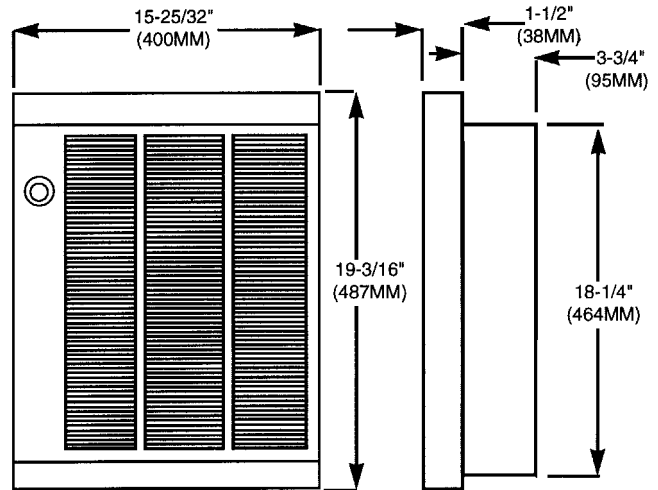


**FRA Series B
Fan Forced
Wall Heaters**



Installation & Maintenance Instructions

Dear Owner,

Congratulations! Thank you for purchasing this new heater manufactured by a division of Marley Engineered Products. You have made a wise investment selecting the highest quality product in the heating industry. Please carefully read the installation and maintenance directions shown in this manual. You should enjoy years of efficient heating comfort with this product from Marley Engineered Products... the industry's leader in design, manufacturing, quality and service.

*... The Employees of
Marley Engineered Products*

⚠ WARNING ⚠

Read Carefully - These instructions are written to help you prevent difficulties that might arise during installation of heaters. Studying the instructions first may save you considerable time and money later. Observe the following procedures and cut your installation time to a minimum.

1. To prevent electrical shock, disconnect all power coming to heater at main service panel before wiring or servicing.
2. All wiring must be in accordance with the National and Local Electrical Codes and the heater must be grounded as a precaution against possible electric shock.
3. Verify the power supply voltage coming to heater matches the ratings printed on the heater nameplate before energizing.
4. This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces.

5. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock, fire, or damage to the heater.
6. To prevent a possible fire, do not block air intakes or exhaust in any manner. Keep combustible materials, such as crates, drapes, etc., away from heater. Do not install behind doors, furniture, towels, or boxes.
7. A heater has hot and arcing (sparking) parts inside. Do not use it in areas where gasoline, paint, or flammable liquids are stored.
8. Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.
9. This heater is not approved for use in corrosive atmospheres, such as marine, green house, or chemical storage areas.

SAVE THESE INSTRUCTIONS

IMPORTANT



WARNING



DO NOT INSTALL HEATER UPSIDE DOWN OR SIDWAYS.
DO NOT USE HEATER WITHOUT GRILLE.

CAUTION



FOR WALL MOUNTING ONLY. **DO NOT** INSTALL HEATER CLOSER THAN 8" (203 mm) TO THE FLOOR OR ANY ADJACENT WALL SURFACE. **DO NOT** INSTALL CLOSER THAN 36" (915 mm) TO THE CEILING.

Installation of Recessed Back Box in New Construction

1. Mounting Back Box (See Figure 1).
 - a. Place the back box between two 16" (406 mm) center-to-center wall studs at the desired mounting height but no closer than 8" (203 mm) to adjacent wall or floor.
 - b. Align back box such that the bottom and sides will be flush with finished wall surface (top flange of wall box should protrude approximately 1/2" (12.7 mm) from finished wall surface).
 - c. Secure the back box in position with wood screws or nails as shown in Figure 1.

