the pressure is relieved, rotate the fresh water valve to the appropriate operating position.

⚠ IMPORTANT

Use a water hose manufactured and labeled for potable water to ensure that the hose is drinking water-safe and will not alter the taste of the water.

WATER HEATING

Suburban Tank-Style Water Heater with Direct Spark Ignition Quick Start

This article provides basic operation instructions for a Suburban Tank-Style Water Heater with Direct Spark Ignition.

Operation

⚠ IMPORTANT

Before operating the water heater, the tank must be filled with water.

⚠ WARNING

Do not store any combustible materials or liquids near or adjacent to the water heater.



WATER HEATER SWITCH FOR LP OPERATION



WATER HEATER SWITCH FOR 120V ELECTRIC OPERATION (IF EQUIPPED)

The tank-style Suburban water heater is available in 6, 10, or 12 gallon sizes and use LP gas only or LP/Electric combination for the heat source. To turn on and off the propane portion of the water tank, press the rocker switch on the Suburban water heater panel in the overhead compartment. The red reset button will illuminate if the water heater fails to ignite. For coaches equipped with electric water heater elements, turn it on and off using the rocker switch on the opposite panel. All Suburban tank-style water heaters have an anode rod that requires annual replacement.

Water Heater Operation on LP

1. Make sure the water heater is full of water and is not bypassed.
2. Turn on the gas valve on the LP tank.
3. Before activating the water heater, smell for any gas odors.
4. Turn on the switch to light the burner. The control board will attempt three times to ignite the LP at the burner. After three attempts, the red indicator light at the switch will illuminate.
5. If lockout occurs, turn the switch off, and wait several seconds before turning it back on. It will make three more attempts to light the burner.
6. On initial startup, it may take a few cycles to purge the LP lines.

Water Heater Operation with an Electric Element on 120 Volt Power

1. Check for the proper voltage supply (120 Volts).
2. Make sure the water heater is full of water and is not bypassed.
3. Turn on the switch to the electric element. The water heater will control the temperature.

Pressure Relief Valve

The temperature and pressure relief valve is located on the exterior of the water heater. It is designed to open if the temperature of the water within the heater reaches 210° F, or if the water pressure in the heater reaches 150 pounds.

Recreational vehicle water systems are closed systems, and during the water heating cycle, the pressure build-up in the water system may reach 150 pounds. When this pressure is reached, the pressure relief valve will open and water will drip from the valve. This dripping will continue until the pressure is reduced below 150 pounds, and the valve closes. This condition is normal and does not indicate a defective relief valve.

⚠ WARNING

Do not plug the relief valve under any circumstance.



Truma AquaGo® Comfort Plus LP Gas Instant Water Heater Quick Start (Model: DLE60CP)

This article provides basic operation instructions for a Truma AquaGo® Comfort Plus LP Gas Instant Water Heater (Model: DLE60CP).

How It Works

The appliance was developed exclusively for use in recreational vehicles (RVs). The appliance is connected between the vehicle's fresh water supply and its hot water plumbing system. It is powered by propane and a 12 V power supply. The ventilation grille on the access door allows combustion air to flow into the appliance and exhaust gas to flow out. When the appliance is switched on, the water will be heated on demand:



- A volume-flow sensor in the appliance detects when the hot water faucet has been opened and the volume flow is greater than approximately 0.4 gallons/min (1.5 liter/min). The burner then starts automatically.
- The burner control continuously adjusts the heater output based on volume flow and inlet water temperature, so that the temperature at the hot water outlet is approximately 120 °F (49 °C). A temperature stabilizer is also installed in the appliance to minimize fluctuations of the outlet temperature.
- After some time the maximum temperature at the faucet or in the shower is reached. The length of time will depend on the model (AquaGo basic, AquaGo Comfort and AquaGo Comfort plus) and variations in the water plumbing (length of pipes, insulation, circulation line, etc.). Like in a home shower, a comfortable water temperature at the shower head is reached by mixing in cold water.
- When the volume flow is less than approximately 0.4 gallons/min (1.5 liter/min) and the faucet is closed, the burner is automatically switched off.

The AquaGo Comfort and AquaGo Comfort plus models are equipped with a circulation pump. The circulation pump as well as the burner are switched on automatically by the control unit in order to keep the water temperature above 102 °F (39 °C) in "COMFORT" mode and 41 °F (5 °C) in "ECO" mode.

⚠ NOTICE

Risk of damage in frost conditions.

Pressure Relief Valve

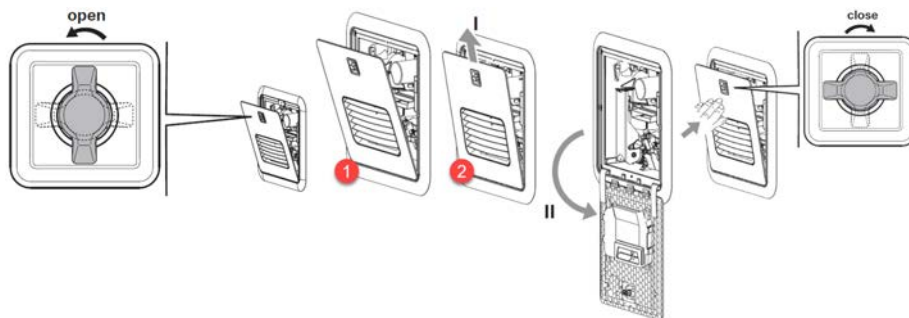
⚠ WARNING

Scalding injury from hot water and/or tampering with the pressure relief valve! Never actuate the pressure relief valve as long as the appliance is still hot. Do not place a plug or reducing coupling on the outlet part of the valve.

The pressure relief valve is a safety component and must not be removed for any reason other than replacement. The pressure relief valve is not serviceable; if defective, it must be replaced. It must be replaced by a Truma pressure relief valve rated for 100 psi (6.9 bar) that is CSA-certified and registered. It must be replaced by a Truma certified service technician. Tampering with the pressure relief valve will void the warranty. The appliance is equipped with a pressure relief valve that complies with the standard for Relief Valves for Hot Water Supply Systems, ANSI Z21.22

Access Door

Opening the Access Door: Turn the turn lock counterclockwise into the vertical position. The access door can be opened in two different positions: Position 1 is the maximum opening width for switching the appliance on or off. Position 2 is the starting position for removing the access door. Open the access door to Position 1.



⚠ NOTICE

Damage to the hinge! Do not try to remove the access door in Position 1. Position 1 is the maximum opening width of the access door. Only remove the access door in Position 2.

Removing the Access Door: Open the access door to Position 2. Move the access door upwards to remove it.

Closing the Access Door: If removed, insert the access door into the cover plate. Make sure that the webbing is not pinched between the access door and the cover plate. Press the access door against the cover plate. Turn the turn lock clockwise into the horizontal position.

⚠ NOTICE

Damage to the access door and the RV if the access door is not closed properly! Make sure that the access door is flush with the cover plate when closed.

⚠ WARNING

Danger of over-temperature and toxic exhaust gases! Use with LP gas (propane) only. Butane or any mixtures containing more than 10 % butane must not be used. Keep the air inlet and exhaust gas outlet free of obstructions. Do not lean any objects against the water heater's access door or place any foreign objects within 2 feet (61 cm) of the access door.

⚠ WARNING

Danger of combustion, personal injury and damage to RV! Keep the area around the appliance free from combustible materials, gasoline, and other flammable vapors or liquids. Switch the gas supply and the appliance off: if anything seems to be out of the ordinary, if you smell gas, if you move the RV, before entering a gas station, before entering a tunnel.

Inspections Before Each Use

Check the appliance for the following points before each use.

1. Check for visible damage, e.g., on the cover plate or access door. In case of damage, contact an authorized Truma service provider and do not operate the appliance.
2. Provide adequate quantities of propane gas and fresh water.
3. Switch ON and check 12 V power supply of your RV.
4. Check that the access door of the appliance is closed.
5. Keep the appliance free of foreign objects, e.g., leaves, animals, spiderwebs, and keep the area around free of snow and ice. The appliance will not function properly if the intake air or exhaust terminal is obstructed.

Operating Procedures

⚠ NOTICE

Risk of damage in frost conditions. In frost conditions, ambient temperatures below 39 °F (4 °C), there is a risk that water in pipes, faucets and appliances could freeze. This can cause considerable damage. Before you fill water into appliances and parts that transport water, you must heat the installation area sufficiently so that the water cannot freeze.

Proceed as follows to fill the appliance with water:

1. Close open bypass lines (if present). Insert the water inlet filter or heating cartridge – if removed. 2, 7, 9 – 11.
2. Turn on fresh water supply or switch on water pump.
3. Fill the plumbing system. Open all water-release points, e.g., cold and hot water faucets, showers, toilets. It is important that you bleed the water system before starting the appliance. Once water flows, the plumbing system is vented. Close the water-release points.
4. Start the appliance as follows: Make sure that the LP gas supply is turned on. Switch on the 12 V power supply (RV). Open the access door. Switch on the appliance at the POWER switch.
5. Select the desired operating mode. Close the access door.

⚠ WARNING

Scalding injuries caused by hot water! Water temperatures over 127°F (52°C) can cause severe burns or scalding and in extreme cases even death. Before using the hot water faucet or using the shower, allow the hot water to run until the water temperature no longer increases. Test the temperature of the water before placing a child in the bath or shower. Do not leave a child or an infirm person in the bath unsupervised.

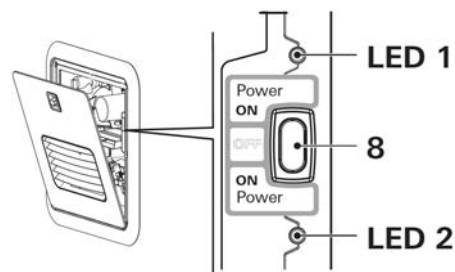
There may be a variation between the temperature delivered from the appliance and the temperature at the faucet due to water conditions or the length of pipe from the appliance. The presence of a flow restrictor in the hot water line may limit the water flow. To obtain the desired water temperature at the faucet or in the shower, mix cold and hot water. Particularly when showering, wait until the water temperature has stabilized before entering or allowing other people or animals to enter the shower.

Switching ON the Appliance

Open the access door. To switch on the appliance, switch the POWER switch to one of the two “ON” positions.

- Both ON positions on the POWER switch have the same function. Choose your preferred position.
- When the green power ON LED 1 is lit, the appliance is switched on.
- If the red error code LED 2 is lit / flashes, there is a fault or warning.

The appliance is now ready for using the control panel inside your vehicle.



Operating Modes (Control Panel)

A control panel to select the operating mode. With the rotary switch you can choose between the following operating modes: ECO, COMFORT, OFF, ANTIFREEZE, and CLEAN.



ECO: The appliance is now running in energy-saving mode.

- Water temperature at the outlet is approximately 120 °F (49 °C).
- Prevention of freezing by using propane gas. The temperature in the appliance is automatically kept above 41 °F (5 °C).
- During operation, the yellow status LED 3 is lit.

COMFORT: The appliance is now running in a mode that provides rapid availability of hot water.

- Water temperature at the outlet is approximately 120 °F (49 °C).
- Stand-by heat. The temperature in the appliance is automatically kept above 102 °F (39 °C).
- During operation, the yellow status LED 3 is lit.

OFF: Stand-by. The appliance is not running in any operating mode.

- The yellow status LED 3 is off. To switch off the POWER and gas supply, refer to “Switching OFF the appliance”.

ANTIFREEZE: Prevention of freezing using 12 VDC electricity:

- Operating mode with installed electric antifreeze kit (available as an accessory) and appliance switched on. The temperature in the appliance is automatically kept above 41 °F (5 °C).
- During operation, the yellow status LED 3 is lit.

CLEAN: Decalcification. See “Decalcification” in Truma's documentation.

- For safety reasons, after 30 seconds the decalcification process cannot be stopped until the system has been rinsed in accordance with the instructions.

Description of the Yellow Status LED 3

- **LED 3 is lit:** Appliance is switched ON
- **LED 3 is off:** Appliance is switched OFF.
- **Every 7 s, LED 3 is interrupted for 1 s:** The appliance must be decalcified
- **LED 3 flashes slowly 1 s on, 1 s off:** Decalcification mode has been activated
- **LED 3 flashes quickly:** Before you use the water system you must rinse it.
- **LED 3 flashes 2 x briefly after a break:** There is a fault in the appliance. The exact fault diagnosis must be determined via error LED 2. Risk of freezing if the temperature in the appliance is below 37.4 °F (3 °C).

Switching OFF the Appliance

1. Set the control panel to “Off”.
2. Open the access door.
3. Switch off the appliance at the POWER switch. The green Power-ON LED 1 extinguishes.
4. Close the access door.
5. If the appliance is not needed, turn off the gas supply to the appliance. If you intend to put the RV into storage or turn off the appliance during freezing temperatures.

Operation in Frost Conditions

(Ambient temperatures below 39 °F (4 °C))

NOTICE

Risk of damage in frost conditions. In frost conditions, ambient temperatures below 39 °F (4 °C), there is a risk that water in pipes, faucets and appliances could freeze. This can cause considerable damage. If the appliance is not to be used in frost conditions, you must winterize the appliance. Winter operation will not protect the RV's entire water system. Water lines, faucets, water tanks and the external water valves and the vehicle must be heated separately. The RV must be designed for winter use/freezing conditions. The water pipes in the RV must be ice-free to operate the AquaGo Comfort / AquaGo Comfort plus in winter. Otherwise, there is no water flow and the appliance does not start.

When the vehicle is standing, to -4 °F (-20 °C): The appliance has a built-in thermostat that will start the burner and the circulation pump whenever the temperature in the appliance falls below 41 °F (+5 °C). The burner will automatically shut off when it senses a temperature above 111 °F (44 °C).

