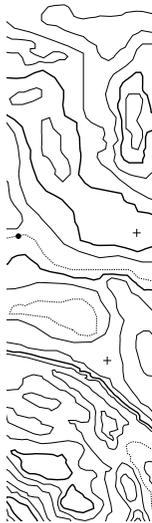




SYNCLINE

OWNER'S MANUAL



 **OUTSIDE VAN.**
SYNCLINE



**FOR SERVICE OR WARRANTY, PLEASE
CONTACT YOUR SELLING DEALER**

CONTENTS

SAFETY	1-1
Overview	1-2
Smoke/CO Alarm	1-2
What You Need to Know About CO	1-2
Symptoms of CO Poisoning	1-3
Parts of the Smoke/CO Alarm	1-3
Regular Maintenance	1-3
Weekly Testing	1-4
Low Battery Warning	1-5
Replacing the Batteries	1-5
Silence Feature	1-5
When the Alarm Sounds	1-6
Finding the Source of CO After an Alarm	1-7
Potential Sources of CO	1-8
About the Smoke Alarm	1-8
Smoke/CO Alarm Troubleshooting	1-9
Fire Extinguisher	1-10
General Safety	1-12
Weight Capacities	1-12
POWER	2-1
Overview	2-2
Volta Power System	2-2
Volta Pushbutton	2-2
Touchscreen	2-4
Flex Pack	2-6
Storage Precautions	2-8
Alternator	2-9
Inverter	2-9
Converter	2-9
Solar Controller	2-9

MyVolta App	2-10
Power System Troubleshooting.	2-10
HEAT & COOLING	3-1
Overview	3-2
Touchscreen Controller.	3-3
Air Conditioner	3-4
Exhaust/Circulation Fans	3-5
Heater	3-8
WATER & PLUMBING	4-1
Overview	4-2
Tanks.	4-3
Shower Drain Pump	4-5
Hot Water	4-5
Shower (Indoor)	4-6
Shower (Outdoor)	4-7
Storage and Winterization	4-8
Access Panel.	4-10
Plumbing Diagram.	4-11
INTERIOR	5-1
Overview	5-2
Seats.	5-2
FoldAway Bed	5-3
StowAway Storage Bin	5-4
Day Bed Lounge Area	5-4
QuickFlip Table	5-5
Interior Lighting.	5-6
Connectivity Cabinet.	5-7
Appliances.	5-7
Refrigerator.	5-8
Microwave.	5-10
Portable Induction Cooktop.	5-10

Faucet 5-12
Porta-Potty 5-13
 Setting Up the Portable Toilet 5-14
 Flushing the Portable Toilet 5-14
 Emptying the Holding Tank. 5-14
 Storing the Portable Toilet 5-15

EXTERIOR 6-1
 Overview 6-2
 HD sPOD 6-2
 Exterior Lighting 6-4
 Awning. 6-4
 Roof Accessories 6-6
 Air Compressor 6-9
 Power Step 6-9
 Apex Wheels 6-10
 Agile RIP Kit. 6-12
 Side Utility Ladder 6-12

INDEX 7-1

GETTING STARTED

Your Syncline 144 van was made to support your desires for freedom and independence. For more detailed information on your Syncline, refer to the individual manufacturer's manuals provided. This User Manual is intended as a guide to aid you in safe and enjoyable adventures.

Please take note of warnings and cautions found throughout this guide as shown with the following icons:

DANGER

Danger is used to warn of electric shock issues present.

WARNING

Warnings are used to indicate a threat to human life or safety.

CAUTION

Cautions are used to indicate the possibility of damage to the van or its contents, or to highlight information to be aware of that might limit your ability to use the features of the van.

The General section covers information on the following:

- Getting on the road
- Roadside assistance
- Basic campsite tips

GETTING ON THE ROAD

CAUTION

Traveling to some areas may result in a loss of connectivity. It is recommended to download any content that is desired to be accessed while on your trip.

WARNING

Never start or run the engine in an enclosed space, like a closed garage. This could result in serious injury or death.

WARNING

All loose items must be properly secured inside or on top of the van to prevent damage to property or injury to persons.

CAUTION

Make sure all water and waste hoses and components are drained and/or placed in a container to prevent water damage to van components. Traveling with waste in the porta-potty could lead to spill-

ing of waste inside the van and present a health hazard for passengers. Monitor waste tank level and empty to an approved sewer waste connection when necessary.

Prior to driving the Syncline van, all loose items should be secured inside the van or on the roof storage rack. All table and bed components should be secured in place in a manner that will not allow them to move throughout the cabin. All cabinets and drawers should be fully closed and latched, including the shower water box.

Make sure that all exterior caps and covers are closed or secured in place.

Make sure that the refrigerator and microwave doors are fully shut and latched.

Make sure that the awning is fully retracted.

Verify that the Maxxfan lid is either fully open or fully shut.

Appropriate items can be secured to the L-track on either side cabin wall.

Verify side view and towing mirrors are positioned to provide optimal viewing of surroundings.

Use the following checklist as a basic guideline for preparing the Syncline van for travel. Items marked with an “*” are those that do not come standard with the van:

- Stow the following components in their designated storage location:
 - 30A shore power cord
 - Air compressor hoses/ accessories
 - Porta-potty
 - Shower liner
 - Sink covers
 - Lagun table
 - Shower hand sprayer



Cabin Stowed

- Portable induction cooktop
- User guides/manuals
- Stow the following components in a secure location:
 - Awning crank rod
 - Fresh water hoses*
 - Grey water waste hose*
 - Wheel chocks*
 - Dishes/tableware/utensils*
 - Cleaning supplies/toiletries*
 - Personal items/luggage*
 - Electronics*

ROADSIDE ASSISTANCE

For roadside or remote campsite emergencies, contact Roadside Assistance (MB Vans 1-800-367-6372) or other vehicle assistance membership (Good Sam, AAA Plus RV, etc.)

CAUTION

The Apex rim has compatible lug nuts with the supplied spare tire; the Black Rhino rim is not compatible. Make sure compatible lug nuts are used in the event spare tire usage is required.

BASIC CAMPSITE TIPS

It is recommended to verify the availability of the following campsite amenities prior to arrival, if possible:

- City water connection
 - Sewer connections
 - 30A shore power
 - Public restrooms/showers
 - Trash cans or dumpsters
 - Make sure all seats are properly positioned and engaged prior to driving the van.
 - Make sure your Syncline van is positioned at a safe and usable distance from any campsite connections to be used.
 - Follow all state and local laws applicable to the camping location.
 - Make sure all faucets and water valves are closed prior to pressurizing the water system.
 - Always engage the parking brake and use wheel chocks as necessary.
 - Never travel with loose items on the interior or exterior of the van.
- For the safety of all travelers, follow these basic guidelines:
- Take caution while backing into any camping location, using all installed safety devices.
 - Always make sure power is secured before connecting any electrical connections.



Lagun Table Stowed





SECTION 1

SAFETY

IN THIS SECTION

Overview

Smoke/CO Alarm

Fire Extinguisher

General Safety

OVERVIEW

Safety equipment is installed on your Syncline van for emergency use and alerts.

The Safety section covers information about the following features:

1. Combination Smoke/CO Alarm
2. Fire Extinguisher
3. General Safety

SMOKE/CO ALARM

The Syncline van is outfitted with a combination smoke and carbon monoxide alarm, located in the overhead above the right passenger captain seat.

WARNING

This smoke/CO alarm cannot operate without working batteries. Removing the batteries for any reason, or failing to replace the batteries at the end of their service life, removes your protection.

CAUTION

This unit has two separate alarms. The CO alarm is not designed to detect fire or any other gas. It will only indicate the presence of carbon monoxide gas at the

sensor. Carbon monoxide gas may be present in other areas. The smoke alarm will only indicate the presence of smoke that reaches the sensor. The smoke alarm is not designed to sense gas, heat, or flames.

WHAT YOU NEED TO KNOW ABOUT CO

CO is an invisible, odorless, tasteless gas produced when fossil fuels do not burn completely or are exposed to heat (usually fire).

Such fuels include: wood, coal, charcoal, oil, natural gas, gasoline, kerosene, and propane.

Common appliances are often sources of CO. If they are not properly maintained, are improperly ventilated, or malfunction, CO levels can rise quickly. CO is a real danger in “air-tight” spaces with added insulation, sealed windows, and other weatherproofing that can “trap” CO inside. (Electrical appliances typically do not produce CO.)

A CO alarm is an excellent means of protection. It monitors the air and sounds a loud alarm before Carbon Monoxide levels become threatening for average, healthy adults.

A CO Alarm is not a substitute for proper maintenance of home appliances.

To help prevent CO problems and reduce the risk of CO poisoning:

- Test and maintain all fuel-burning equipment annually.
- Make regular visual inspections of all fuel-burning appliances. Check appliances for excessive rust and scaling. Also check the flame on the burners and pilot lights. The flame should be blue. A yellow flame means fuel is not being burned completely and CO may be present.
- Use vents or fans when they are available on all fuel-burning appliances. Make sure appliances are vented to the outside.
- Check for exhaust backflow from CO sources. Look for cracks on furnace heat exchangers.
- Keep windows and doors open slightly. If you suspect that CO is escaping into your Syncline van, open a window or a door. Opening windows and doors can significantly decrease CO levels.

SYMPTOMS OF CO POISONING

These symptoms are related to CO POISONING and should be discussed with ALL users of the Syncline van. Exposure to Carbon Monoxide can cause brain damage, or even death.

Mild Exposure: Slight headache, nausea, vomiting, fatigue (“flu-like” symptoms).

Medium Exposure: Throbbing headache, drowsiness, confusion, fast heart rate.

Extreme Exposure: Convulsions, unconsciousness, heart and lung failure.

PARTS OF THE SMOKE/CO ALARM

The key parts of the smoke/CO alarm are identified below (Figure 1-1).

1. Test/Silence button
2. Battery Compartment
3. Power/Smoke Alarm LED
4. CO Alarm LED



Figure 1-1. Parts of the Smoke/CO Alarm

REGULAR MAINTENANCE

The unit has been designed to be as maintenance-free as possible, but there are a few simple steps required to keep it in proper working order.

- Test your smoke/CO alarm at least once a week.
- Clean the unit at least once a month:
 - Gently vacuum the outside of the alarm using a soft brush attachment, or use a can of clean compressed air (sold at computer or office supply stores), following manufacturer instructions for use.
 - DO NOT use water, cleaners or solvents, as they may damage the unit.
 - Test the alarm to make sure it is working properly.
- If the unit has a build-up of dirt, dust, or grime, it could sound unwanted alarms. If it cannot be cleaned as described, it should be replaced immediately.

WEEKLY TESTING

WARNING

NEVER use an open flame of any kind to test this unit. You might accidentally damage or set fire to the unit or to your Syncline Van. The built-in test switch accurately tests the unit's operation as required by Underwriters Laboratories, Inc. (UL). NEVER use vehicle exhaust! Exhaust may cause permanent damage and voids your warranty.

WARNING

DO NOT stand close to the alarm when the horn is sounding.

Exposure at close range may be harmful to your hearing. When testing, step away when horn starts sounding.

CAUTION

It is important to test this unit every week to make sure it is working properly. Using the test button is the recommended way to test this Smoke/CO Alarm.

To perform a weekly test on the smoke/CO alarm, press and hold the Test/Silence button for 3-5 seconds until the unit's alarm sounds.

During the test:

1. The horn will sound three (3) beeps, followed by a pause, then three (3) more beeps.
2. The Power/Smoke LED will flash red and the CO LED will be off.
3. The horn will then sound four (4) beeps, followed by a pause, then four (4) more beeps.
4. The Power/Smoke LED will be Off and the CO LED will flash red.

If the unit does not alarm, make sure the batteries are correctly installed and do the test procedure again. If the unit still does not alarm, it should be replaced immediately.

LOW BATTERY WARNING

When the batteries are low, the Smoke/CO alarm will “chirp” once every minute, and the LED will flash, indicating the need to replace the batteries. You can use the Silence feature to temporarily quiet the sound.



Figure 1-2. Battery Compartment

REPLACING THE BATTERIES

Your Smoke/CO alarm requires two (2) standard AA batteries. The manufacturer recommends Duracel MN1500, available at many local retail stores. DO NOT use rechargeable batteries. Clean the battery contacts and those of the device prior to installing batteries. Be sure to install batteries with the correct polarity (+ and -).