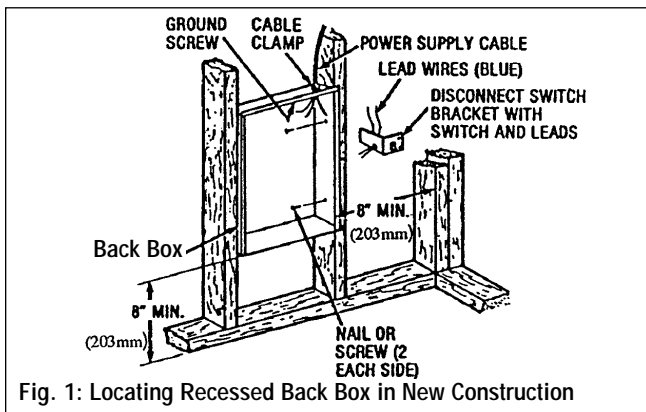


Fig. 1: Locating Recessed Back Box in New Construction

2. Power Supply Wiring (See Figure 1)
NOTE: Wire compartment volume - 119in³ (1950cm³).
 - a. Run a power supply cable into the knockout area in the upper right hand corner of the back box. All wiring must be in accordance with National and Local Electrical Codes. Refer to Table 1 for correct wire size.
 - b. Remove disconnect switch bracket by loosening two screws on the right side.
 - c. Install a cable clamp in the "knockout" in the top of the back box.
 - d. Insert power supply cable through cable clamp, allowing at least 6" (152mm) of leads to extend inside the back box. Connect the blue lead wires of disconnect switch to the supply wire leads using wire connectors wiring diagram, pg. 3).
 - e. Ground the back box using the green screw located in the inside top of the housing.
 - f. Secure disconnect switch bracket in place by tightening screws.

Installation of Recessed Back Box in Existing Construction

1. Provide a wall opening 14-1/2" (362mm) wide by 18-1/2" (470mm) high at the desired mounting height, but no closer than 8" (203mm) from floor. (See Figure 2.)
2. Power Supply Wiring
NOTE: Wiring Compartment Volume - 119in³ (1950cm³).
 - a. Run a power supply cable into the area above the top of the wall opening. All wiring must be in accordance with National and Local electrical codes. Refer to Table 1 for correct wire size.
 - b. Remove disconnect switch bracket by loosening the two screws on the right side.
 - c. Install a cable clamp in the "knockout" in the top of back box.
 - d. Insert power supply cable through cable clamp, allowing approximately 6" (152mm) of cable length to remain inside the back box to facilitate connections.
3. Mounting Back Box
 - a. Place the back box into wall opening flush with finished wall surface on bottom and sides of box. (Top flange of back box should protrude approximately 1/2" or 12.7mm from finished wall surface).

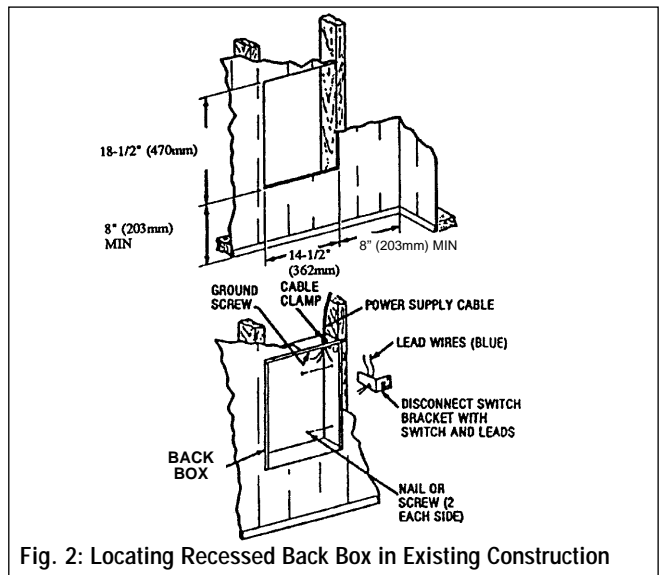


Fig. 2: Locating Recessed Back Box in Existing Construction

- b. Secure the back box in place with wood screws or nails.
4. Wiring Disconnect Switch
 - a. Connect the power supply wires to the blue wires of the disconnect switch using wire connectors (see wiring diagram, pg. 3.)
 - b. Ground the back box using the green ground screw located in the inside top of the box.
 - c. Secure disconnect switch bracket in place by tightening screws.

