Propane
Patio Heaters
OPERATOR'S MANUAL
MH-0042-PM11

CAUTION
RISK OF INJURY! READ ENTIRE MANUAL BEFORE OPERATING!
THIS MANUAL IS AN IMPORTANT PART OF THE HEATER
AND MUST REMAIN WITH THIS UNIT!

Intertek
5016039

Conforms to CSA/ANSI Z83.26-2020/CSA 2.37-2020 Gas- fired outdoor infrared patio heaters

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37-1494-E-071322

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⚠ WARNING

⚠ WARNING: This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

INTRODUCTION

Congratulations on the purchase of your new Mi-T-M® Patio Heater! You can be assured your Mi-T-M® Heater was constructed with the highest level of precision and accuracy. Each component has been rigorously tested by technicians to ensure the quality, endurance and performance of this heater.

This operator's manual was compiled for your benefit. By reading and following the simple safety, installation and operation, maintenance and troubleshooting steps described in this manual, you will receive years of trouble free operation from your new Patio Heater. The contents of this manual are based on the latest product information available at the time of publication. The Manufacturer reserves the right to make changes in price, color, materials equipment, specifications or models at any time without notice.

IMPORTANT!

A "DANGER, WARNING or CAUTION" safety warning will be surrounded by a "SAFETY ALERT BOX". This box is used to designate and emphasize Safety Warnings that must be followed when operating this heater. Accompanying the safety warnings are "Signal Words" which designate the degree or level of hazard seriousness. The "Signal Words" used in this manual are as follows:

DANGER: INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY.

WARNING: INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY.

CAUTION: INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED MAY RESULT IN MINOR OR MODERATE INJURY OR DAMAGE TO THE HEATER.

The symbols set below are "Safety Alert Symbols". These symbols are used to call attention to items or procedures that could be dangerous to you or other persons using this equipment.



ALWAYS PROVIDE A COPY OF THIS MANUAL TO ANYONE USING THIS EQUIPMENT. READ ALL INSTRUCTIONS IN THIS MANUAL AND ANY INSTRUCTIONS SUPPLIED BY MANUFACTURERS OF SUPPORTING EQUIPMENT BEFORE OPERATING THE HEATER AND ESPECIALLY POINT OUT THE "SAFETY WARNINGS" TO PREVENT THE POSSIBILITY OF PERSONAL INJURY TO THE OPERATOR.

Once the unit has been uncrated, immediately write in the serial number of your unit in the space provided below.

SERIAL NUMBER _____

Inspect for signs of obvious or concealed freight damage. If damage does exist, file a claim with the transportation company immediately. Be sure that all damaged parts are replaced and that the mechanical and electrical problems are corrected prior to operation of the unit. If you require service, contact Mi-T-M® Customer Service.

Mi-T-M® Corporation, 50 Mi-T-M Drive, Peosta, IA 52068
563-556-7484 / 800-553-9053 / Fax 563-556-1235
Monday - Friday 8:00 a.m. - 5:00 p.m. CST

Please have the following information available for all service calls:

1. Model Number
2. Serial Number
3. Date and Place of Purchase

IMPORTANT SAFETY INSTRUCTIONS

Hazard	Potential Consequence	Prevention
RISK OF EXPLOSION OR FIRE 	Serious injury may occur if the heater air inlet or outlet is blocked.	Always operate heater in a well ventilated area free of flammable vapors, combustible dust, gases or other combustible materials.
		Do not insert or allow any foreign objects to enter any ventilation or exhaust opening as this may cause a fire, or damage to the heater.
	Serious injury or death may occur, if heater is running while operating.	This heater is EXTREMELY HOT while in operation.
		Bulk fuel storage should be a minimum of 25 ft. from heaters, torches, portable generators, or other sources of ignition. All fuel storage should be in accordance with federal, state, or local authorities having jurisdiction.
		Never move or handle heater while still hot.
	Serious injury may occur if heater is not placed on level surface.	Always locate heater on a stable level surface.
		Always keep away from children and animals.
	Serious injury or death may occur if a flame is used to test for leaks.	Do Not use a flame to test for leaks. Follow Checking for Leaks on page 9.
RISK OF BURNS 	Serious injury could occur from touching exposed metal parts. These areas can remain hot for some time after the heater is turned off.	Never allow any part of your body or other materials to make contact with any exposed metal parts on the heater.

WARNING: NEVER LEAVE HEATER UNATTENDED WHILE BURNING OR WHILE CONNECTED TO A POWER SOURCE.

IMPORTANT SAFETY INSTRUCTIONS

Hazard	Potential Consequence	Prevention
RISK TO BREATHING 	Serious injury or death could occur from failure to provide proper ventilation according to this manual..	Carbon monoxide is toxic. Humans can tolerate small amounts of carbon monoxide, and precautions should be taken to provide proper ventilation.. Early signs of carbon monoxide poisoning resemble the flu. Symptoms of improper ventilation are: * headache * dizziness * burning of the nose and eyes * nausea * dry mouth * sore throat Use this heater only in well ventilated areas! Provide at least a three square foot (2,800 sq cm) opening of outside air for every 100,000 BTU/hr of heater rating. People with breathing problems should consult a physician before using the heater. Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning resemble flu-like symptoms such as headaches, dizziness, and/or nausea. If you have these symptoms, your heater may not be working properly. Get fresh air at once! Have the heater serviced. Some people are more affected by carbon monoxide than others. These include pregnant women, those with heart or lung problems,anemia, or those under the influence of alcohol, or at high altitudes. Never use this heater in living or sleeping areas.

IMPORTANT SAFETY INSTRUCTIONS

NEVER USE THE HEATER IN LOCATIONS WHICH CONTAIN PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNERS, DUST PARTICLES, VOLATILE OR AIRBORNE COMBUSTIBLES, OR ANY UNKNOWN CHEMICALS.

WARNING: IF THE INFORMATION IN THIS MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

A PROPANE CYLINDER NOT CONNECTED FOR USE SHALL NOT BE STORED IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

PROPOSITION 65 WARNING: FUELS USED IN GAS, WOOD BURNING OR OIL-FIRED APPLIANCES, AND THE PRODUCTS OF COMBUSTION OF SUCH FUELS, CONTAIN CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS AND OTHER REPRODUCTIVE HARM.

