

## 1. Introduction

Congratulations on your purchase of a **Northern Lite truck camper**. Designed for quality, durability, and comfort, your camper is built to provide years of reliable service in various outdoor conditions.

This manual serves as a comprehensive guide to operating and maintaining your Northern Lite truck camper. It includes essential instructions on electrical systems, propane and plumbing setups, appliance usage, and safety precautions to ensure a safe and enjoyable camping experience.

### 1.1.1. Key Features:

- Lightweight, fiberglass clamshell construction for enhanced insulation and durability.
- Modern interior with high-end appliances and fixtures.
- Solar electrical system for off-grid capabilities.
- Ergonomically designed for ease of use and comfort.

### 1.1.2. Using This Manual:

- Read through all sections before operating your camper to become familiar with its systems.
- Follow all safety guidelines to prevent injury or damage.
- Refer to specific sections when troubleshooting or performing maintenance.
- Keep this manual inside the camper for quick reference.

## 1.2. Owners Responsibility

As the new owner of a Northern Lite camper it is important to read this manual and all appliance manuals for safe and proper operation of your new Camper.

## 1.3. Dealer's Responsibility

It is the dealer's responsibility to complete a full pre-delivery inspection prior to you picking up your new camper. Also they will familiarize you with the features and operation of the camper and it's components . In addition they will complete and submit the warranty registration on your behalf.

If you require additional support, contact your Northern Lite dealer or visit the official **Northern Lite website** for more resources.

Our website features a series of How-To Videos covering all of the important operations of your Northern Lite truck camper, including how to properly setup, load and unload your camper.

# Video Library

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[Northern Lite How To Videos | Northern Lite 4-Season Truck Campers](#)

*Need help? Call 1-800-887-5342 or email [info@northern-lite.com](mailto:info@northern-lite.com)*

By following the guidelines in this manual, your Northern Lite truck camper will provide many years of enjoyable and worry-free adventures.

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### 3. Safety Precautions

Ensuring the safety of yourself and others while using your Northern Lite truck camper is of utmost importance. Always follow the safety guidelines outlined in this manual to prevent accidents, injuries, or damage.

#### General Safety:

- Read and understand all safety warnings and operating instructions before using your camper.
- Always perform pre-trip inspections to check for secure mounting, properly latched doors, and operational systems.
- **Never climb onto the roof if snow/rainwater or dew is present. As roof will be slippery!**
- Never exceed the weight capacity of your truck or camper tie-down system.
- Ensure propane, electrical, and plumbing systems are in good working order before use.

#### Fire and Gas Safety:

- Always turn off propane at the tank when not in use.
- Never use open flames inside the camper, except for designated cooktops.
- Regularly test smoke, CO, and propane detectors.
- Ensure proper ventilation when using gas appliances.

#### Electrical Safety:

- Use only properly rated power cords and adapters when connecting to shore power.
- Turn off electrical devices when not in use to conserve battery life.
- Regularly inspect wiring and connections for wear or damage.

#### Road and Travel Safety:

- Verify that all jacks, steps, and accessories are secured before travel.
- Ensure windows and skylight is latched, close bathroom door and latch
- Follow weight distribution guidelines and ensure cargo is properly stored.
- Always drive at a safe speed, considering the added weight of the camper.
- Check truck and camper tie-downs before every trip.

#### Ladder and Roof Safety:

- Use caution when climbing the exterior ladder; do not exceed the weight capacity.
- Never step on vents, skylights, air conditioner, or solar panels when on the roof.
- Avoid accessing the roof in wet or icy conditions.

*By following these safety precautions, you can enjoy a worry-free and safe camping experience with your Northern Lite truck camper.*

## 4. Happijac Camper Jacks

Happijac camper jacks allow you to safely lift and lower your camper for loading, unloading, and leveling. These jacks may be operated manually, or electrically, depending if the option is installed on your camper.

### 4.1. Features:

Manual or Electric Operation: Jacks may be operated by hand crank or the optional powered motor.

Independent or Synchronized Control: Control each jack individually or all together for even lifting using the wireless remote included with the power option.

Swing-Out Brackets (if applicable): Required for dually trucks to provide extra clearance.

### 4.2. Happijac Swing-out Brackets

Swing out Brackets, should only be used when ABSOLUTELY NECESSARY. If your truck<sup>7</sup> requires the more clearance, the addition of the Happijac swing out bracket between your Happijac and the stock Northern Lite bracket on the camper, will provide an additional 4.5" of width per side. This bracket swings outward, to increase the clearance between the jack and the fender of dual rear wheeled trucks.



Operation:

1. To load or unload the camper, on a dual rear wheel truck, the jacks must be in the outward position.
2. To rotate the jack to the outer position, push up on the spring located at the bottom of the hinge barrel to release the top spline from the retainer slots
3. While pushing up, rotate the jack, 90 degrees, then release the spring, so that the spline locks into the slot at the top of the hinge barrel, preventing the jack from rotating during the loading or unloading process.
4. Repeat the rotation for the jack mounted on the opposite side of the camper.
5. Once both swing out brackets are locked into place, it is then safe to load or unload the camper following the standard jack operation instructions and safety information located in this manual.
6. The swing out bracket should always be rotated to the forward position once the camper is loaded and secured to the truck.
7. As all models of Northern Lite campers, equipped with Happijac Swing Out brackets, will fit on all GMC/Chevy and Ford Dually's, Northern Lite does not permit the installation of any extensions to the swing-out brackets on any of the above vehicles. The installation of the extenders on any camper being used on these trucks, will **Void** your **"6 year Structural Warranty."**

*Exception: Because the **Dodge Ram 3500 Dually** is wider than the other trucks, **Northern Lite** will permit the installation of the 2" Extender on these trucks only. Northern Lite will not be responsible for damage caused by the installation of the 2" extenders. Any injury or damage to vehicles, structures, people in the event of a failure, shall be the responsibility of the installing party. Campers with the 2" extenders and swing out brackets, should never be occupied when off the truck, unless the camper is supported by a separate platform.*

### 4.3. General Operation:

Carefully read ALL the instructions before using the Happijac's to load and unload your camper.

General Instructions (Manual and Electric Jacks)

1. At the top of your jack, you will find a white plastic lever. The lever in the up position is a locked position, which prevents the jack from accidental extension. When the lever is in the down position, the jack is free to operate using the manual crank handle. The lever must be up to operate the jack via the remote and motor.

**Never leave a jack unattended with the lever in the down position.**

2. Always load and unload your camper on level ground
3. Always use a 12" x 12" x 3/4" plywood pad under each jack foot to prevent it from sinking into the ground or asphalt.
4. Use extreme caution when attempting to load or unload the camper in windy conditions.
5. If unloading for storage, the camper should be lowered as low as the jacks will go. If using sawhorses a full sheet of plywood must be used on top of both sawhorses to prevent damage to the camper floor and lower structure.

## 5. Preparing the Truck for Loading the Camper

1. Prior to loading your camper, it's important to equip your truck in a manner that will provide a safe and stable platform for the installation of the camper.
2. Northern Lite recommends the use of frame mounted tiedown brackets and spring loaded turnbuckles to secure your camper to the truck
3. Always use a soft rubber mat in the bed of your truck, this provides a non-slip surface that will help to stabilize your camper. (Note: Do not use a Horse Mat or Styrofoam for this purpose.) A suitable soft, 3/8" thick, truck bed mat is what is required.
4. The underside of the bunk area of your camper should have about 2" of clearance to any roof mounted accessories, such as antennas. If you do not have that clearance, we recommend installing plywood between the truck bed and the bottom of the rubber mat. This will provide additional clearance and still provide the non-slip surface being in contact with the bottom of the camper.
5. When loading the camper, always ensure that the front bumpers on the camper are in contact with the front of the truck box preventing movement of the camper under braking or while in transit. If the camper is being installed on a flat deck, a sturdy front cross bar must be installed that makes contact with the camper bumpers.
6. Each Northern Lite camper has a Center of Gravity label installed on the exterior on both sides of the camper. Always ensure that the center of gravity is within the COG load range found in your trucks Owner's Manual.

## 5.1. Manual Jack operation;

**Caution: Never raise your jacks above the Red Safety Line marked on the inner jack leg**

**Caution: Never raise or lower your camper with occupants in the camper!**

### 5.1.1. Unloading your Camper (Manual Jacks)

1. Ensure the camper is being unloaded on level ground.
2. Make sure all electrical connections and all tie-downs are disconnected from the truck
3. Remove the plastic dust cap on the jack and insert the manual crank securely into the socket of the one of the front jacks. Begin cranking counterclockwise to extend the jack. Raise the front of the camper 3" to 4" working side to side (if alone) or together if two people are able to crank the front jacks.
4. Repeat step 3 for the rear corners, always ensure that the rear of the camper is never higher than the front. If the rear is raised higher than the front, there is more opportunity for the camper to fall over, or to bend the jack/brackets.
5. When the camper is raised off the truck 3" to 4" slowly drive the truck forward being careful not to contact the jacks or the camper. Ensure the trucks path is clear of any rocks/logs/holes, which might cause the truck to shift and contact the camper or jack.
6. LOWERING THE CAMPER: Insert the crank handle into either socket of the "REAR" jack. Lower the rear 3" to 4" working from side to side, or together if more than one person is cranking.
7. Move to the front and repeat the steps in item 5. ALWAYS keeping the front of the camper higher than the rear!
8. Continue to work back and forth until the desired height is obtained. It is always recommended when off the truck to keep the camper as low as possible. Also fully support the floor of the camper when putting the camper into storage, or when occupying the camper when off the truck.

**⚠ CAUTION**

Never allow the back of the camper to become higher than the front. The camper will load best and safely if you keep the front 3" to 4" higher than the rear.

**⚠ CAUTION**

Always keep the motor release/locking lever on the side of the jack in up (engaged) position except when the crank is installed.

**⚠ CAUTION**

Never lift beyond the Red Danger Warning line on the inner Jack leg. Jack damage could result, compromising jack performance and creating a safety hazard.

**⚠ CAUTION**

Never Leave the Jacks fully retracted. Once you've have your jacks retracted for travel, reverse the motor and extend the jack slightly. This prevents the jack from locking up on the fully retracted position.

### 5.1.2. Using the Motorized Happijac's

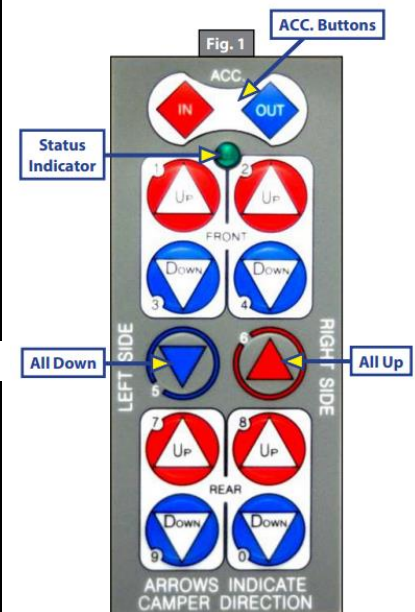
Before you can operate the jacks via the wireless remote, the remote as well as the receiver need to be initialized. This is done by pressing the **"All Down" button #5** and the **"All Up" button #6** at the same time. This will cause the Status indicator LED on the remote to turn green.

Next the receiver needs to be activated. This is done by pressing the ACC "IN" and "OUT" buttons simultaneously. The Status Light on the receiver, which is located in the Termination valve access compartment will turn Green, indicating that it is active.

The remote operates the jack and can provide information about the system status, as indicated in the table below.

Button	Description
1	Up Arrow- Extends left front jack.
2	Up Arrow- Extends right front jack.
3	Down Arrow - Retracts left front jack.
4	Down Arrow - Retracts right front jack
5	All Down- All four jacks retract
6	All Up - All four jacks extend.
7	Up Arrow - Extends left rear jack
8	Up Arrow - Extends right rear jack
9	Down Arrow - Retracts left rear jack
0	Down Arrow - Retracts right rear jack

Button	Description
ACC.	Auxiliary control for room slide or other motorized auxiliary devices (not active)
Receiver Status Indicator	<b>No Light</b> - No power to receiver from 12VDC supply or ground failure <b>Red Light</b> - Insufficient power for proper operation <b>Orange Light</b> - Receiver operational but in idle mode (see idle time out) <b>Green Light</b> - Receiver in operational mode.
ACC. IN, OUT	Reset receiver by pressing both ACC. Buttons simultaneously.
All Up, All Down	Reset remote by pressing both All Up and All Down buttons simultaneously.



**Red Buttons:** Raise camper (jacks extend)  
**Blue Buttons:** Lower camper (jacks retract)

The numbered buttons correspond 1-4 and 7-0 correspond to the jack locations while looking forward from the rear of the camper. Arrows on the buttons indicate the camper movement direction. Red buttons Raise the camper, whereas Blue buttons will lower the camper.

- Press and hold button 6, and all jacks will raise the camper. Be careful doing this, as if the weight on the jacks is not the same, they will not move at the same rate. Take care to always have the front of the camper higher than the rear and never get the camper more than 4" out of level. Always check your jacks to make sure that all four jacks have their footpads on the ground.
- Press buttons 1-4 and 7-0 to individually raise or lower the jacks to help level the camper.

- Press and hold button 5 (All Down) to lower the camper and retract the jacks.
- Once the jacks are retracted for travel. Do a slight “extend”, to prevent the jacks from locking up in the fully retracted position.
- Battery Replacement: Open the battery compartment and replace with fresh batteries as needed.

## 5.2. Resetting the Remote Receiver:

- Locate the receiver control box, which is mounted inside the camper in the termination valve compartment, at the roadside rear of the camper.
- Remove the access cover for the side of the remote and plug in the coiled telephone cord provided with your camper
- Plug the other end of the cord into the port on the left side of the Happijac receiver, which is located in the termination valve compartment.
- Simultaneously press the ALL UP & ALL DOWN buttons (buttons 5 & 6) A green status light should appear on the remote.
- Press button #8 five times, then press button #0 five times.
- Simultaneously press the ACC IN and OUT buttons, a green light should appear on the receiver.
- Remove the coiled cord and check to see that the receiver is responding to the remote in the wireless mode.

## 5.3. Resetting the Receiver

Press and hold the Aux. IN and Out buttons on the remote to reset the receiver the indicator light will flash.

- Release the button and wait for the receiver to reboot.
- Use the wired control panel to manually operate the jacks and verify they respond correctly.
- Re-pair the remote by pressing the power button until the LED blinks, then follow the pairing instructions.
- Test the jacks using the remote to ensure proper function.
- If issues persist, check battery levels in the remote, inspect all wiring connections, and consult Happijac support if necessary.
- For detailed programming instructions for the Happijac wireless remote, refer to the official Happijac Wireless Remote Owner's Manual available on the Lippert Customer Care Center website:
- Happijac Wireless Remote Owner's Manual: [ccd-0002107.pdf](#)

## 5.4. Operating the Happijac Remote Electric Jack System:

### 5.4.1. Electric Jacks (if equipped):

1. Locate the wireless remote supplied with the camper
2. To initiate the remote control, press buttons 5 and 6 (Down and Up buttons) at the same time. The status indicator on the remote will turn green.
3. Then press the “ACC. IN” and “ACC. OUT” to activate the receiver.
4. Place 12” x 12” x ¾” Plywood under each jack footprint.
5. Flip the Levers on all four jacks to the down position, as this will release the locking mechanism on the jacks allowing for jack operation.
6. Select whether to operate jacks individually or all together, which is done by activating the “All Down” (button 5) or “All Up” (button 6) buttons in the center of the remote. It’s important to ensure that the front of the camper remains higher than the rear by 3”-4”. This can be achieved by extending the front jacks to raise the camper prior to activating the “All Up/Down” buttons.

**Note: Each jack may not extend or retract at the same speed due to time delay caused by the jack controller. When extending or retracting, stop from time to time, and extend or retract the jack that is behind, to catch up with the other jacks. It’s important to monitor and maintain equal movement from side to side, as well as ensuring that the front never becomes lower than the rear of the camper.**

7. While raising or lowering the camper, stop frequently to ensure that you’re level from side to side, and that the front of the camper is still higher than the rear. Always ensure that all four jacks are in contact with the ground, otherwise the camper could topple, and can bend jacks or fall over!
8. If choosing to operate the jacks individually, Press the Red 'Up' buttons to raise, or the Blue 'Down' button to lower the camper. Again, stop frequently to ensure that all jacks are in contact with the ground, as well as maintaining level from side to side, and ensuring that the front is higher than the rear.
9. If you’ve loaded your camper and retracted the jacks all the way. Press the all down button for 2 seconds, to take the stress off the jack leg and prevent it from locking up, in the retracted position.

## 5.5. Maintenance:

- Periodically your Happijac may need some maintenance. This typically includes inspecting the jack for damage, and to ensure proper operation. Follow these instructions to ensure proper operation and to keep your jacks running smoothly. [Lubricating Instructions](#)

## 5.6. Safe Usage Guidelines:

- Always lower or raise the camper evenly from side to side and always ensure that the front is higher than the rear of the camper, to avoid excessive stress on the jacks and camper.
- If using swing-out brackets, ensure they are fully extended and locked into position before operating jacks.
- Never lift or lower the camper if the swing-out brackets are positioned forward, as this can cause instability.
- Always place stabilizing blocks or leveling pads under jacks if parked on soft or uneven surfaces.
- Regularly inspect jacks for signs of wear, rust, or loose hardware.
- If a jack motor fails, switch to manual operation using the hand crank.

*By following these steps, you ensure a safe and efficient loading and unloading process when using your Happijac camper jacks.*

Visit the Happijac website and review the Manual [Happijac Owners Manual](#)

## 6. Torklift Fastgun Turnbuckles

Northern Lite recommends using “Torklift Fastgun Turnbuckles®” to securely attach the camper to your truck bed, providing a strong and adjustable hold for safe transportation.

### 6.1. Features:

- Quick-release handles for easy removal and installation, or to make tension adjustments.
- Stainless steel construction for durability and rust resistance.
- Spring-loaded design, to absorb road vibrations and reduce stress on camper tie-down points.
- Tension indicators, assure proper tension, preventing damaging structure around the anchor points
- Adjustable length to fit various truck and camper configurations.

### 6.2. Installation:

- After the camper has been placed correctly in the truck bed, the camper can be secured to the truck with spring loaded “Fastgun turnbuckles.
- With the handle closed, Attach the “top hook” of the turnbuckle to the camper’s tie-down bracket. Turn the bottom threaded hook so that the bottom hook is  $\frac{1}{2}$ ” above the tiedown insert on your truck.
- Open the handle on the Fastgun® turnbuckle and hook the bottom hook to the tiedown anchor point.
- Adjust the spring tension indicator, by sliding the rubber O-ring up on the threaded hook, till it makes contact with the turnbuckle body.
- Close the FastGun® handle. Once closed the rubber O-Ring should be spaced approximately  $\frac{1}{4}$ ” below the body of the FastGun® [Spring Tension Indicator](#)
- If it is too tight, release the handle and turn the hook counterclockwise. Close the handle and check for the  $\frac{1}{4}$ ” of space. If the turnbuckle is too loose, turn the hook clockwise, then check for the correct  $\frac{1}{4}$ ” spacing, which indicates proper tension.
- Avoid over-tightening to prevent excessive stress.
- Repeat this at all four corners of the camper.
- For added security for your Fastguns, lock them with FastGun® Tie Down Locks.
- Check tension before each trip and adjust as needed.



For installation instructions, please follow the link for the proper installation of Fastgun turnbuckles

### 6.3. Safety Considerations:

- Always verify that the turnbuckles are secure before driving.
- Inspect turnbuckles periodically for signs of wear or damage.
- Do not modify Torklift components.



### 6.4. Maintenance:

- Clean turnbuckles with mild soap and water to remove dirt and debris.
- Lubricate moving parts occasionally to ensure smooth operation.

- Store turnbuckles in a dry area when not in use to prevent corrosion.

## Camping Off the Truck

### **6.5. Northern Lite Campers can be used when off the truck, by following these safety precautions.**

- Always position the camper on flat and Level ground.
- The camper should be as low as possible, keeping the front higher than the rear.
- The camper steps can be used in the stowed or extended position, as there is non-skid surfacing on both sides of the steps.

### **7. Long Term Usage**

- Recreation Vehicles are not designed for long term continuous usage. If you are going to use your camper for extended periods of time, it is important to control the moisture in your camper, both in winter and summer in high humidity. In winter always use your range hood exhaust fan when cooking, as well as for an extended period after, to remove all extra moisture from cooking.
- Always run the bathroom fan during and after showering, until the shower is dry. Keeping the heat set at a steady temperature and not setting it back at night will help keep the moisture down. We recommend maintaining 74°F (22°C) degrees in the camper during the winter. It is important to ventilate the camper during winter use, keeping a roof vent or a window slightly open. During the summer in high humidity areas, your air conditioner will help to lower the humidity when in the cooling mode. In some areas during winter and summer during extended stays, you may also require a dehumidifier to minimize humidity levels with your camper.
- If you notice moisture building up on windows or in the camper, run your fans more often and during colder days, increase the inside temperature.

## 8. Off-the-Truck Usage

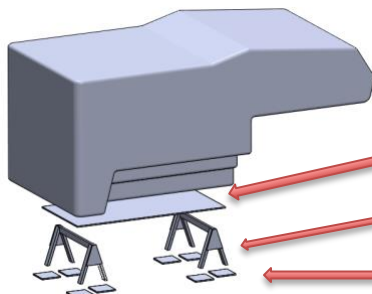
### 8.1. Off the truck Precautions

- During Long Term Off-the-Truck usage, or for long term storage, we always recommend that the camper **be as low as possible!**
- Your Northern Lite camper has been designed to be used while off the truck, as it is equipped with four Happijac's that can safely support the weight of the camper.
- Before taking the camper off the truck, always ensure that the camper site will be on flat and level ground.
- Once a suitable site location is established, ensure that 12" x 12" x 3/4" plywood (minimum) are placed under the jacks, to prevent the jack footpad from sinking into soft ground, or into hot asphalt. **Failure to use these plywood pads can cause the camper to move or topple over, causing damage to the camper, and potential injury to occupants or those near the camper.**
- If using the camper off the truck, or for storage of the camper, once you have removed the camper from the truck, always lower the camper as low as possible. This minimizes movement in the jacks caused by wind or movement in the camper. Also, it reduces the length of the jack, which is acting as a lever on the jack bracket/camper. Lowering the camper reduces stress put on the camper by the jack.
- In some instances, you might want to support the floor of the camper as well as with the jacks for more stability. If using sawhorses, they **must** be positioned across the width of the camper, and there needs to be a sheet of 3/4" plywood placed on between the sawhorse and the camper bottom. This will help distribute the load and not cause cracking at the sawhorse. **Failure to use plywood in conjunction with sawhorses will void your Northern Lite Warranty.**
- When using sawhorses, the camper should be set to as low as the jacks will allow.

Measure the height of the camper base from the ground and obtain sawhorses that are just above that height.

Once you have sawhorses that are at the height as described above. Place them on wood pads (12" x 12" x 3/4" ply is recommended). That will prevent the sawhorse legs from sinking into the ground or hot asphalt. Support the camper with two sawhorses, one near the front and one the rear of the camper base. Bridge the tops of the two sawhorses with a sheet of 3/4" plywood. This will help to distribute the camper load over a broader areas, similar to how your truck bed supports the camper.

Lower the camper to rest on the plywood, keep the jack on pads on the ground to share the load with the sawhorses. This will help to stabilize the camper from being rocked from winds etc.



3/4" Plywood Sheet - Mandatory!  
**Failure to use Plywood will void your warranty**

Sawhorses as low as possible, across the width of the camper base

Plywood bearing pads. 12 x 12 x 3/4" plywood recommended

**Camper on Sawhorses for additional support. (Jacks not shown)**

## 9. Pre-Travel Checklist

To ensure that you have a great trip and protect the investment that you have made in your truck camper, please go through the following checklist every time you prepare to move your camper.

