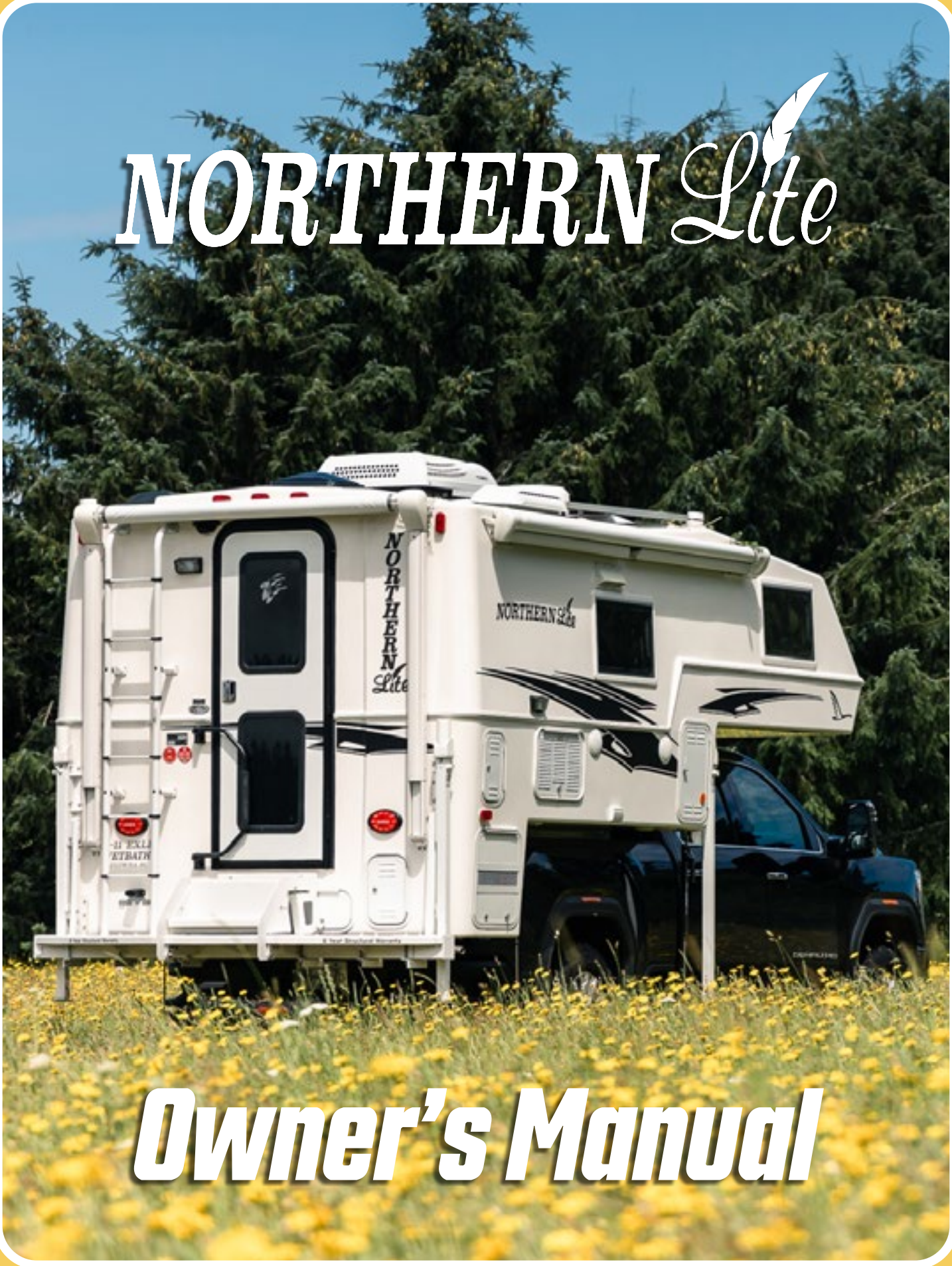

NORTHERN Lite
NORTHERN Lite
NORTHERN Lite
Owner's Manual

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Introduction

Welcome to the Northern Lite Family! We would like to thank you for choosing one of our high quality truck campers. This manual is designed to help you with the different systems in your camper in conjunction with the supplied manuals from the appliance and equipment manufacturers that we have included in the black pouch.

Your dealer also should provide you with a full walk through of all the systems but we understand sometimes it is a lot of information. If you have any questions, problems or concerns please contact your selling dealer. If they are not able to answer your inquiries please feel free to contact the factory directly.

Owner's Responsibility

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

Dealer's Responsibility

It is the dealer's responsibility to complete a full pre-delivery inspection prior to you picking up your new unit. Also they will complete a familiarizing of the camper and complete warranty registration.

Please read this entire manual and supplemental suppliers manuals before using or loading your Northern Lite truck camper.



