

**CH** *Coach House*<sup>®</sup>  
Motor Homes

**Platinum**

FORD E-450 SUPER DUTY CHASSIS



**OWNER'S MANUAL**



*Ford Motor Company*

**CH** *Coach House*<sup>®</sup>  
Motor Homes

**Platinum**

FORD E-450 SUPER DUTY CHASSIS



**LUXURY CLASS "C" MOTORHOME**



*Ford Motor Company*

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# Platinum

FORD E-450 SUPER DUTY CHASSIS

## Owner's Manual



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Guidelines

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L.P.G. System

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# Section 1

## Introduction

# Introduction

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# Letter from the Owners

Dear New Coach House Owner:

On behalf of our entire staff, we would like to say "Thank-You" for purchasing one of our Coach House **PLATINUM** Motor Homes and welcome you to the Coach House Family. As part of our growing family, we encourage you to let us know how your **PLATINUM** is performing and always feel free to contact us regarding any problem, complaint, or suggestion.

The following warranty manual was designed to answer many questions about the operation, service, and warranty of your new **PLATINUM**. We have also included a vendor list to assist as a quick reference guide in the event you need to talk to someone about a specific item on your unit.

As part of our Coach House Family, we will send out complimentary issues of our Coach House Today newsletters giving you an insight as to our company and our employees, keep you informed about our *Coach House Owners Club* (C.H.O.C.) and updates regarding new ideas, product developments, and other issues that might develop in our industry.

Again, "Thank-you" for your business and we hope your new **PLATINUM** brings you many happy memories and years of safe travel.

If we can be of any service, please feel free to call us at 1-800-235-0984.

Sincerely,

David Gerzeny  
President

Steve Gerzeny  
Vice President



# Coach House Owners Club (C.H.O.C.)

## Application



# Insert CHOC Application in See Through Packet Here



**Family Motor  
Coach Association  
(F.M.C.A.)**

**Application**

# Insert FMCA Application in See Through Packet Here



# Ambassador Program



# Ambassador Program

The Coach House Ambassador Referral Program was created to entice our valued customers to share their experience with friends, family, and all the folks you meet during your travels! As you are aware, it is common occurrence to be stopped by people asking about your Coach House Platinum. Why not get paid for your time and efforts?

Here is how it works:

- Sign up to be an ambassador. We will custom print and mail you a packet of Coach House Platinum Ambassador business cards with your name and our contact information.
- When approached by a prospect, simply discuss your Coach House Platinum. Explain the features and benefits, the styles/models and why you purchased.
- Hand them a Coach House Platinum Ambassador business card and tell them to contact us directly at the Factory.
- If a prospect purchases a Platinum, Coach House, Inc. will pay you \$200.00 once the unit is delivered. There's no limit to the number of people you can refer, so there's no limit to how much you can earn!

We sincerely appreciate your assistance. Good Luck and Fun Selling!!!

Sincerely,

Steve Gerzeny  
Vice President  
Coach House, Inc.

# Introduction

Every effort has been made to build your *Coach House* **PLATINUM** to the highest quality standards. To help you obtain the most enjoyment and safety while using your motorhome, we strongly urge you to carefully review this owner's manual, paying particular attention to the areas that discuss safety. Some items discussed are optional and only need to be reviewed if that option has been installed on your unit.

The Coach House owner's manual is comprised of many parts:

- 1) **Chassis Owner's Manual** - The Chassis Owner's Manual is supplied by the Ford Motor Company. Please pay specific attention to the recommended service guidelines for your chassis in order to ensure a long life of the engine, frame, suspension, tires, and auxilliary equipment which was provided by the chassis manufacturer.
- 2) **General R.V. Guidelines** - (Section 2) This section is a general guide for RV owners. It contains general usage information and is a comprehensive guide to the safe operation of any Recreational Vehicle.
- 3) **Area Specific Breakdowns** - (Sections 3 - 8) This section has detailed instructions and maintenance manuals from the manufacturers of the appliances installed by Coach House with additional notes and instructions where deemed necessary. If you can not find the information needed to service, or operate any product installed in your motorhome, feel free to call our service department at the factory, or call the manufacturer with the contact numbers provided in this manual. Our telephone number is 1-800-235-0984.

This manual is meant to give the owner a good understanding of the *Coach House* family of products. Coach House, Inc. should be consulted for specific information concerning your equipment.

# Warranty Coverage

This document is intended to provide a general guideline regarding the warranty of your new Coach House, Inc. **PLATINUM** motor home. The original Coach House, Inc., Limited Warranty form was signed by you when you purchased and took delivery of your new unit and is the only document which governs the Coach House, Inc. limited warranty. Coach House, Inc. reserves the right to make changes to the limited warranty at any time at its' sole discretion.



Coach House, Inc. warrants only the conversion portion of the motor home for a period of three (3) years or thirty-six thousand (36,000) miles from the date of the first retail purchase or first in-service date. Appliances and auxiliary equipment carry warranties from the individual manufacturer. Please refer to the original equipment manuals included in this Owner's Manual. The warranty period applies only to units used for recreational travel and family camping.



Ford chassis are warranted for a period of three (3) years or thirty-six thousand (36,000) miles from the date of delivery, whichever comes first.

The Power train is warranted for five (5) years or sixty thousand (60,000) miles from the date of delivery, whichever comes first.

### **What is covered?**

Defects in material and workmanship caused by Coach House, Inc.

### **What is NOT covered?**

#### 1) Adjustments

EXCEPTION - The following items will be adjusted free of charge for a period of ninety (90) days after retail purchase:

- a. Cabinet Doors
- b. Cabinet Drawers
- c. Latches
- d. Entry Doors, steps, and striker plates
- e. Awnings
- f. Loose Trim
- g. Slide-out adjustments

#### 2) Fuses and Light Bulbs

#### 3) Any product not registered and normally used in the United States or Canada.

4) Components that are warranted separately by the manufacturer of the product, including but not limited to chassis, tires, batteries, generators, plumbing, electrical equipment, air conditioners, furnaces, audio equipment, furniture, upholstery, and appliances.

5) Any product used for commercial purposes, as a permanent residence, or as a rental unit.

6) Window glass breakage. Headlights, Tailights. (Unless noted at the time of Delivery)

7) Lubrication and minor adjustments of locks, latches, hinges, slide-out system, etc.



- 8) Rust, corrosion, oxidation, dents, and other damage as a result of environmental conditions such as, but not limited to, heavy winds, hail, lightning, salt, and sand.
- 9) Fading or normal deterioration of items such as fabrics, exterior paint, decorative items, carpet, etc. due to use or exposure to ultra-violet rays or sun. Coach House does not warranty the conversion due to excessive climate conditions.
- 10) Cleaning of undercarriage/frame - Units delivered during winter months are likely to have been exposed to highway salts and chemicals. It is the responsibility of you, the owner, to wash the frame and undercarriage of the unit to prevent damage from rusting or oxidizing.
- 11) Damage/fading of the exterior caused by chemical cleaning or lack of proper maintenance of the exterior.
- 12) Normal unit maintenance, such as inspecting and resealing exterior seams.
- 13) Damage caused by abuse, misuse, negligence, condensation, overloading, vandalism, collision, road hazards, acts of nature (hail, wind, heavy rain damage, acid rain, flood), rock chips, alterations or modifications, improper non-warranty repairs, lack of normal maintenance, failure in giving prompt notice of water damage, improper operation or storage of components.
- 14) Subsequent damage, loss, or injury beyond warranty repairs as a result of mold or fungi.

# APPLIANCE WARRANTY INFORMATION

Appliances installed by Coach House are warranted by the individual appliance manufacturers; refer to the Coach House Limited Warranty. Some of the manufacturers include a list of authorized service centers with their instruction manuals. The following is a partial list of appliance manufacturers with their phone numbers you should call if you experience any problems while under warranty.

<b>Appliance / Item</b>	<b>Manufacturer</b>	<b>Location</b>	<b>Phone Number</b>
Air Conditioner	Dometic	LaGrange, IN	(888) 867-4188
Awning (Slide-Top)	Dometic	LaGrange, IN	(574) 291-2511
Converter	Progressive Dynamics	Marshall, MI	(269) 781-4241
Furnace	Atwood	Greenbriar, TN	(800) 825-4328
Generator	Onan	Minneapolis, MN	(800) 888-6626
Home Theater	BOSE	Framingham, MA	(800) 367-4008
Hydraulics	HWH Corporation	Moscow, IA	(800) 321-3494
Inverter	Cobra (800 Watt)	Chicago, IL	(773) 889-8870
Inverter	Xantrex (Pure Sine Wave)	Elkhart, IN	(800) 670-0707
Isolator	Sure Power	Tualatin, OR	(503) 692-5360
LP Tank	Manchester Tank	Lynwood, CA	(800) 640-6327
Microwave	Cuisinart	East Windsor, NJ	(800) 726-0190
Monitor Panel	Ventline	Bristol, IN	(219) 848-4491
Range Hood	Heng's Industries	Elkhart, IN	(574) 295-1200
Refrigerator	Dometic	LaGrange, IN	(574) 294-2511
Roof Vent	Fantastic Vents	Imlay City, MI	(800) 521-0298
Step, Entry	Kwikkee/Power Gear	Cottage Grove, OR	(541) 942-3888
Stove Top	Atwood	Greenbriar, TN	(800) 825-4328
Stove Top	Dometic	LaGrange, IN	(574) 294-2511
Suspension	MOR/ryde	Elkhart, IN	(574) 293-1581
TV	Vizio	Irvine, CA	(877) 698-4946
TV Antenna	Triple H Electronics	Red Bay, AL	(256) 396-9005
Water Closet (Toilet)	Thetford	Ann Arbor, MI	(800) 543-1219
Water Heater	Atwood	Greenbriar, TN	(800) 825-4328



## Section 2

### General R.V. Guidelines

# General R.V. Guidelines

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# Reporting Safety Defects

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

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

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at:

**1-800-424-9393**

or 202-366-0123 in the Washington D.C. area

or write to:

**NHTSA Headquarters  
1200 New Jersey Avenue, SE  
West Building  
Washington, DC 20590**

or:

**[www.NHTSA.dot.gov](http://www.NHTSA.dot.gov)**

You can also obtain other information about motor vehicle safety from the hotline.



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

# Florida Lemon Law

We have included a pamphlet from the Florida Department of Agriculture and Consumer Services outlining the basic aspects of the Florida Lemon Law. Please pay close attention to Pages 8 - 11 which refer to Recreational Vehicles.

If you have any questions please call:

1-800-321-5366

or

1-850-488-2221 (outside Florida)



**Insert Florida Lemon Law**  
**Pamphlet in Sheet Protector**  
**Here**

# Weight and Towing

Labels similar to the samples shown below have been placed on the inside of the passenger side door with weight information for your vehicle. If “CALC” appears after the UVW part of the label, this indicates that the UNLOADED VEHICLE WEIGHT has been calculated by using typical completed model actual weights and making adjustments for certain options.

MOTOR HOME OCCUPANT AND CARGO CARRYING CAPACITY VIN: XXXXXXXXXXXXX  
THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED  
XXXX kg OR XXXX lbs  
SAFETY BELT EQUIPPED SEATING CAPACITY: 2

**CAUTION:**

A FULL LOAD OF WATER EQUALS XXX kg OR XXX lbs OF CARGO @ 1kg/L (8.3 lb/gal)  
AND THE TONGUE WEIGHT OF A TOWED TRAILER COUNTS AS CARGO

**CAUTION:**

LOAD CARRYING CAPACITY REDUCED  
MODIFICATIONS TO THIS VEHICLE HAVE REDUCED THE ORIGINAL LOAD CARRYING CAPACITY BY  
\_\_\_\_\_ kg OR \_\_\_\_\_ lbs



## **VEHICLE WEIGHT DISTRIBUTION**

To properly load your vehicle, first determine its empty weight axle by axle and compare this with the GROSS AXLE WEIGHT RATING (**GAWR**), which can be found on the FMVSS sticker located on the driver's door column.

Try to load your vehicle in a manner that proportionally loads the axles according to their available loading capacity. Make sure that your total weight does not exceed the GROSS VEHICLE WEIGHT RATING (**GVWR**) for your vehicle. Be aware that the total of the axle ratings (GAWR) can add up to more than the GVWR. Side to side weight distribution should be considered when loading your vehicle and adjustments made as deemed suitable.

It is recommended that you weigh your vehicle axle by axle when fully loaded especially if the load is close to the NET CARRYING CAPACITY (**NCC**) indicated on the Motorhome Weight Information label for your vehicle. Ensure that none of the stipulated weight capacities have been exceeded. After weighing, make any load adjustments necessary to insure proper vehicle handling and performance.

## **Towing and Combined Weight**

The GROSS COMBINED WEIGHT RATING (**GCWR**) is defined as the maximum permissible gross weight of the vehicle and trailer. See the following page for information about towing.



### **Quick Facts**

<b><u>Gross Vehicle Weight Rating</u></b>	<b>G.V.W.R.</b>	<b>14,500 lbs</b>
<b><u>Gross Axle Weight Rating (Front)</u></b>	<b>F.A.W.R.</b>	<b>5,000 lbs</b>
<b><u>Gross Axle Weight Rating (Rear)</u></b>	<b>R.A.W.R.</b>	<b>9,600 lbs</b>
<b><u>Gross Combined Weight Rating</u></b>	<b>G.C.W.R.</b>	<b>22,000 lbs</b>

# **TOWING GUIDELINES**

To determine the towing capability of your vehicle, first refer to the chassis manufacturers Owners Manual and/or manufacturers literature that covers your vehicle. Information on your vehicle you need to know is the GROSS COMBINATION WEIGHT RATING (**GCWR**), maximum trailer weight, maximum tongue weight, and the weight of your vehicle fully loaded. After determining the above information, you can calculate the maximum size trailer you can tow by subtracting your loaded vehicle weight from the GCWR and compare the answer with the maximum trailer weight for your vehicle. Whichever figure is **SMALLER** will determine the maximum towing capacity (Loaded Trailer Weight) for your vehicle.

It is important to make sure that the tongue weight for your loaded trailer does not exceed the chassis manufacturers rating. Also check the capacity of the hitch installed to make sure you have not exceeded its rating.



## **Universal Motor Home Hitch**

Maximum Trailer Weight	5000 lbs.
Maximum Tongue Weight	200 lbs.

## **RECOMMENDED TIRE PRESSURE**

Maintaining the correct air pressure in your tires is vital to the smooth operation and safety of your vehicle. Please refer to the chart below for the recommended air pressure in the front and rear tires.

<b><u>MODEL #</u></b>	<b><u>FRONT (PSI)</u></b>	<b><u>REAR (PSI)</u></b>
220	65	65
221 XL	65	65
232 XL	65	65
261 XL	65	70
271 XL	65	70
272 XL	65	70

# **EXTERIOR BODY CARE**

## **Premium Paint Care:**

Your Coach House Platinum has been painted with base coat and clear coat premium products offered by BASF, the best automotive finish available. We recommend that you wash the finish with mild soap and water.

## **Wax Finish:**

The finish may be waxed with an automotive wax that has been labeled as “safe for clear coat”.





## TAKING CARE OF YOUR RV FINISH

Following these procedures can provide a long-lasting, high-gloss finish to your RV. These same procedures can also be applied to your everyday automobile, producing the same long-lasting results.

The clear coat used on all painted Coach House RV's is similar to the technology used by automotive manufacturers. The end result is a Master-piece Finish which is the highest quality in the industry. The same care needs to be performed and maintained on the RV exterior surface as on an automobile finish.

- Make sure the RV's surface temperature is under 90° F, and is not in direct sunlight.
- Rinse the entire coach to remove all loose dirt and grime. Never hold a pressure washer close to the surface. Use a fan type spray nozzle, making sure that the water coming out of the gun has a fan and not a single straight stream.
- Most automotive stores offer mild car wash shampoos that are safe for clear coat finishes. We recommend using baby shampoo as it will not leave a film on the painted finish. Adding ½ of a cup of food grade vinegar to the water will boost the cleaning ability of any cleaner and also soften the water. This also helps to minimize water spots. **Do not use dish soap, detergents with degreasing agents, or industrial cleaners as they can cause damage to the finish.**
- Use a 100% cotton or Lambs-wool pad or wash mitt for washing the painted surface of the RV. Use a different mitt for washing the wheels and undercarriage.
- Change water in the wash bucket often or place a "dirt guard" in the bottom of the bucket to keep the cleaning pad or wash mitt free of dirt and debris.

**ABSOLUTELY NO BRUSHES SHOULD BE USED ON THE PAINTED SURFACE. USE OF THESE ON YOUR RV'S PAINTED SURFACE WILL CAUSE DAMAGE TO THE FINISH, AS IT WOULD AN AUTOMOBILE FINISH. COACH HOUSE DOES NOT SUPPORT USING ANY STYLE, TYPE, MATERIAL OF BRUSH EVEN THOUGH IT MAY BE MARKED AS "RV SAFE" OR "APPROVED."**

**Damage caused by inappropriate or unapplied maintenance is not covered under warranty as expressed in the Coach House Expressed Limited Written Warranty.**

### ***Drying your RV***

Drying the RV is just as important as washing it. Today's tap water and well water contains many chemicals that could leave water stains on the finish. After washing, dry the RV with the a squeegee or a clean 100% leather chamois. You can also use fresh Microfiber towels for drying. Please use caution as these towels are made partially with polyester (which is plastic) which can break down over time from extended use and washing, eventually causing damage to the clear coat finish.

[www.coachhouserv.com](http://www.coachhouserv.com)





The Chemical Company

# *Coach House*<sup>®</sup>

Motor Homes

## **Waxes & Polishes**

Over 90% of all passenger vehicles finishes are clearcoated. The finish on your RV is a state of the art Acrylic Urethane Basecoat / Clearcoat. This means that what you wash and polish is a clear urethane coating designed to protect the basecoat: the pigmented coating that provides color. As its main function of protecting the basecoat, clearcoats need to be maintained, especially in harsh environments. Clearcoats do not fade themselves, but appear to fade or lose gloss as the surface becomes contaminated by the environment. If this contamination is not removed frequently, results will be a dull or low-gloss finish. Occasional washing alone will not adequately remove some forms of contamination and will require polishing.

### **Polishes and waxes primarily serve the following purposes:**

1. To remove minor surface imperfections caused by water spots and acid rain.
2. To remove minor scratches by filling them and leveling the surface.
3. To seal the pores of the finish creating an easier-to-clean surface.
4. To beautify the paint finish appearance with more depth and high gloss.
5. To protect the paint finish from the elements.

Do not use products that contain harsh abrasives such as rubbing compounds. These products should be used by an experienced technician with proper training and equipment. Most polishes and waxes are designed to clean and polish in one application, whether by hand or machine.

A machine applied polish will last longer than one applied by hand because the high RPM of the buffing wheel creates heat, resulting in a deeper film with higher gloss. However, a hand-applied polish or wax will offer outstanding performance and protect the RV's finish.

When applying polish or wax, do so in a shaded area making sure the RV surface is at the specified temperature according to the polish manufacturer's recommendations. Due to the variations of polishes and waxes, incorporate the following suggestions into the polishing technique:

1. Condition the polishing pad by rubbing a slight amount of polish on it.
2. Use only the amount of polish specified in the label directions.
3. Work a small area at a time.
4. Rinse off and remove dried polish from crevices, trim and moldings.

**For optimum results refrain from waxing or polishing for 60 days from date of manufacture.**

[www.coachhouserv.com](http://www.coachhouserv.com)

**Platinum** FORD F-350 SUPER DUTY CHASSIS

Rev: 051013

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[www.coachhouserv.com](http://www.coachhouserv.com)

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# Power Converter

Your Coach House **PLATINUM** is equipped with a power converter that supplies the motorhome with 110 volts AC (Alternating Current) and 12 volts DC (Direct Current). The source of power can be from the:

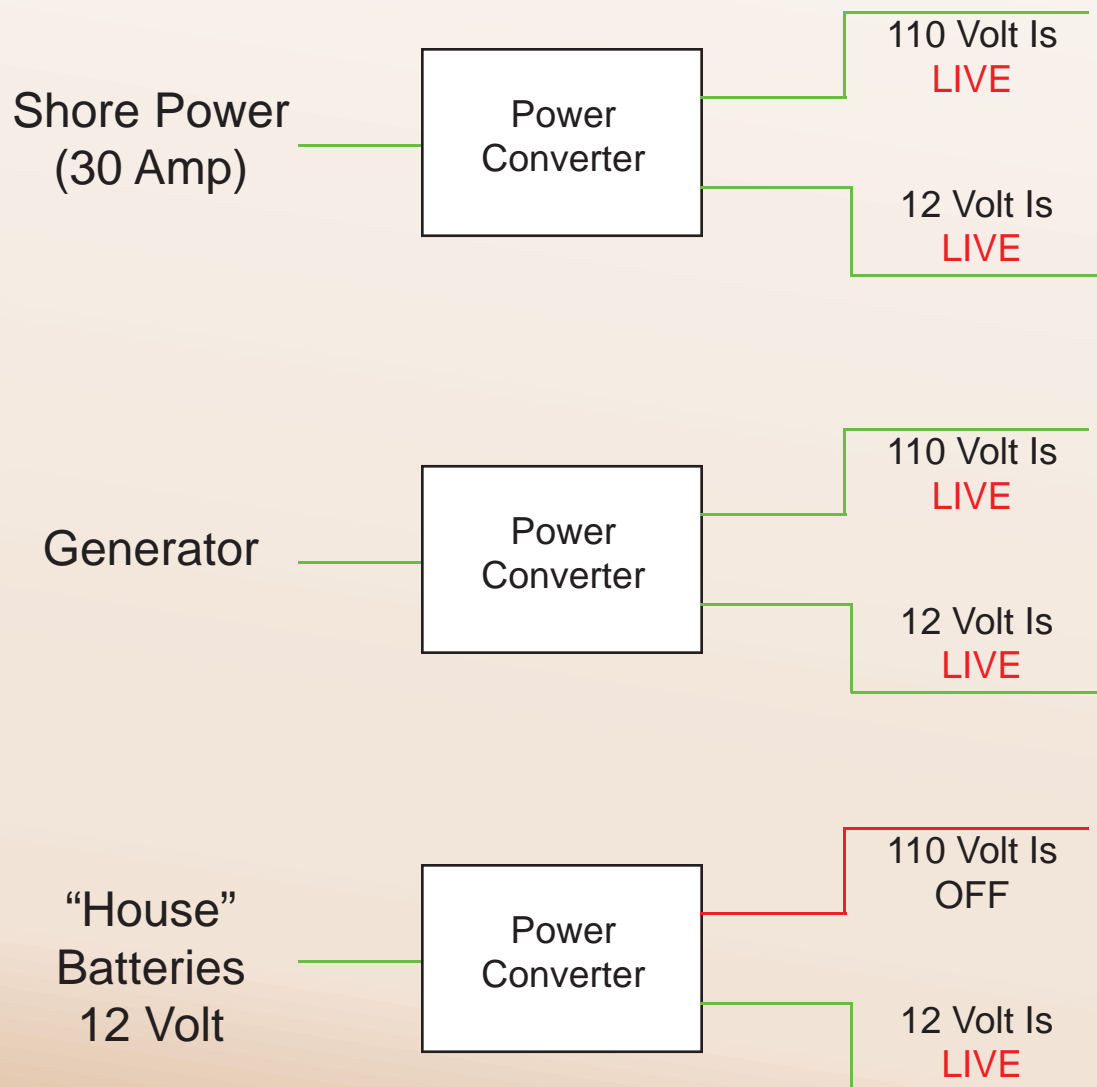
- 1) Auxiliary “House” 12 volt batteries
- 2) 110 volt external power cord (Shore Power)
- 3) Generator

## Power Converter Location:

<u>MODEL #</u>	<u>Location</u>
220	Driver’s Side Under Twin Bed
221 XL	Under Rear Dinette Seat
232 XL	Driver’s Side Under Closet
261 XL	Passenger’s Side Under Dry Storage Cabinet
261 XL (Twin Bed)	Driver’s Side Under Twin Bed
261 XL (Sleeper Sofa)	Passenger’s Side Under Dry Storage Cabinet
271 XL	Driver’s Side Under Twin Bed
272 XL	Driver’s Side (In the Bedroom under Drawers)



The converter is equipped with an automatic switchover relay to prevent both the generator and the external power cord from being connected to the converter at the same time. When either the external power cord or the generator is being used, both the 110 volt AC system and the 12 volt DC system will be activated inside the motorhome. When neither of these is connected, the 12 volt auxiliary batteries will activate only the 12 volt DC system.



# Progressive Dynamics Power Converter

## Instruction Manual

# Insert Progressive Dynamics Manual Here

# Circuit Breaker & Fuses

The location of the power converter can be found by looking for a black plastic box approximately 6" high x 12" wide. Location of the converter for your model is listed on page 3-3.

The door can be opened with a "push" touch and the circuit breakers and fuses can be located. The 110 volt AC breakers are located on the right with the first breaker on the left being the MAIN POWER, and the remaining breakers for the circuits as labeled on the door. The 12 volt DC fuses are the automotive push in type links and are located on the left side. The top two breakers are for system use, and do not feed the motorhome. The 12 volt DC circuits are labeled on the door.

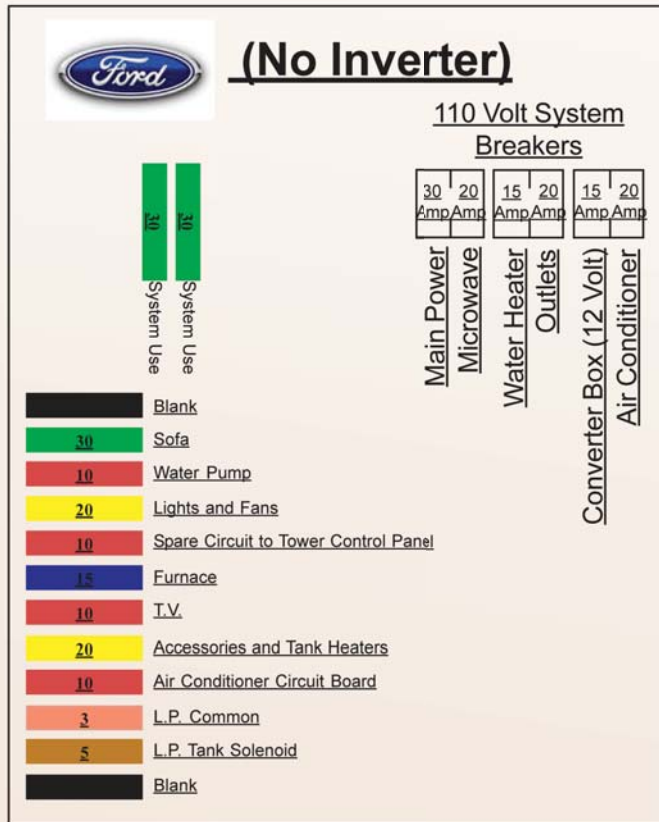
There is an auxiliary 12 volt fuse panel located above the driver's side seat in a compartment behind a smoked plexiglass door.

Diagrams of the Fuse Panels for your model are located on the next two pages.

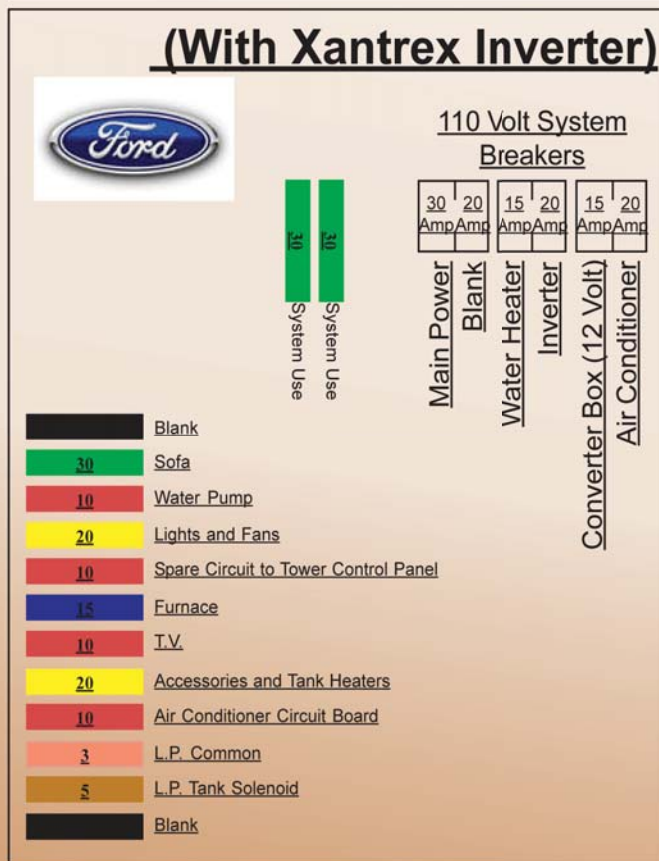
## CAUTION

Whenever working on the electrical system, the system or circuit being worked on should be deactivated by disconnecting the power and/or throwing the main circuit breaker and safe procedures should be followed to prevent electrical shock. Any modifications made to the system should only be done by a professional to assure compliance with the codes and to assure safe installation practices.

# Main Fuse Panel



Main Fuse Panel without Inverter Installed



Main Fuse Panel with Xantrex Pure Sine Wave Inverter Installed

## Auxiliary Fuse Panel (Above Driver's Seat)

<u>Circuit</u>	<u>Amp</u>	<u>Device</u>
1		Empty
2	5A	12v Power Supply
3	1A	T.V. Antenna Rotor
4	5A	Satellite
5	5A	Hot Water Solenoid
6	10A	CO and LP Detectors

# Multi-Battery Isolator Sure Power Manual



All Coach House FORD Chassis models have a Sure Power Battery Isolator installed which “shields” the engine battery from the house batteries when the engine is running and the alternator is charging the electrical system. The alternator will charge the engine battery first to make sure the engine systems are fully charged. When the engine battery is fully charged, the Battery Isolator will allow the alternator to charge the ‘house’ batteries when the engine is running.



# **Insert 2 Sided Sure Power Manual Here (Debbie Print)**

# Generator



All FORD E-450 Chassis models are equipped with a:



4.0 kW ONAN (Gasoline) Microquiet Generator

Ford Chassis Generators feed directly from your fuel tank. No special fuel fill is needed to power your generator.

## **Safety Note:**

Cummins Generators will not operate if your gasoline fuel tank is less than 1/4 tank full. This feature will ensure that your vehicle has sufficient reserve fuel available for other uses.

---

The instruction manual supplied with the generator should be carefully reviewed. Care should be taken not to exceed the capacity of the generator to prevent any possible damage to the generator unit.

# Insert Cummins Generator Manual Here

# Auxiliary "House" Batteries



Auxiliary batteries are mounted on a slide-out tray next to the entry door for easy access.



Your Ford Chassis may have two (2) or three (3) batteries depending on how it was originally equipped at the factory.



## FORD Chassis

Interstate Deep Cycle Group 27 Model DCM0090

2 Standard

1 Extra (Optional)

3 Total

The auxiliary batteries are charged either by:

- 1) The *Alternator* of the motor home while driving
- 2) The *Power Converter* when external 120 Volt AC power is connected
- 3) The *Generator*

Care should be taken to prevent the auxiliary batteries from being totally discharged by making sure that all of the lights, fans, and appliances are turned off when the motor home is not in use. Whenever the motor home is not used for a period of time, the 120 Volt power cord should be plugged in once a month for 8 to 12 hours to bring up the charge on the auxiliary batteries. The master 12 Volt electrical switch (found to the right immediately upon entering the main motor home door) must be ON for the converter charger to charge the auxiliary batteries. Refer to the power center instruction sheet for further information. A totally discharged battery will not normally recharge as quickly, or in the same manner as a low battery. Professional help should be used when attempting to charge a totally discharged battery.

The engine battery of the motor home is not charged from the power converter. The engine battery should be periodically checked and maintained. Refer to the Chassis Owners Manual for recommended engine battery maintenance.

**DCM0090**



**DEEP CYCLE  
MOBILITY**



**DCM0090  
VALVE-REGULATED  
LEAD-ACID BATTERY  
FOR DEEP-CYCLE  
APPLICATIONS**

**FEATURES**

- Robust plate for extended cycle life.
- Computer-generated grid design optimized for high-power density.
- Low-calcium grid alloy for reduced gas emissions and ease of recycling.
- Flame-arresting, one-way pressure-relief vent for safety and long life.
- UL-recognized component.
- Multicell design for economy of installation and maintenance.
- Case and cover available in standard polypropylene.
- Thermally welded case-to-cover bond to eliminate leakage.
- Removable handles.
- Can be used in any orientation. Upright, side or end mounting recommended.
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance.
- Not restricted for air transport — complies with IATA/ICAO Special Provision A67.
- Not restricted for surface transport — classified as nonhazardous material as related to DOT-CFR Title 49 parts 171-189.
- Not restricted for water transport — classified as nonhazardous material per IMDG Amendment 27.
- Longest cycle life available.
- Manufactured by an ISO9001 certified facility.

**12 Volts – 90 Ampere-Hour Capacity @ 20-Hour Rate**

Ampere-Hour Capacity to 1.75 Volts per Cell @ 77°F (25°C)  
10.5 Volts per 12 Volt Battery

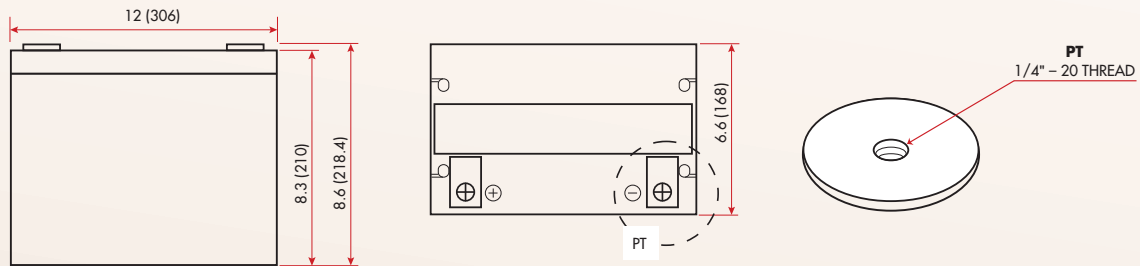
Approximate Discharge in Hours	20	10	5	1
Amp-Hour Capacity	92	84	67	46

**Interstate Battery  
System of America, Inc.**  
12770 Merit Drive, Suite 1000  
Dallas, TX 75251  
Customer Service: 1-888-772-3600

Printed in the U.S.A. Rev. 12/06 MR 128782  
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[interstatebatteries.com](http://interstatebatteries.com)





## DCM0090 – Specifications

\*All dimensions in inches and (millimeters). All dimensions are for reference only. Contact an Interstate representative for complete dimensional information.

Cells Per Unit	Voltage Per Unit	Weight	Electrolyte	Max. Discharge Current	Short Circuit Current	Ohms Imped. 60 Hz
6	12	60.2 lbs. 27.3 kg	Absorbed H <sub>2</sub> SO <sub>4</sub> SG = 1.30	450 Amps	1350 Amps @ 0.1 sec.	8 mΩ

<b>Capacity</b>	90 Ah @ 20 hr. rate to 1.75 volts per cell @ 77°F (25°C)
<b>Operating Temperature Range (with temperature compensation)</b>	Discharge: -40°F (-40°C) to +160°F (71°C) Charge: -10°F (-23°C) to +140°F (60°C)
<b>Recommended Operating Temperature Range</b>	+74°F (23°C) to +80°F (27°C)
<b>Equalization and Cycle Service Charging and Current Limits</b>	≤ 36 A, 14.5 V – 14.9 V
<b>Self Discharge</b>	Interstate batteries may be stored for up to six months at 77°F (25°C), and then a freshening charge is required. For higher temperatures, the time interval will be shorter.
<b>Terminal</b>	Insert, threaded female, 1/4" – 20 (hardware included)

## Constant Current Discharge Ratings – Amperes @ 77°F (25°C)

Operating Time to End Point Voltage (in hours)

End Point Volts/Cell		5 min	10 min	15 min	30 min	1 hr	2 hr	3 hr	4 hr	5 hr	8 hr	10 hr	20 hr
9.60V	A	309.3	225.7	158.8	96.1	50.2	29.3	21.5	16.7	13.8	9.7	8.8	4.7
	W	3284.6	2480.4	1687	1020.8	581	338.6	249.1	194	159.7	112.9	102	54.9
10.20V	A	272.5	205.7	142.1	91.1	47.2	27.9	20.9	16.3	13.5	9.5	8.5	4.6
	W	3025.5	2283.1	1577.5	1011.6	545.9	323.5	242.4	188.9	125.5	110.4	99.5	53.5
10.50V	A	262.5	195.6	133.8	88.6	46	27.3	20.4	16.1	13.4	9.4	8.4	4.6
	W	2977	2218.7	1516.5	1004.9	528.4	316	236.6	185.6	154.7	109.5	97.8	52.8
10.80V	A	252.5	185.6	125.4	86.1	44.3	26.6	19.9	15.8	13	9.2	8.4	4.5
	W	2938.5	2160.2	1459.7	1002.4	514.1	309.3	231.6	182.2	152.2	107	97	52.6
11.10V	A	242.4	175.6	117	83.6	42.6	25.9	19.2	15.3	12.7	8.9	7.9	4.3
	W	2885	2089.2	1392.8	994.8	507.5	308.5	229.1	181.4	151.3	106.2	94.5	51



# Maintenance of Batteries

Batteries have a “life” which is determined by the number of charging/discharging “cycles”. When your system is not in use, proper care should be taken to extend the battery life by following simple procedures:

## **Short Term Storage:**

- 1) Turn off the Interior Battery Switch (located inside the Motorhome Entry Door to the right).
- 2) Ensure that all current drains have been eliminated. (Turn off all appliances)

## **Long Term Storage:**

- 1) Turn off the Interior Battery Switch (located inside the Motorhome Entry Door to the right).
- 2) Disconnect the “House” Batteries by removing the Main “Positive” (red) cable(s).



**Note:** Do not disconnect the short red cables between your batteries. Only disconnect the “long” red cable(s) which feed your motorhome.

- 3) Connect a Battery Maintenance Device (Charging System) to your “House” Battery Bank. Chargers and Maintenance Devices are readily available at Auto Parts Stores, RV Dealers, or your local Hardware Store.

## **Engine Battery Maintenance:**

Please refer to your Chassis Owner’s Manual to correctly maintain your engine battery.



**Insert Battery Maintenance Manual in  
See Through Pocket Here**

# 80 Amp Breaker

Your Coach House **PLATINUM** has an electrical system circuit breaker to prevent damage to your electrical system. The 80 Amp breaker will 'trip' if an overload situation occurs. Push in the red button to reset the breaker.

## 80 Amp Breaker Locations

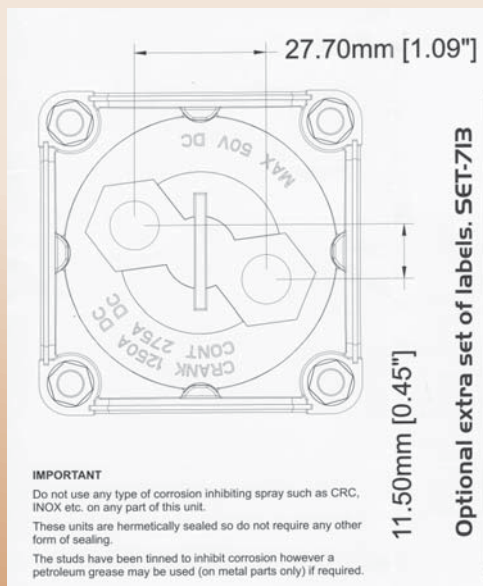
<u>Model #</u>	<u>Location</u>
220	Side of Galley Cabinet as you enter motorhome (on left)
221 XL	Under the Dinette Seat (Front)
232 XL	Front Edge of the Galley (Lower Cabinet)
261 XL	Under the Dinette Seat (Front)
261 XL (Twin Bed)	Side of Galley Cabinet as you enter motorhome (on left)
261 XL (Sleeper Sofa)	Under the Dinette Seat (Front)
271 XL	Behind the Lounge Chair (On the Galley Cabinet)
272 XL	Behind the Lounge Chair (On the Galley Cabinet)



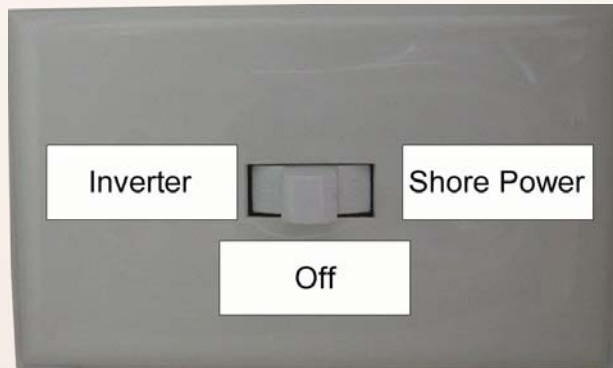
# Battery Switch

The battery switch is located at the exterior side door, on the cabinet behind the passenger's seat. Auxiliary batteries are being used when the switch is in the on position. Always turn the battery switch to the off position when the motor home is not being used, to prevent the auxiliary batteries from being drained.

