Installer: Leave this manual with the appliance. Consumer: Retain this manual for future reference.

MR HEATER	**OPERATING INSTRUCTIONS AND OWNER'S MANUAL**	**MODEL#** MHU200NG MHU250NG MHU300NG MHU400NG

READ INSTRUCTIONS CAREFULLY: YOUR SAFETY IS IMPORTANT TO YOU AND TO OTHERS. Read and follow all instructions. Place instructions in a safe place for future reference. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the heater.

LARGE UNIT HEATER

FOR RESIDENTIAL/COMMERCIAL USE

WARNING: Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

-WHAT TO DO IF YOU SMELL GAS

- **DO NOT try to light appliance.**
- **DO NOT touch any electrical switch, do not use any phone in your building**
- **Leave the building immediately**
- **Immediately call your gas supplier from a phone remote from the building. Follow the gas suppliers instructions**
- **If you cannot reach your gas supplier, call the Fire Department.**

- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

FOR YOUR SAFETY:
Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WARNING: If the information in these instructions are not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

SAFETY

⚠ WARNING:
YOUR SAFETY IS IMPORTANT TO YOU AND TO OTHERS, SO PLEASE READ THESE INSTRUCTIONS BEFORE YOU OPERATE THIS HEATER.

⚠ WARNING:
FIRE OR EXPLOSION HAZARD
Failure to follow safety warnings exactly could result in serious injury, death or property damage. Be sure to read and understand the installation, operation, and service in this manual. Improper installation, adjustment, alteration, service or maintenance can cause serious injury, death or property damage.

⚠ WARNING: Fuels used in liquefied propane gas appliances, and the products of combustion of such fuel, can expose you to chemicals including benzene, which is known to the state of California to cause cancer and cause birth defects or other reproductive harm, for more information go to www.P65Warnings.ca.gov

⚠ WARNING:
FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. Keep solid combustibles, such as building materials, paper, or cardboard, a safe distance away from the heater. As recommended by the instructions never use the heater in spaces which do or may contain volatile or airborne combustibles, or products such as gasoline, solvents, paint thinner, dust particles or unknown chemicals.

⚠ WARNING: THIS PRODUCT CAN EXPOSE YOU TO CHEMICALS INCLUDING LEAD AND LEAD COMPOUNDS, WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. FOR MORE INFORMATION VISIT WWW.P65WARNINGS.CA.GOV

	MHU200NG	MHU250NG	MHU300NG	MHU400NG
V/A/H/Phase	120v / 6.3A / 60hZ / 1Ø	120v / 6.3A / 60hZ / 1Ø	120v / 10A / 60hZ / 1Ø	120v / 10A / 60hZ / 1Ø
BTU Input	200,000 BTU	250,000 BTU	300,000 BTU	400,000 BTU
BTU Output	160,000 BTU	200,000 BTU	240,000 BTU	320,000 BTU
Efficiency %	80%	80%	80%	80%

CONTENTS

LANGUAGES

GENERAL INFORMATION

RETAIN THIS MANUAL FOR FUTURE REFERENCE.
FOR QUESTIONS, PROBLEMS, MISSING PARTS BEFORE RETURNING TO RETAILER PLEASE CALL WITH MODEL NUMBER AND SERIAL NUMBER OF HEATER:
1-800-251-0001
MONDAY-FRIDAY 8-5 EASTERN TIME
OR E-MAIL USING THE MR. HEATER WEBSITE:
WWW.MRHEATER.COM
In order to provide the best service possible Mr. Heater is now giving you more ways to get in touch with us. Find informational videos at:

Facebook: www.facebook.com/mrheaterproducts/
Twitter: https://twitter.com/MrHeater

PRODUCT SPECIFICATIONS

This unit heater is a single input warm air heater with an average thermal efficiency of 80%. All units are to be supplied with single-phase 60 Hz 120VAC power. For specific information on each model, see **Table 1**.

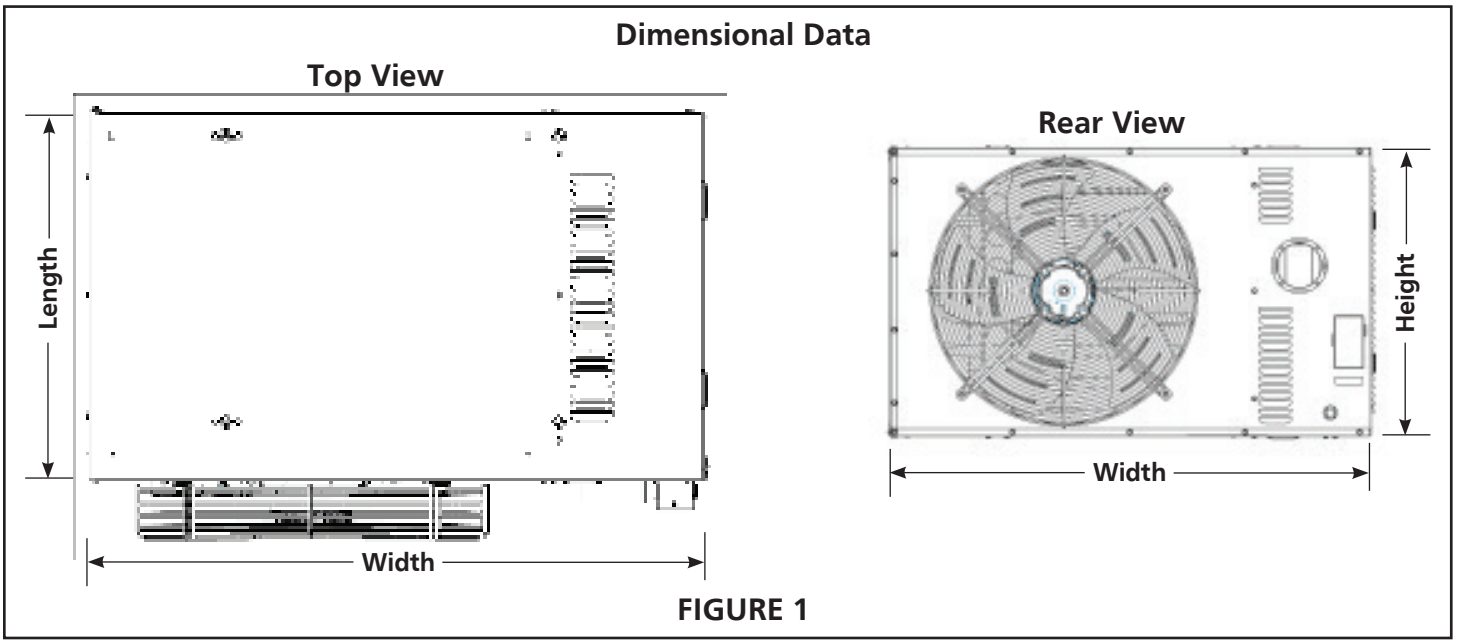


FIGURE 1

	BTU input	BTU output	Size			
	[BTU/HR]	[BTU/HR]	WIDTH	LENGTH	HEIGHT	WEIGHT[Lbs.]
MHU200NG	200,000	160,000	41.3"	28.7"	24.8"	175
MHU250NG	250,000	200,000	41.3"	28.7"	24.8"	180
MHU300NG	300,000	240,000	41.3"	28.7"	30.3"	227
MHU400NG	400,000	320,000	41.3"	28.7"	38.6"	280

TABLE 1: Specifications

	BTU input [BTU/HR]	Entering Airflow [CFM]	Outlet Velocity [FPM]	AIr Temp. Rise [°F]	Motor [Watt]	Motor [RPM]	Fan Diameter [Inch.]
MHU200NG	200,000	3,377	960	45.0	650	1,500	21.7
MHU250NG	250,000	3,435	976	55.3	650	1,500	21.7
MHU300NG	300,000	4,507	1,040	50.6	1,000	1,560	24.8
MHU400NG	400,000	5,763	1,040	52.7	1,000	1,560	24.8

TABLE 2: General Performance Data

START-UP AND PERFORMANCE CHECK LIST

Job Name: _____ Job No.: _____ Date: _____
Job Location: _____ City: _____ State/Province: _____
Installer: _____ City: _____ State/Province: _____
Unit Model No.: _____ Serial No.: _____ Service Technician: _____
Electrical Connections Tight? _____ Flue Connections Tight? _____
Supply Voltage _____ Fan Timer Operation Checked? _____
Gas Piping Connections Tight & Leak-Tested? _____ THERMOSTAT Calibrated? _____
Motor Amps _____ Heat Anticipator Properly Set? _____
Furnace BTU input _____ Level? _____
Line Pressure _____
Manifold Pressure W.C. _____

SHIPPING

The heater is completely assembled. Installation instructions, two mounting brackets (shipped loose), and a flue transition are included. Check the unit for shipping damage. The receiving party should contact the last carrier immediately if any shipping damage is found.

APPLICATIONS

This is **not** an explosion proof heater. This heater may not be used in a Class 1 or Class 2 Explosive Environment. Consult your local fire marshal, insurance carrier, and other authorities for approval if the proposed installation is in question.

COMMERCIAL/INDUSTRIAL

The heater is designed and certified for use in industrial and commercial buildings, such as warehouses, manufacturing plants, aircraft hangars, and vehicle maintenance shops. For maximum safety, the building must be evaluated for potential problems before installing the heater system. This unit is certified for use as furnished by the manufacturer. Do not alter the fan or operate motors at a reduced speed.

⚠CAUTION: Installation of restrictive devices to the inlet or outlet of the fan motor may result in premature failure of the exchanger pipe, overheating of the appliance, or damage to the components. Do not attach ductwork, air filters, or poly-tubes to any Mr. Heater unit heater.

STANDARDS, CERTIFICATIONS, AND GOVERNMENT REGULATIONS

Installation of this gas-fired heater must conform with all applicable local, state, and national specifications, regulations, and building codes. Contact the local building inspector and/or fire marshal for guidance.

In the absence of local codes, the installation must conform to the latest edition of:

CSA IN USA

Installation of gas unit heaters must conform with local building codes or, in the absence of local codes, with the current National Fuel Gas Code ANSI Z223.1.

Installation in aircraft hangars must be in accordance with the current Standard for Aircraft Hangars ANSI/NFPA No. 409.

Installation in parking structures must be in accordance with the current Standard for Parking Structures ANSI/NFPA No. 88A.

For installation in a residential garage these units must be installed so that the bottom of the heater is located no less than 8 feet (2.438m) above floor. Heater must be located or protected to avoid physical damage by vehicles. Refer to the National Fuel Gas Code, ANSI Z223.1, current edition.

Authorities having jurisdiction should be consulted before NFPA installation. Air for combustion and ventilation must conform to the methods outlined in ANSI Z223.1, section 5.3, Air for Combustion and Ventilation, or applicable provisions of local building codes. ANS Z83.8 / CSA 2.6 is the standard for Gas Unit Heater Construction. The National Fuel Gas Code is available from:

American National Standard Institute Inc.
11 West 42nd Street
New York, NY 10036

These units are CSA International design certified. These unit heaters are certified for installation to combustible material as listed in **Table 3** and on unit rating plate. Accessibility and service clearances must be observed in addition to fire protection clearances.

All electrical wiring and ground for unit must be in accordance with the regulations of the current National Electric Code ANSI/No. 70.

The National Electric Code is available from:

National Fire Protection Association
1 Batterymarch Park
PO Box 9101
Quincy, MA 02269-9101

CSA IN CANADA

The instructions are intended only as a general guide and do not supersede local codes in any way. Authorities having jurisdiction should be consulted before installation. The installation must conform with local building codes or in the absence of local codes, with the current CSA B149.1, Natural Gas and Propane Installation Code. All electrical wiring and grounding for the unit must also comply with the Canadian Electrical Code CSA C22.1, current edition.

These heaters are CSA International certified for the clearances to combustible material listed on the rating plate and **Table 3**. Provide adequate clearance around air openings into the combustion chamber, clearances from combustible material, and provisions for accessibility and for combustion and ventilation air supply. Provision shall be made for service accessibility to the heater. Note that fire protection clearances may be exceeded to provide additional space for service and accessibility. CAN/CGA B149.1-10 is the code for Natural Gas and Propane Installation.

Copies of these Standards can be viewed or purchased at www.nfpa.org or www.scc.ca.

GARAGE INSTALLATIONS

Installation in parking structures must be in accordance with the current Standard for Parking Structures ANSI/NFPA No. 88A.

Installation in repair garages must be in accordance with the current Standard for Repair Garages ANSI/NFPA No. 88B.

1. In a storage area, clearance from heaters to combustible materials must be such that the material shall not attain a temperature above 160°°F by continuous operation of the unit.
2. Eight foot minimum clearance from the floor to the bottom of the heater must be maintained. Refer to the CSA B149.1, Natural Gas and Propane Installation Code.

Canada: Refer to CAN/CGA B149.1: Installation Codes for Gas Burning Appliances and applicable Standards for Public Garages.

Guidelines:

• Heaters must not be installed less than 8 ft. (2.4 m) above the floor. Minimum clearances to combustibles must be maintained from vehicles parked below the heater.

• When installed over hoists, minimum clearances to combustibles must be maintained from the upper most point of objects on the hoist.

AIRCRAFT HANGAR INSTALLATIONS

Installation of gas unit heaters must conform with local building codes or, in the absence of local codes, with the current National Fuel Gas Code ANSI Z223.1.

IN UNITED STATES: Refer to Standard for Aircraft Hangars, ANSI/ NFPA 409 (latest edition).

1. In aircraft storage and servicing areas, heaters shall be installed at least 10 ft. (3 m) from above the upper surface of wings or of the engine enclosures of the highest aircraft that may be housed in the hangar. The measurement shall be made from the wing or engine enclosure, whichever is higher from the floor, to the bottom of the heater.
2. In areas adjoining the aircraft storage area (e.g., shops, offices) the bottom of heaters shall be installed no less than 8 ft. (2.4 m) above the floor.
3. Heaters should be located so as to be protected from damage from aircraft or other appliances needed for servicing of aircraft. Refer to requirements of the enforcing authorities. Provisions shall be made to assure accessibility to suspended heaters for recurrent maintenance purposes.

