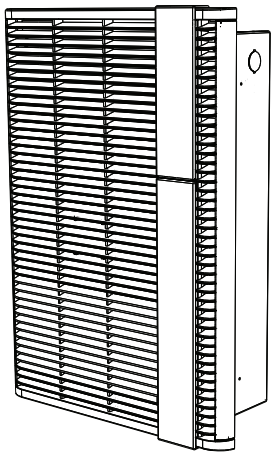
Marley
Engineered Products

HTSS Series
Smart Series™ Wall Heater



IMPORTANT INSTRUCTIONS

READ CAREFULLY - This manual provides instructions for the correct installation, safe use, and care of this product. Special attention should be directed to the warnings provided below which identify certain precautions and special instructions for safe and efficient installation and use. Studying these instructions first may save you considerable time and money later and keep your installation time to a minimum. If you are not familiar with electricity or feel uncomfortable in working with electricity, refer the installation of this product to a licensed electrician or qualified person.

WARNING

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR INJURY TO PERSONS:

1. **READ ALL INSTRUCTIONS** before installing or using the heater.
2. **ELECTRICAL SHOCK HAZARD:** Disconnect all electrical power coming to heater at circuit breaker box or main disconnect switch and lock in OFF position before wiring. All wiring must be in accordance with The National Electrical Code and applicable local codes and ordinances. The heater must be properly connected to an effective building ground.
3. Verify the supply voltage coming to heater is the same as shown on the heater nameplate before energizing. Energizing at a voltage in excess of nameplate voltage will damage heater and void warranty.
4. This heater has hot and arcing or sparking parts inside. Do not install or use in areas where gasoline, paint, or flammable liquids are used or stored.
5. Do not install this heater upside down, sideways, in ceiling, or floor. Install only as shown in this manual. Refer to **Mounting Clearances**, page 2 for minimum clearances that must be maintained.
6. The heater assembly must be installed in the back box provided. Do not operate the heater without the grille installed.
7. This heater is not approved for use in corrosive atmospheres such as marine, green house or chemical storage areas.
8. Do not use outdoors.
9. Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating or unattended.
10. This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, and curtains away from heater. Do not block air intakes or exhaust in any manner. For efficient and safe operation, we recommend keeping all items at least 3 feet from front of heater.
11. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock or fire, or damage the heater.
12. Should the heater become blocked or otherwise overheat, it is provided with a manual-reset thermal safety switch and alarm light that will activate to alert that the heater has cycled off. If warning light is on, check to see if the reason for the overheating can be identified. Remove any blockage, allow heater to cool, then press Reset button. Heater should return to normal operation. Do not continue to use heater if it repeatedly cycles off. Have it inspected and repaired by a qualified repair person.
11. 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.

SAVE THESE INSTRUCTIONS

SPECIFICATIONS

MODEL NUMBER	VOLTS	AMPS	WATTS	BTUHR	WIRE SIZE
HT2024SS	240	1.0 - 8.3	250 - 2000	853 - 6826	14AWG
HT1502SS	120	1.6 - 12.5	200 - 1500	682 - 5120	12AWG

UNPACKING

The carton contains the following:

- Remote control
- Bottom bezel
- Grille with installed electronics
- Heater assembly
- Installation Instructions and User's Manual

INSTALLATION

The heater is designed for recessed installation in 2" x 4" (50 mm x 101 mm) stud or larger wall sections using the back box provided. The heater may be wired with standard building wire (60°C). Refer to "Specifications" and heater nameplate for correct supply voltage and wire size.

NOTE: The optimum mounting height for this heater is 18" to 24" (450 to 600 mm) from floor to bottom of back box. DO NOT install closer than 12" (305 mm) from the floor.

Mounting Clearances

CAUTION ⚠

TO PROVIDE FOR SAFE OPERATION, THE FOLLOWING CLEARANCES MUST BE MAINTAINED.

Wall Mounting Only:

a. Minimum twelve (12) inches (305 mm) to floor;

b. Minimum twelve (12) inches (305 mm) to adjacent walls;

c. Minimum thirty six (36) inches (915 mm) to ceiling.

