

Pleasure-Way



Owners Manual



EXCEL



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.



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.



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. 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 Ford Excel including operation, maintenance and warranties. **We strongly advise you to take time to read this manual, the Ford chassis owners 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!

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PLEASURE-WAY INDUSTRIES LTD. WARRANTIES & POLICIES

CUSTOMER RESPONSIBILITY:

It is important you read and understand the information in this manual before using your RV.

Familiarize yourself with the applicable warranties. You are responsible for ensuring the procedures for obtaining warranty repair are followed properly. It is your responsibility and obligation to return your RV to your dealership for warranty service repair.

As the owner of the RV, you are responsible for regular and proper maintenance performed in accordance with this manual and the OEM manuals. Regular and proper maintenance will help prevent conditions arising from neglect that are not covered by warranty.

PLEASURE-WAY WARRANTY

Pleasure-Way Industries Ltd. warrants the specified new Motorhome free from defects in material and craftsmanship, on the sections manufactured by Pleasure-Way Industries Ltd. under normal use and service. Pleasure-Way Industries Ltd.'s obligation under this warranty shall be limited to 36 months / 36,000 miles / 60,000 kilometers (which ever comes first) after the date of purchase by the original retail purchaser from an Authorized Pleasure-Way Dealer and shall be limited to making good, at our factory, any part or parts thereof upon return to the factory.

The conditions of this warranty shall not and will not apply to the following:

1. If the Motorhome has been altered outside our factory in any way so as, in our sole opinion, to affect its stability or reliability.
2. If the Motorhome, in our sole opinion, has been subject to misuse, negligence, or accident.
3. Tires, refrigerator, stove, furnace, roof air conditioner, chassis, power train, and any other components, which is under a separate warranty from the manufacturer, and service can be obtained from their facilities in North America.
4. Unauthorized repairs, alterations or modifications;
5. Routine maintenance;
6. Failure of the coach and / or chassis resulting in incidental damages such as loss of use of Motorhome, inconvenience, cost of rental vehicle, and / or cost of accommodations, travel expenses & meals, and other miscellaneous incidental expenses.
7. Damages resulting by: hail, tornadoes, lightning, floods, earthquakes, plow winds, fire, rain & environmental conditions which include tree sap, tar, chemicals, oils, salts, and / or Acts of God.
8. Accident

The conditions of this warranty shall not and will not apply to degeneration due to wear and exposure after these limitations:

1. For one year from the original retail purchase date or 12,000 miles or 20,000 kilometers (which ever comes first), by the original retail purchaser from an Authorized Pleasure-Way Dealer:
 - a) All seat, curtain, door panel and wall fabrics used in the coach;
 - b) Exterior fibreglass surfaces and exterior painted surfaces;
 - c) Window seals;
 - d) Exterior power cable hatch, city water fill hatch, porch light, & cable TV outlet;
 - e) Carpet.
 - f) Black and gray water termination valves;
 - g) Exterior Decals and graphics
2. For 90-days from date of the original retail purchase by the original retail purchaser from an Authorized Pleasure-Way Dealer:
 - a) Window screens
 - b) Fresh water tank drain tap; and
 - c) Exterior door catches, cam locks, thumb latches & hinges.

The 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 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.'S WARRANTY POLICIES

1. Warranty repairs, within the three year or 36,000 miles / 60,000 kilometers (whichever comes first) limited warranty.
2. The Pleasure-Way Customer Care Delivery Form 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.
3. Pleasure-Way Industries Ltd. will not reimburse any claims for any work done on any components or appliances that are covered under their respected manufacturers' warranties. These warranties must be claimed through the manufacturer of the appliance or component. Examples: refrigerator, microwave, roof air conditioner, water pump, toilet, stove, TV package components, etc.
4. All warranty work that is required to be performed on the chassis must be taken to an authorized Ford dealership 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 Ford warranty repairs. Pleasure-Way Industries Ltd. will not reimburse any costs in the removal and reinstallation of these components if it is:
 - a) Out of the warranty period
 - b) Non-warranty repairs
 - c) Routine maintenance

SAFETY

For your safety 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. This device should be tested after each time your vehicle has been in storage, before each use, and at least once each week during your vehicle use. Do not block air circulation in the area where the smoke detector is located. 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 and located at the side door main entrance for ease of accessibility from the interior or exterior. Warning: This fire extinguisher is a type "ABC", which will extinguish flammable liquids, electrical fires, and trash, wood and paper fires. You should inspect the extinguisher at least once a month according to the manufacturer's instructions.

LP GAS DETECTOR/CARBON MONOXIDE SENSOR

A combination liquid propane (LP) gas detector and carbon monoxide sensor is provided near the floor level at the rear of the motorhome interior. This detector will operate to detect liquid propane gasses, as well as other gasses that are heavier than air. 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. This detector should be tested every week or every time before a trip, whichever occurs first. Do not block air circulation in the area where the LP gas detector is located. The test procedure should be performed in accordance to the manufacturer's instructions.

Note: The LP Gas Detector/Carbon Monoxide Sensor will sound to indicate a low coach battery charge.

GFCI OUTLET

A ground fault circuit interrupter (GFCI) 110 volt receptacle located just below the kitchen galley countertop 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, the galley receptacle, the two rear receptacles and the fridge receptacle. These receptacles are to be tested at least once a month in accordance with the manufacturer's instructions.

REFUELING

When you are refueling your gasoline tank or your propane system, 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, the propane tank valve must be closed, all pilot lights, appliances, along with their igniters must be turned off during refueling of motor fuel and / or the propane fuel tank. Only qualified personnel should refuel your propane tank. Do not refuel the propane tank to more than 80% of its capacity. To reduce the danger of fire and or explosion, do not store gasoline or other flammable liquids inside your vehicle.

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.

SEAT BELTS

Only forward-facing 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.

Rear seat belts are only available in the Ford Excel TS and TS-2 models. Rear seat belts are not available in the Ford Excel TD model.

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 owners / operating manuals prior to using the appliances.

TV FLAT SCREEN

When the vehicle is in motion, it is necessary to have the flat screen television cabinet in the locked travel position to prevent damage to the flat screen and to other components. The locking mechanism is located directly behind the flat screen TV.

