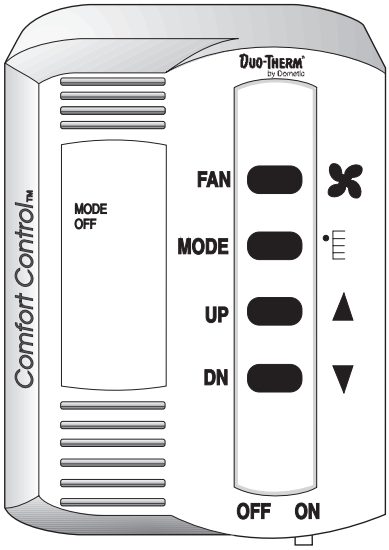
DUO-THERM®
by Dometic

COMFORT CONTROL CENTER™
Part No. 3106463.007



® CERTIFIED
LR76086
NRTL

This Comfort Control Center will provide your cooling and heating requirements regardless of your vehicle size.

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OPERATING INSTRUCTIONS

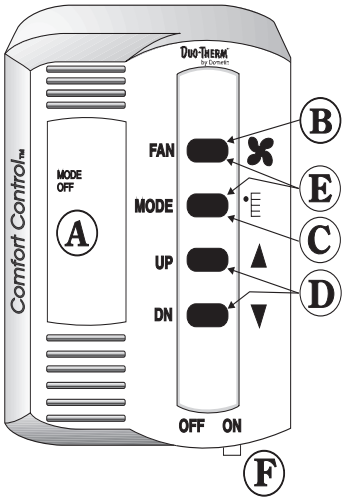
Comfort Control Center™
Part No. 3106463.007

REVISION
Form No. 3106705.019 3/98
(Replaces 3106705.001)

(French 3108249.016)

Your recreational vehicle manufacturer has equipped your vehicle with Duo-Therm's Comfort Control Center™. The Comfort Control Center has been designed for you to easily operate all the air conditioning and gas heating appliances found in your vehicle from one location.

In order to familiarize yourself with the operation of the Comfort Control Center, the following diagram along with the accompanying text will explain all the functional characteristics of the system.



A. Liquid Crystal Display
B. Fan Speed Selector Button
C. Mode Selector Button
D. Temperature Selector Buttons
E. Zone and Stage Selector
F. On/Off Switch

A. **LIQUID CRYSTAL DISPLAY** – Your Comfort Control Center is equipped with a liquid crystal display (LCD) that identifies the mode of operation, the temperature set-point, the zone identification and the fan speed. The Comfort Control Center is designed to accept and control many varied air conditioning and gas heating appliances. When you begin to first operate your Comfort Control Center, you will see that the LCD read-out will only show the options available based on the appliances installed on your vehicle. An incandescent light will illuminate the LCD area when a selector button is pushed for easy reading at all times.

B. **FAN SPEEDS** – Possible available fan speeds are: **LOW, MEDIUM, HIGH** and **AUTO**. To select the desired fan speed, momentarily depress the **FAN** push button. You will need to continue to depress and release the **FAN** button until the desired fan speed is shown in the LCD read-out area of the Comfort Control Center.

C. **MODE SELECTOR BUTTON** – Modes of operation available are: **OFF, FAN ONLY, COOL, HEAT PUMP**, **FURNACE** and **HEAT STRIP**. Remember, your LCD read-out will only show the options available based on the appliances installed on your vehicle. To select the mode of operation, momentarily depress the **MODE** push-button. You will need to continue to depress and release the button until the desired mode is shown in the LCD read-out area on the Comfort Control Center.

To determine the Comfort Control Center options available to you, depress and release the **MODE** push-button until it goes through all selections.

D. **TEMPERATURE SELECTOR BUTTONS** – The temperature Set-point range is from 40° to 99° Fahrenheit or 4° to 37° Celsius. Determination of Fahrenheit or Celsius standard is done at the time of your manufacturer's installation of the Climate Control Center. To set the temperature at your comfort level, simply depress and release the **UP** or **DN** push-button until the desired temperature is shown in the LCD read-out area of the Comfort Control Center.

