



USA
SERVICE OFFICE
Dometic Corporation
1120 North Main Street
Elkhart, IN 46514

CANADA
Dometic Corporation
46 Zatonski, Unit 3
Brantford, ON N3T 5L8
CANADA

**SERVICE CENTER &
DEALER LOCATIONS**
Please Visit:
www.eDometic.com

3313107.107
POWER MODULE BOARD CONVERSION KIT

**TO CONVERT
DUCTED HEAT PUMPS
FOR USE WITH**

3109228.001 & 3109228.019
**5 BUTTON COMFORT CONTROL CENTER (CCC)
THERMOSTATS**

SERVICE INSTRUCTIONS

**3313107.107
CONVERSION KIT**

REVISION A
Form No. 3314520.010 01/17
(French 3314521.018_A)
©2016 Dometic Corporation
LaGrange, IN 46761



**Read these instructions carefully. These
instructions MUST stay with this product.**

INTRODUCTION

This kit is designed to convert (Dometic) ducted heat pumps (hereinafter referred to as “unit” or “product”) so it can be used with a 3109229.009 Power Module Board and a 3109228.0XX Comfort Control Center 5 button thermostat. It is not intended for and should not be used on any other models.


Conversion of the unit and the control assembly is to be made prior to installing the system.

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

TABLE OF CONTENTS

INTRODUCTION.....	2
DOCUMENT SYMBOLS	2
IMPORTANT SAFETY INSTRUCTIONS.....	3
A. Recognize Safety Information	3
B. Understand Signal Words.....	3
C. Supplemental Directives.....	3
D. General Safety Messages	3
GENERAL INFORMATION.....	3
A. Scope Of Delivery.....	3
B. Required Tools.....	3
C. Required Components.....	3
PROCEDURE.....	4
A. Remove OLD Power Module Board (With OLD Ambient Sensor).....	4
B. Prepare Unit For NEW Power Module Board	6
C. Install NEW Power Module Board (With NEW Ambient Sensor).....	6
D. Rewire Reversing Valve And Perform Connections	9
E. Complete Installation	10
F. System Reset And Checkout.....	10

DOCUMENT SYMBOLS

 Indicates additional information that is **NOT** related to physical injury.

 Indicates step-by-step instructions.

IMPORTANT SAFETY INSTRUCTIONS

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

A. Recognize Safety Information



This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

B. Understand Signal Words

A signal word will identify safety messages and property damage messages, and will indicate the degree or level of hazard seriousness.

WARNING indicates a hazardous situation that, if **NOT** avoided, could result in death or serious injury.

CAUTION indicates a hazardous situation that, if **NOT** avoided, could result in minor or moderate injury.

NOTICE is used to address practices **NOT** related to physical injury.

C. Supplemental Directives



Read and follow all safety information and instructions to avoid possible injury or death.

Read and understand these instructions before [installing / using / servicing / performing maintenance on] this product.

Incorrect [installation / operation / servicing / maintaining] of this product can lead to serious injury. Follow all instructions.



The installation **MUST** comply with all applicable local or national codes, including the latest edition of the following standards:

U.S.A.

- ANSI/NFPA70, National Electrical Code (NEC)
- ANSI/NFPA 1192, Recreational Vehicles Code

CANADA

- CSA C22.1, Parts I & II, Canadian Electrical Code
- CSA Z240 RV Series, Recreational Vehicles

D. General Safety Messages

WARNING Failure to obey the following warnings could result in death or serious injury:

- This product **MUST** be [installed / serviced] by a qualified service technician.
- Do **NOT** modify this product beyond the scope of these service instructions. Modification (beyond these service instructions) can be extremely hazardous.
- Do **NOT** add any devices or accessories to this product except those specifically authorized in writing by Dometic Corporation.

CAUTION CUT HAZARD. Wear protective gloves while handling or working near sheet metal components. Sheet metal parts could have sharp edges. Failure to obey this caution could result in injury.

GENERAL INFORMATION

A. Scope Of Delivery

- (1) Service Instructions
- (4) 3101624.017 PC Board Standoff
- (1) 3106483.005 Ambient Sensor
- (1) 3109229.009 Power Module Board



The power module board is shipped with all dip switches in the **OFF** position. Do **NOT** turn switches **ON** unless instructed.

B. Required Tools

- Volt-Ohm Meter
- Capacitor Discharge Tool

- Electric Drill (optional)
- #2 Square Screwdriver / Bit
- 5/16" Hex Nut Driver / Bit
- Flat-Bladed Screwdriver (Long)
- Needle Nose Pliers
- Scissors
- Wire Cutter
- Crimping Tool (appropriate for Butt Splice used)

C. Required Components

- (2) Butt Splice Connectors (UL certified, closed end, single opening)

PROCEDURE

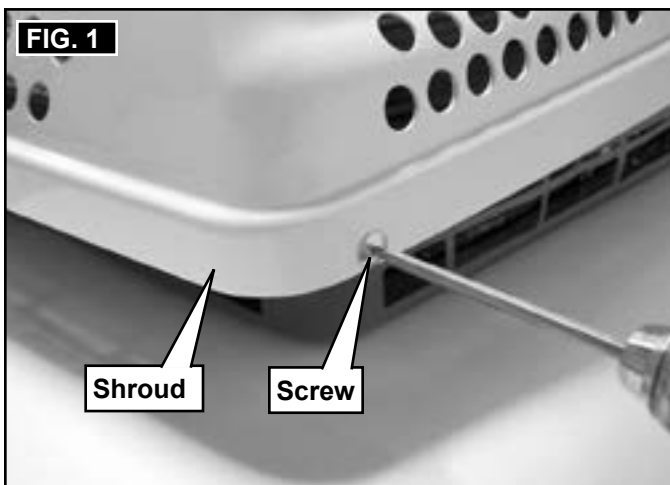
A. Remove OLD Power Module Board (With OLD Ambient Sensor)

1. **⚠ WARNING** ELECTRICAL SHOCK HAZARD. Disconnect 120 Vac power from RV. Failure to obey this warning could result in death or serious injury.

