



2023 OWNER'S MANUAL

Cirrus 820





WARNING

This User Manual contains important safety information and features for the safe operation of this vehicle. Before loading or towing this trailer, you must read this user manual. Failure to comply could result in serious injury or death.

DISCLAIMERS

This Manual. All information, illustrations, and specifications contained in this manual are based on the latest product information available at the time of publication approval. If new materials and production techniques are developed that can improve the quality of its product, or material substitutions are necessary due to availability, nuCamp reserves the right to make such changes. nuCamp further reserves the right to make changes to the equipment, form, technical system, or layout of each camper as it sees fit to be innovative and beneficial. Therefore, no legal claims may be filed against nuCamp based on the contents of this manual. nuCamp is not responsible for the observance or nonobservance of this instruction manual. Any given specifications may be subject to change without notice. Recorded tongue weights, overall weights, fuel, liquid capacities, and dimensions may also be approximate.

Procedures. All operating procedures in this manual are designed as typical under normal conditions. Safe operation and use of any nuCamp product is the sole responsibility of the owner. nuCamp will not be liable for any injury or loss sustained from the observance or non-observance of any procedures or safety warnings supplied in this manual or in any third-party manuals or guides supplied within the unit.

External Websites. Regarding third-party websites listed or referred to at any place in this manual, nuCamp provides this information "as is" for consumer ease of use and troubleshooting. No liability whatsoever shall be assumed by nuCamp in connection with these websites, be it information, external links, third-party links, errors, omissions, inaccuracies, or any other content on the websites. These websites are for use strictly at your own risk. Most of the information is meant to be of a general nature and may not pertain to your circumstances. nuCamp has no control over third-party vendors and supplier websites and therefore will assume no responsibility for any type of loss or injury sustained from its actions, omissions, or negligence. It is not considered legal advice.

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Optional Items. Optional items may be available on some or all floorplans and models. Additionally, some optional items can only be included during the manufacturing phase and cannot be added later to the trailer. The inclusion of optional items referenced or information in this manual does not imply or suggest the availability, application suitability, or inclusion for any specific unit.

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INTRODUCTION

WELCOME

Thank you for purchasing the Cirrus 820 Truck Camper. We are excited to be able to contribute to your enjoyment of recreation wherever you may go. You have joined an elite group of people, and as you begin making great memories using your new camper we wish you many exciting and adventurous days of camping. To ensure maximum enjoyment, and a full understanding of your camper and how it operates, please discuss questions or concerns with your dealer before using your camper for the first time.

BEGINNING YOUR JOURNEY

Please have a comfortable seat in your newly purchased camper and take some time to review this Owner's Manual. Because we are continuously improving the technical functions and innovating products on our units, even experienced nuCamp customers will find new and exciting information about the products and components included in this unit.

Pay very close attention to the boxed safety warnings, labeled **DANGER**, **WARNING**, **CAUTION**, and **NOTICE**, throughout this manual and your camper. These labels contain vital information pertaining to your safety and well-being. Lives depend on your understanding of this information to ensure proper reactions to safety hazards arising from critical situations.

Please review the separate instruction manuals for the appliances, special equipment, and accessories included in the owner packet supplied by nuCamp. These instruction manuals also include important warranty registration information and procedures that you must follow to register products installed on your camper. Please refer to the item-specific manuals for warnings and safety features of each individual component and accessory.

OUR MISSION

At nuCamp we are firstly a group of men and women that care deeply for one another, honor one another, are transparent, build relationships to change people's lives, esteem one another higher than ourselves and live out servant leadership.

Secondly, we strive to build and distribute products that are innovative, high-quality, and superb in function, reflecting integrity and honesty.



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FOREWORD

ABOUT THIS MANUAL

The Operator's Manual for your new camper is designed to answer the most frequently asked questions regarding the operation, function, and care of the many systems that make modern camping a pleasure.

For more complete instructions regarding the safety, maintenance, and operation of the items included in your camper, carefully read the booklets supplied by the component manufacturers. All information contained in this manual may not relate to your specific model; however, booklets supplied by the component manufacturers and included in your Owner's Packet will provide any additional information needed. These manuals and fliers supersede all statements in this manual and are the ultimate guide to heed in relation to each appliance and component. You are responsible for reading, understanding, and following the instructions pertaining to the tow vehicle as well as the instructions in this manual.

All information in this handbook should be considered a permanent part of the camper and should be transferred to the new owners if the trailer is ever sold.

Optional items may be available on some or all models. Additionally, some optional items can only be included during the manufacturing phase and cannot later be added to the camper. The mention of optional items in this manual does not imply or suggest the availability, application suitability, or inclusion of any specific unit.

All operating procedures in this manual are designed as typical under normal conditions. Safe operation and use of any nuCamp camper is the sole responsibility of the owner. nuCamp will not be liable for any injury or loss sustained from the observance or non-observance of any procedures or safety warnings supplied in this manual or in any third-party manuals or guides supplied within the unit.

This manual may have occasional tips to enhance your experience of the recreational and camping lifestyle. While this may be helpful, this manual is not designed as a camping guide but rather as a guide on how to operate your camper for maximum enjoyment.

This manual does not in any way create a warranty, whether express or implied. The information in this manual is not meant in any way to supplement, modify, or change the terms and conditions of your camper's warranty, or any warranties offered on any component by its manufacturer.

At nuCamp we actively work to provide improved and better information about the use of our products. If you have helpful information that you think may benefit fellow nuCamp product owners, you may submit it via e-mail to help@nucamprv.com with the subject of "Owner's Manual" and your submission will be considered for the next update.

GETTING STARTED

DEALER RESPONSIBILITY

When you purchase your camper, nuCamp expects the following of the dealer:

1. Perform a Pre-Delivery Inspection (PDI). The inspection must include the testing of all systems and components installed in your new camper. Your camper must pass the PDI test before it is eligible to be sold to you. nuCamp does not control dealer actions and is not responsible for an incomplete PDI.
2. Give you a complete tour of your camper's appliances and features and teach you how to operate each of the systems.
3. Prepare your camper for your first camping trip with all equipment in running order and ready to be used.
4. Provide you, the owner, access to this Owner's Manual.
5. Provide and explain to you the nuCamp One Year Limited Warranty, Three Year Limited Structure Warranty and the Warranty Claim Procedure.
6. Register your One Year Limited Warranty online at www.nucamprv.com.
7. Provide you with two sets of door keys and all remotes needed to operate select appliances and components in your camper.
8. Provide you with the complete Owner Package which has all component user manuals and other complimentary items from nuCamp. This is located within the camper when shipped from nuCamp.
9. Assist you in locating the model and serial numbers of each installed component and walk you through activating the manufacturer warranties.
10. Discuss and plan with you what to do in case of service needed on your camper, whether local or abroad. This includes repairs not under warranty.
11. Service the full nuCamp lineup. From time to time an owner will have an emergency while in transit. In such an event, every nuCamp dealer is strongly encouraged (and expected) to accommodate such repairs. **Please note: nuCamp dealers are independently owned and operated and possess the ability to refuse service.** Furthermore, a nuCamp dealer that does not sell truck campers is not required, nor expected to, perform work on said product.

OWNER RESPONSIBILITY

Before, during, and after the purchasing process of your new camper, nuCamp expects the following of you, the owner:

1. You fully inspected the entire camper for any kind of defects and have found it acceptable, clean, and completely free of damage.
2. You acquired access to this Owner's Manual.
3. You were shown how to operate each feature and function of your new camper and are fully aware of the maintenance schedule required to keep your camper in excellent operating order.
4. You have agreed to be responsible for properly maintaining your new purchase and performing any needed service in a timely manner.
5. You have read and understood all safety messages in various locations on the camper and in this manual. You have agreed that nuCamp is not liable for any warranty coverage or compensation for injury or loss sustained through the disregarding of safety messages, regardless of your awareness. You are fully responsible.
6. With dealer assistance, you have registered all warranties of installed components. To avoid loss of coverage it is crucial that you activate each warranty registration within the prescribed time limit.
7. You had a chance to review, read and fully understand the nuCamp One Year Limited Warranty, Three Year Limited Structure Warranty, and the Warranty Claim Procedure.
8. You received a copy of One Year Limited Warranty before your purchase was completed. You read and agreed by written signature to the terms and conditions contained therein.

9. You had any and all questions answered by the dealer.
10. You have responsibly protected yourself and others by acquiring insurance coverage on your camper. Consult your insurance agent for appropriate coverage before leaving the dealership with your new camper.

OWNER'S PACKET

An Owner's Packet is included in every camper manufactured by nuCamp. This packet includes all your component user manuals and warranty cards. The Packet and its contents (except for complimentary items from nuCamp) should be considered a working part of the camper equipment and must be passed to new owners at any sale.

WARRANTY REGISTRATION

For the best warranty service please be sure that your warranty registration has been submitted to the Warranty Department at nuCamp. While nuCamp expects your dealer to submit the registration, it will ultimately be in your best interest to confirm that the warranty registration request has happened. If you have not received confirmation of the completed warranty registration form, please contact the nuCamp Warranty Department by phone at 844-823-9112 or email at warranty@nucamp.com and request confirmation. Have your camper's Vehicle Identification Number (VIN) available when you contact us.

COMPONENT REGISTRATIONS

Most installed appliances, features and components included with your camper will have a warranty of some type and some may be eligible for coverage under the nuCamp One Year Limited Warranty. Refer to the included user manuals in your Owner's Packet for any information the supplier has listed.

FIRE SAFETY PLAN

In case of fire or weather emergencies, it is vital to have a Safety Plan developed for all occupants. The plan should be rehearsed and frequently practiced. Review the safety warnings in the General Safety portion of this manual for details. Pay attention to door and emergency exit window locations, fire safety, and how to operate safety equipment in your camper.

Educate all occupants on the following:

1. The meaning of each alarm equipped in the camper.
2. The designated outside meeting place is a safe distance away from the camper where everyone gathers in an emergency. This should be chosen at each stop after parking your camper.
3. The instructions for using the emergency exits. Practice finding the exit blindfolded. In case of a real fire, smoke may obstruct your vision.
4. The safety procedure in the event of a fire, smoke, or gas: stay low to the floor, avoid breathing in the fumes, and exit immediately.
5. The safety procedure in the event clothing catches fire is: Stop, Drop, and Roll. STOP, don't run, DROP to the ground, and ROLL back and forth until the fire is extinguished. Use your hands to shield your face from the fire. Running will only increase a fire.
6. The location of emergency phone numbers and the conditions under which emergency services should be called
7. The contact information for a friend or relative who will serve as an emergency contact. Make this information available to all your family members.

Consult your local fire department for assistance in compiling a comprehensive Safety Plan for your specific camper.

EMERGENCIES

Emergency Preparation. Keep an emergency first aid kit in your camper. A separate kit with essential tools and supplies should also be compiled. These may come in handy in some emergencies as well as for any type of troubleshooting that may arise. The tools suitable for your needs may depend largely on how much boondocking or cold weather camping you do. Boondock camping may take you far away from the nearest service station and so be prepared to do some of your own maintenance. A common list of items needed for emergencies, troubleshooting, and maintenance is as follows:

Adjustable Wrench	Hammer	Raincoat
Allen Wrenches	Hand Cleaner	Road Flares
Car Jack (2-ton)	High Visibility Cones	Shop Rags
Cordless Drill	Ice Scraper	Socket/Ratchet Set
Drill Bits & Tips	Jumper Cables	Tape Measure
Duct Tape	Leather Gloves	Thread Seal Tape
Emergency Blankets	Level	Tie Down Straps
Extra Batteries	Multi-Bit Screwdriver	Utility Knife
Extra Fuses	Multimeter	Wire Cutters
Flashlight	Pliers	Zip Ties

Weather Emergencies. When it comes to recreational activities, weather can be the number one factor affecting your enjoyment of the great outdoors. Be prepared for any type of a weather emergency when traveling with your camper. The following may be helpful in addressing such emergencies:

- Develop a disaster plan for all occupants. Everyone should know what to do in severe weather. Different types of weather will call for different responses so be familiar with each.
- Know if the campground has a designated shelter area in case of severe weather. When you arrive at a campground, ask management what to do in case of weather emergency and where the designated shelter area is located. If the campground is unstaffed, there are probably no weather emergency provisions made for that campground. Be prepared with your own emergency weather plan.
- Find a local radio or TV station that broadcasts weather. In case of power loss, keep an emergency grade battery-operated radio with extra batteries available.
- Invest in a weather radio. A weather radio will give you access to 24-hour VHF weather broadcasts from the US National Weather Service.
- Research and educate yourself on weather safety. Visit the US National Oceanic and Atmospheric Administration website at www.noaa.gov to learn more.

Roadside Emergencies. Roadside emergencies can occur at any given time while traveling. The following guidelines will help you resume travel faster in the case of a roadside emergency:

1. To obtain service, locate your nearest authorized nuCamp dealer using our "Find a Dealer" feature on the website at www.nucamprv.com.
2. If you cannot find an authorized dealer in close proximity to your location, you may try:
 - Searching online for a service center near you.
 - Asking campground staff for service centers nearby.
 - Acquiring a local Yellow Pages phone book and checking for RV service centers.
 - Contacting the dealer you bought your trailer from.
 - Contacting nuCamp Customer Service.
3. Upon locating a Service Center have the camper repaired. Unless you are still in the warranty period of your camper you will be responsible for repair costs. If you believe you qualify for warranty coverage, please have the repair center contact the nuCamp Warranty Department by phone at [330-852-4811](tel:330-852-4811) or email warranty@nucamprv.com for pre-approval of repair coverage.
4. If you have an emergency repair on a weekend, after business hours, or on a holiday when nuCamp Warranty Department personnel are not available, take the initial steps and find your nearest dealer. Should the situation be dire in nature, where it materially affects your ability to camp or operate your camper, please have it repaired and then contact the Warranty Department during normal business hours to acquire coverage approval. (Note: nuCamp does not guarantee any repairs are eligible for warranty coverage until approval is given through the Warranty Department.)

GENERAL SAFETY

SAFETY LABEL DESCRIPTIONS



A potentially hazardous situation that can result in moderate injury and/or property damage.



A potentially hazardous situation that can result in death, serious injury and/or property damage.



A potentially hazardous situation that, if not avoided, will result in death or serious injury.

NOTICE

Attention is called to the observation of a specific procedure to maintain a specific condition.



GENERAL NOTES

The note symbol is to give you extra information or a tip on the subject presented

SAFETY CERTIFICATIONS

All nuCamp campers have been designed to conform with, or exceed, the National Fire Protection Association (NFPA) 1192 standard, American National Standards Institute (ANSI) 1192 standards, Canadian Standards Association (CSA) Z-240 standard (for Canadian units), and applicable federal motor vehicle standards. These standards establish the requirements for electrical, plumbing, fuel systems and equipment, fire and life safety provisions, and other requirements for quality and safety. The Recreational Vehicle Industry Association (RVIA) and the Canadian Recreational Vehicle Industry Association (CRVIA) routinely check nuCamp product lines to ensure compliance with the above agencies and organizations. RVIA considers nuCamp an active member in good standing and compliance. At nuCamp our design team and Quality Standards department takes all RVIA standards into consideration when designing new models and camper upgrades to ensure consumer safety.

SAFETY MESSAGES

Throughout your travel trailer, you will find many labels and data plates to aid you in efficient, safe operation and servicing instructions. Tour your trailer to read and understand these messages before operating your travel trailer for the first time. If any label or data plate has been removed, damaged, defaced, or painted over, it must be replaced.

SAFETY ALERT SYMBOL



Recognize this symbol as an alert to important safety information or a hazardous situation that can cause property damage, minor or serious injury and in extreme cases, death to you or others. Always read the instructions included with this symbol.

FIRE SAFETY

These common causes are related to fire safety hazards and should be avoided at all costs:

- Smoking in bed
- Leaving children unattended
- Using flammable cleaning fluids
- Leaving food unattended while cooking or baking
- Having faulty wiring
- Using damaged electrical devices
- Having propane or gasoline fuel leaks
- Being careless

In a fire emergency:

- Evacuate the camper immediately. **Safe escape is the most important part of a fire emergency.**
- Execute the Fire Safety Plan you developed. Refer to the GETTING STARTED section of this manual.
- Understand the type of fire you are dealing with. Using water in a grease fire may spread the fire while using water for an electrical fire may result in electrocution.
- Call 911 from a safe distance away, regardless of the fire size.

Cultivate these safety habits in recreation to minimize fire safety hazards:

- Teach all occupants Fire Safety Practices. Consult your local Fire Department and the NFPA (www.nfpa.org) for more information.
- DO NOT leave a burning fire of any kind unattended.
- Always supervise children around campfires, grills, and stove-tops where there is an open flame.
- Maintain a minimum three-foot area around campfires, grills, and tents that are free of dry grass, leaves, pine needles, wood, bushes, trees, or combustible materials.
- Be ready in advance to quickly and always extinguish any type of fire.
- Teach everyone how to use the P.A.S.S. method with a fire extinguisher.
- DO NOT store flammable materials in closed areas or by a heat source.
- When refueling motor vehicles first turn off all pilot lights and appliances in your camper.

FIRE EXTINGUISHER

A fire extinguisher is located on or near the door of your camper. Read all user instructions on the fire extinguisher in its user manual, found in your Owner's Packet. The extinguisher is designed for Class B (flammable liquid, oil, or grease) and Class C (energized electrical) fires as these are the most common in recreational vehicles.

After all occupants are evacuated from the camper and before you use the extinguisher in a fire emergency, determine the cause and severity of the fire.

- If the fire is large or fueled by an oil product or other flammable liquid, stay clear of the camper and let the fire department handle it.
- If the fire is very small and can be managed, use the fire extinguisher.
- Keep your back to the door so you can evacuate quickly if the fire gets out of hand, or the camper becomes full of smoke.
- Remember that any oxygen supplied to a fire may further fuel it.