E. **ZONE AND STAGE SELECTOR BUTTONS** – A **ZONE** is also established at the time of installation of your Comfort Control Center. If you have one air conditioner, you will have one **ZONE**. If your vehicle has more than one cooling system, depending on the manufacturing installation, you may have 2, 3 or 4 **ZONES**. Zones are defined and preset by your manufacturer. A zone is an area of cooling/heating which is controlled independently within that area, and regulated at the Comfort Control Center. A typical example of a two zone application would be a vehicle with two air conditioning systems, one in the front area (living room, kitchen) and one in the back section (bedroom and bath). The front area could be established as **ZONE 1** and the back section **ZONE 2**. You can select the desired temperature and fan speeds for each zone independently, thereby keeping your bedroom cooler than the front portion of the vehicle. To determine the number of established zones in your vehicle, simultaneously depress the **FAN** and **MODE** push-buttons. Zone 1 will be the first Zone to appear in the LCD read-out. Continue to depress and release these buttons until you see Zone 1 reappear.

If your vehicle has a dual basement air conditioner or dual heat pump system, the word **STAGE** will be illuminated. Both of these units operate in two different stages, and the word **STAGE** will show when the second stage operation has been selected. To select the second stage, simultaneously depress the **FAN** and **MODE** push-buttons.

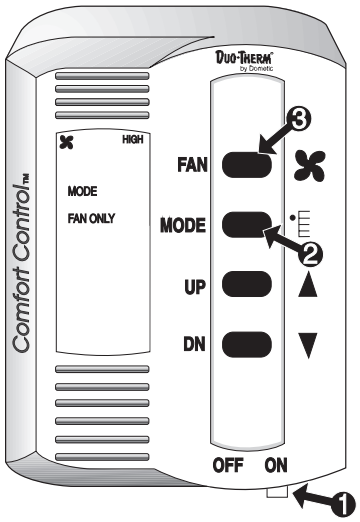
F. **ON/OFF SWITCH –** The ON/OFF switch is located on the lower right hand edge of the Comfort Control Center. Move the lever from side to side to change status.

OPERATING YOUR DUO-THERM COMFORT CONTROL CENTER

The Comfort Control Center allows you the freedom of controlling your vehicle's temperature to provide you with a comfortable environment to enjoy your life-style. With just a few simple steps, you can control which mode of operation you will use, the vehicle temperature and the fan speeds.

A. FAN ONLY MODE OF OPERATION

1. Begin by placing the power switch on the lower right hand edge of the Control Center on the **ON** position. To do this, simply move the lever to the right.
2. Momentarily depress and release the **MODE** push-button until the **FAN ONLY** indicator on the Liquid Crystal Display (LCD) is illuminated.
3. Momentarily depress and release the **FAN** push-button until the desired fan speed indicator (**LOW, MED, HIGH, AUTO**) is illuminated. If your vehicle is equipped with a heat pump or a dual basement air conditioning system, your selection choice will be **LOW**, **HIGH** or **AUTO**.
4. After approximately 5 seconds, the selected fan speed will come on. The **MODE** and **FAN** speed you have selected will remain shown in the LCD area of the Control Center until you change your selection.
5. If your vehicle contains more than one **ZONE**, depress the **FAN** and **MODE** push-buttons simultaneously to select **ZONE 2**, and repeat procedures from step two above. Repeat entire procedure for each additional zone.



B. COOLING MODE OPERATION

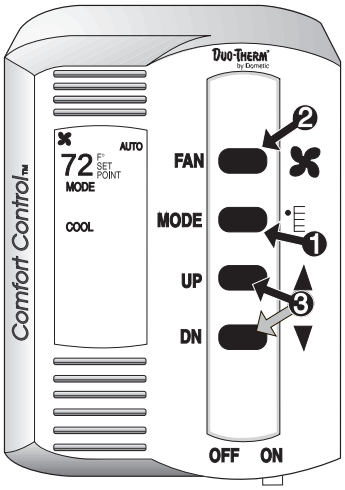
(To set cooling temperatures and fan speeds on Duo-Therm Air Conditioners & the cooling mode of Duo-Therm Heat Pumps)

1. Momentarily depress and release the **MODE** push-button until the **COOL** indicator on the LCD is illuminated.
2. Depress and release the **FAN** push-button to select your desired fan speed.
3. Depress and release the **UP** push-button to increase the temperature or the **DN** push-button to decrease the desired temperature. The final selected **SET-POINT** will be displayed in the LCD area of the Comfort Control Center.
4. After a delay of approximately 2 minutes the air conditioner's compressor will come on and the cooling process will begin. Once the room temperature reaches the selected **SET-POINT**, the compressor will cycle off. Once the Comfort Control Center senses the need for cooling, the compressor will restart in approximately two minutes. At this point, the fan will either:

a. continue to operate in the single selected fan speed or,

b. cycle **OFF** and **ON** with the compressor if the **AUTO** fan speed has been selected.