GENERATOR

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.

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.

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 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.

MAINTENANCE SCHEDULE

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 catch any components that need attention while you are prepared for them, allowing you to have many years and miles of trouble-free travelling.

NOTE: Please refer to your Ford Owners manual for chassis mechanical maintenance.

HELPFUL HINTS

1. To maintain your fibreglass roof and other fibreglass components we suggest that you wax these pieces annually, with an automobile wax, as these are painted components.
2. When storing your Pleasure-Way Motorhome, you should try to park in a level spot and avoid having to park down hill. If parked in a down hill position with the front end lower than the back end, moisture (rain, snow, etc.) may collect in the recessed portion of the roof. This may cause water to leak through the roof air conditioner. Damage to the motorhome as a result of this is not covered under warranty.
3. When storing your Pleasure-Way Motorhome, please ensure that all the holding tanks are empty and flushed, all LP gas valves have been turned off, all electrical components are switched off, and the red key kill switch is in the off position.
4. To maintain your monitor probe system it is recommended that after the tanks have been flushed and cleaned, a probe cleaner (which can be purchased from your local RV dealer) should be added to your tanks. Please follow the manufacturer's recommendations.

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.

DIMENSIONS (APPROXIMATE)

Length Bumper to Bumper	20' 4"	620 cm
Height with Roof Air Conditioner	9' 0"	274.32 cm
Width Without Side Mirrors	7' 3"	221 cm
Width With Mirrors	7' 11"	241 cm
Bed Area TS & TD (Approximate)	L - 74" W - 81"	188 cm 206 cm

CAPACITIES (APPROXIMATE)

Fuel	35 US gal	132 L
Fresh Water	24 US gal	91 L
Grey Water (Sinks and Shower)	26 US gal	97 L
Black Water (Toilet)	12 gal	45 L
Propane (LPG)	8.1 gal (At 80%)	31 L (At 80%)
Water Heater	6 gal	23L

NOTE: The height of your Motorhome may vary depending upon the tire pressure, air ride pressure and optional components mounted on the roof. The width of the motor home will vary 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:

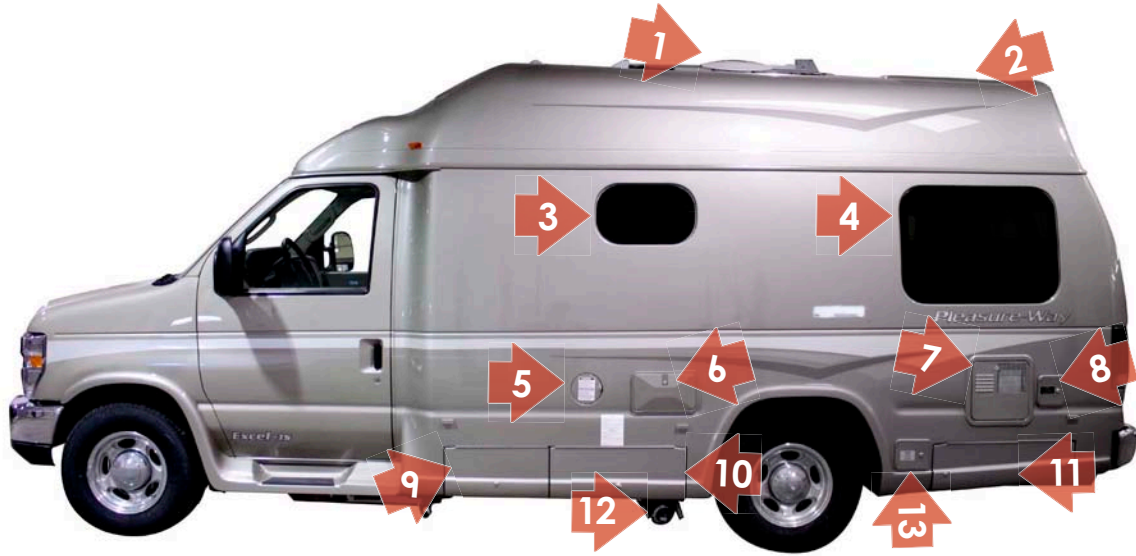
Tire pressures as recommended by Ford Motor Company. Tire Size LT 245 / 75 R16E

FRONT TIRES: 60 PSI / 413 kPa

REAR TIRES: 80 PSI / 550 kPa

REAR AIR RIDES: 50 PSI this is a recommended setting for general use.

The Air rides are used to assist the springs and shocks of the vehicle. Your inflation rates will vary depending on the loading of the vehicle. It is recommended that you inflate the air rides to a pressure that keeps the vehicle ride level.



- | | | |
|----------------------------|----------------------|--|
| 1. TV Antenna | 6. Outside Shower | 10. Component Compartment |
| 2. Rooftop Air Conditioner | 7. Water Heater | 11. Storage |
| 3. Bathroom Window | 8. Fresh Water Fill | 12. Sewer Dump/Black and Grey Dump Handles |
| 4. Rear Living Window | 9. Storage/Generator | 13. Sewer Hose Compartment |
| 5. Fuel Fill | | |



- | | |
|---------------------------------|------------------|
| 1. Awning | 4. Porch Light |
| 2. Storage | 5. Fridge Vents |
| 3. Coach Battery Slide out Tray | 6. Furnace Vent |
| | 7. Exterior Plug |

AIR RIDE FILL VALVES

(These will only be used if your vehicle is not equipped with the on board air ride compressor and gage). Manual fill valves for the rear air ride suspension are located under the rear bumper of the vehicle. These valves can be filled and tested with a tire gauge and chuck. The rear air bags should maintain 50 psi.



PASSENGER'S SIDE FURNACE VENT

Located on the passenger side above the rear wheel well. 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. Caution this surface may be hot when furnace is running.