WARNING: NOT FOR USE INSIDE; FOR OUTSIDE USE ONLY.

! SAVE THESE INSTRUCTIONS !

⚠ WARNING ⚠

THE FOLLOWING PAGES CONTAIN OPERATING AND MAINTENANCE INSTRUCTIONS.

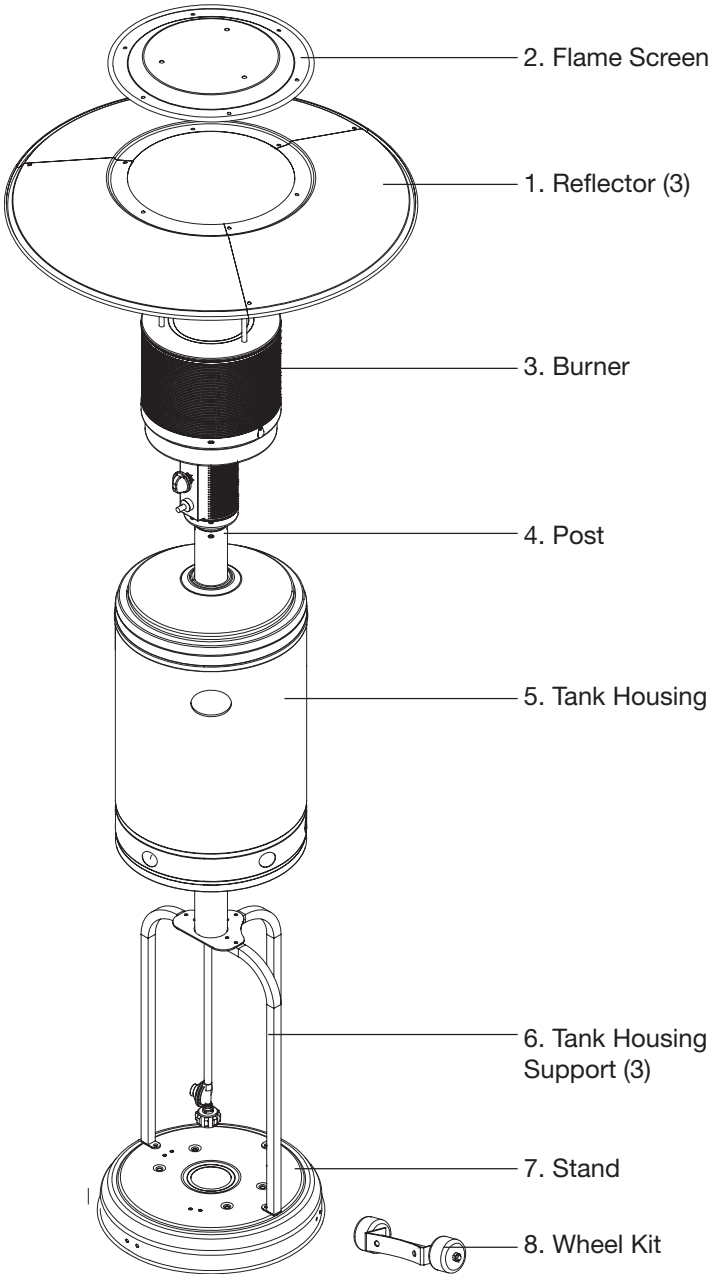
DO NOT ATTEMPT TO OPERATE THIS PATIO HEATER UNTIL YOU HAVE READ AND UNDERSTOOD ALL SAFETY PRECAUTIONS AND INSTRUCTIONS LISTED IN THIS MANUAL.

INCORRECT OPERATION OF THIS UNIT CAN CAUSE SERIOUS INJURY!!

DO NOT ALTER OR MODIFY THIS EQUIPMENT IN ANY MANNER!

NEVER LEAVE HEATER UNATTENDED WHILE BURNING OR WHILE CONNECTED TO A POWER SOURCE.

PATIO HEATER FEATURES



GENERAL SAFETY INFORMATION

⚠ WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE INJURY OR PROPERTY DAMAGE. READ THE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

IMPORTANT: Read this User's Manual carefully and completely before attempting to operate or service this heater. Failure to comply with the precautions and instructions provided with this heater can result in death, serious bodily injury and property loss or damage from hazards of fire, explosion, burn, asphyxiation, and/or carbon monoxide poisoning. Only persons who can understand and follow the instructions should use or service this heater.

WARNING: We cannot foresee every use which may be made of our heaters. Check with your local fire safety authority if you have questions about heater use. Other standards govern the use of fuel gases and heat producing products for specific uses. Your local authorities can advise you about these.

IMPORTANT SAFETY INFORMATION

1. Keep solid combustibles, such as building materials, paper or cardboard, a safe distance away from the heater as recommended by the instructions.
2. Provide adequate clearances around air openings into the combustion chamber.
3. 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.
4. During operation, this product can be a source of ignition . Keep heater area clear and free from combustible materials, gasoline, paint thinner, cleaning solvents and other flammable vapors and liquids. Do not use heater in areas with high dust content. Minimum heater clearances from combustible materials: two (2) feet from the sides & three (3) feet from the top.
5. Keep all connections and fittings clean. Make sure propane cylinder valve outlet is clean.
6. Inspect hose before use. Replace if there is evidence of abrasion or wear.
7. During set up, check all connections and fittings for leaks using soapy water. Never use a flame.
8. Use as a heating appliance only. Never alter in any way or use with any device.
9. Check entire hose at least annually.
10. Failure to comply with the precautions and instructions provided with this heater can result in death, serious bodily injury and property loss or damage from hazards of fire, explosion, burn, asphyxiation, and/or carbon monoxide poisoning. Only persons who can understand and follow the instructions should use or service this heater.
11. If you smell gas:

    Shut off gas to the appliance.

    Extinguish any open flame.

    If odor continues, immediately call gas supplier.

