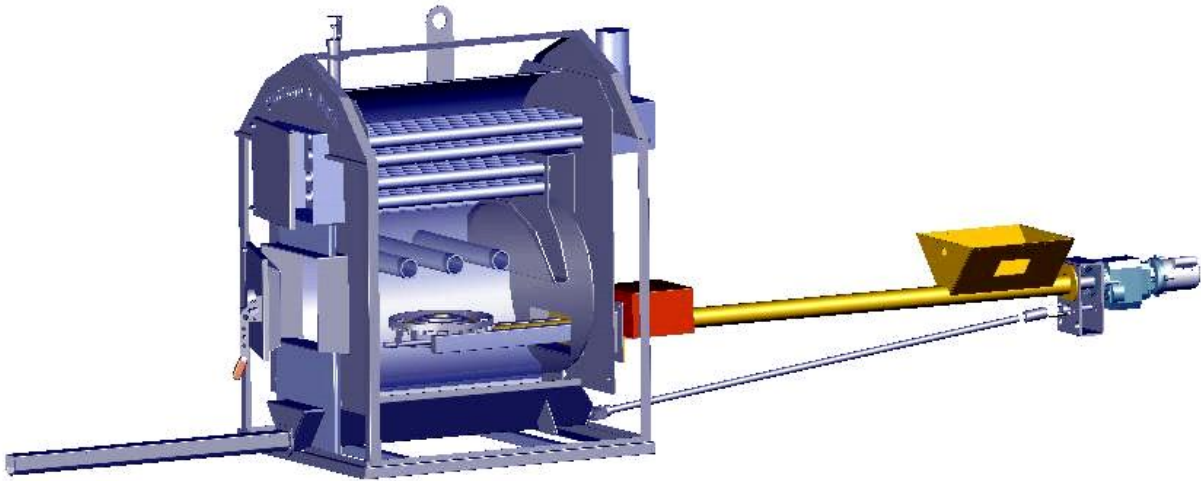


Portage & Main Outdoor Water Furnace Automatic Stoker & Ash Removal



Please Save These Instructions For Future Reference

Preface

Dear New Stoker Owner,

Thank you for purchasing your new Portage & Main Outdoor Water Furnace with Automatic Stoker and Ash Removal.

Please take a few minutes to read this manual. It will help you understand the set up procedure, operation, and maintenance of your “Portage & Main Stoker”.

A properly set and maintained Stoker will give the best performance and preserve the life of your new Stoker.

Any additional advice that you may need which is not found in this manual may be obtained from your local dealer or from the factory.

Sincerely,

Piney Manufacturing Ltd.
Box 130
Piney, MB
R0A 1K0

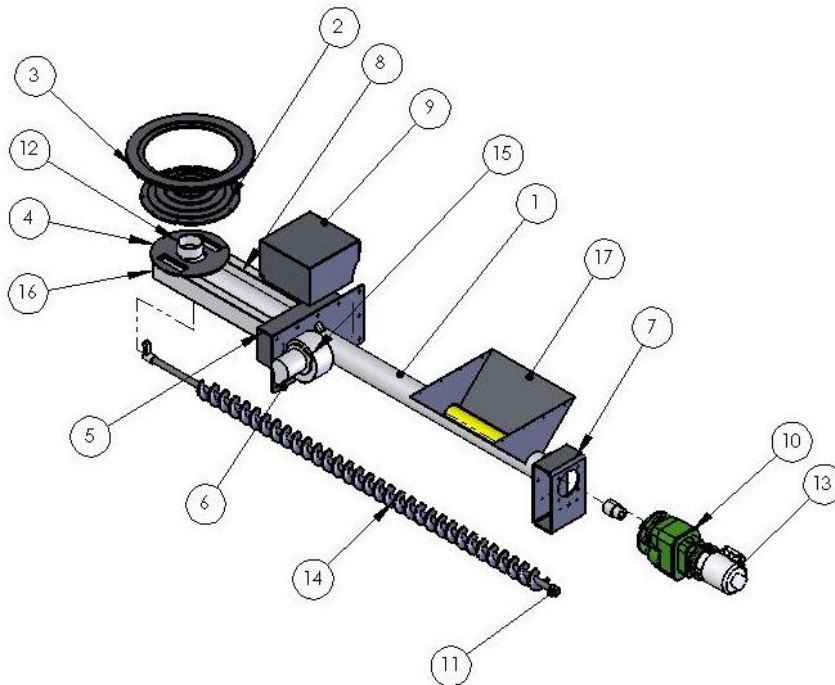
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Getting Acquainted

Before you begin installing your new Portage & Main Stoker, take a few minutes to read through this manual. It contains information and tips for installing the stoker and a few suggestions on ways to make better use of the energy available from your Portage & Main Stoker.

Figure A - Stoker Front View



Item No.	Description	Qty.
1	Auger Tube	1
2	Stoker Head	1
3	Rotating Ring	1
4	Stoker Head Base Plate	1
5	Air Box	1
6	Stoker Mounting Plate	1
7	Drive Mount	1
8	Airtube	2
9	Blower Fan Cover	1
10	Bonfiglioli Gear Box Drive	1
11	Coupler Drive Key	1
12	Air Director	1
13	Leeson 1/4 hp Motor	1
14	Auger Assembly	1
15	Blower Fan	1
16	Air Tube End Cap	2
17	Coal Feed Hopper	1

Getting Started

Note: The Portage & Main Stoker is certified for use as a Portage & Main Outdoor Water Furnace attachment only. Installation must be in accordance with local or provincial codes that may be different from this manual. Check with your insurance company regarding regulations which apply to installations in your area.

Coal Storage: The Portage & Main Outdoor Water Furnace with Automatic Stoker does not come with the coal storage hopper. We recommend that the hopper be constructed of a Galvanized steel or material having similar corrosion resistance.

Preparation: Follow the installation directions for your Portage & Main Outdoor Water Furnace for site location and distance from combustible materials. Use Figure C as a guideline for placing the stoker next to your Portage & Main Outdoor Water Furnace. Your Portage & Main Outdoor Water Furnace must be equipped with a stoker opening designed to accept the Portage & Main Stoker unit. The stoker opening is a factory installed.

Foundation: Concrete is recommended.