1. Open the battery compartment .
2. Press tabs A and B (Figure 1-2) and remove each battery.
3. Insert the new batteries, making sure they snap completely into the battery compartment and match the polarity of the terminals on the ends of the batteries with the terminals on the unit.
4. Close the battery compartment, and test the unit by pressing the Test/Silence button.

SILENCE FEATURE

The silence feature will temporarily quiet the chirp of a low battery or end of service life warning.

Low Battery

Press the Test/Silence button on the alarm cover. Once the low battery warning silence feature is activated, the unit continues to flash the green light once a minute for eight (8) hours. After eight (8) hours, the chirp will resume. It is important to replace the batteries as soon as possible. The unit will not operate without battery power.

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

End of Service Life

You can silence the End of Life warning “chirp” by pressing the Test/Silence button. The horn will chirp, acknowledging that the End of Life silence feature has been activated.

After approximately 2 days, the End of Life “chirp” will resume.

WHEN THE ALARM SOUNDS

Identify the Type of Alarm

Smoke

- Power/Smoke LED flashes red
- Horn beeps three (3) times, pauses, beeps three (3) times, pauses.
- CO LED is off.

Carbon Monoxide (CO)

- CO LED flashes red
- Horn beeps four (4) times, pauses, beeps four (4) times, pauses.
- Power/Smoke LED is off.

If the CO Alarm Sounds

Move to Fresh Air

If you hear the CO alarm horn and the CO red light is flashing, move everyone to a source of fresh air. DO NOT remove the batteries!

WARNING

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

1. Push the Test/Silence button.
2. Call your emergency services, fire department, or 911.
3. Move to fresh air: outdoors or by an open door or window.

WARNING

This CO alarm measures exposure to CO over time. It sounds an alarm if CO levels are extremely high in a short period of time, or if CO levels reach a certain minimum over a long period of time. The CO alarm generally sounds an alarm before the onset of symptoms in *average, healthy adults*. In many reported cases of CO exposure, victims may be aware that they are not feeling well, but become disoriented and can no longer react well enough to exit the space or get help. Young children and pets may be the first affected. The average healthy adult might not feel any symptoms when the CO alarm sounds. People with cardiac or respiratory problems, infants, unborn babies, pregnant mothers, or elderly people, however, can be more quickly and severely affected

by CO. If you experience even mild symptoms of CO poisoning, consult your doctor immediately!

FINDING THE SOURCE OF CO AFTER AN ALARM

Carbon monoxide is an odorless, invisible gas, which often makes it difficult to locate the source of CO after an alarm. These are a few of the factors that can make it difficult to locate sources of CO:

- Space has been well ventilated before the investigator arrives.
- The problem was caused by “backdrafting.”
- It is a transient CO problem caused by special circumstances.

Because CO may dissipate by the time an investigator arrives, it may be difficult to locate the source of CO. The dealer or manufacturer shall not be obligated to pay for any carbon monoxide investigation or service call.

Potential Sources of CO

1. Fuel-burning appliances like a portable heater, gas range or cooktop.
2. Improper use of appliance/device such as operating a barbecue grill or leaving the vehicle running in an enclosed area (like a garage or screened porch).
3. Transient CO Problems

- “Transient” or on-again off-again CO problems can be caused by outdoor conditions and other special circumstances.

The following conditions can result in transient CO situations:

- Excessive spillage or reverse venting of fuel appliances caused by outdoor conditions such as:
 - Wind direction and/or velocity, including high, gusty winds. Heavy air in the vent pipes (cold/humid air with extended periods between cycles).
 - Negative pressure differential resulting from the use of exhaust fans.
 - Several appliances running at the same time competing for limited fresh air.
- Extended operation of unvented fuel burning devices (range, oven, heater).
- Temperature inversions, which can trap exhaust close to the ground.
- Vehicle idling in an open or closed attached garage, or near the Syncline van.

These conditions are dangerous because they can trap exhaust. Since these conditions can come and go, they are also hard to replicate during a CO investigation.

ABOUT THE SMOKE ALARM

Battery operated smoke alarms provide protection even when

electricity fails, provided the batteries are fresh and correctly installed.

Smoke/CO Alarms cannot work without power. Battery operated units cannot work if the batteries are missing, disconnected or dead, if the wrong type of batteries are used, or if the batteries are not installed correctly.

This Smoke/CO Alarm will not sense smoke or CO that does not reach the sensors. It will only sense smoke or CO at the sensor. Smoke or CO may be present in other areas.

Smoke/CO Alarms may not be heard. The alarm horn loudness meets or exceeds current UL standards of 85dB at 10 feet (3 meters).

The Alarm may not have time to alarm before the fire itself causes damage, injury, or death, since smoke from some fires may not reach the unit immediately. Examples of this include persons smoking in bed, children playing with matches, or fires caused by violent explosions resulting from escaping gas.

This Smoke/CO Alarm is not a substitute for life insurance. Though this Smoke/CO Alarm warns against increasing CO levels or the presence of smoke, the manufacturer does not warrant or imply in any way that they will protect lives. Users must still insure their lives.

This Smoke/CO Alarm has a limited life. Although this Smoke/CO Alarm and all of its parts have passed many stringent tests and are designed to be as reliable as possible, any of these parts could fail at any time. Therefore, you must test this device weekly. The unit should be replaced immediately if it is not operating properly.

This Smoke/CO Alarm is not foolproof. Like all other electronic devices, this Smoke/CO Alarm has limitations. It can only detect smoke or CO that reaches the sensors. It may not give early warning if the source of smoke or CO is located at a distance from the alarm device.

SMOKE/CO ALARM TROUBLESHOOTING

See Table 1-1.

Table 1-1. Troubleshooting

Problem	Probable Cause	Solution
Horn “chirps” every minute	Low battery warning	Install two new AA batteries*
Horn does three “chirps” every minute; LED has 3 rapid flashes with “chirps”.	MALFUNCTION SIGNAL. Device is not working properly, and needs to be replaced.	Units under warranty should be returned to manufacturer for replacement. See “Limited Warranty” for details.
The light flashes GREEN and the horn sounds 5 “chirps” every minute.	END OF LIFE SIGNAL. Alarm needs to be replaced.	Immediately replace the Alarm.
Carbon Monoxide Alarm ONLY		
CO Alarm goes back into alarm 4 minutes after you silence it.	CO levels indicate a potentially dangerous situation.	If you are feeling symptoms of CO poisoning, evacuate and call 911 or the Fire Department. Refer to “If The CO Alarm Sounds” for details.
Smoke Alarm ONLY		
Smoke alarm sounds when no smoke is visible.	Unwanted alarm may be caused by nonemergency source like cooking smoke.	Silence alarm using Test/Silence button; clean the Alarm’s cover with a soft, clean cloth.

* Manufacturer recommends Duracel MN1500

FIRE EXTINGUISHER

Your Syncline van is delivered with a First Alert dry chemical fire extinguisher, which is located on the back of the base of the passenger seat (Figure 1-3).



Figure 1-3. Fire Extinguisher

WARNING

This extinguisher is designed for use against small fires that have just started and are small enough to fight safely. It is not designed to fight large fires that are burning out of control. If the fire is too hot or smoky for you to get within 6 feet (2 meters) of it, do not try to fight it yourself. Warn everyone, evacuate the premises, and have someone call the Fire Department from outside the area. Trying to fight a large fire yourself can result in injury or death.

WARNING

Do not puncture or burn any fire extinguisher. The contents are under pressure, and the extinguisher could explode.

WARNING

Never locate this extinguisher close to an engine, stove or other source of heat. It is pressurized and could rupture or explode if exposed to temperatures over 150° F (66° C).

CAUTION

This extinguisher contains a dry powder extinguishing agent. The agent/powder is nontoxic, but can irritate skin. When using this unit, avoid breathing the powder. Always ventilate the area after use.

To operate the fire extinguisher to fight a fire, perform the following:

Remove the extinguisher from the mounting bracket.

Hold the unit firmly with the nozzle facing away from you. Pull out the pin to break the “Safety Seal”. You won’t be able to squeeze the lever until the safety seal is removed.

Stand back 6 feet (2 meters) from the fire and make sure the fire is not between you and your exit.

Hold the extinguisher upright and aim the nozzle at the base of the fire.

Squeeze and hold the lever to discharge the powder.

Sweep the spray at the base of the burning material, using quick side-to-side motions. (If the spray scatters the fire, move back).

Move slowly towards the fire as the extinguisher spray pushes the fire back. Maintain a 6-foot (2 meter) distance between you and the front of the fire at all times.

Completely discharge the contents of the extinguisher and make sure the fire is completely out. Flash-backs are common with fires.

For kitchen fires on a kitchen stove, turn off the stove immediately if possible, otherwise as soon as it is safe.

If you suspect a fire had an electrical origin, shut off the electrical power, if possible, without eliminating your escape route. Do not touch electrical wires or appliances.

After you have completely discharged your extinguisher, leave

the immediate area, closing all the doors behind you as possible.

WARNING

After the fire is extinguished, do not turn the electrical power back on or plug in any appliances until the area has been cleaned up completely. If all powder is not removed from electrical equipment can result in damage to electrical components or an electrical shock hazard.

For proper maintenance of the fire extinguisher, perform the following:

Inspect the extinguisher once a week. Remove the extinguisher from the mounting bracket and inspect the gauge. If the yellow pointer is in the GREEN area, the extinguisher is properly pressurized and ready to use. If the pointer drops into the RED area, the extinguisher has lost some pressure and should be replaced.

Check for signs of damage or misuse. Make sure you can still read all the text on the label. Carefully examine the surface of the extinguisher for corrosion. You can help prevent corrosion by cleaning the extinguisher if it gets wet or dirty. If you notice corrosion during the warranty period, contact the manufacturer.

Make sure the tamper indicator (“safety seal”) is still intact and the nozzle is clean and unobstructed.

When you finish inspecting the extinguisher, always put it back securely into the mounting bracket.

GENERAL SAFETY

WARNING

Any safety defects that could result in accident, injury or death should be reported to the National Highway Traffic Safety Administration (NHTSA) immediately. To contact the NHTSA, call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY 1-800-424-9153) or go to www.safercar.gov.

WARNING

Operating, servicing, and maintaining this vehicle can expose you to various chemicals—including engine exhaust, carbon monoxide, phthalates, and lead—which are known to the state of California to cause cancer and birth defects or other reproductive harm. For more information, go to: www.p65warnings.ca.gov/passenger-vehicle

WEIGHT CAPACITIES

CAUTION

Towing will affect handling and fuel economy of the vehicle. Do not exceed any gross vehicle weight ratings.

For safe and proper operation of the Syncline van, follow these weight capacity guidelines:

- Exterior ladder — maximum weight of 300 lbs.
- Beds — maximum weight of 600 lbs.
- Towing — maximum towing capacity of 5000 lbs; maximum tongue weight of 500 lbs.







SECTION 2

POWER

IN THIS SECTION

Overview

Volta Power System

Volta Pushbutton

Touchscreen

Flex Pack

Alternator

Inverter

Converter

Solar Controller

MyVolta App

Power System Troubleshooting

OVERVIEW

The Syncline van is outfitted with an advanced lithium-ion energy storage system (Flex Pack) with components located in the upper cabinetry and throughout the van. The system uses this energy source to supply AC and DC power to van components.

The Power section covers information about the following features:

- Volta Power System
- Volta Pushbutton
- Touchscreen
- Flex Pack
- Alternator
- Inverter
- Converter
- Solar Controller
- MyVolta App
- Power System Troubleshooting

VOLTA POWER SYSTEM

The Battery Management System (BMS) shuts down the Volta system if the Flex Pack reaches a very low voltage limit or 0% State-of-Charge (SOC). When the Volta System reaches 0% SOC, the pushbutton LED flashes yellow, the SOC is red, and the system shuts down. Do not attempt to

turn on the system until a charge source is connected. Perform one of the recovery procedures in the Flex Pack section. Failure to recover from a low voltage shut-down will result in further Flex Pack discharge, which may require service from a Volta technician.



WARNING

Do not connect the Volta System to a 240 VAC outlet. Connecting to a 240 VAC outlet may result in permanent damage not covered by the Volta Power Systems warranty.

VOLTA PUSH BUTTON

The system is turned on/off by a pushbutton located in the upper Connectivity Cabinet (Figure 2-1). The LED light color and pattern show the status of the system.