- Ensure all windows are closed and levers are in the Locked position. Failure to do this will result in window damage and possibly the loss of the window lens.
- Ensure Heki Skylight is closed and Latched
- Ensure the TV Mount is retracted/secured, and the extra lock pin is in place.
- Ensure the bathroom door is closed and latched
- Pedestal Table- Ensure that the table locking knob under the table is tight to prevent the table from sliding back and forth. Also confirm that the pedestal is firmly attached to the table, and secured in the base on the floor
- Face to Face Dinette- Ensure that the Dream Dinette locking lever is firmly in place on the nylon glide block, this will ensure that the table stays in the Locked position. Also ensure that the knob is tightened to prevent the table from sliding back and forth.
- Ensure all drawers are pushed in, and latched in place
- Always lower the bi-fold glass range cover prior to moving the camper.
- Ensure that the water pump is turned off.
- Check the interior of the fridge to ensure that items do not move around freely causing damage.
- Ensure that the fridge/freezer doors are securely latched.
- Check the camper interior for any items that may shift/fall or impact the interior of the camper while in transit.
- Ensure that the battery disconnect switch is on so that your truck has the ability to charge your camper batteries while in transit.
- If traveling in winter or freezing conditions, and you have water onboard, ensure that your furnace is turned on to prevent the water in your system from freezing.
- Ensure that the rear observation camera switch is turned on.
- Disconnect the power cord from any power pole or receptacle and stow the power cord in the camper for future use.
- Disconnect any City Water supply hoses, drain and store in the camper for future use.
- Ensure tiedowns are in place and are securely tightened.
- Ensure the 7-way connector is plugged into the camper to provide power to the camper rear observation system and lights.
- Perform a Running/Signal/Brake/Reverse Light test. Ensuring all Lighting is operable.
- Ensure that the jacks are fully retracted, and that the remote or manual crank is safely stored in the camper for future use.
- If equipped with Dually Jack Extensions, ensure that they are pivoted into the stored position.
- Ensure that the side and rear awning are fully retracted.
- Ensure that the Water Heater is turned off.
- Check all compartment doors ensuring they are latched/locked before moving.
- Confirm that your Entry Door Platform step is in the stowed position, and that the locking pins are in place.
- Once you've completed your interior check, close and lock the entry door.

## 10. Camper Molded Female Flat Pin 7-Way Connector

Your camper is equipped with an industry-standard “7-way female flat pin connector” that provides power for lights, brakes, and battery charging. This connector is essential for the proper functioning of camper lighting, signal and brake lights and auxiliary power.

### 10.1. Pin Configuration:

“Black:” 12V Power

“White:” Ground

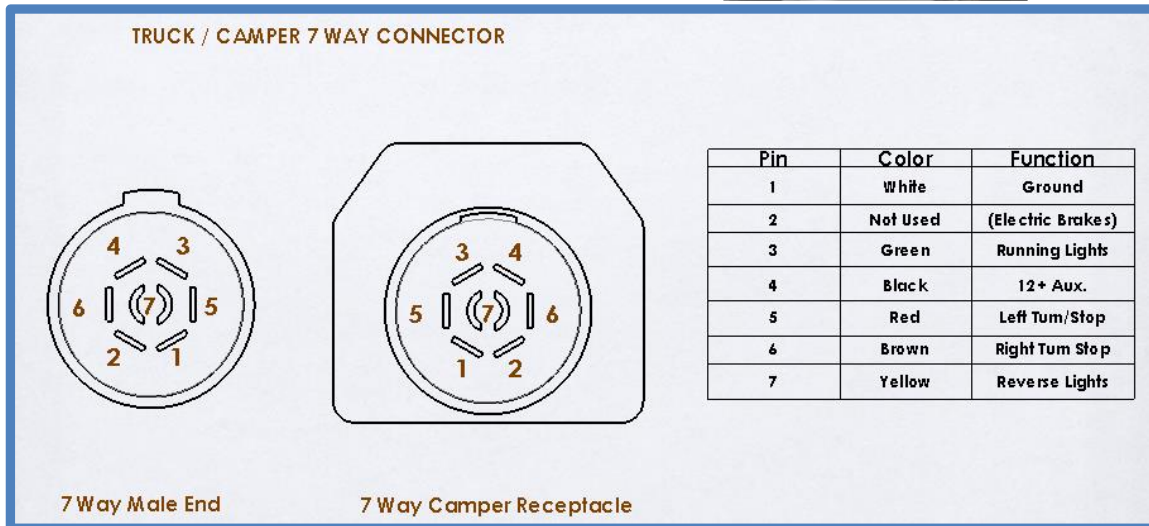
“Green:” Right Turn/Brake Light

“Yellow:” Left Turn/Brake Light

“Brown:” Running Lights

“Blue:” Electric Brake (Not used on Camper)

“Red:” Backup Lights



### 10.2. Operation:

- Before connecting, inspect the plug and socket for dirt, corrosion, or damage.
- Align the 7-way connector properly and push it securely into the truck’s in-box socket.
- Ensure a firm connection by gently tugging on the cable after inserting, ensuring the socket cover engages the molded cord end.
- Test all camper lights, brakes, and charging functions before travel to confirm proper operation.
- If you experience flickering lights, check the connector for a loose fit or corrosion.

### 10.3. Safety and Maintenance:

Always disconnect the plug before washing the camper to prevent electrical damage.

- Apply dielectric grease to the terminals periodically to prevent corrosion.
- Inspect the connector wiring regularly for frayed or damaged wires.
- Ensure a snug fit into the truck’s towing socket to maintain a reliable electrical connection.

*By following these steps, you ensure a safe and efficient electrical connection between your camper and your truck*

## 11. Electrical System

The electrical system in your Northern Lite camper is designed to provide reliable power for appliances, lighting, and other essential functions. Your camper is equipped with both “12V DC” and “120V AC” power sources.

### 11.1. Components:

- “12V DC System” – Powers interior lights, water pump, vent fans, and other small appliances.
- “120V AC System” – Used when plugged into shore power or running a generator; operates larger appliances like the microwave and air conditioner as well as receptacles throughout the camper.
- “Batteries” – Stores energy for 12V power needs.
- “Converter/Charger” – Converts 120V AC power to 12V DC and charges the battery bank.
- “Inverter (if equipped)” – Converts 12V DC to 120V AC for off-grid power to certain outlets.

### 11.2. Operation:

#### 11.2.1. Using 120Volt Power:

- Connect the “30A power cord” to the camper, ensure the connection is tight, so as not to create arcing and damage to the cord or receptacle.
- Ensure that appliances are off before connecting the other end of the cord to shore power.
- As campground electrical power can vary, we recommend always using a surge protector to protect the camper electrical system from surges/low voltage/lightning strikes. Surge protection can be manual or auto resettable. If you will be away from the camper for extended periods of time. You may want to purchase an auto reset model, as this way food in your fridge will be refrigerated once power is restored to your camper.
- Your power cord is equipped with LED light that indicate if your shore power source has the correct polarity. Look for this LED light in the male plug end before connecting the cord to the camper. A Blue LED indicates that power is present, a Red LED, indicates a problem at the power source, which could be an open ground, reverse polarity etc.



**NEVER connect the cord to the camper when a Red LED is being displayed. Contact an electrician to remedy the problem.**

- Keep your cord length to a minimum. If an extension is needed, use a 10Ga. cord, to deliver power over extended distances.
- Ensure breakers are in the “ON” position inside the camper’s “power control center”.
- All 120volt appliances and receptacles should have power. If a receptacle does not provide power, check all GFCI (Ground Fault Circuit Interrupter) receptacles in the camper, as one may have tripped cutting power to itself, as well as receptacles that may be connected downstream.
- If your camper has the optional generator, it is also equipped with a transfer switch in the system. This allows you to run the generator when shore power is disconnected. The transfer switch will select automatically which power is available.
- If when running the generator and you do not have power in the camper. Check the breakers in the converter, as well as the resettable breaker on the generator.

## 12. Using 12V Power:

- Your camper's "12V system" runs directly off the onboard batteries that are located in the compartment on the curbside at the rear of the camper.
- If equipped with "solar panels", the system will charge the batteries during daylight hours. Battery/charge information can be checked using the Solar regulator on the wardrobe face.
- Battery state of charge can be monitored using the monitor panel on the washroom wall
- To conserve battery life, turn off unnecessary lights and appliances when not in use.
- When connected to shore power, your power converter, located at the end of the front dinette seat, will transform 120volt power into 12Volt power. This power will be delivered to all of your 12volt lights and fixtures, as well as charge the batteries. Note the battery disconnect switch must be in the "ON" position for the battery to be charged from the convertor, as well as from the Truck 7-way connector.

### 12.1. Safety Considerations:

- Always use a "surge protector" when plugging into shore power.
- Avoid overloading circuits by running multiple high-power devices simultaneously.
- Inspect wiring connections regularly for damage or corrosion.
- **Never add Flooded or AGM batteries to the interior of the camper, as these batteries require venting to the exterior.**

### 12.2. Maintenance:

- Keep battery terminals clean and free of corrosion.
- Test batteries regularly and replace if voltage drops below recommended levels.
- Ensure proper ventilation for battery compartment, to prevent buildup of gases emitted by the battery during use.

*By following these guidelines, your "Northern Lite camper electrical system" will provide safe and reliable power for all your camping needs.*

### 13. Progressive Dynamics PD4000 Series Power Control Center

The Progressive Dynamics PD4000 Series Power Control Center is a state-of-the-art, 45 Amp power control center designed to efficiently manage electrical power in your camper. It provides a compact, integrated solution for both AC and DC power distribution and battery charging.



#### 13.1. Output Mode Switch:

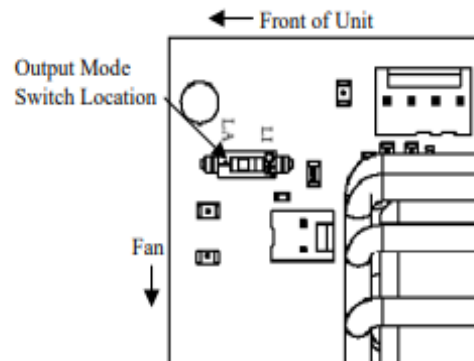
- Lead-Acid Mode: Set the switch to 'LA' for standard lead-acid batteries. Provides 13.6VDC w/Charge Wizard function. (default position from the factory if no Lithium Battery is ordered)
- Lithium Mode: Set the switch to 'Li' for lithium batteries. Provides a constant 14.6 VDC w/Charge Wizard. (set at the Factory only if the Northern Lite Lithium battery option is ordered at the time of manufacture.)

#### 13.2. Charge Wizard

- Your converter is equipped with a “Charge Wizard” 4-stage charging system, which monitors battery conditions to prevent overcharging and ensure efficient battery management. This component within your power center only will work for Flooded and AGM Batteries. It continually monitors the battery and adjusts the converter output voltage eliminating over and under charging.
- *Note, Charge Wizard is disabled when a Lithium Battery is selected.*
- Boost Mode                    14.4 Volts – Rapidly brings your battery up to 90%
- Normal Mode                13.6 Volts – Safely completes the charge
- Storage Mode                13.3 Volts – Maintains charge with minimal gassing or water loss
- Equalization Mode        14.4 Volts – Every 21 hours for a period of 15 minutes, prevents battery stratification and sulfation – the leading cause of battery failure.

### 13.3. Selecting Battery Type:

1. The converter as it leaves the factory has the converter set to a Flooded / AGM Battery setting, If equipping your camper with a Lithium battery, you'll need to perform steps 2 thru 6. Note: Campers that order the Northern Lite Lithium option will have the converter set to the Li(Lithium) position.
2. Disconnect all 110 volt and 12 volt power (disconnect switch and 7 Way).
3. Open the access door to the breakers/fuses; remove the brass screw beneath the main breaker.
4. Depress the two recessed tabs on the converter's top cover and remove the cover.
5. Locate the 'Output Mode Switch' at the top left corner of the circuit board.  
Set the switch to 'LA' for flooded/AGM batteries or 'Li' for lithium batteries.
6. Reinstall the cover and secure with the brass screw.
7. Note: If Lithium Batteries are ordered as an NL Option, the converter will be set to the "Li" position at the factory.



### 13.4. AC Distribution Panel:

- 30Amp Main
- 15Amp Power Converter
- 15Amp Kitchen/TV/Microwave (opt)
- 15Amp Fridge, Bench
- 15Amp Water Heater
- 20Amp Air Conditioner (opt)

### 13.5. DC Distribution Panel:

- 15A RH Bunk & Kitchen Lights
- 15A Ceiling Lights and Fan
- 15A LH Bunk & Dinette Lights, Water Heater
- 15A Water Pump
- 7.5A Furnace
- 10A USB
- 15A Rear & Side Awnings

### 13.6. DC Section Features:

- Built-in fuse panel for DC circuits.
- Easy-to-read fuse status indicators for quick diagnostics.
- Reverse battery protection circuit with separate ATC type fuses.
- Reverse Battery LED Indicator for identifying improper battery connections.

### 13.7. Safety and Maintenance:

- Regularly inspect wiring and connections for corrosion or looseness.
- Ensure adequate ventilation around the power center.
- Replace blown fuses with correct ratings.
- Always disconnect power before servicing.

For detailed information, refer to the PD400 Series owners Manual [PD Power Center User Manual](#)

## 14. Smart Lithium Batteries

Your camper may be equipped with advanced Lithium (LiFePO<sub>4</sub>) batteries designed to provide reliable, long-lasting power for your camper's electrical system. Lithium batteries offer several advantages over traditional batteries, including increased lifespan, lighter weight, and greater efficiency.

### 14.1. Features:

- Longer lifespan compared to traditional lead-acid batteries.
- Lighter weight, reducing overall camper weight.
- Efficient power storage and rapid charging capabilities.
- Stable voltage output throughout discharge.
- Integrated Battery Management System (BMS) for safety and optimal performance.
- Internal heater to maintain battery temperature in cold environments, allowing charging even in low-temperature conditions.

### 14.2. Operation:

- Ensure your switch on the battery is on. Ensure to Monitor battery charge levels regularly using your camper's control panel.
- Use an approved lithium battery charger or ensure the converter is set to Lithium mode (Li). *(Campers equipped with the optional Lithium battery from the factory, will have the converter set to "Li", as described in Item 8 in this manual.)*
- Avoid over-discharging by recharging the battery before it falls below 20% capacity.
- Ensure batteries are properly secured to prevent movement during travel.

### 14.3. Importance of Battery Management System (BMS):

- The integrated Battery Management System (BMS) monitors and manages the battery's voltage, current, temperature, and overall health. It will also turn on the battery's internal heater when the temperature drops. It protects against overcharging, over-discharging, overheating, and short circuits, thereby extending battery life and ensuring safe reliable operation.

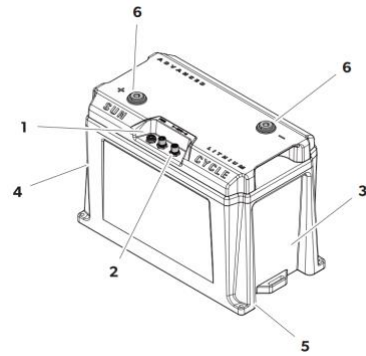
### 14.4. Maintenance and Safety:

- Regularly inspect battery terminals and connections for signs of corrosion or damage.
- Keep batteries clean and dry, and store them in a cool environment when not in use.
- Do not puncture, expose to flames, or immerse in water.
- Always disconnect batteries before servicing the electrical system.

*Following these guidelines will ensure your lithium batteries remain in optimal condition, providing safe and efficient power for your camper.*

## 15. Go Power Smart Lithium Batteries

- Your camper may have had the optional advanced Go Power Smart Lithium (LiFePO4) batteries installed in your camper's electrical system. These batteries are designed to provide reliable, long-lasting power for your camper's 12volt electrical needs. Lithium batteries offer several advantages over traditional batteries, including increased lifespan, lighter weight, and greater efficiency.



- (power button with status LED)
- (RV-C Ports)
- (integrated heater for low temperature charging)
- (slanted sides prevent batteries from being installed without an air gap between them for cooling)
- (integrated screw holes for easy mounting. This works well for width limited enclosures)

### 15.1. Features:

- Longer lifespan compared to traditional lead-acid batteries.
- Lighter weight, reducing overall camper weight.
- Efficient power storage and rapid charging capabilities.
- Stable voltage output throughout discharge.
- Integrated Battery Management System (BMS) for safety and optimal performance.
- Internal heater to maintain battery temperature in cold environments, allowing charging even in temperatures as low as -20°C.
- RVC Terminal connectors for inter-battery communication via the RV-C protocol for parallel batteries, it connects to the GoPower Connect App.

### 15.2. Importance of Battery Management System (BMS):

- The integrated Battery Management System (BMS) monitors and manages the battery's voltage, current, temperature, and overall health. It protects against overcharging, over-discharging, overheating, and short circuits, thereby extending battery life and ensuring safe reliable operation.

### 15.3. Operation:

#### 15.3.1. Power Button

- Ensure your switch on the battery is on. This can be done by holding the power button on the battery for 3 seconds to wake up the battery. The battery enters the "ON" mode and the LED is a solid light.
- This button will indicate the various power modes of the battery

<i>Mode</i>	<i>LED Function</i>	<i>Battery Function</i>
ON	LED is solid on	Battery charge and discharge paths are both enabled and BMS power is on (Bluetooth and RV-C both active)
OFF	LED is solid off	Battery charge and discharge paths are both disabled and BMS is off (Bluetooth and RV-C both inactive)
Sleep	LED is slow flashing	Battery charge path is enabled but discharge path is disabled and BMS power is on (Bluetooth and RV-C both active)
Reserve	LED is slow flashing	Battery charge path is enabled but discharge path is disabled and BMS power is on (Bluetooth and RV-C both active)

### 15.3.2. Heater

- There is a heater inside the battery on the bottom sides of the cells. This heater is controlled by the BMS and allows the batteries to be charged at ambient temperatures as low as -20C. The BMS implements three modes for heater control.

<i>Mode</i>	<i>Heater Function</i>
Auto	Heater is always on when the battery is in sleep mode. When the battery is ON mode the heater will only turn on when there is a charging source available that is fully capable of powering the heater
ON	Heater always turns on when the battery internal temperature is below 2°C and it stays on until the battery internal temperature is above 7°C.
OFF	The heater is always off.

### 15.3.3. Real Time Clock

- A real time clock is implemented on the BMS. The battery support RV-C real time clock messages for configuration of the time and date. It is broadcast via the RV-C standard messages and priority.

### 15.3.4. Fault Recovery

- If the BMS disconnects the batteries due to a fault it will reset automatically when the conditions return to normal. For low voltage disconnect the BMS shall allow up to 10amps of current to be drawn from the battery.

### 15.3.5. Charging

- Charging current should be less than the maximum charging current. The recommended charging current is 50 A for the 100Ah battery. The maximum charging current should not exceed 100 A.
- The recommended charging voltage is 14.4 volts, with the maximum voltage being 14.6 max.
- The battery should be charged when it's within the temperature range of -20°C to 55°C.
- Reverse charging is prohibited
- The battery should be connected correctly, and the polarity be confirmed before charging.
- If the battery is not connected properly, then the battery cannot be charged.

### 15.3.6. Discharging

- The battery should be discharged at less than the maximum discharge current of the battery, which is 100 A.
- The battery should be discharged within the working discharge temperature range between -20°C to 55°C.
- To prevent over-discharging, the battery should be charged periodically to keep about 60% charge.
- Over-discharging may cause loss of battery performance, characteristics or battery functions.

### 15.3.7. Troubleshooting

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
<ul style="list-style-type: none"> <li>Battery cannot discharge.</li> </ul>	<ul style="list-style-type: none"> <li>Protection against over-temperature (cell temperature is higher than 80°C.</li> <li>BMS protecting against voltage discharge below 9.2V</li> <li>BMS is protecting against maximum continuous discharge above 100A</li> <li>Battery output terminal has a short circuit</li> <li>System Failure</li> </ul>	<ul style="list-style-type: none"> <li>Regulate battery pack discharge ambient temperature to lower than 55°C</li> <li>Charge Battery</li> <li>RV discharge power is overload, should decrease discharge power</li> <li>Check connection wire and try to charge the battery</li> <li>Shutdown system and check the RV system function</li> </ul>
Battery cannot Charge	<ul style="list-style-type: none"> <li>BMS protecting against over voltage charge of 14.6V</li> <li>BMS is protecting against over current charging of max. 100A</li> <li>BMS is protecting against over-temperature or under temperature 0°C to 60°C.</li> <li>Battery output terminal has a short circuit.</li> <li>System Failure</li> </ul>	<ul style="list-style-type: none"> <li>Disconnect the charger and load dis-charge for a few minutes. Try again to charge the battery</li> <li>Charge is abnormal and the output current is over 100A continuous, 120A for 30min., 200A for 5seconds, 400A for 3 seconds</li> <li>Regulate battery pack charge ambient temperature to 5 °C ... 45 °C. If charged in freezing weather, you'll need to wait until it is heated up to 5 °C by inner heater.</li> <li>Check the connection wire and try to charge the battery</li> <li>Check the RV system and Charger.</li> </ul>
Bluetooth cannot connect	<ul style="list-style-type: none"> <li>Poor signal</li> <li>Battery pack is shutdown</li> </ul>	<ul style="list-style-type: none"> <li>Approach the RV system and try to connect again</li> <li>Press the button on the battery(s) for 2 seconds to wake up the battery bank</li> </ul>
RV Read battery information fail	<ul style="list-style-type: none"> <li>RV-C connector / terminator between batteries, is loose or missing</li> <li>Cable has a poor connection</li> <li>Battery ID is not correct</li> </ul>	<ul style="list-style-type: none"> <li>Check the Cable wire from battery to battery, and the CAN1 port 120ohm terminator.</li> <li>Check the battery ID settings and refer to the RV-C protocol to correct the battery ID individually.</li> </ul>

#### 15.4. Maintenance and Safety:

- Always turn batteries off when working on or removing or replacing batteries.
- If the battery is to be removed, first disconnect the ground connection. Disconnect all connections and all consumers from the battery before removing it.
- Regularly inspect battery terminals and connections for signs of corrosion or damage.
- When working on batteries, do not wear any metal objects such as watches or rings.
- Do not place any metal objects on the batteries.
- Always use insulated tools when working in the battery compartment.
- Keep batteries clean and dry, and store them in a cool environment when not in use.
- Do not puncture, expose to flames, or immerse in water.

#### 15.5. Go Power Connect App

Download the Go Power Connect! App to your phone or mobile device.



- With your batteries fully connected, ensure that your batteries are turned on, or in a sleep mode. This will allow the app to discover your batteries.
- Press “+” on the top of the screen to add a device. Your GP-ADV-Lithium battery, should appear as a discoverable device.
- Setup one of your batteries as the “Master” battery, by selecting it and then configure the second battery by the same method as your “Secondary” battery.
- Press the “Indicate” to blink the power LED on the battery that is currently being configured.
- Press Setup for your secondary battery to configure in parallel, priority and battery instance
- Press the “Load System” once each battery is configured. Changing the DC Instance will change all the batteries to match the battery bank.



1. Set the battery instance to assign instance numbers for each battery
2. There must be only one master per Battery Bank. All batteries added after the master will be identified as Secondary.

*Following these guidelines will ensure your lithium batteries remain in optimal condition, providing safe and efficient power for your camper.*

## 16. Battery Disconnect Switch

- Your Northern Lite camper is equipped with a Battery Disconnect switch, that is conveniently located near the floor by the entry door. This switch disconnects your camper battery from the camper's electrical system.
- Your Happijac leveling jacks do not run through your disconnect switch and can be operated regardless of what position your switch is set to.
- Your battery disconnect switch should always be left on, expect when putting the camper into storage.

### 16.1. Operation:

#### 16.1.1. Switch in the On Position

- Battery **WILL** provide power to Converter for distribution to the camper 12-volt requirements Including Awnings lights and power motors
- Solar **WILL** charge the battery
- Happijac motors **WILL** operate
- 7 way connector from your truck **WILL** charge the battery
- When on shore power or generator, your battery **WILL** be charged by the power converter
- The battery disconnect switch should always be in the **ON** position, unless storing the camper for an extended period of time. This will allow your battery to charge from shore power/truck 7-way and the solar panels.