12 This heater is a combustion appliance. All combustion appliances produce carbon monoxide (CO) during the combustion process. This product is designed to produce extremely minute, non-hazardous amounts of CO if used and maintained in accordance with all warnings and instructions. Do not block air flow into or out of the heater.
13. Carbon Monoxide (CO) poisoning produces flu-like symptoms, watery eyes, headaches, dizziness, fatigue and possibly death. You can't see it and you can't smell it. It's an invisible killer. If these symptoms are present during operation of this product get fresh air immediately!
14. For outdoor use only.
15. Never use inside house, or other unventilated or enclosed areas.
16. This heater consumes air (oxygen) . Do not use in unventilated or enclosed areas to avoid endangering your life.
17. This product is fueled by propane gas. Propane gas is invisible, odorless, and flammable. An odorant is normally added to help detect leaks and can be described as a "rotten egg" smell. The odorant can fade over time so leaking gas is not always detectable by smell alone.
18. Propane gas is heavier than air and leaking propane will sink to the lowest level possible. It can ignite by ignition sources including matches, lighters, sparks or open flames of any kind many feet away from the original leak. Use only propane gas set up for vapor withdrawal.

GENERAL SAFETY INFORMATION

19. Propane gas should be stored or used in compliance with local ordinances and codes or with ANSI/NFPA 58. Turn off propane when not in use.
20. Never leave heater unattended when hot or in use.
21. Keep out of reach of children.
22. Never store propane near high heat, open flames, pilot lights, direct sunlight, other ignition sources or where temperatures exceed 120 degrees F (49°C).
23. Propane vapors are heavier than air and can accumulate in low places. If you smell gas, leave the area immediately.
24. Never install or remove propane cylinder while heater is lighted, near flame, pilot lights, other ignition sources or while heater is hot to touch.
25. This heater is red hot during use and can ignite flammables too close to the burner. Keep flammables at least 2 feet from sides & 3 feet from top. Keep gasoline and other flammable liquids and vapors well away from heater.
26. The propane cylinder must always be stored outdoors in a well ventilated space. Never store propane cylinder in an enclosed area (house, garage, etc.). If heater is to be stored indoors, disconnect the propane cylinder for outdoor storage.

WARNING: NEVER LEAVE HEATER UNATTENDED WHILE BURNING OR WHILE CONNECTED TO A POWER SOURCE.

ASSEMBLY

COMPONENTS

Remove all components from package.

ADDITIONAL REQUIREMENTS

The following items are not included, but are necessary for the proper assembly of your heater, DO NOT attempt to assemble without proper tools.

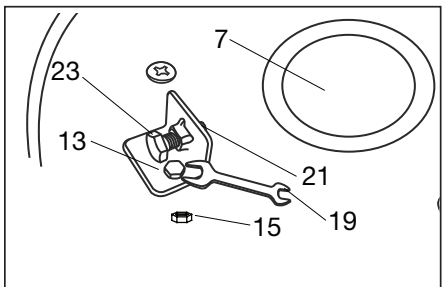
Philips screwdriver w/medium blade.

Leak Detection Solution

HARDWARE			
Item #	Description	Picture	Qty.
9	M6 Cap Nut		9
10	M6*8 Bolt		9
11	Reflector Stud		3
12	Wing Nut		3
13	M6*12 Bolt		12
14	M6*30 Bolt		6
15	M6 Nut		18
16	Anchoring Arm		3
17	M8*15 Bolt		5
18	M8 Big Washer		9
19	M6/M8 Wrench		1
20	Anchoring		3
21	Cylinder Bracket		3
22	M8 Nut		2
23	M8*30 Bolt		3

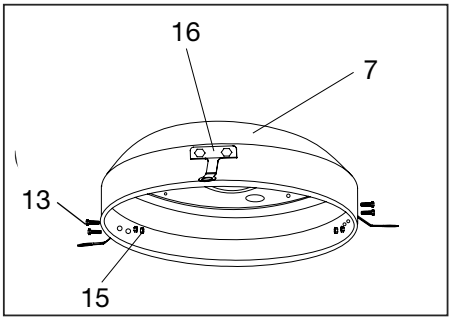
ASSEMBLY

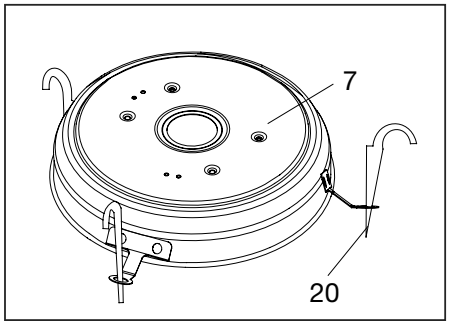
Secure the cylinder bracket (21) with two M6 bolts (13) and nuts (15). Fix another two cylinder brackets (21) with bolts and nuts, and reverse the base (7).



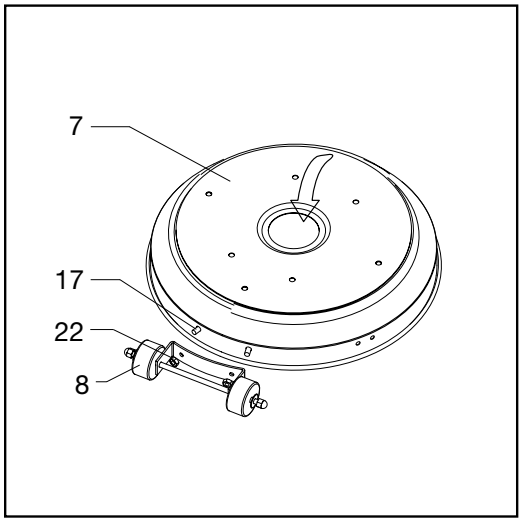
Secure the anchoring arm (16) with two M6 bolts (13) and nuts (15). Fix another two anchoring arms (16) with bolts and nuts, and reverse the base (7).

Note: To secure the unit, please use three nails (20) to nail the unit to the ground. For cement ground or wood ground unsuitable for nails, please use expansion screws (screws not included, may be bought from local stores).





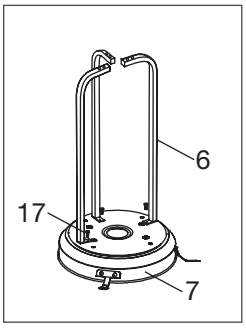
Attach wheel assembly (17) to base (7). Line up holes in wheel bracket with corresponding holes in base, insert two bolts M8 x 16 (10) through holes, and finger tighten two M8 flange nuts (9). Be sure that the wheel assembly (8) is parallel to the base, and fully tighten bolts.



ASSEMBLY

STEP 1

- Position the 3 tank housing supports (6) on the base (7) as shown in the picture.
- Use 3 bolts (M8 x 15 mm) (17) to assemble the post, brackets and stand.