For installation in hangars, these units must be installed so that burners and ignition source are located no less than 18" (457mm) above floor. Heater must be located or protected to avoid physical damage by vehicles. Refer to CSA B149.1, Natural Gas and Propane Installation Code current edition.

IN CANADA: In a confined area, the heater must be installed in accordance with the CSA B149.1, Natural Gas and Propane Installation Code. Be sure to check with local codes and ordinances for additional requirements.

NON-STANDARD BTU GAS

Unless otherwise noted on the rating plate, this heater is designed and orificed to operate on standard BTU gas. Contact the factory if utilizing non-standard BTU gas.

INTRODUCTION

This heater is a gas-fired unit heater. This manual provides specific information related to the Mr. Heater models. All persons involved with the installation, operation, and maintenance of the heater must read and understand the information in this manual.

The intent of this manual is to provide information regarding safety, design guidelines, installation, operation, and maintenance of the this gas-fired unit heater. You must read and understand the instructions and all safety warnings before installing the gas-fired unit heater. This manual is property of the owner and must stay with the owner or unit after installation is complete.

CLEARANCES TO COMBUSTIBLES

Clearance to combustibles is defined as the minimum distance that must exist between the specified feature of the heater and any combustible items. It also pertains to the distance that must be maintained from moving objects around the unit heater. A recommended service clearance is defined as the minimum distance that is needed to properly service the heater. When installing the unit heater, clearances to combustible for the model heater must be maintained. Refer to Table 3 to determine the required distances for your model.

⚠WARNING: Placement of explosive objects, flammable objects, liquids, and vapors close to the heater may result in explosion, fire, property damage, serious injury, or death. Do not store or use explosive objects, liquids, or vapor in the vicinity the heater.

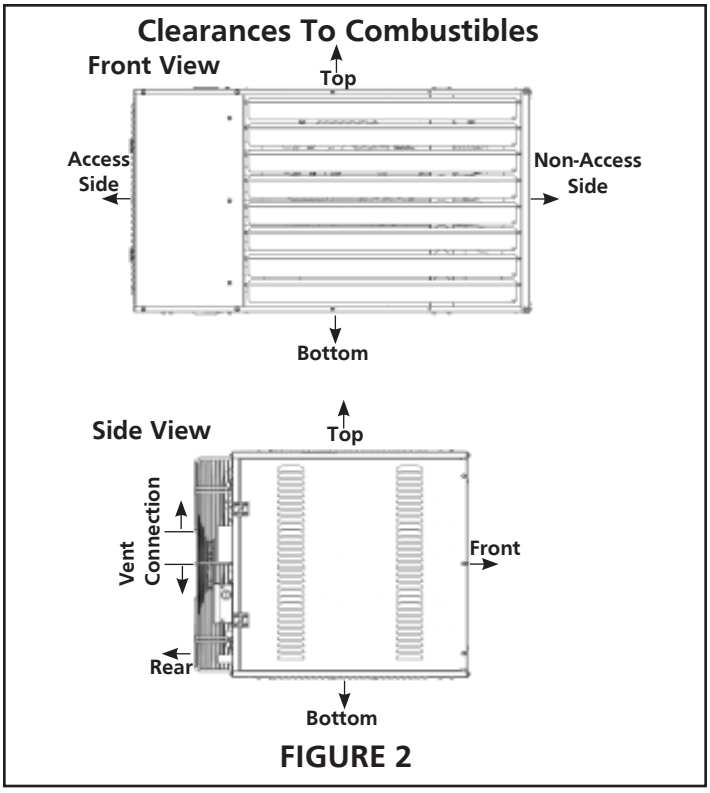


FIGURE 2

Unit Side	Front	Top and Bottom	Access Side	Non-Access Side	Rear	Vent Connection
Clearance to Combustibles	60"	6"	6"	6"	18"	6"
Clearance to Allow Service	60"	18"	29"	18"	18"	18"

TABLE 3: Clearances To Combustibles

HEATER COMPONENTS

Prior to installation, verify that the heater's gas type and voltage (as listed on the rating plate) match that of your application. The heater is standard produced for operation with natural gas. In case of use with LP / propane gas, see Fuel Conversion instructions. Also verify that you have received the entire heater contents included with your unit. Materials not included with the unit (e.g. screws, vent material, threaded rod, etc.) are the responsibility of the installer. Notify your product representative or the factory of any discrepancy of missing items prior to installing the unit.

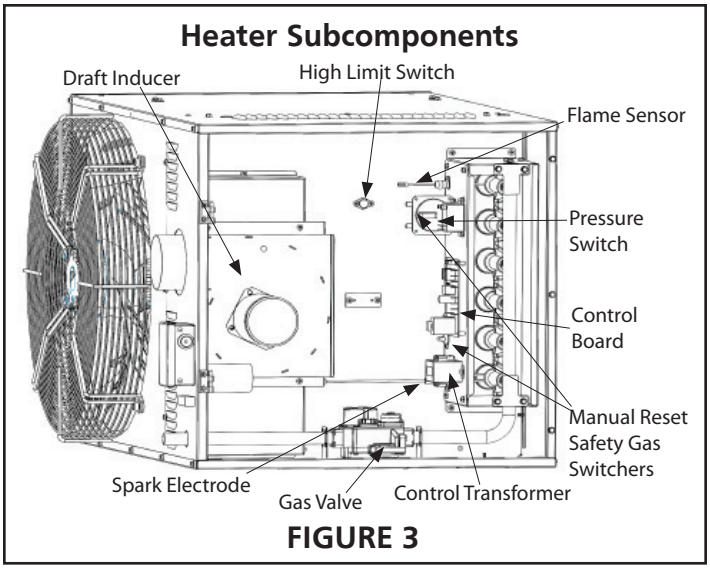


FIGURE 3

INITIAL INSTALLATION CONSIDERATIONS AND PRE-CHECKS

⚠WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, serious injury, or death. Read and understand the installation, operating, and maintenance instructions thoroughly before installing or servicing this equipment.
This manual should be kept for future use for servicing or service diagnostics. Leave manual with the owner. Do not discard any literature shipped with this unit. Only a trained, qualified installation or service personnel may install or service this equipment.
Do not attach ductwork, air filters, or polytubes to any propeller unit heater.

Placement of the heater is influenced by many factors. Aside from safety factors, considerations for the general space and heating requirements, availability of gas and electrical supply, and proximity of possible vent locations are a few examples of factors that should all be considered.

Inspect and evaluate the location of the heater to ensure that the structural support is adequate to support the unit's weight. The unit must be installed in a horizontally level position to ensure proper operation. To reduce noise attenuation along the structure caused by vibration of the unit, the heater should be installed within 15 feet of a primary building support. In the cases where this installation is not practical or feasible, the use of spring vibration isolators may be used, so long as they are rated for use of the unit's weight.

Adequate space around the heater must also be considered in order to maintain the published minimum clearance to combustibles and recommended service clearances (see **Table 3**).

⚠WARNING: Do not locate any gas-fired units in area where chlorinated, halogenated, or acid vapors are present in the atmosphere. These substances can cause premature heat exchanger failure due to corrosion which can cause property damage, serious injury, or death.

In the U.S., the installation of these units must comply with the National Fuel Gas Code, ANSI Z223.1 (NFPA 54) - latest edition and other applicable local building codes. In Canada, the installation of these units must comply with local plumbing or waste water codes and other applicable codes and with the current code CSA-B149.1.

All installation and service of these units must be performed by a qualified installation and service agency only as defined in ANSI Z223.1 (NFPA 54) - latest edition or in Canada by a licensed gas fitter.

This unit is certified with the controls furnished. For replacements parts, please order according to the replacement parts list on rating plate. Always know your model and serial numbers, we reserves the right to substitute other authorized controls as replacements.

Unit is balanced for correct performance. Do not alter fan or operate motors at speeds below what is shown in this manual.

Information on controls is supplied separately. The same burner is used for natural and propane gas.

INSTALLATION

NOTICE: High humidity or saltwater atmospheres will accelerate heater corrosion and reduce useful life. Do not install the heater in locations where water (in the form of rain, drips, or spray) could fall onto the gas ignition components.

⚠WARNING: Improper suspension of the unit heater may result in collapse and being crushed.
Always suspend from a permanent part of the building structure that can evenly support the total force and weight of the heater.
Failure to maintain minimum clearance to combustibles may result in fire and/ or explosion, property damage, serious injury, or death. Always maintain minimum clearances.

The units are designed to be hung with threaded bolts via the four (4) threaded inserts on the top panel of the heater:

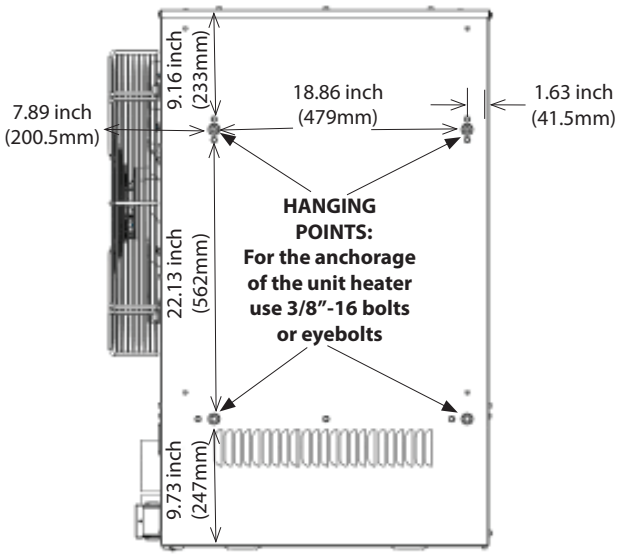


FIGURE 4

The suspension of the heater must conform to all applicable codes referenced in the STANDARDS section.

To ensure proper operation, the heater must be installed in a level horizontal position depending on desired location as governed by clearances, vent connection, air direction, gas supply, electrical supply and service accessibility.

Be sure the means of suspension is adequate to support the weight of the unit (see **Table 1** for unit weights).

⚠CAUTION: Do not install units below 7' measured from the bottom of the unit to the floor in commercial applications (unless unit is properly guarded to provide user protection from moving parts).
Be sure no obstructions block air intake and discharge of unit heaters.
The minimum distance from combustible material is based on the combustible material surface not exceeding 160°°F. Clearance from the top of the unit may be required to be greater than the minimum specified if heat damage, other than fire, may occur to materials above the unit heater at the temperature described.
Allow 18" clearance at rear (or 12" beyond end of motor at rear of unit, whichever is greater) and access side to provide ample air for proper operation of fan.

VENTING

Mr. Heater unit heaters must be vented as described here to properly direct the flue gases from the unit to the outside atmosphere. The venting can terminate vertically through the roof (up) or horizontally through a sidewall (sideways).

⚠WARNING: Gas-fired heaters must be vented. Do not operate unvented. A built in power exhauster is provided. Additional external power exhausters are not required or permitted. Insufficient ventilation and/or improperly sealed vents may release gas into the building which could result in health problems, carbon monoxide poisoning, or death. Improper venting may result in fire, explosion, injury, or death.

⚠CAUTION: Installation must conform with local building codes or in the absence of local codes, with Part 7, Venting of Equipment, of the National Fuel Gas Code, ANSI Z223.1 (NFPA 54) – latest edition. In Canada installation must be in accordance with CSA B149.1.

Mr. Heater heaters come with a factory-installed vent for attaching vent pipe to the heater. Attach the venting material to the adapter with three (3) non-corrosive sheet metal screws. If necessary, drill pilot holes prior to attaching the vent pipe. The venting material must not be smaller than the factory installed adapter.

⚠WARNING: Do not vent this appliance into another heater's vents or through a masonry chimney.
Do not use dampers in the heater vent pipe.
The venting system must be exclusive to a single appliance and no other appliance is allowed to be vented into it.
Precautions must be taken to prevent degradation of building materials by flue products.
Single Wall vent pipe must not pass through any unoccupied attic, inside wall, concealed space, or floor.
Un-insulated single wall vent pipe must not be used outdoors for venting appliances in regions where winter design temperature is below freezing.

REPLACING EXISTING EQUIPMENT

If the unit heater is replacing existing equipment and using an existing vent system, inspect the venting for proper size and horizontal pitch as directed in these instructions and the latest edition of the National Fuel Gas Code, ANSI Z223.1 (NFPA 54) or CSA B149.1 Installation Code.

Determine that there is not blockage, restriction, leakage, corrosion, or other deficiencies that can cause hazards. The vent pipe should be corrosion-resistant galvanized steel of a thickness that meets the National Fuel Gas Code. Minimum thickness for connectors varies depending on the pipe diameter. Never vent this unit heater with PVC or plastic pipe.

⚠WARNING: If replacing an existing heater, vents may require re-sizing. Improperly sized venting systems can result in vent gas leakage or condensation. Refer to the National Fuel Gas Code ANSI Z223.1 (NFPA 54) or CSA B149.1 - latest edition. Failure to follow these instructions can result in serious injury or death.

GENERAL VENTING REQUIREMENTS

NOTICE: The vent is a passageway, vertical or nearly so, used to convey flue gases from an appliance, or its vent connector, to the outside atmosphere. The vent connector is the pipe or duct that connects a fuel-gas burning appliance to a vent or chimney.

Do not intermix different vent system parts from different manufacturers in the same venting system.

Vent connectors serving Category I and Category II Appliances shall not be connected into any portion of mechanical draft systems operating under positive pressure.

All joints shall be secured with at least two corrosion resistant screws. All joints must be checked for gas tightness after installation.

⚠CAUTION: The heater and the venting system shall be inspected once a year by a qualified service agency.

Configuration of the vent termination determines the category type. All model heaters must be installed in accordance to the requirements of this section, as well as the requirements of its category determination, as described in this manual.