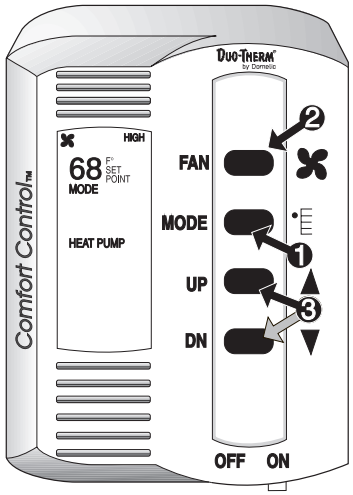
5. If your vehicle contains more than one **ZONE**, depress the **FAN** and **MODE** push-buttons simultaneously to select **ZONE 2**, and repeat procedures from Step 1. Repeat entire procedure for each additional zone.



C. HEAT PUMP OPERATION

(To set heating temperatures for vehicles equipped with a Duo-Therm rooftop or basement heat pump. To operate cooling mode with a heat pump, see "B. Cooling Mode Operation", Page 3.)

1. Momentarily depress and release the **MODE** push-button until the **HEAT PUMP** indicator on the LCD is illuminated.
2. If you have not previously set your fan speed, you may do so by depressing and releasing the **FAN** push-button to select.
3. Depress and release the **UP** push-button to increase the temperature or the **DN** push-button to decrease the desired temperature. The final selected **SET-POINT** will be displayed in the LCD area of the Comfort Control Center.
4. After a delay of approximately 2 minutes the heat pump's compressor will come on and the heating process will begin. Once the room temperature reaches the selected **SET-POINT**, the compressor will cycle off. Once the Comfort Control Center senses the need for heating, the compressor will restart in approximately two minutes. At this point, the fan will either:
   a. continue to operate in the single selected fan speed or,
   b. cycle **OFF** and **ON** with the compressor if the **AUTO** fan speed has been selected.
5. If your vehicle contains more than one **ZONE**, depress the **FAN** and **MODE** push-buttons simultaneously to select **ZONE 2**, and repeat procedures from Step 1 above. Repeat entire procedure for each additional zone.

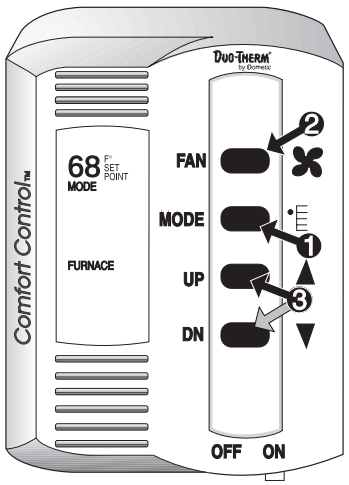


NOTE:
See Page 7, Items F & G for additional Special Heat Pump Features.

D. FURNACE MODE OPERATION

(If your vehicle is equipped with a gas furnace connected to the Comfort Control Center)

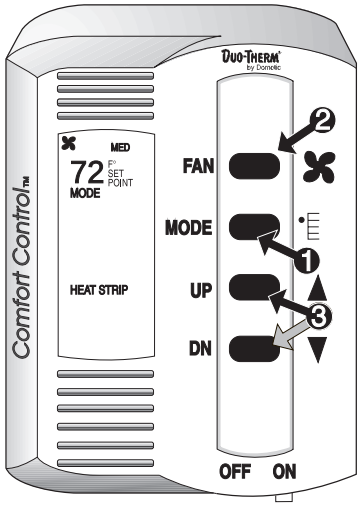
1. Momentarily depress and release the **MODE** push-button until the **FURNACE** indicator on the LCD is illuminated.
2. The A/C fan does not operate in the **FURNACE** mode.
3. Depress and release the **UP** push-button to increase the temperature or the **DN** push-button to decrease the desired temperature. The final selected **SET-POINT** will be displayed in the LCD area of the Comfort Control Center.
4. Your Duo-Therm air conditioning system will not operate when the Comfort Control System is in the **FURNACE** mode. For cooling, change the **MODE** to **COOL**.
5. If your vehicle contains more than one **ZONE**, depress the **FAN** and **MODE** push-buttons simultaneously to select **ZONE 2**, and repeat procedures from Step 1 above. Repeat entire procedure for each additional zone.



