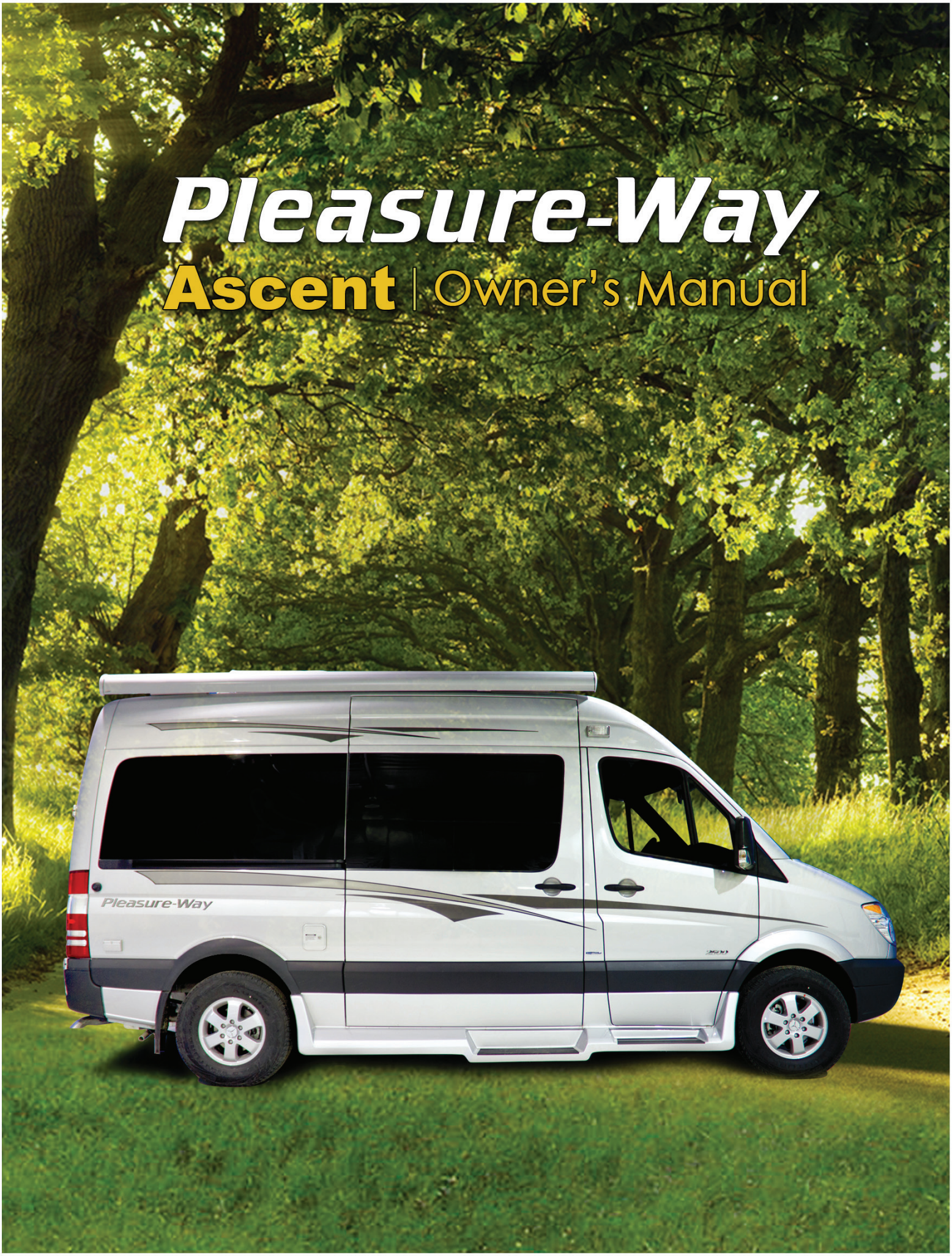
Pleasure-Way

Ascent | Owner's Manual



NOTES:

⚠ 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 property filled container contains approximately 80 percent of its volume as liquid propane.

⚠ 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 gain.
Failure to comply could result in explosion resulting in death or serious injury.

⚠ 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.

PLEASURE-WAY INDUSTRIES LTD.

PLEASURE-WAY INDUSTRIES LTD.

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 Ascent including operation, maintenance and warranties. **We strongly advise you to take time to read this manual, the Mercedes 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 in 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!

For customer service information, please call us toll-free at 1-800-364-0189 between the hours of 8 a.m. and 5 p.m. (Central Standard Time) Mondays through Fridays, excluding holidays.

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Pleasure-Way Industries Ltd. Five-Year Limited Motorhome Warranty

CUSTOMER RESPONSIBILITY

It is important you read and understand the information provided to you in the package containing all the manuals and information pertaining to your Pleasure-Way Motorhome.

Familiarize yourself with the applicable warranties. You are responsible for ensuring the procedures for obtaining warranty repairs are followed properly. It is your responsibility and obligation to return your motorhome to your authorized Pleasure-Way dealership for warranty service repairs.

As the owner of the Motorhome, you are responsible for regular and proper maintenance performed in accordance with the Pleasure-Way and OEM manuals provided. Regular and proper maintenance will help prevent conditions arising from neglect that are not covered under warranty.

WHAT THIS LIMITED WARRANTY COVERS:

Pleasure-Way Industries Ltd. warranties the specified new 2014 Motorhome free from defects in material and craftsmanship on portions manufactured by Pleasure-Way Industries Ltd. under normal use and service. Pleasure-Way Industries' obligation, under this limited warranty, shall be limited to 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. Warranty shall be fulfilled by an Authorized Pleasure-Way Dealer or Authorized Pleasure-Way service facility. ***This Pleasure-Way Warranty is non-transferable to sequential owners.***

WHAT THIS LIMITED WARRANTY DOES NOT COVER:

This limited warranty shall not apply to the following:

- If the Motorhome has been altered outside our factory in any way so as, in our sole opinion and discretion, to affect its stability, operation or reliability.
- Deterioration due to wear and or exposure, including but not limited to rust: corrosion, oxidation and cosmetic blemishes.
- If the Motorhome, in our sole opinion and discretion, has been subject to misuse, negligence, or accident.
- If 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.

