

All-American Heater Operations & Maintenance Manual And Safety Instructions

Black Rock Manufacturing
DBA
Leisure Line Stove Company
Rear 620 Broad Street
Berwick, PA 18603

<https://www.leisurelinestove.com>

matt@leisurelinestoves.com

Please contact your dealer for any questions, if not resolved you
can reach us at 570-752-1811

Burn only Anthracite Coal, Do Not Burn Flammable Liquids or Garbage in this Stove. Do Not Sleep in Room with Stove. Always Wear Gloves When Emptying Ash Pan. Retain a copy of this Manual.

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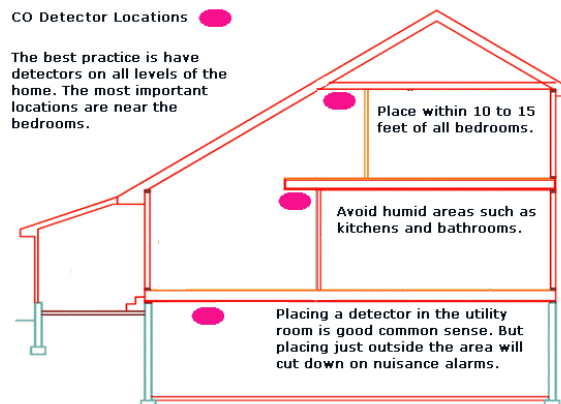
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Important Warning Statements

Warning: Improper installation, adjustments, alterations, service, or maintenance of your Leisure Line Stove can cause property damage, personal injury or loss of life. The All-American Heater is designed for burning Rice or Buckwheat size Anthracite Coal only. Installation and service should be performed by a qualified installer or service agency. Proper permits and inspections should always be obtained. If applicable, please make sure you notify your insurance company before placing your stove into service. Stove must be placed on a non-combustible surface. The All-American Heater has a Type RC Barometric Damper, the weight should be adjusted to obtain a $-.03''$ to $-.05''$ water column negative pressure in the flue pipe at the stove outlet. The All-American Heater is designed as supplemental heat sources only and should not be used as a replacement for your primary heating unit.

Carbon monoxide is a colorless, odorless and tasteless poison gas that can be fatal when inhaled. CO inhibits the blood's capacity to carry oxygen. Periodically review the alarm manual and discuss your CO alarm emergency procedure with all the members of your family. Never ignore a CO alarm. A true alarm is an indication of potentially dangerous levels of CO. CO alarms are designed to alert you to the presence of CO before an emergency – before most people would experience symptoms of CO poisoning, giving you time to resolve the problem calmly. Determine if anyone in the household is experiencing symptoms of CO poisoning. Many cases of reported CO poisoning indicate that while victims are aware they are not well, they become so disoriented they are unable to save themselves by either exiting the building or calling for assistance. Also, young children and household pets may be the first affected. You should take extra precautions to protect high-risk persons from CO exposure because they may experience ill effects from CO at levels that would not ordinarily affect a healthy adult.

Your Stove comes with one CO Detector Interlock, It is recommended that there be one CO Detector outside each sleeping area and at least one per floor, read your CO manual completely before lighting stove. See the diagram below for more information.



WARNING: Carbon monoxide alarms are not smoke alarms. This carbon monoxide alarm is not a substitute for installing and maintaining an appropriate number of smoke alarms in your home. This carbon monoxide alarm will not sense smoke, fire, or any poisonous gas other than carbon monoxide even though carbon monoxide can be generated by fire. For this reason you must install smoke alarms to provide early warning of fire and to protect you and your family from fire and its related hazards.

CAUTION: This alarm will only indicate the presence of carbon monoxide at the sensor. Carbon monoxide may be present in other areas.

Symptoms of CO Poisoning

The following common symptoms are related to CO poisoning and should be discussed with ALL members of the household.

Mild Exposure: Slight headache, nausea, vomiting, fatigue (often described as “flu-like” symptoms).

Medium Exposure: Severe throbbing headache, drowsiness, confusion, fast heart rate.

Extreme Exposure: Unconsciousness, convulsions, cardio-respiratory failure, death. If you experience even mild symptoms of CO poisoning, consult your doctor or dial 911 immediately!