Recommendation: We recommend a hot water circulation loop that will dissipate at least 10% (ten percent) of the estimated heat output of the outdoor water furnace in the event that circulation is reduced because of electrical power failure. This loop shall be such that it can only be made inoperative by a deliberate manual action. The minimum pipe to be used should be 18mm (.75 inch) in diameter, room temperature of 65 F (18C) and mean water temperature of 180 F (82C). This loop should be positioned above the water furnace with features that promote natural thermal circulation of the water. The recommended piping should be such that excessive pressure will no develop in any portion of the water furnace or system.

Installation: The installation is only to be performed by a qualified installer. Once the furnace is placed in proper position (clearance to combustibles and ash removal distance to the outside wall). slide the stoker into place and attach the stoker using 12-3/8" x 1" bolts, lock washers and nuts. Use non-combustible materials to adjust stoker height and maintain proper surface angle between mating surfaces.

The Portage & Main Stoker comes with an automatic ash removal system which bolts on simply to the front of the furnace, and is driven by the same motor as the feed auger from the back. Once the trough is bolted on in the front, the ash removal auger is then inserted through the trough with the keyed end sticking out the back of the furnace. A drive shaft is provided that quick attaches to the drive and then is attached to the ash auger on the furnace with a simple key and set screw.

Clearances to combustibles are:

- Back and sides 18 inches (46 cm)
- Front 48 inches (122 cm)
- Top 18 inches (46 cm)
- Flue pipe 18 inches (46 cm)
- This appliance is to be mounted on a non combustible floor (concrete slab). The slab should extend 16 inches (400mm) in front and 8 inches (200mm) on either side of the ash removal doors.

The chimney should be type HT (Selkirk Chimney) 8 inch for the ML36/42 and 6 inch for the ML30 Always operate the stoker furnace in a safe manner. Have a clearly understood plan to handle a chimney fire or any fire at all.

Turn power off, close all doors and manually close all dampers in the case of a run away fire.

Requirements for Canadian Installation

Do not connect this unit to a chimney flue serving another appliance.

WARNING—Risk of fire. Surfaces are hot. Keep children away. Do not touch during operation.

Do not operate with fuel loading or ash removal doors open.

Do not store fuel or other combustibles within marked installation clearances.

Inspect and clean flues and chimneys regularly this is especially important at the end of each heating season to minimize corrosion during the summer months caused by accumulated ash.

This furnace may be connected to an existing boiler system. The add on boiler shall:

- Be installed without interfering with the normal delivery of heated water from the original boiler.
- Be installed without affecting the operation of the electrical and mechanical safety controls of the original boiler.
- Provide for a change over from one fuel to the other without requiring manual adjustments of any control or component other than the thermostats.
- Have provision for preventing or adequate water capacity within the boiler to prevent damage from loss circulation due to electrical power failure.
- Be installed without changing the function of the controls or rewiring the original boiler. A wiring interconnection is permitted. The electrical system of both boilers shall be powered from a single branch circuit without exception.

Additional Instructions:

1. Operate the (Gas, Oil, Electric) boiler periodically to ensure that it will operate satisfactorily when needed.
2. Do not relocate or bypass any of the safety controls in the original (Gas, Oil, Electric) boiler installation.
3. The operation of the gas boiler must be verified for acceptable operation before and after installation of the add-on appliance by a gas filter that is recognized by the regulatory authority.
4. Do not connect to any chimney or vent serving a gas appliance.

The installation should comply with requirements of CAN/CSA-B365, and changes to the installation should comply with CSA B139

(For oil-fired), C22.1 (for electric), or CAN/CGA-B149.1 or CAN/CGA-B149.2

(For gas-fired).

Low Water Shut Off: The Portage and Main Stoker is equipped with a low water shut off switch, the boiler has to be filled to the proper operating level for the boiler to operate. This will also prevent any damage from over-heating the boiler.

Connecting Power Supply: The Portage & Main Stoker requires (120 Volt 10 Amp power supply) at the stoker control box. Refer to Figure D for wiring instruction. This should be done so that the boiler can be disconnected remotely, in an emergency situation. (Cutting off power supply away from the Outdoor Water Furnace)

Note: Electrical hookup should be done in accordance with Part 1 of the Canadian Electrical Code and any Local Codes having jurisdiction.