Press the On/Off pushbutton to turn on the Volta System and power your vehicle's electrical systems and devices. When the On/Off pushbutton is pressed to turn on the Volta System, a 2- to 5-second system check occurs. If all systems checks are successful, the Flex Pack's internal contactor engages, supplying power to all Volta components, turning on the Volta System.



Figure 2-1. ON/OFF Pushbutton and its location in the upper Connectivity Cabinet

Table 2-1. Pushbutton LED Indicators

LED Color	System Status
Green	System on
Green Flashing	Charge Only Mode - System turned off and charge source connected
Yellow	Too cold to charge
Yellow Flashing (5 seconds)	Volta System is starting after pressing the pushbutton
Dim Yellow Flashing (5 seconds)	Volta System is shutting down after pressing the pushbutton
Yellow Flashing (30 seconds then system shuts down)	System fault causing shutdown. If possible, monitor the touchscreen before shutdown to assist in diagnosing the fault

Do not repeatedly press the pushbutton. After pressing the button, wait 30 seconds for all system checks to occur before pressing the button again.

Press the On/Off pushbutton to turn off the Volta System. After pressing the pushbutton to turn off the system, a few seconds will pass before the pushbutton LED turns off and the Touchscreen shuts down, signaling that the Volta System is turned off.

TOUCHSCREEN

The Volta power system is monitored and controlled by a touchscreen located in the upper cabinetry (Figure 2-2). The touchscreen turns on a few seconds after the pushbutton is pressed, a charge source is sensed, or the vehicle is turned on.

2

The touchscreen display provides the following indications and controls:

- State-of-Charge Gauge (SOC) — displays the approximate SOC of the Flex Pack. The gauge color and pattern indicate flash codes showing the system state (Table 2-2).
- Charge Time Remaining — displays the approximate charge time remaining in the Flex Pack
- Current Time — displays the current time
- Menu Bar — touch the menu bar buttons to access the corresponding screens. These include the following:
 -  Alerts button



Figure 2-2. Touchscreen Display

Table 2-2. State-of-Charge (SOC) Flash Codes

Gauge Color	System State
Solid Green	Normal Operating SOC (greater than 20%)
Solid Yellow	Low SOC (10-20%)
Solid Red	Very Low SOC (less than 10%)
Flashing Red	High Temperature
Slow Flashing Blue	Too Cold to Charge

-  Settings button
-  Inverter button
-  Sleep button
-  Home button
- System Indicators — communicate system changes or statuses. These include the following:
 -  Alternator Charging — Flex Pack is ready for charging from alternator, or is currently charging from alternator
 -  Flex Pack Temperature Low — Flex Pack is too cold to charge
 -  Heating Pads On — Heating pads are on and actively warming the Flex Pack
 -  Flex Pack Temperature High — Flex Pack is at or near the high temperature shutdown limit
- Pack Temp — displays the current temperature of the Flex Pack
- Power Flow — displays the power consumption (negative

value) on the Flex Pack or the rate of charge (positive value) to the Flex Pack

Some available screens require a password to edit and include settings that should only be adjusted by a Volta approved technician. The following screens have settings that are accessible for all users:

- Screen Timeout — the screen timeout value adjusts the time after inactivity before the touchscreen turns off. When disabled, the touchscreen never goes to sleep. Touch the screen to wake up the touchscreen.
- Units - toggle the temperature units between °F or °C
- Date Adjustment — adjust the date (day, month, year)
- Time Adjustment — adjust the current time (hour, minute, AM/PM, 12/24 hr)
- Theme — toggle the touchscreen color theme
- Screen Brightness — adjust the screen brightness or toggle between Auto and Manual mode

⚠ CAUTION

Only Volta technicians or trained professionals with in-depth knowledge of Volta Systems should service these components. If you purchased your vehicle with the Volta system already installed, you will need to work directly with your dealer or original manufacturer to arrange service.

FLEX PACK

The Flex Pack is the energy source for your Volta power system. A steel housing protects the lithium-ion cells. An internal Battery Management System monitors the system, balances the cells, and controls energy output.

The Flex Pack can be charged by the following methods:

- Shore Power — when plugged into an acceptable outlet (30A/120V) the Flex Pack samples incoming power for a few seconds to ensure uniformity requirements are met. If incoming power meets the requirements, the Volta system turns on and begins charging the Flex Pack. The rate at which the system charges depends on your system settings chosen on the touchscreen. Charge rate selection and guidance are
- Secondary Alternator — refer to Alternator section.
- Generator — the Flex Pack can charge via a connection to a generator that meets the AC input range and frequency of the inverter. The inverter samples incoming power for a few seconds to ensure uniformity requirements are met. If incoming power meets the requirements, the Volta system turns on and begins charging the Flex Pack.
- Solar Power — solar panels supply additional energy to the Flex Pack when there is sufficient sunlight. The solar charging system is primarily used to increase the time needed between charges. The secondary alternator or shore power connection are more effective in charging the Flex Pack.

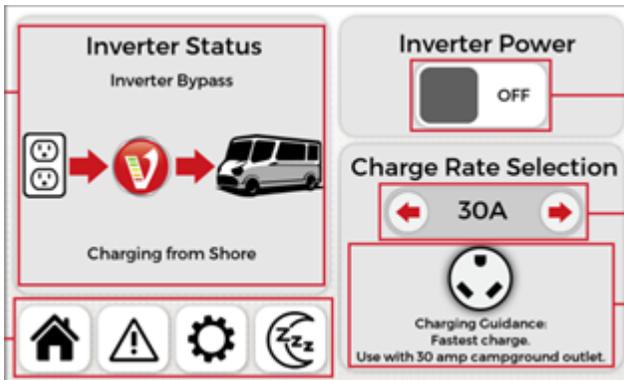


Figure 2-3. Inverter Screen

To recover from a zero State-of-Charge using shore power, perform the following:

- Turn off the Volta system, if not off already.
- Connect to shore power.
- Ensure the appropriate charge rate is selected.
- Charge the system to at least 20% SOC before returning to normal system operation and use. Fully charge the system as soon as possible.

To recover from a zero State-of-Charge using the secondary alternator, perform the following:

- Turn off the Volta system, if not off already.
- Start the vehicle. Immediately raise and hold the engine RPMs over 1500 for at least 5 minutes.
- Drive the vehicle, maintaining at least 1500 RPM, to charge the system until the SOC indicates at least 20% before returning to normal system operation and use.
- Fully charge the system as soon as possible.

High Temperature Operation:

- The Flex Pack is designed with passive cooling. The BMS shuts down the Flex Pack or prevents charging at elevated temperatures to allow the Flex Pack to cool.
- The Volta System charges normally and distributes power normally up to 116°F (47°C). At or above 116°F (47°C), the

Battery Management System (BMS) prevents charging. At or above 134°F (57°C) the BMS shuts down the system.

- To protect the Flex Pack, avoid using or storing the Flex Pack at or above 134°F (57°C). Storage of the Flex Pack at elevated temperatures is not recommended, as it will reduce the lifetime and capacity of the Flex Pack.

Cold Temperature Operation:

- The Volta System is capable of powering electrical systems below freezing temperatures. However, if the Flex Pack temperature is too low, the system does not charge.
- For system operation in cold environments, and to maintain the Flex Pack at charge-accepting temperatures, the energy storage modules inside the Flex Pack are equipped with internal heating pads. The internal heating system operates automatically when the Volta System is on and sufficient energy is available from the Flex Pack.
- Refer to the Heat & Cooling section for charging strategies while in cold weather.

STORAGE PRECAUTIONS

WARNING

Do not store the Volta System at low State-of-Charge. The system is designed with a limited energy reserve, in case the system is left on and the low voltage shutdown

occurs. This reserve may last for three months until irreversible damage could occur. Neglecting system maintenance and allowing the Flex Pack to come to this state will result in voiding the warranty.

 **WARNING**

Failure to turn off the Volta System before storing your vehicle long term (greater than 3 months) will cause the Flex Pack(s) charge to deplete faster, even if all loads on the system are removed, which can cause permanent damage to the Flex Pack.

Preparations should be made to protect the life and performance of the Flex Pack when not in use. When leaving the vehicle in storage, turn off the Volta system by pressing the On/Off pushbutton.

To prepare for long-term storage:

- Charge the Volta System to greater than 70% SOC as indicated on the touchscreen.
- Press the On/Off pushbutton and verify that the pushbutton LED and touchscreen turn off, indicating the Volta System is off.
- Turn on the Volta System every three months to verify the pack is maintaining a high State-of-Charge (SOC). If necessary, charge the system to above

70% SOC before storing the vehicle again.

If the vehicle is frequently used, keep the system in Charge Only Mode and connected to shore power for convenient operation.

To place the system in Charge Only Mode for short-term storage:

- Press the On/Off pushbutton to turn on the system.
- Ensure the appropriate charge rate is selected.
- Press the On/Off pushbutton to turn off the system. Verify that the pushbutton LED and touchscreen turn off, indicating that the Volta system is off.
- Connect the vehicle to shore power.

While in Charge Only Mode, the Volta System turns on, charges as needed, and maintains an operational state. For example, in cold climates, while in Charge Only Mode, the Volta System turns on as necessary to maintain an operating temperature. Also, if a fuse blows or power is lost (disconnected from shore power), the Flex Pack System turns off to retain charge.

ALTERNATOR

The Syncline van is equipped with a secondary alternator that provides charging power directly from

your van's engine to the Flex Pack when all of the following occur:

- The vehicle is running
- The vehicle is maintaining a high enough RPM (1500 minimum)
- The Volta System is turned on. If the engine does not sustain a high enough RPM, the Battery Monitoring System (BMS) sends a signal to turn off the alternator until the BMS determines it is appropriate to turn on the alternator.

INVERTER

The inverter changes the Flex Pack's energy from direct current (DC) into alternating current (AC) to power the vehicle's 120V AC devices (outlets, cook top, etc.). The inverter also converts shore power (AC) to direct current (DC) for charging the Flex Pack.

The Inverter Screen on the touchscreen shows the status of the inverter and allows you to turn the inverter on/off. When the inverter is not needed (not using 120V devices), turn off the inverter to conserve Flex Pack SOC (Figure 2-3).

CONVERTER

The DC-DC converter drops the Flex Pack's energy from 58V DC to power your vehicle's 12V DC or 24V DC devices (vehicle electronics, lights, refrigerator, etc.)

SOLAR CONTROLLER

The solar controller regulates solar power input from external solar panels into a stable, usable form of energy to charge the Flex Pack.

MYVOLTA APP

Download the myVolta app to your mobile device, then follow instructions in the app to pair with your Bluetooth module.



You can view the following information from your Volta System in the myVolta app:

- Performance Data
- Estimated Runtime Remaining
- Charging Status
- Pack Temperature
- Warnings, Faults, or Errors

POWER SYSTEM TROUBLESHOOTING

Table 2-3. Troubleshooting

Problem	Probable Cause	Solution
Volta system will not charge	The State-of-Charge is too high	Allow the system to deplete to below 90–95
	The Flex Pack is too cold or too hot	Follow guidance for hot/cold operation
	The shore power connection does not meet the charging requirements	Connect to a 30A/120V power supply or charge using another method
	The charge rate is not appropriate	Raise or lower the charge rate based on Inverter Screen recommendation
	Surge protector not compatible with the Volta System	Remove the surge protector and test operation with shore power directly to van
Volta system will not charge <i>(continued)</i>	Shore power not available	Unplug the shore power cord from the campsite outlet, then verify the cord is fully connected at the power cord connection of the van. Check that any circuit breakers are open (power OFF) at the campsite outlet. Plug the power cord into the campsite outlet and shut the applicable breaker. If power is still not available, contact the site owner to troubleshoot power issues.

Problem	Probable Cause	Solution
120V outlet not providing power	Inverter is off	Turn on the inverter using the touchscreen
	GFCI is tripped	Press reset on the GFCI outlet once devices have been unplugged. If GFCI continues to trip, there may be an issue with the device being plugged in
Heat or A/C not operating	System is not turned on or configured correctly	Refer to the Heat and Cooling section to setup heat or air conditioning
	Circuit breaker or fuse issue	Make sure the circuit breaker is closed. Check that the fuse is installed and intact
Individual electrical component not receiving power	Inverter is off (120V device)	Turn on the inverter using the touchscreen
	Circuit breaker or fuse issue	Make sure the circuit breaker is closed. Check that the fuse is installed and intact
Syncline van engine will not start	Main battery is depleted	Follow instructions in the vehicle manufacturer's manual to attempt to jump start the van
	Other mechanical or electrical issue	Contact Roadside Assistance (MB Vans 1-800-367-6372) or other vehicle assistance membership (Good Sam, AAA Plus RV, etc.)