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General Safety, Job Planning, and Stove Concept of Operation

1. Inspection of the venting system should be performed before and after installing the All-American Heater which features a built in direct vent system. Follow NFPA 211, ANSI Z223.1 or applicable local codes for information on inspection requirements. The label located on the rear of the stove defines the required clearance to combustible surfaces located near the stove.
2. It is recommended to notify your home insurance company prior to proceeding with the installation.
3. Installation in a Manufactured/Mobile Home should also be in accordance with Manufactured Home and Safety Standard (HUD) CFR 3280, Part 24.
4. The All-American Heater is highly efficient and does not have sufficient flue temperatures, especially during idle mode to create proper draft in a chimney. For this reason the stove is equipped with a built in Direct Vent System. The unit operates continuously as long as the appliance is burning. Speed is controlled by means of a rheostat so that the barometric draft control always shows a visible sign that there is sufficient draft (just slightly moving open as a minimum). It is very important to follow all the instructions in the paragraph titled "Special Instructions for Direct Vent".
5. The CO Detector/Interlock supplied with the stove is a required part of the installation and is hooked in series with power to the appliance to ensure shut down in the event of a loss of draft.
6. Ensure that the installation is adequate for safe operation by performing the General Installation Inspection after initial installation and after any major modification to the home.
7. Proper maintenance is important for trouble free and safe operation. Fly ash can build up and block the flue pipe, ensure that periodic inspections are performed by a qualified person.
8. Fly ash is also corrosive, proper cleaning will ensure long product life and maximum efficiency.
9. A major factor in determining stove location is based on where the flue pipe will exit, making sure to take into account air circulation and clearance requirements to windows that open and door openings per FIGURE 1. Also plan the venting system layout to avoid the possibility of accidental contact with concealed wiring or plumbing.

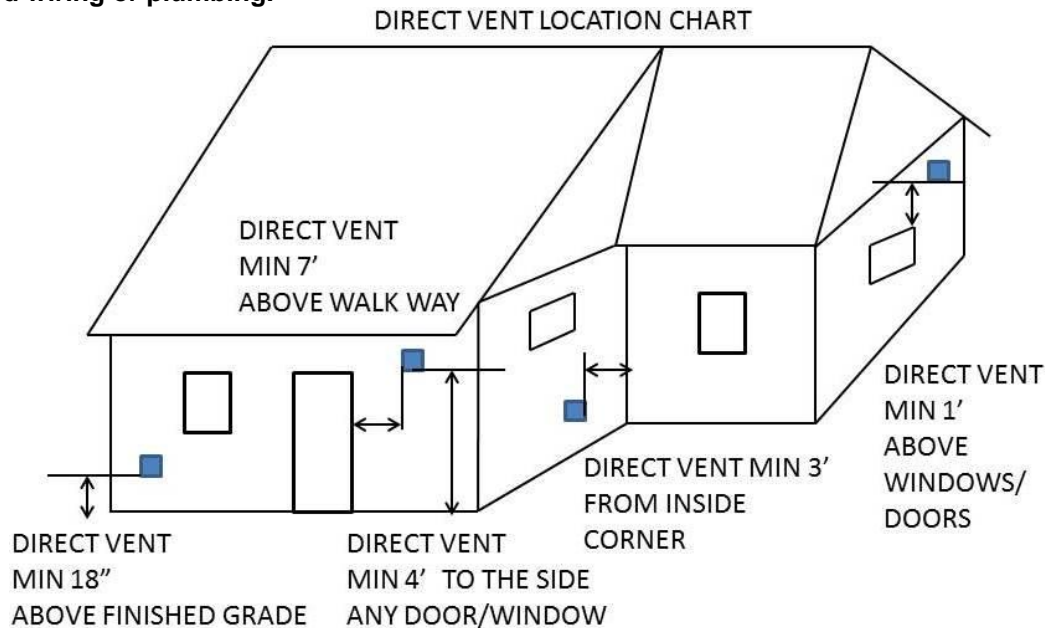


FIGURE 1 Direct Vent Outlet Location Requirements

10. This stove may be vented with 4" PVC Schedule 40 pipe, 4" single wall stainless or "Leak Free" Pellet 4" Vent pipe. Based on testing and the use of the supplied over-temp interlock sensor the flue pipe does not require clearance to combustibles.