TABLE 1

MODEL #	VOLTS	PH	WATTS	BTU/HR	AMPS	WIRE SIZE
FRA 3027B	277	1	3000/1500	10,239/5120	10.8/5.4	12 AWG
FRA 4020B	208	1	4000/2000	13,652/6826	19.2/9.6	10 AWG
FRA 40203B	208	3	4000	13,652	11.1	14 AWG
FRA 4024B	240/208	1	4000/3000	13,652/10,239	16.7/14.45	10 AWG
FRA 40243B	240/208	3	4000/3000	13,652/10,239	9.7	14 AWG
FRA 4027B	277/240	1	4000/3000	13,652/10,239	14.4/12.5	12 AWG
FRA 4820B	208	1	4800	16,382	23.1	10 AWG
FRA 48203B	208	3	4800	16,382	13.4	12 AWG
FRA 4824B	240/208	1	4800/3600	16,382/12,287	20.0/17.3	10 AWG
FRA 48243B	240	3	4800	16,382	11.6	14 AWG
FRA 4827B	277/240	1	4800/3600	16,382/12,287	17.3/15.0	10 AWG

Installation of Back Box with Surface-Mounting Frame (See Figure 3)

1. Secure back box to wall with knockouts in upper right hand corner using screws and anchors.
2. Hang the surface-mounting frame on the back box. Ensure that the back edge of the surface-mounting frame is flush against the wall.

NOTE: If heater is located in a high traffic area, where it may be subjected to vandalism or abuse, take extreme care to see that the box is firmly attached to the wall.

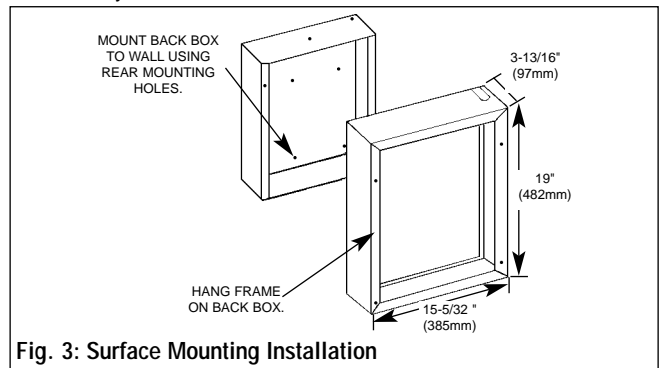


Fig. 3: Surface Mounting Installation

3. Power Supply Wiring
NOTE: Wiring Compartment Volume - 119in³ (1950cm³).
 - a. Run a power supply cable into the area to the upper right corner of the mounting frame. Arrangement of wiring to this point must be in accordance with National and Local codes. Refer to specifications on page 2 for proper wire size.
- NOTE:** If the wiring is to run through the wall, cut a hole in the area of the top of the back box. Run the supply wire through this hole. Then remove the "knockout" from the top of the box and proceed to step C.

- b. Remove the "knockout" on the top side of the frame.
- c. Remove disconnect switch bracket by loosening the two screws on the right side.
- d. Feed the power supply cable through the frame allowing 6" (152mm) of lead to remain inside the back box (using cable clamp, connector, or other suitable strain relief).
- e. Secure the power supply cable to the back box (using cable clamp, connector, or other suitable strain relief) allowing 6" (152mm) of lead to remain inside the back box.
- f. Connect supply wires to blue wires of disconnect switch using wiring connectors (see wiring diagram, next page).
- g. Ground the back box by connecting the supply ground leadwire to the green ground screw located in the inside top of the box.
- h. Secure disconnect switch bracket in place.

