



USER'S INFORMATION MANUAL

Models

MAC-150, MAC-205 COMBI
MAH-125, MAH-165 HEATING ONLY

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.

- **WHAT TO DO IF YOU SMELL GAS**
 - Do not try to light any appliance.
 - Do not touch any electrical switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's 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.

Information and specifications outlined in this manual in effect at the time of printing of this manual. Manufacturer reserves the right to discontinue, change specifications or system design at any time without notice and without incurring any obligation, whatsoever.



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1 - GENERAL

1.1 GENERAL

This boiler has few USER serviceable parts. Maintenance and Service shall be completed by qualified agency.

WARNING

Fire, explosion, asphyxiation and electrical shock hazard. Improper maintenance and service could result in death or serious injury. Read this manual and understand all requirements, including use of qualified service agent where directed.

1.2 BECOME FAMILIAR WITH SYMBOLS IDENTIFYING POTENTIAL HAZARDS.



This is the safety alert symbol. Symbol alerts you to potential personal injury hazards. Obey all safety messages following this symbol to avoid possible injury or death.

DANGER

Indicates a hazardous situation which, if not avoided, WILL result in death or serious injury

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Used to address practices not related to personal injury.

WARNING

Following service procedures shall be performed by qualified service agent. Boiler owner shall not attempt these steps. Failure to do so could result in death or serious injury.

WARNING

Combustion chamber insulation in this product contains ceramic fiber material. Ceramic fibers can be converted to cristobalite in very high temperature applications. The International Agency for Research on Cancer (IARC) has concluded, Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group1). Avoid breathing dust and contact with skin and eyes. Use NIOSH certified dust respirator (N95). This type of respirator is based on the OSHA requirements for cristobalite at the time this document was written. Other types of respirators may be needed depending on the job site conditions. Current NIOSH recommendations can be found on the NIOSH website at <http://www.cdc.gov/niosh/homepage.html>. NIOSH approved respirators, manufacturers, and phone numbers are also listed on this website. Wear long-sleeved, loose fitting clothing, gloves, and eye protection. Apply enough water to the combustion chamber lining to prevent dust. Wash potentially contaminated clothes separately from other clothing. Rinse clothes washer thoroughly.

NIOSH stated First Aid. Eye: Irrigate immediately. Breathing: Fresh air.

Use of CO monitor is manufacturer recommended and may be requirement of local jurisdiction.

1.3 WHAT TO DO SHOULD OVERHEATING OCCUR

Do not turn off or disconnect electrical supply to pumps. Shut off gas supply at location external to appliance.

1.4 WHAT TO DO IF BOILER OR ANY PART HAS BEEN UNDER WATER

Do not use boiler if any part has been under water. Immediately call a qualified service technician to inspect boiler and to replace any part of control system and any gas control which has been under water.

2 - OPERATING INSTRUCTIONS

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- This appliance is equipped with an ignition device which automatically lights burner. **Do NOT try to light this burner by hand.**
- Before operating smell all around appliance area for gas. Be sure to smell next to floor because some gas is heavier than air and will settle to the floor.
- **Use only your hand to turn the gas shutoff valve.** Never use tools. If valve will not turn by hand, do not try to repair it, call a qualified service technician. Force or attempted repair may result in fire or explosion.
- **Do not use this appliance if any part has been under water.** Immediately call a qualified service technician to inspect appliance and to replace any part of control system and any gas control which has been under water.
- **Do not block the flow of combustion or ventilation air to boiler.**

CAUTION

WHAT TO DO IF YOU SMELL GAS

- **Do not try to light any appliance.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**



2.1 OPERATION

Boiler is wall mounted, fan assisted room-sealed combination boiler, providing both central heating and domestic hot water depending on model purchased.


- After initial lighting, boiler will provide central heating (as required).
- Hot water is available whenever a hot tap is open (Combi models only).

2.2 OPERATING INSTRUCTIONS




Stop! Read ALL Safety information above.