- The automotive chassis is covered by its own manufacturer's warranty, including by way of example, but not limited to: power train, engine, drive-train, tires and muffler. To learn more about the specific automotive chassis not covered under the Pleasure-Way warranty please contact your authorized selling dealer, Pleasure-Way Industries Ltd. or review your Ford, Mercedes Benz or GM warranty package information provided with the coach.
- Appliances and components covered by their own manufacturer's warranties, including but not limited to: the microwave, refrigerator, stove, heater, television, generator and roof air conditioners. To learn more about specific component parts or appliances not covered under the Pleasure-Way warranty please contact your selling dealer, Pleasure-Way Industries or review your warranty package information provided with the coach.
- Unauthorized repairs, alterations or modifications.
- Routine maintenance.
- Items that are working as designed but which you are unhappy with because of the design or function.
- Damages caused by, but not limited to: hail, tornadoes, lighting, floods, earthquakes, hurricanes, fire, rain, and all other environmental conditions, which include but are not limited to, tree sap, tar, chemicals, oils, salts, road hazards, infestations, rodents and /or acts of God.
- Defects or repairs required, as an example but not limited due to; improper loading, load distribution, accident, collision, vandalism, abuse, neglect, improper maintenance, rust or corrosion.
- Failure to seek and obtain repairs in a timely manner.
- Failure to use reasonable efforts to mitigate damage caused by defects.
- Failure to comply with the instructions set forth in the owner's manual.
- 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.
- Condensation and the results of condensation including, but not limited to, water damage and the growth or mildew or mold. Mold and mildew are natural growths given certain environmental conditions and are not covered by the terms of this warranty
- Failure of the coach and /or chassis resulting in incidental damages, such as but not limited to: goods stored both inside and outside the coach; loss of use and equipment of Motorhome; inconvenience; cost of rental vehicle; cost of accommodations; travel expenses; towing; meals; and other miscellaneous incidental expenses. Some states do not allow exclusions or limitation of incidental or consequential damages, so the above limitations or exclusion may or may not apply to you.

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

- For **ninety (90) days** from the original retail purchase date, adjustments to compartment door latches, light bulbs, fuses, remote 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;
  All seat, curtain, door panel and wall fabrics used in the coach.
  Window seals and caulking.
  Rubber seals including all seals related to a slide out.
  Exterior power cable hatch.
  City water fill.
  Porch light.
  Exterior cable TV outlet
  Carpet

Linoleum.
Black and grey water termination valves; and
Exterior striping.

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.
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 surfaces.

This warranty is expressly in lieu of all other warranties, expressed or implied, and all other obligations or liabilities for alleged representation or negligence. Pleasure-Way Industries Ltd. neither assumes nor authorizes any other person to assume for us any liability in connection with the sale of our Motorhomes other than expressed above.

All correspondence should be directed to the authorized Pleasure-Way dealer from whom the Motorhome was purchased and must specify the serial number and date of purchase of Motorhome in question.

Pleasure-Way Industries Ltd. reserves the right to make changes in Motorhomes built and/or sold by it at any time without incurring any obligations to make the same or similar changes on motorhomes previously built and/or sold by Pleasure-Way Industries Ltd.

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, at its option, replace or repair free of charge any defective part, including labor. The purchaser shall notify their authorized Pleasure-Way Dealer within the warranty period.

If you obtain warranty repairs from a non-authorized RV service facility without Pleasure-Way pre authorization, it is at Pleasure-Way's sole discretion whether or not to reimburse the claim.

In the event that this Motorhome is used for commercial or rental fleet purposes, the warranty coverage shall be limited to one (1) year 12,000 miles / 20,000 Km (whichever comes first) from the date of original purchase.

Obtaining Warranty Repairs:

To obtain warranty repairs, you must contact your authorized Pleasure-Way dealer and schedule an appointment. It is best if you have a written list of 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 maintain the Motorhome as required or recommended are not covered by warranty.

Note: 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.

Warranty Policies

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

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.

Pleasure-Way Industries Ltd. will not reimburse any claims for work done on any components or appliances 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: refrigerator, microwave, roof air-conditioning, water pump, furnace, TV etc.

All warranty work required to be done on the chassis must be taken to an authorized Ford , Mercedes Benz or Chevrolet dealership (depending on your chassis make) and processed through their warranty procedures. Pleasure-Way Industries Ltd. will not reimburse any claims regarding the chassis. Pleasure-Way Industries Ltd. will pay for the removal and reinstallation of motorhome components only if absolutely necessary to perform Chassis warranty repairs. Pleasure-Way Industries Ltd. 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.

SAFETY

For your safety and ease of mind while travelling 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.

All Pleasure-Way Motorhomes in Canada are CSA 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 provided on the ceiling of your unit near the front. Smoke detectors may give you a warning of fire and smoke, but only if you use and maintain them in accordance to the manufacturer's instructions. **Testing of this detector should be carried out weekly.** Ensure you connect the battery inside the detector upon receiving of your new unit and that you install a fully charged fresh battery at least once a year.

Fire Extinguisher

A 5-pound capacity fire extinguisher is provided at the side door main entrance for ease of accessibility from the interior or exterior. **Warning: This fire extinguisher is a type "BC", which will extinguish flammable liquids and electrical fires, but not wood, paper and cloth fires. You should inspect the extinguisher at least once a month according to the manufacturer's instructions.**

LP Gas Detector/CO Detector

A liquid propane (LP) gas/CO detector is provided near the floor level on the driver ottoman bench on the motorhome interior. This detector will operate to detect liquid propane & CO gasses as well as other gasses. Your components that require LP gas are provided with complete ventilation to the exterior and are sealed off to the interior for your added safety. This detector is powered by the auxiliary battery and is operating at all times unless the battery is disconnected. **The LP gas/CO detector should be tested every**

week or every time before a trip, whichever occurs first. The test procedure should be performed in accordance to the manufacturer's instructions.
NOTE: The LP gas/CO detector will sound to indicate a low coach battery.

GFCI Outlet

Ground fault circuit interrupter (GFCI) 110 volt receptacle in the kitchen 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 receptacle, galley receptacle and fridge receptacle.
These receptacles are to be tested at least once a month in accordance with the manufacturer's instructions.

Emergency Escape

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

Refueling

When you are refueling your fuel tank , ensure that your vehicle is shut off and your main LP valve is shut off. Ensure that your pilot lights have been extinguished as well. **Warning: Even with the main LP valve shut off there is enough gas in the LP lines for the pilot light to continue to burn.**

Filling the LP Gas Fuel Cylinder

When you are filling the LP Gas Fuel Cylinder, ensure that all pilot lights have been extinguished and that there are no open flames present. Ensure that your vehicle is turned off.
The main shut off valve is the electrical switch inside the exterior component compartment.

NOTE: Ensure the propane system valve is fully shut when vehicle is in motion. It is not safe to travel while propane appliances are in use.