DRIVER'S SIDE EXTERIOR SHOWER COMPARTMENT

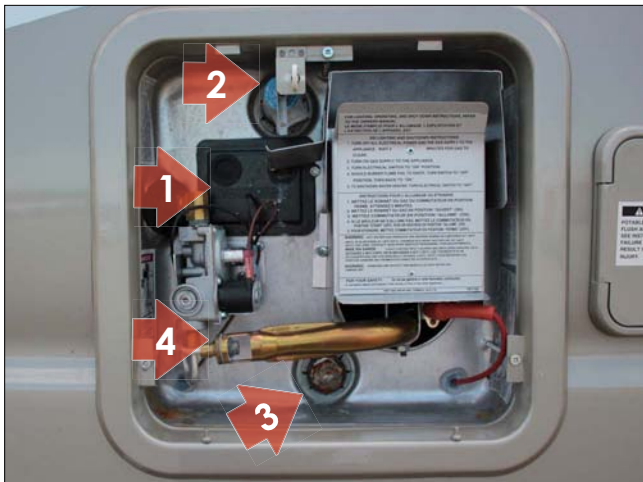
Located beside the vehicle fuel fill door on the driver's side, this compartment contains a retractable showerhead with hot and cold-water taps. NOTE: When winterizing your Motorhome be sure to winterize this tap and the shower hose.





DRIVER'S SIDE WATER HEATER VENT

Located at the rear the on driver side, this vent gives you access to the exterior working components of the 6-gallon auto ignite water heater. NOTE: Keep this vent clear from all obstructions.



1. Water Heater Reset
2. Pressure Release Valve
3. Anode Rod
4. Burner Tube



DRIVER'S SIDE SEWER HOSE COMPARTMENT

Located on the driver side just behind the rear wheel well. This stores the 10 foot sewer hose.

DRIVER'S SIDE SEWER DUMP VALVES

Located in and underneath the driver side component compartment. 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 SIDE FRESH WATER HOLDING TANK FILL

Located on the driver side rear beside the water heater access door. This locking door provides access to fill your fresh water tank.



1. Fresh Water Tank Fill
2. Fresh Water Tank Vent





PASSENGER SIDE FRIDGE VENTS

Located on the passenger side just behind the side entry door. These vents allow for airflow 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 EXTERIOR 110 VOLT PLUG

Located on the passenger side rear behind the rear wheel well, this plug will only function if power is supplied through the generator or shore power.



PASSENGER'S SIDE EXTERIOR PORCH LIGHT

Located behind the passenger side kitchen window, this light is controlled by the switch on the kitchen end gable near the entrance handle.

COACH & CHASSIS BATTERIES:

The chassis battery is located under the hood of the vehicle, supplied by Ford. The coach or auxiliary battery is an Interstate SRM 24 series deep cycle battery. This battery operates the Motor Home portion of your vehicle. The coach battery is located on the passenger side in front of the rear wheel well. It is installed on a slide out battery tray.

NOTE: Wires taped in white are ground wires.



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 pressures 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 the locked position
- the campsite 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.

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 (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 and furnace).

The LP storage tank is located on the driver side behind the component compartment-swinging door. The filler and bleeder valve, the LP tank gauge and the LP gas regulator are also in this location.

Propane fuel is stored in a liquid state under extreme high pressure. As fuel is used, propane vapor passes from the tank through the regulator into the gas lines and eventually to the appliances. Although the propane system has undergone extensive testing for leaks, the system's connections and fittings are subject to road vibrations and should be checked regularly for possible leaks.

Propane fuel is extremely flammable, colorless, heavier than air and smells like rotten eggs.

The main shut-off valve to supply propane to the coach is operated by the round handle located in the driver side component compartment (ensure this switch is on before operating appliances.)

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.

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.

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.
6. Have the gas system checked and leakage source corrected before using again.



LP OFF/ON VALVE:

Located in the driver side component compartment. This valve, when open, allows LP to flow to the coach.



LP FILL VALVE

Located in the driver side component compartment. This valve, covered by the yellow end cap allows you to fill the LP tank to 80% capacity.



LP BLEEDER VALVE

The bleeder valve allows pressure to vacate the LP tank when 80% full.

LP TANK GAUGE

This gauge indicates how full the LP tank is.



HOW TO USE THE LP APPLIANCES:

Turn your red key disconnect switch to the on position (located behind the small door under the furnace vent). Turn your LP on / off valve to the on position as mentioned above (located in the driver side 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.



It is recommended that the Fantastic Fan be used for ventilation when this appliance is in use.



FURNACE:

Your vehicle is equipped with a 16,000 BTU Suburban LP gas Auto Ignition Furnace. The furnace is located on the bottom right hand side of the galley. The thermostat control is located near the flat screen TV area.

- 1) Ensure that there is propane supplied to the coach.
- 2) Ensure there is 12V power to the coach.
- 3) Use the on/off button until the furnace indicator light lights. Use the +/- buttons for desired temperature.
- 4) The Furnace will auto ignite and cycle through fan and heating. The furnace will cycle keeping the desired temperature.



REFRIGERATOR:

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

1) To turn the fridge on, use the mode button to select your power source (LP gas, AC or DC). Then select your desired level of coolness (this may vary slightly with each fridge and weather condition).

2) The DC or Auxiliary Battery symbol is used when the vehicle is in motion. The DC mode will maintain your fridge while driving, but should not be used for dry camping or initial cooling of the refrigerator.

3) The AC symbol is recommended when the vehicle is operating off of a 120 volt power source (shore power or generator).

NOTE: For the best cooling results your vehicle should be level and the exterior refrigerator vents free from obstructions. Please consult your Dometic fridge-operating manual for complete operating and maintenance instructions.



WATER HEATER:

Your vehicle is equipped with a 6 gallon LP Suburban gas Auto Ignition Water Heater. The water heater is located underneath the rear electric sofa bed on the driver side. You can access the by-pass valves through the rear doors and reaching under the electric sofa bed.

- 1) For normal or summer operation, ensure your by-pass valves are in summer position. 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.
- 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. 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 on the water heater switch located above the side entrance door in the monitor panel. Ensure the liquid propane supply to the coach is also turned on.

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.