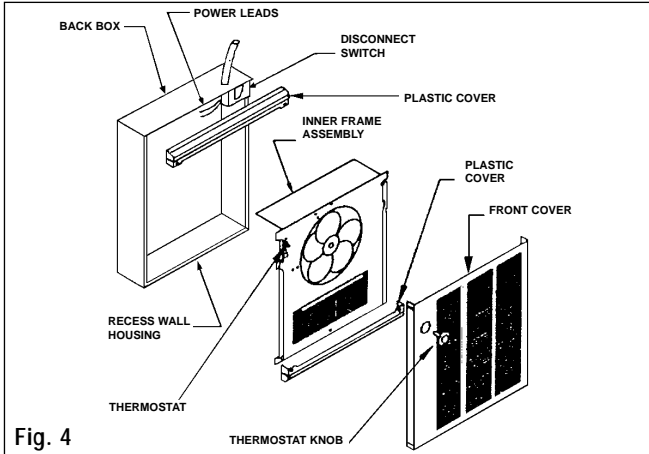


Fig. 4

Installation of Heater Assembly and Grille

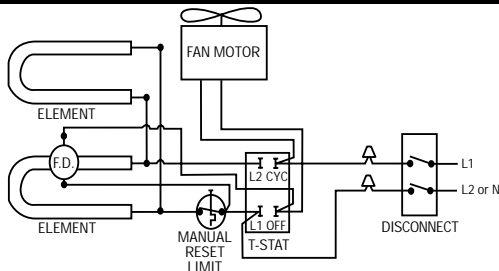
After back box is completely installed and no further construction dirt is expected, clean debris from back box, remove heater assembly from its carton, then refer to Figure 4 and proceed as follows:

1. Insert the heater assembly into back box, placing the four mounting holes (with key-hole slots) over the screws in the housing. Tighten all screws securely.
2. If surface-mounting frame is used, ensure that the frame is even with all four heater assembly tabs before tightening screws.
3. Connect the two disconnected switch wires to the heat-control switch (thermostat) leads using wirenuts (see wiring diagram, next page). After connection, push wires back into the opening.
4. Turn thermostat to the extreme counterclockwise position.
5. Push disconnect switch into ON position.
6. Install (2) plastic covers on back box as follows: (See Fig. 4)

NOTE: Both top and bottom plastic covers are identical.

- **TOP** - Align the screw bosses on the back of the plastic cover with the second hole down from the top of the back box and attach it with the two screws provided.
 - **BOTTOM** - Align the screw bosses on the back of the other plastic cover with holes at the bottom of the back box that are just above the fan deck mounting screws and attach it with two screws provided.
7. Remount the wire compartment cover. Install the front cover by hooking the (2) tabs on the one side then rotating the front cover into place making sure that all four tabs are snapped onto the front cover.
 8. Fit the thermostat knob onto the thermostat shaft and push into place.

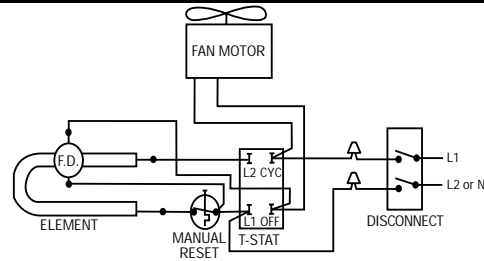
WIRING DIAGRAMS (ALL 1Ø)



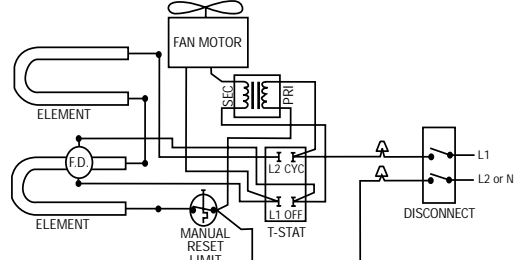
4800, 4000, & 3000 WATT HEATERS

208V, 240V, OR 277V (Full wattage heaters can be converted to half wattage by removing the red jumper wire connecting the top and bottom element terminals.)