#### 16.1.2. Switch in the Off position

- Battery **WILL NOT** provide power to the camper 12volt system
- 7 Way connector from the truck, **WILL NOT** charge the battery. (Power from the truck will provide 12volt power to the campers 12volt system distributed through the converter panel)
- Solar **WILL** continue to charge the battery.
- Happijac motors **WILL** operate
- Your campers Carbon Monoxide and LP Gas detector **WILL NOT** be operable.
- When on shore power or generator, your battery **WILL NOT** be charged by the converter
- Your 2 way or 12volt Fridge will not operate unless connected to your 7 way connector on your truck, and that your truck is providing power.

**NOTE:** If the disconnect switch is off, and you are able to power the camper lights, fans, entertainment system, then your camper is being powered off your truck, which over extended period of time could deplete your truck battery and prevent it from starting.

**NOTE:** Always turn the battery disconnect switch to off, before removing or installing batteries. This will prevent arcing.

## 17. Solar Power System

- Your Northern Lite camper is equipped with a **solar power system** that provides renewable energy to help maintain your battery charge while off-grid. The system consists of **three 200-watt Hub Solar HS200-36M panels**, a **charge controller**, and necessary wiring to safely provide power to your camper's battery bank.

### 17.1. Features:

- High-quality solar panels are designed to efficiently convert sunlight into electricity.
- Maintenance-free design with durable components.
- Integrated solar controller to manage battery charging and prevent overcharging.
- Capability to extend battery life and reduce dependency on shore power or generators.

### 17.2. Operation:

- Ensure solar panels are clean and unobstructed to maximize energy production.
- If Equipped, ensure the Solar Disconnect switch is turned on allowing solar energy to reach the controller, providing regulated power to charge the batteries.
- Monitor system performance via the solar charge controller.
- Panels produce optimal power under direct sunlight, trees, clouds, pollution will diminish the amount of power the panels can produce.

### 17.3. Maintenance:

- Regularly clean the solar panels with water and a soft cloth to remove dirt or debris.
- Inspect panels periodically for any damage or wear.
- Check connections to ensure they are secure and free from corrosion.

### 17.4. Safety Considerations:

- Avoid stepping on solar panels to prevent damage and personal injury.
- Disconnect solar connections before servicing electrical components.
- Always consult a professional technician for repairs or alterations to the solar system.

For more details, refer to the **Hub Solar HS200-36M panel specifications** or consult your dealer for troubleshooting and system upgrades. [Hub Solar Specification](#)

*By following these guidelines, your **Solar Power System** will provide a reliable source of renewable energy to power your camper's essential systems.*

## 18. Go Power! GP-PWM-30-BT Solar Controller

- Your Northern Lite camper is equipped with the Go Power! GP-PWM-30-BT Solar Controller, a Bluetooth-enabled device designed to manage and optimize your solar power system efficiently. This controller is on the wardrobe face, to your left when you walk in the entry door.



### 18.1. Features:

- Bluetooth connectivity allows monitoring and control through a mobile app.
- Regulates current flow from your solar panels to your batteries.
- Temperature compensated Pulse Width Modulation (PWM) technology enhances battery charging efficiency.
- Four battery charging profiles: Sealed/Gel, AGM, Flooded, and LiFePO4 (Lithium).
- Four-stage charging: Bulk, Absorption, Float, and Equalize.
- Backlit LCD screen displays current, battery voltage, and battery state of charge.
- Built-in protection against overcharging, short circuits, and reverse polarity.
- LED indicators for real-time monitoring of charging status and battery condition.

### 18.2. Operation:

- With the GoPower App, pair your mobile device with the controller via Bluetooth to access real-time system data. [Download the Go Power Connect App](#)
- Monitor battery status, voltage, current, and charging parameters using the mobile app.
- Adjust settings and configure charging profiles according to your battery type (Lead-Acid or Lithium).

#### 18.2.1. Lead Acid Battery Setup:

- To set up a Lead Acid battery, hold the ENTER key and use the up ▲ and down ▼ keys to navigate to the settings options (cog icon).
- Press ENTER. Battery type will be displayed.
- Press ENTER again and use the up ▲ and down ▼ keys to select the correct battery type (Wet or Flooded) and press ENTER.
- After completing these steps, press the BACK button to return to the main screen.

#### 18.2.2. Lithium Battery Setup:

- To set up a lithium battery, hold the ENTER key and use the up ▲ and down ▼ keys to navigate to the settings options (cog icon).
- Press ENTER. Battery type will be displayed.
- Press ENTER again and use the up ▲ and down ▼ keys to select the correct battery type (LFP) and press ENTER.
- After completing these steps, press the BACK button to return to the main screen.

#### 18.2.3. Lithium Wake-Up:

- When the GP-SB-PWM is powered by a solar panel, but a battery is not detected, it sends 5 pulses to restore a lithium battery that has been protected from over-discharge by its BMS. The LCD indicates this process by showing specific displays.

For detailed setup and operating instructions, please refer to the Go Power User Manual.

[GP-PWM-30BT Solar Controller User Manual](#)

### **18.3. Maintenance:**

- Regularly inspect the controller for secure connections and signs of corrosion.
- Ensure the controller is protected from moisture and excessive dust.
- Clean the surface of the controller with a soft cloth and avoid harsh chemicals.

### **18.4. Safety Considerations:**

- Ensure correct polarity connections to avoid electrical damage or short circuits.
- Disconnect power sources before servicing or inspecting connections.
- Contact a professional technician for advanced troubleshooting or repair.

*By adhering to these guidelines, you can effectively manage your solar power system, maximizing efficiency and extending the life of your camper's batteries.*

## 19. 600Ah or 900Ah Lithium Package.

- Your camper may be equipped with either a 600Ah or 900Ah Lithium Battery option. This package includes three solar panels (600 or 750watt total), 3000 watt inverter/charger, PWM or MPPT Solar Controller, PowerTrak Display/Control and a DC/DC charger. This comprehensive electrical system has full operational information on our website. The link to this information is shown below. Read this information carefully to fully understand how the system operates, and to get the best results from your campers Lithium Package.

[Northern-Lite-600AH-Lithium-Package-Manual](#)

## 20. Manuals, Guides and Schematics.

Although a lot of the user information contained in this manual, will help you navigate your campers many systems and features. More detailed information is contained in the various manufacturers user manuals. All of these user manuals along with Special Advisory Bulletins, Winterization Guides, Schematics as well as how to videos can be found on the link to our website shown below. Take the time to familiarize yourself to your campers systems and options, by reading these manuals. Prior operational knowledge can make your camping experience more enjoyable.

## 21. Winterization

Depending on the region you are living or are camping in, your Northern Lite Camper will need to be winterized. These precautions and procedures will ensure that your camper is safe from freezing during in temperatures below freezing. Protection your water system and appliances.

We've put together some instructions on the procedure to winterize each specific model. These instruction include the procedures for campers equipped with the Truma Combi Water Heater/Furnace. As well as for campers equipped with the traditional furnace and water heater appliances. Follow the links below to access your campers winterization instructions.

- [Camper Winterization](#)
- [610 Winterization Procedure](#)
- [8.11 Wet Bath Winterization Truma Combi Procedure](#)
- [8.11 Dry Bath Winterization Truma Combi Procedure](#)
- [9.6 Wet Bath Winterization Truma Combi Procedure](#)
- [10.2 Wet Bath Winterization Truma Combi Procedure](#)
- [10.2 Dry Bath Winterization Truma Combi Procedure](#)

[Northern Lite Manuals | Northern Lite 4-Season Truck Campers](#)

## **22. De-Winterizing your Camper**

Once the Winter season has passed and the temperatures are above freezing. You may wish to de-winterize your camper making it ready for your upcoming adventures.

De-winterizing your camper, will have you revisit the same locations within the camper that you would have accessed when you winterized your camper. Or if your camper was winterized by your dealer, you can follow these links to get your Northern Lite camper set up for summer use.

## 23. How-To Videos

Sometimes when written instructions just won't do...there is other information that can help.

Northern Lite has prepared how-to videos to some of our most common customer questions. These in-house video's use our trained presenters to describe to you how to do some of the most common things in your camper, to some that are a little more obscure. These video's will provide you with the "Do's" and "Do Not's" of various systems, maintenance and options within your camper.

Being as how products change over time, and that multiple versions of a system may be in use in the field. We continually produce new videos to reflect the various versions of our camper components and systems. Check back regularly to see what new information has been added to this section.

A link to the "How-To" video section is shown below.

[Northern Lite How To Videos | Northern Lite 4-Season Truck Campers](#)

## 24. LPG (Propane) System

- Your Northern Lite camper is equipped with an LPG (Liquid Propane Gas) system designed to safely provide propane fuel for cooking, heating, refrigeration, and hot water. Proper operation and regular maintenance of your propane system ensure safe and efficient camper use.

### 24.1. Features:

- Two propane tanks with convenient external access and slide out tray
- Auto-changeover regulator seamlessly switches between tanks as one empties.
- Excess flow valves for enhanced safety.



### 24.2. Operation:

- Open the propane compartment located outside the camper to access tanks.
- Follow all safety warnings located inside the compartment that holds your tanks.
- Ensure the tanks are full of LPG.
- If the tanks need to be refilled, ensure that the tank valves are closed prior to disconnecting the QCC Type1 connector on the hose.
- When reinstalling a refilled tank, ensure that the LPG Pigtail is not folded or pinched prior to reconnection of the QCC Type1 connection to the tank.
- Always open tank valves slowly to avoid activating the excess flow safety device. Open both tank valves so that LPG supply is seamless during tank changeover.
- Ensure the auto-changeover regulator is correctly pointed to the primary tank for initial use. (It's recommended that the outer tank be used first, as this tank is easier to remove when empty.)
- Your regulator automatically switches to the secondary tank when primary tank empties; indicator changes from green (full) to red (empty). The lever on the regulator does not move. If you see a red or empty indicator, the lever is pointing to the empty tank. Check tank levels periodically, as not to run out of LP gas.
- Once your tanks are connected and the valves are open, you can now operate your LPG appliances following the manufacturers operating and safety instructions.



### 24.3. Safety Considerations:

- Regularly check for propane leaks using a propane leak detection solution on all connections and fittings.
- If a propane smell is detected, immediately close valves, ventilate camper, avoid sparks or flames, and seek professional assistance.
- Never store or use propane tanks inside the living quarters or enclosed spaces.
- Propane tanks must only be filled to 80% capacity to allow for gas expansion.

⚠ Warning!	⚠ Warning!
<ul style="list-style-type: none"> <li>• If you smell Propane <ul style="list-style-type: none"> <li>• Extinguish any open flames, pilot lights and all smoking materials. Do not touch electrical switches.</li> <li>• Open vents /windows and Exit the camper leaving the door open.</li> <li>• Shut off the propane supply at the tank valves.</li> <li>• Leave the area until the Propane odor clears.</li> <li>• Have the propane system checked for leaks before using the gas system.</li> <li>• Never check for leaks with an open flame. Use an approved leak detection solution. A soap solution can also be used, as long as it does not contain Ammonium or Clorine. If the leak cannot be located, have the system checked by a qualified service center.</li> </ul> </li> <li>• If adding accessories to your camper be careful not to puncture the propane supply lines.</li> <li>• Never change the thumb lock on your propane access door to a lock. Immediate access to the valves is required if a leak is detected.</li> <li>• Never store items in your Propane compartment that can block the vents in the door. Propane expands as it warms up, and tanks will vent as they expand.</li> <li>• Do not travel or store full or empty propane cylinders inside your camper.</li> <li>• Propane cylinders are equipped with safety devices that relieve excess pressure by discharging propane into the atmosphere.</li> <li>• Propane gas is highly flammable. Can lead to a fire or explosion and result in death or serious injury.</li> </ul>	<ul style="list-style-type: none"> <li>• Do not fill propane containers to more than 80% of capacity</li> <li>• A properly filled container contains approximately 80% of its volume as liquid propane</li> <li>• Overfilling propane containers can result in uncontrolled propane flow, which could lead to a fire or explosion and result in death or serious injury.</li> </ul>
•	•

#### 24.4. Gas Consumption:

Because your campers' supply of Propane is not endless, you should be aware of your camper's appliance demand.

Your two LP Bottles will provide 862,000 Btus. By looking at your appliance ratings (shown below), you can estimate the is a list of what each appliance uses.

- Water Heater 12,000BTUH
- Truma Combi 14,300BTUH
- Suburban Furnace 20,000BTUH
- Range
  - Left Burner 6500BTUH
  - Right Burner 6500BTUH
  - Center Burner 8000BTUH
  - Oven 7100BTUH
- Fridge 1500BTUH
- Generator
- ½ Throttle 27,420BTUH
- Full Throttle 49,875BTUH

#### 24.5. Maintenance:

- Periodically clean tanks and the regulator to keep them free of debris and dirt.
- Inspect hoses and fittings regularly for cracks, wear, or damage and replace as necessary.
- Schedule annual professional inspections to ensure the entire propane system operates safely and efficiently.

*By adhering to these safety and operational guidelines, you will maintain safe, efficient, and reliable operation of your camper's propane system.*

## 25. Fairview Auto Changeover Regulator

- Your Northern Lite camper features a Fairview Auto Changeover Regulator designed to seamlessly switch the propane supply from an empty tank to a full tank, ensuring continuous propane availability for cooking, heating, refrigeration, and hot water.

### 25.1. Features:

- Automatic, seamless transition from an empty propane tank to a full tank.
- The visual indicator window clearly shows green when the primary tank has propane and red when the primary tank is empty.
- Easy-to-use manual selector lever for choosing primary and reserve tanks.



### 25.2. Operation:

- Confirm both propane tanks are securely connected to the regulator.
- Rotate the selector lever to select your primary tank. The tank closest to the door is recommended, as when empty it is easier to remove and refill.
- Open both propane tank valves slowly, beginning with the primary tank to avoid engaging the excess flow safety feature.
- Observe the indicator window regularly:
- Green: Indicates propane flowing from the primary tank.
- Red: Indicates the primary tank is empty, and propane is now flowing from the reserve tank.

### 25.3. Switching and Refilling Tanks:

- When the primary tank runs out of LPG, the indicator on the regulator will turn Red. Internally the regulator will automatically switch over to the other tank. The Lever on the regulator will not move nor will the indicator turn green. This means the tank with the lever pointing towards it is empty.
- When the indicator turns red, rotate the selector lever towards the full tank, designating it as the new primary source. The indicator will then turn green.
- Close the empty tank valve, disconnect, and refill.
- Once refilled, reconnect the tank, open the valve slowly, and adjust the selector lever accordingly.



### 25.4. Safety Considerations:

- Regularly perform propane leak checks with a propane leak detector solution on all connections and fittings.
- Keep the regulator's vent unobstructed for optimal and safe function.
- Do not attempt personal adjustments or disassembly of the regulator. Consult a professional technician for any maintenance or repairs.

### 25.5. Maintenance:

- Regularly inspect hoses and regulator for signs of damage or wear; replace immediately if needed.
- Clean and clear the regulator and hoses from dirt, debris, and blockage that can be caused by insects.

- Schedule annual professional inspections of the entire propane system for safety and functionality. *By adhering to these operational and safety guidelines, you will effectively manage and maintain your camper's propane system, ensuring consistent performance and safety.*

## 26. Propane Generator

- Your Northern Lite camper may be equipped with an onboard propane generator designed to provide reliable electrical power when shore power is unavailable, enhancing your camping experience by allowing the use of various appliances and accessories.
- If you have the Generator option on your camper, it is also equipped with an Automatic Transfer Switch. This switch directs power from shore power to your converter when connected. If no shore power is available, it will automatically switch over to the generator for power, eliminating manual switching. Once the generator stops, the transfer switch (located under the dinette seat) will automatically switch back, ready for shore power again.



### 26.1. Features:

- Efficient and clean propane-powered operation.
- Consistent power output is suitable for sensitive electronic devices.
- Automatic voltage regulation ensuring stable power.
- Quiet operation, ideal for RV park environments.

### 26.2. Operation:

- The power rating (kW) on the generator nameplate determines how much electrical load it can handle. Avoid exceeding this rating to prevent shutdowns. You can determine this by adding up the electrical ratings on your appliances and compare that sum to the (kW) rating of your generator.
- If the sum of the load exceeds the (kW) rating, the generator will shut down, or its circuit breaker will trip. The Generator is rated at standard barometric pressure, humidity and air temperature. The Generator will lose roughly 1% of its power for every 5.5°C (10°F) above 25.5°C (77°F).
- Altitude also plays into the Generator efficiency. The maximum power at altitude is shown below.

### 26.3. Generator maximum power by altitude:

- Below 152m (500 ft): 2500 watts
  - 762m (2500 ft): 2325 watts
  - 1675m (5500 ft): 2060 watts
- 
- Ensure propane tanks have sufficient propane, and valves are open.
  - Clear the generator's exhaust area and ensure proper ventilation before starting.
  - To start manually:
    - Turn off all electrical appliances.
    - Access the generator compartment.
    - Set control switch to 'START' until the engine starts (max 10 seconds).
    - Release the switch once running; allow generator to stabilize.

## Remote starting:

- Ensure appliances are turned off before starting the generator. This will allow the generator to start easier.
- Use interior remote switch, located on the wardrobe face; Press the top 'START' position until generator starts. Then release the generator switch.
- Give the Generator 30 seconds or better before turning on appliances or air conditioner
- **To stop:**  
Hold the switch to 'STOP' position until the generator fully stops. Then release the switch.



For detailed guidelines and safety instructions, refer to the [Onan Operators Manual](#)

### 26.4. Safety Considerations:

- Never operate indoors or enclosed areas due to carbon monoxide risks.
- Ensure exhaust is away from doors, windows, and vents.
- Inspect propane and exhaust systems regularly for leaks or blockages.
- Avoid operation in long grass or hazardous conditions to prevent fire from the exhaust heat.

### 26.5. Maintenance:

- Follow manufacturer's recommended practices.
- Check generator oil levels regularly; perform recommended servicing.
- Inspect and replace air filters as needed.
- Clean generator components regularly.
- Schedule annual professional inspections.

*Adhering to these guidelines ensures the safe, efficient, and reliable operation of your propane generator.*

## 27. Plumbing System

Your Northern Lite camper is equipped with a comprehensive plumbing system to deliver fresh water and safely handle waste.

### 27.1. Features:

- Fresh water tank for potable water storage.
- Grey water tank collects water from sinks and shower.
- Black water tank collects waste from the toilet.
- Shurflo water pump for system pressurization.
- ABS piping, vents, and termination valves ensure effective and safe waste drainage.

### 27.2. Operation:

#### 27.2.1. Filling the Fresh Water Tank:

- Always fill the tank using potable water through the fill port, located on the roadside, near the front of the camper.
- Only fill the tank using a dedicated Potable Water Hose.
- Monitor Fresh water tank level using the systems monitor panel, located inside the camper on the washroom/dinette wall.
- Do not overfill; stop when the tank is full.



#### 27.2.2. Using City Water Connection:

- Connect the camper system to a potable city water source, using a dedicated Potable Water Hose.
- Always use a pressure regulator to avoid damage from high water pressure.
- Ensure that your water pump is turned off when using city water.
- Water from the source will enter the campers freshwater system, and pressurize the water lines.
- When a faucet or other fixture is opened, the pressure will deliver
- water at the regulated water pressure.
- Disconnect or turn off water when not in use, or when leaving the camper unattended.



#### 27.2.3. Using the Water Pump:

- Ensure water is available in the freshwater tank.
- Activate the water pump switch on the systems monitor panel located on the washroom wall.
- The pump will pressurize the waterlines and stop when the preset pressure is reached.
- When a faucet is opened, the drop in pressure will activate the pump, and water will be delivered until the faucet is shut, and pressure builds up to deactivate the pump.
- If you hear a small burp from the pump, where it momentarily turns on. It may suggest that a leak is present or you have air in the system. Ensure that all faucets are turned off and examine waterlines for fittings that may be leaking.
- Always turn off the pump when leaving the camper unattended.

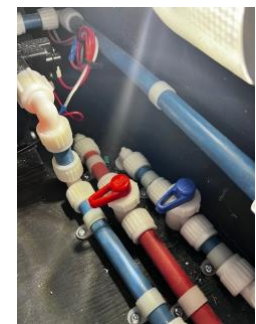
#### 27.2.4. Draining the Holding Tanks:

- Check your tank levels, using the monitor panel on the washroom wall. When approaching the full mark. You'll need to move the camper to an approved dump station to empty the tanks.
- The Termination Valves for the Black and Grey tank are located behind the termination access door on the roadside rear of the camper.
- The drain fitting for these tanks is located on the underside of the camper at the rear.
- Remove the cap on the Bayonet fitting and connect your sewer hose (not supplied) to the outlet fitting.
- Securely connect the end of the sewer hose onto the bayonet fitting on the camper.
- Ensure the end of the hose is secure in the dump station inlet, then slowly pull the termination valve for the Black Tank. Drain the black water tank first, followed by the grey water tank. This will help rinse the hose.
- After draining, close the valves securely and replace the outlet cap.
- Rinse your sewer hose and store it back in the platform step hose compartment.
- Use an RV Black tank chemical to control odors and break down waste once the tank is used again. If there is odor from your black tank you are not using enough toilet chemical.



#### 27.2.5. Draining the Fresh Water Tank:

- To drain the freshwater tank, open the termination valve door and locate the fresh water drain valve. Turn the valve to the open position to drain the freshwater tank.
- There are also two additional valves, one with a red handle, and one with a blue handle. These are the low point drains for the waterlines that service your sinks/shower/toilet. Use these valves to empty the water in the waterlines during winterization or to sanitize the system.



#### 27.2.6. Fresh Tank Maintenance:

- At the beginning of every season, add ½ cup of bleach to a full water tank and let it sit for 3 hours. Then pump out by opening all the hot and cold taps one at a time. This ensures the entire system is sanitized.
- Flush the system until bleach odor is gone. Adding a teaspoon of bleach after extended periods helps keep the system clean.
- Refer to the winterization instructions for additional draining and maintenance.

#### 27.3. Safety Considerations:

- Never use non-potable water for drinking, cooking, or filling the freshwater tank.
- Regularly inspect for leaks and address promptly to prevent damage and contamination.

Winterize the plumbing system when storing in freezing temperatures to prevent damage.

*Following these instructions ensures the safe and efficient operation of your camper's plumbing system.*

## 28. Shurflo 4008-101-A65 Water Pump

Your Northern Lite camper is equipped with a “Shurflo 4008-101-A65 Water Pump”, designed to supply water to your camper’s plumbing system when not connected to a city water source.

### 28.1. Features:

- Self-priming, high-flow pump for consistent water pressure.
- It can run dry without damage.
- Built-in check valve to prevent backflow when on city water.
- Quiet operation with vibration-dampening mounts.

### 28.2. Operation:

#### 28.2.1. Using the Water Pump:

- Ensure your freshwater tank has a sufficient water supply.
- Turn on the “water pump switch”, located on the systems monitor panel, which is installed on the washroom wall.
- Open a faucet to allow water to flow through the system.
- The pump will automatically turn on when water is needed and shut off when the faucet is closed.

#### 28.2.2. Adjusting Water Pressure:

- The pump is pre-set for optimal pressure; adjustments should only be made by an RV technician if necessary.
- If water pressure is too low, check for clogs or leaks in the system.

### 28.3. Safety Considerations:

- Turn off the water pump when traveling or when the camper is not in use.
- Inspect for leaks regularly to prevent water damage.

### 28.4. Maintenance:

- Periodically check for leaks and tighten hose fittings.
- If the pump cycles on and off frequently when no water is being used, check for leaks or trapped air in the system.



You can find more information about your Shurflo pump in the [Shurflo Operation Manual](#)

*By following these guidelines, your “Shurflo Water Pump” will provide reliable water flow for your camper’s plumbing system.*

## 29. Thetford Aqua Magic VI Toilet

Your Northern Lite camper is equipped with the Thetford Aqua Magic VI toilet, offering reliable performance and ease of use.

### 29.1. Features:

- Lightweight, durable construction suitable for camper applications.
- Foot pedal operation for hands-free convenience.
- Full bowl coverage flush ensuring cleanliness.
- Residential-style comfort and seating height.