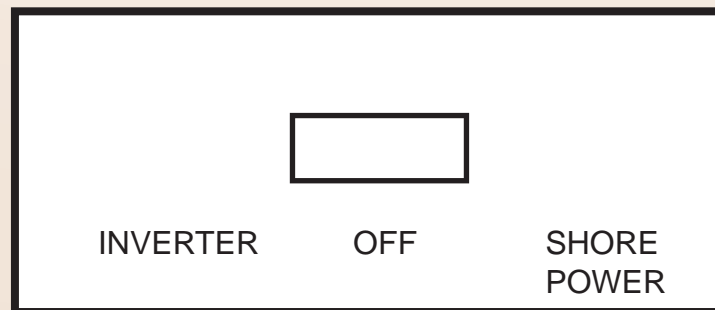
NOTE: Auxiliary batteries will NOT charge from engine alternator or converter with battery switch in the "OFF" position.



# Power Input Selection Switch

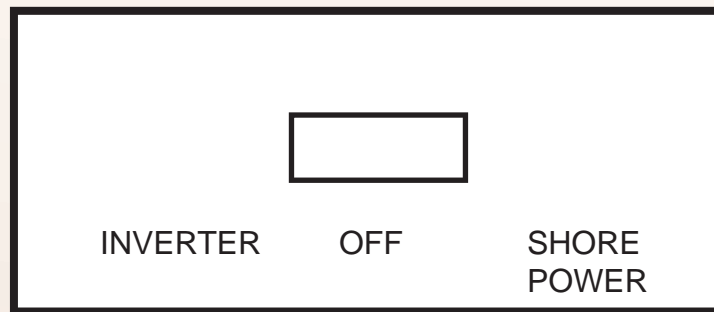


A selector switch has been installed in your **PLATINUM** motorhome to protect the inverter from being shorted out when hooking up to shore power. This switch is usually located above the driver's compartment either in the fuse panel area, or on the cabinetry above the slide out. The switch is a three position switch. The following diagram shows the positions.



**THIS SWITCH IS NOT INSTALLED IF A  
XANTREX PURE SINE WAVE INVERTER  
WAS INSTALLED IN YOUR COACH HOUSE  
MOTORHOME.**

Power for the front outlets, the television and electronics, and the automatic legless awning are all fed through the Power Input Selection Switch. Each position feeds power to the outlets and appliances differently.



When the Selector Switch is in the “Inverter” position, 110 Volt Power to the front outlets is supplied from the “House Batteries” it is possible to drain your house batteries if the switch is in this position too long without recharging your house batteries. Plugging in to Shore Power will charge your batteries while the Inverter is selected.

When the Selector Switch is in the “OFF” position, no power is supplied to the front outlets. **The powered awning will NOT work when the switch is in this position.** Severe damage could be done to the awning in inclement weather if power is not supplied.

When the Selector Switch is in the “Shore Power” position, 110 Volt Power to the front outlets is supplied from the 110 Volt source you are plugged into. The house batteries will not drain their charge in this position. Remember to plug in your shore cord in this position.

**Make sure your Battery Cutoff Switch is in the ON position and the Inverter is turned ON any time the Electric Awning is deployed. Damage to your Awning or Motorhome may occur if power is not available in the event of inclement weather.**



# Auxiliary Start Over-Ride Switch

In the event that your engine battery does not have the power to start your motorhome, your **PLATINUM** is equipped with an Auxilliary Start Over-Ride Switch which will “tie” the house batteries to the engine battery to give an extra “boost” of power to start your motorhome engine.

**Push the white switch and HOLD IT DOWN while starting your vehicle with the key.**

The Over-Ride Switch is located on the dash panel just above your left knee when sitting in the driver’s seat.



# GFCI Receptacles

A GFCI receptacle is different from conventional receptacles. In the event of a ground fault, a GFCI will trip and quickly stop the flow of electricity to prevent serious injury. All Coach House **PLATINUM** models have GFCI receptacles in the galley and the bathroom. See the GFCI manual for more information.



## How to test your GFCI Outlet:

**Step 1:** Plug a lamp into the GFCI.

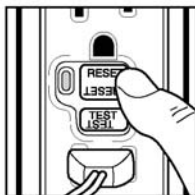
**Step 2:** Turn on the lamp.

**Step 3:** Push the TEST button on the GFCI. The GFCI should trip, stopping the flow of electricity to the lamp. Note that the RESET button will pop-out.



**If the lamp DOESN'T turn off when the TEST button is pushed,** the GFCI is not working properly and should be replaced immediately.

**If the lamp DOES turn off when the TEST button is pushed,** the GFCI is working properly and should be tested monthly. To restore power, press the RESET button.



**If the power is not restored when the RESET button is pushed,** the GFCI is not working properly and should be replaced immediately.

For more information on GFCIs and how to test monthly, go to

[www.tools.passandseymour.com/gfci](http://www.tools.passandseymour.com/gfci)

or to participate in an interactive GFCI demo online, go to

[www.electrical-safety.org](http://www.electrical-safety.org)

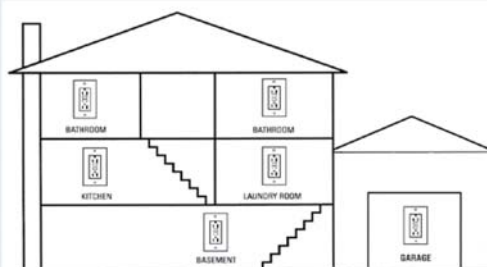
## What is a GFCI Outlet?

A Ground Fault Circuit Interrupter (GFCI) Outlet protects you from serious injury due to electrical shock from:

- Hazardous leakage levels from appliances and tools
- Exposure to moisture while operating electrical equipment
- Frayed or damaged electrical wiring

## Where are your GFCIs located?

GFCI protection is required per the *National Electrical Code®* (NEC) for outlets servicing bathrooms, kitchen countertops, unfinished basements, garages, utility sinks, and outdoor locations.

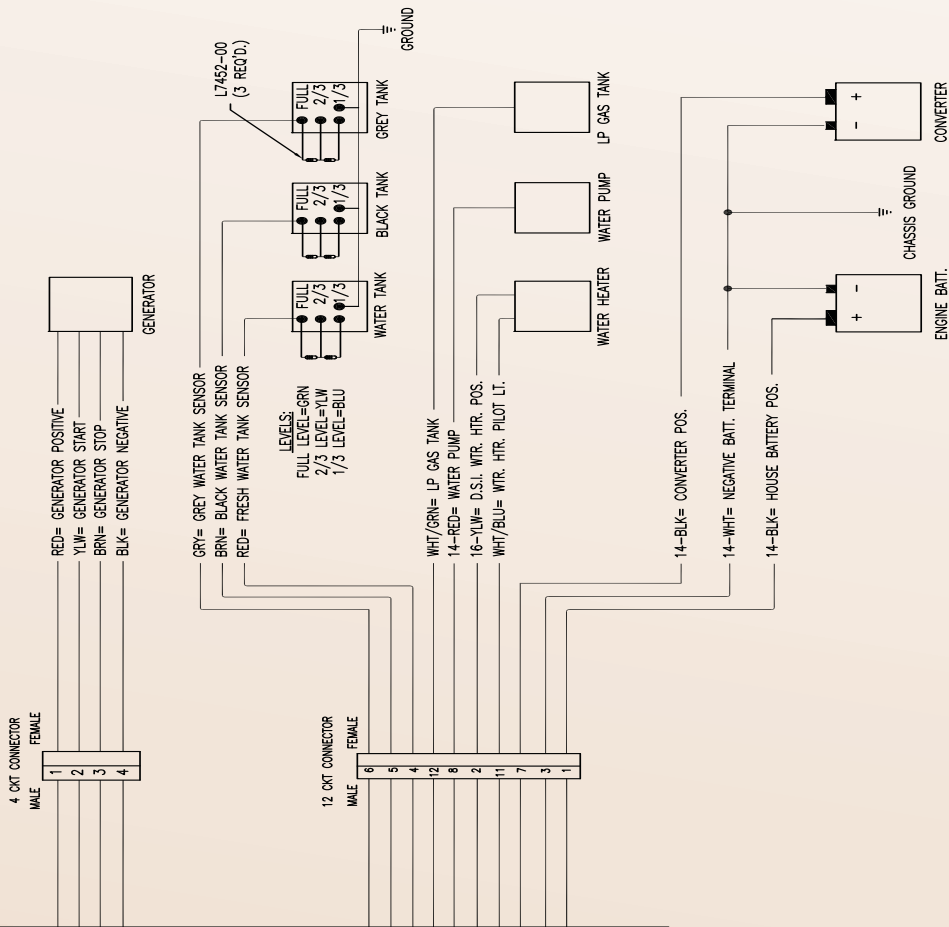
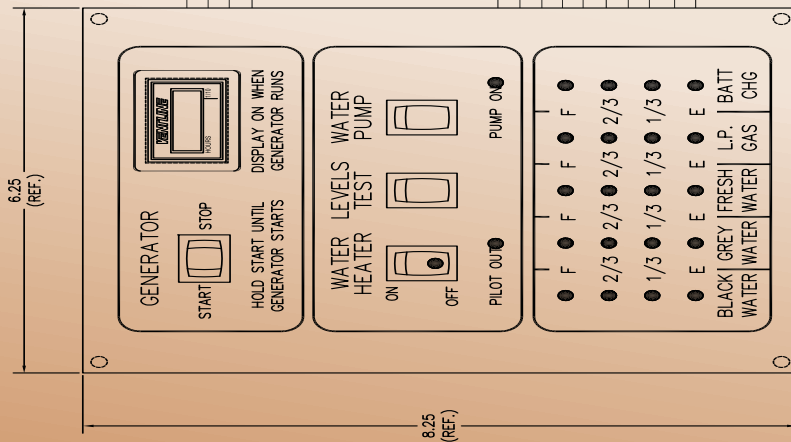


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# Main Control Panel Wiring Diagrams

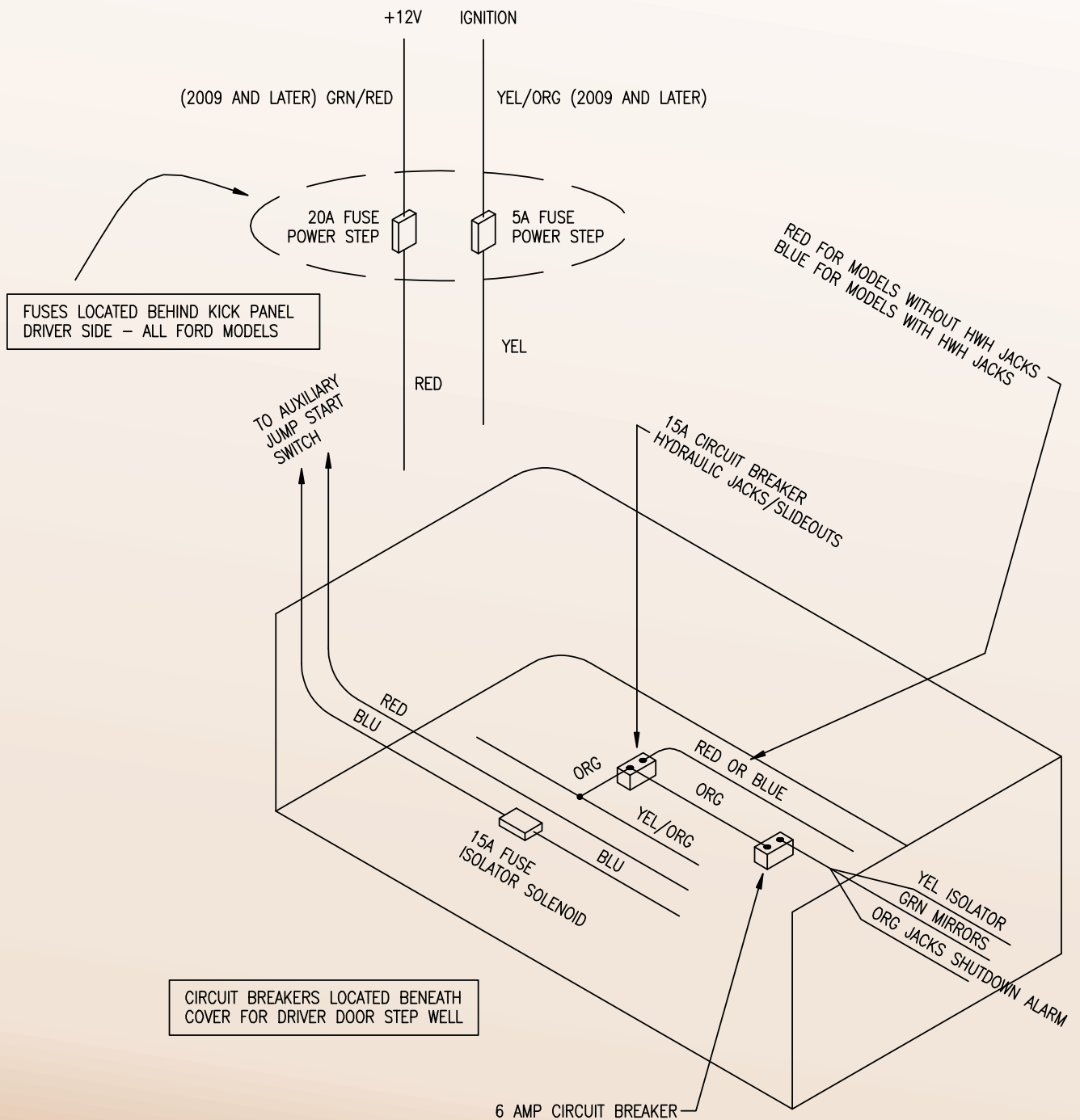





- NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL WIRE IS 22 AWG.
  2. REF. DWG'S:  
GENERATOR HARNESS= L7751-00  
INTERNAL & SWITCH HARNESS= L7880-00  
PIGTAIL HARNESS= L7881-00  
GEN. PIGTAIL HARNESS= L7882-00  
PCB= L5118-01  
TRH= L7452-00 (3 EA.)  
TEST HARNESS= L7883-00
  3. BEFORE PACKING, SECURE HARNESS WITH VDU/69-00 TIE WRAP ON RIGHT SIDE POST.

PART NO.	RECD	MATERIAL	DESCRIPTION	IMG ID
DATE	DATE	DATE	DATE	DATE
MPR	3/4/03	SEE BOM PAGE 2		
CHECKED	DATE	NAME		
APPROV'D	DATE	NAME		
FUNCTION DRAWING, MONITOR PANEL				
DWG NO. PAGE 1 OF 2				
LA1068-00				





1479	2	4-30-13	UPDATE WIRING PER D112.
1415	1	11-8-11	UPDATE FUSE LOCATION.
	0	11-12-09	
ECR	REV	DATE	DESCRIPTION
FUSE & CIRCUIT BREAKER LOCATION FOR POWER STEP, HYDRAULIC JACKS, POWER MIRROR, & ALTERNATOR (FORD)			 <b>Coach House</b> Van Motor Homes
			No. CH-R-0089

SHEET 1 OF 2







## Section 4

### L.P.G. - Liquid Petroleum Gas Systems

# L.P.G. Systems

<b>L.P.G. Tank (Ford Models)</b>	.....	<b>4-3</b>
<b>L.P.G. Regulator</b>	.....	<b>4-4</b>
<b>Regulator Freeze Up</b>	.....	<b>4-7</b>
<b>Mandatory Consumer Information</b>	.....	<b>4-8</b>

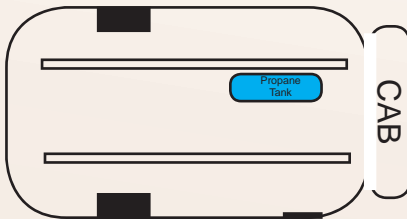


# L.P.G. Tank (Ford Models)



## Ford Models

The L.P.G. storage tank on the Coach House is located on the driver's side, inboard of the frame on all Ford powered models. Only experienced personnel should fill the tank.



There is a remote fill port located behind the side entrance door on the passenger side of the motor home.



There is a remote fill switch located below the remote fill port. Push the remote fill switch handle in for filling only, and pull out for normal operation.

The remote fill switch requires constant power while pulled to the “out” (on) position. While your vehicle is stored it is recommended to push the remote fill switch “in” (to the off position) so the auxiliary batteries will not be drained. The switch is designed to meet safety requirements which state that the power must be off when filling the tank.

# L.P.G. Regulator

The L.P.G. system uses a two-stage regulator manufactured by Cavagna Group to control the pressure to the L.P.G. appliances to assure the proper functioning and safe operation of the appliances. The regulator is located under the floor of the motor home near the L.P.G. storage tank and is enclosed in a protective shield to prevent damage to the regulator or clogging of the vent. If the motor home is driven through heavy snow or mud, the vent opening should be checked to make sure that it is not clogged by snow, mud or ice. An opening in the bottom of the shelf allows access to the vent.



**cavagna group**

**Advanced Solutions for Gas Control**

**Cavagna North America, Inc.**

50 Napoleon Court, Somerset, NJ 08873 USA

Tel 732.469.2100 \* Fax 731.469.3344

email: [info@cavagna.com](mailto:info@cavagna.com)

**[www.cavagnagroup.com](http://www.cavagnagroup.com)**

# Recreational vehicles

## 1. INTRODUCTION

### 1.1 Pressure Gas Regulators

Two stage gas regulators are designed and manufactured in accordance to UL 144 requirements (NFPA 1192; paragraph 5.2.15.2). Regulators are used with propane gas appliances functioning at 11 inch WC pressure.

Gas pressure regulators, used in recreational vehicle (RV) installations, have two integrated stages of regulation with intermediate pressure of 10 PSI (NFPA 1192; paragraph 5.2.15.1).

Depending on the kind of installation these regulators are used for, they can supply gas for a range of calorific power from 100,000 to 160,000 BTU. See technical description of gas appliances.

The second stage of the regulator is equipped with a safety valve Type 1 as per UL 144.

**WARNING:**

The regulator must be installed with vent hole pointing downwards to allow water to exit.

(See NFPA 1192, paragraph 5.2.15.4).

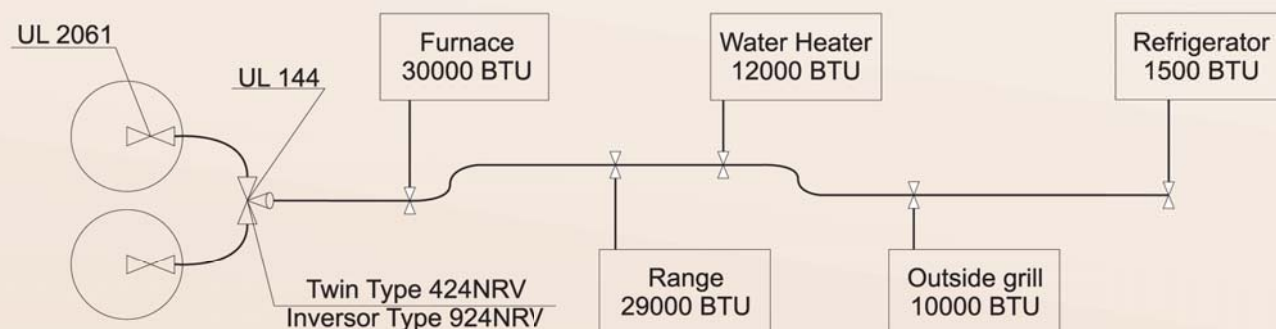
**WARNING:**

100 % inspection at Re.Ca. Italy manufacturing unit of the whole range of regulators is undertaken during manufacturing process as far as:

- setting pressure; see setting point at page 6 and 7 of the present catalogue;
- leakage test at the inlet (high pressure value to be used) and leakage test at the outlet (low and high pressure value to be used).

### 1.2 Installations

RV installations can be made on the basis of the following general diagram:



RV installations are supplied by single or double cylinder systems, or by ASME tanks. The integrated second stage regulator is connected to cylinders through flexible high pressure gas rubber hoses, equipped with fittings in accordance to UL 2061 (NFPA 1192; paragraph 5.2.16.4). Installations of integrated double stage regulators have to be in accordance with requirements expressed in NFPA 1192, paragraph 5.2.15.

Installations generally supply the following gas appliances:

-Furnace	30000 BTU
-Range	29000 BTU
-Water Heater	12000 BTU
-Refrigerator	1500 BTU
-Outside grill	10000 BTU
Total	81000 BTU

**WARNING:**

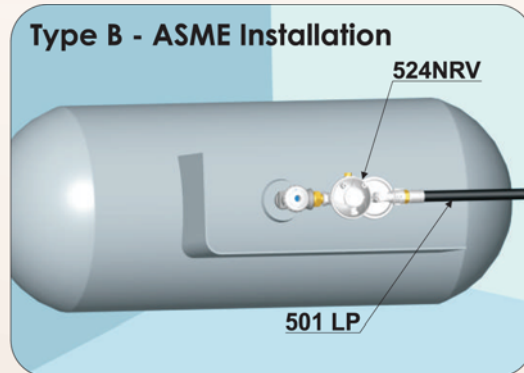
Inside diameter and length of pipes must be calculated to ensure that supplying pressure is sufficient to run the gas appliances at the same time.

All of the above mentioned gas appliances must run at the same time without any failure.



# Recreational vehicles

Gas cylinder and regulator shall be protected by a shelter or in a cylindrical cage, see following diagram (as per NFPA 1192, paragraphs 5.2.15.6; 5.2.15.7; 5.2.15.8).



## WARNING:

RV gas piping system must be tested for leakage prior to delivering vehicle to dealer network. Therefore, setting pressure test and leakage test have been done by authorized RV OEM. In case of any detected anomalies, the gas regulator kit is not likely to be responsible because the gas regulators are 100% tested while manufacturing.

## 3. ASME Range - Type 524AS

### 524AS Type



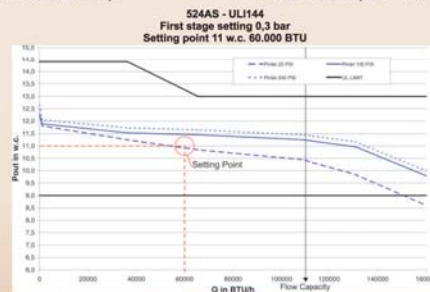
The Two Stage Type 524 AS regulator is mounted directly to tank, connected to the tank valve of ASME container type. It is connected at its outlet to the installation gas pipe net. The regulator inlet POL coupling is equipped with an excess flow valve device.

## WARNING:

The regulator must be mounted with vent holes pointing downward. The cover 211-086 (see page 10) is normally mounted as protection for the regulator. See type C installation.

## Technical features:

Inlet connection:	POL.880
Outlet connection:	3/8 NPT
Test Point:	1/8 NPT
Guaranteed Flow:	103000 BTU/h
Setting Point:	11 WC +/- 1 at 70000 BTU
Adjustable outlet pressure:	from -0.5 WC to +1.5 WC
Paint:	metallic grey
Cover and body:	Zamak Alloy 13 EN 1774





# Regulator Freeze Up

Under some conditions, moisture may be present in the L.P. gas in your tank and this can cause the regulator to freeze up, stopping flow to the appliances. This condition occurs more frequently in cold weather or at higher altitudes and usually can be cured or prevented by having methanol injected into the L.P. G. tank. Only experienced, qualified personnel should do this. Some L.P.G. stations especially at higher altitudes, will already have methanol in the L.P. gas they dispense. It is suggested that if you plan to go to a colder climate or a higher altitude, that you wait until you reach those areas before completely filling your tank. The small cost difference is well worth it to reduce the risk of freeze up.

# Mandatory Consumer Information

The following information is being supplied to conform with the mandates of:

ANSI A119.2 / NFPA 501C-1987

and to ensure the greatest possible degree of safety for our customers. Please study this information carefully and keep it in your vehicle at all times.

Should this information be misplaced, additional copies are available from our corporate office for a nominal charge.

A)

## **WARNING**

L.P. Gas containers shall not be placed or stored inside the vehicle.

L.P. Gas containers are equipped with safety devices which relieve excessive pressure by discharging gas to the atmosphere.

B)

## **WARNING**

**IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING!  
COOKING APPLIANCES NEED FRESH AIR FOR SAFE OPERATION**

Before Operation:

- 1) Open overhead vent or turn on exhaust fan.
- 2) Open window.

This warning label has been located in the cooking area to remind you to provide an adequate supply of fresh air for combustion. Unlike homes, the amount of oxygen supply is limited to the size of the recreational vehicle, and proper ventilation when using the cooking appliance(s) will avoid dangers. Cooking appliances should not be used for comfort heating as the danger of asphyxiation is greater when the appliance is used for long periods of time.

- C) A warning label has been located near the L.P. Gas container. This label reads:

**DO NOT FILL LP-GAS CONTAINER(S) TO MORE THAN 80 PERCENT  
OF CAPACITY**

Overfilling the L.P. Gas container can result in uncontrolled flow which can cause fire or explosion. A properly filled container will contain approximately 80 percent of its volume as liquid L.P. Gas. Safety regulation prevents filling over 80%.

D) **WARNING**

Portable fuel-burning equipment, including wood and charcoal grills and stoves, must not be used inside the recreational vehicle. The use of this equipment inside the recreational vehicle may cause fires or asphyxiation.

E) **WARNING**

Storage of L.P. Gas containers, gasoline or other flammable liquids inside your vehicle - even for short periods of time - presents a risk of fire and/or explosion. All flammable liquids should be stored safely in a well-ventilated area outside your vehicle and in proper containers.

- F) The following label has been placed in the vehicle near the range area.

**IF YOU SMELL GAS**

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

- G) L.P. 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 regulator vent faces downward and the cover is kept in place to minimize vent blockage which could result in excessive gas pressure causing fire or explosion.














# Section 5









## Plumbing / H.V.A.C. Systems

# Plumbing / H.V.A.C Systems

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# Furnace (L.P.G.)

Refer to the following chart for the location of your Furnace:

<u>Model</u>	<u>Placement</u>
 220	Under the Galley
 221 XL	Under Front Dinette
 232 XL	Under the Galley
 261 XL	Under Front Dinette
 261 XL (Twin Bed)	Under the Galley
 261 XL (Sleeper Sofa)	Under the Dinette
 271 XL	Under the Lounge Chair
 272 XL	Under the Lounge Chair

The furnace is controlled by the comfort control center which also controls the air conditioning system. The furnace blower and automatic ignition are powered by the 12-volt DC system. The manufacturers operating instructions, enclosed in this section, should be reviewed before using the furnace. As with all L.P.G. appliances, all precautionary notes and labels should be carefully reviewed for maximum safety and comfort.



**Insert Atwood Furnace Manual Here**

# Comfort Control System (Thermostat)

The comfort control system will operate the furnace, A/C, heater via A/C, fan and speed. Read the operation instructions for optimum use.



# Insert Dometic Comfort Control Manual Here

# Air Conditioner

The air conditioner for your Coach House Platinum is manufactured specifically for RV use and is located in the center of the motor home on the roof with outlets in the ceiling. The A/C selector is on the digital combo thermostat located on the sofa/dinette overhead cabinet-driver's side. The thermostat switch should be adjusted to the desired temperature level and controls the operation of the compressor.

The air conditioner operates on the 120 volt A/C system and will operate only when the external power cord is connected to a power source or when the generator is operating.





**Insert Dometic A/C Manual Here**

# Fan-Tastic Roof Vent Fans

There are two (2) Fan-Tastic Vent roof fans in your Platinum Motorhome. One is located towards the front near the gallery, and one is located towards the rear near the bathroom.

The roof vent fan is located in the ceiling and is operated by cranking up the fan cover and by turning on the switch by the fan and setting the thermostat knob. The 12-volt DC system powers the fan. The fans have an automatic rain sensor.



Fan-Tastic Vent Model  
6000RBTA



# How to Use Your Genuine **FAN-TASTIC VENT®** Ceiling Fan



## Operating Instructions:

1. Turn 3-speed knob to desired performance level (0-Off, 1-Low, 2-Medium, 3-High). This activates the fan.
2. Select UP to raise dome, DOWN to close dome.
3. With the fan blade motor reverse switch, pre-select IN or OUT (as dome opens the fan motor will turn in the pre-selected position). IN brings air into the coach from the roof through the vent. OUT brings air into the coach through slightly open window(s) and exhausts hot, stale air out through vent to the roof. When dome closes, either by selecting OFF on controller or via moisture on rain sensor, the fan blade motor shuts off. Anytime you reverse the fan blade motor while system is in operation, you must first select center (neutral position) and allow the fan blade to stop completely. Then select the opposite direction to restart the motor.
4. This fan is equipped with a built-in thermostat, ON is 22°F (deep blue) OFF is 123°F (bright red). Select a setting somewhere in between for your comfort. Fan blade will automatically turn on and off as your coach heats up and cools down. When rain sensor becomes wet, dome will close automatically and shut off fan blade, if it is on. When sensor dries, dome will reopen. If fan blade rapid cycles on/off, select a more extreme temperature setting to minimize.
5. The 6000 RBTA is also equipped with a RAIN SENSOR. When dome (lid) is open and moisture contacts the sensor, the dome closes and turns the fan blade motor off if it is running. When the rain sensor dries, the dome reopens and the fan blade motor will start if it was running when dome closed.
6. Dome adjustment or emergency close knob. To stop dome partially open; apply opposite force to slowly rotating knob, as dome is OPENING ONLY!! To adjust dome, allow it to travel all the way up automatically. Now pull knob down to "MANUAL" position. Turn knob lowering dome to desired height, then immediately push the knob back to "AUTO" position. (NOTE: at 1/3 open, fan blade exhaust efficiency is reduced to 90%). After adjusting, always check knob to ensure it is now "locked into gearbox".

**Recommendations:** You may use your Fan-Tastic Vent while driving or in windy conditions. In this case keep your dome fully open. When storing your Motorhome, lower your dome until it is completely closed and turn the 3 speed knob to 0-Off.

**NOTE:** At 1/3 dome open, exhaust efficiency is reduced to 90%.

**NOTE:** Fan-Tastic Vent does not recommend placing a vent cover over, or using a foam filter on your Fan-Tastic Vent. This greatly restricts airflow, causing accumulation of dust and increased sound levels.



# How to Clean the Screen on Your Genuine **FAN-TASTIC VENT®**

C e i l i n g   F a n



## **Cleaning Instructions:**

1. Turn fan motor off.
2. Locate the thumb tab on the Pop 'N Lock Screen, grab and pull down to unsnap.
3. Wash Pop 'N Lock Screen and fan blade with a light non-abrasive soap, rinse and dry.
4. Re-install the Pop 'N Lock Screen by gently snapping back in place.

**Suggestion:** Once screen and blade are washed and dried, you may wipe or spray 303 protector (a water based protector; do not use a petroleum based protector) on the screen and blade. Buff to a high gloss. This will minimize the amount of dust and dirt build up.



## **Cleaning Instructions:**

1. Turn fan motor off.
2. Remove 8 painted flat head Phillips screws around perimeter of screen insert.
3. Clean screen and blade with soap and water solution and reinstall.
4. Re-Install the screen by reversing step 2.

**Suggestion:** Once screen and blade are washed and dried, you may wipe or spray 303 protector (a water based protector; do not use a petroleum based protector) on the screen and blade. Buff to a high gloss. This will minimize the amount of dust and dirt build up.

## **Troubleshooting:**

Fan-Tastic Vent wishes to assist any customer with any problem or need. Please call 1-800-521-0298 for assistance between 8 am and 5 pm E.S.T.

# **FAN-TASTIC VENT®**

Brings the Outside in... Instantly®



# R.V. Toilet

Based on the model of your **PLATINUM** motorhome, we have installed either a gravity flush toilet, or an electronic flush TECMA macerator toilet. Both toilets are manufactured by the Thetford Corporation.

<u>Model</u>	<u>Installed Toilet</u>
220	Tecma Macerator
221 XL	Gravity Flush
232 XL	Gravity Flush
261 XL	Gravity Flush
261 XL (Twin Bed)	Gravity Flush
261 XL (Sleeper Sofa)	Gravity Flush
271 XL	Gravity Flush
272 XL	Gravity Flush



When using the toilet, either the water demand pump should be turned on (water pump switch is located on the side of the lavatory sink cabinet) or the city water connection made and pressurized to assure a water supply to the toilet.

## Gravity Flush

The gravity flush toilet in the Coach House is connected directly to a waste holding tank and has a water line routed to it for rinsing and flushing. There are separate levers on the side of the toilet for rinsing and flushing, and the instructions on the toilet should be followed for best results.

## Tecma Macerator

The Tecma toilet is electronically flushed and has different modes for liquid or solid waste. Consult the Tecma owner's manual for instructions. This toilet has a tank sensor which prevents operation if your black water tank is full. You will need to dump your holding tanks to operate the toilet when this situation occurs.

**Insert Thetford Toilet Manual**  
**Here**  
**(Debbie Print Double Sided)**



# Black and Gray Water Holding Tanks

The connection for draining the holding tanks are located on the left side of the motor home. To drain the system, connect one end of an appropriate drain hose to the drain connection and the other end to a proper dump station. After the connections are made, opening the dump valve or valves can dump the system. The valves are located under the motor home on the driver's side rear and are labeled.

Dump the black water holding tank first, then dump the gray water holding tank.





# Black Water Holding Tank Flush System

Drain the black water holding tank and leave valve open.



Attach garden hose to the water inlet (located behind the utility access door behind the drivers side rear tires, black cap). Turn on water (from outside source) to spray the interior of the black water holding tank. Continue to leave drain valve open until flushed. Turn off water, disconnect hose and close valve.

## **NOTE:**

This panel is not the same on all models. Look for the Black Water Hose Inlet on your panel.



# Black Water Backflow Preventer

There is a backflow preventer which prevents the black water tank from contaminating the system when flushing with a hose.



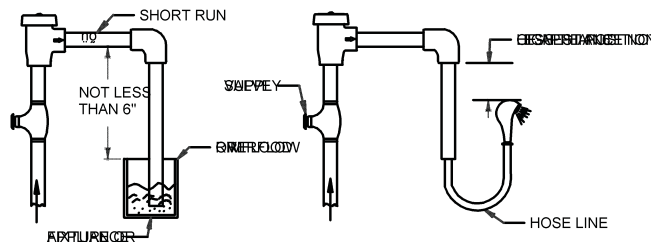
**CONBRACO**  
INDUSTRIES INC.

## 38-200 SERIES ATMOSPHERIC TYPE VACUUM BREAKERS

#38-200 Series Atmospheric Type Anti-Siphon Vacuum Breaker is available in both pipe applied and deck mounted configurations and incorporates an atmospheric vent in combination with a check valve to prevent back-siphonage of polluted water into a potable water supply. The flow of water through the inlet orifice of the vacuum breaker lifts the float and seal to its seat, sealing the atmospheric vent, supplying water to downstream equipment. If a negative pressure develops in the supply line, the float will drop, sealing the orifice while at the same time the atmospheric vent opens admitting air to the system thus breaking the vacuum. The body is forged brass, the float is polypropylene and the seat disc is silicone rubber.

## INSTALLATION INSTRUCTIONS

The Atmospheric Type Vacuum Breaker should be installed with the bottom of the body at least 6" above the flood rim of the fixture or appliance, (does not apply to deck mounted type). When a portable appliance is used, the breaker should be installed at least 6" above the highest point to which the portable appliance can be raised. This device shall not be subjected to continuous pressure for more than twelve (12) hours. Note: Shut-off valves are not allowed downstream of the atmospheric vacuum breaker.



TESTED AND APPROVED  
IN ACCORDANCE WITH  
A.S.S.E. STANDARD  
#1001 AND C.S.A.  
STANDARD # B64.1.1

## MAINTENANCE INSTRUCTIONS

Since Atmospheric Type Vacuum Breakers are subject to normal maintenance and replacement, they should be located where emergency water spillage will not create a problem and where they can be accessible for inspection or servicing. To repair a Vacuum Breaker, remove screw, nameplate and cover, then unscrew cap. Replace the cap, cap o-ring, float, and seat disc with components from repair kits. Then replace cover, nameplate and screw.

## #38-200 SERIES VACUUM BREAKER REPAIR KITS

VALVE NO.	KIT NO.	KIT COMPONENTS
38-201	38-202-RK	D-4460 Seat Disc, F-3754 Cap, D-3902 Cap O-ring, I-8551 Float
38-202	38-202-RK	D-4460 Seat Disc, F-3754 Cap, D-3902 Cap O-ring, I-8551 Float
38-203	38-203-RK	D-3306 Seat Disc, F-3752 Cap, D-3903 Cap O-ring, I-8547 Float
38-204	38-204-RK	D-4461 Seat Disc, F-3753 Cap, D-3905 Cap O-ring, I-8550 Float
38-231	38-202-RK	D-4460 Seat Disc, F-3754 Cap, D-3902 Cap O-ring, I-8551 Float
38-232	38-202-RK	D-4460 Seat Disc, F-3754 Cap, D-3902 Cap O-ring, I-8551 Float

**WARNING:** This product contains lead, a chemical known to the state of California to cause birth defects or other reproductive harm.

**INSTALLER:** California law requires that this warning be given to the consumer.

The device shall be installed in accordance with the requirements of the local plumbing code.