MOTORHOME EXTERIOR

Motorhome Dimensions and Capacities

Your Motor Home is larger than your standard van or automobile, so please be careful when entering underpasses, garages, parkades, etc.

DIMENSION

LENGTH BUMPER TO BUMPER	**19' 4"**	**590 cm**
LENGTH WITH TIRE & CARRIER	**20' 8"**	**630 cm**
HEIGHT WITH DOMETIC AC	**9' 7"**	**292 cm**
WIDTH WITHOUT SIDE MIRRORS	**7'**	**213 cm**
WIDTH WITH MIRRORS	**7' 10"**	**239 cm**
INTERIOR HEIGHT WITHOUT OPTIONS	**6' 3"**	**190 cm**
BED AREA (APPROXIMATE)	**L – 71" W – 69"**	**180 cm 175 cm**

CAPACITIES

FUEL (Diesel)	**26 gal**	**98.4 L**
FRESH WATER	**20.6 gal**	**80 L**
GREY WATER (SINKS AND SHOWER)	**15.6 gal**	**59 L**
BLACK WATER (TOILET)	**10 gal**	**37.8 L**
PROPANE(LPG)	**8.1 gal (At 80 %)**	**30.7 L (At 80 %)**
WATER HEATER	**6 gal**	**22.6 L**

NOTE: The height of your Motorhome may vary depending upon the tire pressure and optional components mounted on the roof. The width of the motor home will very with the positions of the outside mirrors. All measurements and capacities are approximate. There are many variables in the construction of the vehicle for measurements to be absolute.

TIRE/ AIR RIDE PRESSURE:
Tire pressures as recommended by MERCEDES. Tire Size LT 245/ 75 R16

FRONT TIRES: 47 PSI/ 320 kPa
REAR TIRES: 70 PSI/ 480 kPa

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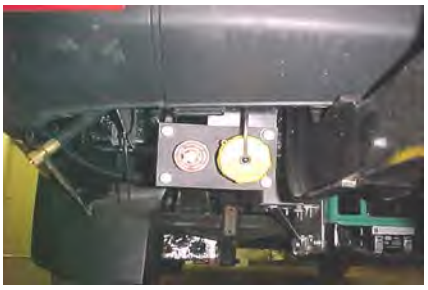
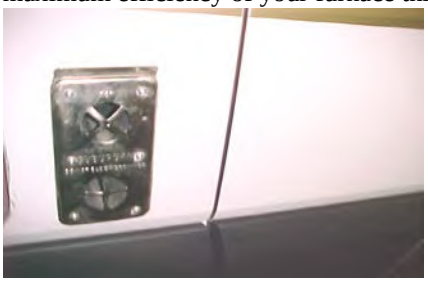
LP Tank remote Fill and Breather

Located under the driver side rear bumper of the vehicle, beside the tire carrier.
NOTE: Only fill your propane tank to 80% capacity.



Driver's Side Furnace Vent

Located on the driver's side next to the water heater this vent is the exhaust and fresh air return for your furnace. **NOTE:** For maximum efficiency of your furnace this vent should be free from obstruction.



Driver's Side Exterior Shower Compartment (Optional)

Located beside the vehicle fuel fill door, this compartment contains a retractable shower head and hot and cold water taps. **NOTE:** When winterizing your Motorhome be sure to winterize this tap and the shower hose.

Driver's Side Water Heater Vent

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

NOTE: Keep this vent clear from all obstructions.

Driver's Side Sewer Hose Compartment

Located under the driver's side running board. Access is through the sewer dump valve door, remove the white screw cap on the right hand side.

Driver's Side Sewer Dump Valves

Located in the driver's side running board door. These dump handles allow you to dump your gray and black waste tanks.
NOTE: Dump your black water first to allow your gray water to flush the black water through the hose.

Driver's Side Fridge Vents

Located center on the Driver's side panel. These vents allow for air flow for your fridge coils, which help with the cooling process of the fridge.

NOTE: Ensure that these vents are free from all obstructions.

Passenger's Side Fresh Water Holding Tank Fill

Located on the kitchen cabinet outside wall. Access this fill by opening the side exterior door.
Note: Do not over fill the tank as it could damage the cabinet panel.

Passenger's Side Exterior 110-Volt Plug

Located on the passenger's side exterior rear panel, this plug will only function if power is supplied through the generator or shore power.

Passenger's Side Exterior Porch Light

Located in the centre upper section of the passenger's side wall, this light is controlled by the switch on the kitchen end gable.

Coach & Chassis Batteries:

The coach battery is located under the hood of the vehicle, it is an Johnston Controls A9069820008/12 volt 100 AH multipurpose battery. This battery operates the Motor Home portion of your vehicle. This battery is supplied by Mercedes.

The chassis battery as supplied by Mercedes is located under the driver floorboard. See your Sprinter manual for details.

TRAVEL PREPARATION

Before You Leave

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

- the LP gas is off at the main valve
- all black and gray waste water tanks are empty and closed.
- all electrical cords and exterior hoses are stored back into their respective compartments
- chassis fluid levels are at recommended levels
- chassis tire pressure levels are at recommended levels
- chassis exterior lighting is functional
- air ride bag pressures are at recommended levels
- all exterior components are secure and closed
- the refrigerator power switch is changed to 12-Volt
  (The 12volt/ DC system is there to maintain the coolness of the refrigerator while in motion. The refrigerator should have been cooled on propane or AC electric before filling it and leaving on you trip.)
- all interior compartments and drawers are closed and locked into position
- all interior components are secure and in place
- the furnace control switch on the thermostat is off
- the TV swing-out is locked into a position
- the site is left in better condition than when you arrived.

While In Motion

It is not recommended that you use any of your appliances while in motion. **Warning: Do not use any LP gas appliances while in motion.** While you are in motion, you will have power to all 12-Volt components such as the dome lights, water pump, roof vent, 12-Volt receptacle, TV, and DVD. You will not have power to the microwave, 110-Volt receptacles, coffee maker and roof air conditioner unless your vehicle is equipped with an inverter.