Coal Stoker Wiring Diagram

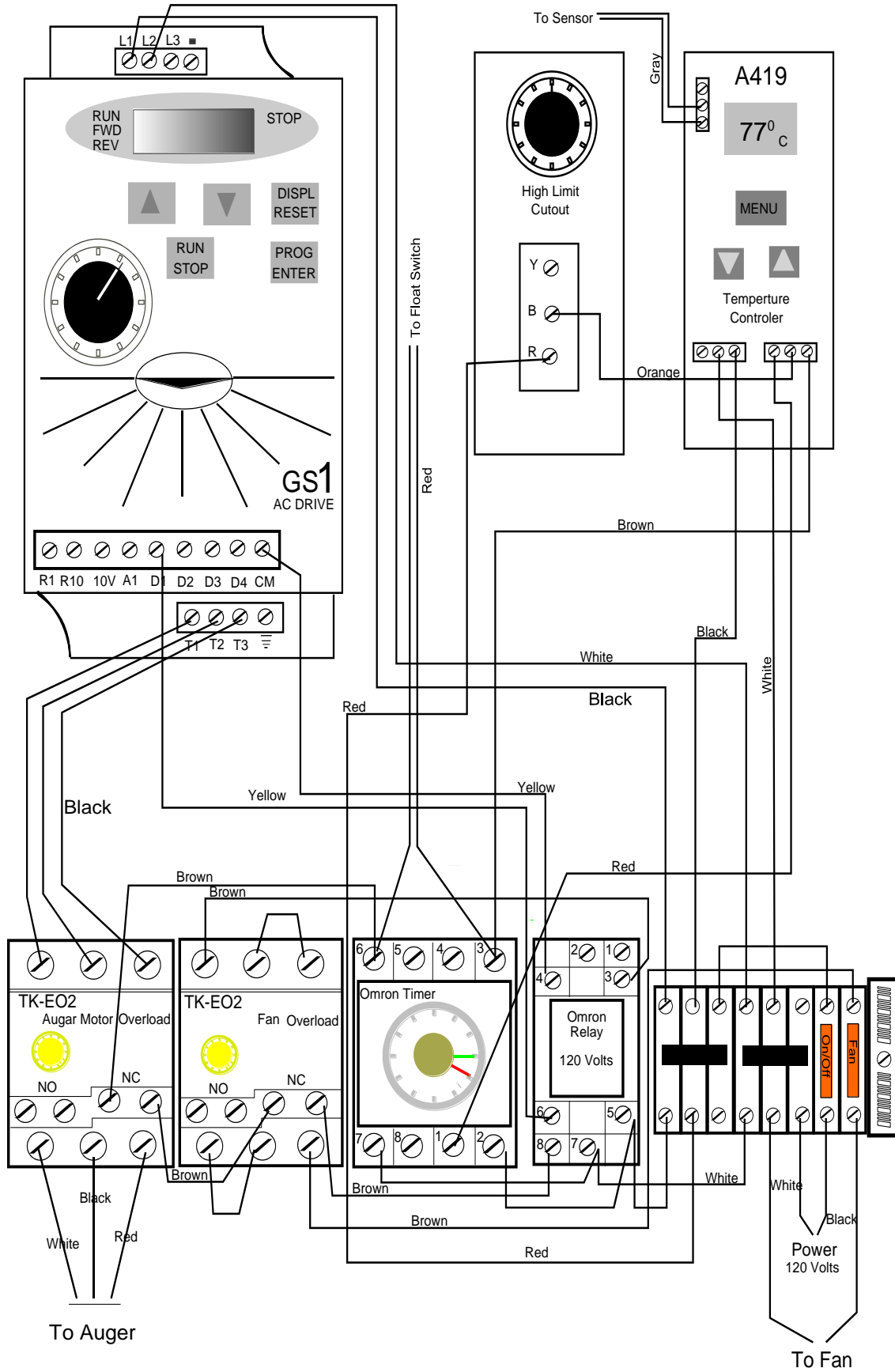


Figure D Wiring Diagram

Underground Insulated Pipe Trench

- Pre-insulated pipes such as Urecon Dual Pex Flex, properly sized for circulation requirements, are recommended to convey the hot water from the outdoor water furnace to each building. The piping should be laid in a flat trench eighteen (18) inches to thirty six (36) inches deep. If high water table is encountered, the trench may be shallower, traffic permitting. It is to your advantage to be down deeper at the boiler/furnace especially as it makes the bend easier.
- Use water tight pipe insulation is recommended as all Styrofoam will absorb water to the point it becomes very poor insulation. Only use in high dry well drained areas if using at all.
- ALL PLUMBING MUST BE DONE ACCORDING TO APPLICABLE LOCAL CODES.

Water Fill-Up

- After installing the Water Furnace in place and connecting to it the supply and return pipe(s) to and from the various buildings to be heated, IN ACCORDANCE WITH APPLICABLE LOCAL CODES, the heating installation is ready to be filled with water.
- Before filling the Water Furnace with water, make sure all valves are in “closed” position, and unused supply and return outlets in the control panel of the outdoor water furnace are tightly capped or valves installed for future use.
- A permanent water supply to the Outdoor Water Furnace is recommended by tapping into the water mains and connecting it to the top of the Outdoor Water Furnace through a manually operated shut-off valve. Use only good quality water. Do not use water with iron, minerals, or hard water. Do **not** use reverse osmosis water. Rain water is usually the best.
- Add water until the entire heating installation is filled and the level gauge on top of the outdoor water furnace shows almost full. This is to allow for water expansion.
- Before starting the outdoor water furnace make sure the entire heating installation is properly vented to facilitate the circulation of water in the heating loop(s).
- Ensure water trap and discharge pipe are properly installed and unobstructed to release any pressure build-up in the outdoor water furnace.

Corrosion Control

To control corrosion in the Portage & Main Outdoor Water Furnace we recommend the following:

- Always use certified boiler treatment. Submit water sample for testing annual through your dealer. Keep your **records**.
- Always maintain the proper water level.
- Add a commercially available antifreeze solution to the water in the order of thirty (30) per cent, during the initial water fill-up. Optional.
- When adding large make-up water quantities to compensate for evaporation and to maintain proper water level, use the same ratio of antifreeze solution to the make-up water. For smaller make-up water quantities, no antifreeze solution is required.
- If sedimentation occurs after the initial few weeks, the water should be treated chemically to adjust its pH level. Consult your dealer for water analysis and treatment.
- Keep ashes to minimal. Do not burn garbage.

Fuel Types: Your Portage & Main Outdoor Water Furnace with the stoker attachment is designed to burn stoker coal only. Contact your authorized dealer or the factory if you have any questions about fuel types.

Coal Properties: The efficiency of the Portage & Main Outdoor Water Furnace with the stoker attachment will depend on the type and quality of coal used in your outdoor water furnace and how well the outdoor water furnace is adjusted for the type of fuel used. These properties will determine how your outdoor water furnace operates, what type of adjustments will be needed and will also determine the amount of deposits remaining after the fuel is consumed. For best results use a good grade stoker coal .

Starting The Fire: Fill the hopper with coal and turn the stove power supply on. Insure that the rotating finger in the front of the Stoker is turning the rotating ring properly. This can be done by watching it through the fire door. Set the aqua stat at 160 degrees F. Turn the stoker power supply off when fuel begins to spill onto the stoker head. Once the power supply had been turned off ,use a small amount of wood pellets or wood kindling placed on top of the head to start a fire. Turn the stove on and turn the coal auger speed down with the variable speed dial the control box. Run the fan until wood pellets or wood kindling are thoroughly lit. If necessary reduce the fan air flow by closing the fan damper. If coal is your fuel place a small amount of coal on top of the fire. Once the coal are properly lit, speed up the coal auger for a little more fuel. Watch the Stocker for a few hours, to ensure to ring keeps rotating properly. This is to ensure that there are no clinkers forming on the Stoker head. Burning a good grade of coal also helps keep clinkers from forming. Ensure particles falling of the Stoker head are small and not to big to fall through the ash grates. If this happens you may be running the feed auger to fast. Follow the instructions in the following pages to set controls for continues operation.

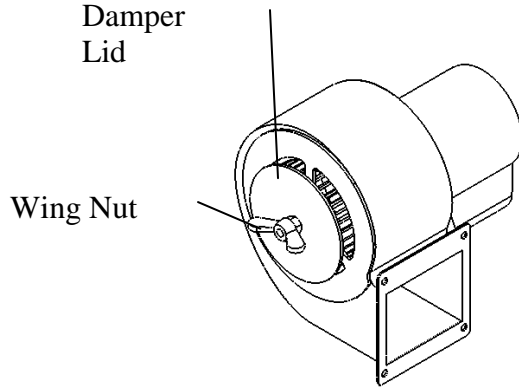
CAUTION: The Coal Fire Outdoor Water Furnace is not to be manually and automatically fueled simultaneously

WARNING: Do not fire this boiler during prolonged power failure.

