




# 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>
 240 (Twin Bed)	Under the Galley
 240 (Rear Bed)	Under the Galley
 241 XL (Twin Bed)	Under the Galley
 241 XL (Rear Bed)	Under the Galley
 241 XL (Island Queen)	Under the Galley

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.



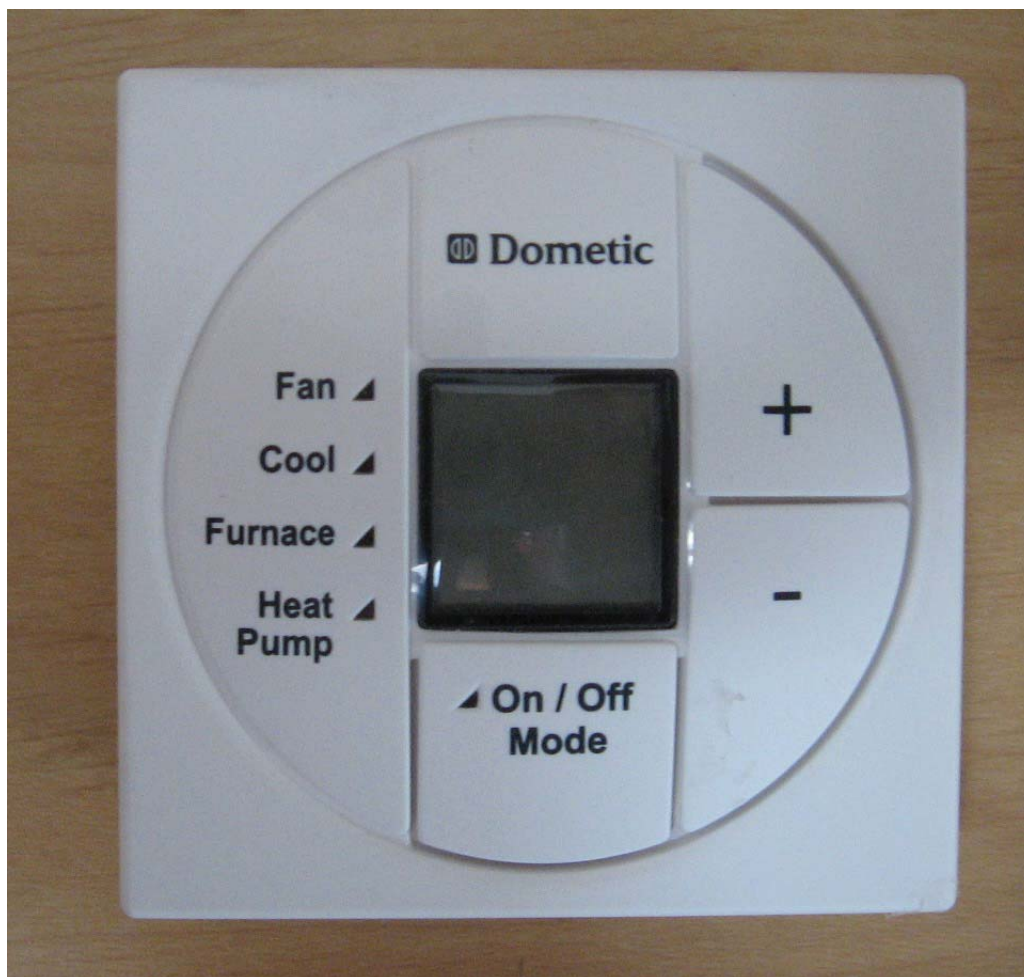
**Insert Atwood Furnace Manual Here**



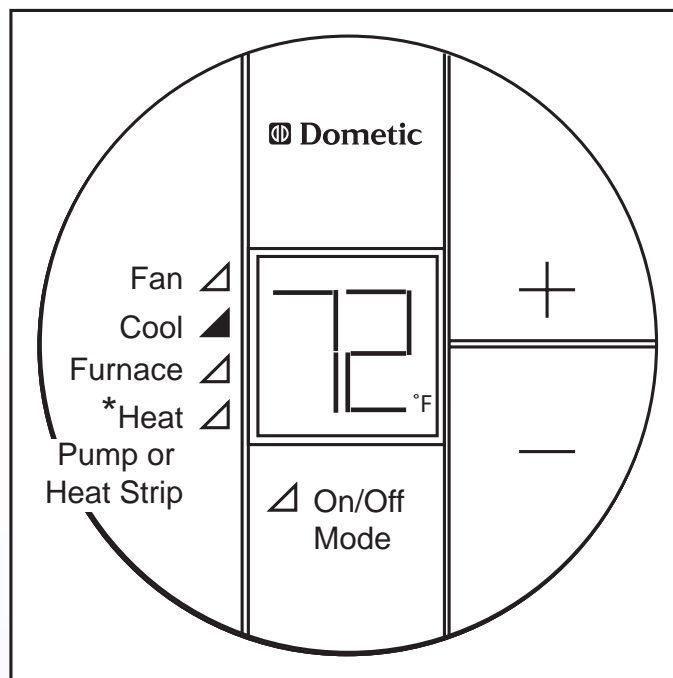


# Comfort Control System (Thermostat)

The Comfort Control System is located directly behind the driver's seat, on the panel above the slide out (or wall if no slide out is present). It will operate the Air Conditioner, Furnace, Heat Pump, Circulating Fan, and Speed. Read the operation instructions for optimum use.







# Single Zone LCD Thermostat Operating Instructions

## MODEL

**3313192.XXX Cool/Furnace**

**3313193.XXX Cool/Furnace/Heat Pump**

**3313194.XXX Cool/Furnace/Heat Strip**

3313327.045

## REVISION

Form No. 3313327.045 6/12

(Replaces 3313327.037)

(French 3313345.047)

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LaGrange, IN 46761

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## About Your New Thermostat

Congratulations! Your recreational vehicle manufacturer has equipped your RV with the most advanced RV thermostat. Your Dometic Single Zone LCD thermostat has been designed for ease of operation and for many years of reliable service.

### Features

- Liquid Crystal Display and Green LED Mode Indicators
- Auto Fan
- Indoor Temperature Display
- °F / °C Display
- Air conditioner can provide additional indoor air circulation during furnace operation.

To help familiarize yourself with the operation of the Single Zone LCD thermostat, review the following diagrams and accompanying text that explain the functional characteristics of this system.

Your Single Zone LCD thermostat is equipped with both a liquid crystal display (LCD) that identifies the temperature set-point, fan speed (Auto, Low, High), and F/C and green LEDs that indicate the mode of operation (Off, Fan, Cool, Furnace, Heat Pump or Heat Strip\*). The modes of operation available will vary depending on the system installed in your RV.

\* Select models.

### System Initialization

A system initialization will need to be performed by the installer after the system is installed.