SECTION 3

HEAT & COOLING

IN THIS SECTION

Overview

Touchscreen Controller

Air Conditioner

Exhaust/Circulation Fans

Heater

OVERVIEW

The Syncline van is outfitted with heating and cooling equipment to provide comfortable cabin temperatures, manage humidity levels, and provide freeze protection.

The Heat and Cooling section covers information about the following features:

- Touchscreen Controller
- Air Conditioner
- Exhaust/Circulation Fans
- Heater

The following operating and charging strategies should be followed while in cold weather:

- If planning a trip during cold weather, connect the vehicle to shore power and ensure the inverter is turned on a day prior to leaving. Depending on ambient temperature, this should allow sufficient time for the heating pads to warm the energy storage pack.
- Leave the Volta System on while in cold temperatures. The heating pads only activate when the Volta System is on (unless connected to shore power).
- Connect to shore power whenever possible. When connected to shore power, the heating pads will draw power from shore power instead of the Flex Pack. When the Flex Pack warms enough to accept

charge, the charge from shore power begins automatically.

- If shore power is not available, turn on the Volta System to warm the Flex Pack. When the Flex Pack warms enough to accept charge, turn on the vehicle and drive the vehicle to charge the Flex Pack via the alternator.
- If a charge source is not available, and the SOC is too low to activate the heating pads long enough to warm the Flex Pack, turn off the Volta system to limit power consumption. If possible, park the vehicle in a warmer location to raise the Flex Pack temperature, or contact Volta Power Systems for additional strategies to warm the Flex Pack.

Heating and cooling are the two largest loads in the vehicle; to maximize system runtime, do the following:

- Turn off the inverter if 120 VAC loads are not required: When 120 VAC devices (air conditioner, heater, cooktop, etc.) are not in use, turn off the inverter via the touchscreen.
- Increase the thermostat in warm climates: Increasing the desired vehicle temperature reduces the amount of time the air conditioner compressor needs to run in warm climates.
- Decrease the thermostat in cool climates: Decreasing the desired vehicle temperature reduces the amount of time the heating system needs to run in cold climates. Generally, heating

using electricity uses almost twice the energy as cooling.

NOTE: The Rixen furnace uses approximately 0.06 to 0.23 gallons of fuel per hour while in operation.

To maintain a comfortable temperature inside the van during warm weather, follow these recommendations:

- Park the van in a shaded area.
- Keep all windows and doors closed.
- Avoid prolonged use of heat producing appliances.
- Lower/install all window coverings.
- Roll down the cabin soft wall divider to reduce the space requiring cooling.

The heat source options are located on the left side of the screen (furnace or electric). One of these options must be selected to produce hot air for the RV.

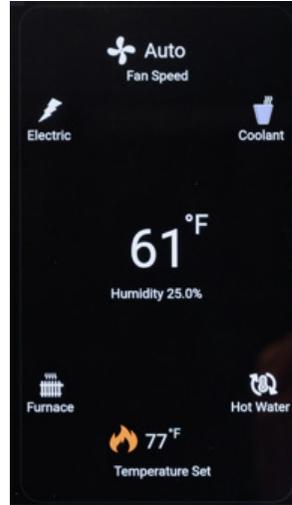


Figure 3-1. Touchscreen Controller

TOUCHSCREEN CONTROLLER

The touchscreen display is located in the upper cabinetry and works with other installed van components to provide heated air to the cabin. The touchscreen controller icons are configured to match the configuration of the Syncline van (Figure 3-1). If the power supply in the vehicle is interrupted (e.g., the battery is disconnected) the system's controller retains all the basic settings.

Fan speed, interior temperature, humidity and set temperature are displayed down the center of the screen.

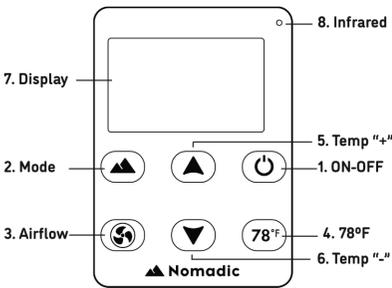
The controller works independently from any cellular or satellite signal by creating its own Wi-Fi hotspot which then communicates directly with a smart phone/laptop/tablet etc. The device offers a range of 10-30 meters, depending on obstructions.

AIR CONDITIONER

The Syncline van is equipped with a 48V roof-top air conditioner capable of cooling incoming air by approximately 17-24 degrees (Figure 3-2). Humidity levels, sun load on the outside unit, and several other factors can affect this temperature difference. Safety switches are installed in the unit to protect the compressor from premature failure; abnormal conditions may cause the compressor to not run. If normal maintenance tasks do not restore normal oper-

ation, it should be inspected by a qualified technician.

For more information about the unit, please refer to the provided manufacturer's manual.



1. ON-OFF: Press to switch the device ON or OFF.

2. Mode: Tap the mode button to switch between modes: Auto, Power (MAX), ECO, Fan, Sun (same as Auto). Press and Hold the mode button to cycle through the following settings:
A. Low Voltage Cutoff
B. High Voltage Cutoff
C. Maximum Voltage
D. Temp In
E. Temp Out
F. Error Codes

3. Airflow: Each push on this button corresponds to a cycle through 5 different airflow levels.

4. 78°F: Pressing this button enables automatic management towards 78°F (Auto).

5. Temperature "+": Each push of this button corresponds to the increase of 1°F of temperature.

6. Temperature "-": Each push of this button corresponds to the decrease of 1°F of temperature.

7. Display Window: Display temperature, airflow, voltage, error codes and ambient temperature.

8. Infrared Signal: Acceptance of infrared signal from remote controller by users.

EXHAUST/ CIRCULATION FAN

There's one fan installed in the cabin area for exhaust and circulation (Figure 3-4, Figure 3-5, Figure 3-6). The fan provides a means of circulating fresh air through the cabin and minimizing the need to run the air conditioner. It also provides a means to remove steam and moisture from the shower and galley areas. Removable filter screens are installed to prevent insects from entering the cabin and to protect the fan components.



Figure 3-2. Fan (interior view)

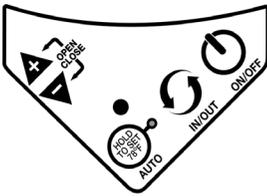


Figure 3-3. Fan (interior detail view)



Figure 3-4. Fan Closed (exterior view)

⚠ CAUTION

Never operate the fan with the insect screen removed. When removing the screen for cleaning, turn the fan off. Use only mild detergent solutions to clean the filter screen.

⚠ CAUTION

The fan lids are designed to be fully open or fully closed when the vehicle is moving.

Keypad controls operate the functions of the fans. A beeping sound will confirm each keypad button press.

The keypad controls include the following:

- ON/OFF — Start or stop the fan. On automatic opening models, the lid will also open or close when the fan is turned on or off.
- IN/OUT — Reverse the direction of the fan. The fan will slow down and pause for 2 seconds before resuming operation in the opposite direction. In auto mode, the fan direction is automatically positioned to exhaust.
- AUTO — Allows the thermostat to turn the fan on and off based on the thermostat setting. Press this key once for less than 3 seconds to enter auto mode. Three quick beeps and the green LED light will confirm that the fan has entered auto mode. To exit auto mode, press the ON/OFF key. The initial factory setpoint for the thermostat is 78°F/25°C.

- **HOLD TO SET** — To set the thermostat, press this key for more than 3 seconds and one long beep will confirm that the thermostat is reset to 78°F. If desired, use the (+) or (-) arrow keys to adjust the temperature setting.
- **VENT LID POSITION (OPEN/CLOSE)** — In manual mode, press these buttons to open or close the lid.
- **ARROW KEYS** — Adjust the temperature setting once HOLD TO SET has been activated, or adjust the fan speed when in manual mode. Pressing both keys at the same time will open or close the lid for automatic lift models.

- Remove excess water from the screen.
- Reinstall the screen using the thumbscrews.



Figure 3-5. Fan Remote

Remote control units are provided to operate the fans (Figure 3-5).

With the fan motor running, close the vent lid to enter Ceiling Fan Mode. The fan motor will continue to run and circulate air within the cabin.

A knob is provided to manually open or close the vent lid. On automatic opening models, do not push or pull on this knob. Rotate the knob clockwise to close the vent lid and counterclockwise to open the vent lid.

To clean the insect screen, perform the following:

- Rotate the four (4) thumbscrews ½ turn.
- Remove the screen.
- Wash the screen with water and mild detergent.

HEATER

Heating options installed on the Syncline van are the diesel furnace and the electric element (Figure 3-6). The furnace will normally be used as the source of heat, unless connected to shore power. The furnace is an Eberspaecher 5KW hydronic fuel operated heater and the electric element is a 1500W element that sits inside the expansion tank of the MCS7 system.



Figure 3-6. Heating Options

Heating controls are on the touch-screen in the upper cabinetry (Figure 3-7).

To heat the van's interior, you will set the thermostat to the desired setpoint temperature. Choose your heat source, select your fan speed (manual settings run in 5% increments) and the system will auto run the fan on high until the interior air temperature starts to reach the setpoint temperature. At this point the fan will automatically slow down and remain on low levels maintaining the set point temperature.

On the top middle of the screen is the interior fan speed. This can be controlled automatically by the MCS7 system or manually by the operator. To choose the manual or automatic fan speed tap the fan speed % number or the auto icon to toggle between the two. There is also an On/Off button for the fan.

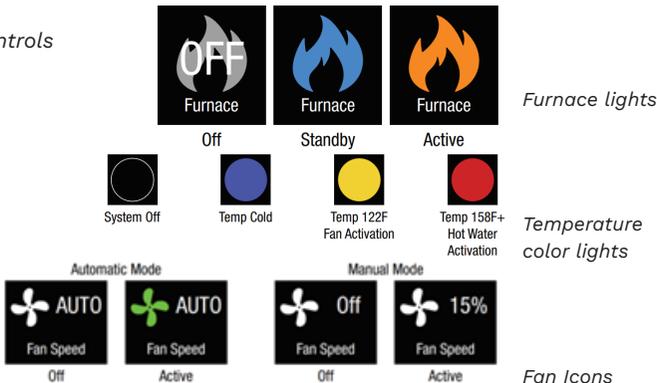
The temperature in the middle of the screen is the reading from the external air sensor attached to the controller. This will display the current interior temperature of the RV. The humidity of the interior of the RV is also displayed under the current temperature. Touching the set temperature allows you to change the interior temperature with the negative and plus symbols. The thermostat can be set low enough for antifreeze protection.

The system coolant temperature icon displays the current coolant temperature of the MCS7.

For additional information on the Rixen MCS7 heating system, use the QR code to access Rixen documentation:



Figure 3-7.
Heating Controls







SECTION 4

WATER & PLUMBING

IN THIS SECTION

Overview

Tanks

Shower Drain Pump

Hot Water

Storage and Winterization



OVERVIEW

The Syncline van is equipped with a 20 gallon fresh water tank. The tank is located in the driver side bench water box area with other associated water system components. A sink is in the galley area with a pulldown hand sprayer. An indoor shower with a removable hose is in the shower water box area, where the porta-potty is stored. The sink and the indoor shower drain to the 22 gallon grey water tank. The shower hose can also be connected at the rear of the van for the outdoor shower. The water pump can be started from the switch control panel (Figure 4-1) on the upper cabinetry or at the outdoor shower station (Figure 4-2). HepvO sanitary waste valves are installed in the drain lines for the galley sink and the indoor shower. These valves protect the cabin from foul odors from the grey water tank and eliminate the need for individual vents.

The Water & Plumbing section covers information about the following features:

- Tanks
- Shower Drain Pump
- Hot Water
- Storage and Winterization



Figure 4-1. Upper Cabinet Switch Control Panel



Figure 4-2. Outdoor Shower Station Switch

CAUTION

Pressurizing the fresh water system with the water pump or city water connection will cause water to flow through any open faucet or water valve. Monitor tank levels and water flow while pressurizing the water system to prevent water damage to the van components. Always use a water pressure regulator to protect the water system from overpressure when using city water.