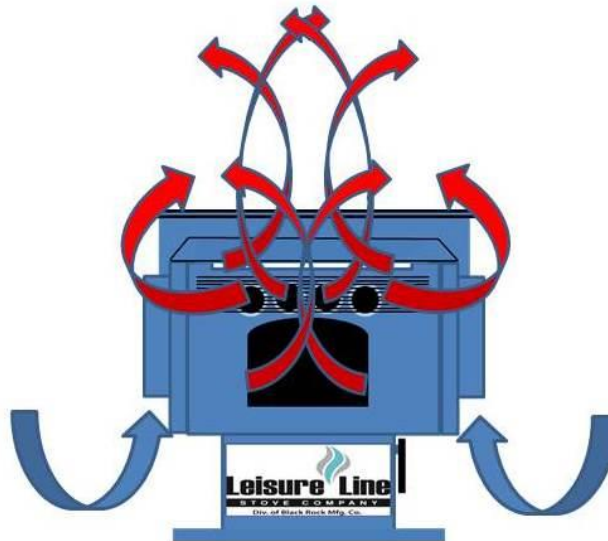
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11. If there is a chimney available the 4" vent may be connected with the proper adapters to ensure a leak free connection.
12. The All-American Heater utilizes filter media over all convection fan inlets to help minimize dust in the home as a result of movement of air involved with the process of heating.
13. The All-American Heater is available in three BTU input sizes, 70,000, 90,000 and 110,000 BTU per hour input at max fire. The 70,000/90,000 models feature 4 convection fans in an array on each side of the stove. The 110,000 model has 6 convection fans in array on each side of the stove. The convection fan array air outputs are controlled automatically by the Coal-Trol TS2 BL thermostat by way of a signal sent through the thermostat cord to the control relay box mounted under the hopper on the feeder enclosure.
14. All models of All-American Heater have two additional convection fans in the rear of the stove on either side of the feeder assembly. These fans are controlled by a heat sensing switch that runs them at full speed once the stove is up to temperature. When the stove is in Idle mode these fans will most likely be off. This switch is adjustable from 90° to 130° F.

NOTE: Proper planning ahead of time for centrally locating the stove in a larger size room will prevent many headaches down the road.

15. The convection fans are used to extract heat off the stove body and distribute it throughout your home by helping to initiate a convection loop that moves heat out and attracts cooler air to the fan inlet.
16. Generally speaking your stove is capable of heating the entire house if properly sized, centrally located and in a larger size room; however getting heat from one room to another may require the use of fans or other means to initiate air movement. If your home is equipped with central air/heat the furnace fan may be run on low to help move the heated air throughout the home.
17. The combustion fan mounted under the feeder motor is run at full speed all the time. There is a 4" adapter ring on the feeder enclosure to allow connection to an outside air source. Connecting to outside air is optional and not required except on mobile home installations.
18. The feeder motor is run on a timer by output from the thermostat to the Coal-Trol control relay box. A timer runs the stoker motor a certain number of seconds depending on heat demand and thermostat set point.
19. View the videos at: <https://leisurelinestove.com/owners/videos> to familiarize yourself with stove assembly, operation and maintenance before installing.
20. Your selling dealer should be able to answer any questions you may have, or if there are still questions please contact us at 570-752-1811 or by email: matt@leisurelinestoves.com. Safe and efficient stove operation as well as your complete satisfaction is our top priority.



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Assembly and Installation Instructions

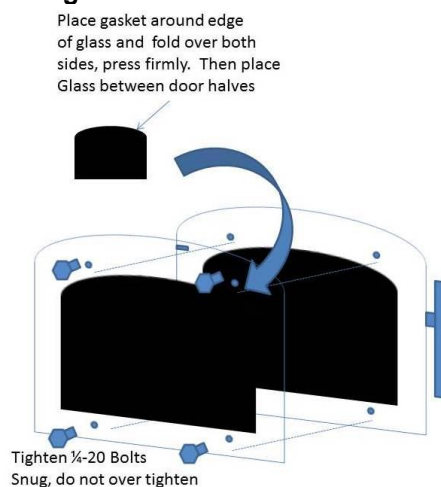
1. Tools needed for this section are: a 7/16" combination wrench or a 7/16" socket with 1/4" drive ratchet (this item makes the job easier but is not absolutely required), and a small torpedo level or short carpenter's level.
2. Open/Unpack all boxes, unwrap stove and remove all contents from inside stove. Check the packing list in Appendix A to ensure that all required parts have been provided.
3. Verify the grate gasket is in place per the picture below. Install the grate onto the feeder frame, making sure it is locked in place by the groove on the bottom.



4. Verify the fan assemblies are installed and verify that the correct number of fans is present, 70/90KBTU model uses 4 fans per assembly and the 110K BTU model uses 6 fans per assembly (one assembly for each side of the stove).
5. Verify that the 1/4" X 5/8" white fiberglass gasket material is installed around the feeder opening where it will contact the hopper (refer to photo below). This is required to ensure a tight seal between the hopper and feeder assembly.



6. Remove the two hopper mounting bolts/washers (these are located just below the stove top above the feeder) and install hopper onto feeder, making sure that the tabs on the hopper all are inside the feeder opening. Re-install and tighten the two hopper mounting bolts with washers.
10. Remove the 1/4" bolts from the outside of the top door assembly and separate the two halves of the door. Locate the glass box in the Ship Kit, un-box and install the gasket around the edge of the glass by removing the adhesive tape cover and forming the gasket to the edge of the glass. Cut off any excess and install between the door halves. Install the four 1/4" bolts and tighten using a 7/16th wrench, it is recommended that these not be overtightened.