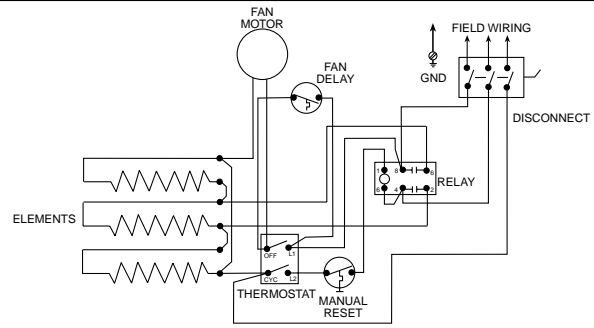
WIRING DIAGRAMS (ALL 1Ø)



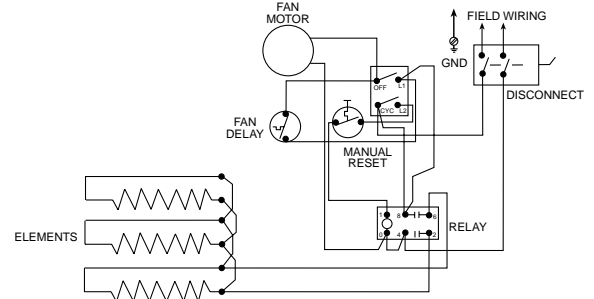
2000 & 1500 WATT HEATERS 208V, 240V, OR 277V



4800, 4000, & 3000 WATT HEATERS 347V, 600V



WIRING DIAGRAM FOR THREE PHASE WALL HEATERS



WIRING DIAGRAM 4800 WATT 208 VOLT SINGLE PHASE WALL HEATER

Operation

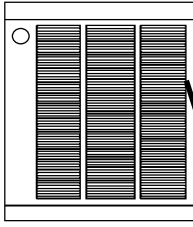
1. Rotate the thermostat fully clockwise. This should energize the heating elements and cause warm air to flow from the hot air discharge at the openings in the bottom of the grille.

NOTE: This heater is provided with a fan delay control that allows the heating element to warm prior to the fan coming on. This delay will also allow the fan to operate for a short period after the heating element has been turned off to remove the residual heat from the heater.

2. After the operation check, rotate the thermostat to the desired position to obtain room comfort.
3. For continuous fan only operation (elements will not be energized) rotate thermostat knob where indicator dot on knob is aligned with "FAN".

NOTE: For best results, the heater should be left "ON" constantly during the heating season because the thermostat, when properly set, will maintain the desired temperature.

Important Information



MODEL NO. **FRA40203**

DATE CODE: **0695**

FAN FORCED WALL HEATER

APPAREIL DE CHAUFFAGE MURAL À AIR PLUSÉ

VOLTS AC 208 60HZ WATTS HI LO PHASE

208 4800 3



774G LISTED
ROOM HEATER

MUST BE USED WITH AWH-BB BACK BOX

DO NOT OPERATE WITHOUT FRONT COVER IN PLACE.

DOIT ÊTRE UTILISÉ AVEC BOÎTIER ARRIÈRE AWH-BB

NE PAS UTILISER SI LE COUVERCLE AVANT N'EST PAS EN PLACE.

MARLEY ENGINEERED PRODUCTS

BENNETTSVILLE, SC 29512

Maintenance

TO RESET MANUAL RESET LIMIT

Your heater is equipped with a manual reset safety thermal limit control that will automatically turn the heater off to prevent a fire if the heater overheats. This control is located on the fan panel assembly between the element and fan blade and marked "reset". The red reset button can be seen through the front grille when the heater is installed. To reset, allow the heater to cool, then push the red button that is visible through the hole in the fan panel. The heater should immediately return to normal operation.