When operating a fire extinguisher, remember the acronym P.A.S.S.

P-ull the pin. Point the nozzle away from you.

A-im the nozzle at the base of the fire.

S-queeze the lever gently and slowly.

S-weep the nozzle from side to side to extinguish the fire.

Disposal. After using the fire extinguisher contact the local fire department for instructions on disposing of your non-refillable dry chemical fire extinguisher. **Replace the fire extinguisher immediately.**



COMMON SENSE

While many things can be construed as safety related, the most important is your common sense. If you are careless with matches, cigarettes, flammable material, or any other hazardous material, we can only hope you realize that potential for accidents is greatly increased.



WARNING LABELS

Various safety and information labels are attached to surfaces both inside and outside your RV. These labels are permanent and should not be removed or relocated for any reason.



WARNING

Test smoke alarm for proper function after camper has been taken out of storage, once per week and before each trip. If the smoke alarm does not test properly, replace it immediately.



WARNING

Never use open flame to test the smoke alarm. This can set the smoke alarm and your camper on fire.



WARNING

If the CO alarm sounds GET OUT of the camper immediately to fresh air. Open doors and windows and turn on fans to air out the camper. Determine the cause of the CO before reoccupying the camper.

EMERGENCY EXIT

The Emergency Exit Window in all nuCamp campers is recognized by the "EXIT" label and its red handles. This exit serves as a secondary means of escape if the main door entrance gets blocked during an emergency. The EXIT window is made of the same acrylic material and operates the same as all other windows in the camper.

Practice the following:

- Teach all occupants how to operate the EXIT window before an emergency.
- In the Family Safety Plan decide in what order occupants will exit the camper in an emergency.
- When setting up the camper for use, check that the EXIT window is not blocked by obstacles such as branches or trees. Have solid, level ground below and outside the window with a clear path of escape.
- Have a blanket or heavy coat ready to serve as a cushion on the window frame.
- The last person to exit must be prepared to assist those going first.
- Open and close the Emergency Exit Window on each trip to keep the window from potentially sticking to the seal.
- Lock the Emergency Exit window while traveling or hauling the camper.

SMOKE ALARM

Your camper is equipped with a smoke alarm. The alarm will only sound when smoke reaches it. Read the user manual for the smoke alarm to find all the needed information regarding its operation.

Important Information:

- The alarm is powered by a standard 9-volt battery. When the battery is connected a red LED light will blink.
- When the alarm is activated by smoke, it will beep repeatedly, and the LED light will flash rapidly.
- **Never disable the alarm for nuisance's sake or false alarms.** This could be fatal if you forget to turn it back on. Ventilate the cabin with fresh air instead.
- Test your smoke alarm with these steps:
 1. Press and hold the test button until the alarm sounds.
 2. The alarm will beep about four times.
 3. If there is no sound replace the alarm or supply a new battery.
- The smoke alarm is designed to give you advance notice of the presence of smoke which may lead to open flames.
- If the alarm sounds, evacuate the camper immediately and call 911.
- Replace the alarm when it reaches its expiration date.

CARBON MONOXIDE

Carbon Monoxide (CO) gas is a poisonous gas that is colorless, odorless, and tasteless. It is incompletely burned fuel often from propane appliances, diesel, or gas exhausts. In campers, it is often from propane powered appliances or exhausts blowing into windows from vehicles or generators. Even low concentrations can be dangerous to your health and life. Make sure all occupants understand and can recognize the symptoms of carbon monoxide poisoning.

Carbon Monoxide Poisoning Symptoms:

Dizziness	Vomiting
Drowsiness	Shortness of breath
Weakness	Confusion
Runny nose	Blurred vision
Sore or watery eyes	Unconsciousness
Dull headache	Brain damage
Nausea	Death

In most cases of CO poisoning, individuals become aware they are not feeling well but become so disoriented they aren't able to save themselves by getting fresh air or calling for help. This is especially dangerous for people who are sleeping or intoxicated. Pets, babies, and small children are usually the first affected by CO poisoning.

It is very important to have exhaust fans running and an air inlet such as a window open when operating fuel burning appliances.



WARNING

Test the carbon monoxide alarm for proper function after the camper has been taken out of storage, once per week and before each trip. If the CO alarm malfunctions or does not test properly, replace it immediately.



WARNING

Do not use an open flame such as a cigarette lighter to test the CO/Propane gas alarm. Sensors may damage and alarm may catch fire.



WARNING

If a vehicle or generator is running near your camper, CO emissions can potentially filter through the air system into your camper.

CO & LP GAS ALARM

Your camper is equipped with a CO/Propane Leak alarm near the floor that will sound when Carbon Monoxide reaches dangerous levels or if a propane leak occurs.

If the alarm signal sounds:

1. Move to fresh air immediately. Evacuate all persons from the camper, leaving doors and windows open, and execute your Safety Plan. Do not silence the alarm. If possible, shut off the gas supply at the source and turn off all gas appliances.
2. Call Emergency Services. Do not re-enter the camper until Emergency Service responders have arrived, the camper has been aired out and your alarm returns to normal condition.
3. If the alarm re-activates after 24 hours, it may be evidence of a propane leak or appliance malfunction. Repeat steps 1 and 2 and then have a qualified technician investigate. If equipment needs service, do so immediately. If a technician is not available, contact the nearest fire department for assistance.

How to test alarm for proper operation: (Unit must be powered on for at least three minutes before testing)

1. Press the "TEST" button until the alarm sounds.
2. All LEDs will light up and the alarm will sound twice.
3. The LED flashes red and returns to normal operation displaying a flashing green LED every 8 seconds.
4. If the alarm does not sound or light up, you may need to have a service technician examine and/or repair it.

Important Information:

- The alarm is powered by the 12V DC system. Disconnect the battery when not using the camper to keep the battery from being drained.
- The alarm will need to be replaced after 7 years.
- Read the user manual for the alarm found in your Owner's Packet for complete safety instructions and troubleshooting and incorporate useful practices listed therein into your Safety Plan.
- The alarm sensor may detect other vapors such as gasoline, acetone, alcohol, butane, and other fumes that can be found in perfumes, alcoholic beverages, adhesives, kerosene, cleaning agents, and aerosol cans.
- Read all safety related messages in the propane gas section of this manual. [See pages 30-32]

LOADING & HAULING

VEHICLE MATCH

Selecting the right truck for your camper requires understanding a few guidelines. Your dealer will be a valuable source of information when matching a truck to your camper. We have outlined several important things to note when matching your camper to an appropriate truck.

- You must begin with the weight information supplied on the data plate of your camper, located near the rear by your camper entrance. An example is as follows.

MANUFACTURED BY: Pleasant Valley Teardrop Trailers	DATE: 01/01/2000
VEH. I.D NO. 820M0000	
CAMPER WEIGHT IS _____ KG. (_____ LBS.) MAXIMUM WHEN IT CONTAINS STANDARD EQUIPMENT.	
_____ LITERS (_____ GAL.) OF WATER,	
_____ KG. (_____ LBS.) OF BOTTLED GAS, AND	
_____ CUBIC METERS (_____ CUBIC FT.) REFRIGERATOR (OR ICEBOX	
WITH _____ KG. (_____ LBS.) OF ICE, AS APPLICABLE).	
CONSULT OWNERS MANUAL (OR DATA SHEET, AS APPLICABLE) FOR WEIGHTS OF ADDITIONAL OR OPTIONAL EQUIPMENT.	

- Option Weights. In addition to knowing the weights of your specific camper, you must know the additional option weights on your camper. Since each camper is weighed individually upon completion of its manufacturing, factory installed options will be included in the weight reflected on your camper's data plate. The options listed are items that were specifically designed by nuCamp to be installed on your truck camper by your dealer:
 1. The rear Awning Option adds a maximum of 47 lbs.
 2. Lagun Table Option adds a maximum of 5 lbs.
- To estimate the total cargo load that will be placed on a truck, add the weight of all passengers in the camper, the weight of supplies, tools, and all other cargo, the weight of installed additional or optional camper equipment, and the manufacturer's camper weight figure. Select a truck that has a cargo weight rating that is equal to or greater than the total cargo load of the camper and whose manufacturer recommends a cargo center of gravity zone that will contain the camper's center of gravity when it is installed.
- Truck payload capacity is the amount of weight a truck is designed to carry. Campers are considered "truck payload". New trucks have their payload capacity posted in the glove box or on a specification sheet supplied with the truck owner's manual. Trucks that have many options and/or a 4-wheel drive option have less payload. When calculating payload, truck manufacturers assume all seat positions are filled with persons weighing 150 pounds each.
- Center of gravity is crucial to the understanding truck and camper matching. Truck manufacturers are also required to provide a 'center of gravity zone' for camper loading. To determine if your truck/camper combination is within the proper center of gravity limits, observe these steps:
 - a. Find the center of gravity for your type of model.



WARNING

Failure to properly match the camper and truck can result in undesirable handling characteristics and create a safety hazard. DO NOT load your vehicle beyond its gross vehicle weight rating (GVWR) and/or gross axle weight ratings (GAWR).

- b. Determine the recommended center of gravity zone for your truck, as listed in your truck owner's manual. If you cannot find this information, contact the nearest manufacturer's representative for your truck. The zone is normally measured from the rear of the cargo area.
- c. In a properly matched combination of truck and camper, point 'B' (camper center of gravity) will fall within points 'C' and 'D', (truck's center of gravity zone).

- The bed of your truck typically is fastened to its frame with mounts allowing for some movement. Enough clearance must be allowed between the truck and camper to prevent damage that can be caused by racking, twisting, and bouncing during normal driving conditions.
- The cab-over of the camper should never be closer than 1 ½" to the highest point of your truck's cab to allow clearance for cab marker lights or tracking system antennas if equipped.
- A minimum of ¼" clearance between the truck bedside rails and the camper wing is required. Some truck models have a tapered bed, meaning the bed depth is different between the front and rear. This can make the camper look tilted (front higher than the rear) along the bed of the truck.
- It may be necessary to place a bed mat in the truck bed to raise the camper to the minimum clearance requirements.
- A minimum of ½" clearance between the truck's tail lights and camper bumper exterior is also required. Adding a spacer at the front of the camper or in the front of the truck bed can help ensure proper clearance. If you add a spacer, make sure you do not compromise the center of gravity position of your truck.
- Using a truck with under-rated towing and loading capacities to haul a camper can cause serious stability problems. Additionally, the strain put on the engine, structural frame, and drivetrain of the truck may lead to serious maintenance problems. The maximum towing and payload capacities of your truck must never be exceeded. Refer to your tow vehicle's Owner's Manual for the towing capacity of your tow vehicle, in terms of maximum Gross Weight (GW), maximum Gross Vehicle Weight Rating (GVWR), and Payload Capacity.
- As always, your nuCamp dealer will have lots of experience to assist you in matching your truck and camper. Rely on their expertise to guarantee compatibility. Your dealer can also assist with setting your camper in the proper position on your truck bed.



CAUTION

Excessive speed could result in tire overheating and blowout. Do not exceed 65 MPH in normal road conditions.

SPEED

In ideal road conditions, the maximum recommended speed for safely hauling a camper is 65 mph. Your camper is more prone to imbalance under higher speeds, increasing the possibility of loss of control. Your truck tires can also overheat, increasing the possibility of a blowout.

RIG DYNAMICS

When hauling a camper, you will encounter:

- **Increased Stopping Distances.** To compensate for increased stopping distances, while following another vehicle on the highway, stay one rig length away from the vehicle in front of you for every 10 mph of your speed.
- **Decreased Rear View Visibility.** Wide or extended mirrors will help remedy this hindrance.
- **Higher Center of Gravity.** With the weight of your camper sitting high up on the back of your truck, you must be extra careful when turning to keep your camper and truck well balanced.
- **Different Vehicle Handling Dynamics.** Your vehicle will be more sensitive to steering in windy conditions. Larger vehicles passing will have a greater effect on the control and handling of the vehicle.
- **Slower Acceleration.** You will need a longer distance to pass, due to slower acceleration and increased length.

DRIVING PRACTICES

Safe driving practices and habits:

- **Slippery conditions.** Slippery road surfaces will be more dangerous when driving a loaded vehicle, compared to driving without.
- **Rainy Weather.** While rain may seem harmless, the dangers of hydroplaning increase if you do not reduce your speed. It may be helpful to turn on your emergency flashing lights to help others on the road to see you better, especially in heavy rain where visibility is reduced.
- **Black Ice.** In rainy weather when temperatures drop to 32° or lower, black ice is possible and will show up on bridges first. Reduce your speed to reduce the risk of losing control.
- **Vehicle Imbalance.** This is caused by excessive steering, wind gusts, roadway edges, the camper's reaction to the force created by passing trucks and buses, or improper loading of cargo in the camper – a frequent problem.
- Check rearview mirrors every 2-3 seconds to observe accompanying traffic.
- Always check your rearview mirrors before changing lanes and always use turn signals.
- Use a lower gear when driving down steep or long grades. The engine and transmission should not serve as a brake but rather maintain a lower speed. Use brakes to gently reduce speed then rely on your engine to maintain the speed. Do not ride your brakes, as they may overheat and become ineffective.
- Always be aware of your camper height, especially when approaching bridges, roofed areas, and trees. Know your exact clearance height and check the height dimension of each bridge before passing underneath.
- Obey all traffic rules. They are for your safety.
- Wear your seatbelt.
- Be alert and courteous to fellow drivers.



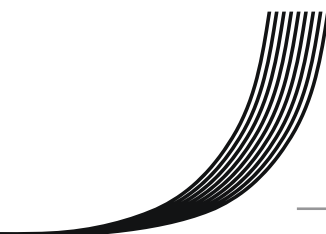
WARNING

Never allow anyone to ride in the camper while traveling. Not only is it against the law in many states, it may result in serious injury or death.



WARNING

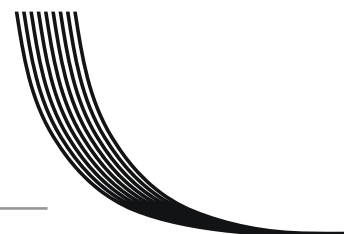
Excessive speed in hazardous road conditions could result in loss of control, serious injury or death. Slow down in hazardous road conditions or pull off the road and wait for the weather to clear up. Follow all weather safety directions.

- 
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- Look out for motorcycles, bicycles, and pedestrians.
 - Always use your running lights to increase your visibility to other traffic.
 - Never drive under the influence of alcohol, drugs, or any kind of medication that will affect your reflexes, comprehension, and alertness.
 - Never drive when you are tired. If you begin to fight sleep, switch drivers or, if you are alone, find a place to sleep until you are rested enough to go on. It is more important to arrive safely than on time.
 - Never use cruise control on wet, icy roads, winding roads, or when traversing mountainous territory.

ELECTRIC JACK SYSTEM

When hauling a camper, you will encounter:

- Electric jacks need 12-volt battery power to operate. If the battery is too low to operate the jacks, and charge the battery before using the jack system. If the camper is on the truck, starting the truck's engine will supply 12V power to the jacks if the 7-way electrical power cord is connected.
- If no 12V power is available or battery power is too low to operate the jack system, switch the power "OFF" to the receiver. This will eliminate the dynamic braking effect of the motor. Remove the access cap on the top of the power head. The crank shaft of the gearbox will be accessible to turn with a 3/8" ratchet wrench. Rotate the wrench counter-clockwise to raise the jack and clockwise to lower the jack.
 - a. Do not activate the motor with the wrench still on the crankshaft.
 - b. Do not use the electric jacks to raise or lower the camper using only 110V power. The converter's charger will be damaged if the jacks are operated with 110V power through the 12V converter without a 12V battery installed in the camper.
- There are two remotes for the jacks. If the remote battery dies, simply plug it into the remote cable port on the activation switch panel with the provided cable. If the black remote does not work, there is a backup remote on the jack's fuse panel.
- The handheld remote control operates on radio frequency, much like remote units for garage door openers. The remote is powered by a battery located under the removable cover on the back of the remote unit. The remote has a range of up to 20 feet from the camper. Occasional frequency interference from other nearby remote control devices may occur. This should only result in momentary pauses during the extend or retract operation.
- When operating the jacks with a low 12V battery, the 'all jacks' extend and retract feature may not work. In that case, use the individual jack buttons to operate the jack.
- When operating the jacks by remote control, visually inspect all four jacks to ensure that they are responding properly and that you are following proper lifting or lowering camper procedures.
- DO NOT over-extend or over-retract the jacks. The electric jack has an internal slip clutch to help prevent damage. If a clicking sound is heard, release the switch. Continuing to hold the switch will cause undue wear on the slip clutch and/or cause damage to the motor.
- If the jacks are in operation and no longer respond to the remote, push the control switch and the light will go out. The jacks should disengage. If they continue to operate, unplug the jack(s) from their exterior plug and contact your nuCamp dealer for servicing.
- Keep a spare battery available for your remote control for the best wireless performance. It is recommended that you install a new battery in the remote at the beginning of each season (one per year).



- The frequency of your remote-control unit has been pre-set by the manufacturer. If interference problems routinely occur, refer to the manufacturer's instructions in your Owner's Packet to change the frequency. Before operating the remote control electric camper jacks, be sure to read and understand the operating instructions that were provided with your camper pertaining to their safe operation.

ADDITIONAL EQUIPMENT

The following equipment may be required or helpful to purchase in the interest of preserving the life of your camper and to aid in its enjoyment:

CAMPER PACKER. Designed for use when the camper is in storage. Torklift is typically a good brand. More information can be found here: <https://www.torklift.com/rv/camper-packer>

AIRBAGS. Consult your truck brand dealership for recommendations for your specific make and model. Airbags will greatly improve vehicle handling and safety. They raise a loaded truck to a normal unloaded ride height, providing a more balanced and comfortable ride.