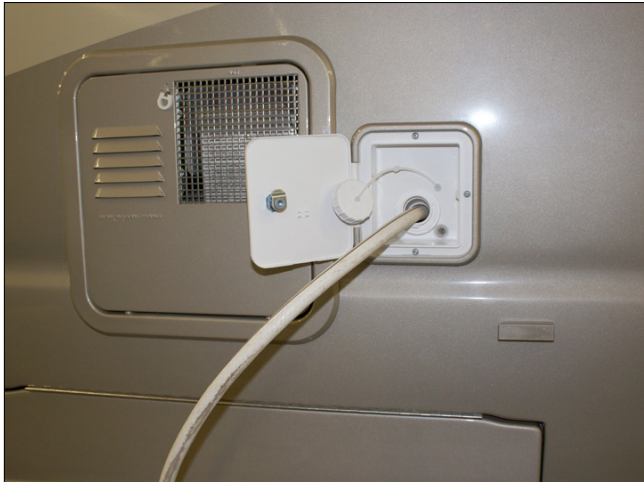
SUMMER POSITION



WINTER POSITION

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.



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, turn it to the closed position.*

FILLING THE FRESH WATER TANK

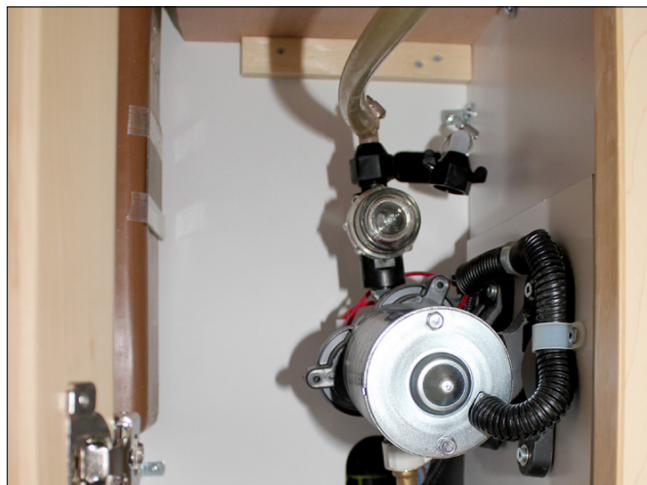
- 1) Unlock the Fresh Water Fill. Remove the large white cap.
- 2) Insert a garden hose into the fill opening.
- 3) Turn the water source on to a medium flow rate, as a high-pressure flow will cause water to gush out of the fill opening.
- 4) Monitor the fresh water fill level using the FRESH button on the monitor panel located above the passenger side entry door. Do not over fill this tank. You may see water coming out through the fill tube or air vent screen as this also indicates the fresh water tank is full.
- 5) If you have over filled your fresh water tank or you want to drain some of the water out of the fresh water tank, open the drain spigot located on the fresh water tank. This fresh water tank is located behind the rear axle. The fresh water tank spigot is located on the driver side underneath the coach just behind the rear axle.

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 using a rubber washer to ensure the fitting is tight.
- 4) Turn the water source on to a medium pressure.
- 5) Check for leaks at the city water connection, as you may have to re-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 12 volt Sure Flo water pump is located in the cabinet on the left-hand side of the fridge. The filter and the inlet connection are visible on the top of the water pump.

Activate the water pump using the Pump switch at the bottom of the monitor panel located above the passenger side entrance door. Please consult your Sure Flo operating manual for complete operating and maintenance instructions.



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 to tighten.

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 running while the 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 Ford Excel 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 12 US gallons or 45 liters.
- 2) Grey water tank located under the passenger side of the vehicle. This tank handles wastewater from the sinks and the shower. This tank is approximately 26 US gallons or 97 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 driver side component compartment door located on the driver side. This will expose the sewer dump outlet. Press in the black and gray dump valve handles to ensure the valves are closed. Remove the black termination cap.
- 2) Access the sewer hose from the locking sewer hose compartment located on the driver side behind the rear wheel well. Connect the sewer hose to the drain outlet, and put the opposite end into an appropriate sewer dump outlet





- 3) 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 (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 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 overflow, the overflow may back up through the toilet drain.*

NOTE: *If the gray water tank is allowed to overflow, 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 behind the rear axle (see page 22 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. First, relieve pressure inside the hot water tank with the pressure relief valve located at the top of the hot water tank. Then remove 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.

3) Turn the water heater bypass valves to the winter position. The water heater bypass valves are located underneath the rear electric sofa bed on the driver side. You can access the by-pass valves through the rear doors and reaching under the electric sofa bed.

4) The winter position means that the valve handle at the top of water heater on the red line should be closed and 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).

5) 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 place the other end in a container RV non-toxic antifreeze. Turn on you're the pump. This will pump non-toxic RV antifreeze through all of your fresh water lines.

NOTE: Siphon hose consists of 40" of 1/2" clear tubing with a fitting to attach to the water pump. The fitting can be purchased through an RV dealer.

6) 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 fresh water supply fitting.

7) Pour 1/2 cup of RV antifreeze down each drain (kitchen sink, bathroom sink and shower drain).

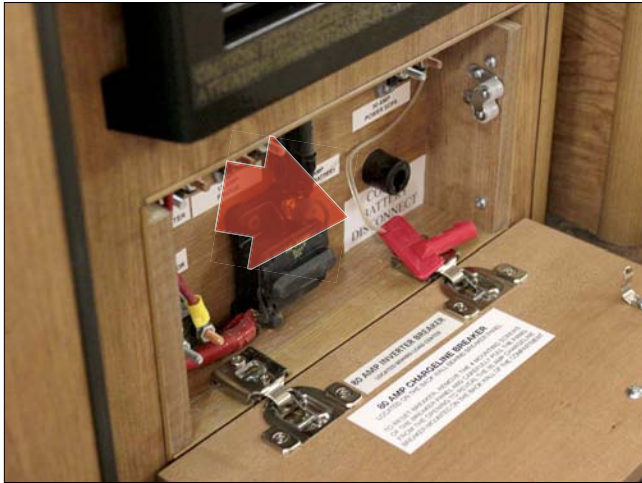


SUMMER



WINTER





- 8) Fully charge your auxiliary coach battery and turn off and remove the red key disconnect. The red key disconnect is located behind the door beneath the furnace.
- 9) Turn you thermostat to the off position.
- 10) Turn your propane tank off.
- 11) Place your fridge door in a slightly open position for air to circulate through the fridge..

