

BayWin® Pellet Burner OWNER'S MANUAL

* INSTALLATION * OPERATION * SERVICE * PARTS *



CAUTION:

Read all instructions carefully before starting the installation or operating the heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Contact local building or fire officials about restrictions and installation inspection requirements in your area. Save this manual for future reference.

Manufactured By: APR Industries Ltd. 1354 Waverley Street Winnipeg, Manitoba, R3T 0P5 Canada

> Lithoid in Canada Rev July 2004

WWW.KOZISTOVES.COM

CAUTION: Stove has moving parts. Disconnect power before servicing.

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I. Installation and Operation Manual

This heater is suitable for both mobile home and conventional home installation. Read all instructions carefully before starting installation. Save this manual for future reference.

1. Preamble: Instructions for Safe Installation and Operation

- 1. Read these instructions carefully. Failure to follow them could cause a malfunction of the heater resulting in damage to the heater, property, bodily injury and even death.
- 2. Familiarize yourself with the heater operation. (Refer to the "Understanding you Pellet Burning Heater" section) If you are unsure, ask your dealer to explain how to operate the heater properly.
- 3. The burn pot of this heater is designed for premium grade wood pellets. Pellets with too much fines and saw dust must be screened before use. DO NOT use wet pellets. Refer to the "Fuel Requirements" section for more information
- Oil the circulation fan motor bearings every 6 months. See the "Maintenance" section for more details.
- 5. Check with the local code authority regarding restrictions or installation requirements.
- 6. This heater requires a floor protector beneath the heater and extending a minimum of 6 inches (150mm) in front of the heater. This is to catch any spillage, which may occur during opening and closing of the doors.
- 7. Use only UL/ULC listed Type Pl or Type L venting for the exhaust system. This heater is designed to use 3-inch (76 mm) vent pipe. Avoid long runs and too many bends. It may be necessary to increase the size of the vent pipe to 4 inches (102 mm) if long runs and too many bends in the venting system are unavoidable. For details see the "Venting System" section.
- 8. Combustion of wood pellet fuel deposits ash in the heater and venting system. These ashes must be removed from the heater regularly (approximately once a week, more frequently for high ash content fuels). Refer to the "Maintenance" section for more information.
- The heater must be turned OFF and allowed to cool completely before cleaning. Make sure there are no hot ashes or embers present. Use a brush and scoop to remove all of the ashes and place them in a metal container.

- 10. This heater is POWER VENTED. The vent pipes have positive pressure during operation. It is IMPERATIVE that all joints in the venting system be sealed to prevent any leakage of exhaust gases inside the house. All joints must be sealed using high temperature silicone sealer (RTV). Aluminum tape is not an adequate sealant.
- 11. Store all pellet fuel at a safe distance (at least 36 inches / 1 meter) away from the heater and in a sealed metal container.
- 12. Use of outside combustion air is highly recommended and is mandatory in mobile home installations. Connect the air intake of the heater to the exterior of the building with a non-combustible metal pipe with a minimum diameter of 2 inches (50 mm) (Use APR Part No AK100). Use of plastic pipes is not permitted. Where outside air cannot be used in conventional homes, APR Part No CV100 (Check Valve) must be used.
- 13. This appliance is wired and grounded according to the CSA C22.1 code for Canada and the NFPA 70 code for the USA. Also, this heater meets the fuel burning appliance installation codes NFPA 211 in the USA and CSA B365 in Canada.
- 14. Do NOT operate the heater with the door open. Make sure the door is closed tightly during operation. Inspect the gaskets of the door periodically to make sure they are in good condition.
- 15. Replace broken or defective components only with parts provided by the manufacturer. See WWW.KOZISTOVES.COM or contact your local dealer to find out how to purchase replacement parts.
- 16. Follow this manual carefully for proper installation. If you are uncertain, call your dealer. Most dealers have qualified and trained installers. We highly recommend the use of their services.

2. Clearance to Combustible Walls

The following is a list of all minimum clearances to KOZI BAYWIN® combustibles for both the free standing stove as well as the PELLET STOVE insert version. 2.1 Non-Combustible Floor Protector 32 inches (815 mm) E A. Depth of Floor Protector B. Width of Floor Protector 27 inches (680 mm) C. Floor Protector to Front of Unit 6 inches (150 mm) D. Width of Unit 25 inches (635 mm) E. Depth of Unit 25 inches (635 mm) C NON-COMBUSTIBLE FLOOR PROTECTOR

Figure 1. **KOZY** pellet stove with a non-combustible floor protector.

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2.2 Free Standing Stove

Minimum clearance must be:

A. Side Wall to Unit	12 inches (300 mm)
B. Back Wall to Unit	1 inch (25 mm)
C. Corner to Unit	1 inch (25 mm)

2.3 Free Standing Installed in an Alcove

Alcove dimensions must be:

Minimum width	48 inches (1220 mm)
Minimum height	48 inches (1220 mm)
Maximum depth	30 inches (760 mm)

2.4 Insert Installed in an Alcove

Alcove dimensions must be:

Minimum width	48 inches (1220 mm)
Minimum height	38 inches (965 mm)
Maximum depth	30 inches (760 mm)

2.5. Insert Installed in a Masonry/Factory Built Fireplace

Minimum clearance must be:

D. Floor protector	6 inches (150 mm)
E. Combustible side wall to unit	12 inches (300 mm)
F. Mantle to unit	13 inches (330 mm)
G. Top facing to unit	13 inches (330 mm)
H. Side facing to unit	12 inches (300 mm)

Please refer to the "Typical Installation Configurations" section and Figure 2 for more information. Please note the certification label supersedes any information contained in this manual.

2.6 Other Clearances and Recommendations

- 1. This heater must be mounted on a non-combustible material, placed underneath the heater and extending a minimum of 6 inches (150 mm) in front of the heater.
- A safety certification label has been attached to either the back of the heater or inside the hopper lid. A diagram of a sample label is provided to aid in the identification of the aforementioned clearances.
- 3. Clearances can ONLY be reduced by means approved by local building or fire officials in your area.

INSTALLATION COMMENT: We recommend sufficient space be provided (minimum 20 inches/500 mm) on each side of the heater to service the equipment area. If this is not possible, a provision must be made to pull the heater out for service.