Northern Lite Mfg. LP
New Recreational Vehicle Warranty

Northern Lite Mfg. Ltd. herein after called the Manufacturer, hereby warrants that the selling dealer, or the manufacturer will repair, replace or adjust any parts, except those parts and components which are covered by separate warranties of the individual manufacturers of such components (such as appliances, awnings, jacks & jack motors and windows) on its new recreational vehicles. If such parts are found to be defective in factory materials or workmanship made or supplied by the manufacturer. Most of these manufacturers have service centers throughout North America and their warranty information is included in the black document pouch.

This warranty if effective for twelve (12) months from the date of purchase by the original owner and warranty is nontransferable. This warranty does not cover any defects which are not immediately and properly reported as required herein. This warranty does not apply to the cost of transporting materials or the Recreational vehicle to or from the repair site.

This warranty also includes a six (6) year structural integrity warranty which becomes void by lack of regular maintenance, abuse, incorrect tie downs, neglect, alterations, modifications, accidents or misuse. All fiberglass repairs must be done with approved gel coat not automotive paint. All warranty repairs must have preauthorization prior to executing any warranty repairs. Any declared defects must be brought to the selling dealer or to the manufacturer attention no later than ten (10) days after the discovery of any alleged defects.

This warranty pertains only to new recreational vehicles handled in a normal manner. 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 vehicles 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 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 recreation vehicle or its parts, loss of time, inconvenience, business loss, consequential or other damages or any other claims associated to or amounting from any defect in factory materials or workmanship whenever found except as provided for herein.

We at Northern Lite Mfg. LP are continuously striving to improve our products. Changes are made from time to time as they are developed. We are under no obligation to retrofit from these changes to earlier models. The features and specifications are subject to change without notice. Northern Lite Mfg. Ltd. reserves the right to change any components used in production at their discretion.

We trust you will enjoy your new Northern Lite camper. Any success we now enjoy and hope to enjoy in the future will depend on how well we please our valued customers. Thank you for choosing a Northern Lite camper.

Installing and Loading Your Truck Camper

One of the most important aspects of owning a truck camper is learning how to correctly load and secure your truck camper to your truck. When loading gear into your camper, always try to keep the load even left to right. As well place heavier items forward of your trucks axle inside the camper.

Always ensure your truck has enough payload capacity to safely carry your camper. The dry weight of your camper is posted in the rear closet as weighed when it left the factory.

Tie Downs and Turn Buckles

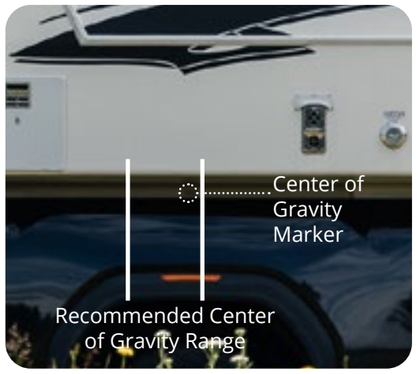
We recommend the use of frame mounted tie downs and spring loaded turn buckles to secure your camper to your truck. All four tie down locations must be used and turn buckles should be checked regularly for correct tension as driving with loose turn buckles can cause damage to your truck camper. We recommend using TorkLift frame mounts on your truck and TorkLift Fastguns for tie downs on the camper. The black O-ring on a Fast gun should come down 1/4" – 3/8" when tightened correctly.

Soft Rubber Mat

We recommend the use of a soft rubber bed mat, with a 3/8" max thickness, be installed directly under the bottom of every camper. This helps prevent the camper from sliding in the box. Do not use thicker horse stall type mats as they will allow the camper to move. ***The use of a horse stall mat will void your warranty.*** Your camper should be installed on a flat surface and fifth wheel hitches must be removed. If additional height is required we recommend using plywood cut to the length of your box with the 3/8" soft mat installed on top of the plywood.

Center of Gravity

Every Northern Lite truck camper has a center of gravity marker on the left and right side wall. The center of gravity should be within the COG load range found in your trucks Owner's Manual.



7-Way Plug Wiring

The 7-way plug on all Northern Lite campers is a female plug wired to industry standard 7-way flat pin wiring. You will need a male 7-way plug from your truck.

It is easiest to plug the 7-way connector into the camper once you have backed under the camper prior to lowering it.

White	Ground	10 Gauge
Black	Main Power (12 Volt)	10 Gauge
Green	Clearance Light	16 Gauge
Red	Left Signal	16 Gauge
Brown	Right Signal	16 Gauge
Yellow	Backup	16 Gauge

Raising and Lowering Truck Camper

- Read Happijac camper jack Owner's Manual and Happijac wireless remote camper jack controller manual before operating jacks.
- Always load and unload in a level and flat location.
- Always keep the front of the camper higher than the rear when raising or lowering.
- Use 4"x 4" pieces of 3/4" plywood under each jack on soft ground and asphalt to prevent sinking.
- Never raise jacks past red safety line.
- Never leave jack unattended with locking lever in down position.
- Always disconnect camper tie downs before trying to level camper.
- Use extreme caution when windy.