Stoker Adjustment

Air Regulating: Run the stove from 1 to 4 days to establish a fuel bed and then make final fuel and air adjustments. Experiment and observation will be necessary to achieve the most economical operation. Use as little air as possible to burn the fuel you are using. Adjust the air flow by rotating the air flow damper on the fan housing. Too much air results in excessive fly ash and wasted energy. When burning pellets too much air will blow the unburned pellets off the head. Too little air gives a smoky fire with soot accumulation in the furnace, and chimney as well as unburned coal piling inside the stove. Lock the air flow damper in place with the wing nut after adjustments are complete (See Figure E).

Figure E Air Flow Damper Adjustment



Coal Feed Regulation: The fuel feed rate on your Stoker can be adjusted to suit the type of fuel being used and change the rate of energy it produces. Fuels with a lower energy value or if more energy is demanded of your stove require a faster fuel feed rate. You can adjust your feed rate automatically with a variable speed dial located in the control box.

End of Heating Season

- Clean out all ashes (Wet ash could cause corrosion.)
- Clean and cover chimney
- Oil heat exchanger and furnace floor where ash collects

Maintenance:

Lubrication--The gearbox should be checked once a month. Remove the plug from the gearbox housing. The oil level should be near the top of the plug opening. Fill if necessary.

Cleaning--Turn the stoker power off. Open the firebox door and heat exchanger doors. Brush the fly ash off the inside heat exchanger and fire pot. Remove all the ash from the ash pan and ash pan area. The chimney should be checked and cleaned each time the ash is cleaned out. Inspected all seals on all doors regular, and keep them in good condition.

Note: Always keep an eye on the ash removal system. If properly maintained it will operate trouble free. Do Not let the ashes push into a pile where they come out of the auger, this will prevent wear to the ash auger flighting. Also remove the top cover on the ash removal trough to ensure that there is no build up of hard crust underneath the ash auger flighting, this will happen over time and should be removed when it does.

Aqua Stat Control Settings: Set the Temperature control aqua stat to 160 degrees F. Set high limit at 200 degrees F. The differential in the temperature control aqua stat can be set between 1 and 30 degrees F. This is a good feature for warmer weather to make the stove cycle more often.

The control box is also equipped with a OMRON Timer, which overrides the aqua stat control, to make the water furnace cycle. The OMRON timer is factory set to cycle for 30 seconds (thirty) every 30 minutes (thirty).. This is for burn back prevention and to insure a minimum fire.

Note: It takes as much fuel to heat water from 160 to 180 degrees F as it does to heat it from 70 to 160 degrees F.

Settings

The A419 control functions

Setpoint (SP) establishes the temperature value at which the equipment is switched on or off, depending on the user selected mode of operation. Setpoint range is -30 to 212°F or -34 to 100°C (in 1 degree increments).

If Setpoint mode is set to cut-in, setpoint is the temperature value at which the control closes the Normally Open (N.O.) contacts. If Setpoint mode is set to cutout, setpoint is the temperature at which the N.O. contacts open.

Differential (dIF) established the difference in temperature between the cut-in value and cutout value. The differential is set relative to Setpoint and may be set from 1 to 30 F° or C° (in 1 degree increments).

Anti-Short Cycle Delay (ASd) established the minimum time that the outplay relay remains de-energized before the next on-cycle. The **ASd** does not allow the output relay to re-energize until the programmed time delay has elapsed. The delay is activated when the control is first turned on and every time an on-cycle ends. When the delay is activated, the LCD alternately flashed the sensor temperature and **ASd**. The anti-short Cycle Delay range is 0 to 12 minutes (in 1minute increments).

Sensor Failure Operation (SF) establishes how the A419 control's output-relay operates the equipment in the event of a sensor or sensor wiring failure. The user may select to run the equipment continuously or to shut it down. When the control detects a sensor circuit failure, the LCD flashes SF alternately with OP (if the sensor circuit is open), or **SH** (If the sensor circuit is shorted). Before indicating a failure, the control implements a 1-minute delay, which allows verification of failure condition and avoids nuisance failure indications.

Temperature Offset (OFS) establishes a set secondary **Setpoint** and **Differential** values that may be invoked to control an application when a circuit is closed between the binary input (**BIN**) and common (**COM**) terminals (and **BIN** appears on the display). See Figure 3. Offset range is 0 to 50F° or C° (in 1-degree increments). A typical application might use a switching time clock to invoke night-setback temperature settings.

IMPORTANT: Make sure the Touchpad Lock jumper is installed (unlocked) before attempting to adjust the A419 control functions.

Changing the A419 Control Temperature Units

The A419 control is factory set to display Fahrenheit temperature. To change to Celsius, press **Up** and **Down** (arrows) simultaneously. Press them again to display Fahrenheit units. Verify that the control is displaying the desired temperature units before setting the Setpoint.

Setting the A419 Control Setpoint Value

To view and adjust Setpoint, follow these steps:

1. Press and hold MENU (about 2 seconds) until the display flashes SP.
2. Press MENU again to display the existing setpoint value.
3. Press Up or Down (arrows) to change the setpoint value.
4. Press MENU again to save the new value. The display returns to the sensed temperature.

Note: If no setup entry is made for 30 seconds, the control reverts to the (normal) temperature display.

IMPORTANT: If MENU is not pressed after changing the setpoint value, the control reverts the previously programmed setpoint value

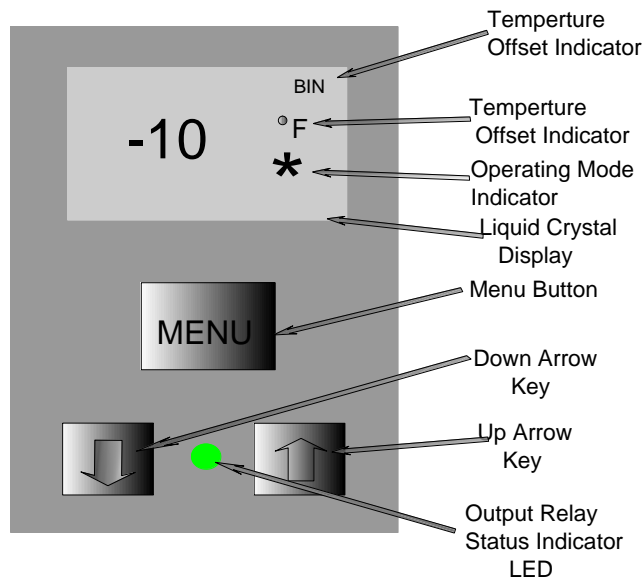


Figure 6: Liquid Crystal Display, Touchpad, and LED Indicator

Settings on the Other A419 Control Functions

To set the Differential, Anti-short Cycle Delay, Temperature Offset, or Sensor failure operation, use the following method.