CAUTION



OPERATION OF THE MANUAL RESET SAFETY THERMAL LIMIT CONTROL IS AN INDICATION THAT THE HEATER HAS BEEN SUBJECTED TO SOME ABNORMAL CONDITION. IT IS RECOMMENDED THAT THE HEATER BE CHECKED BY A REPUTABLE ELECTRICIAN OR REPAIR SERVICE TO ENSURE THE HEATER HAS NOT BEEN DAMAGED.

Once each year the heater should be cleaned to remove dust and other foreign material which has collected during the heating season. This is a simple operation when performed as follows:

1. Turn off the electric power at main line switch (or remove all fuses) to disconnect electric power from the heater. **THIS IS IMPORTANT.**
2. Remove thermostat knob.
3. Remove front cover by depressing plastic snap tabs with a flat bladed screw driver as shown in Figure 5. Release both tabs on one side then rotate the front cover off of the fan deck.
4. With a vacuum cleaner nozzle or dust cloth, remove dust and other foreign material.

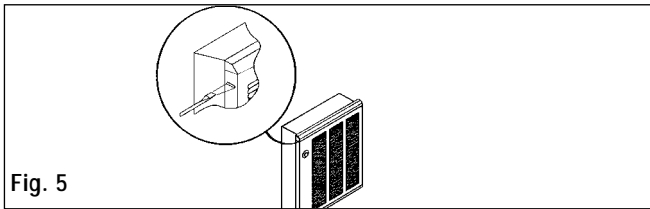


Fig. 5

5. After cleaning, turn disconnect switch to ON position and reinstall the grille.
6. Turn on the main line switch (or replace fuses) to restore power to the heater. The heater is now ready for another season of operation.

CAUTION



DO NOT USE WATER OR DAMP CLOTH FOR CLEANING AND DO NOT DISTURB THE HEATING ELEMENT.

LIMITED WARRANTY

All products manufactured by Marley Engineered Products are warranted against defects in workmanship and materials for one year from date of installation, except heating elements which are warranted against defects in workmanship and materials for five years from date of installation. This warranty does not apply to damage from accident, misuse, or alteration; nor where the connected voltage is more than 5% above the nameplate voltage; nor to equipment installed improperly or wired or maintained in violation of the product's installation instructions. All claims for warranty work must be accompanied by proof of the date of installation.

The customer shall be responsible for all costs incurred in the removal or reinstallation of products, including labor costs, and shipping costs incurred to return products to Marley Engineered Products Service Center. Within the limitations of this warranty, inoperative units should be returned to the nearest Marley authorized service center or the Marley Engineered Products Center, and we will repair or replace, at our option, at no charge to you with return freight paid by Marley. It is agreed that such repair or replacement is the exclusive remedy available from Marley Engineered Products.

THE ABOVE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE AFORESAID EXPRESSED WARRANTIES ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS AGREEMENT. MARLEY ENGINEERED PRODUCTS SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES ARISING WITH RESPECT TO THE PRODUCT, WHETHER BASED UPON NEGLIGENCE, TORT, STRICT LIABILITY, OR CONTRACT.

Some states do allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation 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.

For the address of your nearest authorized service center, contact Marley Engineered Products in Bennettsville, SC, at 1-800-642-4328. Merchandise returned to the factory must be accompanied by a return authorization and service identification tag, both available from Marley Engineered Products. When requesting return authorization, include all catalog numbers shown on the products.

HOW TO ORDER REPAIR PARTS

In order to obtain any needed repair or replacement parts, warranty service or technical information, please contact Marley Engineered Products Service Center toll-free by calling 1-800-642-HEAT.

When ordering repair parts, always give the information listed as follows:

1. The Part Number
2. The Model Number
3. The Part Description
4. Date of Manufacture



Marley
Engineered Products

SPX Corporation
470 Beauty Spot Rd. East
Bennettsville, SC 29512 USA

ECR 35194

03-02