NOTICE

For the appliance to operate properly, you must ensure a constant supply of power (12 V), propane gas, sufficient water in the system. You must leave the appliance powered "ON". The operating mode must be "ECO" or "COMFORT". The water system must be bled so that the circulation pump works.

NOTICE

If the vehicle is standing and ambient temperatures are below -4 °F (-20 °C), the appliance must not be operated and must be winterized.

While driving (or if there is no gas supply), to -4 °F (-20 °C)

NOTICE

Gas must not be used for heating while the vehicle is in motion. Ask your dealer / vehicle manufacturer about options for heating your RV while driving.

An electric antifreeze kit is available as an accessory (ask your dealer). With this kit, the appliance can be kept frost-free while you are driving or if there is no gas supply (to ambient temperatures of -4 °F (-20 °C)). The electric antifreeze kit includes detailed instructions.

NOTICE

While the vehicle is in motion and at ambient temperatures below -4 °F (-20 °C) the appliance must not be operated and must be winterized.

Winterizing

NOTICE

Severe damage to the water system components and the appliance! Any damage caused by freezing or an unsuitable winterizing fluid will not be covered by warranty. Follow the recommendations below if the appliance will be stored under freezing conditions or for an extended period of time. Winterize the appliance at the start of the winter season or before traveling to a location where freezing conditions are likely.

If your RV is equipped with a bypass around the appliance, separate the appliance from the water system with the bypass.

Winterizing the RV with a Winterizing Fluid: Winterizing the RV with a winterizing fluid is only possible with an installed bypass kit (not in scope of delivery). Refer to "Connection diagrams" for all letters referred to in the following description.

Winterizing the Appliance

To winterize the appliance, you must drain all water from the appliance. To do this we advise the following steps: Remove the water inlet filter or heating cartridge. Let water completely drain from the appliance. This can take several minutes. Do not insert the water inlet filter or heating cartridge into the appliance during winter – if the appliance is not used.

CAUTION

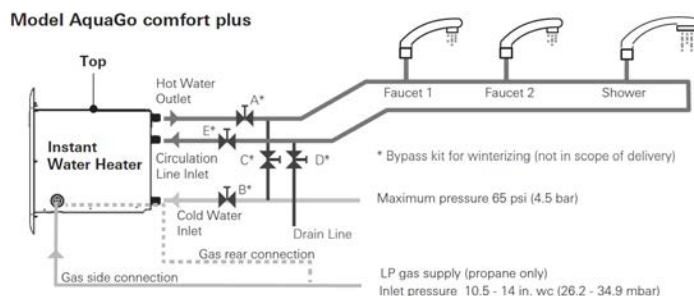
Danger of crushing/pinching of fingers when the Easy Drain Lever is closed! Never put fingers between the Easy Drain Lever and latch.

Close the Easy Drain Lever and the access door. Once the water has been drained, the appliance is protected against freezing conditions.

NOTE FROM NEWMAR

On coaches equipped with a Truma AquaGo water heater mounted above the floor line of the coach, open the low point drain located in the hot water recirculation loop between the shower loop and the water heater. The exact location will vary, but the low point drain is typically located in the basement area at or near the lowest point in the loop and may be marked with a low point drain label.

1. Close valves A, B and E.
2. Make sure that valve D remains in the closed position.
3. Open valve C.
4. Drain the appliance.
5. Flush the RV's water system with a suitable winterizing fluid according to the supplier's or RV manufacturer's guidelines.
6. Close all faucets (if open).
7. Open valve D.
8. Wait until winterizing fluid has drained. Collect escaping fluid in a suitable vessel.
9. Close valve D.



NOTE FROM NEWMAR

To de-winterize, simply reverse the winterizing steps.

Source(s): Installation and Operating Instructions Truma AquaGo Basic / Comfort / Comfort Plus

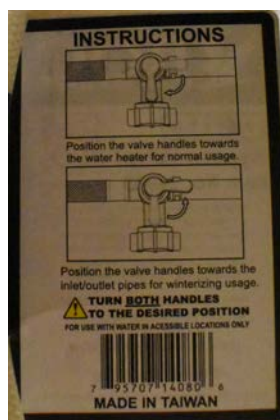
Product(s): Truma AquaGo Comfort Plus Water Heater ([Model: DLE60CP, Newmar Part Number: 144933](#))

Water Heater 2-Valve Bypass System Overview

This article provides a brief overview of a Water Heater 2-Valve Bypass System. The 2-valve bypass system is located near the water heater.

Using the bypass valve(s) while winterizing your coach will prevent anti-freeze from reaching the water heater. Draining the water heater during winterizing is required. On some coaches, this consists of two valves: one at the inlet and one at the outlet of the water heater.

By closing the inlet and outlet valves, it opens the bypass hose between the inlet and outlet lines allowing the hot water lines to be blown out and RV winterization antifreeze to flow through, bypassing the water heater.



WATER PUMPS AND CONTROLLERS

Water Pump Operation and Basic Troubleshooting

This article provides basic operating instructions and troubleshooting tips for a water pump.

Overview

The water pump is self-priming and totally automatic, operating on demand whenever water is required. When not connected to city water, the coach's water pump is used to pump and pressurize water from the fresh tank for distribution through the hot and cold water lines.

When the water pump switch is turned on, the water pump builds pressure in the system and will shut off as soon as the system is correctly pressurized. When a faucet is opened, the pump will turn on and operate as necessary to maintain the preset pressure in the system. Water pump operation is not necessary while the coach is connected to city water, since the potable water is already pressurized.

When using water at a low flow rate (GPM), the pump may pressurize the system and short cycle, meaning the pump shuts on and off quickly. In many cases, the pump will stop short cycling if the flow rate of the water is increased.

Operation

1. Fill or partially fill the fresh water supply tank.
2. Open the kitchen and bathroom faucets.
3. Turn the water pump switch on, and allow the water to fill the water line and the hot water heater. The switch to this pump may be located in the exterior water compartment, in the kitchen, or in the bathroom.
4. Close each faucet after it delivers a steady stream of water (close the cold water first). Leave the hot water faucets on until they also deliver a steady stream of water. This will ensure that the water heater is filled with water.
5. The water pump should stop running once all faucets are closed.
6. The pump is now ready for automatic operation. The pump will run when a faucet is opened and stop when a faucet is closed and the correct pressure has been reached.

CAUTION

Never allow the pump to run for long periods of time without water in the supply tank, as pump damage or blown fuses may result.

Care and Maintenance

All of the water should be drained from the fresh water system when the unit is not in use for more than one week.

Troubleshooting

If water doesn't flow when a faucet is turned on while using the demand system, use the following troubleshooting tips.

If the pump is running, but there is no water:

- Fill the tank.
- Clear the water line to the pump or the pump inlet filter.
- Rotate the city water / tank fill valve to the correct position.
- Make sure the winterizing valve(s) are not in the winterizing position(s).

If the pump isn't running:

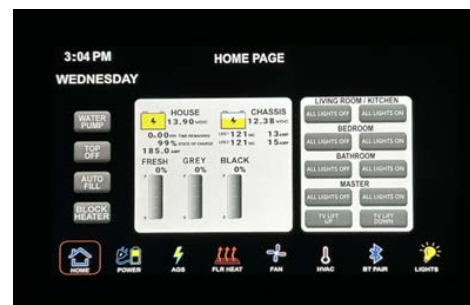
- Check the pump switch.
- Check the 12 Volt fuses.
- Check the electrical connections.
- Check the battery.

2025 KIB 10.1" Central Monitor Capacitive Touch Panel Guide: Water Pump and Auto Fill

The Home screen on the KIB 10.1" Central Monitor Capacitive Touch Panel displays water-related switches for controlling the water pump, as well as the settings for top off and auto fill.

⚠ IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.



Water Pump

The home page will display the water pump switch on all the coaches, which will supply power to the water pump.

The water pump may be activated and deactivated via the KIB Monitor Panel, or, if equipped, via a momentary contact switch with LED indicator. The KIB switch panels communicate with a circuit board and touchscreen monitor on a dedicated V-BUS. The V-BUS receives on/off commands from the water pump button on the KIB display monitor or the water pump switch located in the water compartment.

The KIB circuit board is typically located in the cord compartment and sends 12 volt power to complete the water pump circuit. Once the pump pressure switch makes contact, the pump will supply water pressure to the fresh water system. The pump will shut off once the pump pressure switch is satisfied.

Top Off and Auto Fill

The top off and auto fill icons will appear on coaches equipped with an auto fill feature, which, when activated, allows automatic filling of the fresh tank while the coach is hooked up to a pressurized potable water source.

2025 KIB 5" LCD Capacitive Touch Panel Guide: Water Pump and Auto Fill

The Tanks screen on the KIB 5" Central Monitor Capacitive Touch Panel displays water-related switches for controlling the water pump, as well as the settings for top off and auto fill. This 5" vertical touch panel is only installed on coaches also equipped with a KIB 10.1" Central Monitor Capacitive Touch Panel. The same screens will also appear on the KIB Connected Solutions app once installed on a mobile device.

⚠ IMPORTANT

The Central Monitor Capacitive Touch Panel is customized by KIB and Newmar based on the model and year of coach, as well as the available standard and optional equipment. Based on the configuration of the coach, the location of icons, settings, or statuses and corresponding descriptions may vary from what is shown, but the operation of the panel is the same.

Water Pump

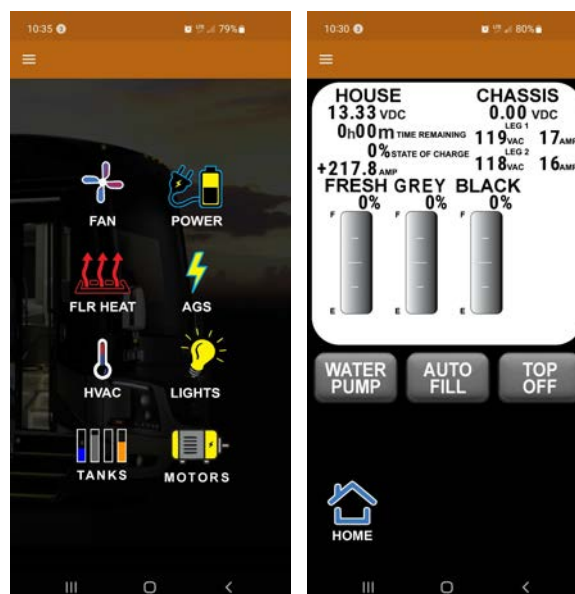
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Top Off and Auto Fill

The top off and auto fill icons will appear on coaches equipped with an auto fill feature, which, when activated, allows automatic filling of the fresh tank while the coach is hooked up to a pressurized potable water source.



FAUCETS AND FIXTURES

Faucets and Fixtures Overview

Your installed bathroom and kitchen faucets and fixtures are available in many styles, finishes, and configurations, often complementing the other fixtures in your coach.

With proper maintenance, the faucets in the coach should provide years of trouble-free usage. The faucets and fixtures can be cleaned by wiping with a soft, damp cloth. Washing with warm water will remove dry water spots. Turn off the water and drain the pressure before attempting repair or replacement of the faucet.

IMPORTANT

Avoid using “S.O.S.” type cleaning pads or other abrasive cleaners because they may scratch the surface. Do not use cleaners that contain harsh or abrasive chemicals. Alcohol or similar solvents should never be used.

FILTERS

Clean Liquid Master CTO Whole House Water Filter with Clear Canister Quick Start (Model: CLM2)

This article provides basic instructions for replacing a Clean Liquid Master CTO Whole House Water Filter (Model: CLM2). Your coach may be equipped with a fresh water filtration system, which uses extruded carbon filter cartridges to remove sediment and certain impurities from the incoming water supply. The filter assembly is located in the basement water compartment.

Overview¹

The Clean Liquid Master 2 CTO Premium Filter absorbs colors, odors, residual chlorine and organic substances in water and improves the taste. This product is only suitable for municipal tap water. In areas where the water pressure is higher than 0.4MPa, please install a pressure-reducing valve at the water inlet. The specific replacement cycle varies according to the water quality and water consumption in different places.



Purchasing a New Filter

Replacement filter cartridges are available through the Newmar parts department. For parts inquiries, refer to the NewPar (formerly ComNet) parts catalog or contact the parts department at 1-800-731-8300 (**select the appropriate menu option**).

Replacement Cycle

Most water filter manufacturers recommend that you replace your water filters every six months. These guidelines are based more on average household size and average consumption rates rather than your specific coach. The frequency of filter changes depends upon your water usage and the quality of water you are using. As you travel and hook up to different water sources some may contain more sediment, metals, sulfur, and other impurities, which affect the filter life, as well as the taste and smell of your water. Other factors are how often it is used and how long it has been stored.

Change the filter at least every six months and at any time you notice decreased water flow or notice an unpleasant taste, odor, or algae after flushing and sanitizing the water system. Water filters and fresh water system maintenance are the customer's responsibility to ensure safe potable water.

Replacing the Filter

- To replace the filter cartridge, turn off the water supply to the coach at the city water connection, or turn off the water pump if using potable water.
- Drain the water pressure off the system by opening a faucet or low point drain, and press the red button on top of the filter housing.
- Unscrew the filter canister by rotating to loosen and remove it. If the blue Anti-Rotation Safety lock has been installed and engaged to prevent the filter housing from unscrewing, remove it by pulling up on the lock.
- Insert the new filter cartridge, positioning it so the opening in the bottom of the filter is placed on the molded ring at the bottom of the canister.

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⚠ CAUTION

When replacing the filter, make sure the rubber O-Ring seal is properly positioned in its groove in the cartridge housing. An improperly positioned or missing seal will cause leakage around the perimeter of the filter housing.