CAUTION ⚠

THE HEATER IS HOT WHEN IN USE. DO NOT INSTALL THE HEATER BEHIND DOOR, BEHIND TOWEL RACK, IN CLOSET, WHERE CURTAINS OR DRAPES COULD TOUCH OR BECOME SCORCHED BY HEATER, OR WHERE AIRFLOW TO HEATER MAY BE OBSTRUCTED. KEEP ELECTRICAL CORDS, BEDDING, FURNITURE AND OTHER COMBUSTIBLES AWAY FROM HEATER.

⚠ WARNING ⚠

TO PREVENT HAZARD OF FIRE OR ELECTRICAL SHOCK, DO NOT INSTALL WITHOUT BACK BOX.

Preparing Heater For Installation

1. Remove the junction box cover / heater assembly from the back box by removing 8 screws. Set the screws aside since they will be used to reattach the heater assembly to the back box later.

NOTE: The junction box cover / heater assembly consists of two parts. The upper part is referred to as the junction box cover. The lower part is referred to as the heater assembly. (See Figure 1).

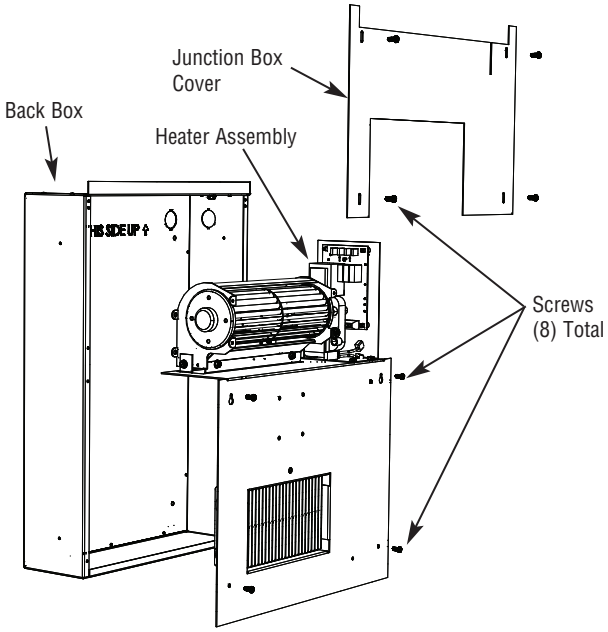


Figure 1- Removing Heater Assembly From Back Box

2. Remove one of the knockouts in the side of the back box and install appropriate cable clamp (not supplied).

CAUTION ⚠

TO PREVENT POSSIBLE DAMAGE TO POWER WIRING, USE ONLY THE KNOCKOUTS PROVIDED IN BACK BOX.

Installation of Back Box in New Construction

NOTE: If the finished wall surface is already up, follow instructions for "Installation of Back Box in Finished Wall".

1. In new construction without the finished wall in place, position the back box against the side of stud allowing the side to extend beyond the stud so it will be flush with the finished wall surface. (You must know the thickness of the finished wall when installing) Secure the box to the stud using two screws (not included) as shown in Figure 2.
2. Run power supply cable through cable clamp (previously installed) leaving approximately 6 inches (152 mm) of wire inside box for connections to heater pigtails. Tighten clamp.

