

# **ASCENT TS**

**MERCEDES-BENZ SPRINTER** 2500



**2024-2025** OWNER'S MANUALS

#### **A WARNING**

#### IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING.

Cooking appliances need fresh air for safe operation.

#### **Before Operation:**

- · Open overhead vent or turn on exhaust fan.
- · Open Window.

#### FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

Unlike homes, the amount of oxygen supply is limited due to the size of the recreational vehicle, and proper ventilation when using the cooking appliances(s) avoids dangers of asphyxiation. It is especially important that cooking appliances not be used for comfort heating, as the danger of asphyxiation is greater when the appliance is used for long periods of time.

#### WARNING

### DO NOT FILL CONTAINER(S) TO MORE THAN 80 PERCENT OF CAPACITY. FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

Overfilling the propane container can result in uncontrolled propane flow, which can cause fire or explosion. A properly filled container contains approximately 80 percent of its volume as liquid propane.

#### **A DANGER**

#### **IF YOU SMELL PROPANE:**

- · Extinguish any open flames, pilot lights and smoking materials.
- · Do not touch electrical switches.
- · Shut off the propane supply at the container valve(s) or propane supply connection.
- · Open doors and other ventilating openings.
- · Leave the area until the odor clears.
- · Have the propane system checked and leakage source corrected before using again.
- · Failure to comply could result in explosion resulting in death or serious injury.

#### **A WARNING**

Propane cylinders shall not be placed or stored inside the vehicle. Propane cylinders are equipped with safety devices that relieve excessive pressure by discharging propane to the atmosphere.

#### FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

### **WARNING**

## BREATHING DIESEL ENGINE EXHAUST EXPOSES YOU TO CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

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

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

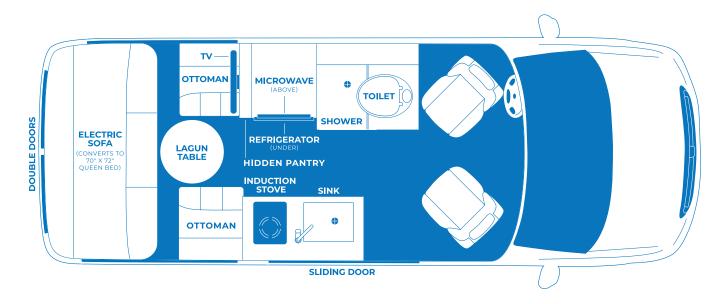
### **A WARNING**

### OPERATING, SERVICING AND MAINTAINING A PASSENGER VEHICLE OR OFF-ROAD VEHICLE CAN EXPOSE YOU TO CHEMICALS.

This includes 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. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle.

For more information go to www.P65Warnings.ca.gov/passenger-vehicle.

# Pleasure-Way



### ASCENT TS | MERCEDES-BENZ 2500

**PLEASURE-WAY INDUSTRIES LTD.** takes great pride in the quality and excellence that the Pleasure-Way name represents. We appreciate having you as a customer and welcome you into the Pleasure-Way family. This manual is provided to introduce you to the many features of your new Mercedes-Benz Ascent TS including operation, maintenance and warranties. We strongly advise you to take time to read this manual, the Mercedes-Benz Sprinter chassis owner's manual as well as those of the motorhome components before you use your new motorhome. It will help you to better understand the many operational features of this recreational vehicle.

After reading this manual, be sure to keep it in the motorhome as a reference. Your Pleasure-Way dealer will be glad to answer any further questions about the operation of your motorhome and the appliances.

All reasonable precautions have been taken in the preparation of this manual. We have been as accurate as possible at the time of this publication. However, due to our policy of continuous improvement and refinement to our product, Pleasure-Way reserves the right to make product changes at any time without prior notice and without incurring obligations. As a result, Pleasure-Way assumes no responsibility for errors or omissions in the accuracy of the content of this manual.

We know that you will enjoy your new Pleasure-Way and we wish you many miles of pleasant and carefree driving. Happy Travels!

### **TABLE OF CONTENTS**

I-VI	WARRANTY/POLICIES	11	MAINTAINING YOUR MOTORHOME
01	SAFETY	12	Ultraleather® Cleaning & Care
01	Occupant and Cargo Carrying Capacity	13	TRAVEL PREPARATION
01	Smoke Detector	1/	MOTORIJOME SVETEME
02	LP/Carbon Monoxide Detector	14	MOTORHOME SYSTEMS
02	Fire Extinguisher	14	Liquid Propane Gas System
02	GFCI Outlet	15	LP Fill Valve & LP Bleeder Valve
03	Refueling	15	BBQ Quick Connect
03	Generator	15	LP Tank Gauge
03	Filling The LP Gas Fuel Cylinder	15	How to Use LP Appliances
04	Appliances	16	Water Heater
04	TV	17	Furnace
04	Vehicle Ground Clearance	17	Refrigerator
04	Seat Belts	18	Fresh Water System
04	Emergency Escape	18	Fresh Water Fill & Drain
		18	Fresh Water System Drain
05	MOTORHOME EXTERIOR	19	City Water Connection
05	Chassis Paint Codes	19	Draining Waste Holding Tanks
05	Motorhome Dimension, Capacities, Specs	20	Waste System
06	Appliance List	20	Water Pump
07	Tire & Loading Information	21	Toilet
07	Propane Fill, Breather Valve & BBQ Quick Connect	21	Faucets
07	Sewer Dump Compartment	22	The Energy Management System (EMS)
07	Utility Center	22	Microwave
07	Water Heater Vent/Access Door	22	Cooktop
80	Exterior Shower		
08	Fresh Water Holding Tank Fill	23	WINTERIZING
80	Furnace Vent	23	Winterizing The Water Systems
80	Exterior 110-120 Volt Plug	24	Optional Winterizing For Milder Climates
09	Porch Light	25	Winter Storage Electrical
09	Power Awning		
09	Air Conditioner		
10	Solar Panel Package		
10	Fan-Tastic Vent® Fan		
10	TV Antenna		
10	Non-Capped Sewer Vent Pipes		

26	LIVING AREA ELECTRICAL SYSTEMS	47	TOUCHSCREEN CONTROL PANELS
26	Voltage Chart	54	Battery Management System
27	AC 110-120 Volt Power	54	Battery Charging Systems
27	Automatic Transfer Switch	55	Generator
28	AC Electrical Distribution Panel	55	Auto Gen Start Setup (AGS)
28	GFCI Outlets	56	AGS Easy Setup
29	Trouble shooting AC Power	58	AGS Manual Setup
30	Main DC Power Switches	FO	MOTORHOME INTERIOR
30	12 Volt Battery Disconnect Switch Center	<b>59</b>	MOTORHOME INTERIOR
30	Master DCD	59	Interior Cockpit Map Light
30	Charge Line Disconnect Switch	59	Cooktop
30	Inverter Master Switch	59	Furnace
30	Non-Switched DC Breakers	59	Refrigerator
31	DC System	59	Microwave
<b>32</b>	Coach Batteries	60	Water Heater
<b>32</b>	Battery Management System	60	Thermostat
33	Master DCD	60	Air Conditioner
35	G12 DC Load Center	60	Kitchen Faucet
36	Xantrex® XC Pro 3000 Watt Inverter	61	Fan-Tastic Vent® Fan
<b>37</b>	Mastervolt DC to DC Charger	61	Solar Panel Package
38	Go Power Solar Controller	62	USB Charging Port
39	Multiplex Integrated Schematic	62	TV
41	DC Breakers for Charge Line Input and Generator	63	Table Set Up & Storage
/2	TROUBLE SHOOTING THE AC DC SYSTEM	64	Front Cab Privacy Shades
42	TROUBLE SHOUTING THE AC DC SYSTEM	64	Bed Layout
43	Reboot/Reset Multiplex System	65	Chassis Battery and Disconnect
43	Hard Rest of Entire System	65	Jack & Jack Tools
44	Truma® Aventa Air Conditioner	66	Tire Safety
44	Truma® Water Heater	70	REPORTING SAFETY DEFECTS
45	Truma® VarioHeat Furnace		REPORTING SAFETT DEFECTS
46	Solar Charge System	71	MAINTENANCE LOG
46	Air Conditioner Off Line		

Inverter Off Line
Inverter Hard Reset



#### **CUSTOMER RESPONSIBILITY**

It is very important that you read and understand the information provided to you in the package containing all the manuals, information and warranties pertaining to your Pleasure-Way Motorhome, its appliances and components, as well as the chassis and tires.

Please familiarize yourself with all terms and conditions of this Limited Warranty, as well as all other applicable warranties, including, but not limited to, the warranty for the chassis, tires, batteries, microwave, television, awning, refrigerator, stove, fan, toilet, air conditioner, etc. These warranty and operator's manuals contain important cautions, warnings, operational, maintenance and warranty information on the chassis, tires, the Motorhome, its components and appliances. All information, requirements and recommendations in these owner's manuals and warranties should be reviewed and followed for your safety.

You are responsible to ensure that the procedures for obtaining warranty repairs for your Motorhome are followed properly. It is your responsibility and obligation to return your Motorhome in a timely manner to an authorized Pleasure-Way dealership for warranty service repairs.

As the owner of the Motorhome, you are responsible for regular and proper maintenance performed in a timely manner in accordance with the Pleasure-Way and OEM manuals provided. Regular and proper maintenance and operation of your Motorhome, including correct load weight and distribution, is required under this Limited Warranty and failure to do so voids this Limited Warranty.

### FIVE-YEAR, NON-TRANSFERABLE LIMITED WARRANTY

Subject to the exclusions, terms and conditions specified further in this document, Pleasure-Way Industries Ltd. ("Pleasure-Way") warranties the specified new Pleasure-Way Motorhome ("Motorhome") free from defects in material and craftsmanship on portions manufactured by Pleasure-Way under normal recreational travel/camping use and service, reasonable wear and tear excluded, for 60 months/60,000 miles/100,000 kilometers, whichever comes first, after the date of purchase by the first retail purchaser from an authorized Pleasure-Way dealer.

THIS PLEASURE-WAY LIMITED WARRANTY IS NON-TRANSFERABLE TO SEQUENTIAL OWNERS.

### TERMS AND CONDITIONS FOR OBTAINING WARRANTY REPAIRS:

Warranty repairs must be within the five year or 60,000 miles/100,000 kilometers, whichever comes first, limited warranty.

All warranty work required to be done on the chassis or any of its parts or components must be taken to an authorized Mercedes-Benz, Ford or Chrysler dealership (depending on your chassis make) and processed through their warranty procedures. Pleasure-Way will not reimburse any claims regarding the chassis or any of its parts or components or tires. Please be advised that tires are covered under a separate warranty that is included with your chassis information and warranty package.

Pleasure-Way will not reimburse any claims for work done on any components, parts or appliances that are not manufactured by Pleasure-Way or that are covered under their respective manufacturer's warranties. These warranties must be claimed through the manufacturer of the appliance or component. Examples include, but are not limited to: batteries, refrigerator, microwave, roof airconditioning, water pump, furnace, awning, TV, fan, etc.

Pleasure-Way warranty registration cards must be on file before any claims will be processed. Claims made without warranty registration cards will be rejected until proof of ownership can be established.

To obtain warranty repairs, you must contact an authorized Pleasure-Way dealer and schedule an appointment. It is best if you have a written list of your maintenance schedule, repairs, defects or items in need of repair. As the owner, you are solely responsible for the maintenance of the motorhome as required or recommended by the owner's manual and associated costs of that maintenance. Repairs necessitated by failure to properly operate, correctly load, or maintain the Motorhome in a timely manner as required or recommended are not covered by warranty.

Please note that Pleasure-Way is not responsible for booking, scheduling or transporting your Motorhome for warranty or service purposes. Further, Pleasure-Way does not control the scheduling of service work at authorized or independent dealerships. You may encounter some delay in scheduling or completion of work.

Any and all warranty work must be performed and fulfilled by an authorized Pleasure-Way dealer or authorized Pleasure-Way service facility. For emergency repairs while traveling, you may choose to deal with non-authorized RV service facilities; however, all warranty repairs must be pre-authorized by Pleasure-Way.

Pleasure-Way will pay for the removal and reinstallation of motorhome components only if Pleasure-Way deems it absolutely necessary to perform chassis warranty repairs. Pleasure-Way will not reimburse any costs in the removal and reinstallation of these components if it is: out of the warranty period, non-warranty repairs, and/or routine maintenance or service or covered by the chassis manufacturer.

Pleasure-Way will, at its sole option, replace or repair, free of charge (including reasonable related labor charges), any defective part within the warranty period subject to any exclusions or limitations outlined in this Limited Warranty. The purchaser shall notify their authorized Pleasure-Way dealer within 10 days of this repair and the obligation of Pleasure-Way under this warranty is expressly limited to such replacement or repair. Your sole and exclusive remedy for breach of this Limited Warranty is monetary damages in an amount equal to the actual cost of material and/or labor necessary to repair or replace defective parts that were not repaired or replaced under this Limited Warranty. Pleasure-Way's sole and exclusive obligation is to repair any defects, subject to the exclusions, terms and conditions outlined in this document, discovered within the warranty coverage period if: (1) within 10 days of your discovery of a defect you notify Pleasure-Way or an authorized Pleasure-Way dealership of the defect; AND (2) you deliver your Motorhome to an authorized Pleasure-Way dealership at your cost and expense.

Pleasure-Way specifically excludes and disclaims any and all incidental and consequential damages, and shall not be liable for any such damages, including but not limited to, all expenses, costs, fees and charges related to: transportation, towing, loss of time, loss of pay, loss of use, inconvenience, commercial loss (including but not limited to lost wages or lost profits), bus/taxi/air fares, vehicle rental, fuel, service call charges, gasoline, internet, telephone, facsimile transmissions, lodging, food, loss or damage to personal property or items stored inside or outside of the Motorhome, loss of or damage to Motorhome, condensation or moisture damage such as mold and mildew as well as rust and corrosion, etc. This exclusion and disclaimer is independent of any failure of the essential purpose

or validity of any warranties provided with the Motorhome, and shall survive any determination that a warranty is invalid or failed of its essential purpose. Some states or provinces may not allow the exclusion or limitation of incidental or consequential damages, and, if so, the above limitation or exclusion may be limited or may not apply to you. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state and/or by province.

Please note the distinction between "defect" and "damage". "Defect" means the failure of the workmanship performed and/or materials used to conform with the design and manufacturing specifications and tolerances of Pleasure-Way. However, Pleasure-Way has no control over "damage" caused by such things, for example, as collision, misuse, improper loading or lack of maintenance that occurs after the Motorhome is delivered to the owner. Therefore, "damage" which occurs for any reason after the Motorhome is delivered is not covered under this Limited Warranty. Maintenance services are also excluded from this Limited Warranty because it is the owner's responsibility to maintain the Motorhome. Please note that exclusions from warranty claims are specified further herein.

Pleasure-Way reserves the right to change specifications, operating instructions, floor plans, standards and options on any and all products and motorhomes built and/or sold by it at any time without notice and without incurring any obligation to maintain spare parts and without incurring any obligations to make the same or similar changes on motorhomes previously built and/or sold by Pleasure-Way.

This Limited Warranty is expressly in lieu of any and all other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose and of any other obligations or negligence or liabilities on Pleasure-Way. There is no warranty of any nature made by Pleasure-Way beyond that contained in this Limited Warranty. No person or entity has authority to create, imply, enlarge, amend or modify any warranty beyond that contained in this Limited Warranty. The dealer, servicing entity or representatives (including any and all employees) are not Pleasure-Way's agent. Pleasure-Way is not responsible for any undertaking, representation or warranty, made by any dealer, servicing entity, employee, representative or others beyond those expressly set forth within this Limited Warranty.

TO THE EXTENT PERMITTED BY APPLICABLE LAW, ALL IMPLIED WARRANTIES AND CONDITIONS, INCLUDING IMPLIED OR STATUTORY WARRANTIES AND CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR OR NORMAL PURPOSE, QUALITY, DURABILITY, AND AGAINST LATENT DEFECTS, ARE HEREBY DISCLAIMED. TO THE EXTENT IMPLIED WARRANTIES ARE NOT PERMITTED TO BE DISCLAIMED UNDER APPLICABLE LAW, THIS WARRANTY EXPRESSLY LIMITS ALL WARRANTIES, INCLUDING BUT NOT LIMITED TO, BOTH EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE IMPLIED OR STATUTORY WARRANTIES AND CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR OR NORMAL PURPOSE, QUALITY, DURABILITY, AND AGAINST LATENT DEFECTS, AND ALL OTHER LIABILITIES OF PLEASURE-WAY.

When you request and accept the performance of warranty repairs under the terms of this Limited Warranty, you are accepting all terms of this Limited Warranty, including by way of example, warranty limitations, time limits and disclaimers. If any term or condition in this Limited Warranty conflicts with your state's legislation, the provisions of your state's legislation are varied as allowed for by law.

This Limited Warranty is not a warranty that promises or extends to future performance of this Motorhome or any of its materials, components or parts because this Limited Warranty does not make a representation on how your Motorhome or any of its materials, components or parts will perform in the future but instead represents only what the remedy will be if a manufacturer's defect exists subject to the terms, exclusions and conditions herein.

Unless prohibited by law, repairs will not extend or suspend the time when you must commence a breach of warranty claim and shall not extend the warranty coverage period set out herein. Any performance of repairs after the warranty coverage ends or any performance of repairs to those portions of your Motorhome excluded from coverage shall be considered "good will" repairs and confers no obligation for other similar future repairs. Further, nothing in this Limited Warranty, including, but not limited to, "good will repairs" or any action of Pleasure-Way or its agents or representatives shall be interpreted as extending, waiving or altering the terms, limitations, exclusions and conditions of this Limited Warranty and shall not, under any circumstances whatsoever, extend the warranty coverage period or limitation period. Pleasure-Way is not obliged to notify you if repairs are considered "good will repairs."