⚠ CAUTION

The grey water tank is sized to hold the full capacity of the fresh water tank. Always closely monitor the level of the grey water tank when water is being used inside the van.

TANKS

The tank level monitor in the upper cabinetry (Figure 4-3) performs automatic scans of the fresh water and grey water tank levels in the background while the screen is off. If either tank level is out of bounds (respectively empty or full) an alarm will sound and the backlight will come on. The backlight will also come on if you manual scan the levels of the tanks using the arrow keys. A full scan can be performed by pressing both arrow keys at the same time.



Figure 4-3. Tank Level Monitor

To temporarily silence a tank level alarm, press the OK button to acknowledge the alarm. An alarm can be fully disabled for one or both tanks. All alarms can be disabled by pressing the MENU and OK buttons at the same time, then pressing the down arrow once the AUDIBLE ALARMS screen appears. To enable all alarms, press the MENU and OK buttons at the same time and press the up arrow once the AUDIBLE ALARMS screen appears.

To fill the fresh water tank, perform the following:

- Unlock and open the tank fill port on the exterior of the van (Figure 4-4).
- Fill the fresh water tank with a source of clean filtered water or from a clean water tank.

To drain the grey water tank, perform the following:

- Make sure that the tank drain valve under the driver side of the van is closed.
- Remove the cap on the drain outlet and attach a sewer hose to the drain outlet (Figure 4-5).
- Place the other side of the sewer hose in an authorized drain collection point.
- Open the grey water tank drain valve by pulling the T-handle.



Figure 4-4. Exterior Water Connections



Figure 4-5. Grey Water Tank Drain

- Once the tank is drained, it is recommended to flush the tank and drain hose with clean water. If a source of clean water is not available, flush the grey water tank and drain hose as soon as possible.
- Close the grey water tank drain valve.
- Remove and store the sewer hose, making sure it is completely drained before removing from the drain collection point.
- Reinstall the cap on the drain outlet.

SHOWER DRAIN PUMP HOT WATER

The shower water box is drained by an installed drain pump — it is operated by two rocker switches on the passenger side box above the shower box (Figure 4-6). Before using the shower, the AUTO (down position) will activate the drain pump, a float will activate the pump when water is flowing automatically. The AUTO mode will leave a small amount of water in the drain pump because the float will not allow it to pump it all out. Before storing the van for the next trip, use the override switch to pump the remaining water out of the drain pump. Toggle the switch to the MANUAL (up position), press and hold the OVERRIDE switch for 3-5 seconds.



Figure 4-6. Shower Drain Switches

To generate continuous hot water for the shower and sink, you will need to select the furnace icon on the top left of the screen (Figure 4-7). This is because the furnace can create 17,500 BTU of heat while the electric element is capable of 5,000 BTU of heat. The element alone is not enough to create continuous hot water (Figure 4-8).



Figure 4-7. Furnace Icon

For most applications, the user will select the furnace option as 17,500 BTU is more than enough to keep up with the call for continuous hot water. If you're plugged into shore power and you want the best performance, you can select both furnace and electric icons for 22,500 BTU. The aqua stat in the expansion tank will prioritize the element so that it will minimize



Figure 4-8. Hot Water Icon

4

the usage of fuel from the furnace. If there is a greater heating demand on the system, the furnace will automatically engage picking up where the element left off. When you select the hot water icon, located on the bottom right of the screen, the system will prioritize creating hot water. If in warmer weather and you do not want to generate interior heat, make sure that the air temperature is set to off. This will prevent that fan from turning on and heating up the interior of the van.

SHOWER (INDOOR)

To use the indoor shower, perform the following:

- Set up the shower water box area (Figure 4-9):
 - Remove the top cushion.
 - Open the shower water box enclosure and remove all items.
 - Unlatch and fold down the sides of the water box.
 - Attach the shower hose holder to the L-track on the upper passenger wall. (See upper circled area on Figure 4-9.)
 - Attach the shower liner to the one attach point on the L-track and the three attach points on the ceiling (Figure 4-10 and Figure 4-11), as well as the snaps in the water box.
NOTE: Make sure that the shower hose is on the inside of the shower liner.
- Turn on the exhaust fan directly above the shower liner to remove heat and moisture.
 - Attach the shower hose to the hose connection in the water box. (See lower circled area on Figure 4-9.)
 - Pressurize the water system from city water or by turning on the water pump (if not already pressurized).
 - Operate the water valve handle to turn on hot or cold water.
 - Turn the drain switch to AUTO to use your drain waste pump.



Figure 4-9. Shower Water Box (with Shower Hose Attached)



Figure 4-10. Shower Liner

After shower use is complete, perform the following:

- Turn off the water and allow the exhaust fan to remove all heat and moisture from the shower area.
- Store the shower liner, shower hose, and water box items as necessary.
NOTE: The shower liner should be dry prior to storing.
- Turn off the exhaust fan or water pump as desired.



Figure 4-11. Shower curtain's connection points and recommended order of installation

SHOWER (OUTDOOR)

To use the outdoor shower:

- Attach the shower hose holder to the connection on the rear left door.
- Attach the shower hose to the water connection at the rear of the van (Figure 4-12).
- Pressurize the water system from city water or by turning on the water pump (if not already pressurized).
- Operate the water valve handle to turn on hot or cold water.

After shower use is complete, perform the following:

- Turn off the water
- Store the shower hose, and shower hose holder as necessary.

NOTE: The shower liner should be dry prior to storing.

- Turn off the water pump as desired.



Figure 4-12. Outdoor Shower Connection

4

STORAGE AND WINTERIZATION

It is advisable to drain the RV prior to storage to maintain a clean fresh water system while also offering frost protection in the winter.

For extended periods between use, sterilizer can be added as a backup. Draw some sterilized water through the faucets and outlets and leave to activate for a couple of hours. Afterward, drain down the water system again and leave empty and sterile for the next trip.

To fully drain and winterize (if required) your water system, perform the following:

- Connect the quick connect coupler from winterization kit to the outlet side of the pressure regulator (See Figure 4-12).
- Connect the quick connect stud fitting from winterization kit to inlet side of the pressure regulator (See Figure 4-12).
- Connect the primary air hose to your air compressor.
- Connect the tire inflation gun to the primary air hose.
- Connect the quick connect stud from the Winterization Kit to the quick connect coupler on the Tire Inflation Gun (see Figure 4-13).
- Connect the compressor to the battery – either the engine battery, battery connected to shore power, or any other vehicle.
- Turn the compressor ON makes sure the engine is running.
- Adjusting the pressure regulator: pull the trigger on the tire inflation gun, while holding on the trigger pull out the knob on the winterization kit regulator, turn the knob to adjust the pressure to no more than 30 psi, push the knob back in place when pressure reached 30 psi or less on the regulator's gauge, release the trigger.
- Disconnect van from outside water source.
- Turn off all van power and shut off propane.
- Bypass your RV water heater.
- Open all faucets in the RV.

- Open the system drain valves in the RV letting the water empty.
- Connect the blow out plug from the winterization kit to the city water inlet, not the fresh water tank.
- Connect the blow out plug to the female quick connect coupler on the regulator.
- To start: press trigger and allow compressor to run until all water is blown out from all faucets and drain valves.
- To stop: release the trigger and disconnect the blow out plug from the water inlet. Turn the compressor off and disconnect the power cable from the battery.



Figure 4-14. Quick connect stud and quick connect coupler

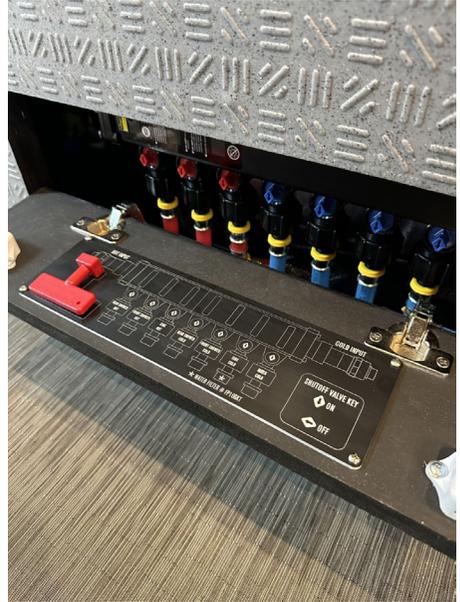


Figure 4-13. Order of connection pieces

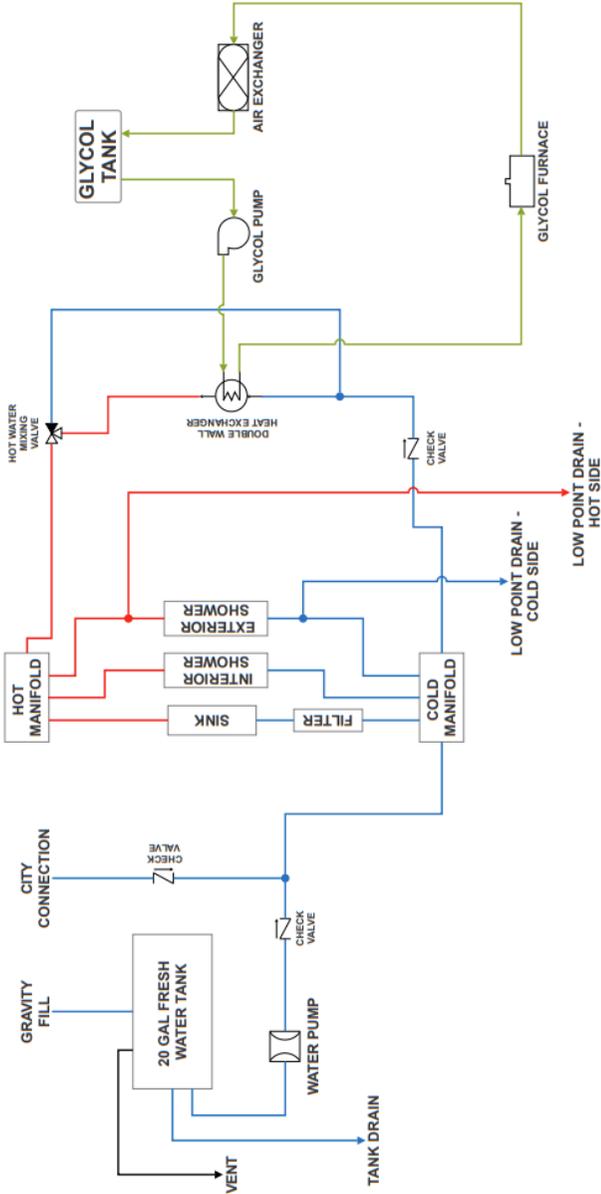
ACCESS PANEL

The access panel for the water manifold is located in the boxing at the driver's side rear.

If the water filter needs to be replaced, the water filter part number is listed on manifold.



Water manifold access panel



Fresh Water Piping and Instrumentation Diagram



ROLEF
CAMPERS



SECTION 5

INTERIOR

IN THIS SECTION

Overview

Seats and Beds

Tables and Cabinets

Interior Lighting

Appliances

Porta Potty



OVERVIEW

The Syncline van seats and sleeps two people.

The front row seats can be swiveled 180 degrees to face the cabin for dining and comfort, or swiveled 50 degrees towards front doors. The Outside Van FoldAway Bed has MOLLE storage and gear attachment points. Interior lights are located throughout the cabin for general lighting, reading, loading light, and accent lighting. Appliances are provided for storage and preparation of food and drinks. A portable toilet (porta-potty) is stored in the Outside Van Water Box.

The Interior section covers information about the following features:

- Seats
- FoldAway Bed
- StowAway Storage Bin
- Day Bed Lounge Area
- Quick Flip Table
- Interior Lighting
- Connectivity Cabinet
- Appliances
- Porta-potty

SEATS

WARNING

Risk of injury or fatal injuries if the driver's seat and front passenger seat are not engaged. Engage the

driver's seat and front passenger seat in the direction of travel before driving the vehicle.

WARNING

Risk of accident due to adjusting the vehicle seats while the vehicle is in motion. Always wait until the van is parked before making adjustments to the vehicle's seats.