I-6376-00 Rev. B

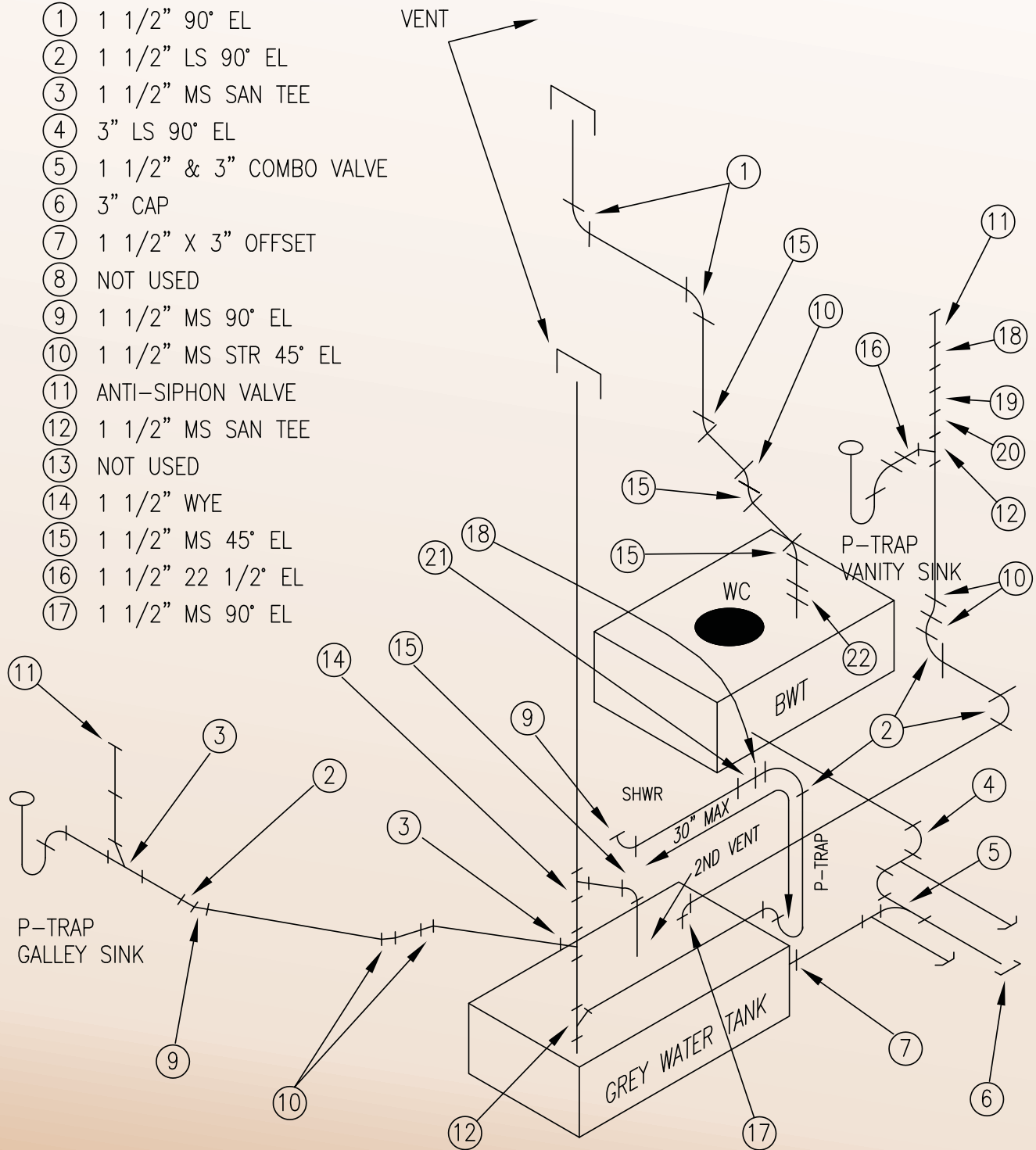


CONBRACO Industries, Inc., Matthews, NC


# Tank Diagrams

## S-220 Tank Diagram Here

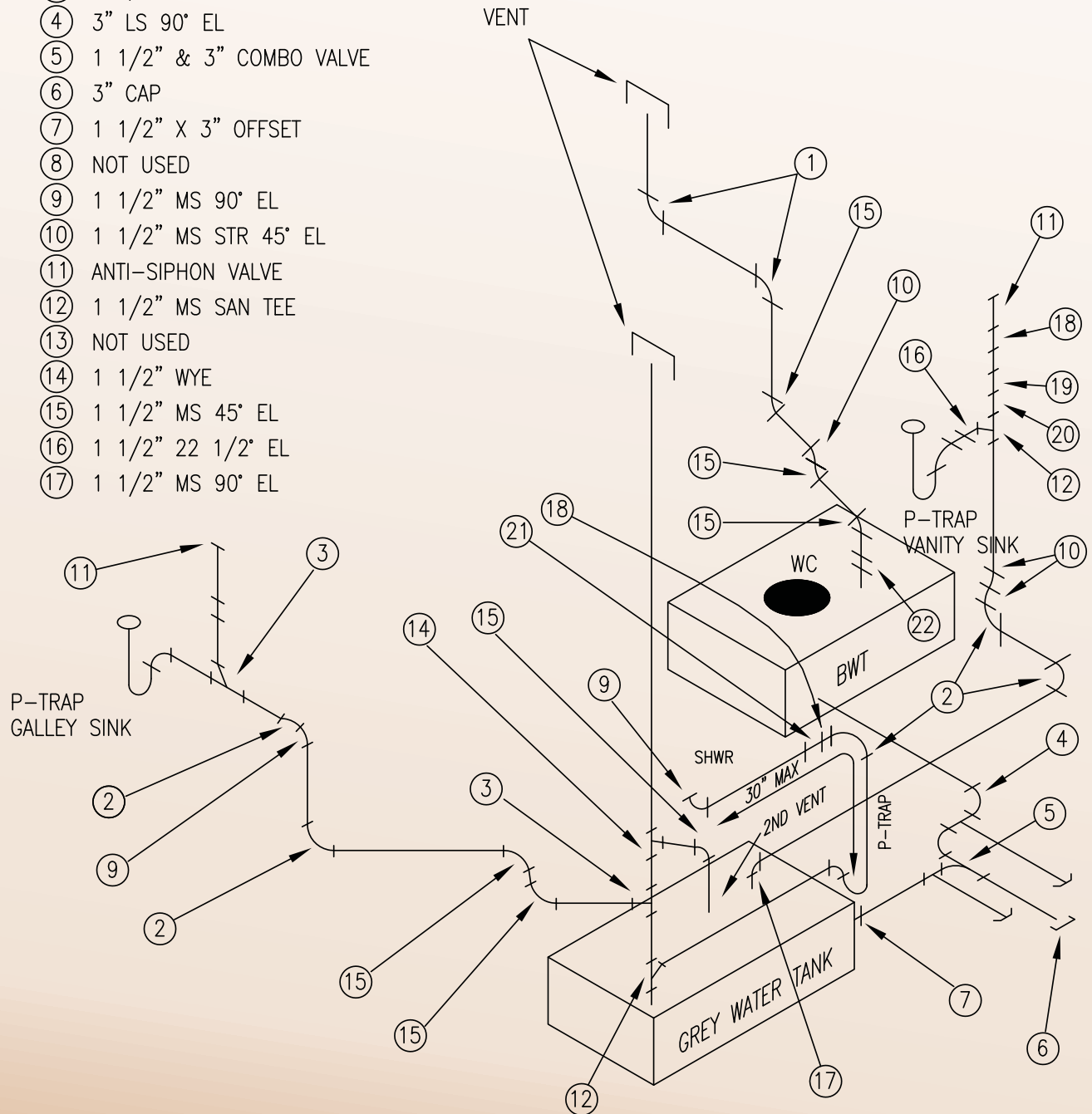
- ① 1 1/2" 90° EL
- ② 1 1/2" LS 90° EL
- ③ 1 1/2" MS SAN TEE
- ④ 3" LS 90° EL
- ⑤ 1 1/2" & 3" COMBO VALVE
- ⑥ 3" CAP
- ⑦ 1 1/2" X 3" OFFSET
- ⑧ NOT USED
- ⑨ 1 1/2" MS 90° EL
- ⑩ 1 1/2" MS STR 45° EL
- ⑪ ANTI-SIPHON VALVE
- ⑫ 1 1/2" MS SAN TEE
- ⑬ NOT USED
- ⑭ 1 1/2" WYE
- ⑮ 1 1/2" MS 45° EL
- ⑯ 1 1/2" 22 1/2° EL
- ⑰ 1 1/2" MS 90° EL



- ⑱ THREADED FEM ADAPTER
- ⑲ THREADED MALE ADAPTER
- ⑳ FEM ADAPTER COUPLING
- ㉑ FEM ADAPTER WITH NUT
- ㉒ UNION

1061	22	4-18-07	CONNECT STR 45 TO 45 & ADD ㉒.
1009	21	10-12-06	ADD ⑱ & ㉑ TO SHOWER P-TRAP.
ECR	REV	DATE	DESCRIPTION
PLUMBING & TANK ISO 230 PLATINUM			 <b>Coach House</b> Van Motor Homes
			No. PB 109

- ① 1 1/2" 90° EL
- ② 1 1/2" LS 90° EL
- ③ 1 1/2" MS SAN TEE
- ④ 3" LS 90° EL
- ⑤ 1 1/2" & 3" COMBO VALVE
- ⑥ 3" CAP
- ⑦ 1 1/2" X 3" OFFSET
- ⑧ NOT USED
- ⑨ 1 1/2" MS 90° EL
- ⑩ 1 1/2" MS STR 45° EL
- ⑪ ANTI-SIPHON VALVE
- ⑫ 1 1/2" MS SAN TEE
- ⑬ NOT USED
- ⑭ 1 1/2" WYE
- ⑮ 1 1/2" MS 45° EL
- ⑯ 1 1/2" 22 1/2° EL
- ⑰ 1 1/2" MS 90° EL



- ⑱ THREADED FEM ADAPTER
- ⑲ THREADED MALE ADAPTER
- ⑳ FEM ADAPTER COUPLING
- ㉑ FEM ADAPTER WITH NUT
- ㉒ UNION

1061	10	4-18-07	CONNECT STR 45 TO 45 & ADD ㉒.
1009	9	10-12-06	ADD ⑱ & ㉑ TO SHOWER P-TRAP.
0997	8	10-3-06	CHANGE VANITY SINK ANTI-SIPHON FITTINGS.
ECR	REV	DATE	DESCRIPTION

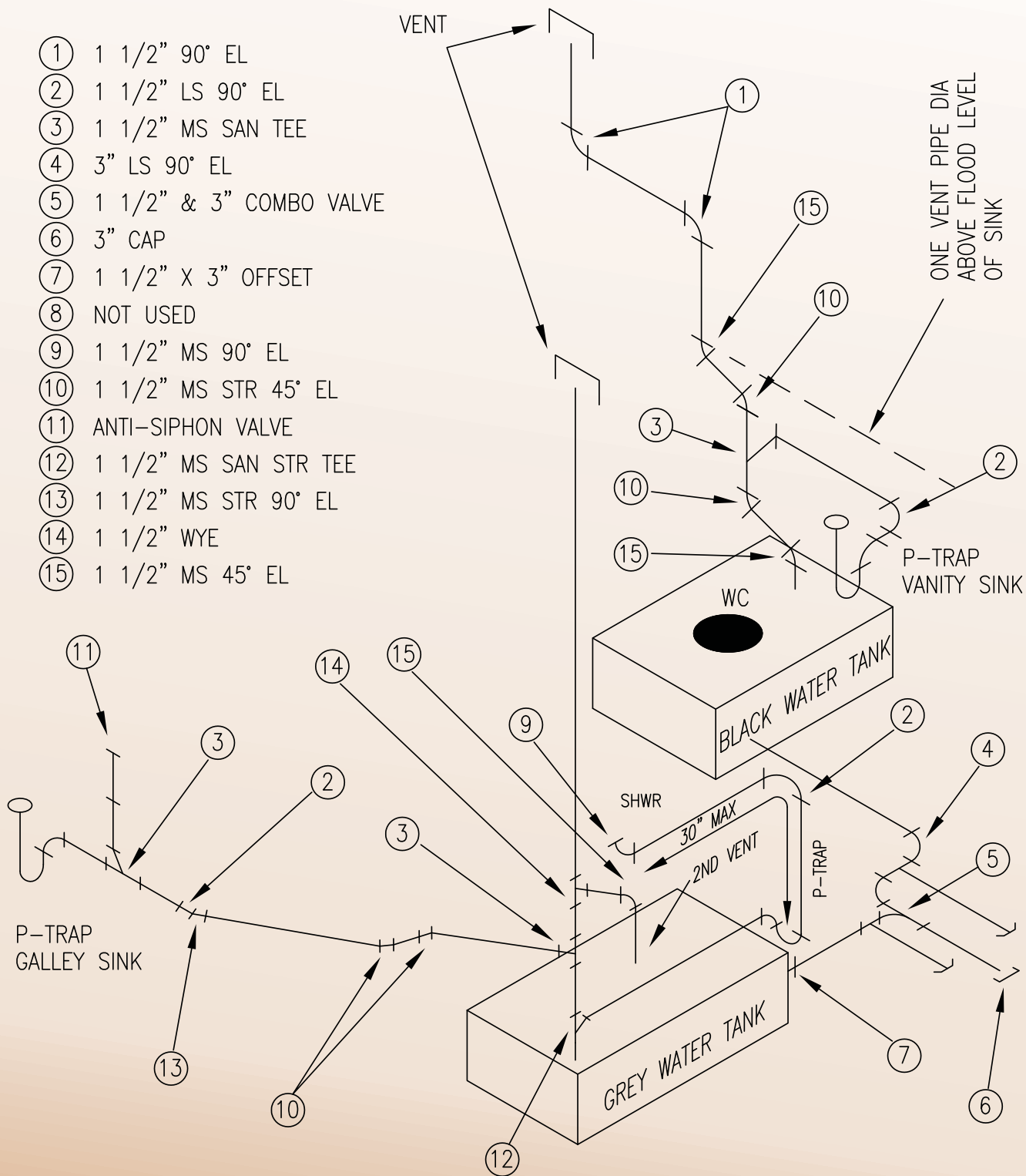
PLUMBING & TANK ISO  
231 PLATINUM




**Coach House**  
Van Motor Homes

No. PB110

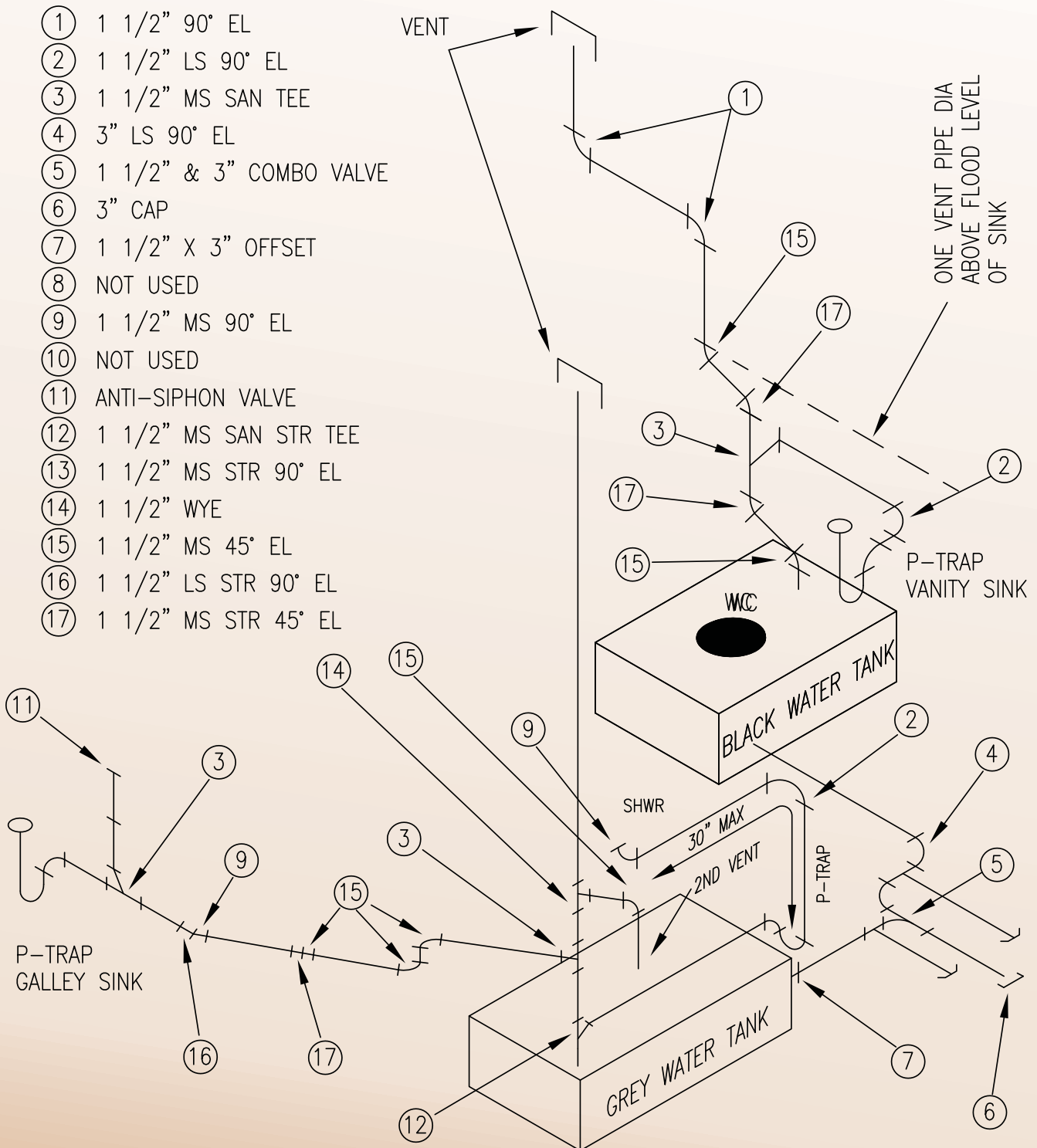
- ① 1 1/2" 90° EL
- ② 1 1/2" LS 90° EL
- ③ 1 1/2" MS SAN TEE
- ④ 3" LS 90° EL
- ⑤ 1 1/2" & 3" COMBO VALVE
- ⑥ 3" CAP
- ⑦ 1 1/2" X 3" OFFSET
- ⑧ NOT USED
- ⑨ 1 1/2" MS 90° EL
- ⑩ 1 1/2" MS STR 45° EL
- ⑪ ANTI-SIPHON VALVE
- ⑫ 1 1/2" MS SAN STR TEE
- ⑬ 1 1/2" MS STR 90° EL
- ⑭ 1 1/2" WYE
- ⑮ 1 1/2" MS 45° EL




0707	4	1-10-05	ADD 45° ELBOWS TO BWT VENT.
ECR	REV	DATE	DESCRIPTION
PLUMBING & TANK ISO 270 PLATINUM			 <b>Coach House</b> Van Motor Homes
			No. PB 111



- ① 1 1/2" 90° EL
- ② 1 1/2" LS 90° EL
- ③ 1 1/2" MS SAN TEE
- ④ 3" LS 90° EL
- ⑤ 1 1/2" & 3" COMBO VALVE
- ⑥ 3" CAP
- ⑦ 1 1/2" X 3" OFFSET
- ⑧ NOT USED
- ⑨ 1 1/2" MS 90° EL
- ⑩ NOT USED
- ⑪ ANTI-SIPHON VALVE
- ⑫ 1 1/2" MS SAN STR TEE
- ⑬ 1 1/2" MS STR 90° EL
- ⑭ 1 1/2" WYE
- ⑮ 1 1/2" MS 45° EL
- ⑯ 1 1/2" LS STR 90° EL
- ⑰ 1 1/2" MS STR 45° EL

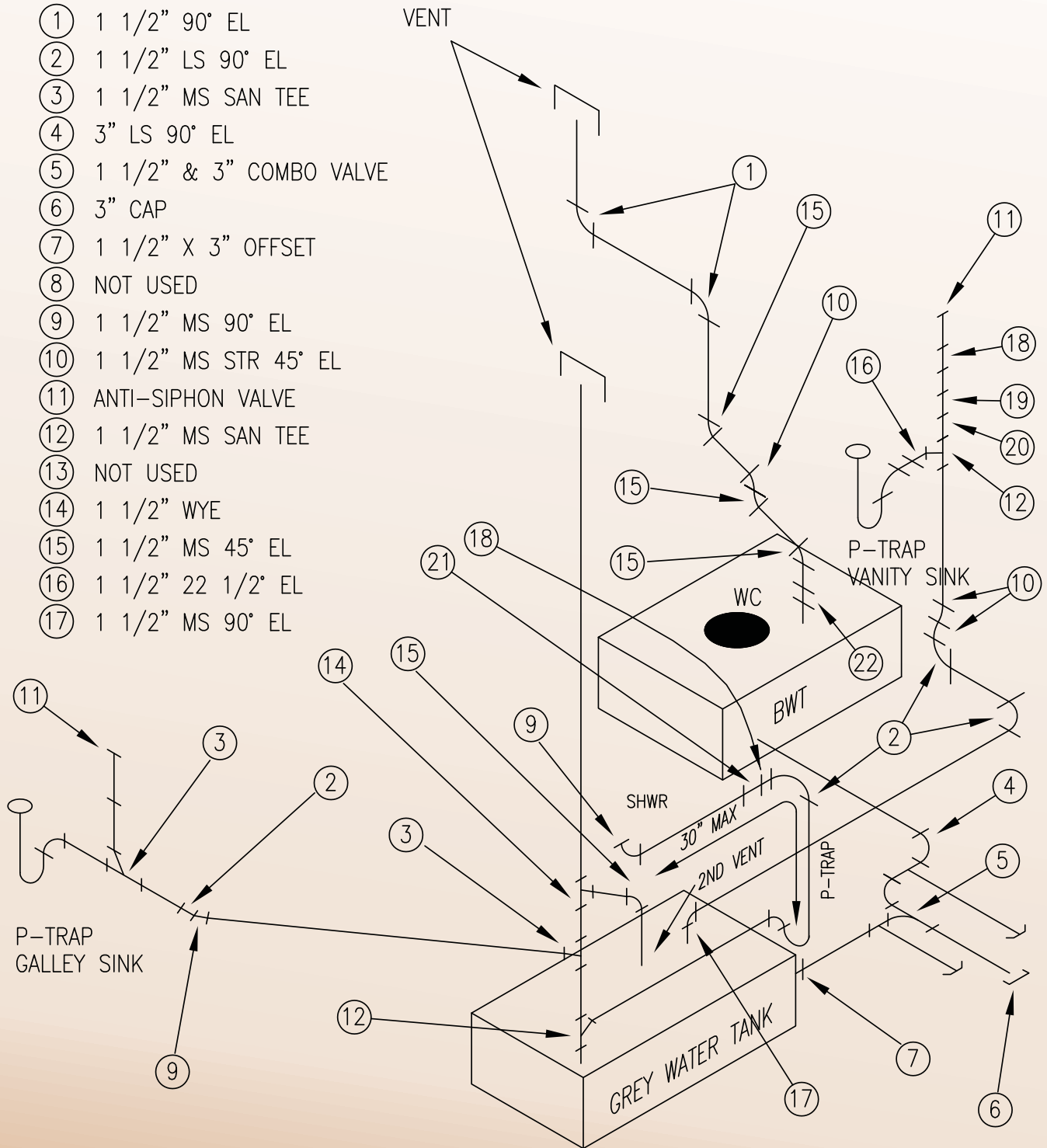


0707	5	1-10-05	ADD 45° ELBOWS TO BWT VENT.
ECR	REV	DATE	DESCRIPTION
PLUMBING & TANK ISO 271 PLATINUM			 <b>Coach House</b> Van Motor Homes
			No. PB 112




**Platinum** FORD E-450 SUPER DUTY CHASSIS  
Rev: 051013

- ① 1 1/2" 90° EL
- ② 1 1/2" LS 90° EL
- ③ 1 1/2" MS SAN TEE
- ④ 3" LS 90° EL
- ⑤ 1 1/2" & 3" COMBO VALVE
- ⑥ 3" CAP
- ⑦ 1 1/2" X 3" OFFSET
- ⑧ NOT USED
- ⑨ 1 1/2" MS 90° EL
- ⑩ 1 1/2" MS STR 45° EL
- ⑪ ANTI-SIPHON VALVE
- ⑫ 1 1/2" MS SAN TEE
- ⑬ NOT USED
- ⑭ 1 1/2" WYE
- ⑮ 1 1/2" MS 45° EL
- ⑯ 1 1/2" 22 1/2° EL
- ⑰ 1 1/2" MS 90° EL

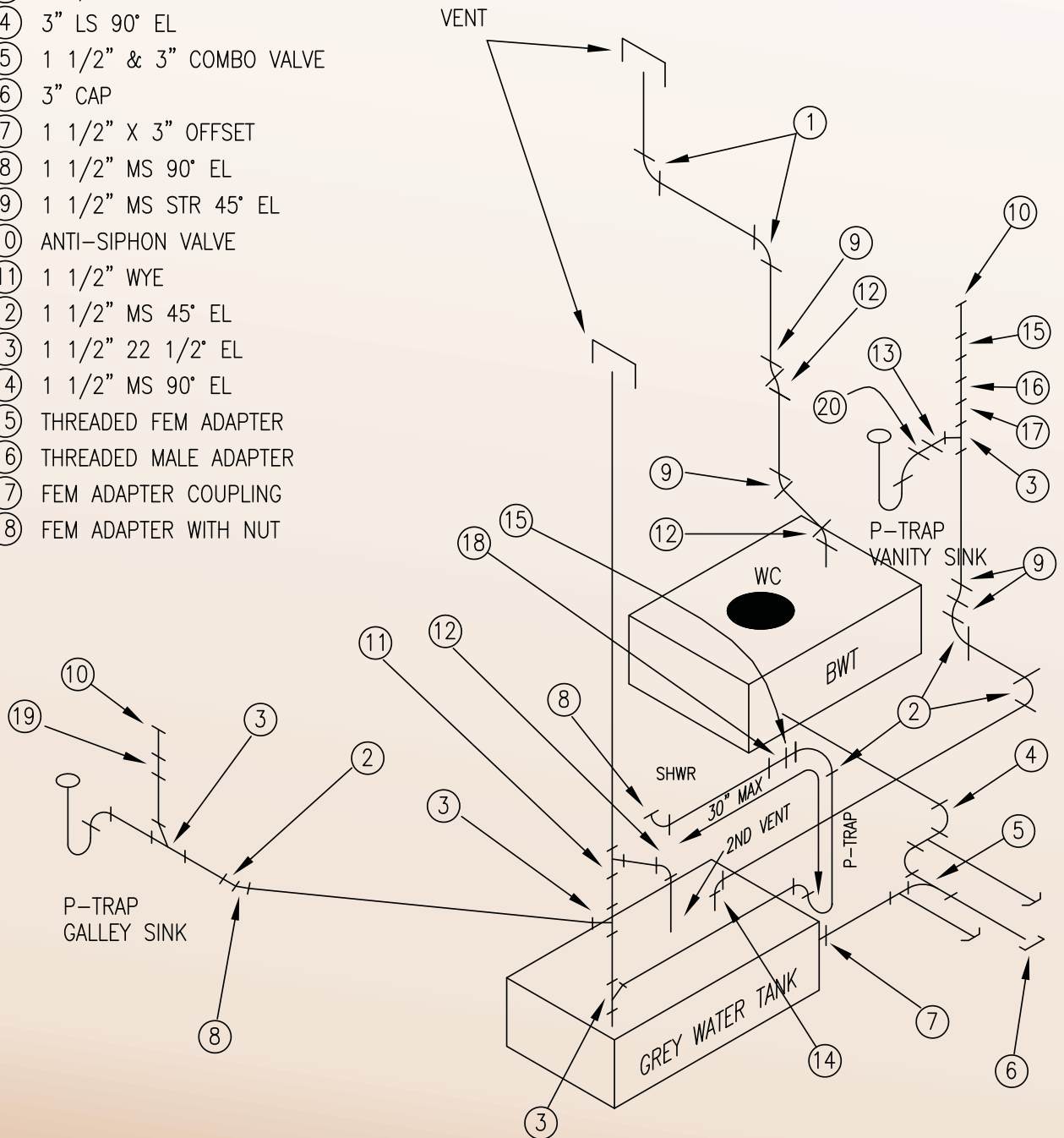



- ⑱ THREADED FEM ADAPTER
- ⑲ THREADED MALE ADAPTER
- ⑳ FEM ADAPTER COUPLING
- ㉑ FEM ADAPTER WITH NUT
- ㉒ UNION

1061	7	4-18-07	CONNECT STR 45 TO 45 & ADD ㉒ .
1009	6	11-7-06	ADD ⑱ & ㉑ TO SHOWER P-TRAP.
0997	5	10-3-06	CHANGE VANITY SINK ANTI-SIPHON FITTINGS.
ECR	REV	DATE	DESCRIPTION
PLUMBING & TANK ISO 261 PLATINUM			 <b>Coach House</b> Van Motor Homes
			No. PB 114



- ① 1 1/2" 90° EL
- ② 1 1/2" LS 90° EL
- ③ 1 1/2" MS SAN TEE
- ④ 3" LS 90° EL
- ⑤ 1 1/2" & 3" COMBO VALVE
- ⑥ 3" CAP
- ⑦ 1 1/2" X 3" OFFSET
- ⑧ 1 1/2" MS 90° EL
- ⑨ 1 1/2" MS STR 45° EL
- ⑩ ANTI-SIPHON VALVE
- ⑪ 1 1/2" WYE
- ⑫ 1 1/2" MS 45° EL
- ⑬ 1 1/2" 22 1/2° EL
- ⑭ 1 1/2" MS 90° EL
- ⑮ THREADED FEM ADAPTER
- ⑯ THREADED MALE ADAPTER
- ⑰ FEM ADAPTER COUPLING
- ⑱ FEM ADAPTER WITH NUT



	0	11-7-06	
ECR	REV	DATE	DESCRIPTION
PLUMBING & TANK ISO J221 PLATINUM			 <b>Coach House</b> Van Motor Homes
			No. PB116



# Section 6

## Galley Systems

# Galley Systems

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CH-P-0007 (231 XL)	.....	6-25



# Refrigerator (3-Way)

All Coach House Motorhomes use Dometic RV refrigerators.

Your Dometic DM2663RBF unit can be energized by electricity using 12 volt or 110 volt. In addition it will run on propane gas. Refer to the refrigerator instruction manual enclosed in this section for lighting and operation of the refrigerator.

A temperature activated fan is mounted in the compartment behind the refrigerator to prevent over heating. This fan will come on when the temperature rises to an unsafe level in the compartment and will not shut off until the temperature has been reduced back to a safe operating level.

## **DM 2663 Americana Plus** **More features, more style,** **more space fridge**



Contemporary exterior with integrated design, optional door insert panels available. Automatic locking handles and right- or left-swinging doors open a full 180 degrees. Lighted fresh food compartment with two crispers Magic Fingers shelf retainers keep bottles and containers from moving.

Efficient Operation Eye-Level Controls, includes automatic LP ignition Dometic's proven absorption technology 3-Way (LP/120V AC/ 12V DC) operation. Climate control system saves energy, and helps prevent condensation.

- Solid Steel Frame offers rugged durability
- Travel latch
- Roomy, versatile 6 cu. ft. interior storage space
- Bright, white, and easy to clean
- Adjustable and removable shelving and door bins in refrigerator and freezer
- Standby feature keeps refrigerator operating in case of malfunction
- Defrost water drain system
- Color: Black frame
- Accepts 2 insert panels
- Superior Warranty Backed by Dometic's Protection Plus Warranty—the strongest warranty in the industry. Extended warranties may also be available. Ask your dealer for details.

### **Technical Data**

Description	3-Way (12V DC/120V AC/LP Gas)
Door type	Double Door
Dimensions (HxWxD) (in)	52 21/32 x 24 7/8 x 26 1/32
Weight. (lb)	121

# Insert Dometic Refrigerator Manual Here

# Range

The three-burner Atwood Range has a self igniting spark ignition. Turn the spark knob to light each burner. As with any LPG appliance caution should be taken when operating. Refer to the RV Owners manual for more details.

(261 XL / 271 XL / 272 XL models)



The Dometic two burner range is a match light style and needs to be manually ignited every time it is used.

(220 / 221XL / 232 XL)



**Insert Range Manual Here**

# Solid Surface Countertops

Your Coach House motor home has DuPont Corian Solid Surfaces on all counter top surfaces. The following guidelines will help keep your Solid Surfaces in good condition for years of use.

# DuPont™ Corian® Commercial Care In Use

DuPont™ Corian® solid surfaces meet the demanding needs of today's commercial surfacing applications. As a solid, non-porous surface, Corian® can be maintained with minimum care to retain the original appearance. Because it can be repaired, Corian® will still look and perform like a new installation, while other surfacing materials will often need to be replaced. With proper care the Corian® surfaces in your commercial application will stay looking like new.

For more information, call 1-800-4Corian (1-800-430-6072).

## Routine Care

There are three types of Corian® Solid Surface finishes: matte/satin, semigloss and high-gloss. Contact your Corian® sales expert if you are unsure of your finish. Most countertops and all sinks and lavatories are finished with a matte/satin finish. Soapy water, ammonia-based cleaners or commercially available solid surface cleaners will remove most dirt and residue from all types of finishes. Stubborn residue will require a little stronger cleaner. Follow the recommendations below to properly clean your Corian® Solid Surface application.

### Conventional Cleaning Techniques

- Washing with soap and water is usually sufficient to remove surface dirt or stains. Be sure to wipe surface completely dry.
- Ammonia based liquid cleaner (not window cleaner) may also be used. Always rinse surface thoroughly and wipe dry.
- Drying is an important step, preventing a build-up of soap film or cleaning residue, which can create the appearance of light scratches over time. In the event this occurs, apply a mild abrasive cleaner to a damp sponge or white Scotch Brite® pad and rub into the surface in a circular motion. When finished, rinse thoroughly to remove all cleaner, then wipe completely dry.
- Stubborn soap film or cleaning residue build-up in Corian® is easily removed with abrasive cleanser and a white Scotch-Brite® pad or a sponge.
- For darker colors, a polish may be used to enhance the shine. For areas where there may be food contact, always use a polish formulated for food contact areas, such as Countertop Magic®. Where food contact is not a possibility, a simple furniture polish may be used. Always follow the manufacturer's instructions for using the polish and for safety concerns.

### Cleaning Agents

Corian® is unaffected by common household and commercial cleaners such as

- Powdered abrasive cleansers (like Comet®)
- Ammonia
- Strong detergents
- Oxalic acid solutions
- Dilute hydrochloric acid solutions
- Dilute trisodium phosphate solutions

***Acid drain cleaners may cause surface damage and should not be used on Corian® solid surfaces.***

### Cigarette Burns, Stubborn Stains

Unlike other surface materials stains or marks caused by cigarettes, alcohol, food, lipstick, hair dye, shoe polish, iodine, marking pens, etc. can be removed by using an abrasive cleanser and a Scotch-Brite® pad.

- If the surface has a **matte finish**, use a **green Scotch-Brite® pad**
- If the surface has a **gloss finish**, use a **white Scotch-Brite® pad**

This type of maintenance will not harm the Corian® surface, and will restore it to "like new" condition.

# DuPont™ Corian® Commercial Care In Use

Surfaces of Corian® can be repaired with no permanent damage. Tough to remove stains, fine scratches, and small cuts can be removed using standard repair techniques.

## Professional repair

Contact DuPont (800.426.7426), or your supplier, for information on how to have your Corian® surfaces professionally restored to their original finish

## Making your own repairs

- To restore a matte finish - use 220 grit sandpaper followed by hard buffing with a green Scotch-Brite® pad in a circular motion.
- To restore a semi-gloss - use the 220 grit sandpaper, followed by 320 grit, followed by 400 grit. Then blend the finish in by using abrasive cleanser and a sponge or rag.
- A high gloss finish is best restored by a professional. Contact your supplier or DuPont.
- If the damage is particularly deep, use a random orbital sander equipped with vacuum dust collection. Start with 120 grit sandpaper first, followed by 180-220 grit. After sanding, a uniform matte finish can be obtained by buffing with a green Scotch-Brite® buffing pad. For a semi-gloss, continue sanding with 320 followed by 400 grit. Then buff with a gray Scotch-Brite® pad.

The impact resistance of Corian® allows it to withstand harsh use without chipping, breaking, or cracking. However, if damaged due to extreme abuse, satisfactory repairs can often be made. Contact DuPont for guidance.

## Preventing Damage

### Avoid Strong Chemicals

Some chemicals are not compatible with Corian®. Avoid surface contact with:

- Strong chlorinated solvents
- Chloroform
- Ketones
- Methylene chloride (paint removers)
- Very strong acids such as concentrated sulfuric and hydrochloric acids
- Acid drain cleaners should not be used.

Surfaces exposed to these agents should be promptly flushed with water. Contact for even a short period of time can cause surface damage, spots, or staining. Follow the recommended repair procedures described above as needed to repair and/or restore the surface to its original condition. Severe damage caused by incompatible chemical contact will require professional repair. Again, contact DuPont, or your supplier for assistance.

While Corian® withstands heat better than most surface materials, do not place hot cookware directly on a Corian® surface. To avoid damage caused by excessive heat:

- Always use a trivet or hot pad under hot cookware
- Always use a trivet with minimum ¼" legs under small electrical appliances such as fryers and cookers

A Corian® surface can be scratched or gouged if used as a cutting or chopping surface for food preparation. Scratches can be repaired, but to avoid the problem, use of a cutting board is highly recommended.

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**corian.**  
SOLID SURFACES



# Water Pump

When parked where a city or R.V. park water supply is available, the motor home should be connected by using a hose connected to the city water connection. The water pump should not be used when the motor home is connected to city water. The Coach House has a potable water tank with a 12-volt DC demand pump connected to the system. The switch for the demand pump is located either in the lavatory or on the main control panel located adjacent to the entry door. The pump should only be turned on when water is needed from the potable holding tank. Do NOT operate the pump dry or when there is no water in the potable water tank.

Drain valves are supplied on the potable water tank and in the water system near the pump to allow draining the system to prevent freezing.

The potable water fill is located on the side of the motor home behind the labeled door. The potable water tank can also be filled from city water pressure. Open a valve to fill fresh (potable) water tank - turn off when tank is full. The location of the valve (on all models) is inside exterior door - drivers side behind rear wheel.



# Insert Flojet Water Pump Manual Here

# Water Heater Systems



Ford Chassis models are equipped with a 120volt a/c electric / motor aid water heater. The motor aid will automatically heat water when you drive the motor home. The radiator system of the engine helps to heat the water. The 120 volt electric heater can be used while the motor home is parked and hooked up to shore power, or the generator is running.

**Remember to only operate the water heater with water in the system.**



**Insert Water Heater Manual Here**

# Microwave/Convection Oven

The microwave oven is mounted above or beside the refrigerator and only operates on the 120 volt A/C system. This oven can be used as a Convection Oven, or a Microwave oven. Refer to the manufacturers instruction manual, enclosed in this section, for operator instructions and helpful cooking hints.

You can access the manual for your Cuisinart Convection/Microwave Oven at:

<http://www.cuisinart.com/share/pdf/manuals/cmw-200.pdf>



# Monitor Panel

The monitor panel is located in the main control tower inside the motorhome entry door to the right. It will indicate the water level in the potable water tank, the level in the holding tanks, the level of propane gas, and the charge level of the auxiliary batteries. To check the level, push the test button on the panel and observe the level indicator lights that are lit to read the level.



# Sanitizing the Potable Water System

To assure complete sanitation of your potable water system, the following procedures are recommended for a new system, for one that has not been used for a period of time, and for one which may have become contaminated.

- 1) Prepare a chlorine solution using one (1) gallon of water and one-quarter (1/4) cup of household bleach (2% sodium hypochlorite solution). With tank empty pour one (1) gallon of solution into tank for each fifteen (15) gallons of tank capacity.
- 2) Complete filling of tank with fresh water. Operate all faucets to release trapped air. Pressurize the entire system with a pump, if available, and turn off pump.
- 3) Allow to stand for three (3) hours.
- 4) Drain and flush with fresh potable water.
- 5) To remove excessive chlorine taste or odor, which may remain, prepare a solution of one (1) quart vinegar to five (5) gallons of water and pour into tank. Allow solution to agitate in tank by vehicle motion (several days if possible).
- 6) Drain tank and flush with fresh potable water.



# How to Winterize

## Blow Dry Method

- 1) Empty and thoroughly rinse both the black and gray waste holding tanks at a sanitary dump station.
- 2) Drain the fresh water tank. The fresh water tank drain is accessible inside an access panel depending on your model:

220	Under the Bed (Driver's Side)
221 XL	Under the Galley
232 XL	Passenger Side Behind the Wheel Well
261 XL	Driver's Side Behind the Galley
261 XL (Twin Bed)	Passenger Side Under the Bed
261 XL (Sleeper Sofa)	Driver's Side Near the Shower
271 XL	Under the Galley
272 XL	Under the Rear Queen Bed

- 3) Drain all water lines. Drain valves are located behind a hinged panel on the rear of the driver's side of motor home. Be sure to drain shower, toilet and all faucets. If a water purifier or filter is in line, remove the cartridge. Close all faucets.
- 4) Install an R.V. "Blow Out Plug" on your city water inlet. These plugs are inexpensive and are available at R.V. Parts stores or Home Improvement stores (Lowe's, Home Depot)



R.V. Blow Out Plug

- 5) Set your air compressor to 30 psi, with a maximum air pressure of 50 psi, and start blowing air into the water inlet. While your compressor is blowing air into your water lines, walk around your RV and open up water valves, one at a time, to blow the water out from the lines. When the water has been blown out then close the valve and move on to the next water opening. (Con't)...

# How to Winterize

- 5) (Con't) Remember to flush the toilet. Don't forget the shower head and the outside shower if you have one. Don't forget to open up both the hot water line and the cold water line. Once you have done each and every fixture in the rig, you should have most of the water out of your freshwater system. Remove the air source and bleed off any remaining pressure by opening a faucet.
- 6) Technically at this point, your RV has been winterized. However, if you wish to absolutely make sure your water lines are protected you can perform the following. The reason for putting antifreeze through your lines is in case any water collects at low levels of your water lines and freezes. This could be enough to blow a line. Putting RV antifreeze through your lines will eliminate this from being an issue.

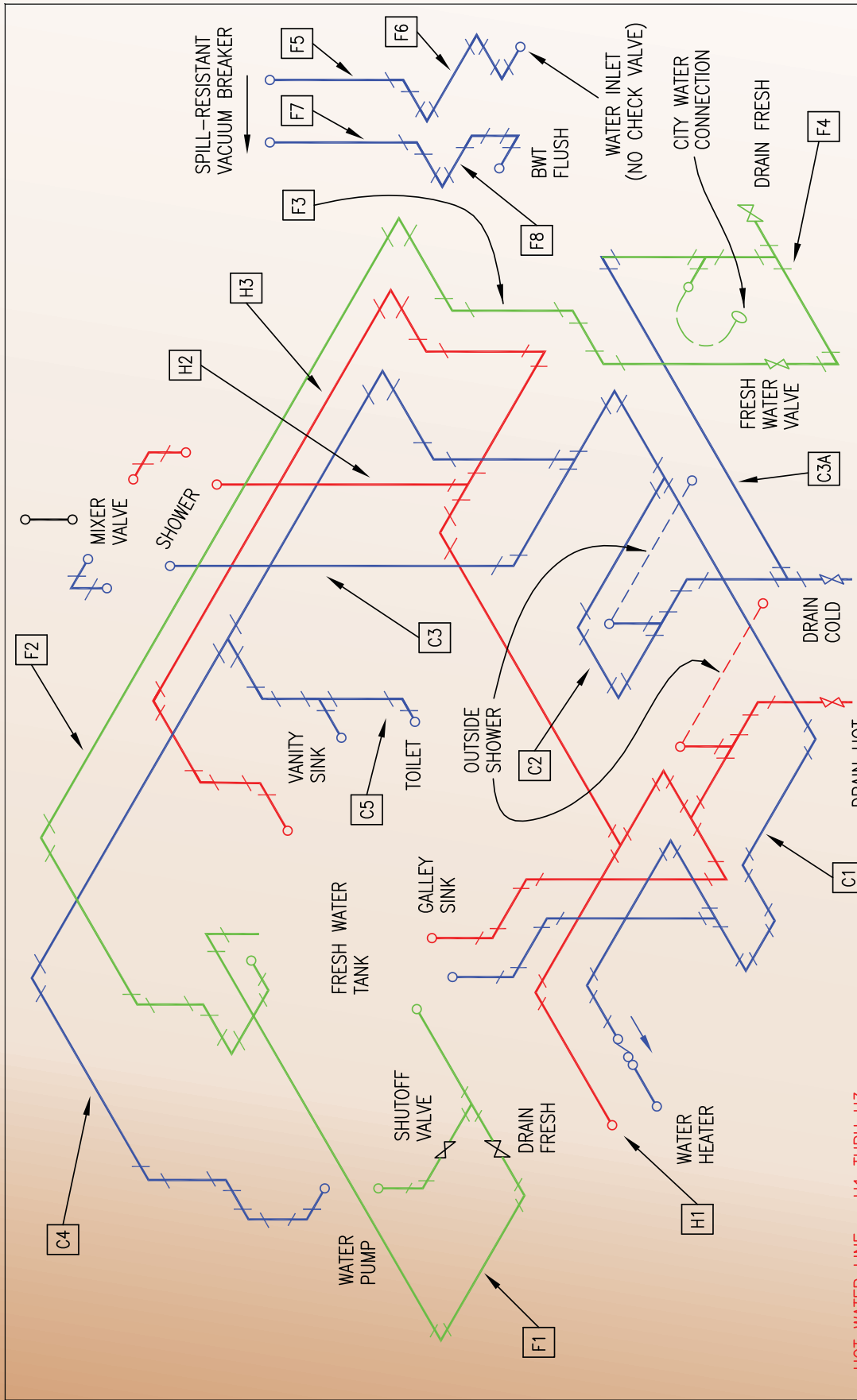
- 7) Pour 2-3 Gallons of antifreeze in the City Water Fill outlet which is located on the side of your motorhome.