1. Press and hold Menu until the display changes to flashing SP. (This takes about 2 seconds.)
2. Press Up or Down (arrows) repeatedly until the desired function is displayed. (See Table 3.)
3. Press Menu to display the functions current value.
4. Press Up or Down (arrows) until the desired value is displayed.
5. Press MENU to save the new value. The display returns to the sensor temperature.

IMPORTANT: If MENU is not pressed after changing the settings, the new settings are no saved and the control reverts to the previously programmed setting values.

NOTE: If no setup entry is made for 30 seconds, the control reverts to the (normal) temperature display.

NOTE: Any saved A419 control settings are non-volatile and remain in the control's memory during power interruptions.

IMPORTANT: Do not set Setpoint and Differential values which (when totalled) fall out of A419 control's Setpoint range (-30 to 212 °F [-34 to 100°C]). The control will not function properly if Cut-in or Cutout values are outside of the control's Setpoint range.

Checkout

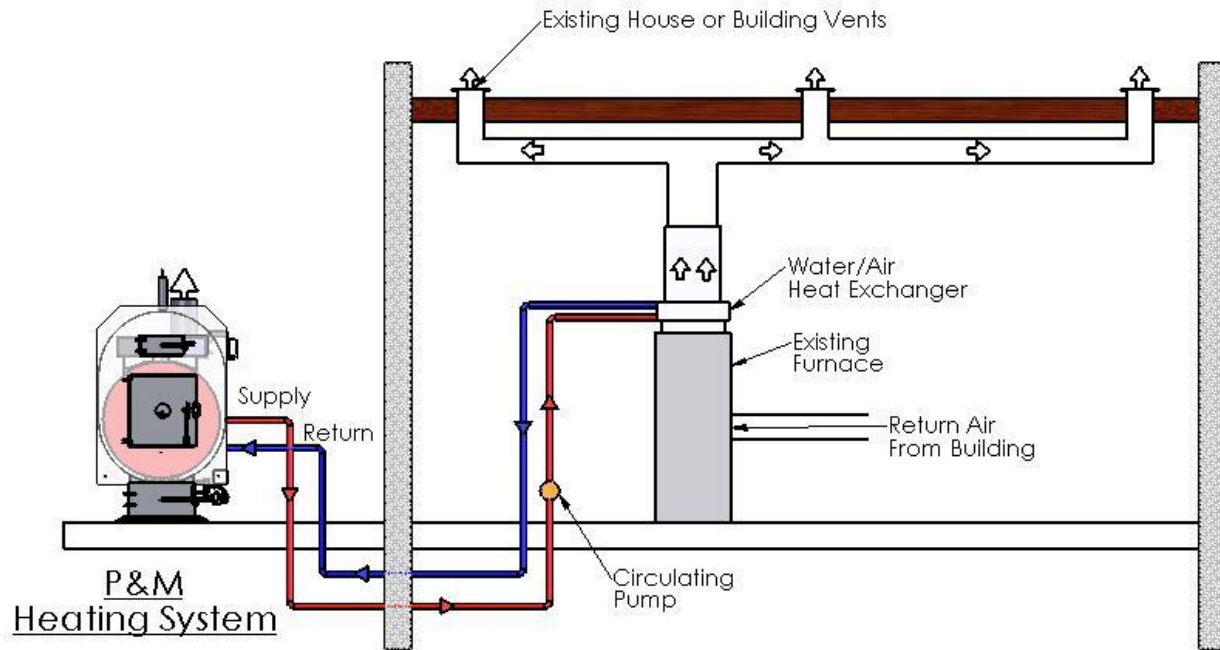
Before applying power, make sure installation and wire connections are corrects for your application. Then power, operate and observe the system and A419 control for at least three complete operating cycles before leaving the installation.

Table 3: Display Symbols, control Function, Ranges, Unites, Values, and Factory

Display Symbol	Control Function	Range – Units/Value	Factory Set Value
SP	Setpoint*	-30 to 212 - °F (-34 to 100 - °C)	30
dIF	Differential*	1 to 30 – (F° or C° in 1-degree increments)	5
ASD	Anti-short cycle Delay	0 to 12 – (in 1-minute increments)	1
OFS	Temperature Offset	0 to 50 (F° or C° in 1-degree increments)	0
SF	Sensor Failure Operation	(No range) – 0 = output relay de-energized 1= output relay energized	1
F or C	Temperature Units	(No range) - F° or C°	F°
BIN	Temperature Offset Indicator	(No range) – BIN is displayed and the A419 control operates on the secondary setpoints when the circuit between the BIN and COM terminals is closed.	N/A
Snowflake or flame picture	Cooling or Heating Mode of Operation	(No range) – A Snowflake (Cooling Mode) is displayed when the Jump1 jumper is removed. A Flame (Heating Mode) is displayed when the Jump1 jumper is installed.	Snowflake (Cooling Mode)

*The sum of the Setpoint and Differential values must be within the Setpoint range, or the control may not function properly.