11. Reinstall the top door if it was removed to install the glass.

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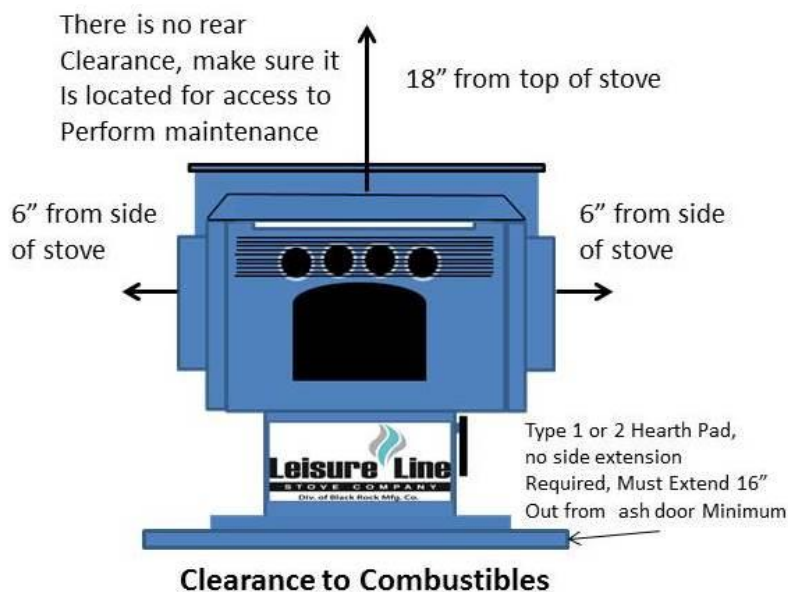
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12. Place the stove in its final resting place and determine location for flue pipe to exit through the wall. Refer to the Figure 1 and the paragraph "Special Instructions for Direct Vent" for vent pipe installation, adjustment and inspection requirements.
13. Using the torpedo or carpenters short level check the base of the stove to ensure it is level, if not shim under the appropriate side using non-combustible material.
14. Install the filter cover assemblies to each fan array, no tools are needed for installation, they rest on special brackets for ease of removal. Ensure the fan cables are properly located in the notches.
15. Find a suitable location to mount the Coal-Trol TS2BL thermostat. There are slots for the mounting screws and the cord can be run in the wall or on the surface and plugged in the bottom. Typically this will be in the room where you spend the most time on an interior wall and at chest height (approximately 52" above the floor). The standard cord is 25', however 50', 75' and 100' lengths are available from your dealer or Leisure Line directly.



NOTE: The thermostat must be mounted on the wall for proper stove operation and maximum efficiency.

16. If stove is mounted in a mobile home it must be secured to the non-combustible floor pad and floor. A fresh air supply must be brought into the burner unit. Refer to local codes for detailed requirements.



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Special Instructions for Direct Vent

1. Tools and materials needed for this section are: Torpedo Level, Drill Motor with 1/4" and/or 5/16" nut driver bits (depending on head size for screws), a 1/8" drill bit, #10 X 3/4" drill point sheet metal screws, vent piping and adapters depending on method of venting selected, a 4 3/4" Hole saw for PVC pipe installation (other sizes needed depending on piping used), a 3/4" drill bit or hole saw, and high temp Silicone.
2. Options for Vent piping are: 4" PVC, 4" stainless single wall pipe, or Class b self-sealing pellet vent with stainless liner.
3. A maximum of two 90° elbows and no more than 16' of vent pipe can be used without verifying the draft. For situations where these limits are exceeded it is required to measure the draft after installation using a draft gauge.
4. Whatever method is used the layout should include a clean out T unless the pipe runs straight out through the wall.
5. See Figure 2 for consideration of suggested piping layout. The rain cap outlet should be at least 8" from the exterior siding or other surface of the outside wall.