All Mr. Heater Model Requirements:

- Use vent pipe material that is corrosion-resistant galvanized steel of a thickness that meets the National Fuel Gas Code.
- Do not exceed a maximum vent length as indicated in **Table 4**.
- Maintain a minimum vent length of 3 feet (914mm).
- Have all vent pipe seams or connectors fastened together with at least three corrosion resistant sheet metal screws (supplied by the installer).
- Maintain a 6 inch clearance around all single wall vent pipe from any combustible materials. For double wall vent pipe (type B) follow the vent manufacturer's clearance to combustibles.
- The equivalent length for a 4 inch 90°°elbow is 5 feet.
- The equivalent length for a 6 inch 90°°elbow is 7 feet.
- Avoid using more than two 90°°directional changes in the venting system.
- Suspend and secure all horizontal runs at points no greater than 3 feet (914mm) apart.
- Vent termination must maintain a minimum distance of 6 feet from any mechanical air supply inlet.
- Vent must terminate a minimum of 4 feet below, 4 feet horizontally from, or 1 foot above any window or door that may be opened or gravity air inlet into the building.

- Vent must terminate a minimum of 4 feet above grade level and must extend beyond any combustible overhang. When condensation may be a problem, the vent system shall not terminate over public walkways or over an area where condensate or vapor could create a nuisance or hazard or could be detrimental to the operation of regulators, relief openings, or other equipment.
- The vent terminal must be installed to prevent any blockage by snow and protect building material from degradation by flue gases.
- The vent cap must be a minimum of 6 inches from the sidewall of the building.
- Vent must be a minimum of 36 inches below or extend beyond any combustible overhang.
- Consult NFPA ANSI Z223.1 Gas Vent Termination criteria for vents that terminate on a roof pitch that exceeds 9:12.
- Canada: vents must terminate a minimum of 3 feet (914mm) from a window or door that may be opened, and a non-mechanical air supply inlet or combustion air inlet into the building.

Model	Vent Pipe Diameter	Equivalent Vent Length	
		Minimum	Maximum
MHU200NG	4"	3'	70'
MHU250NG	6"	3'	70'
MHU300NG			
MHU400NG			

TABLE 4
Vent Pipe Diameters and Equivalent Vent Pipe Lengths for Horizontal Venting Systems

General Venting Requirements

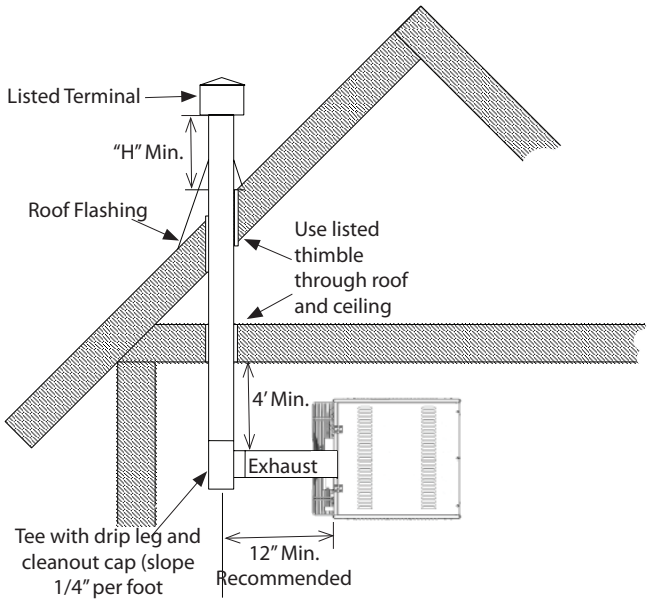


FIGURE 5

When possible, avoid venting through an unconditioned space. Venting through an unconditioned space promotes condensation. When venting through an unconditioned space is unavoidable, or if the unit is installed in an area that is prone to condensation, insulate venting runs greater than 5 feet to minimize the production of condensation. Inspect for leakage prior to insulating the venting and only use insulation that is non-combustible with a temperature rating of not less than 500°°F. It is recommended that the venting system is installed with a tee, drip leg, and clean-out cap as shown in Figure 5.

When venting pipe passes through a combustible interior wall or floor, a metal thimble with a diameter 4 inches greater than the vent pipe diameter must be used. If there is 6 feet or more of vent pipe prior to passing through the combustible wall or floor, then the metal thimble need only be 2 inches greater than the vent pipe diameter. If a metal thimble is not used, all clearance to combustibles from the vent pipe must be 6 inches. Where permitted, type B vent may be used for the last section of vent pipe to reduce the required clearance to combustibles when passing through a combustible wall or floor. When using type B venting, follow the manufacturer's recommended clearance to combustibles. Any material used to close or insulate the opening must be non-combustible.

How to attach a single wall vent terminal to double wall (Type B) vent pipe:

1. Look for the "flow" arrow on the vent pipe.
2. Slide the vent terminal inside the exhaust end of the double wall vent pipe.
3. Drill 3 holes through the pipe and the vent terminal. Using 3/4" long sheet metal screws, attach the cap to the pipe. Do not overtighten.

How to connect a single wall vent system to a double wall (Type B) vent pipe:

1. Slide the single wall pipe inside the inner wall of the double wall pipe.
2. Drill 3 holes through both walls of the single and double wall vent pipes. Using 3/4" sheet metal screws, attach the 2 pieces of pipe. Do not overtighten.
3. The gap between the single and double wall pipe must be sealed but it is not necessary to fill the full volume of the annular area. To seal, run a large bead of 500°°F silastic around the gap.

VERTICAL VENTING

An appliance that operates with a positive vent static pressure and with a vent gas temperature that avoids excessive condensate production in the vent is said to be 'Category III'. This unit heater is considered a Category III appliance if the venting system meets all of the following criteria:

- The vent system terminates vertically (up).
- The length of the horizontal portion of the vent run is less than 75% of the vertical rise length. (e.g.- If the vertical vent height is 10 feet, the horizontal run is less than 7-1/2 feet).
- Horizontal sections of the vent pipe must be installed with an upward slope from the appliance at a pitch of 1/4 inch per foot and suspended securely from overhead structures at points not greater than 3' apart.
- The vent terminates a minimum of 5 feet above the vent connection on the unit.

Venting Through Combustible Roof or Wall

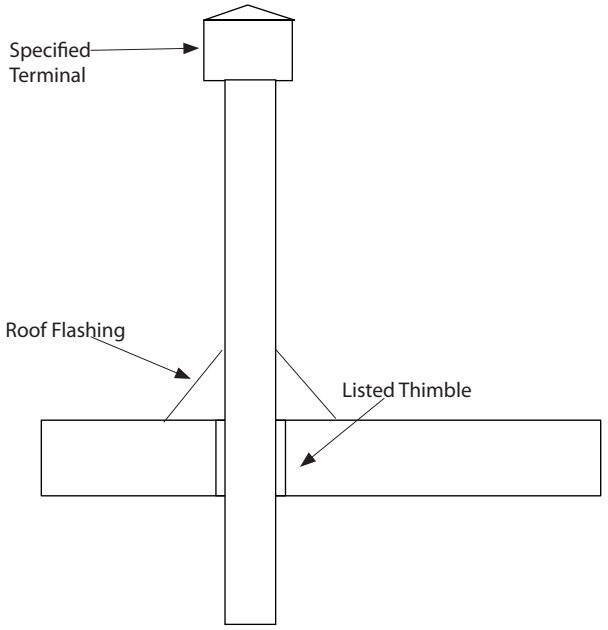


FIGURE 6

For vertical vent termination, the venting must comply with all the **General Venting Requirements** and with the following vent locations and clearances:

- Separate air intake duct from vent pipe by a minimum of 4 feet by placing vent pipes higher than adjacent air intake ducts.
- Utilize a listed type B vent termination cap.
- The vent terminal must extend a minimum of 2 feet above the roof.
- Vent caps should be located a minimum of 2 feet away from adjoining structures.
- All vertically vented heaters that are Category I must be connected to a chimney or vent complying with a recognized Standard, or lined masonry (or concrete) chimney with a material acceptable to the authority having jurisdiction. Venting into an unlined masonry chimney is not permitted. Refer to the National Fuel Gas Code.
- Use a listed vent terminal to reduce down drafts and moisture in the vent.
- Ensure the vent connector runs as short as possible with a minimum number of elbows. Refer to the (American) National Fuel Gas Code ANSI Z223.1 or (Canada) CSA B149.1 Natural Gas and Propane Installation Code for maximum vent and vent connector lengths. Horizontal run of the vent connector from the induced draft blower to the chimney/vent cannot exceed the values in Table 4.
- When the length of a single wall vent including elbows, exceeds 5 feet (1.5m), the vent shall be insulated along its entire length with a minimum of 1/2" thick foil faced fiberglass 1-1/2# density insulation. If a single wall vent is used in an unheated area it shall be insulated. Failure to do so will result in condensation of flue gases.
- All vertical type B-1 vents, single wall vents, or listed chimney lining system must be terminated with a listed vent cap or listed roof assembly.
- The vent must extend at least 3' (1m) above the highest point where it passes through a roof of a building and at least 2' (0.6m) higher than any part of a building within a horizontal distance of 10' (3.05m) unless otherwise specified by the (American) National Fuel Gas Code, ANSI Z223.1 or (Canada) CAN/CGA-B149 Installation Code. The vent must extend at least 5' (1.6m) above the highest connected equipment flue collar.

HORIZONTAL VENTING

An appliance that operates with a positive vent static pressure and with a vent gas temperature that avoids excessive condensate production in the vent is said to be 'Category III'. This unit heater is considered a Category III appliance if the venting system meets all of the following criteria:

- The vent system terminates horizontally (sideways).
- The vent terminates vertically, but the length of the horizontal portion of the vent run exceeds 75% of the vertical rise length. (e.g.- If the vertical vent height is 10 feet, the horizontal run is greater than 7-1/2 feet).
- Horizontal venting sections of the vent pipe must be installed with a downward slope from the appliance at a pitch of 1/4 inch per foot.
- The vent terminates below 5 feet of the vent connection on the unit.

Due to changes to Z83-8 2009 CSA2.6-2009, the use of single wall B-Vent is no longer permitted as an acceptable material when venting horizontally, this change covers both residential and commercial installations. All horizontally vented units manufactured after July of 2011 must be vented as a Category III Unit/Utility Heater in compliance with UL 1738 & ULS636.

Seal vent pipes with high temperature sealant and three (3) #8 sheet metal screws. Vent enclosed spaces and buildings according to the guidelines in this manual and applicable national, state, provincial and local codes.

You must use venting approved for Category III applications, and manufactured by a listed vent system manufacturer. For single wall vent systems, one continuous section of double wall vent pipe may be used with the vent system to pass through a wall or barrier.

All horizontal Category III vents must be terminated with a listed vent cap.

Exhaust Vent Construction Through Combustible Walls

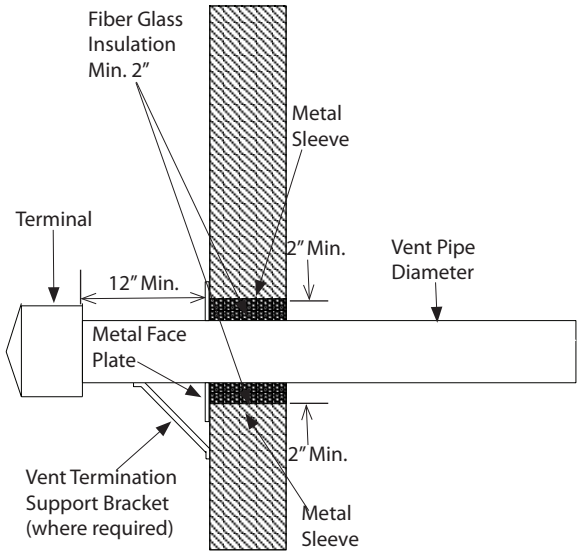


FIGURE 7

Additional requirements for horizontal venting:

- Category III venting systems may NOT be common vented, and no other gas units are allowed to be vented into it.
- Vent must terminate a minimum of 3 feet (914mm) above any forced air inlet that is located within 10 feet.
- The bottom of the vent terminate must be located a minimum of 12 inches above grade level and must extend beyond any combustible overhang.
- When horizontally vented, minimum clearance for termination from any door, window, gravity air inlet, gas or electric meter, regulators, and relief equipment is 4 ft. (1.2m) for U.S. installations. Refer to NFPA 54/ANSI Z223.1 in the U.S.A. and CSA B149.1 Natural Gas and Propane Installation Code and .2 in Canada or with authorities having local jurisdiction. In Canada, vent termination must have a minimum 6 ft. (1.8 m) horizontal clearance from gas and electric meters and relief devices as specified in the Canadian B149.1, Natural Gas Installation Code.
- Never join two sections of double wall vent pipe within one horizontal vent system, as it is impossible to verify that inner pipes are completely sealed.
- For a vent termination located under an eave, the distance of the overhang must be at least 24". The clearance to combustibles above the exterior vent must be maintained at a minimum of 12". Consult the National Fuel Gas Code for additional requirements for eaves that have ventilation openings.
- For horizontal venting, the vent pipe shall be supported with hangers no more than 3ft.(1m) apart to prevent movement after installation.

Horizontal Venting

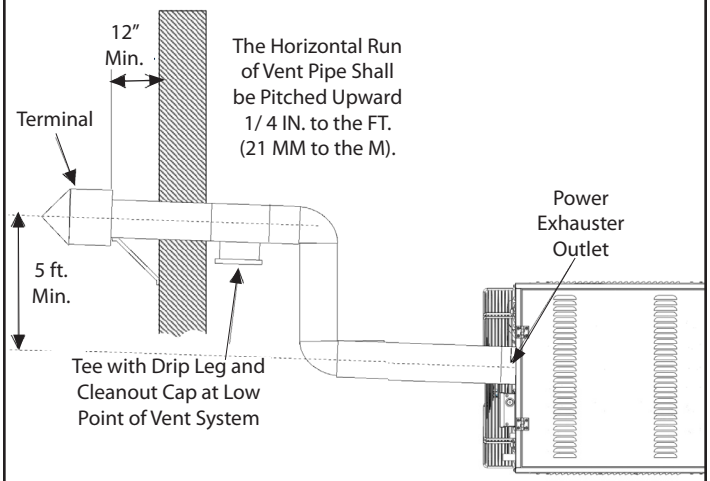


FIGURE 8

COMBUSTION AIR REQUIREMENTS

Adequate facilities for supplying air for combustion and ventilation must be provided in accordance with the latest edition of section 5.3, Air for Combustion and Ventilation, of the National Fuel Gas Code, ANSI Z223.1, in the U.S.A., CSA B149.1 Natural Gas and Propane Installation Code, the National Standards of Canada or applicable provisions of local building codes.