IMPORTANT

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:
northern-lite.com/truck-camper-how-to-videos/



Dually Swing Out Brackets

- If your camper is equipped with dually swing out brackets it is very important to ensure brackets are swung out and locked before trying to raise camper.
- Never raise camper with swing out brackets facing forward, they must be extended out to support weight.
- Make sure camper is clear of truck bed by at least 2 inches before pulling truck out. Once truck has been pulled out lower camper as low as the jacks allow, keeping the front 2" higher than the rear.
- When putting camper on truck ensure camper is at least 2" higher than the bed of the truck and when backing in, stop when campers black bumpers are 3" from end of truck box and level camper, then back up to within ½" and lower camper. The bumpers should just make contact with the box when lowered.
- Ensure camper bumpers are not getting compressed and pull forward slightly if they are. The bumpers are designed to be torn off if you are attempting to load the camper too far forward.
- Keep your wireless remote in a safe dry location when not in use.
- The control module for your electric jacks is located in the driver's side rear dump valve area. The electric jacks bypass the camper battery disconnect switch and power runs from the battery, through an auto resetting 40 amp breaker and directly to the electric jack controller module.

Camper Storage

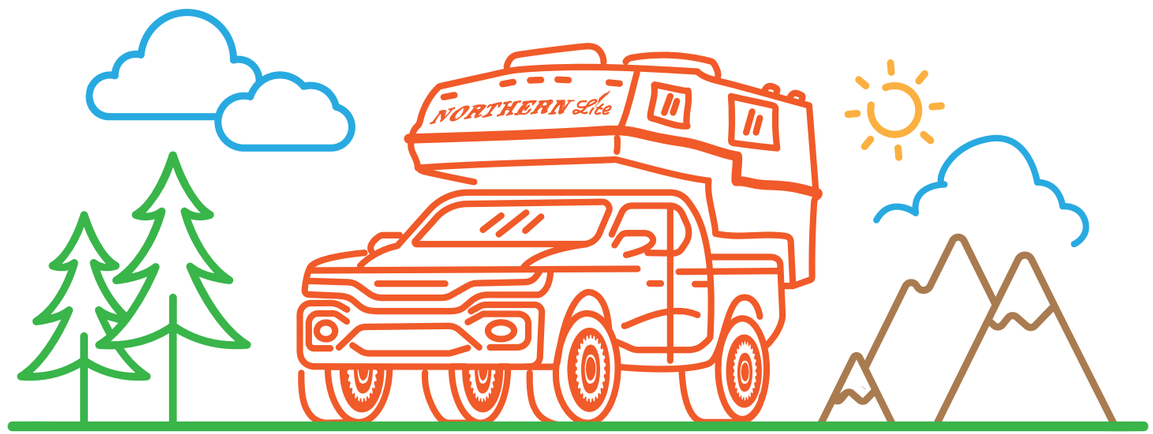
Your camper is designed to be stored on the jacks. We recommend 4"x 4" pieces of ¾" plywood under each jack pad. The camper should never be left in the air with the jacks fully extended. Always lower the camper as low as the jacks will allow and keep the front 2" higher than the rear. If you choose to add additional support using blocks or saw horses, you must have a full ¾" sheet of plywood between the bottom of the camper and the blocks or saw horses so that the weight is evenly distributed. Failing to do this may result in damage to your camper. Always store camper level left to right with the front higher than the rear.

Camping Off the Truck

When using your Northern Lite camper off the truck it needs to be in a flat and level location. You should lower the camper as low to the ground as the jacks will allow, keeping the front higher than the rear. The steps can be used in the stowed position as there is non-skid on both sides of the steps.

Long Term Usage

RVs are not designed for long term continuous usage. If you are going to use your camper for extended periods it is very important to control the moisture in your unit in both winter and summer in high humidity areas. In winter always use your stove exhaust fan when cooking and run for extended periods afterwards to remove all extra moisture from cooking. Always run the bathroom fan after showering until the shower is dry. Keeping the heat at a steady temperature and not setting back at night will help keep moisture down. We recommend maintaining 74F degrees in the winter. It is important to vent the camper during winter use using a roof vent or window. During summer in high humidity areas your air conditioner will help lower the humidity when in cooling mode. In some areas during winter and summer extended stays you may also require a dehumidifier to maintain the humidity levels in your camper.



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 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 TV arm is retracted and extra lock pin is in place.
- ☐ Ensure bathroom door is closed and latched.
- ☐ Ensure table lock is tightened to prevent table from sliding back and forth.
- ☐ Ensure all drawers are pushed in and latched in place.
- ☐ Always lower glass stove top cover prior to moving camper.
- ☐ Ensure fridge doors are securely closed.
- ☐ Ensure tie downs are in place.
- ☐ Ensure jacks are raised.
- ☐ Ensure all awnings are retracted.
- ☐ Ensure hot water is turned off.

Propane, Plumbing, and Electrical Systems

Propane System

The propane tanks in your new camper come already purged so they are ready to be filled.

Follow all safety warnings in the compartment that holds your propane tanks.