- Reattach the canister to the filter housing by rotating the canister until it's tight. Do not over-tighten the canister when attaching it back to the housing.
- If the blue Anti-Rotation Safety lock was previously installed, line it up and re-engage it to prevent the filter housing from unscrewing.

¹Winterizing Instructions**⚠ IMPORTANT**

DO NOT ALLOW FILTER HOUSING TO FREEZE!

NOTE FROM NEWMAR

Do not allow water to freeze in the water filter canister. Freezing will crack and permanently damage the filter housing and associated plumbing. Always remove the filter cartridge prior to winterization.

1. Remove the filter cartridge before using anti-freeze to winterize the system.
2. Reinstall the empty housing back on the cap.
3. Proceed to winterize coach.
4. Flush housing thoroughly before it is put back into service after winterizing.
5. For best results, replace the cartridge seasonally.
6. Flush the new cartridge for approximately 2 minutes to remove any carbon particles.
7. Do not use carbon cartridges where water is microbiologically unsafe or of unknown quality.
 1. Maximum operating pressure is 100PSI/0.7Mpa
 2. Maximum operating water temperature is 100°F/38°C

Source(s): ¹Water Filter Label and CLM Website: <https://clm-products.com/documents>

POWER WASHERS, SPRAYERS, AND EXTERIOR SHOWERS

Exterior Shower Overview

An exterior shower located in the water compartment on the driver side may be an optional feature on your coach and can be used to rinse off sand or grass, muddy shoes, or bathe a pet outside of the coach. The exterior shower may also be used to wash your hands or rinse off the sewer hose after dumping the waste water tanks.

The faucet operates just as it would in the kitchen or bathroom. When finished using the exterior shower, shut off both the hot and cold valves. Do not simply shut off the valve on the shower head itself, as it may cause hot and cold water to mix at the exterior shower and could allow drastic changes in water temperature throughout the coach.



WASTE WATER SYSTEM

There are two separate waste systems: the gray tank system and the black tank system, which includes sinks, lavatories, showers, tubs, and toilets. Each tank has its own control valve, and both tanks drain through the sewer drain hose. The waste water system catches and contains the used water and divert the waste water through the traps and drain lines to the grey or black holding tank(s). It is then stored until the tanks are emptied using a sanitary drain or dump station.

Sinks, Tubs, and Showers Overview

This article provides an overview and care and maintenance recommendations for sinks, tubs, and showers. The sink and shower are the beginning of the waste water system. The basic purpose is to contain the used water so it can be drained via the attached waste water drain line to the holding tank.

Care and Maintenance

The maintenance requirements for sinks and the shower are on an as-needed basis. Occasionally, the attached drain and trap may need to be cleaned of soap scum and hair to maintain efficient drainage. The basins and shower walls can be cleaned to maintain the original luster. Clean the entire surface, including the exterior, of the lavatory and kitchen sinks and shower with mild soap and warm water. Wipe the entire surface completely dry with a clean, soft cloth.

IMPORTANT

Avoid using “S.O.S.” type cleaning pads or other abrasive cleaners because they may scratch the surface. Do not use cleaners that contain harsh or abrasive chemicals. Alcohol or similar solvents should never be used.

Follow these tips to maintain the shower(s) in the coach:

1. Make sure the shower doors are closed and latched or locked prior to travel.
2. Check for leaks in the shower seals. Reseal them as needed.
3. Using a mild detergent and a soft cloth, wipe down the shower walls and glass enclosures after each use to avoid soap scum and hard water deposits.
4. When winterizing the coach, clean up any remaining antifreeze in the shower, as it may cause staining.

Waste Water Drain Lines

The drain lines are plumbed from the sinks, showers, and toilets are sloped to drain waste water to the grey or black tank. However, if the coach is equipped with a lift pump, refer to the "Lift Pump" article in Newgle. If the coach is equipped with macerator toilet(s), refer to the toilet article(s).

The drain lines connecting slideout-installed components, such as the kitchen sink and other optional equipment utilizing the coach water supply, are typically hard-plumbed within the slideout. The hard plumbing from the kitchen slideout connects to the hard plumbing from the tank using a braided drain line to ensure flexibility as the slideout extends and retracts.

The fresh water plumbing lines are normally tied to the flexible drain pipe and extend and retract smoothly as the slideout travels.



P-Trap and Waterless Trap Overview

This article provides an overview and care and maintenance recommendations for traditional and waterless p-traps.

Waterless Traps

Some coach models with a rear shower may have waterless traps in lieu of conventional P-traps. Waterless traps are designed to allow water to drain and to prevent odor from entering the coach without the height requirements of the conventional p-trap. Pressure builds and the self-sealing valve opens as water drains from a fixture. The valve closes to form a tight seal after the water has completely drained from the sink or shower. No routine or seasonal maintenance is required for the waterless trap.

Foreign objects, such as hair, in the trap may allow odor to enter the coach and impede or slow water drainage and require occasional cleaning. When removing the waterless trap for cleaning, the ridges must be down and the direction of water flow must be correct when re-installed.

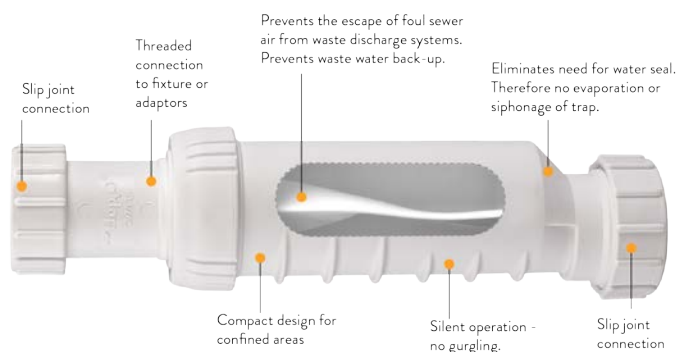
IMPORTANT

If standing water occurs in your shower, do not attempt to unplug or open the drain with a coat hanger or a sewer snake. Before taking your coach to a service center, try leveling your coach so that the rear is raised slightly higher than the front. This may correct the condition and prevent drain-cleaning or a service repair. If this does not correct the issue, Newmar recommends taking your coach to a service center for drain-cleaning or repair.

NOTICE

Remove the waterless trap before using mechanical drain-cleaning devices. Waterless trap can be damaged.

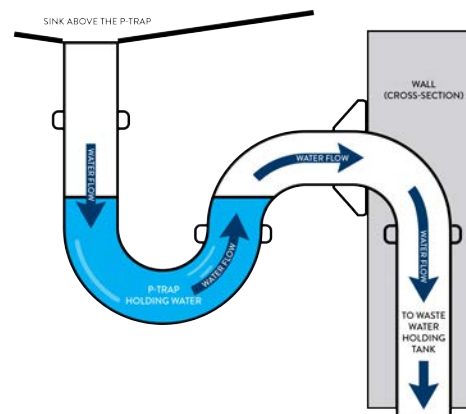
AD-123



Traditional P-Traps

The sinks and shower drain have a water trap to prevent holding tank odors from entering the coach. These traps must have water in them in order to trap the odors.

While traveling, the water may leave the P-Trap. While stored, the water may evaporate, allowing an odor to enter the coach. If this occurs, run water from the faucet into the drain, allowing water to fill the trap.



TOILETS

Toilet Overview, Care, and Maintenance

This article provides an overview of toilet operation and care and maintenance. "Go" in style and comfort, no matter where your travels may take you.

Waste Water Drain Lines

The drain lines are plumbed from the sinks, showers, and toilets are sloped to drain waste water to the grey or black tank.

Care and Maintenance

Before using the stool, treat the tank with water that is mixed with an odor-controlling chemical, which is readily available at any RV supply store. Mix as directed on the holding tank chemical package. After mixing and flushing the chemical mixture, the waste tank is ready for use. The stool should be cleaned regularly for maximum sanitation and operational efficiency.

⚠ IMPORTANT

Be careful not to spill the chemical on your hands, clothing, or the carpet, as it may cause a permanent stain.

⚠ CAUTION

Use only approved RV odor controlling chemicals in the holding tanks. Do not use chlorine or caustic chemicals like laundry bleach or drain-opening chemicals, as they will damage the seals in the toilet and dump valves. Products containing ammonia and petroleum may damage the ABS plastic holding tanks and seals.

When using your stool, it is wise to fill the bowl 3/4 full of water. This will help to wash the solids away from directly below the stool and to ensure complete dumping of the holding tank. After flushing, a small amount of water should remain in the bowl.

⚠ IMPORTANT

Before adding water, consult the toilet manufacturer's owner's manual for the specific procedure relating to your system.

⚠ NOTICE

To prevent holding tank odors from entering the living space, make sure a small amount of water remains in the toilet bowl.

⚠ NOTICE

Residual water trickle in ceramic bowls: Due to integrated rim of this toilet bowl, water may continue to slowly trickle into toilet bowl for up to 20 minutes after flushing. If water trickle continues after 30 minutes, replace the water valve.

⚠ WARNING

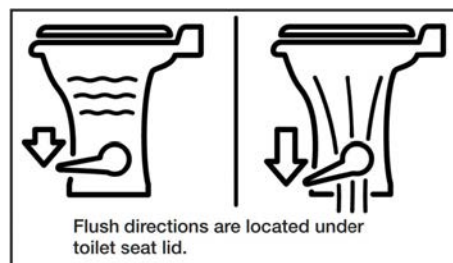
Do not flush diaper wipes, feminine hygiene products, or any other products that would not be easily liquefied. Also avoid using holding tank deodorant capsules, as they may cause damage to the macerator. Damage resulting from flushing any materials or objects other than organic waste and toilet paper are not warrantable repairs.

Dometic Standard Gravity-Discharge Toilets with Flush Pedal Quick Start (Models: 300, 310, and 320 Series)

This article provides basic operation instructions for a Dometic Standard Gravity-Discharge Toilet with Flush Pedal (Models: 300, 310, and 320 Series). Dometic 300, 310, and 320 series toilets are lightweight, residential-size toilets for installation directly above a holding tank.

Adding Water to the Toilet Bowl

To add water to the toilet, press the flush pedal part of the way down. Water flows into the bowl while the flush ball remains closed. If the flush ball moves, let up on the pedal slightly. Adding water to an empty bowl helps prevent holding tank odors from entering the living space. Adding water is recommended prior to flushing solids and toilet paper.



Flushing the Toilet

To flush, press the pedal down until it contacts the floor. Release the pedal after the complete flush.

- When flushing liquids, press the pedal for 1-2 seconds.
- When flushing solids, press the pedal until contents are rinsed from bowl. Flushing longer than necessary will cause holding tank to fill too quickly.

A small amount of water will collect in the bowl after a flush to create an airtight seal.

Source(s): Dometic 310 and 320 Series Gravity-Flush Toilet Instruction Manual

Dometic Macerator-Style Toilets with Flush Handle or Switch Quick Start (Model: 8700 Series)

This article provides basic operation instructions for a Dometic Macerator-Style Toilet with Flush Handle or Switch (Model: 8700 Series).

The Dometic 8700 series MasterFlush toilet provides an electric-flush toilet that macerates waste and pumps it to a holding tank or other effluent storage/disposal system using an inline macerator hidden in the base of the toilet.

Operation

Operated by a wall-mounted flush switch or electronic flush handle, the toilet allows the user to add water to the bowl (before using or flushing) and to flush the toilet by pushing a button. The Dometic flush switch panel includes lights to indicate when electric power to the toilet is activated, and when the holding tank (if applicable) is full.



Dometic macerator toilets use a Dometic control module and a wall-mounted flush switch, which can be located in a basement compartment, cabinet, or on the floor (behind the toilet). The module will be located no more than 6 feet from the toilet. The module has power, ground, two tank level warning wires, and a communication cable.

Adding Water to the Toilet Bowl

Press the "Add Water" switch until the desired water level is achieved. The water flow will shut off automatically if switch is pressed too long to avoid overflow. More water is usually added only when flushing solids.

Flushing the Toilet

Press "Flush" switch, then release it. This activates a powerful macerator pump that siphons water and waste from the bowl, macerates, and propels the effluent through the discharge line to the holding tank.

Changing Flush Modes

Dometic 8700 series MasterFlush toilets offer two flush settings to help manage water consumption:

1. Normal Flush: Uses 0.85 gallons per flush and adds water to bowl after ever flush.
2. Dry Bowl Flush: Uses 0.45 gallons per flush and does not add water to bowl after flush.

To change from Normal to Dry Bowl flush setting, press the "Flush" switch for about five seconds. When the "Power On" light begins flashing, release "Flush" switch. The flush mode has been changed to Dry Bowl setting. Change the mode to Normal flush by following the same procedure.

Indicator Lights

"Power On" Indicator: On the Dometic flush switch panel, a steady green "Power On" light indicates when electrical power to the toilet is activated. A momentary flashing green light indicates when flush mode is changing.

Tank Level Indicator: The flush switch panel includes a bi-color "3/4 Full" (amber) and "Full" (red) Tank Level light to indicate when the holding tank is approximately 75% or 100% full and should be pumped out. When the red light is illuminated, electrical power to the toilet automatically shuts off to prevent overfill of the holding tank.

Source(s): Dometic 8700 Series MasterFlush Macerator Toilet Operation Manual

Waste Water Holding Tanks Overview

This article provides a basic overview of the waste water holding tanks. There are two separate waste systems: the gray tank system and the black tank system. Each tank has its own control valve, and both tanks drain through the sewer drain hose.

The waste drainage system was designed to provide adequate and safe storage and/or disposal of waste materials. The drainage system uses plastic piping and fittings connected to the sinks, toilet, and holding tanks to provide for their drainage to an outside termination. All waste water tanks are vented through the roof and covered with a vent cap. The coach should be reasonably level for best operation of the system.