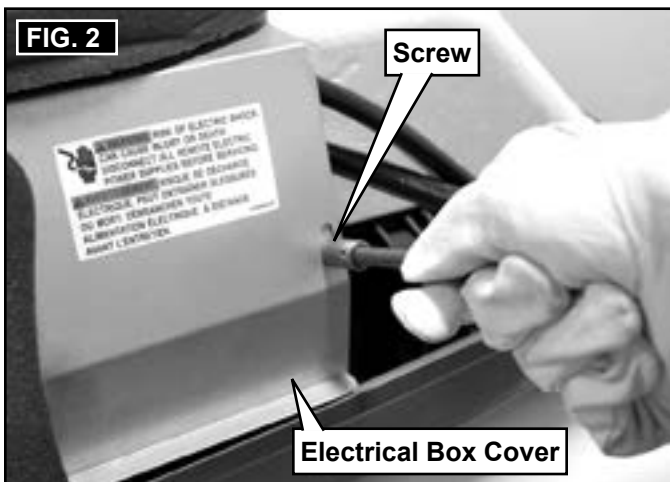
NOTICE Disconnect the positive (+) 12 Vdc terminal from supply battery. Otherwise, damage to unit could occur.

i If unit is **NOT** installed on RV and is disconnected from power, skip to step (2).

2. Remove shroud (with screws) from unit. Save for reinstallation later. See (FIG. 1).



3. Remove electrical box cover (with screws). Save for reinstallation later. See (FIG. 2).



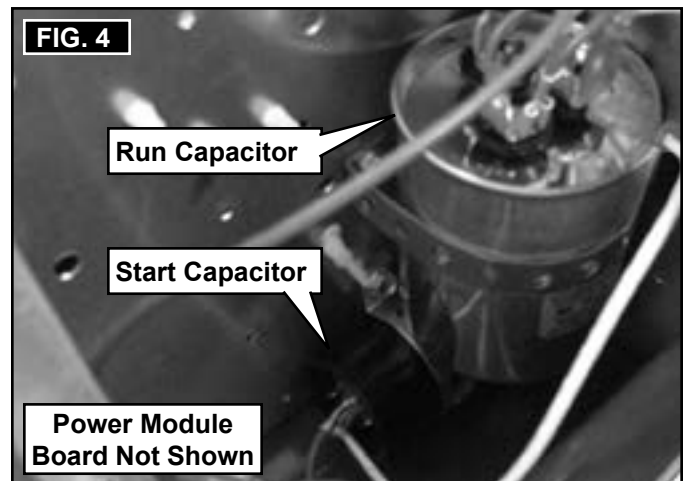
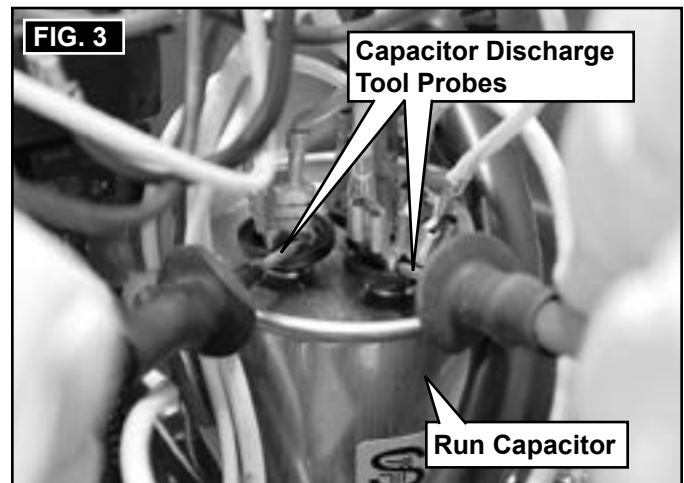
4. **⚠ WARNING** ELECTRICAL SHOCK HAZARD. The capacitor(s) in this product may contain stored electrical energy. **ALWAYS** discharge a capacitor properly before working near it. **NEVER** use a screwdriver or similar object to discharge a capacitor. Failure to obey this warning could result in death or serious injury.

Discharge start and run capacitors using an appropriate capacitor discharge tool. Then **VERIFY** capacitors are discharged (using a volt-ohm meter). See (FIG. 3) & (FIG. 4).

i Do **NOT** use a volt-ohm meter to discharge a capacitor. The high impedance of modern volt-ohm meters make them ineffective for discharging capacitors.


Capacitors may have more than (2) terminals. Touch and hold capacitor discharge tool's probe to **ALL** terminals on each capacitor until fully discharged.

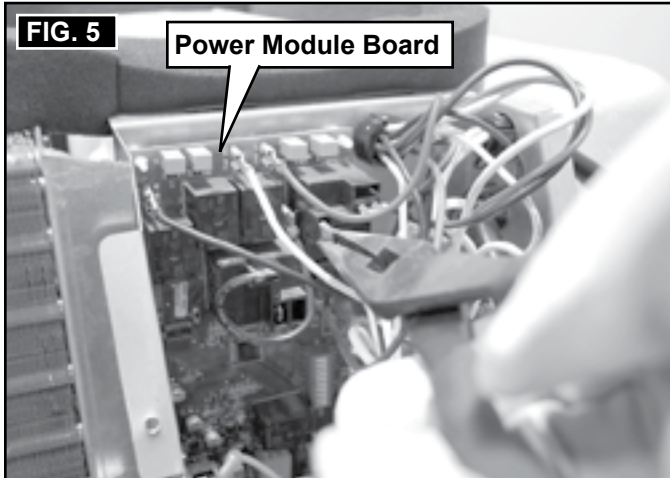
Follow all instructions included with your volt-ohm meter and capacitor discharge tool.