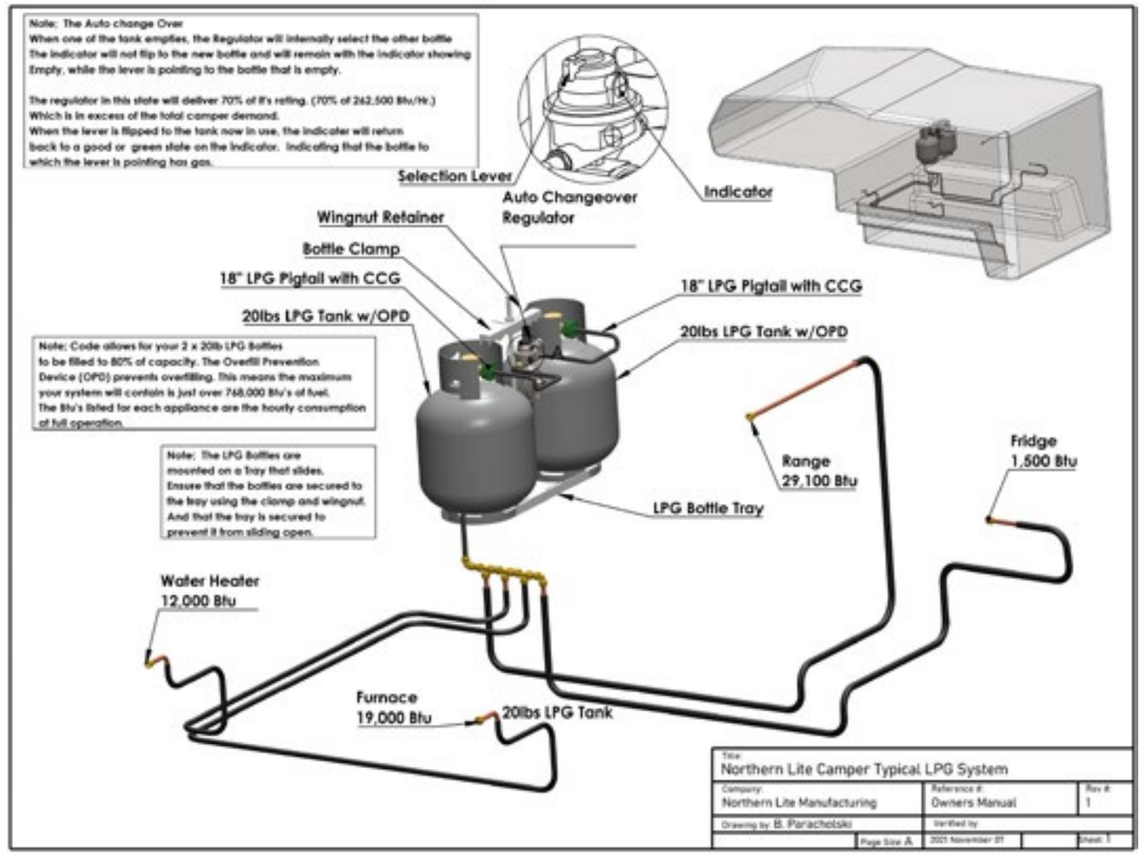
Before use, read all manuals provided with your appliances.

⚠ DANGER

IF YOU SMELL PROPANE

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

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



Operating Propane System

Your camper is equipped with an auto change propane regulator. We recommend keeping the arrow towards the outside propane tank and refilling when the regulator turns red. It is easier to change the tank closest to the door.

Always open both tank valves slowly as they are QCC Type 1 which has an excess flow safety devices built into them. They need to be hand tight for gas to flow. If you open the tank valves too quickly it will stop the flow of gas.

Your fridge, stove, furnace and hot water heater all run on propane. Thoroughly read the manufacturers manuals before operating any of the appliances. You will find these manuals included in the black pouch.

The propane regulator that is located within the LPG Compartment on the curbside exterior of the camper must always be installed so that the vent is pointing downward. Please keep this vent from blockage, which could result in excessive propane pressure causing Fire or Explosion.

⚠ WARNING

- Do not place propane cylinders inside the vehicle.
- Propane cylinders are equipped with safety devices that relieve excessive pressure by discharging propane to the atmosphere.
- Propane gas is highly flammable.
- Can lead to a fire or explosion and result in death or serious injury.

⚠ WARNING

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

Fridge

Every Northern Lite truck camper comes equipped with a 2-way fridge and will run on AC and propane. The fridge needs a properly charged battery to operate correctly. When in a campground or home and plugged into 120 volt power, use AC. To work correctly the fridge must be level. *See Fridge Manual for further information.*

Furnace

Your furnace has two separate heat ducts which run into the basement to heat your tanks and basement area when the furnace is running. In below freezing temperatures we recommend keeping your thermostat set to at least 74 degrees Fahrenheit. In extreme cold turn on dump valve light for additional heat. *See Furnace Instructional Manual for safety and operational instructions.*

Stove Top/Oven

See your Range Top/Oven Manual for safe operation instructions.