The front row seats can be rotated by 50 and 180 degrees as follows (Figure 5-1):

- Prior to rotating a front row seat, follow these precautions:
 - Ensure the parking brake is applied and the brake lever is down as far as it will go.
 - Open the respective front door to avoid collision with the door trim.
 - Adjust the steering wheel to allow for sufficient clearance to rotate or adjust the driver's seat.
 - Slide the front passenger seat forward before rotating it.
- Push the lever at the front of the seat base towards the door and rotate the seat slightly inwards. This will unlock the turning device.
- Release the lever.
- Rotate the seat to the desired position (50 degree rotation towards the exit or 180 degrees to face the cabin).

Refer to the vehicle manufacturer's manual for more details.

FOLDAWAY BED

WARNING

To avoid injury or damage to equipment always properly secure all interior components prior to operating the vehicle.

The Outside Van FoldAway Bed is a Murphy-style bed that can hold up to 600lb. It has gas-assisted struts on both sides, making it easy to stow or deploy (Figures 5-1 and 5-2). To use the bed, press the button on the top center of the bed panel (Figure 5-3) and guide the panel down until it touches the driver's side boxing. To store the bed, fold the mattress in half and push the bed panel into the wall until it clicks.

The space under the bed can be utilized to store gear and bikes. The bed panel's lowest point height provides enough space for bikes to be stored with their front wheels removed. The underside of the bed contains a generous Molle panel to attach gear (Figure 5-4). Multiple additional attachments points are on the underside frame of the bed for anything that needs to be strapped or bolted down.

A two-slot metal storage area is concealed when the bed is in the up position. When the bed is in the down or sleep position the two-slot metal storage bin allows for easy storage of longer items.



Figure 5-1. FoldAway Bed stored



Figure 5-2. FoldAway Bed deployed



Figure 5-3. Button to deploy bed

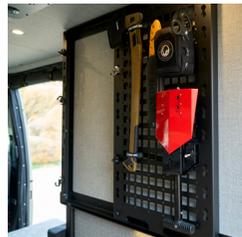


Figure 5-4. Molle panel gear storage

STOWAWAY STORAGE BIN

The Outside Van StowAway storage bin is a large thermoformed bin that is concealed when the bed is in the down/sleep position. This large area can be used for gear storage, fishing poles, boots, or camera gear that you want concealed when the bed is down. There are two slots in this bin that allow for different attachments for holding skis or snowboards when the bed is in the up position. The three stainless steel hinges hold the large cover in place firmly and there is a finger-hole slot in which to easily lift the cover.



Figure 5-6. StowAway Bin interior



Figure 5-7. StowAway Bin interior with inserts



Figure 5-5. StowAway Bin

DAY BED LOUNGE AREA

This added feature consists of a jump seat that conceals a flip over bed panel that rests on the opposing lower shower box. Once this is deployed you can rearrange the four cushions and it becomes a lounge. This area is intended to read a book, relax after a trail

hike, enjoy a meal or just take a cat nap. The added space is the perfect place for your fur baby to stretch out and catch some zzz's. The jump seat also has a removable seat base that exposes access to your furnace for service.



Figure 5-8. Day Bed lounge area



Figure 5-9. Day Bed lounge area stored



Figure 5-10. Furnace access under driver's side jump seat

QUICKFLIP TABLE

⚠ WARNING

Possible pinch points on fingers when deploying and storing table. Please use with caution.

The Outside Van QuickFlip Table boasts a unique mechanism that enables it to hold weight without requiring a cable. The table is made of powder-coated steel and is magnetic, making it suitable for holding heavy cutting boards or pots, up to 25lb. When the table is lifted, it reveals a small cubby that is perfect for storing accessories, such as the compressor air hose, spice containers, or large utensils. In addition, there is a GFCI 110v power outlet located on the lower left side of the cabinet, which can be used with the induction cooktop or other appliances, including a blender. The compressed air chuck is conveniently located at the lower base of this cabinet area, making it an ideal location for blowing out dirt and sand from the van.



Figure 5-11. QuickFlip Table stored

To release the table into functional position, simply pull either lower corner toward you until the table clicks into place. To store, push the lower portion of the latches (Figure 5-13) and slowly apply downward pressure to the front of the table.



Figure 5-12. QuickFlip Table deployed



Figure 5-13. Push latches to store table



Figure 5-14. Power outlet and storage location

INTERIOR LIGHTING

The interior lights consist of the following (Figure 5-15 through Figure 5-19):

- Ceiling lights – dimmable lights located in the ceiling throughout the cabin. Controlled by a rocker switch on the upper cabinetry (dimmable by holding the switch), a push button near the sliding door, and a push button on the rear wall.
- Galley lights – controlled by push buttons on underside of overhead cabinetry.
- Gear lights – controlled by a rocker switch in the upper cabinetry, a push button near the sliding door, and a push button near the rear door on the passenger side.
- Exterior scene lights – controlled by a push button near the sliding door and a push button on the rear wall.
- Slider loading light – controlled by a push button near the sliding door and a push button on the rear wall.



Figure 5-15. Switch Control Panel located on upper cabinetry



Figure 5-16. Scene Lights, Load Lights, and Ceiling Lights Push Buttons, located next to sliding door



Figure 5-17. Galley Lights



Figure 5-18. Ceiling Lights



Figure 5-19. Scene Light, Load Lights, Gear Lights, and Ceiling Lights

CONNECTIVITY CABINET

The Connectivity Cabinet is the upper cabinet on the left which houses both a 12v power supply as well as a 110v GFCI outlet. The power supply on and off switch for the Volta system is in the upper right corner. A roof penetration for the chassis and a cut away in the ceiling have been prepared and made available for adding any aftermarket item that needs to be plugged in, such as Starlink or other antennas. There is a pass-through cover installed on the inside ceiling.



Figure 5-20. Connectivity Cabinet shown with Starlink (not included)

APPLIANCES

The Syncline van is equipped with appliances for the preparation and storage of drinks and food items. The manufacturer does not claim liability for proper temperature storage requirements of medical supplies.

The standard appliances that come equipped with the Syncline van are as follows:

- Refrigerator (Figure 5-11)
- Microwave (Figure 5-12)
- Portable induction cooktop (Figure 5-13)
- Faucet (Figure 5-14)

REFRIGERATOR

WARNING

This unit contains fluorinated greenhouse gas R134a within a hermetically sealed system whose operation depends on the presence of said gas. Contact a qualified certified technician for handling fluorinated gases in the event of damage to the refrigerant circuit.

WARNING

The only purpose and function of the product when used as a freezer is to maintain already frozen food completely frozen. The refrigerator will not freeze non-frozen or partially frozen food products. If a non-frozen or partially frozen food product is stored in the freezer, this is considered improper use and can cause possible unintended thawing of food which may lead to problems related to safety, illness or injury if consumed. The preservation

of non-frozen or partially frozen food in the freezer can also affect the quality of other frozen food products stored in the freezer. Exposure to temperatures above the temperature of the climatic class range for which the freezer was built, power supply interruptions and/or frequent opening of the freezer can influence the effectiveness of the refrigerator and the quality of the contents of the freezer. The user should always check food quality before ingesting.

The refrigerator's temperature is continuously regulated by the thermostat, which also includes a power-off function if turned counterclockwise to the end position.

The refrigerator is equipped with a closed cooling system, which does not require maintenance or refrigerant refills.

CAUTION

All work on electrical parts or connections and the refrigerant circuit must be carried out by qualified and authorized technicians.

CAUTION

The freezer door hinge can be damaged if the freezer door is not properly and fully closed. Ensure that no items in the freezer pre-

vent a full seal of the freezer door before shutting the main door.

The refrigerator door is marine quality and requires shutting until the latch fully clicks into to place. The latch attach point can slide to the right, placing the door in ventilation mode; in this mode the door will remain slightly open when the latch is fully engaged. This allows for ventilating the refrigerator for defrost or storage while keeping the door securely in place. Slide the latch attach point back to the left to resume normal shutting operation.

The freezer door has a “stay in place” design that allows it to remain fully open while adding or removing items. The freezer compartment features a magnetic seal to minimize frost issues. Always ensure that there are no items preventing the freezer door from fully shutting and making a tight seal, including the ice tray.

For proper operation of the refrigerator/freezer, follow these precautions:

- If possible, the refrigerator should be turned on for about 6 hours prior to inserting food items.
- Frequent opening of the refrigerator door will result in greater power consumption.

- Keep the inside of the refrigerator clean and dry. This can be done using a soft brush and a vacuum cleaner. It can also be cleaned by washing it with warm water and mild soap and by drying any water/condensation that may be encountered. Remove the condensation water from the drip tray beneath the refrigerator’s freezer compartment where present.
- To keep the surface of the door in good condition and intact, make sure that it is always clean and dry.
- The unit has been designed with product lock protection in the event of low battery voltage. In the event of a compressor block, follow the instructions in the manufacturer’s manual and/or contact a qualified certified technician.
- The compressor can operate up to an angle of 30°, while greater angles can cause permanent damage to the compressor.

The evaporator operates at temperatures well below freezing, and ice and frost will inevitably form on it. Temperature, humidity and frequency of door opening will significantly impact frost formation. The refrigerator should always be defrosted when the layer of frost on the evaporator reaches a thickness of 3-4 mm or more.

To defrost the refrigerator, perform the following:

- Turn off the refrigerator by turning the thermostat to its 0 position.
- Defrosting should be performed when the products can remain as cool as possible outside of the refrigerator itself. Do not use sharp objects to remove ice and frost from the evaporator, as this could damage it and result in leaks.
- Only turn the refrigerator back on once it has been defrosted, cleaned and thoroughly dried. Remove, empty and dry the drip tray beneath the evaporator. A towel can be placed at the base of the refrigerator during the defrosting procedure in order to facilitate water collection.

To replace the LED light bulb, slide the lighting unit's glass down using the appropriate lever. Replace the light bulb with an original manufacturer's replacement part and return the lighting unit to its original state.

Refer to the Indel Webasto Marine YouTube channel for more information and tutorials.

MICROWAVE

A microwave is installed in the upper cabinetry for heating foods and beverages in microwave-safe containers.

To ensure safe operation and to reduce the risk of fire in the microwave, follow these precautions:

- Do not overcook food. Carefully attend appliance when paper, plastic or other combustible materials are placed inside the oven while cooking.
- Remove wire twist-ties and metal handles from paper or plastic containers before placing them in the oven.
- If materials inside the oven ignite, keep the oven door closed, turn the oven off and disconnect the power cord, or shut off power at the fuse or circuit breaker panel.
- Do not store any materials in the oven when not in use. Do not leave paper products, cooking utensils, or food in the cavity when not in use. All racks should be removed from oven when not in use.
- Do not operate without food in the oven.

PORTABLE INDUCTION COOKTOP

WARNING

To protect against electric shock, do not immerse cord plugs or cooker in water (or other liquid substances).

WARNING

When using any electric appliance used around children, close

supervision is strongly suggested. To prevent accidents and achieve optimal fan ventilation, allow for sufficient space around the cooking area. Make sure that cooktop is placed on a level and stable surface. Do not use the cooktop while in the storage drawer.

The induction cooktop is an 1800W glass ceramic heat source for heating food or liquids in approved cookware. For proper heating, the cooktop requires the use of ferrous (magnetic) pots and pans. Check your cookware packaging for the induction symbol or test the surface of the cookware using a magnet. Optimal cookware is round, flat-bottomed, with a diameter of 4.5 to 10 inches.

CAUTION

Heat-resistant glass, ceramic, copper, aluminum pans/pots, round bottomed cookware, or cookware with a base less than 4.5 inches are not compatible with the cooktop.

To use the cooktop, perform the following:

- Remove the cooktop from its storage location in the top right drawer of the galley and plug the power plug into a standard outlet.
- The Power button will light up and the unit will sound to indicate on.
- The device will remain in standby mode, awaiting user direction.
- Place ferromagnetic cookware (with water, oil or food already inside) on the center of the glass-ceramic top center.
- Now press the Power button on the control panel, this will turn the cooktop on. The power display will blink and sound another indicator.
- Press the Heat function key once. The pre-set power level “5” is the default selection as the device turns on.
- Using the +/ - keys you can change the settings at any time, ranging from 1-10. This is considered to be the HEAT function.
- Adjust the temperature setting as desired:
 - Using the +/ - keys you can change the temperature settings at any time. Settings range from 150-450 degrees Fahrenheit. (Exact temperatures: 150, 180, 210, 240, 270, 300, 330, 360, 390, 420 and 450° F).
 - After selecting the HEAT or TEMP mode, press the TIMER button once. The display will show the number “0.” Using the +/ - keys you can select the operating time in 1-minute intervals (up to a max of 150 min).
 - The display will count down the duration in minutes. Once the time is up, the unit

sounds and automatically goes into standby mode. To continue cooking, press the Power button and Heat button to restart.