Upon Arrival at Your Site

Once you arrive at a site, please ensure that:

- your motorhome is parked in a level position so that your components will be at their optimum performance (place a bubble level in the freezer shelf of the refrigerator to use as a base and level your unit according to this)
- all exterior vents are clear from obstructions
- 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)
- hook up your fresh water line to the city water pressure connection (if supplied at site)
  (It is recommended for pressurized city water that a water regulator is used.)
- turn the LP gas on
- turn the refrigerator switch power to LP gas selection or 110-Volt power (AC).
- turn the water heater on (Before turning it on, make sure the water heater is filled with water)
- connect park cable and telephone jack (if supplied)

MOTORHOME SYSTEMS

LP Gas System

Your motorhome is equipped with a Liquid Propane (LP) gas system that provides fuel to the appliances (refrigerator, cook top, water heater, furnace, and generator.)
The storage tank is located under the chassis, in between the hitch mounting plates.
The main shut-off valve is operated electronically by the switch located in the driver's outside component compartment. (ensure this switch is on before operating appliances.)
The filler valve and bleeder valve for the LP gas is located on the driver side under the rear bumper.
The LP gas regulator is located on the propane tank under the vehicle. LP gas regulators 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 LP tank gauge is located on the monitor panel at the top of the appliance cabinet.

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 should not be placed or stored inside the vehicle as 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 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 a long period of time. Therefore, before operation, be sure to open a source of ventilation.

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.

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

1. Extinguish any open flames, pilot lights 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 odour clears and you are sure there is no further risk to you or others.
6. Have the gas system checked and leakage source corrected before using again.

LP Remote Off/On Switch:
Located in the Driver Side Component compartment. This switch activates the 12 volt electric solenoid.

How to Use the LP Appliances;
Turn your red key disconnect switch to the on position. (located under the driver side bed in the RL model or in the small driver side ottoman door in the TS.)Turn your electric propane valve switch to the on position. (located in the exterior component compartment.)

Cook Top:

The vehicle is equipped with a two-burner flush mount cook top located in the kitchen counter top.
1) Lift the glass cover.
2) Turn the selected burner knob to the ignite (flame) position. This allows propane to flow to the selected burner.
3) Depress the middle ignition spark knob until the burner ignites.
4) Turn the burner knob to adjust the flame to the appropriate heat setting.
5) When you have finished using the cook top, turn the burner knob to the off position allow the burner to cool before closing the cook top cover.

Please consult the stovetop owner's manual for complete operating and cleaning instructions.

Furnace:
Your vehicle is equipped with a 16000 BTU Suburban LP gas Auto Ignition Furnace. The furnace is located below the below the refrigerator.
1) Turn the furnace thermostat to the on position by using the top switch.
2) Using the lower temperature selection switch temperature selector up to the desired setting.

Refrigerator:

Your vehicle is equipped with a Dometic three way fridge (LP gas, AC & DC).

1) Press the mode button till the word GAS appears . Press the thermometer button to the desired coolness (This may vary slightly with each fridge and weather conditions.) The fridge will go through the auto ignition process to ignite propane.

3) The DC or Battery symbol is used when the vehicle is in motion. You will have to manually select this mode, your fridge will not automatically go to this mode. The DC mode will maintain your fridge while driving, but should not be used for dry camping or initial cooling of the refrigerator.

4) The AC or Cord symbol is recommended when the vehicle is operating off of a 120 volt power source.

Note: For the best cooling results your vehicle should be level and the and the exterior refrigerator vents free from obstructions.

Water Heater:

Your vehicle is equipped with a 6 gallon LP Suburban gas Auto Ignition Water Heater. The water heater is located in the cabinet below the refrigerator.

1) Check your by-pass valve located in the cabinet door under the refrigerator. The valves at the top (red line)and bottom (blue line)of the water heater should be open. The valve between the top and bottom valve should be closed. The valves are open if the handle lines up with the water line, and are closed when making a T with the water line.

SUMMER USEABLE

WINTER NOT USABLE

2) Ensure the water heater is full of water. To check this open the water heater vent on the exterior of the coach and lift the pressure relief valve, water should flow out of the spigot.

3) Fill your water heater by running your water pump or hooking a pressurized source onto the city water hook up. You will have to open a hot water tap in the vehicle to allow the air from the hot water tank to escape while the tank fills with water (this can also be done by opening the pressure release valve on the water heater until water flows out of the spigot).

4) Once the water heater is full turn the water heater switch located above the microwave to the on position.

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.

Fresh Water System

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 faucets and the water heater. An automatic pressure switch located in the water pump maintains a positive line pressure between 20 to 30 p.s.i. The fresh and gray water tanks are located underneath the floor. The black water tank is located above the floor under the toilet and shower pan.

Filling the Fresh Water Tank

1) Open the passenger potable water compartment.
2) Remove the large white cap.
3) Insert a garden hose into the fill opening.
4) Turn the water source on to a medium flow rate, a high pressure flow will cause water to out of the fill opening.
5) Monitor the fill level using the FRESH button on the monitor panel located above the microwave. Do not over fill this tank. You may also see water coming out through the fill tube or air vent screen this also indicates the tank is full.
6) If you feel you have over filled your fresh water tank drain some of the water off by using the drain spigot located on the tank, under the passenger side running board. (See photo page 10 for approximate location.)

NOTE: If you notice water running out from underneath the van when filling the tank, there is a drain spigot on the fresh water tank to ensure it is closed.

City Water Connection

The city water connection is located in the driver's side component compartment. The city water connection is a convenience for you when you have access to an outside water source. 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 component compartment
2) Remove the plastic insert from the city water connection.
3) Attach a garden hose to the connection, ensure the fitting is tight
4) Turn the water source on to a medium pressure.
5) Check for leaks at the city water connection. (you may have to tighten this connection)

NOTE: In different areas the water pressure may vary. It is advisable to use a water pressure regulator because excessive pressure may result in water-line damage. 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. 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 (if you do not open a faucet to relieve some of the pressure, when you unhook the water line, water may spray out), then unhook the water line.

Water Pump

The Sure Flo water pump is located in the floor cabinet below the cooktop, The filter and the inlet connection are visible on the right hand side of the box.
Activate the water pump using the switch at the bottom of the monitor panel above your microwave.

Trouble Shooting:

If the pump will not prime, please check:
- to make sure there is water in the holding tank
- to make sure that the battery is not run down
- for kinks in the inlet water line
- for leaks at inlet fittings (if air is leaking into inlet fittings, tighten fittings or apply clamps as necessary)
- for clogged lines
- the inline flow filter, located beside your water pump.

If the water pressure drops:
- make sure faucet aerators are clean
- check to make sure there is water in the holding tank
- check to make sure the battery is not run down
- check faucets and connections for leaks.

If the pump runs when there is no apparent demand for water:
- make sure there is water in the holding tank
- check all faucets and fixtures to make sure they are all shut off and not leaking
- check line for leaks.

Toilet

Please refer to the manufacturer's operating instructions.