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



Release the locking mechanism of the door lock by pushing it and shift it to the front. The lock in this position stops the door from closing completely to prevent formation of mildew.

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. Do not use the exterior shower.

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, and fridge on AC) for short-term use. The auxiliary coach battery is charged when the chassis engine 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 must 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: 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 convert 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.

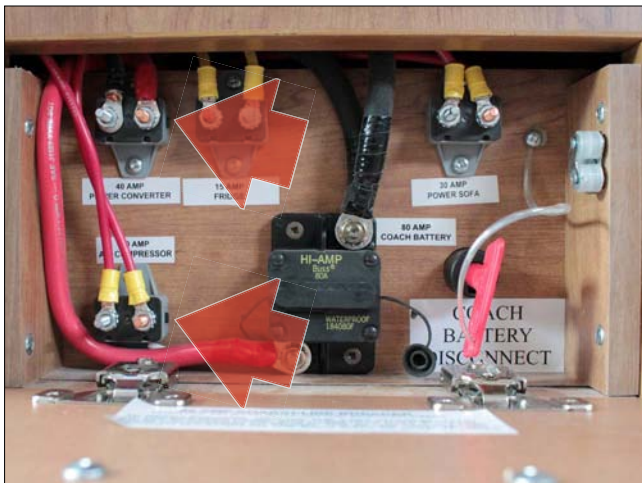
12 volt or DC Equipment	110 volt Or AC Equipment
Flat Screen TV + DVD when plugged into inverter	TV + DVD when plugged into wall outlet
Refrigerator when on DC or LP gas	Refrigerator on AC
Interior & Exterior Coach Lights	Microwave
Antenna Booster	Air Conditioner
Water Pump	110 volt Plugs
Water Heater	Power Converter/Charger
LP gas & CO Alarms	
Generator Start Switch	
Furnace	
Power Sofa (if equipped)	
Air Ride Compressor (if equipped)	
Fantastic Fan	
Back up Camera (if equipped)	



ELECTRICAL DISTRIBUTION PANEL

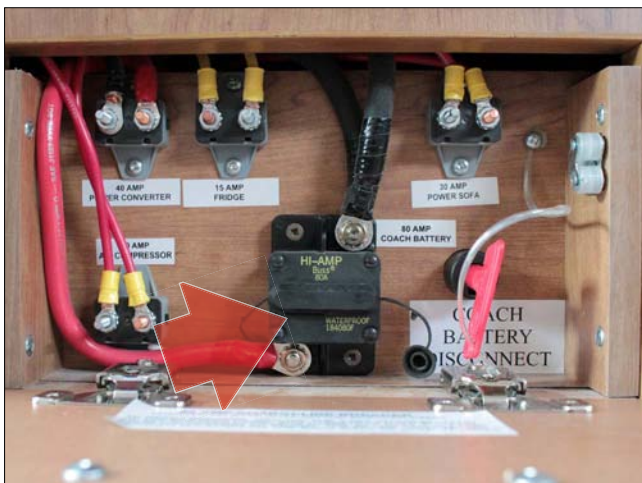
The Ford Excel is equipped with an Iota distribution panel that houses the breakers for the 110 volt system and the blade fuses for the 12 volt system. The distribution panel is located on the passenger side bed frame in the TD model and on the passenger side rear ottoman in the TS model.

Remove the large vertical smoked plastic cover panel to access the 110 volt breakers or the small horizontal cover panel for the 12 volt fuses.



12 VOLT MANUAL RESET BREAKERS AND CONVERTER OUTPUT FUSES

Your motorhome has manual re-settable breakers. If you have the optional electric rear sofa, you will have four manual resetting breakers. These manual re-setting breakers are labeled. Access to these breakers is through a compartment door found on the passenger side underneath the furnace. These breakers have a 40, 30, 20 and 15 amp capacity. The 40 amp breaker controls the power converter, the 30 amp breaker controls the power sofa, the 15 amp breaker controls the refrigerator when it's running on 12 volts, and the 20 amp breaker controls the air compressor. There is also an 80 amp charge-line breaker.



If you are experiencing any difficulties with your power converter, refrigerator, electric sofa or charging system while on 12 volt, check these breakers first to determine if they are tripped. There is a small re-set button located on the copper post end of the breaker. Simply push it in if it is tripped. 80 amp coach battery reset under the center bar.

12 VOLT BATTERY DISCONNECT SWITCH

There is 12 volt disconnect switch (red key) located on the passenger side through a compartment door found beneath the furnace (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: The disconnect switch will have to be in the on position 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 CO detector and the LP detector are hard wired to the coach battery and will eventually drain the battery.



AUXILIARY BATTERY

The auxiliary battery (coach battery) is located on the passenger side in a battery pull out tray. It is an Interstate SRM 24 Marine / RV deep cycle battery. This battery operates the Motor Home portion of your vehicle only.

Note: White Wire is ground

The Ford chassis battery is located under the front engine hood. Consult your Ford owners 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 consult your 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

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 the dash features, driving lights, power mirrors, locks and windows.

The auxiliary battery powers all living area lighting, TV system, DC appliances and air ride compressor, and back up camera.



battery and keep open flames and other sources of ignition well away from the battery. Remember that 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 is provided with your Pleasure-Way motorhome. 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 passenger side entry door. Located 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 and coach battery charge level.



GENERATOR

If your unit is equipped with a generator, it will be located directly behind the driver door. Access to the generator is through the locking compartment door. There is no access to the generator through the interior of the coach. This prevents 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) Ensure there is at least a ¼ tank of gas as the generator runs off the van chassis fuel tank. If there is less than a ¼ tank of fuel, the generator will not start.
- 3) Press the generator 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 the van chassis fuel tank. Once the generator is running, it supplies power to the entire electrical system, just as if your unit was 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 generator's 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.

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

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. The refrigerator should be turned to 12 volt when the vehicle will be in motion and the LP gas must be turned off.



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.