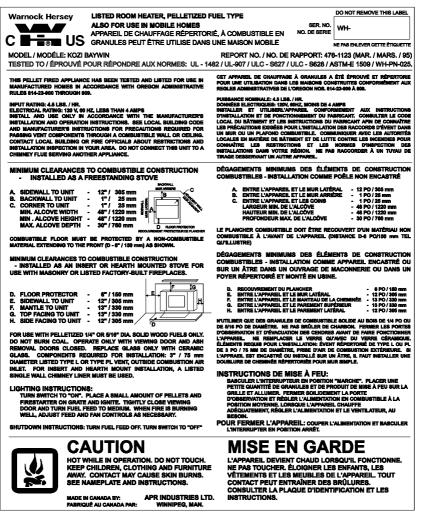


Figure 2 Certification Label

3. Electrical Requirements

1. This heater is an electrical appliance. The North American versions of this appliance require 120 Volts, 60 cycle and 3 Amps of electrical power. The European versions of this appliance require 230 Volts, 50 cycles and 2 Amps of electrical power. All heaters with an electric igniter require an additional 300 watts of electrical power during the start up sequence.

- The heater comes with a 5 ft (1.5 M) long, grounded, electrical cord suitable to plug into any standard residential electrical outlet. The electrical outlet must be grounded.
- 3. When installed in mobile home, the heater must be grounded to the steel chassis of the home (unless this is not required by local code).

4. Fuel Requirements

This heater is designed for premium grade, 1/4 inch (6.35 mm) wood pellets. Pellets with too much fines and saw dust must be screened before use. DO NOT use wet pellets. It is very difficult to maintain a clean and efficient burn when using high moisture and/or high ash content fuels. These "poor" fuels cause the burn pot to clog much more frequently and do not provide the proper air flow for a clean, effective burn. "Poor" fuels require more frequent cleaning; the ashtray must be emptied and the burn pot must be cleaned on a weekly possibly daily basis. Please refer to the "Maintenance" section for further instructions on cleaning your heater.

All pellet fuel should be stored in a clean dry place and at a safe distance (at least 36 inches / 1 meter) away from the heater. DO NOT place the fuel within the installation clearances of the heater or within the space needed for ash removal and starting of the heater.

5. Venting System

Before proceeding with the installation, the following sections should be reviewed:

Section 5: Venting System

Section 6: Location of the Heater

Section 7: Typical Installation Configurations

5.1 Exhaust Vent Pipe Requirements

KOZI pellet heaters have a negative pressure combustion chamber. A high pressure, radial blade, fan pulls the air out of the burn chamber creating negative pressure (vacuum) inside the burn chamber. Air from outside the heater then rushes through the intake air tube, burn pot stand and burn pot to fill this vacuum. As this air passes through the burn pot it is used to burn the pellets. A proper size ULC/UL listed type PL or L venting should be used to provide the least resistance for movement of the combustion air.

This **KOZI** pellet burner is certified for 3 and 4 inch exhaust venting. 3 inch venting is sufficient for most direct vent installations. However, installations with several elbows, long horizontal and/or vertical runs may add excessive resistance against the flow of air which reduces the volume of air movement and creates burn problems. The use of 4 inch venting will reduce this resistance. A simple technique called 'EQUIVALENT VENT LENGTH (EVL)' can be used to determine whether 3 or 4 inch vent pipe should be used.

To calculate EVL use the following formula:

for each 90° Elbow or T fitting = add 5 EVL for each 45° Elbow = add 3 EVL

for each Horizontal run of vent = add 1 EVL per foot of horizontal venting for each Vertical run of vent = add 1/2 EVL per foot of vertical venting

CAUTION: EVL CANNOT EXCEED 25ft (7.6 meters). Installations using an EVL exceeding 25ft (7.6 meters) are not permitted.

YOU MUST USE APPROPRIATE 4" VENTING IF:

The EVL is 7 or more AND you are at or above an altitude of 3000 ft

OR

The EVL is 15 or more

OR

Your heater is an Insert

DO NOT USE MAKESHIFT MATERIALS OR MAKE COMPROMISES IN THE INSTALLATION. IT IS A FIRE HAZARD.

DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS HEATER

DO NOT CONNECT THIS HEATER TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE

The exhaust vent pipes are located on the exhaust side of the exhaust fan and are under positive pressure. At least 3 screws are needed for securing all joints for connector pipes. Care must be taken to ensure that all the joints are completely sealed to prevent any leakage of exhaust fumes into the house. If you smell smoke, the venting has not been properly sealed. Use only high temperature RTV silicone for sealing. Aluminum tape is not considered an adequate sealant.

The venting of this heater is not allowed to pass through any closets, concealed spaces, through a floor, ceiling or attic space. If the venting is to go through a wall or combustible partition, the installation must conform to the Installation Code for Solid Fuel Burning Appliance and Equipment CAN / CSA -B365. For more detailed venting information, please refer to your venting manufacturer's instructions.

5.2 Exhaust Vent Termination Requirements

 The exhaust vent must terminate into an open space. Under no circumstances is the vent allowed to terminate into closed or semiclosed spaces. Venting into a garage, under a sun deck, porch or any other space where the concentration of fumes may occur is prohibited.

- 2. The exhaust vent must be at least:
 - * 4 feet (1.2 m) below
 - * 4 feet (1.2 m) horizontally from
 - * 1 foot (0.3m) above

any opening in the building such as doors, windows, ventilation air intakes, etc.

- 3. The exhaust vent opening must be a minimum of:
 - * 12 inches (0.3m) from the ground
 - * 24 inches (0.61m) from any combustible surface i.e. fence, plant, etc.
 - * 7 feet (2.1 m) from any public walkway
- 4. The exhaust air is EXTREMELY HOT. Caution must be taken to avoid contact with children, people, plants, animals, or any other object that may be affected by heat. It is recommended to use a vertical pipe to discharge the hot air at a safe elevation.
- 5. The vent terminal must have an end cap to protect against down-draft and back-draft created by severe wind conditions.