### 29.2. Operation:

- Your toilet will work when the camper is connected to city water, or when the pump is turned on and water is present in the water tank.
- To add water to the bowl, press the foot pedal halfway down. Always keep 1" of water in the toilet bowl to eliminate odors from entering the camper. It also helps to maintain the toilet blade seal.
- To flush completely, press the foot pedal fully down, opening the valve and rinsing the bowl thoroughly.
- Release the pedal to close the bowl valve, retaining water to prevent odors from entering the camper.

### 29.3. Safety Considerations:

- Only flush RV-approved toilet paper to prevent clogging and damage. This paper breaks down faster than residential papers and will help maintain your waste plumbing system.
- Always use holding tank treatment, to control odors and help to break down waste,
- Regularly inspect for leaks around the toilet base and water supply connections.
- Empty the black water tank regularly to avoid overflow and odors.

### 29.4. Maintenance:

- Clean the toilet regularly using RV-safe toilet cleaners.
- Inspect and lubricate toilet seals periodically with approved seal lubricants to maintain effective sealing.
- Apply seal lubricant during extended storage periods to prevent seal damage.
- Follow the Northern Lite 'Winterizing' section in this manual to prevent damage to the toilet water valve during freezing conditions.

For more information on the Aqua Magic VI toilet, visit the link provided. [Aqua Magic VI Owners Manual](#)

*Proper use and regular maintenance will ensure the longevity and efficient performance of your Thetford Aqua Magic VI toilet.*



## 30. KIB Systems Monitor Panel

- Your Northern Lite camper is equipped with a KIB Systems Monitor Panel, designed to conveniently provide real-time information regarding your camper's vital systems including tank levels, and battery charge.

### 30.1. Features:

- Clear LED indicators for quick visual monitoring.
- Easy reference of tank levels (Fresh Water, Grey Water, Black Water).
- Battery condition indicators (Low, Fair, Good, Charging).
- Integrated control switch for the water pump.



### 30.2. Operation:

- The monitor panel is typically located on the washroom wall.
- Press and hold the button corresponding to each tank (Fresh, Grey, Black) to check fluid levels:
  - Indicators show tank status as Empty (E), 1/3, 2/3, and Full.
- Press and hold the "Battery" button to check the battery's charge condition:
  - Display shows battery status as Low, Fair, Good, or Charging.
- Activate the water pump by toggling the "Water Pump" switch on the panel.

### 30.3. Safety Considerations:

- Regularly monitor tank levels to prevent overflow and damage.
- Immediately address any unusual readings or panel malfunctions to ensure system safety and avoid potential damage.

### 30.4. Maintenance:

- Periodically verify tank sensor accuracy by thoroughly flushing the tanks.
- Inspect panel connections annually to ensure secure connections and prevent corrosion.
- To prevent false readings on your holding tank, use only RV Toilet paper, and RV Tank Chemicals to break down the waste, assisting in keeping the probes clear.
- Keep the panel clean by wiping with a soft cloth; avoid harsh chemicals.

Information on your KIB monitor panel can be found in the [KIB Monitor Panel](#)

*Proper operation and regular maintenance of the KIB Systems Monitor Panel will ensure accurate system monitoring and enhance your overall camper experience.*

## 31. Suburban SW6DEL Water Heater

Your Northern Lite camper may be equipped with the Suburban SW6DEL Water Heater, providing efficient hot water using propane gas or electric power. This dual-mode water heater ensures comfortable showers and convenient hot water access for various needs.

### 31.1. Features:

- 6-gallon tank capacity provides ample hot water.
- Dual operation modes: propane (LP) gas and 120-volt electric heating element.
- Quick recovery time ensures hot water availability shortly after initial use.
- Convenient direct spark ignition (DSI) system eliminates the need for manual lighting.

### 31.2. Operation:

**NEVER operate your water heater while driving, the exhaust airflow can be interrupted, causing the recess to overheat. Which can cause components to fail and can damage to your camper fiberglass.**

#### 31.2.1. Propane (LP Gas) Mode:

- Ensure propane tank valves are open and the propane system is operational.
- Turn on the water heater by flipping the designated propane switch located on your camper's interior systems panel.
- The DSI will automatically ignite the burner. You may hear clicking as it ignites.
- If the heater fails to ignite, turn off the switch, wait five minutes, and retry.



#### 31.2.2. Electric Mode (120-Volt AC):

- Connect the camper to shore power or start your generator if so equipped.
- Turn on the water heater by flipping the electric switch on your camper's interior control panel.
- Allow adequate time for the water to heat up, approximately 30-45 minutes for a full tank.
- "Note": You can use both propane and electric modes simultaneously for faster recovery times.

### 31.3. Safety Considerations:

- Always ensure the water heater tank is filled with water before operation to prevent damage.
- Regularly inspect for gas leaks or signs of corrosion around fittings and connections.
- Never operate the water heater without ensuring proper ventilation to prevent carbon monoxide buildup.
- Always ensure that the exhaust flue is in close contact with the vent in the door. Failure to do so will allow hot exhaust to build up inside the water heater recess, and migrate up into the wall causing delamination.



**NEVER drive with your water heater operating, the exhaust airflow can be interrupted, causing the recess to overheat, melting components, and can cause damage to your camper fiberglass lamination.**

### 31.4. Maintenance:

- Periodically drain and flush the water heater tank to remove sediment buildup, improving efficiency and lifespan.
- Winterize the heater following the manufacturer's guidelines before storage in freezing conditions.
- To Drain the Water Heater during maintenance or to winterize you will need to open the exterior service door on the water heater. This will expose the Anode Rod located at the bottom of the tank.
- Your water heater has a sacrificial anode rod in the tank, which is made of a more reactive material than the steel of the tank. It sacrifices itself to protect the tank by attracting minerals and corrosive elements in the water. Check the anode rod at least once per year and replace if significantly deteriorating, preventing tank corrosion, and causing odor when using hot water, (see photo of a new and corroded anode rod.) (right). The amount or rate of corrosion will vary depending on the mineral content of the fresh water supply.
- Inspect propane and electrical components regularly to ensure safe operation.
- Periodically check for proper alignment of the water heater exhaust flue and the opening in the water heater door.
- The Galvanized deflector should have no gap to the gap to the door grill. If there is a gap it should be adjusted by bending it down to touch the grill in the door by a dealer.



For more information on your Suburban waterheater, consult the [Suburban Water Heater Owners manual](#).

*Proper use and regular maintenance of your Suburban SW6DEL water heater will ensure reliable operation, comfort, and convenience during your travels.*

## 32. Suburban NT-20SQ Furnace

Your Northern Lite camper may be equipped with the Suburban NT-20SQ Furnace, which provides a reliable and efficient heating source for cold-weather camping. This forced-air propane furnace is controlled by the Coleman Mach Digital Wall Thermostat (Model 9420\*381).

### 32.1. Features:

- 20,000 BTU heating capacity for optimal comfort in cold conditions.
- Quiet, high-efficiency operation with automatic ignition.
- Ducted heating system to distribute warm air evenly throughout the camper and into the basement.
- Controlled by the Coleman Mach Digital Wall Thermostat, offering precise temperature control.



### 32.2. Operation:

#### 32.2.1. Starting the Furnace:

- Ensure that your propane system is turned on and the tank valves are open.
- Set the Coleman Mach Thermostat to the desired temperature:
  - Press the Mode button until the display shows 'Furnace.'
  - Adjust the temperature setting using the up/down arrows.
- The furnace fan will operate for about 30 seconds, purging the burner box of any propane that may have leaked into burner box.
- The furnace will then initiate an ignition cycle and will light the furnace.
- Once running the furnace will run until the desired temperature is met. *Note: if the camper temperature is well below the desired temperature. Your furnace will cycle while building up the temperature. Meaning that the burner will cut out and then fire up again. This "off" cycle lasts approximately one minute. During this period your fan will continually run, cooling down the furnace components. This is normal operation.*
- The furnace will ignite automatically when the temperature drops below the set value.

#### 32.2.2. Adjusting Temperature:

- Use the up/down arrow buttons on the thermostat to fine-tune the temperature setting.
- The furnace will cycle on and off as needed to maintain the selected temperature.

#### 32.2.3. Shutting Down the Furnace:

- Press the Mode button on the thermostat and switch it to 'Off.'
- Allow the furnace fan to complete its cooldown cycle before turning off the propane supply.

### 32.3. Safety Considerations:

- Always ensure proper ventilation when operating the furnace.
- Regularly check propane lines and connections for leaks before use.
- Never restrict air circulation, by block furnace vents or return air grills.
- If you smell propane, turn off the furnace and ventilate the camper immediately before troubleshooting.
- Ensure the carbon monoxide detector in your camper is always functioning properly.

#### 32.4. Maintenance:

- Although your furnace is fueled by propane, it is powered by 12volt, which is used for the ignition cycle, as well as to power the fan. If dry camping for a longer period you may deplete your battery, which will cause a drop in voltage. If the battery is low, the fan speed will not be up to optimum. This is important, as the fan operates a “sail switch.” Which is exactly as it sounds, air flow contacts a little sail at the end of the switch which allows for the ignition cycle to start. If the voltage/fan speed is too low, the switch will prevent the furnace from igniting. Recharge your battery or switch over to shore power to correct this issue.
- Inspect and clean furnace vents regularly to prevent dust buildup and ensure proper airflow.
- Inspect propane fittings and connections periodically for signs of leaks.
- Have the furnace serviced annually by a qualified technician to ensure safe and efficient operation.

For more information about your Suburban furnace visit the [Suburban Furnace User Guide](#).

*Proper care and regular maintenance will ensure your Suburban NT-20SQ Furnace operates safely and efficiently, keeping your camper warm and comfortable in any climate.*

### 33. Truma Combi ECO Plus

Your Northern Lite camper may be equipped with the Truma Combi ECO Plus combination furnace and water heater. Which provides a reliable and efficient heating source for cold-weather camping from both LP Gas or 120 volt power. This Combi can run on either energy source, as well it can run on both simultaneously.

The Combi also is your water heater. This efficient boiler will provide hot water when running on either LP Gas, or 120volt electricity. It can also be set to run on both at the same time. The Combi is controlled by the Truma CP Plus controller located on the wall above the dinette.

#### 33.1. Features;

- Energy source: Propane or Electric, or both simultaneously
- Energy input rate (gas mode) Level 1: 7,500 BTU/h (2.2 kW) Level 2:14,300 BTU/h (4.2 kW)
- Fuel consumption (gas mode) Level 1: 5.3 oz/h (150 g/h) Level 2: 10 oz/h (290 g/h)
- Energy input rate (electric mode) Level 1: 850 W (2,900 BTU/h) Level 2: 1,700 W (5,800 BTU/h)
- Energy input rate (mixed mode) 7,500 BTU/h (2.2 kW) + 1,700 W
- Power consumption (12-volt DC) transient: max. 6.1 A
- Power consumption (120-volt AC) Level 1: 7.1 A Level 2: 14.2 A
- Capacity of water tank 2.64 gallons (10 liters)
- Water heating time (from 59°F /15°C to 140°F/60°C) approx. 23 minutes in hot water mode
- Water inlet pressure max. 40.6 psi (2.8 bar)
- System operating pressure max. 65.3 psi (4.5 bar)

#### 33.2. Heating mode

- The furnace automatically selects the proper operating level based on the difference between the desired temperature set at the control panel and the current room temperature. If there is any water in the water container, it will be heated automatically. The water temperature will not be regulated, but it will reach a maximum of 162 °F (72 °C).
- Hot water mode (only if water heater contains water)  
Hot water mode is ideal if only hot water is required. The lowest burner setting suffices for heating water. In hot water mode, the burner will switch off as soon as the water reaches the temperature selected in the CP plus control panel.

Both modes of operation, gas and electric can be combined.

### 33.3. Selectable modes of power input

The CP plus control panel, located on the wall above the dinette, is used to select various modes of energy for the Combi ECO Plus.

The *Combi ECO Plus*, furnace will not operate in any mode without a 12 VDC power supply.

- LP gas for gas mode All Combi furnaces run on LP gas (propane).
- Electricity for electric mode The Combi eco plus and Combi comfort plus furnaces can be powered by electricity if the RV is connected to a mains power supply or a generator.
  - **Note: Only a 120 V Pure sine-wave-generator may be used to avoid damage to the Combi and CP Plus control.**
- LP gas and electricity (mixed mode) The Combi ECO Plus furnace runs simultaneously on LP gas (propane) and electricity.

If the selected operating mode is:

- Heating mode: The Combi eco plus and Combi comfort plus run simultaneously with LP gas (propane) and electricity.
- Hot water mode: The Combi eco plus and Combi comfort plus run in electric mode with a pre-selected power output setting of 850 W (Mix 1) or 1700 W (Mix 2). When the RV is disconnected from the power supply\*, the furnace will automatically switch to LP gas (propane).

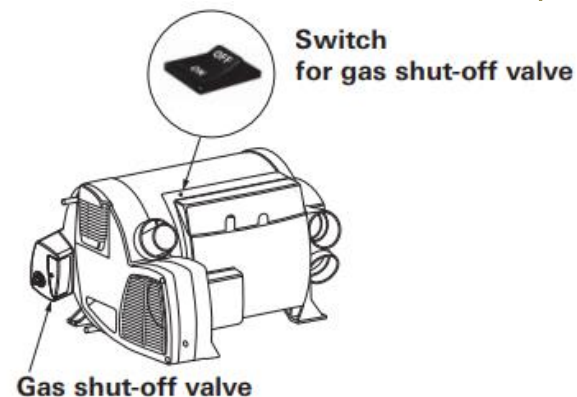
\* With sufficient supply of 12 V DC and LP gas (propane)

#### 33.3.1. Switch for gas shut-off valve

- The switch shuts off the power to the safety gas shut-off valve and with this the gas supply to the Combi furnace.
- To make sure that the gas supply to the furnace is off, turn the switch to the OFF position. Switch for gas shut-o valve Gas shut-o valve

#### Switch positions of the switch for gas shut-off valve:

Off = gas shut-off valve is closed  
On = gas shut-off valve is open



#### 33.3.2. Room temperature sensor

- A room temperature sensor, located on the wardrobe face near the entry door, measures the temperature inside the Camper. Being as how this sensor is not near the control, or where you may occupy the camper, a setting on the control may not provide enough heat to the occupied area or overheat the camper. This sensor can be adjusted +/- so that the setting temperature produces that temperature that you've set, in a distant area to the remote.

## 34. Truma CP Plus

Your Northern Lite camper may be equipped with the Truma Comi, located in the rear dinette seat, which provides heat as well as hot water to your camper.

This appliance is powered by both 120VAC and LP Gas, and is controlled by the Truma CP Plus control which is located on the closet end.

### 34.1.1. Operation.

- The CP Plus has a Backlit LCD display which will provide you with information on your systems settings as well as error codes if there is a problem within the system.
- A rotary Push Button (8) is used to select menu items in the Menu lines (3 + 4) and to adjust settings
- The Back Button (9) is used to go back to a previous menu.
- The rotary push button (8) is used to select and change set points and parameters: It is tapped to save the values of the selected items that flash.



#### Turn clockwise

- The menu is scrolled through from left to right
- Increase values (+)



#### Turn counterclockwise

- The menu is scrolled through from right to left
- Reduce values (-)



#### Tap

- Save a selected value
- Select a menu item, go to the setting level



#### Press (3 seconds)

- Main switching function – control panel on/off

### Display and operating elements



Fig. 1

- 1 Display
- 2 Status line
- 3 Menu line (top)
- 4 Menu line (bottom)
- 5 Power supply display  
120 VAC (mains supply)
- 6 Time switch display
- 7 Settings/values
- 8 Rotary push button
- 9 Back button

### 34.1.2. Back Button

- Press the Back button (9) to go back to the previous menu and to cancel settings. This means that the previous values remain unchanged.

### 34.1.3. Initial Start-Up

- Perform the following steps for initial start-up:
- Provide the Truma Combi and CP Plus controller 12volt power either from your battery (ensure battery disconnect is On), or if connected to shore power which will energize your converter and provide the necessary 12volt power.
- Start searching for the furnace in the menu item "SETTINGS" -> "RESET" -> "PR SET".
- When you have confirmed the selection by pushing the push button the control panel is initialized. During this process, "INIT" will be displayed on the panel. The recognized Combi will be recorded in the control panel.

### 34.1.4. Start-Up

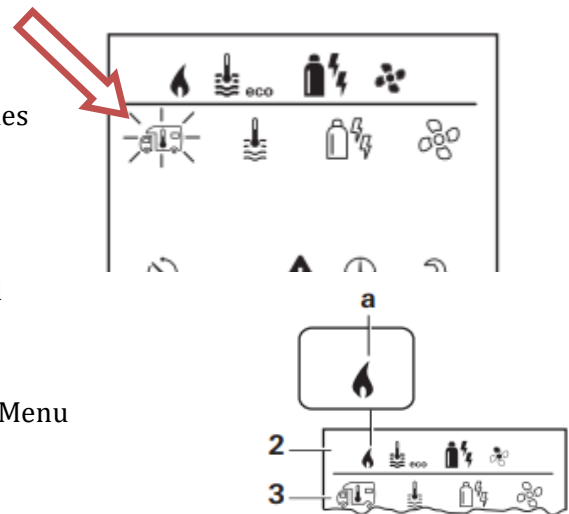
#### Start/Stand-by screen

- When the control panel is connected to a power supply, the start screen will appear in a few seconds.
- When the control panel is first switched on, your Truma Combi that is connected is not automatically turned on.
- Control Panel on/Off
- Press the Rotary push button (8) for more than 3 seconds.
- Previously set values and operating parameters are active again when the panel is switched on.
- When you turn off the CP Plus panel, the Truma Combi is also switched off automatically.



### 34.1.5. Selecting a Setting Level

- Tap the rotary push button (8)
- The display shows the setting level. The first Icon flashes



### 34.1.6. Functions

- The function of menu lines (3&4) of the CP Plus control panel can be selected in any sequence. The
- Changing the Room Temperature
- Use the rotary push button (8) to select the Icon in the Menu Line (3)
- Tap the button to go to the setting level.
- Select the desired temperature by turn the rotary button (8)
- Tap the button to confirm the value.

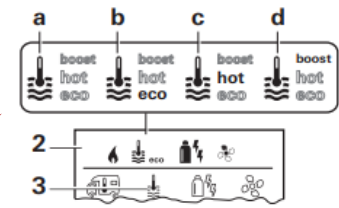
a=furnace which flashes till the desired room temperature is reached.

Adjustable temperature range:

Temperature display	Range	Increments
Fahrenheit	40 – 86 °F	1 °F
Celsius	5 – 30 °C	1 °C

### 34.1.7. Change Hot Water Temperature

- Use the Rotary Push Button (8) to select the icon in menu line (3)



- a = Boiler\* – Hot water generator is on.
- b = eco\*\* – Water temperature 104 °F (40 °C)
- c = hot – Water temperature 140 °F (60 °C)
- d = boost\* – Boiler content is heated quickly (boiler priority) for up to 40 minutes. The water temperature is then kept at the higher level (about 144 °F (62 °C)) for two subsequent heating cycles. When the water temperature is reached, the room is heated again.

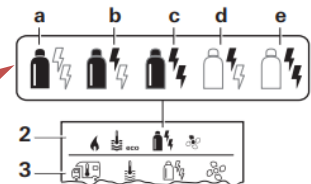
\* This icon flashes until the desired water temperature is reached.

\*\* The water temperature 104 °F (40 °C) can be kept in “Heating and hot water mode” for a limited time only (heating priority).

- Tap the button to go to the setting temperature
- Selected the desired hot water temperature level with the rotary push button (8)
- Tap the button to confirm the setting.

### 34.1.8. Select Energy Mode

- Use the Rotary Push Button (8) to select the energy icon from the menu line (3)



Icon	Operating mode	Energy mode
a	LP gas	LP gas
b	MIX 1 *	Electricity 850 W+ Gas
c	MIX 2 *	Electricity 1700 W+ Gas
d	EL 1 *	Electricity 850 W
e	EL 2 *	Electricity 1700 W

\* Mixed mode and electricity mode  
Possible only with Truma Combi eco plus and Truma Combi comfort plus furnaces with electric heating elements.

When the furnace is switched on (room temperature, hot water level active), the energy mode selected in the previous heating process is shown in the status line. The factory setting is gas.

- Tap the Push Button (8) to go to the setting level
- Select the desired energy mode using the Rotary Push Button (8)
- Tap the Rotary Push Button to confirm the energy source.

### 34.1.9. Mixed Mode Special Features

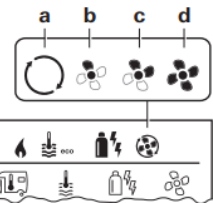
- When the 120VAC power is interrupted, the Combi automatically switches to Gas Mode for continuous operation. When the 120VAC power is restored, the furnace automatically goes back into mixed mode.
- If there is a fault on the gas combustion process (e.g. fuel shortage); The furnace automatically switches to electric mode. If the furnace is to run in mixed mode again, the cause of the malfunction must be remedied, and the furnace has to be started again by going to the menu item “Malfunction” and pressing the rotary button. See Malfunction

### 34.1.10. Electric Mode Special Features

- When the 120VAC power supply is interrupted and the 12VDC power supply is turned on. An error code is displayed on the control panel
- When the 120VAC power supply is reconnected, the furnace will restart automatically at the previous settings with any user interaction. The Error code on the display will disappear.
- 

### 34.1.11. Select Fan Speed

- Use the Rotary Push Button (8) to select the Fan Icon in the menu line (3)



- Tap the Button to go to the setting level menu
- Select the desired fan speed with the rotary push button (8)
- Confirm the desired fan speed by pushing the rotary push button

Icon	Operating mode	Description
–	OFF	Fan is switched off. (Can be selected only if furnace is switched off)
a	VENT*	Circulating air, if furnace is switched off. Speed can be selected in 10 increments.
b	ECO	Low fan speed
c	HIGH **	High fan speed
d	BOOST	Fast room heating Available if the difference between the selected and the current room temperature is > 18 °F (10 °C).

\* Can increase wear and tear on the motor, depending on how often it is used.

\*\* HIGH fan speed uses more electricity, is louder, and increases wear and tear on the motor.

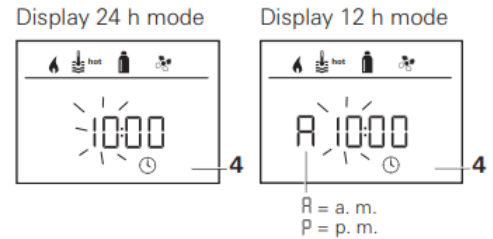
**i** When the furnace is switched on (room temperature, hot water level set), the fan speed selected in the previous heating process is shown in the status line (2). The factory setting is ECO.

#### 34.1.12. Setting the Clock

Use the rotary push button (8) to select the “Set Clock” icon in the menu line (4)

#### 34.1.13. The Hour display flashes

- Use the rotary push button (8) to set the hour
- Tap the rotary push button (8) and the minute display flashes
- Use the rotary push button (8) to set the minutes
- Tap the rotary push button (8) to confirm the value



#### 34.1.14. Setting the Time Switch

Features; The time switch will automatically turn on the furnace at a preset time that you have entered. This is useful when you’ve been away from the camper, and you want the camper back up to occupancy temperature upon your known return time. Saving energy when you are not occupying the camper.

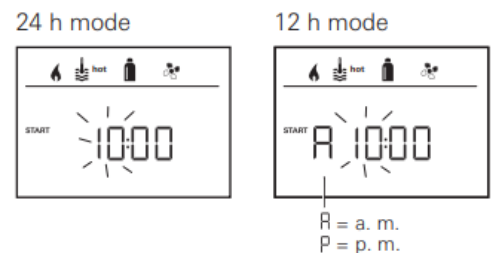
**i** Warning! The time switch, when enabled turns on the furnace, and exhaust gases from the furnace are vented out of the outer wall cowl. These gases can cause Carbon Monoxide Poisoning.

If you park the camper in an enclosed space

- Shut off the Gas Supply
- Disable the Time Switch (Off)
- Switch the Furnace off (on the Truma CP Plus Control, press the rotary push button (8) for 3 seconds
- Note: the time switch feature will only operate if the clock was set on the control panel
- If the time switch is ON, the “Disable time switch (OFF) menu is displayed.