E. HEAT STRIP MODE OPERATION

(For Duo-Therm air conditioners with an electric heat strip)

1. Momentarily depress and release the MODE push-button until the **HEAT STRIP** indicator on the LCD is illuminated.
2. The fan will operate in **LOW, MED** or **AUTO**. You will not be able to select HIGH speed when in the **HEAT STRIP** mode. Depress and release the **FAN** push-button to select desired speed.
3. Depress and release the **UP** push-button to increase the temperature or the **DN** push-button to decrease the temperature. The final selected **SET-POINT** will be displayed in the LCD area of the Comfort Control Center.
4. The electric heat strip will cycle **ON** and **OFF** per the temperature **SET-POINT** displayed. The fan will either:
   a. continue to operate in the selected fan speed or,
   b. cycle **OFF** and **ON** with the heat strip if the **AUTO** fan speed has been selected.
5. If your vehicle contains more than one ZONE, depress the **FAN** and **MODE** push-buttons simultaneously to select **ZONE 2**, and repeat procedures from Step 1 above. Repeat entire procedure for each additional zone.



COMFORT CONTROL CENTER SPECIAL CONTROL FEATURES

A. AUTO FAN

When **AUTO FAN** is selected, the fan speed will be determined by the mode you are in.

1. **COOL MODE** – In the **COOL** mode, which is the air conditioning mode, the fan will automatically select the speed depending upon the difference between the temperature **SET-POINT** and the room temperature.

   When that difference is:

8° or more	The fan will operate on **HIGH**
4° to 8°	The fan will operate on **MED**
4° or below	The fan will operate on **LOW**

2. **COOL MODE (Heat Pump and Basement units)** – If your vehicle is equipped with a Duo-Therm Heat Pump or Basement unit, the fan will automatically select the fan speed depending upon the difference between the temperature **SET-POINT** and the room temperature.

   When the difference is:

   Greater than 4° – The fan operates on **HIGH**

   4° or less – The fan operates on **LOW**

3. **HEAT PUMP MODE –** When **HEAT PUMP** mode is selected, the fan will automatically run in the **LOW** speed.
4. **HEAT STRIP MODE** – When **HEAT STRIP** mode is selected, the fan will automatically run in the **LOW** speed.
5. **FAN ONLY MODE** – In the **FAN ONLY** mode, the fan automatically runs in the **LOW** speed.

B. REFRIGERANT 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.

C. POWER INTERRUPTION

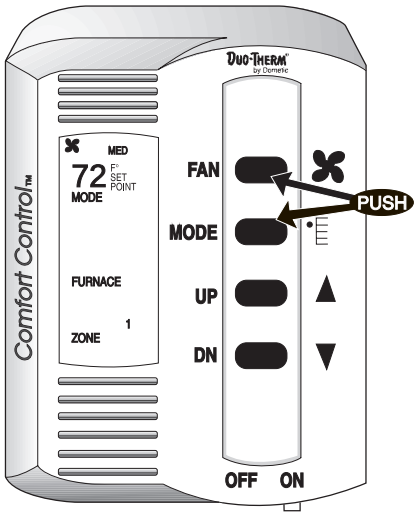
In the event that power to the air conditioner or control is interrupted, the system will restart with the same settings you have previously set.