All gas fired appliances require air to be used for the combustion process. In many buildings today, there is a negative indoor air pressure caused by exhaust fans, etc. If sufficient quantities of combustion air are not available, the heater or another appliance will operate in an inefficient manner, resulting in incomplete combustion which can result in the production of excessive carbon monoxide.

Follow these guidelines and all applicable codes for all models prior to installing the combustion air duct work.

⚠WARNING: Sufficient combustion air must be supplied to the appliance at all times. Lack of combustion air may result in property damage, headaches, nausea, dizziness, asphyxiation, serious injury, or death.

GAS CONNECTIONS

⚠WARNING: Danger of explosion and fire. Improperly connected gas lines may result in serious injury and death, explosion, poisonous fumes, toxic gases, or asphyxiation. Connect gas lines in accordance to national, state, provincial, and local codes.
This heater burns natural gas or liquefied petroleum (LP) gas and is equipped with a regulator. The regulator is built into the gas valve. The maximum inlet pressure to this regulator is 20 in. W.C.. If gas line pressure exceeds 20 in. W.C., then an additional regulator must be installed before the heater/ regulator to step down the pressure to a maximum of 20 in. W.C..
All field gas piping must be pressure/leak tested prior to operation. Never use an open flame. Use a soap solution or equivalent for testing.
You must follow these instructions exactly. If over-heating occurs or if gas supply fails to shut off, shut off the manual gas valve to the appliance before shutting off electrical supply.

⚠CAUTION: Gas lines should be purged of air as described in ANSI Z223.1 (NFPA 54) or CSA-B149.1– latest version. Installation of the piping must also conform with the local building codes, or in the absence of local codes, with the latest edition of the National Fuel Gas Code (NFPA 54). In Canada, installation must be in accordance with CSA-B149.1.

When leak testing the gas supply piping system, the appliance and its combination gas control must be isolated during any pressure testing in excess of 14" W.C. (1/2 psi). The unit should be isolated from the gas supply piping system by closing its field installed manual shut-off valve. This manual shut-off valve should be located within 6' of the heater.
Turn off all gas before installing appliance

NOTICE: The total input to the appliance must fall within +/- 5% of the rated input as indicated on the rating plate. Otherwise the heat exchanger may prematurely fail.

All piping installed must comply with local codes and ordinances or with National Fuel Gas Code, ANSI Z223.1 (NFPA 54), whichever takes precedence. When installing piping, the following requirements must be taken into consideration: Canadian installations must comply with the B149.1.2 Gas Code.

- Use new properly reamed black pipe free from chips.
- Apply a good quality pipe compound to all male threads prior to assembly. If LP gas is the fuel, ensure that pipe compound is resistant to LP gas. **Do not use Teflon™ tape.**

	Gas supply Connection	Gas supply Pressure min.	Gas supply Pressure max.	Manifold Pressure	Orifice Drill Size	# of Orifices	Consump-tion
	[“]	[“ W.C.]	[“ W.C.]	[“ W.C.]	[“]		[CFH]
MHU200NG	1/2	7	20	4.5	0.110	6	190.5
MHU250NG	1/2	7	20	4.9	0.110	7	238.1
MHU300NG	1/2	7	20	1.73	0.138	9	285.7
MHU400NG	3/4	7	20	2.13	0.138	11	380.9

TABLE 5: Natural Gas Consumption

*Assumes an average heating value of 1050 BTU/SCF and a Specific Gravity of 0.60.

	Gas supply Connection	Gas supply Pressure min.	Gas supply Pressure max.	Manifold Pressure	Orifice Drill Size	# of Orifices	Consumption	
	[“]	[“ W.C.]	[“ W.C.]	[“ W.C.]	[“]		[CFH]	[Gal/Hr. Propane]
MHU200NG	1/2	11	20	7.23	0.075	6	80.0	2.19
MHU250NG	1/2	11	20	7.23	0.075	7	100.0	2.74
MHU300NG	1/2	11	20	3.81	0.084	9	120.0	3.29
MHU400NG	3/4	11	20	4.74	0.084	11	160.0	4.38

TABLE 6: Propane Gas Consumption

*Assumes an average heating value of 2500 BTU/SCF and a Specific Gravity of 1.53.

- A sediment trap meeting the typical requirements of Figure 9 shall be installed in the line to the gas valve.
- A dedicated shutoff valve for the heater must be installed in the gas supply line.

Refer to **Table 5** for natural gas and **Table 6** for propane to determine the cubic feet per hour (CFH) required for the type of gas and size of unit to be installed. To determine the proper pipe diameter, use the CFH value and the length of pipe necessary. In the case where several units are serviced by the same main gas line, the total capacity (CFH) and length of main must be adequate to service all appliances downstream of this main.

- All piping must be installed in accordance with the requirements outlined in the National Fuel Gas Code ANSI/Z223.1 (latest edition) or CSA-B149.1 and B149.2. Support all gas supply piping with pipe hangers, metal strapping, or other suitable material. Do not rely on the heater to support the gas pipe.

⚠WARNING: Always use two (2) opposing wrenches to tighten mating pipe connections to prevent excessive torque on the gas valve and manifold pipe. Excessive torque can damage the valve and/or misalign the orifice, resulting in fire, explosion, serious injury, or death.

- When connecting gas supply lines, the length of the piping run from the gas meter to the heater must be considered in determining the pipe size to avoid excessive pressure drop.
- A drip leg should be installed in the vertical pipe run to the unit. In some localities, codes may require that a manual main shutoff valve and union (furnished by installer) be installed external to the unit. Union must be of the ground joint type. A drip leg should be readily accessible to permit cleaning and emptying. See Figure 9.

NOTICE: Leave a min of 4’’ clearance to the electrical connections box on the back of the heater to allow for access.

A 1/8” NPT plugged tap shall be installed immediately upstream of the gas supply connection to the heater. The purpose of this is to be able to check for proper gas pressure entering the heater.

Gas Supply Connection

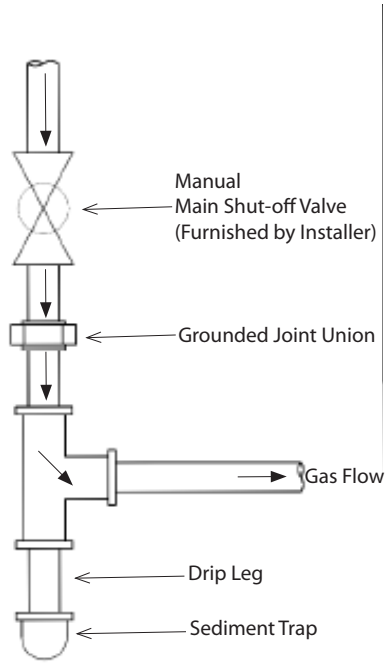


FIGURE 9

LEAK TESTING

⚠WARNING: Use a soap solution or equivalent for leak testing. Never test for leak with an open flame such as with matches or candles. Failure to comply could result in personal injury, property damage, or death.

- Always leak test final gas assembly for gas leaks according to the procedures outlined in NFPA 54 and all local codes and/or Standards.
- After gas piping is completed, carefully check all piping connections, (field and factory), for gas leaks.
- Due to the natural heating cycles and vibration of this unit it is recommended, as part of its annual maintenance, to check these connections for proper tightness and leak-check with a soap solution or other preferred means prior to putting into service.

For leak testing on pressures below 20 inches W.C.:

Before leak testing, close the field installed manual shut off valve shown on Figure 9 on the supply line to isolate the gas valve from the pressure.

NOTICE: All factory installed gas connections have passed an approved leak test.

For leak testing on pressures above 20 inches W.C.:

When leak testing with pressures above 20 inches W.C., the unit must be isolated from the supply pipe. Close the field installed manual shut off valve, disconnect the supply line to the unit, and temporarily cap the supply line for testing purposes.

⚠WARNING: Gas pressures to the appliance controls must never exceed 20 inches W.C.. Supply pressures greater than 20" W.C. can damage the controls, resulting in personal injury, property damage, or death.

NOTICE: In case emergency shutdown is required, shut down main gas valve and disconnect main power to unit. These devices should be properly labeled by the installer.

HIGH ALTITUDE OPERATION

⚠ WARNING

Explosion hazard. This heater must be converted by a trained gas installation and service personnel only. Failure to comply could result in personal injury, asphyxiation, death, and fire or property damage.

This Unit heater is factory configured for altitudes from 0 – 2,000 ft above sea level. Above 2000 ft. (610m), manifold pressure must be adjusted according to the following tables:

Model	Altitude 0-2000 ft. (0-610m)				Altitude 2000-3000 ft. (610-910mm)			
	Manifold Pressure		Input Rating		Manifold Pressure		Input Rating	
	[" W.C.]	[kPa]	[BTU/Hr]	[W]	[" W.C.]	[kPa]	[BTU/Hr]	[W]
MHU200NG	4.5	1.12	200,000	58,614	4.15	1.03	192,000	56,269
MHU250NG	4.9	1.22	250,000	73,268	4.52	1.12	240,000	70,337
MHU300NG	1.73	0.43	300,000	87,921	1.59	0.40	288,000	84,404
MHU400NG	2.13	0.53	400,000	117,228	1.96	0.49	384,000	112,539

Model	Altitude 3000-4000 ft. (910-1220m)				Altitude 4000-4500 ft. (1220-1350mm)			
	Manifold Pressure		Input Rating		Manifold Pressure		Input Rating	
	[" W.C.]	[kPa]	[BTU/Hr]	[W]	[" W.C.]	[kPa]	[BTU/Hr]	[W]
MHU200NG	3.81	0.95	184,000	53,925	3.65	0.91	180,000	52,753
MHU250NG	4.15	1.03	230,000	67,407	3.97	0.99	225,000	65,941
MHU300NG	1.46	0.36	276,000	80,887	1.40	0.35	270,000	79,129
MHU400NG	1.80	0.45	368,000	107,850	1.73	0.43	360,000	105,505

TABLE 7: Natural Gas Heating Values at Altitude

Model	Altitude 0-2000 ft. (0-610m)				Altitude 2000-3000 ft. (610-910mm)			
	Manifold Pressure		Input Rating		Manifold Pressure		Input Rating	
	[" W.C.]	[kPa]	[BTU/Hr]	[W]	[" W.C.]	[kPa]	[BTU/Hr]	[W]
MHU200NG	7.23	1.8	200,000	58,614	6.66	1.66	192,000	56,269
MHU250NG	7.23	1.8	250,000	73,268	6.66	1.66	240,000	70,337
MHU300NG	3.81	0.95	300,000	87,921	3.51	0.88	288,000	84,404
MHU400NG	4.74	1.18	400,000	117,228	4.37	1.09	384,000	112,539

Model	Altitude 3000-4000 ft. (910-1220m)				Altitude 4000-4500 ft. (1220-1350mm)			
	Manifold Pressure		Input Rating		Manifold Pressure		Input Rating	
	[" W.C.]	[kPa]	[BTU/Hr]	[W]	[" W.C.]	[kPa]	[BTU/Hr]	[W]
MHU200NG	6.12	1.52	184,000	53,925	5.86	1.46	180,000	52,753
MHU250NG	6.12	1.52	230,000	67,407	5.86	1.46	225,000	65,941
MHU300NG	3.22	0.80	276,000	80,887	3.09	0.77	270,000	79,129
MHU400NG	4.01	1.00	368,000	107,850	3.84	0.96	360,000	105,505

TABLE 8: Propane Gas Heating Values at Altitude

In case the manifold pressure is changed for this reason, the altitude label in the conversion kit must be completed and affixed to the unit:

This appliance was converted on _____ (day-month-year) for operation at ____ ft.(___m) altitude by _____ (name and address of the organization making this conversion) which accepts the responsiblity that this conversion has been properly made.
Manifold pressure adjustment____W.C. Input rating____ Btu/hr

ELECTRICAL REQUIREMENTS

⚠ WARNING

Shock hazard. Disconnect power supply before making wiring connections to prevent electrical shock and equipment damage. All appliances must be wired strictly in accordance with wiring diagram furnished with the appliance. Any wiring different from the wiring diagram could result in a hazard to persons and property.
Ensure that the supply voltage to the appliance, as indicated on the rating plate, is not 5% greater/ less than rated voltage.
Any original factory wiring that requires replacement must be replaced with wiring material having a temperature rating of at least 221°F (105°C).

- Installation of wiring must conform with local building codes, or in the absence of local codes, with the National Electric Code ANSI/NFPA 70 - Latest Edition. Unit must be electrically grounded in conformance to this code. In Canada, wiring must comply with CSA C22.1, Part 1, Electrical Code.
- Two copies of the unit wiring diagram are provided with each unit. One is located in the side access control compartment and the other is supplied in the literature packet. Refer to this diagram for all wiring connections.
- Make sure all multi-voltage components (motors, transformers, etc.) are wired in accordance with the power supply voltage.
- The power supply to the unit must be protected with a fused or circuit breaker switch, so that power can be turned off for servicing.

		Power Supply			
	[V]	[A]	[Hz]	[Ph]	[W]
MHU200NG	120	6.3	60	1	756
MHU250NG	120	6.3	60	1	756
MHU300NG	120	10	60	1	1,200
MHU400NG	120	10	60	1	1,200

TABLE 9: Electrical Specifications

External electrical service connections that must be installed include:

a. Supply power connection (115, 208, 230, 460, or 575 volts).

b. Connection of thermostats, or any other accessory control devices that may be supplied (24 volts).

All supply power electrical connections are made in the side access control compartment of the unit. The low voltage (thermostat and accessory control devices) can be wired to the terminals in the side access control compartment. Refer to the wiring diagram for the terminal location of all low voltage wiring.

NOTICE: These unit heaters use a direct spark ignition system. There is no pilot necessary as the spark lights the main burner as the gas valve is turned on. The direct spark ignition control board emits radio noise during burner ignition. The level of energy may be enough to disturb a logic circuit in a microprocessor controlled thermostat. It is recommended that an isolation relay be used when connecting the unit heater to a microprocessor controlled thermostat. Select circuit protection and wire size according to the unit rating plate. Remove electrical junction box cover and connect wiring through knockout on the junction box located on the side of the heater. Refer to heater wiring diagram for connection information. Use a wire for line power connections with proper section size according to the electrical power data indicated in **Table 9** and its length. Make sure to connect line power to wires located in the external electrical junction box behind junction box cover. DO NOT CONNECT LINE POWER TO THERMOSTAT TERMINAL STRIP ON OUTSIDE OF HEATER.