INSTALL ALL VENTING AT CLEARANCES SPECIFIED BY THE VENT MANUFACTURER

5.3 Combustion Air Intake Requirements

There are 2 methods of supplying the heater with combustion air. They are as follows:

- Room Air: Conventional homes may use room air for combustion provided APR Part No: CV100 (Check Valve) is installed. For installations where the exhaust pipe incorporates a minimum 3' vertical section immediately adjoining the heater, APR Part No: CV100 (Check Valve) is optional. In this venting configuration it is highly recommended that the total exhaust vertical rise be longer than the total horizontal run.
- 2. Outside Air: All installations can be connected to the exterior of the building using a non-combustible metal pipe, with a minimum 2 inch (50mm) internal diameter or by using APR Part No: AK100 (Air Intake Kit). A larger diameter air intake pipe may be required if the length of intake exceeds 3' (1 meter) or has several bends. Use of plastic pipes are not permitted.

In some installations, outdoor combustion air may be needed to ensure proper performance. If your heater burns poorly, experiences roll-out or back-drafts, outside combustion air may be required.

The following restrictions apply to any and all installations:

1. Use of plastic pipes is not permitted under any circumstance.

- The combustion air intake must terminate into a vented space, i.e. outside, vented attic, vented crawl space. This heater cannot draw air from a closed space such as a closed garage, airtight crawl space or any other sealed room.
- The elevation of the combustion air intake must be below the exhaust vent. An elbow may be used to lower the air intake point below that of the exhaust vent.
- 4. Excessive lengths and elbows on the air intake pipe will cause airflow restrictions. A minimum of 2 inch (50 mm) or larger venting should be used for lengths exceeding 3' (1 meter). Increase the venting size as needed.

6. Location of the Heater

- A. This heater is NOT approved for bedroom installations.
- B. If installed in a mobile home, the heater must be anchored to the floor.
- C. When installed in a conventional or mobile home, check for:
- a. Clearance to combustibles.
- d. Power within 5 feet (1.5 m).
- b Sufficient room to service the unit
- e. Access for exhaust venting.
- c. Access for outside combustion air.
- f. EVL not exceeding 25 ft (7.6 m). See Exhaust Venting Requirements.

7. Typical Installation Configurations

The following figures describe some typical installations. Variations of these are possible. Common sense, safety and compliance with local codes must be respected in any variation.

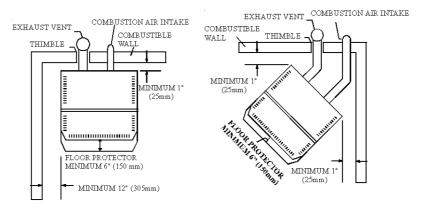


Figure 3. Typical floor plan - corner installation

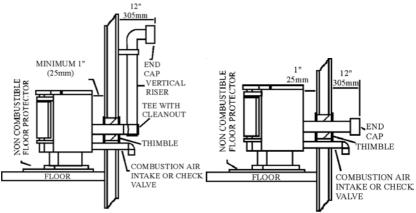


Figure 4. Free standing through the wall installation

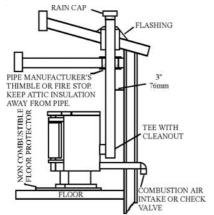


Figure 5. Free standing through the roof installation

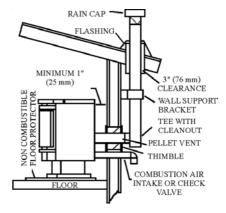


Figure 6. Free standing through the wall and the roof installation

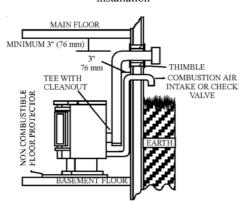


Figure 7. Free standing basement installation

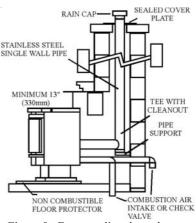


Figure 8. Free standing through a masonry chimney installation

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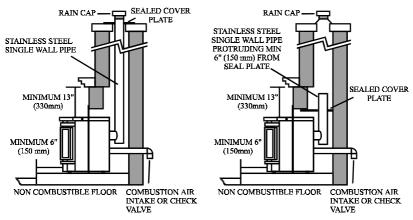


Figure 9A. Factory built zero clearance or masonry fireplace insert installation

Figure 9B. Factory built zero clearance or masonry fireplace insert installation

8. **KOXI** BayWin [®] Pellet Insert Additional Considerations

The **KOZI** BayWin® Pellet Insert can be installed in a masonry or listed factory built fireplace. The insert's overall dimensions are 25" (635 mm) in width, 25" (635 mm) in depth and 23" (585 mm) in height. The minimum opening of a fireplace that is suitable for a **KOZI** pellet insert is 22" (560 mm) wide, 19.5" (500 mm) high and 16" (410 mm) deep. The minimum clearances for an insert installed in a masonry or listed factory built fireplace can be found in the "Clearance to Combustible Walls" section.

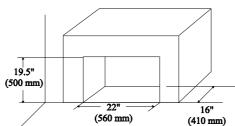


Figure 10. Minimum Fireplace opening for the **KOZY** pellet insert.

8.1 **KOZY** BayWin® Pellet Insert Additional Requirements

When installing and removing a **KOZI** pellet insert in a masonry or listed factory built fireplace, the following requirements must be met:

- 1. The room air must be sealed from the exterior. This can be achieved by sealing the chimney cavity to the liner either at the terminal (see figure 9A) or at the chimney damper (see figure 9B).
- When installing the insert and its surround, the air flow of the existing fireplace must not be altered. Make sure no louvers, cooling air or outlet ports are blocked.

- 3. When installing an insert, a full height listed chimney liner must be attached to both the insert flue collar and to the chimney top as shown in figure 9A or a partial chimney liner may be attached to the insert flue collar and extending a minimum of 6 inches into the chimney cavity as shown in figure 9B. The junction of the chimney liner to the seal plate must be properly sealed. This chimney liner must be stainless steel.
- 4. A permanent metal tag must be attached to the back of the fireplace.

 The metal tag will state the following "After removal of this pellet insert, the fireplace must be restored to its original state for safe use".
- 5. The fireplace can NOT be altered in any way except for the following situations:
 - A. For installation of a chimney liner, the chimney damper may be removed
 - B. External trim pieces of a fireplace can be removed only if they do not affect the operation of the fireplace upon removal and they can be reassembled when the insert is removed.