Some coaches not equipped with Oasis Hydronic Heating may have optional tank heating pads to reduce the risk of tank contents freezing.

Gray Water Holding Tank

The gray water holding tank is located in the underbelly of the coach, sometimes on top of the fresh water tank. It is primarily used for the drainage from the kitchen and bath sinks, shower, and the washing machine (if equipped).

⚠ CAUTION

The gray tank valve must be in the open position when operating the optional washing machine.

**WASTEWATER
HOLDING TANK**
AD-38

Black Water Holding Tank(s)

The black water holding tank(s) are generally for sewage waste from the stool. It is typically located between the frame rails in the water compartment directly beneath standard flushing toilets. Macerator-style toilets can be installed away from the black tank.

**SEWAGE
HOLDING TANK**
AD-39

During normal use, tank buildup may occur on the inside of the tank. How quickly buildup occurs varies from user to user and is affected by many factors such as water hardness, the amount of solid waste, how easily the toilet paper breaks down, how often the tank is dumped, and how well the tank is flushed. When buildup occurs, it may impair the tank sensor's ability to read tank levels properly. Preventive tank maintenance is recommended.

The gray and black tank(s) should be rinsed after dumping and treated with a waste tank additive to help break down and liquefy solid waste and help reduce odors. This chemical is readily available at any RV supply store. Add tank chemicals and the amount of water recommended by the chemical manufacturer. If the coach is equipped with two black tanks, add the chemicals to both toilets.

⚠ IMPORTANT

Be careful not to spill the chemical on your hands, clothing, or the carpet as it may cause a permanent stain.

⚠ CAUTION

Use only approved RV odor-controlling chemicals in the holding tanks. Products containing ammonia and petroleum will damage the ABS plastic holding tanks and seals.

Waste Water Disposal

This article provides basic instructions for draining the waste water holding tanks.

Both of the holding tanks terminate in a valve arrangement that permits draining each tank separately or together. The valves that open to release the water are called gate valves. The blade that closed the opening in the sewer drain pipes is connected to the T-handle to release the contents of the tank(s) when pulled.

The sewer line must be securely capped during self-containment use to prevent leakage of waste material onto the ground or pavement.

Do not pull the holding tank gate valve open, or operate the electric dump valve switch (if equipped) when the protective cap is installed on the pipe. Always drain the tank into an acceptable sewer inlet or dump station.



Keep drain valve closed to minimize the presence of sewer gases. Sewer gases can be present when RV is connected to campground sewage hookup. Can lead to illness or personal injury.

⚠ WARNING

Holding tanks are an enclosed sewer system and must be drained into an approved dump station. Both black and gray water holding tanks must be drained and rinsed thoroughly on a regular basis in order to prevent the accumulation of harmful or toxic materials.

⚠ WARNING

When routing the sewer or macerator hose, do not place on or near the Oasis, generator, or engine exhaust pipes. Otherwise, damage may occur.



How to Drain the Waste Water Holding Tanks

The holding tanks should only be drained when they are at least three-fourths full, to provide sufficient water to allow the complete flushing of waste materials in the drain lines and hose. If the tanks are not three-fourths full, add enough water to allow for sufficient flushing. Whenever possible, drain the holding tanks prior to traveling. The carrying capacity of your unit will be reduced if water is left in the black or gray tanks.

To empty the waste water tanks, follow the procedure below, depending on the type of waste system your coach uses. It is recommended to drain the black water tank before the gray water tank. The holding tank valves may be operated via a tank gate valve (t-handle) or an electric dump valve switch (when equipped).

Draining the Waste Water Tanks on a Coach with a Standard Gravity Drain and Dump System

1. Connect the adapter to the drain hose.
2. Unscrew the drain cap, and connect the hose with the adapter to the drain fitting. Support the hose as needed for optimal flow.
3. Open the gate valve all the way by pulling on the T-handle. The tank will start to drain as soon as the T-handle is pulled.
4. After you have drained the black water tank, immediately drain the gray water tank, allowing the water from the gray tank to wash the black water residue from the drain lines and hose.

5. When both of the tanks are empty, flush them with fresh water before you close the valves. Flush the gray tanks by pouring a couple of gallons of water into a sink drain. The drain outlet is engineered for quick release of the drain hose adapter.
6. Always close the gate valves and secure the end cap to prevent leakage while in transit.
7. Add a holding tank deodorant to help control the odor and break down the solid waste.

Draining the Waste Water Tanks on a Coach with a Macerator Waste System (Sani-Con)

The Sani-Con macerating waste system provides the following convenient features:

- Provides a sanitary method for discharging liquid waste from the RV by easily and quickly emptying waste-water from the RV's holding tanks, without relying on gravity.
- The macerating system pumps liquid waste from holding tanks and does not rely on gravity.
- The macerator is designed to process human waste and toilet tissue, making the Sani-Con ideal for black water, as well as gray water, discharges.



1. Make sure the black and gray water dump valves are closed.
2. Point the hose nozzle upward, and remove the nozzle cap.

⚠ IMPORTANT

Select coaches equipped with a Sanicon macerator may have a valve to shut off the waste flow to the macerator drain hose. This valve can be shut off when using the larger gravity drain to prevent pressure and waste in the small hose when not in use or in the event that the small hose develops a leak. However, this valve must be open if you plan to use the macerator drain hose. You must open the valve prior to turning on the macerator.

3. Insert the nozzle into the sewer connection.
4. Open the gray water dump valve, and run the macerator pump for a few seconds to confirm that the system is operating correctly.

⚠ IMPORTANT

If there is a problem with the connection, or if the system is not functioning correctly, the macerator may need to be cleaned or serviced.

5. Shut the gray water dump valve, and turn off the pump switch once you have determined that there are no problems.
6. Open the black water dump valve, and turn on the macerator pump switch.
7. Monitor the tank as it empties. The pump will run louder when the tank is empty.
8. Turn off the pump switch once the tank is empty.
9. Flush the black tank, and operate the macerator while it is flushing.
10. Turn off the flush system, then turn off the macerator
11. Close the black water dump valve.
12. Add tank chemicals and the amount of water recommended by the chemical manufacturer. If the coach is equipped with two black tanks, add tank chemicals to both via the toilets.
13. Drain the gray tank next to help flush out the macerator and sewer hose.
14. Open the gray water dump valve.
15. Turn on the pump switch.
16. Monitor the tank as it empties. The pump will run louder when the tank is empty.
17. Turn off the pump switch once the tank is empty.
18. Flush the gray tank, and operate the macerator while it is flushing (if equipped).
19. Turn off the flush system, then turn off the macerator.
20. Close the gray water dump valve.
21. Place the cap on the hose and store it.
22. Add tank chemicals and the amount of water recommended by the chemical manufacturer.



Camping with Sewer Hook-Up

When camping at parks with sewer hook-up, it is important to keep the black water holding tank gate valve closed at all times, except when dumping. The gray tank can be kept open while hooked to a sewer connection, but the black water tank must be kept closed. This is done so that an ample supply of liquid remains in the tank to provide a smooth flow through the gate and drain valve when dumping.

Sufficient liquid in the tank causes a swirling action that should take any accumulated solid wastes with it. Accumulation of solid wastes in the black water tank can be avoided by keeping the gate valve closed when connected to the sewer hook-up. If the valve is left open, solid wastes may accumulate in the tank. This may eventually result in costly repairs.

Holding Tank Rinse (No Fuss Flush) Overview

This article provides an overview of the holding tank rinse (no fuss flush) system. The coach may be equipped with a flushing system for the holding tank(s).

Tank Rinse Overview

The basic tank rinse system consists of: a water inlet, a vacuum breaker to prevent water from siphoning back out of the tank and into the hose (normally located in a lavatory cabinet to provide placement above the height of the tank), a fixed sprayer in the tank, and connecting water lines.

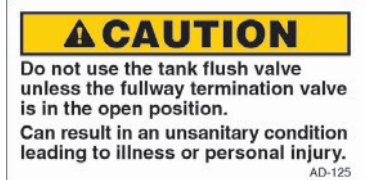


Black Tank Rinse

When draining your sewer tank, attach a water hose to the sewer spray hookup. After the tank is drained, leave the gate valve open, and open the water valve to allow water to spray inside the sewage tank.

Allow the water to rinse the tank for a minimum of three to five minutes to ensure it is clean. This should flush the inside of the tank of any debris that may be left inside. Next, disconnect the freshwater hose and close the gate valve.

If there are any solids still left inside the tank, fill the sewage tank with approximately ten gallons of water and holding tank chemical through the stool. As you travel, the agitation of the water should help liquefy any solids left in the tank. You can dump the sewage tank again at your next destination.



Grey Tank Rinse

Select coaches may also have a tank flush on the grey water tank. Follow the same flush procedure by leaving the grey tank gate valve open while flushing.

Tank Rinse Low Point Drain(s)

On coaches equipped with tank rinse low point drain(s), turning the tank rinse drain valve to the "open" position will remove pressure and drain the tank rinse line. When finished using the tank rinse, it is recommended to turn off the water supply to the tank rinse connection. Open the valve, and drain off the pressure in the line before disconnecting the water hose.

CAUTION

Do not use the same hose for the No Fuss Flush that is used for filling the fresh water tank. The gate valve to the sewage tank must be in the OPEN position while rinsing with the No Fuss Flush system.

IMPORTANT

Always drain the sewage/gray tank prior to rinsing. Never rinse a sewage/gray tank that is full. The sewage/gray tank drain must remain open while rinsing the sewage and/or gray tank, and the drain hose must be positioned to drain into an approved sewage dump station. Failure to open the sewage/gray tank dump valve will cause the sewage/gray tank to fill with water, and can cause damage to your coach plumbing and interior.

If you require additional instructions on gray/sewage tank valve operation, refer to the Waste Water Disposal article in Newgle.



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SLIDEOUTS

This chapter provides information about electric flat floor, bedroom, kitchen, wardrobe, and full wall slideouts, as well as hydraulic slideouts.

⚠ IMPORTANT

Before operating any slideout, read and follow the warning labels and operation instructions posted in your coach.

Leveling and Full Wall Slideout Sequence of Operation

This article provides step-by-step instructions for leveling the coach and operating the slideouts.

⚠ IMPORTANT

In the past, Newmar has recommended leveling the coach prior to deploying the slideouts. As of 2015, Newmar makes the following recommendation for the extension and retraction of slideouts. The following sequence of operation relates to ALL coach years and models.

Motorhomes, like all vehicles, flex in travel. Flexing may be different due to terrain and the coach's fulcrums (resting on tires or jacks). As the coach flexes, this movement is more noticeable in the outside reveal on a wider slideout.



Extending the Slideouts and Leveling the Coach

1. Park the coach on a reasonably level campsite.
2. Leave the coach at ride-height with air in the air bags (if equipped with air suspension) or on normal suspension (coaches without air suspension).
3. Plug the coach into shore power (if available) or start the generator to increase the voltage for better slideout operation.
4. Look at the "reveal" or "gap" of the two vertical wall trims around the slideouts to make sure there is plenty of clearance so the trim will not rub when extending the slideout. If the gap looks good, then the slideout can be operated. Most often, the gap will look best when sitting on the tires with the air suspension inflated (at ride-height), and not on the jacks.

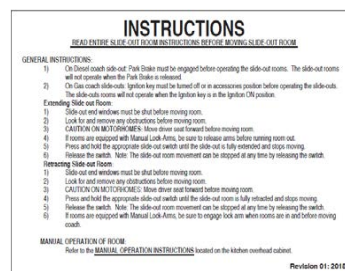
⚠ IMPORTANT

In the unlikely occasion that the slideout trim has inadequate clearances, try leveling or repositioning the coach and rechecking the clearances before extending the slideout.

5. Close all compartment doors, and verify that the path of the slideout is unobstructed and free from any surrounding objects, both inside and outside of the coach.
6. Once the appropriate conditions are met, follow the operating instructions posted in your coach to extend the slideouts (image for example only).
7. Dump the air suspension (if equipped). This step is included in the auto-leveling process for most coaches.
8. Deploy the leveling jacks.

Retracting the Jacks and Slideouts

1. Retract the leveling jacks.
2. Start the coach.
3. Allow the coach air suspension to fill and return to ride height (units without air suspension will return to normal suspension).
4. Turn the engine off.
5. Close all compartment doors, and verify that the path of the slideout is unobstructed and free from any surrounding objects, both inside and outside of the coach, including any water or debris that may have collected on the slideout roof or the topper awning. Note: If pooling has occurred after rain, one way to remove water on the slideout roof or topper is to tilt the coach using the leveling system to aid in water runoff.)



⚠ IMPORTANT

Debris left on the roof or topper may prevent the slideout from sealing properly when retracted, as well as prevent the mechanical lock arms from closing properly when the slideout is extended.

- For a full wall slideout, visually inspect the front vertical trim for adequate clearance before complete retraction (when the slideout trim spacing can be observed). The spacing should look even from top to bottom (see image for reference).

⚠ IMPORTANT

In the unlikely occasion that the slideout trim has inadequate clearances, try leveling, or if necessary, repositioning the coach, and rechecking the clearances before fully retracting the slideout.

- Retract the slideouts. Inspect all slideouts for complete retraction.
- If the coach is equipped with manual lock arms, make sure to lock them.
- Unplug the coach from shore power when you are ready to depart.

ELECTRIC SLIDEOUTS

Electric Slideout Operation

This article provides basic operation instructions for an electric slideout.

Slideout Switches

Electric Flat Floor Slideouts: Newmar pushed the RV industry forward by introducing the first flat floor slideouts. We continue to lead today with our patented flat floor slideout designs. The operating switch for the flat floor slideout is usually located in the overhead cabinet above the driver or passenger chair or the overhead cabinet above the entrance door.