### WHAT THIS LIMITED WARRANTY DOES NOT COVER

### This Limited Warranty shall not apply to the following:

- In the event that the Motorhome has been altered outside our factory in any way so as, in our sole opinion and discretion, to affect its performance, stability, safety, operation or reliability.
- 2. Deterioration due to wear and tear or exposure, including but not limited to: upholstery, flooring, rust, corrosion, window, door and vent seals, oxidation, fading, and cosmetic blemishes.
- 3. In the event that the Motorhome, in our sole opinion and discretion, has been subject to misuse, abuse, neglect, negligence, accident, improper load distribution or overloading.
- **4.** In the event that the Motorhome was not purchased as a new retail unit from an authorized Pleasure-Way dealer.
- 5. In the event that the Motorhome has been declared a total loss by an insurance company, or a motorhome title indicates that is designated as "salvage", "junk", or "rebuilt" or word of similar impact.
- 6. The automotive chassis and tires, which are covered solely and exclusively by their own manufacturers' warranties, including by way of example, but not limited to: power train, engine, brakes, axles, drive-train, and muffler. To learn more about the specific automotive chassis and tires not covered under the Pleasure-Way Limited Warranty, please contact your authorized selling Pleasure-Way dealer, Pleasure-Way Industries Ltd., or review your Mercedes-Benz, Ford or Chrysler warranty package information provided with the Motorhome.
- 7. Appliances, parts and components not manufactured by Pleasure-Way or covered by their own warranties, including but not limited to: the microwave, refrigerator, stove, heater, television, toilet, batteries, awning, generator, fan, furnace, air conditioner, etc. To learn more about specific components, parts or appliances not covered under the Pleasure-Way Limited Warranty, please contact your authorized

- selling Pleasure-Way dealer, Pleasure-Way Industries Ltd., or review your warranty package information provided with the Motorhome.
- 8. Unauthorized repairs, alterations, customizations, additions or modifications and any defects or damage caused by such items or repairs
- 9. Routine maintenance and service items, including without limitation: caulking, lubricants, sealants, tightening screws, latches, locks, combustion systems, changing fuses or light bulbs, winterization or storage preparations, maintaining the air conditioning, electrical, plumbing and heating systems, etc.
- 10. Imperfections that do not affect the suitability of the Motorhome for its intended purpose of recreational travel or camping use or items that are working as designed but which you are unhappy with because of the design or function.
- 11. Damages caused by any and all Acts of God and/or environmental factors, including but not limited to: hail, tornadoes, sandstorms, lightning, floods, earthquakes, hurricanes, airborne fallout, fire, rain, wind and all other environmental conditions, which may include but are not limited to, tree sap, tar, chemicals, oils, salts, ocean spray, road hazards, stone chips, infestations, and rodents
- 12. Damage, defects or repairs required, due to or arising from, including but not limited to: accident, negligence (whether foreseeable or not), collision, vandalism, theft, fire, flood, harsh chemicals or abrasive cleaners, de-icing agents, waxes or other chemicals applied to the Motorhome or its components, power washers, rust or corrosion, hydraulic leveling jacks or leveling system, unregulated water pressure, tank overfill, or plumbing system or electrical system modification or alteration, improper installation, addition, repair or modification, improper stowing of contents and equipment, overloading or improper balancing or distribution of the load, voltage/ amperage irregularities such as low or high voltage, reverse polarity, open ground or neutral and lack of amperage to operate equipment, power surges, off-road use, abuse, neglect or misuse of the Motorhome and/or its equipment, appliances, components, and/or chassis, failure to properly winterize the Motorhome and/or its components, improper, untimely or inadequate

maintenance or service of the Motorhome and its components, failure to follow instructions or maintenance outlined in the manuals supplied with the Motorhome, etc.

- **13.** Failure to seek and obtain repairs in a timely manner. Damage caused by failure to address warranty issues in a timely fashion will not be covered by this warranty, additional expenses will be the responsibility of the owner.
- **14.** Failure to use reasonable efforts to mitigate damage.
- **15.** Odometer tampering or failure to comply with the instructions set forth in the owner's manuals.
- **16.** Exterior storage compartments may not be moisture-free due to weather and humidity conditions. It is advised that you store items accordingly. Pleasure-Way is not responsible for goods damaged while stored in exterior storage compartments.
- 17. Condensation and the results of condensation including, but not limited to, water damage and the growth of mildew or mold inside or outside of the Motorhome. Mold and mildew inside and outside of the Motorhome are natural growths given certain environmental conditions and are not covered by the terms of this warranty.
- **18.** Wheel alignments or adjustments to axles, tire wear or failure, and glass damage. Aluminum wheels are not warranted against corrosion or damage that is a result of road salt, sea salt, cleaning chemicals or harsh driving conditions and excessive pressure from power washers.
- **19.** Improper electric power supply or improper vehicle hook up to other facilities and failure to properly ventilate the vehicle.
- 20. Changes, modifications, or additions made to other Pleasure-Way motorhomes manufactured after this Motorhome. This is not an engineer upgrade warranty.
- 21. Failure of the Motorhome, tires and/or chassis and related components and parts resulting in incidental damages, costs, fees, or expenses, including but not limited to: loss or damage to personal property, items or goods stored both inside and outside the Motorhome, loss of use

- and equipment of Motorhome, loss of time, inconvenience, commercial loss (including loss of wages or profits), cost of rental vehicle, cost of accommodations, travel expenses (including taxi, bus, air fares), towing, fuel, meals, telephone, internet and any and all other miscellaneous and incidental expenses. Some provinces and states do not allow exclusions or limitations of incidental or consequential damages, so the above limitations or exclusions may be limited or may not apply to you.
- 22. This Motorhome is not designed for four season use. Failure to properly winterize your Motorhome or operating your Motorhome in freezing conditions may cause damage to your Motorhome that is not covered under this Limited Warranty.
- 23. This Motorhome has been designed solely for its intended purpose of recreational camping and personal use; it is not intended for use as a full-time quarters or permanent residence. Pleasure-Way makes no warranty whatsoever with regard to any Motorhome that has been used other than for temporary recreation purposes, including, but not limited to, use of the Motorhome for residential, commercial, rental, revenue generating or business purposes, or any Motorhome not registered and regularly used in the United States or Canada. For the purposes of this Limited Warranty, it shall be deemed conclusive evidence of commercial, rental or business purposes if the Motorhome is licensed, titled, registered or insured in the name of any corporation, LLC, partnership, or any other form of business or commercial entity. If the Motorhome owner or user files a tax form claiming a business or commercial tax benefit or income related to the Motorhome, it shall be irrefutable that the Motorhome has been used for rental, commercial or business purposes.
- 24. The importing or exporting or shipping of the Motorhome out of the country of original licensing or titling (Canada or United States) voids this Limited Warranty from the time the Motorhome is imported or exported and at all times thereafter. Costs, expenses, and damages arising from or related to the following are not covered by this Limited Warranty.

# THE CONDITIONS OF THIS LIMITED WARRANTY SHALL NOT APPLY TO DEGENERATION DUE TO WEAR AND TEAR AND EXPOSURE AFTER THESE LIMITATIONS:

For **NINETY (90) DAYS** from the original retail purchase date by the original retail purchaser from an authorized Pleasure-Way dealer: any and all adjustments to compartment door or cabinet latches and hinges. Also fuses, remotes and smoke detector batteries.

For **ONE (1) YEAR** from the original retail date purchase date or 12,000 miles/20,000 kilometers, whichever comes first, by the original retail purchaser from an authorized Pleasure-Way dealer:

- ► Lithium batteries
- ▶ Control touch panels and control boards
- All seat, curtain, door panel, ceiling and wall fabrics used in the coach
- ▶ Blinds
- ▶ Window seals and caulking
- ▶ Exterior latches and locks
- Exterior doors and hatches, including but not limited to, utility center door and power cable hatch
- City water fill and exterior shower
- ▶ Porch light and interior LED lighting
- ► Exterior cable TV outlet
- ▶ GFCI outlet
- ▶ Carpet
- ▶ Linoleum
- ► Black and grey water termination valves, sewer hose and connections
- ► Table legs and base
- ► Cabinet latches and hardware
- ▶ Shower pan, window and fan shrouds
- Propane regulator
- Generator exhaust brackets
- Exterior striping
- ▶ Painted plastic exterior body molding and bumpers. Please note that painting exterior moldings magnifies the original equipment manufacturer condition of the plastic molding. Some conditions of the plastic, such as but not limited to, body attachment points, imperfections and differences in texture may be more visible when painted. These are considered normal and are not covered under this Limited Warranty.

For **TWO (2) YEARS** or 24,000 miles or 40,000 kilometers, whichever comes first, by the original retail purchaser from an authorized Pleasure-Way dealer:

- Ultraleather fabrics
- ▶ Propane lines
- ► Foam used in cushions

For **THREE (3) YEARS** or 36,000 miles or 60,000 kilometers, whichever comes first, by the original retail purchaser from an authorized Pleasure-Way dealer:

► Exterior painted fiberglass surfaces.

It cannot be emphasized enough that it is your responsibility as the Owner of your Motorhome to review all manuals and warranties regarding your Motorhome, its components, appliances and chassis for your safety and for the proper operation and maintenance of your Motorhome, its components and appliances and the chassis. In particular, we remind you that heavier items should not be stored in upper cabinets. Please ensure weight is distributed evenly in the cabinet and storage areas. Use caution when opening doors and cabinets as items may have shifted during travel. When storing your motorhome, ensure there is adequate ventilation to eliminate high humidity, heat and extreme dry conditions. In cool/cold conditions, ensure that there is adequate ventilation to exhaust humidity and off gassing of appliances. Please note that Pleasure-Way Motorhomes are not intended for four season use and failure to properly winterize or using the Motorhome in freezing conditions may cause damage that is not covered under warranty. For example and without limiting the generality of the foregoing, the Tofino roof struts and fabric can be damaged if the roof is lifted during freezing conditions.

#### **MERCEDES-BENZ WARRANTY**

#### **BASIC LIMITED WARRANTY**

- Coverage 5 years or
- 75,000 miles / 125,000 kms

#### DIESEL ENGINE LIMITED WARRANTY

- 5 years
- 100,000 miles / 160,000 kms

#### **ROADSIDE ASSISTANCE**

- 5 years
- 75,000 miles / 120,000 kms

For your safety while traveling with your Pleasure-Way Motorhome, we have provided safety components throughout the vehicle. In order for your vehicle to maintain the safest possible conditions, these components must be tested and maintained on a regular basis, according to the detailed manufacturer's operating instructions.

### OCCUPANT AND CARGO CARRYING CAPACITY

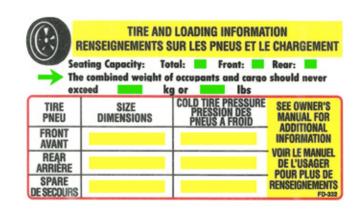
The Tire and Loading Information label, found on the driver side door pillar, states the OCCC of your motorhome. This figure states the maximum allowable weight of all occupants (including the driver), plus the weight of all food, tools, full fresh water tanks, and personal belongings. The tongue weight of a towed trailer also counts as cargo. If you are traveling with water in your holding tank, weight can be calculated by using this ratio: 1 kg/L or 8.3 lb/gal.

The OCCC of your motorhome was calculated by adding the weight of: the full LP fuel tank, the full vehicle fuel tank and the dry weight of the motorhome (as shipped from the factory) and subtracting that number from the Gross Vehicle Weight Rating (GVWR).

**NOTE:** All US units include a second OCCC label on the inside of the passenger door.

All Pleasure-Way Motorhomes in Canada are CSA (through QAI) and CMVSS certified, and may exceed the approved installation criteria.

All Pleasure-Way Motorhomes in the United States are FMVSS certified and bear the R.V.I.A. seal of approval, and may exceed the individual state requirements.



#### **SMOKE DETECTOR**

A smoke detector is located on the ceiling of your unit near the front. Smoke detectors may give you a warning of fire and smoke, but only if used and maintained in accordance with the manufacturer's instructions.

This device should be tested after each time your vehicle has been in storage, before each trip, and at least once each week during your travels.

Do not block air circulation in the area where the smoke detector is located. Ensure you connect the battery inside the detector upon receiving your new unit. (9 volt battery located inside the unit.) Install a fully charged fresh battery at least once a year.



### LP/CARBON MONOXIDE DETECTOR

A liquid propane (LP) / carbon monoxide (CO) gas detector is located near the floor level at the rear of the motorhome interior on the face of the driver's side ottoman. This detector will detect liquid propane gas, carbon monoxide and other gases that are heavier than air. The detector is powered by the coach batteries and will only operate when the 12 volt battery disconnect switch is **ON**.

The detector should be tested after each time your vehicle has been in storage, before each trip, and weekly while the vehicle is in use. The test procedure should be performed in accordance to the manufacturer's instructions. Do not block air circulation in the area where the detector is located.

**NOTE:** The LP/CO detector will sound to indicate a low coach battery voltage.





#### **FIRE EXTINGUISHER**

A 3-pound capacity fire extinguisher is provided and located at the side door main entrance for ease of accessibility from the interior or exterior.





#### **GFCI OUTLET**

A ground fault circuit interrupter (GFCI) 110-volt receptacle located on the driver side ottoman provides protection against line-to-ground electrical shock hazards that could be harmful or even fatal. The outlets that are on this circuit are the exterior, kitchen and rear bench receptacles. The GFCI receptacle must be tested at least once a month in accordance with the manufacturer's instructions.

The GFCI for the microwave, air conditioner and induction cooktop are found in the cabinet above the TV.





#### **REFUELING**

When you are refueling your fuel tank or your propane system, ensure that your vehicle and your main LP valve is shut off. Some appliances in your vehicle have auto ignition. Ensure the appliances are shut off so ignition will not activate.

▲ WARNING: Even with the main LP valve shut off there is enough LP gas in the lines for the appliances to auto ignite.





#### **GENERATOR**

### Please refer to the manufacturer's operation instructions for further information.

When launching a boat or some form of watercraft with your Pleasure-Way motorhome, it is imperative to not submerge the generator in water. Please refer to the generator owner / operating manual for proper use and maintenance information. The generator is located behind the rear axle, between the frame rails. The generator access door faces the front of the vehicle.

**NOTE:** Your motorhome is equipped with underside holding tanks, waste tanks, plumbing lines, propane lines and other RV related items. Please be careful when driving your motorhome on uneven or poorly maintained roadways.



### FILLING THE LP GAS FUEL CYLINDER

The LP fill is located below the rear bumper on the passenger side. The propane tank valve must be closed and appliances must be turned off during refueling of the motor fuel and/or the propane fuel tank. Only qualified personnel should refuel your propane tank.

**NOTE:** Do not refuel the propane tank to more than 80% of its capacity. Liquid will appear at the breather valve at 80%. To reduce the danger of fire and/or explosion, do not store gasoline or other flammable liquids inside your vehicle.

▲ WARNING: Even with the main LP valve shut off there is enough LP gas in the lines for the appliances to auto ignite.





#### **A DANGER**

All pilot lights, appliances and their igniter (see operating instructions) shall be turned off before refueling of motor fuel tanks and/or propane containers. Can cause ignition of flammable vapors, which can lead to a fire or explosion and result in death or serious injury.

#### **A WARNING**

Do not fill propane container(s) to more than 80 percent of capacity. A properly filled container contains approximately 80 percent of its volume as liquid propane,

Overfilling the propane container(s) can result in uncontrolled propane flow, which could lead to a fire or explosion and result in death or serious injury.

#### **A WARNING**

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

#### **APPLIANCES**

It is not safe to use cooking appliances to heat the interior of the coach due to the danger of asphyxiation. It is recommended that you read all of the appliance owner / operating manuals prior to using the appliances.



#### TV

When the vehicle is in motion, it is necessary to have the flat screen television locked into travel position to prevent damage to the flat screen, bracket and to the cabinets.





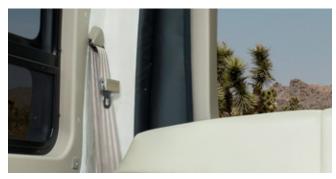
#### **VEHICLE GROUND CLEARANCE**

Your motorhome is equipped with underside holding tanks, waste tanks, plumbing lines, propane lines and other RV related items. Please be careful when driving your motorhome on uneven or poorly maintained roadways.



#### **SEAT BELTS**

Only seats equipped with factory installed seatbelts are to be occupied while the vehicle is in motion. All passengers must be seated in these seats only, with the seat belts fastened while the vehicle is in motion. If the power sofa is occupied while the vehicle is in motion, the sofa must be in a full upright position.



#### **EMERGENCY ESCAPE**

If the need to make an emergency escape from the interior of your motorhome arises, all exterior doors are equipped with access latches. Your choices of escape routes are as follows: the main entrance at the side door, the driver and passenger side front doors and the rear doors.



### **MOTORHOME EXTERIOR**

#### **CHASSIS PAINT CODES**

(MERCEDES-BENZ SPRINTER CODES)

Grey White – 9136 | Brilliant Silver Metallic – 9775 Arctic White – 9147 | Pearl Silver Metallic – 9764 Paint codes located on the driver seat base by opening the zipper flap and lifting the right hand flap.





#### **MOTORHOME DIMENSIONS AND CAPACITIES**

2.0 liter 4-Cylinder High Output | 208 HP Rating @ 3,800 RPM 9 Speed G-Tronic Transmission | 144" Wheel Base

Your motorhome is larger than your standard van, so please be careful when entering underpasses, garages, parkades, etc. Towing capacity is based on GCWR 13,550– GVWR 8,550 = 5,000 pounds if the vehicle when loaded is less than 8,550 pounds. This weight can be added to the towing capacity up to the Mercedes-Benz hitch rating, rear axle and Mercedes-Benz Sprinter limitations as listed in the Mercedes-Benz Sprinter manual. The hitch tongue weight must be included in the loaded weight of the vehicle.