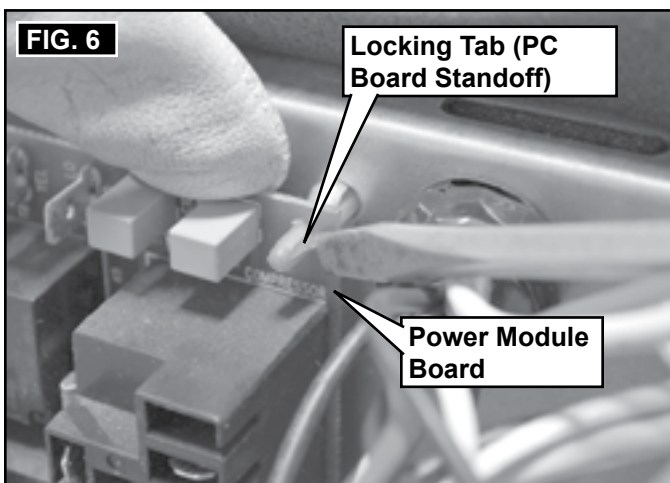
PROCEDURE

5. Disconnect all wires from top half of power module board. See (FIG. 5).

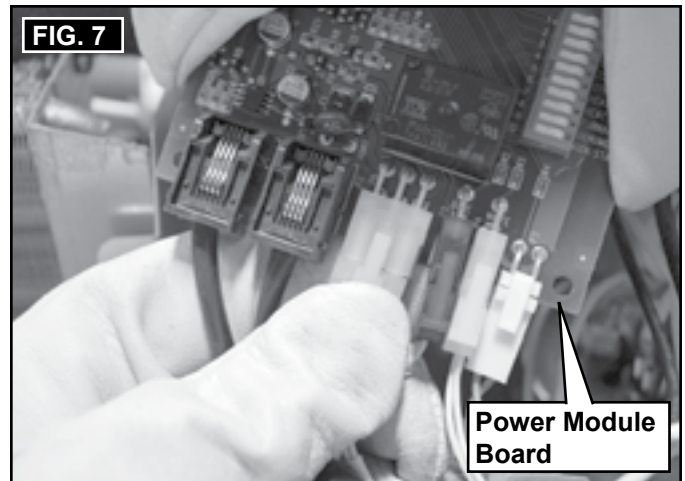
 You may leave bottom wires connected to power module board (for easier access later).



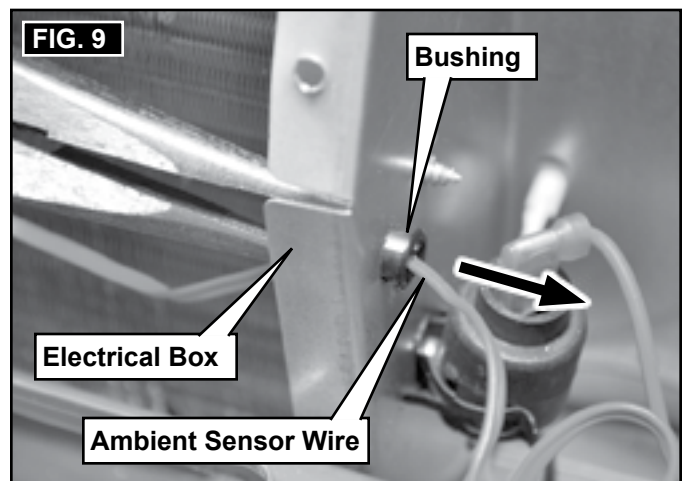
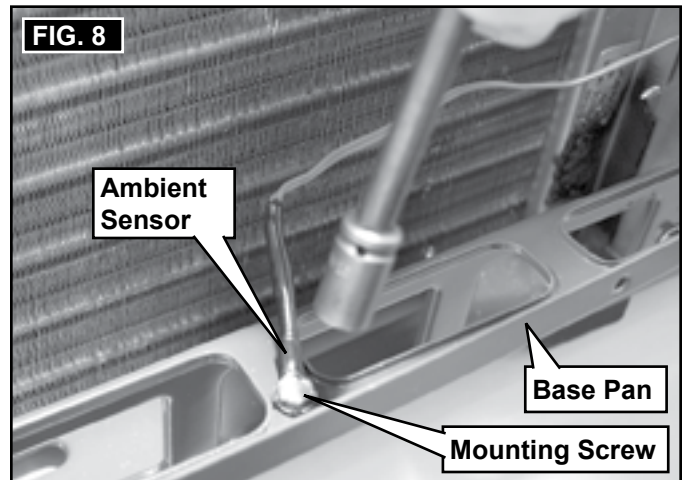
6. Disengage power module board from all PC board standoffs. See (FIG. 6).
 - a. Gently raise power module board near PC board standoff while pressing standoff's locking tab.
 - b. Continue to raise board until it disengages from standoff.
 - c. Repeat steps (a) through (b) for each standoff (starting from top of board).



7. With power module board completely disengaged from all PC board standoffs, remove board from all remaining (connected) wires and discard. See (FIG. 7).




8. Remove old ambient sensor.
 - a. Remove mounting screw (attaching ambient sensor) from unit's base pan, and save for reinstallation later. See (FIG. 8).
 - b. Disengage plastic bushing from electrical box. Then remove ambient sensor (with bushing) and discard. See (FIG. 9).