Never use portable fuel burning equipment inside your truck camper as this may cause fire or asphyxiation.

Never light the stove top with the range cover closed. Always have the stove top cover lifted and locked before lighting burners.

Warning – When refueling or parked near gasoline pumps always shut off all LP Gas appliances.

⚠ DANGER

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

⚠ WARNING

- Gas cooking appliances need fresh air for safe operations.

Before operating:

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

Plumbing System

Every Northern Lite camper is equipped with two means of operation for the water system. One when connected to an externally pressurized (city water) water system and one when using the onboard fresh water tank and 12v pump.

City Water Connection and Onboard Water System

This allows a direct connection to an outside source like a campground or city water at home. This system bypasses the onboard fresh tank and 12-volt pump. When using this connection never turn your pump on. As well, open both hot and cold taps to eliminate any air. A pressure regulator is recommended in areas with unknown water pressure levels to protect the system. When not connected to the pressure system always replaces the cap.

When using the onboard fresh water tank and 12-volt pump, always make sure there is water in your tank and the valves are set for summer use. (See winterizing information on proper valve positions) The pump will turn on and off automatically with the opening and closing of the taps. ***Never turn on pump if fresh water tank is empty.*** The pump switch is located on the monitor panel on the dinette wall.

Filling Water Tank

Using the gravity water fill open the cover and insert a garden hose. Fill tank until water comes out the over flow, this will mean your tank is full. If not using water for more than a week the tank should be drained.

Fresh Tank Maintenance

At the beginning of every season it is recommended to add ½ cup of bleach to a full water tank and let it sit for 3 hours, and then pump out by opening all the hot and cold taps one at a time. This ensures your entire system will be sanitized.
Flush system until bleach odor is gone. Adding a teaspoon of bleach after any extended periods of usage will help keep the system clean. For draining the water tank and system see chapter on winterization.

Waste Tanks

The drain handle for the black waste tank is located at the driver's side rear of the camper and is a 3" valve. Connect your sewer hose to the connection under the camper and ensure other end is in a sani dump. Slowly open valve and let drain. Once drained open the smaller grey tank drain valve, this valve is 1 ½". The grey tank will drain faster if the front of the vehicle is higher than the rear. By doing the grey tank second it will clean the black waste out of your sewer hose.

Once done remember to close both valves and after disconnecting and rinsing your sewer hose, install the drain cap to the camper sewer connection. Every camper is shipped with a sewer hose connector that will fit inside the bumper. Always use a waste tank deodorizer to reduce holding tank odors.

Hot Water Heater

Always ensure there is water in the water heater and that the valves are in summer mode before turning it on. Always shut the water heater off before draining water. The switch to turn the heater on is located on the kitchen counter face. **The hot water heater must be turned off before driving.** *See Hot Water owner's manual for more information.*

Looking for plumbing schematics?

northern-lite.com/northern-lite-manuals/



Electrical System

120-Volt Power Cord

Your camper comes equipped with a 30' long power cord with a 30amp plug on the end as well as 15amp adapter for plugging your camper in at home and at camp sites. The power cord supplies power to your 45amp converter in the camper which powers your AC circuits to run your optional air conditioner and microwave as well as fridge when plugged into AC. The converter will also charge the batteries in your camper as long as the red battery disconnect switch is turned to the ON position. The converter has a smart 4-stage charging circuit so it does not hurt the batteries if plugged in for an extended period of time. The converter will also run all the 12-volts circuits when plugged in with the exception of the fridge and stereo which are powered directly from the camper batteries.

The 12-volt circuits are protected by automotive type fuses and the 120-volt circuits are protected by house style resettable circuit breakers. There are also GFI (Ground Fault Interrupter) plugs on the kitchen counter and behind the fridge to protect you from electrical shock in damp areas. There should be a green light on the plug if it is working. If there is not green light the plug is tripped and will need to be reset before it will work by pressing the reset button on the face of the plug.

Batteries

The batteries are supplied and installed by the dealer. We recommend 2 X 12-volt deep cycle batteries in all our campers. 10-2 EX and 8-11 EX models hold 2 – Group 27 batteries. 9-6 Q models hold 2 – Group 24 batteries.

Battery Disconnect Switch

When using the camper and driving, the battery disconnect switch should always be in the ON position. Your batteries can only charge if the switch is in the ON position from the truck or power converter. To test if your truck is charging your camper batteries, Start your truck and turn the battery disconnect switch to OFF then turn on an inside light. If it works then your truck is putting power back to the camper and charging the battery. If the light does not work, you are not getting power from your truck. Check the 7-way cable and the truck's fuse for the trailer charge circuit.

When not using your camper for more than a couple of days turn the switch to the OFF position.

Looking for electrical schematics?

northern-lite.com/northern-lite-manuals/

Safety and Misc. Systems

Smoke/CO Detector

Every camper comes equipped with a combination smoke and carbon monoxide detector. Test the device after your camper has been in storage, before each trip and once a week during a trip. Replace the batteries at least once a year with two “AA” batteries or when the low battery alarm goes off (will beep once a minute). Test after replacing batteries.