#### **DIMENSIONS**

Length Bumper to Bumper	233" - 19' 5"	592 cm
Overall Height with AC	115" - 9' 7"	292 cm
Interior Standing Height	75" - 6' 3"	190 cm
Width with Mirrors Extended	95" - 7' 11"	241 cm
Width with Mirrors Retracted	85" - 7' 1"	216 cm
Towing Capacity	4,880 lbs	2,213.5 kg

#### **CAPACITIES**

Fuel (Diesel)	24.5 US gal	93 liters	174 lbs
Fresh Water Tank (Potable)	20 US gal	75 liters	166.8 lbs
Grey Water Tank (Sinks / Shower)	15 US gal	57 liters	125 lbs
Black Water Tank (Toilet)	12 US gal	45 liters	100.8 lbs
Liquid Propane (LPG) (at 80%)	8.16 US gal	31 liters	34.2 lbs

#### **CHASSIS SPECIFICATIONS**

GVWR	8,550 lbs	3,878 kg
GCWR	13,550 lbs	6,146 kg
GAWR Front	4,410 lbs	2,000 kg
GAWR Rear	5,360 lbs	2,431 kg
Tires (all)	LT245/75R/16	
Rims (all)	6.5J x 16"	
Tire Pressure Front	52 PSI	360 KPA
Tire Pressure Rear	70 PSI	480 KPA

**NOTE:** All measurements and capacities are approximations. Every effort has been made to be as accurate as possible.

### APPLIANCES MANUFACTURER MODEL

Generator	Onan RV QG 2500 I	2.5HGLAA-8304A
Fridge 3.2 cu ft.	Norcold	N2090BR
Microwave	High Pointe	EM925RCW
Air Conditioner	Truma Aventa Eco	4052816040615
Air Conditioner Lower	Truma Aventa	4052816040615
Cook Top	Tru Induction	TI-1B-1800W
Water Pump	Shurflo	4008-101-A65
Water Heater	Truma AquaGo Comfort Plus	DLE60CP
Toilet	Thetford Aqua Magic II	42051
Furnace	Truma	VarioHeat Comfort
Awning	Fiamma	F65 Eagle 10' 6" #06693F13R
Solar Panel	Carmanah (100 watt)	CTI - 100M
Solar Control	Go Power	GP - RVC - 30 - MPPT
TV	LG Smart TV	24LM530S-PU
Inverter / Charger	Xantrex Freedom XC 3000	818-3010
DC to DC Charger	Mastervolt	Mac Plus 12/12-50
ATS Switch	Progressive Dynamics	5100
Antenna	Winegard Rayzar	RZ7535
Coach Batteries	Eco-lon Lithium 300 AH	LifePO4
Roof Vent	Fan-Tastic Vent® Fan / Dometic	FV8300LWUSF81
Soundbar	Bose	Solo 5

**NOTE:** All measurements and capacities are approximations. Every effort has been made to be as accurate as possible.

#### **PLEASE NOTE:**

- Appliances and options may change without notice and some appliances and equipment may be optional.
- Due to Pleasure-Way's policy of continuous improvement, Pleasure-Way Industries Ltd. reserves the right to make product changes at any time without incurring obligation.
- The chassis manufacturer may make mechanical and option changes without Pleasure-Way Industries Ltd. incurring any obligation.
- Pleasure-Way Industries Ltd. cannot be held responsible for changes made to an appliance supplied by another distributor or manufacturer.
- Pleasure-Way Industries Ltd. cannot be held responsible for dealer installed options.

#### TIRE AND LOADING INFORMATION

The tire and loading information is located on the driver side door pillar. On this label you will find your tire size as well as cold tire pressure rating. Also found on this label is the seating capacity along with the occupant and cargo carrying capacity of your motorhome. Please refer to your specific label for accurate information.

### PROPANE FILL, BREATHER VALVE AND BBQ QUICK CONNECT

Propane fill, breather valve and BBQ quick connect are located on the driver side rear, exterior corner of the vehicle. This fill valve and breather valve allow the on board propane tank to be filled, once fluid appears from the breather valve the tank is filled to 80%. The gauge inside will read 100% at 80% full.

#### **SEWER DUMP COMPARTMENT**

Located on the driver side running board, the storage compartment is located behind the driver's door entrance step. This compartment gives ease of access to the gray and black dump handles, as well as the sewer connection. The sewer hose container is to the right hand side of the black water dump handle, mounted below the driver side running board.

(for more information see page 19)

#### **UTILITY CENTER**

Located in the middle of the driver main wall panel, this compartment contains four main components used in your RV:

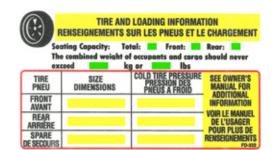
- 1. Shore power hook-up
- 2. Cable TV hook-up
- 3. Pressurized city water hook-up
- 4. LP electric valve switch

### WATER HEATER VENT / ACCESS DOOR

Located on the driver side mid body, this vent gives you access to the exterior working components of the water heater.

During regular use the **OFF/ON** switch can be left in the **ON** position; the water heater will only come on when hot water is being used or when the water is being recirculated in comfort mode. Turn the water heater **OFF** when the motorhome is in storage.

**NOTE:** Keep this vent clear from all obstructions.











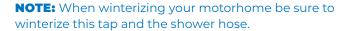






#### **EXTERIOR SHOWER**

Located beside the vehicle fuel fill door, this compartment contains a retractable shower head and hot/cold water taps. You will have to be hooked up to city water or have your water pump in the on position to use this port.







### FRESH WATER HOLDING TANK FILL

Located behind the passenger sliding door, this compartment allows you to fill the fresh water holding tank. It also contains the vent tube for your fresh water holding tank.

**CAUTION:** Ensure this **compartment** door is closed and the key removed prior to **opening/operating** the sliding door.





#### **FURNACE VENT**

Located in front of the driver side rear wheel next to the water heater, this vent gives off the exhaust of the furnace.

**NOTE:** Ensure this vent is free and clear of obstructions at all times.

**CAUTION:** This surface may be hot when the furnace is running.



#### **EXTERIOR 110-VOLT PLUG**

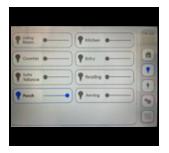
Located on the passenger side panel behind the rear wheel, this plug will only function if power is supplied through the inverter, generator or shore power. This plug is controlled by the GFCI on the driver side ottoman.



#### **PORCH LIGHT**

Located on the 10" touchscreen control panel next to the main entrance door. Select the porch light button to turn **ON/OFF** the porch light. This button can be on the home screen and/or the lighting page.





#### **POWER AWNING**

Please refer to the manufacturer's operating instructions for further information.

The awning is located on the passenger side of the roof, this is a 10'6" Fiamma electric awning controlled by the switches located on the touchscreen control panel. The 12 volt battery disconnect switch must be in the on position to operate the awning.

Touch the mechanical symbol at the bottom of the touchscreen control panel. Press and hold either the **EXTEND** or **RETRACT** buttons to operate.

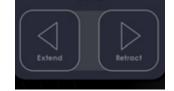
The awning is a legless self-supporting awning with a seismic sensor that will automatically retract the awning in windy conditions. The awning is equipped with a LED light strip located on the extension rail of the awning. This light strip is controlled by the LIGHTING page of the touchscreen control panel.

**NOTE:** The awning will not operate if the vehicle ignition is in the on position.

**CAUTION:** Never leave the awning extended when you are away from your motor home. The seismic sensor will react to windy conditions, however a sudden large gust of wind may not trigger the awnings retract feature before damage occurs.











#### **AIR CONDITIONER**

Your vehicle is equipped with the 13,500 BTU Truma Aventa air conditioner. The controls for the air conditioner are located on the **HOME** page of the touchscreen control panels.

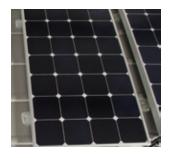
(for more information see page 60)





#### **SOLAR PANEL PACKAGE**

Your vehicle may be equipped with 100W Carmanah solar panels. The solar panels are located over the driver's door and behind the rooftop AC unit. The controls for the solar panel are located on the **POWER MANAGEMENT** page of the touchscreen control panels. The MPPT controller is located beside the battery box at the rear of the coach.





(for more information see page 61)

#### **FAN-TASTIC VENT® FAN**

This fan's vent is located on the roof-top close to the bathroom door, in the kitchen area of the interior. This fan will assist in exhausting the odors and steam from the bathroom and cooking area. This fan is equipped with a rain sensor. The controls for the fan are located on the 10" touchscreen control panels on the **HOME** or **MECHANICAL** page.





(for more information see page 61)

#### **TV ANTENNA**

Located beside the awning on the passenger side near the front of the rooftop. This antenna features a dome enclosure, a booster and a search for frequencies. The control switch for the antenna booster is located above the TV under the rear shelf.

(for more information see page 62)





#### **NON-CAPPED SEWER VENT PIPES**

Located on the driver's side of the roof above the bathroom. These vent stacks are sealed and connected directly to the black and grey water tanks.



#### **MAINTAINING YOUR MOTORHOME**

It is recommended that you regularly maintain your Pleasure-Way Motorhome in order to get the maximum benefits from your unit. The life and performance of each component depends upon proper use, operation and maintenance.

With a regular maintenance schedule you should be able to identify any components that may need attention, allowing you to have many years and miles of trouble-free traveling.

NOTE: Please refer to your Mercedes-Benz Owner's manual for chassis mechanical maintenance.

#### **HELPFUL HINTS**

- To maintain your exterior painted fiberglass and metal surfaces we suggest you thoroughly clean and wax these pieces regularly. All fiberglass surfaces are painted with automotive paint.
- When storing your Pleasure-Way motorhome it is recommended that you park the vehicle on a level surface. Avoid parking in a front end down position as rain or snow may collect in the air conditioner area, allowing moisture to enter the vehicle through the air conditioner. Damage to the motorhome as a result of incorrect parking will not be covered under warranty.
- When storing your Pleasure-Way
  motorhome, ensure all holding tanks are
  emptied and flushed, the water system is
  completely drained, including the water
  heater, the LP gas valve is turned off, the 12
  volt battery disconnect switch is switched
  to the OFF position, and all electrical
  appliances are turned off.
- It is recommended that you lubricate with a dry lubricant all awning joints and window cranks yearly.

- When storing your Pleasure-Way motorhome it is recommended that you run your vehicle engine once a month to allow the engine starting battery to recharge and the vehicle fluids to flow through the engine. Please refer to your vehicle operation manual for more details.
- When storing your Pleasure-Way motorhome ensure the coach batteries are fully charged, check the coach batteries on the touch screen panel and charge them accordingly.
- It is recommended that you run your generator for ½ hour under load each month. This will allow the system to maintain fresh fuel, the engine to be lubricated and the electronic components to avoid corrosive build up.
- It is recommended that once a year that you check all seals around the roof components such as antenna, roof vent, plumbing stacks, etc. and side wall items such as furnace vent, exterior shower etc.



#### **ULTRALEATHER CLEANING AND CARE**

#### (Information taken from the Ultrafabrics website.)

Our fabrics are engineered to be long-lasting, with surfaces that maintain their top-quality look and feel long after application. To keep any of our materials looking their best, we do recommend regular care and cleaning, especially to keep dirt from accumulating. Below is a general outline to help keep your fabrics looking their best.

#### **TIPS**

- Clean with soap and water or alcohol based cleaners
- Sanitize using 1:5 bleach/water solution, hydrogen peroxide based, or quaternary-based disinfectants\*
- For stubborn stains, wipe the stain off with isopropyl (rubbing alcohol) as soon as possible
- Rinse all solution residue with water

#### **ULTRALEATHER PRO STAIN CARE**

Restaurant & Food Service	Ketchup, Mayo, Mustard,** Coffee, Red Wine, Tea
Healthcare	Blood, Urine, Betadine
Contract & High Traffic Areas	Ballpoint Pen Ink**

### Clean with soap and water, or alcohol-based cleaners

\*This information is not a guarantee. Please use all cleaning and disinfecting agents safely and as instructed.

\*\*For tough stains, clean using isopropyl/rubbing alcohol. Rinse the surface with water and dry. Prompt attention is important for successful removal of any stain.

A variety of clothing and accessories may contain dyes that could transfer to lighter colors, depending upon variations in temperature and humidity. Dye transfer is difficult to control, not always fully preventable, and may be irreversible.

### INDOOR/OUTDOOR FABRIC CARE INSTRUCTIONS

### (Information taken from the Ultrafabrics website.)

- All our Indoor/Outdoor products should be stored in a dry, well-ventilated area.
- Our mildew resistant surfaces do not promote mildew growth, however, mildew may grow on dirt and other foreign substances that are not removed from the fabric.
- The frequency of cleaning will vary greatly depending upon the local outdoor environment in which the product is used.
- Cushions should not remain wet or be covered, as this will increase the chances of mildew growth occurring.
- All of our High UV products perform best when they are paired with an open cell, reticulated, quick drying foam and/or a waterproof, anti-mildew barrier between the fabric and foam and utilize air vents and/or a mesh, open weave fabric bottom.

#### **BEFORE YOU LEAVE**

Prior to heading off on your adventures, you should always check to ensure that:

- The LP gas is off at the main valve switch
- All black and gray waste water tanks are empty, with the dump handles closed
- All electrical cords and exterior hoses are stored back into their respective compartments
- Chassis fluid levels are at recommended levels
- Chassis tire pressures are at recommended levels
- Chassis exterior lighting is functional
- All exterior components are secure and closed
- All interior doors and drawers are closed and locked into position

- All interior components are secure and in place
- The furnace control switch on the touch screen is off
- The TV swing-out is locked into the stow position
- Vents are in a closed & locked position
- All cabinet doors are closed
- The driver and passenger cab seats are in the forward facing, locked position
- The campsite is left in better condition than when you arrived
- The Lagun table is stored away or locked into travel position
- · All awning windows are closed

#### WHILE IN MOTION

While in motion, set the refrigerator to operate in DC mode. Use of any other appliance is not recommended while the motorhome is in motion.

- Always wear your seat belt when the vehicle is in motion.
- Only forward facing seats are equipped with seat belts.
- There are only four designated seating areas with seat belts that are safe to use while the vehicle is in motion.

• Ensure the power sofa is in the full upright position when using the rear seating locations.

▲ WARNING: Do not use LP appliances while the vehicle is in motion.

#### **UPON ARRIVAL AT YOUR SITE**

#### Once you arrive at a site:

- Ensure your motorhome is parked in a level position so that your components will work at optimum performance (place a bubble level in the freezer shelf of the refrigerator to use as a base and level your unit accordingly).
- Ensure all exterior vents are clear from obstructions.
- Ensure the black and gray water waste tank valves are closed.
- Hook up your 110 volt power cord to your coach and then to the site receptacle (if supplied at site). A surge protector is recommended.

- Hook up your fresh water hose to the city water pressure connection (if supplied at site), it is recommended for pressurized city water that you use a pressure regulator.
- Turn the LP gas on.
- Turn the water heater on.
- Connect park cable (if supplied).

#### **MOTORHOME SYSTEMS**

#### **LIQUID PROPANE GAS SYSTEM**

**LP appliances are:** Generator, Water Heater and Furnace.

Your motorhome is equipped with a Liquid Propane (LP) gas system that provides a fuel source to the appliances, which are designed to use this gas for operation. The storage tank is located under the chassis between the hitch rails. Access to the LP tank and regulator is found under the vehicle. The regulator is on the driver side generator bracket.

An LP gas regulator must always be installed with the diaphragm vent facing downward. Regulators that are not in compartments have been equipped with a protective cover. Make sure that the regulator vent faces downward and that the cover is kept in place to minimize vent blockage that could result in excessive gas pressure, causing fire or explosion. The main propane shut-off switch is located in the driver side utility center.

Propane fill, breather valve and BBQ quick connect are located on the driver side rear, exterior corner of the vehicle. The breather valve must be open to fill the propane tank. Liquid will appear through the breather valve when the tank is 80% full.

The propane gauge is located inside your coach on the entry and rear touchscreen control panel. The panel will indicate full or 100% when the LP tank is 80% full.

**NOTE:** Your LP gas appliances may not light on the first try. There may be air in the LP gas lines that will dissipate as the gas pressurizes the lines.

#### **IF YOU SMELL GAS:**

- **1.** Extinguish any open flames and all smoking materials.
- 2. Do not touch any electrical switches.
- **3.** Shut off the gas supply at the tank valve or gas supply connection.
- **4.** Open all the doors and other ventilating openings.
- **5.** Leave the area until the odor clears and you are sure there is no further risk to you.
- **6.** Have the gas system checked and leakage source corrected before using it again.













▲ WARNING: Do not bring or store LP gas containers, gasoline or other flammable liquids inside the vehicle because a fire or explosion may result. LP gas containers are equipped with safety devices that relieve excessive pressure by discharging gas into the atmosphere.

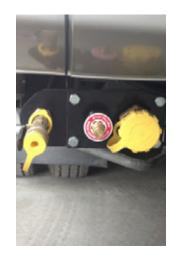
▲ WARNING: It is not safe to use cooking appliances for comfort heating. Cooking appliances need fresh air for safe operation. Unlike homes, the amount of oxygen supply in the unit is limited due to the size of the vehicle. Proper ventilation when using the cooking appliance(s) will avoid the dangers of asphyxiation, explosion and CO poisoning.

▲ WARNING: Do not use portable fuel burning equipment, including wood and charcoal grills and stoves inside the motorhome. The use of this equipment inside the recreational vehicle may cause fire or asphyxiation.

#### **LP FILL VALVE & BLEEDER VALVE**

The propane fill and breather valve are located under the rear bumper on the passenger side. The breather valve (covered in the yellow end cap) must be open to fill the propane tank. Liquid will appear through the breather valve when the tank is 80% full.

▲ WARNING: DO NOT FILL LP CONTAINER TO MORE THAN 80% CAPACITY. Overfilling the LP gas container can result in uncontrolled gas flow, which can cause a fire or explosion. A properly filled container will contain approximately 80% of its volume of LP gas.



#### **A DANGER**

All pilot lights, appliances and their igniter (see operating instructions) shall be turned off before refueling of motor fuel tanks and/or propane containers. Can cause signition of flammable vapors, which can lead to a fire or explosion and result in death or serious injury.

#### **A WARNING**

Do not fill propane container(s) to more than 80 percent of capacity. A properly filled container contains approximately 80 percent of its volume as liquid

Overfilling the propane container(s) can result in uncontrolled propane flow, which could lead to a fire of explosion and result in death or serious injury.

#### **A WARNING**

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

#### **BBQ QUICK CONNECT**

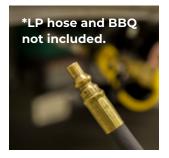
The BBQ quick connect is directly connected to the RV LP system. It is equipped with it's own shut-off valve (black handle). The quick connect is a regulated (low pressure) LP line that is supplied from the onboard LP tank. The BBQ quick connect works with the standard, full-flow male quick connect fitting. You will need a BBQ that is set-up for a low pressure LP source.