- Set thermostat to lowest setting.
- Turn "OFF" all electrical power to appliance.
- This appliance is equipped with an ignition device which automatically lights the burner. **Do not try to light burner by hand!**
- Turn gas shutoff valve clockwise  to closed position. Handle should be perpendicular to gas pipe.
- Wait 5 minutes for any gas to clear. Smell for gas, including near floor. If you smell gas, **STOP!** Follow instructions on this page: "**What To Do If You Smell Gas.**" If you do **not** smell gas, go to next step.
- Turn gas shutoff valve counter clockwise  to the open position. Handle should be parallel to gas pipe.
- Replace front jacket panel.
- Turn "ON" electrical power to appliance.
- Set thermostat to desired setting.
- Set correct operating mode. See 2.4
- If the appliance will not operate, follow instructions TO TURN OFF GAS TO APPLIANCE and call your service technician or gas supplier.



2.3 TURN OFF GAS TO APPLIANCE

- Set thermostat to lowest setting.
- Turn "OFF" all electric power to appliance if service is to be performed.
- Turn gas shutoff valve handle clockwise  to closed position. Handle should be perpendicular to gas pipe.

2.4 OPERATING MODES

| SYMBOL DISPLAYED | OPERATING MODE |
|---|----------------|
|  | DHW |
|  | DHW & HEATING |
|  | HEATING ONLY |

To enable the appliance in DHW - Heating or Heating only press  repeatedly and choose one of three available modes.

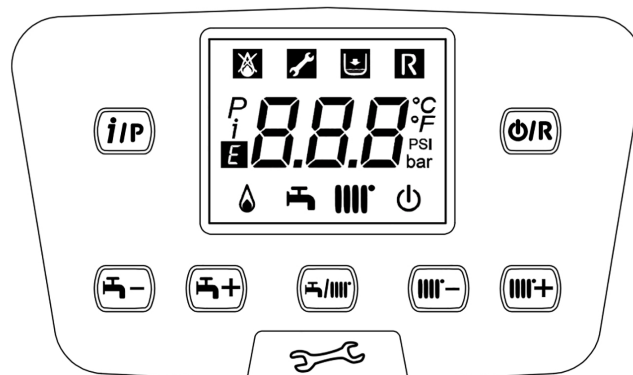
To disable the boiler operating modes and keep the frost protection function enabled, press  for at least 3 seconds. Just the symbol  appears on the display (the display backlighting flashes if the boiler is blocked).

3 - CONTROL

3.1 USER CONTROLS

BUTTON Explanation:

| | |
|--|--|
| | DHW temperature adjustment (+ to increase the temperature and - to decrease it) |
| | Heating water temperature adjustment (+ to increase the temperature and - to decrease it) |
| | Boiler operating information |
| | Operating mode: DHW - DHW & Heating - Heating Only |
| | Off - Reset - Exit menu/functions |



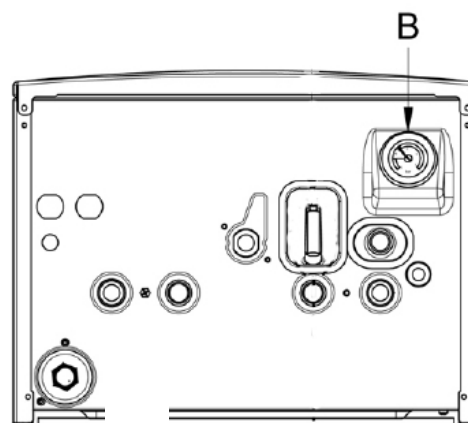
SYMBOL Explanation:

| | | | |
|--|---|--|----------------------------|
| | Off: Heating and DHW disabled (only boiler frost protection is active) | | Burner lit |
| | Ignition fault | | DHW operating mode enabled |
| | Boiler/system water pressure low | | Heating mode enabled |
| | Call a qualified service technician | | Programming menu |
| | Manually resettable fault | | Boiler information menu |
| | Fault in progress | | Set unit of measurement |



3.2 CENTRAL HEATING SYSTEM PRESSURE

Regularly check the pressure displayed on the pressure gauge "B" is between 14.50 and 21.76 psi (1.0 - 1.5 bar), with the boiler cold.