Electric Full Wall Slideouts: Most electric full wall slideouts extend from the living area to the master bathroom in a Newmar coach.

Electric Bedroom Slideouts: The operating switch for the bedroom slideout is usually located on the bedroom wall. If there is a full wall slideout on the driver side of the coach, the switch may be located on the wall that separates the bedroom from the living room.

Electric Kitchen Slideouts: The operating switch for the kitchen slideout is usually located in the overhead cabinet above the driver or passenger chair or the overhead cabinet above the entrance door.

Electric Wardrobe Slideouts: The operating switch for the wardrobe slideout is usually located in the bedroom, on the wall beside the corresponding slideout.



Slideout Safety

⚠ WARNING

- Do not allow children to operate the slideout.
- Do not allow any person to place their arms, legs, body or head between any pinch point of the lock arms, slideout fascia, interior walls, exterior walls, objects, or floor as serious injury or death could result.
- Any adjustments, or repairs, must be made only by "Newmar" qualified personnel.
- Always check the interior and exterior of the coach for objects, or persons, that are in the path of the slideout when extending or retracting the room.
- Always check the room to be sure any objects, or debris, are removed before retracting the room.
- Operator must remain continually in control of the slideout room control switch while the room is moving in or out.

⚠ WARNING

Do not allow children to operate the slide-out. Do not allow any person to place their arms, legs, body or head between any pinch point of the lock arms, slide-out fascia, interior walls, exterior walls, objects, or floor as serious injury or death could result.

Any adjustments, or repairs, must be made only by "NEWMAR" qualified personnel. Always check the interior and exterior of the coach for objects, or persons, that are in the path of the slide-out when extending or retracting the room.

Always check the roof to be sure any objects, or debris, are removed before retracting the room. Operator must remain continually in control of the slide-out room control switch while the room is moving in or out.

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Electric Slideout Operation

To operate a slideout with the required voltage levels, batteries should be fully charged, the generator should be powered on, or the coach should be connected to shore power. This maintains the voltage levels required to operate the slideouts.

⚠ IMPORTANT

Read entire slideout room instructions posted in your coach before extending or retracting the slideout.

- On diesel coach slideouts: The park brake must be engaged before operating the slideout rooms. The slideout room will not operate when Park Brake is released.
- On gas coach slideouts: The ignition key must be turned off or in the accessory position before operating the slideouts. The slideout rooms will not operate when the ignition key is in the ignition ON position.

⚠ WARNING

Be sure that the driver's seat is in the forward position before activating the slideout room.

⚠ WARNING

Be sure that driver's seat is in the forward position before activating the slide out room.

NI-043

Extending the Slideout Room

1. Slideout end windows must be shut before moving room.
2. Look for and remove any obstructions before moving room.
3. Caution on motorhomes: Move the driver seat forward before moving room.
4. If rooms are equipped with Manual Lock-Arms, be sure to release arms before running room out.
5. Press and hold the appropriate slideout switch until the slideout is fully extended and stops moving.
6. Release the switch. Note: The slideout room movement can be stopped at any time by releasing the switch.

Retracting the Slideout Room

1. Slideout end windows must be shut before moving room.
2. Look for and remove any obstructions before moving room.
3. Caution on motorhomes: Move driver seat forward before moving room.
4. Press and hold the appropriate slideout switch until the slideout room is fully retracted and stops moving.
5. Release the switch. Note: The slideout room movement can be stopped at any time by releasing the switch.
6. If rooms are equipped with Manual Lock Arms, be sure to engage lock arm when rooms are in and before moving coach.

Manual Operation of Room

Refer to the Manual Operation Instructions located on the kitchen overhead cabinet. The examples provided may not be specific to your exact coach model and/or year. Manual Retraction procedures are also available in Newgle.

INSTRUCTIONS

READ ENTIRE SLIDE-OUT ROOM INSTRUCTIONS BEFORE MOVING SLIDE-OUT ROOM

GENERAL INSTRUCTIONS:

- 1) On Diesel coach slide-out: Park Brake must be engaged before operating the slide-out rooms. The slide-out rooms will not operate when the Park Brake is released.
- 2) On Gas coach slide-outs: Ignition key must be turned off or in accessories position before operating the slide-outs. The slide-out rooms will not operate when the ignition key is in the Ignition ON position.

Extending Slide-out Room:

- 1) Slide-out end windows must be shut before moving room.
- 2) Look for and remove any obstructions before moving room.
- 3) **CAUTION ON MOTORHOMES:** Move driver seat forward before moving room.
- 4) If rooms are equipped with Manual Lock-Arms, be sure to release arms before running room out.
- 5) Press and hold the appropriate slide-out switch until the slide-out is fully extended and stops moving.
- 6) Release the switch. Note: The slide-out room movement can be stopped at any time by releasing the switch.

Retracting Slide-out Room:

- 1) Slide-out end windows must be shut before moving room.
- 2) Look for and remove any obstructions before moving room.
- 3) **CAUTION ON MOTORHOMES:** Move driver seat forward before moving room.
- 4) Press and hold the appropriate slide-out switch until the slide-out room is fully retracted and stops moving.
- 5) Release the switch. Note: The slide-out room movement can be stopped at any time by releasing the switch.
- 6) If rooms are equipped with Manual Lock-Arms, be sure to engage lock arm when rooms are in and before moving coach.

MANUAL OPERATION OF ROOM:
Refer to the MANUAL OPERATION INSTRUCTIONS located on the kitchen overhead cabinet.

Revision 01: 2018

INSTRUCTIONS

MANUAL SLIDE-OUT ROOM EXTENSION AND RETRACTING INSTRUCTIONS

READ ENTIRE SLIDE-OUT ROOM INSTRUCTIONS BEFORE MOVING SLIDE-OUT ROOM

MOTORS WITHOUT MANUAL DRIVE INUT:

- 1) Manual lock arms must be released from locked position prior to extending the room.
- 2) Access must be gained to the motor attachment bolts. Remove the bolts and slide the motor off the square part of the shaft.
- 3) Once the motor is off, the slide out can be pushed manually in or out.

MOTORS WITH MANUAL DRIVE INUT:
If the unit is equipped with the shaft through the gearbox motor which is mounted near the center of the slide-out room, use the following directions:

- 1) Manual lock arms and power locks must be released from locked position prior to extending the room.
- 2) Access must be gained to the slide out motor located in the center of the slide out room.
- 3) Releasing the motor's "Electro-Mechanical Brake": At the end of the motor remove the black plastic cover. Remove the tie-wrap and put the cover off the motor. You must apply a 12 volt power source to release the brake. A source such as a charged 9V battery will work. To apply the power source, separate the electrical connectors between the motor and brake and attach the connectors which lead to the brake to your power source. This will release the brake and allow manual cranking.
- 4) The manual extension or retraction requires only a 5/8" socket and ratchet wrench. By placing the socket on the 5/8" hex nut located on the gear box of the 900 motor, the slide-out can be moved in either direction by turning the hex nut.
- 5) If the slide-out does not move by using the hex nut, the room can be extended or retracted by using the procedure described for motors without the manual drive nut.

MANUAL OPERATION OF INUT ROOM:
Refer to the MANUAL OPERATION INSTRUCTIONS located in owners manual.

Revision 01: 2018

Electric Slideout Maintenance

This article provides care and maintenance information for the electric slideout. Electric slideout drive mechanisms do not require lubrication as part of the scheduled maintenance. Some noise is normal during extension and retraction from the various moving parts and seals.

Chains, Rollers, and Tubes

If a technician determines lubrication is needed on some component(s) such as chains, rollers, or tubes, Newmar recommends using a light coat of LPS 1 Greaseless Lubricant, which provides a dry, thin lubricating film that is resistant to dirt and dust buildup.

IMPORTANT

Newmar does not recommend the use of grease, silicone, or WD-40 on the slideout tubes or chains, as these products tend to collect dirt and dust.

Seals

If slideout seal lubrication is necessary, the slideout seal provider ([Clean Seal](#)) recommends using a silicone-based spray or water-based 303 protectant on the rubber slideout seals. They state this will not hurt the seal. They also stated that baby powder could be used but would need to be applied frequently, as it would wash away. The silicone base spray would last longer and would not need to be applied as often. Newmar recommends bi-annual treatment of slideout seals.

Motor Mounting Bolts

In addition, the torque on all electric slideout motor mounting bolts should be checked annually by an Authorized Newmar Service Center.

Cleaning the Slideout Rollers

This article provides information about when and how to clean the rollers on an electric slideout.

When to Clean the Rollers

IMPORTANT

It is important to clean the slideout rollers under the floor regularly. Dirt and other debris may adhere to the rubber coating on the rollers, which may lead to a dull finish, scratching, scoring, or further damage to the flooring. Such damage is NOT covered under warranty.

There is no set schedule for cleaning the slideout rollers. It will vary based on the cleanliness of the coach, and other factors such as dust, dirt, sand storms, as well as the type and condition of the roads traveled.

The following list provides examples of when the rollers should be cleaned:

- Liquid spills on the roller, floor, or under the slideout
- Fragments from broken glass, pottery, or other sharp objects on the roller, floor, or under the slideout
- Sand or other abrasive materials on the roller, floor, or under the slideout
- Hair wrapped around the roller or shaft
- The roller begins sliding on the floor instead of rolling smoothly

IMPORTANT

Slideout rollers may leave indentations in the flooring. This condition is normal and does NOT warrant flooring replacement.

How to Clean the Rollers

1. The slideout rollers can usually be accessed by extending the slideout half way.
2. Blow any remaining debris from under the slideout.
3. If possible, clean the ramps for the electric flat floor slideouts.
4. If more room is necessary to clean the ramp and rollers, push out on the top of the room and slide a wooden wedge between the floor and the bottom of the slideout in a few different places to create more clearance.
5. Clean the rollers one at a time with a soft cloth and a mild cleaner. A wet Swiffer cloth can also be used. Do not use harsh cleaners or solvents that may soften plastics.
6. Another alternative is to clean a portion of each of the rollers, then move the room slightly to clean the next portion. Repeat this process until all of the rollers have been cleaned all the way around.

Manually Retracting a Scissor-Style Slideout

halfway This article provides manual retraction instructions in case of emergency for manual retraction of the scissor-style slideout system introduced in select 2023 coach models and floorplans.

Overview

The manual retraction process requires the use of a ratchet with a 9/16" socket. You may view and access both the left and right-hand motors by looking over the top of the fascia at the corresponding corner. It may be necessary to get on the bed or use a step stool. The top of each motor assembly has a recessed bolt head.



Retraction Process

1. To retract the slideout, reach over the fascia using a ratchet and socket.
2. Place it on the bolt head, and turn the bolt. As the bolt is turned, the slideout will begin to move.

On the left-hand motor, turn the bolt counterclockwise to retract the room on the left side. Turn the bolt clockwise to extend the room on the left side.

On the right-hand motor, turn the bolt clockwise to retract the room on the right side. Turn the bolt counterclockwise to extend the room on the right side.

⚠ IMPORTANT

Only move the room 5 to 6 rotations at a time on one side. Then go to the opposite side and rotate it the same number of rotations. You must alternate back and forth between the right and left sides to manually operate the slideout, or the slideout will bind up in the opening. After moving the room approximately half way, it is recommended to use a tape measure to check the slideout side-to-side to verify that each side is being moved equally.



After the slideout is fully retracted on both sides and is flush with the slideout opening, it is safe for the coach owner(s) to travel to an authorized service center for diagnosis and repair.

Manually Retracting an R3 or O1 Series Electric Bedroom Slideout with a Square Shaft

This article provides instructions for manually retracting a bedroom slideout with a square shaft if it will not retract on its own.

⚠ IMPORTANT

If the slideout is stuck in the retracted position, take the coach to an authorized service center for diagnosis and repair. Do NOT attempt any of the following procedures.

⚠ IMPORTANT

Prior to proceeding with a manual retraction procedure, make sure the ignition key is in the off position and the park brake is set. Then, try retracting the slideout again, as some controllers require the ignition to be off, and others require the park brake to be set.

⚠ WARNING

The manual retraction procedures are for emergency use only. These procedures bypass all normal safety features. It is the responsibility of the person(s) performing the procedure to watch for moving parts and pinch points in order to avoid injury.

Option 1

This option requires the motor and gear box to be operational. This procedure bypasses the slide controller, switch, and the wiring. If battery power is unavailable, or if the motor/gear box is inoperable, move to a different option.

⚠ IMPORTANT

This procedure can be performed on any single motor electric slideout.

1. Disconnect the red and black wires connected to the motor.
2. Using the the wires attached to the motor, connect to a 12 volt cordless battery to retract the slideout. If the wire polarity is reversed, the slideout will extend instead of retract.

⚠ IMPORTANT

If the slideout motor has a brake installed, you must also hook one brake wire to the battery with the red slideout motor wire and one with the black slideout motor wire.

This can also be done at the slideout controller's wiring harness by removing the motor's red and black harness plug from controller and jumping a 12 VDC power source at the Molex plug.

3. Disconnect the wire(s) from the cordless battery pack.



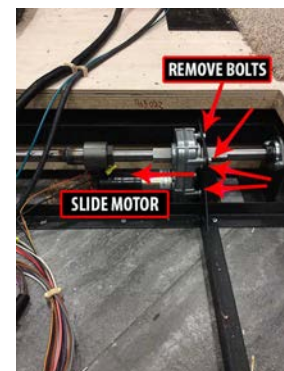
Option 2

If the slideout is stuck in the extended position and option 1 is unavailable or fails:

Remove the four mounting bolts, and move over the slideout motor until it disengages from the square shaft. Manually push the room in or out. Then complete the remaining steps:

Coaches with Mechanical Lock Arms

1. Slide the motor back over onto the square shaft, and reinstall the four mounting bolts.
2. The motor and brake assembly must be installed (or another way devised) to hold the slideout in the retracted position prior to traveling.
3. Take the coach to an authorized service center for diagnosis and repair.