- 1. Ensure the black valve is in the OFF position.
- Remove the yellow cap and ensure the opening is clean.
- **3.** Pull the sleeve of quick connect back and insert the male quick connect fitting.
- **4.** Push the male fitting until the sleeve snaps forward, locking the fitting into the socket.
- 5. Connect your BBQ.
- **6.** Turn the black valve **ON** to allow propane to flow to the connected BBQ.
- Ensure the main LP switch in the Utility Center is ON.







**NOTE:** Propane will only flow from the BBQ quick connect when there is a hose connected. This is a safety feature of this component. The black valve must be in the **OFF** position to release the hose from the quick connect.

#### **LP TANK GAUGE**

This gauge indicates how full the LP tank is. The LP gauge is located on the tank with a sending unit that sends levels to the touchscreen control panels. The panel will indicate full or 100% when the LP tank is 80% full.

#### **HOW TO USE THE LP APPLIANCES**

Turn **ON** the 12 volt battery disconnect switch, located below the entrance touchscreen control panel.

Turn **ON** the LP electric valve. (located in the driver side utility center).









#### **WATER HEATER**

### Please refer to the manufacturer's operating instructions for further information.

The water heater is located under the fridge next to the furnace vent. You will have to remove the access panel below the fridge to inspect water lines or adjust bypass valves. Access to the working mechanism of the water heater is through the outside, vent door located mid-body on the driver side.

#### TRUMA AQUAGO® COMFORT PLUS (DLE60CP)

The Truma AquaGo® Comfort Plus water heater is a hybrid water heater that combines the instant hot water source with a 1/3 gallon water tank, and a recirculation system to provide a continuous flow of hot water.

#### **BASIC OPERATION:**

- 1. Turn on the 12 volt battery disconnect switch.
- 2. Turn on the LP gas switch.
- **3.** Turn on the water heater switch inside the exterior water heater door.
- **4.** Turn the water heater switch to eco mode or comfort mode (see the Truma manual to determine which is right for you).
- **5.** Start the water flow on hot at a medium flow and adjust to the desired temperature.

#### WATER HEATER BYPASS VALVES

**OPEN:** the handle is parallel to the water line. **CLOSED:** the handle is 90 degrees to the water line.

#### **SUMMER MODE**

**OPEN** the bypass valve on the red line (hot water), blue line (cold water) and white line (circulation). **CLOSE** the bypass valve that connects the blue line from the bottom to the red line from the top.

#### **WINTER MODE**

**CLOSE** the bypass valve on the red line (hot water), blue line (cold water) and white line (circulation). **OPEN** the bypass valve that connects the blue line from the bottom to the red line from the top.













#### **SUMMER MODE**



#### **WINTER MODE**



For winterizing instructions see page 23.

**NOTE:** Remove the water heater filter for winter storage.

#### **FURNACE**

### Please refer to the manufacturer's operating instructions for further information.

Your vehicle is equipped with a Truma VarioHeat Comfort LP gas auto ignition furnace. The furnace is located in the water heater compartment. The thermostat control sensor is located above the sliding entrance door.

- Ensure that there is propane supplied to the coach
- 2. Ensure there is 12V power to the coach.
- **3.** Turn on the Truma control from the Home Page touchscreen. Touch the flame symbol and set your temperature.
- 4. The furnace fan will come on, the furnace will auto ignite and cycle through the fan and heating process. The furnace will maintain the desired temperature.

### (see Truma VarioHeat manual for setting information)

5. If the furnace fails to generate heat and shuts down, turn off the battery switch at the side entrance panel. Turn the battery switch back on, reselect the flame symbol and set the temperature. (this may occur if the furnace has not been operated regularly or if the vehicles propane system has been emptied.)

**NOTE:** The furnace fan may come on when the air conditioner engages. Set the fan mode (on the touchscreen control panel) to automatic to prevent this from happening.

#### REFRIGERATOR

### Please refer to the manufacturer's operating instructions for further information.

Your vehicle is equipped with a Norcold 12 volt compressor fridge:

► The power and temperature settings are located at the top of the fridge. To turn on the fridge press the power button. To adjust the temperature, press the snowflake button.











#### FRESH WATER SYSTEMS

The water system built into your motorhome provides full service similar to the system in your home. A 12-Volt self-priming pump draws pressurized water from the fresh water tank to all cold water faucets and the water heater. An automatic pressure switch located in the water pump maintains a positive line pressure between 20 to 30 psi. The fresh and grey water tanks are located underneath the floor of the vehicle. The black water tank is located above the floor directly under the toilet.



#### **FRESH WATER FILL AND DRAIN**

To fill the fresh water tank, use the gravity water fill located on the passenger side of the van beside the sliding door. First, unlock the water fill compartment and remove the large cap; then place the water hose into the fill. Turn on the water to medium flow. There are two ways of knowing when your water tank is full:

- 1. By checking the monitor panel located inside your coach.
- 2. When water flows back through the gravity fill.

**NOTE:** If you notice water running out from underneath the van, check the drain tap located on the side of the fresh water tank to ensure the valve is closed. This tap is there to help you drain your fresh water tank.

▲ WARNING: Ensure you remove the key and close the fresh water fill door prior to opening/operating the sliding side door.







#### **FRESH WATER SYSTEM DRAINS**

The fresh water tank drain is located under the passenger side running board, just under the sliding door. This drain is connected directly to your fresh water tank and will allow you to drain the fresh water tank when the vehicle is not in use.

The vehicle is also equipped with low point drain valves. These valves will allow you to drain all the fresh water lines in the vehicle. The three low point drains are located in front of the driver's side rear axle spring mount. Access to the valves is gained from under the vehicle, in front of the drivers side rear tire. To use these drains ensure all water taps and the toilet valve are in an open position.

RED: Hot water line
BLUE: Cold water line
WHITE: Recirculation line





#### CITY WATER CONNECTION

The city water connection is located in the driver side utility center. The city water connection is a convenience for you when you have access to an outside, pressurized water source. The city water system bypasses the fresh water holding tank and feeds the water lines directly so that you will not have to use the water pump. When hooking up the city water connection you should make sure that the water pump switch is turned **OFF** and that all water faucets are **CLOSED**.

- 1. Open the driver side utility center.
- Remove the insert from the city water connection.
- **3.** Attach a garden hose to the connection using a rubber washer to ensure the fitting is tight.
- 4. Turn the water source on to medium pressure.
- **5.** Check for leaks at the city water connection, as you may have to re-tighten this connection.

To disconnect the city water system, first turn off the water source, then open a faucet to relieve some of the pressure in the lines, and then unhook the water line.

### DRAINING THE WASTE HOLDING TANKS

- 1. Open the sewer compartment door on the driver side. This will expose the sewer dump outlet. Press in the black and grey dump valve handles to ensure the valves are closed. Remove the black termination cap.
- Locate the sewer hose in its compartment under the running board, next to the dump outlet.
   Connect the sewer hose to the drain outlet, and put the opposite end into an appropriate sewer dump outlet.

**NOTE:** Dump your black water first to allow your grey water to flush the black water through the hose.

- 3. Open the termination valve on the black water holding tank (black handle). Once this tank is empty, open the valve for the grey water holding tank (grey handle). A garden hose may be left running into the toilet with the valve open to further rinse the tank and sewer hose.
- **4.** Close the termination valves and replace the cap. Rinse and replace your sewer hose back in its compartment.
- **5.** Deodorize the empty tank by adding one gallon of water mixed with commercial holding tank deodorizer through the toilet.





**NOTE:** It is advisable to use a water pressure regulator because excessive pressure may result in water line damage.







**NOTE:** If you are using a sewer hookup in a RV park, keep the valve closed until the holding tank is at least partially full, then drain. The large quantity of waste flow will provide more effective drainage and reduce tank stoppages.

**NOTE:** Before using your black water holding tank, deodorize it by adding one US gal of water and commercial tank deodorizer through the toilet.

**NOTE:** If the black water holding tank is allowed to overfill, the overflow may back up through the toilet drain. If the grey water tank is allowed to overfill, the overflow may back up through the shower drain.

#### **WASTE SYSTEM**

Your motorhome is equipped with two waste tanks:

- A black water tank is located below the toilet above the floor of the vehicle. Only the toilet water and solid waste enter this tank. This tank is approximately 12 US gal / 45 L.
- A grey water tank is located in the driver side of the vehicle. This tank holds wastewater from the sinks and shower. This tank is approximately 15 US gal / 57 L.

Before using your black water holding tank, deodorize it by adding one gallon of water and commercial tank deodorizer through the toilet.



#### **WATER PUMP**

Located in the cabinet behind the lower galley drawer, the water pump has a removable filter that should be checked regularly.

The inline flow filter is located on the inlet side of the water pump. If the pump will not prime, ensure:

- ▶ There is water in the holding tank
- ▶ That the battery is not run down
- ► The water lines are tight to the pump and to the filter
- ► There are no leaks at the inlet fitting and filter (if air is leaking into inlet fittings, tighten fittings or apply clamps as necessary)
- ▶ The inline flow filter is clean

#### If the water pressure drops, ensure that:

- ▶ The faucet aerators are clean
- ▶ There is water in the holding tank
- ▶ The battery is not run down
- ▶ The faucets and connections are free of leaks

### If the pump runs when there is no apparent demand for water, ensure that:

- ▶ There is water in the holding tank
- ► All faucets and fixtures are shut off and not leaking
- ▶ The water lines are free of leaks





#### **TOILET**

Please refer to the manufacturer's operating instructions for further information.

#### **Toilet Troubleshooting:**

Water keeps running in the bowl: Check to see if the foot lever is all the way up. Sticking may be caused by foreign material on the waste valve blade seal at the bottom of the toilet bowl. If the problem persists, you may need to replace the water valve.

The toilet leaks and there is water on the floor: If the leak is at the back of the toilet, check the water supply line connection and refer to the manufacturer's installation instructions. If the leak is at the toilet flange area (where the toilet mounts to the floor), check the toilet flange nuts and tighten them if necessary.

**Poor flush pressure:** The lever must be held fully down during the flush. An adequate flush should be obtained within 2 to 3 seconds. If the problem persists, remove the water supply line and check the water supply. The water supply rate should be at least 10 liters / 2.5 US gal per minute to ensure an adequate flush.

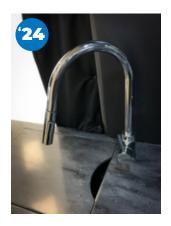




#### **KITCHEN FAUCET**

(2024 - DEHCO 82 H09 CHRG) (2025 - MOEN - 7882BL)

With the faucet handle in the **OFF** position, the faucet may continue to drip for a short period of time or when the vehicle is in motion as water remains in the faucet neck.





#### **SHOWER FAUCET**

(HEAD AND HOSE - MOEN - 3636EPBL) (SHOWER LEVER - MOEN - T2B11BL)



#### **THE EMS**

#### (ENERGY MANAGEMENT SYSTEM)

The EMS monitors three of the heavy amperage draw appliances (MICROWAVE/CONVECTION OVEN, **INDUCTION COOKTOP and AIR CONDITIONER)** installed in the coach. This ENERGY MANAGEMENT **SYSTEM** will limit the combined amperage draw of these three appliances. If the amperage draw exceeds the parameters of the management system, the appliance GREEN display will turn to YELLOW and the appliance will be shut OFF. Once the amperage draw from the appliances drops below the threshold, the appliances will return to green and the appliances can be reactivated.

On the energy management screen you can also choose the correct power source. 15, 20 or 30 AMP. This allows the EMS to manage the input power. The Generator and inverter are 20 amp power sources. A regular household outlet will be 15 amp or 20 amp.

NOTE: The microwave will turn back on (green light will turn on) after approx. 60 seconds if the cooking power is reduced, or if the induction is turned off.

AC

DC

Charger

Inverter

100%

Solar

00 A 144 V

#### **MICROWAVE**

Please refer to the manufacturer's operating instructions for further information.

Your microwave operates off of 110 volt AC power only. To use your microwave you must be plugged into shore power, have the generator operating, or use the 3000 watt inverter. The GFCI for the microwave is located in the cabinet above the TV.

**NOTE:** You will not be able to run your microwave at the same time as your rooftop air conditioner if you are running on generator power.

#### COOKTOP

Please refer to the manufacturer's operating instructions for further information.

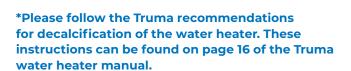
The vehicle is equipped with an induction cooktop located in the kitchen countertop. The GFCI for the induction cooktop is located in the cabinet above the TV.



#### **WINTERIZING**

### WINTERIZING THE WATER SYSTEMS

- 1. Drain the fresh water tank by opening the drain tap on the fresh water tank.
- 2. Drain and flush the black and gray water holding tanks. Ensure the water pump switch is off. Open the hot and cold water tap to relieve pressure on the system.
- **3.** To access the back of the Truma water heater and the bypass valves, open the interior access panel under the fridge.
- 4. Turn the bypass valves on the top red line, bottom blue line and the white center line to the closed position. (The handle is closed when it is turned 90 degrees to the water line.)
  - Open the valve that is located where the blue line coming up from the bottom and the red line coming down from the top are connected.
- 5. Open the exterior door to the Truma water heater. Turn the electrical switch to the OFF position. Open the water heater drain by lifting the black latch on the top of the yellow easy drain lever. Lower the drain lever until the water filter opens.
- **6.** With the filter removed, inspect and clean the water filter. Inspect the "O" rings on the filter as found on page 16 of the Truma water heater manual. Remove the filter for winter.























7. Remove the water line from the inlet side of the water pump (this is the clear plastic line going into the water pump filter). Connect a siphon hose to the inlet side of the water pump and place the other end in a container of non-toxic, RV antifreeze. Turn on the pump. This will pump non-toxic RV antifreeze through all of your fresh water lines.

**NOTE:** Siphon hose consists of 40" of ½" clear tubing with a fitting to attach to the water pump. The fitting can be purchased through an RV dealer.

- 8. Open the kitchen faucet, exterior shower faucet, interior shower and bathroom faucet one at a time allowing the antifreeze to flow through both the hot and the cold sides. Open the toilet valve and allow antifreeze to flow into the toilet bowl. Turn off the water pump and disconnect the siphon hose. Reattach the original fresh water supply fitting.
- **9.** Pour ½ cup of non-toxic, RV antifreeze down each drain (kitchen sink, bathroom sink and shower drain).
- **10.** Open the low point drain valve on the white water line for water heater recirculation. The low point drains are located behind the waste holding tanks (driver side).
- 11. Open your grey and black water tank valves one last time to ensure all water from the holding tanks is completely drained. Once drained, close your grey and black tank valves for winter.













### OPTIONAL WINTERIZING FOR MILDER CLIMATES

#### Follow steps above #1-6

- **7.** Open all three low point drain valves in the locations listed in step 10.
- **8.** Connect a blowout valve to the city water inlet. Connect a compressed air source.
- 9. Open each tap (bathroom, kitchen, exterior shower, and toilet) both hot and cold. Allow the air to blow the remaining water out of the taps and valves. Fully drain the system. Leave all taps, toilet valve and drain valves in an open position.
- **10.** Pour ½ cup of non-toxic, RV antifreeze down each drain.

### **WINTER USE**

We recommend that the water system not be used when the outside temperature drops below the freezing point. You should ensure that your unit is completely winterized by that time. If it is necessary to use the water system, we suggest that you bring containers of fresh water with you and add non-toxic, RV antifreeze to the gray and black water holding tanks.

**NOTE:** Keep in mind that as you add more water to the holding tanks the antifreeze will dilute beyond the recommended amount and may start to freeze earlier at cold temperatures. Do not use the exterior shower.

### WINTER STORAGE ELECTRICAL

- Fully charge your engine starting and coach batteries.
- **2.** Turn **OFF** the charge line disconnect switch and the master inverter switch.
- **3.** Turn **OFF** the battery disconnect switch on the entrance touchscreen control panel.
- 4. On the Mercedes-Benz Sprinter chassis you can disconnect the engine starting battery by removing the battery cable from the post next to the accelerator pedal.
  - ▶ It is recommended that you start and run your vehicle for a short period of time each month.
  - ▶ It is recommended that you start and run your generator under load for at least a ½ hour per month.
  - ▶ It is recommended that the fridge door be left slightly open to allow air to circulate through the fridge cabinet during a storage period.
  - ▶ It is recommended that the vehicle be driven or moved forward or backward, if possible, to avoid flat spotting of the vehicle tires.
  - ▶ The lithium batteries should not be charged if the battery thermostat is reading below freezing (32 F or 0 C). The lithium batteries have built in heaters that warm the batteries before charging is allowed to begin. This warming and charging is controlled by the BMS in each battery.









# **LIVING AREA ELECTRICAL SYSTEM**

The motorhome living area electrical system is designed for convenience. It is capable of supplying the vehicle with at least two sources of power: 12 volt DC power and 110-120 volt AC power.

The 12 volt coach batteries supply power to the interior components for short-term use. The 12 volt or DC power supplies an AC 110-120 volt current to the interior plug outlets, the entertainment center, air conditioner, induction cooktop and the microwave through the 3000 watt pure-sine wave inverter.

The auxiliary coach battery bank is charged when the chassis engine is running and the charge line disconnect switch is in the **ON** position, or when you are connected to a 110-120 volt power source (shore power or generator). This charge is through the 3000 watt inverter, ensure the inverter disconnect switch is in the **ON** position. Your vehicle may also be equipped with solar panels. These solar panels will charge the coach batteries if the charge line disconnect is in the **ON** position.

For long term use, your vehicle may be powered by plugging into a 110-120 volt external power source with the supplied 30 foot power cable. The 30 foot power cable supplied with your coach must be connected and locked to your coach and then to a 110-120 volt power source (a 30 amp outlet is recommended). This will supply 110-120 volt power throughout the interior and supply power through the inverter/charger to all 12 volt components. Do not run the air conditioner unless you are plugged into a minimum 20 amp power source.

The motor home is equipped a Pure-sine wave 3000 Watt Xantrex Freedom XC Pro inverter/Charger. The charging portion of the inverter is set to LFP to charge the lithium batteries.