- 8) Turn on the R.V. water pump which will pull the antifreeze out of the fresh water tank and into the system. Open each fixture, allowing it to flow until you see pure antifreeze. Monitor the level in the antifreeze bottle and make sure it doesn't run dry. Remember to flush the toilet and operate the toilet sprayer if installed. Don't forget the shower head and the outside shower if you have one. Once you have done each and every fixture in the rig, you should have protection against freezing pipes in your water system.
- 9) Once you have the RV parked in it's final storage spot for the winter, pour some RV antifreeze down each drain to protect the trap. Open the toilet flush valve and allow about one quart (4 cups) of antifreeze to flow into the black water tank. Close the toilet flush valve and pour a little antifreeze into the toilet bowl. Pour about one quart (4 cups) down the shower drain to flow into the grey water tank.

# Water Systems Diagrams

**S-220 Diagram goes here**

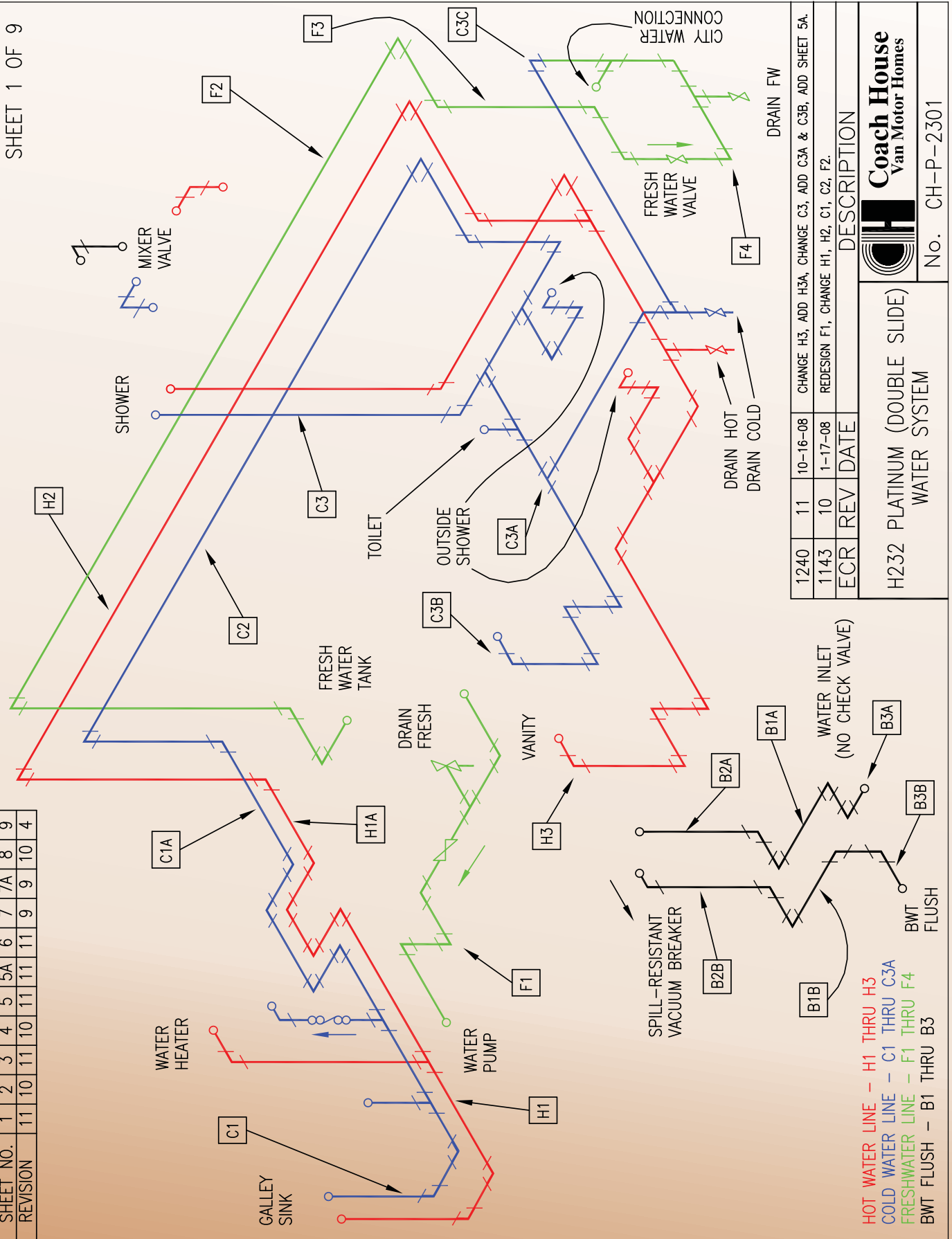


1112	6	10-5-07	CHANGE H1, C3A, F8, F6, F3, H3, C4, F2, C1 & C2 & DRAIN VALVE ASSY.
1090	5	3-23-07	CHANGE F1 & F2.
1044	4	2-12-07	CHANGE F2.
ECR	REV	DATE	DESCRIPTION
			J221 PLATINUM WATER SYSTEM
			<b>Coach House</b> Van Motor Homes
			No. CH-P-2201

SHEET 1 OF 9

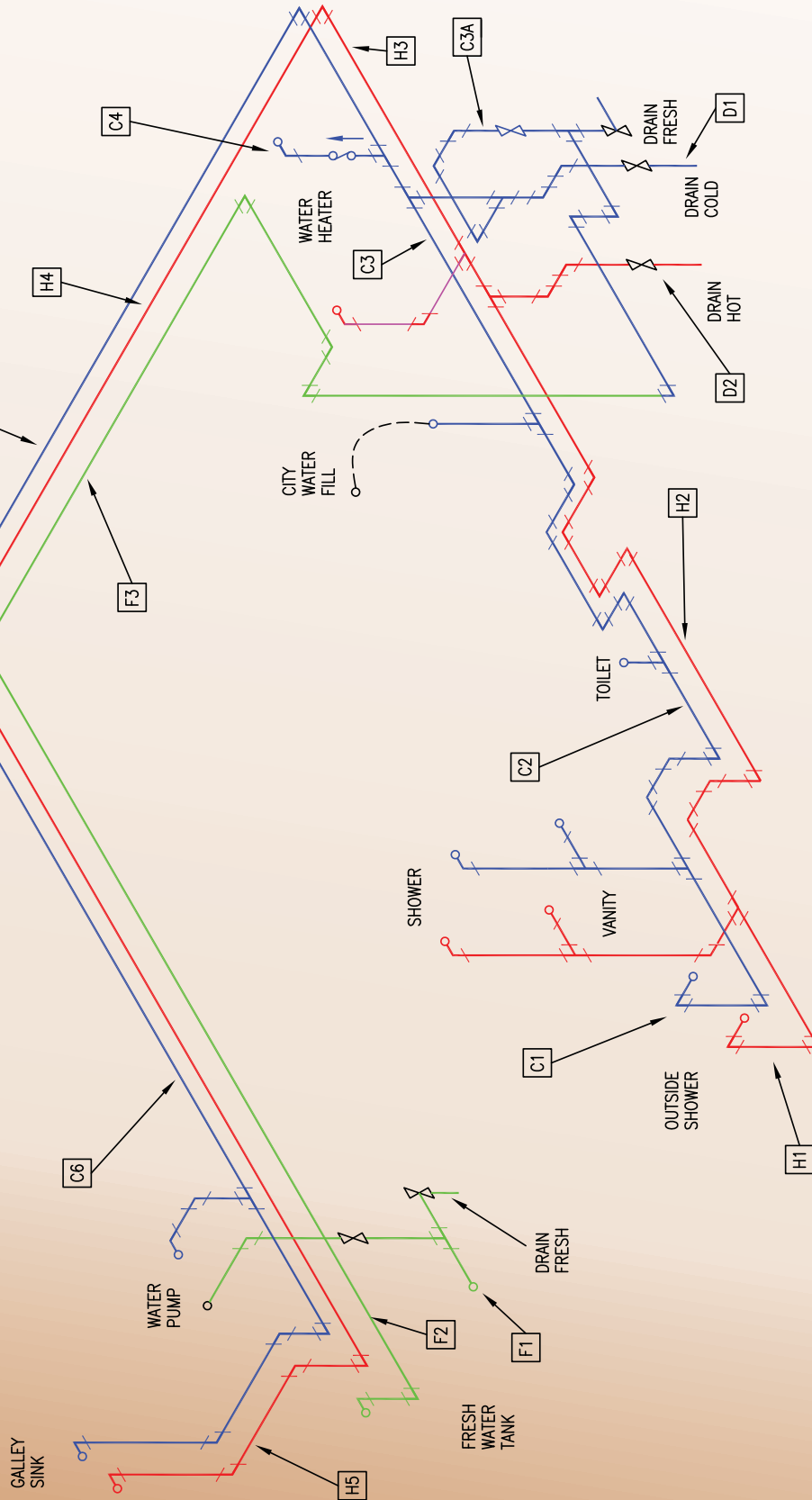
SHEET NO.	1	2	3	4	5	6	7	8	9
REVISION	6	6	6	6	6	6	6	6	6

SHEET NO.	1	2	3	4	5	5A	6	7	7A	8	9
REVISION	11	10	11	10	11	11	11	9	10	4	



SHEET NO.	1	2	3	3A	4	5	5A	6	7	7A
REVISION	23	23	23	23	23	23	23	23	23	23

SEE SHEET 7A  
FOR BWT FLUSH



HOT WATER LINE - H1 THRU H5  
COLD WATER LINE - C1 THRU C6  
FRESHWATER LINE - F1 THRU F3

1325	23	5-18-10	MAKE MODEL G SAME AS MODEL K EXCEPT FOR BWT FLUSH.
ECR	REV	DATE	DESCRIPTION
G272 PLATINUM WATER SYSTEM			Coach House Van Motor Homes
No. CH-P-2801			

SHEET 1 OF 7

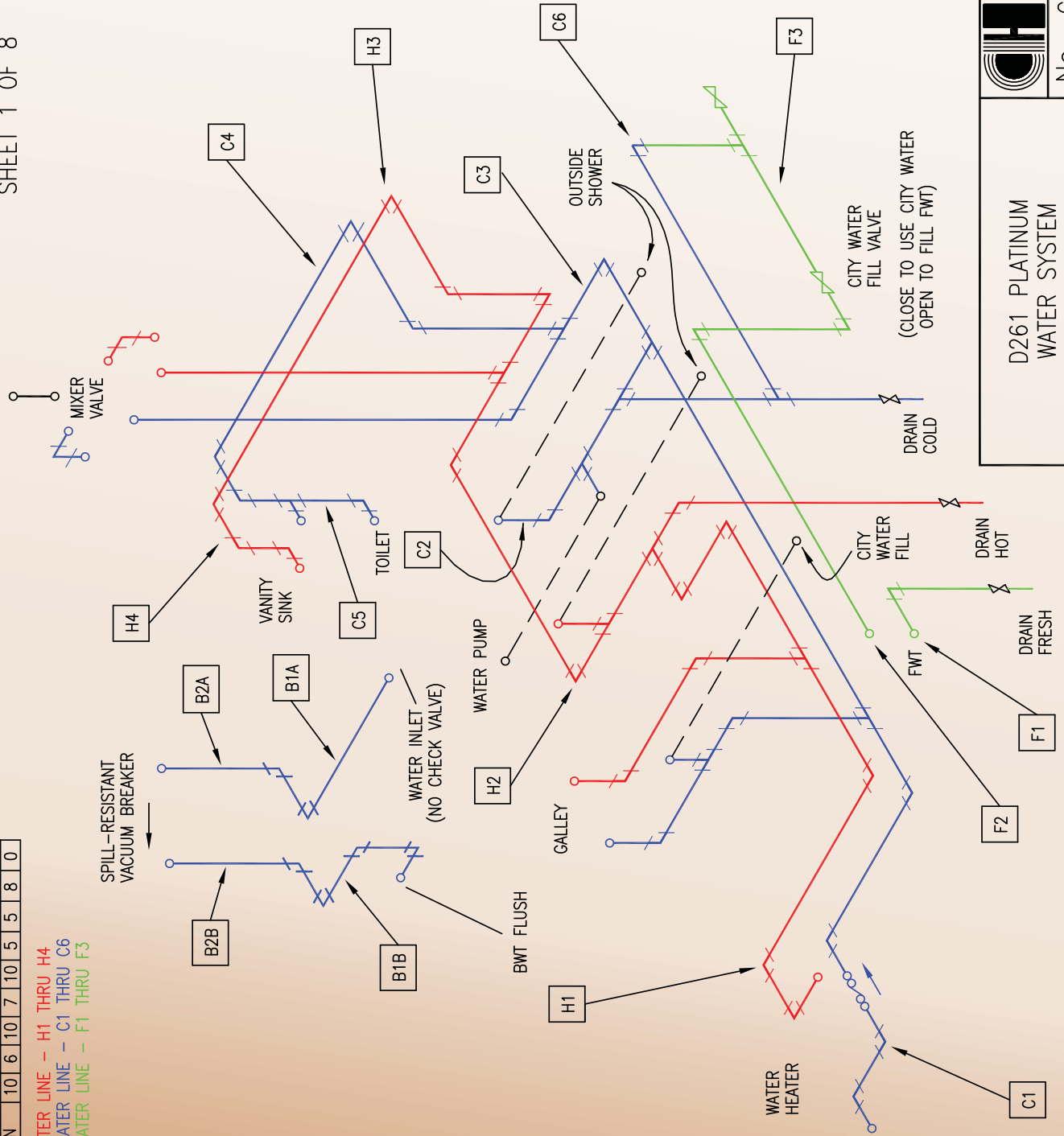
ALL DIMENSIONS ARE IN INCHES



SHEET NO.	1	2	3	4	5	6	7	7A	8
REVISION	10	6	10	7	10	5	5	8	0

HOT WATER LINE -- H1 THRU H4  
 COLD WATER LINE -- C1 THRU C6  
 FRESHWATER LINE -- F1 THRU F3

SHEET 1 OF 8



ECR	REV	DATE	DESCRIPTION
1089	10	7-23-30	CHANGE C4 & H4.
0976	9	8-31-06	CHANGE C3 & H3.
0949	8	5-17-06	ADD BWT FLUSH TO SHEET 1 & 7A.
0775	7	5-3-05	UPDATE C1.
0751	6	3-16-05	UPDATE C1 & H1.
0735	5	2-25-05	REVISE CITY WATER FILL.

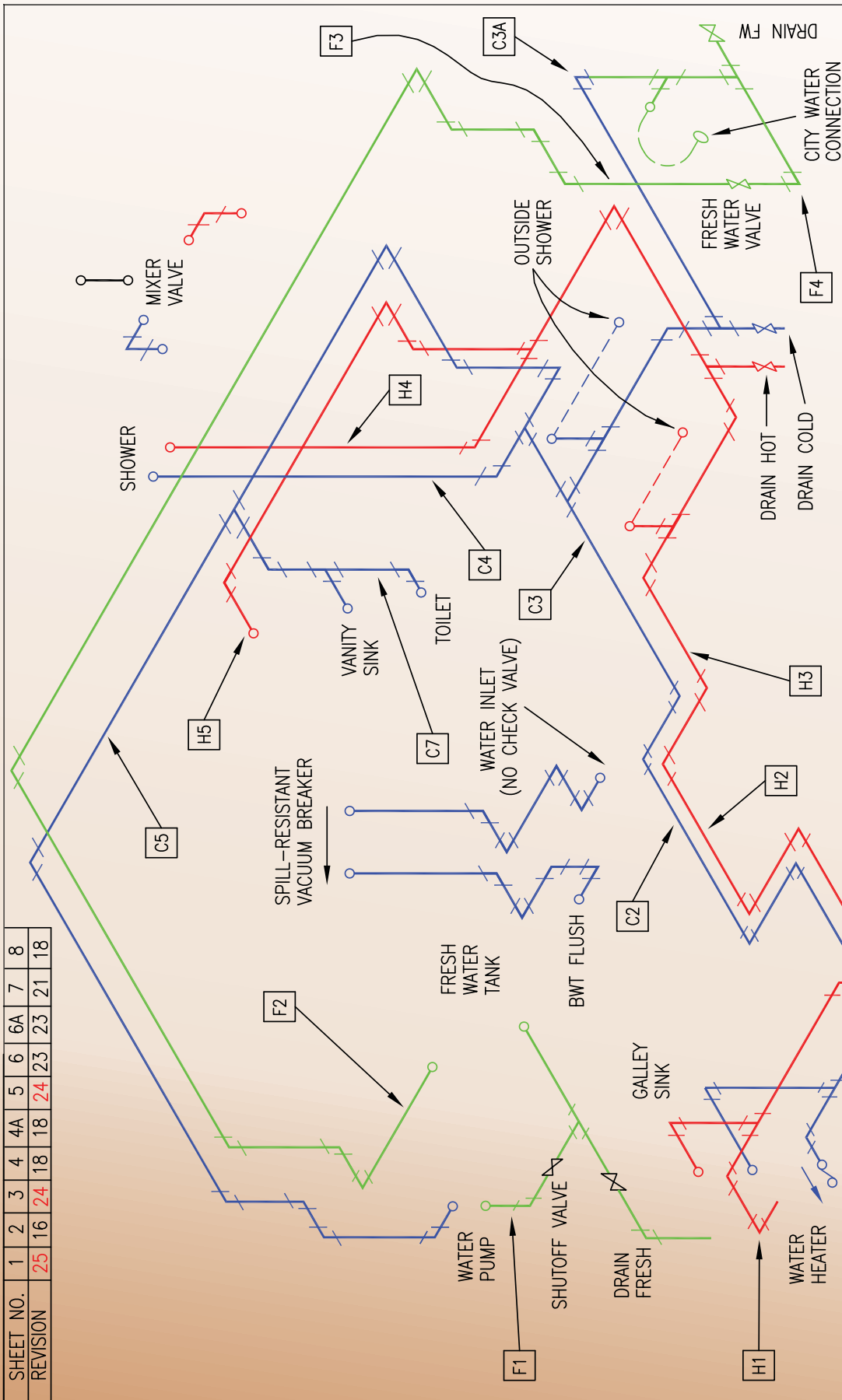


**Coach House**  
 Van Motor Homes

D261 PLATINUM  
 WATER SYSTEM

No. CH-P-2601

SHEET NO.	1	2	3	4	4A	5	6	6A	7	8
REVISION	25	16	24	18	18	24	23	23	21	18



1017	25	12-4-06	DELETE C6 PART OF C5.
0956	24	7-5-06	REVISE H4 & C4.
0949	23	5-16-06	ADD BWT FLUSH TO SHEET 1 & 6A, MOVE MIXER VALVE TO SHEET 6.
ECR	REV	DATE	DESCRIPTION
231 PLATINUM WATER SYSTEM (NEW SLIDE-OUT)			
Coach House Van Motor Homes			No. CH-P-0007

HOT WATER LINE -- H1 THRU H7  
 COLD WATER LINE -- C1 THRU C8  
 FRESHWATER LINE -- F1 THRU F2

SHEET 1 OF 8

ALL DIMENSIONS ARE IN INCHES



# Section 7

## Miscellaneous



## Miscellaneous

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# Fire Extinguisher

A fire extinguisher is mounted in the Coach House behind the passenger seat on the right side of the motor home. The gauge on the unit should be checked periodically for pressure level. If the indicator is in the red, the unit should either be re-charged or replaced.









## Kitchen / Garage Fire Extinguisher

An extinguisher's rating is not based on its size. It's the measure of its firefighting capability. For example a 10-B:C extinguisher puts out twice as much "Class B" fires as one rated 5-B:C.

### Features:

- Suitable for use on fires common to the kitchen and garage.
- ULC Rated 10-B:C, Marine approved.
- High quality gauge for easy pressure check.
- Disposable.
- Strap bracket included.

### Specifications:

Product dimensions:	4.5" x 14.2" x 3.6" deep
Colour / Case Pack:	Red / 6 units
Fire Rating:	10-B:C
Charge Pressure:	100psi
Range of throw:	1.8 - 2.4 metres
Duration of discharge:	8-12 seconds
Agent base:	Dry Powder (Sodium Bicarbonate)
Limited Warranty:	6 Year
Weight:	2lb
UPC:	0-47871-66295-1



466295



R3020A



# Smoke Detector

A smoke detector is mounted near the ceiling, behind the passenger front seat (rear side of side entrance door). The detector is battery (9 volt) operated and should be tested on a regular basis. Refer to the manufacturers instruction sheet, enclosed in this section, for the proper testing procedure and battery replacement. The smoke detector should be tested after each time the motor home has been in storage, before each use and at least once each week during use of the motor home. Smoke detectors should be replaced periodically as per the manufacturer's instructions.



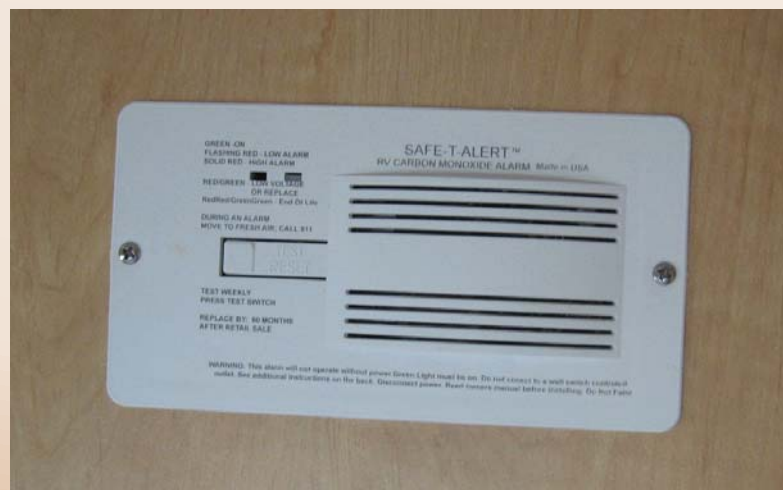


# Carbon Monoxide Detector

A carbon monoxide detector is mounted in the following locations for your model.

220	Driver's Side in Rear Overhead Cabinet
221 XL	Above Closet in Bathroom
232 XL	Above Refrigerator
261 XL	Above cabinets - front end of lavatory shower
261 XL (Twin Bed)	Above Refrigerator
261 XL (Sleeper Sofa)	Above cabinets - front end of lavatory shower
271 XL	Passenger Side Above Bed in Cabinet
272 XL	Above closet in Bedroom - Driver's side

The auxiliary battery and the chassis battery, which ever is stronger, power the detector and 3 amp fuses located behind the panel on which the detector is mounted, protect the unit. A green light on the detector front indicates that it is operating and any failure in the light should be investigated and remedied immediately. The detector should be tested on a regular basis as per the manufacturers instructions.







# Insert Stickers for LP/C02 Detectors Here





## RECREATIONAL VEHICLE (RV)

### Carbon Monoxide Alarm

#### USER'S MANUAL

#### 65 Series Surface Mount Models:

65-541, 65-541-R, 65-541-MS, 65-541-R-MS

#### 65 Series Flush / Recess Mount Models:

65-542, 65-542-R, 65-542-MS, 65-542-R-MS

ALL RIGHTS RESERVED 65RV120810-1

**ATTENTION:** This user's manual contains important Carbon Monoxide (CO) alarm installation, operation, troubleshooting and warranty information. Read, follow, and keep this manual for future reference.

**NOTE:** If you install or purchase this alarm for another person, give this manual to that person.

**IMPORTANT:** This unit must be replaced within five years of its production date. This unit has an End of Life (EOL) signal that will sound after 5 years of use. Record the installation date in the section, Owner's Replacement Record, in this manual for future use. The replacement date indicates the date beyond which the device may no longer detect carbon monoxide. The device should be replaced.

The electronic CO sensor in your SAFE-T-ALERT™ CO alarm is very sensitive to CO gas. It will not react to most other gases.

#### WHY EVERY RV NEEDS A 65 SERIES CO ALARM

Everyone is at risk for carbon monoxide poisoning! Particularly sensitive are children, pregnant women, the elderly and people with lung or heart disease or anemia! Carbon monoxide (CO) is an odorless, colorless gas that prevents the blood from carrying oxygen to vital organs. CO is 200 times more likely to replace oxygen in the blood. The Consumer Product Safety Commission (CPSC) recommends using at least one CO alarm located outside of sleeping areas. For the extra security, locate additional CO alarms in each sleeping area.

#### ABOUT THIS ALARM

Because CO is a colorless, odorless, tasteless and highly poisonous gas; it can endanger lives even at low levels of concentration. The CO Alarm will alert you to potentially dangerous situations. **The following symptoms may be related to CO POISONING. Discuss these symptoms with ALL household members and RV guests:**

- **Mild Exposure:** Headaches, running nose, sore or watery eyes, often described as "flu-like" symptoms.
- **Medium Exposure:** Dizziness, drowsiness, vomiting.
- **Extreme Exposure:** Unconsciousness, brain damage and death.

**NOTE:** Reported cases of CO gas poisoning indicate that while victims are aware they are not well, they are disoriented. They are unable to save themselves by exiting the RV or calling for assistance. **Small children and pets may be affected first.**

Your SAFE-T-ALERT™ Series alarm helps protect your family members and guests from CO produced while using your RV. CO gas is produced when any type of fuel is incompletely burned. Potential sources of CO in and around your RV can include gas or diesel engine exhaust, portable space heaters, gas stoves and ovens, furnaces, defective engine exhaust systems, charcoal, portable grills, other nearby RVs, portable generators, generator exhaust, and other propane-powered appliances. All are sources of CO.

**The following are also sources of CO that may affect your RV:**

- Extended operation of unvented fuel burning appliances can build up high CO levels.
- An idling vehicle in an open or closed garage.
- Temperature inversions can trap exhaust near the ground.
- CO build up can be caused by reverse/negative venting of fuel burning appliances including; 1) Clogged, loose or faulty stacks or chimneys of (clothes dryers, furnaces and water heaters, etc.), 2) wind direction and/or velocity, 3) simultaneous operation of multiple fuel burning appliances, and/or exhaust fans.



#### LIMITATIONS OF CO ALARMS

**THIS ALARM WILL NOT WORK WITHOUT POWER.** Some reasons for no alarm power; are a blown or missing fuse, broken wire, a faulty wire connection or circuit breaker, a discharged battery, cut lead wires, or improper supply (+) or ground (-) connections.

**THIS ALARM WILL ONLY INDICATE THE PRESENCE OF GAS AT THE SENSOR.** CO may be present in other areas. MTI recommends installing CO alarms in all sleeping areas. **Do not block or cover** the alarm with any object that can prevent carbon monoxide from reaching the sensor.

**THIS ALARM IS INTENDED FOR USE IN RV's.** It is intended for use inside the RV. It is not designed to measure compliance with commercial and industrial standards.

**THIS ALARM MAY NOT BE HEARD.** The alarm's loudness is designed to meet or exceed regulatory standards; however, the alarm may not be heard if alarms are located in remote locations or behind closed doors. Persons who are hard-of-hearing, have consumed alcoholic beverages, taken prescription, non-prescription or illegal drugs, may not hear the alarm.

**THIS ALARM IS DESIGNED TO DETECT CARBON MONOXIDE. THE ALARM IS NOT DESIGNED TO DETECT SMOKE, OR FIRE.**

**THIS ALARM MAY NOT ALARM AT LOW CO LEVELS** It is not designed to measure compliance with the Occupational Safety Health Administration (OSHA) commercial or industrial standards. Individuals with medical problems may consider using warning devices, which provide audible and visual signals for CO concentrations under 30 ppm.

#### HOW TO PROTECT YOUR FAMILY

**CAUTION-** The SAFE-T-ALERT™ 65 Series combination CO Alarm is designed to protect individuals from the acute effects of carbon monoxide exposure. It will not fully safeguard individuals with specific medical conditions. If in doubt, consult a medical practitioner.

To protect yourself, family and guests, you should:

- **INSTALL THE ALARM PROPERLY.** Carefully read and follow ALL the instructions in this manual. Test your unit every week. Alarms that do not work will not alert you to hazardous levels of CO and need to be replaced.. See the section, **Test Procedure**, in this manual for further information.
- **MAKE REGULAR VISUAL INSPECTIONS.** Check all fuel burning equipment including gas water-heaters, kitchen gas stoves, space heaters, gas dryers and all pilot lights. Check the color of the pilot flame. The color should be blue.
- **MAKE REGULAR VISUAL INSPECTIONS OF THE ENGINE AND GENERATOR EXHAUST SYSTEMS.** Cracked exhaust systems can allow CO to enter the living area.
- **PROFESSIONALLY MAINTAIN YOUR ENGINE AND GENERATOR.** Although gas engines and generators produce CO, a poorly tuned engine and generator will produce greater amounts CO.

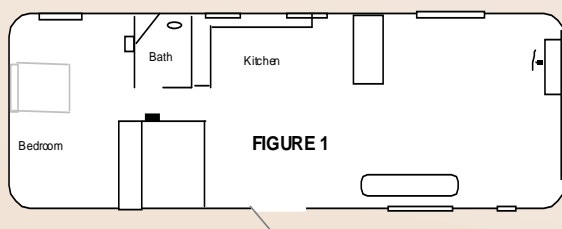
#### WHERE TO INSTALL

- MTI recommends installing a gas alarm in each sleeping area.
- The NFPA and Consumer Product Safety Commission recommends installing a CO alarm outside the sleeping area. The 65 Series CO alarm complies with that recommendation.
- **INSTALL ALARM** at least 4 inches off the floor.

#### WHERE NOT TO INSTALL 65 SERIES ALARMS

- **DO NOT INSTALL** behind furniture, drapes, in closets or areas that will block air flow to the alarm.
- **DO NOT INSTALL** within 12 inches (30cm) of opening windows, exterior doors, heating or return vents, or other drafty areas..
- **DO NOT INSTALL** on an outside wall.
- **DO NOT INSTALL** on a wall switch controlled by a power line, ground fault circuit or to a circuit breaker.

**NOTE:** Older RVs may have little or no insulation and therefore are draftier. Carefully consider mounting locations. The following diagrams provide additional alarm installation information:

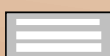


■ CO DETECTOR LOCATION FOR MINIMUM SECURITY

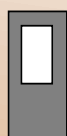
□ CO DETECTOR LOCATION FOR ADDITIONAL SECURITY



Do not install within 12" of a window that can open



Do not install within 12" of vents



Do not install within 12" of a door



Do Not install behind drapes or furniture

FIGURE 2

## INSTALLATION INSTRUCTIONS

### Models



### WARNING

**FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN A MALFUNCTION OR FAILURE OF THE ALARM AND MAY VOID THE WARRANTY.**

**SHOCK HAZARD: Turn off power before installing.**

### Power Supply 12 VDC.

Recommended Wire Size 14 GA. TO 18 GA.

Connect the alarm to a properly fused circuit, maximum over protection device rating 6 amps.

**All connections must be in accordance with the National Electrical Code in the Unites Stated and the Canadian Electric Code in Canada .**

Connect to wiring or circuit that **CANNOT** be turned off by a switch or ground fault protector. Only use UL or recognized permanent wire connectors. It is acceptable to connect the 65 Series CO alarm to the main disconnect. The alarm will be off along with all other 12 volt equipment when the main disconnect is turned to the off position. The RV must not be occupied when the main disconnect is in the off position.

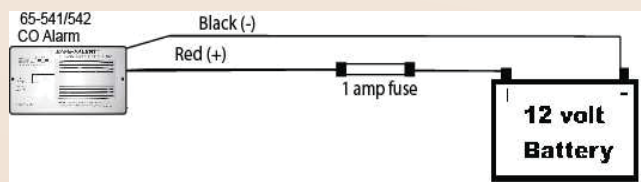
## INSTALLATION INSTRUCTIONS

Follow these instructions carefully. Failure to follow these instructions can damage the unit and void the warranty.

**Important: The 65 Series Flush / Recess mount case requires 1 1/2" (38mm) clearance behind the wall.**

### MODEL 65-541 / 65-542

1. **Basic Model 65-541/65-542** - Select a wall location at least 4" off the floor. Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole. For the 60-541 Drill a 1/4" (6mm) hole for the wires.
2. Connect Supply (+) to the Red wire lead. Install a 1 amp fuse in the positive (+) circuit. Connect the Black wire to the 12 volt Ground (-).
3. Reconnect the power supply. Warm up 10 minutes then test the alarm.



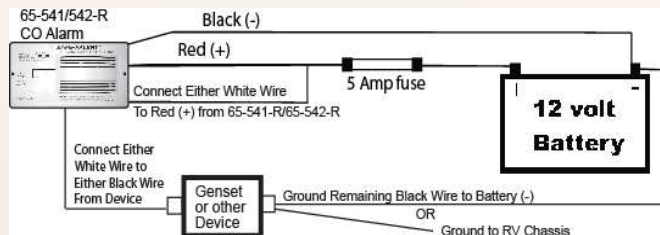
### MODEL 65-541-R / 65-542-R (Relay Control)

1. **Model 65-541-R/65-542-R - With Normally Closed relay.** This unit supplies a relay with contacts rated 12 VDC, 3 amp (max). The relay is energized whenever the alarm is operational. It may be used to shut down a generator or to open an (optional) gas solenoid valve. The relay may also be used to interface to alarm systems, using either the normally closed or normally open contact, depending on the requirements of the alarm system. In the event of an alarm the relay will shut off. It will

automatically re-energize after the unsafe levels of CO clears. Select a wall location at least 4" off the floor. 60-542-R Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole. 60-541-R drill 1/4" (6mm) hole for the wires.

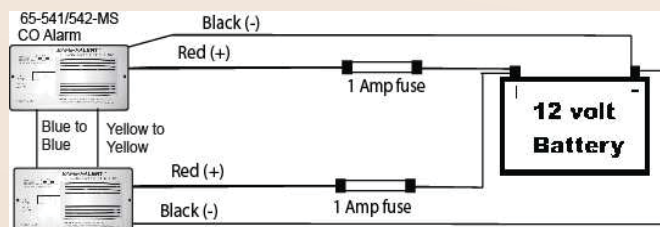
2. **Do not connect to a previously installed solenoid. SEE: SPECIAL WIRING NOTICE.**

3. Connect Supply (+) to the Red wire lead. Install a 5 amp fuse in the positive (+) circuit. Connect the Black wire to the 12 volt Ground (-).
4. Reconnect the power supply. Warm up 10 minutes then test the alarm.



**MODEL 65-541-MS / 65-542-MS**

1. **Model 65-541/65-542-MS Multi-station interconnect, (Maximum 10 units and 2000 feet of wire).** Allows multiple 65-541/542MS alarms to be connected together. When one of the alarms detects unsafe levels of CO or gas it will activate. It will also activate the audible alarm of all the interconnected units. Only the alarm that detected CO or gas will have its Red LED light lit up so that you can determine the cause of the alarm. Select a wall location no between 4" and 20" off the floor. 60-542-MS Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole. 60-541-MS drill 1/4" (6mm) hole for the wires.
2. Connect the Red wire to the 12 volt supply (+). Install a 1 amp fuse in the positive circuit (+). **Note you must use a separate 1 amp fuse for each alarm.** Connect the Black wire to the 12 volt Ground (-).
3. Interconnect Wiring – Connect Blue wires from each alarm and Yellow wires for each alarm. Continue connecting in series (Daisy Chain).
4. Reconnect the power supply. Warm up 10 minutes then test the alarm.

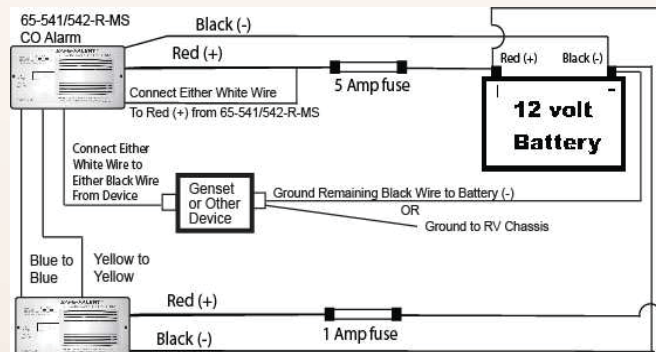


**MODEL 65-541-R-MS / 65-542-R-MS**

1. **Model 65-541-R/65-542-R-MS - With Normally Closed relay.** This unit supplies a relay with contacts rated 12 VDC, 3 amp (max). The relay is energized whenever the alarm is operational. It may be used to shut down a generator or to open an (optional) gas solenoid valve. The relay may also be used to interface to alarm systems, using either the normally closed or normally open contact, depending on the requirements of the alarm system. In the event of an alarm the relay will shut off. It will automatically re-energize after the unsafe levels of CO clears. Select a wall location at least 4" off the floor. 65-541-R-MS Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole. 65-542-R-MS drill 1/4" (6mm) hole for the wires.
2. **Do not connect to an existing installed solenoid. SEE: SPECIAL WIRING NOTICE.**

3. Connect Supply (+) to the Red wire lead. Install a 5 amp fuse in the positive (+) circuit. Connect the Black wire to the 12 volt Ground (-).
4. Interconnect Wiring - Connect Blue wires from each alarm and Yellow wires from each alarm. Continue connecting in series (Daisy Chain).
5. Reconnect the power supply. Warm up 10 minutes then test the alarm.

**Model 65-541-R-MS / 65-542-R-MS Wiring -**



Only use UL or recognized permanent wire connectors to replace any unit installed with spade connectors or wire nuts.

**TEST PROCEDURE**

**⚠ WARNING**

**TO REDUCE THE RISK OF CARBON MONOXIDE POISONING, TEST THIS ALARM'S OPERATION AFTER THE RV HAS BEEN IN STORAGE, BEFORE EACH TRIP AND AT LEAST ONCE PER WEEK DURING USE BY PRESSING THE TEST/RESET BUTTON.**

**⚠ WARNING**

**WARNING: THE TEST BUTTON ONLY TESTS THE ALARM CIRCUIT NOT THE SENSORS. TO TEST THE CO SENSOR USE A CAN OF SAFE-T-ALERT CO TEST GAS TO TEST THE 400 PPM CALABRATION POINT. DO NOT TRY TO GENERATE CO TO TEST THE ALARM.** The TEST/RESET button tests all ELECTRICAL functions of the alarm. It does not check the sensor operation.

The alarm may be tested at any time. The TEST/Mute switch is located on the front of the alarm. Press and hold the test button for 1 second **IMPORTANT - If this alarm does not test properly return it immediately for repair or replacement. If the alarm is over five years old replace it.**

**SPECIAL WIRING NOTICE.**

**⚠ DANAGER - FIRE RISK - DO NOT CONNECT A SAFE-T-ALERT alarm to non Safe-T-Alert supplied solenoid. You must use a new solenoid with the correct electrical rating.**

**OPERATION**

When the unit is first powered up, the CO sensor requires a ten (10) minute initial warm-up period to clean the sensor element and achieve stabilization. The GREEN LED indicator will flash on and off during the 10 minute warm-up period. This unit cannot go into a alarm during the warm-up period. See Test Procedure in this manual. After the warm-up period, the GREEN power ON indicator should glow continuously. If the ON indicator light does not light, see the section, **Trouble-Shooting Guide**, in this manual for further information. **Do not attempt to fix it yourself.**



**Brownout Protection** - The unit can tolerate short power interruptions and brownouts where the circuit voltage drops as low as 1 VDC. If the brownout lasts too long, the unit will reset and operate as described above.

#### LOW POWER OPERATION

This alarm will operate normally down to 7 VDC. Do not operate this alarm below 7 VDC.

#### VISUAL AND AUDIBLE ALARM SIGNALS

This SAFE-T-ALERT™ CO Alarm is designed to be easy-to-operate. The alarm has two indicator lights that display a specific color for each monitored condition. There also is a matching sound pattern for alarm conditions.

#### CO ALARM

The Red CO LED will flash and the alarm will sound 4 “BEEPS” then silent for 5 Seconds. **IMMEDIATE ACTION IS REQUIRED.** See **Procedures To Take During An Alarm.** This cycle will continue until the TEST/Mute button on the front of alarm is pressed. Ventilate the RV. The RED light will stay ON until the CO has cleared, or the alarm will reactivate in approximately 6 minutes if the CO is still present. DO NOT RE-ENTER THE RV. This alarm will return to normal operation after the RV is properly ventilated.

**MALFUNCTION/SERVICE SIGNAL** If any malfunction is detected, the Gas LED will remain off and the Operational/CO LED will alternate Red/Green and the alarm will sound once every 15 seconds. Press the Test/Mute button. If the Test/Mute button does not clear the signals, check the battery voltage. **If the battery voltage is not low and the unit will not return to normal operation, immediately remove the alarm and return for service or warranty replacement.** See the warranty section in this manual.

OPERATION	AUDIBLE SIGNAL	VISUAL SIGNAL
NORMAL	NONE	STEADY GREEN
CO ALARM	4 “BEEPS” 5 SECONDS OFF	STEADY RED
ALARM MALFUNCTION	BEEP” EVERY 25 SECONDS	ALTERNATING RED/GREEN
END OF LIFE SIGNAL	BEEPS EVERY 25-30 SECONDS	RED RED GREEN GREEN FLASHING

**MEMORY FEATURE** – This alarm has a Peak Level Memory feature that remembers the approximate amount of CO that activated it. The memory feature does not record brief exposure to CO that would not activate the alarm. This alarm will indicate one of four levels with chirps and blinks with the CO LED:

**To activate alarm level memory, press the TEST/RESET button for less than 1 second.**

- 1 Chirp and 1 Green Blink = CO memory is clear
- 2 Chirps and 2 Red = below 100 ppm
- 3 Chirps and 3 Red Blinks = below 200 ppm
- 4 Chirps and 4 Red Blinks = above 200 ppm

#### End of Life Signal – The Sensor has a 5 Year Service Life

All 65 Series models include an End of Life (EOL) Signal indicating the sensor has reached the end of its service life and you must replace the alarm. The signal is the LED flashing RED RED GREEN GREEN with a beep every 25-30 seconds. The EOL Signal may be

reset by pushing TEST / RESET button on the alarm. This will reset the EOL Signal for a period of 72 hours (3 days) for a total of up to 30 days. After 30 days the signal cannot be reset and the alarm must be replaced. DO NOT DISCONNECT THE ALARM UNTIL YOU HAVE A REPLACEMENT ALARM AVAILABLE TO INSTALL.