HEAVY-DUTY SHOCKS. Consult your truck brand dealership for recommendations for your specific make and model. The use of heavy-duty shocks may help reduce wear and tear on your truck's frame.

TIE DOWNS/TURNUCKLES. These are typically available from your dealer and are required for hauling most truck campers. Always use spring or shock-loaded turnbuckles. Your dealer can help install and teach you how to use them.

HITCH EXTENDER/TOWING SYSTEM. Your dealer can assist you in selecting the correct one for your vehicle. Only a qualified technician should install the system. Never attach a hitch ball or towing bar to your camper bumper.

WEIGHT DEFINITIONS

It is very important to stay within the weight ratings of your truck. Learning these definitions will help you safely manage your vehicle's weight and balance. Vehicle weight numbers typically fall into these two categories:

- Ratings are maximum limits that under no circumstance should be exceeded. These limits are established by nuCamp and our part manufacturers in the design of the trailer.
- Weight and Load are generally interchangeable terms. Weight is measured by putting a vehicle, trailer, cargo, or other components on a scale. Vehicles and cargo have weight or mass, which creates loads on tires, axles, and hitches.

Common Definitions:

GAWR (Gross Axle Weight Rating): The maximum weight each axle is designed for and rated to carry.

GVWR (Gross Vehicle Weight Rating): The maximum operating weight of a vehicle as specified by the manufacturer including the vehicle's chassis, body, fuel, accessories, and any cargo.

GVW (Gross Vehicle Weight): The total actual weight of your vehicle plus cargo, as measured on a scale.

CURB WEIGHT: Curb weight is the total mass or weight of a vehicle with all needed fuels such as oils, lubricants, coolants, and a full tank of fuel.

CCC (Cargo Carrying Capacity, also known as Payload Capacity): The maximum weight that persons plus cargo should never exceed. Payload is derived by subtracting a vehicle's Curb Weight from GVWR.



WARNING

An improperly loaded truck and camper can cause imbalance and adverse vehicle handling. This can result in loss of control, serious injury or death.



CAUTION

Overtightened turnbuckles or tie downs may result in damage to your camper.

CARRYING CARGO

When loading this camper, store heavy gear first, keeping it on or close to the camper floor. Place heavy things far enough forward to keep the loaded camper's center of gravity within the zone recommended by the truck manufacturer. Store only light objects on high shelves. Distribute weight to obtain an even side-to-side balance of the loaded vehicle. Secure loose items to prevent weight shifts that could affect the balance of your vehicle. When the truck camper is loaded, drive to a scale and weigh the front and the rear wheels separately to determine axle loads. The load on an axle should not exceed its gross axle weight rating (GAWR). The total of the axle loads should not exceed the gross vehicle weight rating (GVWR). These weight ratings are given on the vehicle certification label that is located on the left side of the vehicle, normally on the dash panel, hinge pillar, door latch post, or door edge next to the driver on trucks manufactured on or after January 1, 1972. If weight ratings are exceeded, move, or remove items to bring all weights below the ratings.

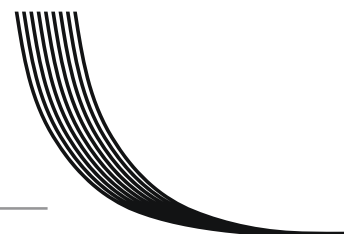
Important information pertaining to loading your camper.

- Installed options, personal cargo, water, and fuel will affect your campers' center of gravity. Cargo must be evenly distributed to properly balance the camper from front to back and side to side.
- An overloaded camper is often due to excessive cargo. The temptation to fill every available space is common. You must load by weight, not by volume.
- You may have more free space for personal belongings if you wait to fill the water tanks until you arrive at the campsite. Water weighs 8.3 lbs. per gallon.

CAMPER LOADING

To minimize safety risks while loading or unloading your camper, the following must be observed:

- Keep children and animals away from the area when raising or lowering the camper.
- Only store your camper on level ground.
- Be sure all tie-down devices and electrical devices are disconnected from the vehicle before loading.
- Never allow the camper to be occupied while it is being loaded or unloaded.
- Avoid putting any part of your body under the camper during the procedure.
- Do not tilt the camper sideways while raising it on the jacks. The jacks could buckle.
- Always raise or lower the camper with the front either level or higher than the back to avoid weight transfer and damage to jacks or cargo.
- Always load and unload the camper on firm level ground.



- Use caution when loading and unloading the camper on a windy day. The amount of wind that is dangerous depends on your exposure and the weight of the camper. It is best to avoid loading on a windy day.
- Always keep the front higher than the rear. Before loading the camper onto the truck, be sure to attach the tie-downs to the truck.

Step-by-step instructions for loading your camper:

1. Extend each jack no more than four inches at once. Starting with the front jacks, keeping the camper level always. Repeat this process until the camper clears the truck body bed by approximately four inches.
2. Slowly back the truck under the camper making sure to clear wheel wells and any structure or plumbing located below the living area. This will come easier with some practice.
3. Continue backing until the truck is within a foot of the loaded position. Stop and connect the 7-way power cord to the 7-way receptacle in the truck bed.
4. Continue backing under the camper until the rubber bumpers mounted on the front wall in the truck bed lightly touch the front of the camper.
5. Slowly retract both rear jacks, then the front jacks until the camper is resting fully on the truck bed.
6. Retract the jacks completely and securely in place per the manufacturer's instructions.
7. Lift and swing front jacks inward (if equipped with swing-out brackets).
8. Secure the camper to the truck with turnbuckles. The front turnbuckles must be spring-loaded, while the rear should use solid turnbuckles. Install both the front and rear turnbuckles per the manufacturer's instructions. Turnbuckles should never be over-tightened. They should be snug enough to keep them securely in place but not so tight that it puts stress on the camper's outer floor. The turnbuckle is designed to keep your camper from moving backward as opposed to holding your camper down.

Step-by-step instructions for unloading your camper:

1. Position the truck/camper combination on firm, level, ground. If needed use 12" square $\frac{3}{4}$ " plywood support pads under each jack to prevent sinking if the ground is soft.
2. Disconnect and remove the following items:
 - a. Front and rear turnbuckles/tie downs
 - b. 7-way camper power cord
3. Using your remote control, operate all jacks together until the camper clears the truck bed by four inches.
4. If necessary, operate the jacks individually starting with the front jacks. Extend the jacks no more than 4" at a time. Keep the camper as level as possible. Repeat the process until the camper has cleared the truck bed by approximately 4".
5. Slowly drive the truck from under the camper until it clears the camper and the front overhang.
6. Lower the camper with the rear jacks first, then lower the front jacks no more than four inches at a time.



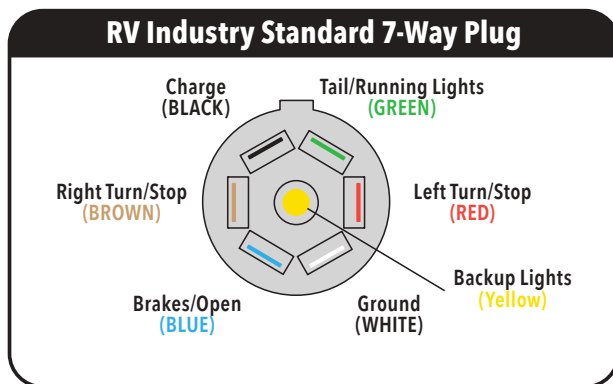
WARNING

Malfunctioning or disconnected lights on your camper while driving is not only illegal but may result in traffic accidents due to limited visibility of your trailer by other vehicles. Loss of control, serious injury, or death can result.



CAUTION

Always level your camper when in use. Failure to level can cause water leaks, refrigerator failure or other damage.



CONNECTOR PLUG

Before each trip:

1. Plug the 7-way connector plug into the hauling vehicle socket and verify that the driving lights on the side and rear of the trailer light up.
2. Have someone stand behind the camper and confirm lights are working when you perform the next steps.
 - a. Step on the tow vehicle brakes. Brake lights should light up.
 - b. Turn on the right/left turn signals and verify that the appropriate lights come on.
 - c. With your foot on the brake, put your vehicle in reverse and verify that the backup lights come on.
3. If any of the lights do not function as expected, the system may need to be serviced.

The 7-way connector plug and the wire harness from the underbelly supplies power from the hauling vehicle to brake, turn signal, driving, and backup lights (if equipped), and on most tow vehicle makes/models may provide power to your camper's 12V electrical system. It may build up corrosion over time. Clean the connector plug frequently to ensure good electrical contact.

STABILIZING & SETUP

Important points to observe:

- After unloading the camper, always lower the camper down close to ground level.
- Do not enter or occupy the camper before lowering it to the ground where it is ready for use. Your camper is designed to be used while standing on the jacks in a lowered position.
- When lowering the camper, do not allow the bumper to touch the ground. Allow a minimum of two inches of clearance to the ground from the lowest point of the camper.
- Always level the camper front to back and side to side. This will allow your equipment and water drainage to function properly.
- Make sure that all four jacks are touching the ground. If one jack is off the ground, it may cause the camper to rock and feel unsteady when walking inside.

HEATING & COOLING

ALDE® HEATING SYSTEM



Most nuCamp campers are equipped with the Alde® Hydronic Heating System. This system is designed to provide warmth and comfort in all weather conditions.

Advantages of the Alde® System:

- It provides a much quieter, gradual warmth that spreads through the camper, as opposed to loud blasts of air from regular RV furnaces.
- The Alde® System serves a dual purpose, not only heating the space but providing on-demand hot water and continuous hot water when combined with the Alde Flow.
- Both propane gas (with 12V) and 120V shore power can be used to fuel the Alde® System.

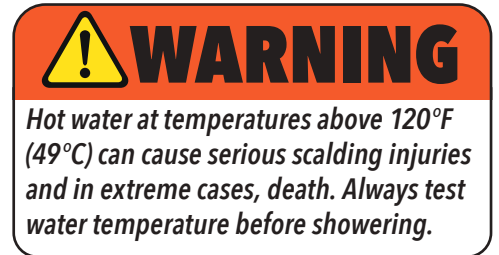
It may take a little practice to learn how to operate the Alde® System. But once you do, you will appreciate its performance and dependability.

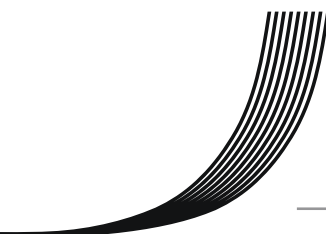
Some basic information about the Alde® System setup in your nuCamp camper:

- The Alde® Hydronic Heating System is simple but elegant, with a design that dates to the early 1700s in Sweden. The Alde® System was specially designed for RV use in the cold north and the company has had many years of experience in this. This makes Alde® ideal for use in nuCamp campers.
- Cabinetry and furniture inside the camper are specifically designed to facilitate natural heated air movement. It is important to make sure that wall cutouts and vents in cabinetry are kept clear for optimum heating and airflow.
- Glycol fluid is heated in a boiler, pumped around pipes to heat emitters, and then radiates heat naturally into the air. The hot water is heated in the same way.
- The heating fluid is propylene glycol antifreeze, and as it is heated, it exchanges heat through a stainless-steel jacket with the domestic hot water cylinder/tank. As a result, the water is heated at the same time the glycol is heated. This makes the Alde® System very efficient.
- The Alde® System's computerized electronics (such as the control panel) use 12V Power, and the heating will run off 120V and / or propane. Whether you have the unit on propane or 120V, it will always require a small amount of 12V power (.6amps/hour)
- The Alde® 3020 Compact Boiler is located underneath the dinette area. To access, lift the dinette cushions and remove the lid.
- Typical warm-up time for the Alde® System from cold to a comfortable temperature in the camper is about one hour. Take this into consideration when using the heating system. If it takes longer than this, have your dealer troubleshoot the system.

When using the Alde® System for the first time:

1. Confirm there is no RV antifreeze in the Alde® Domestic Water Tank. This can occur if the unit has been winterized.
2. Check your Alde® expansion tank. The glycol fluid level must be at least one inch above the minimum line. This may need to be topped off after the first use.



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3. Make sure you have a shore power connection or a full propane tank and charged 12V battery. The Alde® will run off 120V shore-power alone, or off propane and 12V.
 4. If you have checked all the above, you are ready for operation. Power on the Alde® monitor mounted in the nuCamp control panel, select a power source, adjust to your desired temperature and enjoy the warmth and comfort of the Alde® Heating System.

Most of this information was obtained from the Alde® 3020 Compact Manual. For complete details on operating the Alde® Heating System, please see the included operator's manual in your Owner's Packet.

ALDE® FLOW

Basic information about the Alde® Flow function:

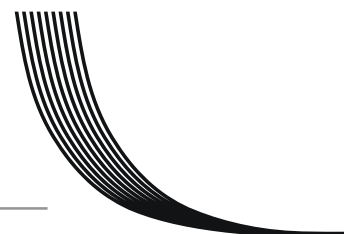
1. The Alde® Flow functions as a preheater for your domestic water supply. About the size of a shoe box, you will find it installed beside the boiler if your camper is equipped with it.
2. The Flow is not a hot water reserve tank but rather serves as a heat exchanger assistance to the boiler.
3. There are no electric heating elements or combustion chambers inside the Flow.
4. The boiler pumps hot glycol into the Flow where it warms the cold water coming from the fresh water tank by convection, taking the chill off the cold water. The warmed water is then pumped into the boiler and further heated.
5. The Flow lightens the load on the boiler and increases the amount of hot water available for showers. The boiler can provide more hot water with extra assistance.
6. With the Alde® Flow installed, there is an extra safety relief valve that needs to be drained when winterizing the plumbing system.
7. Controls for the Alde® Flow are all built into the Alde® System. Operate the Alde® System as normal. The Flow does not have separate controls.

Consult the Alde® Flow operator manual for detailed instructions on operation. A copy is included in the Owner's Packet.

AIR CONDITIONING

Important information about operating air conditioners in your camper:

- Starting an air conditioner early in the day will not only lower temperatures but will also remove excess humidity and help the camper stay cool when the day gets hot.
- The air conditioner assists in ventilating the camper and promoting a healthy air flow by recycling stale air and bringing in fresh air.
- Roof mounted air conditioners must be added to the total clearance measurement. If you hit an object because of low overhead clearance, the rooftop air conditioner will likely be damaged first.
- The air conditioner is the largest single load on the electrical system.
- The air conditioner only operates on shore power*. When camping without shore power you will need to use an appropriately sized generator to run the air conditioner. Use 30 Amp Shore Power only. Running the system on a 15amp circuit can overload the circuit. *A/C will operate on battery if the lithium package is equipped. However, this is not recommended as the high draw will drain the batteries quickly.
- DO NOT use the microwave and air conditioner at the same time. It will trip breakers.
- Generally, RV air conditioners are only designed to cool the inside air approximately 20° F lower



than the outside air. This is not a defect. In temperatures of 100° F or higher, such as in the southwest United States, this should be taken into consideration.

- Keep windows and other vents closed when operating the air conditioner.
- Hot air rises and cool air drops. The air conditioner's air intake is by the ceiling where all the hottest air gathers. The air conditioner gathers the rising warm air, cools it (creating condensation and discharging water on the roof), and then ejects the air by the ceiling where it circulates downward.
- Never close or obstruct the air intake. This will cause the air conditioner to malfunction and slow down cooling.
- Never allow the air conditioner to run without a return air filter. Without the filter, lint and debris will gather on the cooling coil. Damage and loss of air volume can result. This can ruin the air conditioner or at the least, be an expensive repair.
- The air conditioner normally causes water to gather on the roof. To remedy this, lift the front of the camper to allow water runoff to the rear.

When camping in hot weather, especially during the day, the camper will absorb heat from the sun and the surrounding atmosphere. This is known as heat gain. If you can reduce this, especially in extremely hot weather, you have won half the cooling battle.

To reduce heat gain and increase air conditioner cooling in high-temperature weather:

- Seek shaded areas to park your camper, such as beneath trees.
- Close all windows, shades, and curtains. For an extra heat shield, insert an automotive windshield sunshade, cut to size, into each of the windows. Some shades may have a reflective coating on the exterior side already.
- Keep heat emitting appliances such as the Alde® System, stovetop and microwave turned off.
- Extend any equipped awnings. This will shade the sides of the camper from sun exposure.
- Start the air conditioner early in the morning to give it a head start on the day.
- Turn the air conditioner to its highest setting.

Refer to the air conditioner(s) operator manual for detailed operating instructions. These are included in your Owner's Packet. Online information on your specific Air Conditioner may also be found at this link: <https://www.airxcel.com/rv/coleman-mach/products/air-conditioners/ultra-low-profile/mach-8/mach-8-ac>

FAN VENTILATION

The fan vent(s) installed in the roof creates fresh air circulation and removes stale air from the camper. It is powered by 12V or shore power and may be equipped with either manual or remote controls.

- Always ventilate the camper while sleeping.
- The fan will not ventilate well if an air inflow source such as a window is not opened. For best ventilating results, open a window the farthest distance from the fan so air can flow through the entire camper.
- See the operating instructions for the fan vent included in the Owner's Packet.

PLUMBING & WINTERIZATION

WATER SYSTEM INFORMATION & SAFETY

Your camper is equipped with a two-part plumbing system – freshwater and wastewater.