The pure-sine wave inverter/charger takes the 12 volt or DC power from your batteries and inverts it up to 110-120 volt AC power. The inverter will enable you to use your 110-120 volt plug outlets, entertainment center, induction cooktop, air conditioner and microwave when a shore power source or generator source is unavailable. This power source will be limited by the state of charge of your batteries and by the amount of current drawn by each appliance. The inverter has a built-in transfer switch that allows the 110-120 volt power to bypass the inverter and power the 110-120 volt plug outlets, entertainment center, induction cooktop, air conditioner and microwave directly, when the motorhome is plugged into a shore power source or running on the generator.

### 110-120 VOLT OR AC EQUIPMENT

TV & soundbar on the inverter, generator or shore power

110/120 volt power Inverter/Charger generator or shore power

Microwave on the inverter, generator or shore power

Cooktop on the inverter, generator or shore power

Air Conditioner on the inverter, generator or shore power

### 12 VOLT OR DC EQUIPMENT

Touchscreen control panel

Inverter

Refrigerator

Solar controller

**USB** plugs

Water heater

Furnace

Water pump

Interior and exterior coach lights

TV antenna

LP gas & CO detector

Generator start

Power sofa

Fan-Tastic Vent® fan

Power awning

**NOTE:** Connect and lock the power cord to your coach first and then the external power source.

**NOTE:** All dash components including the in-dash radio and front map lights are powered through the starting (chassis) battery. Prolonged use of these items when the vehicle is not running will deplete the engine starting battery.

### **AC 110-120 VOLT POWER**

A 30 foot, 30 amp power cord is provided under the rear sofa. To activate all power circuits, connect and lock the power cord to your coach in the driver side utility center and to an adequate 110-120 volt power source. The power cord connections are rated for 30-amp 110-120 volts.

# The motor home is equipped with three 110-120 volt AC power supplies:

- 1. Shore Power through the supplied power cord.
- 2. Generator.
- 3. Inverter through the coach batteries.

**NOTE:** The male end of the power cord is a 30 amp style plug, therefore, you may require an adapter to convert the plug into a 15 amp style plug or a 50 amp style plug.

**NOTE:** Most RV parks are equipped with 30-amp outlets. Remember to always attach the power cord to your coach first, and then to the power source.

▲ WARNING: Ensure the power source for your vehicle is a 110-120 volt power source. A higher voltage or lower voltage outlet could do damage to your coach.

### **AUTOMATIC TRANSFER SWITCH**

# Please refer to the manufacturer's operating instructions for further information.

The automatic transfer switch is located under the power sofa on the driver side. To access the transfer switch, remove the black cover panel next to the battery box under the power sofa on the driver side. This cover panel is screwed into place.

The automatic transfer switch will only allow your coach to get power from one source; either the generator or the shore power cord. This is a safety feature of this vehicle.

▲ **WARNING:** Make sure to disconnect from shore power if starting the generator.



**NOTE:** Connect and lock the power cord to your coach first and then the external power source.





# AC ELECTRICAL DISTRIBUTION PANEL

The motorhome is equipped with an AC distribution panel that houses the breakers for the 110-120 volt system. The distribution panel is located on the driver side ottoman. The breakers act like a household breaker; make sure the breaker is shut all the way off before you reset the breaker.

- 1. 30 Amp Inverter Input
- 2. 30 Amp Shore Power
- 3. 30 Amp Inverter Output
- 4. 20 Amp Microwave (GFCI Protected)
- 5. 15 Amp Receptacles (GFCI Protected)
- 6. 20 Amp Induction Cooktop (GFCI Protected)
- 7. 20 Amp Air Conditioner (GFCI Protected)

**NOTE:** Check the GFCI for the individual appliance or plug outlets if the appliance is not operational.

## **GFCI OUTLETS**

A ground fault circuit interrupter (GFCI) 110-volt receptacle located on the lower driver side ottoman provides protection against line-to-ground electrical shock hazards that could be harmful or even fatal. The outlets that are on this circuit are the exterior, kitchen and rear bench receptacles.

The GFCI receptacle must be tested at least once a month in accordance with the manufacturer's instructions.

The GFCI receptacle on the bench face controls all plugs in the vehicle and exterior plug.

The GFCI for the microwave, induction cook top and air conditioner is found in the cabinet above the TV.

Please note early 2024 models may have a GFCI breaker for the air conditioner in the distribution panel instead of the pass through GFCI in the closet or above the TV.

**NOTE:** The circuits must be powered to test or reset the GFCI. Check the GFCI for the individual appliance or plug outlets if the appliance is not operational.











# TROUBLE SHOOTING THE AC POWER

- Double check that you have a reliable power source to plug your power cord into. Verify that your power cord is properly attached to your motorhome. Test the outlet with another appliance.
- 2. Ensure that the GFCI has not been tripped. Press the TEST button and then reset the GFCI.
- **3.** Confirm that the breakers in your distribution panel have not been tripped.

If you have power from shore power (electrical plug), but not from your generator:

**4.** Confirm that the breaker on the generator is not tripped.

If you have power from your generator, but not from shore power:

- **5.** Check your shore power source (step 1).
- **6.** Ensure your automatic transfer switch is snapping shut. Inside the automatic transfer switch there is a set of points that are spring loaded. On occasion these points will not make proper contact.

Two methods to see if the automatic transfer switch is working properly are:

**METHOD 1: START** the generator. Wait for power in your coach to be fully engaged by the generator and then **STOP** the generator. Now, plug your power cord into a 110-120 volt electrical outlet. You may have to repeat this method a few times. (Always ensure that you unplug your power cord before starting your generator.)

**METHOD 2: STOP** the generator and unplug your motorhome from shore power. Locate and open the automatic transfer switch. Move the contact points back and forth to confirm they have free movement. Check between the points for any debris.

**NOTE:** If an individual appliance is not working ensure that the appliance is plugged in, check the breaker and GFCI for the individual appliance















## **MAIN DC POWER SWITCHES**

### 12 VOLT BATTERY DISCONNECT SWITCH

The 12 volt battery disconnect switch is located by the main entrance door on the touchscreen control panel. The disconnect switch will stop all 12 volt power supplied to your motorhome from the coach batteries.

**NOTE:** If your vehicle is going to be parked and not in use for longer than a 48 hour period, turn this switch to the OFF position as the LP/CO detector is hard wired into the coach batteries and will eventually drain the batteries.

### **MASTER DCD PANEL**

- ► Charge line master switch
- ▶ Inverter master switch
- Non-switched DC breakers

### **CHARGE LINE DISCONNECT**

The charge line disconnect switch (red switch is located on the Master DCD. Access to this switch is through the rear doors of the vehicle. This switch stops the charge from the engine alternator and the solar panels.

### **INVERTER MASTER SWITCH**

The inverter master switch is located on the master DCD panel. Access to this switch is through the rear doors of the vehicle. This switch disconnects the inverter from the battery system.

**NOTE:** If your vehicle is going to be parked and not in use for longer than a 48 hour period, turn this switch to the OFF position.

#### **NON-SWITCHED DC BREAKERS**

- **1.** G12
- 2. Sofa
- 3. Fridge
- 4. Awning
- 5. Furnace
- 6. Step (XL only)











## **DC SYSTEM**

### The main components in the DC system are:

### **1** COACH BATTERIES

There are two 300 amp hour Lifepo4 earth smart batteries which are the source of power for the DC system.

### **2** MASTER DCD PANEL

The master DCD Panel controls the charging, inverter operation and is the gateway to all DC operation in the coach.

### **3** G12 MODULE DC LOAD CENTER

This panel controls all communication and monitoring of the 12 volt system in the coach. This load center controls the touch screens and all communications from the touch screens to various components.

### **3** XANTREX XC PRO 3000 WATT INVERTER

Inverts 12 volt DC power to 120 volt AC power for the operation of the 120 volt appliances such as, the microwave, induction cook top, air conditioner, entertainment system, and 120 volt plugs. The inverter also acts as a charging source for the lithium batteries when plugged into shore power or operating the generator, the inverter converts the 120 volt to a DC charge profile for the lithium batteries.

# MASTERVOLT MAC PLUS 12/12 -50 DC TO DC CHARGER

This DC to DC charger takes the charge from the Engine alternator when the vehicle is running and provides charge to the lithium batteries. This is a 50 amp regulated charge set to the lithium profile for the batteries.

# G GO POWER GP-RV30-MPPT SOLAR CONTROLLER

This controller takes the voltage and amperage coming from the solar panels and converts it to a regulated DC voltage/amperage charge rate with a lithium profile to charge the coach batteries.





2



3



4



6



6



### **COACH BATTERY**

# Eco-lon Earth Smart Lithium Iron Phosphate (LIFEPO4) 12 VOLT 300 AH

The motorhome is equipped with two coach batteries located below the sofa main seat cushion. Lithium Iron Phosphate battery technology is one of the safest on the market today.

Lithium Batteries are different from lead-acid batteries and other batteries on the market. The voltage of the lithium battery remains consistent while discharging, allowing 100% of the storage to be used. When the lithium battery system shuts down it will do it abruptly. The Spyder control screens will give you a warning to recharge the batteries if it reaches this state.

# There is limited access to the batteries. To access the lithium batteries the sofa cushion must be removed.

You will have access to the resets for the batteries by removing the corner covers next to the Master DCD panel. You will also have access to the fuses for the batteries by removing the screws from the DCD and folding the DCD down towards the floor.

**A WARNING:** Do not work on the batteries with the vehicle running, the generator running or if you are plugged into shore power. Ensure the charge line disconnect switch is in the off position and the inverter switch is in the off position.

## **BATTERY MANAGEMENT SYSTEM**

The Eco-lon smart battery features a built in battery management system. (BMS). The BMS provides:

- ▶ Short circuit protection
- Low voltage protection
- ▶ Cell balancing
- ▶ Temperature protection
- Charge protection at temperatures below freezing. The batteries are equipped with heat pads that engage when a charge is applied below freezing. The heat packs engage to warm the batteries before allowing a charge to the batteries.





### Battery Fuses (2): 350 amp Mega Fuse

- 1. Located behind the DCD panel.
- Access to these fuses is by removing the DCD panel.
- 3. Unclip the yellow tabs and lift the fuse cover.

**NOTE:** The lithium batteries should be charged every 60 days. Check the status of the batteries on your touch screen panel. There is a slight draw on the batteries from the real time clock and internal battery BMS.





## **MASTER DCD**

The Master DCD is the main Gateway/Hub to all electrical operations of the coach.

# THE MASTER DCD CONTROLS, BREAKERS AND SWITCHES:

### **ON the Face**

**Inverter Master Switch** – This switch connects the Inverter to the batteries for charging and the DC coach system for operation. (There is an inverter touch screen switch and charger switch on the touch screen panels)

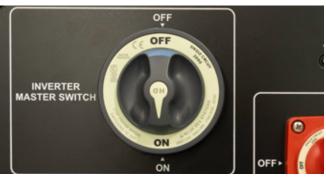
**Charge Line Master Switch** – This switch connects the solar panels and the engine alternator to the batteries for charging purposes

**Breakers for the DC components** – These components are controlled through the G12 panel and touch screens. They have a direct power source for operation from the DCD panel. These components are the larger draw components that require non switched power.

- 1. G12 40 Amp breaker for the touch screens and all components not listed below.
- 2. Sofa 30 amp breaker connected to the sofa relays connected to the sofa motor.
- **3. Fridge** 15 amp breaker connected directly to the fridge circuit boards and compressor.
- **4. Awning** 15 amp breaker connected directly to the awning motor.
- 5. Furnace 10 amp connected directly to the furnace junction box and to the CP plus controller through the 1 amp fuse next to the junction box for the Truma water heater and the Truma furnace.

**NOTE:** Press the center button on the breaker to reset the individual component. You will hear/feel a click if the component breaker was tripped and it resets.









### **ON THE BACK**

(To access the back remove the four corner screws and swing the DCD panel out on the right side and slide it out of the left side of the opening.)

**400 amp Inverter Mega Fuse** - Connects the inverter to the DC system and Batteries. This fuse allows charging from the inverter system and provides 12 volt power for operation of the system.

**60 amp Z Case Mastervolt Output Fuse** - This fuse connects the Mastervolt system to the batteries for charging purposes from the engine alternator.

**30 amp Solar Auto Reset Breaker** - This breaker will trip and automatically reset if there are irregularities in the charge from the solar panel MPPT controller.

**100 amp Z Case Generator Fuse** - This is the starter fuse for the generator.

**7.5** Amp Water Heater Blade Fuse - This fuse powers the electrical components of the Truma water heater.

#### **NON SERVICEABLE ITEMS**

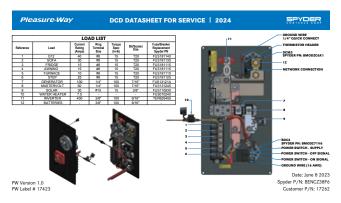
**DCM3** - This component has the main battery connection to the DCD panel. This component monitors the batteries for voltage, amperage,draws, battery temperature and provides information through the G12 to the touch screen panels.

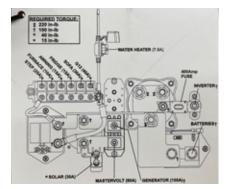
**BDC3** - This component is connected to the main battery switch below the entrance touch panel. This component allows all components to be powered on when in operation. This component also disconnects all power to the interior components of the vehicle for storage purposes.

▲ WARNING: Before servicing this panel, ensure the Battery disconnect is switched off, the vehicle is not running, the vehicle is disconnected from shore power, the generator is not running, the charge line switch and inverter switch off.













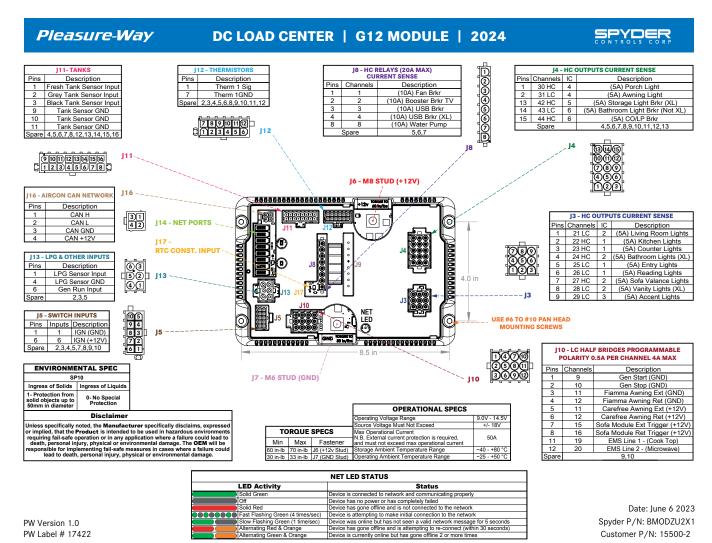
### **G12 MODULE DC LOAD CENTER**

The DC load center is the communication center and hub for low amperage DC loads. The DC load center controls the touch screen panels. The DC load center is located under the driver side ottoman cushion attached to the underside of the cover panel.

0000000







PW Version 1.0 PW Label # 17422

Date: June 6 2023 Spyder P/N: BMODZU2X1 Customer P/N: 15500-2

# XANTREX® XC PRO 3000 WATT INVERTER

The inverter, inverts 12 volt DC power to 120 volt AC power for the operation of the 120 volt appliances such as, the microwave, induction cook top, air conditioner, entertainment system, and 120 volt plugs.

The inverter also acts as a charging source for the lithium batteries when plugged into shore power or operating the generator, the inverter converts the 120volt to a DC charge profile for the lithium batteries and DC profile for the operation of the DC system in the coach.

# The inverter is located in the passenger side ottoman.

There is a control panel on the face of the inverter, this control panel should be in the **ON** position. This switch should be on at all times and should only be used when servicing the inverter. Access to this switch is through the opening in the ottoman cover.

The inverter controls are through the touch screen panels, at the entrance and rear of the coach.

The inverter is also controlled by the Inverter Master switch on the DCD panel. This switch must be in the **ON** position to operate the inverter or charge the lithium batteries when on shore power or generator.

### **OPERATION:**

- 1. Turn ON the Master inverter switch.
- 2. Turn the inverter **ON** from the Power page of the touch panel.
- 3. The inverter is now enabled and ready to use.

**NOTE:** If the inverter does not come on at the touch screen and the Master inverter switch is on, it may be in a lock out or hibernate condition. Start the generator or plug into shore power to enable the inverter.

NOTE: Do not block the vents for the inverter.





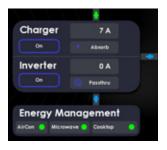


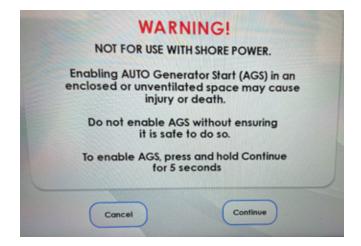












# MASTERVOLT MAC PLUS 12/12 -50 DC TO DC CHARGER

This DC to DC charger takes the charge from the Engine alternator when the vehicle is running and provides charge to the lithium batteries. This is a 50 amp regulated charge set to the lithium profile for the batteries.

The Mastervolt DC to DC charger is connected to the engine alternator by a relay provided by Mercedes and Ford in the driver seat base. From the driver seat base the charge line runs to the driver side ottoman where it connects to a 60 amp charger input breaker. From the charger input breaker it connects to the Mastervolt DC to DC chargers input terminal. From the Mastervolt DC to DC charger the charge line connects to a 60 amp Z case fuse on the back of the Master DCD panel. On the DCD panel the charge line runs through the charge line disconnect switch and out to the batteries.

There is a 2 amp mini blade fuse for the trigger switch for the Mastervolt DC to DC charger located behind the DCD corner panel. Remove the corner panel to access this fuse.

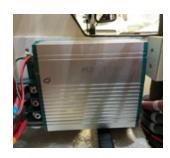
### **ACCESS TO THE MASTERVOLT**

- 1. Remove the top cover panel screws above the corner panel.
- 2. Remove the passenger side corner panel by removing the two screws next to the DCD panel. (the 2 amp fuse will be in this location).
- **3.** Remove the two screws holding the Mastervolt vent panel. One screw will be against the outside wall one screw will be next to the battery box.
- **4.** Fold the Mastervolt vent panel down and bring it out through the sofa frame.

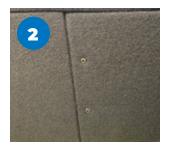




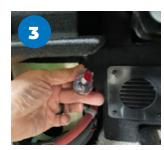


















# GO POWER GP-RV30-MPPT SOLAR CONTROLLER AND SOLAR PANELS

This controller takes the voltage and amperage coming from the solar panels and converts it to a regulated DC voltage/amperage charge rate with a lithium profile to charge the coach batteries.