#### TROUBLE-SHOOTING GUIDE

Use this chart to trouble-shoot problems with this 65 Series Alarm.

PROBLEM	CAUSE/SOLUTION
Green Operational LED Off	1. Wire Connection 2. Reversed Wiring 3. Main Power Off 4. Missing or Blown Fuse 5. Contact Customer Service
No Sound When Testing	Contact Customer Service
No Red LED When Testing	Contact Customer Service
Locked In Alarm	Contact Customer Service
<b>MALFUNCTION ALARM</b>	
LED Flashing Red/Green - Beeps Every 25 Seconds	1. Check Battery Voltage
Battery Voltage is Good and Alarm Will Not Reset	2. Contact Customer Service
End of Life Signal LED Flashing RED RED GREEN GREEN Beeps Every 25 Seconds	1. Press Test/Reset Button to reset for 72 Hours. Can repeat for up to 30 Days 2. Replace Alarm

#### HOW TO TAKE CARE OF YOUR ALARM

This CO Alarm is designed to be as maintenance free as possible. To keep your alarm in good working order, you must:

- **TEST THE ALARM WEEKLY** using the Test/Reset Button. See the section, **Test Procedure**, in this manual for further information.
- **VACUUM THE DUST OFF THE ALARM COVER.** At least once a year (more frequently in dusty locations), use the soft brush attachment from your vacuum to clean the alarm covers.
- **CLEAN THE ALARM COVER WHEN DIRTY.** Wash the alarm cover by hand. Use a cloth dampened in clean water. Dry with a soft cloth.
- **DO NOT SPRAY CLEANING AGENTS OR WAXES DIRECTLY ONTO THE FRONT PANEL.** This action may damage the sensor, cause an alarm or cause an alarm malfunction.
- **OBSERVE THE COLOR OF THE INDICATOR LIGHT.** At frequent intervals and during your weekly test, check the indicator light on the on the front panel of the alarm.
- See the section, **Operation**, in this manual for further information.


#### SPECIFICATIONS

MODELS	65-541, 65-541-R, 65-541-MS, 65-541-R-MS 65-542, 65-542-R, 65-542-MS, 65-542-R-MS
POWER SUPPLY	12 VDC
NOMINAL CURRENT DRAW	108mA
OPERATIONAL TEMPERATURE	-40° F to +150° F    -40° C to +66° C
RELATIVE HUMIDITY	15% (+/- 5%) to 95% (+/- 4%)
AUDIBLE OUTPUT	85 dB @ 10 feet
CO ALARM TRIGGER	4 -15 Minutes @ 400 ppm
CASE DIMENSIONS	65-541 5.5"W x 3.5"H x 1.38"D 65-542 6.5"W x 3.5"H, 1.38"D
WARRANTY	1 Year Limited
TESTING LABORATORY STANDARD	Underwriters Laboratories UL 2034, Third Edition


## PROCEDURES TO TAKE DURING AN ALARM

Follow the alarm procedures for your country. The emergency number depends on your travel location.

### PROCEDURES TO TAKE DURING A CO ALARM IN THE USA

 **WARNING:** Actuation of this device indicates the presence of carbon monoxide (CO) gas, which can KILL YOU. If signal sounds (4 beeps and flashing or solid red light): **1)** Operate the Test/Mute button; **2)** Call your emergency local service (Phone Number \_\_\_\_\_) (fire department or 911); **3)** Immediately move to fresh air - outdoors or by an open door/window. Check that all persons are accounted for. Do not reenter the premises or move away from the open door / window until the emergency responders have arrived, the premises have been aired out and your alarm remains in its normal operation. **4)** After following steps 1-3, if your alarm reactivates within a 24-hour period, repeat steps 1-3 and call a qualified appliance technician. (Phone Number \_\_\_\_\_) to investigate for sources of CO from fuel burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection have the equipment serviced immediately. Note any combustion equipment not inspected by the technician and consult the manufacturers' instructions, or contact the manufacturer directly, for more information about CO safety and this equipment. Make sure that the motor vehicles are not, and have not been, operating in an attached garage or adjacent to the residence.

### PROCEDURES TO TAKE DURING A CO ALARM IN CANADA

 **WARNING:** Actuation of this device indicates the presence of carbon monoxide (CO) gas which can KILL YOU. If signal sounds (4 beeps and flashing or solid red light: 1) Operate the Test/Mute. Immediately move to fresh air - outdoors or by an open door/window. Check that all persons are accounted for. Do not reenter the premises or move away from the open door/window until the emergency responders have arrived, the premises have been aired out, and your alarm remains in its normal condition; 2) call your emergency local service (telephone number \_\_\_\_\_) ( Fire department or 911).

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## LIMITED PRODUCTS WARRANTY

MTI INDUSTRIES, INC. warrants to the original retail purchaser that its products will be free from defects of material or workmanship for a period of One (1) year from the date of retail purchase. If proven to have been defective in original materials or workmanship and returned, delivery costs prepaid, MTI INDUSTRIES, INC. will replace this product free of charge.

### LIMITS OF WARRANTY

Replacement is your exclusive remedy under this limited warranty or any other warranty (including any implied warranty of merchantability for a particular purpose). Any and all implied warranties or merchantability or fitness for a particular purpose shall be limited to the warranty period from the original date of retail purchase. MTI INDUSTRIES, INC., its dealers and distributors shall in no case be responsible or in any way liable for any incidental or consequential damages for any reason. Some states do not allow the limitation or exclusion of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. This warranty gives you specific rights, and you may also have other rights, which may vary, from state to state.

### PRODUCT NOT WARRANTED

**NOTE- There are no user serviceable parts inside the case. Opening any SAFE-T-ALERT™ product for any reason voids the warranty.** This warranty does not cover damage or failure resulting from acts of God, abuse, misuse, neglect, or faulty installation.

### WARRANTY RETURN PROCEDURES

It is MTI's experience that a CO Alarm is sounding for a reason. Call, ask your dealer to call, or e-mail our Customer Service Department (as listed below) to trouble shoot the situation.

**Customer Service Phone No. - 800-383-0269**

Fax No. 847-546-9007

E-mail Service@mtiindustries.com

Web Site: [www.mtiindustries.com](http://www.mtiindustries.com)

If Customer Service determines that the unit is defective, a Replacement Authorization (RA) number will be issued. **No product will be accepted for service or replacement without first obtaining a RA number.**

**If authorized, return this product to:**

**MTI Industries, Inc.**

**Warranty Dept. RA # (INSERT RA NUMBER HERE)**

**31632 N. Ellis Drive Unit 301**

**Volo, IL 60073**

**NOTE: Mark the RA number in the area shown on the outside of the box!**

### OWNERS REPLACEMENT RECORD

Replace this SAFE-T-ALERT™ 65 SERIES CO alarm within 5 years, of the installation of the alarm.

**Installation Date** \_\_\_\_\_

**Replace Date** \_\_\_\_\_

**Installer** \_\_\_\_\_

**NOTE:** The replacement date indicates the date beyond which the device may no longer detect accurately.



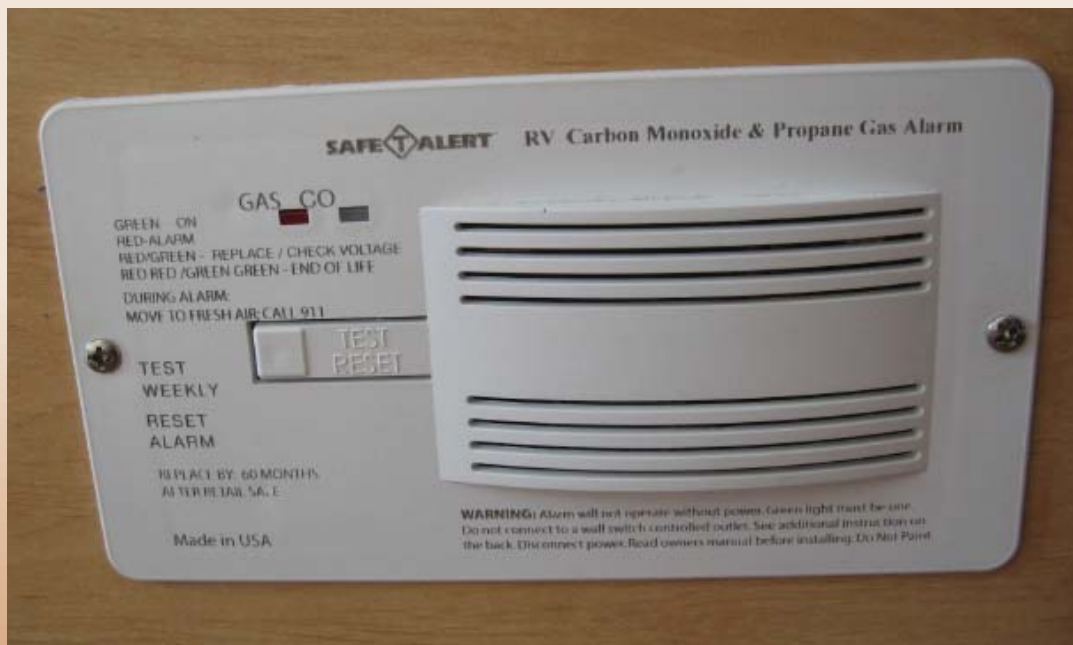


# L.P. Gas Detector

A L.P. Gas detector is mounted in the following locations for your model.

220	Base of Bed on Driver's Side
221 XL	Rear Dinette Base
232 XL	Base of Rear Bed
261 XL	Rear Dinette Base
261 XL (Twin Bed)	Base of Bed on Driver's Side
261 XL (Sleeper Sofa)	Rear Dinette Base
271 XL	Below Swivel Lounge Chair
272 XL	Below Swivel Lounge Chair

L.P. Gas is heavier than air and will fall. It also has an odor additive which smells like rotten eggs so that it is readily detected when a leak is present. Check the operation of your detector on a regular basis to ensure it is working properly.







## RECREATIONAL VEHICLE (RV)

### Combination Carbon Monoxide and Gas Alarm

#### USER'S MANUAL

#### 70 Series Models 70-742, 70-742-MS

#### 70-742-R Kit, 70-742-R-MS Kit

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**ATTENTION:** This user's manual contains important Carbon Monoxide (CO) and gas alarm installation, operation, troubleshooting and warranty information. Read, follow, and keep this manual for future reference.

**NOTE:** If you install or purchase this alarm for another person, give this manual to that person.

**IMPORTANT:** This unit must be replaced within five years of its production date. Record the manufacture date in the section, Owner's Replacement Record, in this manual for future use. The replacement date indicates the date beyond which the device may no longer detect carbon monoxide, propane or natural gas accurately. The device should be replaced.

#### DUAL SENSOR TECHNOLOGY

The SAFE-T-ALERT™ 70 Series combination CO / Gas Alarm is an alarm that combines into a single compact system, a powerful alarm that detects both Carbon Monoxide (CO) and explosive gases Propane (LPG) and Methane (Natural Gas). The 70 Series uses the latest microprocessor technology combined with two electronic self-cleaning sensors that operate independently of each other. The combined unit can detect both CO and explosive gases simultaneously.

This detector is UL Listed as a CO Propane and Methane (Natural Gas) detector for RV use. Other explosive gases detected, but not tested by UL, include Acetone, Alcohol, Butane, and Gasoline all of which you may have in your RV.

To prevent false alarms from brief "puffs" of gas the detector has a recheck cycle before alarming. If high levels of gas remain during the recheck cycle, the detector will alarm.

The electronic CO sensor in your SAFE-T-ALERT™ CO alarm is very sensitive to CO gas. It will not react to most other gases.

#### WHY EVERY RV NEEDS A 70 SERIES CO AND GAS ALARM

Everyone is at risk for carbon monoxide poisoning! Particularly sensitive are children, pregnant women, the elderly and people with lung or heart disease or anemia! Carbon monoxide (CO) is an odorless, colorless gas that prevents the blood from carrying oxygen to vital organs. CO is 200 times more likely to replace oxygen in the blood. The Consumer Product Safety Commission (CPSC) recommends using at least one CO alarm located outside of sleeping areas. For the extra security, locate additional CO alarms in each sleeping area. Safe-T-Alert CO alarms are available for secondary installations.

Propane gas can cause explosions! Using propane requires taking safety precautions to avoid injury. These gases are usually identified by an unpleasant odor. Certain conditions may make some people unable to detect this unpleasant odor. These conditions include advanced age, colds, allergies, and the use of tobacco, alcohol or drugs that may diminish the sense of smell.

#### ABOUT THIS ALARM

Because CO is a colorless, odorless, tasteless and highly poisonous gas; it can endanger lives even at low levels of concentration. The CO Alarm will alert you to potentially dangerous situations. **The following symptoms may be related to CO POISONING. Discuss these symptoms with ALL household members and RV guests:**

- **Mild Exposure:** Headaches, running nose, sore or watery eyes, often described as "flu-like" symptoms.
- **Medium Exposure:** Dizziness, drowsiness, vomiting.
- **Extreme Exposure:** Unconsciousness, brain damage and death.

**NOTE:** Reported cases of CO gas poisoning indicate that while victims are aware they are not well, they are disoriented. They are unable to save themselves by exiting the RV or calling for assistance. **Small children and pets may be affected first.**

Your SAFE-T-ALERT™ 70Series alarm helps protect your household members and guests from CO produced while using your RV. CO gas is produced when any type of fuel is incompletely burned. Potential sources of CO in and around your RV can include gas or diesel engine exhaust, portable space heaters, gas stoves and ovens, furnaces, defective engine exhaust systems, portable grills, other nearby RVs, portable generators, generator exhaust, and other propane-powered appliances. All are sources of CO.

**The following are also sources of CO that may affect your RV:**

- Extended operation of unvented fuel burning appliances can build up high CO levels.
- An idling vehicle in an open or closed garage.
- Temperature inversions can trap exhaust near the ground.
- CO build up can be caused by reverse/negative venting of fuel burning appliances including: 1) Clogged, loose or faulty stacks or chimneys of (clothes dryers, furnaces and water heaters, etc.), 2) wind direction and/or velocity, 3) simultaneous operation of multiple fuel burning appliances, and/or exhaust fans.



**WARNING:**

#### LIMITATIONS OF CO and GAS ALARMS

**THIS ALARM WILL NOT WORK WITHOUT POWER.** Some reasons for no alarm power; are a blown or missing fuse, broken wire, a faulty wire connection or circuit breaker, a discharged battery, cut lead wires, or improper supply (+) or ground (-) connections.

**THIS ALARM WILL ONLY INDICATE THE PRESENCE OF GAS AT THE SENSOR.** CO or explosive propane/natural gas gases may be present in other areas. MTI recommends installing CO alarms in all sleeping areas. **Do not block or cover** the alarm with any object that can prevent a gas leak or carbon monoxide from reaching the sensor.

**THIS ALARM IS INTENDED FOR USE IN RV's. It is intended for use inside the RV.** It is not designed to measure compliance with commercial and industrial standards.

**THIS ALARM MAY NOT BE HEARD.** The alarm's loudness is designed to meet or exceed regulatory standards; however, the alarm may not be heard if alarms are located in remote locations or behind closed doors. Persons who are hard-of-hearing, have consumed alcoholic beverages, taken prescription, non-prescription or illegal drugs, may not hear the alarm.

**THIS ALARM IS DESIGNED TO DETECT CARBON MONOXIDE AND PROPANE GAS. THE ALARM IS NOT DESIGNED TO DETECT SMOKE, OR FIRE.**

**THIS ALARM MAY NOT ALARM AT LOW CO LEVELS** It is not designed to measure compliance with the Occupational Safety Health Administration (OSHA) commercial or industrial standards. Individuals with medical problems may consider using warning devices, which provide audible and visual signals for CO concentrations under 30 ppm.

## HOW TO PROTECT YOUR FAMILY

**CAUTION-** The SAFE-T-ALERT™ 70 Series combination CO and Gas Alarm is designed to protect individuals from the acute effects of carbon monoxide exposure and gas leaks. It will not fully safeguard individuals with specific medical conditions. If in doubt, consult a medical practitioner.

To protect your family, you should:

- **INSTALL THE ALARM PROPERLY.** Carefully read and follow ALL the instructions in this manual. Test your unit every week. Alarms that do not work will not alert you to hazardous levels of CO or explosive gas. See the section, Test Procedure, in this manual for further information.
- **MAKE REGULAR VISUAL INSPECTIONS.** Check all fuel burning equipment including gas water-heaters, kitchen gas stoves, space heaters, gas dryers and all pilot lights. Check the color of the pilot flame. The color should be blue.
- **MAKE REGULAR VISUAL INSPECTIONS OF THE ENGINE AND GENERATOR EXHAUST SYSTEMS.** Cracked exhaust systems can allow CO to enter the living area.
- **PROFESSIONALLY MAINTAIN YOUR ENGINE AND GENERATOR.** Although gas engines and generators produce CO, a poorly tuned engine and generator will produce greater amounts CO.
- If you smell unusual odors you may have a gas leak, immediately call a local propane gas supplier or fire department to check for possible leaks.

## WHERE TO INSTALL

- Install the 70 Series in the kitchen area near sources of a potential gas leaks. Some potential sources are a furnace, refrigerator, stove or oven. If potential sources of a gas leak are in separate areas, MTI recommends installing a gas alarm in each area.
- The NFPA and Consumer Product Safety Commission recommends installing a CO alarm outside the sleeping area. The 70 Series combination CO and gas alarm complies with that recommendation.
- **INSTALL ALARM** at least 4inches off the floor but no more than 20 inches off the floor.

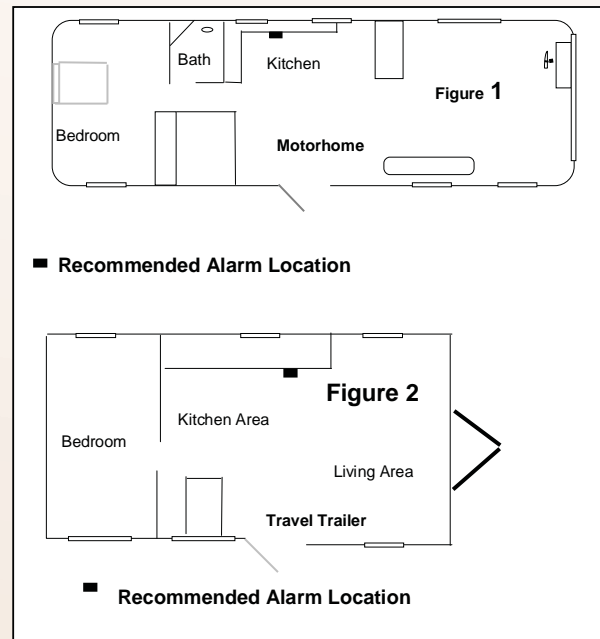
## WHERE NOT TO INSTALL 70 SERIES ALARMS

- **DO NOT INSTALL** behind furniture, drapes, in closets or areas that will block air flow to the alarm.
- **DO NOT INSTALL** within 12 inches (30cm) of opening windows, exterior doors, heating or return vents, or other drafty areas..
- **DO NOT INSTALL** on an outside wall.
- **DO NOT INSTALL** on a wall switch controlled by a power line, ground fault circuit or to a circuit breaker.
- **NOTE:** Older RVs may have little or no insulation and therefore are draftier. Carefully consider mounting locations.

## ⚠ WARNING

**ATTENTION: CCI CONTROLS GAS LEAK DETECTOR REPLACEMENT - DO NOT CONNECT ANY SAFE-T-ALERT alarm to non Safe-T-Alert supplied solenoids. You must use the new solenoid included in your Kit.**

The following diagrams provide additional alarm installation information:



## INSTALLATION INSTRUCTIONS

### Models

70-742 70-742-MS 70-742-R Kit  
70-742-R-MS Kit

## ⚠ WARNING

**FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN A MALFUNCTION OR FAILURE OF THE ALARM AND MAY VOID THE WARRANTY.**

**SHOCK HAZARD:** Turn off power before installing.

**Power Supply 12 VDC.**

Recommended Wire Size 14 GA. TO 18 GA.

Connect the alarm to a properly fused circuit, maximum over protection device rating 15 amps.

**All connections must be in accordance with the National Electrical Code in the Unites Stated and the Canadian Electric Code in Canada .**

Connect to wiring or circuit that **CANNOT** be turned off by a switch or ground fault protector. Only use UL or recognized permanent wire connectors. It is acceptable to connect the 70 Series CO / LP gas alarm to the main disconnect. The alarm will be off along with all other 12 volt equipment when the main disconnect is turned to the off position. The RV must not be occupied when the main disconnect is in the off position.



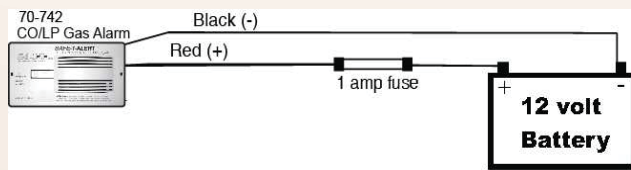
## INSTALLATION INSTRUCTIONS

Follow these instructions carefully. Failure to follow these instructions can damage the unit and void the warranty.

**Important: The 70 Series case requires 1 1/2" (38mm) clearance.**

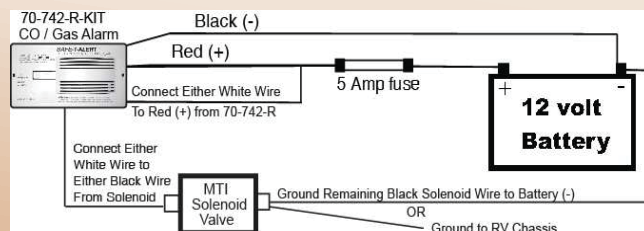
### MODEL 70-742

1. **Basic Model 70-742** - Select a wall location between 4" and 20" off the floor. Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole.
2. Connect Supply (+) to the Red wire lead. Install a 1 amp fuse in the positive (+) circuit. Connect the Black wire to the 12 volt Ground (-).
3. Reconnect the power supply. Warm up 10 minutes then test the alarm.



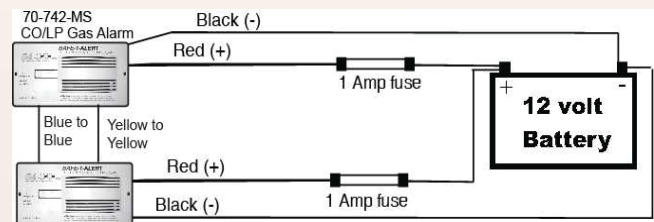
### MODEL 70-742-R KIT

1. **Model 70-742-R Kit - With Normally Closed relay.** This unit supplies a relay with contacts rated 12 VDC, 3 amp (max). The relay is energized whenever the alarm is operational. It may be used to shut down a generator or to open an (optional) gas solenoid valve. The relay may also be used to interface to alarm systems, using either the normally closed or normally open contact, depending on the requirements of the alarm system. In the event of an alarm the relay will shut off. It will automatically energize after the unsafe levels of CO or explosive gas clears.  
Select a wall location between 4" and 20" off the floor. Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole.
2. **Mount the solenoid according to its separate instructions. You must install the solenoid included with the 70-742-R Kit. Do not connect to an existing installed solenoid. SEE: SPECIAL WIRING NOTICE.** Connect the Red wire and either White wire from the alarm to the 12 volt supply (+). Install a 5 amp fuse in the positive (+) circuit between this connection and the battery. Connect the Black wire to the 12 volt Ground (-).
3. **Relay Output** – Connect the remaining White wire from the alarm to either black wire from the solenoid.  
Ground the remaining Black wire from the solenoid to the negative side (-) of the 12 volt battery OR ground it to the RV Chassis.  
Note: Some devices do not require correct polarity and can be connected to either terminal or wire.
4. Reconnect the power supply. Warm up 10 minutes then test the alarm.



### MODEL 70-742-MS

1. **Model 70-742-MS Multi-station interconnect, (Maximum 10 units and 2000 feet of wire).** Allows multiple 70-742-MS alarms to be connected together. When one of the alarms detects unsafe levels of CO or gas it will activate. It will also activate the audible alarm of all the interconnected units. Only the alarm that detected CO or gas will have its Red LED light lit up so that you can determine the cause of the alarm. Select a wall location no between 4" and 20" off the floor. Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole.
2. Connect the Red wire to the 12 volt supply (+). Install a 1 amp fuse in the positive circuit (+). **Note you must use a separate 1 amp fuse for each alarm.** Connect the Black wire to the 12 volt Ground (-).
3. **Interconnect Wiring** – Connect Blue wires from each alarm and Yellow wires for each alarm. Continue connecting in series (Daisy Chain).
4. Reconnect the power supply. Warm up 10 minutes then test the alarm.

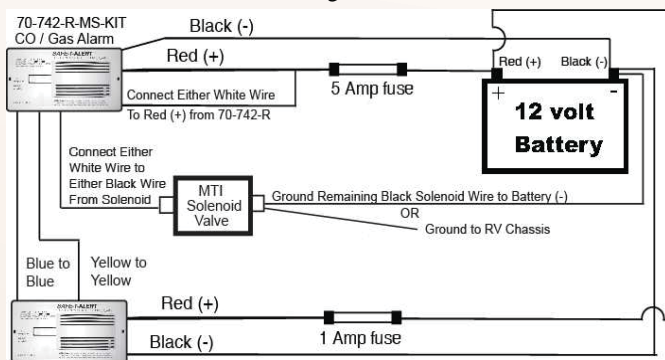


### MODEL 70-742-R-MS KIT

1. **Model 70-742-R-MS Kit - With Normally Closed relay.** This unit supplies a relay with contacts rated 12 VDC, 3 amp (max). The relay is energized whenever the alarm is operational. It may be used to shut down a generator or to open an (optional) gas solenoid valve. The relay may also be used to interface to alarm systems, using either the normally closed or normally open contact, depending on the requirements of the alarm system. In the event of an alarm the relay will shut off. It will automatically energize after the unsafe levels of CO or gas clears.  
Select a wall location between 4" and 20" off the floor. Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole.
2. **Mount the solenoid according to its separate instructions. You must install the solenoid included with the 70-742-R-MS KIT. Do not connect to an existing installed solenoid. SEE: SPECIAL WIRING NOTICE.** Connect the Red wire and either White wire from the alarm to the 12 volt supply (+). Install a 5 amp fuse in the positive (+) circuit between this connection and the battery. **Note you must use a separate 5 amp fuse for each alarm.** Connect the Black wire to the 12 volt Ground (-).
3. **Relay Output** – Connect the remaining White wire from the alarm to either black wire from the solenoid. Ground the remaining Black wire from the solenoid to the negative side (-) of the 12 volt battery OR ground it to the RV Chassis.  
Note: Some devices do not require correct polarity and can be connected to either terminal or wire.
4. **Interconnect Wiring** – Connect Blue wires from each alarm and Yellow wires from each alarm. Continue connecting in series (Daisy Chain).
5. Reconnect the power supply. Warm up 10 minutes then test the alarm.

**⚠ DANGER - FIRE RISK - CCI CONTROLS GAS LEAK DETECTOR REPLACEMENT**  
- DO NOT CONNECT A SAFE-T-ALERT alarm to non Safe-T-Alert supplied solenoid. You must use the new solenoid included in your Kit. **DO NOT CONNECT TO A CCI SOLENOID.**

## Model 70-742-R-MS-KIT Wiring -



**SPECIAL WIRING NOTICE:** When replacing CCI Controls LP Gas Leak Detectors they may have two power leads. Safe-T-Alert units only have one power lead. Simply connect the Safe-T-Alert power lead (Red) to the coach/house power supply and cap or remove the other power lead. **DO NOT CONNECT BOTH POWER LEADS TO THE Safe-T-Alert ALARM – this will result in a dead chassis battery.**

Only use UL or recognized permanent wire connectors to replace any unit installed with spade connectors or wire nuts.

### TEST PROCEDURE



**TO REDUCE THE RISK OF CARBON MONOXIDE POISONING OR PROPANE GAS EXPLOSION, TEST THIS ALARM'S OPERATION AFTER THE RV HAS BEEN IN STORAGE, BEFORE EACH TRIP AND AT LEAST ONCE PER WEEK DURING USE BY PRESSING THE TEST/RESET BUTTON.**



**WARNING: THE TEST BUTTON ONLY TESTS THE ALARM CIRCUIT NOT THE SENSORS. YOU MAY USE PROPANE OR BUTANE GAS TO TEST THE GAS SENSOR. Note it may take up to 10 seconds for the alarm to sound.**

**TO TEST THE CO SENSOR USE A CAN OF SAFE-T-ALERT CO TEST GAS TO TEST THE 400 PPM CALABRATION POINT. DO NOT TRY TO GENERATE CO TO TEST THE ALARM.** The TEST/RESET button tests all ELECTRICAL functions of the alarm. It does not check the sensor operation.

The alarm may be tested at any time. The TEST/Mute switch is located on the front of the alarm. Press and hold the test button for 1 second **IMPORTANT - If this alarm does not test properly return it immediately for repair or replacement. If the alarm is over five years old replace it.**

### OPERATION

When the unit is first powered up, the CO sensor requires a ten (10) minute initial warm-up period to clean the sensor element and achieve stabilization. The GREEN LED indicator will flash on and off during the 10 minute warm-up period. This unit cannot go into a alarm during the warm-up period. See Test Procedure in this manual. After the warm-up period, the GREEN power ON indicator should glow continuously. If the ON indicator light does not light, see the section, **Trouble-Shooting Guide**, in this manual for further information. **Do not attempt to fix it yourself.**

**Gas Alarm:** When you power the alarm, it has a warm-up period of approximately 1 minute. This unit cannot go into a gas alarm during the warm-up period. After 1 minute the alarm can detect explosive gas and will energize the relay on models 70-742-R Kit and 70-742-R-MS Kit.

**Simultaneous CO and Gas Alarms**— Because the risk of a propane gas explosion is generally a more serious danger, your alarm unit gives the gas alarm a higher priority during simultaneous alarm condition.

If your unit generates alarms for both Gas and CO at the same time, the gas LED will flash red and the beeper will sound. The CO LED will be a solid Red until the CO is ventilated out of the RV, at which time the LED will return to the Green operational/safe color.

**Brownout Protection** - The unit can tolerate short power interruptions and brownouts where the circuit voltage drops as low as 1 VDC. If the brownout lasts too long, the unit will reset and operate as described above.

### LOW POWER OPERATION

This alarm will operate normally down to 7 VDC. Do not operate this alarm below 7 VDC.

### VISUAL AND AUDIBLE ALARM SIGNALS

This SAFE-T-ALERT™ CO / Propane Gas Alarm is designed to be easy-to-operate. The alarm has two indicator lights that display a specific color for each monitored condition. There also is a matching sound pattern for alarm conditions.

#### CO ALARM

The Red CO LED will flash and the alarm will sound 4 “BEEPS” then silent for 5 Seconds. These signals indicates that the CO level is over 70 ppm. **IMMEDIATE ACTION IS REQUIRED.** See **Procedures To Take During An Alarm**. This cycle will continue until the TEST/Mute button on the front of alarm is pressed. Ventilate the RV. The RED light will stay ON until the CO has cleared, or the alarm will reactivate in approximately 6 minutes if the CO is still present. DO NOT RE-ENTER THE RV. This alarm will return to normal operation after the RV s properly ventilated.

#### PROPANE GAS ALARM

The Red LED will Flash and the alarm will sound a steady tone whenever a dangerous level of propane or methane gas is detected. **IMMEDIATE ACTION IS REQUIRED.** See **Procedures Take During A Gas Alarm**. The detector will continue to alarm until the Test/Mute switch on the front of the alarm is pressed. Ventilate the RV. The RED Gas LED will continue to flash until the gas has cleared, or the gas alarm will reactivate in approximately 5 minutes if the gas is still present. DO NOT RE-ENTER THE RV. This alarm will return to normal operation after the RV s properly ventilated.

**MALFUNCTION/SERVICE SIGNAL** If any malfunction is detected, the Gas LED will remain off and the Operational/CO LED will alternate Red/Green and the alarm will sound once every 15 seconds. Press the Test/Mute button. If the Test/Mute button does not clear the signals, check the battery voltage. **If the battery voltage is not low and the unit will not return to normal operation, immediately remove the alarm and return for service or warranty replacement.** See the warranty section in this manual.

OPERATION	AUDIBLE SIGNAL	VISUAL SIGNAL
NORMAL	NONE	STEADY GREEN
CO ALARM	4 “BEEPS” 5 SECONDS OFF	STEADY RED
PROPANE ALARM	CONSTANT	FLASHING RED
ALARM MALFUNCTION	BEEP” EVERY 25 SECONDS	ALTERNATING RED/GREEN
END OF LIFE SIGNAL	BEEPS EVERY 25-30 SECONDS	RED RED GREEN GREEN FLASHING



**MEMORY FEATURE** – This alarm has a Peak Level Memory feature that remembers the approximate amount of CO that activated it. The memory feature does not record brief exposure to CO that would not activate the alarm. This alarm will indicate one of four levels with chirps and blinks with the CO LED:

To activate alarm level memory, press the TEST/RESET button for less than 1 second.

- 1 Chirp and 1 Green Blink = CO memory is clear
- 2 Chirps and 2 Red = below 100 ppm
- 3 Chirps and 3 Red Blinks = below 200 ppm
- 4 Chirps and 4 Red Blinks = above 200 ppm

## TROUBLE-SHOOTING GUIDE

Use this chart to trouble-shoot problems with this 70 Series Alarm.

PROBLEM	CAUSE/SOLUTION
Green Operational LED Off	1. Wire Connection 2. Reversed Wiring 3. Main Power Off 4. Missing or Blown Fuse 5. Contact Customer Service
No Sound When Testing	Contact Customer Service
No Red LED When Testing	Contact Customer Service
Locked In Alarm	Contact Customer Service
<b>MALFUNCTION ALARM</b> LED Flashing Red/Green - Beeps Every 25 Seconds	1. Check Battery Voltage
Battery Voltage is Good and Alarm Will Not Reset	2. Contact Customer Service
End of Life Signal LED Flashing RED RED GREEN GREEN Beeps Every 25 Seconds	1. Press Test/Reset Button to reset for 72 Hours. Can repeat for up to 30 Days 2. Replace Alarm

## HOW TO TAKE CARE OF YOUR ALARM

This CO / Propane Gas Alarm is designed to be as maintenance free as possible. To keep your alarm in good working order, you must:

- **TEST THE ALARM WEEKLY** using the Test/Reset Button. See the section, **Test Procedure**, in this manual for further information.
- **Test the Alarm every six months** with Safe-T-Alert CO Test Gas and with a butane lighter. See **Test Procedure** Section.
- **VACUUM THE DUST OFF THE ALARM COVER.** At least once a year (more frequently in dusty locations), use the soft brush attachment from your vacuum to clean the alarm covers.
- **CLEAN THE ALARM COVER WHEN DIRTY.** Wash the alarm cover by hand. Use a cloth dampened in clean water. Dry with a soft cloth.
- **DO NOT SPRAY CLEANING AGENTS OR WAXES DIRECTLY ONTO THE FRONT PANEL.** This action may damage the sensor, cause an alarm or cause an alarm malfunction.
- **OBSERVE THE COLOR OF THE INDICATOR LIGHT.** At frequent intervals and during your weekly test, check the indicator light on the on the front panel of the alarm.
- See the section, **Operation**, in this manual for further information.

## PROCEDURES TO TAKE DURING AN ALARM

Follow the alarm procedures for your country. The emergency number depends on your travel location.

## PROCEDURES TO TAKE DURING GAS ALARM

1. Turn off all Gas appliances (Stove, Heater, Furnace, Refrigerator, etc.), extinguish all flames and smoking material.
2. Press the Test/Mute switch. **DO NOT DISCONNECT POWER**
3. Evacuate the RV. Make sure everyone is accounted for. Leave the door and windows open.
4. Turn off the propane tank valve.
5. Determine and repair the source of the leak. Get professional help if necessary. **CAUTION- DO NOT RE-ENTER UNTIL THE PROBLEM IS CORRECTED.**

## PROCEDURES TO TAKE DURING A CO ALARM IN THE USA

**⚠ WARNING:** Actuation of this device indicates the presence of carbon monoxide (CO) or propane gases, which can KILL YOU. If signal sounds (4 beeps and flashing or solid red light): 1) Operate the Test/Mute button; 2) Call your emergency local service (Phone Number \_\_\_\_\_) (fire department or 911); 3) Immediately move to fresh air - outdoors or by an open door/window. Check that all persons are accounted for. Do not reenter the premises or move away from the open door / window until the emergency responders have arrived, the premises have been aired out and your alarm remains in its normal operation. 4) After following steps 1-3, if your alarm reactivates within a 24-hour period, repeat steps 1-3 and call a qualified appliance technician. (Phone Number \_\_\_\_\_) to investigate for sources of CO from fuel burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection have the equipment serviced immediately. Note any combustion equipment not inspected by the technician and consult the manufacturers' instructions, or contact the manufacturer directly, for more information about CO safety and this equipment. Make sure that the motor vehicles are not, and have not been, operating in an attached garage or adjacent to the residence.

## PROCEDURES TO TAKE DURING A CO ALARM IN CANADA

**⚠ WARNING:** Actuation of this device indicates the presence of carbon monoxide (CO) and propane gases which can KILL YOU. If signal sounds (4 beeps and flashing or solid red light: 1) Operate the Test/Mute. Immediately move to fresh air - outdoors or by an open door/window. Check that all persons are accounted for. Do not reenter the premises or move away from the open door/window until the emergency responders have arrived, the premises have been aired out, and your alarm remains in its normal condition; 2) call your emergency local service (telephone number \_\_\_\_\_) ( Fire department or 911).

### End of Life Signal – The Sensor has a 5 Year Service Life

All 70 Series models include an End of Life (EOL) Signal indicating the sensor has reached the end of its service life and you must replace the alarm. The signal is the LED flashing RED GREEN GREEN with a beep every 25-30 seconds. The EOL Signal may be reset by pushing TEST / RESET button on the alarm. This will reset the EOL Signal for a period of 72 hours (3 days) for a total of up to 30 days. After 30 days the signal cannot be reset and the alarm must be replaced. **DO NOT DISCONNECT THE ALARM UNTIL YOU HAVE A REPLACEMENT ALARM AVAILABLE TO INSTALL.**

MODELS	70-742, 70-742-MS, 70-742-R Kit, 70-742-R-MS Kit
POWER SUPPLY	12 VDC
NOMINAL CURRENT DRAW	108 mA
OPERATIONAL TEMPERATURE	-40° F to +150° F    -40° C to +66° C
RELATIVE HUMIDITY	15% (+/- 5%) to 95% (+/- 4%)
AUDIBLE OUTPUT	85 dB @ 10 feet
GAS ALARM TRIGGER	< 25% of the LEL of Propane and Methane
GAS LEVEL CONFIRMATION	8 Second delay before alarm
CO ALARM TRIGGER	4 -15 Minutes @ 400 ppm
CASE DIMENSIONS	6.5"W x 3.5"H x 1.38"D
WARRANTY	1 Year Limited
TESTING LABORATORY STANDARD	Underwriters Laboratories UL 1484, Fourth Edition UL 2034, Third Edition

### LIMITED PRODUCTS WARRANTY

**MTI INDUSTRIES, INC.** warrants to the original retail purchaser that its products will be free from defects of material or workmanship for a period of One (1) year from the date of retail purchase. If proven to have been defective in original materials or workmanship and returned, delivery costs prepaid, **MTI INDUSTRIES, INC.** will replace this product free of charge.

### LIMITS OF WARRANTY

Replacement is your exclusive remedy under this limited warranty or any other warranty (including any implied warranty of merchantability for a particular purpose). Any and all implied warranties or merchantability or fitness for a particular purpose shall be limited to the warranty period from the original date of retail purchase. **MTI INDUSTRIES, INC.**, its dealers and distributors shall in no case be responsible or in any way liable for any incidental or consequential damages for any reason. Some states do not allow the limitation or exclusion of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. This warranty gives you specific rights, and you may also have other rights, which may vary, from state to state.

### PRODUCT NOT WARRANTED

**NOTE- There are no user serviceable parts inside the case. Opening any SAFE-T-ALERT™ product for any reason voids the warranty.** This warranty does not cover damage or failure resulting from acts of God, abuse, misuse, neglect, or faulty installation.

### WARRANTY RETURN PROCEDURES

It is MTT's experience that a CO / Propane Gas Alarm is sounding for a reason. Call, ask your dealer to call, or e-mail our Customer Service Department (as listed below) to trouble shoot the situation.

#### Customer Service Phone No. - 800-383-0269

Fax No. 847-546-9007

E-mail [Service@mtiindustries.com](mailto:Service@mtiindustries.com)

Web Site: [www.mtiindustries.com](http://www.mtiindustries.com)

If Customer Service determines that the unit is defective, a Replacement Authorization (RA) number will be issued. **No product will be accepted for service or replacement without first obtaining a RA number.**

#### If authorized, return this product to:

**MTI Industries, Inc.**

**Warranty Dept. RA # (INSERT RA NUMBER HERE)**

**31632 N. Ellis Drive Unit 301**

**Volo, IL 60073**

**NOTE: Mark the RA number in the area shown on the outside of the box!**

#### NOTE:

70-742 is the basic unit (Single-station) with no interconnect, no relay, and no solenoid.

70-742-MS is the Multi-station unit with interconnect, no relay, and no solenoid.