The freshwater system includes:

- Fill Level Monitor
- Freshwater Holding Tank
- Water Pump & Filter
- Alde® Boiler (heats the water)
- Alde® Flow
- Sink Faucets
- Shower Head
- Exterior Wash Station
- Water Fill Inlet
- Piping & Connections

The wastewater system includes:

- Fill Level Monitor
- Gray (waste) Water Holding Tank
- Black (sewage) Water Holding Tank
- Drains
- Toilet
- Piping & Connection

Safety Information:

- Before using the freshwater system for the first time and when de-winterizing, the water system must be sanitized. During cold months the camper may have been winterized at the factory or dealer lot. Following the de-winterization process will sanitize the water system. See page 29 for instructions.
- The water system is safe enough to drink from only if it is properly sanitized. Many camping enthusiasts find it safer and easier to supply their own bottled drinking water. Your best option may be supplying your own safe drinking water rather than relying on the water system in the camper to be pure and sanitary.
- Due to the smaller plumbing system in most recreational vehicles, the pump can only supply a limited amount of pressure at a given time. Use only one water outlet at a time. While showering especially, do not open other faucets. Scalding and serious burns may occur.
- Always drain holding tanks when they are not in use. This will eliminate contaminants from stale water and prevent freezing in winter.
- Traveling with full tanks will reduce the amount of available cargo capacity in the camper and may overload your truck. Never exceed the payload capacity of your truck.



WARNING

Do not drink unsanitary water. If water quality is unknown, do not drink. Serious injury or in extreme cases death, can occur.



WARNING

Use potable water only in the freshwater system. Sanitize, flush, and drain water tank before using. Failure to maintain tank can result in death or serious injury.

General Care:

- Road vibrations, excessive pressure from city water sources, and improper winterization are the main physical causes of water system damage. Inspect all plumbing joints and fittings often for cracks and leaks. An unchecked water leak at a plumbing joint can cause considerable water damage and costly repairs which may not qualify for warranty coverage.
- It is possible for an electrical problem to cause water system problems due to equipment like the pump requiring electrical connections.
- Be sure to read the literature supplied with plumbing components for troubleshooting tips.
- If a leak or other problem persists after troubleshooting, consult your dealer for further inspection and repair.

MONITOR PANEL

The main control panel, containing controls for lighting and other equipment and located near the kitchenette, includes a screen to monitor tank fill levels and a switch for the water pump. To see the tank fill levels, tap the screen and a fill bar indicator will appear above each tank listed as FRESH, BLACK, and GRAY.

FRESHWATER TANK

An equipped freshwater holding tank stores water for you to use when dry camping. Important information:

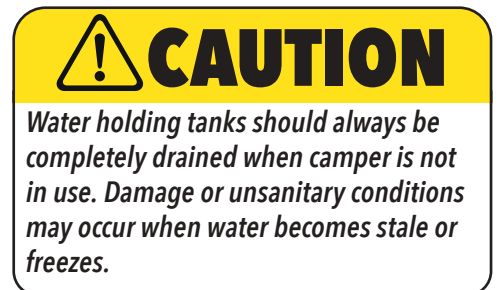
- The freshwater tank has overflow tubes connected to it that also serve as air outlets when the tank is being filled. It is not unusual for water to slop out of these tubes when the tank is filled.
- The tank's water holding capacity may be higher than the amount of water that can be pumped out of the tank and used. This is normal due to the slight expansions of the tank when water is inside it and the limitations of where the low point drain exits the freshwater tank. A few gallons may be trapped inside at any time. This can sometimes be remedied by dropping the side, front, or rear of the camper so as much water as possible flows into the low point drain.

WATER PUMP

There are two 3-way switches for the water pump. One is located on the nuCamp monitor panel and the other is on the Nautilus Plumbing Control panel. Either one can be used to control the pump. When the pump is turned on it will run until the line is pressurized to about 45 PSI. The water pump can be accessed under the dinette close to the shower wall. Refer to the Water Pump Owner's manual for detailed operating instructions.

Initial Start-up process and normal operation:

1. Make sure the freshwater tank is filled.
2. Place the pump control switch in the ON position.
3. Open all water outlets, both hot and cold, one by one.





CAUTION

Never exceed 50 PSI when using the city water connection with the freshwater system. Water damage may occur if fittings or pipes fail under excessive pressure.



CAUTION

Never run the water pump dry. Damage may occur and your pump may be ruined. Follow all supplied manufacturer instructions to properly operate pump.



HOT WATER?

The number one issue the nuCamp Customer Service Team is asked concerns the issue of no hot water. This is a simple fix and is only a matter of adjusting the hot water mixing valve to the (+) symbol located near the Alde® boiler. Follow manufacturer instructions for proper valve adjustment.

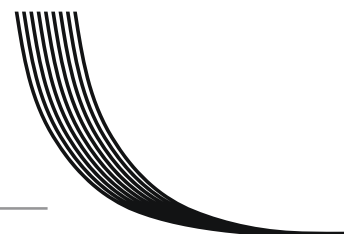
4. Allow time for the system to be filled. Shut off each faucet as the flow becomes steady and free of air. When the last faucet is turned off, the pump should turn off as well.
5. The system is now pressurized and ready for normal operation and use.
6. During normal operation, the pump will cycle on whenever a water outlet source is turned on or when the pressure drops in the line. A check valve in the pump will keep water from back flowing.
7. If the pump cycles frequently while there are no water outlets open, you may have one of three common issues:
 - a. Debris accumulation in the filter. Remove and clean.
 - b. Leak in the line between the tank and pump. Have your dealer repair the system.
 - c. The pump needs priming. This is sometimes due to a weak pump, which will need to be replaced by your dealer.

SHOWER

The showerhead is removable for hand-held use. It may be equipped with a water flow control device to conserve water usage while showering.

Showering Instructions:

1. Check the water level in tanks via the monitor screen. You don't want to run out of water in the middle of a shower.
2. If dry camping, make sure the 12V system and water pump are turned on.
3. Turn the Alde® system to hot water supply mode. Follow the instructions in the Alde® manual.
4. Enter the shower, close the door, and pull the shower curtain so it securely covers all exposed wood areas.
5. Turn on the exhaust fan to actively remove moisture vapor.
6. Remove the shower head, turn on the valves, and adjust the hot and cold valves to the desired temperature. Spray directly into the drain to avoid unpleasant temperatures.
7. Water may be cold until hot water makes its way through the pipes from the Alde® boiler. If it is continuously cold adjust the hot water mixing valve underneath the dinette.
8. To save water while showering, rinse, turn the water off while applying soap, and then thoroughly rinse again.
9. Turn the water off at the hot/cold knob, let the excess water drain from the shower head, and hang it up. It is normal for the shower head to drip slightly after being turned off.
10. Wipe down the shower with a dry rag to keep water stains to a minimum and remove moisture.
11. You can crack open the shower door just a little and keep the exhaust fan running to draw air movement through to dry loosely hung towels and clear the air of moisture. The less time the the shower is wet, the better it will hold up.



EXTERIOR WASH STATION

The wash station is intended for uses such as washing up before entering the camper. A sprayer, resembling a shower, serves as the outlet and is connected to the freshwater system.

1. Before using the sprayer make sure the freshwater system is turned on and working properly.
2. Attach the water hose and sprayer head to the Nautilus plumbing control panel.
3. Adjust water temperature and pressure by adjusting the hot and cold valves.
4. When finished washing, turn the water off and drain excess water from the hose and sprayer head.
5. Disconnect the water hose and sprayer from the Nautilus plumbing control panel, stow, and close the compartment.

HOT WATER & MIXING VALVE

Hot water for the camper is supplied through the Alde® radiant heating system. It provides on-demand hot water as you need it. The equipped Alde® Flow system increases the amount of hot water available for use. Refer to the Alde® Owner's Manuals for specific operating instructions. The adjustable hot water mixing valve mixes hot water exiting from the Alde® boiler with cold water. The factory sets the hot water mixing valve at its coldest setting to avoid scalding accidents. When operating your hot water system for the first time, adjust the mixing valve to your desired temperature. Instructions on how to adjust the mixing valve are included in your Owner's Packet.

WASTEWATER TANKS

The wastewater system has two tanks. The gray tank is for wastewater from the shower and sinks and the black tank is for solid wastes from the toilet. Smells from the black tank system can be quite unpleasant. The use of an RV holding tank deodorizer will reduce the smell and aid in breaking down solids in the black tank.

Follow these steps before first use and each time the wastewater tank is emptied and dumped:

1. Make sure the freshwater system is turned on, pressurized, and bled.
2. Half-press the toilet flush pedal or handle till there are about two quarts of water in the bowl.
3. Add an approved holding tank deodorizer according to package directions.
4. Flush the toilet repeatedly until at least 2 gallons of water are in the black tank. This will keep solids loose and promote better flow in the black tank.
5. Unpleasant odors from the gray tank can be controlled by adding ½ cup of baking soda or RV-holding tank deodorizer to the sink or shower drains and rinsing down with water.

The most common and unpleasant problem with the black tank is clogging. To minimize clogging:

- Cover the bottom of the tank with water immediately after dumping.
- Movement while driving will help liquefy solids. Adding water to the tank will also help.
- Use only RV-grade single-ply toilet tissue.
- Keep both knife valves closed and locked, and the drain cap tightly in place when using the system on the road and anytime not connected to a dumping station.
- Use a special holding tank deodorant chemical approved for RV holding tank systems in the black and gray water holding tanks. These chemicals aid the breakdown of waste and make the system more pleasant to use.



CAUTION

Keep drain valve closed to minimize the presence of sewer gases. Sewer gases can be present when the RV is connected to the campground sewage hookup. May lead to illness or personal injury.

NOTICE

There is a secondary method of winterizing via a blowout plug connected to an air compressor. Since there is a risk involved with this method if the system is not blown out thoroughly and some water remains in the lines, nuCamp recommends the RV antifreeze winterizing method as a safer option. If you wish to try the blowout method consult your dealer for instructions and training. Pressure in the lines must never exceed 30 PSI when blowing out the water system.

- Do not put facial tissue, paper, grease, ethylene glycol-based or other automotive antifreeze, sanitary napkins, or household toilet cleaners in the holding tanks.
- Do not put anything solid in either tank that could block piping or scratch and puncture the tank.

If the drain system does get clogged:

- Use a hand-operated probe to loosen stubborn accumulations.
- Seriously clogged P-traps may require disassembly. Be careful not to over-tighten when reassembling.
- Do not use harsh household drain cleaners or motorized drain augers.
- Sometimes the holding tank valve will get clogged. In this case, a hand-operated auger may be necessary. Be ready to close the valve quickly once the clog is cleared. If the seal gets damaged, it must be replaced.

TOILET

The toilet is connected to the pressurized freshwater system. A single lever arrangement controls the flushing and the flow of water into the bowl. Most RV toilets are designed to function with a smaller amount of water than household toilet. Unnecessary, frequent flushing of the toilet will quickly deplete your freshwater supply and fill your holding tank. If the black water tank becomes full, the toilet cannot be flushed until the tank is drained.

To keep toilet blockage to a minimum:

- Only use an RV-approved biodegradable 1-ply tissue paper and deodorizing agents specifically designed for use in RV holding tank systems. These products are available directly from your dealer and most camping supply stores.
- Never use chlorine or caustic chemicals such as drain opener or laundry bleach in your toilet.
- Never allow foreign objects (non-dissolving items) such as hygiene products, paper towels, wipes, or diapers to be flushed through the toilet.

Refer to the Owner's Manual included in the Owner's Packet or in the packaging of your toilet for operating and detailed care instructions.

WINTERIZING/DE-WINTERIZING

Freezing climates can damage the camper's plumbing system and equipment. The camper must be drained and have antifreeze protection before storing or camping in below-freezing temperatures in fall/ winter. This is done through a process called winterizing.

Be sure to always use a non-alcohol-based antifreeze when winterizing your camper.


When getting the camper ready for camping season in spring you must

cleanse the potable freshwater system to remove all the antifreeze. This process is called de-winterizing or sanitizing.

User instructions for winterizing, de-winterizing, and sanitizing can be found on the Nautilus plumbing control panel manufacturer's website at <http://www.bandbmolders.com/index.php/p3-2/>

While the Nautilus system instructions are generalized instructions, the following steps outline more detailed instructions for winterizing the freshwater & wastewater plumbing systems in your camper:

1. Empty all black and gray tanks into appropriate disposal. They must be as completely empty as possible.
2. Level your camper or tilt it in such a way that the water in the tank flows toward the low point and tank drain openings.
3. Turn the handles on the Nautilus Panel to Power Fill Mode.
4. Open all drains in the unit:
 - a. Freshwater tank drain
 - b. Low point drains
 - c. Hot water tank drain (Yellow Alde drain valve. Vertical position is open, horizontal is closed)
 - d. Gray & black tank knife drains.
5. Open all water fixtures.
 - a. Sinks
 - b. Toilet (Flush)
 - c. Shower
 - d. Exterior shower
6. When water has stopped flowing from all openings, close the drains and fixtures.
7. Turn the handles to a 45 degree angle as shown in the Nautilus Panel Winterizing Instructions.
8. Connect an air hose to the city water connection. You will need an adaptor with a pressure gauge.
9. When blowing out the system with air, DO NOT exceed 30 PSI pressure in the plumbing lines. Damage may occur to the inline water regulator and other plumbing components. The freshwater tank overflow drain is always open, so the tank does not become pressurized with either air or water. The freshwater tank should never have more than 2 PSI pressure in it.
10. Blow air into the system and, always keeping one drain open, open each freshwater drain one by one until no more water is released.
 - a. Freshwater tank drain
 - b. Low point drains
 - c. Hot water tank drain (Yellow Alde drain valve. Vertical - open, horizontal - closed)
11. When the water is all drained out of the lines and all openings are closed, turn off and disconnect the air hose.
12. Turn the handles to Winterize mode as shown in on the on the Nautilus Panel Instructions.

- 
13. Connect a short piece of garden hose to the Winterize inlet of the Nautilus Panel and place the other end into a non-alcohol based approved RV antifreeze. A short hose (cut off) will help the pump prime easier and sooner.
 14. Press the pump switch to activate the water pump. The pump will run till the system is pressurized and will kick on when fixtures are opened. Note that the LED indicator light on the panel will be lit if pump is powered.
 15. With the system pressurized and one at a time, open each water fixture until antifreeze appears, then close. Remember to turn to both cold and hot so both lines are protected:
 - a. Sinks
 - b. Toilet (Flush)
 - c. Shower
 - d. Exterior shower
 16. When all fixtures are protected, turn the water pump off and disconnect the hose.
 17. Pour one cup of the RV antifreeze into each sink and shower drain to protect the traps.
 18. Follow manufacturer instructions for winterizing the toilet.

PROPANE GAS SYSTEM

LP SAFETY

Propane gas, also known as LP or liquefied petroleum, is a naturally odorless, highly flammable fuel stored in gas cylinders (commonly called LP tanks) used by appliances such as the stovetop, refrigerator, and Alde® System. A strong odor, almost like sulfur or rotten eggs, is added to the gas so hazardous leaks can be smelled.

Important Safety Information:

- ALWAYS close shutoff valves on LP tanks when the propane system is not in use. Hand tighten only to avoid damaging the interior seals on the valve.
- DO NOT use an open flame to check for leaks. Use the dish soap and water solution. Spray onto fittings and joints. Bubbles will develop at the leak point.
- DO NOT restrict access to LP gas cylinders. Always keep the valve accessible for emergency shutoff.
- DO NOT use LP gas cylinders (other than those supplied with your camper) unless provided for you by a qualified dealer or service technician.
- DO NOT block installed vents in your propane compartment. The compartment must be ventilated for proper airflow.
- DO NOT cross thread, jam, or try to force the fitting onto the hose connector.
- DO NOT pack or store LP tanks inside the camper, whether full or empty. The valves have safety devices that can release gas into the atmosphere when under high pressure. Always ventilate your camper when using propane appliances to avoid carbon monoxide and asphyxiation danger.
- Check the LP gas system for leaks or malfunctioning parts before each trip to avoid mishaps.
- Be careful not to puncture propane gas lines when fastening objects or drilling holes in your camper.
- Always fasten LP tanks securely and properly in the bracket intended for them.
- When using the propane gas system for the first time, and after the first 5,000 miles of use, employ a qualified technician to check the piping for leaks. The piping system is tested and checked at the factory, but travel vibrations can loosen joints.
- Read and understand the operating manuals of all propane powered appliances before you start using your propane gas system.
- A propane gas alarm is equipped in your camper. See the General Safety Section of this manual to understand how that works.

FILLING LP TANKS

Important information for filling LP tanks:

- Propane appliances will not light when there is an improper mixture of gas and air. Brand new LP tanks often have air and moisture trapped inside before first time use. Have a qualified service technician purge your new LP tanks before filling them for the first time.



DANGER

IF YOU SMELL PROPANE:

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

Ignition of flammable vapors could lead to a fire or explosion and result in death or serious injury.



WARNING

The propane piping system is 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 products that contain ammonia or chlorine to test for leaks. This may lead to a fire or explosion, which could result in death or serious injury.



DANGER

All pilot lights, appliances and their igniters shall be turned off before refueling of motor fuel tanks and/or propane containers. Failing to do so may cause ignition of flammable vapors, which can lead to a fire or explosion and result in death or serious injury.



WARNING

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



Get Cookin'

Follow Steps 8-10 after stabilizing and leveling your trailer. Ventilate the camper and make use of the range hood before using the cooktop.

- Only approved DOT propane gas cylinders may be used for the camper.
- Fill LP tanks at authorized propane fueling facilities only.
- It is illegal to fill LP tanks inside the compartment or inside your camper. Remove LP tanks from the camper to fill them.
- Never overfill the LP tanks beyond the safe level.
- Never put a vertical tank in a horizontal position or vice versa.
- Always extinguish all open flames and shut off appliances before removing or reinstalling LP tanks.
- When LP tanks are not connected to the piping system, always attach a dust cap to the connection fitting to keep it clean.

Steps for properly removing, filling, and reinstalling the LP bottle(s):

1. Close valves securely on both LP tanks. Hand tighten only. This will shut off all appliances.
2. Position the changeover lever to the full bottle.
3. Unthread the pigtail hose attached to the empty LP tank and attach the dust cap.
4. Remove the empty LP tank from the compartment.
5. Fill the LP tank at a qualified propane fueling station.
6. Place the filled LP tank in the compartment and securely fasten it.
7. Remove the dust cap.
8. Carefully thread and hand tighten the pigtail hose connector onto the tank's fitting.
9. Open the valve on the LP tank very slowly to prevent a rush of liquid propane called freeze-up. If you experience freeze-up, close the valve, wait 15 minutes and try again.
10. When you open the valve, you will hear a hissing noise. If the hiss lasts longer than 2 seconds, close the valve and have your dealer service the propane system. You may have a leak.
11. If there is no leak, start appliances according to the manufacturer's instructions included in your Owner's Packet.