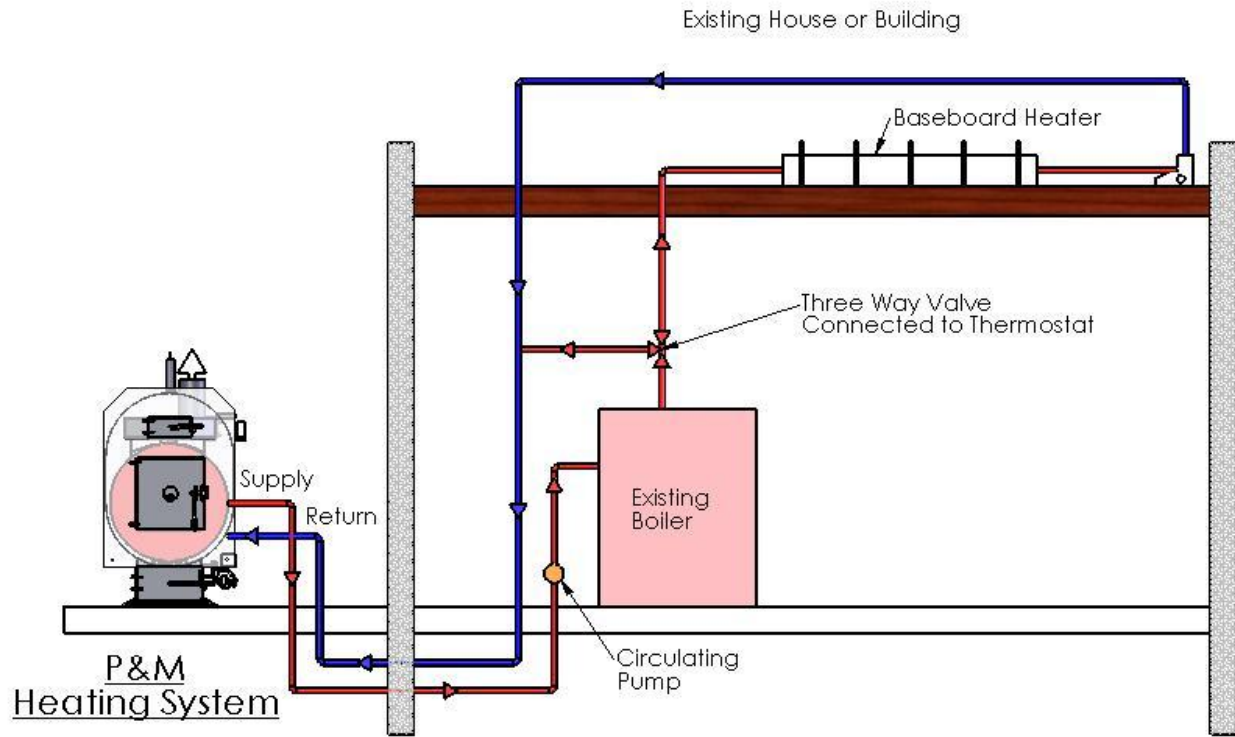
CONNECTING THE P&M SYSTEM



CONNECTING TO AN EXISTING FORCED AIR SYSTEM

SCHEMATIC #1 - Schematic Drawing for Illustration Purposes Only

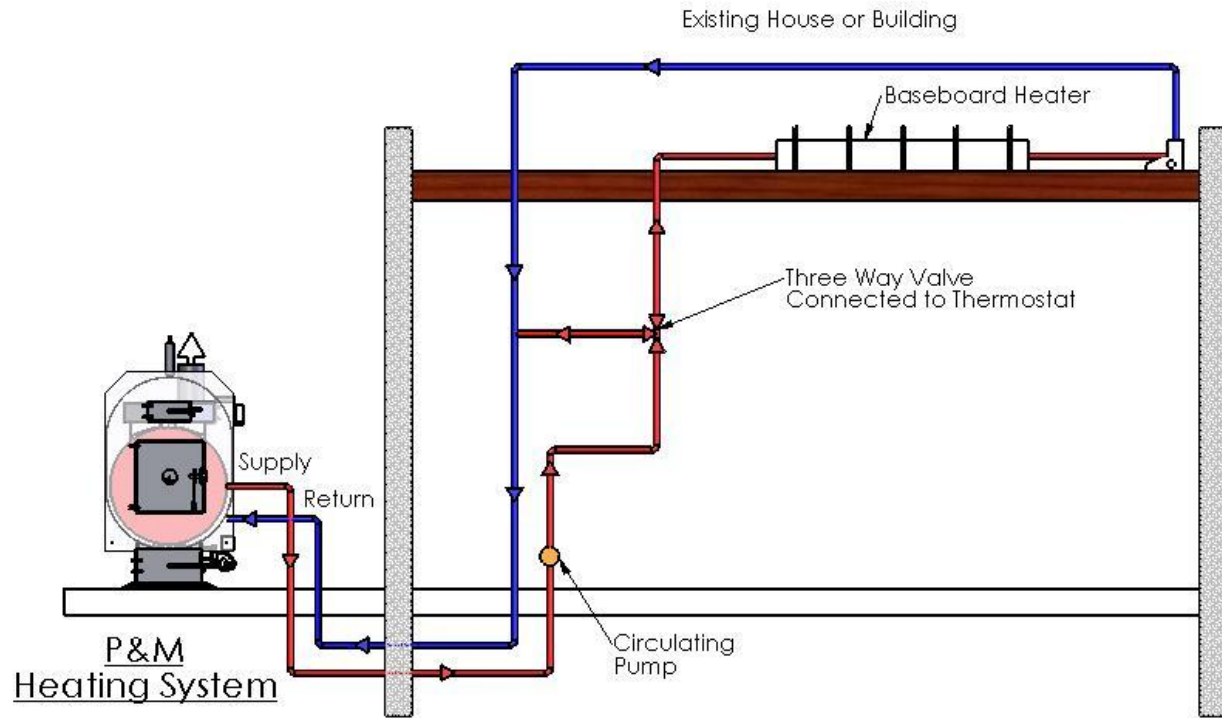
CONNECTING THE P&M SYSTEM



CONNECTING TO AN EXISTING BOILER / BASEBOARD SYSTEM

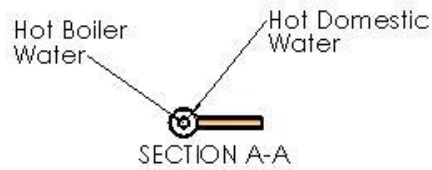
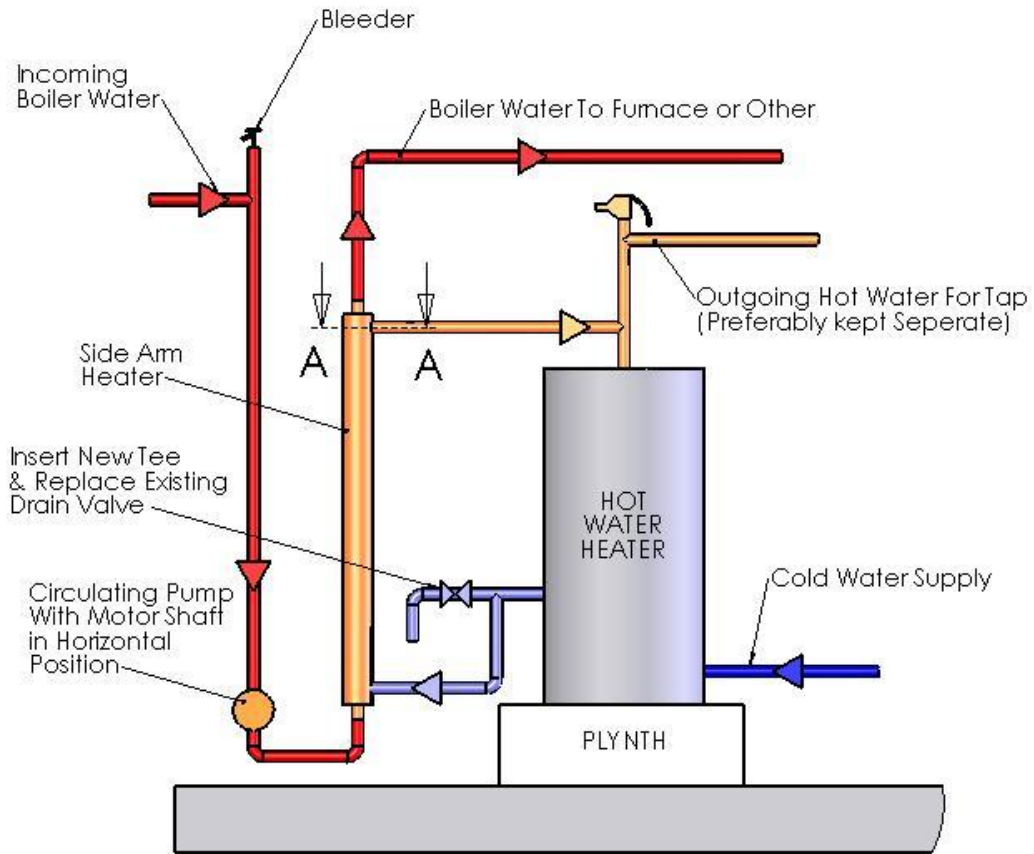
SCHEMATIC #2 - Schematic Drawing for Illustration Purposes Only

CONNECTING THE P&M SYSTEM



CONNECTING TO A NEW BASEBOARD SYSTEM

SCHEMATIC #3 - Schematic Drawing for Illustration Purposes Only



NOTE!

It is suggested that the hot water heater be raised on a plynth as shown, to give max. length of side arm heater. (5 feet long if possible) Top outlet should be as close as possible to the top of the water heater

SCHMATIC #4 - CONNECTING SIDE ARM HEATER TO DOMESTIC WATER TANK

PROBLEM	POSSIBLE CAUSE	SOLUTION
Can't get water to circulate	No power to pump Air in system	<ul style="list-style-type: none"> - Check electrical supply - Install bleed valves in pipe rise or high point - Bleed off trapped air through the bleeder valves
Overheating (Boiling)	Aqua stat/Limit not operating properly Water not circulating	<ul style="list-style-type: none"> -Check pump settings - Replace if defective - Check pump operation - Purge air from system
Moisture Inside Stove	Condensation	-There may be some condensation when stove is first heated up, it should disappear once the water and stove is warmed up
Can't keep fire burning	Not using enough heat Automatic timer not set to run long enough or defective Aqua stat not operating properly No draft	<ul style="list-style-type: none"> - Increase automatic run time by one (1) increment -Same -Replace if defective -Check electrical supply -Check setting -Replace if defective -Extend chimney -Check for plugged chimney
Not enough domestic hot water (Sidearm applications only)	Hooked up incorrectly Stove temperature not hot enough Extra high demand	<ul style="list-style-type: none"> -Check sidearm installation matches instructions under "Connecting For Domestic Water Heating" -Important that connection is made close to the water heater -Balancing valve should be adjusted to approximately 10% open -Check temperature settings on stove and adjust if necessary Note: Use a tempering valve if water is above 140 degrees F -Turn on water heater -Install bronze circulating pumps on domestic side to get faster recovery -Get larger storage tank for hot water