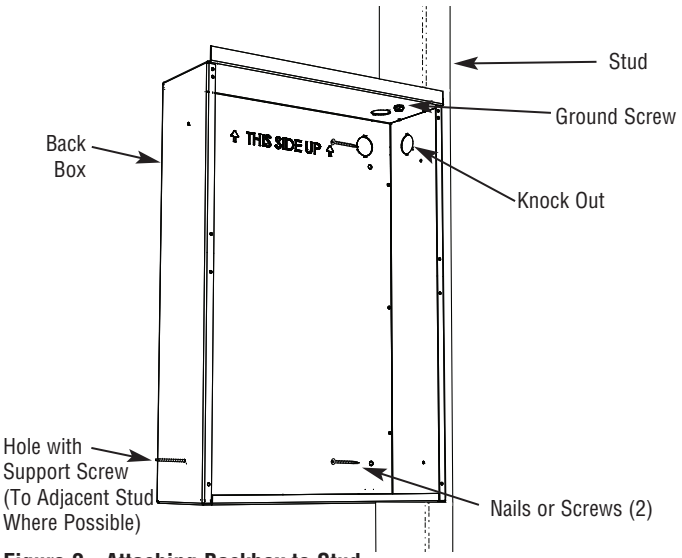


Figure 2 - Attaching Backbox to Stud

NOTE: The back box must be installed so the front edge will be flush with the finished surface.

3. Attach power supply ground wire to green ground pigtail lead using appropriate Listed wire nuts or approved connectors. Push the wires into upper corner of box out of way.

NOTE: If power supply is provided by standard non-metallic sheathed cable (Romex) and the supply voltage is 240 volts (two power wires), the white wire color must be changed using black electrical tape to comply with the NEC. White is only allowed for a Neutral conductor.

4. To secure sides of back box not attached to stud, we recommend one of the following methods:
   a. When possible, install an additional long screw (such as a 3" wood screw) through the lower side mounting hole into the nearest stud (see Figure 2). Use care and do not overtighten the screw as this will deform the backbox and make installation of the heater assembly difficult or impossible. Screw should only be tightened enough to keep screw in place.
   b. Drill a small hole in back box flush with the inside surface of the finished wall and install a screw (length not critical, but should be at least 1 inch) see Figure 2.

Installation of Back Box in Finished Wall

CAUTION ⚠

AN ELECTRICAL SHOCK, FIRE OR WATER DAMAGE COULD RESULT IF WIRING OR PIPING IS DAMAGED DURING CUTTING. MAKE SURE ALL WIRING AND PIPING ARE CLEAR OF AREA BEFORE CUTTING.

1. Locate a stud and carefully mark and cut a hole measuring 12-1/4" (311 mm) wide by 17-3/4" (451 mm) high so one side of hole is along the edge of a stud – see Figure 2.
2. Run power supply cable through cable clamp (previously installed) leaving approximately 6 inches (152 mm) of wire inside box for connections to heater pigtails. Tighten clamp.
3. Fit back box into opening aligning sides of box flush with finished wall surface and secure box to stud using two screws (not included) as shown in Figure 2.

NOTE: Top flange must extend out from finished wall surface approximately 1/8 inch (3.2 mm) to allow grill to attach.

TIP: For proper spacing behind the back box upper flange, a 1/8" thick spacer can be used such as a metal yard stick or 1/8" thick piece of wood, prior to final attachment of the back box to the stud. This allows enough space for the grille to fit properly over the back box flanges. Once back box is secured to the stud the spacer can be removed.

4. Attach power supply ground wire to green ground pigtail lead using appropriate Listed wire nuts or approved connectors. Push the wires into upper corner of box out of way.

NOTE: If power supply is provided by standard non-metallic cable (Romex) and the supply voltage is 240 volts (two power wires), the white wire color must be changed using black electrical tape to comply with the NEC. White is only allowed for a Neutral conductor.

5. Insert one #8, three inch long wood screw (not provided) through the free side of the back box not mounted to the stud and secure in the lower mounting hole. This will prevent the back box from pull out on the unsupported side when installing the heater assembly. Be careful not to drive the wood screw more than 3/8" into the stud. Too much would cause the back box to pull out of alignment. See Figure 2.

Installation of Heater Assembly

NOTE: Use the screws provided by the factory, removed in step 1 to install heater assembly to the back box.

1. Carefully position the heater assembly, with fan on top, and element on bottom into the back box. Guide the flange through the slot openings in the back box. This will help guide the heater assembly into position.

NOTE: The heater assembly must be carefully positioned to ensure the ribbon connector is not trapped behind the circuit board.