8.2 Surround Assembly

The **KOZI** pellet insert surround can be seen in Figure 11. The surround comes in 3 separate pieces and needs to be assembled before being attached to the heater. Layout the top and sides of the surround on the floor as shown in figure 11. Verify that each side piece mounting holes are aligned with the top piece mounting holes. Using the supplied 1/4" bolts, secure the side pieces to the top. Your surround is now ready to mount to the insert

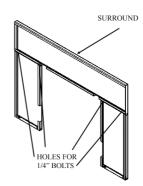


Figure 11. KOZI pellet insert surround

8.3 **KOZY** BayWin[®] Pellet Insert Installation

Please follow the following steps when installing a KOZI pellet insert:

Verify that the fireplace opening meets the insert's minimum requirements.

Working from the exterior of the building:

- 2. Attach and seal the exhaust venting to the terminal using sheet metal screws and high temperature (RTV) silicone sealant.
- 3. Insert the venting into the existing chimney and secure the terminal to the chimney. Ensure that the venting and chimney are properly sealed.
- 4. If outside combustion air is being used, install the air intake as necessary.

Working from the interior of the building:

- 5. Verify that an electrical outlet is available for the pellet insert. If not, have one installed.
- 6. Place the insert part way into the opening.
- 7. Attach and seal the free end of the exhaust venting to the pellet insert using sheet metal screws and high temperature (RTV) silicone sealant.
- 8. If the top of the chimney was not sealed to the vent terminal in step 3, seal the existing chimney damper to the new pellet venting to prevent drafts to and from the home.
- 9. Plug the power cord into the electrical outlet.
- 10. Assemble the surround (if not previously assembled) and slide it on the insert (see the "Surround Assembly" section).
- 11. Push the insert into the cavity until the surround touches the existing fireplace.

8.4 KOZI BayWin® Pellet Insert Removal

There may be some situations where the **KOZI** pellet insert needs to be removed from the fireplace. For example, venting may need to be resealed, parts may need to be replaced on the insert, or maintenance may need to be either on both the insert and the fireplace. Removal of the **KOZI** pellet insert heater from a fireplace is the reverse of installation with the following exceptions: make sure the insert is not operating, has had sufficient time to cool down and that power to the insert has been removed. Now you can pull the insert all the way out and do the maintenance on the insert or fireplace.

8.5 Operation and Maintenance

A KOZI pellet insert operates in the same manner as a free standing stove. The only difference between the stove and the insert is the method of loading the fuel into the hopper. On a KOZI pellet insert, the hopper opening is much smaller than the stove version. To load fuel into the insert, remove the cover plate from the top of the insert, pour fuel into the opening and replace the cover plate. DO NOT place hands inside the opening to the hopper. There are moving parts in the hopper which can cause bodily harm.

Maintaining the **KOXI** pellet insert is the same as maintaining a free standing pellet stove. Please read the "Maintenance" section for instructions on cleaning your insert, venting and other maintenance precautions.

9. Mobile Home Additional Installation Requirements

9.1 Combustion Air Intake Requirements

It is MANDATORY for heaters being installed in a mobile home to have the combustion air taken from the outside. The APR Part No: CV100 (Check Valve) CAN NOT be used to provide internal combustion air from the mobile home to the heater. This heater must be connected to the exterior of the mobile home using a non-combustible metal pipe, with a minimum 2 inch (50 mm) diameter. Use of plastic pipes are not permitted. Please read the "Combustion Air Intake Requirements" section for more information.

9.2 Exhaust Vent Requirements

Venting a **KOZI** pellet burner for a mobile home is similar to that of a conventional home. Please refer to the "Typical Mobile Home Installation Configuration" section for typical venting configurations. It is highly recommended that a minimum vertical venting of 3 ft be used (as shown in Figure 13). This will reduce the chance of smoke spillage into the mobile home in case of a power failure.

9.3 Other Installation Requirements

1. The heater must be securely anchored to the floor of the mobile home. There are 2 holes located on the base of the stove near the back. Use two 1/4" lag bolts (not supplied) in these holes to anchor the stove to the floor of the mobile home.

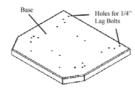


Figure 12. Anchoring Holes for Mobile Home Installations

- 2. There must be a non-combustible floor protector placed underneath the heater and extending a minimum of 6" (150 mm) in front of the heater.
- This heater can not be installed in any sleeping room of the mobile home.
- 4. The heater must be grounded to the steel chassis of the mobile home (unless this is not required by local code).

WARNING: DO NOT INSTALL IN A BEDROOM OF A MOBILE HOME

CAUTION: THE STRUCTURAL INTEGRITY OF THE FLOOR, WALL AND ROOF OF THE MOBILE HOME MUST BE MAINTAINED.

9.4 Typical Mobile Home Installation Configuration

The following figures describe some typical installations for mobile homes. Variations of these are possible. Common sense, safety and compliance with local building codes must be respected in any variation.

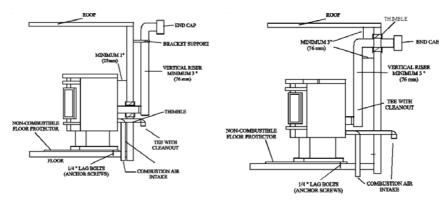


Figure 13. Mobile home installation through wall

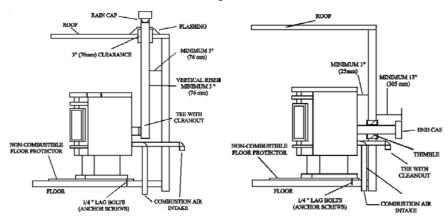


Figure 14. Mobile home installation through roof

Figure 15. Mobile home installation through wall

9.5 Recommendations for Mobile Home Installation

- Make sure there is an effective vapor barrier where the venting penetrates to the outside of the mobile home. Seal all openings in the vapor barrier as required.
- Make sure the mobile home has adequate ventilation. Your stove is a
 solid fuel burning appliance. As such, there is a possibility of smoke
 entering the room. By making sure the mobile home is adequately
 vented, you reduce the chances of smoke remaining in the mobile
 home.
- 3. Make sure the venting is properly installed and sealed. Leaking venting may set off smoke detectors in the mobile home. Also, some fuels may produce carbon monoxide which, in large amounts, can be fatal. Make

sure the venting is installed properly to prevent leakage of carbon monoxide into the mobile home.

 If parts become damaged or need to be replaced, please contact your local dealer or visit WWW.KOZISTOVES.COM. Do NOT replace parts with any other parts not specified by your local dealer or manufacturer.