Electrically ground the unit in accordance with local codes or in the absence of local codes, in accordance with the current National Electrical Code (ANSI/NFPA No. 70) in the USA, and in Canada with the current Canadian Electrical Code, Part 1 CSA C22.1.

Un-insulated ground wire must be wrapped in electrical tape to avoid damage to the electrical system.

- Make line voltage connections as shown in Figure 10. Connect field wiring as shown on wiring diagram on unit. Also, refer to typical diagram in this manual.
- To use the blower for air circulation only, your thermostat must have a "fan only" or fan selection setting. In case your thermostat has this option, an additional wire should be run to the "⏚"terminal on the thermostat connection block. See wiring schematic in Figure 11 .

Main Components

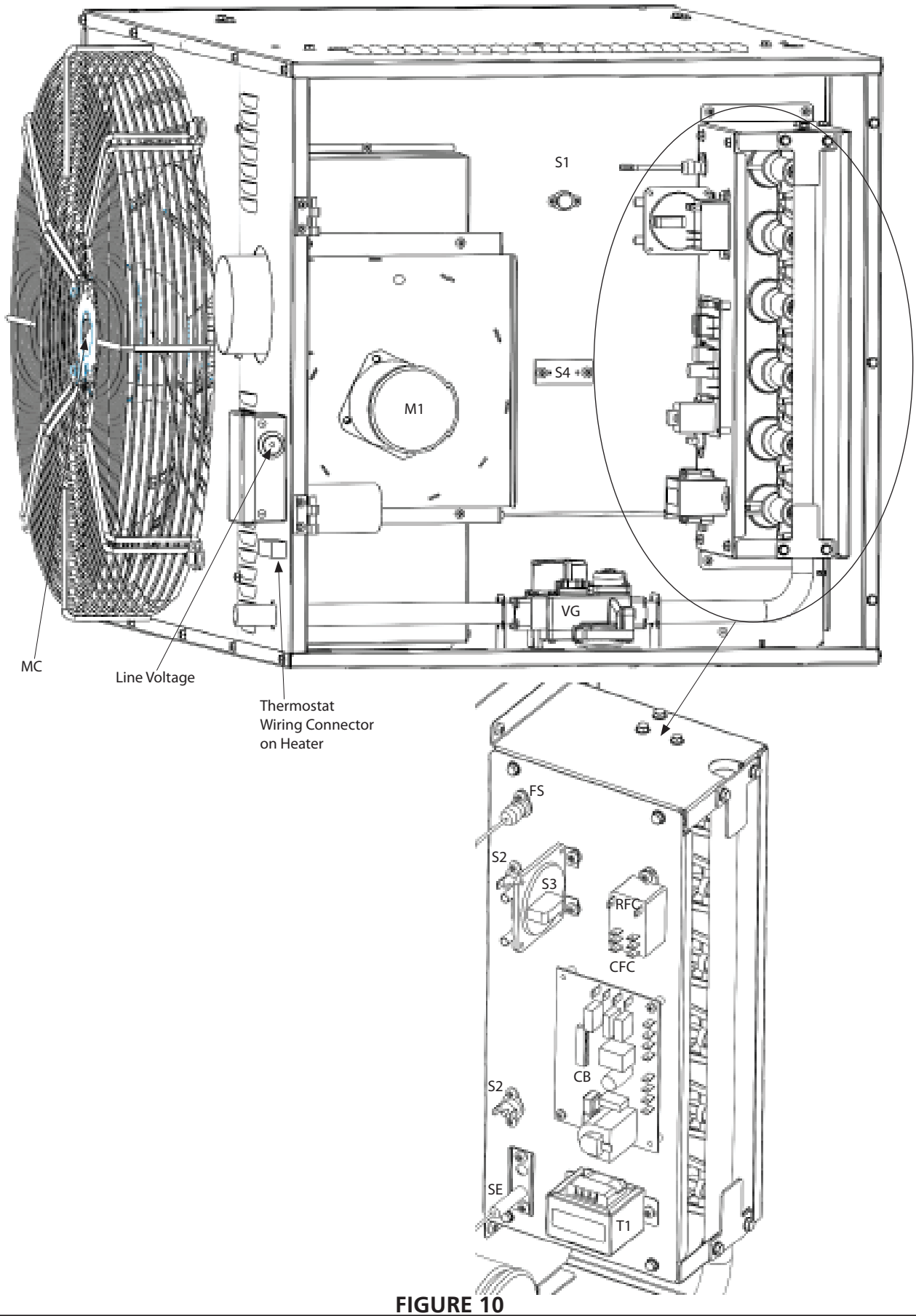
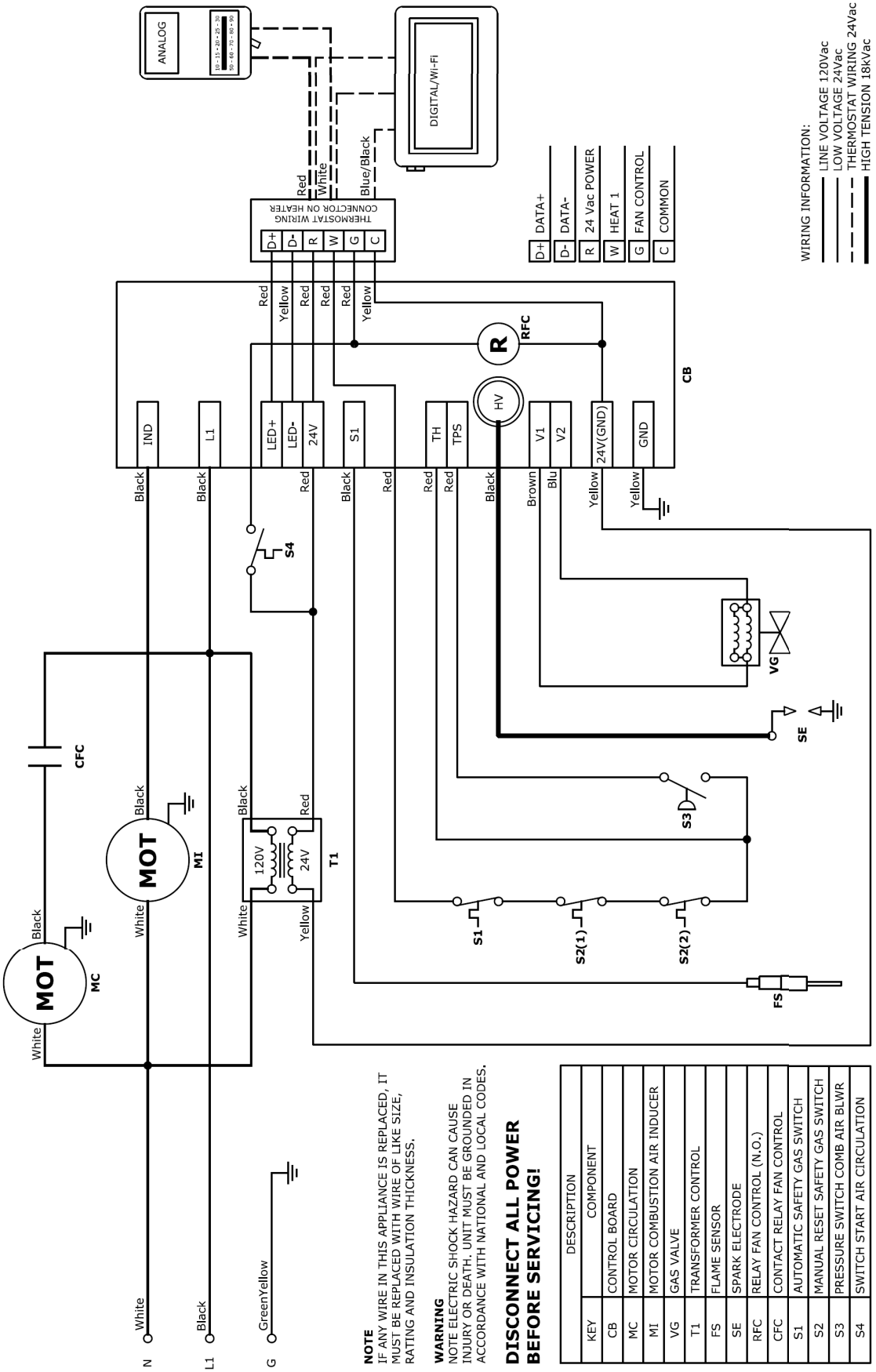


FIGURE 10

Internal Wiring Diagram



KEY	DESCRIPTION COMPONENT
CB	CONTROL BOARD
MC	MOTOR CIRCULATION
MI	MOTOR COMBUSTION AIR INDUCER
VG	GAS VALVE
T1	TRANSFORMER CONTROL
FS	FLAME SENSOR
SE	SPARK ELECTRODE
RFC	RELAY FAN CONTROL (N.O.)
CFC	CONTACT RELAY FAN CONTROL
S1	AUTOMATIC SAFETY GAS SWITCH
S2	MANUAL RESET SAFETY GAS SWITCH
S3	PRESSURE SWITCH COMB AIR BLWR
S4	SWITCH START AIR CIRCULATION

FIGURE 11

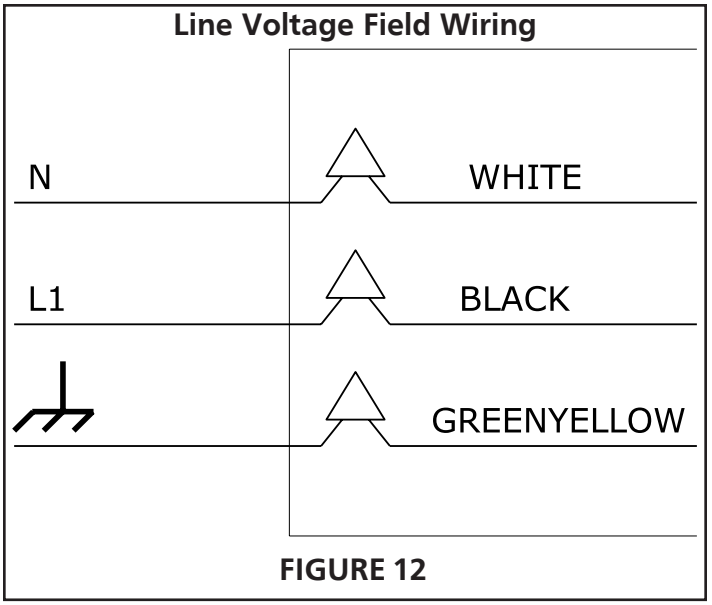


FIGURE 12

⚠WARNING: Electric shock hazard. Can cause injury or death. Do not use this heater if any part has been under water. Immediately call a qualified service technician to inspect the furnace and to replace any part of the control system and any gas control which has been under water.
Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es). Unit may have multiple power supplies.

FIELD WIRING SUPPLY VOLTAGE

Before proceeding with electrical connections, ensure that the supply voltage, frequency, phase, and current capacity meet the requirements specified on the rating plate. A dedicated line voltage supply with properly sized wire should run directly from the main electrical panel to the heater.

⚠CAUTION: The power supply to the heater must be within +/- 5% of the voltage rating as indicated on the rating plate of the appliance. If input power does not meet these specifications, contact your utility company.

- An electrical service disconnect must be provided at the furnace location. A 2 x 4 junction box can be mounted directly to the unit panel utilizing the provided 1/2" knock-out. If conditions do not allow for this, locate the service disconnect not more than 5 feet away from the service access panel.
- The main electrical supply enters at the rear of the heater utilizing 1/2" electrical knock-out. When routing the electrical supply conduit to the unit, ensure that it does not interfere or obstruct the heater's service access panel.
- Unit comes with three wire leads to connect the main power supply. Connect the hot, neutral, and ground wires as shown in the field wiring diagram. When routing wires through the knockout, use a UL Listed bushing or chase nipple to prevent damage to the wire insulation. When operating this unit as a sealed combustion appliance, the cabinet opening to the junction box must be sealed air tight using either a UL approved bushing or a non-reactive UL approved sealant to bushing.

⚠WARNING: Edges of sheet metal holes may be sharp. Use gloves as a precaution when routing wires.

- Connect wires together with UL approved wire connectors.

NOTICE: A UL Listed switch may be installed in the 2x4 junction box for use as a service disconnect.

⚠CAUTION: Route the field supplied power wires so that they do not come in contact with the flue wrapper or venter housing. These hot surfaces may damage the wire's insulation, resulting in damage to the unit.

THERMOSTAT LOCATION

The location of the thermostat should be determined by the desired heating requirements and be mounted on an inside wall five (5) feet above the finished floor. Locate the thermostat in a conspicuous location, away from where it could be influenced by heat from the unit or other sources, as this may cause the unit to short cycle. Care should be given to locate the thermostat away from drafts or frequently opened doors. To prevent drafts inside the wall from affecting the thermostat's performance, plug hole for the wire with insulation or suitable caulk. For further information, see the accompanying instructions with the thermostat.

START-UP OPERATION

UNIT START–UP

⚠WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, serious injury, or death. This heater must be installed and serviced by a trained gas installation and service personnel only.

During heater startup ensure that building is well ventilated.

⚠CAUTION: Shock Hazard. Before attempting to perform any service or maintenance, turn electrical power to unit OFF at disconnect switch.
During the first unit startup, an odor and, perhaps, some vapor will come from the heater. This is the gasket binding material emitting this odor and/ or vapor. After approximately 20 minutes, this odor will disappear and not occur again.
During these 20 minutes it is recommended to ventilate the room as much as possible (open doors, windows, turn on any fans).

Pre-Start Up Checks

Verify that the installation conforms to all of the specifications of the manual, as well as with local, state, national, and provincial codes. In absence of local codes, the unit heater must be installed according to the current National Fuel Gas Code ANSI Z223.1 (NFPA 54). In Canada, the installation must conform to the current National Standard of Canada CSA-B149 Sections 1 & 2.