2. The heater assembly (lower portion) can now be attached to the back box with 4 screws set aside in step 1

Wiring of Heater

Refer to wiring diagram Figure 3

⚠ WARNING ⚠

POWER SUPPLY VOLTAGE MUST BE THE SAME AS HEATER VOLTAGE RATING SHOWN ON HEATER NAMEPLATE. CONNECTING TO A VOLTAGE IN EXCESS OF NAMEPLATE RATING WILL DAMAGE HEATER AND VOID WARRANTY.
ALL CONNECTIONS MUST BE WITH APPROPRIATELY SIZED LISTED WIRE CONNECTORS.

FOR HEATERS RATED 120 VOLTS:

1. Connect the black (L1) heater pigtail to the black power lead.
2. Connect the white (N) heater pigtail to the white neutral lead.
3. If not already done, connect green heater pigtail to equipment ground wire coming into heater.
4. Push wires up into right hand corner of box out of way.

FOR HEATERS RATED 240 VOLTS:

1. Connect the black (L1) heater pigtail to the black power lead.
2. Connect the red (L2) heater pigtail to the other black power lead.

NOTE: If power supply is provided by standard non-metallic sheathed cable (Romex) and the supply voltage is 240 volts (two power wires), the white wire color must be changed using black electrical tape to comply with the NEC. White is only allowed for a Neutral conductor.

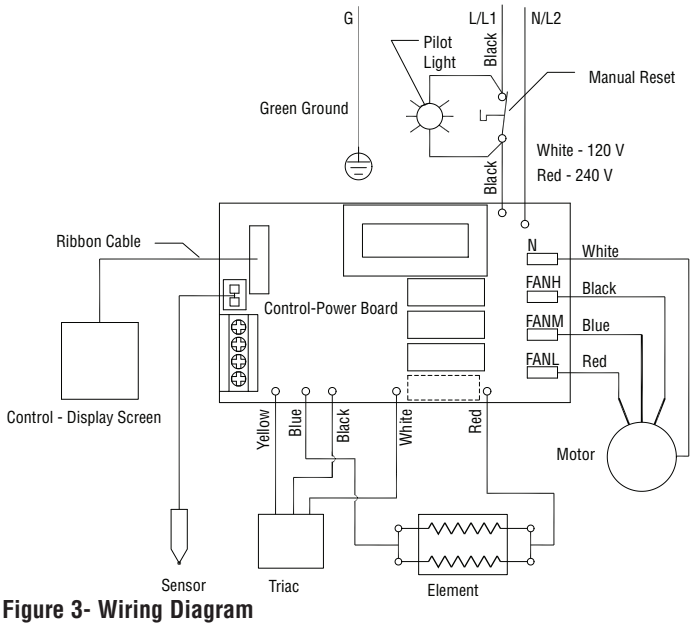


Figure 3- Wiring Diagram

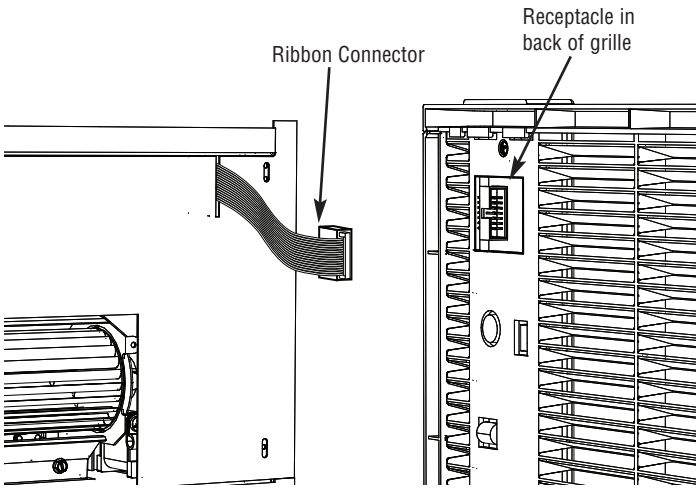


Figure 4- Ribbon Connector

3. If not already done, connect green (G) heater pigtail to equipment ground wire coming into heater.
4. Push wires up into right hand corner of box out of way.