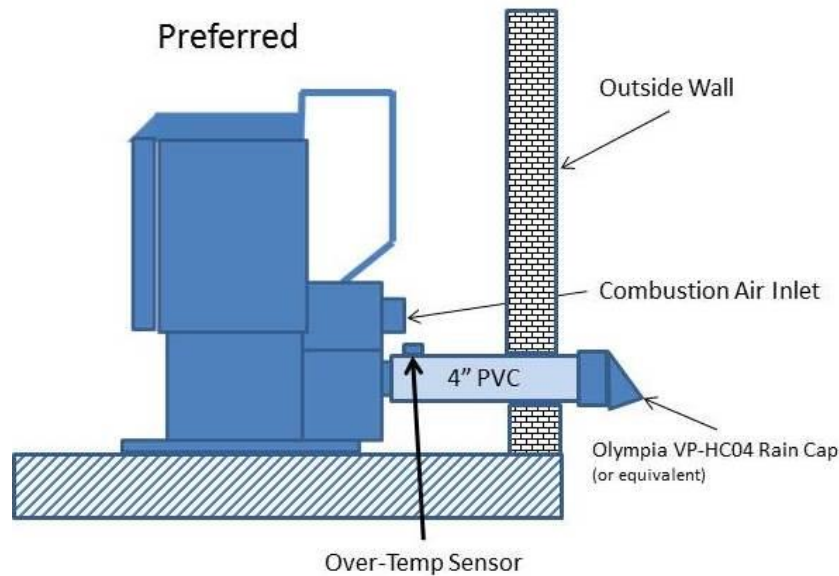


FIGURE 2 Direct Vent Preferred Piping Configuration

6. Cut a 4 3/4" hole to align with direct vent outlet using a hole saw, or other means. Slide PVC pipe through the hole in the wall and apply high temp silicone to direct vent outlet before sliding onto the Direct Vent 4" outlet. Ensure that there is sufficient silicone around the edge of the pipe to provide a seal.
7. Using the 1/8" drill make 2 pilot holes through the PVC and into the direct vent outlet on each side of the pipe. Using two #10 x 3/4 self-drilling screws, secure the PVC pipe to the direct vent outlet.
8. Install the Rain Cap and secure it with the outlet facing down using the attached hose clamp.
9. The interior can be caulked and painted to match the interior wall color. The exterior should also be caulked and painted to match the exterior wall color.
10. If it is desired to use single wall stainless steel or self-sealing class b pellet vent with stainless liner instead of PVC, refer to the manufacturers recommendations for installation and clearance to combustibles. Refer to Appendix B for suggested location of clean out T and other typical installation diagrams.
11. Install the Kidde KN-COB-1C CO detector with Kidde CO120X relay mounted in 4" square box on the wall behind the stove within four feet of the direct vent
12. Plug the CO detector 6' male cord into a wall outlet and plug the stove power cord into the short female cord. The CO detector must disconnect power to the burn appliance when it trips, momentarily pushing the test button in the cover will test this. Disconnect the stove power cord after completing the test.

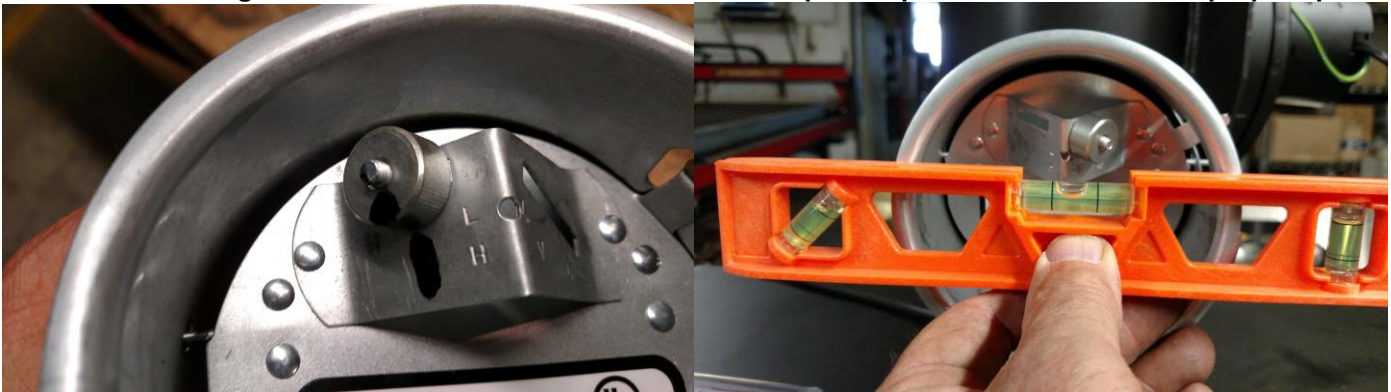
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13. Using a 3/4" drill bit or hole saw (a spade bit will work on the PVC), drill a hole in top of the vent pipe 2" to 3" from Direct Vent Outlet and install the over-temp switch using the supplied self-drilling screw.
14. Seal the switch where it goes into the pipe with high temp silicone and connect the wires from the Coal-Trol control box mounted on the side of the feeder enclosure.