NOTE: Your DVD is a player only as it will not record. To play a CD or MP3 the TV flat screen must be in the on position.

NOTE: Ensure the TV travel lock is locked into the travel position when the vehicle is in motion.

The travel lock is located directly behind the flatscreen TV.



Dvd Player and TV

22" THEATRE SYSTEM BASIC OPERATING MANUAL

A) COMPONENTS:

- 1) 22" Flat Screen Monitor
- 2) DVD/CD/MP3 player
- 3) Satellite speakers
- 4) Antenna booster



Antenna Crank

B) BASIC TV OPERATION:

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



Antenna

12 Volt Operation:

- 1) Turn the inverter located in the cabinet directly above the TV to the on position. (Switch is located beside the fan on the right hand side). 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)
- 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



Antenna Booster



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 on the right hand end panel next to the fan. Use the same programing procedures as the 12 volt operation.

120 Volt Plug



Cable Hook Up to TV

TD FULL SIZE BED ASSEMBLY



To make up the Full-size bed in the TD model, lift the center removable night table and place it on the floor.

Place the cushion support boards on the support rails between the passenger and driver side bench faces.



Lift the passenger side single bed and remove the cushion support boards.

Finally, place the side backrest cushions in between the passenger and driver side single beds.



TS BED ASSEMBLY



Using the sofa bed switch beside the DVD player lay the sofa bed down to a flat position. You can sleep with the sofa bed in this configuration (U shape) as two single beds with the space between the two ottomans open.



You can also use the cushion support board (located in the closet) to make a full king-size bed.



Place the cushion support board on the support rails between the two ottoman benches.



Place the ottoman cushions on the inward side of the ottoman rails. This will ensure the ottoman backrest cushions fit tight between the ottoman cushions. Place the ottoman backrest cushions on the bed board between the ottoman seat cushions.



Ford Excel :	TD	TS
Dometic 3-way Refrigerator	X	X
Dometic .7 cu.ft. Microwave	X	X
2 Burner Flush Mount Cook Top with Glass Cover	X	X
Suburban 16,000 BTU Auto Ignition Furnace	X	X
Suburban 6 gal Auto Ignition Water Heater	X	X
Sure-Flo Demand Water System	X	X
Theftford Flush Toilet	X	X
Self Contained Bathroom with Shower & Sink	X	X
C.O. Detector	X	X
LP Gas detector	X	X
Smoke Detector	X	X
Fire Extinguisher	X	X
Fantastic Fan Roof Vent	X	X
Coach Battery	X	X
Battery Disconnect Switch	X	X
45 amp Power Converter with Distribution Panel	X	X
Monitor Panel System (Black, Gray, Fresh water, Battery)	X	X
Fresh Water Fill	X	X
Fresh Water Tank (91 L or 24 U.S. Gal)	X	X
Grey Water Tank (97 L or 26 U.S. Gal)	X	X
Black Water Tank (45 L or 12 U.S. Gal)	X	X
Generator Ready (switch, wire for connections & mount brackets)	X	X
Exterior Shower	X	X
*Rear Bed Area (74" X 81")	X	X
*Power Sofa		X
*Rear Bed Area (54" X 81")		
Awning Style Windows	X	X
Large Round Table	X	X
Porch Light	X	X
Cable TV Hook Up	X	X
TV Antenna	X	X
Water Heater By-Pass	X	X
Fiberglass Running Boards	X	X
Counter Top Flip Up	X	X
Exterior Plug	X	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.



U.S. Department of Transportation
National Highway Traffic Safety
Administration



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. 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

- 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 under inflated.
- 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 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 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

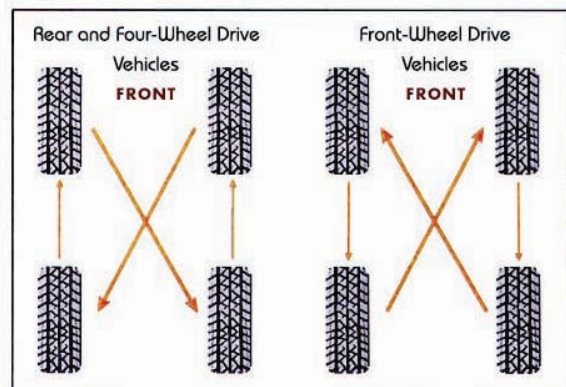
To avoid vibration or shaking of the vehicle when a tire rotates, the tire must be properly balanced. This balance is achieved by positioning weights on the wheel to counterbalance heavy spots on the wheel-and-tire assembly. A wheel alignment adjusts the angles of the wheels so that they are positioned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

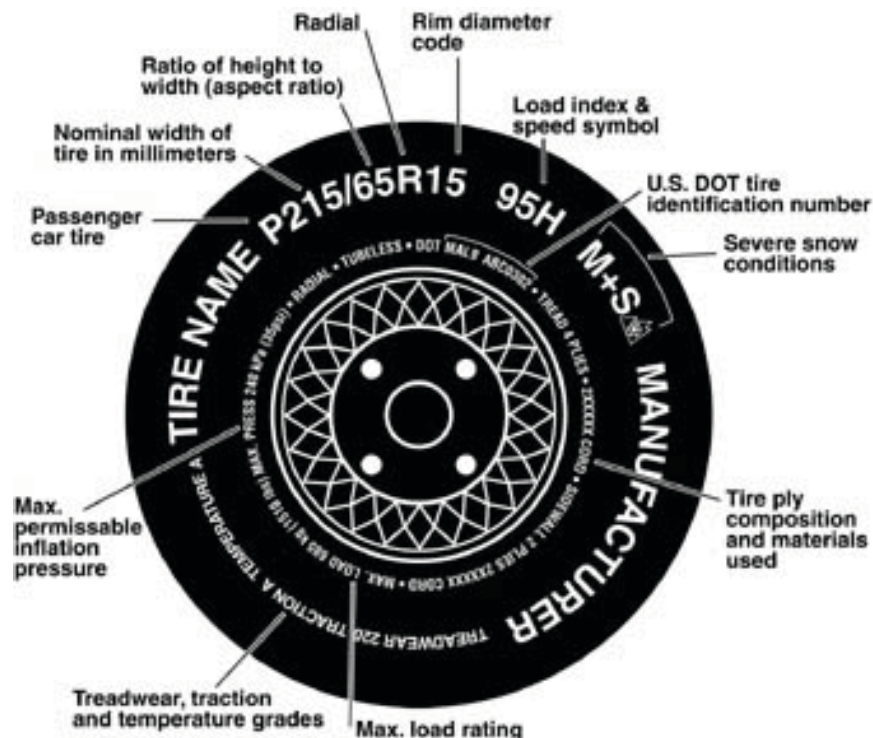
Traction grades are an indication of a tire's ability to stop on wet pavement. A higher graded tire should allow you to stop your car on wet roads in a shorter distance than a tire with a lower grade. Traction is graded from highest to lowest as "AA", "A", "B", and "C".