⚠ IMPORTANT

This procedure can be performed on coaches with a brake on the slideout motor.

Option 3

If the slideout is stuck in the extended position and option 1 and/or 2 is unavailable or fails, try the following steps to manually retract the slideout by removing the brake and turning the shaft. Only a few tools are necessary to complete this procedure; however, it requires the gear box to be operational.

⚠ IMPORTANT

Make sure you do not damage portions of the shaft that will slide through the motor, trantorque, bearing, and cog wheels.

1. First, locate the strap that secures the rubber boot on the outside of the motor.
2. Remove the strap, and pull off the rubber boot, removing it from the motor.
3. Remove the four screws from under the rubber boot on the brake.
4. Once the brake is removed, use a wrench to turn the shaft to retract the slideout.
5. After the slideout is fully retracted, reinstall the brake.

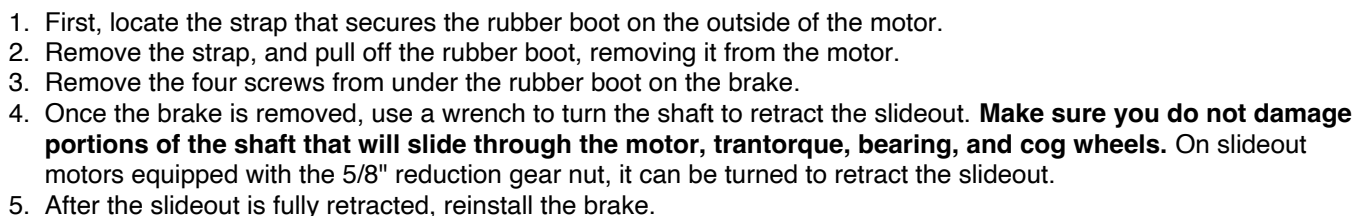


! IMPORTANT

⚠ WARNING

! IMPORTANT

1. Disconnect the red and black wires connected to the motor.
2. Using the the wires attached to the motor, connect to a 12 volt cordless battery to retract the slideout. If the wire polarity is reversed, the slideout will extend instead of retract. **If the slideout motor has a brake installed, you must also hook one brake wire to the battery with the red slideout motor wire and one with the black slideout motor wire.** This can also be done at the slideout controller's wiring harness by removing the motor's red and black harness plug from controller and jumping a 12 VDC power source at the Molex plug.
3. Disconnect the wire(s) from the cordless battery pack.



Option 3 - Wardrobe Slideout Motor with Square Shaft

⚠ IMPORTANT

This procedure can be performed on coaches with a brake on the slideout motor.

If the Slideout is Stuck in the Extended Position

Remove the four mounting bolts, and move over the slideout motor until it disengages from the square shaft.

Manually push the room in or out, or use a wrench to rotate the shaft. Make sure you do not damage the shaft with the wrench.

with Manual Lock Arms

1. Lock the room with manual lock arms (if equipped).
2. Take the coach to an authorized service center for diagnosis and repair.

with Mechanical Lock Arms

1. Slide the motor back over onto the square shaft, and reinstall the four mounting bolts.
2. The motor and brake assembly must be installed (or another way devised) to hold the slideout in the retracted position prior to traveling.
3. Take the coach to an authorized service center for diagnosis and repair.



⚠ NOTICE

Depending on the year, model, and floorplan of the coach, the exact slideout motor(s) location may vary. Generally, they may be accessed from under the slideout in the compartment area. Some motors may also be located in the wheel well area under a cover.

Manually Retracting a Dual Motor Electric Full Wall or Kitchen Slideout with Square Shaft

This article provides manual retraction procedure options for a dual motor electric full wall or kitchen slideout with a square shaft.

Due to the dual motor setup, manual retraction using a separate battery or 12V source is not recommended since motors run at different speeds. This may increase the risk of binding the room and/or causing extensive damage to the drive assembly.

Option 1

⚠ IMPORTANT

This procedure can be performed on coaches with a brake on the slideout motor.

If the slideout is stuck in the extended position, try the following steps to manually retract the slideout by removing the brakes from each motor and turning the shaft. Only a few tools are necessary to complete this procedure; however, it requires the gear box to be operational and the person(s) retracting the room to keep the slideout from binding. This can be done by alternating moving each side in small increments or by turning each side simultaneously with a person at or near each motor or shaft assembly.

1. First, locate the strap that secures the rubber boot on the outside of the motors.
2. Remove the strap, and pull off the rubber boot, removing it from the motors.
3. Remove the four screws from under the rubber boot on the brake.
4. Once the brake is removed, use a wrench to turn the shaft to retract the slideout. **Make sure you do not damage portions of the shaft that will slide through the motor, bearing, and/or cog wheels.** On slideout motors equipped with the 5/8" reduction gear nut, it can be turned to retract the slideout.
5. After the slideout is fully retracted, reinstall the brake.



Option 2

Remove the four mounting bolts, and move each slideout motor until it disengages from the square shaft.

Manually push the room in or out, or use a wrench to rotate the shafts. Make sure you do not damage the shafts with the wrench and keep the room in sync to prevent binding.

Coaches with Mechanical or Scissor Lock Arms

1. Slide the motors back over onto the square shaft, and reinstall the four mounting bolts at each motor.
2. The motor and brake assembly must be installed or another way devised to hold the slideout in the retracted position prior to traveling.
3. Take the coach to an authorized service center for diagnosis and repair.

NOTICE

Depending on the year, model, and floorplan of the coach, the exact slideout motor(s) location may vary. Generally, they may be accessed from under the slideout in the compartment area. Some motors may also be located in the wheel well area under a cover.

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CARE AND MAINTENANCE

This chapter includes information about required and recommended maintenance, inspection of components, as well as other maintenance items to help retain the coach's dependability, safety, visual appearance, and resale value.

⚠ IMPORTANT

Read and follow all maintenance schedules to meet warranty requirements.
Preventive maintenance and scheduled maintenance items are not warrantable.
Damage caused by improper or unapplied maintenance is not covered by your Newmar Limited Warranty.

How to Weigh a Coach

This article provides the Newmar-recommended procedure for weighing the coach. Below are some samples of the weight information labels that may appear in your coach.

⚠ IMPORTANT

The sales literature may give approximates or standards. Each individual unit may weigh differently based on the factory and/or dealer options added.

Weight Descriptions

The following definitions are provided to help with communication issues with weight and your coach.

Gross Axle Weight Rating (GAWR): The maximum permissible weight for an axle.

Gross Combination Weight Rating (GCWR): The value specified by the manufacturer of the vehicle as the maximum allowable loaded weight of the motorhome and any towed trailer or towed vehicle.

Gross Vehicle Weight Rating (GVWR): The maximum permissible weight of the fully-loaded motorhome. The GVWR is equal to or greater than the sum of the UVW plus the CCC. (GVWR = UVW + CCC)

Unloaded Vehicle Weight (UVW): The weight of this motorhome as built at the factory with full fuel, engine oil, and coolants. The UVW does not include cargo, fresh water, propane gas, or dealer-installed accessories.

Cargo Carrying Capacity (CCC): The weight equal to GVWR, minus each of the following: UVW, full fresh (potable) water weight (including water heater), full propane gas weight, and SCWR. (CCC = GVWR - UVW - Water Weight - Propane Weight - SCWR)

Gross Vehicle Weight (GVW): The weight of the unit with all items and supplies that are loaded into the unit at any point in time.

Sleeping Capacity Weight Rating (SCWR): The manufacturer's designated number of sleeping positions multiplied by 154 pounds (70 kilograms).

MANUFACTURED BY / FABRIQUE PAR:		DATE:	
GVWR/PNEU	KG (LB)	TIRES/PNEU	RIMS/LIANTE
FRONT / AVANT	KG (LB)		COLD INFL. PRESS./PRESS. DE GONFL. À FROID
			SPN - SINGLE DUAL
			PSI/KPa <input type="checkbox"/> <input type="checkbox"/>
INTERM / INTERM	KG (LB)		SPN - SINGLE DUAL
			PSI/KPa <input type="checkbox"/> <input type="checkbox"/>
REAR / ARRIERE	KG (LB)		SPN - SINGLE DUAL
			PSI/KPa <input type="checkbox"/> <input type="checkbox"/>

THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
 THIS VEHICLE CONFORMS TO ALL APPLICABLE STANDARDS PRESCRIBED UNDER THE CANADIAN MOTOR VEHICLE SAFETY REGULATIONS IN EFFECT ON THE DATE OF MANUFACTURE. - CE VEHICULE EST CONFORME A TOUTES LES NORMES QUI LOI SONT APPLICABLES EN VERTU DU REGLEMENT SUR LA SECURITE DES VEHICULES AUTOMOBILES DU CANADA EN VIGUEUR A LA DATE DE SA FABRICATION.

VIA/IN/EX: TYPE/TYPE:

MOTOR HOME OCCUPANT AND CARGO CARRYING CAPACITY
 VIN: #####
THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED:
 XXX kg or XXX lbs
 Safety belt equipped seating capacity: XXX
CAUTION:
 A full load of water equals XXX kg or XXX lbs of cargo @ 1 kg/L (8.3 lb/gal) and the tongue weight of a towed trailer counts as cargo

Figure 1 - Motor Home Occupant and Cargo Carrying Capacity Label

Weighing Your Coach

⚠ IMPORTANT

To ensure the accuracy of your weights, make sure the unit is always level during weighing.

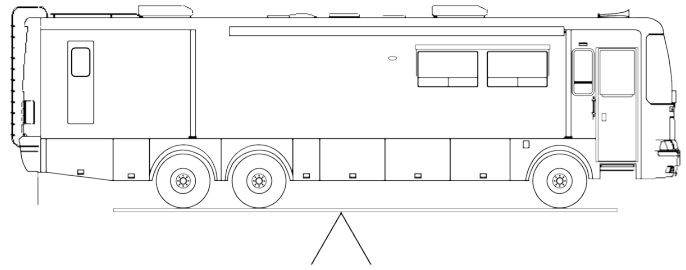
The unit has been built to comply with the component suppliers' recommended limits to provide you with a realistic CCC. When loading the unit, distribute the items so that not all of the weight is added to one area of the unit.

Gross Vehicle Weight (GVW)

If you have questions as to what the weight of the unit is after it has been loaded, take the unit to a drive-on scale or use individual wheel scales, and verify that the weights are within the limits of those specified for the unit.

When weighing the unit, follow these instructions. Failure to follow these instructions may give an erroneous weight reading.

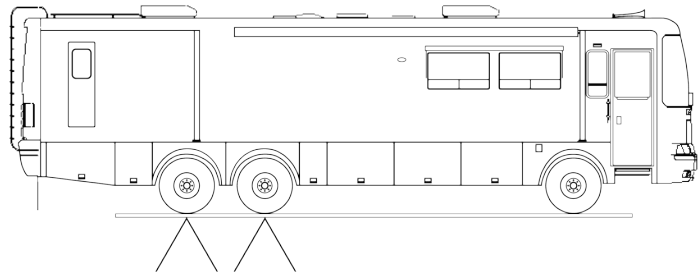
To find the total weight of the unit, pull the unit onto the scales so that all of the wheels are on the scale as shown. Record the weight. This is the GVW and should not exceed the GVWR supplied by Newmar for the unit.



Gross Vehicle Weight (GVW) Minus Front Axle

To find the total weight of the coach, except for the front axle, move the unit so that the front wheels are off the scales as shown. Record the weight.

This weight should not exceed the total rating of the axles remaining on the scales. The front axle weight is determined by subtracting this weight from the GVW that was obtained in step one. This amount should not exceed the listed front axle weight rating.

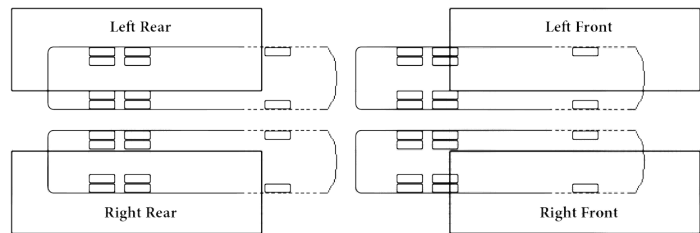


Alternate Weighing Procedure

The recommended procedure to accurately weigh a motorhome is on individual corner scales. Since these are not always available, this diagram shows how to weigh a motorhome on a typical truck scale.

Since only one corner can be weighed at a time, the remaining three corners need to be as close to the scale as possible without being on the scale, and the unit needs to be as level as possible.

Remember, wind and rain can cause inaccuracies in weights.



IMPORTANT

Your coach has been aligned at the factory as part of the production process. To provide optimum tire longevity and offer the best handling characteristics, Newmar recommends you have your unit re-aligned after loading your belongings. Though highly recommended, this alignment is not mandatory, and as such, is not warrantable by Newmar or the chassis manufacturer.

Washing and Drying a Coach

This article provides the BASF/Newmar-recommended procedure for washing and drying the coach.

IMPORTANT

Damage caused by inappropriate or unapplied maintenance is not covered under warranty as expressed in the Newmar Expressed Limited Written Warranty.

Washing the RV

Following these procedures can provide a long-lasting, high-gloss finish to your RV. These same procedures can also be applied to your everyday automobile, producing the same long-lasting results.