Toilet Trouble Shooting:
1. Water keeps running in the bowl:
- check to see if all the levers are turned all the way back. Sticking may be caused by foreign material on the waste valve blade seal at the bottom of the bowl. If the problem persists, you may need to replace the water valve.

2. The Toilet leaks, there is water on the floor:
- if the leak is in 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 for tightness.

3. Poor flush pressure:
- the levers must be held fully open during the flush. A good 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 litres/2.5 gallons per minute to ensure an adequate flush.

Shower

To protect the surface of your ABS plastic shower pan, it is recommended that a rubber shower mat be placed in the shower pan. Use a non-abrasive cleaner to clean your shower compartment. **NOTE:** Do not use highly concentrated or high acid content household cleaners, as these may damage the shower compartment.

1) Remove the shower pan floor carpet.
2) Velcro the side window removable shower curtain into place.
3) Slide the shower curtain across the door opening.
4) Adjust the water temperature to the desired level.
5) Lift the center flow lever between the taps.

It is recommended that the fantastic fan is run while shower is in use to remove humidity.
It is recommended that the bathroom be wiped down after the shower has been used. This will help prevent mildew and other residues from forming on shower walls.

Waste System

The Ascent is equipped with two waste tanks.
1) Black water tank located above the floor of the van directly under the toilet. Only the toilet water and solid waste enter this tank. This tank is approximately 10 gallons or 39 liters.
2) Gray water tank located under the driver side of the vehicle. This tank handles waste water from the sinks and the shower. This tank is approximately 15.6 gallons or 60 liters.

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

Draining Waste Holding Tanks

1) Open the dump valve door located on the driver side running board.
2) Remove the white cap located on the right hand side of the opening.
3) Remove the sewer hose from behind the white cap.

4) Press in the black and gray dump valve handles to ensure the valves are closed.
5) Remove the black termination cap.
6) Connect the sewer hose to the drain outlet, and put the opposite end into an appropriate sewer dump outlet.

7) Open the termination valve on the solid waste holding tank. Black handle. Once this tank is empty, then open the valve for the gray waste tank Gray handle. A garden hose may be left running into the toilet with the valve open to further rinse the tank and sewer hose.
8) Close the termination valves and replace the cap and store your sewer hose back in the canister.

Deodorize the empty tank by adding one gallon of water and commercial holding tank deodorizer through the tank.

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

NOTE: If the gray water tank is allowed to overfill, the overflow may back up through the shower drain.

If you are using a sewer hook up 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.

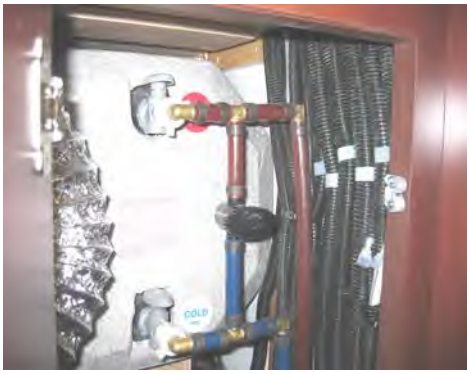
NOTE: It is important to clean your monitor probes in your holding tank to ensure their reliability. See your RV dealer for suggested cleaning solutions.

Winterizing

1) Drain your fresh water tank. The fresh water tank is located under the passenger side running board (see page 10 for approximate location). Open the drain spigot by turning the top lever and let the water drain (There may be a small amount of water left in the tank after it is drained.).

2) Drain your hot water tank. This is done by removing the Anode rod at the bottom of the water heater tank on the outside of the vehicle. The Anode rod is a 1 1/16" nut. Loosely reinstall the anode rod after the water heater is drained, this will prevent dust and insects from entering the heater while in storage.

SUMMER



WINTER

3) Turn the water heater bypass valves located in the cabinet below the refrigerator inside of the vehicle to the winter position . The valve handle at the top of water heater on the red line should be closed, the valve at the bottom of the water heater on the blue line should be closed. The valve in between where the red and blue lines connect should be open. (The valves are closed when the handle of the valve makes a T with the water line.)

4) Remove the water line from the inlet side of the water pump. (This is the clear plastic line going into the filter.) Connect a siphon hose to the inlet side of the water pump place the other end in a container RV Non toxic antifreeze. Turn on your water pump.

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

5) Open the kitchen and bathroom faucets one at a time allowing the antifreeze to flow through both the hot and the cold sides. Be sure to also open the toilet valve and exterior shower faucet. Turn off the water pump and disconnect the siphon hose, reattach the original fitting.
6) Pour ½ cup of anti freeze down each drain (Kitchen sink, bathroom sink and shower drain.)
7) Fully charge your auxiliary and turn off and remove the red key disconnect. The Red Key Disconnect is located under the Driver Side seat below the TV.

8) Turn you thermostat to the off position using the mode button.
9) Turn your propane tank off.
10) Place your fridge door in a slightly ajar position.

It is recommended that you start and run your vehicle and generator once a month during the winter season.

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 more than the recommended amount and may start to freeze earlier at cold temperatures.

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. A 12-Volt auxiliary battery supplies power to the interior components (except AC current plug receptacles, roof air conditioner, microwave, fridge on A and coffee maker) for short-term use. This battery is automatically charged when the motorhome is running or when you are plugged into a 110 volt power source with the disconnect switch in the on position.
For long term use, your vehicle may be powered by plugging into a 110-Volt external power source with the supplied 25-foot power cable. The yellow 25-foot power cable supplied with your coach will have to be connected to your coach and then to a 110 volt power source (30 amp outlet is recommended). This will supply 110-Volt power throughout the interior and supply power through a power converter to all 12-Volt components.

NOTE: Always connect the power cord to your coach first and then the external power source.

Your unit is equipped with a 110/12-Volt power converter. Its function is to take part of the 110-Volt current that is received when the unit is plugged into an external power source and change it to 12-Volts (which powers most of the motorhome components). It also provides 110-Volt power to the components that only require 110-Volts.

NOTE: The 12-Volt or DC power on your fridge should only be used while in motion or running the vehicle engine.

12 volt or DC Equipment	110 volt 0r AC Equipment
TV when plugged into the Inverter	TV when plugged into the AC receptacle
Refrigerator when on DC or LP gas	Refrigerator on AC
Interior & Exterior Coach Lights	Microwave
DVD Player, Antenna Booster and Amplifier	Air Conditioner
Water Pump	110 volt Plugs
Water Heater	Coffee Maker (if equipped)
LP gas & CO Alarms	
Generator Start Switch	
Furnace	
Power Sofa (if equipped)	
LP Tank Switch/solenoid	

Electrical Distribution Panel

The Ascent is equipped with a Iota distribution panel that houses the breakers for the 110 volt system and the blade fuses for the 12 volt system. The distribution panel is located in the center of the main bench face in the TS.
Flip open the door on the right hand side this will give you access to 12 volt DC fuses and 110 volt breakers .