II. Understanding Your Pellet Burning Heater

1. Component Description

1.1 General Overview

The first step in understanding your new **KOZI** heater is to familiarize yourself with its operation. Your heater has 3 main systems: Combustion, Circulation and Feed. The combustion system includes the air intake, burn pot, exhaust fan and exhaust venting. The circulation system consists of a circulation fan, fan speed control and heat exchanger. The feed system is made up of an auger motor and various safety devices. Each part of these systems will be described later in detail. A description of the operation and the controls for your heater is provided in the section entitled "Heater Operation".

1.2 Exhaust Fan

The purpose of the exhaust fan is to remove the smoke from the combustion chamber. The exhaust fan sucks air from the air intake, through the burn pot, around the heat exchanger and pushes it through the venting. This fan is a fixed speed fan which turns ON whenever the heater starts and remains ON until the heater is cool. THIS FAN CANNOT BE TURNED OFF MANUALLY. Failure of this fan will result in a feed system shut down.

1.3 Burn Pot

The burn pot is the receptacle in which the pellet fuel is burned. This portion of the heater requires frequent cleaning since it controls the efficiency of the combustion process. It is recommended the burn pot be cleaned every time the hopper is filled and thoroughly scraped periodically. DO NOT over fill the burn pot with too much fuel. This can cause the heater to overfire and create damage to your heater.

1.4 Circulation Fan

The purpose of the circulation fan is to circulate the unheated room air through the heat exchanger and back into the room as hot air. The circulation fan speed can be controlled by the fan speed control (described later). The control system has a built-in safety that allows it to override the fan speed control in the event the heater overheats. As your heater begins to overheat, the circulation fan will come on high to remove some of the excess heat. As your heater cools, the circulation fan will return to it's original setting. If the circulation fan cannot remove the heat fast enough, a second safety, the high temperature manual reset disk, will shut the feed system OFF.

1.5 Trouble Shooting Module Status Lights

Your heater is equipped with 3 status lights. Each light indicates a different safety device. Together, these lights are intended to keep you informed as to what is happening in the feed system. The top light indicates the status of the auger cycle timer, the middle light indicates the high temperature manual reset thermal disk and the bottom light indicates the pressure switch. In normal operation, all 3 lights will be blinking ON and OFF in proportion to the feed control setting (see "Heater Operation"). Should any problem arise in the feed system, some or all of the lights will either go out or be pulsing BRIGHT - DIM. If this occurs, please refer to the "Trouble Shooting" section.

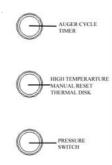


Figure 16. Trouble shooting lights at the back of the heater

1.6 Auger Cycle Timer

In conjunction with the feed control, the auger cycle timer controls the feed rate. This is achieved by turning the auger motor ON and OFF. Failure of this component will result in a status light change. Refer to the "Trouble Shooting" section for more details.

1.7 High Temperature Manual Reset Thermal Disk

The manual reset thermal disk is a high temperature safety switch. If the heater should reach an unusually high temperature, this switch will shut the feed system OFF. The exhaust and circulation fans will continue removing heat until the heater is at room temperature. Once this switch has been tripped, the control system will not allow any more fuel to feed into the burn pot until it has been manually reset. DO NOT RESET THIS UNIT UNTIL THE CAUSE HAS BEEN FOUND AND REPAIRED. Failure of this component will result in a status light change. Refer to the "Trouble Shooting" section for more details.

1.8 Pressure Switch

The pressure switch is a safety device that senses whether or not the combustion chamber is under vacuum. Failure of the exhaust fan or leakage in the heater (such as opening the door) will activate this safety component resulting in a status light change and a shutdown of the feed system. Refer to the "Trouble Shooting" section for more details.

2. Heater Operation

In order to use your heater, you should be familiar with the 4 controls of your heater: Fan Speed, Feed Rate, Damper and Start button. These 4 controls will allow you to adjust and operate your heater safely and efficiently. The location and method of adjustment for each of these is described next.

2.1 Circulation Fan Speed Control

The fan speed control is located on the top center of the control panel (see diagram). Turning this knob counter-clockwise turns the circulation fan OFF. Rotating the knob clockwise decreases the speed of the circulation fan from High to Low. It is NOT recommended to leave this knob in the OFF position. When left in the OFF position, the heater becomes over heated and the control circuit automatically overrides this switch and puts the circulation fan on high speed.

2.2 Start Button

The start button is located in the middle of the control panel (see diagram). Pushing the start button is the first step in starting the heater. The heater will now run in manual operation mode for 15 minutes. The heater will switch to the automatic mode only if the heater reaches a preset temperature. If this temperature is not reached within 15 minutes the heater will shut OFF. To allow the heater to run for another 15 minutes, simply press the start button once again after the heater has shut OFF.

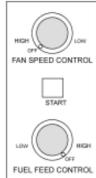


Figure 17. Control panel with controls

2.3 Feed Control

The feed control is a round knob located at the bottom of the control panel (see diagram). Turning the knob in the counter-clockwise direction will turn the feed OFF. As the knob is turned clockwise, the feed rate into the burn pot is increased, resulting in a bigger fire.

2.4 Damper Control

The damper control rod is located on the left side of the heater. This rod controls the amount of air passing through the burn pot. By pushing the control rod in, you reduce the amount of air passing through the burn pot. By pulling the rod out, you will increase the amount of air passing through the burn pot.

2.5 Starting (lighting) your Heater for the First Time

Once your heater is properly installed, complete the following steps to light it for the first time or whenever your heater runs out of fuel:

- 1. Fill the hopper with pellet fuel. At this time the auger tube is empty. It needs to be filled before the heater can be operated properly.
- 2. Turn the feed control knob clockwise to high.
- 3. Press the start button. The exhaust and circulation fan should come ON and all 3 status lights should begin to blink.
- 4. Monitor the burn pot (located inside the burn chamber, see "Stove Cross Section" diagram for exact location). Once pellet fuel begins to drop into the burn pot, turn the feed control knob to medium (approximately 12 o'clock setting.). If the heater turns OFF before fuel begins to drop into the burn pot, repeat steps 3 and 4.

5. Once fuel has accumulated in the burn pot, the igniter will lite the fuel and a flame will appear. Allow the flame to stabilize. IN THE EVENT YOUR HEATER SHUTS OFF BEFORE THE FLAME IS STABLE, press the start button one more time.

Your heater is now working for the first time.