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump seizing up	Corrosive water Rusty water Use of Automotive anti-freeze Air leak in suction side of pump	-Have the PH levels checked regularly & adjusted as needed -Install screen before pump -Flush system -Remove & install approved glycol -Check & repair all connections on lines -Do not install air vents on supply line before pumps
Water at stove hot but can't get enough heat in building(s)	Pump sized wrong Pipe sized wrong Radiator too small or partially plugged Pump not running Valves Closed Air in lines	-Have pump sized by dealer or factory taking into consideration pipe size, distance from stove to radiator, radiator pressure drop -Check with dealer or factory -Install high capacity pump or install radiator with lower flow resistance -Replace with larger radiator -De-lime radiator & check water quality in boiler -Check power supply - Open valves - Purge system
Not enough heat	Stove too small for application Fly ash buildup on water jacket Using poor quality coal Incorrect combustion air flow Incorrect auger speed setting	-Install larger stove -Clean fly ash from water jacket -Use only good quality stoker coal -Adjust flow control (See "Stoker Adjustment-Air Regulation") -Adjust auger speed (See "Stoker Adjustment Coal Feed Regulation")
Coal auger doesn't turn but motor & drive pulley's turn	Shear pin broken	-Remove shear pin cover & replace shear pin (See Figure S for shear pin location) -Make sure auger can turn freely

Piney Manufacturing

Attention:

Dear Stoker Owner and/or Dealer:

We are pleased that you have chosen to use our product. We are always looking for ways to save energy costs for our customers.

We are enclosing some information on coal Btu content and moisture content. Any solid fuel that has a lot of moisture will waste energy. Before any solid fuel burns the moisture needs to evaporate in order for it to burn. The process of evaporation will cause condensation and black soot in the firebox. You could also be wasting energy just to dry the fuel, up to 30% could be wasted. Augers and air slots will clog up.