If the pressure is less than 14.50 psi, or higher than 21.76 psi call an authorized SERVICE technician.





3.3 TEMPERATURE CONTROL

Press  and  respectively to adjust the CH and DHW flow temperature (if an indirect storage tank is fitted).



When the burner is lit, display shows the symbol .

HEATING: while boiler is operating in heating mode, the display shows the flashing symbol  and the heating flow temperature °F / °C.

When connected to an Outdoor Temperature Sensor,  indirectly adjusts room temperature (factory setting 68°F / 20°C).


DHW: While boiler is operating in DHW mode, display shows the flashing symbol  and heating flow temperature °F / °C.

3.4 BOILER INFORMATION MENU (See Below)

Press  and hold for at least 1 second, to display the information indicated in the table. Press  to exit.

| <i>i</i> | DESCRIPTION | <i>i</i> | DESCRIPTION |
|-----------|--|--------------|---|
| 00 | Secondary fault internal code | 09 | Setpoint Central Heating (°F/°C) |
| 01 | Heating flow temperature (°F/°C) | 10/11 | Manufacturing information |
| 02 | Outdoor temperature (°F/°C) | 12 | Flue sensor temperature (°F/°C) |
| 03 | Indirect Tank DHW temperature (boiler CH only) | 13 | Manufacturing information |
| 04 | Domestic hot water temperature (boiler with plate exchanger) | 14 | Identification Open Therm communication |
| 05 | Water pressure in heating system (PSI/bar) | 15 | Manufacturing information |
| 06 | Heating return temperature (°F/°C) | 16 | Manufacturing information |
| 07 | Thermo fuse status (000/001) | 17 | Fan speed ("i17"x100) |
| 08 | Not used | 18 | Manufacturing information |

3.5 SHUTTING OFF THE BOILER

To turn off the boiler, disconnect the electric power supply. In the "Off" operating mode  the boiler stays off but the electrical circuits remain powered and the frost protection function remains active.

3.6 FROST PROTECTION MODE

The electronic boiler management system includes a "frost protection" function for the heating system which, when delivery temperature falls below 41°F (5°C), lights the burner until a delivery temperature of 86°F (30°C) is reached.

This function is only operative if the boiler is electrically powered and there is gas with normal system pressure and the flue is not blocked.