ALL HEATERS:

Position junction box cover in place making sure flat ribbon cable is fitted into elongated slot in cover as shown in Figure 4. Secure cover in place using the 4 screws provided.

NOTE: Approximately 3-1/2 inches (89 mm) of ribbon cable should be extending through the slot for connection to electronics in grille. Orientation of connector must be as shown in Figure 4.

Installation of Grille and Ribbon Connector

1. While holding the right side grille in your right hand, extend the ribbon connector with the free hand and fit the black connector into the black slot located on the back of the electronic control, behind the grille. The connectors are keyed so it will fit only one way (Figure 4).

NOTE: Press the connector gently and firmly, but do not force.

2. Once connected, position the grille over heater back box assembly aligning top of grille with the flanges along top of back box.
3. Reach behind the grille and push excess ribbon back into the slot in the junction box cover to avoid unnecessary bends in the ribbon. Lower top of grille so the grille flanges catch the back box flange and hold it in place.
4. There are two holes in the bottom bezel area of the grille that align with two holes in the heater assembly. Insert the two screws in these holes and tighten (Figure 5).

CAUTION ⚠

USE CARE AND DO NOT OVER TIGHTEN THE MOUNTING SCREWS FOR THIS MAY DAMAGE THE GRILLE.

5. Place the lower bezel in position over the grille and snap tabs into the corresponding holes making sure it is seated securely.

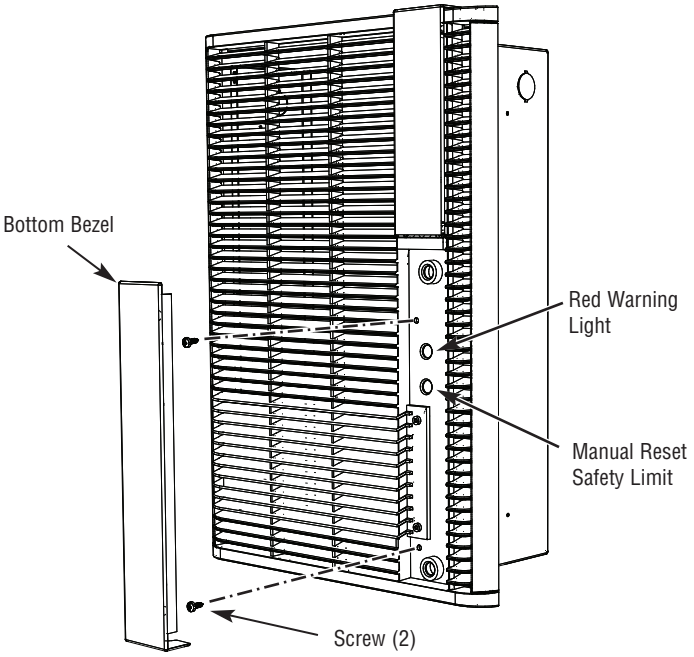


Figure 5- Grille Screw Locations

OPERATION

Initial Setup Instructions (Performed by Installer)

NOTE: After installation, the installer should perform the following procedures to ensure proper operation of the heater. Programming of the heater controls can be performed by the user. (See OPERATION MANUAL included with the heater for programming the heater controls)

1. After heater is completely assembled, turn power to heater on at the main switch panel. The “Power” button on the front of the heater should illuminate an orange color.
2. Press “Power ON” Icon located in the lower left corner of the display. The Icon will illuminate a bright blue color, indicating the heater is ON.

Operational Notice

This heater is equipped with a manual-reset safety limit control that will automatically turn off the heater if it overheats to prevent a fire. A red warning light will illuminate to alert that this control had activated. See Figure 5 for the location of these devices.