The Carmanah 100 watt solar panels are fused within 15" of the entrance plate in the vehicle. The main fuse for these panels is in the microwave area The microwave will have to be removed to access this fuse. From the fuses by the entrance plate the wiring goes to the MPPT Solar controller.

From The MPPT solar controller, the converted charge goes to the 30 amp auto reset breaker on the back of the DCD. The charge line Disconnect switch must be in the on position for the solar charge to reach the batteries. The MPPT controller can be turned on and off at the touch screens.

The solar charge can be monitored on the touch screens. On the diagnostics page of the touch screens it will provide current and historical information about the solar charge.

The solar controller is located next to the DCD panel. To access the solar controller remove the cover panel on the DCD box.







THERE WILL BE
THREE GREEN
STATUS LIGHTS
INDICATING PROPER
OPERATION.

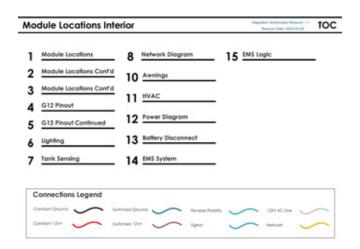
#### **FUSE BEHIND THE MICROWAVE**

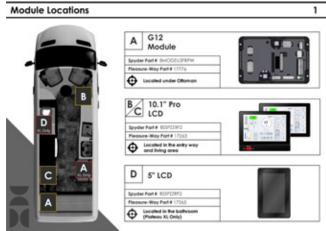


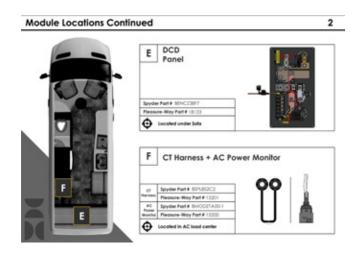
### **30 AMP AUTO RESET BREAKER BACK OF DCD**

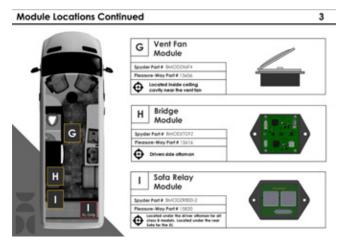


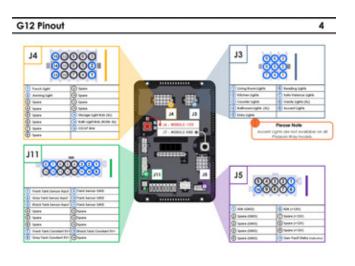
## **MULTIPLEX INTEGRATED SCHEMATIC**

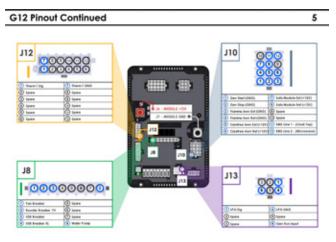




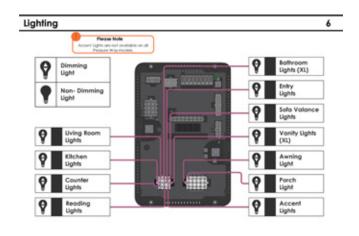


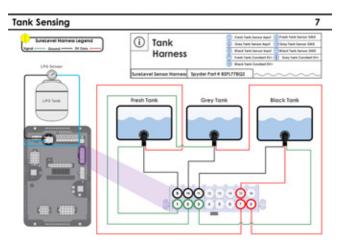


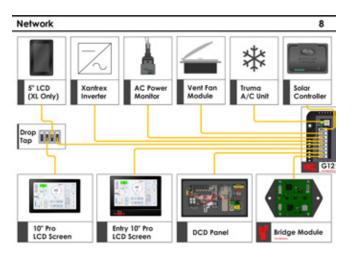


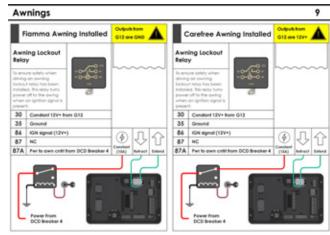


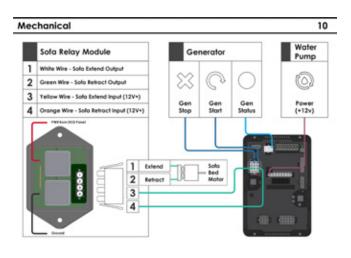
## **MULTIPLEX INTEGRATED SCHEMATIC**

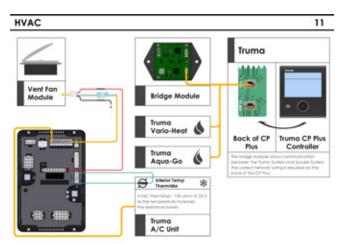




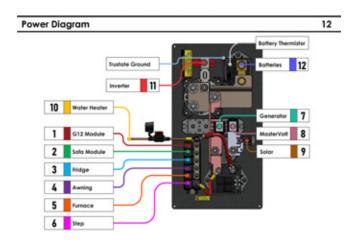


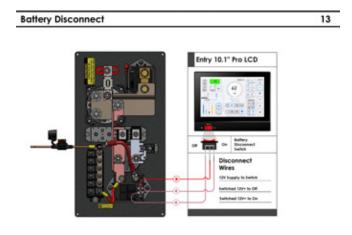


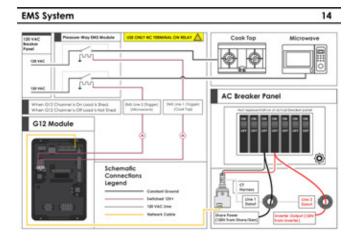


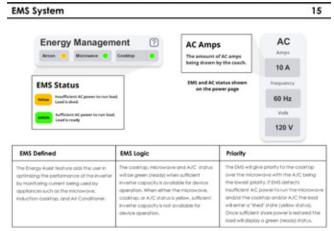


### **MULTIPLEX INTEGRATED SCHEMATIC**









## DC BREAKERS FOR THE CHARGE LINE INPUT AND GENERATOR

These breakers are located in the driver side ottoman. Press the blue or red button to trip the breaker, Swing the arm back under the center bar to reset the breaker.







# TROUBLE SHOOTING THE AC AND DC SYSTEMS

As the vehicles have become more complex with multiple components and modules communicating with each other. The touch screen panel faults page will provide a reference point to start diagnostics. In most cases the faults will indicate a component is off line.

**AC or 120 Volt System** – Ensure you have a good power source with amperage that will match the operation of the appliances, ensure you have chosen the correct amperage of power source on the power page of the touch screen. Ensure the AC breakers are set in the AC Breaker load center.

**Shore Power** – the light is on, for the power cord, your surge protector / EMS system (owner supplied), indicates a correct power source.

**Generator** – the generator is running, the breaker inside the generator case is not tripped, and the auto transfer switch has engaged (indicated by pass through next to Inverter **ON**).

Inverter/Charger – The Master inverter switch is ON, the inverter is turned ON from the power page of the touch screen panel and there is ample amperage and charge in the coach batteries. For charging the coach batteries, ensure the master inverter switch is ON and the charger is ON from the power page of the touch screen. To reset the inverter, access the power button on the inverter turn the power off for one minute and then back on (see inverter information).

Ground Fault Circuit Interruption (GFCI) – All appliances and 120 volt plugs are protected by a GFCI - plug, pass through or breaker. To rest the GFCI plugs and pass through push the test button and then push the reset button until you hear a loud click. The status lights on the GFCI will also indicate a trip and reset.

For the GFCI breaker (air conditioner) The breaker will trip and status lights will flash a code to indicate why the GFCI breaker has tripped. Press the breaker fully off (down) and then back on (up) to reset the breaker.

























# **REBOOT/RESET OF THE MULTIPLEX SYSTEM**

For components and items that go offline, often a reboot of the system will restore the item to receive input from the touch screen panels and reengage them for activity.

### To reboot the system:

- 1. Unplug from shore power
- 2. Check the generator is not running
- 3. Ensure the vehicle is not running
- **4.** Turn off the charge line master switch
- 5. Turn off the inverter master switch
- **6.** Turn off the red battery switch at the main entrance door.
- 7. Leave these items turned off for 5 minutes. Turn on the charge line master switch, turn on the inverter master switch, turn on the red battery switch by the entrance door. Check components for operation. At this time you can also plug into shore power or start your generator.











# HARD/COMPLETE RESET OF THE ENTIRE SYSTEM

### Follow steps 1-7 above first, then complete the following:

- 1. Access the battery status/ reset buttons on the green top of each battery case.
- 2. Press and hold the Status/reset buttons for each battery at the same time. Hold these reset buttons for 10-15 seconds release the reset buttons at the same time. The battery status light will give a single flash when the reset button is pushed for the first time after reset.
- **3.** Press the reset button on each battery for one second to check the charge status of each battery. There will be one to four lights depending on state of charge of the battery.
- 4. To access the battery status/reset buttons in the motorhome is through the driver, and passenger corners next to the DCD panel. Remove the top screw the DCD cover panel above each corner, and remove the two face screws on each corner.















# TRUMA AVENTA AIR CONDITIONER

Ensure you have a good 120 volt source with at least 20 amps (shore power, generator, inverter). Ensure you have selected the air conditioner on the touch screen, snowflake, night snow or water drop with a slash and set the temperature.

Ensure the breaker for the air conditioner is not tripped. Check the GFCI breaker in the distribution panel or the GFCI pass through located in the cabinet above or closet beside the entertainment system.

### TRUMA WATER HEATER

- 1. Ensure the LP or propane switch is **ON** in the utility compartment and there is propane in the tank (check the gage).
- Ensure the water heater is turned ON in the exterior water heater vent door.
- **3.** Ensure the water heater is turned **ON** at the touch screen. (1-3 must be done in this order)
  - ▶ Ensure there is an adequate water source.
  - ► Ensure the water heater bypass valves are set to the correct positions.
  - ► Ensure the water heater filter has been placed in the water heater.
  - ► Check the 7.5 amp fuses on the back of the DCD. (see the information under Master DCD)
  - Reset the CP Plus controller located in the driver side ottoman and or check for error codes.

### TRUMA VARIOHEAT FURNACE

- 1. Ensure the LP or propane switch is **ON** in the utility compartment and there is propane in the tank (check the gage).
- 2. Ensure the flame symbol or furnace is selected on the touch screen, and the temperature is set.
- 3. If the fan starts to blow and heat is not generated and the furnace shuts down, do a soft reset of the system by turning off the battery switch on the entrance panel and turning it back on. Reset the furnace and temperature on the touch screen.
- Check the 1 amp fuse next to the furnace control box.

**NOTE:** This fuse is located in the water heater bypass valve compartment.





























# **TRUMA VARIOHEAT FURNACE** (CONT'D)

If the furnace has not been used for a period of time or if the LP system had been completely emptied it may take several resets in step 3. Reset the CP Plus controller located in the driver side ottoman and or check for error codes.

### **SOLAR CHARGE SYSTEM**

- ► Ensure the Master Charge line switch is in the **ON** position.
- ► Ensure the Solar panels are turned **ON** at the touch screen panel.
- ► Check the solar controller for the three solid green status lights. Check the connections at the solar controller.
- ► Check the fuses for the solar panels. (See photos) Check the 30 amp auto reset breaker on the back of the DCD.









Fuse behind the microwave



30 amp auto reset Breaker back of DCD

### **AIR CONDITIONER OFFLINE**

- ► Ensure there is a power source for the AC unit. Generator, Shore power or Inverter.
- ► Ensure the Master charge line switch and the Master inverter switch are on.
- ► Ensure the battery switch at the side entrance panel is on.
- ► Ensure the 20 Amp breaker for the Air Conditioner is not in a tripped position.
- ► Ensure the GFCI (Breaker or Receptacle) for the Air conditioner is not tripped.

# Do not pair the AC handheld remote as this will over ride the Spyder system.

AC Dip switches should be set to from right to left, switches 2, 4 and 5 should be switched on or pushed in. This should be set if the AC is replaced.

# INVERTER OFFLINE OR LOCKED UP

The inverter may be restored by plugging into shore power and putting the inverter into charge and bypass mode. Turn the battery switch off at the entrance panel.

## **INVERTER HARD RESET**

- 1. Switch off the inverter master switch
- 2. Access the inverter below the passenger side ottoman cushion.(it may be easier to access this switch by removing the cover board).
- **3.** Access the switch on the inverter and turn it off and leave it off for at least 10 minutes. Turn the inverter switch back on to restore the inverter. Turn on the master inverter switch and then the battery switch on the entrance panel.











### **TOUCHSCREEN CONTROL PANEL**

### Please refer to the touchscreen control panel manual for further information.

Your motor home is equipped with two touchscreen control panels. They are located on the kitchen end panel next to the entrance and above the entertainment center in the rear lounge/bed area. Both touchscreen control panels control the living area functions of the motor home.

The menu buttons are located on the right hand side of the screen. There are five menu buttons to choose from: **HOME**, **LIGHTS**, **POWER**, **MECHANICAL** and **SETTINGS**.

## **HOME SCREEN**



### **HOME SCREEN FEATURES:**

### **Battery and DC management**

- ▶ Battery health by percentage
- ▶ Time remaining on battery at current draw.
- ▶ Is the battery charging or discharging
- ► Battery Temperature
- ► Real time battery meter dial, and digital amperage.



# AC POWER SOURCE AND SOLAR CHARGE TO BATTERIES

- ► The AC power source for the appliances will be from Shore Power, Inverter, or Generator.
- ► The Solar in DC amperage along with yellow strips indicating a solar charge.

# TANK LEVELS, WATER PUMP SWITCH AND WATER HEATER

- ▶ Water tanks will be read in 25% increments.
- ▶ LP levels will be read according to the float levels.
- ► Touch the water pump button to turn on the water pump.
- ► Ensure there is water in the fresh tank before turning on the water pump.
- ▶ Touch the water heater button to turn on the water heater. Ensure the exterior water heater switch is turned on first, and the LP switch has been turned on before touching the water heater button. A water heater error will occur, if these procedures are not followed.

### **CLIMATE CONTROL**

The climate control system controls the air conditioner, furnace, and the roof vent.

- ► Temperature selection can be done in two ways, either by touching the dot, and moving it around the circle or by touching the up, and down arrows.
- ► The fan speed selected is for the Air Conditioner. In night mode, and dehumidify mode you will not be able to select a fan speed. For fan speed setting go to the mechanical page, and adjust the fan speed.
- ▶ If the furnace fails to start when first initiated, turn the battery switch off at the entrance touch panel and turn the switch on, and reset the temperature).

**NOTE:** The larger number in the center is the set temperature. The smaller number is the ambient temperature in the coach.



**FULL AIR CONDITIONER MODE** 



AIR CONDITIONER NIGHT MODE



DEHUMIDIFY MODE



**FURNACE MODE** 



**ROOF VENT (OPENS AND ACTIVATES)** 







### **LIGHTING CONTROL ON HOME SCREEN**

You can have up to four lighting choices that appear on the Home Screen. These choices can be individualized on the Settings Screen by touching the Screen Settings button on the Settings page.

### **GENERATOR CONTROL ON THE HOME SCREEN**

- ▶ It displays generator status.
- ▶ It allows for the AGS to be activated and set up
- ▶ It allows the generator to be started and stopped without going to the power page.

### **SCREEN CHOICES (HOME SCREEN)**

The time can be set on the Settings screen as well as the type of time display desired.

### **THE HOUSE**

▶ Takes you to the Home Screen.

### THE LIGHT BULB

- ▶ Takes you to the Lighting Screen.
- ► On this page you can use the Light Master, you can turn off and on individual lights, you can brighten and dim individual lights.

### THE LIGHTNING BOLT

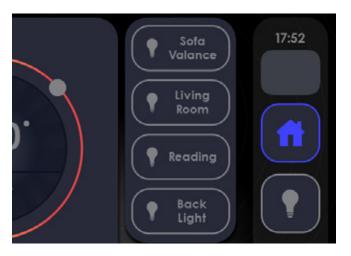
- ▶ Takes you to the Power Screen.
- ► This screen will give you a more in-depth look at the power use in the vehicle highlighting the inverter, generator, solar, and the energy management system in the vehicle.

### THE MECHANICAL SYMBOL

► Takes you to the controls for the Sofa, Vent Fan, and the Awning.

### THE SETTINGS SYMBOL

- ▶ Takes you to the Settings Screen.
- ► This will give you access to the screen brightness, temperature units, color schemes and time settings, as well as access to other screen settings, diagnostics and system updates.







### **LIGHTING CONTROL ON HOME SCREEN**

- ► On this screen you are able to turn off and on all lights by using the Light Master except the Porch light and awning lights.
- ▶ You are able to turn off and on individual lights.
- ► You are able to brighten and dim the individual lights.



#### **POWER SCREEN**

### This screen allow you to:

- Monitor all functions of the power supplies as well as Monitor your batteries, DC loads and AC loads.
- ► Turn the inverter, charger, solar and generator OFF and ON.
- ► Setup your auto generator, start and monitor your generator hours.
- ► Monitor the flow of DC voltage and amperage from the solar panels.
- ► See the flow of voltage and amperage through the motor home systems indicated by the Blue and Green arrows.
- ▶ Select the amperage of your shore power source so the Energy management system can shed loads as needed. For example when on generator this is a 20 amp power source. If you are plugged into a regular home outlet in most cases this is a 15 amp power source.
- ▶ Monitor your batteries and usage.



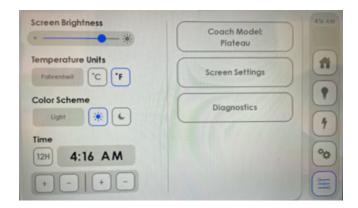
### **MECHANICAL SCREEN**

- ► This screen allows you to extend and retract the awning provided the ignition is not in the on position.
- ► This screen allows you to extend and retract the sofa.
- ► This screen allows you to open and close your roof vent and set the fan speed.



### **SETTINGS SCREEN**

On the screen settings page you can choose the screen brightness, the temperature units, color scheme for the screen and set time choosing the time units. The second part of the screen displays the coach model, this applies the programing specific to that model.