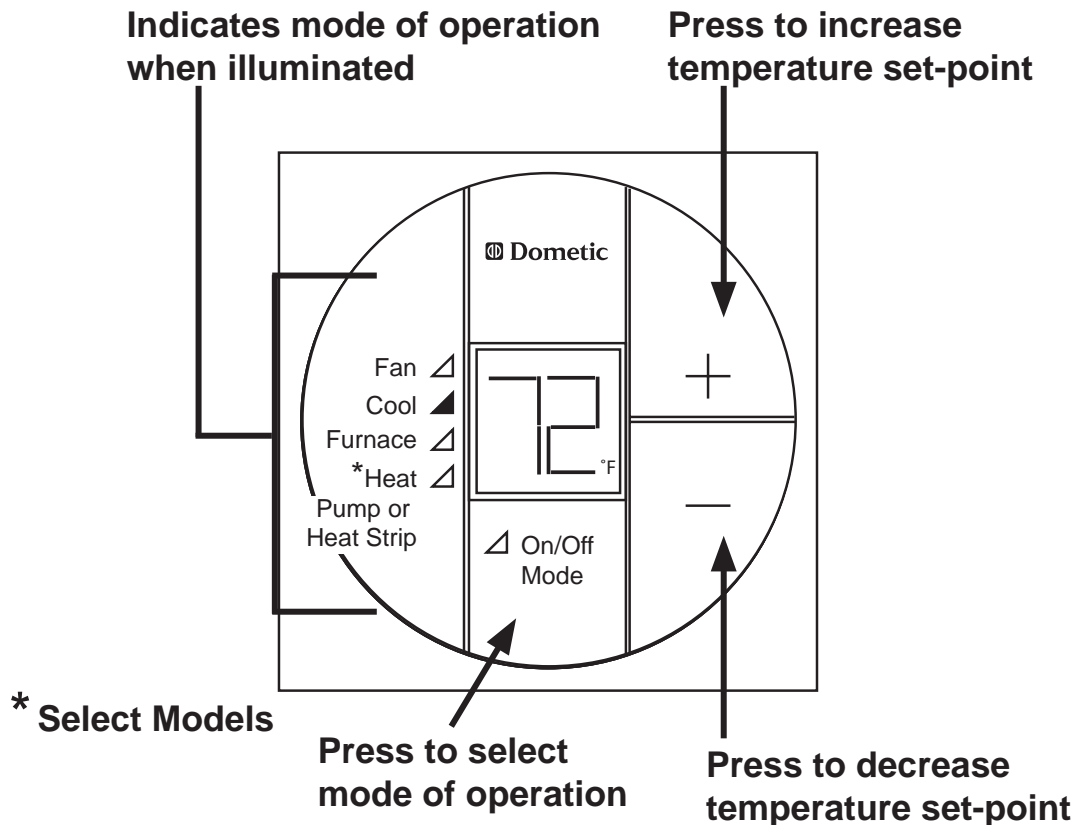
- Make sure the Single Zone LCD thermostat is in the Off condition. See page 4, “**Quick Reference To Control Buttons**”.
- Press the “+” button and, while holding it, also press and hold the **On/Off Mode** button for three seconds. LCD will show — — . Press the **On/Off Mode** button again to turn system off. This completes the initialization.

The furnace On/Off temperature differential should be set at this time. See “**Mode Description - Furnace**” on page 8 for further information on furnace mode differential setting.

Your Dometic Single Zone LCD thermostat has been pre-programmed. Review settings below and adjust the settings to your personal comfort level.

Factory Preset Settings	
Heating	68 °F / 20 °C
Cooling	72 °F / 22 °C
Fan Speed	Auto
Mode	Off
Furnace Differential	2 °F

### Quick Reference To Control Buttons



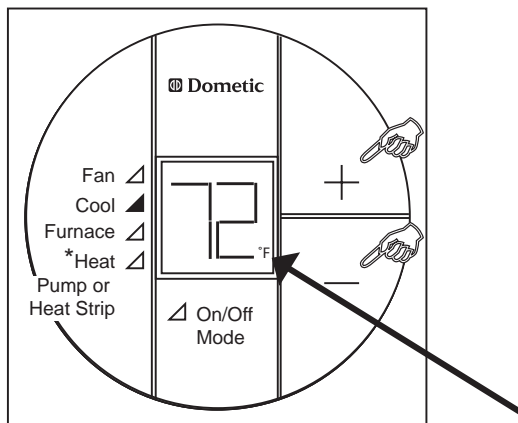
# Programming & Operations

## On/Off

To turn On the Single Zone LCD thermostat, press the **On/Off Mode** button. The LCD will be activated. To turn Off the Single Zone LCD thermostat press the **On/Off Mode** button and toggle through the modes until the On/Off green LED is on. The LCD will go out and the green LED will remain on for approximately 15 seconds, then go out.

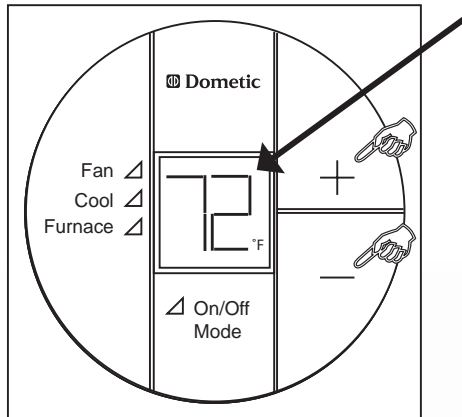
## Temperature Format °F / °C

Simultaneously press the “+” and “—” buttons to toggle between Fahrenheit and Centigrade format. °F indicates Fahrenheit and °C indicates Centigrade.



