Legend

Outdoor Wood Furnace

Legend Outdoor Furnaces
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Bladenboro, NC 28320
910-866-5225
legendoutdoorfurnace.com

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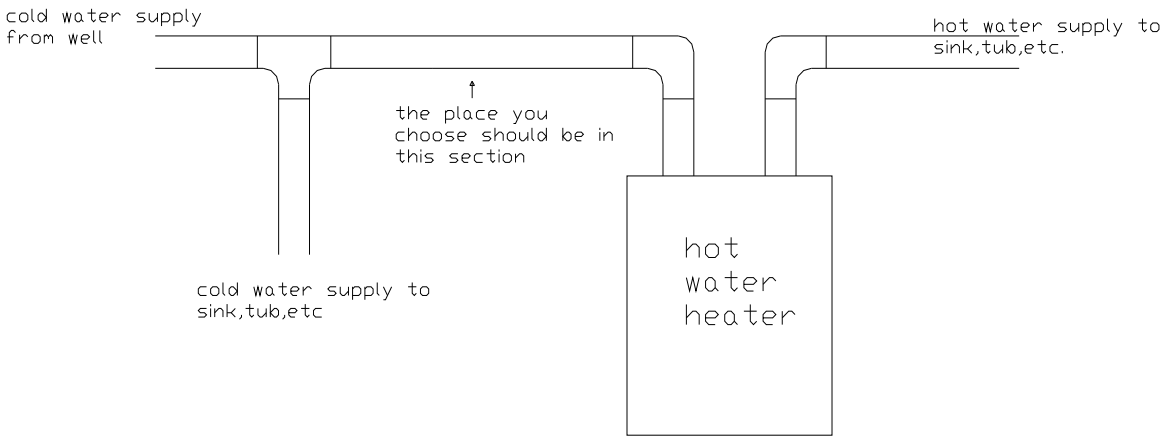
Important Things to Remember

- After you have read this entire manual and feel comfortable enough with what is inside, **Put in a safe place for future reference**.
- Consult with your local inspector prior to beginning the installation.
- This product should be installed by a licensed professional, but if you decide to install on your own, remember to do all installation in accordance to local electrical and building codes.
- No matter which model you have purchased it is wired to accept 120 V Single phase, 60 Hz power with an amp draw of about 3.5.
- Install furnace on solid foundation (for example: cement pad, cement blocks under each corner, gravel, or patio blocks) soft soil may result in the unit not remaining level.
- Clear the area around the unit of all combustible debris (minimum of 3 feet on all sides, front and back).
- If unit is installed under a shelter, be sure to use the proper clearances around any combustible material in the roof. It is best to consult with a contractor before attempting this.
- This unit is designed to burn wood products. For the best results use only seasoned hardwood as fuel
- Do not use flammable liquids to start or restart any fire in this unit.
- Do not operate with front door, back door, or top front door open.
- Household garbage is a poor fuel source and should not be burned in this unit at any time.
- Do not allow children to play around this unit while it is in operation.
- Always check overflow to ensure that it is not plugged. Plugged overflow could cause pressurization and an explosion.
- Keep tank full of water at all times.
- If shutting unit down for an extended amount of time, use precautions to eliminate freezing.
- Antifreeze should not be used in this system
- Use only the recommended water additive for this unit.
- Remember shortcuts in installation could cost you a lot more in the end

Happy and Safe Heating

Planning

1. Decide where you are going to set your Legend unit. Convenience of firing should be a major factor in your decision. The other factors to consider are the cost of pipe, pipe insulation, drain tile, wiring, and labor to install farther from the house.
2. Decide where you are going to mount the circulator pump. The pump can be installed anywhere in the supply line to the source as long as it remains below the water level in the heater.
3. Decide where you are going to mount the coil. It must be positioned so that all the air moved by your central fan has to blow across it. It is preferable that the coil be mounted on the outlet side of the fan but it will work on the return side of the fan. The size of the coil is determined by the opening in the duct and by the BTU needed for the square footage you will be heating. If an air handler is needed, your local heat and air conditioning contractor will be able to assist you. We recommend that a qualified installer install either of these that you need.
4. Decide where you are going to connect into your domestic hot water system. At your hot water heater, find the cold water supply line. You will cut this line when you are ready to make connection. Make sure that the place you have chosen is beyond any Tee in the line. (see figure below)

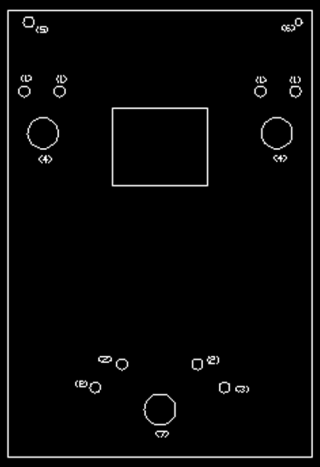


If you have decided to install the coil in your existing duct on your own follow the steps as listed.