70-742-R Kit is the basic unit (Single-station) with no interconnect, with a relay, and with a solenoid.

70-742-R-MS Kit is the Multi-station unit with interconnect, with a relay, and with a solenoid.

### OWNERS REPLACEMENT RECORD

Replace this SAFE-T-ALERT™ 70 SERIES CO / GAS propane alarm within 5 years, of the production date on the back of the alarm.

**Production Date** \_\_\_\_\_

**Replace Date** \_\_\_\_\_

**Installer** \_\_\_\_\_

**NOTE:** The replacement date indicates the date beyond which the device may no longer detect accurately.

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# Parker Solenoid Valve

Your LP Detector is installed with an electric Solenoid Valve which will shut off the flow of LP Gas to your motorhome in the event that the LP Detector senses gas. This automatic valve will help deter the harmful effects of unwanted LP Gas inside your motorhome. In the event that your LP Detector trips, open all windows and doors to immediately “FLUSH” the air inside your motorhome.



# Gold Ring™ Solenoid Valve Installation and Maintenance Instructions



## 2-Way Direct Acting Combustion Valves Normally Closed

NEMA 1  
Series NM22-0501  
NPT 3/8  
Orifice 5/16

Parker Hannifin Corporation  
Skinner Valve Division

Bulletin 7262 Effective 1 Sept87  
Revision C Revised 1 Jun91

### Warnings

1. Check nameplate for correct catalog number, pressure, voltage and service. Do not install if unsuitable.
2. For protection and proper operation of the solenoid valve, install a strainer or filter suitable for the service involved as close to the valve inlet as possible.
3. This valve requires periodic cleaning and inspection depending on the service. This should be done at least once every 12 months or every 500,000 cycles, whichever occurs first.
4. Turn off electrical power supply and line pressure to the valve. Bleed trapped pressure from the lines before inspecting, cleaning, servicing, or repairing the valve.

### Description:

NM22 solenoid valves are direct-acting and have integral seats.

### Operation:

**NORMALLY CLOSED**

Closed when de-energized; open when energized.

### Installation:

#### 1. Application

Refer to Parker Gold Ring™ catalog for application information.

#### 2. Positioning

Unit valves may be mounted in any position. It is recommended that unit valves be mounted vertical and upright to prevent accumulation of debris in plunger tube.

#### 3. Piping

Connect piping to valve according to markings on valve body. Apply pipe compound or sealing material sparingly to male pipe threads only. If applied to valve thread, it may enter valve and cause operational difficulties. Pipe strain should be avoided by proper support and alignment of piping. **Do not use valve as a lever when tightening pipe.**

#### 4. Wiring

Wiring must comply with local and national electrical codes.

#### 5. Solenoid Temperature

Standard catalog valves are supplied with coils designed for continuous duty service. When the solenoid is energized for a long period, the solenoid frame becomes hot and can be touched with the bare hand for only an instant. This is a safe operating temperature. Excessive heating will be indicated by the smoke and odor of burning coil insulation.



## **Maintenance:**

### **1. Cleaning**

Periodic cleaning of solenoid valves is recommended. Frequency will depend on fluid and service, but should never be less than every 12 months or 500,000 cycles whichever occurs first. In general, if the voltage to the coil is correct, sluggish operation, excessive leakage or noise will indicate cleaning or repair is required. Clean valve filter or strainer when cleaning valve. See valve disassembly and reassembly instructions below.

### **2. Preventative Maintenance**

- a. Keep media flowing through valve as free from dirt and foreign matter as possible.
- b. While not in service, operate valve at least once a month to insure proper opening and closing.
- c. Periodic inspection (depending on media and service conditions) of internal valve parts for damage or excessive wear is recommended. Inspect at least every 12 months or 500,000 cycles, whichever occurs first. Thoroughly clean all parts. Replace worn or damage parts with Gold Ring™ Rebuild Kit. Use all parts for best results. Clean valve filter or strainer when cleaning valve.

### **3. Troubleshooting Guide**

#### **a. Faulty Controls Circuit**

Check the electrical system by energizing the solenoid. A metallic click signifies solenoid is operating. Absence of click indicates loss of power supply. Check for loose or blown out fuses, open-circuit or grounded coil, broken lead wires or splices.

#### **b. Burned-Out Coil**

Check for open-circuited coil. Replace coil if necessary.

#### **c. Low Voltage**

Check voltage across the coil lead. Voltage must be least 85% of nameplate rating.

#### **d. Incorrect Pressure**

Check valve pressure. Pressure to valve must be within range specified on nameplate.

#### **e. Excessive Leakage**

Disassemble valve and clean all parts. Replace worn or damaged parts with a Gold Ring™ Rebuild Kit. Use all parts for best results. Install filtration if indicated. See valve disassembly and reassembly instructions.

### **4. Coil Replacement**

Turn off electrical power supply and disconnect coil lead wires. Refer to exploded view.

### **5. Valve Disassembly and Reassembly (Refer to Exploded Views)**

Turn off electrical power supply and line pressure. Bleed trapped pressure from lines.

- a. To replace coil, remove the two (2) screws and remove the flux frame and coil off the eyelet. Remove coil and spring washer from flux frame. The coil can now be replaced.
- b. Lift off the enclosure tube assembly and the plunger assembly.
- c. All parts are accessible for cleaning or replacement.
- d. Inspect valve body seat for scratches, nicks, dents or other blemishes. Replace if damaged.
- e. Reassemble in reverse order of disassembly, paying careful attention to Exploded Views provided. Apply  $44 \pm 4$  inch pounds of torque to the screws. Lubricate all gaskets with DOW CORNING® DC 200 oil or an equivalent high grade silicone oil.
- f. DO NOT alter, modify, or use parts not obtained in Rebuild Kit from original manufacturer.

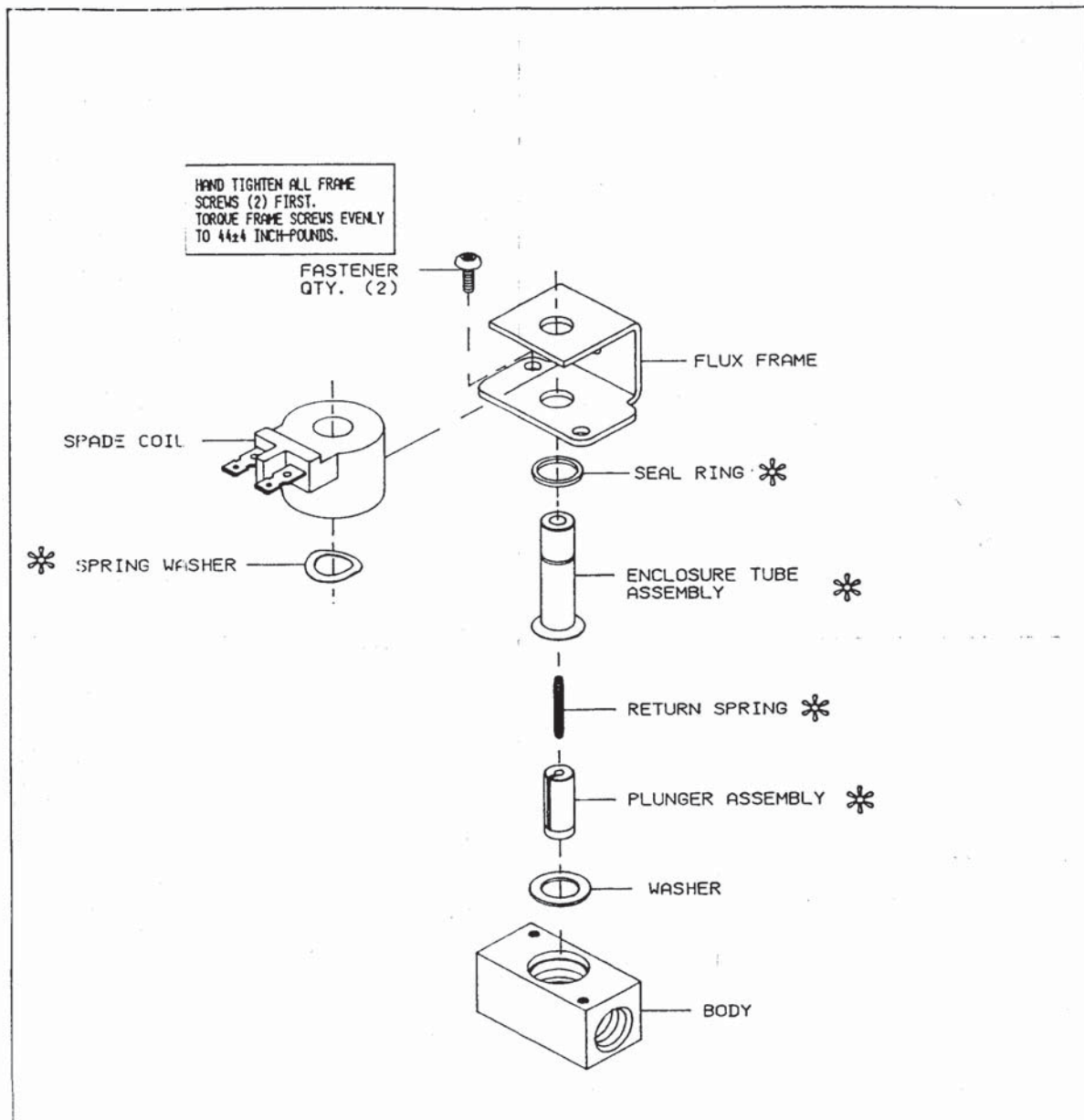
## **Parker Gold Ring™ Rebuild Kits**

Rebuild Kits and Unit Solenoid are available for Gold Ring™ Valves. Parts marked with an asterisk (\*) are included in Rebuild Kits (See Exploded Views).

## **Ordering Information For Rebuild Kits**

When ordering Parker Gold Ring™ Rebuild Kits or Unit Solenoids, specify Valve Catalog Number, Serial Number and Voltage.

**NORMALLY CLOSED  
3/8" NPT  
ALUMINUM**



**1. Electrical Rating:**

Voltage: 24V  
Frequency: 60HZ  
Rated Current: .294A  
Minimum Current: .237A  
Maximum Current: .337A

**2. Ambient Operating Temperature Limits:**

Maximum 125°F  
Minimum 32°F

\* PARTS INCLUDED IN  
REBUILD KITS

**Parker Hannifin Corporation**  
147 W. Hwy Road  
Madison, MS 39110  
(601) 356-4123

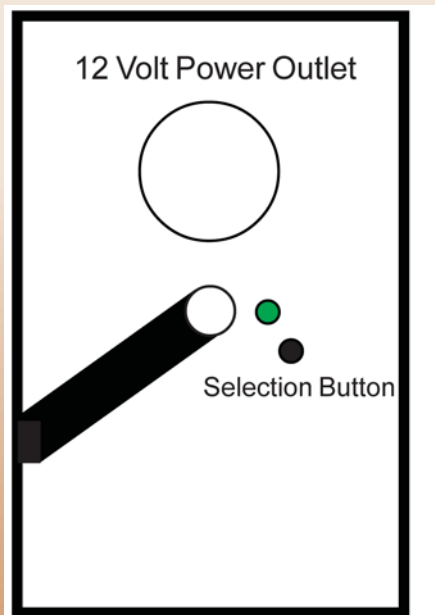




# Television Connection Selector

Reception on your Television may be supplied by a Cable Source, (when plugged into the side of the motorhome) or the HD Television Antenna. There is a selector switch located in the panel above the driver's seat. When the "Green" light is lit, you are receiving signal from the HD Television Antenna. When the light is off, you are receiving signal from the cable source.

**This switch does NOT affect Satellite systems which may be installed on your motorhome.**



"Green" Light On - HD Television Antenna

"Green" Light Off - Cable Source  
(Must be hooked up to side of Motorhome)



# HD Television Antenna

An external antenna is mounted on the roof of your motorhome. This antenna will receive and supply HD signals over the air to your television.

The signal can vary while the motor home is in motion, parked in a fringe area, or near large obstacles. The antenna has a remote control to align the antenna to receive signals from the TV station you would like to view. Adjust the reception using the remote control supplied until the signal comes in to provide an optimal signal in your location.



**Remote Control**





# Insert HD Television Antenna Manual Here





# MOR/ryde Suspension



Ford Chassis are equipped with MOR/ryde suspension enhancements to smooth out the ride and dampen road irregularities. This system has been adjusted for the E-450 chassis and your Coach House motorhome. No adjustments or maintenance should be required for the life of your vehicle.

Warranty and contact information for MOR/ryde is located of the following page.





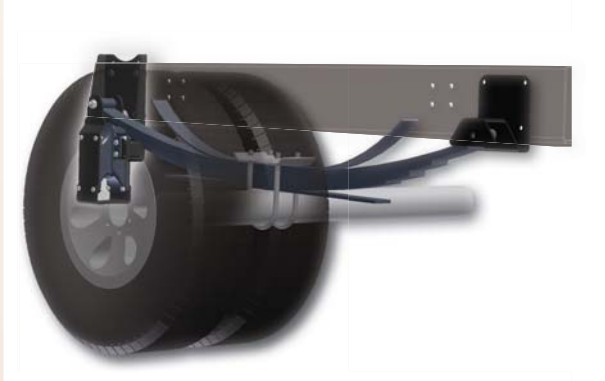
# MOR/RYPDE RS

## TODAY'S ROADS ARE ROUGHER THAN EVER

That is why Coach House specifies the MOR/ryde RS Suspension System for their high quality motorhomes.

At the heart of every MOR/ryde suspension system are unique rubber shear springs. MOR/ryde incorporates rubber's natural ability to isolate and absorb road shock into a suspension system that works in concert with the existing leaf spring suspension system. The result is a suspension system that delivers a markedly smoother ride.

Whether it is chuck holes, dirt roads, railroad tracks, or uneven highways, the MOR/ryde RS suspension works to absorb the harsh road shock. And, the MOR/ryde RS system does all this with no air leaks, compressors, or air lines. That means simplicity of operation and a more cost effective alternative.



### MOR/ryde RS Suspension System LIMITED WARRANTY

#### Summary of Warranty

We, MOR/ryde International, Inc., 1966 Moyer Avenue, P.O. Box 579, Elkhart, Indiana 46515 ("MOR/ryde"), warrant you, the original first purchaser of new MOR/rye rubber suspension system ("Product"), for a period of three (3) years from the date of original first purchase, or use of operation for a distance of seventy thousand (70,000) miles, whichever occurs first ("Warranty Period"), that the Product is free of defects in material or workmanship under normal use and service and will meet or exceed all of our advertised written specifications, excepting items and uses excluded from this Warranty. Labor charges will be covered for 12 months from the date of the original purchase.

## HOW IT WORKS

The MOR/ryde RS System works in conjunction with the chassis drive axle leaf springs. The RS system replaces the leaf spring hanger and shackle with a MOR/ryde hanger and rubber shear spring. The rubber shear spring works to isolate and absorb road shock as the motorhome goes over rough roads, chuck holes, and pot holes. By cushioning and absorbing the road shock, the MOR/ryde RS is able to deliver:

- ▶ A MUCH SMOOTHER RIDE
- ▶ GREATER DRIVER & PASSENGER COMFORT
- ▶ BETTER PROTECTION OF THE MOTORHOME FROM DAMAGING ROAD SHOCK

### MOR/ryde International

1966 Moyer Avenue

P.O. Box 579

Elkhart, Indiana 46515-0579

Phone: 574.293.1581

Fax: 574.294.4936

[www.morryde.com](http://www.morryde.com)

# Hydraulic Room Extension



HWH Hydraulic Room Extensions (Slide Outs) are Standard Equipment on the following models:

221 XL	232 XL	261 XL
271 XL	272 XL	

**Read Owner's manual for room extension system before operating.**

## **To Extend:**

Level motor home and set parking brake before extending slide-out portion.

Turn ignition key to accessory position, turn control panel key to ON position and push switch to extend.

Turn off control panel and ignition switch and remove keys.

## **To Retract:**

Set parking brake, turn ignition to accessory position, turn control panel key to ON and push switch to retract.

Turn off control panel and ignition switch and remove keys.





# Insert HWH Slide Out Manual Here





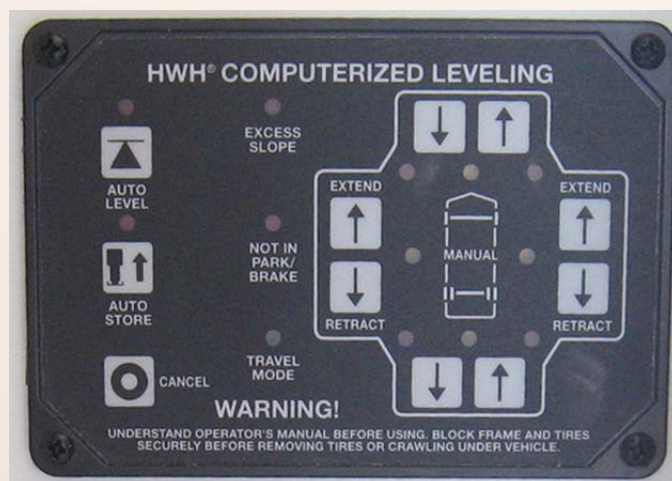
# Fully Automatic Leveling System



Standard on 272 XL Models

Optional Equipment on 221 XL, 232 XL, 261 XL and 271 XL Models

Not Available on 220



If you purchased the Fully Automatic Leveling System (Leveling Jacks) on your motorhome, the manual is included with your H.W.H. Slide-Out instruction manual. The control panel pictured above is located in the “Tower of Power” just inside the motorhome entrance door to the right.







# Dometic Slide Topper

Your **PLATINUM** has been equipped with a Dometic Slide Topper if you have a hydraulic room extension (slide-out) installed on your motorhome.



The Slide Topper will extend or retract automatically when the slide out is in operation. The slide topper helps to keep debris and water away from the top of your slide-out.







RECORD THIS UNIT INFORMATION FOR  
FUTURE REFERENCE:

Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_

Date Purchased \_\_\_\_\_



# SLIDE TOPPER™

## ELITE SLIDE TOPPER MODEL with FULL COVER

86196(XX).(XXX)-(X)

86200(XX).(XXX)-(X)

86202(XX).(XXX)-(X)

86300(XX).(XXX)-(X)

### USA

SERVICE OFFICE  
Dometic Corporation  
2320 Industrial Parkway  
Elkhart, IN 46516  
574-294-2511

### CANADA

Dometic Corporation  
46 Zatonski, Unit 3  
Brantford, ON N3T 5L8  
CANADA  
519-720-9578

For Service Center  
Assistance Call:  
800-544-4881

### ⚠ WARNING

This manual must be read and understood before installation, adjustment, service, or maintenance is performed. This unit must be installed by a qualified service technician. Modification of this product can be extremely hazardous and could result in personal injury or property damage.

### ⚠ AVERTISSEMENT

Lire et comprendre ce manuel avant de procéder à l'installation, à des réglages, de l'entretien ou des réparations. L'installation de cet appareil doit être effectuée par un réparateur qualifié. Toute modification de cet appareil peut être extrêmement dangereuse et entraîner des blessures ou dommages matériels.

## INSTALLATION & OPERATING INSTRUCTIONS

## MODELS

86196 Elite FC

86200 Elite FC

86202 Elite FC

86300 Elite FC

### REVISION

Form No. 3308250.020 7/05  
(Replaces 3308250.012)  
(French 3308310.022)  
©2005 Dometic Corporation  
LaGrange, IN 46761

**Important:** These instructions must  
stay with unit.  
Owner read carefully.

# APPLICATION GUIDE

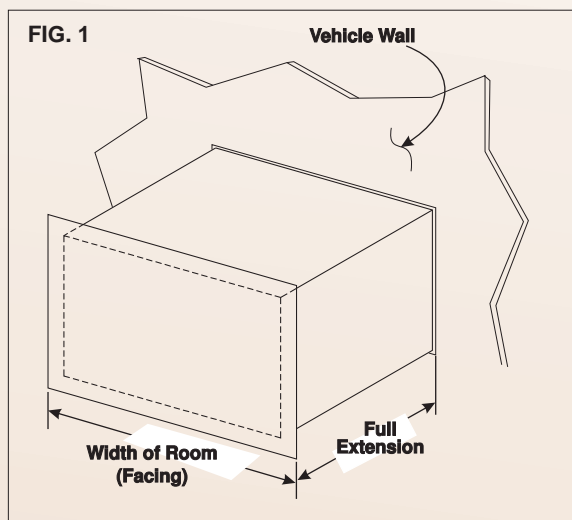
## Models: 86196, 86200, 86202 and 86300 Elite FC

The A&E Slide Topper is designed to protect the top of an RV's slide-out-room from weather and debris. It is not waterproof, some drips, condensation, or wind blown precipitation can be present under the canopy.

### 1. DETERMINE SLIDE TOPPER LENGTH:

To determine the size of Slide Topper you require, measure your room according to the picture below and then use the chart supplied.

The Slide Topper will **NOT** work on rooms with a full extension greater than 44 inches.



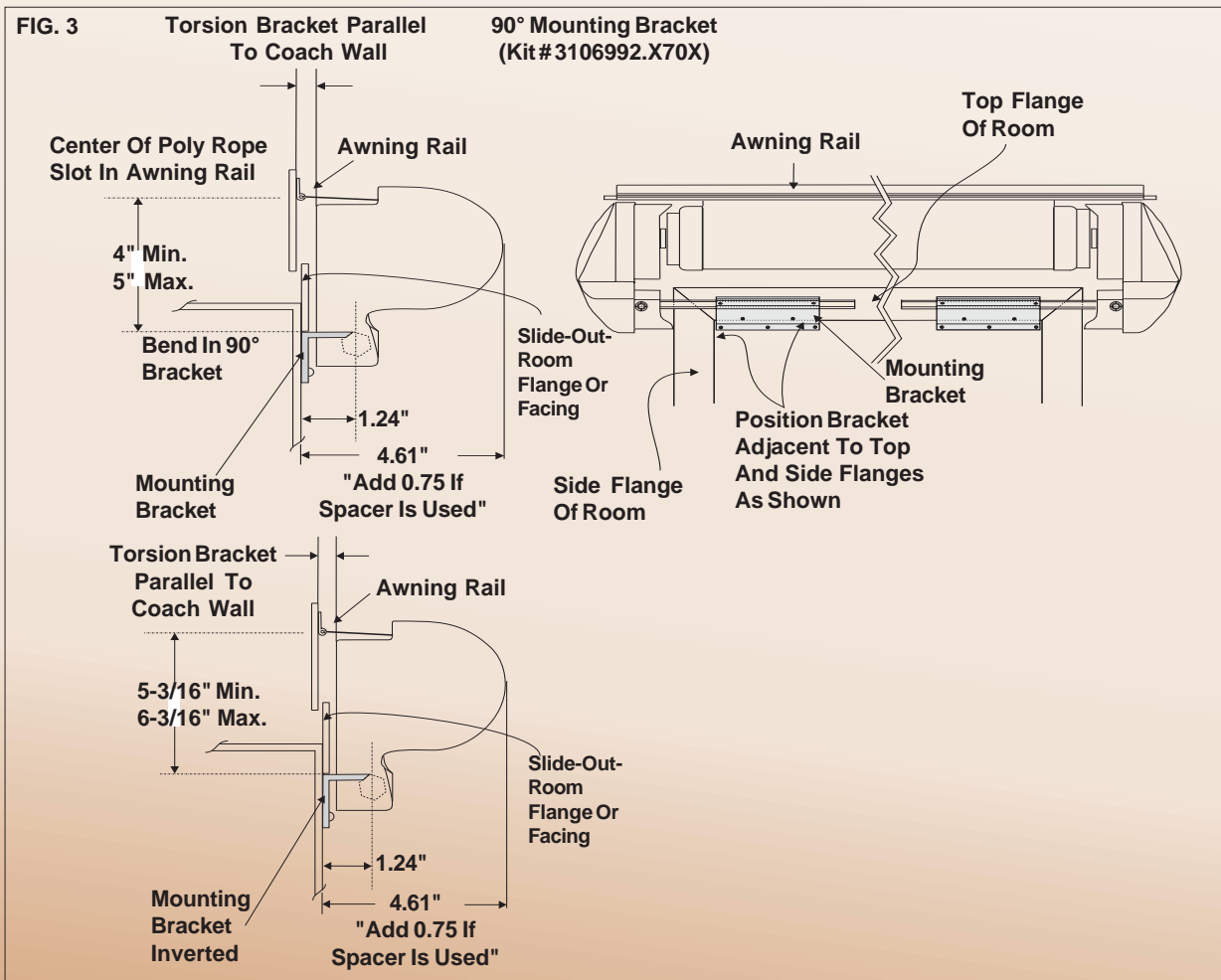
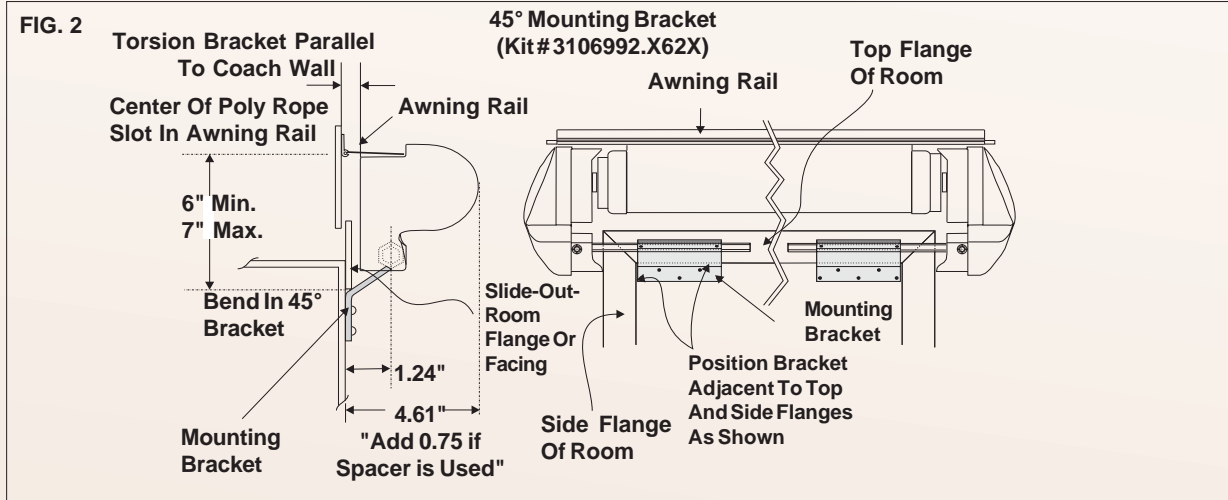
### 2. DETERMINE BRACKETS REQUIRED FOR THE SLIDE OUT:

- 3106992.062(X) Bracket Kit
- 3106992.162(X) Bracket Kit (See Note)
- 3106992.070(X) Bracket Kit
- 3106992.170(X) Bracket Kit (See Note)

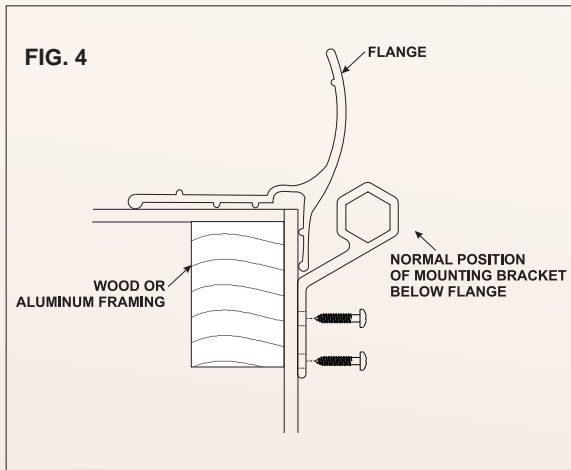
**Note:** Use **ONLY** with 86(XXX)(XX).060 Models.

Width Of Room	Recommended Awning Length
50" to 55-3/4"	(See Note)
56" to 61-3/4"	66"
62" to 67-3/4"	72"
68" to 73-3/4"	78"
74" to 79-3/4"	84"
80" to 85-3/4"	90"
86" to 91-3/4"	96"
92" to 97-3/4"	102"
98" to 103-3/4"	108"
104" to 109-3/4"	114"
110" to 115-3/4"	120"
116" to 121-3/4"	126"
122" to 127-3/4"	132"
128" to 133-3/4"	138"
134" to 139-3/4"	144"
140" to 145-3/4"	150"
146" to 151-3/4"	156"
152" to 157-3/4"	162"
158" to 163-3/4"	168"
164" to 169-3/4"	174"
170" to 175-3/4"	180"
176" to 181-3/4"	186"
182" to 187-3/4"	192"

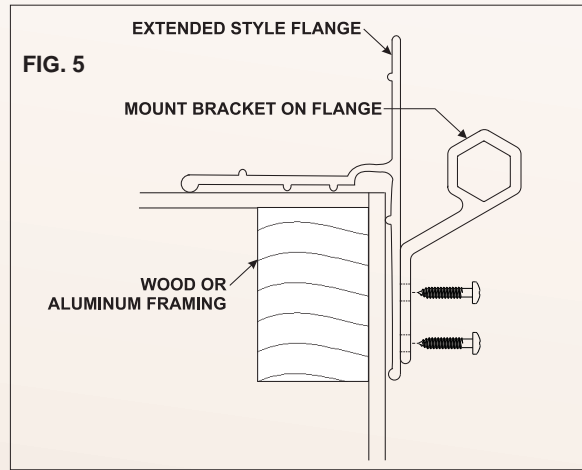
**Note:** The greater the distance between the awning rail and the mounting bracket, the better water and debris will run off, however, **DONOT** exceed maximum distances shown. Exceeding these recommended distances will result in the wind deflector interfering with drip/gutter rails.



When installing the A&E Slide Topper on vehicles with extra large slide-out-room flanges, it may be necessary to install the mounting bracket directly on the flange. See FIG. 5.

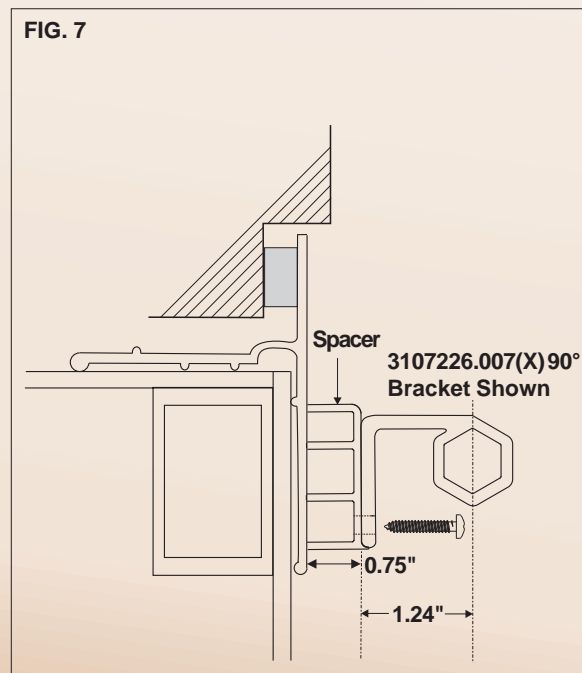
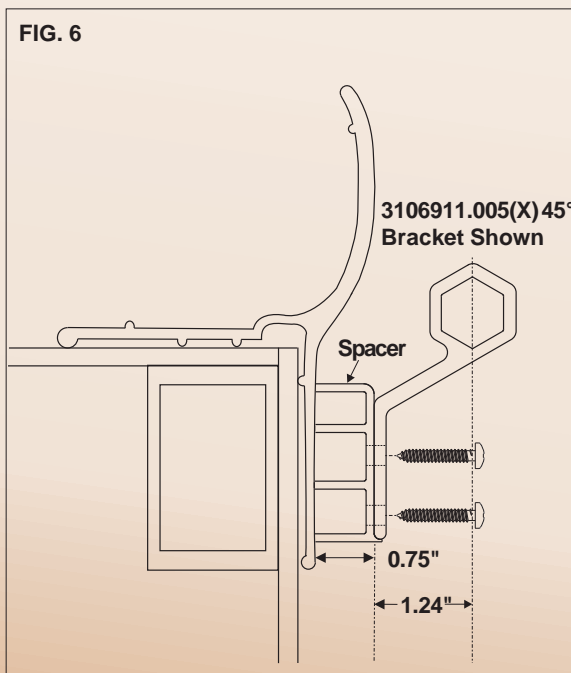


**Important:** The bracket must only be mounted on the flange where there is sufficient backing material or framing behind the flange.



### 3107940.003 SPACER KIT

**Important:** Spacer Kit can be installed when additional clearance is required between the slide topper and the outside wall of the RV which is the case with recessed rooms. When 3107940.003 Spacer Kit is used, the center support bracket will also need to be spaced properly. Use 3308393.002 Center Support Bracket Spacer Kit.





## SAFETY INSTRUCTIONS

This manual has safety information and instructions to help users eliminate or reduce the risk of accidents and injuries.

## RECOGNIZE SAFETY INFORMATION



This is the safety-alert symbol. When you see this symbol in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating instructions.

## UNDERSTAND SIGNAL WORDS

A signal word, **WARNING** OR **CAUTION** is used with the safety-alert symbol. They give the level of risk for potential injury.

**⚠ WARNING**: Indicates a potential hazardous situation which, if not avoided, could result in death or serious injury.

**⚠ CAUTION**: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury

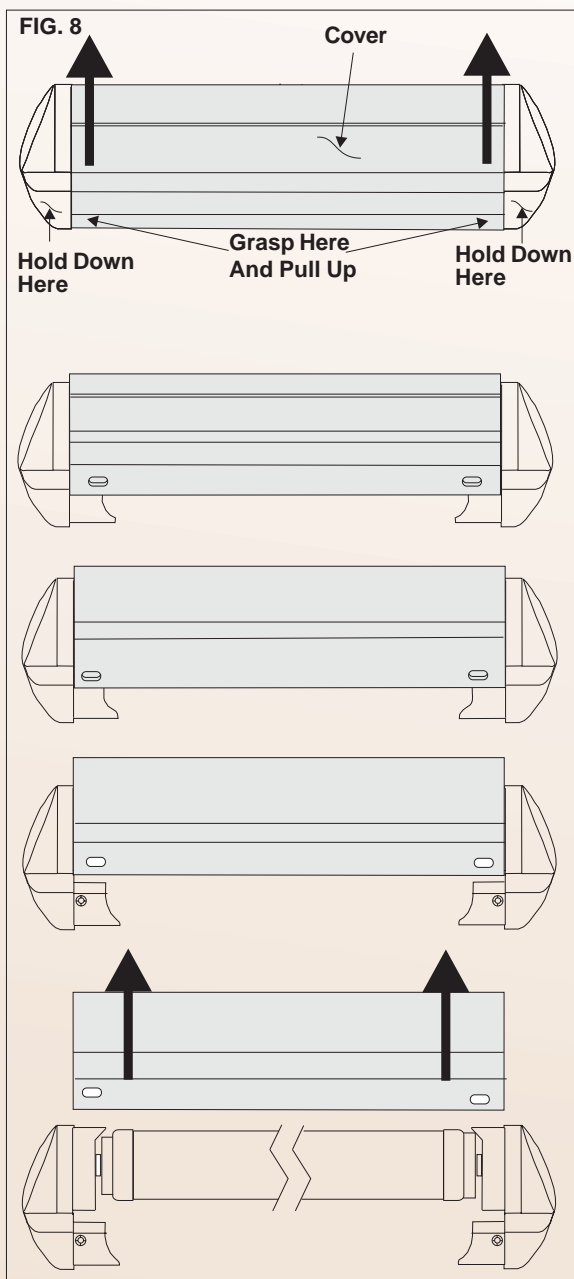
**CAUTION**: Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Read and follow all safety information and instructions.

Learn how to operate the awning properly.

## GENERAL INFORMATION INSTALLATION PREPARATION

1. Remove slide topper from the shipping tube.
2. Remove plastic bag from around slide topper.
3. Lay slide topper on a clean flat surface.
4. Grasp the cover at the bottom edge near one end of the torsion brackets and pry the cover up approximately 1-2" with one hand while holding the torsion bracket with the other hand. Repeat the same process at the other end and continue lifting the cover until it can be fully removed. See FIG. 8. Lay cover aside.



5. Roll slide topper over and remove all mounting hardware, literature and hex extension bars if they have been included with the slide topper.

### **⚠ WARNING**

**Do not remove the cotter pins located on each end of the FRTA until instructed to do so. The FRTA is pre-wound and under tension. Rapid spin-off will occur if the cotter pin is removed.**

## 6. Check installation hardware against the following list.

		86196	86200	86202	86300
	730099-(X) Awning Rail	X	—	—	—
(1)	3308241.003(X) Kit, Center Support	X	X	X	X
	(1) 3308091.002(X) Bracket	X	X	X	X
	(2) 3105445.013 Screw, #10-12 x 1.0 PHCR	X	X	X	X
	(4) 312300.041 Screw, 1/4"-20 x 5/8" PH	X	X	X	X
	(2) 3307879.002 Screw, #10-32 x .50"	X	X	X	X
(1)	3106806.049 Kit, Hardware	—	X	—	X
	(10) 3105445.013 Screw, #10-12 x 1.0"	—	X	—	X
	(2) 310359.012 Screw, #6-20 x .44 HHW	—	X	—	X
	(4) 3103855.023 Screw, 10-16 x .63"	—	X	—	X
	(2) 3106792.041Q 15" Hex Extension Bar	—	*X	—	*X
(2)	3106911.005(X) 45° Wall Bracket	—	X	—	—
(2)	3107226.007(X) 90° Wall Bracket	—	—	—	X
(1)	3307879.002 Screw, 10-32 x .50	X	X	X	X
(1)	3308276.009(X) Kit, Z-Clip	—	—	—	X
	(4) 3105445.006 Screw, 10-12 x 0.75	—	—	—	X
** (1)	3106992.(XXX)-(X) Kit, Wall Bracket	X	—	X	—

\* Except 86(XXX)(XX).060-(X) Use 3106792.058Q 18" Hex Extension Bar

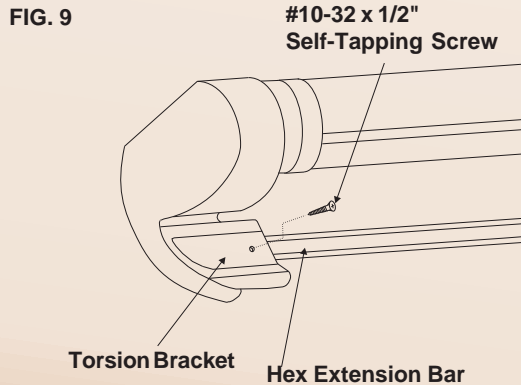
\*\* Wall Bracket Kit is ordered separately. It does not come with the Slide Topper Fabric Roller Tube Assembly. The kit numbers are: 3106992.062(X) 45° Wall Bracket Kit w/15" Hex Extension Bar  
3106992.162(X) 45° Wall Bracket Kit w/18" Hex Extension Bar  
3106992.070(X) 90° Wall Bracket Kit w/15" Hex Extension Bar  
3106992.170(X) 90° Wall Bracket Kit w/18" Hex Extension Bar

NOTE: Replace (X) with color letter code

B = Polar White H = Mende  
S = Satin R = Champagne  
U = Black V = Gold

## INSTALLATION INSTRUCTIONS

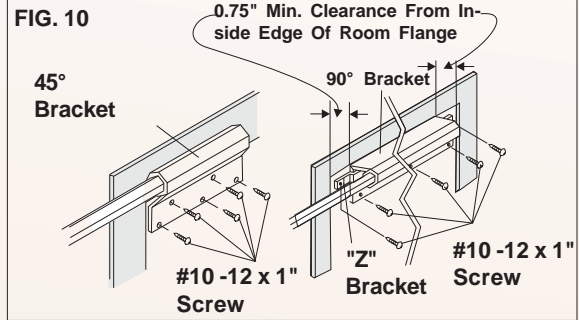
1. Install awning rail. Some slide topper models are not furnished with awning rail. If not supplied with slide topper, installer will need to furnish. See figure 2 and 3 to determine the correct location for the awning rail. Apply a sealant to the back edge of the awning rail to prevent leaks, and install the awning rail using #6-20 x 1/2" screws. The rail must be FIRMLY mounted to the vehicle.  
Remove any drip shields or flashings which conflict with the awning.
2. Install one (1) hex extension bar in the torsion bracket hexslot. Press into hole until hexrod bottoms out. See FIG. 9. (Some applications will have one hex extension bar already secured to the torsion bracket when received from Dometic.)



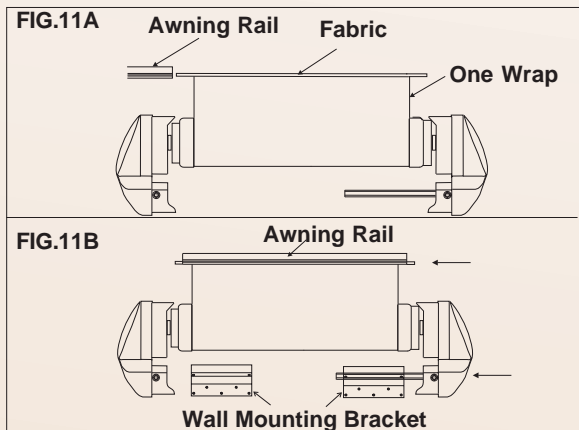
3. Locate and install slide topper wall mounting brackets on the slide-out-room wall with ten (10) #10-12 x 1" PHCR screws provided. See FIG. 10. Position bracket as shown in FIG. 2 & 3. Install "Z" clips at the top of the bracket as shown in FIG. 10. Pre drill the hole with a 1/8" drill bit and install screw.