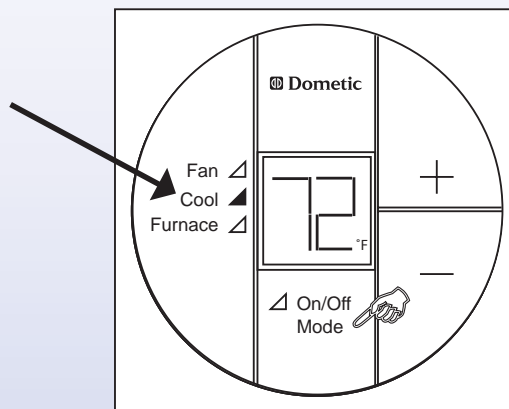
## Inside Temperature

To display the Inside Temperature, the Single Zone LCD thermostat must be in the **Off Mode**. Press either the “+” or “-” button to display the Inside Temperature.



## Mode Selection

Press the **On/Off Mode** button to advance through the available modes. Each successive press will advance to the next available mode. The green LED will indicate the mode selected. Depending on the systems installed, your choices will be Off, Fan, Cool, Furnace, Heat Pump or Heat Strip. See “**Mode Description**” on pages 8-10 for more information on modes.





## Mode Description

### “Off” - Off Mode

When selected, the LCD will be blank and the Off green LED will turn on for 15 seconds, then it will turn off.

### “Cool” - Cool Mode

In the **Cool Mode** the system will cycle the compressor On and Off based on the room air temperature and the temperature set-point on the Single Zone LCD thermostat. The fan will turn on first followed by the compressor in approximately 2 minutes. In this mode there are 3 fan speed selections:

**Lo - (LOW):** The fan operates continuously at low speed. The compressor cycles On and Off.

**Hi - (HIGH):** The fan operates continuously at high speed. The compressor cycles On and Off.

**Au - (AUTO):** When auto fan is selected the fan speed will vary depending on the difference between the temperature set-point and the room air temperature. In auto fan the compressor and the fan will cycle **On** and **Off** with the thermostat. See “**Special Features**” on page 11 for more information on auto fan.

### “Furnace” - Furnace Mode

In this mode there are 3 fan speed selections:

**Lo - (LOW):** The fan operates continuously at low speed.

**Hi - (HIGH):** The fan operates continuously at high speed.

**Au - (AUTO):** The fan will be Off.

**Note:** If additional indoor air circulation provided by the air conditioner is not desired during **Furnace Mode** of operation, select Au (AUTO) in the **Fan Mode** to shut the air conditioner fan off. If Lo (LOW) or Hi (HIGH) is selected the air conditioner fan will continue to operate on the selected speed.

In the **FURNACE Mode** the system will cycle the RV's furnace On and Off based on the room air temperature and the temperature set-point on the Single Zone LCD thermostat. The system can be configured to operate using an On/Off differential of either 1 degree F or 2 degree F. This feature is programmed during the system initialization. See "**System Initialization**" on page 3.

To set the temperature differential the system must be Off. Press the "—" button and, while holding it, also press and hold the **On/Off Mode** button for three seconds. Release the **On/Off Mode** button. Then release the "—" button. Press the "+" button to toggle between "d1" and "d2", "d1" for 1 degree F differential and "d2" for 2 degrees F differential.

### **"Heat Pump" - Heat Pump Mode (Select Models)**

**Heat Pump Operation:** This mode of operation is customer chosen and is usually selected when temperatures are below 70 °F and the customer needs warmth in the living space rather than cool down. This reverses the refrigerant flow in the air conditioner and causes the inside air to dispense warm air rather than cold and the outside air to dispense cold air rather than warm.

This mode of operation creates a dilemma where the outside coil which is now dispensing cold air can freeze up due to the cold air blowing across the coil mixed with the outside temperature. A freeze up of the system can render your heat pump inoperable. Therefore, we have a defrost feature that will prevent this from happening. See "**Special Features**", on page 11 for more information on defrost cycle.