1. At the site you have previously selected, cut a hole in the duct, just the right size for your coil to slide in. Remember all the air has to go through the coil. Any gaps in the side of the duct on the outside and any gaps around coil inside the duct must be covered to eliminate air bypassing the coil and losing heating capability.
2. Slide the coil into the hole you just cut. Make sure that you have a tight seal around the coil. This can be done with duct tape, foam sealant, or weather stripping material.
3. You are now ready to hook your water lines to the coil from the heater.

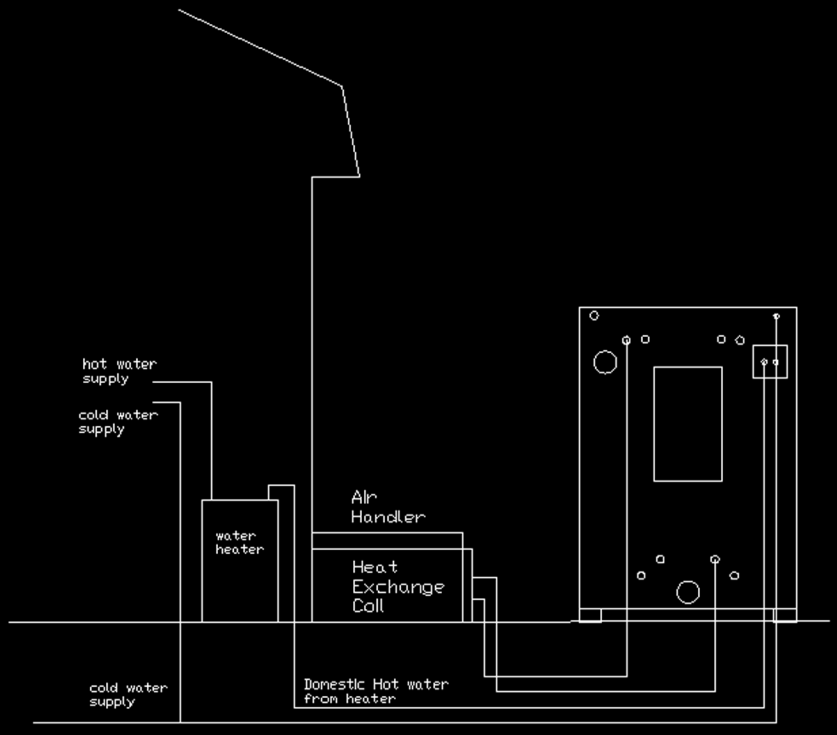
IT IS YOUR RESPONSIBILITY TO SEE THAT WHAT YOU DO OR HAVE DONE TO YOUR DUCTWORK IS DONE CORRECTLY.

Back Tank



(1) Heat zone outlet - used to allow hot water to be circulated to primary heat source.
(2) Heat zone return - used to return water from the heat transfer source to water tank.
(3) Vent - This allows safe venting of steam should the unit overheat. Never allow this to be plugged!
(4) Domestic hot water coil port - allows the use of a copper loop coil to transfer hot water for domestic use.
(5) Solar panel return - used to allow solar panel to drain back into tank when not in use.
(6) Fresh water connection - used to allow the ease of adding water to tank as needed.
(7) Drain port - used to allow ease of draining tank for inspection and annual cleaning.