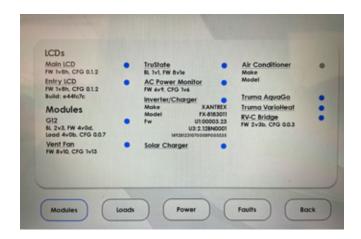
### **SCREEN SETTINGS**

Allows you to select the power savings options, the default page and the lighting options that will appear on the home screen.



### THE DIAGNOSTICS SCREEN

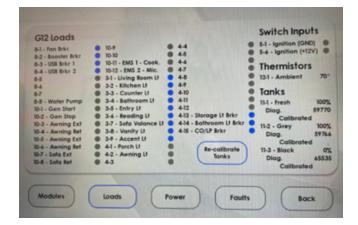
**Modules** will allow you to see the modules and their activity. The Blue dot indicates the module is active.



### **LOADS**

Will display the 12 volt loads triggered through the G12 circuit board. When a load is active it will be lit in blue. Gray indicates all non-active loads.

This screen will also allow the holding tanks to be recalibrated.



Battery Status DC Voltage DC Current

**Battery Settings** 

Clear History Reset Trustate

Battery Type: Battery Bank Size:

#### **POWER**

Will give status for the batteries, solar charge and inverter/charger.

### **BATTERY MONITOR**

The battery monitor allows you to see the voltage of the batteries, the draw on the batteries, the temperature of the batteries, the number of charge/discharge cycles of the batteries, the voltage variant from high to low and the battery percentage. This screen also allows you to reset the battery history and reset the Tru-state if it is ever lost.

### **SOLAR CHARGER**

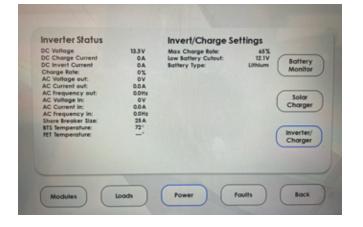
Will give the status of the solar charging system. It will show the charging information, the history of the charging, the charger setting and parameters for the MPPT controller. It will also allow you to force a bulk or float charge, in some dry camping situations this is done first thing in the morning or just before the sun goes down to top up the batteries.



Faults

### **INVERTER/CHARGER**

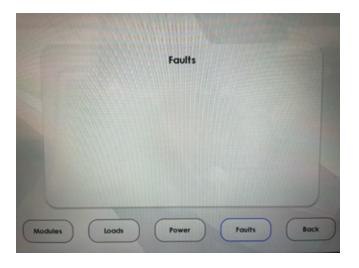
Will allow monitoring of the inverter loads, draws and currents. This page will also show the charge going into the batteries when on shore power or generator. The charge rate will vary depending on the other AC loads in the coach and the health of the batteries.



### **FAULTS**

The faults page will highlight any modules or systems offline. If any of the modules or system are offline you can see the trouble shooting pages 42-46 of this manual. These trouble shooting guidelines will assist in bringing the systems back on line.

If you are unable to clear the faults, call Pleasure-Way Mon - Fri at 1-800-364-0189 and one of our techs will assist you with the fault.



### **BATTERY MANAGEMENT SYSTEM**

The Eco-Ion Earth Smart batteries feature a built-in battery management system (BMS). The BMS automatically provides:

- ► Short circuit protection
- ► Low voltage protection
- ► Cell balancing
- ► Temperature protection

Charge protection at temperatures below freezing. The batteries are equipped with heat pads that engage when a charge is applied below freezing. The heat pads engage to warm the batteries before allowing a charge to the batteries.

### **BATTERY CHARGING SYSTEMS**

The Freedom XC inverter / charger and the Mastervolt DC-DC charger have been programmed to charge the coach batteries. The Go Power Solar panel charging system has been set to lithium.



**NOTE:** The lithium batteries should be charged every 60 days. Check the status of the batteries on your touch screen panel. There is a slight draw on the batteries from the real time clock and internal battery BMS.

⚠ WARNING: Do not work on the batteries with the vehicle running, the generator running or if you are plugged into shore power. Ensure the charge line disconnect switch is in the off position and the inverter switch is in the off position.

### **MASTERVOLT DC-DC CHARGER**



ALTERNATOR



80 AMP CHARGER INPUT BREAKER



MASTERVOLT DC TO DC CHARGER



60 AMP Z CASE FUSE ON THE BACK OF THE DCD



CHARGE LINE DISCONNECT SWITCH



COACH BATTERIES

### **INVERTER DC CHARGING SYSTEM**



SHORE POWER OR GENERATOR



AUTOMATIC TRANSFER SWITCH



DISTRIBUTION PANEL SHORE POWER BREAKER



DISTRIBUTION
PANEL
INPUT
INVERTER
BREAKER

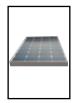


INVERTER THROUGH MASTER SWITCH ON THE DCD



**COACH BATTERIES** 

#### **SOLAR PANEL CHARGING SYSTEM**



SOLAR PANEL CHARGING SYSTEM



10 - 30 AMP FUSE



TOUCHSCREEN
CONTROL
PANEL
CONNECTED
TO THE MPPT
CONTROLLER.



30 AMP AUTO RESET BREAKER ON THE BACK OF THE DCD.



CHARGE LINE DISCONNECT



COACH BATTERIES

▲ WARNING: Both coach batteries must be disconnected prior to servicing the coach. This 12 volt electrical system has been designed to use eco ion lithium ion batteries only. Do not use or replace with lead acid, AGM or gel batteries. Doing so will cause severe damage and void the warranty.

**NOTE:** The chassis and coach batteries are separated by the battery system located under the driver's seat. This system will only engage when the vehicle is running in order to charge the coach batteries from the engine alternator.

### **STORAGE**

When placing your vehicle into storage always ensure your coach batteries are fully charged and the 12 volt battery disconnect switch and master inverter switch are in the **OFF** position. To extend the life of your lithium batteries it is recommended that the batteries be fully charged and kept above freezing temperatures when in storage.

▲ WARNING: If the original lithium batteries need to be replaced, they must be replaced with LiFePO lithium batteries. The charging profiles of the coach are designed specifically for this type of lithium battery. Any replacement lithium batteries must have High/Low voltage protection, Short circuit protection, Over current protection and High temperature protection. You must not replace original lithium batteries with Lead Acid, Gel or AGM batteries. Failure to follow this warning can lead to a fire or explosion and result in death or serious injury.

### **GENERATOR**

(ONAN RV QG 2500i - 2.5 HGLAA - 8304A)

The **GENERATOR** module will allow you to **START** and **STOP** the generator, check the **HOUR METER** and set the parameters and activate the AGS (AUTO GENERATOR START) system.

# **AUTOMATIC GENERATOR START** (AGS)

This feature can be used to charge the coach batteries and/or for climate control in your coach.

To operate the AGS system the vehicle must be turned **OFF**, the 12V battery disconnect switch must be **ON**, propane switch **ON**, and the fuel must be on or at the appropriate level.

## WARNING

AS MULTIPLE 12V SOURCES EXIST IN YOUR VEHICLE, ALL 12V SOURCES MUST BE TURNED OFF BEFORE SERVICING COACH BATTERIES. DISCONNECTING COACH BATTERIES MAY NOT DE-ENERGIZE COACH BATTERY. REFER SERVICING TO QUALIFIED TECHNICIANS.



THIS 12 VOLT ELECTRICAL SYSTEM HAS BEEN DESIGNED TO USE ECO ION LITHIUM ION BATTERIES ONLY.

DO NOT USE OR REPLACE WITH LEAD ACID, AGM OR GEL BATTERIES. DOING SO WILL CAUSE SEVERE DAMAGE AND VOID THE WARRANTY.

### A WARNING

This battery area/compartment is designed for the use of non-vented batteries only. Do not place a battery that requires venting into this area/compartment. Vented batteries can release poisonous and flammable gases.

Can lead to a fire or explosion and result in death

or serious injury.





Select the AGS button to enable the **AUTOMATIC GENERATOR START** function. A display will appear with a warning and instructions. Touch and hold **CONTINUE** for 5 seconds to activate the AGS system. Once the system is activated it will return to the main **POWER MANAGEMENT PAGE** and the AGS will be in blue.

**NOTE:** It is recommended that you manually start the generator allowing it to run a short period of time before setting the AGS system. This will ensure adequate fuel and operation of the generator before relying on the AGS system to start the generator and power the appliances.

▲ WARNING: Do not use the AUTOMATIC GENERATOR START if you are plugged into shore power, or if you are in an area where running the generator is prohibited.

⚠ WARNING: Ensure all windows and doors are closed on the vehicle while operating your generator. This will eliminate generator exhaust from entering your coach.



### **AGS EASY SETUP**

Select **EASY SETUP** for a quick set up of the start parameters.

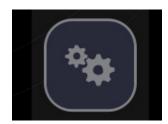
By touching **EASY SETUP** it will allow you to choose which items will trigger the AGS system. You can choose **BATTERY CHARGING** or **CLIMATE CONTROL**. To **ACTIVATE** or **DEACTIVATE** the systems touch the box next to the system you want to activate the AGS. A **CHECK MARK** symbol will appear when the system is active.

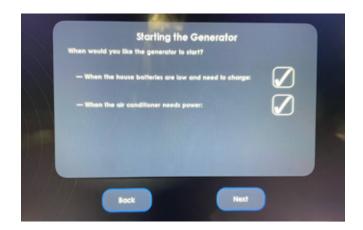
### **STARTING THE GENERATOR**

The first page displayed will ask when you want the generator to **AUTO START**. Select the boxes to check or uncheck the reason to enable.

Select the **NEXT** button to continue.







#### STARTING CONDITIONS FOR LOW BATTERY

This page will enable you to set the **PERCENTAGE OF BATTERY CHARGE** when the AGS system is activated. The generator when running will charge the coach batteries through the inverter/charger.

Use the + and - buttons to adjust the settings.

Select the **NEXT** button to continue.

### STOPPING CONDITIONS FOR LOW BATTERY

This page will enable you to set the **PERCENTAGE OF BATTERY CHARGE** at which point the generator will turn **OFF**.

Use the + and - buttons to adjust the settings.

Select the **NEXT** button to continue.

### **GENERATOR RUN LIMITS**

This page will enable you to set the parameters for **RUN TIME** for the air conditioner settings. Once the air conditioner has brought the coach down to the chosen temperature and cycled off, the generator should continue to run for ten minutes.

It will also allow you to set the **MAXIMUM** run time for the generator.

Use the + and – buttons to adjust the settings. Select the **NEXT** button to continue.

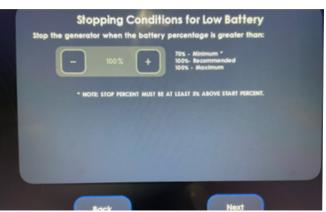
### **QUIET TIME SETTINGS**

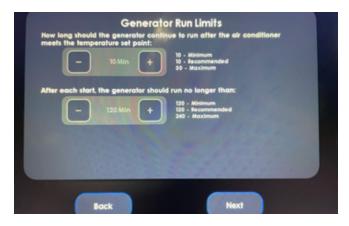
Select the box in the top right hand corner to enable or disable **QUIET TIME** settings. **QUIET TIME** settings allow you to determine when the generator will not be allowed to run.

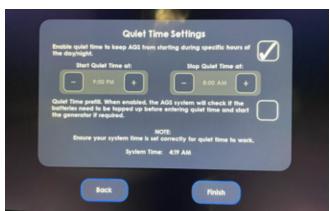
Select the box above the **FINISH** button to enable or disable a battery top up just before the system goes into quiet time settings.

Select the FINISH button to complete EASY SETUP.









### **AGS MANUAL SETUP**

Select **MANUAL SETUP** for more in depth set up choices, this will allow you to set all parameters for the **AGS** system. You can choose **BATTERY** or **HVAC** system to trigger the **AGS**. You can choose your run times, quiet times and battery capacity for shut down parameters.

Touch **FINISH** when complete to return to the **POWER MANAGEMENT** main page. Touch **AGS** to enable the **AGS** system. Hold **CONTINUE** for 5 seconds to trigger the **AGS** system.

**NOTE:** If both the **LOW BATTERY VOLTAGE** and the **HVAC LOADS** are activated, whichever one needs the most run time to acquire the desired result will override the other setting.

**NOTE:** When AGS is used for the HVAC system (air conditioning), the appliance must be selected on the **HOME** page, the temperature must be selected and set on the **HOME** page, and the fan on the **HOME** page should be set to **FAN AUTO**.

### **START TRIGGERS**

Select **LOW BATTERY VOLTAGE** or **HVAC LOADS** to turn on the required triggers for **AUTO GEN START**. Buttons will display in light blue when activated.

Use the + and - buttons to adjust the settings for:

- GENERATOR START PERCENTAGE
- NUMBER OF RESTART TRIES

### **RUNNING**

Use the **+** and **-** buttons to adjust the settings for the **GENERATOR RUN TIME**. This applies to the **HVAC** setting.

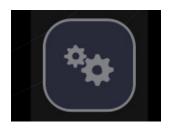
#### **STOPPING**

Use the + and – buttons to adjust the settings for the **PERCENTAGE OF BATTERY CHARGE** before the generator will shut off. This applies to the **LOW BATTERY VOLTAGE** setting.

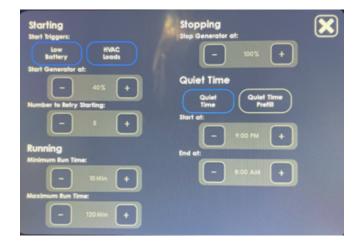
## **QUIET TIME**

Select **QUIET TIME** button to set the parameters for the **QUIET TIME** settings.

Use the + and - buttons to adjust the settings.











# **MOTORHOME INTERIOR**

### INTERIOR COCKPIT MAP LIGHT

This is the Mercedes-Benz Sprinter map light system. Please follow the vehicle manufacturer's instructions for operating procedures. This light is powered by the chassis (engine starting) battery and prolonged use will deplete the engine starting ability.

## **COOKTOP**

Your vehicle is equipped with a single burner induction cooktop located in the kitchen counter top.

(for more information see page 22)



### **FURNACE**

Your vehicle is equipped with a Truma VarioHeat gas Auto Ignition Furnace. The furnace is located near the floor below the fridge. The thermostat control is located on the touch screen control panel.

(for more information see page 17)



### REFRIGERATOR

Your vehicle is equipped with a Norcold 12V DC Electric Fridge/Freezer. Please refer to the fridge manual included with your vehicle for more information.

(for more information see page 17)



### **MICROWAVE**

Please refer to the manufacturer's operating instructions for further information.

Your microwave operates off of 110 volt AC power only.

(for more information see page 22)



### **WATER HEATER**

The water heater is located under the fridge next to the furnace vent. The water heater must be turned on in the exterior water heater access door before turning the water heater on at the touch screen.

(for more information see page 16) (for winterizing instructions see page 23)

### **THERMOSTAT**

Your vehicle is equipped with a Truma thermostat that controls the operation of the furnace, vent fan and air conditioner. The thermostat is operated from the 10" touchscreen. The lower small number is the interior temperature. The larger number is the set temperature. You can set the temperature by moving the dot around the circle or by the up and down arrows.

(for more information see page 16 & 17)

FULL AIR CONDITIONER MODE

AIR CONDITIONER NIGHT MODE

DEHUMIDIFY MODE

**SECOND STATE OF THE PROPERTY OF THE PROPERTY** 

ROOF VENT (OPENS AND ACTIVATES)

### **AIR CONDITIONER**

Please refer to the manufacturer's operating instructions for further information.

Your vehicle is equipped with the 13,500 BTU Truma Aventa air conditioner. From the ground to the top of the air conditioner it measures 9' 8". This is the highest point on your vehicle. Be sure to allow for this clearance when proceeding under overhead items.

The controls for the air conditioner are located on the HOME page of the touchscreen control panels. Choose A/C, set the chosen temperature and the fan speed for your comfort. If you wish for the A/C to cycle on and off choose auto for the fan speed. By choosing fan low or high the fan will continue to run and will not cycle on and off. This AC unit also has a dehumidify mode.

**NOTE:** When running the A/C in high heat or high humidity it is recommended the fan speed be set to HIGH and open all vents on inner ceiling assembly. This will help avoid condenser freeze up.

## KITCHEN FAUCET

The vehicle is equipped with a Dehco 82H09-CHRG (2024) / Moen – 7882BL (2025) faucet, located in the galley.

(for more information see page 21)













#### **FAN-TASTIC VENT® FAN**

### Please refer to the manufacturer's operating instructions for further information.

Located on the roof near the bathroom door, the fan assists in exhausting odors and steam from the bathroom and cooking area. This fan is an exhaust fan used to draw air out of the coach. The controls for the fan are located on the 10" touchscreen controls on the mechanical page, it's also controlled by the thermostat. Ensure the temperature of the thermostat is higher than the inside temperature. Choose the + and – buttons to increase/decrease the speed of the fan. To open/close the fan, select the **LID UP** or **LID DOWN** button. Select the **FAN** button to start the fan.

**NOTE:** The fan is equipped with a rain sensor so the fan cannot be operated when it is raining. The fan cannot be operated when the fan lid is closed.



# Please refer to the manufacturer's operating instructions or your touchscreen manual for further information.

Your vehicle can be equipped with 100 watt to 300 watt Carmanah solar panel package located on the center of the roof. The Go Power solar panel info is displayed on the touchscreen under the POWER MANAGEMENT page. The MPPT controller is located near the coach batteries at the read of the coach.

The solar panels will charge the coach batteries even when the 12 volt battery disconnect is in the OFF position. To prevent the solar panels from charging coach batteries you must turn OFF the charge line master switch.

#### There are 2 solar panel fuses. They are located:

- 1. In the cabinet above the fridge (30 Amp).

  Remove the back wall of the cabinet to access this fuse.
- Next to the charge line disconnect switch. (30 Amp)

**NOTE:** Ensure the solar panels are clean for optimal charging output.















**CAUTION:** To ensure your solar panels are not active when servicing the batteries it is advised to cover the solar panels.

**CAUTION:** Turn OFF the charge line disconnect if the vehicle is going to be in storage for a period of time or in sustained freezing conditions without internal heat.