PROPANE REGULATOR

Your camper is equipped with a two-stage regulator that reduces pressure from the LP tank to the piping system. The first stage drops pressure to 10-13 lbs. pressure. The second stage drops pressure to 6.35 oz. pressure (11" Water Column or ½ PSI) needed to operate appliances properly. Pressures that are too high or too low will cause safety hazards and affect overall appliance performance. Consult your dealer or a qualified service professional to have the regulator adjusted with a properly calibrated manometer.

The regulator may have a built-in automatic changeover valve. This valve will automatically change the gas supply over to the reserve tank if the main supply tank should become empty.

Operating the regulator valve:

1. Install two full LP tanks.
2. Turn the regulator valve to the LP tank you want to use first (the main supply tank).
3. Open both LP tank valves very slowly. A green indicator means gas is flowing into the system.
4. When the main supply tank empties to a certain pressure, the reserve tank will automatically kick in and the indicator will turn red.
5. Turn the regulator valve to the reserve tank (even though the system is already drawing from that tank). The indicator should turn green to indicate that the gas is still flowing. If it is red, both tanks may be empty. Refill the tanks. If this does not remedy the situation, have a qualified service technician inspect or repair the system.
6. You may now remove the empty tank to have it filled and reinstalled.

PROPANE SYSTEM MAINTENANCE

It is possible for the propane regulator to “freeze” in certain climate conditions due to the properties of propane and the dynamics of pressure change inside the regulator. In case of freezing, use an incandescent light bulb or heated blanket to warm the regulator and then have the system purged. Consider purchasing a propane regulator cover, available online and at most major hardware stores, to protect your regulator and prevent freezing. Your regulator may have a factory-installed cover already installed.

Environment, usage, and time can deteriorate parts in the propane piping system. Inspect the piping system before each camping season. Look for cracks, loss of flexibility, and corrosion. If parts need to be replaced, consult your nuCamp dealer for proper parts of the same type and rating.

PROPANE USAGE

Propane usage fluctuates so there is no real way to accurately measure propane usage. This fluctuation is due to varying usages of appliances. Propane usage can be measured to some degree of accuracy by understanding the BTUs of appliances and the capacity of LP tanks. A standard 20 lb. LP tank contains approximately 430,270 BTUs of propane gas while a standard 30 lb. LP tank contains approximately 645,405 BTUs.

Propane General Usage Guide	
APPLIANCE	APPROX. BTU/HR
Alde® System	11,000 - 18,700
Cooktop	3,700 - 7,200
Refrigerator	1420



What's That Smell?

An odor like garlic can occur when the LP bottle is almost empty. The smell will go away when the bottle is refilled. If the odor persists after the bottle is refilled, turn off all gas valves and have your system inspected by a nuCamp dealer or other qualified service technician.

ELECTRICAL

ELECTRICAL SAFETY & INFORMATION

Two electrical systems are outfitted on your camper – the primary 12V DC and 120V AC shore power. These electrical systems are engineered to efficiently provide power to the various appliances and features in the camper. All designs, components and wiring methods of the electrical systems conform to federal and RVIA installation requirements at the time of production.



WARNING

120V AC shore power is powerful enough to kill you. Always use a grounded shore power connection and never remove the "third" ground prong from your shore power cord. Both reverse polarity or improper grounding in the 120V AC supply outlet can cause serious injury or death. Do not connect the shore power cord if either or both are present.

Electrical Safety and Information:

- Aftermarket changes made to the electrical system can result in electrical and fire hazards. Never add appliances, features, or other unapproved changes to the electrical system without the assistance of a qualified technician.
- Electricity can pose a hazard if you do not understand how the electrical system works. Only qualified electrical technicians should service the electrical system and make changes to it in any way.
- Install a surge protector in the supplying 120V AC outlet before plugging in your shore power cord to protect your camper's electrical system from damage caused by power surges.
- ALWAYS disconnect electrical power at the source when you work with the electrical system.
- Remove rings, wristbands, or other metal objects from your person when working with the electrical system.
- Before you connect your shore power cord to an external supply, test the outlet with an outlet-testing device that indicates whether reverse polarity or an open ground is present in the outlet. If the outlet-testing device indicates either of those conditions, have the outlet repaired. Outlet-testing devices are available from your dealer or an RV/camping supply center.
- ALWAYS fully extend the power cord. Do not coil the cord up. Excessive heat build-up can cause the wire coating to melt, become exposed and lead to an electrical hazard.

120V AC SHORE POWER

When connected to an external 120V outlet or generator via the 120V shore power cord, your camper will be supplied with power. The electrical system will be grounded via shore power if there is no open ground in the supplying outlet or generator. The negative terminal on your battery serves as a ground to your electrical system when shore power is disconnected.

The 120V electrical system provides power for:

- Air Conditioner
- Microwave
- Refrigerator
- Alde® System (plus LP)
- Converter
- 120V Receptacles
- TV & Antenna

12V DC SYSTEM

When not connected to 120V AC shore power, the 12V system uses power from the 12V (or dual 6V) battery(ies) on board the camper and functions much like the 12V system in your tow vehicle. When 120V AC shore power is connected, current runs to the 12V power center via the converter and provides power to the 12V appliances and features. The negative terminal on your battery serves as a ground to your electrical system when shore power is disconnected.

These components and appliances work off 12V power:

- Stabilizer Jacks
- Lighting
- Water Pump
- Refrigerator
- Stereo System
- nuCamp Control Panel
- Power Vent/Fan
- 12V Outlets
- Awning
- Smoke Alarm
- Propane/CO Alarm

BATTERY(IES)

Battery Maintenance:

- When the 120V AC shore power cord is connected, the converter system automatically charges the trailer battery(ies) if the battery disconnect switch is turned ON.
- When the hauling vehicle is not running, the 7-way connector plug is connected, (depending on vehicle make/model) and the 120V AC shore power cord is connected, your tow vehicle battery may charge as well.
- Battery charging speed depends on the power being used for lights and appliances. Only surplus power goes to charging the battery.
- On extended stays, keep your trailer hooked up to a 120V AC shore power, if available, to keep batteries charged.
- While driving, if you have the 7-way connector plug attached to the tow vehicle (depending on the tow vehicle make/model), your battery will be charged.
- Always make sure the battery is secured in place while traveling.
- Battery cables must always be secured tightly to the terminals. Loose connections can cause loss of power and arcing power between connections.
- Keep the terminals and cables clean and free of corrosion. Clean periodically with a wire brush.



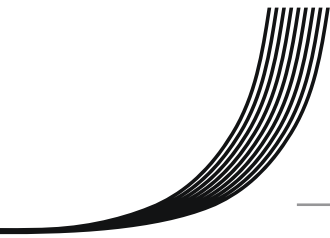
Stabilizer Jacks

The stabilizer jack system is directly wired to the 12V battery and does not run through the converter. Fuses are built into the stabilizer jack system.



CAUTION

When installing a battery (s), always observe polarity. Connecting a battery in reverse polarity will blow the power converter main fuses located in the 12-volt DC distribution center.



BATTERY DISCONNECT SWITCH (If equipped)

About the battery disconnect switch:

- The battery disconnect switch separates the batteries from the 12V distribution center and converter charging system.
- When 120V AC shore power is connected and the switch is turned ON, the power center is activated, and the battery(ies) will be recharged.
- When 120V AC shore power is connected and the switch is turned OFF, the 12V distribution center will still receive power from the converter, but the battery(ies) is disconnected from the system and will not be re-charged.
- The batteries will not be discharged or recharged if the switch is OFF.

POWER DISTRIBUTION CENTER

The power distribution center was designed to use a 30-amp 120V main breaker with branch circuits. Double breakers may be used for the branch circuits. Should a breaker become faulty, replace it with the same type of breaker only. Only use approved circuit breakers and 12V fuses.

- Generally, each 12V DC circuit in the distribution center was designed for a maximum 20-amp automotive-style fuse. One or more fuses may be specified at 30-amp. This is the only place a 30-amp fuse should be used.
- Replacement fuses must be the same type and amp rating as originally supplied by the nuCamp factory. Replacing it with an improper size fuse could result in malfunction.
- The power converter is equipped with reverse polarity fuses. If these fuses “blow” while connecting the battery, replace them with the same type and rating fuse as originally provided with the equipment.
- While appliances and accessories are connected to the 120V receptacle, the wiring is protected by circuit breakers in the power distribution center.
- In the event of a failure of a 120V circuit, first, check your trailer circuit breakers and the breaker or the outlet into which your trailer shoreline cord is plugged.
- If a breaker continues to trip after you have reset it several times, your circuit may be overloaded with appliances or there may be a short in the circuit. Try lessening the load on the circuit by shutting off appliances, such as the air conditioner and microwave, that consume high amounts of electricity. If that does not solve the problem, consult an authorized nuCamp dealer.

CONVERTER

The converter is built into the power distribution center where the breakers and fuses are.

Converter function:

- The converter transforms 120V AC into 12V DC and enables you to use the interior lights, fans, pumps, and 12V appliances, whether operating on 12V battery power or 120V shore power.
- When on 12V battery power only, everything works normally except the 120V outlets and appliances. Some appliances, if connected and equipped, may still work with a propane gas supply.
- The converter system is designed to maintain constant output voltages, thus named DC (direct

current), regardless of the variances that occur in shore power systems which are AC (alternating current).

- The converter is energized only when the trailer is hooked up to 120V AC shore power.
- The power converter is not weather-resistant. It must be protected from direct contact with water.

GROUND FAULT CIRCUIT INTERRUPTER

The GFCI (ground fault circuit interrupter) breaker provides reliable overload protection, short-circuit protection, and protection from ground faults that might result from contact with a HOT load wire and the ground. Each GFCI circuit breaker is calibrated to trip with a ground current of 5 milliamperes or more. Help protect your family from the risk of electric shock by performing the following test each month.

Testing GFCI receptacles:

1. Push the Reset button located on the GFCI receptacle first to assure normal GFCI operation.
2. Plug a device, such as a night light, with an ON/OFF, switch into the GFCI receptacle and switch it ON.
3. Push the Test button located on the GFCI receptacle. The device should turn off.
4. Push the Reset button, again. The device should come on again.
5. If the device remains on when the Test button is pushed, the GFCI is not working properly or has been incorrectly installed (wired wrong).
6. If your GFCI is not working properly, call a qualified, certified electrician who can assess the situation, rewire the GFCI if necessary, or replace the unit.

RECEPTACLES

Receptacles powered by 120V AC power are on breakers connected to the distribution panel and will function much like the receptacles in your home. Do not connect an appliance or other device that will overload the circuit. When an appliance such as a dehumidifier, iron, toaster, or other device is drawing high power from an outlet, it may impede the function of lights (indicated by dimming) and other components in your trailer. Always be aware of your usage. Shut off appliances that you are not using to increase power availability for others.

INVERTER

Do not exceed the recommended power supply load on the inverter. See the inverter operating and maintenance instructions included in your owner's packet.

NUCAMP CONTROL PANEL(S)

The nuCamp control panel is located near the main entrance door. On it, you will find the Alde® control panel, a tank fill level, and a battery charge level indicator along with master switches to power lights, a water pump, awning and the refrigerator. A second control panel containing switches on operating various features can be found in the bedroom. Switch buttons will light up when activated.



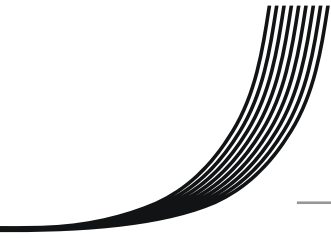
WARNING

A GFCI does not protect you from electrical shock. You will not be protected from shock when you contact hot and neutral sides of circuit connections. Outlet covers must always be installed while electrical current is present.



Inverter Outlets

One or more receptacles may be powered by an inverter, if equipped. Inverter outlets, when tested, will always indicate an open ground. This is normal. The input electricity of the inverter is partially grounded by the negative DC connection to your battery terminal. It does not need a true earth ground to function properly.



SAFETY LIGHTS

Your camper is equipped with safety lights and reflectors that comply with federal and state safety regulations. Never alter the lights or remove the reflectors in any way. Replace defective or damaged lights and reflectors immediately upon discovery. Not only you but the safety of other folks on the road depends on you and your safety compliance. Your dealer can provide you with replacement parts.

INTERIOR LIGHTS

Interior lights are LED to conserve energy and are powered by 12V DC via the 12V battery(ies) or the power converter when connected to 120V AC shore power. Defective light fixtures must be replaced with the same type, size, and wattage as originally installed. Contact your nuCamp dealer to acquire those parts.

ENTERTAINMENT SYSTEM

Refer to the manufacturer's instructions for proper operation of the stereo, speakers, and TV. All operating instructions, along with any equipped remote controls of each component are included in the Owner's Packet with your camper.

CABLE/SATELLITE CONNECTION

A cable connection inlet is provided on the nautilus water management panel to allow connection to campground cable service. The cable supplies a connection to your TV for viewing purposes. Select the correct input source on the TV to watch cable TV.

SOLAR

The following outlines important general information about RV solar systems and may contain specific information about your camper:

- A solar panel system recharges your battery and helps prolong battery life.
- Typically, the charge line from the solar controller is wired directly to the battery. This way, your battery can always be recharged when sunshine is available.
- Solar panels are most efficient when directly facing the sun. When parking your camper, it is best to turn it in such a way that the solar panels are turned toward direct sunlight and can most efficiently charge your battery. Parking in sunny areas may also contribute to faster battery charging from solar panels.
- Power from the solar panels provide a slow, steady charge to the onboard batteries if they are connected and installed. The charge controller regulates the power coming from the solar panel to keep the batteries from overcharging, keeps power from solar panels under a certain voltage to protect the batteries, and prevents power from flowing to the solar panel from the battery. Be sure to read and follow the solar controller user manual instructions and maintenance guidance.

LITHIUM PACKAGE



LITHIUM PACKAGE

Campers equipped with our Lithium Package from the factory will have Battleborn lithium batteries and Victron components in place of the standard WFCO power center.

The lithium package comes equipped with:

- Battle Born Batteries (heat enabled)
- WFCO power distribution panel
- Victron Multiplus (inverter/charger)
- Victron SmartShunt

BATTLE BORN BATTERIES

These are 12V LiFePO4 (Lithium Iron Phosphate) batteries with built-in heating capability. If the heat-enable switch is on, the heater will automatically activate when the internal temperature drops below 35°F (1.6°C) and will shut off when the internal temperature exceeds 45°F (7.2°C).

WFCO DISTRIBUTION PANEL

This panel contains your AC breakers and DC fuse panel for the branch circuits. This will be the first place to check if a circuit or appliance stops working.

VICTRON MULTIPLUS

The Victron Multiplus is central to the electrical system in the lithium package. Both 12V battery power and 120V shore power come directly into the Multiplus before heading on to the WFCO distribution center and out to the AC & DC branch circuits. The Multiplus charges the battery when connected to shore power and does 120V AC passthrough. When shore power is unavailable, the integrated inverter can provide 120V AC to the entirety of the camper using available battery power. (It is not recommended to run the air conditioning off the inverter as the high-power draw will drain the battery quickly.)

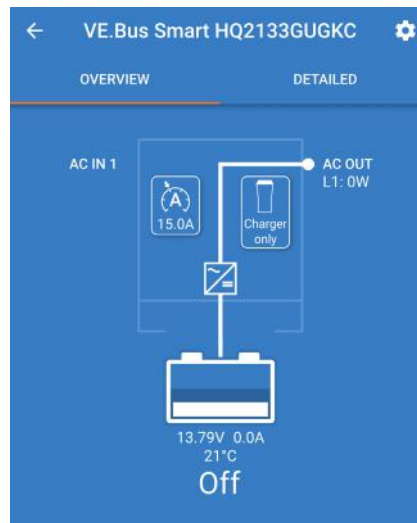
VICTRON SMARTSHUNT

The Victron SmartShunt keep track of how much energy goes into the battery and how much comes out. It can give you an accurate glimpse into your power usage and battery state-of-charge.