12-Volt Manual Reset Breakers and Converter Output Fuses

Your motorhome has two manual re-setting breakers. If you have the optional electric rear sofa, you will have FOUR manual resetting breakers. Access to these breakers is through a compartment door found on the driver ottoman in the TS. These breakers have a 40, 30 and 15-amp capacity. The 40-amp breaker controls the power converter ,40 amp breaker controls the generator and the 15-amp breaker controls the refrigerator when it's running on 12-Volts. If you have the electric sofa option, you will have an additional 30-amp breaker. This breaker controls the power to your electric sofa.

If you are experiencing any difficulties with either your power converter, refrigerator or optional electric sofa when on 12-Volt, check these breakers first to see that they are not tripped. There is a small re-set button is located on the end of the breaker. Simply push it in if it is tripped.

There are two 30-amp converter output fuses. The converter is located under the power sofa on the Driver side in the TS. These fuses will blow if the auxiliary battery is cross wired. White is the ground for the RV industry.

12-Volt Battery Disconnect Switch

There is a red key, 12-Volt disconnect switch located on the driver's side of the coach, in the door located on the driver's ottoman, facing the rear of sofa in the TS or under the driver side cushion in the RL (same compartment as the manual reset breakers). When the key is in the "ON" position it will be locked in place. When the key is in the "OFF" position it can be easily removed, which will stop all 12-Volt power supplied to your coach. **Note This disconnect will have to be on to charge your battery from the converter in this vehicle. If your vehicle is going to be parked for longer than a 48 hr period turn this switch to the off position as the detectors and other appliances have a drain on the battery.**

Auxiliary Battery

The auxiliary battery (coach battery) is located under the hood of the vehicle. The coach battery is located under the hood of the vehicle, it is an Johnston Controls A9069820008/12 volt 100 AH multipurpose battery. This battery operates the Motor Home portion of your vehicle. This battery is supplied by Mercedes.

The chassis battery and auxiliary battery are two separate systems.
Both batteries are charged from the alternator, but only the auxiliary battery is charged from the converter.
The Chassis battery powers all chassis related items such as the map light between the driver and passenger seat, all dash features, driving lights, power mirrors, locks and windows.
The auxiliary battery powers all living area lighting, DC appliances and air ride compressor.

The chassis battery as supplied by Mercedes is located under the driver floorboard. See your Sprinter manual for details.

Battery Care

Your auxiliary battery must be regularly cleaned and maintained at least once a month in order to provide a reliable and constant power source to your Motorhome. To ensure satisfactory battery performance, battery terminal cleanliness is essential. **NOTE:** Please see the DODGE manufacturer's instructions for detailed maintenance recommendations.
Warning: Batteries give off explosive gases that can cause severe personal injury. Do not smoke in or around the battery and keep open flames and other sources of ignition well away from the battery**. Remember, batteries can and do, EXPLODE! Be very careful.** Battery electrolytes can cause severe eye damage and skin burns. Always wear protective equipment (goggles, rubber gloves, a protective apron, etc.) when working with batteries.

External Power

A 25- foot, 30-amp power cord. In order to activate all power circuits, connect the yellow power cord to your coach in the driver's side component compartment and to an adequate 110-Volt power source. The connector is rated for 30-amp capacity. **NOTE:** The male end of the power cord is a 30-amp plug, therefore you may require an adapter to convert the plug into the 110-Volt style. Most RV parks are equipped with 30-amp plug-ins. Remember to always attach the power cord to your coach first, and then to the power source.

Monitor Panel Area

There is a monitor panel located above the microwave. In this panel is the water heater control switch, generator control switch (optional) and the water pump control switch which also monitors the black water, gray water, fresh water, LP gas and battery levels.

Generator

If your unit is equipped with a generator, it will be located under the vehicle in front of the LP tank. Access to the generator is from underneath the chassis. There is no access through the interior as to prevent exhaust gases from seeping into the living compartment. The generator will provide an added source of power to run the electrical system when you are not plugged into a 110-Volt power source.
Starting the Generator:
1) Turn on the red key disconnect switch.
2) Turn on the LP gas electrical switch in the exterior component compartment area.
3) Press the start switch in the monitor panel area.
NOTE: It may take a few seconds initially for the generator to start. Your generator draws its gas supply from your LP gas tank. Once the generator is running, it supplies power to the entire electrical system, just as if your unit were plugged into a 110-Volt power source. You will have to balance your electrical consumption as you have a limited number of watts/ amps available.

Please refer to the manufacturer's operating manual for complete operating instructions and maintenance procedures.

NOTE: If your unit is equipped with a generator, it is essential that you run your generator at least ½ hour a month under load (microwave, AC, coffee maker, etc.) to keep the generator fuel from damaging the carburetor.

NOTE: For your safety and protection, all generator or generator-ready units are equipped with an automatic transfer switch that will allow your coach to receive power from either shore power or your generator.

MOTORHOME INTERIOR

Interior Cockpit Map Light

Please follow the vehicle manufactures instructions for operating procedures.

Refrigerator - Dometic

Your Dometic refrigerator is designed for 3-way operation, using 12-Volt DC, 110-Volt AC and LP gas power. When the refrigerator is switched to AC or DC, the ammonia/water mixture is heated by a heating element instead of a burner.

When your motorhome is stationary, it should be leveled for your refrigerator to provide the proper cooling. A bubble level should be placed on the freezer shelf to check the refrigerator for levelness. If the refrigerator is not level you may have improper cooling.

For LP gas operation, turn the selector switch to gas and follow the instructions on the fridge for lighting. Turn the fridge thermostat to the highest temperature that will still provide adequate refrigeration. For 110-Volt AC operation, make sure the power cord is connected and switch the selector switch to AC power. For the 12-Volt DC operation setting, power is provided by the auxiliary battery. However, the 12-Volt power should not be used when stationary in order to prevent battery drainage. **NOTE:** The refrigerator should be turned to 12-Volt when the vehicle will be in motion and the LP gas must be turned off.

NOTE: The DC or 12-Volt setting is for transportation purposes only. It is recommended that if you are going to be stopped for more than a short period of time, you should switch your refrigerator to propane or an AC setting and plug into a 110-Volt supply. Your refrigerator will not automatically switch to the DC system you must manually switch the fridge to DC.