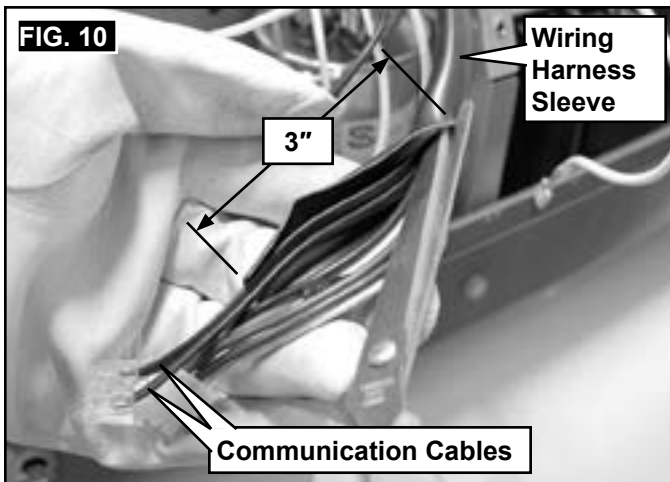


PROCEDURE



B. Prepare Unit For NEW Power Module Board

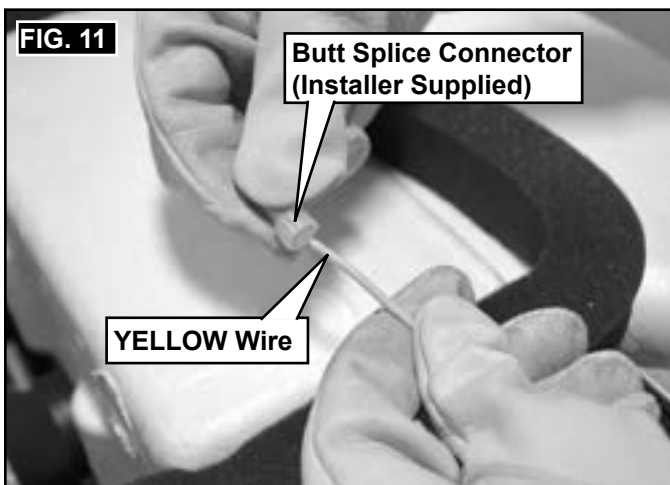
1. Carefully cut a slit approximately 3" long in end of wiring harness sleeve (containing the communication cables). See (FIG. 10).

 This slit will relieve strain on wires when connecting to port locations on new power module board.



2. Cut terminal from end of **YELLOW** wire, and cap with a properly sized, UL certified, closed end, single opening butt splice connector (installer supplied). See (FIG. 11).

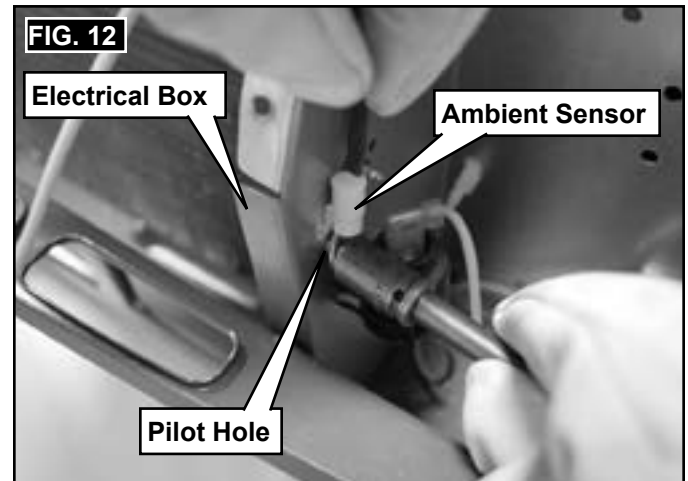
 This wire is no longer used.
 Follow all instructions included with your crimp tool.




3. Replace any damaged PC board standoffs (in electrical box) with new ones (provided). See (FIG. 6).

C. Install NEW Power Module Board (With NEW Ambient Sensor)

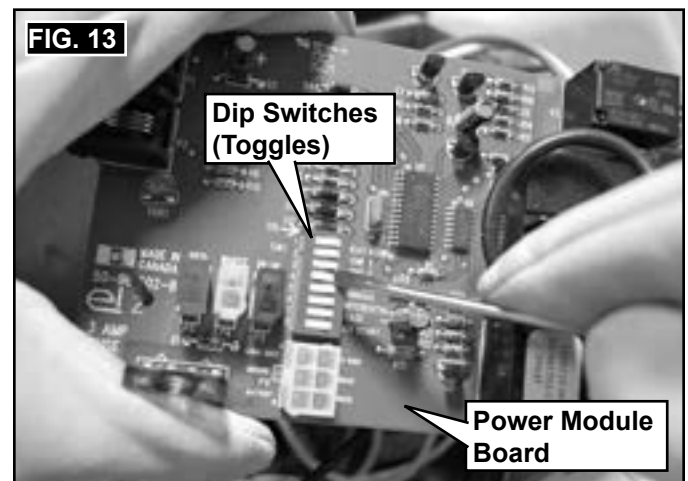
1. Attach new ambient sensor (provided). See (FIG. 12).
 - a. Place ambient sensor over pilot hole inside of electrical box (near grommet hole).
 - b. Reinstall mounting screw to secure ambient sensor to electrical box.



2. Toggle appropriate dip switches (on new power module board) to the **ON** position. See (FIG. 13).


 All dip switches on power module board are factory preset to the **OFF** position. Placing a switch in the **ON** position selects that option.