In the **FURNACE Mode** the system will cycle the RV's furnace On and Off based on the room air temperature and the temperature set-point on the Single Zone LCD thermostat. The system can be configured to operate using an On/Off differential of either 1 degree F or 2 degree F. This feature is programmed during the system initialization. See "**System Initialization**" on page 3.

To set the temperature differential the system must be Off. Press the "—" button and, while holding it, also press and hold the **On/Off Mode** button for three seconds. Release the **On/Off Mode** button. Then release the "—" button. Press the "+" button to toggle between "d1" and "d2", "d1" for 1 degree F differential and "d2" for 2 degrees F differential.

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In the **Heat Pump Mode** the system will cycle the compressor **On** and **Off** based on the room air temperature and the temperature set-point on the Single Zone LCD thermostat. When the system calls for heating there will be a delay of approximately two minutes. In auto fan, the compressor will turn **On** first followed by the fan in approximately 15 seconds. In this mode there are 3 fan speed selections:

**Lo - (LOW):** The fan operates continuously at low speed. The compressor cycles **On** and **Off**.

**Hi - (HIGH):** The fan operates continuously at high speed. The compressor cycles **On** and **Off**.

**Au - (AUTO):** When auto fan is selected the fan speed will vary depending on the difference between the temperature set-point and the room temperature. In auto fan the compressor and fan will cycle **On** and **Off** with the thermostat. The compressor shuts off first followed by the fan in approximately 15 seconds. See “**Special Features**” on page 11 for more information on auto fan.

#### “Heat Strip” - Heat Strip Mode (Select Models)

In the **Heat Strip Mode** the system will cycle the heat strip **On** and **Off** based on the room air temperature and the temperature set-point on the Single Zone LCD thermostat. In this mode there are 3 fan speed selections:

**Lo - (LOW):** The fan operates continuously at low speed. The heat strip cycles **On** and **Off**.

**Hi - (HIGH):** The fan operates continuously at high speed. The heat strip cycles **On** and **Off**.

**Au - (AUTO):** The fan operates in low speed and will cycle **On** and **Off** with the thermostat.

#### “Fan” - Fan Mode

In **Fan Mode** there are 3 fan speed selections:

**Lo - (LOW):** The fan operates continuously at low speed.

**Hi - (HIGH):** The fan operates continuously at high speed.

**Au - (AUTO):** The fan will be **Off**.

## Special Features

### Auto Fan

When auto fan is selected the fan speed will vary depending on the difference between the temperature set-point and the room temperature. In auto fan the compressor and fan cycle **On** and **Off** with the thermostat.

When the difference is:

>5° The fan operates on HIGH

<4° The fan operates on LOW

### Compressor Time Delay

A time delay of approximately two minutes occurs any time the compressor is required to begin the cooling or heat pump cycle.

### Defrost Cycle

During heat pump operation, if the outside coil begins to freeze up, a defrost cycle is initiated that temporarily puts the heat pump back into air conditioning mode. This reverses the refrigerant flow and melts the ice forming on the outside coil. Typically this occurs when the outside temperatures are below 42 °F and repeats every 25 minutes of compressor run time as long as the outside temperature stays below 42 °F and above 30 °F. Therefore, during this period of operation you, (the user) will temporarily feel cold air inside the RV at the registers. **This is normal and is NOT an indication of malfunction.** (Note: Defrost cycling shall continue until the measured temperature of the Outdoor Sensor is ≤30 °F or ≥42 °F.)

## General Information

- A. The ability of the air conditioner to maintain the desired inside temperature depends on the heat gain of the RV. Some preventative measures taken by the occupants of the RV can reduce the heat gain and improve the performance of the air conditioner. During extremely high outdoor temperatures, the heat gain of the vehicle may be reduced by:
1. Parking the RV in a shaded area
  2. Using window shades (blinds and/or curtains)
  3. Keeping windows and doors shut or minimizing usage
  4. Avoiding the use of heat producing appliances

Operation on High Fan/Cooling mode will give optimum or maximum efficiency in high humidity or high outside temperatures.

Starting the air conditioner early in the morning and giving it a "head start" on the expected high outdoor ambient will greatly improve its ability to maintain the desired indoor temperature.