CAUTION ⚠

THE ACTIVATION OF THE SAFETY LIMIT CONTROL AND RED WARNING LIGHT OCCURS WHEN THE HEATER OVERHEATS. CHECK HEATER TO MAKE SURE IT IS NOT BLOCKED – IF SO, REMOVE THE BLOCKAGE. IF THERE IS NO BLOCKAGE, IT IS RECOMMENDED THAT THE HEATER BE INSPECTED BY A REPUTABLE ELECTRICIAN OR REPAIR SERVICE TO ENSURE THE HEATER IS NOT DAMAGED. DO NOT CONTINUE TO USE HEATER IF IT REPEATEDLY CYCLES OFF ON THIS SAFETY LIMIT.

TO RESET SAFETY LIMIT (SEE FIGURE 5)

The manual reset button is located behind the bottom bezel just below the red warning light. To access the button, gently pull out on the bottom tab of the bottom bezel and snap off. Do not use a tool to remove the bezel, it may get damaged. Once the heater has cooled, push the reset button. The heater should return to normal operation. Replace the bezel.

MAINTENANCE

Your heater is designed for years of trouble-free operation and requires no special maintenance other than occasional cleaning. The motor is permanently lubricated.

Cleaning

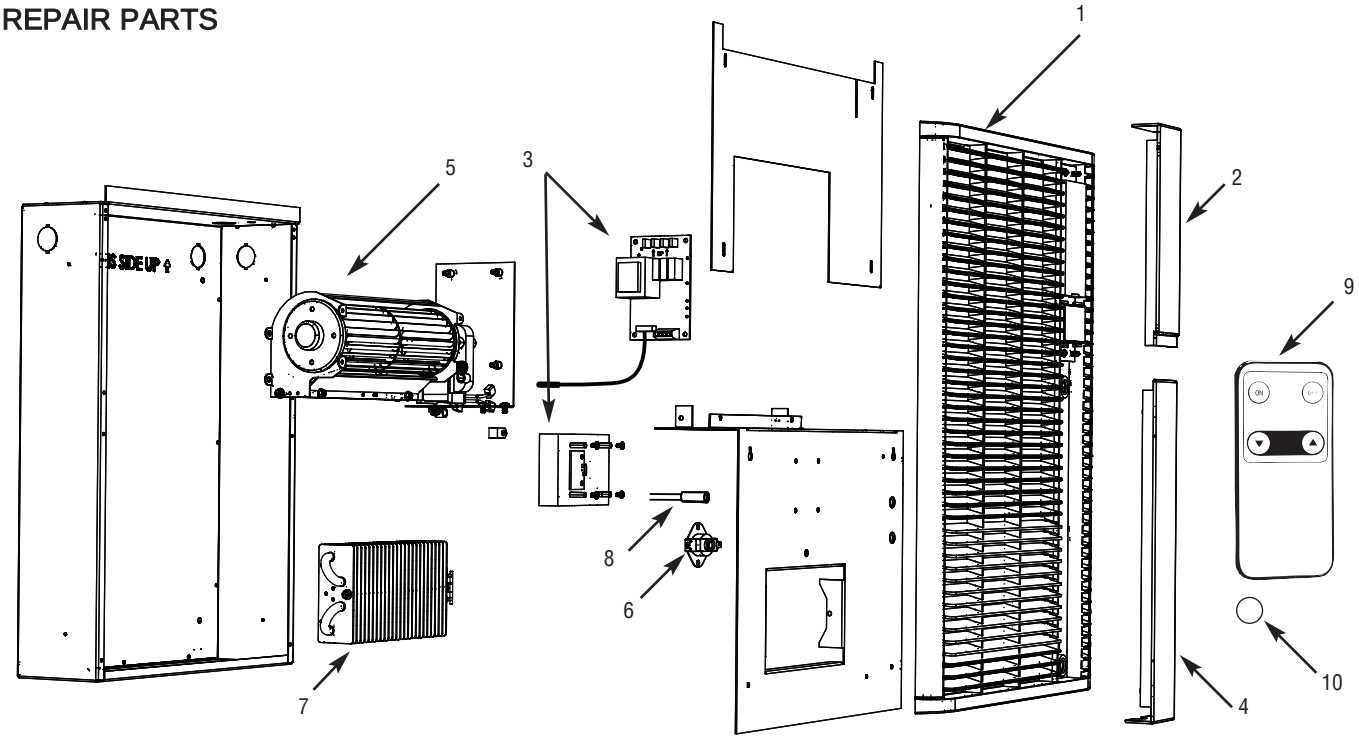
Once each year, the heater should be cleaned to remove dust and other foreign material which has collected during the heating season, as follows:

⚠ WARNING ⚠

ALL OTHER SERVICING SHOULD BE PERFORMED BY AN ELECTRICIAN OR QUALIFIED PERSON

1. Turn power off at main switch.
2. Remove bottom bezel and the two screws that hold the grille.
3. Use vacuum cleaner with brush attachment to remove dust and dirt that has accumulated in heater (especially around element and blower blade). Do not use water or any cleaners to clean heater components.
4. Replace grille and bottom bezel.
5. Wipe grille clean with a damp cloth. DO NOT use waxes or any cleaners that leave a residue since these may discolor during heater operation.
6. Turn the main line switch on at the switch panel to restore power to heater. The heater is now ready for another season of operation.

REPAIR PARTS



Repair Parts List

Ref No.	Description	Part Number 120V	240V
1.	Grille panel only	2501-11003-000	2501-11003-000
2.	Electronic Assembly with top bezel	1016-11035-001	1016-11035-001
3.	Motherboard, triac/heat sink, ribbon connector, thermistor, and sensor assembly (in one box):	1414-11007-000	1414-11007-001
4.	Bottom bezel	1219-11004-000	1219-11004-000
5.	Motor assembly	1225-11001-000	1225-11001-001
6.	Manual Reset	4520-11005-000	4520-11005-000
7.	Heating Element	302023802	302023805
8.	Red lamp	3510-2017-000	3510-2017-001
9.	Remote Control	1414-11017-000	1414-11017-000
10	Battery	1218-11003-000	1218-11003-000

TROUBLE SHOOTING GUIDE

PROBLEM Error message on touch screen	CAUSE/SYMPTOM	CORRECTION
E1 error	1. Thermistor cable unplugged	Disconnect power and verify thermistor cable is plugged in.
	2. Thermistor is open	Replace thermistor
E2 error	Shorted thermistor	Replace thermistor
E1 error code flashes three times	Unit powered down during fan only operation	Ignore symptom, part of normal operation
No display - Blank	1. No voltage	Check circuit breaker/circuit
	2. Ribbon cable disconnected	Disconnect power and verify ribbon cable is plugged in
	3. Ribbon cable open	Replace ribbon cable
	4. Manual reset tripped (open)	Check for red light in bottom bezel. If illuminated remove bezel and push the red reset button.
Touch screen does not respond	Control has been locked out	See operation manual for steps to unlock touch screen
Heater does not respond to remote control	1. Remote not in line of site of heater or distance to far.	Move within 12 feet of heater and within line of site
	2. Battery has insufficient power	Replace battery in remote control
	3. Remote control defective	Replace remote control
Red alarm light illuminated behind lower bezel	1. Air flow blocked to heater	Check for blockage (furniture, drapes etc.) remove blockage and reset limit switch located behind lower bezel.
	2. Fan does not operate	Check voltage to heater and verify it matches nameplate ratings. If correct replace fan motor.
	3. Fan operates but does not blow sufficient amount of air	Remove grille and check fan blade for . dust/dirt build-up. Clean as necessary

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 improperly installed 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 Service 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 not 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 OBTAIN WARRANTY SERVICE AND WARRANTY PARTS PLUS GENERAL INFORMATION

1. Warranty Service or Parts **1-800-642-4328**
2. Purchase Replacement Parts **1-800-654-3545**
3. General Product Information **www.marleymep.com**

Note: When obtaining service always have the following:
1. Model number of the product
2. Date of manufacture
3. Part number or description

Marley Engineered Products
470 Beauty Spot Rd. East
Bennettsville, SC 29512 USA

Part No. 5200-11046-002
ECR 39045
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