Never disconnect the battery due to nuisance alarms or from cooking. Ventilate the camper and the alarm will stop. Vacuum once a month to keep dust free.

LP Gas Detector

Each camper is equipped with a LP Gas detector which is hard wired into the camper’s 12-volt wiring system and is located near the floor under the fridge. This unit will alert you to any potentially dangerous LP Gas that may be present from a defective appliance, gas pipe leak, or incorrectly adjusted appliance burner. In the event the propane detector goes off exit the camper and shut off both propane tanks and ventilate the camper by opening door and windows. DO NOT turn any lights on. Have gas system checked by a RV technician before using again.

Fire Extinguisher

Every camper comes equipped with a Fire Extinguisher mounted off the floor by the rear door. Pull the pin and direct discharge at the base of the fire in a sweeping motion. Once used the fire extinguisher must be refilled or replaced.

Solar Panel

Your camper comes standard with at least 2 x 100 watt solar panels and a 30amp solar controller. At peak sunshine your panel will charge up to 5amps into your camper’s batteries. The solar panel bypasses the battery disconnect switch so it always charges your battery and the Solar Controller is a smart charger so it won’t overcharge your batteries.

Rear Awning

All Special and Limited Edition campers come standard with a power rear awning. The rear awning also has an LED light strip which is operated by the switch beside the power awning switch under the rear closet. Never leave camper unattended with awning extended in case the wind comes up and always retract in windy conditions.

Looking for manufacturer guides?

northern-lite.com/northern-lite-manuals/

Side Awnings

All Special Edition campers come standard with a manual crank side awning. Use the supplier handle to extend awning. The awning legs are stored at the very front of the awning. You may need a short step ladder to reach the unlock lever on the awning. Side awnings must always use the legs when extended. You can attach them to the camper or have them on the ground. Always retract when windy.

All Limited Editions come standard with a power side awning with a wind sensor. Never leave awning extended if camper is unattended. *See Carefree Owner’s Manual for maintenance and operating instructions.*

Air Conditioners

Air conditioners come standard on our Limited Edition series and both 10-2 EXCD Special Edition models. Air conditioners are optional on all other models. If you turn your air conditioner off wait five minutes before turning back on. *See Air Conditioner Manual for other operating tips.*

Microwave

To operate your microwave you must have a generator running or be plugged into shore power. Always keep cabinet door open when running microwave.



Camper Maintenance

Interior Windows/Heki Skylight

Never clean your windows or skylight using paper towel as it can scratch them. Use a soft micro-fiber towel and the supplied cleaner. If you do scratch your windows there is a scratch remover kit supplied with each camper. When washing the outside always spray windows first to ensure no grit or grime is left on them and use a clean soapy brush to gently clean window. Always spray brush with water first to ensure there is nothing in the brush that may scratch the windows.

Always ensure windows are closed and latches are in locked position prior to moving camper.

Fabric

Seat cushions are foam backed and can be professionally cleaned if needed.

Ceiling

If you get a stain on your ceiling fabric use a carpet spot cleaner to gently clean the area.

Exterior Maintenance

The exterior of your camper is a high end Marine Gel Coat and should be washed regularly with mild soap and water. Waxing the front of the camper using a quality Fiberglass boat wax will make removing bugs and road grime easier.

Wax the jack legs every six months to prevent rusting. If you are driving in winter, clean jacks regularly to keep road salt and calcium off the jacks.

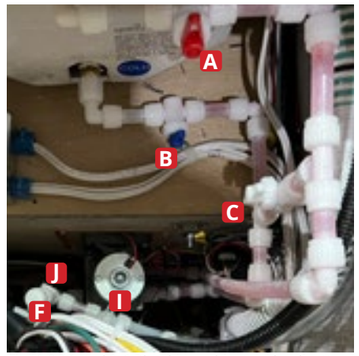
Check roof coating and sealants every six months. If there is any peeling or lifting scrape off any loose sealant and reapply.

Sealant Used

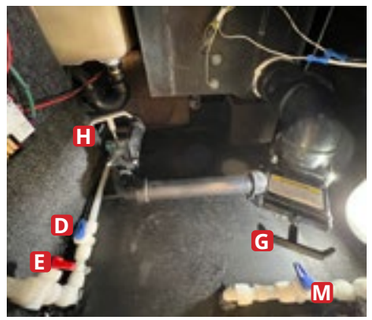
Around roof vents: *Heng's white Alkyd Fibered Roof Coat or Dicor Lap Sealant*
Around solar brackets and TV antenna: *Dicor Lap Sealant*
Around all doors, lights, Windows & center trim: *Proflex RV or 3MUV4000*
To reseal the inside of the plastic boxes: *Proflex RV*

*To help you out, we have created several **'How to winterize your camper'** videos.*

Explore the videos at:
northern-lite.com/truck-camper-how-to-videos/



Fig#1 8-11 and 9-6 Plumbing cabinet under dinette



Fig#2 8-11 and 9-6 exterior plumbing cabinet



Fig#3 Water heater

How to Winterize

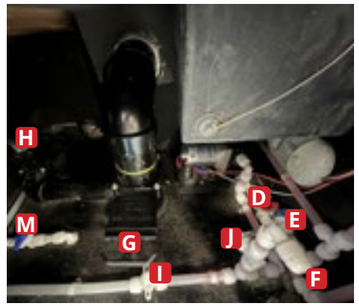
On the water system stop valves, the handle aligned with tubing allows water/anti-freeze to flow through valve. A Stop Valve with handle across the tubing direction, prevents the flow of water/antifreeze past the valve.