2.6 Starting (lighting) your Heater

To start your heater, complete the follow steps:

- 1. Ensure there is adequate fuel in the hopper and that all ashgates and doors are closed. Open ashgates/door will turn OFF the feed system.
- 2. Turn the fuel feed knob to desired setting. (If in doubt, adjust to 12 o'clock setting)
- 3. Adjust damper to approximate setting. (If in doubt, pull open to approximately 3/4" 2 cm)
- 4. If your heater is equipped with an "electric start", proceed to step 9. In the event that your "electric start" should fail, proceed to step 5.
- 5. Open the burn chamber door and place a handful of fuel in the burn pot. The burn pot should be approximately 1/4 full with wood pellets.
- 6. Pour lighter gel on pellets in the burn pot.
- 7. Ignite lighter gel with a barbecue lighter and allow the pellets to catch fire. DO NOT ATTEMPT TO IGNITE HOPPER FUEL ON FIRE.
- 8 Close the combustion chamber door.
- 9. Press the start button. The following should happen:
 - a. The exhaust fan will start.
 - b. The circulation fan will start at the fan speed control setting.
 - c. The feed system begins to feed. The auger and trouble shooting lights should begin to blink.
 - d. If an electric start is installed, it will come ON.
 - e. On electric start models, the flame should appear within 5 to 10 minutes.
- 10. Allow the flame to stabilize for 15 minutes.
- Adjust the feed and damper as necessary. (see "Adjusting your Heater" section)
- 12. If the heater shuts OFF during the start up cycle and there is still a flame, press the start button again.

WARNING: Make sure the amount of fuel in the burn pot does not exceed the height of the burn pot at any point during operation. This can cause severe damage to your heater.

DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

2.7 Stopping your Heater

To stop your heater, turn the fuel feed control knob counter-clockwise to the OFF position. This will cause the feed system to stop (trouble shooting lights will stop blinking) and the flame should die out within 5 minutes. The exhaust fan and circulation fan will continue to run until you heater is cold (approximately 30 minutes). DO NOT turn OFF electrical power to stop the heater, as this will result in your heater overheating.

2.8 Adjusting your Heater

The heater will not operate properly if the ash door or the glass door are not properly closed OR if the wrong size of venting is used. It is equally important that you use good quality, wood pellet fuel. A poor quality fuel will create poor and unsatisfactory operating conditions.

To increase the heat output of your heater, slightly increase the feed rate by turning the feed control knob clockwise. In a few minutes the flame size will increase. If the flames are darkish with black tips, open the exhaust damper slightly and allow the flame to stabilize. Repeat the procedure if more heat is desired. Flames that are too large mean the feed rate is too high for the amount of combustion air present. Reduce the feed rate slightly or increase the amount of combustion air. In few minutes the size of the flame will reduce. If the size of the flame is fluctuating between feed drops, this indicates the amount of combustion air is too much for the amount of feed. In this case, close the air damper slightly and once again, allow the flame to stabilize. When reducing heat output, slightly close the air damper at the same time as you are reducing the feed rate. If the air damper is open too far, there is a chance of extinguishing the fire. Some fuels have a tendency to leave ash and clinker deposits in the bottom of the burn pot.

If you find the circulation fan is constantly running on high although your fan speed setting is much lower, your heater is overheating. Reduce the feed rate as described above.

III. Maintenance

Formation and Removal of Soot and Flyash - During normal operation, your heater produces a lot of flyash. This flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will also lead to some soot formation which also collects in the exhaust venting system. The soot and flyash which deposits in your heater and venting system is harmful to the performance of your heater. Improper maintenance leads to poor performance, component failure and can be dangerous. Please adhere to the following maintenance schedule:

Do not use abrasive chemicals to clean the heater and/or labels placed on the heater. These chemicals can damage both the paint and labels on the heater.

ALLOW THE HEATER TO COOL TO ROOM TEMPERATURE AND UNPLUG THE HEATER BEFORE PERFORMING ANY MAINTENANCE.

Before each heating season:

- 1. Clean the venting system. If there is a significant amount of soot build up, it should be removed to prevent the risk of a chimney fire. By making sure the exhaust venting system and the heater itself are being maintained properly and are cleaned on a regular basis, you reduce the likelihood of a chimney fire occuring. Please contact your local building or fire officials in your area for information on how to handle a chimney fire. Have a plan of action ready incase a chimney fire occurs.
- 2. Clean behind the back heat shield and exhaust passage. Ashes can build up behind the back heat shield and inside the exhaust passage. To remove the back heat shield you must remove 4 bolts located at each corner of the heat shield. Using a brush, remove all of the ashes that have built up on the back wall of the combustion chamber, on the inside of the heat shield as well as in the exhaust passage (located below the auger chute). Inspect the auger chute gasket at this time. Make sure the gasket is still in good condition and that it is in the original position when the back heat shield is bolted back into position.
- 3. Clean the exhaust fan and housing. Ash accumulation on the fan blades will reduce the life of your exhaust fan. Frequent cleaning will help extend the life of this component. Refering to figure 18, open the left side pannel to access the exhaust fan. Using a Common (flat head) screw driver, remove the 6 sheet metal screws holding the fan motor to the housing. Using a brush, clean all ash from the exhaust fan blades and housing.
- 4. Inspect the condition of the door gasket periodically and replace it as necessary. It is important to make sure the door gaskets are in good condition. Gaskets in poor condition will not allow the door to seal properly and the heater will not function as efficiently.

- 5. Oil the circulation fan motor. To oil the motor bearings, the right hand side panel must first be opened. This is done by removing the 2 screws near the front of the stove as shown in Figure 18. Use a Robertson (square head) or Common (flat head) screwdriver to remove the screws. You will now be able to swing the panel open and access the circulation fan. There are 2 oil ports located on the top of the motor, one near the end and one near the fan housing as shown in Figure 19. There may be rubber plugs in one or both of these oil ports. These plugs must be removed prior to and replaced after oiling. Place a few drops of light oil, such as sewing machine oil, in each port.
- 6. Perform weekly maintenance.