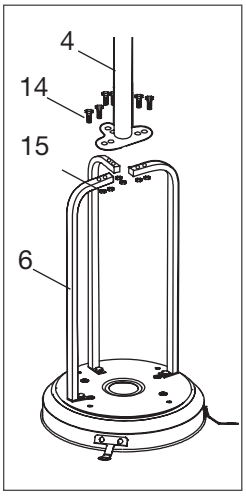


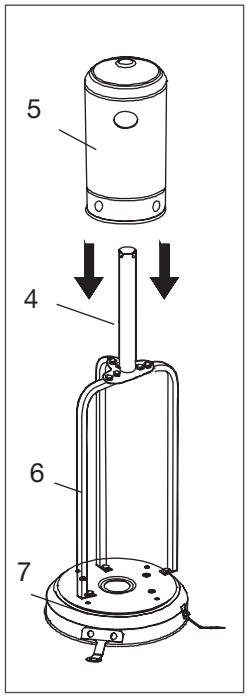
STEP 2

Put the post on the top of 3 tank housing supports. Use 6 M6 bolts (14) and nuts (15) to connect the post to the 3 tank housing supports. Tighten the bolts and nuts.

STEP 3

Place the tank housing (5) on the base (7).

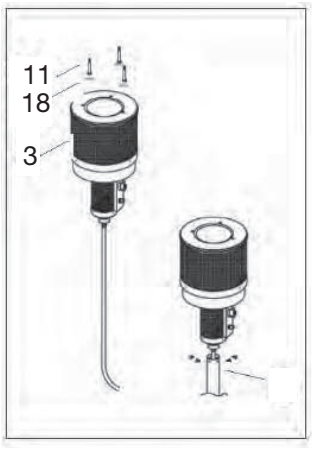




ASSEMBLY

STEP 4

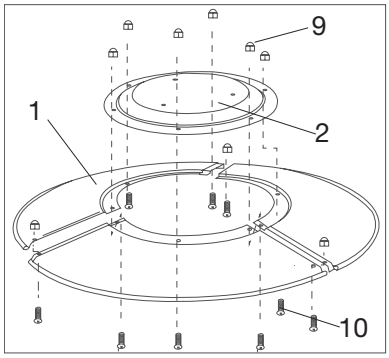
Attach a reflector spacer (11) and three washers Ø8mm (18) to the top of the burrer assembly (3). Tighten the reflector spacer. Unscrew the four screws that are preassembled on the burner assembly (3). Place the burner assembly (3) into the top of the post (4) by inserting the regulator into the post (4). Tightly fasten the previously removed screws back into the burner assembly (3) through the slots at the top of the post (4).



WARNING: REMOVE THE PLASTIC PROTECTIVE COATING ON THE REFLECTOR PANEL AND CENTER THE REFLECTOR BEFORE ASSEMBLING!

STEP 5

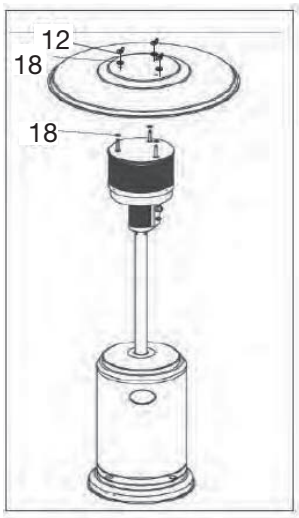
Install the two reflectors with 1 cross bolt M6*8 (10) and 1 cap nut M6 (9), repeat this step to install the third reflector. Then install and lock the reflector plate (2) and the newly installed reflector with 6 cross bolts M6*8 (10) and 6 cap nuts M6 (9).



ASSEMBLY

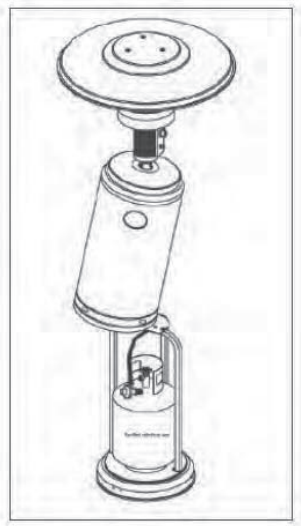
STEP 6

Put 8mm washer (18) on each reflector spacer (11). Fasten the reflector with 3 washers and 3 wing nuts (12).



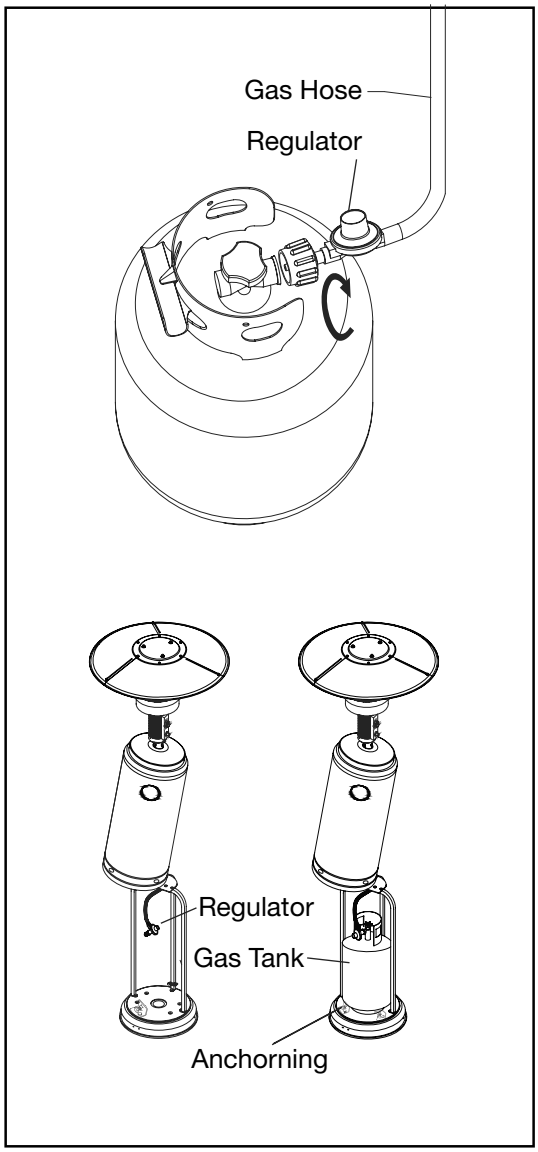
STEP 7

Lift the tank housing and rest it on the tank housing supports. Connect the regulator to the gas cylinder and tighten it with an adjustable wrench. Put the gas cylinder on the base.