#### 34.1.15. Entering the Start Time

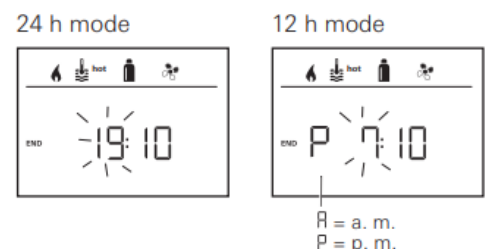
- Use the rotary push button (8) to set the hours and then the minutes



#### 34.1.16. Enter the End Time

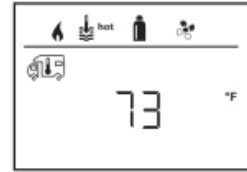
- Use the rotary push button (8) to set the hours and then the minutes

**i** If the start/end time is later than the time when you entered the settings, the operating parameters are not active until the next start/end time is reached. Until then, the operating parameters set outside the time switch remain valid.



**34.1.17. Set the room temperature**

- Select the desired room temperature with the rotary push button (8)
- Tap the rotary push button (8) to confirm the value.



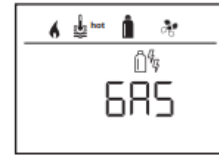
**34.1.18. Set the Hot Water Level**

- Select the desired hot water level with the rotary push button (8)
- Tap the rotary push button (8) to confirm the value.



**34.1.19. Select the Energy Mode**

- Select the desired Energy Mode with the rotary push button (8)
- Tap the rotary push button to confirm the source



**34.1.20. Select the Fan Speed**

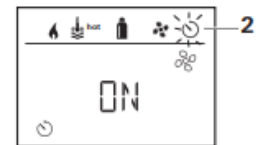
- Select the desired Fan Speed with the rotary push button (8)
- Tap the rotary push button to confirm the value



The "Select Fan Speed" menu is displayed only if the room temperature was set

**34.1.21. Enable the time switch (ON)**

- Enable the time switch (ON) with the rotary push button(8)
- Tap the rotary push button (8) to conform the value



The time switch remains enabled, even for several days, until it is disabled (OFF). If the time switch is programmed and enabled, the time switch icon is shown in the status line (2). If the time switch is active the icon flashes.

**34.1.22. Disable the time switch (OFF)**

- Disable the time switch (OFF) with the rotary push button(8)
- Tap the rotary push button (8) to conform the value

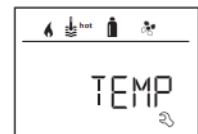


### 34.2.1. Settings

Use the rotary push button (8) to select the “Settings” icon in the menu line (4)

Tap the button to go to the settings level

1. Show the version number of connected devices
  - Display the version number of the furnace and control panel
  
2. Back Lighting
  - Change the backlighting of the CP plus control in 10 increments
  
3. Language
  - Select the desired language (English, German, French, Italian)
  
4. Display 12h/24 Mode
  - Display in a 12h (a.m.,p.m.)/ 24 h modes, default is the 12h mode.
  
5. °C/°F Temperature Display
  - Select temperature display °C(Celsius) or °F ( Fahrenheit)
  
6. Calibrate Temperature Sensor (OFFSET)



The temperature sensor of the Combi can be adjusted to suit the size of the vehicle and occupant comfort level.

Setting the offset:

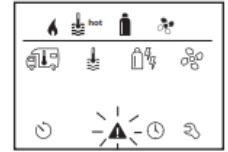
Temperature display	Increments	Range
°C (Celsius)	1	± 5 °C
°F (Fahrenheit)	1	± 10 °F





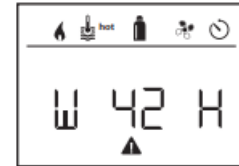
### 34.3. Warning

This icon indicates that an operating parameter has reached an undefined status. In this case, the furnace continues to operate. When the operating parameter returns to the set range, this icon extinguishes automatically.



### 34.4. Display warning code

- Select the icon with the rotary push button (8)
- Tap the rotary push button (8)
- The code of the current warning is displayed.
- The troubleshooting chart can be used to determine the cause of the warning and remedy the error (see troubleshooting chart)



W = Warning  
42 = Error code  
H = Furnace

#### Cause Remedied / return to setting level

- Tap the rotary push button (8)

#### Cause Not Remedied / return to setting level

- Press the Back Button



In this case, the warning is not acknowledged in the control panel and the icon remains. The furnace remains in warning status.

## 35. Dometic Penguin II Roof Air Conditioner with Air Distribution Box 3314851

Your Northern Lite camper may be equipped with the optional “Dometic Penguin II Roof Air Conditioner”, providing effective climate control for hot weather camping. The air conditioner is operated through the “Dometic Air Distribution Box (Model 3314851)”, which allows precise adjustments for cooling comfort.

### 35.1. Features:

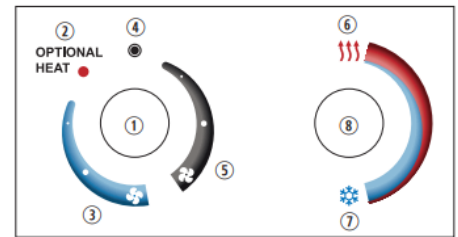
- Low-profile design with high-efficiency cooling performance.
- Adjustable air distribution vents for optimal airflow.
- Operated via the “Dometic Air Distribution Box” for user-friendly control.
- Optional “Soft Start (Dometic 9610007171)” may be installed to reduce startup power draw.



## 35.2. Operation:

### 35.2.1. Turning On the Air Conditioner:

- If your camper is equipped with the optional “Dometic Soft Start (9610007171)”, this feature will reduce the power surge required to start the air conditioner, allowing smoother operation when using a smaller generator or limited shore power connections.
- Ensure the camper is connected to shore power or a generator capable of handling the electrical load. If the generator is being used as the power source, let the generator run for 30 seconds before putting the air conditioner load on it.
- Use the controls on the “Dometic Air Distribution Box” to turn on the air conditioner.
- Adjust the fan speed and temperature settings as needed.



33 Operating controls

- |                                       |                           |
|---------------------------------------|---------------------------|
| ① Selector control knob (8 positions) | ⑤ Fan only                |
| ② (Optional) Heat                     | ⑥ Warmer temperature      |
| ③ Cool                                | ⑦ Cooler temperature      |
| ④ OFF position                        | ⑧ Thermostat control knob |

### 35.2.2. Adjusting Airflow:

- The air distribution vents on the “Air Distribution Box” can be adjusted to direct airflow where needed.
- Close some vents to increase airflow to specific areas.

### 35.2.3. Turning Off the Air Conditioner:

- Switch the controls to the 'Off' position on the “Dometic Air Distribution Box”.
- Allow a few moments for the unit to complete its shutdown cycle.

## 35.3. Safety Considerations:

- Ensure proper ventilation and do not block air intakes or vents.
- Regularly check power connections to avoid electrical issues.
- Do not operate the air conditioner while the camper is covered or in storage.

## 35.4. Maintenance:

- Clean or replace air filters periodically to maintain efficiency. Never run the air conditioner without the return air filter in place.
- Periodically (or a minimum of two weeks of operation) remove the return air filter behind the return air vent grill and wash it with soap and warm water.
- Let the filter dry completely before placing the filter back into position.
- Clean the ADB housing and control panel with a soft cloth dampened with a mild detergent. Never use furniture polish or a scouring powders.

Review the Air Conditioner manual at the [Dometic AC operators manual](#)

Following these guidelines will ensure optimal performance and longevity of your “Dometic Penguin II Roof Air Conditioner”.

## **36. Dometic 2-Way Fridge (DM2672)**

Your Northern Lite camper may be equipped with a “Dometic DM2672 2-Way Refrigerator”, designed to operate on both “120V AC power” and “propane gas” to provide reliable cooling performance in all camping conditions.

### **36.1. Features:**

- “Dual power source operation (120V AC and Propane Gas)” for flexible energy use.
- “Automatic mode selection” allows the fridge to switch between power sources based on availability.
- “Adjustable temperature settings” for optimal food preservation.
- “Built-in safety features”, including flame failure thermocouple protection.

### **36.2. Operation:**

#### **36.2.1. Turning the Fridge On and Off:**

- Ensure your camper is connected to a “120V AC power source” or has an adequate propane supply.
- Press the “power button” on the control panel to turn the fridge on.
- Select the “desired power source” (Auto, AC, or LP Gas mode).
- Adjust the “temperature settings” using the control panel.
- To turn off, press and hold the “power button” until the unit shuts down.

#### **36.2.2. Power Mode Selection:**

- “Auto Mode” – The fridge will automatically switch between “120V AC and propane” based on availability.
- “AC Mode” – Uses shore power (120V AC) for cooling.
- “LP Gas Mode” – Uses propane for off-grid operation; ensure the propane tank is open and properly connected.

#### **36.2.3. Temperature Control:**

- Adjust the “thermostat dial” on the control panel to set the preferred temperature.
- The fridge adjusts cooling output based on external temperatures and usage.

### **36.3. Safety Considerations:**

- When using “propane mode”, ensure proper ventilation of the fridge compartment through the service door to prevent gas buildup.
- Regularly check “LP gas lines” for leaks or damage.
- Keep the fridge “level” to ensure optimal cooling performance.
- Avoid overloading the fridge to maintain proper airflow for optimum cooling.

### **36.4. Maintenance:**

- Clean the interior regularly with mild soap and warm water.
- Inspect and clean the “service door venting” to prevent airflow restrictions.
- At the start of the season and periodically check the “burner assembly” for dirt or insect nests.
- Ensure the “door seal” is intact to prevent cold air loss.

The complete owners manual for the Dometic DM2672 can be found at [DM2672 User Manual](#)

## 37. Dometic 12V Fridge (DMC4081)

Your Northern Lite camper may be equipped with the optional “Dometic DMC4081 12V Refrigerator”, designed for efficient cooling powered solely by 12V DC. This refrigerator is optimized for off-grid use, ensuring reliable operation during your travels.

### 37.1. Features:

- Operates exclusively on 12V DC power for off-grid capability.
- High-efficiency compressor cooling system.
- Adjustable temperature control for optimal performance.
- Large storage capacity with adjustable shelving.
- Quiet operation with minimal power consumption.

### 37.2. Operation:

#### 37.2.1. Powering On the Refrigerator:

- Ensure the camper’s “12V power system” is active and batteries are sufficiently charged.
- Press the “Power” button for three seconds to turn on the refrigerator.
- The refrigerator will begin cooling automatically. Ensure that the refrigerator is cooled completely before adding food (24 Hours is recommended)
- Set the refrigerator mode by pressing the “Mode” selection button to select from the following choices
  - Performance Mode: The refrigerator works in AUTO status with five adjustable temperature levels.
  - Silent Mode: The compressor works at a constant speed while the outer fan works at low speed. The temperature level is limited to three and below
  - ECO Mode: The refrigerator works in AUTO status, but the temperature is limited to level one.
  - For optimum operation, the fridge should be cooled for 24 hours, and food should be cool prior to loading. This will allow the fridge to maintain the desired temperature, rather than working to cool down an entire load of food/drinks.

#### 37.2.2. Adjusting the Temperature:

- Use the “Temperature Control” button to adjust cooling levels.
- Press and release the temperature adjust button until the temperature indicator light displays at the desired level. The small snowflake is level one and the large snowflake is level five.
- Allow several hours for the refrigerator to reach the desired temperature.
- Avoid overloading the fridge, as airflow is necessary for efficient cooling.

#### 37.2.3. Turning Off the Refrigerator:

Press the “Power” button and hold for three seconds to shut down the refrigerator.

If storing the camper long-term:

- ✓ empty the refrigerator
- ✓ Clean the refrigerator
- ✓ To prevent mold, mildew or unpleasant odors from developing, leave the door slightly ajar. Use the airing feature to prevent the doors from closing.
- ✓ Open both the freezer and fresh food door to access the lock

- ✓ Swing the airing feature out from the lock
- ✓ Close the doors until they gently rest against the airing feature on the lock.
- ✓ Do not travel with the fridge doors in the airing position, as damage will occur.

### **37.3. General Information:**

The Dometic 4081 has multiple features to enhance your camping experience. For full information on the operation of your Dometic 4081, refer to: [DMC Refrigerators Installation and Operation Manual](#)

### **37.4. Safety Considerations:**

- Always keep the refrigerator vents clear to allow proper airflow and prevent overheating.
- Monitor battery voltage to ensure the fridge does not drain the power supply excessively.
- Ensure the camper is level for optimal refrigerator performance.
- Do not store flammable materials inside or near the refrigerator.
- Ensure that the fridge contents are stored in a safe manner for travel.
- Make sure that the fridge doors are latched securely prior to travel.

### **37.5. Maintenance:**

- Clean the interior regularly with mild soap and water.
- Check and clean the condenser coils periodically for dust and debris.
- Inspect door seals for proper closure to prevent energy loss.
- If storing for an extended period, defrost the fridge and wipe dry to prevent odors.

By following these guidelines, your “Dometic DMC4801 12V Refrigerator” will provide consistent and efficient cooling during your camping adventures.

### 38. Furrion 12volt DC Refrigerator FCR08DCGTA

Your Northern Lite camper may be equipped with a Furrion 12volt refrigerator that will provide advanced cooling and durability for your camping requirements.

#### 38.1. Features

- 8 cu. ft advanced design providing 25% more useable space than other competitors.
- Off grid setting that conserves energy
- Low voltage shut-off to protect your camper battery from excessive drain.
- Quiet operation at less than 43dB
- Replaceable charcoal filter to remove odors

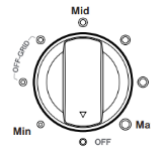
##### 38.1.1. Operation:

- This refrigerator has a low-voltage function, intended to protect your camper battery from excessive drain. This feature is active when voltage is lower than 9.5 volts.
- Note: This function controls the compressor operation only, a small electric current is still used for the LED cavity light, and low-voltage monitoring system. Once voltage is increased the system will automatically begin normal operation.

##### 38.1.2. Temperature Control

The temperature control is located in the fresh food compartment of the refrigerator. The control knob can adjust the temperature from “cold” (Min) to “coldest” (Max), or to turn the refrigerator off. Recommended temperatures for proper food storage is as follows.

Compartment	Temperature
Fridge	36°F-40°F (2°C – 4°C)
Freezer	<0°F (<-18°C)



- Turn the thermostat to “Max” when first starting the refrigerator, and after putting large quantities of food in. After a few hours turn it down to between Mid and Max positions to reach the recommended temperature. Placing large quantities of food may require additional cooling time to bring the temperature down.
- Varying operational conditions may require adjustments to the control knob to achieve the desired temperature. The chart below can be used as a guideline.

Thermostat Setting	Fridge Temperature	Freezer Temperature
Max	30°F (-1.1°C)	-11.2°F (-24°C)
Between Mid and Max	39.2°F (4°C)	1.4°F (-17°C)
Mid	43.7°F (6.5°C)	5°F (-15°C)
Between Mid and Min	45.5°F (7.5°C)	6.8°F (-14°C)
Min	46.4°F (8°C)	8.6°F (-13°C)

*Note: The above chart is a guideline defined based on ideal ambient conditions of 77oF (25oC). Several factors can alter performance. A refrigerator thermometer should be used to achieve maximum performance.*

### 38.1.3. Off Grid Use

- Where grid power is not available, the fridge can be set to the “Off Grid” position to maximize battery life. During travel where the camper is being charged from the truck, it is recommended that the fridge be set to the normal temperature settings. Once you’ve arrived at an “Off-Grid” site, then the fridge can be switched to the “Off-Grid” setting on the control dial.
- When climbing/crawling on any off-road grades, turn the refrigerator to “Off”. The compressor oil should be resettled after being stationary for 2 hours. The fridge can then be turned on to resume optimum cooling.

### 38.1.4. Off Season Storage

- The Furrion fridge has provision for the installation of a storage lock. This lock is provided in the accessories package of the fridge. This will allow the fridge door to be propped open during extended storage periods, reducing moisture and odors. The storage lock will be inserted into the lock bracket located on the fridge/freezer divider. Pressing the top and bottom of the storage lock will release the catches that secure it to the bracket.
- To put the fridge/freezer doors into the storage mode, insert the storage lock into the latch bracket. The fridge and freezer door can then be pushed firmly into the storage lock, allowing the doors to be secured in the storage position. The operation of the fridge/freezer latch handles will release the doors from the storage lock.



**NOTE: Never transport the camper with the fridge doors in the storage lock.**

### 38.1.5. Fridge Maintenance

It is recommended that the fridge interior be cleaned as needed due to spills and other cleaning needs.

The Furrion fridge has a charcoal filter. It is recommended that this filter be replaced every three months of active use. The filter is removed by sliding the cartridge towards the fridge opening.

You can obtain a replacement filter at most RV parts stores, or by contacting Furrion directly. The Furrion filter part number is *(C-FCR10DCDTA-B01)*.



To clean the exterior of the Fridge/Freezer door, use mild soap and water, or residential spray cleaner and wipe down the exterior with a soft microfiber cloth. **NEVER use scouring pads, or abrasive cleaners, or metal scrapers to clean the exterior.**

### 38.1.6. Trouble shooting

A qualified professional is required for any service of the compressor drive board, and the control board, otherwise it will void the product warranty. For smaller issues, consult the following table and try the suggested solution.

<b><u>PROBLEM</u></b>	<b><u>SOLUTION</u></b>
Refrigerator does not work	The 12-volt fuse in the converter is blown
	The unit temperature control dial is set to the "Off" position
	Battery voltage might be out of operating range. Check battery voltage for 10.5v under load
Compressor turns on and off frequently	The camper interior temperature may be elevated
	The door is open or opened frequently
	The temperature control dial is not set correctly
	The door gasket is torn or not sealing
	Battery voltage might be low and dropping out of range. Check battery voltage for 10.5 volts under load.
Refrigerator compartments are too warm	Temperature control dial is not set correctly
	The door is open or is frequently opened
	The door gasket is torn or not sealing properly
	A large amount of warm or hot food was stored recently. Wait for the refrigerator to reach its selected temperature.
	The refrigerator has recently been disconnected for a period of time
Vibrating or rattling (slight vibration is normal)	Temperature setting, such as max position, may affect the vibration level. Refer to temperature control section
Moisture forms on the outside of the refrigerator	The door is open or frequently opened
	Temperature control dial is set at too cold of a position
Bubbling or gurgling sounds	This is the normal sound of refrigerant circulating throughout the system
The door can't be closed properly	The refrigerator storage latch is installed.
	The gasket is dirty or bent
	The storage basket or shelves and bins are not seated properly

## 39. Furrion Gas Range FGR17G3MA1B-SG

Your Northern Lite camper is equipped with the **Furrion FGR17G3MA1B-SG Gas Range**, providing efficient cooking capability for meal preparation while traveling.

### 39.1. Features:

- Three-burner gas cooktop with high-efficiency burners.
- Cast iron grates for even heat distribution and durability.
- Oven with electronic ignition and built-in light.
- Glass cover to maximize counter space when not in use.
- LP gas operation for off-grid cooking convenience.

### 39.2. Operation:

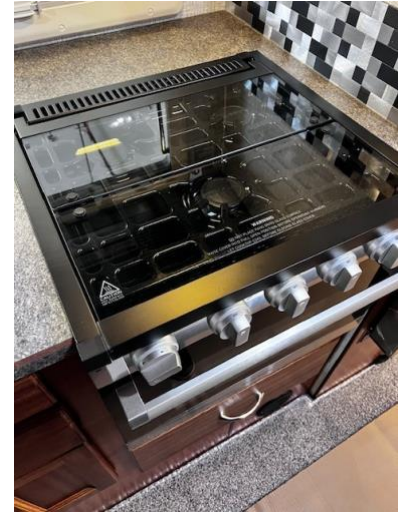
#### Using the Cooktop:

- Open the glass cover completely before igniting the burners.
- Push and turn the appropriate burner control knob counterclockwise to the flame position.
- Keep the burner control knob pushed in and turn the ignition knob clockwise repeatedly until the burner is lit.
- Once the cooktop burner is lit, keep the ignition button pushed in for about 5 seconds until the flame becomes steady.
- Rotate the burner control knob to adjust the flame to desired level.
- Repeat steps to light the other burner(s) as required.
- The built-in **Flame Failure Device (FFD)** ensures safety by automatically cutting off the gas supply if the flame is extinguished. If a burner goes out unexpectedly, the FFD will shut off the gas to prevent leaks. You will need to reignite the burner following the normal ignition procedure.

#### Using the Oven:

- Ensure the propane supply is turned on.
- Pull the oven handle to open the door. If you smell gas, STOP! Ensure gas knobs are all off and immediately leave the camper and shut off the propane tanks on the camper and have it looked at by an RV Technician.
- Push and turn the oven control knob counterclockwise to flame the position.
- Keep the oven control knob pushed in and rotate the ignition knob clockwise repeatedly until the oven burner is lit.
- Once the oven burner is lit, keep the ignition button pushed in for about 5 seconds until the flame becomes steady.
- Rotate the oven control knob to adjust the flame to the desired level.

For more information, please refer to the Furrion user manual: [3 Burner Gas Range - User Manual](#)





**WARNING: If the information in the above manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or death**

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any appliance
- **WHAT TO DO IF YOU SMELL GAS:**
  - Do not try to light any appliances.
  - Do not touch any electrical switches
  - Do not use any phone in your recreational vehicle
  - Clear the recreational vehicle of all occupants
  - Turn off the LP container valves in the LP compartment
  - call the fire department
- 2. Have the gas system checked and leakage source corrected by a qualified installer, service agency, manufacturer, dealer or the gas supplier.

#### **Safety Considerations:**

- Always operate the gas range in a well-ventilated area, use the provided range hood fan.
- Do not leave burners unattended while cooking.
- Never extend the flame beyond the outer edge of your cookware.
- Keep flammable objects away from the cooktop and oven.
- Ensure the propane system is in good condition and leak-free before using.
- Your Range Glass Bi-fold cover is made of tempered glass. This does not prevent it from shattering when coming in contact with hot pot/pans. NEVER place hot items on the Glass Lid, otherwise shattering of glass can occur which may cause injury.

#### **Maintenance:**

- Clean burner grates and surfaces regularly to remove grease and food debris.
- Inspect the ignition system and burner ports for proper function.
- Check oven seals to ensure proper heat retention.
- If you detect a gas leak, turn off the propane supply and have the system inspected by a professional.

A complete trouble shooting and service guide can be found at [Range Troubleshooting](#)

By following these guidelines, your **Furrion** FGR17G3MA1B-SG

**Gas Range** will provide reliable and safe cooking performance during your camping experiences.

## 40. Furrion FHO23SACR-SS Range Hood

Your Northern Lite camper is equipped with a “Furrion FHO23SACR-SS Range Hood”, designed to provide efficient ventilation and lighting while cooking.

### 40.1. Features:

- “Powerful fan” for smoke and odor extraction.
- “Integrated LED lighting” for better visibility while cooking.
- “Washable filter” for easy maintenance.

### 40.2. Operation:

- Note; before using the Furrion range hood, ensure that the travel latch on the exterior vent damper has been released. This can be done by depressing the two latches, allowing the damper to move freely. Remember to relatch the



damper before driving.

#### 40.2.1. Using the Range Hood:

- Press the “power button” once to turn on the fan.
- Press the “power button” twice to turn the fan off
- Press the “light button” to activate the LED illumination.
- Press the “light button” twice to turn off the light.
- Turn off the fan and lights when not in use to conserve power.

### 40.3. Safety Considerations:

- Always use the range hood while cooking to reduce grease buildup.
- Do not block ventilation openings.
- Regularly clean the filter to maintain optimal airflow.

### 40.4. Maintenance:

Range hood Filter

#### 40.4.1. Metal Holder

- The metal hold is used to hold the charcoal element. This metal holder should be clean monthly or more frequently if the range hood is used for more than 3 hours / day.

#### 40.4.2. Removing the Metal Holder

1. To open the filter panel, press in on the two locking latches and pull downward to remove the filter panel from the vent hood.
2. Lift the filter panel from the rear latches and place on a protected surface
3. To remove the filter, lift up the filter rod tabs (6 tabs) and remove the rods from the filter panel
4. Separate the metal rod, the metal holder and the charcoal filter from the cover
5. Dip the metal holder into mild soapy water and wash by hand (do not use a dishwasher to wash)
6. Allow the metal holder to dry completely before replacing.