#### **USB CHARGING PORT**

Your motorhome is equipped with USB charging ports. The driver and passenger side rear ottoman each feature a USB charging port, as well as in the front cabin behind the drivers seat.

Each charging port features 2 USB slots that will fit a USB type A connector. The 12 volt battery disconnect switch must be ON to power the USB ports. The USB ports are protected by the Spyder Controls G12 panel.





#### TV

### Please refer to the manufacturer's operating instructions for further information.

Your motorhome is equipped with TV and soundbar components. You will find these located in the entertainment center. These components are powered by a 110 volt power source (inverter, shore power or generator).

#### **COMPONENTS:**

- 1. 24" Smart LED TV
- 2. Bose® Solo 5 soundbar w/Bluetooth®
- 3. Antenna with booster

#### **REAR ENTERTAINMENT CENTER:**

- ▶ TV on rear driver wall
- Soundbar mounted below TV
- ▶ Antenna booster in upper cabinet above the TV

**NOTE:** When traveling the TV should be stowed in the locked position.





#### 12 VOLT OR DC OPERATION

- 1. Turn the inverter **ON**. Ensure the TV is plugged into the wall outlet located above, in the cabinet.
- 2. Turn the antenna booster **ON** by pressing the black button on the antenna booster. Press the search button.
- **3.** Turn the TV **ON** and select DTV-TV using the input button on your TV or remote.
- **4.** Press the **SETTINGS** button (gear symbol) > All Settings > Channels > Channel Tuning > Auto Tuning to bring in all local air channels.
- 5. For Cable TV connect a cable extension cord from the cable hookup in the component compartment to the park cable outlet. Turn the TV antenna booster off. Follow step (4) for auto programming.

#### **FOR 120 VOLT OR A/C OPERATION**

When using a generator or shore power, the inverter will switch to grid mode. Use the same programming procedures as the 12 volt operation.









**NOTE:** Turn **ON** the inverter. The inverter will be used if you are not plugged into shore power.

#### **TABLE SET UP & STORAGE**

The Lagun Table leg system is constructed of heavy anodized aluminum, and swivels 360 degrees.

- 1. Remove the table and leg from behind the driver seat.
- 2. Remove the table leg from the base of the table by loosening off the black locking handle.
- **3.** Slide the leg into the leg support located on the passenger side ottoman and tighten the locking handle.
- **4.** Press the table top onto the leg and tighten the locking handle.
- 5. You can now adjust the table to the desired height and location, ensuring the locking handles are locked in place while the table is in use

▲ **WARNING:** Ensure Lagun table is stored or locked into travel position when driving.











#### **FRONT CAB PRIVACY SHADES**

Fully form fitting to your windshield and cab doors, these shades provide total privacy up front when needed.

- 1. Driver and passenger shades are magnetic.
- 2. Windshield shade is held in place with the visors.



#### **BED LAYOUT**

- 1. Adjust the sofa position by pressing the EXTEND or RETRACT button on your touchscreen control panel (above the TV). The SOFA settings are under the MECHANICAL page.
- 2. Remove the bed boards from the closet
- 3. Place the two bed boards on the ottoman rails.
- **4.** Place the ottoman backrests between the seat cushions.

▲ Warning: Do not EXTEND or RETRACT while in use. Ensure all items are removed between the power sofa and ottoman.











#### **CHASSIS BATTERY**

Please refer to the Mercedes-Benz Sprinter manual for maintaining and storing the chassis battery.

The engine starting battery is located below the driver's foot board in the cab area of the vehicle. The chassis battery and the coach batteries are separated by the Mercedes-Benz battery system located under the drivers seat.

**NOTE:** The chassis battery is only charged through the alternator when the engine is running. The inverter/charger will not charge the chassis battery.



POSITIVE BOOST TERMINAL



NEGATIVE BOOST TERMINAL

#### **CHASSIS BATTERY DISCONNECT**

This disconnect is located next to the gas pedal in the driver cabin. To disconnect the chassis battery, press the red tab and remove the battery cable from the post.





#### **JACK AND JACK TOOLS**

The jack and jack tools are located on the passenger floor area of the Sprinter cab, and in the lower right compartment under the passenger seat.

The jack and jack tools are provided by Mercedes-Benz. Please refer to the Mercedes-Benz owner's manual for jacking locations.

The chrome wheel cover can be removed by prying the chrome insert away from the outer rim of the tire. For Alcoa aluminum wheels, remove the chrome stud cover to access the wheel nut. The chrome cover is a friction fit.

**NOTE:** There is no spare tire included with this vehicle. For your convenience a flat repair kit that includes a tire repair liquid and an air compressor has been provided under the rear sofa (rear doors).





















The following information has been acquired from the NHTSA website.

#### **EVERYTHING RIDES ON IT**

Studies of tire safety show that maintaining proper tire pressure, observing tire and vehicle load limits (not carrying more weight in your vehicle than your tires or vehicle can safely handle), avoiding road hazards, and inspecting tires for cuts, slashes, and other irregularities are the most important things you can do to avoid tire failure, such as tread separation or blowout and flat tires. These actions, along with other care and maintenance activities, can also:

- ▶ Improve vehicle handling
- Help protect you and others from avoidable breakdowns and accidents
- ► Improve fuel economy
- Increase the life of your tires.
- ► This booklet presents a comprehensive overview of tire safety, including information on the following topics:
- ▶ Basic tire maintenance
- ▶ Uniform Tire Quality Grading System
- ► Fundamental characteristics of tires
- ▶ Tire safety tips.
- Use this information to make tire safety a regular part of your vehicle maintenance routine.
   Recognize that the time you spend is minimal compared with the inconvenience and safety consequences of a flat tire or other tire failure.

# SAFETY FIRST-BASIC TIRE MAINTENANCE

Properly maintained tires improve the steering, stopping, traction, and load-carrying capability of your vehicle. Under-inflated tires and overloaded vehicles are a major cause of tire failure.

Therefore, as mentioned above, to avoid flat tires and other types of tire failure, you should maintain proper tire pressure, observe tire and vehicle load limits, avoid road hazards, and regularly inspect your tires.

# FINDING YOUR VEHICLE'S RECOMMENDED TIRE PRESSURE AND LOAD LIMITS

Tire information placards and vehicle certification labels contain information on tires and load limits. These labels indicate the vehicle manufacturer's information including:

- ▶ Recommended tire size
- ▶ Recommended tire inflation pressure
- Vehicle capacity weight (VCW-the maximum occupant and cargo weight a vehicle is designed to carry)
- Front and rear gross axle weight ratings (GAWR- the maximum weight the axle systems are designed to carry).
- ▶ Both placards and certification labels are permanently attached to the vehicle door edge, door post, glove-box door, or inside of the trunk lid. You can also find the recommended tire pressure and load limit for your vehicle in the vehicle owner's manual.

# UNDERSTANDING TIRE PRESSURE AND LOAD LIMITS

Tire inflation pressure is the level of air in the tire that provides it with load-carrying capacity and affects the overall performance of the vehicle. The tire inflation pressure is a number that indicates the amount of air pressure—measured in pounds per square inch (psi)—a tire requires to be properly inflated. (You will also find this number on the vehicle information placard expressed in kilopascals (kPa), which is the metric measure used internationally.)

Manufacturers of passenger vehicles and light trucks determine this number based on the vehicle's design load limit, that is, the greatest amount of weight a vehicle can safely carry and the vehicle's tire size. The proper tire pressure for your vehicle is referred to as the "recommended cold inflation pressure." (As you will read below, it is difficult to obtain the recommended tire pressure if your tires are not cold.)

Because tires are designed to be used on more than one type of vehicle, tire manufacturers list the "maximum permissible inflation pressure" on the tire sidewall. This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

#### **CHECKING TIRE PRESSURE**

It is important to check your vehicle's tire pressure at least once a month for the following reasons:

- ▶ Most tires may naturally lose air over time.
- ► Tires can lose air suddenly if you drive over a pothole or other object or if you strike the curb when parking.
- ► With radial tires, it is usually not possible to determine under-inflation by visual inspection.
- ➤ For convenience, purchase a tire pressure gauge to keep in your vehicle. Gauges can be purchased at tire dealerships, auto supply stores, and other retail outlets.
- ▶ The recommended tire inflation pressure that vehicle manufacturers provide reflects the proper psi when a tire is cold. The term cold does not relate to the outside temperature. Rather, a cold tire is one that has not been driven on for at least three hours. When you drive, your tires get warmer, causing the air pressure within them to increase. Therefore, to get an accurate tire pressure reading, you must measure tire pressure when the tires are cold or compensate for the extra pressure in warm tires.

# STEPS FOR MAINTAINING PROPER TIRE PRESSURE

- 1. Locate the recommended tire pressure on the vehicle's tire information placard, certification label, or in the owner's manual.
- 2. Record the tire pressure of all tires.
- **3.** If the tire pressure is too high in any of the tires, slowly release air by gently pressing on the tire

- valve stem with the edge of your tire gauge until you get to the correct pressure
- 4. If the tire pressure is too low, note the difference between the measured tire pressure and the correct tire pressure. These "missing" pounds of pressure are what you will need to add.
- **5.** At a service station, add the missing pounds of air pressure to each tire that is underinflated.
- **6.** Check all the tires to make sure they have the same air pressure (except in cases in which the front and rear tires are supposed to have different amounts of pressure).

If you have been driving your vehicle and think that a tire is under-inflated, fill it to the recommended cold inflation pressure indicated on your vehicle's tire information placard or certification label. While your tire may still be slightly under-inflated due to the extra pounds of pressure in the warm tire, it is safer to drive with air pressure that is slightly lower than the vehicle manufacturer's recommended cold inflation pressure than to drive with a significantly under-inflated tire. Since this is a temporary fix, don't forget to recheck and adjust the tire's pressure when you can obtain a cold reading.

#### **TIRE SIZE**

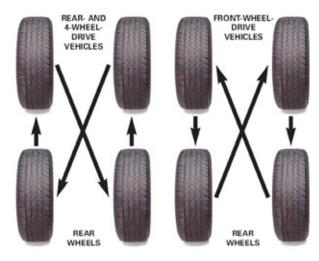
To maintain tire safety, purchase new tires that are the same size as the vehicle's original tires or another size recommended by the manufacturer. Look at the tire information placard, the owner's manual, or the sidewall of the tire you are replacing to find this information. If you have any doubt about the correct size to choose, consult with the tire dealer.

#### **TIRE TREAD**

The tire tread provides the gripping action and traction that prevent your vehicle from slipping or sliding, especially when the road is wet or icy. In general, tires are not safe and should be replaced when the tread is worn down to 1/16 of an inch. Tires have built-in tread wear indicators that let you know when it is time to replace your tires. These indicators are raised sections spaced intermittently in the bottom of the tread grooves. When they appear "even" with the outside of the tread, it is time to replace your tires. Another method for checking tread depth is to place a penny in the tread with Lincoln's head upside down and facing you. If you can see the top of Lincoln's head, you are ready for new tires.

## TIRE BALANCE AND WHEEL ALIGNMENT

To avoid vibration or shaking of the vehicle when a tire rotates, the tire must be properly balanced. This balance is achieved by positioning weights on the wheel to counterbalance heavy spots on the wheel-and-tire assembly. A wheel alignment adjusts the angles of the wheels so that they are positioned correctly relative to the vehicle's frame. This adjustment maximizes the life of your tires and prevents your car from veering to the right or left when driving on a straight, level road. These adjustments require special equipment and should be performed by a qualified technician.



#### A TIRE ROTATION EXAMPLE

For maximum mileage, rotate your tires every 5,000 miles. Follow correct rotation patterns.

#### **TIRE ROTATION**

Rotating tires from front to back and from side to side can reduce irregular wear (for vehicles that have tires that are all the same size). Look in your owner's manual for information on how frequently the tires on your vehicle should be rotated and the best pattern for rotation.

#### **TIRE REPAIR**

The proper repair of a punctured tire requires a plug for the hole and a patch for the area inside the tire that surrounds the puncture hole. Punctures through the tread can be repaired if they are not too large, but punctures to the sidewall should not be repaired. Tires must be removed from the rim to be properly inspected before being plugged and patched.

#### TIRE FUNDAMENTALS

Federal law requires tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a tire identification number for safety standard certification and in case of a recall.

# UNIFORM TIRE QUALITY GRADING SYSTEM (UTQGS)

To help consumers compare a passenger car tire's treadwear rate, traction performance, and temperature resistance, the federal government requires tire manufacturers to grade tires in these three areas. This grading system, known as the Uniform Tire Quality Grading System, provides guidelines for making relative comparisons when purchasing new tires. You also can use this information to inquire about the quality of tires placed on new vehicles.

Although this rating system is very helpful when buying new tires, it is not a safety rating or guarantee of how well a tire will perform or how long it will last. Other factors such as personal driving style, type of car, quality of the roads, and tire maintenance habits have a significant influence on your tire's performance and longevity.

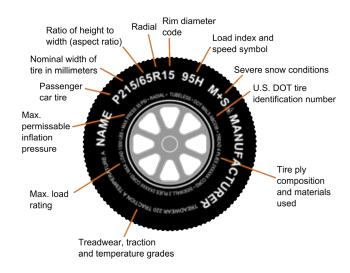
Treadwear grades are an indication of a tire's relative wear rate. The higher the treadwear number is, the longer it should take for the tread to wear down. For example, a tire grade of 400 should wear twice as long as a tire grade of 200.

Traction grades are an indication of a tire's ability to stop on wet pavement. A higher graded tire should allow you to stop your car on wet roads in a shorter distance than a tire with a lower grade. Traction is graded from highest to lowest as "AA", "A", "B", and "C".

Temperature grades are an indication of a tire's resistance to heat. Sustained high temperature (for example, driving long distances in hot weather), can cause a tire to deteriorate, leading to blowouts and tread separation. From highest to lowest, a tire's resistance to heat is graded as "A", "B", or "C".

### INFORMATION ON PASSENGER VEHICLE TIRES

Please refer to the diagram below.



#### P

The "P" indicates the tire is for passenger vehicles.

#### **NEXT NUMBER**

This three-digit number gives the width in millimeters of the tire from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

#### **NEXT NUMBER**

This two-digit number, known as the aspect ratio, gives the tire's ratio of height to width. Numbers of 70 or lower indicate a short sidewall for improved steering response and better overall handling on dry pavement.

#### R

The "R" stands for radial. Radial ply construction of tires has been the industry standard for the past 20 years.

#### **NEXT NUMBER**

This two-digit number is the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

#### **NEXT NUMBER**

This two- or three-digit number is the tire's load index. It is a measurement of how much weight each tire can support. You may find this information in your owner's manual. If not, contact a local tire dealer. Note: You may not find this information on all tires because it is not required by law.

#### M+S

The "M+S" or "M/S" indicates that the tire has some mud and snow capability. Most radial tires have these markings; hence, they have some mud and snow capability.

#### **SPEED RATING**

The speed rating denotes the speed at which a tire is designed to be driven for extended periods of time. The ratings range from 99 miles per hour (mph) to 186 mph. These ratings are listed below. Note: You may not find this information on all tires because it is not required by law.

LETTER RATING	SPEED RATING		
Q	99 MPH		
R	106 MPH		
s	112 MPH		
т	118 MPH		
U	124 MPH		
н	130 MPH		
v	149 MPH		
w	168* MPH		
Υ	186* MPH		

For tires with a maximum speed capability over 149 mph, tire manufacturers sometimes use the letters ZR. For those with a maximum speed capability over 186 mph, tire manufacturers always use the letters ZR.

### U.S. DOT TIRE IDENTIFICATION NUMBER

This begins with the letters "DOT" and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code where it was manufactured, and the last four numbers represent the week and year the tire was built. For example, the numbers 3197 means the 31st week of 1997. The other numbers are marketing codes used at the manufacturer's discretion. This information is used to contact consumers if a tire defect requires a recall.

### TIRE PLY COMPOSITION AND MATERIALS USED

The number of plies indicates the number of layers of rubber-coated fabric in the tire. In general, the greater the number of plies, the more weight a tire can support. Tire manufacturers also must indicate the materials in the tire, which include steel, nylon, polyester, and others.

#### **MAXIMUM LOAD RATING**

This number indicates the maximum load in kilograms and pounds that can be carried by the tire.

#### **REPORTING SAFETY DEFECTS**

If you believe that your vehicle has a defect which could cause a crash or could cause you injury or death, you should contact Pleasure-Way immediately.

#### **PLEASURE-WAY CONTACT INFORMATION**

To contact Pleasure-Way, you may call us toll-free at **1-800-364-0189**; go to **www.pleasureway.com**; or write to:

Pleasure-Way Industries Ltd. 302 Portage Avenue Saskatoon SK, Canada S7J 4C6

Please refer to the vehicle/chassis owners' manual for more information on your chassis manufacturer. Please contact them if you feel that there is a chassis safety issue.

If your problem is not resolved to your satisfaction, please contact either NHTSA (U.S.) or Transport Canada (CA):

#### NHTSA (U.S. ONLY)

The following text is published as required of manufacturers under Title 49, Code of U.S. Federal Regulations, Part 575 pursuant to the "National Traffic and Motor Vehicle Safety Act of 1966"

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

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

#### **NHTSA Contact Information**

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at **1-888-327-4236 (TTY: 1-800-424-9153)**; go to <u>www.safercar.gov</u>; or write to:

Administrator 1200 New Jersey Avenue SE Washington, D.C. 20590

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

### TRANSPORT CANADA

(CANADA ONLY)

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform Transport Canada in addition to notifying Pleasure-Way.

#### **Transport Canada Contact Information**

**Website:** https://tc.canada.ca/en/road-transportation/defects-recalls-vehicles-tires-child-car-seats/report-potential-safety-defect-vehicles-tires-child-car-seats (English)

**Website:** https://tc.canada.ca/fr/transport-routier/defauts-rappels-vehicules-pneus-sieges-auto-enfant/signaler-defaut-potentiel-lie-securite-vehicules-pneus-sieges-auto-enfant (French)

Phone: 1-800-333-0510

### **MAINTENANCE LOG**

MODEL:	VIN#:	
YEAR:	DATE PURCHASED:	

DATE	WORK PERFORMED	ВУ	MILEAGE	NOTES



**302 PORTAGE AVENUE | SASKATOON, SK | S7J 4C6** T: 800.364.0189 | F: 306.934.7085 | PLEASUREWAY.COM