REPLACING GAS CYLINDER

Screw gas hose and regulator onto propane 8 cylinder (not included). Do not cross-thread. Every part of the heater should be secure against displacement and should be constructed to maintain a fixed relationship between essential parts under normal and reasonable conditions of handling and usage. Parts not permanently secured should be designed so they cannot be incorrectly assembled and cannot be improperly located or misaligned in removing or replacing during cleaning or other servicing.



Not included.

Use a standard 20 lb. (Not included.)propane cylinder only (approximately 12.2 in./ 31 cm. in diameter and 17.9 in. / 45.5 cm high).

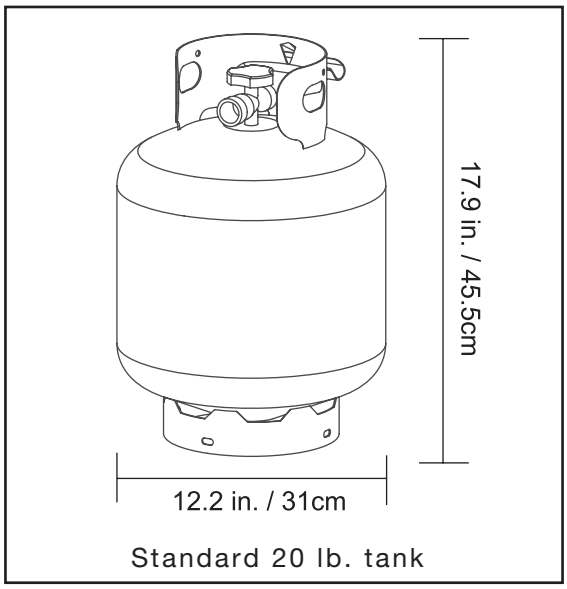
Use this heater only with a propane vapour withdrawal supply system. See the standard for storage and handling of liquefied petroleum gas, ANS/NFPA 58. Your local library or fire department should have this book. Storage of an appliance indoors is permissible only if the cylinder is disconnected and removed from the appliance. A cylinder must be stored outdoors in a well ventilated area out of the reach of children. A disconnected cylinder must have dust caps tightly installed and must not be stored in a building, garage or any other enclosed area. The maximum inlet gas supply pressure: 250 psi /1750 kPa. The minimum inlet gas supply pressure: 5 psi /35 kPa. Manifold pressure with regulator provided: 11 inch W.C/ 2.74 kPa. The pressure regulator and hose assembly supplied with the appliance must be used. The installation must conform with local codes, or in the absence of local codes, with National fuel gas code, ANSI Z223.1/NFPA54, Natural gas and propane installation code, CSA B149.1, or Propane storage and handling code, B149.2.

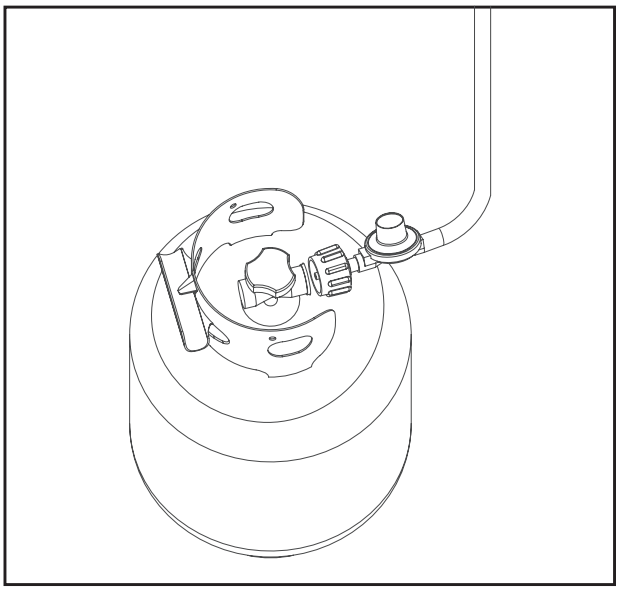
REPLACING GAS CYLINDER

A dented, rusted or damaged propane cylinder may be hazardous and should be checked by your cylinder supplier. Never use a propane cylinder with a damaged valve connection.

The propane cylinder must be constructed and marked in accordance with the specifications for Propane cylinders of the U.S. Department of Transportation (DOT) or the standard for cylinders, spheres and tubes for transportation of dangerous goods and commission, CAN/CSA-B339.

The cylinder must have a listed overfilling prevention device. The cylinder must have a connection device compatible with the connection for the appliance. The cylinder used must include a collar to protect the cylinder valve. Never connect an unregulated propane cylinder to the heater.





To Connect:

The knob on the Propane tank must be closed. Make sure that the knob is turned clockwise to a full stop. The cylinder supply system must be arranged for vapor withdrawal. Check that the control knob on the control unit is turned off. Hold the regulator in one hand and insert the nipple into the valve outlet. Be sure the nipple is centred in the valve outlet. The coupling nut connects to the large outside threads on the valve outlet. Hand-tighten the coupling nut clockwise until it comes to a full stop. Firmly tighten by hand only.

To Disconnect:

Fully close the tank valve by turning until the regulator assembly detaches clockwise. Turn the coupling nut counterclockwise.

- Do not store a spare Propane cylinder under or near this appliance;
- Never fill the cylinder beyond 80 percent full;
- Place the dust cap on the cylinder valve outlet whenever the cylinder is not in use. Only install the type of dust cap on the cylinder valve that is provided with the cylinder valve. Other type of caps or plugs may result in leakage of propane.

WARNING: AAA BATTERY NEEDED, NOT INCLUDED. PLEASE DISPOSE OF OR RECYCLE THE BATTERIES ACCORDING TO MUNICIPAL REQUIREMENTS. SWALLOWED SMALL BATTERIES CAN CAUSE CHOKING HAZARD. SEEK IMMEDIATE MEDICAL ATTENTION IF BATTERIES ARE SWALLOWED OR INHALED. KEEP CHILDREN AWAY FROM THE SMALL BATTERIES.