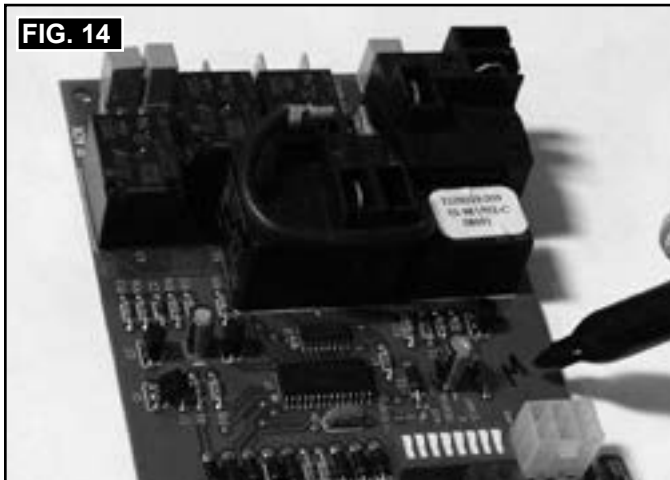
Equipment options installed by RV manufacturer will determine which dip switches to turn **ON** or leave **OFF**.



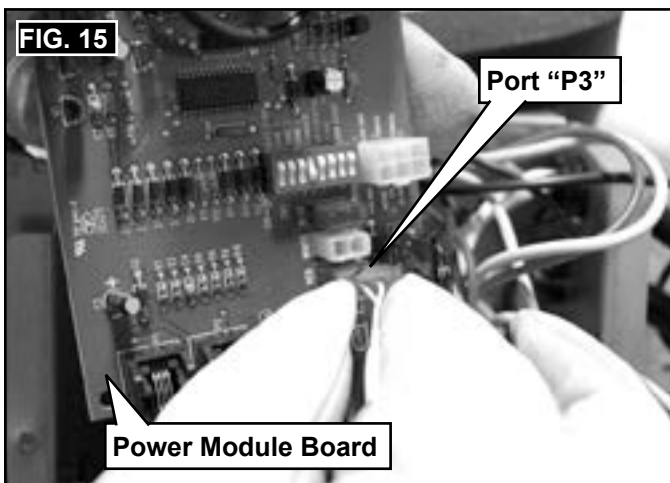
PROCEDURE

3. Mark an "M" on new power module board with permanent felt tip marker. See (FIG. 14).

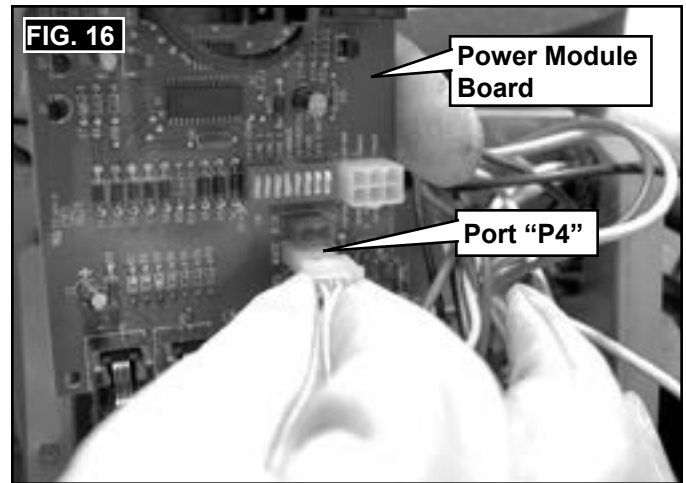
 This mark indicates the unit was modified, and will help identify unit in case future service is required.



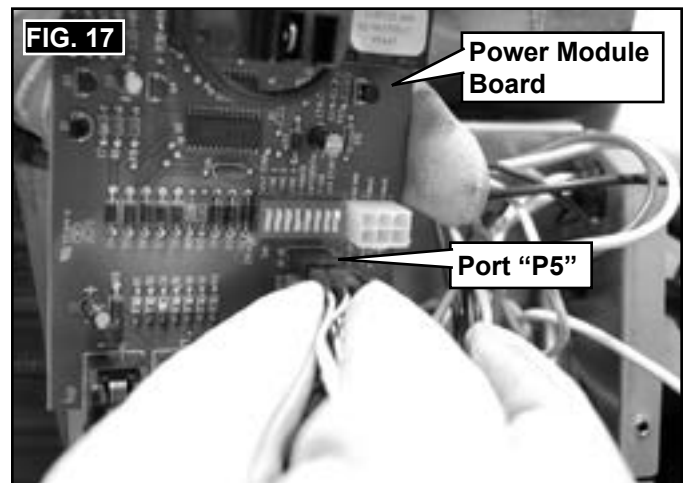
4. Insert **RED** 2 pin connector (from ambient sensor) to **RED** port "P3" on the power module board. See