NOTE: Please refer to the Dometic operating manual for complete operating instructions and maintenance procedures.

NOTE: For operating instructions for the remainder of your appliances, please see each respective manufacturers' operating manuals.

Microwave- Dometic

Your Dometic microwave operates of 110 volt AC power only. To use your microwave you must be plugged into shore power or have the generator running. (the microwave cannot be used at the same time as the roof AC unit when operating on the generator)

NOTE: Please refer to the manufactures operating instructions for maintenance, operation and cooking

TV and DVD (Optional)

If your motor home is equipped with TV and DVD components, you will find these located in the rear entertainment center. These two components are powered by a 12-Volt power source. The TV and DVD are powered by a 12 volt inverter located in the cabinet above the TV..

NOTE: Your DVD is a player only; it will not record. To play a CD theTV must be in the on position.

NOTE: Ensure the TV swing arm is locked into the stow position hen the vehicle is in motion.

Basic Operating Procedure

For addition TV, DVD, Antenna, or Inverter information please refer to the appliance owner manuals.

A) COMPONENTS:

1) 22" LED TV
2) Blu-Ray DVD player
3) Inverter
4) Antenna with booster

B) BASIC TV OPERATION:

TV antenna (rotate the TV antenna for best reception) or hook up to park cable.

12 Volt Operation:

1) Turn the inverter located in the cabinet directly above or beside the TV to the on position. (Switch is located beside the fan on the back of the inverter opposite end as the plug outlet). Ensure the TV and DVD player are plugged into the inverter and the inverter is turned on.

2) Turn the antenna booster on by pressing the black button just above the inverter on the white wall plate. (green light indicates booster on) Turn the antenna booster on in the rear upper cabinet on the antenna base.
3) Turn the TV on and select DTV-TV using the input button on your TV or remote.
4) Using the menu button select - TV, select -Channels, select - Scan Channel. This will 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 booster off on you TV antenna follow step (4) for auto programing.
6) For DVD operation turn on the DVD player. Using the source button on you TV or TV remote select HDMI 1. Insert a DVD or Blu-Ray Disc allow the Disc to load and press play.

- To save power while watching TV ensure the DVD player is switched off. Only turn your DVD player on when in use.

For 120 volt Operation
(Generator or Shore Power):

Plug the TV and DVD player into the outlet located above the inverter. Switch the inverter off (Switch is located beside the fan on the back of the inverter opposite end as the plug outlet).. Use the same programing procedures as the 12 volt operation.

A) 400 watt inverter

B) Antenna booster

E) AC Power Source

Antenna Booster

A) Green indicator light

B) Booster Off/On switch.

C) 12 volt power source 3 amp

Inverter

On/Off switch

TV AC power cord

Vizio 22” LED TV

Full Digital TV
Soft Touch Buttons:
Source
Menu
Channel Up/Down
Volume Up/Down

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TS Bed Assembly

Using the sofa switches beside the Thermostat on the driver side, lay the sofa down to a flat position. Place the bed support board located behind the driver front seat on the maple support rails between the two ottoman benches. Place the ottoman back rest cushions on the bed board between the ottoman seat cushions.

ASCENT FEATURES:

Dometic 3-way Refrigerator	X
Dometic .7 cu.ft. Microwave	X
2 Burner Flush Mount Cook Top with Glass Cover	X
Suburban 16,000 BTU Auto Ignition Furnace	X
Suburban 6 gal Auto Ignition Water Heater	X
Sure-Flo Demand Water System	X
Thetford Flush Toilet	X
Self Contained Bathroom with Shower & Sink	X
C.O. Detector	X
LP Gas detector	X
Smoke Detector	X
Fire Extinguisher	X
Fantastic Fan Roof Vent	X
Coach Battery	X
Battery Disconnect Switch	X
45 amp Power Converter with Distribution Panel	X
Monitor Panel System (Black, Gray, Fresh water, LP Gas & Battery)	X
Fresh Water Fill	X
Fresh Water Tank (80 L or 20.6 U.S. Gal)	X
Grey Water Tank (59 L or 15.6 U.S. Gal)	X
Black Water Tank (37.9 L or 10 U.S. Gal)	X
Generator Ready (switch, wire for connections & mount brackets)	X
Exterior Shower	X
*Rear Bed Area (69” X 71”)	X
*Power Sofa	X
Awning Style Windows	X
Large Round Table	X
Porch Light	X
Cable TV Hook Up	X
TV Antenna	X
Water Heater By-Pass	X
Fiberglass Running Boards	X
Counter Top Flip Up	X
Exterior Plug	X
Sherwood Decorative Dash	X
Remote Propane Shut Off	X

NOTE: Pleasure-Way Ind. Ltd. reserves the right to make product changes at any time with out prior notice or obligation.

- The bed area measurements may vary, due to components inside the vehicle.

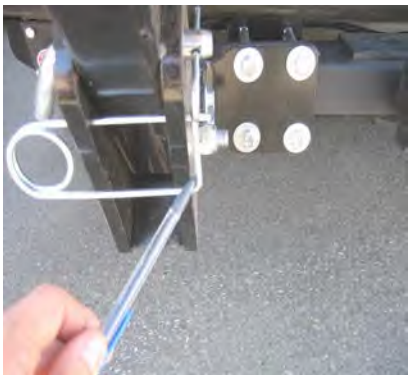
Ascent Tire Carrier

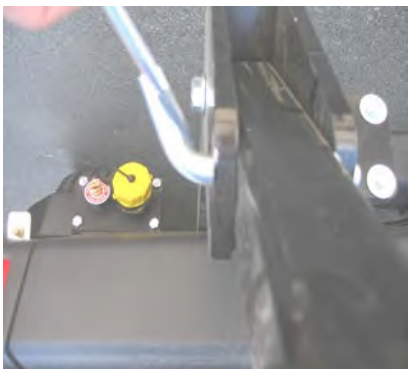
1) **Remove the Chrome Continental ring by releasing the key clip at the bottom of the ring and spreading it to come off the tire.**

2) **Remove the plastic tire cover by pulling up from the bottom. Unplug the license light by disconnecting the plugs.**

3) **Release the 15/16” safety bolt on the carrier arm locking pin. You will find a 15/16” wrench in the tool pouch under the passenger front floor board.**

4) **Release and remove the safety pin, the locking clip and the carrier locking pin from the tire arm.**





5) **Lower the tire to the horizontal position. Use the 15/16” wrench to release the tire from the carrier arm.**

(Caution: Tire and carrier arm is heavy use assistance if possible.)