For a more permanent solution to high heat gain, accessories like Dometic outdoor patio and window awnings will reduce heat gain by removing the direct sun. They also add a nice area to enjoy company during the cool of the evening.

- B. The manufacturer of this air conditioner will not be responsible for damage caused by condensed moisture on ceilings or other surfaces. Air contains moisture and this moisture tends to condense on cold surfaces. When air enters the RV, condensed moisture may appear on the ceiling, windows, metal parts, etc. During normal operation, this unit removes moisture from the air. Keeping doors and windows closed when this air conditioner is in operation will minimize condensed moisture on cold surfaces.

## Maintenance

**Air Filter** - Periodically (a minimum of every 2 weeks of operation) remove the return air filter located behind the return air grille and wash the filter with soap and warm water, let dry, and then reinstall. **NEVER** run the air conditioner without the air filter in place. This will plug the unit evaporator coil with dirt and may substantially degrade the performance of the unit over time.

**Dometic Single Zone LCD thermostat:** Clean the Single Zone LCD thermostat with a moist soft cloth. **DO NOT** spray water directly on the Single Zone LCD thermostat. **DO NOT** use solvents for cleaning.



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## Service

In the unlikely event the unit fails to operate or operates improperly, check the following before calling your service center.

1. If your RV is connected to a motor generator, check to be sure the motor generator is running and producing power.
2. If the RV is connected to a power supply by a land line, check to be sure the line is sized properly to run air conditioner load and it is plugged into the power supply.
3. Check your 120 Vac fuse or circuit breaker to see if it is open.
4. Check your 12 Vdc fuse or circuit breaker to see if it is open.
5. After the above checks, call your local service center for further help. This unit must be serviced by qualified service personnel only.

When calling for service, always give the following:

1. Air conditioner/heat pump Model Number and Serial Number found on Identification Label located on the Base Pan of the unit. It is necessary to remove the return air cover to expose the rating plate.
2. Electronic Control Kit Part Number and Serial Number found on Identification Label located on the side of the Kit. This kit is mounted in the return air cavity and can be exposed by removing the return air cover.

**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



# 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.

Coach House does not use Fan-Tastic Vents with the 'Reverse' feature. For your safety, this eliminates the unlikely event that noxious fumes could permeate your motorhome while unattended, or while you are sleeping. Please disregard any reference to the 'Reverse' feature in literature from Fan-Tanstic Vents.



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 II** 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>
240 Rear Bath	Gravity Flush
241 XL Rear Bath	Gravity Flush
241 XL Side Bath	Gravity Flush
241 XL Queen Bed	Tecma Macerator
241 XL Rear Twin Beds	Tecma Macerator



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.



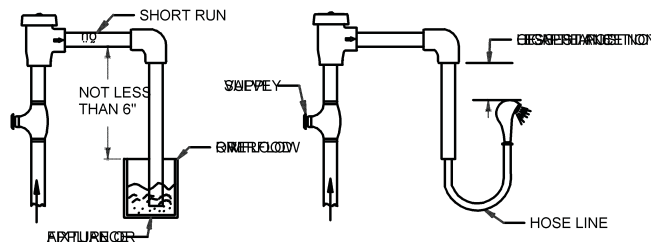
**CONBRACO**  
INDUSTRIES INC.