OPERATION

DANGER: CARBON MONOXIDE HAZARD FOR OUTDOOR USE ONLY. NEVER USE INSIDE HOUSE, OR OTHER UNVENTILATED OR ENCLOSED AREAS. THIS HEATER CONSUMES AIR (OXYGEN). DO NOT USE IN UNVENTILATED OR ENCLOSED AREAS TO AVOID ENDANGERING YOUR LIFE.

CAUTION: DO NOT ATTEMPT TO OPERATE UNTIL YOU HAVE READ & UNDERSTAND ALL GENERAL SAFETY INFORMATION IN THIS MANUAL AND ALL ASSEMBLY IS COMPLETE & LEAK CHECKS HAVE BEEN PERFORMED.

DANGER: EXPLOSION - FIRE HAZARD

NEVER STORE PROPANE NEAR HIGH HEAT, OPEN FLAMES, PILOT LIGHTS, DIRECT SUNLIGHT, OTHER IGNITION SOURCES OR WHERE TEMPERATURES EXCEED 120 DEGREES F (49°C).

PROPANE VAPORS ARE HEAVIER THAN AIR AND CAN ACCUMULATE IN LOW PLACES. IF YOU SMELL GAS, LEAVE THE AREA IMMEDIATELY.

NEVER INSTALL OR REMOVE PROPANE CYLINDER WHILE HEATER IS LIGHTED, NEAR FLAME, PILOT LIGHTS, OTHER IGNITION SOURCES OR WHILE HEATER IS HOT TO TOUCH.

THIS HEATER IS RED HOT DURING USE AND CAN IGNITE FLAMMABLES TOO CLOSE TO THE BURNER. KEEP FLAMMABLES AT LEAST 2 FEET FROM SIDES & 3 FEET FROM TOP. KEEP GASOLINE AND OTHER FLAMMABLE LIQUIDS AND VAPORS WELL AWAY FROM HEATER.

THE PROPANE CYLINDER MUST ALWAYS BE STORED OUTDOORS IN A WELL VENTILATED SPACE. NEVER STORE PROPANE CYLINDER IN AN ENCLOSED AREA (HOUSE, GARAGE, ETC.). IF HEATER IS TO BE STORED INDOORS, DISCONNECT THE PROPANE CYLINDER FOR OUTDOOR STORAGE.

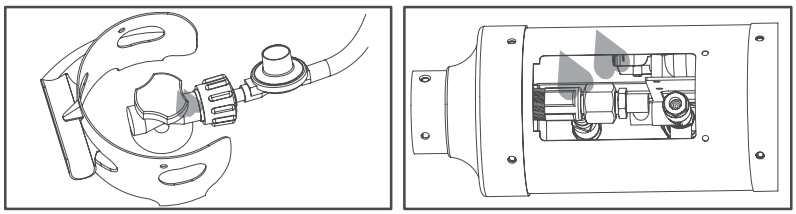
BEFORE TURNING GAS SUPPLY ON

WARNING PERFORM ALL LEAK TESTS OUTDOORS. EXTINGUISH ALL OPEN FLAMES. NEVER LEAK TEST WHEN SMOKING. DO NOT USE THE HEATER UNTIL ALL CONNECTIONS HAVE BEEN LEAK TESTED AND DO NOT LEAK.

To check for a leak:

1. Make 2-3 oz. leak check solution (one part liquid dishwashing detergent and three parts water).
2. Apply several drops of solution where regulator connects to cylinder and to all hose and valve connections.
3. Make sure all patio heater and light valves are OFF.
4. Turn cylinder valve ON.

WARNING: IF BUBBLES APPEAR AT ANY CONNECTION, THERE IS A LEAK.



Regulator / Cylinder connection

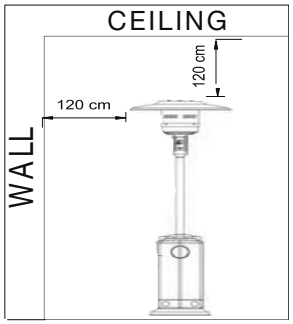
To fix a leak:

1. Turn cylinder valve OFF.
2. If leak is at regulator/cylinder valve connection: Disconnect, reconnect, and perform another leak check. Apply the soapy solution to all hose and valve connections. If you continue to see bubbles after several attempts, cylinder valve is defective and should be returned to cylinder's place of purchase.
3. If leak is at hose/regulator connection: This part is defective and you should contact the customer service department for replacement.

WARNING: IF NO BUBBLES APPEAR AT ANY CONNECTION, THE CONNECTIONS ARE SECURE.

OPERATION

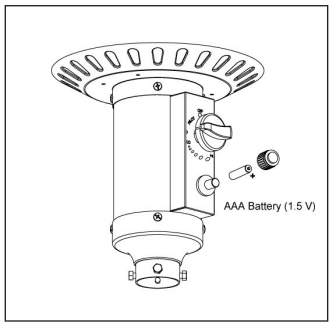
NOTE: Whenever gas connections are loosened or removed, you must perform a complete leak test.



CAUTION: DO NOT ATTEMPT TO OPERATE UNTIL YOU HAVE READ AND UNDERSTOOD ALL GENERAL SAFETY INFORMATION IN THIS MANUAL AND ALL ASSEMBLY IS COMPLETE AND LEAK CHECKS HAVE BEEN PERFORMED. THIS APPLIANCE SHALL BE USED ONLY IN A WELL-VENTILATED SPACE AND SHALL NOT BE USED IN A BUILDING, GARAGE OR ANY OTHER ENCLOSED AREA.

An appliance may be installed with shelter no more inclusive than:

1. With walls on all sides, but with no overhead cover. Always maintain a clearance of 1.2 m (47") from combustible materials from the top and side.
2. Within a partial enclosure which includes an overhead cover and no more than two side walls. These side walls may be parallel, as in a breezeway, or at right angles to each other.
3. Within a partial enclosure which includes an overhead cover and three side walls, as long as 30 percent or more of the horizontal periphery of the enclosure is permanently open.