5. Insert **WHITE** 2 pin connector to **WHITE** port "P4" on power module board. See (FIG. 16).

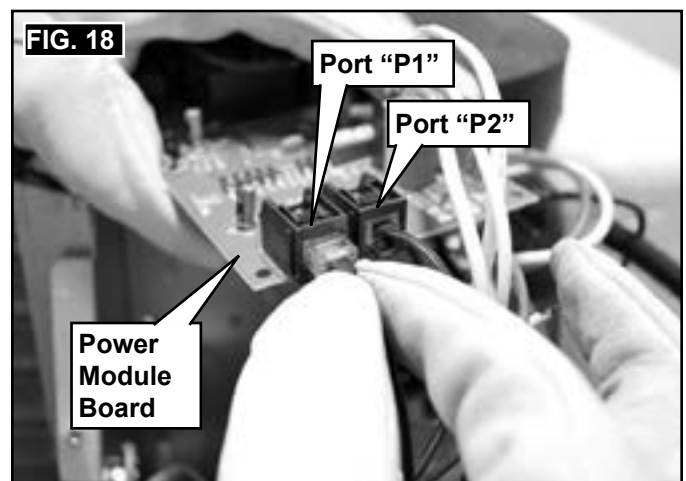


6. Insert **BLUE** 2 pin connector to **BLUE** port "P5" on power module board. See (FIG. 17).



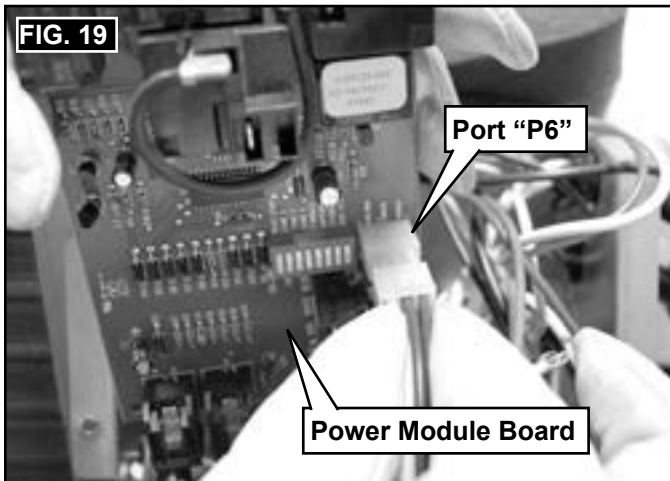
7. Insert (2) 4 conductor communication cable connectors (RJ-11-6C4P) into ports "P1" and "P2" on power module board. See (FIG. 18).

 It doesn't matter what communication cable is plugged into which port.

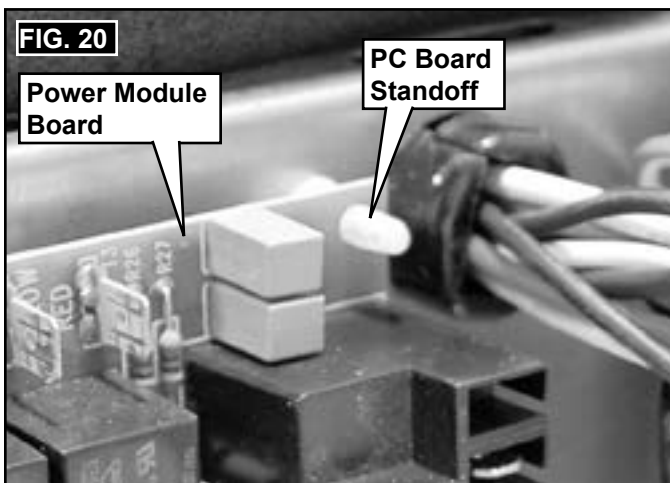


PROCEDURE

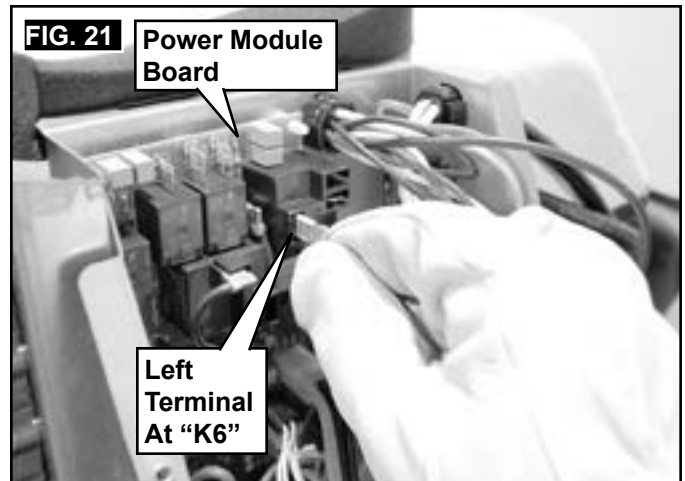
8. Insert 6 pin connector to port "P6" on power module board. See (FIG. 19).



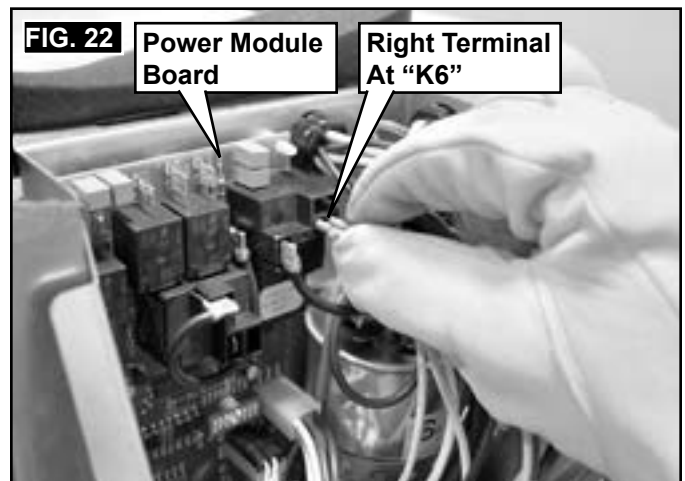
9. Attach power module board to electrical box. See (FIG. 6) & (FIG. 20).
 - a. Align board's mounting holes to standoffs.
 - b. Gently press board onto each standoff until standoff locking tab snaps securely in place.