New Install


hot water
supply
cold water
supply
water
heater
Air
Handler
Heat
Exchange
Coil
cold water
supply
Domestic Hot water
from heater

Basic Installation Recommendations

Heat Zone connection:

- The heat zones are indicated as #1 on the" Diagram of Back" illustration and the returns are indicated as #2.
- Attach hot water pipe to this outlet by using a 1" elbow, a 1" gate valve, a 1" pump flange kit, a circulator pump, and adapters to allow hook-up to your water line.
- This pipe will be insulated before being placed underground. Run line underground to your existing air handler. If you have already installed heat exchanger in air handler, you can make the connection to the exchanger now. If not, make connection according to directions given for the type of hook-up that suits your need and application. (see Installing the Coil on page 3).
- Attach return insulated pipe to heat exchanger and run underground back to the unit to heat zone return at bottom of unit.
- Attach return water pipe to this inlet by using a 1" elbow, a 1" gate valve, and connector.
- If more than one zone is needed then repeat process as needed.

#1

#2

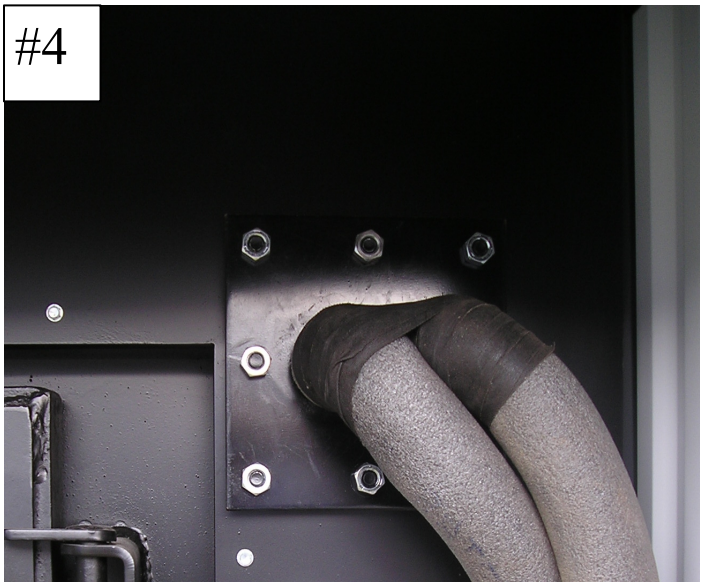
Basic Installation Recommendations

Add Water Valve connection:

- The add water valve connection indicated as #6 on the" Diagram of Back" illustration.
- Refer to Basic Installation diagram and attach water pipe to this inlet by using a 1/2" elbow, a 1/2" ball valve, a 1/2" check valve, and 2- ½"close nipples.
- Locate inlet pipe to domestic coil. (the cold water supply side) and cut. Place a ½ x ¾ x ¾ tee in this line to allow connection of add water valve train you just assembled. This pipe connection will be insulated.

Domestic hot water connection:

- Attach hot water pipe to these two fittings and route them down the side and to the bottom to the ground. These pipes will be insulated before being placed underground. Run lines underground to your existing hot water heater and make connection according to directions given for the type of hook-up that suits your need and application. (see domestic water connection illustration)



Bleeding the System

Bleeding the system is done to rid the lines of air that may cause inadequate circulation of water. This is done by turning off the gate valve on the primary heat zone return and turning on the gate valve on the primary heat zone outlet. Loosen the fitting on the primary return and remove pipe. This will remain off until you get a steady flow of water out of the pipe; now turn on the circulator pump. You will let the pump run until there are interruptions in the flow. A steady flow signals that the air has been removed. Turn off the pump and reconnect the pipe to primary heat zone inlet. Turn the gate valve back on.

If coil is mounted at a point higher than the water level of the heater, it may be necessary to bleed the system in sections. Take pipe loose from the primary heat zone outlet to make sure you have water through the pump. Reconnect that fitting. Go to the exchanger connections and loosen the top fitting on the coil. Turn on the pump and let it run until you stop getting air

from this location. Turn off the pump and open the gate valve on the primary heat zone outlet. You may get more air out of the top coil connection at this point. When all air is removed, retighten all loose fittings.

The system should now be bled.

Firing Directions

When you are ready to build your first fire, we recommend you use dry material. Dry material will light faster and build heat faster. As you are able to get fire going, add larger pieces on top of and behind what has already made coals. Air is forced through the stack by the blower on the front of the unit door. Forced air will help ignite the stack. This takes place because the heat from the coals is pushed through the larger pieces and heats them so that they will burn quicker. The fire will spread from the front toward the back of the firebox. During the initial firing, condensation is going to run out of the stack, flue, and firebox. This condensation is caused by the cold water in the tank being heated by the fire. This is normal on start up and will cease as the water tank heat rises. When you are ready to put another charge of wood in your unit, rake the coals to within about 6 inches of the front door and put your wood on top of and behind the coal pile just as you did on the initial firing.