Use ONLY RV Potable/Non Toxic Antifreeze for winterizing your camper. Using anti-freeze that is not a Non Potable/Non Toxic Antifreeze, can result in illness or death.

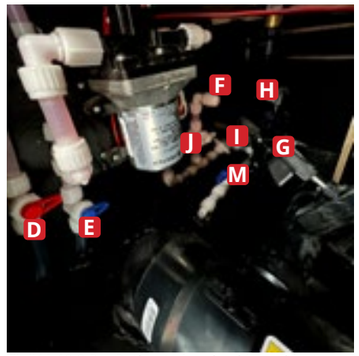
9-6 and 8-11 EX Models

1. Drain fresh tank. Open valve "D" on (Fig#2) and leave open, shown closed in (Fig#2). It is not necessary to put antifreeze in the tank. Any residual water in the tank, can freeze / thaw without causing damage to the tank.
2. Open cold low point drain valve "M " (Fig#2) close, once drained, shown closed in (Fig#2)
3. Make sure pump is off. Open hot low point valve "E" Fig#2 close once drained. Shown closed in (Fig#2)
4. Close valve "I" water tank supply (Fig#1). Shown closed.
5. Open Valve "J" on antifreeze pickup line as indicated in Fig#1, remove cap "F", and connect clear flex line to where cap was removed. Insert tube end of pickup line into potable antifreeze container.
6. To Bypass Water Heater, shut Valves "A & B" as indicted in Fig#1. Open the Bypass Valve "C" as indicated. This prevents antifreeze from entering the Water Heater tank but allows anti-freeze to flow through the system.
7. ***WARNING: Prior to Draining the Water Heater, ensure that the LP Gas is turned off, and that the electrical switch for the water heater element is "OFF". This switch is at the right of the water heater control in the galley. Failure to turn off this switch, can cause the 110v element to be energized if the camper is plugged in. Overheating and burning up the element. Also use caution when draining the water heater as the water contained may still be hot.***

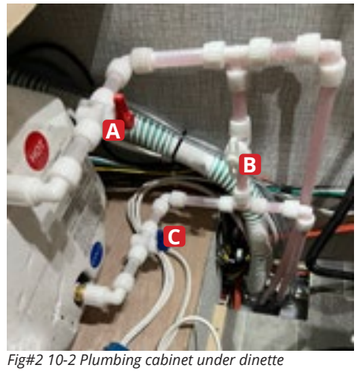
   To Drain the Water Heater tank. Open the Water Heater Access door located on the exterior at the front drivers side of the camper. Remove the Anode Rod (Hex Nut) at the Bottom of the Water Heater "K", and allow the water to drain. Opening the pressure relief valve "L" when draining will speed up this process.
8. To Winterize the lines by going through the Camper, turn on the Water Pump, to draw anti-freeze out of the Anti-freeze gallon. Proceed to open the kitchen faucet on hot and then cold until Anti-freeze (pink) comes out of the faucet. Repeat the same sequence at the vanity faucet, turning on the hot and cold till anti-freeze comes out of the faucet. Then pull the shower diverter, and ensure that anti-freeze has flushed out the hand held shower head. Flush the toilet until Anti-freeze appears in the bowl. Exit the camper, and turn on the cold tap of exterior shower till antifreeze appears out of the shower head, then close the cold faucet. Repeat the procedure with the hot tap till anti-freeze appears at the shower head.
9. Enter the camper and turn off the water pump, so that the system will no longer pressurized. Exit the camper and proceed to the city water inlet. Remove the cap to access the conical filter screen. Carefully remove the screen, so as not to damage the rubber washer using a small flat head screwdriver. This will expose the internal mechanism of the city water. Using the same small screw driver or a pen, while standing clear of the inlet, depress the center pin of the city water back flow preventer. This will allow the water in that pipe length to be pushed out by the antifreeze in the system. Failure to complete this operation, can cause the water in the inlet to freeze and damage the valve/line. Always do this without the pump on, as the system pressure when operating can blow off the o-ring seals on the backflow preventer valve.
10. Although anti-freeze would have made its way into the "P-trap" at each drain location, it's advisable to add about 1 cup of anti-freeze to each sink/shower drain, thereby ensuring adequate anti-freeze is present in the "P-trap" Ensure that Black "G" and Grey "H" Tanks are drained. Leaving the valves open is advisable, as water can collect in the body of the termination valves. Drain black and gray tanks.