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 side wall 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 incase of a recall.

Information on Passenger Vehicle Tires



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, under inflation 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".

VEHICLE LOAD LIMITS

Determining the load limits of a vehicle includes more than understanding the load limits of the tires alone.

[For MH] On a motor home, there is a Federal certification label that is affixed to either the hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position. If none of these locations is practicable, this label will be located to the left side of the instrument panel, or affixed to the inward-facing surface of the door next to the driver's seating position.

[Both TT and MH] The certification label will indicate the vehicle's gross vehicle weight rating (GVWR). This is the most weight the fully loaded vehicle can weigh. It will also provide the gross axle weight rating (GAWR). This is the most a particular axle can weigh. If there are multiple axles, the GAWR of each axle will be provided.

[For MH] In the same location as the certification label described above, there is a vehicle placard. This placard provides tire and loading information. In addition, this placard will show the vehicle's seating capacity for people and a statement regarding maximum cargo capacity.

CARGO CAPACITIES

[For MH] Cargo can be added to the vehicle, up to the maximum weight specified on the placard. For motorized vehicles, the combine weight of passengers and cargo is provided as a single number. If fewer people are traveling, more cargo can be added. If more people are involved, the weight of cargo must be reduced. In any case, remember: the total weight of a fully loaded vehicle, including passengers, can not exceed the stated GVWR.

[For MHI] Water and propane also need to be considered. The weight of fully filled propane containers is considered part of the weight of the RV before it is loaded with people or cargo and is not considered part of the disposable cargo load. Water however, is a cargo weight and is treated as such. If there is a fresh water storage tank of 100 gallons, this tank when filled would weigh about 800 pounds. If more cargo or people are being transported, water can be off-loaded to keep the total amount of cargo added to the vehicle within the limits of the GVWR so as not to overload the vehicle. Understanding this flexibility will allow you, the owner, to make choices that fit your travel and camping needs.

[Both IT and MHI] When loading your cargo, be sure it is distributed evenly to prevent overloading front to back and side to side. Heavy items should be placed low and as close to the axle positions as reasonable. Too many items on one side may overload a tire. The best way to know the actual weight of the vehicle is to weigh it at a public scale. Talk to your RV dealer to discuss the weighing methods needed to capture the various weights related to the RV. This would include weights for the following: axles, wheels, hitch or pin (in the case of a trailer) and total weight.

HOW OVERLOADING AFFECTS YOUR RV AND TIRES

The results of overloading can have serious consequences for passenger Safety. Too much weight on your vehicle's suspension system can cause spring, shock absorber, or brake failure, handling or steering problems, irregular tire wear, tire failure or other damage.

An overloaded vehicle is hard to drive and hard to stop. In cases of serious overloading, brakes can fail completely, particularly on steep hills. The load a tire will carry safely is a combination of the size of tire, its load range, and corresponding inflation pressure.

Excessive loads and/or under-inflation cause tire overloading and, as a result, abnormal tire flexing occurs. This situation can generate an excessive amount of heat within the tire. Excessive heat may lead to tire failure.

It is the air pressure that enables a tire to support the load, so proper inflation is critical. Since RVs can be configured and loaded in many ways, air pressures must be determined from actual loads (determined by weighing) and taken from the load and inflation tables provided by the tire manufacturer. These air pressures may differ from those found on the certification label. However, they should never exceed the tire limitation for load or air pressure. If you discover that your tires cannot support the actual weights, the load will need to be lightened.

TIRE SAFETY TIPS

PREVENTING TIRE DAMAGE

- Slow down if you have to go over a pothole or other object in the road.
- Do not run over curbs or other foreign objects in the roadway, and try not to strike the curb when parking.

TIRE SAFETY CHECKLIST

- Check tire pressure regularly (at least once a month), including the spare.
- Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
- Remove bits of glass and foreign objects wedged in the tread.
- Make sure your tire valves have valve caps.
- Check tire pressure before going on a long trip.
- Do not overload your vehicle. Check the Tire Information and Loading Placard or User's Manual for the maximum recommended load for the vehicle.

SECTION 2

STEPS FOR DETERMINING CORRECT LOAD LIMIT

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX lbw" on your vehicles placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kilograms or XXX pounds.
4. The resulting figure equals the available amount of cargo and luggage capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb.

- passengers in your vehicle, the amount of available cargo and luggage capacity is 650 lbw. (1400-750 (5 x 150) ~ 650 lbs.)
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage capacity calculated in Step # 4.
 6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this Manual to determine how this reduces the available cargo and luggage capacity of your vehicle.

SECTION 3

GLOSSARY OF TIRE TERMINOLOGY

Accessory weight - The combined weight (in excess of those standard items which may be replaced) of automatic transmission, power steering, power brakes, power windows, power seats, radio and heater, to the extent that these items are available as factory-installed equipment (whether installed or not).

Bead - The part of the tire that is made of steel wires, wrapped or reinforced by ply cords and that is shaped to fit the rim.

Bead separation - This is the breakdown of the bond between components in the bead.
Bias ply tire - A pneumatic tire in which the ply cords that extend to the beads are laid at alternate angles substantially less than 90 degrees to the centerline of the tread.

Carcass - The tire structure, except tread and sidewall rubber which, when inflated, bears the load.

Chunking - The breaking away of pieces of the tread or sidewall.