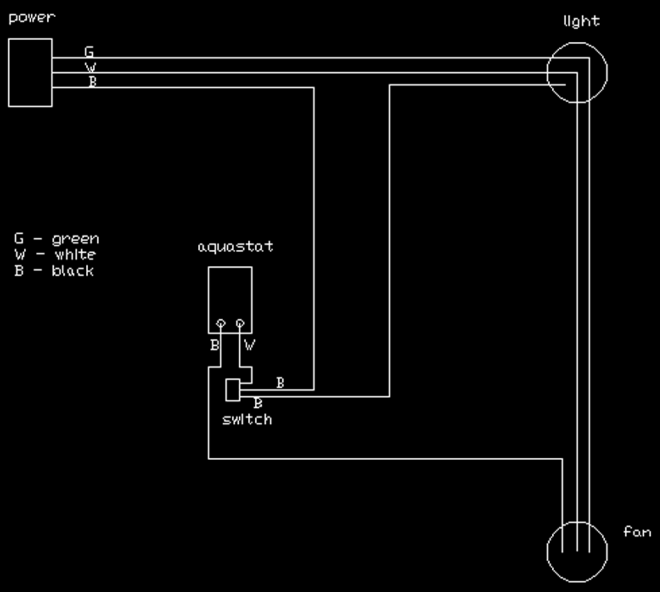
Maintenance

Your new Legend Heater requires maintenance on a regular basis to ensure optimum performance and efficiency. Items that will need to be checked include the flues, stack, exchange box, and exhaust stack. These items need to be free of any creosote build up. When build up occurs, the scraper is used to dislodge any debris and push it out. This is best done while the unit is hot. The hotter the unit is, the easier creosote is to remove. It is important to keep the build up at a minimum to diminish the possibility of having a creosote fire in the unit or stack. If you have a creosote fire do not try to put it out! Let it burn! Although it is not desirable for this to happen it is much safer. Do not open any of the doors while the fire is burning.

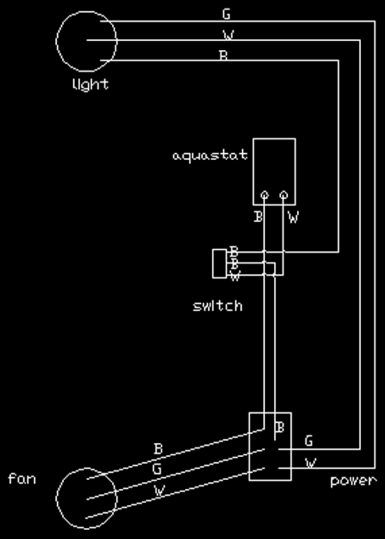
Your unit should be drained and flushed every year. This will remove any sediment that has accumulated and eliminate future corrosion problems. In order to drain and flush your unit, remove cover plate on drain at back. After all water has been drained, use a garden hose to wash out any sediment that did not come out while draining. When this process is complete you will replace the cover and refill with water.
Remember to add the water treatment at this time. The treatment is added according to the directions on the container.

You will have to remove ash from the firebox periodically also. You do not have to remove the fire in order to do this. You can simply remove the ash from the front of the fire box before adding a new wood supply. This unit is designed to burn the wood from the front toward the back of the firebox. If the fire has completely burned all the wood supply, rake the coals to one side and remove the ash from that side. Repeat for the other side. After all the ash has been removed rake coal back to center of front and put your new wood supply behind and on top of the coals. This will speed the recovery time. Always use caution when disposing of the ashes. Dispose of them away from any combustible material to eliminate the risk of fire.