Figure 18. Holes for screws on the right side panel



Figure 19. Oil ports on a circulation fan

Weekly or more frequently if needed:

- Pull and push the cleaning rod which is located in the center, above the door. This will remove the ash deposits on the heat exchanger tubes. The removed ash will fall on the top heat shield, located in the burn chamber.
- Lift the top heat shield. Remove it carefully as there may be a significant amount of ash on it. Dump the ashes into the burn chamber.
- 3. Using a brush, clean the top heat shield and remove it from the heater.
- 4. Remove the burn pot and burn pot stand and clean them thoroughly. Make sure there are no ashes remaining in the burn pot stand and that all the holes in the burn pot are clear. Place all ashes into a metal container with a tight fitting lid.

- 5. Using the brush, clean the walls and floor of the burn chamber.
- 6. Open the ashtray slightly and pull on each ash gate until the ash falls from the burn chamber into the ashtray. Sweep remaining ashes into the ashtray. For insert models, scoop out the ashes into a metal container with a tight fitting lid.
- 7. Close the ash gates and remove the ashtray. Dispose of the ashes in a safe manner. If the ashes are stored in a container, make sure the lid is secure. DO NOT place the container on a combustible surface.

Disposal of Ashes - Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have been thoroughly cooled. Do not place any other waste materials in this container.

- 8. Re-install all removed parts in their original positions.
- 9. Clean the glass with a mild glass cleaner when dirty. DO NOT clean the glass when the door is hot. Cleaning the glass will allow you to see the flame and how it is burning. This is very important to see if the heater is burning properly or not. DO NOT hit the glass or slam the door shut. This may cause the glass to crack or break. DO NOT operate the heater if the glass is cracked or broken. DO NOT replace the glass with any type of glass other then an APR Industries Ltd. factory approved glass. If the glass cracks or breaks, turn the heater OFF. DO NOT operate the heater until the glass has been replaced.

After each heating season:

 Remove all the pellet fuel form the hopper. Run the heater to empty the auger tube. Vacuum the hopper and auger tube. Clean the rest of the heater.

IV. Trouble Shooting Guide

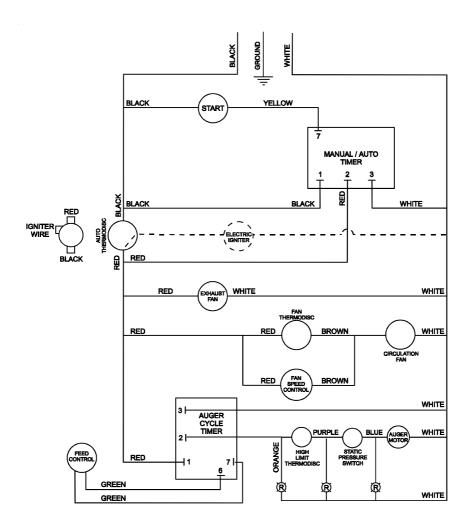
The **KOZI** BayWin is equipped with trouble shooting module status lights located at the back bottom right hand corner of the heater. This module consists of a set of three red lights. Under normal working conditions, while the heater is operating, all three lights are BLINKING (ON and OFF). The rate of blinking is proportionate to the fuel feed rate. The higher the feed rate, the faster the lights will blink. Any time the sensors detect abnormal working conditions, they will turn OFF the fuel feed system to prevent any further damage, and turn OFF or PULSE (bright - dim) the status lights to indicate where the fault has occurred

Note: For safety, contact a qualified serviceman for all repair work.

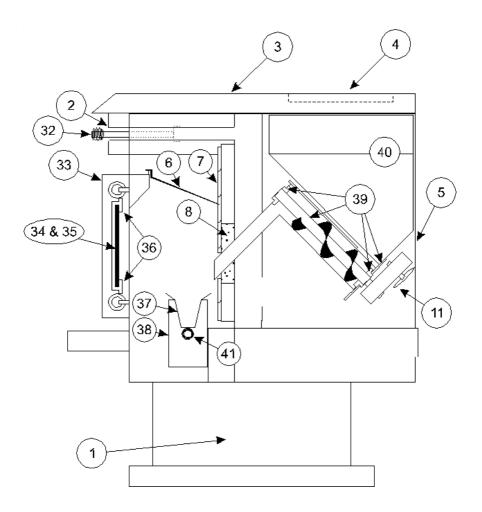
Note: For safety, contact a qualified serviceman for all repair work.				
	RELEVANT SECTION OR			
PROBLEM	LIGHT STATUS	POSSIBLE CAUSES	REQUIRED ACTION	
		Auger jammed.	 Move auger motor back and forth to free jam. 	
	Top Light Blinking	Auger motor failed.	Replace auger motor.	
	Middle Light Blinking	Auger slipping.	Tighten auger bolt.	
	Bottom Light Blinking	4. No pellet fuel.	4. Refer to "Starting your heater for the	
		1	first time" section.	
		Pressure switch failure. Pressure switch tube broken	Replace pressure switch.	
No Fuel Feed/ Unit won't	Top Light Pulsing Middle Light Pulsing Bottom Light Off	or loose.	Replace pressure switch tube.	
		Exhaust vent plugged.	3. Clean exhaust venting and pressure	
			port.	
		4. Exhaust fan failure.	4. Replace exhaust fan.	
		Heater Leaking. Burn pot plugged.	 Inspect Door, Ashgates, etc. Clean Burn Pot. 	
start.		1 1 1	See "Manual Reset Thermal Disk"	
	Top Light Pulsing Middle Light Off	Manual reset thermal disk	section under "Component	
		has tripped.	Description".	
	Bottom Light Off	Manual reset thermal disk failure.	2. Replace manual reset thermal disk.	
		No power to the unit.	Verify that unit is plugged into a	
	Top Light Off	1. Ito power to the unit.	powered 120 volt electrical outlet.	
	Middle Light Off Bottom Light Off	Auger cycle timer failed.	Replace auger cycle timer.	
		Start button defective.	Replace push button start.	
		Feed control failed.	Replace feed control.	
		1. Stove in "Cool Down".	Allow sufficient cool down time.	
Stove won't turn OFF.	N/A	2. Defective auto thermal disk.	2.Replace auto thermal disk.	
		3. Control 15 minute timer.	3. Replace timer.	
	Top Light Blinking	 No pellet fuel. 	Add pellet fuel to hopper.	
Stove won't light.	Middle Light Blinking	Igniter failure.	Replace igniter fuse and igniter.	
	Bottom Light Blinking	Burn pot dirty.	Clean burn pot.	
Stove not operating			Clean burn pot. See "Component	
properly. Damper	N/A	1. Burn pot dirty.	Description" as well as "Maintenance"	
adjustment does not			sections.	
affect the burn rate. Lazy		1. Not enough air.	1. Adjust air damper.	
flame. Fuel piles up in	N/A	Too much fuel. Poor quality and non	2. Reduce feed rate.	
burn pot.		standard fuel.	Change fuel supplier.	
	N/A	1. Too much air.	Reduce air damper.	
Short flame on high feed.		Heat exchange requires	Clean heat exchanger. See	
Short name on mgn reed.		cleaning.	"Maintenance" section.	
		Poor quality fuel.	Change fuel supplier.	
	N/A	1. Not enough air.	Adjust air damper, Clean stove.	
Too large and dark		2. Too much fuel.	Adjust feed rate.	
orange flame.		Poor quality and non	Change fuel supplier.	
		standard fuel.		
Not enough Heat output.	N/A	Too much air. Feed rate set too low.	Reduce air damper. Increase feed rate.	
Flame go out on low	****	Teed rate set too low. 1. Too much air.	Reduce air damper.	
feed.	N/A	2. Feed rate set too low.	Increase feed rate.	
Smell of smoke in room.		Joints in vent pipe not	Seal venting system with high	
	N/A	sealed properly.	temperature RTV silicone sealant.	
Circulation fan always runs on high.	N/A	Unit is overheating.	Reduce the feed rate.	
		Fan Thermal Disk Failed.	Replace Fan Thermal Disk.	
		3. Fan Speed Control Failed.	Replace Fan Speed Control.	
Feed shuts off when door	N/A	Normal Operation.	Close door.	
is opened.		- Familian		