BLUETOOTH CAPABILITY

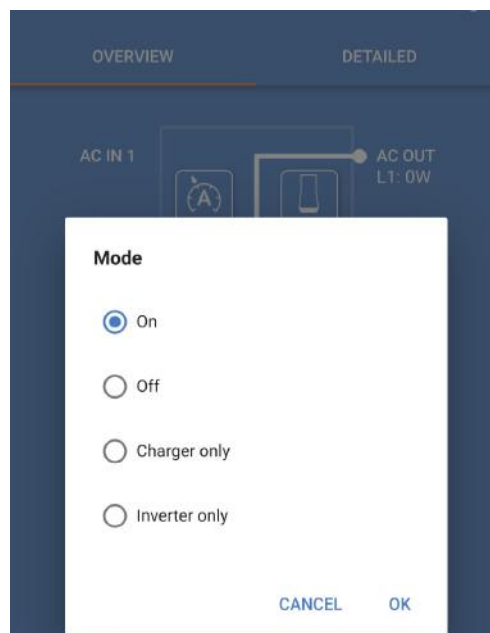
The Victron components are all Bluetooth enabled and can be configured or controlled using the VictronConnect app located in both the Android and iOS app stores. The default PIN code when connecting to each component is six zeroes: 000000

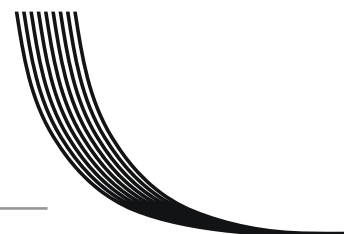
Using the VictronConnect app, you can change how your Multiplus functions:



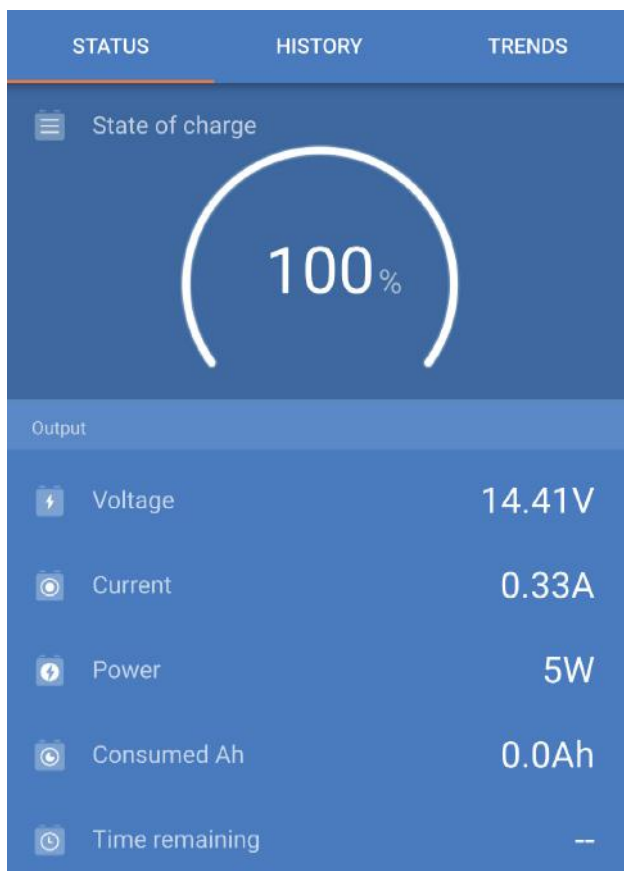
The button on the left will allow you to limit how much amperage you can draw from your shore power source. By default, it will be set to 30A as the trailer uses a 30A inlet plug. However, you may want to change this limit temporarily if you are on a 20A or 15A outlet to prevent tripping the breaker on your power source.

The button on your right will allow you to change the Multiplus operation mode. By default, this will be set to ON which means both the charging and inverting functions are active. However, you may want to change this to Charger Only in some circumstances to save battery power. This will temporarily disable the inverter, which pulls 1-2A on average while powered on.





You will need to use the SmartShunt through the VictronConnect app to monitor your battery level. The nuCamp tank monitor panel will not accurately reflect the state-of-charge for lithium batteries. The SmartShunt will report useful information like the battery state-of-charge, current power usage, & projected time remaining (based on current conditions):



APPLIANCES

RANGE/COOKTOP

The range is fueled by propane gas and functions very much like your range at home. Some functions may be slightly different because of being powered by propane gas.

Important Safety Information you must know and understand:

- Never use the range to heat your camper. This is a major fire hazard and can also cause carbon monoxide poisoning.
- Always turn on the fan and open the vents when cooking. Gas cooking appliances need fresh air to operate safely.
- Prevent fire and damage hazards by using approved pan sizes. Generally, the pan should cover the burner but must not be more than one inch larger. Keep handles turned inward but not over other burners.
- Only use cookware that is approved for use on top burners and is suitable to be exposed to direct flame.
- When using the burners and afterward, do not touch the burner grates.
- If you need to light the range with an external source, use a grill, kitchen, or BBQ lighter as opposed to a flint lighter. This will keep your hands away from the flame.
- Keep the area around the appliance clear and free from combustible materials, gasoline, and other flammable vapors and materials.
- Never leave unattended food, utensils, or food on the range.
- Do not use aerosol cans near any appliance with open flames. Most aerosol cans are explosive when exposed to heat and may be highly flammable.
- Do not leave plastic items on the cooktop as they may melt or soften. This can contaminate food if it is in plastic containers. The best practice is to discard the container and contents as a safety precaution.
- Familiarize yourself with the safety information on propane gas. See pages 30-32.
- In a fire, or emergency execute your family's Safety Plan as outlined on pages 10-12 This is vital to you and your family's safety.

Operating Information:

- An igniter switch will light the burners. Press the igniter switch while turning on the control knob to release gas. Sometimes it may be necessary to light the burner with an external ignition such as a lighter.
- Depending on the altitude where you are camping, the range of temperatures may be affected because of the thin air and minimal oxygen. In extreme altitudes, you may not be able to heat food properly. The only real solution to this is to move to a lower altitude or pack cold food.

Read the owner or operator manual included in your Owner's Packet for detailed safety information and operating instructions pertaining to the range.



DANGER

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



WARNING

Do not turn the burner control knobs ON, allowing gas to escape before lighting a match or using an electronic igniting device.



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 may result in death or serious injury.

MICROWAVE OVEN

The microwave operates much like other household microwaves.

General Information pertaining to the microwave:

- The microwave oven will only operate on 120V shore power or an appropriately sized generator.
- Even on shore power, the microwave and air conditioner may trip circuit breakers if they are operated at the same time. Turn the air conditioner to fan only during the time you wish to operate the microwave.
- Secure the turntable in the microwave before traveling. This will keep it from sliding around and causing damage.

Make sure you read the microwave's safety and operating instructions included in the Owner's Packet.

REFRIGERATOR/FREEZER

General information about the refrigerator/freezer and its operation:

- Generally, RV refrigerators/freezers are designed to keep food cool but are not intended to flash freeze or cool food quickly. Stock the refrigerator with already cold or frozen food.
- Arrange items in the refrigerator for free airflow between them.
- Keep the cooling fins in the back of the refrigerator clean, and free of frost and other accretions.
- Before going on a trip, operate the refrigerator on 120V power for 8 hours or overnight to cool it sufficiently and get it cold before using.
- A refrigerator thermometer kept in your refrigerator will help you monitor temperature inside.
- The refrigerator can operate on 120V shore power or 12V.
- Movement during travel should not affect refrigerator performance much. When traversing rugged territory with steep grades for extended periods of time, refrigerator performance may be affected. A few hours of operating at a level location should readily remedy this.

Make sure you read the refrigerator/freezer's safety and operating instructions included in the Owner's Packet.

NOTICE

The refrigerator must be level to operate properly. If the refrigerator is too much off level the refrigerator may malfunction and not cool properly

EQUIPMENT & HARDWARE



WARNING

Pinch point hazard. Keep limbs clear of the arm extension when retracting the awning. Serious injury or death can occur from not keeping clear of pinching points.



CAUTION

When chances of high wind, heavy rain are present or when leaving the camper retract the awning completely. Failure to comply may result in damage to the awning.

LAGUN DINETTE/BED CONVERSION

To convert the dinette to a bed:

1. Loosen the tension handle closest to the tabletop. Lift and remove the tabletop from the Lagun leg.
2. Loosen the tension handle securing the Lagun leg to the wall mount. Lift and remove the Lagun leg from the mount.
3. Drop the table onto the rails to bridge the gap between the dinette seats.
4. Pull the seat cushions inward to the center of the table and seatback cushions into the vacancy created by the seat cushions.
5. Arrange and adjust the cushions to create the bed.

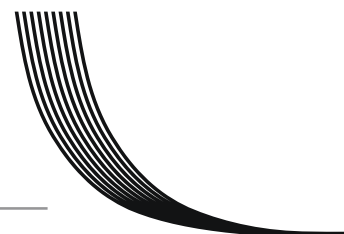
To convert back to dinette:

1. Set cushions on right and left to upright positions.
2. Remove the table from the rails.
3. Slide the Lagun leg back into the wall mount and tighten the tension handle to secure it in place.
4. Place the tabletop back onto the Lagun leg and tighten the tension handle.
5. Adjust as needed.

AWNING

Basic awning operating instructions:

1. Locate the Awning controls in the baggage doors on the passenger side. If a rear awning is equipped an extra switch set will be equipped for those controls.
2. Turn the awning power switch to ON.
3. Press the RETRACT or EXTEND to operate the awning.
4. A switch to control the lights on the side awning is on the switchboard located inside the entry door.



HARDWARE ADJUSTMENTS

During travel, everything in your camper is subject to some degree of movement and cabinets may shift slightly. Over time this can cause misalignment of cabinetry doors. The hinges installed in your camper can be adjusted. Other installed hardware may also be adjusted. A multi-bit screwdriver will come in handy to make these small adjustments. If you are uncomfortable or inexperienced in making these adjustments your dealer will be happy to assist you. The use of power tools is not recommended in making small hardware adjustments.

WINDOWS/BLINDS

Windows and blinds are affected by sunlight. When blinds are up and windows are closed, heat can build up between the window and the blind. This trapped heat can damage both windows and blinds. When camping in direct sunlight with the blinds closed, the window must be vented to release trapped heat. In transit, the blinds must be opened to keep heat from being trapped between the window and the closed blind. Be sure to follow all manufacturer instructions and regulations relating to blinds and windows maintenance and safety.

INTERIOR ENVIRONMENT

PROLONGED OCCUPANCY

All nuCamp campers are designed for short-term occupancy and recreational use such as camping. If the camper is used as long-term living quarters, the warranty may be voided due to increased abnormal wear and tear since it was not designed for long-term living purposes. Premature degradation of structure and interior materials such as fabrics, drapes, curtains flooring, carpeting, and even finished surfaces can occur. This will be perceived as misuse, neglect, or abuse according to the warranty terms and conditions. Prepare yourself to deal with issues such as condensation and high humidity which can form mold and other damage from moisture-related issues. To protect your new camper and avoid costly repairs, manage moisture saturation within your camper. Practical information to do this is included in the following sections.

AIR QUALITY

Good air quality in your camper can be maintained by:

- Having proper ventilation to carry air pollutants out of the camper and dilute emissions from water vapor and off-gassing from interior sources.
- Avoiding harmful air pollutants such as cigarette smoke, pollen, pet dander, molds, carbon monoxide, and household cleaners.
- Vacuuming often removes pet dander and dust.
- Not smoking inside the camper as this can damage your camper and releases formaldehyde. This is also a fire hazard.
- Not using bug sprays inside the camper.
- Keeping mold under control.
- Keeping condensation to a minimum.

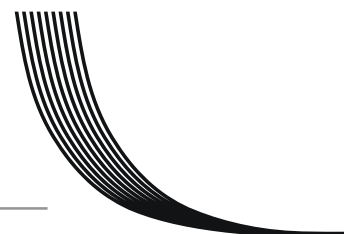
There are three basic EPA-recommended strategies to improve indoor air quality:

1. Control the Source.
2. Improve Ventilation.
3. Use Air Cleaners.

Read more at this link: <https://www.epa.gov/indoor-air-quality-iaq/improving-indoor-air-quality>.

Consider using an air purifier or air cleaner to promote clean air in your camper. A few points to note:

- Tabletop air cleaner models are generally less effective than full-size models.
- For an air cleaner to be most effective, good air circulation and efficient air collection is a key element.
- Air cleaners generally are not designed to remove gaseous pollutants.



CONDENSATION

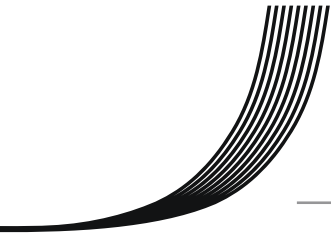
When the air temperature cools, it increases the water saturation in the air. Humidity is the amount of water in the air expressed as a percent. Condensation begins when the air has reached 100% humidity. Generally, condensation in a camper is from improper airflow. Most campers are compactly constructed, giving limited air space volume into which moisture can be assimilated. The average person can vaporize up to 1 gallon of water through normal daily activities such as cooking, bathing, washing and, even breathing. If water vapor is not controlled and kept to a minimum by ventilation or the use of a dehumidifier it will begin to collect on windows, inside walls and ceiling, and on cabinetry. This can lead to mold or mildew development.

To keep condensation to a minimum:

- Monitor the humidity in the camper with a hygrometer device.
- Keep relative humidity to 60% or less in warm weather and 35% or less in cold weather.
- Ventilate the camper when cooking, cleaning, or sleeping using the range hood exhaust fan and installed ceiling vents.
- Turn on exhaust fans when showering or using a hair dryer.
- Hang wet clothes or towels outside to dry.
- Promote air circulation inside the camper with a portable fan.
- Avoid closing cabinets when they are full of stored goods unless the camper is in transit.
- In warm weather start the air conditioner earlier in the day.
- In cold weather, ventilate the cabin to keep humid air moving out.
- Use a dehumidifier to control humidity.

Using a dehumidifier and hygrometer device is the easiest control method to combat condensation. Small dehumidifiers and hygrometers can be purchased at electronics or building supply stores for a fraction of the cost of repairing condensational damage. Place your dehumidifier in a high airflow area rather than in a closet or enclosed space. Ideally, purchase a dehumidifier that can be continuously emptied into an appropriate drain or to the outside. This will allow you to run it continuously and not have to empty the bucket all the time. Otherwise, you will have to empty the bucket frequently. Please do not use condensed water from the dehumidifier for sanitation or drinking purposes.

During cool, rainy weather, your camper will be more susceptible to condensation due to the higher water saturation in the air. At night, outside air temperature decreases which, in turn, increases humidity and allows condensation to form easier. It is important to ventilate the cabin while sleeping to remove humidity.



MOLD

Mold can grow on virtually any substance. It can have health effects such as allergic reactions, asthma, nasal congestion, coughing, wheezing, and other irritations. While there is no way to fully eliminate mold growth there are some measures that can be taken to keep mold and mildew under control in your camper:

- Keep condensation and water vapor to a minimum.
- Ventilate the camper with the installed fans.
- Repair water leaks and liquid spills right away and dry excess moisture.
- Use the air conditioner, dehumidifiers, and a hygrometer to control humidity.
- Use exhaust fans when showering, cooking, washing, or cleaning.
- Clean the camper on a regular basis.
- The kitchen and bathroom are where most water is used. Keep them clean and dry.
- On surfaces where it is safe, use cleaning products that kill mold and mildew.
- Teach all occupants how to recognize signs of mold.

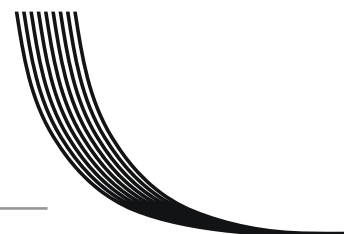
If you suspect mold is present, have your camper tested by a professional. In the cases where you believe mold may have just started to form, kill it with a water/bleach or detergent solution. The water/bleach ratio is one-gallon water to one cup (or less) of household bleach. Never mix cleaners together such as ammonia and bleach. This is dangerous! Be sure to wear gloves and a mask to protect yourself from irritants in the mold. Safely dispose of the rags and gloves. Ventilate or dry the area with a portable fan to remove all moisture.

OUTGASSING

Like most of the RV industry, nuCamp uses innovative products in developing camper product lines to serve the desires and needs of its customers. Carpet, linoleum, insulation, particle board, composites, plywood, and upholstery are some common products that are used in the construction of most campers. These innovative products may outgas (or offgas) various chemicals and formaldehyde that were dissolved, trapped, or absorbed in the materials. You may notice a chemical odor in high temperatures and humidity levels or when you have newly purchased your camper. Outgassing is not a defect or is considered abnormal. Outgassing decreases over time.

CHEMICAL SENSITIVITY

Outgassing may arouse chemical sensitivity with various symptoms such as eye, nose, or throat irritation, nausea, headache, allergies, coughing, or wheezing. Elderly folks, children, and those with previous lung problems are more susceptible to outgassing effects. To reduce the effects of outgassing, ventilate and promote continuous airflow throughout the camper.



FORMALDEHYDE

Most chemical outgassing concerns involve formaldehyde. This colorless, strong-smelling gas is used in many building products such as pressed wood, particle board, fiberboard, paneling, plywood and, various other products. Formaldehyde is a naturally occurring substance that is present at low levels even in the normal fresh air. Low levels of formaldehyde are also released from smoking, cooking, and household products, including paints, cleaning agents, and cosmetics. nuCamp campers contain composite wood products that follow the California Air Resource Board (CARB) formaldehyde emission standards as outlined by California Code of Regulations § 93120.2(a) Phase 2 (P2).

Reactions to formaldehyde vary. Most people are unaffected but a select few are quite sensitive and may have one or more of these symptoms:

- Watery eyes
- Burning sensations—eyes/nose/throat
- Coughing
- Wheezing
- Skin irritation
- Nausea
- In extreme cases, cancer

To reduce the chances of formaldehyde presence, ventilate and promote continuous airflow throughout the camper. More information on formaldehyde can be found at this link: <https://www.epa.gov/formaldehyde>

PETS

Many happy campers love to take their beloved pets with them on excursions. The presence of a pet may affect the air quality in your camper, dependent on its size, breed, and type. Pets may release pet dander, hair, and allergens from saliva, urine, and feces. Pet dander is the normal culprit for triggering reactions in those who have known pet allergies and occurs mostly in furred or feathered pets. Because of the smaller amount of air space in campers, air quality is affected more than in a normal house. You can limit the impact and presence of pet dander by observing the following:

- Brush furred pets daily, followed by vacuuming the area where you brushed.
- Bathe your pet regularly.
- Vacuum frequently. A vacuum with various attachments will help you reach those tight corners.
- Clean hard surfaces with microfiber cloths.
- If pets are allowed on furniture, clean it frequently.
- Have your pet sleep in a separate area on its own bed.
- Employ the use of an air purifier.
- Have your pet routinely checked by a licensed veterinarian to ensure good health.

MAINTENANCE



CAUTION

Never use liquids such as lacquer thinner, nail polish remover, gasoline or other flammable compounds to clean your camper. Do not use abrasive materials to clean finished wood, plastic, vinyl, metals, glass, rubber or laminated surfaces. Damage will occur and your warranty may be voided.