Wiring Diagram

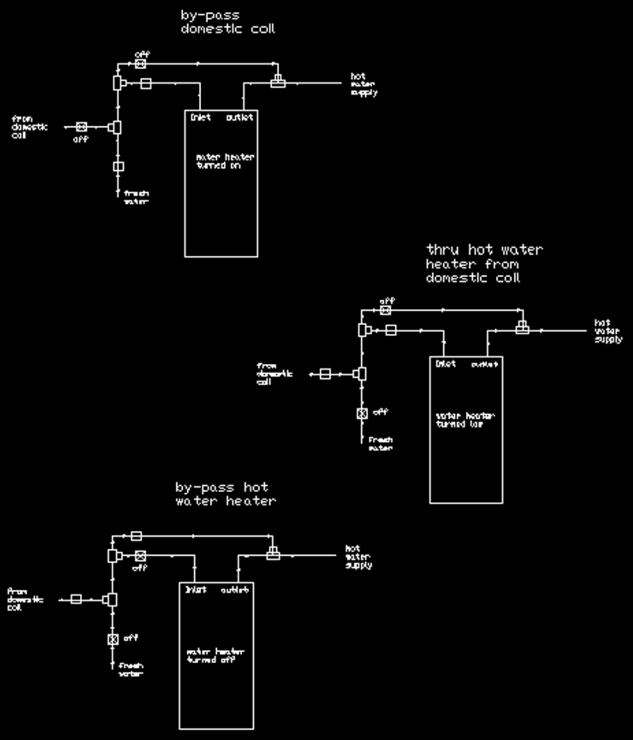


Standard Wood Burner



Coal Burner

Alternate Water



Steps to maximum wood burning efficiency.

Wood smoke is caused by the incomplete combustion of wood. This can pollute the air indoors and outdoors as well as contribute to higher heating costs. Fortunately, the cure for cutting down on pollution and waste also cuts the costs by burning wood with safety and efficiency.

Burn seasoned wood. Up to 50% of the weight of green wood can be moisture, which has to be burned off before heat can be released into your house. Seasoned wood burns hotter and more efficiently, helps decrease the amount of creosote buildup in your stovepipe, and saves you money.

Make your fires small and hot. This burns volatile gases more quickly, producing fewer safety hazards and air quality problems than a fire that is over-damped. Smaller, hotter fires mean more frequent loading and tending the stove...but the improved efficiency and air quality are worth the effort.

Remove excess ashes. Too much can reduce heat transfer into stove's water tank and cause too much wood burning.

Tighten up your house. insulation, weather stripping, storm windows and caulking~ this can all reduce the amount of wood required to heat your home, which in turn helps decrease the amount of air pollution.

Check your "smokestack." Burn your stove at different rates, and check the emissions. The absence of smoke indicates that your stove is burning cleanly and effectively.

Choose the proper size stove. A properly sized wood stove will do its job efficiently even on the coldest days. One that's too big needs to be damped down, which increases creosote production. To be sure you select the right-size stove, take along to your dealer the number of square feet to be heated, and the amount of insulation surrounding the area to be heated.

Burn only the fuel your stove was, designed for. Don't burn coal in a wood stove, for example, unless your stove was designed to handle both wood and coal. Trash shouldn't be burned in your stove either, besides increasing the chance of starting a chimney fire, some plastics and other trash emit harmful gases. Driftwood, treated wood, artificial logs, or anything containing plastics, lead, zinc or sulfur should not be burned.

The last word on wood

Different types of wood have different heating values. Generally speaking, you'll get much more heat from hardwood than from softer, lighter wood. Most firewood you purchase will be green and have a fair amount of water in it. It takes at least six months of air drying for wood to be considered seasoned and ready for burning. Make sure the wood is dry. Wood that is wet requires additional energy to evaporate the water; that's energy that could be used in generating heat. Wet wood also smokes, creating more carbon dioxide and particulate emissions. Burning wet wood can also create a buildup of creosote in your chimney and flue. When selecting wood, also take into consideration ease of splitting, ease of ignition and burning, how much smoke it produces and its "coaling" qualities. "Coaling" refers to the ability of a species of wood to form a long-lasting bed of hot coals when burned. Coaling qualities improve with higher density woods.

OUTDOOR FURNACE BEST BURN PRACTICES

1. Read and follow all operating instructions supplied by the manufacturer.

2. FUEL USED: Only those listed fuels recommended by the manufacturer of your unit. Never use the following: trash, plastics, gasoline, rubber, naphtha, household garbage, material treated with petroleum products (particle board, railroad ties and pressure treated wood), leaves, paper products, and cardboard.

3. LOADING FUEL: For a more efficient burn, pay careful attention to loading times and amounts. Follow the manufacturer's written instructions for recommended loading times and amounts.