Cold inflation pressure - The pressure in the tire before you drive.

Cord - The strands forming the plies in the tire.

Cord separation - The parting of cords from adjacent rubber compounds.

Cracking - Any parting within the tread, sidewall, or inner liner of the tire extending to cord material.

CT - A pneumatic tire with an inverted flange tire and rim system in which the rim is designed with rim flanges pointed radially inward and the tire is designed to fit on the underside of the rim in a manner that encloses the rim flanges inside the air cavity of the tire.

Curb weight - The weight of a motor vehicle with standard equipment including the maximum capacity of fuel, oil, and coolant, and, if so equipped, air conditioning and additional weight optional engine.

Extra load tire - A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Groove - The space between two adjacent tread ribs.

Gross Vehicle Weight Rating (GVWR) - The maximum permissible weight of this fully loaded motorhome.

Gross Axle Weight Rating (GAWR) - The value specified as the load carrying capacity of a single axle system, as measured at the tire-ground interfaces.

Hitch Weight - The vertical trailer load supported by the hitch ball.

Inner liner - The layer(s) forming the inside surface of a tubeless tire that contains the inflating medium within the tire.

Innerliner separation - The parting of the innerliner from cord material in the carcass.

Intended outboard sidewall - The sidewall that contains a white-wall, bears white lettering or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same molding on the other sidewall of the tire or the outward facing sidewall of an asymmetrical tire that has a particular side that must always face outward when mounted on a vehicle.

Light truck (LT) tire - A tire designated by its manufacturer as primarily intended for use on lightweight trucks or multipurpose passenger vehicles.

Load rating - The maximum load that a tire is rated to carry for a given inflation pressure.

Maximum load rating - The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum permissible inflation pressure - The maximum cold inflation pressure to which a tire may be inflated.

Maximum loaded vehicle weight - The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Measuring rim - The rim on which a tire is fitted for physical dimension requirements.

Non-pneumatic rim - A mechanical device which, when a non-pneumatic tire assembly incorporates a wheel, supports the tire, and attaches, either integrally or separably, to the wheel center member and upon which the tire is attached.

Non-pneumatic spare tire assembly - A non-pneumatic tire assembly intended for temporary use in place of one of the pneumatic tires and rims that are fitted to a passenger car in compliance with the requirements of this standard.

Non-pneumatic tire - A mechanical device which transmits, either directly or through a wheel or wheel center member, the vertical load and tractive forces from the roadway to the vehicle, generates the tractive forces that provide the directional control of the vehicle and does not rely on the containment of any gas or fluid for providing those functions.

Non-pneumatic tire assembly - A non-pneumatic tire, alone or in combination with a wheel or wheel center member, which can be mounted on a vehicle.

Normal occupant weight - This means 68 kilograms (150 lbs.) times the number of occupants specified in the second column of Table I of 49 CFR 371.110.

Occupant distribution - The distribution of occupants in a vehicle as specified in the third column of Table I of 49 CFR 571.110.

Open splice - Any parting at any junction of tread, sidewall, or innerliner that extends to cord material.

Outer diameter - The overall diameter of an inflated new tire.

Overall width - The linear distance between the exteriors of the sidewalls of an inflated tire, including elevations due to labeling, decorations, or protective bands or ribs.

Pin Weight - The vertical trailer load supported by the king pin of a fifth wheel hitch.

Ply - A layer of rubber--coated parallel cords.

Ply separation - A parting of rubber compound between adjacent plies.

Pneumatic tire - A mechanical device made of rubber, chemicals, fabric and steel or other materials, that, when mounted on an automotive wheel provides the traction and contains the gas or fluid that sustains the load.

Production options weight - The combined weight of those installed regular production options weighing over 2.3 kilograms (5 lbs.) in excess of those standard items which they replace, not previously considered in curb weight or accessory weight, including heavy duty brakes, ride levelers, roof rack, heavy duty battery, and special trim.

Radial ply tire - A pneumatic tire in which the ply cords that extend to the beads are laid at substantially 90 degrees to the centerline of the tread.

Recommended inflation pressure - This is the inflation pressure provided by the vehicle manufacturer on the Tire Information label and on the Certification / VIN tag.

Reinforced tire - A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Rim - A metal support for a tire or a tire and tube assembly upon which the tire beads are seated.

Rim diameter - This means the nominal diameter of the bead seat.

Rim size designation - This means the rim diameter and width.

Rim type designation - This means the industry of manufacturer's designation for a rim by style or code.

Rim width - This means the nominal distance between rim flanges.

Section width - The linear distance between the exteriors of the sidewalls of an inflated tire, excluding elevations due to labeling, decoration, or protective bands.

Sidewall - That portion of a tire between the tread and bead.

Sidewall separation - The parting of the rubber compound from the cord material in the sidewall.

Test rim - The rim on which a tire is fitted for testing, and may be any rim listed as appropriate for use with that tire.

Tread - That portion of a tire that comes into contact with the road.

Tread rib - A tread section running circumferentially around a tire.

Tread separation - Pulling away of the tread from the tire carcass.

Treadwear indicators (TWI) - The projections within the principal grooves designed to give a visual indication of the degrees of wear of the tread.

Vehicle capacity weight - The rated cargo and luggage load plus 68 kilograms (150 lbs.) times the vehicle's designated seating capacity.

Vehicle maximum load on the tire - The load on an individual tire that is determined by distributing to each axle its share of the maximum loaded vehicle weight and dividing by two.

Vehicle normal load on the tire - The load on an individual tire that is determined by distributing to each axle its share of the curb weight, accessory weight, and normal occupant weight (distributed in accordance with Table I of CRF 49 571.110) and dividing by 2.

Weather side - The surface area of the rim not covered by the inflated tire.

Wheel center member - In the case of a non-pneumatic tire assembly incorporating a wheel a mechanical device which attaches, either integrally or separably, to the non-pneumatic rim and provides the connection between the non-pneumatic rim and the vehicle; or, in the case of a non-pneumatic tire assembly not incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic tire and provides the connection between tire and the vehicle.

Wheel-holding fixture - The fixture used to hold the wheel and tire assembly securely during testing.