**Note:** If the vehicle has a laminated wall, mark and drill hole

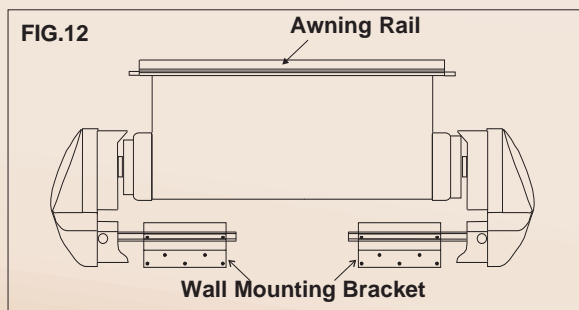
locations with a 3/16" drill bit and use expanding rivets to secure the bracket and "Z" clips.



4. Unroll **ONE** wrap of fabric from the fabric roller tube. See FIG. 11A.
5. Move slide topper awning and remaining hex extension bar to RV and install fabric into the awning rail. See FIG. 11A & 11B. Slip the pre-mounted hex extension bar into one previously mounted wall mounting bracket on the slide room as the fabric is installed into the awning rail. See FIG. 11A & 11B.

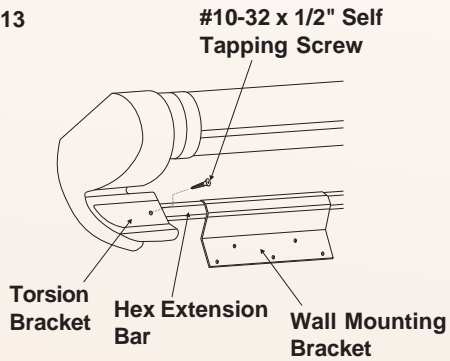


6. Install the second hex extension bar through the previously mounted wall mounting bracket and into the torsion bracket. Again, press into hex hole until hexrod bottoms out. See FIG. 12.



**Important:** Do not secure either hex extension bar to the wall mounting brackets at this time.

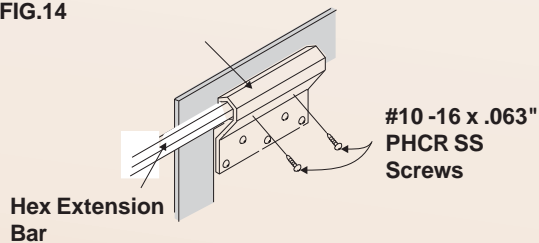
FIG. 13



7. Position the slider topper appropriately (center between wall mounting brackets )

**Important:** Do not secure the hex extension bars to the wall mounting brackets at this time.

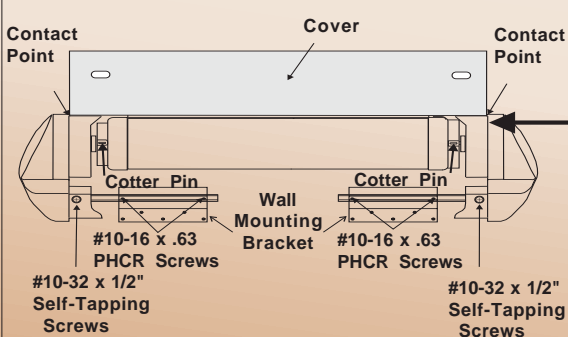
FIG. 14



8. Retrieve the cover and slide the center mounting bracket to the center of the cover. See FIG. 18. Now place it upside down on top of the torsion brackets, allowing it to rest on the inside flange of the torsion brackets. See FIG. 15.

**Important:** Care must be taken to keep the cover from inadvertently falling off the torsion brackets while performing the next step.

FIG. 15

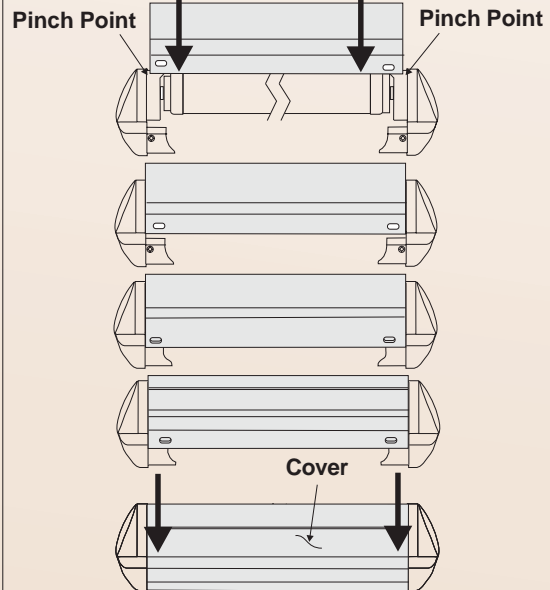


9. Move one torsion bracket until cover touches both contact points. See FIG. 15.  
 10. Remove the cotter pin by pulling it straight out. See FIG. 15.  
 11. Now secure the hex extension bars to the wall mounting bracket using 4 #10-16 x .63" PHCR SS self drilling screws. Predrill hexrod through holes (dim. 11/64") in torsion bracket. Secure torsion brackets to hexrod using 10-32 x 1/2" self tapping flathead screws provided. Take care not to change torsion bracket position during this step; torsion bracket should have back edge parallel to coach wall before, during, and after this step. See FIG. 2,3,14,and 15.  
 12. Roll cover downward and push it straight onto the torsion brackets until it "snaps" into place. See Fig. 16. To avoid being pinched, keep fingers and hands away from the area between the cover and torsion brackets.

### CAUTION

**Pinch point. Keep fingers and hands away from the area between the cover and the torsion brackets.**

FIG. 16



13. Initial Awning Adjustment-Cycle the slide-out-room four or five times to align fabric. When satisfied with the alignment, secure fabric by driving a #6-20 x .44" Tek screw through the rail and into the fabric rope. See FIG. 17 for screw location. Repeat at opposite end.

FIG. 17

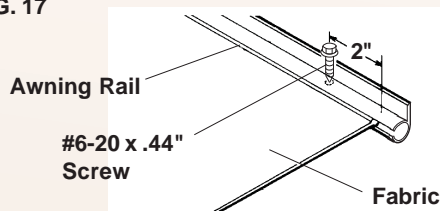
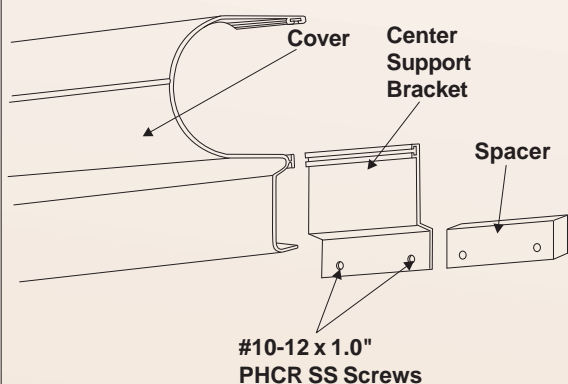
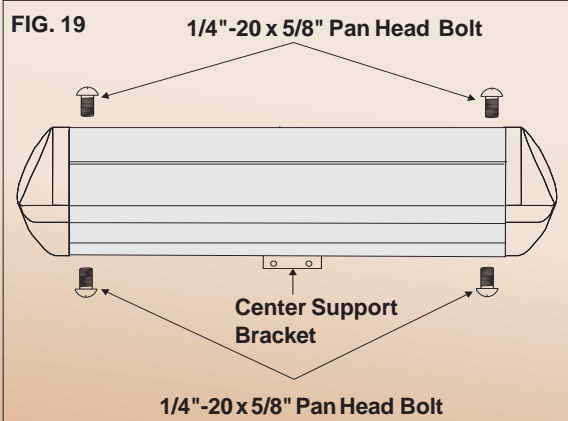


FIG. 18



14. Adjust cover from side to side if necessary. Equally space the distance between the cover and the torsion bracket on both ends.
15. Secure cover to torsion brackets using one (1) 1/4"-20 x 5/8" pan head bolt provided in each corner of the cover. See FIG. 19.

FIG. 19

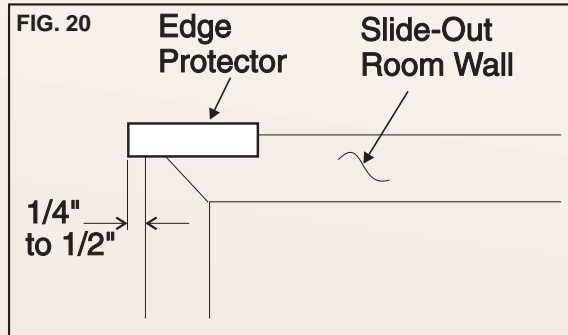


16. Attach center support bracket to slide-out-room wall using two (2) #10-12 x 1.0" PHCR SS screws provided. See FIG 18 & 19. If 3107940.003 Spacer Kit was used to space the wall mounting bracket the center support bracket will need to be spaced as well. Use 3308393.002 Center Support Spacer Kit. If there is no spacer behind the center support bracket, oscar rivets (not supplied) may be used if there is no backing behind the outside skin of the RV.

17. Install (not supplied) edge protector on each end of slide-out-room molding. See FIG. 20. Allow protector to extend beyond edge of molding by 1/4" to 1/2".

**Note:** Not all installations will be able to use a Dometic edge protector. If a Dometic edge protector is not used, a similar type **MUST** be used. Units which are damaged by the slide-out-room will **NOT** be covered under warranty.

FIG. 20



**Note:** Oscar rivets and edge protectors are available as separate items.

113008P10 Oscar Rivet=Package of 10

113008P100 Oscar Rivet=Package of 100

3308176.001 Edge Protector=Package of 10

3308176.019 Edge Protector=Package of 100

## OPERATING INSTRUCTIONS

The slide topper will automatically open and close as your slide-out-room opens and closes.

Because the awning is level, water may puddle on top of the canopy. As the slide out room is closed and the awning rolls up, these puddles will spill over the sides of the awning.

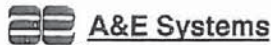
### CAUTION

**Do not use the slide topper in snowing or freezing-rain conditions. Such use will prevent the awning from retracting with the slide room and damage the awning and the slide-out-room.**

### HELPFUL HINTS FOR AWNING CARE

- If the awning is wet when rolled up, as soon as conditions allow, roll it out and let it dry before rolling it up again. This will help prevent mildew and staining.
- **WHEN TO GET MORE HELP:**  
If malfunctions occur that cannot be corrected by reviewing this installation and operating instructions manual, contact a Dometic Service Center or qualified service technician for assistance. For Service Center Assistance Call 800-544-4881.





## LIMITED ONE (1) YEAR WARRANTY

THE SELLER NAMED BELOW MAKES THE FOLLOWING WARRANTY WITH  
RESPECT TO THE DOMETIC PRODUCT:

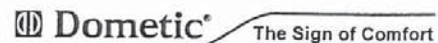
1. This Warranty is made only to the first purchaser (hereinafter referred to as the "Original Purchaser") who acquires the product for his own use and is installed and operated within the continental United States and Canada.
2. This Warranty will be in effect for one (1) year from the date of purchase by the original purchaser. It is suggested that the original purchaser retain a copy of the dated bill of sale as evidence of the date of purchase.
3. This Warranty covers only specified parts which shall be free from defects in material and workmanship under normal use. This warranty does NOT cover conditions unrelated to the material and workmanship of the product. Such unrelated conditions include, but are not limited to: (a) damage not reported within seven (7) days of ownership; (b) failure or damage caused by storms, rain, water pooling, or any acts of God; (c) faulty installation and any damage resulting from such; (d) the need for normal maintenance and any damage resulting from the failure to provide such maintenance; (e) failure to follow Sellers instructions for use of this product; (f) any accident to or misuse of any part of this product and any alteration by anyone other than the Seller or its authorized representative; (g) damage or failure caused by installation of accessories not manufactured and marketed by the Seller; and (h) normal wear and product abuse.
4. The specified parts covered by this warranty, where applicable, are as follows: (a) Roller tube against rust, corrosion and extrusion defects; (b) Fabric free from quality defects (normal wear is not covered); (c) Screen assemblies free from quality defects (normal wear is not covered); (d) Torsion assemblies, including motor-driven assemblies, against extrusion defects, electrical faults, or breakage; and (d) Hardware against extrusion defects.
5. In order to obtain the benefits of this warranty, you should return the product which you find defective to the Seller named below or to a Dometic Authorized Service Center during the period that this warranty is in effect. The original owner is responsible for all charges incurred in delivery of the product to the Seller, or Dometic Authorized Service Center, and in pick up after the warranty service has been completed. To obtain the location of the nearest Authorized Service Center, please call 1-800-544-4881. In Canada, call 1-519-653-4390.
6. Any item returned in the manner described in paragraph 5 will be examined by the Seller or the Authorized Dometic Service Center. If it is found that the returned item was defective in material and workmanship, the Seller or the Authorized Dometic Service Center will repair the product per the terms of this one (1) year limited warranty without charge for material or labor during the first year of ownership by the original purchaser. **CONFIRM THE SERVICE AGENCY IS AN AUTHORIZED DOMETIC SERVICE CENTER. DO NOT PAY THE SERVICE AGENCY FOR WARRANTY REPAIRS. SUCH PAYMENTS WILL NOT BE REIMBURSED.**
7. Dometic Corporation will pay freight on replacement parts during the first ninety (90) days of ownership by the original purchaser.
8. The Seller does not authorize any person or company to create any warranty obligations or liability on their behalf. This warranty is not extended by the length of time which you are deprived of the use of the product. Repairs and replacement parts provided under the terms of this warranty shall carry only the non-expired portion of this warranty.
9. In no event shall either Seller be liable for incidental or consequential damages. This includes any damage to another product or products resulting from such a defect. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply.
10. Any implied warranty, including the implied warranty of merchantability and fitness for any purpose, is limited to the duration of this limited warranty. Some states do not allow limitations on how long an implied warranty can last, so the above limitation may not apply.
11. **THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.** No action to enforce this warranty shall be commenced later than ninety (90) days after the expiration of the warranty period. Claims must be submitted in writing to the Dometic Warranty Department for arbitration.
12. All products (except those specifically built for commercial use) are warranted only when installed on vehicles built to R.V.I.A. and C.R.V.A., Z-240 Standards.
13. The Seller reserves the right to change the design of any product without notice and with no obligation to make corresponding changes in products previously manufactured.

### REVISION

Form No. 3104715.044 6/05  
(Replaces 3104715.036)  
(French 3108128.038)  
©2005 Dometic Corporation  
LaGrange, IN 46761 U.S.A.

### DOMETIC CORPORATION

Warranty Department  
2320 Industrial Parkway  
Elkhart, Indiana 46515  
Phone: 574-294-2511  
Fax: 574-389-3975



# Automatic Entry Step

Kwikkee Entry Steps will automatically extend and retract when you open the main entrance door to your motorhome. If you would like the step to stay in the “open” position when you are parked, flip the “override” switch located on the main switch panel just inside your motorhome door.

# Kwikkee







# Insert Kwikkee Installation Manual #888 Here



# MCD American Duo Roller Shades

Your coach is equipped with MCD American Duo Roller Shades. This system allows you to use the Day Shade or the Night Time Privacy Shade. Refer to the MCD Innovations Owner's manual for care and warranty instructions.



3303 N. McDonald St.  
McKinney, TX 75071  
972.548.1850  
800.804.1757  
[www.mcdinnovations.com](http://www.mcdinnovations.com)



# Insert MCD American Duo Owner's Manual Here





# Illumagrip Entry Handle

Entry Handles installed by Coach House Motorhomes are illuminated by L.E.D. bulbs which are connected to the outside lighting circuits. These handles will light up when the porch/step light circuit is turned on. Follow the care and cleaning guide on the following page for a long life of these handles.





# Caring for your IllumaGrip™ Assist Handles

## CLEANING:

These handles must be cleaned with mild soap and water only.

Use of any harsh or abrasive cleaning agents will void all warranties.

Clean with lukewarm water a mild, nonabrasive cleaner and a clean, soft cloth.

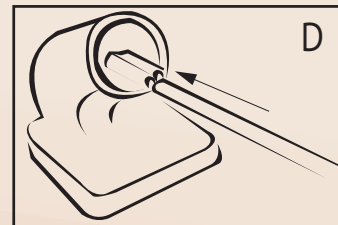
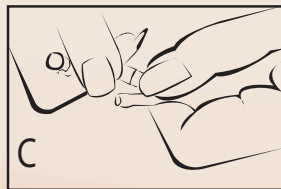
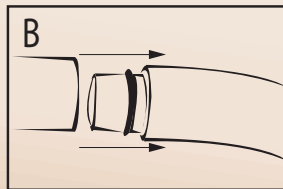
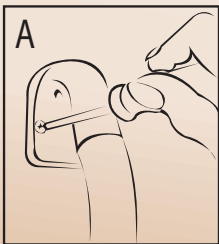
Use only light pressure and avoid rubbing dirt or grit into the surface.

Turn the cloth often and replace with a clean cloth frequently.

## LED CHANGING:

Many of our handles are lit with an LED assembly in the end cap. If you need to replace the LED, follow these simple instructions.

1. Remove the screws holding the handle to the mounting surface. (See Fig. A)
2. Gently pull the handle from surface, being careful not to pull too hard on the wiring.
3. Remove the top end cap where the LED is housed. (See Fig. B)
4. Locate the LED assembly wiring that will exit the top end cap.
5. Pull the quick disconnect fittings apart. (See Fig. C) Be careful not to let the wiring fall back into the wall.  
We suggest taping the wiring to the side of the mounting surface until you're ready to connect the new LED
6. Push the LED wires until the LED assembly exits the front of the end cap.
7. Pull the LED completely out of the end cap.
8. Push the new LED assembly into the front of the end cap making sure the wires exit through the back side of the end cap. (See Fig. D)
9. Connect the quick disconnect fittings from the new LED assembly to the wiring.
10. Bring power to your light to make sure that the connection is correct. LEDs are polarity sensitive.  
If the LED will not light, reverse the connections (quick disconnect fittings)
11. Push the wiring into the wall and reattach the screws holding the handle to the wall.



CORPORATE: 230 E. Lakewood Blvd., PO Box 8338, Holland, MI 49422-8338

Phone: 616-396-1355 ~ Fax: 616-396-1152

ELKHART: 1015 Verdant, Elkhart, IN 46516

Phone 574-389-8986 - Fax: 574-389-8687

E-Mail: [sales@itc-us.com](mailto:sales@itc-us.com)

Websites: [www.itc-marine.com](http://www.itc-marine.com); [www.itc-rv.com](http://www.itc-rv.com); [www.itc-industrial.com](http://www.itc-industrial.com)

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# IllumaGrip™ Installation Instructions

The IllumaGrip™ series of assist handles are shipped completely assembled and either glued or taped in final installation position. This assure that the handle will be in the correct orientation when installed on your unit. In order to maintain the correct orientation of the components, the following installation procedure is recommended.

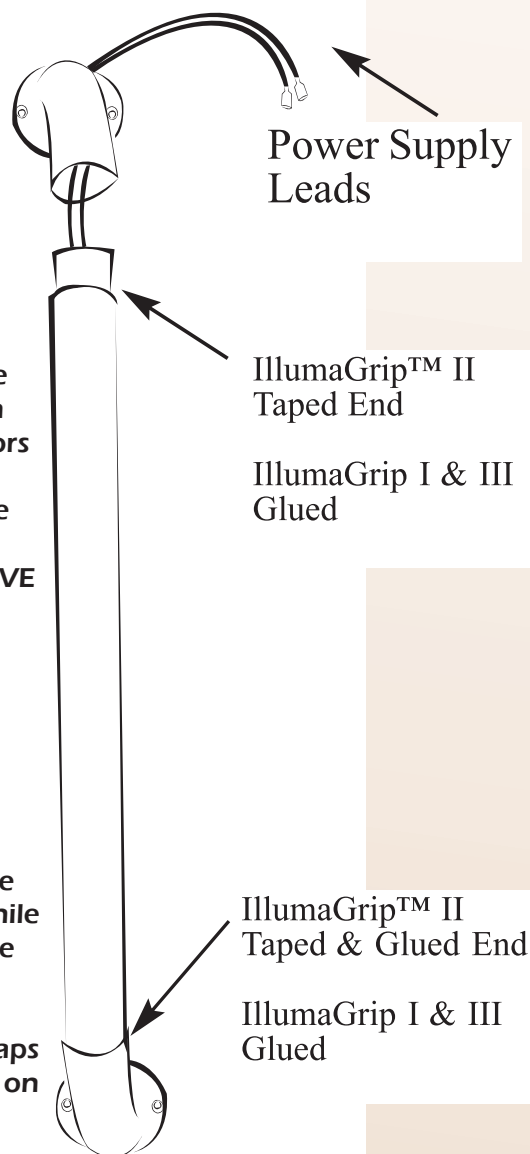
## NOTE:

IllumaGrip™ II end caps are shipped with tape around the joints between the acrylic handle and the end cap. Leave this tape in place until installation in complete. IllumaGrip™ I and III end caps are glued to the acrylic.

## MOUNTING YOUR HANDLES:

1. Align the IllumaGrip™ in the desired mounting location and mark screw holes.  
**IF YOUR HANDLE IS UNLIT, PROCEED WITH STEPS 3-5**  
**IF YOUR HANDLE IS LIT WITH AN LED:** Pre-drill the wire access hole through the wall and locate the connection wiring. Connect the supplied wire pigtail and connectors to your internal wiring. Test the light.  
**CAUTION:** LED's are polarity sensitive. The **BLACK** wire must connect to the **POSITIVE** side of the vehicle's 12 volt line. The **WHITE** wire must connect to the **NEGATIVE (GROUND)** of the vehicle's 12 volt line.

2. Feed the wires from the top end cap through the hole you made in step 1.
3. Install #8 flat head screws to mount the end caps.
4. Apply a slight downward pressure on the top end cap may assist in alignment of the top end cap of the handle to the unit and hold the end cap firmly to the acrylic while installing. Torque all screws to the point where they are firmly seated into the countersink of the base.
5. Remove the shipping tape (if present) from both end caps where they join to the acrylic and the protective sleeve on the acrylic (if present).



CORPORATE: 230 E. Lakewood Blvd., PO Box 8338, Holland, MI 49422-8338  
Phone: 616-396-1355 ~ Fax: 616-396-1152

ELKHART: 1015 Verdant, Elkhart, IN 46516  
Phone 574-389-8986 - Fax: 574-389-8687

E-Mail: [sales@itc-us.com](mailto:sales@itc-us.com)

Websites: [www.itc-marine.com](http://www.itc-marine.com); [www.itc-rv.com](http://www.itc-rv.com); [www.itc-industrial.com](http://www.itc-industrial.com) 0905



#### ITC INCORPORATED CONDITIONS OF SALE (Quotation/Confirmation)

1. Expiration of Quotation. Any quotation by ITC, Incorporated ("ITC") will be held open for acceptance for a period of 60 days from the date of the quotation; however, ITC reserves the right to correct clerical and typographical errors, including price and quantity numbers, within 15 days after acceptance of an order based on the quotation.
2. Acceptance. This order is subject to the following terms and conditions. Terms stated by the Buyer in any other communication, prior or subsequent hereto, shall NOT be binding on ITC if different from or in addition to any of the provisions hereof or the quotation, unless expressly agreed to in writing by ITC. Acceptance by the Buyer of this order, orally or in writing, or of any goods provided hereunder or payment therefore, shall constitute acceptance of these terms and conditions.
3. Payment. Payment is due on a NET 30 DAYS basis unless otherwise agreed in writing. All payments not made by the due date shall bear interest at a rate of 1½% per month. If the Buyer fails to fulfill the terms of payment, or ITC has any doubt at any time as to the Buyer's financial responsibility, ITC may either decline to make further deliveries except upon receipt of cash or other satisfactory security, or may terminate the entire agreement. The Buyer shall reimburse ITC for any costs of collection incurred in collecting any past due sums, including attorneys' fees. To secure the Buyer's obligation to pay ITC the purchase price of the goods, the Buyer grants to ITC a security interest in the goods and any proceeds thereof, with full rights as a secured party under the Uniform Commercial Code, and the Buyer appoints ITC as its attorney in fact to sign any financing statements evidencing such security interest on behalf of the Buyer.
4. Shipment and Risk of Loss. The Buyer shall take delivery of the goods F.O.B. ITC's facility, unless otherwise agreed in writing. Method and route of shipment are at ITC's discretion, unless the Buyer supplies instructions otherwise. All expenses and risks of loss or any damages incurred in the transportation of the goods, including any risks of loss in loading or unloading, shall be borne solely by the Buyer, unless otherwise specified. All claims for loss, damage or delay against the carrier must be made by the Buyer. The Buyer shall accept partial delivery of any order and any defect related to said partial delivery or failure to make any subsequent partial delivery shall be severable and not constitute a breach of the entire agreement. Freight shall be shipped on ITC's shipper account unless otherwise agreed to between ITC and Buyer. To qualify for shipping collect (against Buyer's account number), the customer must be in good standing and have reached a minimum of US\$10,000 in annual sales with ITC. If freight for a collect account is invoiced back to ITC for any reason, ITC reserves the right to charge Buyer all the associated freight along with a fee of \$50 for processing. For Buyers with credit card payment terms, freight collect shipments from ITC will not be allowed.
5. Delays and Damages. ITC shall attempt to make deliveries in accordance with its quotation or production order, but if for any reason ITC fails to make such deliveries or to make them within the time stated, or cancels any order, ITC shall not be liable for any loss or damage resulting from any such failure or delay in delivery, or from any such cancellation or for loss of use or loss of profits, or for any other consequential, incidental or special damages on account of delay in delivery.
6. Rejection of Non-Conforming Goods. The Buyer must notify ITC in writing of any rejection of goods deemed non-conforming within 6 months of delivery. The notification shall identify each alleged non-conforming of the goods and describe that portion of the shipment being rejected. If the Buyer shall fail to give such notice or if the Buyer uses the goods in any manner inconsistent with the rights of ITC, the goods shall be deemed to conform to the terms hereof in all respects and the Buyer shall be bound to accept and pay for the goods in accordance with these terms.
7. Cancellation or Modification. Any order accepted by ITC may be canceled or modified by the Buyer only upon the written approval of ITC. The Buyer shall reimburse ITC for all expenses incurred by ITC in connection with such order, including without limitation for engineering drawings and materials. Custom parts specifically designed and/or manufactured for the Buyer are subject to notification in writing to ITC by the Buyer in the event of any one of the following occurrences: 1) the termination of any program that would affect the custom part purchases, 2) any engineering change pertaining to the custom part, and 3) any decision that would cause the Buyer to cease purchases of the custom part. In any one of these occurrences, other than non-performance by ITC, the Buyer agrees to pay ITC for inventory held by ITC.
8. Limited Warranty and Limitation of Remedy and Damages. ITC warrants the goods to be free from defects in material or workmanship under normal operating conditions from the date of delivery, regardless of the date of installation or first use. In the event Buyer supplied the drawings for the goods, ITC's warranty is further limited to manufacturing the goods to the specifications on the drawings and ITC assumes no obligation or liability for design and/or fitness for particular purpose. Any claim under this warranty shall be deemed waived unless ITC is notified within 30 days of the discovery of the defect and given the opportunity to inspect such defect, and, if necessary, the goods are returned to ITC. ITC's obligation under this warranty shall be LIMITED, at its option, to the modification, repair or replacement of the goods by ITC. In no event shall ITC be liable for consequential, incidental or special damages, loss of profit or production, or for transportation, installation or other costs associated with the goods. THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. This warranty shall not apply to any goods which have been subject to abuse, accident, alteration or misuse.
9. Limitation of Liability. ITC's liability on any claim of any kind, including negligence, strict or product liability, or breach of warranty or contract, for any loss or damage arising out of or connected with this contract, or the performance or breach thereof, or the manufacture, sale or use of the goods furnished hereunder shall in no case exceed the price allocable to such goods which gives rise to the claim, and shall not include any liability for any consequential, incidental or special damages.
10. Reliance Upon Buyer's Information. In the preparation of the quotation and the goods, ITC has relied on information supplied by the Buyer. In the event such information is inaccurate, ITC shall not be liable for any claim resulting from such inaccurate information, including negligence, strict or product liability, or breach of warranty or contract, with respect to the goods, the performance of breach of this contract, or any defects of design, material or workmanship.
11. Indemnification. Buyer shall defend, indemnify and hold harmless ITC and its agents from any claims, damages or expenses including attorneys' fees, arising or alleged to arise from any asserted deficiencies or defects in the goods caused by any alteration thereof with or without ITC's consent made by the Buyer, the improper handling, storage or installation by the Buyer, or any action taken by the Buyer which voids the UL certification.
12. Non-Performance. Neither party shall be liable to the other for failure to perform its obligation in whole or in part when performance is prevented by flood, drought, fire or any other casualty, war, riot, insurrection, acts of God, restrictions or interference by any government or governmental agency, strike, labor action, or any similar cause beyond the control of the party failing to perform, for the period during which such cause of failure exists.
13. Limitation Period for Bringing Action. No action may be commenced to enforce this contract or for any breach hereof, or for any defect or deficiency of the goods to be delivered hereunder, whether on warranty, contract, negligence, or strict products liability, unless such action is brought within 12 months after accrual of such cause of action.
14. Choice of Law and Forum. This contract shall be governed by the laws of the State of Michigan, notwithstanding any state's choice of law rules to the contrary. The Buyer consents and agrees that any action brought to enforce this contract, or for any breach hereof, or for any defect or deficiency of the goods to be delivered hereunder, whether on warranty, contract, negligence, or strict products liability, shall be brought solely in a state or federal court sitting in the State of Michigan, and the Buyer consents and submits to the jurisdiction of such court.

#### GENERAL PRODUCT LIMITED WARRANTY

ITC warrants, to the original consumer, that the product will be free of defects in materials and/or workmanship for the period of time set forth herein. This warranty period will begin from the later of the original date of purchase of the product or the date of sale of the recreational vehicle or boat in which the product is installed is first sold to the first consumer provided that adequate documentation of said consumer sale date is provided to ITC. Adequacy of the authenticity of the consumer sale date will be determined by ITC in its sole discretion. In the event the consumer sale date is not provided or not determined to be adequate by ITC, then the warranty period will begin on the original date of purchase of the product from ITC. Except as set forth below, this general product limited warranty will extend for three years. All exterior faucets, exterior showers, exterior plumbing products, and clocks will have a one year warranty period. All assist handles will have a two year warranty period, provided that crazing caused by chemical attack from a contaminant is not covered by any warranty. Products that are primarily comprised of 316 stainless steel will have a five year warranty period. Bulbs, including halogen, incandescent, xenon, and light emitting diodes (LEDs) are excluded from the warranty.

**MAXIMUM LIABILITY** ITC's liability to repair or replace a damaged item shall be limited to the original purchaser of the item at the original invoice price of the damaged unit, acceptable labor charges, acceptable freight charges, and dealer charge backs mandated by state law. ITC will not credit customers for excessive labor or freight charges or unauthorized dealer or customer markup fees. Acceptable freight and labor charges are available from ITC upon request.

**INSPECTION** ITC reserves the right to review the damaged product and the site where the damage occurred. ITC may require the purchaser to ship the item to ITC for inspection. The damaged item must remain available for inspection until the claim is finalized. In the event ITC requests to inspect the product, it agrees to dispatch its findings pertaining to the alleged defective product within 45 days of receiving the product. Whenever claims are settled, ITC reserves the right to be subrogated under any existing insurance policies the purchaser may have.

**EVENTS THAT VOID WARRANTY** All above warranties are null and void if any one or more of the following events occurs: (a) the item is not provided to ITC for inspection upon ITC's request; (b) ITC determines that the item has been improperly installed, altered in any way or tampered with; (c) ITC determines that the item was not used under normal operating conditions or in accordance with labels or instructions for the item including; (d) ITC determines the product was not properly maintained, and/or; (e) ITC determines that an unauthorized repair, modification, disassembly, or other changes to the product created the alleged defect. In addition to the foregoing, this Warranty does not protect against damage to the product when ITC determines, in its sole discretion, that the damage resulted from acts of God such as lightning, flood, earthquake, war, vandalism, theft, normal-use wear and tear, terrorism, strikes, and labor stoppages. This warranty specifically excludes damage, deterioration or discoloration caused by sunlight or similar ultraviolet rays and/or wavelengths and/or dents, holes or scratches to the unit caused by stones, rocks, debris and/or vehicles.

**EXCLUSIVE REMEDY** This Warranty contains the sole warranty of ITC with respect to the product and is given in lieu of all other warranties. There are no other warranties, express or implied, including implied warranties of merchantability or fitness for a particular purpose and any implied warranties that cannot be waived and/or excluded are hereby limited in duration to the terms of this Warranty.1

**LIMITATION ON LIABILITY** In no event shall ITC or any affiliate of ITC be liable for direct, indirect, special, incidental, consequential, or multiple damages arising out of the use of the item, regardless of the legal theory on which such claim is based, even if ITC has been advised of the possibility of such damage. Consequential damages shall include, but are not limited to loss of profits, loss of savings or revenue.

1 Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not be applicable.

#### ITC SAMPLE POLICY

We at ITC understand the necessity of sending out samples to our customers for review for product quality and to determine if the product will work in the application for which it has been suggested. It is not cost-effective for us to send samples to all of our customers without charging or memo-billing for some of the products because of the prohibitive costs involved in doing so. It is the policy of ITC to send out samples at no charge for any items if the accumulated invoice amount of the samples is not over US\$60.00. In the event that the invoice amount exceeds US\$60, it is our policy to send the customers a memo bill. The memo bill would become payable by the customer after 90 days if they have not returned the products to either an ITC representative or returned the products against an RGA. We understand that variations to this policy will sometimes be required. When such circumstances arise, the customer's ITC representative is responsible for communicating the deviation from the policy throughout the ITC organization, which includes, but is not limited to, customer service and accounts receivable.

#### ITC RETURN POLICY

- 1) ITC will accept absolutely no returns for product found defective at the distributor or returned by a dealer or customer as a warranty claim without a Return Authorization Number (RGA). Customers should contact our Quality Department (Phone 616-396-1355 or Fax 616-394-5881 or Email: quality@itc-us.com) to obtain a Return Authorization Number (RGA) prior to sending product back to ITC, Inc.
- 2) All correspondence and credits pertaining to the alleged non-conforming product will reference the RGA number. If your company uses its own return goods numbering system, ITC will make every effort to include both reference numbers on ITC's RGA. All returns must be accommodated by our RGA number or they will not be processed. If product is received without our RGA number written on the outside of the carton, it will be refused upon receipt. All customers have 90 days to return product or the RGA will be voided.
- 3) ITC will reimburse a customer for credit on returned parts that are determined defective by ITC. Credit is entered based on the current Distributor quoted price for said part, acceptable labor charges and Dealer charge backs mandated by State law. ITC will not credit customers for unauthorized Dealer mark-ups or customer mark-up fees.
- 4) ITC will not issue credit for parts that were damaged or inappropriately handled by customer. Alterations to an ITC part will invalidate the warranty.
- 5) To preserve your claim, please securely package all parts before shipping to ITC. All claims are reviewed by ITC's Quality Department to determine the validity of the claim.
- 6) Invalid returned parts (non-ITC parts) shall be held for 15 days maximum, then destroyed or returned at customer's expense, ITC will notify customer accordingly. Repeated submission of invalid parts will warrant us charging the offending customer a handling fee. If a part is damaged or lost during transit, customer is responsible for directing a claim to the courier service, not ITC.
- 7) ITC is not responsible for freight charges of parts that the customer has ordered in error or for parts that are found not defective. For all returns and warranty claims accepted by ITC, the chart below shows the maximum amount of ground freight charges allowed which are refundable by ITC (over 20 LBS requires prior approval).
- 8) A 25% or \$25.00 (whichever is greater) restocking fee will be invoiced or deducted from the return credit for parts that are not defective or parts ordered in error.
- 9) If a scrap credit is authorized by ITC, we will issue an RGA number and apply the credit to the customer's account without inspecting the product or having it returned to ITC.
- 10) ITC warranty is attached for reference purposes.

**CORPORATE OFFICE:**  
ITC Incorporated  
230 E. Lakewood Blvd., PO Box 8338  
Holland, MI 49422-8338

Fax: (616) 396-1152



**ELKHART OFFICE**  
ITC Incorporated  
1015 Verdant  
Elkhart, IN 46516

Phone: (616) 396-1355

Fax: (574) 389-8687

Phone: (574) 389-8986

Revised 9/14/09



# Outside Shower Assembly

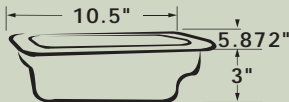
Coach House Motorhomes come with an outside shower assembly which provides hot and cold running water for outdoor applications.

## Specifications:

- Designed for use in a pressure regulated, portable water system with a maximum operating pressure of 40 psi.
- Maximum flow rate with the faucets fully opened - 2/5 GPM.
- DO NOT ALLOW TO FREEZE
- Do not connect directly to a high pressure residential water supply.

## Exterior Shower

- Compact Unit
- Available in arctic white, black, or grey
- Choose from latching or locking shower door
- Impact & temperature resistant, paintable and UV stable housing
- 5' hose standard with 8' hose option available
- Stainless steel hinge pin
- Anti-siphon vacuum breaker



97022-A-5 | White Latching Exterior Shower



97023-B-5 | Black Locking Exterior Shower

ITEM NUMBER	DESCRIPTION	FINISH/COLOR	CUTOUT	LISTINGS	CASE QTY
97022-A-5	Exterior Shower, Latching Door	Arctic White	4.5" x 9"	CSA	10
97022-B-5		Black			
97022-G-5		Grey			
97023-A-5	Exterior Shower, Locking Door	Arctic White			
97023-B-5		Black			
97023-G-5		Grey			
97022-001	Replacement Shower Head	Arctic White			
97022-008	Replacement Faucet Set (Includes: Valve Body, Valve Nuts, Handles)	N/A			
97020-080	Replacement Straight Nipple, Seal Collar & O-Rings				
97020-004	Exterior Shower 8' Hose				
97022-006	Replacement Vacuum Breaker				





# Hardwood Cabinet Doors



## **Limited Three Year Warranty for Coach House Owners**

Congratulations on the purchase of a *Coach House* Luxury Motor Home! This warranty covers the wood cabinet doors found throughout your new motor home.

Wood is a material formed by nature not man and must be handled as such. Characteristics of wood are what give it its beauty and charm. Therefore, there may be some slight color variances due to the natural color variations in wood. The infinite variety in color, grain, and texture is what gives wood its natural character. Because of the differences among varying wood species, even within the same species, no two trees are alike. Climate, light, rainfall and minerals in the soil all create diverse and unique grain and color patterns in each piece of wood. These natural variations are not considered defects. We guarantee our doors free from defect in material and workmanship for three years from the purchase date of your Coach House model. Our warranty applies to the original motor home owner only.

Natural wood will expand and contract with climate and temperature conditions. Our doors are built to allow for proper wood movement. We will not be liable for damages done due to negligence or improper handling and/or cleaning of our doors.

We will guarantee against warpage, twisting or swelling for doors that have been given responsible treatment and are within our minimum or maximum sizes. Warp or twist of 3/16" or less is not considered a defect.

### **Reasonable Treatment Required for Wood Doors**

Doors should not be subjected to abnormal heat, cold, extreme humid or dry conditions or any sudden changes in temperature or humidity and they should never be left open to the elements.

### **Replacement Policy**

Contact your salesperson within one business week of receiving the defective materials. Your representative will arrange to inspect the doors. We may request the defective products be returned for inspection; if so please repackage the doors for shipment. We will have the materials returned to us at no charge to you. In order to minimize the inconvenience to you, Georgia Hardwoods will do our best to replace any defective products as soon as possible.

### **Contact Information**

For Warranty Issues, please contact us at 800-992-6462 to initiate the claim process.



# 12 Ton Bottle Jack



## PRODUCT SPECIFICATIONS

MODEL #:	7384
DESCRIPTION:	BOTTLE JACK
CAPACITY:	12 TON
JACK SIZE:	5 1/4" (L) X 5 1/8" (W)
MIN. HEIGHT:	9 3/8"
MAX. HEIGHT:	18 1/2"
SCREW EXT.:	3 1/8"
HANDLE LENGTH:	18 1/8"
OPERATING FORCE:	102.0 LBS
SADDLE DIM.:	1 3/4"
NET WEIGHT:	17.4 LBS
VOLUME OF HD. OIL:	360 C.C.
COLOR BOX DIM.:	5 5/8" (L) X 5 1/2" (W) X 10 1/4" (H)
GROSS WEIGHT:	72.6 LBS / 4 PCS
CARTON BOX DIM.:	11 7/8" (L) X 11 5/8" (W) X 11 3/8" (H)
CUFT.:	0.91 CUFT (2120 PCS/ 20' CTN)

## FEATURE

- MEETS ASME/ANSI - PALD SAFETY STANDARDS
- LIFTING RANGE: 9 3/8" TO 18 1/2"
- PATENTED BUILT-IN BY-PASS DEVICE MECHANISM
- TWO PCS. HANDLE
- HEAT TREATED EXTENSION SCREW

## ONE YEAR LIMITED WARRANTY

For a period of one (1) year from date of purchase, **ATD Tools Inc.** will repair or replace, at its option, without charge, any of its products which fails due to a defect in material or workmanship under normal usage. This limited warranty is a consumer's exclusive remedy.

Performance of any obligation under this warranty may be obtained by returning the warranted product, freight prepaid, to **ATD Tools Inc.** Warranty Service Department, 160 Enterprise Drive, Wentzville, MO 63385.