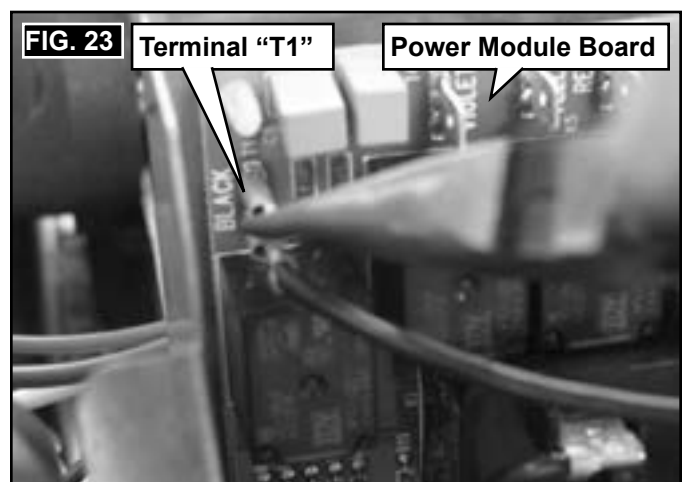
10. Connect **THICK BLACK** wire (from 120 Vac power) to left terminal at "K6" on power module board. See (FIG. 21).



11. Connect **THICK BLUE** wire (from compressor) to right terminal at "K6" on power module board. See (FIG. 22).

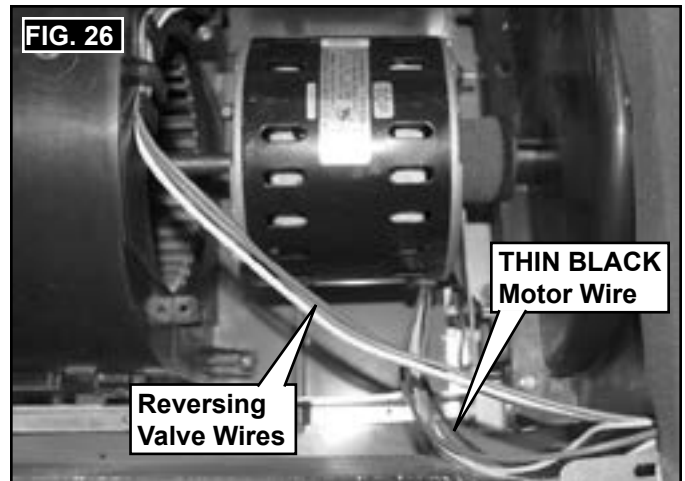
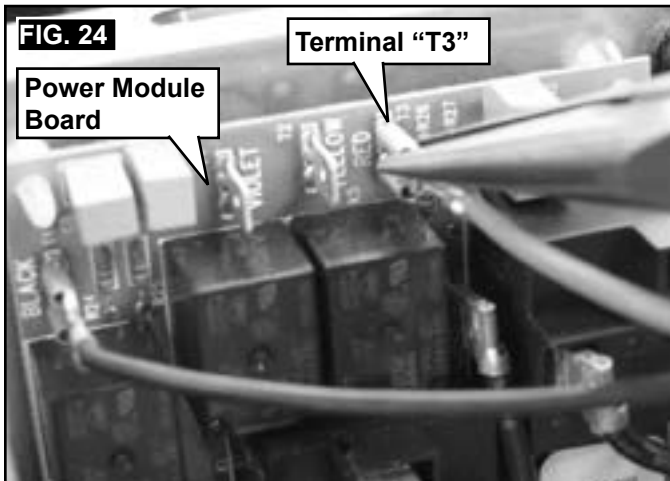


12. Connect **THIN BLACK** wire (from motor) to terminal "T1" on power module board. See (FIG. 23).

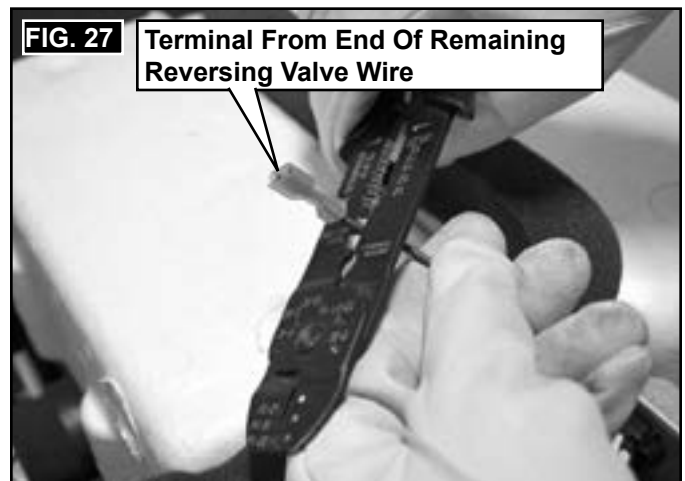


PROCEDURE

13. Connect **THIN RED** wire (from motor) to terminal "T3" on power module board. See (FIG. 24).



2. Cut terminal from end of remaining reversing valve wire, and strip approximately 1/2" of insulation from wire end. See (FIG. 27).



3. Cut terminal from end of **THICK WHITE** wire, and strip approximately 1/2" of insulation from wire end. See (FIG. 28).

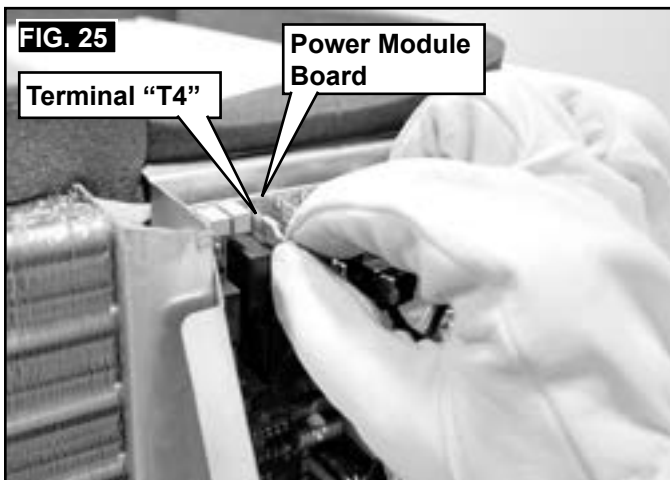


D. Rewire Reversing Valve And Perform Connections

1. Connect one of the (2) reversing valve wires to terminal "T4" on power module board. See (FIG. 25).


i It doesn't matter which reversing valve wire is attached to terminal "T4".