#### 40.4.3.

#### 40.4.4. Charcoal Filter

- This range hood uses a charcoal filter to absorb odors. This charcoal filter element cannot be cleaned, we recommend they should be replaced approximately every 3 months or more frequently if the range hood is used for more than 3 hours / day.
  1. To access the charcoal element, repeat the steps 1-3 described in the Metal Holder disassembly
  2. Remove the saturated charcoal filter and replace it with a new one, which are available at your RV dealer
  3. Insert the new charcoal filter into the holder and then retain it using the three rods, securing in place with the six tabs.

#### 40.4.5. Range Hood Body

Wipe down the exterior with a damp cloth saturated with warm soapy water using a mild detergent. NOTE: Never use scouring pads or abrasive cleaners.

Never use excessive amounts of water when cleaning around the control panel

For further details, refer to the "[Furrion Range Hood Manual](#)".

By following these guidelines, your "Furrion Range Hood" will provide effective ventilation and lighting for a safer cooking experience in your camper.

## 41. Dometic Fan-tastic Vent 7300

Your Northern Lite may be equipped with a Fan-tastic 7300 vent, which will provide excellent airflow and ventilation providing controlled air circulation inside your camper.

### Features:

- 13 fixed manual speeds or automatic variable speeds
- Rain Sensor with On/Off switch and automatic dome open/close switch.
- Built in thermostat to maintain your desired comfort level
- Automatic Dome lift
- Remote control with wall cradle

### Operation:

#### 41.1.1. Fan On & Power Off

- Press the power button
- To start the fan (this will start the fan in “Auto” mode)
- To turn the fan off

#### 41.1.2. Fan Speed

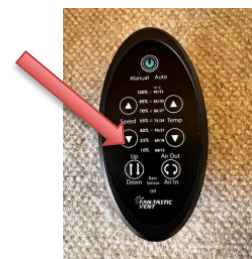
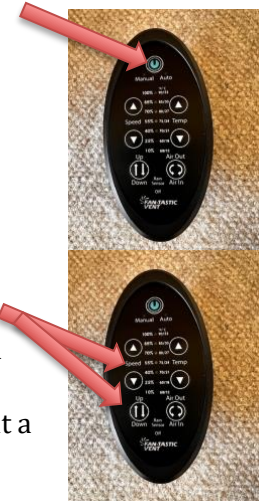
- Press either the up or down speed arrow to put the fan in manual mode.
- Press either the up or down speed buttons to change the fans speed. The fan has 13 speeds available. An LED will illuminate next to percentage of full fan speed, that you have selected. If two LED’s are illuminated the fan speed is at a midpoint between the two illuminated LED’s.

#### 41.1.3. Thermostat Temperature Setting

- Pressing either of the speed buttons, will change the fan mode to “Auto”
- Pressing the up speed arrow will increase the set temperature
- Pressing the down speed arrow will decrease the set temperature.
- Pressing these buttons will only work in “Auto” mode. The fan has 13 temperature settings available. Temperatures are indicated in Fahrenheit degrees/Celcius degress, between 60°F-90°F/15°-30°.

#### 41.1.4. Vent Lid Up/Down

- Pressing this button will not change the fan mode.
- Holding this button for 3 seconds, will turn on/off the Rainsensor.
- When the vent lid is closed, press this button once to open the lid
- When the vent lid is open, press this button once to close the lid.
- This operates independent from the fan on/off.



For the complete operating instructions, go to the link. [Fan-Tastic Dometic Vent Fans and Controls Installation and Operation Manual](#)

### Safety Considerations:

- Always ensure the vent is closed during travel to prevent damage.
- Do not obstruct the fan blades or vent opening.
- Regularly check for debris that may affect fan operation.
- Ensure the vent has the appropriate clearance for opening. Trees, structures, and gear stowed on the roof can interfere with the lid and cause damage to the power lift mechanism.

## 42. Maxx Fan Plus 00-04500K

Your Northern Lite camper may be equipped with the **Maxx Fan Plus 00-04500K**, a high-performance roof vent that provides excellent airflow and ventilation while allowing controlled air circulation inside your camper.

### Features:

- High-powered 10-speed fan for customizable airflow.
- Built-in rain sensor that closes vent during inclement weather.
- Wireless Remote-control operation for easy adjustments.
- Thermostat-controlled operation for automatic temperature management.



### Operation:

#### Using the Remote Control:

- Press the **Power** button on the remote to turn the fan on or off in either manual or “Auto” mode. In Auto mode, the fan will start and the lid will open.
- Adjust the fan speed using the **Speed Control** buttons.
- Change the fan direction by pressing the **Direction** button.
- Use the **Thermostat Control** to set a desired temperature, allowing the fan to adjust automatically.



#### Turning On the Maxx Fan:

- The Maxx Fan Plus can be operated using the included remote control for added convenience.
- Use the remote to turn the fan on and off, adjust speed settings, and change the fan direction.- Press the **Power** button on the control panel or remote.
- Adjust the fan speed using the **Speed Control** buttons.

#### Changing Fan Direction:

- Use the **Direction** button to switch between intake (bringing fresh air in) and exhaust (pushing stale air out).

#### Using the Thermostat:

- Set the desired temperature on the thermostat control.
- The fan will automatically turn on or adjust speed to maintain the selected temperature.

## Manual Vent Operation:

- Use the manual knob to open or close the vent lid if power operation is unavailable.
  - Pull the knob to unlock prior to turning
  - Rotate the Knob counter-clockwise to open the vent
  - Rotate the Knob clockwise to close the vent
  - Push in the knob with the desired vent lid position is achieved.
  - Note: Do Not Use Excessive Force when operating the knob.

For the complete operating instructions, go to the link. [MaxxFan Operating Guide](#)

## Safety Considerations:

- Always ensure the vent is closed during travel to prevent damage.
- Do not obstruct the fan blades or vent opening.
- Regularly check for debris that may affect fan operation.
- Ensure the vent has the appropriate clearance for opening. Trees, structures, and gear stowed on the roof can interfere with the lid and cause damage to the power lift mechanism.

### 42.1. Maintenance:

- Clean the fan blades and vent screen periodically to remove dust and dirt.
- Monitor remote control battery levels for remote operation.
- Frequently examine the vent lid to ensure that there are no cracks or defect that can allow moisture from entering your camper.

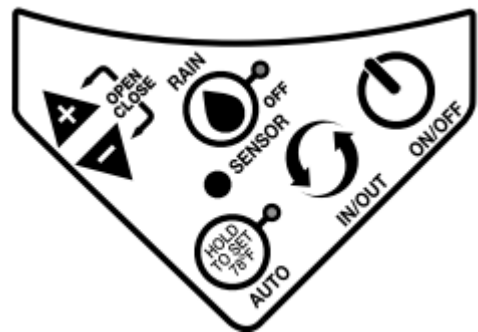
By following these guidelines, your **Maxx Fan Plus 00-04500K** will provide efficient ventilation and climate control in your camper.

### 42.2. KEYPAD CONTROLS FOR MAXXFAN®

A beeping sound will confirm each key press

**ON/OFF:** Use this key to start the fan or to turn off the fan. On Automatic Opening Models, the lid will also open or close when the fan is turned on or off. On Manual Opening Models, pushing this key while in Auto Mode will exit Auto Mode, turn off the fan and the lid will stay in the position you selected. On Automatic Opening Models, this button will exit Auto mode, turn the fan off, and close the lid.

**IN/OUT:** Use this key to reverse the direction of the fan, the fan will slow down and pause for two (2) seconds before resuming operation in the opposite direction. Note: In Auto Mode the fan direction is automatically positioned to Exhaust but may be overridden and changed to Intake by depressing this key. Note: Some models are Exhaust Only. On these models this key is deleted.



**AUTO:** Auto Mode allows the thermostat to turn the fan ON and OFF depending on the thermostat setting. Press this key once for less than three (3) seconds to enter Auto Mode, three (3) quick beeps will confirm the MAXXFAN has entered Auto Mode. To EXIT Auto Mode, press the ON/OFF key. Initial factory set point for the thermostat is 26°C. The green LED will light to indicate the MAXXFAN is in Auto Mode. To adjust, follow the instructions below:

If no previous thermostat temperature was entered, or you wish to change a previous set temperature, press the HOLD TO SET key for more than 3 seconds and you will hear one long beep and the thermostat will be reset to 26°C. To further adjust the set temperature, if desired, use the (+) or (-) Arrow keys to adjust at 0.5°C per press. The fan will emit a beeping sound to confirm this setting. If a previous thermostat temperature was entered, the fan will remember this temperature setting and the next time you enter Auto Mode, the fan will start ventilating automatically as directed by the thermostat. The fan speed will automatically adjust based on the cabin temperature. As cabin temperature rises, the fan increases in speed. Note: If 12 volt Caravan power is removed from the MAXXFAN, the thermostat will be reset to 26°C.

### **42.3. ARROW**

When in Auto Mode: Use the (+) & (-) Arrow keys to adjust the thermostat to set temperature up or down by 0.5°C per press. When in Manual Mode: Use the (+) & (-) Arrow keys to adjust the fan speed up or down. When the fan speed reaches either the maximum or minimum speed, the fan will respond with 2 quick beeps to indicate this.

**42.3.1. ARROW KEYS PRESSED TOGETHER: Automatic Lift Models Only Press the (+) & (-) Arrow keys at the same time to Open or Close the lid. The fan motor will remain in its current state.**

**42.3.2. RAIN SENSOR: Press this key to turn the Rain Sensor OFF. This will deactivate the Rain Sensor. The red LED will light to indicate that the Rain Sensor is deactivated. Use caution when deactivating the Rain Sensor as rain could enter your Caravan. If the Rain Sensor circuit detects rain, it will turn off the fan and close the lid. The red LED will blink to indicate that the Rain Sensor has shut the fan off. Press the Rain Sensor key again to reset the fan and extinguish the blinking LED. Note: CAUTION: the Rain Sensor will not close the MAXXFAN lid if the lid is opened manually with the knob. HOLD TO SET 26°C**

## **REMOTE CONTROL OPERATING GUIDE WIRELESS REMOTE CONTROL FOR MAXXFAN® Plus**

### **42.4. FAN ON & POWER OFF - Press this button:**

- To start the fan
- To turn the fan off
- To exit Auto Mode

### **42.5. VENT LID POSITION - Press this button to open or close the vent lid •While the fan is running in Manual Mode press once to close the vent lid and enter “Ceiling Fan” Mode.**

NOTE: This button is not active in Auto Mode. If the fan loses 12volt Caravan power or power is removed from the fan, use the knob located at the ceiling to manually open or close the vent lid if desired.

#### **42.6. AIR EXHAUST / INTAKE - Press this button to reverse the fan from intake or exhaust**

NOTE: In Auto Mode, the fan direction is automatically positioned to Exhaust but may be overridden and changed to Intake by depressing this key.

#### **42.7. FAN AUTO MODE - Press this button to enter Auto Mode**

- Auto Mode allows the fan lid to automatically open and the fan motor to operate as dictated by the thermostat set point temperature. Once the cabin temperature cools and reaches the set point temperature, the fan lid will close, and the fan motor will shut off.
- Pressing this button while in Auto Mode will shut off Auto Mode, close the vent lid and shut off the fan motor.

#### **42.8. THERMOSTAT SET TEMPERATURE**

TEMP + ~ Press this button to increase the Set Temperature for Auto Mode.

TEMP - ~ Press this button to decrease the Set Temperature for Auto Mode.

NOTE: The thermostat temperature range is from -2°C to 37°C. To change from Celsius to Fahrenheit on the temperature display, press and hold both set temperature keys simultaneously.

FAN SPEED Fan Speed + ~ Press this button to increase the fan speed. Fan Speed - ~ Press this button to decrease the fan speed. The fan has ten speeds. NOTE: When the fan speed reaches either the maximum or minimum speed, the fan will respond with 2 quick beep sounds to indicate this.

LOW BATTERY INDICATOR •When the battery is at full charge, three black power bars are displayed. •One or zero power bars displayed indicate the batteries need replacement.

TRANSMISSION SIGNAL •This symbol is displayed on the screen when any button is pressed to indicate the signal was transmitted to the fan. •A beeping sound from the ceiling unit indicates the signal from the remote control was received by the fan

## 43. Heki Midi Skylight

Your Northern Lite camper is equipped with the **Heki Midi Skylight**, providing natural light and ventilation to enhance your camping experience.

### 43.1.1. Features:

- Large skylight opening for increased airflow and natural light.
- Integrated roller blind for shade and privacy.
- Built-in insect screen to keep bugs out.
- Secure locking system to prevent accidental opening during travel.

### Operation:

#### 43.1.2. Opening and Closing the Skylight:

- Press the release button (2) and open the skylight with the bar (1) at the same time.

#### 43.1.3. Opening the Skylight Fully

- Slide the Bar/Bracket (2) into the (i) position

#### 43.1.4. Opening the Skylight Half-way

- Slide the Bar/Bracket (2) into the (ii) position

#### 43.1.5. Opening the Skylight to provide continuous ventilation

- Slide the Bar/Bracket (2) into the (iii) position so that it clicks into the locking position at the back.

#### 43.1.6. Closing the Skylight

- Slide the Bar/Bracket (2) into the (iv) position
- Guide the bracket (2) with slight pressure from left and right via the (3) catches so that the skylight lid is locked into place and the Bar/Bracket (2) until it clicks into the closed position
- Ensure that the skylight is fully locked before travel.

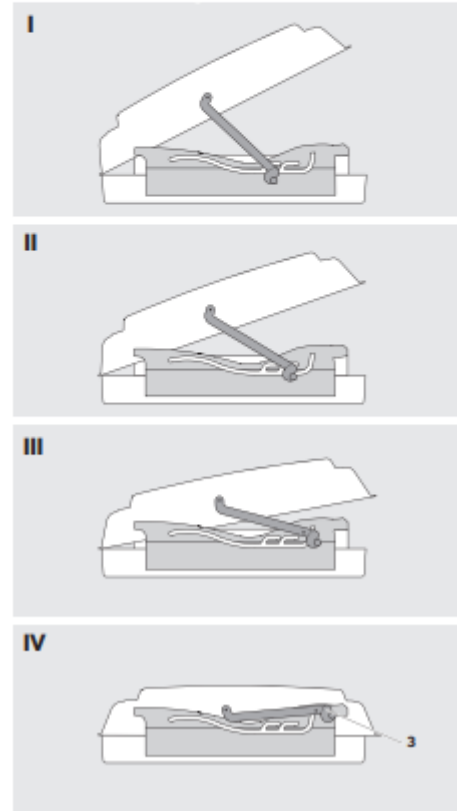
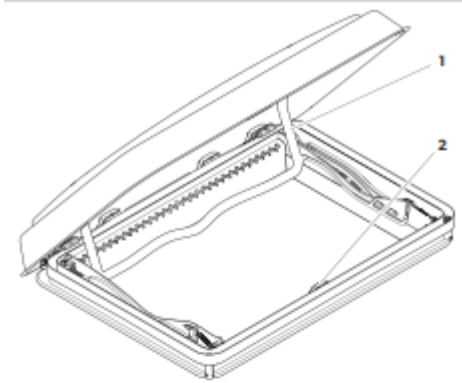
#### 43.1.7. Using the Blind and Screen:

- Pull the **roller blind** across for shade and privacy.
- Slide the **insect screen** into place to prevent bugs from entering.

User information for your Midi-Heki skylight can be found at the following link. Midi-Heki [Dometic Midi Heki FL - Installation and Operating Manual EMEA14-APAC1](#) User guide

## 43.2. Safety Considerations:

- Always ensure the skylight is closed and locked before driving.
- Do not force the skylight open if resistance is felt.
- Keep the insect screen clean to maintain proper airflow.
- **NEVER travel with the Midi Heki in the open position**



### 43.3. Maintenance:

#### 43.3.1. Cleaning

##### 43.3.2. Notice!

Do not use any brushes or scouring items for cleaning, as they will damage the acrylic lid

- Start by using a garden hose to wash off any excess dirt before cleaning. Failure to do so will result in the dirt scratching the lid.
- Once dirt is rinsed off, clean the skylight using mild soap and water with a dampened soft microfiber cloth. Clean the cloth frequently to remove any dirt/debris that the cloth may have picked up off the skylight lid. Never use paper towels to dry the window, as it can scratch when dry.
- Never use harsh chemicals or abrasive cleaners to the skylight surface.
- If you scratch your window lens, these can be repaired by using the supplied Novus cleaner/polish/restoring compounds supplied with your camper. See full directions in the “Maintenance” section of this manual.

*By following these guidelines, your **Heki Midi Skylight** will provide reliable light and ventilation for a comfortable camping experience.*

#### 43.4. Seitz S4 Deluxe Window

Your Northern Lite camper is equipped with **Seitz S4 Deluxe Windows**, which provide excellent insulation, ventilation, and security.

#### 43.5. Features:

- Double-pane acrylic glass for thermal insulation.
- Built-in roller blind for privacy and light control.
- Integrated insect screen to keep bugs out.
- Lockable latches for added security while parked or in transit.
- Hinged design allows for adjustable ventilation positions.
- Can provide continuous ventilation



#### 43.6. Operation:

**Note: Never Travel with the window in an unlocked or open position, as damage may occur.**

##### 43.6.1. Opening the Window:

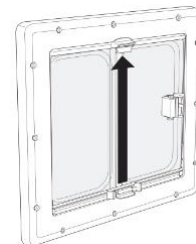
- Press the locking button on all rotary latches and using the handle turn 90° to release the window.
- Push the window outward to the desired opening position.
- Secure the window in place using the adjustable friction hinges.

##### 43.6.2. Closing the Window:

- Using a bottom rotary latch, pull the window inward until it fully seals against the frame.
- Engage the locking latches by rotating 90°.
- When in a closed position, the outer lobe on the rotary latch must be positioned inside the frame.

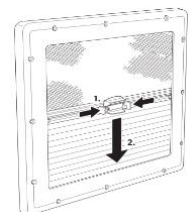
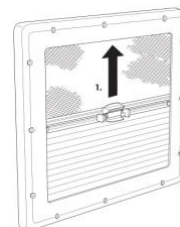
##### 43.6.3. Using the Blind and Screen:

- Pull the **roller blind** down to the screen for shade and privacy.
- Click the roller blind onto the flyscreen.
- Select the required position by moving the two latched roller blinds at the same time and all to latch in place.



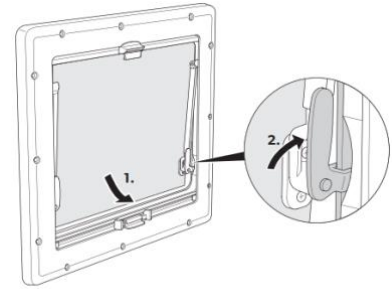
##### 43.6.4. Opening the Roller Blind

- Move the roller blind so that the blackout roller is closed.
- Separate the roller blinds by pressing the pivot on the flyscreen
- Do Not let the roller blind spring back.



#### 43.6.5. Continuous Ventilation

- The window can be latched in place to provide continuous ventilation.
- Release all Rotary Latches by pressing the button and rotating the lever 90°.
- Push the window slightly outward and rotate the latch so that the “U-Portion” of the latch straddles the window frame.
- **Never travel with the window in the continuous ventilation position, as damage may occur.**



#### 43.7. Safety Considerations:

- Always secure windows in the locked position before traveling.
- Do not force the window open beyond its maximum position.
- Ensure the insect screen and blind are functioning properly before use.

#### Maintenance:

##### 43.7.1. Notice!

Do not use any brushes or scouring items for cleaning, as they will damage the acrylic lens!

- Start by using a garden hose to wash off any excess dirt before cleaning. Failure to do so will result in the dirt scratching the window.
- Once dirt is rinsed off, clean the windows using mild soap and water with a dampened soft microfiber cloth. Clean the cloth frequently to remove any dirt/debris that the cloth may have picked up off the window. Never use harsh chemicals or abrasive cleaners to the skylight surface.
- Check and lubricate hinges periodically for smooth operation.
- Inspect window seals for wear or damage to maintain weather resistance.

Additional information on the Seitz S4 Deluxe window can be found in the

[Seitz S4 Deluxe Owners Manual](#)

*By following these guidelines, your **Seitz S4 Deluxe Window** will provide comfort, security, and ventilation in your camper.*

## 44. Jensen JWM30 Stereo

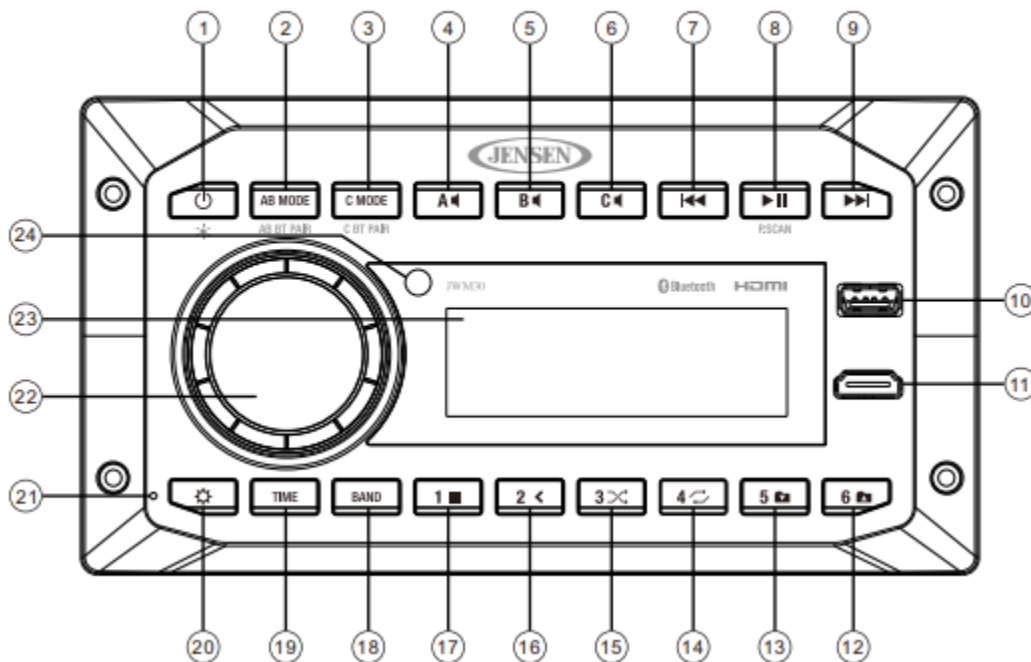
Your Northern Lite camper may be equipped with a Jensen JWM30 Entertainment system, providing you with high quality audio entertainment while camping.

### Features:

- 3 Speaker Zones
- Independent volume control for Zones A/B and Zone C
- Dual Bluetooth with A2DP/AVRCP streaming audio
- Stream from one device in Zone A/B and a second device in Zone C
- Front HDMI Input with pass through to rear HDMI output
- Digital AM/FM tuner with 12 AM/18FM preset stations.

### Operation:

## BASIC OPERATION



- Press the POWER button(1) to turn the unit on, the unit will resume at the last mode (Tuner, Aux, etc.)
- Press and hold the POWER button (1) to enter standby mode.
- Zones Volume Control
- Press the VOL/ENTER button (22) to select the Zone AB or Zone C volume
- Rotate the VOL/ENTER knob clockwise to increase volume, counter-clockwise to decrease volume. The maximum volume is “40”, while adjusting the LCD displays the numerical representation of the level.

### Audio Menu Setting

- Press the “SETUP” button (20) to step through the following audio adjustments.

- Rotate the VOL/ENTER knob to adjust the selected audio feature.
- The following audio menu items can be adjusted;
- BAS: Adjust the bass level
- TRE: Adjust the treble level
- BAL: adjust the speaker output balance between “L7” (Left) and “R7” (Right), “BAL 0” indicates and equal balance between the left and right speakers.
- LOUDNESS: Toggle loudness on/off. When listening to music at low volumes, this feature will boost the range to compensate for the characteristics of human hearing.
- Pause/Mute
- Press the “Play/Pause” button (8) to silence the audio output in the tuner, BT, USB HDMI in TV AUDIO or Auxiliary Input mode. Press again to restore the previous volume level.