D. ZONE CONTROL

Your Duo-Therm Control Center will operate cooling

(*D. Zone Control continued*)

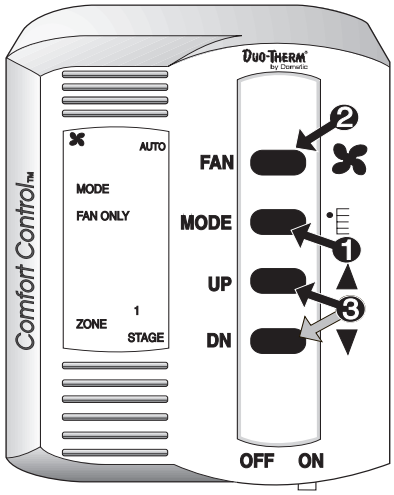
and heating appliances which your vehicle manufacturer has designed to heat or cool different areas (ZONES) of your RV. The Comfort Control Center will advise you if your vehicle has multiple **ZONES**, by showing **ZONE 1, 2 3** or **4** illuminated in the LCD read-out. In the event your vehicle has multiple zones designed, you have the freedom of selecting the **MODE** of operation for each zone independently. To change from one zone to another, simultaneously depress the **FAN** and **MODE** push-buttons. Each time you depress and release these push-buttons, the indicator will change the zone data displayed. To program each zone, simply repeat the programming steps shown in the operation section of this manual. Please note: The Comfort Control Center will prevent operating **FURNACE** and **COOL** or **FURNACE** and **HEAT PUMP** at the same time.



E. STAGE CONTROL OPERATION

If your vehicle is equipped with a Duo-Therm Dual Basement Air Conditioner or a Dual Basement Heat Pump, you have an air conditioning system that is designed to optimize comfort and running efficiencies. (Two units wired in series within one compartment). This is accomplished as long as the required electrical power is available, by providing an on-demand secondary stage of operation. (NOTE: The primary stage will continue to operate even if there isn't enough electrical power available to run the second stage.) The Comfort Control Center simplifies this operation by allowing you to set the primary temperature set-point and the differential temperature set-point which activates the secondary stage. After turning on your Comfort Control Center, perform the following steps to set and activate the stage control operation.

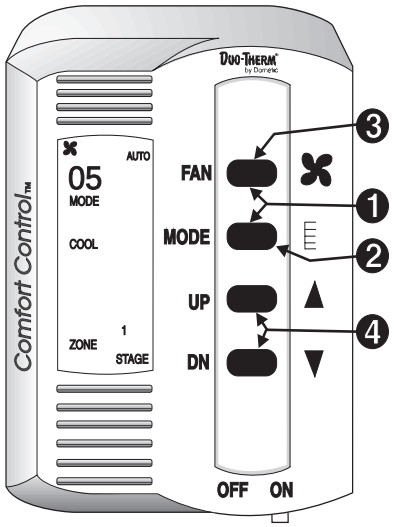
1) Momentarily depress the **MODE** push-button until the desired mode of operation is selected. (**FAN ONLY, COOL, HEAT PUMP**)
2) Momentarily depress the **FAN** or **FURNACE** push-button until the desired fan speed indicator is illuminated (**LOW, HIGH, AUTO**)
3) Momentarily depress the **UP** and **DN** push-button until the desired room temperature set-point is displayed.



This completes the set-up for the primary stage of your Dual Basement Air Conditioner or Dual Basement Heat Pump. Next, you will set-up the secondary stage (Page 7).

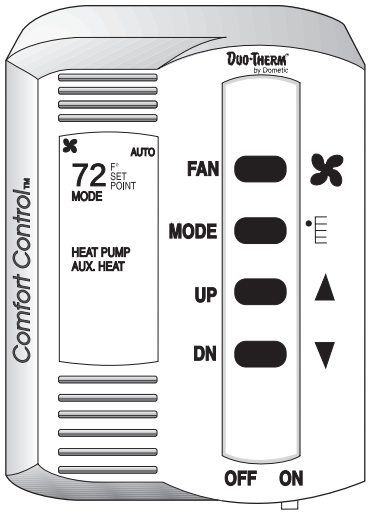
TO SET UP THE SECONDARY STAGE:

1) Simultaneously depress and release the **FAN** and **MODE** push-buttons until the STAGE indicator on the LCD is illuminated.
2) Momentarily depress the **MODE** push-button until the desired mode of operation for the second stage is selected. (**FAN ONLY, COOL, HEAT PUMP**). Normally, the mode of operation is the same as the primary stage.
3) Momentarily depress the **FAN** push-button until the desired fan speed indicator is illuminated. (**LOW, HIGH, AUTO**)
4) Momentarily depress the **UP** or **DN** push-button to set the desired differential temperature set-point (0°F to 10°F). The secondary stage will run once the actual room temperature reaches the differential temperature set-point. **Example**: Desired room temperature set-point for the primary stage in the **COOL MODE** is set at 72°F; differential temperature set-point is set at 5°F. The secondary stage will activate when the actual room temperature reaches 77°F (72°F + 5°F), and will continue to operate until the room once again becomes 72°F.