CLEANING CARE

Frequent maintenance and cleaning of your camper will contribute to the dependability, reliability, aesthetics, and value of your unit.

Interior Cleaning:

Cabinetry & Finished Wood Products. Remove dust with a damp, clean cloth. Apply a quality furniture polish and buff with a soft dry cloth. DO NOT use ammonia-based products or silicone oils. Avoid extended periods of direct sunlight, high temperatures, or high humidity exposures to finished wood products. Warping and finish degradation result from these exposures.

Laminated Tops. Use a soft cloth, mild dishwashing liquid, and warm water. Dry with a soft linen cloth. DO NOT use steel wool, scouring pads, or abrasive cleaners.

Walls & Paneling. Most surfaces can be cleaned with a soft sponge or cloth with mild liquid detergent in warm water. DO NOT use abrasive cleaners that scratch and mar the surface. Large amounts of water may saturate the material.

Floors. Periodically vacuum or sweep vinyl flooring to remove dirt. Once the debris is removed, use a damp mop with water and a mild cleaner. DO NOT soak the flooring.

Shower Walls & Base. For routine cleaning use a mild dish soap and water to clean the walls and base of the shower. DO NOT use harsh detergents, abrasive cleaners, steel wool, or razor blades as they will scratch or mar the surfaces.

Stainless Steel Sink. Use a glass cleaner or cleaner made specifically for stainless steel. DO NOT use steel wool, scouring pads, or abrasive cleaners. Wipe with a damp soft cloth or sponge in warm water mixed with mild dish soap. Blot dry the surface with a towel to prevent water spots.

Vinyl Components. Do not dry clean. This can cause shrinking and cracking. It should be cleaned by a qualified professional. If a spill occurs, do not rub it in, but rather blot it up.

Curtains, Blinds, Shades. Dust frequently with a soft brush-tipped vacuum or dust wand. Have them professionally cleaned once a year.

Cleaning Agents. Check with the component manufacturer or ask your dealer for brand recommendations. If you are unsure if a detergent will work, test it in a small inconspicuous area before using it in open areas.

Component Manufacturer. The best cleaning instructions for any surface are obtained from the component manufacturer. If you are unsure about a cleaning product, consult the manufacturer about whether it is safe to use on that item or surface.

Exterior Cleaning:

Road Debris. The exterior of your camper is comprised of many different materials including fiberglass, metal, rubber, plastics, aluminum, glass, and sealant. Road debris from traveling may accumulate on these materials and result in corrosion, staining, or chemical spotting. Frequent washings of the exterior will help protect it from damage.

SaltWater. Saltwater is highly corrosive. When towing in snowy areas in winter, especially where salt is used on roads, spray off the camper after every trip to remove corrosive salt. When traveling by oceans, avoid parking near saltwater spray. The air near ocean shores is often laden with salt water. Wash your camper more frequently to reduce corrosion and wear.

Sunlight. Avoid washing the camper in direct sunlight. A shaded area is the best environment to wash your camper.

Water Drainage. It may be helpful to jack up the front of the camper slightly when spraying the camper so water trapped on the roof can drain off the rear.

Frequency. Wash your camper at least once a month. The roof should be cleaned every other month or as debris accumulation demands.

Cleaning Agents. A cleaning solution of mild liquid detergent and water with a pH range of 3 to 11 and free of strong solvents, alcohol, or other flammable liquid is ideal for most components. Check with the component manufacturer or ask your dealer for recommendations on brands. If you are unsure if a detergent will work, test it in a small inconspicuous area before using it in open areas.

Instructions. Spray the camper thoroughly from top to bottom with water. Then, using a sponge or car washing mitt, hand wash the camper from top to bottom. Once done, rinse thoroughly and wipe dry with a soft linen cloth. Never use abrasive cleaners.

Graphics. Clean with the rest of the trailer. Test detergent solutions on inconspicuous areas before using on large areas.

High-Pressure Spray. Use extreme caution when using any type of pressure sprayer around attachments, doors, windows, and appliance vents. Make sure to keep the washing nozzle about 16 inches or more away from the RV and hold the nozzle at right angles when washing around doors, vents, and window areas. Be very careful when cleaning graphics. Never direct the spray nozzle toward the edges of the graphics. **DO NOT** use automatic car washes.

Waxing. Wax the camper exterior twice a year. The use of automotive waxes or cleaners/polishes that are for use on fiberglass or boats is acceptable. Ask for recommendations from your dealer if you are unsure of what to use. Exterior streaking, corrosion, staining, or chemical spotting can be reduced with frequent waxing. Always wash and dry the camper before waxing it.



CAUTION

There are some types of washing equipment that can apply heat and high pressure to your RV. Excessive heat can cause distortion and excessive pressure can possibly flood the RV's interior. Avoid using hot water with high pressure washing. Damage will occur and your warranty may be voided.



STORAGE PREPARATION

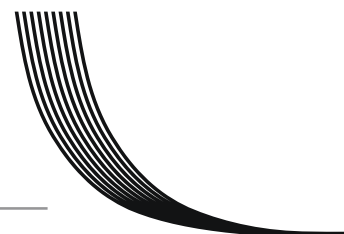
Unless you live in the sunny south, you will need to prepare your camper each fall to face the cold winter months. It is very important that you follow the instructions in this section to properly care for your camper. The best practice for storing your camper is to store it indoors in a warm controlled climate (above 40°). Indoor storage also lessens the amount of work needing to be done for storage preparation. Two different ways of storing your camper are outlined below.

Outdoor Storage:

1. Winterize the plumbing system. This is crucial in temperatures below 32°.
2. Clean your camper as outlined in the cleaning care instructions
3. Turn off electrical switches and all 12V DC/120V/propane gas appliances.
4. Shut off the propane gas cylinder (LP tank) main valve.
5. Cover the external outlets, vents, and windows of your RV to prevent moisture, mice, or rodents from entering.
6. Check the interior of the RV for leaks or any formed condensation that can cause damage to interior components. To help reduce condensation from the interior, occasionally air out the camper during storage.
7. Cover the roof air conditioner if equipped.
8. Disconnect the 120V AC power.
9. Charge batteries to full capacity to avoid freezing and cracking in the case. In storage, a battery will gradually lose charge after 30-45 days. Check the battery once a month and if the charge is at 80% or less, recharge it.
10. During the storage period, keep the roof of the camper free of snow and ice to prevent damage to the unit's structure.
11. For best results when storing outdoors, cover your entire camper with a waterproof canvas cover to protect it from the elements.

Indoor Storage:

1. Clean your RV as outlined in the cleaning care instructions.
2. Turn off electrical switches and all 12V DC/120V/propane gas appliances.
3. Shut off the propane gas cylinder (LP tank) main valve.
4. Disconnect the 120V AC power.
5. Charge batteries to full capacity. Check the battery once a month. If the charge is at 80% or less, recharge it.
6. A canvas cover is not necessary but in certain indoor climates where dust is present, it will help keep your camper clean and free of dust and debris.



CAMPING SEASON PREPARATION

Preparation for the camping season (or at any given time):

1. Open vents and windows and air out the camper. Turn on ventilating fans.
2. Check water, gas, and any other pipelines or tubes for insects such as spiders and mud dauber wasps that frequently build nests and clog tubes. This can be especially dangerous in gas pipelines as gas can become trapped and carbon monoxide may result and cause death.
3. Clean the camper thoroughly. Inspect the trailer for caulking failure, water damage, and rodent or insect intrusion.
4. De-winterize and sanitize the freshwater system in your camper. See instructions on pages 29.
5. Pressurize the water system and check for leaks by operating every faucet and water outlet and observing fittings and connections for leaks.
6. Inspect the electrical system. Check power cords, converter, outlets, and wiring for damage.
7. Check battery terminals for corrosion, turn on the battery switch, and check battery charge levels.
8. Check circuit breakers and fuses in the converter box for function.
9. Test all the lights and other accessories for proper function.
10. Check the propane piping for leaks. If no leaks are found, slowly turn on the LP tank valves.
11. Turn on appliances one by one and test with propane and/or electricity for proper function.
12. Put a new battery into the smoke alarm if required. Ensure all safety alarms are working properly.
13. Remember to follow manufacturer instructions for each component's startup and operation.
14. If any issues are found in your trailer and you cannot perform the maintenance yourself, consult your authorized nuCamp dealer for assistance.

Maintenance Schedule

ITEM	PROCEDURE					
	PRE-TRIP	MONTHLY	EVERY 3 MOS.	EVERY 6 MOS.	YEARLY	AS REQUIRED
Anchor Plates	●					Inspect and secure if necessary
Appliances	●					Check for obstruction on exterior vents
CO/LP Detector	●					Test
Doors	●					Check seals, lubricate hinges
Exterior Lighting	●					Verify proper operation of all lighting
Fire Extinguisher	●					Check fill level
Jack Brackets	●					Inspect and secure if necessary
Propane System	●			●		Check for leaks/Professional inspection
Propane Tanks	●					Bleed after filling
Safety Equipment	●					Verify operation of all safety detectors
Smoke Detector	●					Test
Water Pump Filter	●					Inspect for debris
Water System	●				●	Proper operation and leak free
Weight Distribution	●					Verify proper weight distribution
Drains		●				Verify drains are free of obstruction
Exterior		●				Wash with mild detergent
GFCI Outlet		●				Test
Wood Surfaces		●				Clean
Battery			●			Check battery condition and charge
Electrical System			●		●	Check proper operation and for damage
Interior Surfaces			●		●	Clean
Sealants			●		●	Inspect caulking seals and reseal if needed
Wiring			●			Clean cables, terminals, tighten wing nuts
Air Conditioner				●		Inspect/tighten air conditioner
Cabinets				●	●	Apply furniture polish
Camper Jacks				●		Inspect jacks and lubricate
Door/Window Seals				●		Check for damage
Exterior Protection				●		Apply automotive/marine wax
Upholstery				●	●	Clean
Annual Inspection					●	Complete annual inspection by your dealer
Hinges					●	Lubricate
Plumbing System					●	Professional inspection
Window					●	Lubricate with graphite based lubricant

See appropriate sections for specific procedure instructions

TROUBLESHOOTING

This section is a collection of tried-and-true answers to the most popular troubleshooting questions posed to the nuCamp Customer Service team. These are not final answers to any issues you might have since individual product manufacturers are the final authority in determining the cause of issues. They are simply suggestions for steps you may take to resolve your issue easily. If you cannot find what troubleshooting information you need in this section, contact your nearest dealer or another qualified service technician to perform an inspection and troubleshooting. Troubleshooting performed by unqualified individuals may not be covered under warranty.

ALDE® SYSTEM

1. **Red overheat failure**
 - a. You have air pockets in your system. Open the bleeder valves located on the Alde®. After sufficiently bleeding the Alde®, disconnect the 12v power supply line going into the Alde® control center and allow it to sit for at least 5 minutes.
 - b. If that did not resolve the issue, consult your nuCamp dealer.
2. **Insufficient hot water**
 - a. Adjust your mixing valve (located near the Alde®) by turning the valve towards the "+" symbol, allowing more hot water to enter the mixing valve.
 - b. If this did not work, contact your nuCamp dealer for further instructions.
3. **The control panel will not turn on**
 - a. Check your 3.15amp glass fuse found underneath the service hatch on your Alde® System, located in the green fuse housing. Replace.
4. **Gas failure**
 - a. Most likely has a low 12V battery. There is not enough power to deliver the propane from the tank to the Alde®.
 - b. If you have a charged battery, the problem would most likely be an empty tank.
5. **Alde® System not heating on shore power**
 - a. The Alde® System is designed not only to run on propane gas but also on 110V and 12V. When you are plugged into a household 15-amp outlet, make sure to have the Alde® KW setting on 1KW. When running the Alde® on 20 or 30-amp, change the KW setting to 2KW.
 - b. Make sure the black power cord is plugged into the 110V outlet beside the Alde® boiler.

PLUMBING SYSTEM

1. **Water leaking from underneath the camper when connected to city water or a running pump**
 - a. This is most likely the relief valve for the Alde® Hot Water tank or Flow. When there is too much pressure, these valves will open. It can also be caused by the trailer sitting for long extended periods of time. To resolve, open and close both relief valves to reseal.
 - b. If this did not resolve the issue, please contact your nearest nuCamp Dealer to have the unit looked at on-site.
2. **The water pump stopped working**
 - a. Check the filter located on the inlet side of your water pump for debris. This can happen on brand-new units. It is caused by metal shaving buildup during construction.
 - b. Check for any open drain valves or relief valves that would hinder the pump from priming.
3. **Water is leaking inside my unit**
 - a. Contact your local nuCamp dealer and have the unit looked at on-site.

ELECTRICAL SYSTEM

1. **No 12V power**
 - a. Check your battery circuit breaker to make sure it is not tripped.
 - b. Check your battery connections to make sure all leads are tight and properly connected.
 - c. Check your battery fuse located in the 55-amp converter.
 - d. If the problem is not found in these locations, call your local dealer or service center to have the problem diagnosed.
2. **No power with a 30-amp connection**
 - a. Check your main breaker inside the converter and make sure your 30-amp connection is properly connected.
 - b. Inspect the main power line coming in from the 30-amp connection for any cuts in the line or loose connections to the backend of the converter.
3. **Flickering running lights/brake lights**
 - a. This is most likely a loose connection. Contact your local dealer to have the unit inspected.
4. **Battery charging failure during transport**
 - a. Check your battery circuit breaker.
 - b. Make sure your battery disconnect switch is on the 'ON' / green position.
 - c. Check your battery terminal connections.
 - d. Make sure you have a charge line installed on your TV.
5. **Failure of any AC components**
 - a. Check 110V breakers located inside the converter.
6. **Failure of any DC components**
 - a. Check fuses inside the converter.

PROPANE GAS SYSTEM

1. **Liquid "gas" at my appliance**
 - a. LP tank(s) are overfilled. A qualified propane gas service technician must inspect the LP tank(s) and correct the fill volume to below 80%.
 - b. The temperature is too cold.
 - c. LP tank is not upright.
2. **Appliances do not light or stay lit**
 - a. Excess air or moisture is trapped in your system. Your dealer or another qualified service technician must purge the system.
3. **The regulator indicates "green" but there is no gas in the system**
 - a. Is frost present on the regulator? It may be frozen.
4. **Frozen or frosted regulator**
 - a. Humidity in the air has become high enough to condensate and regulator temperature has caused it to be frozen. Use an incandescent light bulb or heated blanket to warm up the regulator. DO NOT use a hair dryer or any kind of open flame.
 - b. LP tanks are overfilled. A qualified propane gas service technician must inspect the LP tank(s) and correct the fill volume to below 80%.

.....

1 YEAR

CRAFTSMANSHIP

WARRANTY

.....



nuCamp agrees to warrant the integrity of the camper/trailer for up to one (1) year from the date of purchase (Warranty Period). This does not include equipment or parts with separate, stand-alone warranties. This warranty covers nuCamp campers/trailers manufactured on or after April 30, 2018.

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TRANSFERRABLE

3 YEAR

STRUCTURAL

WARRANTY

.....



In addition to our 1-Year Limited Warranty, nuCamp agrees to warrant the structural integrity of the camper/trailer (roof, floors, front walls, rear walls, sidewalls, and hatch door, where applicable) for up to three (3) years from the date of purchase (Warranty Period). This does not include electrical systems, plumbing, or any system components or other items excluded under the warranty provided. 3rd-party components parts may be warranted by their respective manufacturers.

This warranty covers nuCamp campers/trailers manufactured on or after April 30, 2018.

SERVICE & WARRANTY

WARRANTY COVERAGE

nuCamp warrants that it will repair or replace defects in material or workmanship of a new nuCamp camper purchased from an authorized nuCamp dealer in the United States or Canada for a period of one year from the date the trailer is first delivered to the original retail purchaser. In order to obtain coverage under this Limited Warranty, you must notify an authorized nuCamp dealership or nuCamp of the warrantable defect no later than ten (10) days following expiration of this Limited Warranty. nuCamp's obligation to repair or replace defective materials or workmanship is the sole obligation of nuCamp under this Limited Warranty. nuCamp reserves the right to use new or remanufactured parts of similar quality to complete any warranty work.

LIMITATION OF IMPLIED WARRANTIES

IMPLIED WARRANTIES ARISING UNDER APPLICABLE LAW, IF ANY, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY LIMITED IN DURATION TO THE TERM OF THIS LIMITED WARRANTY. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE HEREBY DISCLAIMED BY NUCAMP. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

DISCLAIMER OF INCIDENTAL AND CONSEQUENTIAL DAMAGES

nuCamp hereby disclaims any and all incidental and consequential damages arising out of or relating to the trailer, including expenses such as transportation to and from vehicle dealerships and nuCamp repair facilities, loss of time, loss of pay, loss of use, inconvenience, commercial loss (including lost profits), towing charges, bus fares, vehicle rental, service call charges, gasoline expenses, incidental charges such as telephone calls and facsimile transmissions, and expenses for lodging. This disclaimer is independent of any failure of the essential purpose of any warranties provided with a trailer and shall survive any determination that a warranty failed of its essential purpose. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

REPAIR REMEDY

If within the one (1) year Limited Warranty period a defect in material or workmanship is found to exist that is not excluded from coverage, nuCamp's sole and exclusive obligation shall be to repair the defect. Please note that any performance of repairs after the coverage period expires or any performance of repairs to those portions of your RV excluded from coverage shall be considered "goodwill" repairs, which shall not alter the express terms of this Limited Warranty.

WARRANTY CLAIM PROCEDURE

Upon discovery of a defect, please contact your dealer within five business days or visit the warranty section of the nuCamp website (nucamprv.com). Please be prepared to provide the VIN number of the trailer along with your name and best mode of contact (along with hours, if necessary).