## Liquid Crystal Display

- The LCD display panel (23) displays the frequency, time and activated functions. Press the POWER button (1) to turn the dimmer ON (selected brightness level) and press again to turn the dimmer Off (maximum brightness level)

## System menu settings

1. Press and hold the SETUP button (20) to enter the system menu
  2. Press SETUP button or press the reverse or forward button (7,9) to choose the following system menu
  3. Once the desired menu item appears on the display, adjust that option by rotating the volume knob clockwise or counter-clockwise within 5 seconds
  4. Press the ENTER button (22) to confirm your selection and exit system menu. The unit will automatically exit the system menu within 5 seconds.
  5. The following system menu items can be adjusted.
- Bluetooth Device, Bluetooth Pair, DIM On/Off, LCD Brightness, Region, Preset Volume, Reset

## Time Display

- Press the TIME button (19) to alternate between playing time and clock time while in TUNER, USB, BT, HDMI in, TV Audio or Auxiliary input mode.
- Time Menu Mode
- Press & Hold the TIME button (19) to access time menu setting. Press the TIME button (19) repeatedly to adjust the following items: ALARM (ON/OFF), ALARM SET, SLEEP TIMER, and CLOCK SET. Use the rewind and forward buttons (7,9) to choose a value for each setting.

## USB Interface Connector

- You can connect a USB device to USB interface (10) on the front of the JWM30 for playback of compatible files. Playback begins automatically. Press the AB Mode button (2) to switch to USB mode from another source. Refer to “MP3/USB operation on page 12 of the “Jensen owners manual” for additional operating instructions.

## Remote Sensor

- The infrared receiver (24) is located on the upper left of the front panel which receives signal emitted by the remote control

### Speaker Output

- The two speaker output buttons (4,5,6)(Zona A, Zone B, Zone C) control speaker zones from the radio. Press any of the three buttons to turn on/off the corresponding speakers.

### HDMI In

- When a portable audio device is connected to the unit, press the AB Mode Button (2) repeatedly to source the HDMI IN mode, the HDMI audio input will play over the speakers. To connect a portable device with HDMI output ports, connect the cable from your portable device into the HDMI IN interface (11) on the right hand side of the JWM30.

### Multi-Source Setup

- Press C MODE button (3) to change Zone C to dedicated Zone C Bluetooth mode.
- Press C MODE button (3) again to switch Zone C mode same with Zone A/B source mode.

### Tuner Operation

Select a Band

- Press BAND button (18) repeatedly to change between two AM bands (AM1, AM2) and three FM bands (FM1, FM2, FM3)

### Manual Tuning

- Press the FORWARD or REVERSE button (9,7) to seek stations up/down step by step

### Auto Seek Tuning

- `

### Preset Stations

- Six numbered preset buttons store and recall stations for each AM and FM band

### Store Preset Station

- Select a band, then tune to a station. Press and hold one of the buttons 1-6 for two seconds. The current station will be store and corresponding preset number will appear on the display.

### Recall Preset Station

- Select a band, press a preset button (1-6) momentarily, and the unit will tune to the corresponding stored station.

### **Automatically Store/Prescan (AS/PS)**

- Select an AM or FM band. Press and hold the PLAY/PAUSE button (8) to access the tuner menu list: AUTO STORE & PRESET SCAN. Press PLAY/PAUSE button (8) repeatedly until "AUTO STR" appears on the display. Press the ENTER knob (22) to begin the Auto Store function and the unit will automatically scan for and store 12 or 18 of the strongest stations for all bands.

### **Inserting a USB Device**

- The USB Connector (10) is located at the right side of the face. Insert a USB device to automatically access USB mode and begin playback. The LCD will display "READING" and "USB" while the files are loading. During other playback modes, when the USB is connected, press AB MODE (12) repeatedly to enter USB playback mode directly.

### **Bluetooth Operation**

#### **Pairing a Bluetooth Device**

- Make sure the Device you wish to Pair is on and ready to pair.
- Press and hold AB BT PAIR button (2) or C BT PAIR to start Bluetooth pairing process. The JWM30 will display "PAIRING" and will be available to pair for 120 seconds. In your device Bluetooth settings, select "JWM30 ZONE A/B or JWM30 ZONE C" to Connect
- When connected to a phone, BT Audio will Pause. Once the call has ended, BT AUDIO will resume. Some phones may require you to select the "PLAY" button

Complete instruction/specifications/trouble shooting can be found in the JWM30 User Manual

[JWM30 Installation&Owner's Manual.cdr](#)

## 45. Furrion Stereo DV1230-BL

Your Northern Lite camper may be equipped with the **Furrion DV1230-BL Entertainment System**, designed for high-quality audio entertainment while camping.

### Features:

- AM/FM radio with digital tuning.
- Bluetooth connectivity for wireless audio streaming.
- USB and AUX inputs for external device connections.
- CD/DVD playback capability.
- Dual-zone audio for independent speaker control inside and outside the camper.
- Remote control for convenience.



### 45.1. Operation:

Follow the quick reference guide for basic operation of the Furrion Entertainment system. For more complete information consult the owner's manual, which is available at the at the end of this section.

#### Quick Reference Guide

General Operation	
Power on/off, switch to standby mode	Press  to turn the unit on or enter standby mode. Press and hold  to turn the unit off.
Mute	Press <b>MUTE</b> to mute sound. The  icon flashes on the display. Press <b>MUTE</b> again to restore the sound.
Select a source	Press <b>DISC/USB, AM/FM, AUX, BT</b> to select Disc (with a disc loaded), USB (with a USB storage device connected), AM/FM, AUX, or BT.
Adjust volume	Rotate the <b>VOLUME -/+</b> knob to adjust volume.
Select a feature / setting	1. Press <b>SEL</b> once or more to select VOL, BAS (without EQ preset), TRE (without EQ preset), BAL, LOUD ON/OFF, LOC ON/OFF, ST ON/OFF, BEEP ON/OFF, SUB ON/OFF, or CLOCK. 2. Rotate the <b>VOLUME -/+</b> knob to select a feature / setting.
Select a preset EQ	Press and hold <b>SEL</b> once or more to select CINEMA, ROCK CLASSIC, FLAT, or EQ OFF.
Set clock	1. Press <b>SEL</b> on the front panel once or more (or press and hold <b>CLOCK</b> on the remote control) to enter clock setup mode. 2. Rotate the <b>VOLUME -/+</b> knob to adjust the hour. 3. Press   to enter minute setting. 4. Rotate the <b>VOLUME -/+</b> knob to adjust the minute. The time on the clock is set automatically after a few seconds of inactivity.
Set alarm	Press and hold  once or more to enter alarm clock and source settings. Repeat the operations in clock setting to set the alarm. Two alarm sources are available for selection: TUNER and USB.
Turn alarm on/off	Press  to turn on or off the set alarm. When the alarm is set, the  icon will stay on the LCD.
Adjust brightness	Press  once or more to select a brightness level for the front panel: LOW, MIDDLE or HIGH.
Select speakers	Press and hold <b>ZONE 1, ZONE 2</b> or <b>ZONE 3</b> to select speaker output. The corresponding zone number will be displayed on the LCD once selected.
Reset	Press <b>RESET</b> with a sharp object to reset the unit and load its factory default settings.

### Bluetooth Pairing:

- Ensure Bluetooth is enabled on your mobile device.
- Select the **Bluetooth Mode (BT)** on the stereo.
- Find and connect to “Furrion DV1230-XXXX” (Note: XXXX can be any character/numbers), in your device’s Bluetooth settings.
- Select the device name on your mobile phone, then an input box will pop up. Asking you input a password.
- Input 0000 and confirm. Upon successful pairing and connection, “Link OK” will appear on the LCD Display the stereo.
- Once connected, play audio from your device wirelessly.

### 45.2. Using the CD/DVD Player:

- Insert a CD/DVD into the slot and the system will automatically begin playback.
- Use the remote or panel buttons to control playback functions.
- Connect the stereo to a TV via an HDMI cable for DVD video output.

### 45.3. Safety Considerations:

- Keep the stereo dry and avoid exposure to excessive moisture.
- Do not insert damaged or unsupported media into the CD/DVD slot.
- Avoid excessive volume levels to prevent speaker damage.

### 45.4. Maintenance:

- Clean the stereo faceplate with a soft, dry cloth.
- Check speaker connections periodically for secure wiring.
- Update firmware if applicable for optimal performance.
- Store the remote in a safe location to prevent loss.

Additional information can be found by looking in [DV1230-BL Owners Manual](#)

By following these guidelines, your **Furrion DV1230-BL Stereo System** will provide high-quality entertainment during your camping trips.

## 46. Jensen Smart TV Model JTV2423DCS

Your Northern Lite camper is equipped with the **Jensen JTV2423DCS Smart TV**, designed to provide high-quality entertainment with streaming capabilities and multiple input options.

### 46.1. Features:

- 24-inch LED HD display for crisp visuals.
- Smart TV functionality with built-in apps for streaming services.
- HDMI, USB, and AV input ports for external device connections.
- 12V DC power operation, ideal for RV and off-grid use.
- Durable design for mobile environments.



### 46.2. Operation:

#### 46.2.1. Turning On the TV:

- Press the **Power** button on the TV or remote control.
- Select the desired input source using the **Input** button.

#### 46.2.2. Connecting to Wi-Fi:

You can get internet through your TV by connecting to an available wireless network. Make sure you have the wireless routers SSID and password before attempting to connect.

- To connect to a wireless network, navigate to **Settings > Network > Network Configuration**
- You set the TV network by selecting **Configuration** and Press “OK”, to enter the submenu.

#### 46.2.3. Connection Type

- Choose wireless network connection to access the internet

#### 46.2.4. Refresh

- Refresh the wireless network

#### 46.2.5. Advanced Settings

- Configure the advanced wireless network settings for the TV

#### 46.2.6. Add

- You can add wireless network

Note:

- If no wireless router is found, select ADD and enter the network name in the SSID
- If no wireless router is found, select REFRESH

### 46.3. Adjusting Picture and Sound Settings:

- Use the **Menu** button to open settings.
- Adjust **Brightness, Contrast, and Color** for optimal picture quality.
- Modify **Bass, Treble, and Balance** settings for personalized audio.

#### 46.4. Using External Devices:

- Connect external devices via **HDMI, USB, or AV inputs**.
- Select the corresponding input source on the TV.
- Control playback using the connected device's remote.

#### 46.5. Safety Considerations:

- Ensure the TV is securely mounted, and the wall bracket is securely latched to prevent movement while traveling.
- Avoid exposure to excessive moisture and extreme temperatures.
- Use only a **12V DC power source** to prevent damage.
- Do not block ventilation openings to prevent overheating.

#### 46.6. Maintenance:

- Clean the screen with a soft, dry cloth.
- Regularly check connections for secure wiring.
- Update firmware when available for optimal performance.
- Store the remote in a safe location to prevent loss.

Complete user information for your TV can be found in [JTV2423DCS Owners Manual](#)

By following these guidelines, your **Jensen JTV2423DCS Smart TV** will provide reliable entertainment throughout your travels.

## 47. Winegard Rayzar Automatic TV Antenna

Your Northern Lite camper is equipped with the **Winegard Rayzar Automatic TV Antenna**, providing access to free over-the-air TV channels by automatically finding and locking onto the best available signals.

### 47.1. Features:

- Fully automatic dual band TV antenna for over-the-air channels.
- Multi-directional design for optimized signal reception.
- Compact, low-profile design for minimal wind resistance.
- Easy one-button operation for quick setup.



### 47.2. Operation:

#### 47.2.1. Scanning for Channels:

- Ensure the camper's **12V power system** is active.
- Access the Rayzar control panel, located in the TV cabinet in the bunk area.
- And press the **On/OFF** button to start up the system. The LED will illuminate.
- Press the **Search** button on the control panel. The antenna will initialize and then begin searching for tv frequencies. This search can take between 2 to 3 minutes.
- After the search, the antenna will automatically rotate to the strongest position with the most watchable channels.
- The LED Readout will display the number of frequencies that are available in that position.
- Once scanning is complete, perform a channel scan on your TV by navigating to **Settings > Channel Setup > "Antenna or Air">Channel Scan or Channel Search.**



#### 47.2.2. Adjusting the Antenna Manually:

- If necessary, use the **Fine-Tune** button on the control panel to manually adjust reception.
- Re-scan for channels if reception is weak.

#### 47.2.3. Safety Considerations:

- Avoid physical obstruction near the antenna to maximize reception.

#### 47.2.4. Maintenance:

- Keep the antenna clean from dirt and debris.
- Inspect wiring connections periodically for wear or damage.
- Update firmware when available for optimal performance.

User information for the antenna, can be found in the [Winegard Rayzar Antenna user Manual](#)

By following these guidelines, your **Winegard Rayzar Automatic TV Antenna** will provide clear, reliable access to free over-the-air television during your camping adventures.

## Furrion Rear Vision System

Your Northern Lite camper is equipped with the **Furrion Rear Vision System**, providing improved visibility and safety while driving and parking.

### 47.3. Features:

- High-definition rearview camera for enhanced visibility.
- Wireless transmission to the display monitor inside the cab.
- Night vision capability for low-light conditions.
- Wide-angle lens for maximum coverage.
- Weather-resistant construction for durability.

### 47.4. Operation:

#### 47.4.1. Turning On the Rear Vision System:

- Choose a monitor location in your truck that will not block your view and complies with local laws for safe driving.
- The system is powered when the camper is connected to the truck. Press the power button to turn on the monitor.
- The monitor automatically displays the camera feed when engaged.
- Use the **Menu** button on the display for additional settings.

#### 47.4.2. Adjusting Camera Settings:

- Brightness and contrast can be adjusted using the monitor controls.
- The **Zoom** function allows for a closer view of obstacles behind the camper.
- The camera can be tilted slightly for a better viewing angle.

#### 47.4.3. Safety Considerations:

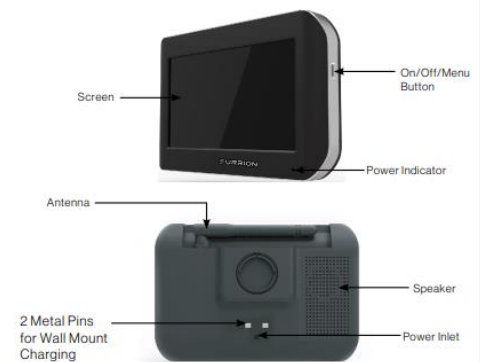
- Always check mirrors and surroundings in addition to using the camera.
- The rear vision system is an aid, not a replacement for safe driving practices.
- Ensure the camera lens is clean for a clear view.

#### 47.4.4. Maintenance:

- Clean the monitor with a soft cloth moistened with water or glass cleaner.
- Do not allow residue or liquids to enter any part of the monitor.
- Clean the camera lens using a moistened soft cloth

Follow the information contained in the [Furrion Rear Vision User manual](#) for complete setup and operation instructions.

*By following these guidelines, your **Furrion Rear Vision System** will provide improved safety and convenience while maneuvering your camper.*



## 48. Carefree Latitude Power Side Awning with LED Lighting

Your Northern Lite camper is equipped with the **Carefree Latitude Power Side Awning**, which provides shade and protection from the elements with the convenience of powered operation.

### 48.1. Features:

- Push-button operation for easy extension and retraction.
- Integrated LED lighting for nighttime visibility.
- Automatic rain-dump feature to prevent water pooling.
- Direct Response Wind Sensor to automatically retract awning during windy conditions.



### 48.2. Operation:

#### 48.2.1. Extending the Awning:

- Locate the **awning switch** on the wardrobe face inside the camper.
- Press the **Extend** button to roll out the awning.
- Stop at the desired length and ensure the arms are fully extended and locked.

#### 48.2.2. Retracting the Awning:

- Press the **Retract** button until the awning is fully closed.
- Ensure the awning is securely stored before travel.

#### 48.2.3. Using the LED Lights:

- The LED lights are controlled by a separate switch on the wardrobe face.
- Press the switch to turn lights on or off as needed.
- Note: The LED Light strip may have additional 2-amp fuses that are located behind the awning switches. If the light fails to illuminate, expose the fuses by carefully removing the switch face plate, then unscrew the switch base from the wardrobe face (4 screws). Gently pull the wire out from the cutout to expose the two fuses. Replace any burnt fuses with only a 2amp Fuse to protect the lighting circuit.

### 48.3. Safety Considerations:

- Never leave the awning extended in windy conditions.
- Do not hang heavy objects from the awning arms.
- Ensure no obstructions are in the path of the awning during extension or retraction.

#### 48.4. Maintenance:

- Clean the awning fabric with mild soap and water.
- Inspect the awning arms and motor for smooth operation.
- Keep electrical connections dry and free of debris.

User information for the [Latitude Side Awning](#) is available through this link.

*By following these guidelines, your **Carefree Latitude Power Side Awning** will provide long-lasting convenience and comfort.*

### 49. Carefree Travel'r Power Awning with LED Lights

Your Northern Lite camper is equipped with the **Carefree Travel'r Power Awning**, which provides convenient shade and weather protection with the touch of a button.

#### 49.1. Features:

- Push-button electric operation for effortless extension/retraction.
- Integrated LED lighting for enhanced visibility and ambiance.
- Durable fabric designed for outdoor conditions.



and

#### 49.2. Operation:

##### 49.2.1. Extending the Awning:

- Ensure that the awning travel path is clear of any obstructions such as structures, trees, powerlines.
- Locate the **awning switch** on the wardrobe face inside the camper.
- Press and hold the the **Extend** button to deploy the awning.
- Stop at the desired length and ensure arms are fully extended.

##### 49.2.2. Retracting the Awning:

- Ensure that the awning arms are not being blocked by any objects that would restrict travel.
- Press the **Retract** button until the awning is fully closed.
- Ensure the awning is securely stored before travel.



#### 49.2.3. Using the LED Lights:

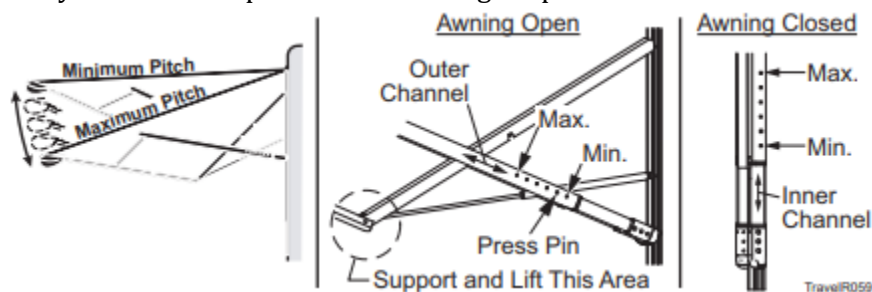
- The LED lights are controlled by a separate switch on the wardrobe face.
- Press the switch to turn the lights on or off.
- Note: The LED Light strip may have additional 2-amp fuses that are located behind the awning switches. If the light fails to illuminate, expose the fuses by removing the wardrobe base (4 screws). Replace any burnt fuses with only a 2amp Fuse to protect the lighting circuit.

#### 49.3. Adjusting the Pitch

The Travel'r arms have 6 adjustments for pitch. The awning can be extended or retracted in any of the pitch positions with having to reset.

#### 49.4. With the awning Open

- Hold the awning arm to keep it steady while adjusting the pitch
- Press in the pitch adjustment pin located on the long scissor arm. (light pressure on the arm will decrease the force required to press the pitch pin)
- Slide the Scissor arm to the desired set hole- Towards the camper will create a lower pitch. Away from the camper will create a higher pitch.



#### 49.5. Safety Considerations:

- Never leave the awning extended in strong winds or storms. The rear Travel'r awning does NOT have a wind sensor.
- Do not place heavy objects on the awning fabric, or awning arms
- Ensure no obstructions are in the awning's path during extension or retraction.

#### 49.6. Maintenance:

- Clean the awning fabric with mild soap and water.
- Regularly inspect the awning arms and motor for proper operation.
- Keep electrical components dry and free of debris.

Complete operating instructions for the Travel'r awning can be found at [Travel'r Awning User Manual](#)

*By following these guidelines, your **Carefree Travel'r Power Awning** will provide years of convenience and reliability.*

## 50. Topline Exterior Ladder

Your Northern Lite camper is equipped with a **Topline Exterior Ladder**, which provides access to the camper roof for maintenance and inspection purposes.

### 50.1. Features:

- Lightweight yet durable aluminum construction.
- Non-slip steps for safe climbing.
- Secure mounting system to the camper exterior.
- Weight capacity of **250 lbs (113 kg)**.

### 50.2. Safety Considerations:

- Always ensure the ladder is securely mounted before use.
- Do not exceed the weight capacity limit.
- Use both hands while climbing for stability.
- Always face the ladder when climbing.
- Wear appropriate footwear to prevent slipping.
- Avoid climbing the ladder in wet or icy conditions.
- Be cautious when stepping onto the camper roof.
- **Do not step on solar panels, vents, or other roof-mounted equipment.**
- **Do not attach items such as chairs, bicycles, kayaks etc. to the ladder as fiberglass damage can occur. Attaching anything to the ladder will void your Northern Lite warranty.**

### 50.3. Maintenance:

- Regularly check the ladder for loose fasteners or damage.
- Keep the steps free from dirt and debris.
- Inspect mounting points periodically to ensure they remain secure.

*By following these guidelines, your **Topline Exterior Ladder** will provide a safe and reliable means of accessing your camper roof for routine maintenance.*



## 51. First Alert Smoke/CO Detector Model SMCO210

Your Northern Lite camper may be equipped with a **First Alert Smoke/CO Detector (Model SMCO210)**, providing essential protection against fire and carbon monoxide hazards.

### 51.1. Features:

- Dual detection for both smoke and carbon monoxide.
- Loud alarm to alert occupants in case of emergency.
- Battery backup to ensure operation during power outages.
- Test and silence button for easy maintenance.



### 51.2. Operation:

#### 51.2.1. Testing the Detector:

- Press and hold the **Test/Silence** button until the alarm sounds.
- If the alarm does not sound, replace the batteries or check the power supply.

#### 51.2.2. Understanding Alarm Sounds:

- **Smoke Alarm:** A loud, continuous beep indicates smoke detection.
- **CO Alarm:** A loud beep pattern indicates carbon monoxide presence.
- **Low Battery Warning:** A single chirp every minute signals the need for a battery replacement.

### 51.3. Safety Considerations:

- Install fresh batteries at the start of each camping season.
- Never ignore an alarm; evacuate immediately and check for hazards.
- Ensure proper ventilation and check propane appliances regularly.
- If the alarm sounds and no hazard is detected, reset the unit.

### 51.4. Maintenance:

- Test the detector monthly using the **Test/Silence** button.
- Clean the detector with a soft cloth to remove dust and debris.
- Replace the detector every 7–10 years per manufacturer guidelines.
- Ensure batteries are replaced promptly when the low battery warning sounds.

Information about your First Alert Smoke and CO detector can be found in [First Alert User's Manual](#)

*By following these guidelines, your **First Alert Smoke/CO Detector** will provide essential safety and peace of mind while using your camper.*

## 52. First Alert Smoke Detector 1046486

Some models of Northern Lite truck campers may be equipped with a First Alert RV Approved Smoke Alarm. This alarm features a hinged cover for easy battery replacement.

### 52.1. Features:

3. Advanced sensing technology complies to the latest industry standards, to reduce cooking nuisance alarms, yet provides early RV fire warning in the event of an emergency.
4. Tamper resistant locking pin prevents battery removal
5. Test/silence button for efficient testing to ensure alarm is working
6. End-of-Life warning lets you know when the detector needs replacement.

### 52.2. Operation:

Your First Alert Smoke detector will provide continuous early warning provided a working battery is provided.

- To activate the battery, pull out the clear film barrier, so that the battery contacts make contact with the detector terminals.
- Test the detector to ensure that it is active by pressing the test button and confirming the alarm sounds. Also, you should see a green LED flashing every minute, indicating that it is sensing.
- If the detector does not activate, it may be due to a dead battery or that the battery is not snapped into the terminals.
- Swing open the hinged door on the detector to expose the 9-volt battery, (to make the replacement easier, the detector can be removed from the bracket by turning counterclockwise)
- Replace the dead battery with a new 9 volt battery, ensuring that the positive and negative terminals on the battery match up to the matching terminal's on the detector. Push the battery in until it snaps securely in place, preventing it from being shaken loose.
- If the detector was removed for ease of battery replacement, reattach it to the bracket by aligning the slots/tabs, and turning the detector clockwise until it locks in place.