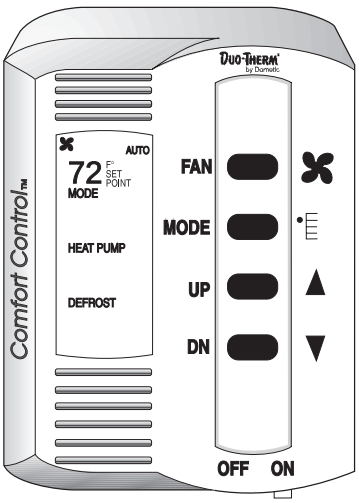
F. AUX. HEAT

When in the **HEAT PUMP** mode, if the outside ambient temperature is measured to be below 24°F, the control will automatically select the **FURNACE** operation. When this happens, the **AUX. HEAT** and the **HEAT PUMP** indicators on the LCD will illuminate. Once the outside ambient temperature is measured above 34°F, the control will return to the **HEAT PUMP** operation. If your vehicle does not contain a furnace, and you have a Duo-Therm Heat Pump, once the outside ambient temperature goes below 24°F, the system will shut down until the outside temperature reaches 34°F, at which time the Heat Pump will resume operation.



G. DEFROST CYCLE

This cycle is active during **HEAT PUMP** operation and allows the heat pump to operate down to 24°F. When the outside ambient temperature is less than 42°F and greater than 24°F, a defrost timing cycle will begin. The defrost timing cycle will allow operation of the heat pump for 40 minutes. The fan will then be shut off, the refrigerant flow reversed and run for 4-1/2 minutes, this is the **DEFROST** cycle. The refrigerant flow will then be returned to normal and, after a 30 second delay will continue until the temperature is greater than 42°F or until the temperature becomes less than 24°F, at which time the furnace will activate. (See **AUX. HEAT**). During the defrost cycle, the **DEFROST** indicator on the LCD shall be illuminated.



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.

   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.

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. The air conditioner removes this moisture from the air during normal operation. Keeping doors and windows closed when this air conditioner is in operation will minimize condensed moisture on cold surfaces.

C. This equipment must be serviced by qualified personnel and some states require these people to be licensed.

MAINTENANCE

AIR FILTER: Periodically remove the return air filter. Wash the filter with soap and warm water; let dry and then reinstall or replace as required.

NOTE: Never run the air conditioner without the return air filter in place. This may plug the unit evaporator coil with dirt and may substantially affect the performance of the unit.
Comfort Control Center™: Clean the Comfort Control Center™ with a moist, soft cloth. **DO NOT** use solvents for cleaning.

SERVICE

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

A. If your RV is connected to a motor generator, check to be sure the motor generator is running and producing power.
B. 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.
C. Check your 115VAC fuse or circuit breaker to see if it is open.
D. Check your 12VDC fuse or circuit breaker to see if it is open.
E. 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:

A. Air Conditioner Model Number and Serial Number found on Rating Plate located on the Base Pan of the air conditioner.
B. Electronic Control Kit Part Number and Serial Number found on Rating Plate located on the side of the Kit.

RETURN AIR GRILLE MUST BE REMOVED FROM THE RETURN AIR COVER TO VIEW THESE RATING PLATES.

This manual has been provided courtesy of My RV Works, Inc.

www.myrvworks.com

You can find more RV service manuals here:

www.myrvworks.com/manuals

Over the years of running a mobile RV repair service, having a dedicated place to access service manuals for all the different appliances and components found on RVs was something that I always had a desire to create.

I hope this resource makes your RV repairs easier, as it has mine, but please be careful and follow proper safety practices when attempting to repair your own RV.

If in doubt, please consult with a professional RV technician!

DARREN KOEPP - OWNER, MY RV WORKS, INC.

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