The clear coat used on all painted Newmar RVs is similar to the technology used by automotive manufacturers. The painted surface is baked in our state-of-the-art bake booths which cures the clear coat finish. The end result is a Masterpiece Finish which is the highest quality in the industry. The same care needs to be performed and maintained on the RV exterior surface as on an automobile finish.

Make sure the coach's surface temperature is under 90 F. Never wash the vehicle in direct sunlight, [while the vehicle is hot, or with hot water].

Rinse the entire coach to remove all loose dirt and grime. Never hold a pressure washer close to the surface. Use a fan type spray nozzle, making sure that the water coming out of the gun has a fan and not a single straight stream.

NOTE FROM NEWMAR

Keep the stream at least 18 inches from the edge of any decals, as high pressure water may cause the decals to loosen and peel.

Most automotive stores offer mild car wash shampoos that are safe for clear coat finish. We recommend using baby shampoo as it will not leave a film on the painted finish. Adding ½ of a cup of food-grade vinegar to the water will boost the cleaning ability of any cleaner and also soften the water. This also helps to minimize water spots.

IMPORTANT

Do not use dish soap, detergents with degreasing agents, or industrial cleaners as they can cause damage to the finish.

NOTE FROM NEWMAR

Do not use solvents such as acetone, MEK, toluene, etc. on the decals. Any solvent including alcohol may soften or smear colors. Do not use lacquer thinner on the paint or decals. Do not overcoat the decals with clear paint. Do not allow gasoline or other fuels to drip or stay on the decals for any length of time. If this occurs, immediately flush the area with water.

Use 100% cotton or lambs-wool pad or wash mitt for washing the painted surface of the RV. Use a different mitt for washing the wheels and undercarriage. Change water in the wash bucket often or place a "dirt guard" in the bottom of the bucket to keep the cleaning pad or wash mitt free of dirt and debris.

The following products may assist you when cleaning your coach, and may be purchased through the Newmar parts department:

- Lambswool Pad (Newmar part #018461A)
- 4-way Swivel Pad Holder (Newmar part #018461)
- Lambswool Mitt (Newmar part #018464)
- Extension Pole (Newmar part #018463)
- EZE Squeegee (Newmar part #016462)

IMPORTANT

Absolutely no brushes should be used on the painted surface. Use of these on your RV's painted surface will cause damage to the finish, as it would an automobile finish. Newmar does not support using of any style, type, or material of brush, even though it may be marketed as 'RV Safe' or 'Approved.'

NOTE FROM NEWMAR

The use of any cleaning products outside of Newmar's recommendation is at the customer's discretion. However, Newmar and BASF take no responsibility for any scratches, swirls, or damage to the finish of the coach caused by the use of non-recommended products.

Drying the RV

Drying the RV is just as important as washing it. Today's tap water and well water contains many chemicals that could leave water stains on the finish. After washing, dry the RV with EZE Squeegee (Newmar part # 018462) or a clean 100% leather chamois.

IMPORTANT

You can also use fresh microfiber towels for drying. Please use caution, as these towels are made partially with polyester (which is plastic), which can break down over time from extended use and washing, eventually causing damage to the clear coat finish.

Source(s): BASF Recommended procedures for a long-lasting, high-gloss finish, AD6622 REV 11.2021

Product(s): [BASF Finishes](#)

Waxing and Polishing a Coach

This article explains the BASF/Newmar-recommended benefits and suggestions for using waxes and polishes to maintain your coach's finish.

The coating on your RV is a state-of-the-art base coat/urethane clear coat. This means that what you wash and polish is a clear coating designed to protect the colored base coat. The clear coat needs to be maintained especially in harsh environments. Clear coats will appear to fade or lose gloss as the surface becomes contaminated by the environment. A finish that is dull or low in gloss is a result of contamination. Occasional washing alone will not adequately remove some forms of contamination and will require polishing of the finish.

Polishes and waxes primarily serve to:

- Remove minor surface imperfections caused by water spots and acid rain.
- Remove minor scratches by filling them and leveling the surface.
- Seal the pores of the finish creating an easier-to-clean surface.
- Beautify the paint finish appearance with more depth and high gloss.
- Protect the paint finish from the elements.

IMPORTANT

Do not use products that contain harsh abrasives such as rubbing compounds. These products should be used by an experienced technician with proper training and equipment.

Most polishes and waxes are designed to clean and polish in one application, whether by hand or machine. A machine-applied polish will last longer than one applied by hand because the high RPMs of the buffing wheel create heat, resulting in a deeper film with higher gloss. However, a hand-applied polish or wax will offer outstanding performance and protect the RV's finish. When applying the polish or wax, do so in a shaded area making sure the RV surface is at the specified temperature according to the polish manufacturer's recommendations.

NOTE FROM NEWMAR

Apply polish or wax while the coach is parked in a shaded area so the coach's surface is at the specified temperature according to the polish manufacturer's recommendations.

Due to the variations of polishes and waxes, incorporate the following:

- Condition the polishing pad by rubbing a slight amount of polish on it.
- Use only the amount of polish specified in the label directions.
- Work a small area at a time.
- Rinse off and remove dried polish from crevices, trim and moldings.

NOTE FROM NEWMAR

The exterior finish of your coach will require a routine waxing. When water will not bead and roll off a freshly washed vehicle, a new coat of wax is needed. Wax not only improves the appearance of the vehicle, but it also protects the finish against oxidation and corrosive materials. The recommended type of wax is one that is compatible with painted or gel-coated fiberglass finishes, and contains a UV (ultra-violet) inhibitor. Buffing with a polishing compound will improve a dull or discolored finish.

NOTE FROM NEWMAR

When using a polishing compound that does not contain a wax preservative, reapplying a coat of hard wax after polishing is recommended.

IMPORTANT

Refrain from waxing or polishing for at least 90 days from [the coach's] date of manufacture.

Source(s): BASF Recommended procedures for a long-lasting, high-gloss finish, AD6622 REV 11.2021

Product(s): [BASF Finishes](#)

How to Clean Exterior Chrome

This article provides the Newmar-recommended procedure for maintaining your exterior chrome accessories.

Removing Tarnish and Water Spots

Wash chrome items with soap and water the same way you wash the exterior paint. If the chrome still has some tarnish and water spots on it, clean it with a soft cloth and vinegar. Add a little baking soda to the rag if you need a stronger cleaner.

Removing Rust/Oxidation

Rust is not a warranty issue, as it is a common occurrence (especially in southern states where there is a lot of humidity) and requires frequent maintenance. Most exterior chrome can be cleaned, even the plastic, except for the side marker light bezels. To clean oxidation/rust off of the chrome, complete the following steps:

1. Regularly clean chrome with WD-40 using a white or blue Scotch Brite pad or very fine steel wool. Test it in an inconspicuous area to ensure no damage is occurring while using the pad or steel wool.
2. Then use a chrome polish to help maintain the finish and make it last longer.

IMPORTANT

The more often the chrome is cleaned, the easier the cleaning process. Coaches exposed to salt spray from the road or ocean air should be cleaned more often to maintain the best appearance.



How to Winterize a Coach

This article provides the Newmar-recommended step-by-step instructions for winterizing a coach. Follow the winterizing instructions to reduce the risk of leaks caused by cracks from freezing pipes.

WARNING

Winterizing is the responsibility of the consumer. Make sure you have protected the complete water system any time your coach is in freezing temperatures. Failure to complete the winterization process may result in extensive damage to the water system, appliances, and coach. Damage caused by the fresh water system freezing can be extensive and costly to repair.

If a new coach has been winterized before leaving the production factory, it may be equipped with the following label: "This fresh water system has been protected with non-toxic anti-freeze. Please flush and drain lines before using."

IMPORTANT

Once water has been introduced into the system, it is no longer protected and must be winterized again any time the coach may be subjected to freezing temperatures.

**This fresh water system
has been protected with
non-toxic anti-freeze.
Please flush and drain
lines before using.**

AD-70

NOTICE

The following instructions are generic to Newmar coaches and are NOT specific to your coach. They should only be used as a reference guide for this process. Appliances, drain locations, and plumbing components may vary by coach. The following images are for example purposes only. Your coach may or may not be equipped with the same components as shown.



When to Winterize a Coach

Although great care has been taken to build a well-insulated unit, recreational vehicles are not intended for extended use in sub-freezing weather without special precautions. When the outside temperature drops below freezing, the furnace must be turned on to keep the coach warm. Continued use in cold weather will require the coach to be winterized.

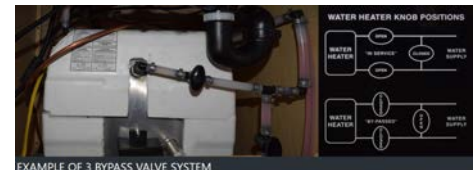
It is critical to winterize the plumbing in your coach when storing it in temperatures below freezing or using it in extremely cold conditions. If subjected to these conditions without being properly winterized, the heating system may be unable to keep the coach and its compartments above freezing temperatures.

IMPORTANT

A regulated compressed air supply is needed to properly complete this procedure. The pressure should be regulated between 40 and 60 PSI (pounds per square inch). Higher pressures may cause damage.

How to Winterize a Coach

1. Drain the black and grey tanks. If equipped, also empty the macerator hose.
2. Drain the fresh water tank. Open the tank drain valve located in the driver-side water bay.
3. Turn off the switch(es) to the water heater or the hydronic heating system, including the burner and the 120 Volt element, depending on your coach's equipment.
4. Turn on the refrigerator.
5. While the tank is draining, remove all of the water filters. Install a bypass or the filter canister, including the whole house, refrigerator, and drinking water filters (whether standard or UV), if your coach is equipped.
6. For units with a tank-style water heater instead of a hydronic heater:
 - a. Close the valves to the water heater, and open the bypass valve, which is normally located at the back side of the water heater. Depending on your particular floor plan, access to the back of the water heater may be located in a cabinet, the closet, or in an exterior compartment.
 - b. Remove the drain plug at the bottom of the water heater tank on the exterior of the coach.



IMPORTANT

The 120 Volt water heater element must be turned off by flipping the switch near the water heater's drain plug.

NOTICE

For units with a tankless water heater, do NOT put the water heater in by-pass mode. Instead, blow it out, and install the antifreeze as directed for a hydronic heater.

IMPORTANT

On coaches equipped with a Truma AquaGo water heater mounted above the floor line of the coach, open the low point drain located in the hot water recirculation loop between the shower loop and the water heater. The exact location will vary, but the low point drain is typically located in the basement area at or near the lowest point in the loop and may be marked with a low point drain label.

7. Open the low point drains by turning the valve to the "open" position or by pulling up on the handle if the coach is equipped with T-Handle valves. There should be one drain for hot and one for cold, and they are normally located in the water compartment.
8. Connect the regulated air supply to the inlet of the hose from the hose reel (if equipped) or the city water fill inlet using a blowout plug. Air will flow out of the low point drains.
9. Cycle all faucets and the auto fill or tank fill valve (whichever the coach is equipped with) to all possible positions for a minimum of 10 seconds at each position. Do not forget the hot water spigot with low point drain next to the generator (if equipped).
10. Cycle the tank fill valve to all positions in order to purge water out of the lines and valve assembly.

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⚠ IMPORTANT

On coaches equipped with Aqua View Showermi\$er Fresh Water Reclamation System, cycle the valve to the bypass position to purge the water out of the line back to the fresh water tank while pressurized air supply is connected. Then place the valve back to normal flow mode to the shower head, and then purge the shower. Do not leave the valve in bypass mode when running antifreeze in the line because it will allow antifreeze into the fresh tank.

11. After blowing the water out of the system with pressurized air, disconnect the hose, and pour approximately one cup of antifreeze into the hose. Hook the hose back up to the pressurized air, and blow the antifreeze through the hose and hose reel to protect it.
12. Close the low point drains. This must be done prior to pumping antifreeze through the lines, or the antifreeze will be pumped onto the ground.
13. Remove the whole house filter canister, and dump any remaining water, and reinstall.
14. Locate the winterizing valves marked "A" & "B" located in the water compartment.
15. Close valve "A" by rotating the valve clockwise. Open valve "B" by rotating the valve counter clockwise.
16. Remove the plug at the end of the clear winterizing hose.
17. Insert the hose into a jug or bucket of antifreeze.
18. Replace the empty jugs, or refill the bucket as needed to complete the entire process.
19. Turn on the water pump by activating water pump switch. Red antifreeze will start flowing through the clear hose into the water lines.
20. Run cold water from the kitchen faucet until the red potable antifreeze is detected. Run hot water from the kitchen faucet until the antifreeze is detected.

⚠ IMPORTANT

Make sure you run enough antifreeze through each faucet to fill each P-trap.

21. Proceed to the next faucet, and repeat process for each faucet, including the lavatory, shower sprayers, and outside shower faucet. If equipped, repeat the process for the instant hot water, drinking water dispensers, and hot water spigot with low point drain (next to the generator).

⚠ IMPORTANT

For coaches equipped with a sink or shower connected to a Saniflo Sanivite lift pump, the lift pump must be completely emptied, or enough RV antifreeze must be poured down the drains to allow the lift pump to cycle until the antifreeze concentration is sufficient for freeze protection. Pour at least one liter of antifreeze down the drain connected to the lift pump. Make sure the pump cycles at least once, then pour another liter down the drain. Wait for the lift pump to cycle again; then the remaining liquid in the lift pump should have an adequate antifreeze concentration at this point.

22. Flush each toilet until the red antifreeze is detected. If the toilet is equipped with a sprayer, activate and flush it until the antifreeze flows from the sprayer.
23. Run the dishwasher through a cycle to winterize the water inlet plumbing, as well as the pump and drain line.
24. If the coach is equipped, turn on the washing machine. Select a wash cycle setting that uses warm water to activate both the hot and cold inlet valves. Allow the washing machine to fill for approximately two minutes. Press the "cancel" and "drain" selection to begin draining the machine. This will winterize the pump and drain, as well as the washing machine's P-trap.
25. Depress the refrigerator's external water dispenser while holding a container to catch the fluid. Continue to let the fluid flow until the red antifreeze is detected.