Action	What You Will See & Hear
Normal Operations	Horn: Silent; Power LED: Flashes GREEN 1 time every minute; Smoke LED: Off
When You Test the Alarm	Horn: Short "chirp", then 3 beeps, pause, 3 beeps; Power LED: Flashes GREEN 1 time; Smoke LED: Flashes RED in sync with horn
If Battery Becomes Low	Horn: Chirps 1 time every minute; Power LED: Flashes Green 1 time every minute; Smoke LED: Off
Low Battery Signal is Silenced	Horn: Silent (for up to 8 hours); Power LED: Flashes Green 1 time every minute; Smoke LED: Off
Alarm is Not Operating Properly (Malfunction Signal)	Horn: 3 chirps every minute; Power LED: Flashes Green 3 times every minute; Smoke LED: Off
Alarm has reached End of Life	Horn: 5 chirps every minute; Power LED: Flashes Green 5 times every minute; Smoke LED: Off
End of Life Signal is Silenced	Horn: Silent (for up to 2 days, 14 days total); Power LED: Flashes Green 5 times every minute; Smoke LED: Off
Smoke is Detected	Horn: 3 beeps, pause, 3 beeps, repeat; Power LED: Off; Smoke LED: Flashes Red in sync with horn
Smoke Alarm is Silenced (up to 15 Minutes)	Horn: Off; Power LED: Off; Smoke LED: Flashes Red 3 times, pause, 3 times, repeat

To ensure the safe operation of your Northern Lite camper, test the Smoke alarm weekly.

Complete user information is available at the [First Alert Manual](#) link.

## 53. MTI Carbon Monoxide and LP Gas Alarm

Your Northern Lite camper may be equipped with a Safe-T-Alert LP Gas and Carbon Monoxide detector. This device will be located in the lower face of the fridge compartment. When 12volt power is present, the detector will monitor your camper for the presence of LP Gas, or Carbon Monoxide.

### 53.1. Features:

The 85 Series Dual alarms features dual self-cleaning sensors

If gas is detected the alarm has a recheck cycle that will occur before sounding the alarm. If gas is still present during this cycle, the alarm will sound.

### 53.2. Operation:


**The Alarm is active only when 12volt power is provided. This means that when you turn off your camper's battery disconnect switch. The alarm is not active, and the alarm will not sound if LP Gas or Carbon Monoxide is detected!**

### 53.3. Carbon Monoxide (CO) Alarm


- If Carbon Monoxide is detected (CO), the Red LED will flash and the alarm will sound 4 “Beeps” then will be silent for 5 Seconds. Signaling that the CO level is over 35ppm.
- If the alarm sounds take immediate action as shown in the “Procedures Table”
- The alarm will sound until such time that the Test/Silence button is pressed, or until the camper has been ventilated.
- The Red LED will remain on until the CO has cleared.
- If CO is still present, the alarm will reactivate in 6 minutes.

### 53.4.

#### PROCEDURES TO TAKE DURING A CO ALARM IN THE USA

 **WARNING:** Actuation of this device indicates the presence of carbon monoxide (CO) or propane gases, which can KILL YOU. If signal sounds (4 beeps and flashing or solid red light): **1)** Operate the Test/Mute button; **2)** Call your emergency local service (Phone Number \_\_\_\_\_) (fire department or 911); **3)** Immediately move to fresh air - outdoors or by an open door/window. Check that all persons are accounted for. Do not reenter the premises or move away from the open door / window until the emergency responders have arrived, the premises have been aired out and your alarm remains in its normal operation. **4)** After following steps 1-3, if your alarm reactivates within a 24-hour period, repeat steps 1-3 and call a qualified appliance technician. (Phone Number \_\_\_\_\_) to investigate for sources of CO from fuel burning equipment and appliances. Inspect for proper operation of this equipment. If problems are identified during this inspection have the equipment serviced immediately. Note any combustion equipment not inspected by the technician and consult the manufacturers' instructions, or contact the manufacturer directly, for more information about CO safety and this equipment. Make sure that the motor vehicles are not, and have not been, operating in an attached garage or adjacent to the residence.

#### PROCEDURES TO TAKE DURING A CO ALARM IN CANADA

 **WARNING:** Actuation of this device indicates the presence of carbon monoxide (CO) and propane gases which can KILL YOU. If signal sounds (4 beeps and flashing or solid red light: 1) Operate the Test/Mute. Immediately move to fresh air - outdoors or by an open door/window. Check that all persons are accounted for. Do not reenter the premises or move away from the open door/window until the emergency responders have arrived, the premises have been aired out, and your alarm remains in its normal condition; 2) call your emergency local service (telephone number \_\_\_\_\_) ( Fire department or 911).

53.5.

53.6. Propane Gas Alarm

- The Red LED will flash, and the alarm will sound with a steady “Beeping” when a dangerous level of Propane gas is detected.
- If the alarm sounds, take immediate action as shown in the Procedures.
- The alarm will sound until the Test/Silence button is pressed.
- The Red Gas LED will continue to flash until the gas has cleared.
- If gas is still present the Alarm will reactivate in 5 minutes. Do not re-enter the Camper.
- The alarm will reset to normal operation after the RV is ventilated.

**PROCEDURES TO TAKE DURING A GAS ALARM**

1. Turn off all Gas appliances, extinguish all flames and smoking material
2. Press the Test/Mute button. Do not disconnect power
3. Evacuate the camper, leaving doors and windows open
4. Turn off the Propane tanks
5. Do not enter the camper until the camper is fully ventilated and the alarm is not sounding.
6. Have an RV Service center or Licensed Gas provider determine what caused the leak, and have the repair completed.
7. Do not use the campers gas system until such time as the system has been repaired and tested.

53.7. Operational Information:

<u>OPERATION</u>	<u>AUDIBLE SIGNAL</u>	<u>VISUAL SIGNAL</u>
NORMAL	NONE	STEADY GREEN
CO ALARM	4 "BEEPS" 5 SECONDS OFF	STEADY RED
PROPANE ALARM	CONSTANT BEEPING	FLASHING RED
ALARM MALFUNCTION	BEEP" EVERY 30 SECONDS	ALTERNATING RED/GREEN
END OF LIFE	BEEPS EVERY 25-30 SECONDS	RED RED GREEN GREEN FLASHING
WARM UP CYCLE (ABOUT 10 MINUTES)	NO SOUND	FLASHING GREEN

**TROUBLE-SHOOTING GUIDE**

Use this chart to trouble-shoot problems with this 85 Series Alarm.

<u>PROBLEM</u>	<u>CAUSE/SOLUTION</u>
Green Operational LED Off	1.Bad Wire Connection 2. Reversed Wiring 3. Main Power Off 4. Missing or Blown Fuse 5. Contact Customer Service
No Sound When Testing	Contact Customer Service
No Red LED When Testing	Contact Customer Service
Locked In Alarm	Contact Customer Service
MALFUNCTION ALARM LED Red/Green & Beeps Every 15 Seconds	1. Check Battery Voltage
Battery Voltage is Good and it Will Not Reset To Normal operation	2. Contact Customer Service
END OF LIFE ALARM	Push reset button to reset for 3 days – Replace within 30 days.
Customer Service 800-383-0269 www.safetalert.com	

Complete user information for the Safe-T-Alert Carbon Monoxide and LP Gas Alarm, can be found at the following link.[CO & LPG User Manual](#)

## 54. First Alert Fire Extinguisher Model FE1A10GR195A

Your Northern Lite camper is equipped with a “First Alert FE1A10GR195A Fire Extinguisher”, designed for emergency use in case of fire.

### 54.1. Features:

- “Multipurpose dry chemical extinguisher” for Class B, and C fires.
- “Durable metal construction” with a corrosion-resistant finish.
- “Easy-to-read pressure gauge” for quick status checks.
- “Pull-pin safety mechanism” to prevent accidental discharge.

### 54.2. Operation:

#### 54.2.1. How to Use the Fire Extinguisher (PASS Method):

- “Pull” the pin to break the tamper seal.
- “Aim” the nozzle at the base of the fire.
- “Squeeze” the handle to release the extinguishing agent.
- “Sweep” the nozzle from side to side until the fire is out.

### 54.3. Safety Considerations:

- Ensure the fire extinguisher is “easily accessible” at all times.
- Do not attempt to fight large or uncontrollable fires; evacuate immediately.
- Regularly check the “pressure gauge” to ensure the extinguisher is fully charged.
- Keep the extinguisher mounted securely to prevent movement while traveling.

### 54.4. Maintenance:

- Inspect the extinguisher “monthly” for signs of damage or pressure loss.
- Shake the extinguisher occasionally to prevent the chemical from settling.
- If the pressure gauge shows low pressure, replace or recharge the extinguisher immediately.
- Follow the manufacturer’s recommended service intervals for professional inspections.

For Safe operation and information about your First Alert extinguisher, read the [User manual](#) at this link.

*By keeping your “First Alert Fire Extinguisher” in good working order, you can ensure a quick and effective response in case of fire emergencies inside your camper.*



## 55. Dream Dinette Table Lift (Cass Hudson)

Your Northern Lite camper is equipped with the **Dream Dinette Table Lift** manufactured by **Cass Hudson**, designed for easy height adjustment and stability.

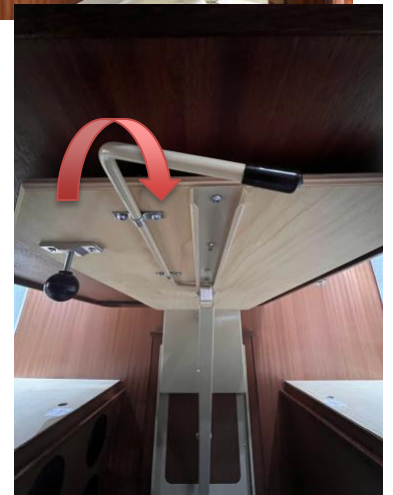
### 55.1. Features:

- Smooth, gas-assisted height adjustment for quick setup.
- Locking mechanism for secure positioning.
- Durable construction to support tabletop weight.
- Compact design for efficient use of space.

### 55.2. Operation:

#### 55.2.1. Adjusting the Table Height:

- To lower the table, under the table you will gently Rotate the latching rod downward. So that the locking end of the rod moves off the plastic glide lock.
- Pushing down on the table will allow the table and dream dinette assembly to move downward keeping the table level through its range of motion.
- When the table is resting on the table support rails on the dinette, the desired position for sleeping, Rotate the lever back up towards the table as this will lock the mechanism in place.
- Arrange the cushions over the tabletop to create a sleeping space.
- To raise the table back to a dining position, remove the cushions, and then rotate the lever downward, to release latching end of the rod. Apply gentle upward pressure to the tabletop, till the table movement is stopped by the Dream Dinette mechanism. Lock the table into position by rotating the lever towards the underside of the table. The latching end of the rod should be fully on the Nylon Glide/latch block. **Failure to have the latch end of the rod fully on the block, will all the table to move during use or travel, and can cause damage to the table and camper due to the excess movement.**
- Reposition the cushions to form the face-to-face dinette dining area,



### 55.3. Sliding the Table from Side to Side.

- To Slide the table from side to side, turn the round knob under the table to loosen it. The slide the table to the desired side. Re-tighten the knob to secure the table in the desired position.

### 55.4. Safety Considerations:

- Ensure the table is securely locked before use, the locking rod should be fully on the nylon lock block.
- Do not exceed the recommended weight capacity.
- Keep hands and fingers clear of moving parts.

### 55.5. Maintenance:

- Wipe down the table leg assembly with a damp cloth to remove dirt and debris.
- Periodically check the locking mechanism for smooth operation.
- Lubricate moving parts as necessary to maintain functionality.

*By following these guidelines, your **Dream Dinette Table Lift** will provide a convenient and functional dining and sleeping solution for your camper.*

## 56. U-Shaped Dinette Table

### 56.1. Features

- The table slide provides additional flexibility by allowing table to move out of the way when not required
- Removable leg, allows for additional sleeping space with the table lowered into the bed position

### 56.2. Operation

#### 56.2.1. Sliding the table when mounted on the table leg.

- Locate the lever on the underside of the table. Rotate the lever by pulling upward to release the table slide. The table can then slide closer or farther from one of the seating positions.



#### 56.2.2. Removing the Table

- Loosen the table knob (Red) to release the table from the leg, pull up to remove on the table to remove it from the leg.
- To remove the table leg, rotate the leg counterclockwise to release it from the base. Safely stow the Leg in the camper, till it is required to support the table once again.
- The table can then be positioned on the dinette support rails, to support the cushions, creating an additional sleeping space.
- When the need for sleeping space is no longer required, remove the cushions and re insert the table leg into the base turning it firmly clockwise until it secured.



#### 56.2.3. Reinstalling the table on the leg

- Insert the table leg into the receiver on the table slide and tighten the knob (Red), to secure the table for use, or for travel. Travel with the table secured on the table leg is the best method of ensuring that no damage to the campers interior or table occurs when in transit. Never travel with the table in the bed position.

*By following these guidelines, your **U-Shaped Dinette** will provide a convenient and functional dining and sleeping solution for your camper, while securing your table and leg for travel.*

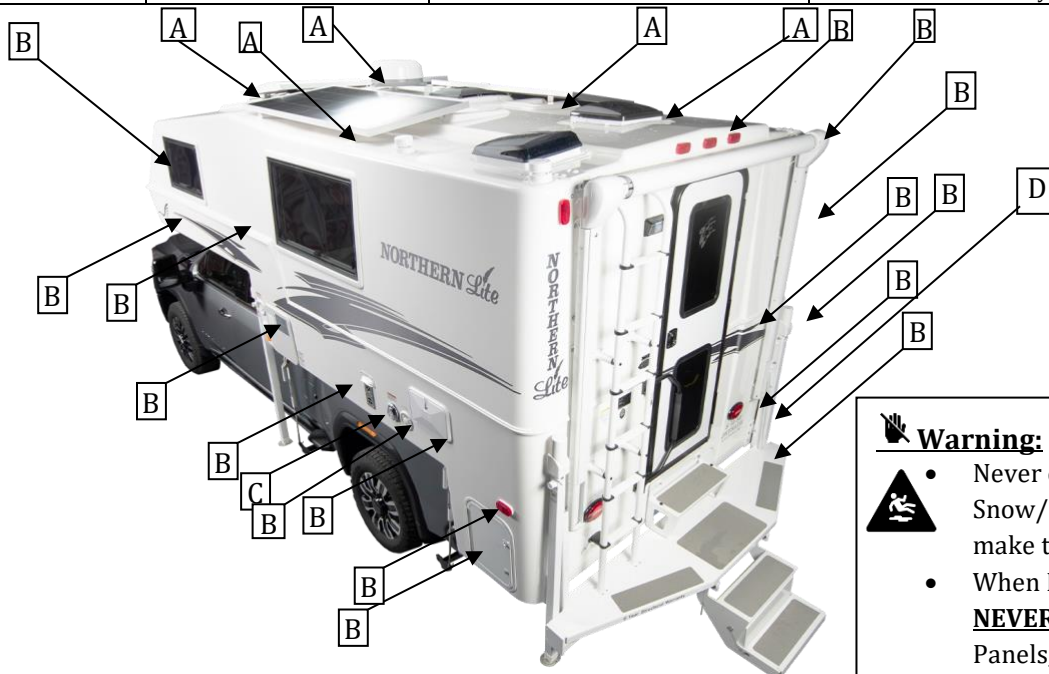
## 57. Sealants

It is important to maintain the sealants on your camper, to prevent moisture from entering and destroying components on your Northern Lite. When washing your Camper, inspect the seals and sealants for signs of drying out and wear. Be aware that weather and road vibration will have an effect on seals, causing them to dry, crack or separate. If you are unsure what to look for, have your dealer instruct you regarding the correct method for renewing the seals, or you may prefer to have the dealership inspect and reseal your RV if necessary.


### NOTICE

*Failure to maintain seals through regular maintenance can lead to damage and may be considered abusive treatment under terms of your recreational vehicle warranty.*

Item	Location	Sealant	Application
A	Roof	Dicor – Self Leveling Lap Sealant	<ul style="list-style-type: none"> <li>Roof Vent</li> <li>Plumbing Stack Cap</li> <li>Fridge Vent</li> <li>Solar Panel Mounts</li> <li>TV Antenna</li> <li>Skylight</li> <li>Solar Gland Entry</li> </ul>
B	Sidewall & Rearwall	3M 4000 UV	<ul style="list-style-type: none"> <li>Beltline Molding</li> <li>City Water</li> <li>Water Fill</li> <li>Exterior Shower</li> <li>Tail Lamps</li> <li>Windows</li> <li>Jack Brackets</li> <li>Awnings</li> <li>Clearance Lights</li> <li>Ladder</li> <li>Assist Handle</li> <li>Porch Lite</li> <li>Speakers</li> <li>Furnace Vent</li> <li>Rear Observation Camera</li> </ul>
C		Black Silicone	<ul style="list-style-type: none"> <li>Power Cord Inlet</li> </ul>
D	Vent/Drain Holes	Proflex	<ul style="list-style-type: none"> <li>Inside Generator Box</li> <li>Inside Propane Box</li> <li>Inside Battery Box</li> </ul>



#### **Warning:**

-  Never climb on a wet roof! Snow/Rainwater or Dew will make the roof slippery
- When Inspecting the roof, **NEVER** step on the Solar Panels, Vents, or Air Conditioner or other items. This will cause **damage** to the installed components.

## 58. Maintenance

### 58.1. Fabric

- Fabric Cushions – clean with mild soap and water, or water-based upholstery cleaner
- Vinyl Cushions – clean with mild soap and water, rinse with clean water, dry immediately with soft cloth
- Bedspread- carefully clean with mild soap and water, or water-based upholstery cleaner.

### 58.2. Ceiling

- Ceiling Headliner- can be cleaned using a carpet spot cleaner. Try on an inconspicuous area in a closet before attempting to clean visible areas.

### 58.3. Exterior

The exterior of your camper is high end Polyester Gelcoat and should be washed regularly with mild soap and water. Waxing the camper will make dirt and bug removal easier.



**Warning! When cleaning the roof of your camper, always use a step ladder to gain access to the roof.**



**Warning! Standing on the roof when washing the camper, can lead to a fall and cause serious Injury**



**Warning! When Inspecting your camper roof, never stand on the Solar Panels, Air Conditioner, or vents, as this will damage the installed item.**

## 59. Window and Skylight repair.

If you've had a scratch appear in your Heki skylight, or Seitz window, the acrylic lens can be repaired with the supplied "Novus" kit.

### 59.1. Repairing the lens

#### 59.1.1. Novus No.1 – Clean and Protect

- Gently cleans all plastics without scratching. Leaves a lustrous shine that resists fogging, repels dust and eliminates static.
- Shake well
- If the surface is extremely dirty apply novus No 1 liberally and wipe using long, sweeping strokes with a clean, soft, lint-free microfiber immediately. Do not use pressure as dirt particles may scratch the plastic.
- Reapply using short, circular strokes with a clean portion of the cloth
- When surface is thoroughly clean and uniformly covered, buff to a slippery glaze with a clean portion of the cloth. Surfaces buff to a high glaze are more resistant to dust and future scratching.
- Reapply Novus No. 1 regularly to maintain the antistatic, smudge and scratch resistance properties.

#### 59.1.2. Novus No.2 – Restore and Refinish.

- If the surface is dirty, clean with Novus No.1 before applying Novus No. 2
- Shake well
- Apply Novus No.2 liberally, using a clean, soft lint-free microfiber cloth, polish with a firm back and forth motion at right angles to the scratches. Keep the cloth saturated with polish at all times. Greater pressure may be required on deeper scratches.
- When the worst scratches have been polished out, reapply Novus No.2 uniformly in a circular motion to the entire surfaces using short, circular strokes and light pressure. Allow to dry to a light haze.
- Using a clean portion of the cloth, buff the surface to a slippery glaze using firm, short strokes. This procedure is imperative in order to achieve the best results.
- For heavy scratches, multiple applications of Novus No.2 or an application of Novus No.3 may be required.
- For best results , follow with Novus No.1

#### 59.1.3. Novus No.3

- Use when damage is too severe to be restored with Novus No.2 polish.
- Remove surface dirt and dust with Novus No.1
- Shake well
- Apply Novus No.3 liberally using a clean, soft micro fibre cloth with a back and forth motion at right angles to the scratches. Keep the cloth saturated with polish at all times.
- Continue polishing until only fine scratches remain. IMPORTANT: Using cloth remove all remaining polish.
- With a clean cloth apply Novus No.2 in a circular motion uniformly to entire surface. Polish using light pressure until dried to a light haze
- Using a clean cloth, buff the surface clean
- For best results, follow with Novus No.1

## 60. Northern Lite Truck Camper Limited Warranty

Thank you for purchasing your Northern Lite Truck Camper. The following document explains certain rights and limitations of your campers' limited warranty. Please review this document as it relates to your camper.

### ONE-YEAR LIMITED WARRANTY

This One-Year Limited Warranty covers the Truck Camper against **Substantial Defects** in material and workmanship attributable to Northern Lite's manufacture and assembly of the Truck Camper. Substantial defects are those defects that prevent the Truck Camper from performing its intended use for short term recreational camping. This one-year warranty is valid to the original purchaser, for 1 year from the date of purchase.

Northern Lite Mfg. LP herein after called the Manufacturer, hereby warrants that the selling dealer will repair, replace or adjust any parts or assemblies, except those parts and components which are warranted by another entity. The written warranty provided by any manufacturer of the component part is the direct responsibility of that manufacturer. Component manuals and component manufacturers' warranty information are included in the black document pouch provided with your camper.

Your Northern Lite camper comes with a six (6) year Structural Warranty. This Structural, non-transferable warranty, is in effect for six (6) years from the date of purchase to the original owner.

The 6-year Structural Warranty covers fiberglass shells, walls, roof and floor system from defects in materials and workmanship. This warranty does not cover damage from normal wear and tear, owner damage, impact, improper loading and water intrusion from poor maintenance.

For the purpose of this Limited Warranty "Gel Coat" refers to the exterior coating on all fiberglass parts. Gel Coat is a surface coating and defects in Gel Coat are cosmetic and not structural.

Fiberglass defects caused by the installation of any equipment or accessories, installed at any dealership, or other place of business, or by any other party other than Northern Lite, will not be covered under this warranty.

Hairline Gel coat cracking (also known as crazing) are cosmetic and are covered for 1 year if not caused by impact, or incorrect product use.

Scratches/Stone Chipping or other damage caused by impact, road damage or damage due to accident is not covered by this Limited Gel Coat Warranty.

This warranty pertains only to new Truck Campers used solely for its intended use of recreational camping. Any defects which, in the opinion of the manufacturer, have occurred as a result of misuse, acts of God, negligence, causes beyond control of the manufacturer, or alteration to the recreation vehicle are not covered by this warranty. This warranty does not apply to any recreational vehicle placed on rental or used for commercial purposes. During the term of this warranty, repairs (parts & labour) will be made, at no charge to the customer, using Manufacturer's parts or authorized remanufactured parts.

This warranty becomes valid when the camper is registered online at [www.northern-lite.com](http://www.northern-lite.com) within (30) days of the date of purchase. The foregoing warranty is the only express warranty on the part of the manufacturer and the selling dealer. You may have other rights which vary by Province or State.

The foregoing express warranty is in substitution for and eliminates all other liabilities of any kind whether arising under statute, in tort, by implication of law and otherwise, including, to the full extent as may be allowed by law, liability for any other representations respecting the vehicle, statutory warranties or implied warranties or conditions as to its merchantability or fitness. Any suggested warranty or condition as to merchantability or fitness is confined to the applicable warranty term as defined herein.

Under no circumstances shall the manufacturer be accountable for loss or damage to the Truck Camper, or its parts, loss of time, inconvenience, business loss, consequential or other damage or any other claims associated to or amounting from any defect in factory materials or workmanship whenever found, except as provided for herein.

This warranty shall be interpreted and construed with the laws of British Columbia, Canada.