Except where such limitations and exclusions are specifically prohibited by applicable law, (1) THE CONSUMER'S SOLE AND EXCLUSIVE REMEDY SHALL BE THE REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCTS AS DESCRIBED ABOVE. (2) **ATD Tools Inc.** SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGE OR LOSS WHATSOEVER. (3) ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED TO ONE YEAR, OTHERWISE THE REPAIR, REPLACEMENT OR REFUND AS PROVIDED UNDER THIS EXPRESS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER, AND IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. (4) ANY MODIFICATION, ALTERATION, ABUSE, UNAUTHORIZED SERVICE OR ORNAMENTAL DESIGN VOIDS THIS WARRANTY AND IS NOT COVERED BY THIS WARRANTY.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



## SAFETY INSTRUCTIONS

### BEFORE USE

1. Verify that the product and the application are compatible.
2. Before using this product, read the owner's manual completely and familiarize yourself thoroughly with the product, its components and recognize the hazards associated with its improper use.
3. Open the release valve (counter-clockwise no more than 1/2 full turn).
4. With ram fully retracted, locate and remove the oil filler plug. Insert the handle into the handle sleeve, then pump 6 to 8 strokes. This will help release any pressurized air which may be trapped within the reservoir. Ensure the oil level is just below the oil filler plug hole. Reinstall the oil filler plug.
5. Check to ensure that jack rolls freely (if so equipped) and that the pump operates smoothly before putting into service. Replace worn or damaged parts and assemblies with AtD Tools Authorized Replacement Parts only. (See Replacement Parts Section)
6. Inspect before each use. Do not use if bent, broken or cracked components are noted.



### WARNING

- Study, understand, and follow all instructions provided with and on this device before use.
- Do not exceed rated capacity.
- Use only on hard, level surfaces capable of sustaining rated capacity loads.
- Lifting device only.
- Immediately after lifting, support the vehicle with appropriately rated stands
- Never work on, under or around a load supported by this device.
- Failure to heed these markings may result in personal injury and/or property damage.



## OPERATION

### Lifting

1. Assemble handle, ensure that spring clips align with slots.
2. Secure the load to prevent inadvertent shifting and movement.
3. Place vehicle in part gear.
4. Position the jack near desired lift point.
5. Close the release valve by turning it clockwise until it is firmly closed.

**Note:** Use the handle provided with this product or an authorized replacement handle to ensure proper release valve operation. When using to lift vehicle, lift only on the manufacturer's recommended lift points and in accordance with the published guidelines in your vehicle owners manual. Always use jack stands to support the load immediately after lifting.

5. Insert and secure handle into handle sleeve. Pump handle until saddle contacts load.
6. Raise load to desired height, then immediately transfer the load to appropriately rated support devices such as jack stands.



### WARNING



To avoid crushing and related injuries:  
**NEVER** work on, under or around a load supported only by jack. **ALWAYS** use adequately rated jack stands.

### Lowering

1. Raise load enough to carefully remove jack stands.
2. Insert handle onto release valve and slowly turn handle counterclockwise, but no more than 1/2 turn.
3. If load fails to lower:
  - a. Carefully transfer the load to another lifting device and jack stands.
  - b. Carefully remove affected jack, and then the jack stands. Lower the load, again by slowly turning the release valve no more than 1/2 turn.

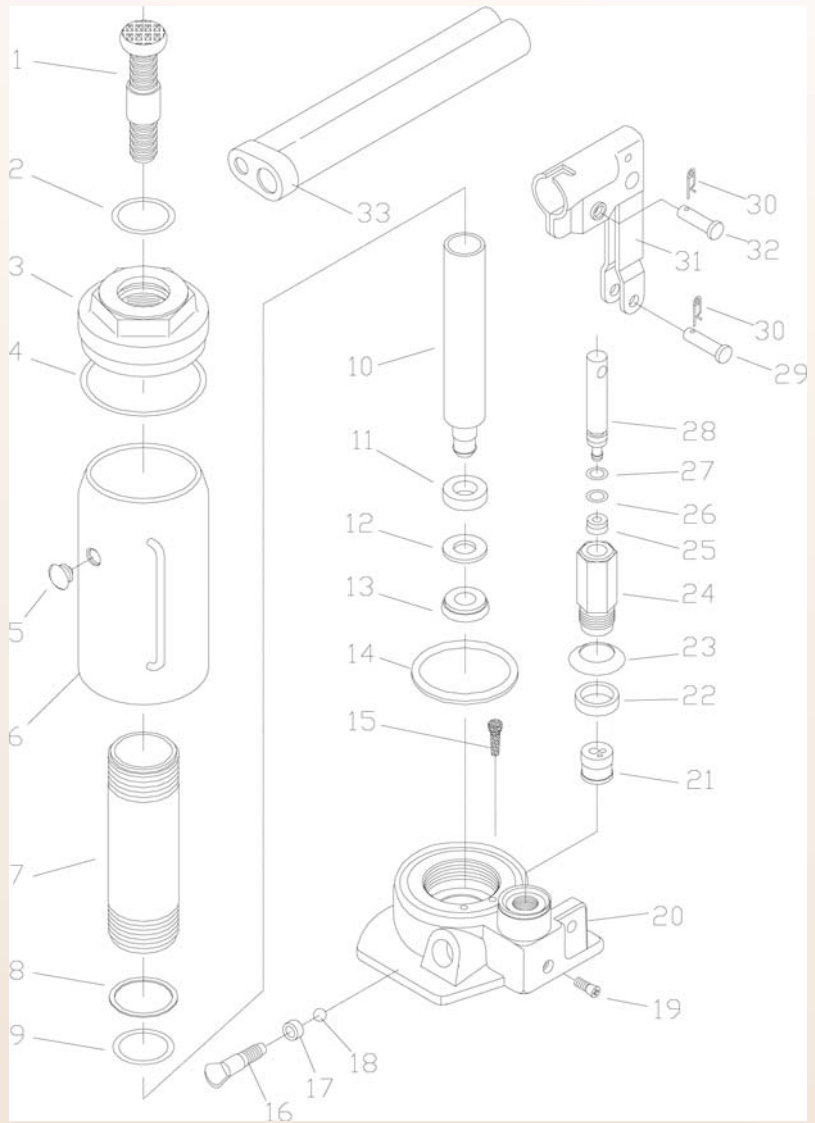
### ! SAFETY MESSAGE !

Be sure all tools and personnel are clear before lowering load. No alterations shall be made to this device. Only attachments and/or adapters supplied by the manufacturer shall be used.

4. After removing jack from under the load, push ram and handle sleeve down to reduce exposure to rust and contamination.

ITEM	PARTCODE	DESCRIPTION	QTY
1	*	extension screw	1
2	*	o-ring	1
3	*	top nut	1
4	*	gasket (upper)	1
5	5905-00100-000	filler plug	1
6	B120-14000-000	reservoir	1
7	*	cylinder	1
8	*	back-up ring	1
9	*	o-ring	1
10	*	ram piston	1
11	B120-13001-000	ram bearing	1
12	*	back-up ring	1
13	*	u-cup	1
14	*	gasket	1
15	B120-10003-000	filter	1
16	B020-10005-000	release valve	1
17	*	seal	1
18	5601-00635-000	steel ball	1
19	*	screw	1
20	*	base	1
21	B020-16000-000	hyd. cartridge	1
22	*	seal	1
23	B020-15002-000	washer	1
24	B080-15001-000	pump cylinder	1
25	*	u-cup	1
26	*	back-up ring	1
27	*	o-ring	1
28	B080-15101-000	pump piston	1
29	5405-07027-000	pin	1
30	5405-02018-000	snap ring	2
31	B080-14000-000	handle sleeve assy.	1
32	5405-07024-000	pin	1
33	B080-20000-000	handle	1

\* part is not available





## MAINTENANCE

**Important:** Use only a good grade hydraulic jack oil. Avoid mixing different types of fluid and NEVER use brake fluid, turbine oil, transmission fluid, motor oil or glycerin. Improper fluid can cause premature failure of the jack and the potential for sudden and immediate loss of load. We recommend Mobil DTE 13M.

### Adding oil

1. With saddle fully lowered and pump piston fully depressed, set jack in its upright, level position. Remove oil filler plug.
2. Fill until oil is level with the filler plug hole, reinstall oil filler plug.

### Changing oil

For best performance and longest life, replace the complete fluid supply at least once per year.

1. With saddle fully lowered and pump piston fully depressed, remove the oil filler plug.
2. Lay the jack on its side and drain the fluid into a suitable container.

**Note:** Dispose of hydraulic fluid in accordance with local regulations.

3. Fill with good quality jack oil. Reinstall oil filler plug.

### Lubrication

1. A coating of light lubricating oil to pivot points, axles and hinges will help to prevent rust and assure that assemblies move freely.
2. Periodically check the pump piston and ram for signs of rust or corrosion. Clean as needed and wipe with a clean, oil soaked rag.

**Note:** Never use sandpaper or abrasive material on these surfaces !

### Storage

When not in use, store the jack with pump piston and ram fully retracted.

## TROUBLESHOOTING

Symptom	Possible Causes	Corrective Action
Jack will not lift load	<ul style="list-style-type: none"><li>• Release valve not tightly closed</li><li>• Overload condition</li></ul>	<ul style="list-style-type: none"><li>• Ensure release valve tightly closed</li><li>• Remedy overload condition</li></ul>
Jack bleeds off after lift	<ul style="list-style-type: none"><li>• Release valve not tightly closed</li><li>• Overload condition</li><li>• Hydraulic unit malfunction</li></ul>	<ul style="list-style-type: none"><li>• Ensure release valve tightly closed</li><li>• Remedy overload condition</li><li>• Contact ATD Tech. Service</li></ul>
Jack will not lower after unloading	<ul style="list-style-type: none"><li>• Reservoir overfilled</li></ul>	<ul style="list-style-type: none"><li>• Drain fluid to proper level</li></ul>
Poor lift performance	<ul style="list-style-type: none"><li>• Fluid level low</li><li>• Air trapped in system</li></ul>	<ul style="list-style-type: none"><li>• Ensure proper fluid level</li><li>• With ram fully retracted, remove oil filler plug to let pressurized air escape, reinstall oil filler plug</li></ul>
Will not lift to full extension	<ul style="list-style-type: none"><li>• Fluid level low</li></ul>	<ul style="list-style-type: none"><li>• Ensure proper fluid level</li></ul>





# Section 8

## Optional Equipment



# Optional Equipment

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# Solar Battery Charger

The solar charger (95 Watt) will charge the auxiliary batteries with the master 12 Volt switch in the “on” or “off” position. A Charge Controller will optimize the charging rate and cut off the charging current when the batteries are fully charged. Optimal charging will be obtained in direct sunlight.



The charge controller panel is located just inside the entry door to the right. It will show the status of the charging system and the status of the “house” battery circuits. Refer to the Carmanah manual for instructions.







**carmanah®**  
we put solar to work

MODEL

**CTI-95**

SOLAR MODULE

#### Reliable

The CTI-95 Solar Module from Carmanah is a high-efficiency monocrystalline solar module that provides outstanding performance and cost-effective solar power for high-end off-grid and mobile applications. Carmanah's CTI-95 Solar Module is built to last and features a 25-year limited power output warranty.

#### Durable

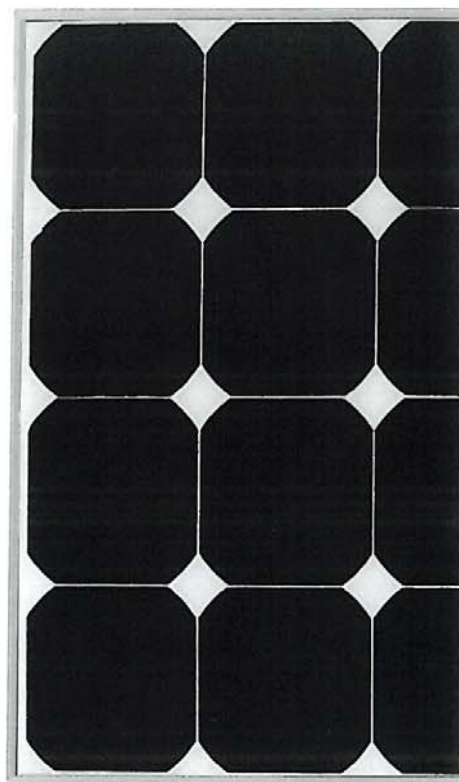
To ensure long life, the high-efficiency solar cells are encapsulated between a special tempered, low-iron solar glass and a Tedlar®/polyester backing material. The mounting frame, manufactured from anodized marine-grade aluminum, allows the CTI-95 to be installed in extreme conditions.

#### The CTI-95 is ideal for ...

- RV/Marine
- 12/24 Volt battery systems
- OEM
- Security Trailers
- Telecommunications
- Stand-alone or grid connected applications
- Signaling systems
- Remote telemetry
- Water pumping
- Other off-grid applications

#### Features:

- Compact and rugged design
- Plug and play junction box
- Lightweight anodized aluminum frame
- High transmissivity tempered glass
- MC4 cable connectors included



CTI-95 SOLAR MODULE



Carmanah is backed by a worldwide network of solar professionals

To find a representative in your region

- visit us at [www.carmanah.com](http://www.carmanah.com)
- or call +1 250 380 0052 (toll-free US & Canada 1 877 722 8877)

REPRESENTED IN YOUR REGION BY:

Carmanah Technologies Corp. Web: [carmanah.com](http://carmanah.com) Email: [info@carmanah.com](mailto:info@carmanah.com) Telephone: 1.250.380.0052 Fax: 1.250.380.0062

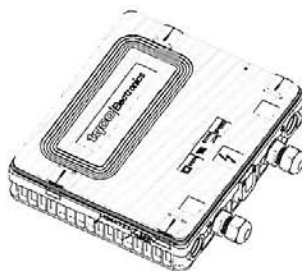




# CTI-95

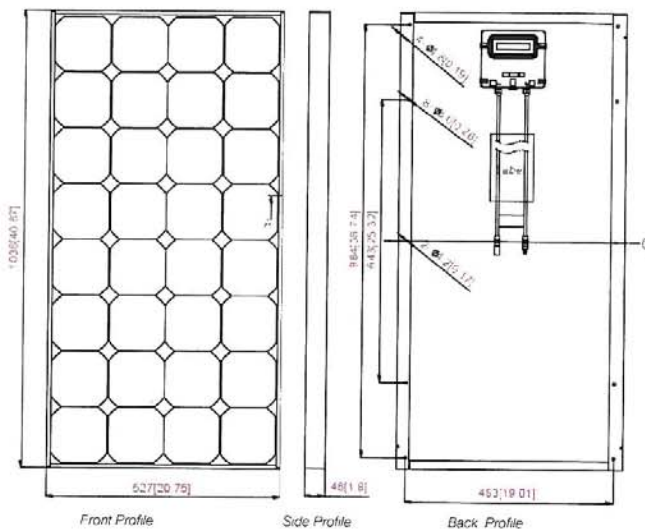
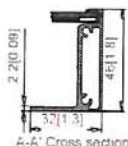
SOLAR MODULE

MODEL



## Tyco Junction Box features:

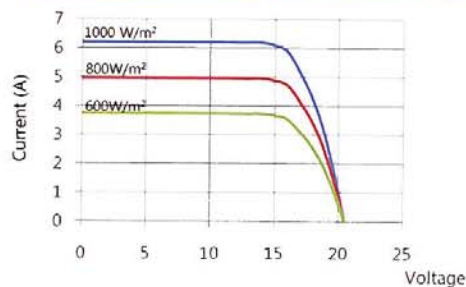
- Wire Specification: Copper; #14 AWG min.; 90 deg. C
- Min 5mm cable diameter to max 7 mm cable diameter
- Self-sealing lid
- MC4 cables included



## SPECIFICATIONS

Cell type	Monocrystalline
Rated power	95 W
Maximum power voltage	17.2 V
Maximum power current	5.53 A
Open circuit voltage	20.6 V
Short circuit current	6.19 A
Voltage coefficient	-60.8mV / °C
Power coefficient	-0.38% / °C
Module efficiency	18%
Cell efficiency	20%
Series fuse rating	15 A
Max system voltage	75 V
Weight	16.3 lb (7.4 kg)
Dimensions	40.8 x 20.8 x 1.8 inches 1037 x 527 x 46 mm
Frame type / material	>15µm clear anodized aluminum frame
Fire Rating	Class C
Design load	53.3 lbs / ft <sup>2</sup>

## IV CURVE PARAMETERS



Solar Cells: High-efficiency monocrystalline cells, 32 cells in series  
 Maximum power tolerance: +/- 5%  
 Power Specifications calculated at:  
 Irradiance: 1000 W/m<sup>2</sup>  
 Cell Temperature: 77 °F (25 °C)  
 Air Mass: 1.5G

Carmanah Technologies Corp. • Web: [carmanah.com](http://carmanah.com) • Email: [info@carmanah.com](mailto:info@carmanah.com) • Telephone: 1.250.380.0052 • Fax: 1.250.380.0062 •

# Xantrex Pure Sine Wave Inverter

The 1800 Watt Xantrex Pure Sine Wave Inverter is recognized as industry leading in power source supply. It operates from the 12V auxiliary batteries and inverts 12V power DC to 120 AC power.

The inverter has a remote control located on the main control tower located behind the passenger seat. The remote control has operation and battery condition monitoring of DC volts. Detailed information on the inverter and the remote control are included in the Xantrex owner's manual.

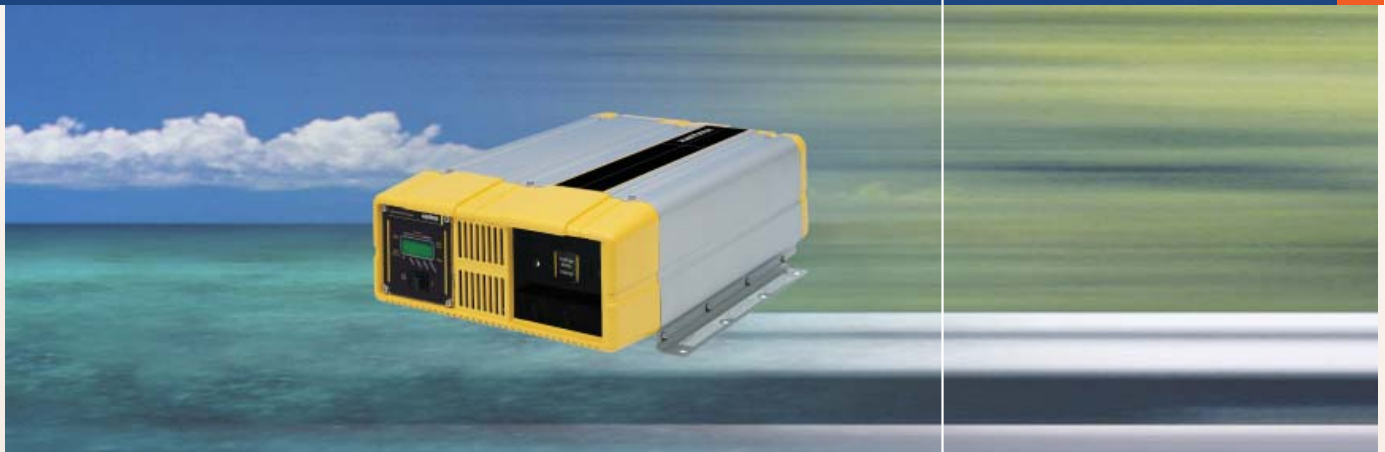
**\*\*\* The inverter shut-off is NOT automatic. The inverter may be ON which will result in running down the auxiliary batteries. \*\*\***





## PROsine™ 1000/1800 Sine Wave Inverters

xantrex™



### Provides 1000 and 1800 watts of sine wave AC power from a DC source

Offering superior quality true sine wave output, the PROsine™ 1000 and 1800 stand-alone inverters are ideally suited for electrical systems that already have a quality multistage battery charger. Designed for recreational and industrial applications, their 120-volt, 60 Hz AC power output is capable of handling both heavy duty and smaller, multiple AC loads. PROsine inverters include a backlit LCD display panel, which can be mounted remotely.

#### Product Features

- ▶ 1000 and 1800 watt inverters (1500 and 2900 watt surge capability)
- ▶ True sine wave AC output (crystal controlled)
- ▶ Removable LCD display can be mounted remotely for control and monitoring
- ▶ Unique DC terminals offer 180-degree connections for easy installation in tight places
- ▶ Powersave mode draws only 1.5 watts under no load
- ▶ Two year warranty

#### Protection Features

- ▶ Over temperature shutdown and automatic overload protection
- ▶ Over voltage and under voltage protection
- ▶ Short circuit and AC backfeed protection

#### Options

- ▶ Available in 12 and 24 volt models
- ▶ Models available with GFCI AC outlet or AC hardwire terminal strip for permanent installation into an electrical system (optional 15 A transfer switch available with hardwire option)
- ▶ Remote interface kit for remote mounting of display module

#### Ultra-clean true sine wave power

- ▶ With less than 3% total harmonic distortion, PROsine 1000 and 1800 inverters deliver true sine wave output that is identical to AC power supplied by your utility. This clean output makes PROsine inverters ideal for handling sensitive loads and improves AC equipment performance. Expect trouble-free true sine wave electricity for televisions, audio systems, variable speed tools, and more.

#### Light and compact

- ▶ PROsine inverters are lighter and more compact than other inverters with similar power ratings because they use high-frequency switching technology in the power conversion process.



CSA/NRTL certified to UL & CSA standards

#### Xantrex Technology Inc.

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8999 Nelson Way  
Burnaby, British Columbia  
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800 670 0707 Toll Free  
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541 Roske Drive, Suite A  
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USA 46516  
800 446 6180 Toll Free  
574 294 5989 Fax

[www.xantrex.com](http://www.xantrex.com)

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Printed in Canada

**PROsine 1000 Watt and 1800 Watt Sine Wave Inverters****Electrical Specifications**

Models	PROsine 1000	PROsine 1800
Output power	1000 W	1800 W
Surge rating	1500 W	2900 W
Output current (peak)	25 A	45 A
Output voltage (at no load)	120 Vac +/-3%	120 Vac +/-3%
Output voltage (over full load and battery voltage range)	120 Vac RMS -10%/+4%	120 Vac RMS -10%/+4%
Output frequency	60 +/-0.05 (crystal controlled)	60 +/-0.05 (crystal controlled)
Output waveform	True sine wave (<3% THD)	True sine wave (<3% THD)
Peak efficiency (12 V/24 V)	89% / 90%	89% / 90%
No load power draw (search mode)	<1.5 W	<1.5 W
No load power draw (idle mode)	<22 W	<22 W
Input voltage range (12 V/24 V)	10 – 16 Vdc / 20 – 32 Vdc	10 – 16 Vdc / 20 – 32 Vdc
Transfer relay rating (hardwire/transfer relay models)	15 A	15 A
Transfer time AC to inverter and inverter to AC	Max 2 cycles (typically 1 cycle) <2.5 seconds with Powersave "ON"	Max 2 cycles (typically 1 cycle) <2.5 seconds with Powersave "ON"

**General Specifications**

Operating temperature range	32°F – 140°F (0°C – 60°C)	32°F – 140°F (0°C – 60°C)
Storage temperature range	-22°F – 158°F (-30°C – 70°C)	-22°F – 158°F (-30°C – 70°C)
AC output types	Dual GFCI receptacle	Dual GFCI receptacle
	Hardwire	Hardwire
	Hardwire with transfer relay	Hardwire with transfer relay
LCD display panel	Removable; can be mounted remotely (requires remote interface kit - see part number section)	Removable; can be mounted remotely (requires remote interface kit - see part number section)
	Displays DC volts, amps and output power	Displays DC volts, amps and output power
Recommended DC fuse	12 V: 150 A or 175 A* 24 V: 70 A or 90 A* *Depending on applicable installation codes	12 V: 225 A or 300 A* 24 V: 100 A or 150 A* *Depending on applicable installation codes
Dimensions (H x W x D)	4.5 x 11.0 x 15.4" (115 x 280 x 390 mm)	4.5 x 11.0 x 15.4" (115 x 280 x 390 mm)
Weight	14.5 lb (6.5 kg)	16.5 lb (7.5 kg)
Warranty	Two year	Two year
Part Numbers		
12-volt		
GFCI outlet	806-1000	806-1800
Hardwire with transfer relay	806-1002	806-1802
24-volt		
GFCI outlet	806-1050	806-1850
Hardwire with transfer releay	806-1052	806-1852
Remote interface panel	808-1800	808-1800
Wiring cover	808-1801	808-1801

**Regulatory Approvals**

CSA/NRTL certified to CSA 107.1, UL 458 (including Marine supplement)

KKK-A-1822D: Federal specification for use on ambulances

Designed to meet ABYC E8, E9, A25 for marine applications

Note: Specifications subject to change without notice.

# Cobra 800 Watt Inverter

The Cobra CPI 880 - 800 Watt inverter is available on Coach House Platinum models.

It operates from the 12V auxiliary batteries and inverts 12V power DC to 120 AC power.

The inverter is located in the overhead cabinet above the driver's seat. The on/off switch is located on the front of the unit.

**\*\*\* The inverter shut-off is NOT automatic. The inverter may be ON which will result in running down the auxiliary batteries. \*\*\***







# Back-Up Camera / Radio



The AVH-P4400BH DVD multimedia receiver features a 7" motorized touchscreen display, built-in Bluetooth® for hands-free calling and audio streaming, and an HD Radio™ tuner. The newly updated and innovative user interface makes direct operation of the unit stress-free by eliminating complicated layered selection displays, so access to desired functions is smoother and simpler than ever. A variety of multimedia options ensures that you will be properly entertained. Customizable audio and video functions make it easy to suit your mood.





# Power Sofa/Bed

Optional Equipment. Power Sofa/Beds are made by Kustom Fit, a division of Villa Industries. The fabric used matches the driver and passenger chairs and has a durability rating to last a long life in your motorhome.

The power sofa/bed has 4 functions:

- 1) Move sofa away from outer wall.
- 2) Convert sofa to bed.
- 3) Move bed toward outside wall to adjoin stationary cushion.
- 4) Convert bed to sofa & move toward outside wall.

You may operate the power sofa/bed with slide-out room extended or with room not extended.

Do NOT Continue to hold the button down once the sofa has extended or retracted. You can cause damage to the gears with prolonged use.





# Dometic Legless Motorized Awning



Your Coach House Platinum has been equipped with the Dometic 9500 series legless motorized awning. Electrical power comes through an 800 watt power inverter which allows the unit to automatically retract using power from the “house” batteries in the event of unforeseen inclement weather.

**Make sure your Battery Cutoff Switch is in the ON position and the Inverter is turned ON any time the Electric Awning is deployed. Damage to your Awning or Motorhome may occur if power is not available in the event of inclement weather.**

There is a motion sensor attached to the lead rail of the awning which will force the awning to retract if the motion becomes violent enough to cause damage to the unit.

The main control for the awning is located just inside the main motorhome door on the “Tower of Power”.

Clean your awning with mild soap and water only.



# Insert Dometic Awning Manual Here







RECORD THIS INFORMATION FOR FUTURE  
REFERENCE:

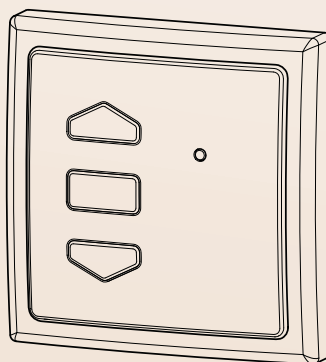
Model Number \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Date Purchased \_\_\_\_\_  
Retailer / Qualified Installer \_\_\_\_\_

**USA**  
SERVICE OFFICE  
Dometic, LLC  
2320 Industrial Parkway  
Elkhart, IN 46516  
574-294-2511

**CANADA**  
Dometic, LLC  
46 Zatonski, Unit 3  
Brantford, ON N3T 5L8  
CANADA  
519-720-9578

**For Service Center  
Assistance Call:**  
800-544-4881

**3313943.000  
REMOTE WALL  
CONTROL KIT**



**INSTALLATION & OPERATING  
INSTRUCTIONS**

**3313943.000  
REMOTE WALL  
CONTROL KIT**

**3314042.000**

Form No. 3314042.000 02/11  
(French 3314043.000)  
©2011 Dometic, LLC  
LaGrange, IN 46761

**Important: These Instructions must  
stay with unit. Owner read carefully.**

## GENERAL INSTRUCTIONS

These instructions apply to:

202(XX)(XX).000(#) 9500E Cassette Awnings  
203(XX)(XX).000(#) DA20(XX) Cassette Awnings

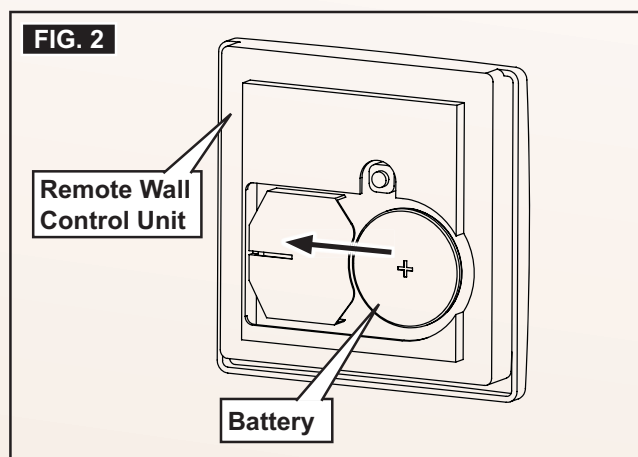
This kit consists of:

- (1) Installation & Operating Instructions
- (1) Awning Remote Wall Control Unit with Base

Dometic, LLC reserves the right to modify appearances and specifications without notice.

2. On back of remote wall control unit, place and slide battery into battery clip until fully engaged. See FIG. 2.

**Note:** Make sure battery has positive side up.



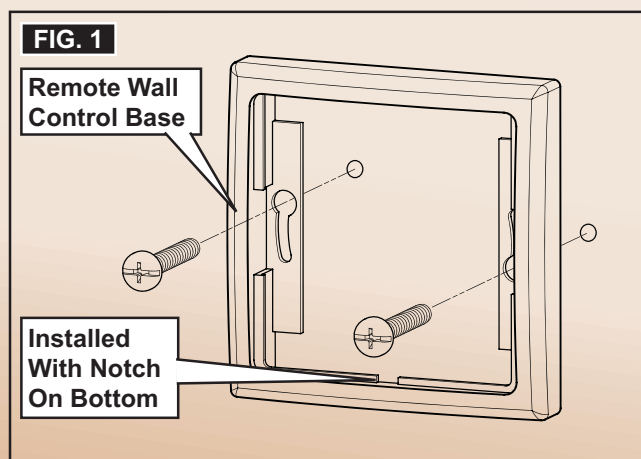
## PROCEDURE

### A. Install Remote Wall Control Unit

#### NOTICE

Do not expose remote and remote holster to weather, extreme temperatures, or long hours in direct sunlight. Failure to obey this notice could result in property damage.

1. Locate a suitable location for remote wall control base that's protected from weather and other adverse conditions, and install with two screws. See FIG. 1.



### B. Activate Remote Wall Control Unit

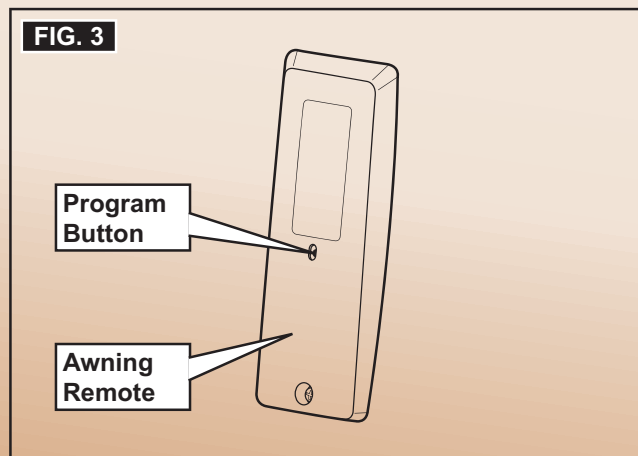
More than one remote may be added to operate the awning if desired.

**Note:** Refer to the operating instructions that came with your awning if this remote is a replacement, and no other remote is programmed to the awning.

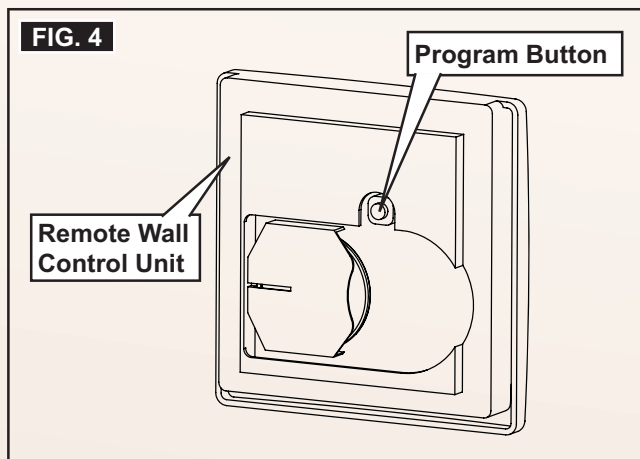
1. Make sure power is supplied to awning motor.

**Note:** There should already be at least one remote programmed to the awning motor at this stage.

2. Using a remote that already controls the awning motor, press and hold the program button on back for approximately (3) seconds. Awning motor should jog momentarily. See FIG. 3.

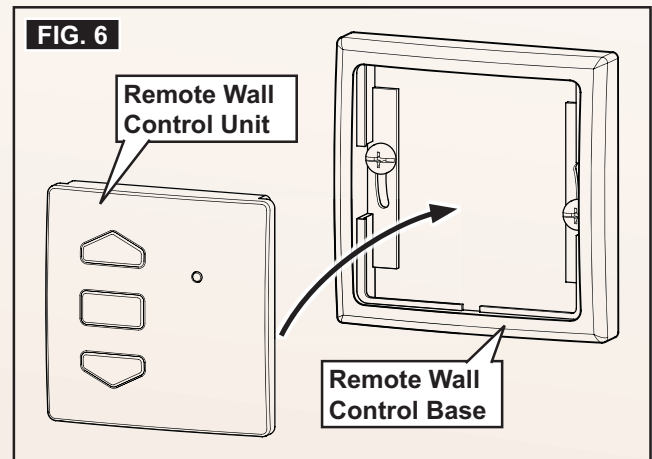


3. Press and hold the program button on back of remote wall control unit for approximately (3) seconds. Awning motor should jog momentarily. See FIG. 4.



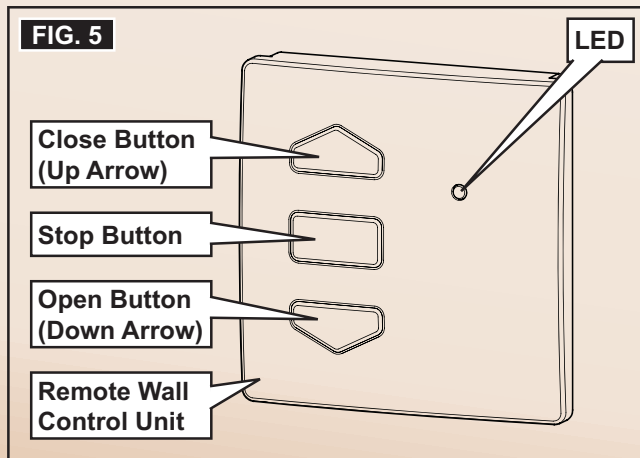
5. Install the remote wall control unit onto remote wall control base by snapping it in place. See FIG. 6.

**Note:** To remove remote wall control unit from base, use flat bladed screw driver to disengage tab at bottom notch. See FIG. 1.



4. Verify awning motor and remote functionality.
  - a. Press the open button (down arrow) briefly on awning remote wall control unit. Awning should extend to its out limit. See FIG. 5.

**Note:** If awning does not respond, verify LED lights momentarily (on remote wall control unit) when button is pressed. If LED does not light, install new batteries.



### C. Operate Remote

1. See "Procedure" under awning Operating Instructions for specific operating information.



# Bose Surround Sound System



## CineMate® Series II digital home theater speaker system

- A 2.1-channel speaker system with compact speakers and improved digital acoustic performance
- Designed to enhance the audio from your TV and existing video sources
- Available with Gemstone speakers and universal remote or Articulated Array speakers and simplified, four-button remote.
- 3D-compatible with 3D TVs, Blu-ray Disc™ players, gaming consoles and other 3D sources
- Simplified setup, with only a few connections to make

The Bose® CineMate II speaker system is the easiest way to enjoy Bose 2.1-channel home theater performance and bring out the full audio potential of your HDTV. Proprietary TrueSpace® technology enables two compact speakers and an Acoustimass® module to deliver compelling sound for movies, games, sports and more. The system easily connects directly to your TV, avoiding the need to disconnect other sources. And with no rear speakers, there's no wiring to the back of your room.





# Heated Holding Tanks

Heated Holding tanks are installed as optional equipment on your Coach House Platinum.

Manufactured by ULTRA HEAT INDUSTRIES, the tank heaters come in four sizes.

The larger tank heaters are equipped with a thermal sensor which will prevent the heaters from being activated unless the ambient air temperature is below 46 degrees Fahrenheit. This protection is to make sure your heaters do not come on inadvertently and “cook” the contents of your holding tanks.

ULTRA HEAT INDUSTRIES warrants tank heaters for a period of one year from the time of purchase and any failures should be reported directly to them at their factory.



**UHI Worldwide, Inc.**  
1314 Perkins St.  
P.O. Box 1454  
Elkhart, IN 46515-1454  
USA



## Product Insert

### ONE-YEAR LIMITED WARRANTY

All UHI stock items carry a one (1) year warranty under normal use against manufacturing defects in UHI materials and/or workmanship. The warranty coverage starts on the date of the original purchase. This Limited Warranty covers only those defects which occur or exist within the one (1) year period referenced above. Any modification of UHI products, from original design and/or intended use, or improper installation shall **VOID** all warranties.

All of UHI's obligations pursuant to this Limited Warranty are limited to replacing the product at no additional cost or issuing an account credit memo for the product's cost.

### WARRANTY EXCLUSIONS

**UHI MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, including any IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, or NONINFRINGEMENT. In no event shall UHI be liable for special, indirect, or consequential damages arising out of the limited warranty.**

To the extent that applicable state and/or federal law prohibits the exclusion of any remedy permitted under state or federal law, any such remedy, including, but not limited to, implied warranties of merchantability, fitness, use, or purpose, is limited to **one (1) year** from the date of the original purchase.

### PROPER USE OF TRADEMARKS

UHI Worldwide, Inc., Ultra Heat, Inc., UltraHeat®, and Ultra-Heat™ and all individual product trademarks, service marks, logotypes, commercial symbols, insignias, and designs pertaining thereto, as they appear in any advertising medium, are proprietary marks of UHI Worldwide, Inc., and UHI owns all right, title, and interest in and to these proprietary marks. Trademarks and trade names may not be used in connection with any product or service that is not provided by UHI, in any manner that is likely to cause confusion among customers, or in any manner that disparages or discredits UHI. Purchaser shall not remove, alter, or otherwise modify any identification marks or trademarks affixed by UHI to products.

### REPACKAGING

UHI products shall not be repackaged without the express, written approval of UHI. Under no circumstances shall UHI product labeling be removed, obstructed, or altered.

[www.uhiworldwide.com](http://www.uhiworldwide.com)

# Equalizer Systems Stabilizers



## Straighten Up With Stabi-Lite®

Equalizer Systems has introduced a new stabilizing system designed for Class C motorhomes. If you are tired of your coach leaning when the slide room is extended, or fed up with the constant swaying when you walk around in your coach, let STABI-LITE® stabilize your RV. It's an easy way to keep you walking straight.



- Eliminates coach lean when slide is extended
- Clamp style mount requires no welding or drilling to install
- Convenient, one-touch automatic operation
- Eliminates nearly all sway resulting from coach movement
- Low profile design decreases height required by traditional systems
- Complete system weight of less than 80 lbs.
- Chassis specific design reduces installation time



# Safe-T-Plus Steering Control



## STEERING CONTROL (Silver)

Safe-T-Plus high-performance steering controls are designed to reduce over-steering your vehicle making it easier to drive to your destination. Safe-T-Plus is perfect for Class C [Motorhomes](#), towing/hauling trucks, SUV's, Vans, and large passenger vehicles.

### FEATURES

- Positive Centering Capabilities
- Hydraulic Shock Absorption
- Long lasting metallic plating
- Maintenance-Free
- Simple Bolt-On [Installation](#)
- 2 Year Warranty

### BENEFITS

- Reduce Driver Fatigue from Oversteering
- Protects against front-tire blowouts
- Keeps vehicle centered against side winds, passing Semi's
- No more "white-knuckle" driving
- More relaxed driving
- Decreased wear-and-tear on front end
- Protects your family and investment

Ensuring the highest safety engineering and quality manufacturing into each unit for your safety is our first priority. We start with only the best available materials from the most trusted names in the raw materials industry. Each Safe-T-Plus steering control is cut to precision with our state-of-the art production systems.

Each unit is then measured with caliper precision readings to ensure they meet our strict tolerances.

Safe-T-Plus' heavy-duty mechanical coils are an integral part of our "positive centering-point tracking" capabilities which are set specifically for each model to accommodate virtually every chassis type on the road today. To further protect the quality performance of Safe-T-Plus, several metallic plating processes is used on the internal and external components of the unit to prevent corrosion from various harsh climate conditions.

Each Safe-T-Plus unit is equipped with specialized heavy-duty hydraulic capabilities that are designed to maintain performance standards in most extreme hot and cold temperatures. North, south, east, west, it does not matter, Safe-T-Plus can manage any of your road travels.