Fig#1 10-2 Wet Bath exterior plumbing cabinet



Fig#1A 10-2 Dry Bath exterior plumbing cabinet



Fig#2 10-2 Plumbing cabinet under dinette



Fig#3 10-2 Water heater

10-2 EX Models

1. Drain fresh tank. Open valve “M” on (Fig#1 #1A) and leave open, shown open. Any residual water in the tank, can freeze / thaw without causing damage to the tank.

2. Ensure pump is off.
Open cold low point drain valve “E”. Close once drained. Shown closed in (Fig#1 and #1A)

3. With the pump still off, open hot low point valve “D” Fig#1 and #1A close once drained. Shown closed in (Fig#1 and #1A).

4. Close valve “I” water tank supply (Fig#1 and #1A) shown closed

5. Open valve “J” and remove cap “F” and connect clear flex line and put other end into 1 gallon jug of RV Antifreeze.

6. To bypass Water Heater, shut Valves “A & C” as indicted in Fig#2. Open the Bypass Valve “B” as indicated. This prevents antifreeze from entering the Water Heater tank but allows anti-freeze to flow through the system.

7. ***WARNING:* Prior to Draining the Water Heater, ensure that the LP Gas is turned off, and that the electrical switch for the water heater element is “OFF”. This switch is at the right of the water heater control in the galley. Failure to turn off this switch, can cause the 110v element to be energized if the camper is plugged in. Overheating and burning up the element. Also use caution when draining the water heater as the water contained may still be hot.**

   To Drain the Water Heater tank. Open the Water Heater Access door located on the exterior at the front drivers side of the camper. Remove the Anode Rod (Hex Nut) “K” at the Bottom of the Water Heater (Fig#3), and allow the water to drain. Opening the pressure relief valve “L” when draining will speed up this process.

8. To winterize the lines by going through the Camper, turn on the Water Pump, to draw anti-freeze out of the Anti-freeze gallon. Proceed to open the kitchen faucet on hot and then cold until Anti-freeze (pink) comes out of the faucet. Repeat the same sequence at the vanity faucet, turning on the hot and cold till anti-freeze comes out of the faucet. Then pull the shower diverter, and ensure that anti-freeze has flushed out the hand held shower head. Flush the toilet until Anti-freeze appears in the bowl. Exit the camper, and turn on the cold tap of exterior shower till antifreeze appears out of the shower head, then close the cold faucet. Repeat the procedure with the hot tap till anti-freeze appears at the shower head.

9. Enter the camper and turn off the water pump, so that the system will no longer pressurized. Next, exit the camper and proceed to the city water inlet. Remove the cap to access the conical filter screen. Carefully remove the screen, so as not to damage the rubber washer using a small flat head screwdriver. This will expose the internal mechanism of the city water. Using the same small screw driver or a pen, while standing clear of the inlet, depress the center pin of the city water back flow preventer. This will allow the water in that pipe length to be pushed out by the antifreeze in the system. Failure to complete this operation, can cause the water in the inlet to freeze and damage the valve/line. Always do this without the pump on, as the system pressure when operating can blow off the o-ring seals on the backflow preventer valve.

10. Although anti-freeze would have made its way into the “P-trap” at each drain location, it’s advisable to add about 1 cup of anti-freeze to each sink/shower drain, thereby ensuring adequate anti-freeze is present in the “P-trap” Ensure that Black and Grey Tanks are drained. Leaving the valves open is advisable, as water can collect in the body of the termination valves. Drain black and gray tanks.



Fig #1 - Driver's side rear of camper



Fig #2



Fig #3

Older 10-2 EX & 8-11Q Models

1. Drain fresh tank. Open valve “C” and leave open, shown open in Fig#1.

2. Open cold low point drain valve “D” (Fig#1) close once drained, shown closed in
Fig#1.

3. Open hot low point valve “E” (Fig#1) close once drained. Shown closed in Fig #1

4. Close valve “B” water tank supply. Shown closed in Fig #1.

5. Open valve “A” and remove cap “F” and connect clear flex line (Fig#4) and put other end into 1 gallon jug of RV Antifreeze (Fig#5).

6. Bypass hot water tank (Fig #2) close valve “A & “B” for winter Fig#2 Open valve “C” for winter (Fig#2).

7. Drain hot water tank from outside by removing white plastic drain plug, open pressure relief valve when draining (Fig#3).

8. Turn water pump on and turn kitchen faucet on hot then cold until antifreeze comes out . In bathroom turn each tap on until antifreezes comes out and then pull up shower diverter until antifreeze comes out shower end. Flush toilet until antifreeze comes out. Turn outside shower on cold first until antifreeze comes out then hot until antifreeze comes out.

9. Pour 1 cup of antifreeze down each drain including the floor drain in the shower.

10. Drain black and gray tanks.


Fig #4 - Clear flex line


Fig #5 - Antifreeze

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