6) **Refer to your Dodge Sprinter Manual for jacking and tire replacement instructions.**

7) **Reverse the procedure to put the tire back into carried position.**

Caution: The tire and carrier arm is heavy use assistance if possible for lifting and replacing the locking pin into position.

Check list:

1) **Continental cover is locked into place**
2) **License plate light is plugged in and working**
3) **Carrier arm locking bolt is tightened to locking pin**
4) **Safety pin and locking clip have been reinstalled**
5) **All tools, jack, wheel wrench, 15/16” wrench are stored in the passenger front floor board area.**

***Note: Repair or replace the damaged tire**

TIRE SAFETY

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. Underinflated 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 underinflation 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

- Step 1: Locate the recommended tire pressure on the vehicle's tire information placard, certification label, or in the owner's manual.
- Step 2: Record the tire pressure of all tires.
- Step 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.
- Step 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.
- Step 5: At a service station, add the missing pounds of air pressure to each tire that is underinflated.
- Step 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 underinflated, 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 underinflated 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 underinflated 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 treadwear 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

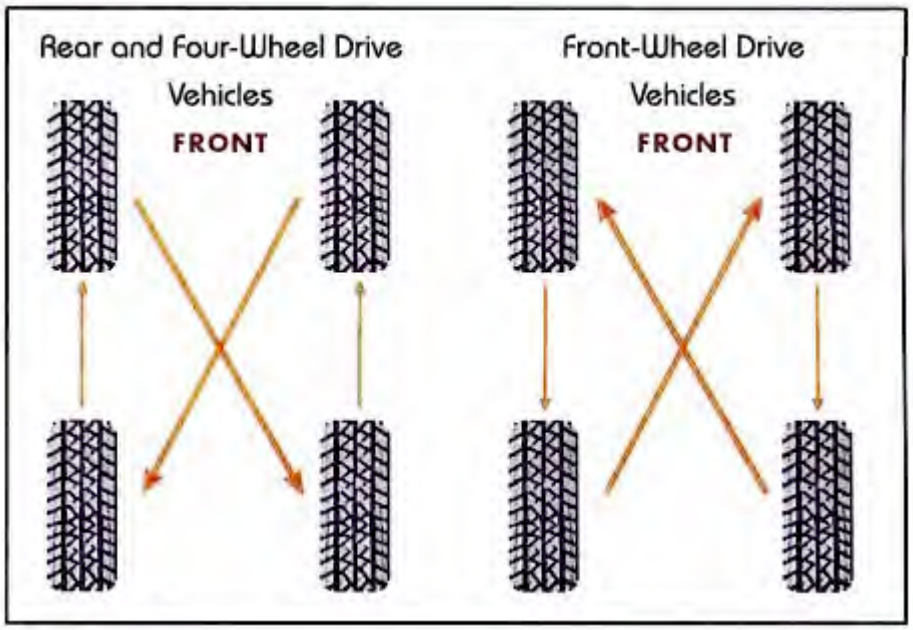
To avoid vibration or shaking of the vehicle when a tire rotates, the tire must be properly balanced. This balance is achieved by positioning weights on the wheel to counterbalance heavy spots on the wheel-and-tire assembly. A wheel alignment adjusts the angles of the wheels so that they are positioned 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.

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.

A Tire Rotation Example

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



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.

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".

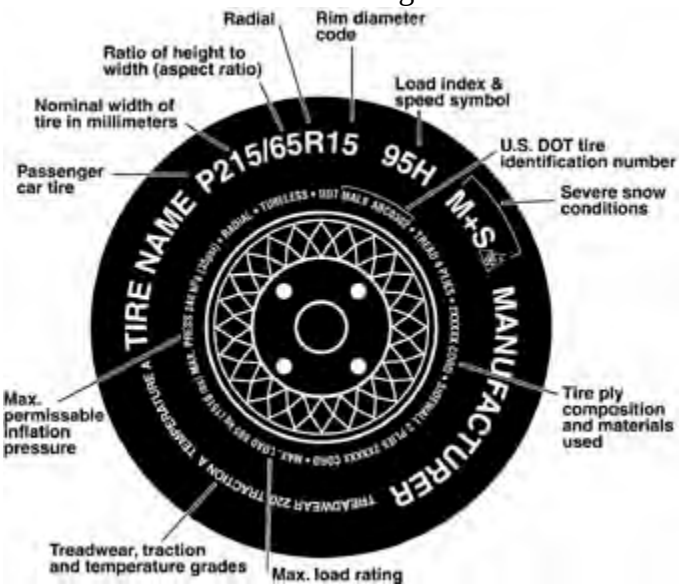
Temperature grades are an indication of a tire's resistance to heat. Sustained high temperature (for example, driving long distances in hot weather), can cause a tire to deteriorate, leading to blowouts and tread separation. From highest to lowest, a tire's resistance to heat is graded as "A", "B", or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

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.

Information on Passenger Vehicle Tires

Please refer to the diagram below.



d

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
T	118 mph
U	124 mph
H	130 mph
V	149 mph
W	168* mph
Y	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.

Maximum Permissible Inflation Pressure

This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

UTQGS Information

Treadwear Number

This number indicates the tire's wear rate. The higher the treadwear number is, the longer it should take for the tread to wear down. For example, a tire graded 400 should last twice as long as a tire graded 200.

Traction Letter

This letter indicates 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 Letter

This letter indicates a tire's resistance to heat. The temperature grade is for a tire that is inflated properly and not overloaded. Excessive speed, underinflation or excessive loading, either separately or in combination, can cause heat build-up and possible tire failure. From highest to lowest, a tire's resistance to heat is graded as "A", "B", or "C".

Additional Information on Light Truck Tires

Please refer to diagram below.

d

Tires for light trucks have other markings besides those found on the sidewalls of passenger tires.

LT
The "LT" indicates the tire is for light trucks.

Max. Load Dual kg(lbs) at kPa(psi) Cold
This information indicates the maximum load and tire pressure when the tire is used as a dual, that is, when four tires are put on each rear axle (a total of six or more tires on the vehicle).

Max. Load Single kg(lbs) at kPa(psi) Cold
This information indicates the maximum load and tire pressure when the tire is used as a single.

Load Range
This information identifies the tire's load-carrying capabilities and its inflation limits.

Snow Tires
In some heavy snow areas, local governments may require true snow tires, those with very deeply cut tread. These tires should only be used in pairs or placed on all four wheels. Make sure you purchase snow tires that are the same size and construction type as the other tires on your vehicle.