WARNING: THE INTERLOCK CIRCUIT CONNECTED TO THE OVER-TEMP SWITCH IS 120VAC, IF SWITCH IS NOT INSTALLED IN PIPE, REMOVE IT AND INSTALL A SUITABLY INSULATED JUMPER WIRE.

15. **General Installation Inspection:** The following steps will help evaluate the venting system and must be performed before placing the direct vent into service. It is intended as a guide to aid in determining that the venting system is properly installed and is in a safe condition for continuous use. This procedure should be recognized as a generalized procedure which cannot anticipate all situations. Accordingly, in some cases deviation from this procedure may be necessary to determine safe operation of the equipment.
16. Visually inspect the venting system for blockage, restriction, leakage, corrosion or other deficiency which could cause unsafe operation.
17. Set the weight and level on the barometric draft control per the photos below to ensure proper operation.



NOTE: The following steps should be accomplished in combination with the paragraph titled "Lighting and Operating the Stove".

1. Close all doors, windows, fire dampers and other openings in the area where the burn appliance is located. Turn on all clothes dryers, exhaust fans, range hoods and other vents at maximum speed.
2. Ensure that the appliance lit and in max burn mode so that max output is held (adjust thermostat to achieve this).
3. This step is not required, but can be done at the discretion of the installer. Measure the draft to ensure that it is -.03 to -.04" WC at the flue outlet of the stove. To measure this, a hole sufficient for the draft gauge hose will need to be drilled in the Direct Vent body where it exits the stove.
4. Adjust the rheostat knob so that the barometric damper door is just moving slightly open at full burn. Draft measurement is not required as long as the conditions in Figure 3 and Figure 4 have been met.
5. Visually determine that the flame on the burn grate is blue and consistent. This is a sign that there is sufficient combustion air for proper operation of the unit.

WARNING: The next step will possibly release Carbon Monoxide to the room. Ensure that there is a working Carbon Monoxide detector in the room before proceeding.

6. Momentarily shut off the direct vent and ensure that the CO Detector/Interlock trips and shuts off the stove.
7. After 30 minutes of operation test for spillage at the barometric draft control using a match or smoke from a candle or cigarette. If spillage occurs there is not enough combustion air, refer to National Flue Gas Code, A.N.S.I. Z223.1 or any applicable local codes for guidance.
8. After completion of the test return all doors, windows, dampers, and fans to their normal condition.
9. Ensure the 4" barometric draft control is still level and verify free operation of the flapper door.

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Stove Pre-Operation Instruction

1. All resources for owner education are located on the website here: <https://leisurelinestove.com/owners/> . Specifically the video titled: “Simple Instructions for Coal-Trol TS2 BL Thermostat” will help in understanding how the control works. Also refer to the manual for the Coal-Trol system operation prior to lighting the stove.
2. The Quick Start Guide included with your stove can be used once you are familiar with the contents of this manual.
3. Verify the thermostat for your Coal-Trol is installed at least 10 feet from the stove and on a wall not adjacent to the stove. Verify that all cords to the feeder, combustion fan and convection fans are connected, verify that the RG45 cord is connected to the thermostat and to the control box located on the side of the feeder enclosure.
4. If the Direct Vent is connected to a chimney, verify that the chimney has been inspected by a professional and is clean and free of damage.
5. Coat the glass in the top door inside and outside with 100% pure silicone spray, this will ensure longer life of your glass.
6. Plug in the power cord to the CO Detector Interlock female plug and set the thermostat two degrees below the room temperature.
7. Familiarize yourself with the menus and settings on the thermostat by going through each to see how the display responds to input.
8. After all thermostat familiarization activities are complete proceed to the section “Lighting and Operating the Stove”.