Prior to starting up the unit, verify that:

- The gas type listed on the rating label matches that of your application.
- The gas connections have been purged of air and properly leak tested.
- The voltage type and frequency listed on the rating label matches that of your application.
- The unit is properly grounded as per the National Electrical Code, ANSI/NFPA 70 or Canadian Electrical code CSA C22.1 Part 1.
- The unit is properly mounted to a permanent structure able to bear the weight of the unit.

- The proper mounting height is observed for the application.
- All clearance to combustible distances or service clearances are maintained.
- The unit is properly isolated or installed to prevent excessive vibration.
- The unit is level horizontally.
- Venting is properly installed in accordance with this manual and any applicable codes.
- Combustion air supply is sufficient to support proper operation at all times.

See Annex 1 for a start up and performance check list to fill for each unit.

Verify Proper Inlet Pressure

⚠WARNING: Before starting up the unit, smell all around the unit heater for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

When turning the gas shut off valve, only use your hand. Never use tools to turn the knobs, as it may damage the valve resulting in a fire or explosion. If the knob is stuck, do not try to repair it.

Contact a qualified service technician or your local gas company.

To verify the proper inlet pressures, follow the following steps:

1. Turn off the gas supply at the manual gas shut off valve.
2. Unscrew the screw inside the inlet pressure hose connector. See Figure 13.
3. Turn on the gas supply at the manual gas shut off valve.
4. Turn on the electrical power to the unit heater.
5. To light the main burners, set the room thermostat to a point above room temperature.

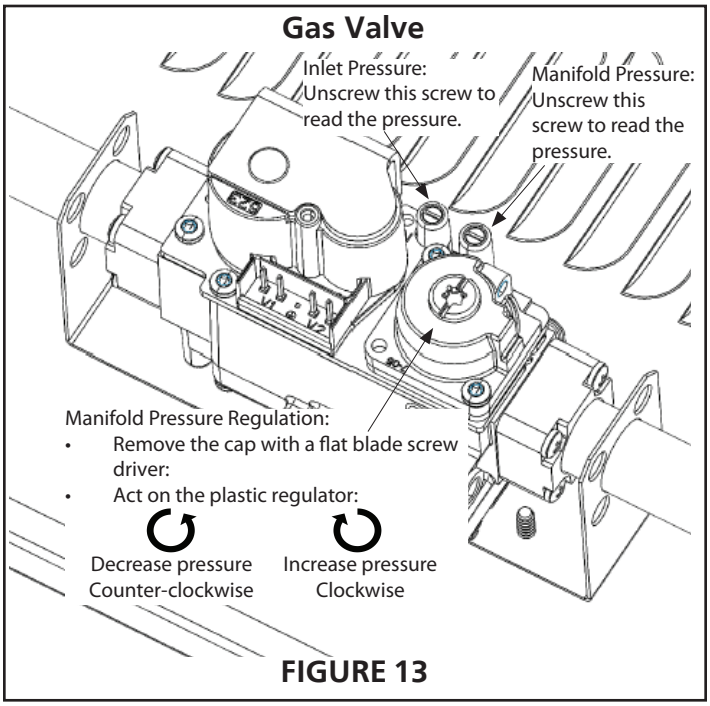


FIGURE 13

NOTICE: This unit heater is equipped with an ignition device, which automatically lights the burner. This unit heater cannot be lit manually. Do not try to light the burner by hand.

The minimum and maximum inlet gas supply pressure are indicated in Table 5 and in Table 6.

Verify minimum inlet gas supply pressure:

6. Turn on all other gas appliances that are on the same supply line. If the other gas appliances have multiple inputs, set it to the maximum rating.
7. Observe the pressure rating on the pressure gauge.

Verify maximum inlet gas supply pressure:

8. Turn off all other gas appliances on the same supply line.
9. Observe the pressure reading on the pressure gauge.

IMPORTANT: If the inlet gas supply pressure is not within the minimum and maximum range as shown on the rating plate, contact your gas supplier.

Removing pressure gauge from inlet port on gas valve:

10. Set thermostat or other control device to the lowest set point.
11. After heater has completed the post-purge cycle, turn off the electrical power to the unit heater.
12. Turn off the gas supply at the manual gas shut off valve.
13. Remove the pressure gauge tube.
14. Close the screw inside the inlet pressure hose connector.
15. Leak check using a soap solution or equivalent method as described in ANSI Z223.1 (NFPA 54).

Verify Manifold Pressure

Before starting up the unit, smell all around the unit heater for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

When turning the gas shut off valve, only use your hand. Never use tools to turn the knobs, as it may damage the valve resulting in a fire or explosion. If the knob is stuck, do not try to repair it, contact a qualified service technician or your local gas company.

To verify the proper manifold pressure, follow the following steps:

1. Turn off the electrical power to the unit heater.
2. Unscrew the screw inside the manifold pressure hose connector (see Figure 13).
3. Connect the pressure gauge tube and manometer.
4. Turn on the electrical power to the unit heater.
5. To light the main burners, set the room thermostat to a point above room temperature.

NOTICE: This unit heater is equipped with an ignition device, which automatically lights the burner. This unit heater cannot be lit manually. Do not try to light the burner by hand.

6. After the unit has successfully ignited, wait five minutes prior to taking any readings. The unit heater must be in a steady state of operation prior to taking a manifold pressure reading.
7. While waiting for the unit to stabilize, observe the characteristics of the flame. The flame should be stable and should not lift form any burner. The burner color should be light blue, and not create excessive noise.
8. After five minutes, observe the pressure rating on the pressure gauge.

The target manifold gas supply pressure is indicated in Table 5 and Table 6 :

NOTICE: Manifold pressure of the heater is pre-set at the factory. No adjustment should be necessary.

During the verification process, a tolerance of +/- 5% of the full scale is acceptable due to varying atmospheric conditions.

If manifold pressure is outside of this tolerance, then an adjustment may be necessary.

9. Set the adjustment screw until reach the pressure indicated in the rating plate.

Removing pressure gauge from manifold port on gas valve:

10. Set thermostat or other control device to the lowest set point.
11. After heater has completed the post-purge cycle, turn off the electrical power to the unit heater.
12. Turn off the shut-off gas valve.
13. Remove the pressure gauge tube and the manometer.
14. Close the screw inside the manifold pressure hose connector (see Figure 13).
15. Turn on the shut-off gas valve.
16. Set thermostat or other control device to the highest set point.
17. Wait until the unit starts.
18. Leak check the manifold pressure hose connector using a soap solution or equivalent method as described in ANSI Z223.1 (NFPA 54).

Prior to Leaving Job Site

Prior to leaving the job site, verify that:

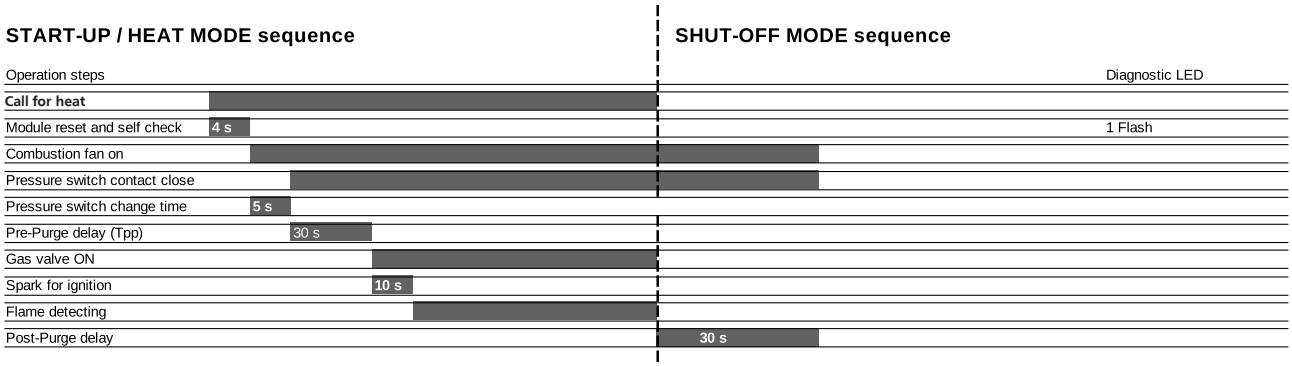
- Service access door is properly secured to the unit.
- The heater is clear of any objects that would interfere with the proper air circulation or that violate the listed clearance to combustibles.
- Air directional louvers are adjusted for desired air flow and are not shut or adjusted beyond 60°°from perpendicular to the face of the unit.
- Manual gas shut off is ON.
- Electrical power is ON.
- Thermostat is set to desired temperature.
- Properly dispose of all packaging materials.
- Check to be sure you have all of your tools.
- Leave the Installation, Operation, Maintenance and Parts Manual to the owner or end user.

UNIT WORKING SEQUENCE

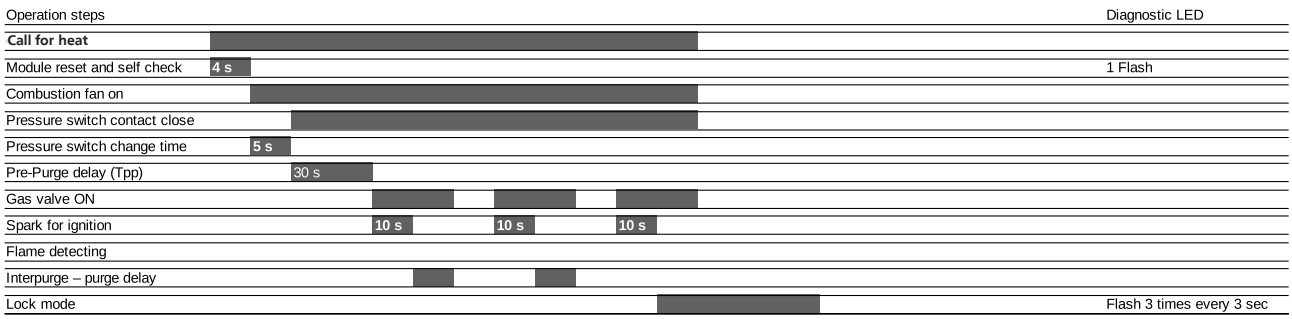
⚠WARNING: FOR YOUR SAFETY READ BEFORE LIGHTING BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

⚠WARNING: This appliance does not have a pilot ignition. It is equipped with an ignition device which automatically lights the burner. Do not attempt to light the system by hand.

Start-Up Sequence

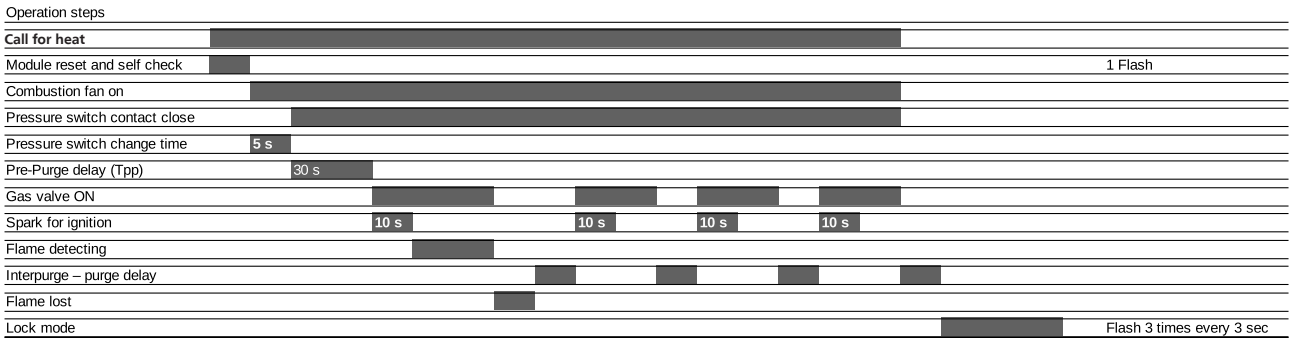


Start-Up Flame Failure Sequence



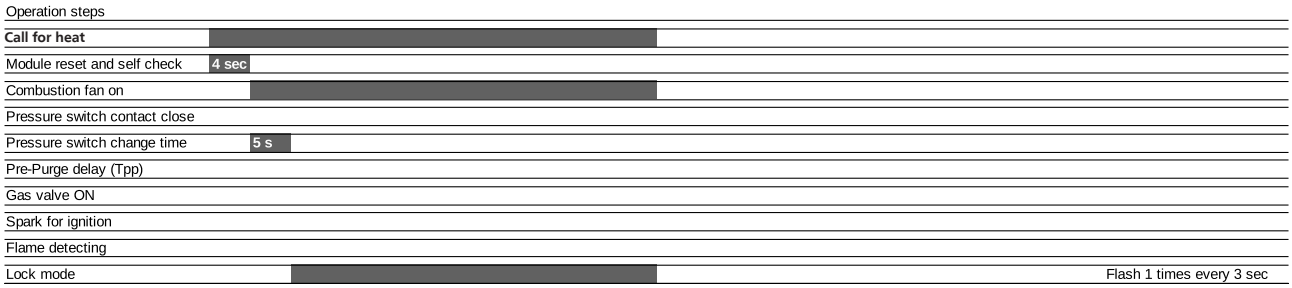
Flame Lost Sequence

FLAME LOST sequence (Multy Try Mode)



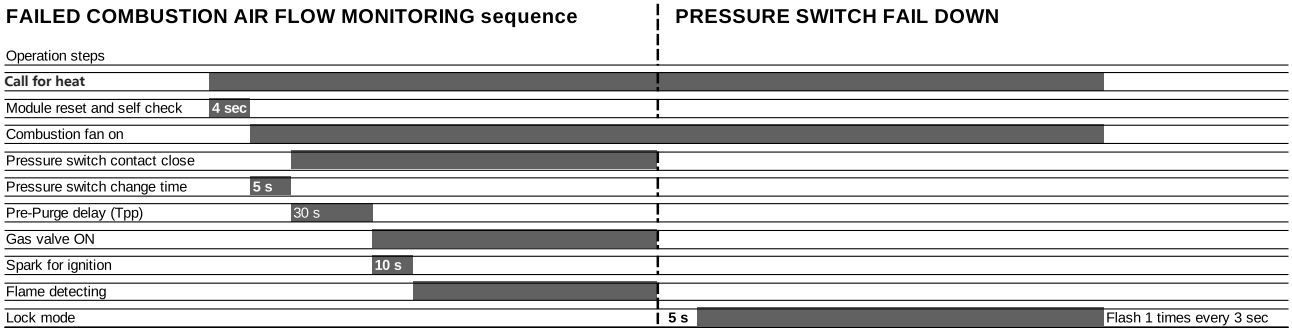
Start-Up Failed Pressure Switch Condition Change Sequence

START-UP FAILED PRESSURE SWITCH CONDITION CHANGE sequence



Failed Combustion Air Flow Monitoring Sequence

FAILED COMBUSTION AIR FLOW MONITORING sequence **PRESSURE SWITCH FAIL DOWN**



SEQUENCE OF OPERATION

1. **STOP!** Make sure you have read and understand all of the safety information regarding the operation of this gas appliance. Any and all service should be performed by a licensed installer
2. Set the thermostat to lowest setting.
3. Turn off all electrical power to appliance.
4. This appliance is equipped with an ignition device which automatically lights burner. **DO NOT** attempt to light the burners manually.
5. There is a main shut-off valve upstream of the unit. Open it. (See Figure 9 on Page 11)
6. Wait five minutes to clear out any gas. If you then smell gas, **STOP!** Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions. If you do not smell gas go to next step.
7. Turn on electrical power to unit.
8. Set the thermostat to desired setting.