4. STARTERS: Do not use lighter fluids, gasoline, or chemicals.

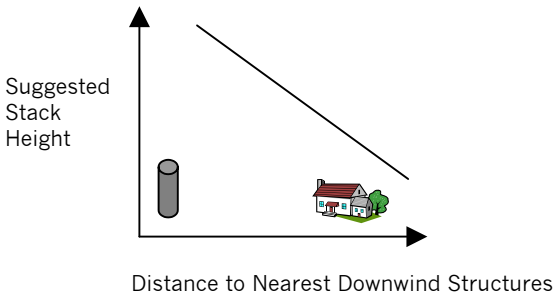
5. LOCATION: It is recommended that the unit be located with due consideration to the prevailing wind direction.

   - If located 50 feet or less to any residence not served by the furnace, it is recommended that the stack be at least 2 feet higher than the eave line of that residence.

   - If located more than 50 but no more than 100 feet to any residence, it is recommended that the stack be at least 75% of the height of the eave line of that residence, plus an additional 2 feet.

   - If located more than 100 feet but no more than 150 feet to any residence, it is recommended that the stack be at least 50% of the eave line of that residence, plus an additional 2 feet.

   - If located more than 150 feet but no more than 200 feet to any residence, it is recommended that the stack be at least 25% of the height of the eave line of that residence, plus an additional 2 feet.



6. Always remember to comply with all applicable state and local codes.

HPBA
Hearth, Patio & Barbecue Association

OUTDOOR FURNACE MANUFACTURERS CAUCUS

At Legend Heaters we believe that when you buy our product, you are making an investment, not a purchase. With that in mind, we are committed to building the best performing and most dependable unit on the market. With the confidence we have in our product, we are able to offer one of the most comprehensive warranties in the industry.

Legend Heaters Limited Warranty

Who gets the warranty?
Legend warrants this outdoor furnace, to the original purchaser only. The furnace must be purchased new from an authorized dealer of Legend Heaters and the registration must be completed, signed and returned by certified mail within 30 days of purchase to be valid. Return the registration along with the purchase agreement from the dealer. This warranty is not transferable.

How long is warranty period?
Legend warrants all units for a period of (10) years. The first (2) years are covered at a rate of 100% of all manufacturing defects. After the initial (2) years, Legend will incur costs at a rate of 75% for the next (3) years and 50% for the following (2) years and 25% for the remaining (3) years. After this period Legend assumes no responsibility.

What is covered under warranty?
If your Legend unit fails while in normal use and while being operated according to the manufacturer's operator manual, Legend will repair or replace the unit according to the above schedule. You should understand that replacement might include replacement of the product or components with functionally equivalent reconditioned product or components. All components/ parts not manufactured by Legend are covered by that products warranty as provided by the manufacturer.

Who is responsible for repair cost?
If warranty requires replacement of unit or components, Legend will take responsibility for the cost of the unit or component only. If an on-site repair is made, the customer is responsible for the labor and transportation charges incurred by authorized service agent.
If on-site repair cannot be made and unit must be returned for service, the customer is responsible for the unhooking, freight to manufacturing facility, and reinstalling of the unit. Legend is also not responsible for loss of use while repairs are being made.

How do you obtain warranty service?
In order to obtain warranty service you must notify an authorized Legend dealer. Your dealer will notify Legend for warranty claims.

What is not covered under warranty?
Negligence, modifications, abuse, or unauthorized repairs are not covered under warranty. Legend does not warranty parts damaged by freezing, overheating, pressurization, or the use of unauthorized fuels.
Legend specifically disavows any other representation, warranty, or liability related to the condition or use of this product.

Legend Heaters Limited Warranty Registration

To validate this warranty, your registration must be completed within thirty (30) days of purchase date and sent by certified mail to:
Legend Furnaces
2646 Old Hwy 41
Bladenboro, NC 28320

Registration

(Please Print)
Purchaser's Name _____

Address _____

City _____ State _____ Zip _____

Phone _____

Model # _____ Serial # _____

Date of Purchase _____/_____/_____

Dealer Name _____

Dealer Invoice # _____

Dealer Signature _____

I have read and understand the terms of this warranty and will retain possession of and will abide by them and the accompanying maintenance guide.

Purchaser's Signature _____ Date _____/_____/_____

You will receive an acknowledgement from Legend regarding the receipt of your warranty and registration forms. Please retain the acknowledgement in your records.