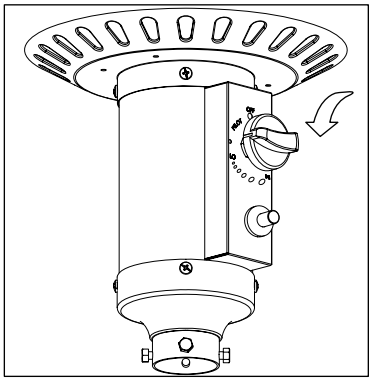


ASSEMBLING THE BATTERY

(AAA batteries.not included). Unscrew the black ignitor spring cover counter-clockwise. Put the positive pole outward toward the ignitor and screw back the black ignitor spring cover.

BEFORE LIGHTING

1. Heater should be thoroughly inspected before each half year use, and by a qualified service person at least annually. If relighting a hot heater, always wait at least 5 minutes.
2. Inspect the visible portion of the hose before each use of the appliance. If the hose leaks, it must be replaced prior to operation. Only use the replacement hose assembly specified by manufacturer.
3. The pressure regulator and hose assembly supplied with the appliance must be used. Replacement pressure regulators and hose assemblies must be those specified by the appliance manufacturer.

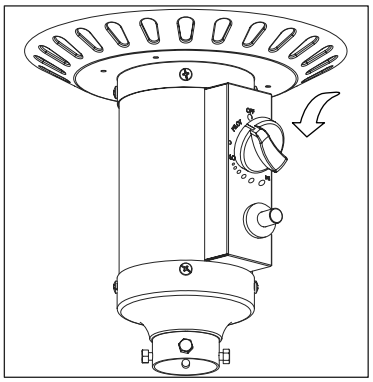


DANGER: CARBON MONOXIDE HAZARD FOR OUTDOOR USE ONLY. NEVER USE INSIDE HOUSE, OR OTHER UNVENTILATED OR ENCLOSED AREAS. THIS HEATER CONSUMES AIR (OXYGEN). DO NOT USE IN UNVENTILATED OR ENCLOSED AREAS TO AVOID ENDANGERING YOUR LIFE.

LIGHTING

1. Turn on the valve on the gas cylinder.
2. Press and turn the control knob to PILOT position (anti-clockwise 90º).
3. Holding down the control knob, press the igniter button until the main flame is ignited. Release the control knob 10 seconds after the ignition.
4. Press lightly and turn the variable control knob to HI (maximum) position and leave it there for 5 minutes or more before turning the knob to the desired temperature setting.
5. If the burner flame goes out, turn off the heater and wait at least 5 minutes or more to let the gas dissipate before re-lighting to avoid gas explosion.

Repeat steps 2 to 4.



Note: Improper operation can cause injury or property damage. If pilot fails to remain lit, all valves should be closed and you should wait for at least 5 minutes before attempting to light it again. If you experience any ignition problem, please consult "Troubleshooting".

OPERATION

CAUTION: AVOID INHALING FUMES EMITTED FROM THE HEATER'S FIRST USE. SMOKE AND ODOR FROM THE BURNING OF OILS USED IN MANUFACTURING WILL APPEAR. BOTH SMOKE AND ODOR WILL DISSIPATE AFTER APPROXIMATELY 30 MINUTES. THE HEATER SHOULD NOT PRODUCE THICK BLACK SMOKE.

Note: The burner may be noisy when initially turned on. Turn the knob to the level of heat desired.

WARNING: FOR YOUR SAFETY BE CAREFUL WHEN ATTEMPTING TO MANUALLY IGNITE THIS HEATER. HOLDING THE CONTROL KNOB FOR MORE THAN 10 SECONDS BEFORE IGNITING THE GAS WILL CAUSE A BALL OF FLAME UPON IGNITION.

WHEN HEATER IS ON

Emitter screen will become bright red due to intense heat. The color is more visible at night. Burner will display tongues of blue and yellow flame. These flames should not be yellow or produce thick black smoke, indicating an obstruction of airflow through the burners. The flame should be blue with straight yellow tops. If excessive yellow flame is detected, tum off heater and consult the "Troubleshooting" section of this manual.

RE-LIGHTING

- Turn control knob to off.
- Repeat the "Lighting" steps.

SHUTDOWN

Turn cylinder valve clockwise to OFF and disconnect regulator when heater is not in use.

WARNING: FOR YOUR SAFETY HEATER WILL BE HOT AFTER USE. HANDLE WITH EXTREME CARE.

Note: After use, some discoloration of the emitter screen is normal.

OPERATION CHECKLIST

For a safe and pleasurable heating experience, perform this check before each use.

BEFORE OPERATING

- I am familiar with entire owner's manual and understand all precautions noted.
- All components are properly assembled, intact and operable.
- No alterations have been made.
- All gas connections are secure and do not leak.
- Wind velocity is below 10 mph.
- Unit will operate at reduced efficiency below 40°F.
- Heater is outdoors (outside any enclosure).
- There is adequate fresh air ventilation.
- Heater is away from gasoline or other flammable liquids or vapors.
- Heater is away from windows, air intake openings, sprinklers and other water sources.
- Heater is at least 2.3 feet on top and at least 3.3 feet on sides from combustible materials.
- Heater is on a hard and level surface.
- There are no signs of spider or insect nests.
- All burner passages are clear.
- All air circulation passages are clear.
- Children, pets, clothing, flammable materials and items that can be damaged from radiant heat are away from the heater.
- Children and adults in the area have been alerted to the high temperature hazards: especially bums and clothing fires.
- Children and adults in the area have been warned not to touch heater near engine during operation and until unit has cooled.

OPERATION

- Clothing or other protective material should not be hung from the heater, or placed on or near the heater.
- Any guard or other protective device removed for servicing the heater must be replaced prior to operating the heater.
- Installation and repair should be done by a qualified service person. The heater should be inspected before use and at least annually by a qualified service person.
- More frequent cleaning may be required as necessary. It is imperative that control compartment, burner and circulating air passageways of the heater be kept clean.

AFTER OPERATION

- Gas control is in OFF position.
- Gas Tank valve is OFF.
- Disconnect Gas line.

MAINTENANCE

⚠ WARNING: FOR YOUR SAFETY DO NOT TOUCH OR MOVE THE HEATER FOR AT LEAST 45 MINUTES AFTER USE. THE REFLECTOR IS HOT TO THE TOUCH, ALLOW THE REFLECTOR TO COOL BEFORE TOUCHING.

To enjoy years of outstanding performance from your heater, make sure you perform the following maintenance activities on a regular basis:

Keep the exterior surfaces clean.