⚠WARNING: Should overheating occur, or the gas supply control system fail to shut off the flow of gas, shut off the manual gas valve to the utility heater before shutting off the electrical supply

SHUTDOWN PROCEDURES

1. Set thermostat to lowest level.
2. Turn off all electrical power to unit if service is to be performed.
3. Turn manual shut off knob upstream the unit. Do not force.

MAINTENANCE

⚠CAUTION: Turn off gas and electrical power to unit before performing any maintenance or service operations on this unit. Remember to follow lighting instructions when putting unit back into operation after service or maintenance.
If any of the original wire as supplied with the appliance must be replaced, it must be replaced with wiring material having a temperature rating of at least 105°C.
Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and replace any gas control which has been under water.

- Check gas tightness of the safety shut off valves on at least an annual basis.
- To check gas tightness of the safety shut off valves, turn off the manual valve upstream of the appliance combination control. Remove the hex head plug on the inlet side of the combination control and connect a manometer to that tapping.
- Turn the manual valve ON to apply pressure to the combination control. Note the pressure reading on the manometer, then turn the valve off. Any loss of pressure indicates a leak. If a leak is detected, use a soap solution to check all threaded connections. If no leak is found, combination control is faulty and must be replaced before putting appliance back in service.

Should maintenance be required, perform the following inspection and service routine:

BURNERS

- Periodically examine burner flames for proper appearance during the heating season.
- Before each heating season examine the burners for any deposits or blockage that may have occurred.

Clean burners as follows:

1. Turn off both electrical and gas supplies to unit.
2. Disconnect gas supply piping, high tension and sensor leads. Remove gas manifold. Remove burner tray.
3. Clean burners as necessary. Make sure that burner heads line up properly to ensure flame crossover. Check spark gap on electrode and adjust if required. The gap should be between 0.110 inch and 0.140 inch (2.79mm to 3.56mm). The gap may be checked with appropriately sized twist drills or feeler gauges.
4. Reinstall burner tray, gas manifold, high tension and sensor leads. Reconnect gas supply piping.
5. Restore electrical power and gas supply. Follow lighting instructions to light unit. Check burner flame.

FLUE PASSAGEWAY AND FLUE BOX

The flue passages and flue box should be inspected and cleaned prior to each heating season. The sequence of operation should be as follows:

1. Turn off both electrical and gas supply to unit.
2. Disconnect combustion air blower wiring.
3. Remove screws securing flue box to unit. Remove flue box. If necessary, remove blower assembly from flue box. Clean flue box with wire brush.
4. Remove turbulator retention bracket and turbulators. Clean turbulators with wire brush.
5. Remove burners as described in section “BURNERS” section.
6. Clean tubes with a wire brush.
7. Reassemble unit. The combustion air and flue box gaskets should also be replaced during reassembly.
8. Restore electrical power and gas supply. Follow lighting instructions to light unit. Check operation of unit.

COMBUSTION AIR BLOWER

Under normal operating conditions, the combustion air blower should be checked and cleaned prior to the heating season with the power supply disconnected. Use a small brush to clean blower wheel.

ELECTRICAL

1. Check all wiring for loose connections.
2. Check for correct voltage at unit (unit operating).
3. Check amperage draw.

FLUE AND CHIMNEY

Check all vent and vent connector joints for tightness. Ensure that connections are sealed and that there are no blockages.

OTHER CHECKS

1. Inspect the area near the unit to be sure that there is no combustible material located within the minimum clearance requirements listed in this manual. Under no circumstances should combustible material be located within the clearances specified in this manual. Failure to provide proper clearance could result in personal injury or equipment damage from fire.
2. Complete the appropriate unit startup procedure as given in the Operation section of this Manual (see lighting instructions on the unit rating plate.)
   - Check the burner adjustment.
   - Also check all gas control valves and pipe connections for leaks.
3. Check the operation of the automatic gas valve by lowering the setting of the thermostat, stopping the operation of the gas unit heater. The gas valve should close tightly, completely extinguishing the flame on the burner.
4. If combustion air is room supplied, ensure that a 12 inch clearance is maintained all around the inlet openings.
5. Check and test functions of all safety devices supplied with the heater (see UNIT START-UP and UNIT WORKING SEQUENCE sections).

FUEL CONVERSION INSTRUCTIONS

The heater is standard manufactured for operation with natural gas. In case of use with LP /propane gas, use the conversion orifices supplied with the unit. Follow the instructions below.

Position of the Manifold Screws

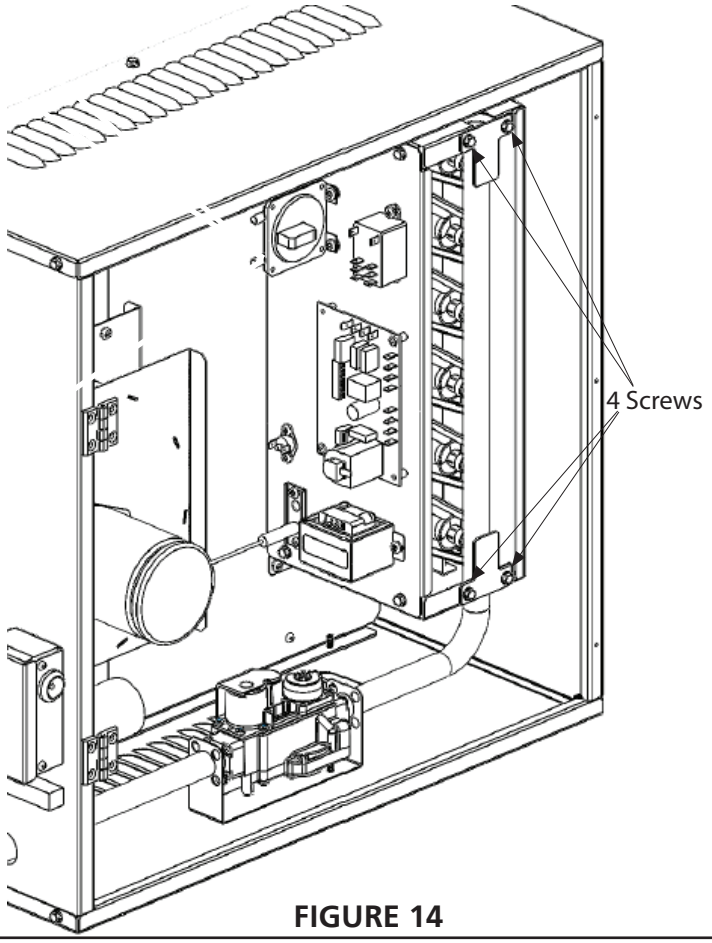


FIGURE 14

Rotation of the Valve/Manifold Assembly

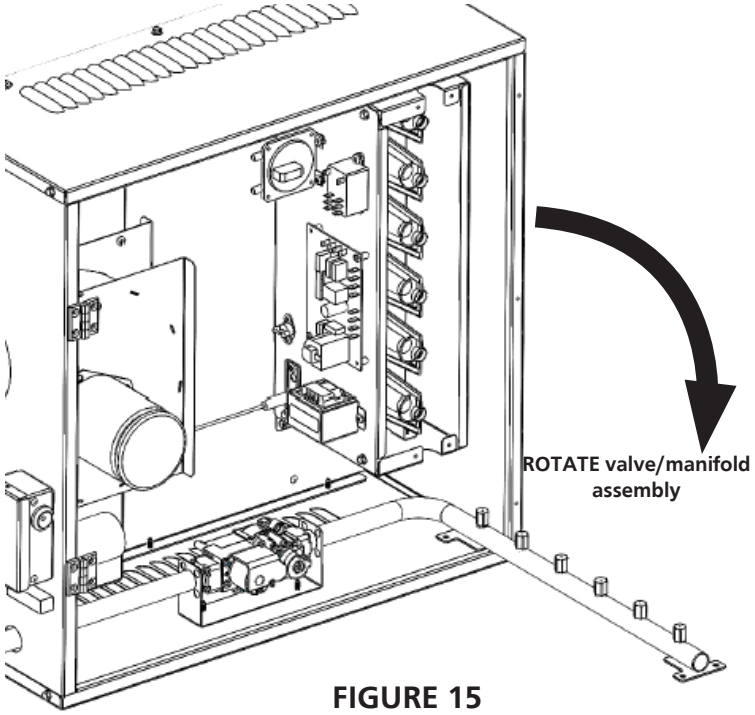


FIGURE 15

⚠ WARNING: Explosion Hazard

TURN OFF THE GAS SUPPLY TO THE HEATER BEFORE PERFORMING ANY SERVICE OR MAINTENANCE.

FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN DEATH, INJURY OR PROPERTY DAMAGE.

⚠ WARNING: Electrical Shock Hazard

UNPLUG THE ELECTRICAL CORD FROM THE OUTLET BEFORE PERFORMING ANY SERVICE MAINTENANCE.

FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN DEATH, INJURY OR PROPERTY DAMAGE.

The electrode and sensor are not adjustable. DO NOT change location or position as part of this conversion kit.

⚠WARNING⚠

THIS CONVERSION KIT SHALL BE INSTALLED BY A QUALIFIED SERVICE AGENCY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND ALL APPLICABLE CODES AND REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE, EXPLOSION OR PRODUCTION OF CARBON MONOXIDE MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE. THE QUALIFIED SERVICE AGENCY PERFORMING THIS WORK ASSUMES RESPONSIBILITY FOR THE PROPER CONVERSION OF THIS APPLIANCE WITH THIS KIT.

Step 1

⚠CAUTION: THE UNIT MUST NOT BE CONNECTED TO EITHER THE GAS SUPPLY OR THE ELECTRICAL POWER SUPPLY, BEFORE PROCEEDING WITH CONVERSION.

Step 2

Remove and retain the four screws holding the manifold on to the burner box (Figure 14). Rotate the valve/ manifold assembly, away from the burners (Figure 15). The valve/manifold assembly holds the orifices. This will allow access to the orifices on the manifold.

Step 3

Remove and discard the adjustment spring cap from gas valve/ regulator with a flat blade screw driver by turning the screw counter-clockwise.

Step 4

Remove and discard the orifices from the manifold with using a ½ " open end wrench. Turn them counter-clockwise to remove. Take the new orifices from the conversion kit and before installing, confirm that the number stamped on the side of the orifice matches as indicated in **Table 1**. If it does not, immediately contact Mr. Heater, Inc. for the correct kit. If they are the correct orifices, install them in the manifold using caution not to cross thread.

Step 5

Rotate the valve/ manifold assembly back up into the burner box, making sure that all the orifices are indexed into the burners and are not caught on the locating ring on the back of each burner. Secure the manifold to the burner box with the four screws removed in step 2.

Step 6

Following the instructions Electrical Requirements and Gas Connections Sections (making sure to leak check all connections with soapy water) to reinstall the heater.

Step 7

Take the rate tag from the kit and stick it over the existing portion of the rate label. This tag is preprinted with all the correct information for the converted heater. See Figure 16.

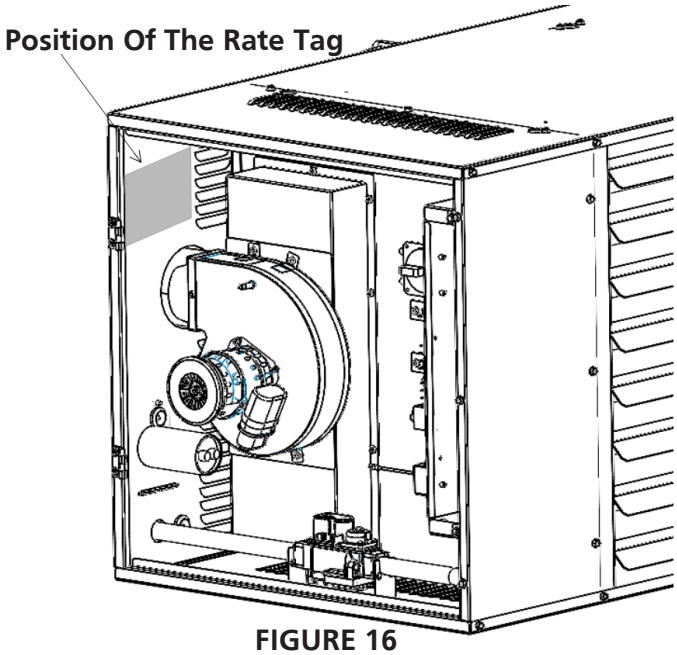


FIGURE 16

Step 8

Remove the converted information tag from the kit and fill in the information. Then place this tag below the updated rating tag on the unit.

Step 9

Replace any panels and operate heater following all warnings/cautions and instructions in the operator's manual and labels.