## 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

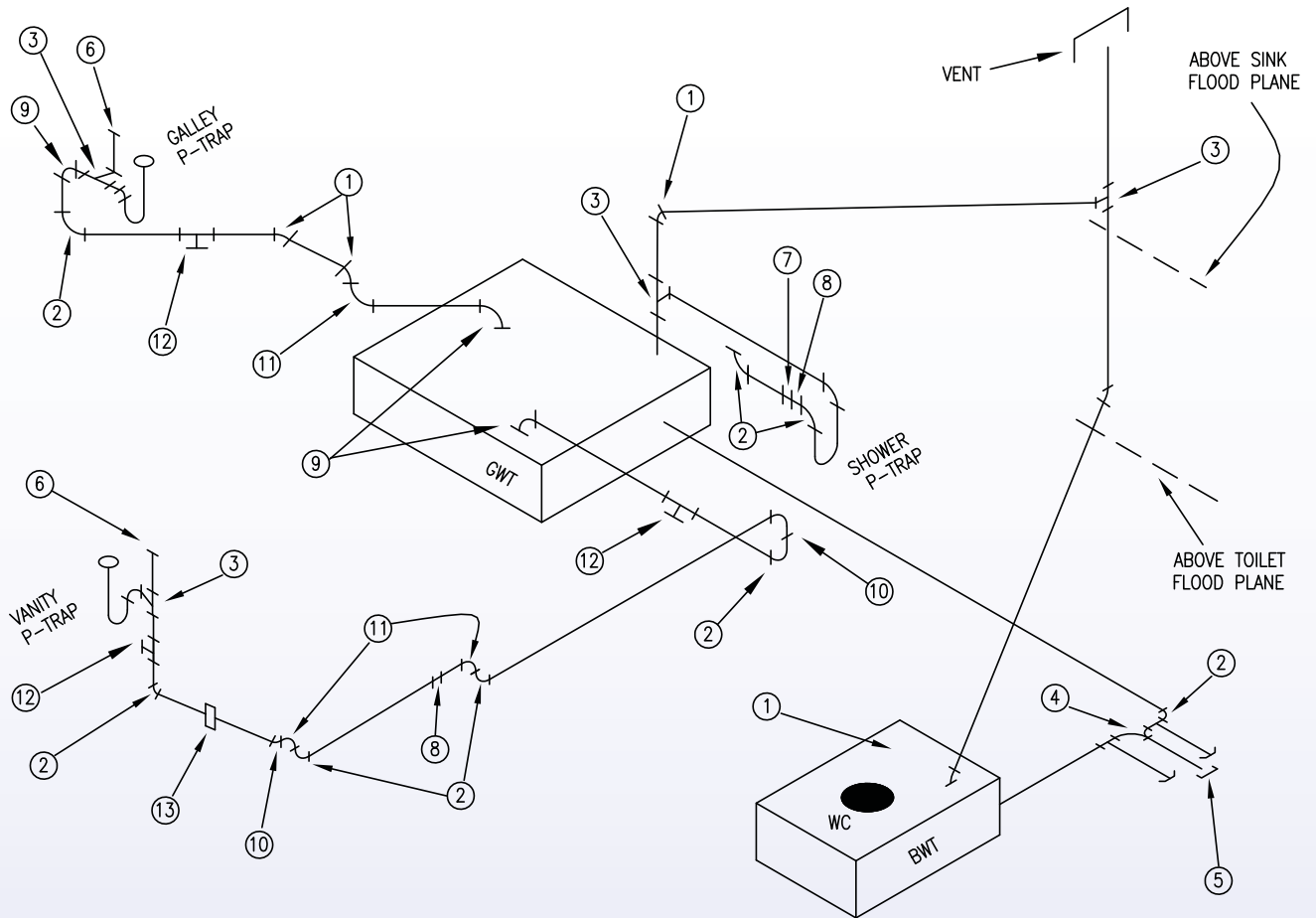



# Tank Diagrams



ALL DIMENSIONS ARE IN INCHES

- ① 1 1/2" MS 45° EL
- ② 1 1/2" LS 90° EL
- ③ 1 1/2" MS SAN TEE
- ④ 1 1/2" & 3" COMBO VALVE
- ⑤ 3" CAP
- ⑥ ANTI-SIPHON VALVE
- ⑦ FEM ADAPTER WITH NUT
- ⑧ THREADED FEM ADAPTER
- ⑨ 1 1/2" MS 90° EL
- ⑩ 1 1/2" MS STR 45° EL
- ⑪ 1 1/2" LS STR 90° EL
- ⑫ 1 1/2" CLEANOUT
- ⑬ 1 1/2" UNION



1205	2	6-30-08	ADD 2ND CLEANOUT TO VANITY DRAIN.
1167	1	4-3-08	UPDATE.
	0	2-29-08	
ECR	REV	DATE	DESCRIPTION
M241XL & M240 PLATINUM II PLUMBING & TANK ISO			 <b>Coach House</b> Van Motor Homes
			No. PB117