- During the timer operation, you can change the timer duration at any time with the arrow keys. The device's built-in memory maintains the HEAT or TEMP setting previously entered.
- You can also change the HEAT or TEMP settings without affecting the current timer setting.
- When you are finished cooking, simply press the Power button to turn off the machine.
- Upon completion of cooking, the fan may remain on until the unit is cool.
- Once the unit has completely cooled, it may be cleaned and/or stored in its storage location.

For proper cleaning and safety, follow these precautions:

- Always allow the unit to completely cool prior to cleaning, moving or touching the cooking surface.
- Before cleaning always switch OFF the device and wait for it to be completely cool. Clean the unit after each use to remove food residues.
- Wipe off the glass-ceramic plate and the plastic surface with a slightly damp cloth (microfiber works best). Dishwashing soap may be used when necessary.
- Make sure that no water seeps into the device. Never use abrasive cleaners (i.e. metal

pads) or oil-based liquids. Never run the cooktop under water.

- A vacuum cleaner attachment may be used to suck up dirt from the air intake and exhaust vent.

The cooktop has a built-in safety shut off that will turn the unit off after 150 minutes of continuous use. This occurs for both the HEAT and TEMP settings. The panel will display "H" if the cooking zone is hot. If further use of the cooktop is required, the unit can be turned back on and set to the desired settings again.



Figure 5-21. Portable induction stove storage drawer

FAUCET

The galley sink is equipped with a one-handed pulldown faucet with spray wand. The mode of the water flow from the faucet can be selected between stream or spray mode by pressing the corresponding portion of the lower button on the back of the sprayer wand. Power boost can be turned on for either selected water flow mode by pressing the small upper button on the back of the sprayer wand (if

installed). The power boost function is turned off when the faucet water flow is turned off.

 **CAUTION**

Remove the sink covers prior to turning on the faucet to avoid water spills and damage to any mechanical or electrical components in the van.

To pressurize the water system, connect to city water or turn on the water pump using the WATER PUMP rocker switch. A rocker switch is located on the switch panel in the upper cabinetry. It may take a few moments for water to begin to flow for the first use following pressurizing the water system.

 **CAUTION**

Always monitor the fresh water and grey water tank levels on the tank monitoring panel in the upper cabinetry. Verify that cleaners, soaps, fresheners, etc. are safe for use in the installed grey water tank.

Water from the sink drains to the installed grey water waste tank. It is recommended to minimize the amount of food waste allowed to drain through the sink drain. Refer to the Water and Plumbing section for more information.

For reduced flow from the faucet with the water system pressurized, perform the following to clean the filter screen installed in the water line:

- Unscrew the spray wand assembly from the pulldown hose.
- Remove the O-ring and screen.
- Clean the screen by rinsing for a few seconds to remove any possible debris, then turn off the water.
- Reinstall the O-ring and screen into the spray wand.
- Reattach the spray wand to the pulldown hose and tighten.

PORTA POTTY

SETTING UP THE PORTABLE TOILET

To setup the porta-potty for use, perform the following (Figure 5-15):

- Make sure the pressure in the holding tank is equalized: to do this, open the slide valve with the seat cover closed by pulling the flush grip out and then pushing it closed again.
- Remove the cap of the flush water tank and fill it up until the water level has reached approx. 25 mm (1 inch) below the top. Screw the cap on again on the flush water tank.
- Pull the flush grip to open the slide valve.

- Put an appropriate sanitary additive directly into the holding tank.
- Close the slide valve.

 **CAUTION**

Never put sanitary additive into the porta-potty when the slide valve is closed.

- Press the pump approximately 15 times or until air comes out the cap of the flush water tank through the pressure relief valve.

 **CAUTION**

Do not subject the flush water tank to too much pressure (e.g. by covering up the pressure relief valve). Do not pressurize the flush water tank if it is separated from the holding tank.

FLUSHING THE PORTABLE TOILET

 **CAUTION**

Changes in the ambient temperature or the actual height above sea level while travelling can cause the pressure in the holding tank to rise or fall. Before use, make sure that the pressure in the holding tank is equalized by opening and closing the slide valve with the seat cover closed.

To flush the portable toilet, perform the following:

- Pull out the flush grip to allow the waste to pass into the holding tank.
- Press the flush button to flush the portable toilet.
- Push the flush grip to close the slide valve.

EMPTYING THE HOLDING TANK

When the filling level display shows “Full”, the holding tank needs to be emptied.

To empty the holding tank, perform the following:

- Pull the locking grip on the holding tank if the toilet is fitted with the optional fastening holders. To reach the rear bracket, lift up the toilet and move it.
- Pull up the rear latch to disconnect the flush water tank from the holding tank.
- Take the holding tank to a reliable disposal station (or a normal toilet).

 **WARNING**

To protect the environment, never empty the holding tank directly into the environment, only into an approved disposal station or a toilet.

- Turn the waste pipe away from the tank and open the pressure relief valve on top of the tank.
- Empty the tank.

- If there is a water connection, flush out the holding tank.

STORING THE PORTABLE TOILET

To store the portable toilet, perform the following:

- Empty the holding tank and flush the water tank completely if you are not planning to use the portable toilet for a long time.
- Store the portable toilet in a dry, clean state. Refer to Figure 5-15.

⚠ CAUTION

Do not use sharp or hard objects or petroleum-based cleaning agents for cleaning as these may damage the product.

- Clean the product with a wet cloth and mild detergent regularly.



Figure 5-15. Porta potty stowed



SYNCLINE



SECTION 6

EXTERIOR

IN THIS SECTION

Overview

HD sPod

Exterior Lighting

Awning

Roof Rack

Air Compressor

Power Step



OVERVIEW

The Syncline van is customized with many additional exterior features for safety and convenience. A sPOD controller is installed on the mid console of the vehicle to control exterior lighting and the installed air compressor. A manual awning is provided for sun protection while the vehicle is parked. An adjustable roof rack is provided for exterior gear storage. Automatic power steps provide easy passenger loading.

To clean the exterior of the van, mild soap and water that is environmentally safe is recommended. It is NOT recommended to use commercial car washes, as this may damage the vehicle and exterior surfaces.

The Exterior section covers information on the following:

- HD sPOD (Controls)
- Exterior Lighting
- Awning
- Roof Rack
- Air Compressor
- Power Step
- Apex Wheels
- RIP Kit
- Side Utility Ladder

HD sPOD

A HD sPOD is installed in the mid console of the vehicle's dashboard controls. The sPOD is customized to provide pushbutton controls for the additional exterior electrical components provided with the van. A Bantam sPOD controller is installed beneath the front passenger seat to provide inputs and controls via dip switches, and allow for Bluetooth device pairing (Figure 6-1).

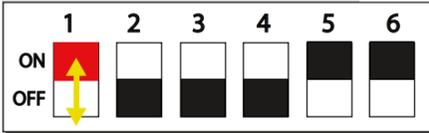
Bantam sPOD (controller) - Start by going to Google Play for Android devices or iTunes for Apple devices and search "sPOD Bantam". Download the sPOD Bantam app onto your smartphone or tablet. Be sure that your device's Bluetooth is turned on. Once the app is activated, your HD will automatically be recognized. Pairing the panel to a Bluetooth device makes sure the panel only works with the device(s) that are paired and no other unwanted device can link to the panel (Figure 6-2).



Figure 6-1. sPOD App Icon and sPOD Bantam App Icon

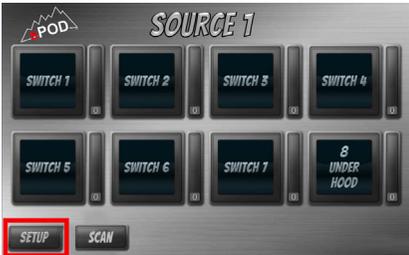
To pair a Bluetooth device, perform the following:

- With the app closed and off, flip DIP switch 1 ON then OFF in quick succession to put the Bantam in PAIRING MODE for 60 seconds.



Dip Switches

- Open the Bantam app and touch SETUP.



- Touch the SCAN button and wait 10 seconds.



- Hit CANCEL and wait about 10 seconds for the PIN to appear in the upper left (in white). Touch the SETUP button.
- Touch the SCAN button and wait 10 seconds.
- When the pairing request dialog box appears, enter the PIN and then touch the PAIR button.

The HD will go into “Deep Sleep” after 6 hours of inactivity (i.e. no usage of the HD or not running the engine). Once in deep sleep, the HD will turn off any accessories that were left on. If you are running the HD with a Bantam, this feature can be disabled by turning on DIP switch #1.

To reset pairing with all devices, turn DIP switch #1 ON and OFF 5 times quickly.



Figure 6-2. HD sPOD



sPOD Website

EXTERIOR LIGHTING

Custom exterior lights are provided in addition to the factory lights on the Syncline van. These lights are controlled by the sPOD HD switch panel mounted on the middle console.

The custom lights installed on the exterior of the van are as follows:

- 50" light bar
- Amber lights
- Fog lights
- Side Lights
- Rear lights

Functionality and controls of this lighting can be further customized by changing the DIP switch settings on the sPOD Bantam.



Figure 6-3. Exterior lighting — Light Bar with Amber Setting, Side Lights, and Fog Lights



Figure 6-4. Rear Lights

AWNING

A manually operated awning is installed on the passenger side of the van. The awning is designed for sun protection.

CAUTION

It is not recommended to leave the awning deployed during inclement weather. If the awning must remain extended while raining/snowing, it is advised to lower one side of the awning to allow precipitation to flow.

CAUTION

The passenger sliding door must remain shut to allow clearance for the first few inches of travel while deploying the awning and the last few inches of travel while retracting the awning.

To deploy the awning (Figure 6-4), perform the following:

- Make sure the passenger sliding door is shut.
- Place the crank rod on the crank mechanism at the rear of the awning (Figure 6-5).
- Turn the crank rod counterclockwise to begin deploying the awning
 - NOTE: To avoid unnecessary strain on the awning and roof, take out the legs when the awning is deployed about 3 ft (1 m).
- Unhook and lower the legs.
- Completely deploy the awning, making sure that unnecessary tension is not placed on the legs. Adjust leg height and position as required.
- Adjust the legs to the desired height.
- Secure the legs to the ground using stakes or attach the legs to the side mounts on the outer wall of the van (Figure 6-6).
- Stow the crank rod in an appropriate location.

To retract the awning (Figure 6-7), perform the following:

- Make sure the passenger sliding door is shut prior to fully retracting the awning.
- Remove stakes securing the legs to the ground or remove the legs from the van side mounts.
- Position the legs on the ground to avoid unnecessary tension, adjusting height and position as necessary.
- Place the crank rod on the crank mechanism at the rear of the awning.

- Turn the crank rod clockwise to begin retracting the awning.
- Once the awning is about 3ft (1 m) from being fully retracted, fold the legs up and into place in the awning.
- Completely retract the awning.
- Stow the crank rod in an appropriate location.



Figure 6-5. Awning deployed



Figure 6-6. Awning crank rod attachment



Figure 6-7. Awning Leg Side Mount



Figure 6-8. Awning retracted

ROOF ACCESSORIES

The Syncline van is outfitted with a rooftop storage rack (Figure 6-9) with customizable storage components. Rack bars (Figure 6-10) can be adjusted along the track to accommodate gear of different sizes. It also includes a passthrough for accessories like Starlink and antennas, as well as a high output built in Starlink mount plate (Figures 6-11 and 6-12). The roof can be accessed by the installed ladder with reversible step grips for versatility and safety.



Figure 6-9. Rooftop Storage Rack shown with Starlink mount installed (not included)



Figure 6-10. Moveable Rack Bars

CAUTION

Make sure all storage equipment and gear stowed on the rooftop is properly secured and does not interfere with desired or required operation of the exhaust fans or solar panel.