V. Diagrams and Parts List

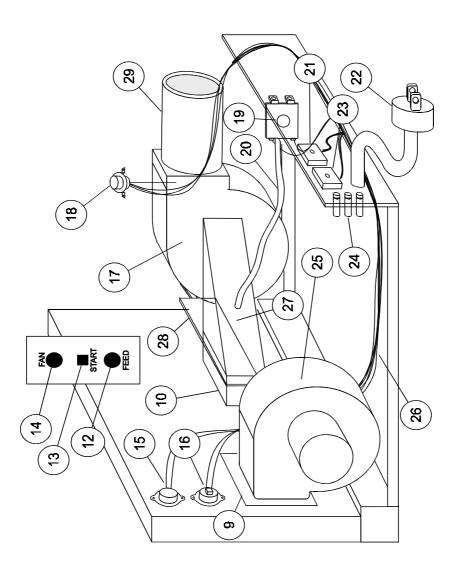
1. KOXI BayWin® Circuit Diagram



2. Stove Cross Section



3. Equipment Compartment



4. Parts List

Item No	Description	Part No
	Panels & Trims	
1	Pedestal Base Assembly (Black)	BV1
2	Gold grill	BV11
3	Top Lid (Black)	BV12
4	Hopper Lid (Black)	10023
5	Back Cover Plate (Black)	BV17
6	Top Heat shield	BV19
7	Back Heat Shield, Embossed Brick Pattern (Black)	BV20, BV21
Not Shown	Right Side Panel (Black)	BV14
Not Shown	Left Side Panel (Black)	BV15
	Gaskets & Gasket Kits	
8	Auger Chute Gasket Kit	10006-12
9	Circulation Fan Gasket	10036-1
10	Exhaust Housing Mounting Gasket	
Not Shown	Exhaust Fan Mounting Gasket	10002-1XL
Not Shown	Exhaust Fan Motor Mounting Gasket	10031-1
Not Shown	Door Rope Gasket	BV6-2
Not Shown	Glass Gasket Kit (Includes inner and outer glass gasket)	BV9
	Electrical Components	
11	Auger Motor	10035
12	Feed Control Switch	10044
13	Push Button Start	10043
14	Circulation Fan Speed Control	10038
15	Circulation Fan Override, Thermal disk	10037
16	Manual Reset, Overheat Thermal disk	10039
17	Exhaust Fan	10031
18	Exhaust Temperature Thermal disk	10034XL
19	Static Pressure Switch	10032
20	Static Pressure Switch Tube	10033XL
21	Auto/Manual Timer	10041
22	Electrical Cord	10042
23	Auger Cycle Timer	10040
24	Trouble Shooting Module Light	10046
25	Circulation Fan	10036
26	Wiring Harness	10045XL
	Kits, Assemblies & Other Components	•
27	Exhaust Housing Box	10002XL
28	Damper Kit (Includes Damper, Coil Handle, Slide Bracket, Rubber Slider)	10004XL
29	Exhaust Tube Assembly	BV27
32	Cleaning Rod (Includes Coil Handle)	BV22
33	Complete Gold Door Assembly	BV6
Not Shown	Door Handle/Positioner Kit (includes handle, pin, rollers)	BV4-4,BV4-5
34	Center Glass	BV7
35	Side Glass (one only)	BV8
36	Glass holder kit	BV4-3
37	Burner Pot	10016XL
38	Burner Pot Stand	10014XL
	Auger Rebuild Kit (Includes bushings, auger, auger holder, auger holder	10006-7, 10008,
39	gasket, nut and bolt)	10008-4, 10035-1
40	Complete Hopper/Auger Assembly	10006

5. Accessories List

Item No.	Description	Part No.
Optional Equipment		
41	Igniter Replacement Kit	N/A
Not Shown	Air Intake Kit	AK100
Not Shown	Air Intake Check Valve	CV100
Not Shown	Hopper Extension	HE2
Not Shown	Insert Loading Chute	LC100

VI. Warranty

APR Industries Ltd. honors a five-year limited warranty on all steel fabricated parts and a one-year warranty on all electrical parts. The following items are not covered under warranty.

- 1. Glass
- 2. Gasket and Seals
- 3. Ceramic Bricks
- 4. Burn Pot
- 5. Paint and Powder Coating
- 6. Gold Plating
- 7. Inner Heat Shields
- 8. Gear Motor
- 9. Self Igniter
- 10. Glass SaverTM

Contact Your Dealer for Warranty Information.

The limited warranty covers defects in the material and poor workmanship as long as the heater has been installed in accordance with the instruction manual. Warranty is null and void if the heater is misused. It is the option of APR Industries Ltd. whether to repair or replace the parts. The customer is responsible for all shipping costs to and from the factory.