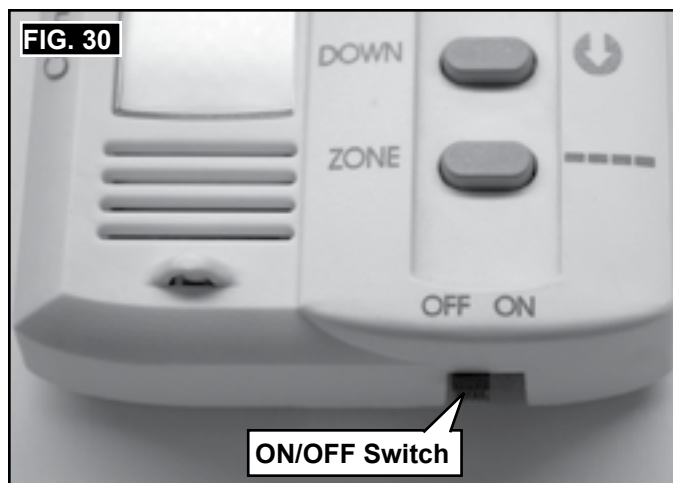
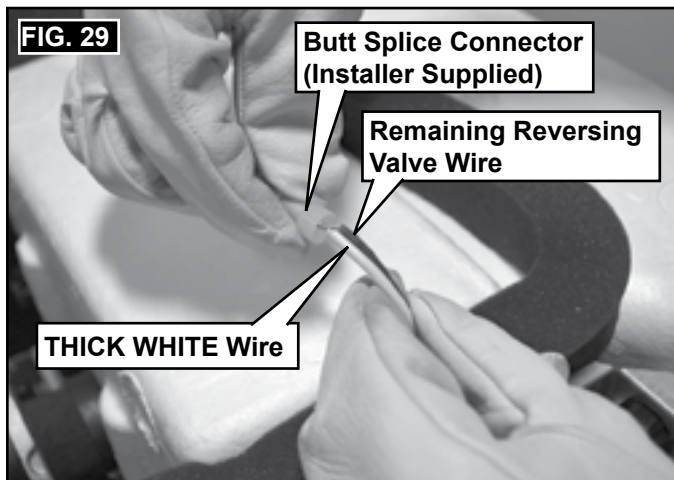
The color of the (2) reversing valve wires will be either **VIOLET** or **BLACK**. Do **NOT** confuse these with the **THIN BLACK** wire from motor. See (FIG. 23), (FIG. 25), & (FIG. 26).




PROCEDURE

4. Connect **THICK WHITE** wire and remaining (**VI-OLET** or **BLACK**) reversing valve wire using a properly sized, UL certified, closed end, single opening butt splice connector (installer supplied). See (FIG. 29).


 Follow all instructions included with your crimp tool.



3. Press and hold **MODE** and **ZONE** buttons simultaneously, then turn **ON/OFF** switch to the **ON** position. The LCD will display "FF". See (FIG. 31).

 If LCD displays code "EE", repeat this step. If code "EE" persists, check the communication cables and their connections.

E. Complete Installation


-  1. Verify all connections are secure, with no loose wires.


 The capped **YELLOW** wire should be the only wire left unconnected. See (FIG. 11).

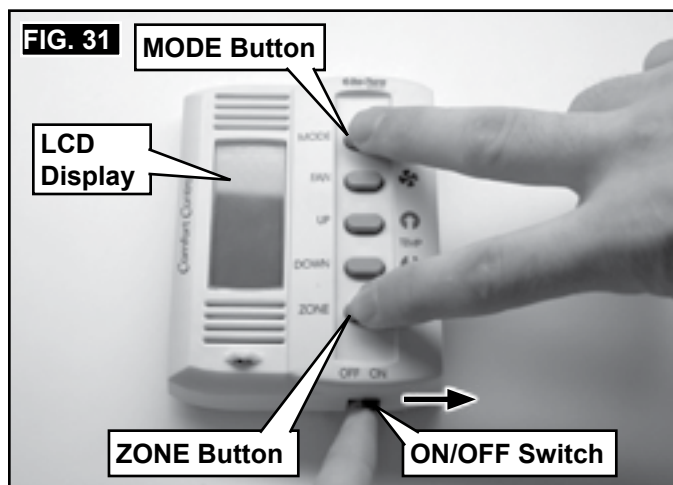
2. Arrange wires inside electrical box, and reinstall electrical box cover (with screws). See (FIG. 2).
3. Reinstall shroud (with screws) onto unit. See (FIG. 1).

F. System Reset And Checkout


The Comfort Control Center (CCC) will require a system reset in order to recognize the new power module board installed with this kit.

 A system reset will remove all previously programmed memory, and will return the CCC to factory presets (for its current dip switch settings). See step (2) in section, "C. Install NEW Power Module Board (With NEW Ambient Sensor)" on page (6).


-  1. Reconnect the positive (+) 12 Vdc terminal to supply battery, and 120 Vac power to RV.
2. Make sure the CCC **ON/OFF** switch is in the **OFF** position. See (FIG. 30).



4. Release **MODE** and **ZONE** buttons. The LCD will return to default display, completing CCC system reset.

 If dip switches are reconfigured after this step, it will be necessary to perform this system reset again. See (FIG. 13).

5. Test operation of CCC and unit to verify all features are functioning properly.

 Refer to the CCC and unit operating instructions before testing system functions.