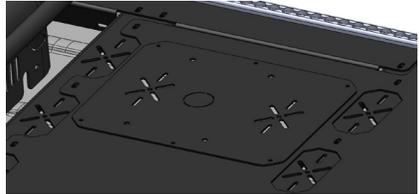


Figure 6-11. Starlink Mount Plate

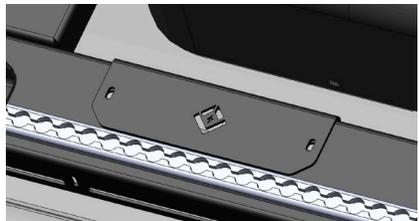


Figure 6-12. Pass-Thru for Starlink or other antennas

To reposition or remove the rack bars, perform the following:

- Remove all gear attached to the rack bars.
- Loosen the bolts attaching the bar(s) desired to be moved.
 - NOTE: A socket driver or ratchet wrench is recommended for safe and effective operation.
- Reposition the bar in the desired location and tighten the bolts to secure them in place at the desired track point.

PASS-THROUGH

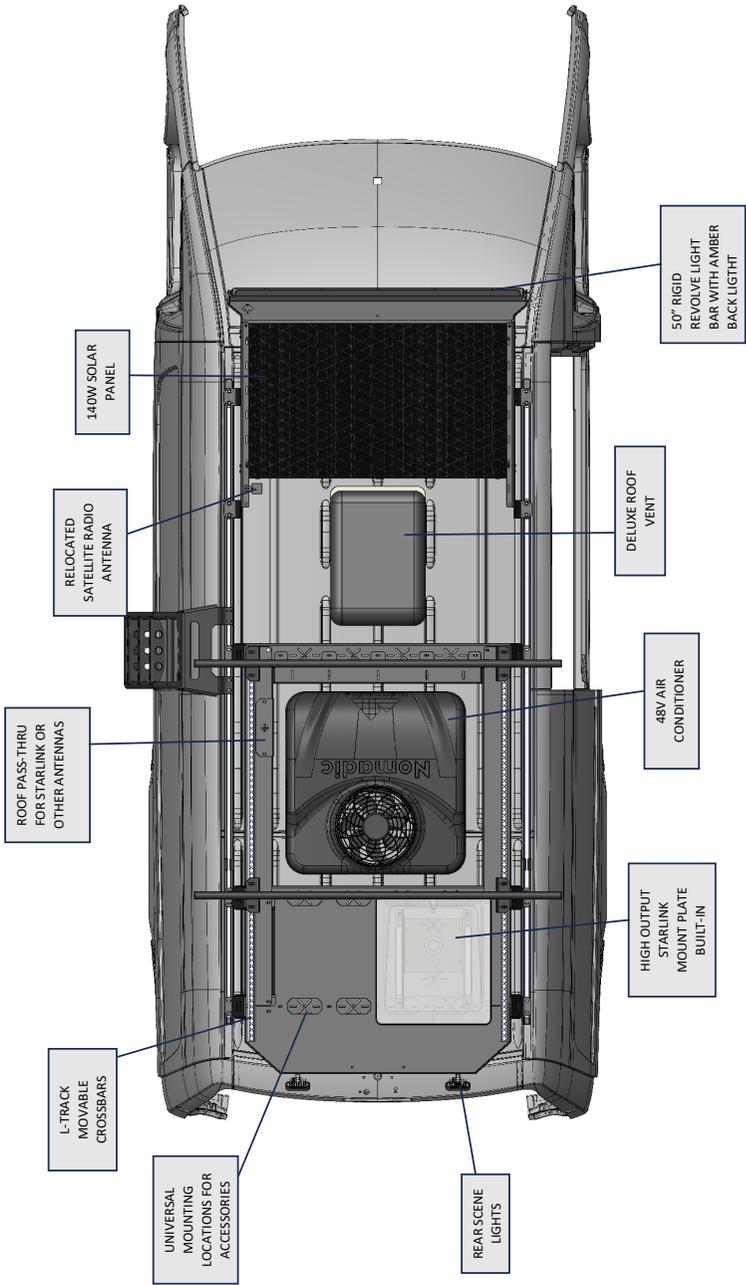
To access the roof pass-thru remove two 7/16" bolts on the

driver's side platform rack. Below the cover is a SCANSTUT MULTI grommet, follow the manufacturer's instructions when running wire through the grommet.



A cable port has been added to the ceiling panel in the Connectivity Cabinet for ease of installation of cell boosters or satellite antennas like Starlink. To open the cover pull down on the cover, the SCANSTRUT pass-thru is directly above this cable port.





Roof Top Accessories

AIR COMPRESSOR

A 12V air compressor is installed under the hood of the Syncline van. The compressor is controlled by the push button switch on the HD sPOD controller mounted on the middle console. Air hose connection ports are provided around the exterior of the van to allow for airing up/down tires and general cleaning. One hose connection is located at the rear of the van, one at the step of the open sliding door, and one under the hood.



Figure 6-13. Rear Air Hose Connection



Figure 6-14. Sliding Door Air Hose Connection



Figure 6-15. Under Hood Air Hose Connection

POWER STEPS

AMP Research PowerStep running boards automatically move when the doors are opened to assist entering and exiting the vehicle.

⚠ WARNING

Keep hands clear when the running boards are in motion to prevent injury.

The PowerStep running boards provide the following functions:

- Automatic power deploy: The running boards will extend down and out when the doors are opened.
- Automatic power stow: The running boards will return to the stowed position when the doors are closed. There will be a 2-second delay before the running boards move to the stowed position.
- Automatic stop: If an object is in the way of the moving running board, the running board will automatically stop. To reset, clear any obstruction, then simply open and close the door to resume normal operation.
- Manually set in the deployed (OUT) position for access to the roof: hold the step with your foot while at the same time closing the door. To resume normal operation, open and close the door.
- Maintenance: In adverse conditions, debris such as mud, dirt, and salt may become trapped in the running board mechanism, possibly leading to

unwanted noise. If this occurs, the step may be washed by manually setting the running boards to the deployed position and flush the front and rear hinge arms with a high-pressure car wash wand. Avoid spraying the motors directly. After washing, apply silicone spray lubricant to the hinge pivot pins. Do not apply silicone, wax or protectants like Armor All® to the running board stepping surface.

An override switch is installed near the inside of the slide door opening to provide toggle control for the running boards.

The positions of the toggle switch are as follows:

- Toggle Up: Running Boards Retract and remain in the Stowed Position
- Neutral / Auto: Running Boards in Auto position operate with doors opened and closed.
- Toggle Down: Running Boards Deploy and remain in Deployed Position
 - Note: Running Boards will return to Auto Operation in the next door cycle after 30 minutes.

⚠ CAUTION

While cleaning the running boards, avoid spraying the motors directly.



Figure 6-16. Power Step driver side



Figure 6-17. Power Step passenger side



Figure 6-18. Power Step override switch near the slider door

APEX WHEEL

Syncline comes with Outside Van's Apex Wheel (Figure 6-19). These wheels are built specifically for off-road performance and have functions specific to driving in rugged terrain.

The 17 inch wheel can accommodate a variety of tires like the BF Goodrich K02 All-Terrain Tire.

The maximum tire size recommended for Syncline is 275 60 R17.

The wheel itself consists of four components. The main wheel, the removeable rock ring, the quick deflate valve, and a removeable hub cap.

The Apex wheel is built from a A356t+ alloy blank and flow forged into its final shape. This means the wheel itself is light and durable and is ideal for a variety of applications.

Surrounding the rim of the wheel is a removable rock ring (Figure 6-20). This ring acts as a buffer for damage incurred traveling rough terrain and protects the main wheel from dents, chips, and scratches. To remove the ring, use a 10MM socket wrench to remove the 8 bolts that secure the ring to the wheel. By removing the ring you are able to replace it if damaged, or customize it to your liking.

The Apex wheel features two locations for accessing the valves to fill and deflate your tires. The first location accommodates the standard tire inflation valve and should be used for routine inflation of your tires (Figure 6-21). The secondary valve location features a rapid deflate valve (Figure 6-22). When combined with your choice of tire gauge, this valve enables you to rapidly deflate your tires. This is commonly done when more traction is needed in loose terrain

like sand and snow and should be done on all tires equally.



Figure 6-19. The Apex Wheel



Figure 6-20. Removable rock ring



Figure 6-21. Routine inflation valve



Figure 6-22. Rapid deflate valve

To learn more about best practices when it comes to airing up and airing down your Syncline, please visit outsidevan.com.

AGILE RIP KIT

While the Agile Off Road RIP Kit is designed for durability, regular maintenance ensures optimal performance:

Inspect Shocks: Regularly check the condition of the shocks. Look for leaks, damage, or signs of wear.

Lubricate Moving Parts: Apply lubrication to any moving parts, such as bushings and pivot points.

Check Leaf Springs: Inspect the rear leaf springs for any signs of fatigue, cracks, or deformation.

Torque Check: Periodically verify that all bolts and fasteners are properly torqued.

Alignment: After installation or any major off-road adventures, consider getting a professional alignment to maintain stability.

purposes: to allow access to the roof and as a mounting platform for external storage. On each ladder rung are two mounting slots which are spaced specifically to accommodate a section of L-Track, or to mount various accessories like RotoPax or traction boards. Underneath each step is also a tie down slot to secure cargo mounted to the utility ladder. The ladder's weight capacity is 300lb.

6

SIDE UTILITY LADDER

Syncline comes equipped with Outside Van's signature Side Utility Ladder. The ladder serves two

OUTSIDE VAN.
SYNCLINE



INDEX

- Air Compressor, 6-9
- Air Conditioner, 3-2, 3-4 — 3-5
- Alternator, 2-5 — 2-7, 2-9, 3-2
- Amber lights, 6-4
- Appliances, 5-7 — 5-13
 - and carbon monoxide,
 - 1-2 — 1-3, 1-7
- Awning, 6-4 — 6-5

- Basic Campsite Tips, ix
- Bed, 5-3

- Campsite Tips, ix
- Carbon monoxide, (CO) 1-2 — 1-3
 - Alarm, 1-3 — 1-8
 - Troubleshooting, 1-9
- Connectivity Cabinet, 5-7
- Cooling, 3-4
- Converter, 2-9

- Day Bed, 5-4 — 5-5

- Exhaust/Circulation Fans, 3-5 — 3-7
- Exterior Lighting, 6-2, 6-4

- Faucet, 5-12
 - Winterization, 4-8 — 4-10
- Fire Extinguisher, 1-10 — 1-12
- Flash Codes, 2-4
- Flex Pack, 2-2 — 2-10

- Fog lights, 6-4
- Fresh Water System, 4-2 — 4-3
 - Winterization, 4-8

- Getting on the Road, vi — vii

- HD sPOD, 6-2 — 6-4
- Heater, 3-2 — 3-3, 3-8 — 3-9
- Hot Water, 4-5 — 4-6

- Indoor Shower, 4-2, 4-5
- Induction Cooktop, 5-10 — 5-11
- Interior Lighting, 5-4 — 5-5
- Inverter, 2-5 — 2-7, 2-9

- Light bar, 6-4

- Microwave, 5-8
- MyVolta App, 2-10

- Outdoor Shower, 4-2, 4-7

- Portable Induction Cooktop, 5-10 — 5-11
- Porta-potty, 5-13 — 5-14
- Power system, 2-2 — 2-8
- Power Step, 6-9 — 6-10
- Power Troubleshooting, 2-10 — 2-11

- QuickFlip Table, 5-5 — 5-6

Rear lights 6-4
Refrigerator, 5-8 — 5-10
RIP Kit, 6-12
Roadside Assistance, ix
Roof Accessories, 6-6 — 6-7

Seats, 5-2
Shower Drain Pump, 4-5
Side Utility Ladder, 6-12
Smoke Alarm, 1-3 — 1-6, 1-8
 Troubleshooting, 1-9
Solar Controller, 2-9
sPOD, 6-2 — 6-4
Storage and Winterization, 4-8 — 4-11
Storage Precautions, 2-8
StowAway Storage Bin, 5-4

Touchscreen Controller, 3-3 — 3-4

Volta Power System, 2-2 — 2-11
 MyVolta App, 2-10
 Pushbutton, 2-2 — 2-3
 Touchscreen, 2-4 — 2-5
 Troubleshooting, 2-10 — 2-11

Water & Plumbing, 4-2 — 4-11
Water Tanks, 4-3 — 4-4
Wheels, 6-10 — 6-11
Winterization, 4-8 — 4-11

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