⚠ NOTICE

The red antifreeze may not appear instantly, as most refrigerators have a reserve for cold water. However, if you did not remove the water filter in the refrigerator in Step 5, the fluid will run clear for a long time.

26. Make sure the ice maker is turned on. Once it reaches the proper temperature, it will attempt to make ice cubes, which will become pink in color. This may take several hours. Once they become pink, turn off the ice maker and the refrigerator. Empty the ice cube tray, and clean out the ice maker and freezer area.

⚠ NOTICE

If the coach is equipped with an Oasis hydronic heating system, it will automatically be winterized as the antifreeze circulates through the coach's fresh water system.

27. Turn off the water pump. Close the winterizing valve "B", and open valve "A".
28. Insert the plug into the clear hose, and stow the winterizing hose.
29. If the coach is equipped, winterize the macerator by turning it on and emptying the black and gray holding tanks, allowing the macerator and macerator hose to fill with antifreeze. If there is no macerator in the coach, use the sewer hose to drain the black tank, followed by the gray tank.

How to De-Winterize a Coach

This article provides the Newmar-recommended step-by-step instructions for de-winterizing a coach.

1. Connect your water hose to a fresh potable water supply.
2. Set the auto fill or tank fill valve for city water supply.
3. Run water through each faucet, toilet, and shower on both hot and cold settings.
4. Run the dishwasher and the washing machine through a complete cycle before using.
5. Depress the refrigerator water dispenser while holding a container to catch the fluid being dispensed. Continue until clear water is dispensed.
6. Install the refrigerator filter (if equipped).
7. Turn off the water supply drain pressure from the system using low point drains. Install all filters in the system.

NOTICE

Newmar recommends installing clean filters unless the sanitization process will also be completed at this time.

8. Close the low point drains.
9. Turn on the ice maker, allowing it to run through multiple cycles. Throw away any ice with antifreeze. Clean out the ice maker and the tray until clear ice is available.
10. If the coach is equipped with a water heater, install a drain plug. Open the water heater valves, and close the by-pass valve on the back side of the water heater.
11. Turn on the fresh potable water supply.
12. Open the hot water faucet until the water heater is filled and flows through the faucet without air.
13. Flip the water heater switch to the "ON" position. This is located near the drain plug (if equipped with a water heater).
14. Check the tank level, and dump if necessary.
15. The coach is now ready to use.

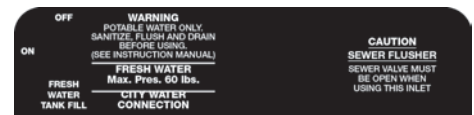
How to Sanitize the Water System

This article provides the Newmar-recommended step-by-step instructions for sanitizing a complete water system.

NOTICE

The following instructions are generic to Newmar coaches, and are NOT specific to your coach. They should only be used as a reference guide for this process. Appliances, drain locations, and plumbing components may vary by coach.

Follow the sanitizing instructions to reduce the risk of fresh tank contamination. All of the water should be drained from the fresh water system when the coach is not in use for more than one week. Whenever possible, drain the fresh water tank before traveling or only carry what you will need to get to your destination. Water in the tank will reduce the carrying capacity of the coach.



When to Sanitize the Water System

Newmar recommends sanitizing your water system under the following scenarios to discourage organic growth and contamination:

- Purchasing a new or used coach
- After your coach has been in storage for a lengthy amount of time
- At least once per year for proper maintenance
- If an unpleasant odor arises from your water

The Fresh Water System may need to be sanitized more often depending on the source of the water supplied to the coach.

How to Sanitize the System

1. Drain the fresh water tank by turning the tank drain valve to the open position.
2. Drain the water heater (if equipped) by removing the drain plug.

NOTICE

Do not attempt to drain the water heater when the water is hot or the system is pressurized, as scalding may occur.

While the tank is draining, remove all of the water filters, including the refrigerator and drinking water filters (standard or UV), if your coach is equipped, and install a bypass. Not all filters have a "bypass," so it may be necessary to install the canister without the filter.

3. Remove the main (whole house) filter housing.
4. Remove the filter, and pour household bleach (1/4 cup per 15 gallons, as determined by your tank capacity) into the filter housing. For example: 1.75 cups of bleach for coaches equipped with a 105 gallon fresh water tank or 1.25 cups of bleach for coaches equipped with a 75 gallon fresh water tank. This will approximately be a 50 ppm (parts per million) bleach solution.

NOTICE

For any coaches not equipped with a whole house filter, skip these steps. Instead, use a funnel to pour bleach into the hose before connecting the coach to a potable water supply.

5. Reinstall the housing and the water heater drain plug after it has drained completely.
6. Hook up the water hose from the hose reel (if equipped), or hook up a drinking water-safe portable hose to a potable water source.
7. Turn the valve to 'tank fill' or 'manual tank fill.'
8. Turn on the potable water source, and fill the water tank. (This will flush the bleach/water solution from the filter housing [Step 4] into the water tanks.)
9. Turn off the tank fill valve (on non-auto fill coaches).
10. Turn on the water pump.
11. Run water out of one faucet on both hot and cold settings until a strong bleach smell becomes evident.
12. Repeat this for all faucets, as well as the refrigerator, dishwasher, washing machine, toilets, low point drains, etc.

NOTICE

Top off the water tank so that the sides and top of the tank are sanitized as well.

13. Turn on the refrigerator and the ice maker. Depending on your refrigerator model, the ice maker may have a flip lever or an ON/OFF switch. Let the ice maker run until the bleach/water solution is detected. This may take a few cycles. One cycle consists of the ice maker filling the trays with water, freezing the water, and then dumping the ice into the ice bin. This cycling process will occur automatically if the refrigerator, the ice maker, and the water pump are all turned on.
14. Disconnect the water hose, and dump out some water.
15. Pour one ounce (1 oz.) of bleach into the water hose, and reconnect it to the potable water supply.
16. Turn on the water for a brief moment to flush the bleach through the water hose, allowing it to mix in the hose reel or the portable hose used for potable water.
17. Turn off the water supply, and disconnect the water hose.
18. Cap the end of the hose.
19. Let the bleach water sit in the system for a minimum of four hours. However, for best results, allow the solution to sit overnight or up to 12 hours.
20. Drain the fresh tank using the drain valve.
21. Fill the fresh tank with clean potable water.
22. Run water out of each faucet on both hot and cold settings until the bleach smell is no longer evident.

NOTICE

If the bleach smell is still noticeable, repeat steps 21-22 to flush the system again.

IMPORTANT

If algae or slime is detected in the fresh water system, it may be necessary to repeat the entire process until the system is flushed clean.

Once the system is flushed, Newmar recommends replacing the water filters. Do not re-use the contaminated filters, as this will greatly reduce the effectiveness of the sanitization process.

NOTICE

Sanitizing through the winterization process will not sanitize the fresh tank or all of the water lines.

Newmar-Recommended Routine Maintenance Checklist

This article provides a basic checklist for Newmar-recommended routine maintenance.

IMPORTANT

All routine maintenance is the responsibility of the owner and is not covered by the Newmar Limited Warranty. Please note that damage caused by improper or unapplied maintenance is not covered by the Newmar Limited Warranty. Cosmetic adjustments and alignments must be performed within the first three (3) months from the date of the original purchase for warranty consideration. Thereafter, these items are considered routine maintenance.

RV Maintenance

Weekly

- Test the smoke alarm, carbon monoxide detector, and propane gas detector.

Quarterly

- Clean the range hood exhaust fan filter and blades.
- Inspect and clean slideout rollers on each slideout.

Bi-Annually

- Check all gas appliances for proper operation.
- Check and replace the water filters.
- Check the operation of windows, latches, and hinges.
- Clean and inspect all door and window seals, and reseal where necessary.
- Lubricate the exterior door hinges and latches with a graphite (silicone) lubricant.
- Inspect the slideouts for proper seals. If realignment is necessary, please contact an authorized Newmar service center.
- Clean the roof ducted air conditioner filters (quantity of filters varies by ceiling style and number of air conditioners installed).

Annually

- Check exterior lights, including the tow plug.
- Test and lubricate the entry step.
- Perform generator maintenance per manufacturer's recommendations.
- Perform refrigerator maintenance per manufacturer's recommendations.
- Sanitize and flush the fresh water system and add treatment to waste tanks.
- Clean the roof drains.
- Replace the cabin (dash) AC filter (when applicable).

As Needed

- Wash and wax coach (as needed).

For more information, refer to the Newmar Factory Service Center Routine Maintenance Schedule file in Newgle.

Chassis Maintenance

For more information, refer to the chassis manufacturer's documentation, or the RV Maintenance Sheet, Spartan-Freightliner Chassis Service, and Ford Chassis Service files in Newgle.

How to Prepare A Coach for Storage

This article provides general steps and recommendations to prepare a coach for storage.

The following information is not intended to provide detailed instructions relating to any specific year, model, or floorplan of the coach. Some of the general statements may not apply to a coach, depending on its installed equipment and/or options. Whether stored for one month or even longer, there are several things you can do to help ensure the coach is ready to go after the downtime.

Pre-Storage Steps

Make sure the fuel tank is full. You can also add a fuel stabilizer appropriate to your type of fuel. Run the engine long enough to distribute the stabilizer. It is also recommended to have engine and generator oil changes before storing for a few months or more. Refer to your chassis owner's manual for recommended products.

If the coach is being stored for winter, please refer to the "How to Winterize A Coach" article for additional information.

Choose a Good Spot for Storage

- The best option is indoor storage. The second best option is under a carport or other shelter. The last option is outdoor storage. Store away from machinery, heat sources, and areas that generate noxious fumes.
- If storing outside, avoid parking near trees or where weeds and grass can grow tall. This will help protect the coach from damage from limbs, moisture, and other hazards.

Newmar recommends leaving your coach plugged into shore power during storage, so parking in a location where this option is available would be best. This will help maintain the battery charge. Newmar's recommended best practice is to store the coach while plugged into 50 amp or 30 amp shore power. If you choose to store plugged into 20 Amp, refer to the Newgle article titled "Can I store My Coach While Using 20 Amp Service?" for more information.

Prepare the Coach's Interior

- Remove any kitchen or bath items that are perishable, including food, beauty items, and anything that can freeze. Defrost the refrigerator and put a carton of baking soda inside. Leave the doors propped open for air circulation.
- Put out insect and/or mouse bait to help eliminate any vermin that might enter the coach.
- Make sure all the lights are off, including the storage and exterior areas. Turn off the breakers to all appliances that you do not want to operate during storage (i.e. the refrigerator, stove, etc.).

Inspect and Clean the Coach Exterior

- Inspect roof and window sealant for cracks that might admit water. Reseal any cracks with the appropriate sealant for the surfaces. Allow any sealant to cure before washing the exterior.
- Inspect the underside of the coach. Block or seal any gaps that are big enough to admit mice or other vermin.
- Inflate the tires to the maximum recommended pressure, which is noted on the tire.
- Thoroughly wash the exterior and clean the interior of the coach. Make sure the exterior is completely dry, including fabric awnings before storing inside or using an RV cover.

Prepare the Batteries

- If the batteries are liquid lead-acid, top off the cells with distilled water.
- Make sure the batteries are fully charged, which will protect them from freezing and sulfation.
- Make sure all other battery types are charged before storing the coach.

IMPORTANT

Owners who decide not to follow Newmar's recommendations to keep the coach plugged into the appropriate outlet (shore power 50 amp or 30 amp) during storage will need to do very frequent checks on the coach to check/maintain and charge batteries.

Prepare the Generator

- If you are storing the coach inside and your coach has auto gen start (AGS), disable this function.
- If stored outside, the AGS can be enabled to help maintain battery charge if and when shore power is not available.

Inverter Power

Depending on your unique situation, you may want to power off the inverter to prevent it from providing 120 volt power, which will drain batteries that are not being charged. Some coach owners may want to leave the inverter powered on to keep the refrigerator cold in case of power loss. This applies to coaches that are typically plugged in during storage and checked frequently (depending on the length of storage time and shore power availability).

Turn off or disable the inverter if you do not wish to provide 120 volt power during storage. When shore power is not available and if the inverter is not off or disabled, the battery bank will be drained. If left drained, unattended dead batteries in a cold climate may result in frozen and/or damaged batteries that may require replacement.

Some inverters may have the ability to turn the charger section on or off. When shore power is available, it is recommended to leave the charger on or enabled to charge the batteries as needed. For additional information about inverter(s)/charger(s), refer to the product page(s) in Newgle for your installed component(s).

When Ready to Store

- If storing outside, pull onto blocks to help protect the tires from direct contact with the ground. These give the tires some defense against changes in ground temperature. Make sure the block is large enough so that the tires fully rest on them and do not touch the ground at all.
- Plug the coach into shore power, if available.
- Finally, if storing the coach outside, covering the tires and the coach with breathable covers will help protect them from the sun and other elements.

Checks While in Storage

- Check the batteries weekly if not plugged into shore power and monthly if plugged into shore power, and charge them if below 12.5 volts. Plug the coach into shore power or use a portable charger to top off the batteries to their full charge, as needed.
- If the coach is stored outside, do a visual check for damage, leaks, rodents, etc., every month.
- The leveling system should be cycled at least once a month to keep the system in operating condition.
- If the coach will be stored for more than three months, move the coach slightly every three months to rotate the tires and help prevent flat spots. Top off the air in the tires, if needed.

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