3 - CONTROL

3.6 ERROR MESSAGES AND RESETTING THE BOILER

| E | ERROR DESCRIPTION | OPERATION | |
|-----------------------|--|--|---|
| 09 | Gas valve connection fault. | Call an authorized SERVICE technician | |
| 10 | Outdoor sensor fault . | Call an authorized SERVICE technician | |
| 15 | Gas valve error. | Call authorized SERVICE technician | |
| 20 | Central Heating NTC sensor fault. | Call authorized SERVICE technician | |
| 28-29 | Flue NTC heat exchanger sensor fault | Call authorized SERVICE technician | |
| 40 | Return NTC sensor fault. | Call authorized SERVICE technician | |
| 50 | Domestic Hot Water NTC sensor fault (only for heating-only model with storage boiler). | Call authorized SERVICE technician | |
| 53 | Obstruction in flue pipe. | Turn boiler off for a few seconds If this fault persists, call authorized SERVICE technician | |
| 55 | PCB not programmed. | Call authorized SERVICE technician | |
| 83-84-85-86-87 | Communication problem between boiler board and control unit. Probable short circuit on wiring. | Call authorized SERVICE technician | |
| 98 | Internal error. | Call authorized SERVICE technician | |
| 109 | Pre-circulation alarm (temporary fault). | Call authorized SERVICE technician | |
| 110 | R | Safety thermostat tripped due to over temperature (probable blocked pump or air in heating circuit). | Press RESET (R) button for at least 2 seconds If this fault persists, call authorized SERVICE technician |
| 118 | Hydraulic pressure too low. | Call authorized SERVICE technician | |
| 125 | R | No circulation safety trip (control performed via temperature sensor). | Press RESET (R) button for at least 2 seconds If this fault persists, call authorized SERVICE technician |
| 128 | R | Loss of flame. | Press RESET (R) button for at least 2 seconds If this fault persists, call authorized SERVICE technician |
| 130 - 131 | Flue NTC sensor tripped due to over temperature. | Call authorized SERVICE technician | |
| 133 | R | Ignition failure (5 attempts). | Press RESET (R) button for at least 2 seconds If this fault persists, call authorized SERVICE technician |
| 134 | R | Gas supply valve blocked. | Press RESET (R) button for at least 2 seconds If this fault persists, call authorized SERVICE technician |
| 135 | Internal error. | Call authorized SERVICE technician | |
| 160 | Fan fault. | Call authorized SERVICE technician | |
| 162 | Flue pressure switch (contact open) | Call authorized SERVICE technician | |
| 317 | Incorrect power supply frequency. | Incorrect power supply frequency. | |
| 321 | NTC domestic hot water sensor faulty. | Call authorized SERVICE technician | |
| 384 | R | Fault flame (parasitic flame). | Press RESET (R) button for at least 2 seconds If this fault persists, call authorized SERVICE technician |
| 385 | Input voltage too low. | Call authorized SERVICE technician | |

R To RESET boiler: press the button () for at least 2 seconds

4 - MAINTENANCE

WARNING

Asphyxiation hazard. Contact qualified agency if condensate trap is not filled with water.





Perform general housekeeping and maintenance as specified below.

4.1 Continuous

- Keep boiler area free from combustible materials, gasoline and other flammable vapors and liquids.
- Keep combustion air and vent terminations (outside building) free from trash, vegetation and other items capable of blocking flow.

CHECK LIST

If a fault develops, or is suspected, call your Service Technician as soon as possible. Go through the following check list before you contact Service Agency.

- Is electricity supply on?
- Is display ON and symbols    displayed?
- Is symbol  displayed?
- Is gas supply on?
- Is main water supply turned on?
- Is system pressure correct?
- Are boiler temperature controls set high enough?
- Is room thermostat (if fitted) set high enough?
- Are radiator valves open?

4.2 Monthly

- Inspect combustion air, vent, and condensate drain piping for deterioration, leaks or sagging. Contact qualified agency, as necessary.
- Inspect system piping for leaks. Contact qualified agency, as necessary.
- Inspect condensate drain trap for sediment or blockage. Contact qualified agency if cleaning required.
- Check air vent(s) for leakage.
- Follow OPERATING INSTRUCTIONS to return to normal operation.

WARNING

Burn and scald hazard. Verify Safety Relief Valve discharge piping run to safe discharge location before conducting maintenance procedure. Contact qualified agency to correct improper piping.

4.3 Check According to Manufacturer's Instructions

Safety Relief Valve - Refer to manufacturer's instructions.

4.4 Annually or Beginning Each Heating Season

- Contact qualified agency to perform maintenance and cleaning per Installation, Operation and Maintenance manual. Inspection will include examining all flue product carrying areas, vent system, burner and heat exchanger.
- Will also include filling boiler with water if drained as part of End of Heating Season procedure.
- Condensate trap may require cleaning and refilling.

4.5 End of Heating Season, if boiler not used for domestic hot water

- Follow instructions to TURN OFF GAS TO APPLIANCE. See section 2.
- Contact qualified agency to drain heating system (if system does not use antifreeze) and condensate trap if heating system is exposed to freezing temperatures while out of service.



Installer Information

| | |
|----------|--------|
| Name: | |
| Address: | |
| Phone: | Email: |



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