Included with this letter is a chart of moisture content of different coal. Also, Btu per pound, the higher the Btu per pound, the more heat can be generated with a furnace. **The drier the coal the less heat you will need to waste to dry the coal. Cheaper coal is not necessarily the most economical.**

Thank you for taking the time to read this manual. **Every furnace that we ship out gets a manual shipped with it, make sure that you read it and send in the warranty registration. Warranty can be refused if the unit is not registered with the dealer within 20 days of the purchase.**

Coal Facts:

Rank & Source	Moisture %	Ash %	Volatile Matter %	Fixed Carbon%	Heat Value Btu/lb
Lignite					
Montana	37.5	6.1	26.8	29.6	6578
N. Dakota	36.8	5.1	28.2	29.3	7180
S. Dakota	39.2	8.4	24.7	37.7	6320
Texas	33.7	7.3	29.3	29.7	7352
Ontario	46.7	7.4	30.2	16.0	5280
Saskatchewan	33.5	6.7	24.0	35.8	7567
Sub-Bituminous					
Wyoming	23.4	3.6	33.6	39.4	9372
Alberta	15.0	6.3	33.3	45.4	10877
Bituminous					
Utah	7.5	5.6	39.7	47.2	12510
Illinois	7.9	9.1	40.7	42.3	11521
BC	6.7	11.3	34.8	47.2	11694
Alberta	7.4	7.1	32.1	53.4	11651
Pennsylvania	3.4	5.3	35.9	55.4	13714
Nova Scotia	4.0	8.4	32.2	55.4	13327

Portage & Main Outdoor Water Furnace Automatic Stoker & Ash Removal ML 30, ML36 & ML42

Portage and Main Outdoor Water Furnaces are designed for burning coal, wood pellets, bio mass pellets or authorized fuel only. The burning of any other materials or any modifications of the furnace will void this warranty. The electrical components such as the temperature control, fans, etc., are warranted by their manufacturer for a period of one year or as stated by the manufacturer. The Leeson Drive motor has a three year warranty. All gaskets, seals, etc., are warranted by Piney Manufacturing Ltd. for a period of one year from the date of purchase. The stoker head and ring are consumables; therefore have no warranty.

Piney Manufacturing Ltd. does not warranty parts damaged by freezing, overheating, pressurization, use of unauthorized fuels or abuse or lack of maintenance. The Portage & Main Outdoor Water Furnace with automatic stoker is designed to be a long lasting simple to operate furnace. Proper care and maintenance as outlined in the manufacturer's maintenance instructions should be followed. The Portage & Main Outdoor Water Furnace must be filled with water that meets recommendations outlined in the Portage & Main Outdoor Water Furnace Manual. Failure of proper maintenance such as maintaining water quality by using the recommended water type and/or the addition of chemical as required, will shorten the life of the outdoor water furnace. An annual sample of water's condition must be sent in for free testing. Details of this procedure can be obtained from your local P&M authorized dealer or from factory representative. Inhibitors must be added to the recommended levels as advised by PM authorized representative. Location and operating environments of the furnace may cause corrosion which is beyond our control

Any furnace which is determined to be defective in material or workmanship within five (5) years and returned to Piney Manufacturing Ltd, at their request will be repaired or replaced at Piney Manufacturing Ltd. option at no charge to you provided the adequate certified boiler treatment levels as defined by P&M representative, continuous and proper operation of side stream filter system, proper continuous electrical grounding, recommend and approved shut down procedures have been adhere to. Continuous circulation of pumps will also make pumps last longer.

In year six (6) through the life of the product, Piney Manufacturing will pay a pro-rated share of any repair or replacement cost. The proportionate charge will be equal to the appropriate percentage of the list price of the product at the time of the warranty claim is made, and will be determined as follows: 6th year 60%; 7th year 50%; 8th year 40%; 9th year 30%; year 10th and beyond 10%. No cash surrender value at any time. Piney Manufacturing Ltd reserves the right to replace or repair the parts at its sole discretion.

In addition to the warranty above, the Piney Manufacturing Ltd. warranty does not cover:

Components that are part of the heating system (products), used for installation of the Portage & Main Outdoor Water Furnace—underground insulated pipe, radiators, heat exchanger that may be part of the part of the heating systems (products); the workmanship of any installer of Portage & Main Outdoor Water Furnace(s).

In addition, this warranty does not assume any liability of any nature for unsatisfactory performance caused by improper installation or operation; any costs of labor for removal and reinstallation of the alleged defective furnace or part, transportation to Piney Manufacturing Ltd. if necessary, and any other materials necessary to perform exchange; any products that have a failure or malfunction resulting from improper or negligent operation accident, abuse, freezing, over-heating, poor water quality, misuse, unauthorized alteration or improper repair or maintenance; improper adjustments, control settings, care or maintenance. Information is in the installation manual and other printed/technical information provided with the product or direct from Piney Manufacturing Ltd.

If warranty requires replacement of any part, Piney Manufacturing Ltd. will take responsibility for the actual cost of the replacement part only as laid out in the warranty condition. No other warranty is expressed or implied. Piney Manufacturing Ltd. is not responsible for the cost of plumbing, replacement of antifreeze, shipping costs or any other indirect cost associated with the replacement of the part. Outdoor furnaces are not intended to be the only source of heat; therefore, it is recommended that a back-up system be in place to prevent damages caused by lack of heat.

Piney Manufacturing Ltd. is not liable for any accidents which may occur from the operation of the furnace, or damage incurred due to heating system failure. The purchaser assumes all responsibility for the care, maintenance and safe operation of the furnace.

Piney Manufacturing Ltd. specifically disavows any other representation, warranty or liability related to the condition or use of the product Any complaints or litigation must be filed in Manitoba, Canada.

To validate this warranty, your registration must be completed within twenty (20) days of purchase date and faxed to Piney Manufacturing Ltd. 306-922-1662, with a copy of your sales receipt, showing your date of purchase.

This warranty is non-transferable. Warranty valid in Canada and United States of America for indicated Portage & Main Outdoor Water Furnaces.

Effective September 2010

**Portage and Main Outdoor Water Furnace with Automatic Stoker
Warranty Card ML 30, ML36, ML42**

Purchaser's Name: _____

Address: _____

Phone: _____

Model: _____ Serial No. _____

Date of Purchase: _____

Dealer: _____

Address: _____

Dealer's Signature: _____

Date: _____

This warranty card must be completed and returned to Heat Smart Plus by fax to
1-306-922-1662 with a copy of the sales receipt within 20 days of sale date.

"I have read, understood and accept the conditions of this Warranty."

Customers Signature: _____

Date: _____

Warranty provided by Piney Manufacturing Ltd. who reserve the right to replace or repair the parts at its sole discretion.

Records & Notes