OBTAINING WARRANTY SERVICE

If you have not registered your warranty, you will be asked to provide your bill of sale, so that the purchase date can be verified. In order to obtain warranty service under this Limited Warranty, the owner must do all of the following:

1. Owner and dealer representative must complete and return the Customer Performance Checkout within 10 days from delivery of the trailer;
2. Notify nuCamp or one of its authorized, independent dealers, of any claimed defect within the warranty period or 10 days thereafter;
3. Provide notification of a defect within 10 days of discovery of that defect;
4. Promptly return the trailer to an authorized nuCamp dealer or nuCamp for repairs.

If you believe a defect covered by this Limited Warranty still exists after an attempted repair by an authorized nuCamp dealer, you must contact nuCamp specifying:

1. The complete serial number of the trailer;
2. The date of original purchase and the date of original delivery;
3. The name of the selling dealer;
4. The nature of the problem and the steps or service which have been performed.

OBTAINING WARRANTY SERVICE (Continued)

nuCamp may direct you to an authorized nuCamp dealer or may request that you bring your trailer to the nuCamp factory in Sugarcreek, Ohio for repairs.

nuCamp does not control the scheduling of repairs at its authorized nuCamp dealers, and repairs at the nuCamp factory may not be immediately available. Therefore, you may encounter delays in scheduling repairs and/or completion of repairs. All costs associated with transporting the trailer for any warranty service shall be the sole responsibility of the owner

WHAT IS NOT COVERED BY THIS LIMITED WARRANTY

This Limited Warranty does not provide coverage for any of the following:

1. Use of the trailer other than for temporary recreation purposes, including but not limited to use of the trailer for residential, disaster relief, commercial, or rental purposes.
2. Tires, batteries, stereo, television, range/stove, furnace, refrigerator, A/C, toilet, water heater, microwave, generator, and other materials, parts and components warranted by persons or entities other than nuCamp. Please refer to the warranties of component manufacturers for terms and conditions of coverage.
3. Normal deterioration due to wear or exposure, including but not limited to rust, corrosion, oxidation, and cosmetic blemishes;
4. Normal maintenance and service items, including but not limited to light bulbs, fuses, lubricants, sealants and seals, door adjustments, and awning tension;
5. After-market equipment or accessories installed on the trailer after completion of manufacture by nuCamp, or any defects or damage caused by such items;
6. Trailers not purchased through an authorized dealer of nuCamp trailers, and trailers purchased directly or indirectly through auction, salvage, repossession, or other non-customary sale means;
7. Defects or damage caused by, in whole or in part, or in any way related to:
 - a. Accidents, misuse (including off-road use), or negligence.
 - b. Failure to comply with the instructions set forth in any owner's manual provided with the trailer.
 - c. Acts of God or other environmental conditions, such as lightning, hail, salt, or other chemicals in the atmosphere.
 - d. De-icing agents or other chemicals applied to the trailer.
 - e. Failure to properly maintain or service the trailer, including but not limited to the maintenance of lubricants, sealants, and seals.
 - f. Condensation and the results of condensation including water damage and the growth of mold or mildew. Mold and mildew are natural growths given certain environmental conditions and are not covered by the terms of this Limited Warranty.
 - g. The addition of weight to the trailer that causes the trailer's total weight to exceed applicable trailer weight ratings, or addition of weight causing improper distribution of the weight of the trailer.
 - h. Selection, use, and operation of any hitch assembly.
 - i. Failure to seek and obtain repairs in a timely manner.
 - j. Failure to use reasonable efforts to mitigate damage caused by defects.
 - k. Failure to properly ventilate the trailer.
 - l. Improper electric power supply or improper vehicle hookup to other facilities.

EXCLUDED FROM COVERAGE

- Equipment or parts with separate, stand-alone warranties (axles, fans, tires, converters and any appliances).
 - *Arterra (WFCO Converters): 574-294-8997 or warranty@artisproducts.com*
 - *Domestic Products: 1-800-544-4881 or visit www.edometric.com*
 - *Dexter Axle: 574-295-7888 or visit www.dexteraxle.com/warrantyclaim*
 - *Indel Webasto – Fridge: 1-800-422-9711 or sergio.rosen@iwmarine.com*
 - *Battle Born Batteries: 1-855-292-2831 or info@battlebornbatteries.com*
 - *Truma/Alde: 1-855-558-7862 or visit www.truma.net*
 - *ASA Electronics: 877-305-0445 for immediate Customer Service Support or 877-845-8750 for technical assistance.*
- Misuse, abuse, collision, improper repairs, overloading, neglect or lack of maintenance which results in damage.
- Alteration or installation of equipment that results in damage. This includes, but is not limited to electrical, gas, plumbing or structural issues.
- Normal wear, fading or deterioration of fabrics, flooring, graphics or metal components including weathering, discoloration, surface corrosion of unpainted surfaces or minor blemishes due to normal use.
- Any product used outside of the intended scope of its customary purpose.

- Any unregistered product not normally used in the US or Canada.
- Any product used as a rental unit.
- Any promises made by any person beyond what is stated in this document.
- Condensation on any window or other parts or any results of condensation.

nuCamp shall not be liable for incidental or consequential damages, such as expenses for transportation, lodging, damage to personal property, loss of personal property, loss of use of your product, inconvenience or loss of income. Some states do not allow exclusion or limitation of incidental or consequential damages, so the above limitation may not apply specifically to you.

DEALER REPRESENTATIONS EXCLUDED

The entire Limited Warranty provided by nuCamp is set forth herein. nuCamp will not be responsible for any additional representations or warranties made by any person or entity other than nuCamp, and nuCamp's obligations are solely as set forth in the terms and conditions of this Limited Warranty

STATUTE OF LIMITATION

No action may be brought against nuCamp for breach of this Limited Warranty, any applicable implied warranty, or for any other claim arising out of or relating to a nuCamp trailer, more than thirty (30) days after: (1) expiration of the one year (12) month Limited Warranty period; or (2) expiration of the ten (10) day notice period that follows expiration of the Limited Warranty period, if such notice is given.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

CHANGES IN DESIGN

nuCamp reserves the right to make changes in design or parts and improvements upon its products from time-to-time, without imposing upon itself any obligation to install additional features in your trailer.

LEGAL PROCEDURES

In addition to the provisions of this warranty, the retail purchaser has available the legal remedies provided by the Magnuson-Moss Warranty Act and any applicable State statutes. Implied warranties, including any warranty of merchantability or fitness of a product for a particular purpose, are limited in duration to the term of this written warranty. Some states do not allow limitation on how long such a warranty lasts, so the above limitation may not apply. You may have rights, outside of what this warranty states, which is on a state-by-state basis.

REPLACEMENT PARTS

While most parts of your camper are replaceable, some may not be. This is due to availability of product or supply and demand of the markets and manufacturers outside of nuCamp. Should you need a replacement part, your dealer will be able to get it for you. All OEM (Original Equipment Manufacturer) part replacements must be acquired from your dealer since nuCamp does not support direct part sales. If OEM parts are unavailable, your dealer will try to offer an alternative solution or substitute according to their abilities.

AFTERMARKET ALTERATIONS

Many owners in the nuCamp family love to personalize and make their camper unique through various accessories, additions, and aftermarket alterations. nuCamp encourages and enjoys seeing their customers fully enjoy their experience with their products.

Important information to know and understand **BEFORE** you install aftermarket parts and personalize your camper:

1. Important safety items can be damaged by installation of aftermarket parts. Even driving fasteners into a component, depending on where it is, can damage functionality of items that contribute to safety.

2. ALWAYS consult your dealer to discuss the eligibility of installing the aftermarket part and make sure your plan is safe
3. Make sure water sealing is not compromised by the aftermarket part, component, accessory, or other equipment you are installing and will not impede function of previously installed components by nuCamp.
4. Any parts and components of the camper affected by and along with the aftermarket part, component, accessory, or other equipment installed may lose warranty coverage as outlined in the nuCamp warranty terms and conditions. It is the sole responsibility of the owner, supplier, or installer of the product.

DEALER SERVICE CENTER

Always call ahead for a service appointment unless you have a true emergency. Monday and Friday are usually the busiest days for dealer service departments, as well as just before a holiday. Allow ample time to schedule your camper for service.

When you call to schedule your appointment, have the following information available:

1. VIN (Vehicle Identification Number) contains 17 letters and digits
2. Brand, model, and floorplan of unit (ex. nuCamp TAB 320 S)
3. Date of purchase
4. Description of problem
5. Photos of damage
6. Service Record from page 62 (or repair history).
7. Service dates that fit your schedule.

For safety reasons, most insurance policies prohibit non-employee personnel to be in the work area. If it is necessary for you to wait until the repairs are completed, most dealers provide you with a safe, comfortable customer lounge.

nuCamp does not offer warranty coverage on equipment or accessories installed at any dealership, other place of business, or by any other party than nuCamp.

NUCAMP SERVICE CENTER

Service will be performed by appointment only. When you require service or repair for your trailer from the nuCamp Service Center, contact the service manager for an appointment.

Have the following information available:

1. VIN (Vehicle Identification Number) containing 17 letters and digits.
2. Type of unit (ex. TAB 320 S)
3. Date of purchase
4. Description of problem
5. Photos of damage
6. Service Record from page 62 (or repair history).
7. Service dates that fit your schedule.

CONTACTING US

As a general policy, nuCamp prefers customers bring questions to their dealer first and foremost. nuCamp strives to provide excellence in customer service for the nuCamp Family. It may be tempting to take advantage of the convenience; however, your dealer is equipped to answer all your questions and offers vast experience in the field. nuCamp desires that you only contact the nuCamp Customer Service, Warranty and Repair Departments for necessary issues such as warranty service, repairs and for cases where your dealer is unable to provide the information you need.

E-mail: help@nucamprv.com
warranty@nucamprv.com
service@nucamprv.com

Phone: [330-852-4811](tel:330-852-4811)
Fax: [330-556-4415](tel:330-556-4415)

Website: nucamprv.com

Mailing Address: P.O. Box 395
Sugarcreek, OH 44681

Physical Address: 661 Belden Parkway
Sugarcreek, OH 44681

REPORTING SAFETY DEFECTS

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

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

To contact NHTSA, you may call the Vehicle Safety Hotline

Toll-free at [1-888-327-4236](tel:1-888-327-4236) (TTY: [1-800-424-9153](tel:1-800-424-9153));
Go to <http://www.safercar.gov>;
Or write to: Administrator, NHTSA,
400 Seventh Street, SW.,
Washington, DC 20590.

You can also obtain other information about motor vehicle safety from <http://www.safercar.gov>.

In the U.S:

If you find that your vehicle has a safety defect that could cause an injury, accident, or death, immediately inform the National Highway Traffic Safety Administration (NHTSA) and Customer Service. If the NHTSA receives multiple complaints of similar defects, they may open an investigation and a recall and remedy solution may be launched. The NHTSA will not become involved in your individual case. Individual cases will be negotiated between you, your dealer, and nuCamp.

NHTSA Contact Information:

Website:	www.safercar.gov	Toll-free:	1-888-327-4236
Address:	NHTSA Headquarters	TTY:	1-800-424-9153

Attn: Administrator
1200 New Jersey Avenue, SE
Washington DC 20590

In Canada:

If you find that your vehicle has a safety defect that could cause an injury, accident, or death, immediately inform Transport Canada and nuCamp Customer Service.

Transport Canada Contact Information:

Website:	www.tc.gc.ca	Toll-free:	1-800-333-0510
Address:	Transport Canada	International:	1-819-420-4300

Defect Investigations & Recalls Division
330 Sparks Street
Ottawa ON K1A 0N5
Canada

GLOSSARY

BALL HEIGHT: Height to the top of the tongue coupler when the unit is leveled and on a level surface. Calculated to the nearest whole inch, the very top of the ball hitch on your towing vehicle should be at this height as well to tow your trailer on a level.

BALL SIZE: The exact diameter size in inches of the hitch ball needed to tow the trailer.

BASEMENT HEIGHT: On truck campers, this is the height of the basement from the bottom point of the truck camper where it rests on the truck bed to the outer surface of the outer floor.

BASEMENT LENGTH: On truck campers, this is the length of the basement from the exterior point of the front wall to the front of the bumper protrusion exterior where the protrusion would cover up the truck's rear lights. If there is no bumper protrusion, this measurement is from the exterior point of the front wall to the exterior point of the back wall.

BASEMENT WIDTH: On truck campers, this is the width of the basement that would be sliding into the truck bed between the wheel wells.

BLACK WATER TANK CAPACITY: The amount of water in gallons held by the black water tank, measured to the nearest whole gallon. Some models may have cassette toilets installed in which the cassette pod is considered the black tank since it serves the same purpose.

CABIN HEIGHT: Measured from the level ground to the highest point of the roof, not taking trim or roof components into account. To the nearest whole inch, rounded up.

CABIN LENGTH: Measured front to back of exterior walls or rounded roof as the length of the actual cabin to the nearest whole inch, rounded up.

CABIN WIDTH: Measured sidewall to sidewall outside the unit as the width of the actual cabin to the nearest whole inch rounded up.

CAB-OVER HEIGHT: In truck campers, measured from the inside to inside of the cabover floor to the ceiling.

CAB-OVER LENGTH: In truck campers, measured from the interior of the front roof to the edge of the interior of the front wall.

CAB-OVER WIDTH: In truck campers, measured from wall to wall of the cabover area.

DEPARTURE ANGLE: Also called a rear ramp angle, it is the maximum ramp angle from which the trailer/vehicle can descend to a level surface without damage. To the nearest whole degree, rounded down.

DRY COG: Center of Gravity on a truck camper. This is the point measured from the exterior front wall to the point where the camper is balanced- the center when the unit has weights defined as dry.

DRY TONGUE WEIGHT: The actual weight pressing down on the hitch ball by a trailer containing all standard equipment without fuel, fluids, cargo, passengers, or optional equipment. The spare tire, battery(s), and empty propane bottle(s) are considered standard equipment.

DRY WEIGHT: Dry Weight is the actual weight of the camper containing all standard equipment without fuel, fluids, cargo, passengers, or optional equipment. The spare tire (on trailers), battery(s), and empty propane bottle(s) are considered standard equipment.

FLOOR PLAN: The Camper's cabinetry layout and design name.

FLOOR WIDTH: On truck campers, the width of the floor from side to side of the lowest inner wall is the available floor space width, not considering the floor bumper protrusion in the rear of the camper floor. On trailer campers, the floor width is the same as the interior width.

Freshwater TANK CAPACITY: The amount of water in gallons held by the freshwater tank, measured to the nearest whole gallon.

GREY WATER TANK CAPACITY: The amount of water in gallons held by the grey water tank, measured to the nearest whole gallon.

GAWR: Gross Axle Weight Rating is how much weight each axle can hold safely.

GTWR/GVWR: Gross Vehicle Weight Rating (GVWR) is the maximum number of pounds that the Gross Trailer/Vehicle Weight should never exceed.

INTERIOR HEIGHT: Measured from the interior of the floor to the highest interior point of the roof in the camper, regardless of protruding components

INTERIOR LENGTH: Measured front wall to rear wall of interior inhabitable space, regardless of protruding components.

INTERIOR WIDTH: Measured from wall to wall inside the unit as the width of interior living space; regardless of protruding components.

MODEL: The brand name of the trailer/camper.

OVERALL HEIGHT: Measured from the level ground to the top of the trailer, accounting for all protrusions: rounded up to the nearest whole inch as the minimum height required to fit into an opening.

OVERALL LENGTH: Measured from the tip of the camper equipped with standard equipment, to the rear of the camper, accounting for all protrusions; rounded up to the nearest whole inch as the minimum length required to fit into a space.

OVERALL WIDTH: Measured from side to side of a camper equipped with standard equipment, as the minimum clearance needed to fit into an opening's width; rounded up to the nearest whole inch.

PAYLOAD CAPACITY: The maximum weight that persons plus cargo should never exceed. Payload is derived by subtracting Curb Weight from GTWR/GVWR.

PRIMARY BED AREA: Main bed sleeping area size in inches; to the whole inch, rounded down.

REFRIGERATOR CAPACITY: This is the amount of space total each equipped refrigerator/freezer has, to store items. This is typically measured in cubic feet (cu. ft.).

RIDE HEIGHT: Measured from the base of the tire to the lowest point (typically the axle); or the lowest part of those parts designed to contact the ground; rounded down to the nearest whole inch.

SECOND BED AREA: Secondary bed sleeping area size in inches; rounded down to the nearest whole inch.

STORAGE SPACE: The amount of storage space in cabinetry and storage compartments that can be secured during transport: measured to the nearest tenth of a cubic foot.

TIRE SIZE: The size and specification of the tire by industry standard.

TRIM PACKAGE: The specific standard trim and accessories option selected for the model.

USABLE Freshwater TANK CAPACITY: The amount of water that can be drawn out of the freshwater tank, measured to the nearest whole gallon.

WET COG: Center of Gravity on a truck camper; this is the point measured from the exterior front wall to the point where the camper is balanced- the center when the unit has weights defined as wet.

WET TONGUE WEIGHT: The actual weight pressing down on the hitch ball by a trailer containing all standard equipment with fuel and fluids, but before adding passengers or cargo, passengers, or optional equipment. The spare tire, battery(s), full propane bottle(s), and a full freshwater tank are considered standard wet-weight equipment.

WET WEIGHT: The actual weight of a camper containing all standard equipment with fuel and fluids, but before adding passengers or cargo, passengers, or optional equipment. The spare tire installed, battery(s), full propane bottle(s) and a full freshwater tank are considered standard wet weight equipment. (Note: nuCamp defines wet weight as different from the Curb weight. nuCamp's wet weight takes a full freshwater tank into consideration, while federal regulation defines water in tanks as cargo and curb weight is "the weight of a trailer/motor vehicle with standard equipment, including the maximum capacity of fuel, oil, and coolant.")



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