1. Use warm soapy water for cleaning. Never use flammable or corrosive cleaning agents.
2. While cleaning your unit, be sure to keep the area around the burner assembly dry at all times. Do not submerge the control valve assembly. If the gas control is submerged in water, do NOT use it. It must be replaced.
   a. Keep the appliance area clear and free from combustible materials, gasoline and other flammable vapors and liquids.
   b. Do not obstruct the flow of combustion and air ventilation.
   c. Keep the ventilation opening(s) of the cylinder enclosure free and clear from debris.
3. Air flow must be unobstructed. Keep controls, burner, and circulating air passageways clean.

Visually check portions of the hose assembly located within the confines of the heater post. Inspect the entire hose assembly at least annually, disassembling the reflector and burner. Inspect the hose assembly for evidence of excessive abrasion, cuts, or wear. Suspected areas should be leak tested. Then assembling the reflector and burner again following with step 6 and 7.

- Gas odor with extreme yellow tipping of flame.
- Heater does NOT reach the desired temperature.
- Heater glow is excessively uneven.
- Heater makes popping noises.
- Spiders and insects can nest in burner or orifices. This dangerous condition can damage heater and render it unsafe for use. Clean burner holes by using a heavy-duty pipe cleaner. Compressed air may help clear away smaller particles.
- Carbon deposits may create a fire hazard. Clean dome and burner screen with warm soapy water if any carbon deposits develop.

Note: In a salt-air environment (such as near an ocean), corrosion occurs more quickly than normal. Frequently check for corroded areas and repair them promptly.

TIP: Use high-quality automobile wax to help maintain the appearance of your heater. Apply to exterior surfaces from the pole down. Do not apply to emitter screen or domes.

STORAGE

BETWEEN USES

- Turn control knob off.
- Disconnect Propane source.
- Store heater upright in an area sheltered from direct contact with inclement weather (such as rain, sleet, hail, snow, dust and debris).
- If desired, cover heater to protect exterior surfaces and to help prevent build up in air passages.
- Never leave Propane cylinder exposed to direct sunlight or excessive heat.

Note: Wait until heater is cool completely before transporting or covering.

DURING PERIODS OF EXTENDED INACTIVITY OR WHEN TRANSPORTING:

- Turn Control Knob OFF.
- Disconnect Propane source and move to a secure, well-ventilated location outdoors.
- Store heater upright in an area sheltered from direct contact with inclement weather (such as rain, sleet, hail, snow, dust and debris).
- If desired, cover heater to protect exterior surfaces and to help prevent build up in air passages.
- Never leave Propane cylinder exposed to direct sunlight or excessive heat.

Note: Wait until heater is cool before covering.

SERVICE

Only a qualified service person should repair gas passages and associated components.

⚠ CAUTION: ALWAYS ALLOW THE HEATER TO COOL BEFORE ATTEMPTING SERVICE.

TROUBLESHOOTING

PROBLEM	CAUSES	SOLUTION
Burner Won't Light	Propane cylinder is frosted over	Wait until the propane cylinder warms up and is defrosted
	Blockage in orifice	Clear blockage
	Control knob is not in "ON" position	Turn control knob to on
Burner Flame Is Low	Gas pressure is low	Turn cylinder valve off and replace cylinder
	Outdoor temperature is less than 40°F and tank is less than 1/4 full	Use a full cylinder
	Control knob fully on	Check burner and orifices for blockage
Carbon Build-Up	Dirt or film on reflector and burner screen	Clean reflector and burner screen
Thick Black Smoke	Blockage in burner	Remove blockage and clean burner inside and outside

STATEMENT OF WARRANTY

Mi-T-M warrants this heater to the original retail purchaser only, to be free from defects in material and workmanship for a period of

one (1) year from the date of initial purchase.

This product must be properly installed, maintained and operated in accordance with the instructions provided. Mi-T-M requires reasonable proof of your date of purchase from an authorized retailer or distributor. Therefore, you should keep your sales slip, invoice, or cancelled check from the original purchase.

EXCLUSIONS

1. This Limited Warranty shall be limited to the repair or replacement of parts, which prove defective Mi-T-M shall determine at its reasonable discretion. This warranty does not include wear items: filters, vanes, nozzles, and rotors.

2. This Limited Warranty does not cover any failures or operating difficulties due to normal wear and tear, accident, abuse, misuse, alteration, misapplication, improper installation or improper maintenance and service by you or any third party. Failure to perform normal and routine maintenance on the heater, shipping damage, damage related to insects, birds, or animals of any kind, and damage due to weather conditions are also not covered.

3. In addition, the Limited Warranty does not cover damage to the finish, such as scratches, dents, discoloration, rust or other weather damage, after purchase.

All transportation costs for the return of the damaged product or parts will be the responsibility of the purchaser. Upon receipt of damaged item, Mi-T-M will examine the item and determine if defective. Mi-T-M will repair or replace and return the item, freight pre-paid. If Mi-T-M finds the item to be in normal operating condition, or not defective, the item will be returned freight collect.

This Limited Warranty is in lieu of all other express warranties. Mi-T-M disclaims all warranties for products that are purchased from sellers other than authorized retailers or distributors.

AFTER THE PERIOD OF THE ONE (1) YEAR EXPRESS WARRANTY EXPIRES, Mi-T-M DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR APPLICATION. FURTHER, Mi-T-M SHALL HAVE NO LIABILITY WHATSOEVER TO PURCHASER OR ANY THIRD PARTY FOR ANY SPECIAL, INDIRECT, PUNITIVE, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.

Mi-T-M assumes no responsibility for any defects caused by third parties. This Limited Warranty gives the purchaser specific legal rights; a purchaser may have other rights depending upon where he or she lives. Some states do not allow the exclusion or limitation of special, incidental or consequential damages, or limitations on how long a warranty lasts, so the above exclusion and limitations may not apply to you. Mi-T-M does not authorize any person or company to assume for it any other obligation or liability in connection with the sale, installation, use, removal, return, or replacement of its equipment, and no such representations are binding on Mi-T-M. Always be sure to specify model number and serial number when making any claim with Mi-T-M.

For Service or Warranty Consideration, contact
Mi-T-M® Corporation, 50 Mi-T-M Drive, Peosta, IA 52068
563-556-7484 / 800-553-9053 / Fax 563-556-1235
Monday - Friday 8:00 a.m. - 5:00 p.m. CST