TROUBLESHOOTING GUIDE

NOTICE: Bypassing any switch is intended for testing purposes only. Do not leave switch bypassed during normal operation or the heater's built-in safety mechanisms will be compromised.

Symptom	Possible Cause	Corrective Action
The draft inducer motor does not turn on	1. The air circulating fan does not turn on immediately.	1. Limit switch is open or pressure switch is stuck closed. Find faulty switch and repair.
	2. The heater does not have 120 VAC at the main power connection.	2. Find source of electrical problem.
	3. There isn't 24 VAC across the 'R' and 'C' terminals	3. Check internal transformer.
	4. There isn't 24 VAC across the 'W' and 'C' terminals.	4. Repair thermostat or thermostat wiring.
	5. The control board is not sending 120 VAC to the draft inducer motor.	5. Check power supply, and if there is power, replace control board.
	6. The draft inducer impeller is obstructed or locked up.	6. Remove obstruction.
	7. After checking the above, the draft inducer impeller is not obstructed or locked up.	7. The draft inducer motor is faulty and must be replaced.
	8. The pressure switch is stuck in the closed position.	8. Pressure switch is faulty.
	9. The two flame roll out switches and the tube temperature limit switch are closed.	9. Replace control board.
	10. The two flame roll out switches and the tube temperature limit switch are not closed.	10. Reset or replace faulty limit switch.
The pressure switch indicator light does not turn on	1. The inlet or outlet of the heater is obstructed or the vent exceeds the recommended lengths.	1. Remove obstruction or correct vent lengths.
	2. Loose wiring or restrictions in the hose connection to the pressure switch.	2. Replace wiring or hose connections.
	3. Replace pressure switch after verifying: • Heater, blower, and venting are clean and free of obstructions. • The allowable vent length is not exceeded. • There is not a negative pressure experienced at the area of intake (e.g., high winds, attic space, tightly sealed building).	3. Replace pressure switch.
The control board does not send spark to the electrode	1. The electrode appears to be physically damaged.	1. Replace electrode.
	2. There is no continuity by temporarily disconnecting the igniter wire from the control board.	2. Replace electrode.
	3. There is continuity by temporarily disconnecting the igniter wire from the control board.	3. Replace control board.
The gas valve does not open	1. The inlet pressure to the heater is not within the minimum and maximum allowable range as per the rating plate.	1. Adjust inlet pressure.
	2. The wires to and from the gas valve are not properly connected.	2. Correct wiring.
	3. The voltage on V1 and V2 terminals on control board during trial for ignition is not 24 VAC during the spark sequence.	3. Check for flash codes on the control board. Replace the control board.
	4. The voltage on V1 and V2 terminals on control board during trial for ignition is 24 VAC during the spark sequence.	4. Gas valve is faulty. Replace the gas valve.
The burners do not ignite	1. The gas supply valve mainstream to the unit heater is not open.	1. Turn on gas supply line.
	2. The inlet pressure to the heater is not within the minimum and maximum allowable range as per the rating plate.	2. Adjust inlet pressure.
	3. The gas lines are not purged of all air.	3. Purge gas lines.
	4. The heater's gas type does not match the gas supplied.	4. Contact local representative or factory.
	5. The manifold pressure doesn't match with the specified pressures per the rating plate.	5. Adjust pressure or replace gas valve.
	6. Check control board for flash codes.	6. Consult factory.

Symptom	Possible Cause	Corrective Action
The burners do not stay lit	1. The burners light and then shut off immediately (within 1-2 seconds). 2. The burner does not stay on for approximately 8-10 seconds, and then shut off. 3. The heater is not properly grounded. The heater's polarity is not correct. 4. Reading the micro-Amp of flame sensor circuit with a micro ammeter, it is greater than 0.5 micro-Amps. **NOTE:** Meter must be able to set and be connected properly to read the very low current value. 5. Reading the micro-Amp of flame sensor circuit with a micro ammeter, it is not greater than 0.5 micro-Amps.	1. Check inlet pressure and limit switches. 2. Check control board for flash codes. Consult factory. 3. Correct grounding or fix polarity. 4. Check control board flash codes. Replace ignition module. 5. Replace control board.
The air motor fan does not turn on approx. 30 seconds after ignition	1. The control board does not send 120 VAC to the air movement fan after approx. 30 seconds after ignition and if contact relay fan control is closed. 2. The control board does not send 120 VAC to the air movement fan after approx. 30 seconds after ignition and if contact relay fan control is open and there isn't 24VAC on relay fan control. 3. The control board does not send 120 VAC to the air movement fan after approx. 30 seconds after ignition and if contact relay fan control is open and there is 24VAC on relay fan control. 4. The motor is dirty, obstructed, or damaged, inhibiting rotation. 5. Motor starter capacitor damaged.	1. Verify wires are not damaged. 2. Check if switch start circulation is closed. 3. Replace relay. 4. Clean fan, remove obstruction, or replace damaged parts. 5. Replace or repair.
The heater does not stay on until the call for heat ends	1. The heater can shut down or stay on due to: • Limit switch opening. • Pressure switch opening. • Improper grounding. • Faulty control device. • High winds. • Taking combustion air from the attic. • Dirty environment. • Fluctuating gas pressure.	

# OF FLASHES	LED DIAGNOSTIC CODES
AT ON every 3 sec	Normal Operation
1 FLASH	Self Test
1 FLASH every 3 sec	Airflow fault
2 FLASHES every 3 sec	Flame - No call for heat
3 FLASHES every 3 sec	Ignition lockout
4 FLASHES every 3 sec	Control Fault

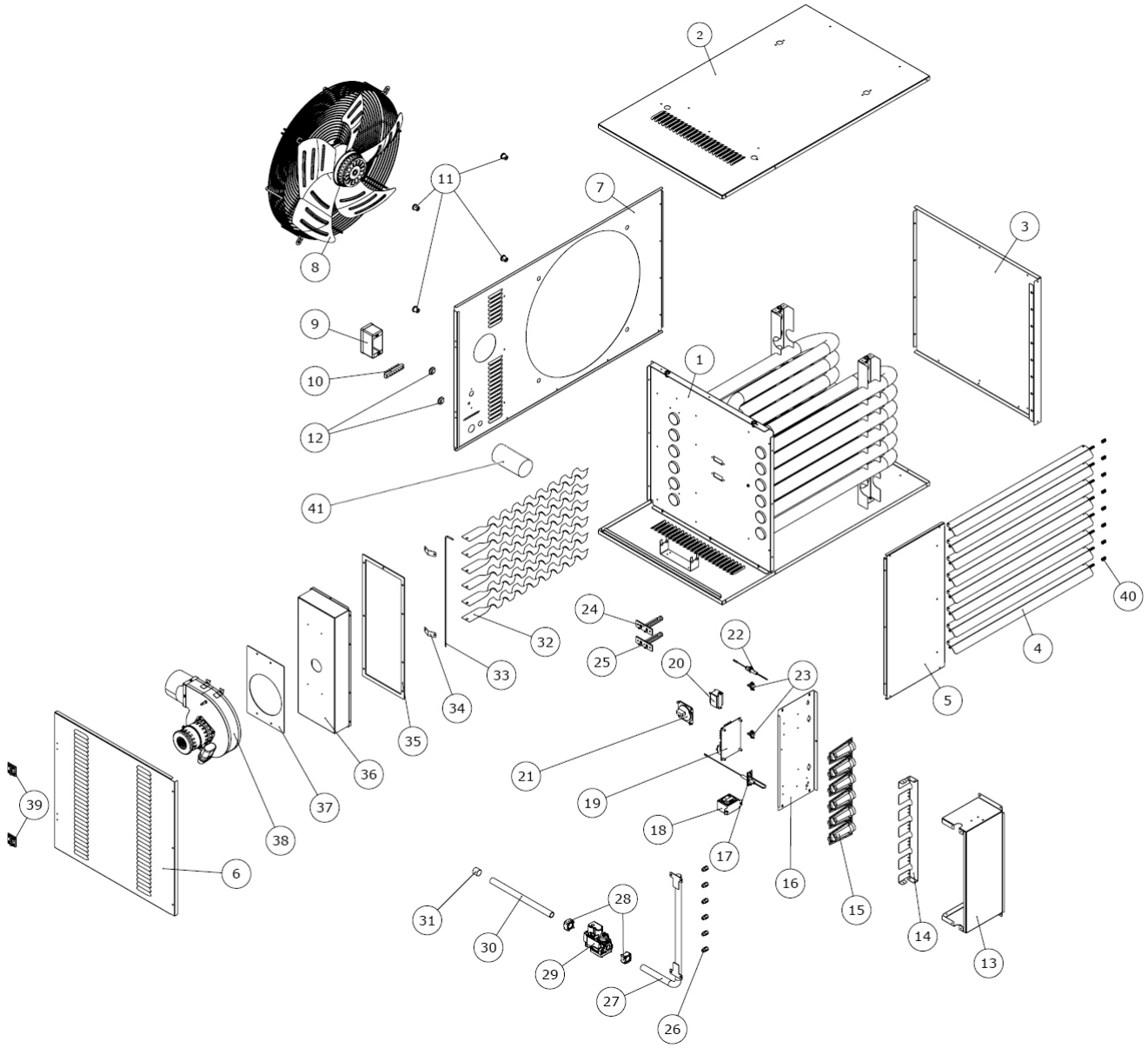
TABLE 10: Led Diagnostic Codes

If no leak is found, combination control is faulty and must be replaced before putting appliance back in service.

PARTS LIST

When ordering parts include the complete unit model number listed on the unit rating plate.

Mr. Heater • Large Unit Heater • Model # MHU200NG / MHU250NG / MHU300NG/ MHU400NG



Liquid Propane to Natural Gas Conversion Kit

MHU200NG.....F260165
MHU250NG.....F260166
MHU300NG.....F260167
MHU400NG.....F260168

Natural Gas to Liquid Propane Conversion Kit

MHU200NG.....F260169
MHU250NG.....F260170
MHU300NG.....F260171
MHU400NG.....F260172

PARTS LIST
SEE BACK PAGE FOR PARTS ORDERING INFORMATION

REF #	Description	200NG	250NG	300NG	400NG
1	HEAT EXCHANGER	60320	60321	60322	60323
2	UPPER SIDE PANEL	60324	60324	60324	60324
3	LATERAL SIDE PANEL 1	60325	60325	60326	60327
4	LOUVER	60328	60328	60328	60328
5	LATERAL SIDE PANEL 2	60329	60329	60330	60331
6	DOOR PANEL	60332	60332	60333	60334
7	BACK SIDE PANEL	60335	60336	60337	60338
8	BLOWER	60286	60286	60287	60287
9	WIRING CONNECTION BOX	N/A	N/A	N/A	N/A
10	THERMOSTAT TERMINAL	N/A	N/A	N/A	N/A
11	ANTI-VIBRATION SUPPORTS	N/A	N/A	N/A	N/A
12	STRAIN RELIEF	N/A	N/A	N/A	N/A
13	BURNER BOX	N/A	N/A	N/A	N/A
14	BURNERS SUPPORT BRACKET	N/A	N/A	N/A	N/A
15	INSHOT BURNER	60288	60288	60288	60288
16	ELECTRICAL COMPONENTS SUPPORT PANEL	N/A	N/A	N/A	N/A
17	IGNITER ELECTRODE	60289	60289	60289	60289
18	TRANSFORMER 120-24	60290	60290	60290	60290
19	PCB CONTROL BOARD	60291	60291	60291	60291
20	BLOWER DRIVE RELAY	60292	60292	60292	60292
21	PRESSURE SWITCH	60293	60294	60294	60294
22	DETECTION ELECTRODE	60295	60295	60295	60295
23	MANUAL RESET SAFETY THERMOSTAT (140°C)	60296	60296	60296	60296
24	AUTOMATIC SAFETY THERMOSTAT (NC 60°C)	60297	60297	60297	60297
25	BLOWER AUT. THERMOSTAT (NO 35°C)	60298	60298	60298	60298
26	ORIFICE NG	60299	60299	60300	60300
27	MANIFOLD	60301	60302	60303	60304
28	GAS VALVE 1/2" FLANGE	60305	60305	60305	60305
29	GAS VALVE	60306	60306	60306	60306
30	INLET 1/2" GAS PIPE CONNECTION	N/A	N/A	N/A	N/A
31	GAS PIPE PROTECTION	N/A	N/A	N/A	N/A
32	TURBOLATOR	N/A	N/A	N/A	N/A
33	TURBOLATOR ROD	N/A	N/A	N/A	N/A
34	ROD STOPPER	N/A	N/A	N/A	N/A
35	FLUE BOX GASKET	60307	60307	60308	60309
36	FLUE BOX	N/A	N/A	N/A	N/A
37	INDUCER GASKET	60310	60310	60310	60310
38	INDUCER	60311	60312	60312	60312
39	DOOR HINGE	60313	60313	60313	60313
40	LOUVER SPRING	60314	60314	60314	60314
41	CAPACITOR	60340	60340	60341	60341
*	ORIFICE LP	60315	60315	60316	60316
*	PRESSURE SWITCH SILICONE PIPE	60317	60317	60317	60317
*	ELECTRICAL WIRING	60318	60318	60318	60318
*	GAS VALVE CONNECTION	60319	60319	60319	60319

*NOT SHOWN

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

MODEL#
MHU200NG
MHU300NG
MHU250NG
MHU400NG

READ INSTRUCTIONS CAREFULLY: YOUR SAFETY IS IMPORTANT TO YOU AND TO OTHERS.
Read and follow all instructions. Place instructions in a safe place for future reference. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the heater.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY MR. HEATER LOCAL DEALER OR DIRECT FROM THE FACTORY

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 800-251-0001 • WWW.MR. HEATER.COM
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

The company warrants this product to be free from imperfections in material or workmanship, under normal and proper use in accordance with instructions of The Company, for a period of three years on parts (limited) and 10 years on the heat exchanger, from the date of delivery to the buyer. The Company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within said one year period and found by the Company to have imperfections in material or workmanship.

If a part is damaged or missing, call our Technical Support Department at 800-251-0001.

Address any Warranty Claims to the Service Department, Mr. Heater, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Mr. Heater, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

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