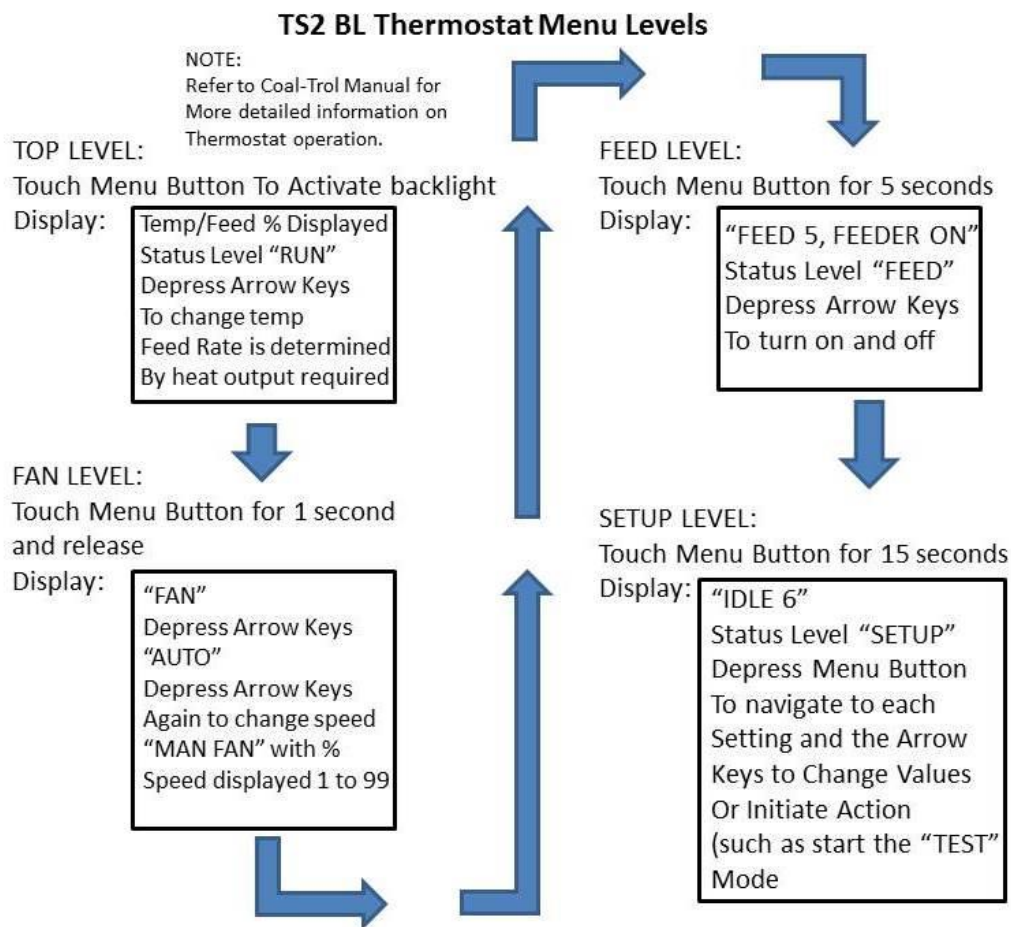


FIGURE 3 TS2 BL Menu Configuration

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Lighting and Operating the Stove

1. Items needed: A small metal hearth shovel, a pair of welding gloves or equivalent protection, Fire Stop Ring, Starter Bag, Buckwheat or Rice sized Anthracite, a BBQ lighter or propane torch.
2. Place the fire stop ring on the burn grate at the very end so it is flush with the end and held in place by the spring tension of the metal (it can be bent by hand if it fits too loosely).
3. Flatten a fire starter bag and place it on the burn grate so it is 1" from the end of the burn grate and covers the air holes as much as possible.



4. Fill the hopper with coal and pull coal down the burn grate so it covers the starter bag and completely covers the grate with a depth of 1.5" or so. There should be a small edge of the starter bag visible toward the front so it can be lit.

NOTE: The Stove will smoke during initial lighting while the paint cures. Ensure proper ventilation by opening windows and doors as needed. Additionally, the Direct Vent Safety Inspection will be performed during the initial lighting of a new stove and will require the doors and windows be shut for just a matter of minutes.

5. Turn on the power switch on the Coal-Trol black box attached to the feeder enclosure. Ensure that the thermostat set point is 2* F below the room temp. Check feed rate (FR), if above 20 unplug the stoker cord or wait to light the stove until it comes down under 20.
6. Power on the Direct Vent unit and adjust the rheostat until the barometric damper is opening slightly.
7. Light the edge of the starter bag with a propane torch or BBQ lighter.
8. Close the door, turn on the power switch and wait for two to three minutes, once the flames are starting to come up through the coal and the color is blue, check to make sure the starter bag is still completely covered.
9. If needed add one small shovel of coal over the hot spot on the fire to ensure enough fuel is available to get the whole burn grate lit.
10. It is important to run the convection fans at full speed during this time by using the manual fan control menu set at 99.
11. Plug in the stoker cord if it was unplugged and observe the FR to see if the process is stable (FR will be IDLE).
12. Once there is sufficient ash on the burn grate the fire stop ring can be knocked into the ash pan using the shovel. When emptying the ash pan later, make sure to retain the fire stop ring for future use.
13. During the initial burn the stove should be run at a high temperature for another hour to properly cure the paint. This can be done by performing check of the max setting per Paragraph 17. The fan speed can be returned to automatic on the thermostat.

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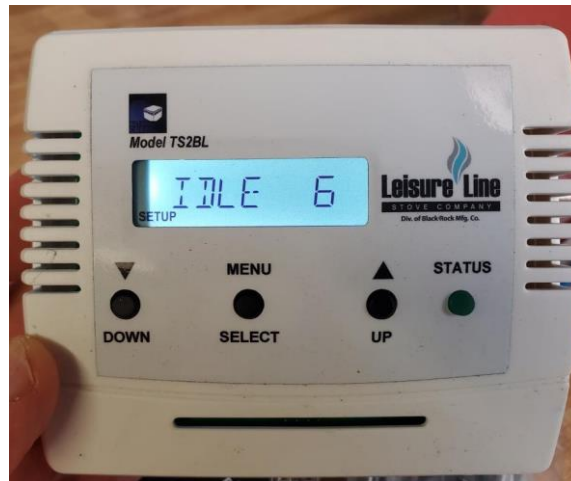
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14. The house should be well ventilated during the first two hours of stove operation to remove the smoke that will be generated by curing of the paint.

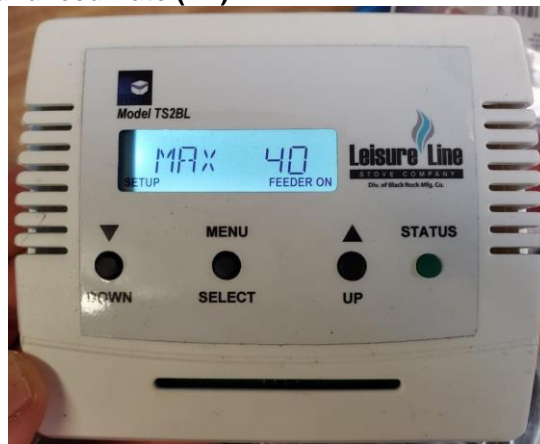
WARNING: Do not shut down stove while Direct Vent is in operation, follow the shut down procedure in this manual.

CAUTION: Moisture under the hopper lid and/or a slight sulfur smell is an indication of poor draft. Refer to APPENDIX C for trouble shooting.

15. The following steps 16 and 17 are not required and can be skipped until a later time if desired. Refer to the Coal-Trol Manual supplied with the TS2 BL for detailed instructions on operation.
16. Depress the menu button until setup is displayed and the release menu button, "IDLE 6" should be displayed. Operate the stove with "IDLE" displayed for at least 30 minutes or until the fire is as small as it is going to get, adjust IDLE (6 is the factory default) as required to obtain a 1/2" fire all the way across the grate.



17. Depress the menu button one more time, "MAX 40" should be displayed, operate the stove with "MAX" displayed for one hour or until the fire gets as big as it is going to get, adjust "MAX" (40 is the factory default) as needed to obtain a full grate full of burning coals with no hot coals falling into the ash pan. This step may take over an hour to complete, after completion depress and release the menu button until the display shows "EXIT" hit an Arrow Key, then the menu button again to exit. Display should now show "RUN" and the room temp and feed Rate (FR).



18. Set the thermostat for a comfortable temperature. Of course this can be changed at any time, however if a setting is increased by more than a couple degrees, an overshoot in temperature may occur. It is best

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to make changes of two degrees at a time, allowing the stove to reach temperature before changing again.

Trouble Shooting Guide and Resolution of Common Problems

1. Most Issues are related to improper operation and/or maintenance, FIGURE 4 will assist in ensuring that issues are not maintenance related.
2. If there is black dust evident on the horizontal surfaces in the home, shut down the fans and try adding the coal to the hopper more slowly, or get oiled coal. Check your coal supply, if there are many small broken pieces and dust mixed in try an alternate source to see if cleaner coal is available.
3. A moist hopper lid indicates a draft issue that must be resolved immediately. Make sure all flue pipes are clean, ensure that the barometric damper is adjusted properly and is not stuck open, ensure that the coal is not dripping wet when added to the hopper, check that the Direct Vent system is not restricted if the preceding items do not correct the issue. Ensure that the Direct Vent has been maintained per this manual and is spinning fast enough to provide sufficient draft (barometric damper slightly open).
4. A coal fire that is burning way to the back of the grate can be an indication of insufficient or too much draft and must be resolved immediately. Check all items in paragraph 2, if all those items are not the source of the issue, shut the stove down and check the fiberglass gasket that is between the back edge of the grate and feeder body. This gasket will often fall out when the grate is removed and must be replaced if missing. Also check the hopper gasket where it sits on the feeder opening with a flashlight to make sure there is no visible gap between the feeder and hopper.
5. If any of the fans or feeder motor stop operating, plug the directly into a power outlet to verify that the issue is not with the stove wiring or controls. Often a motor will stop operating after the stove is shut down or after a power outage. Cleaning the motor and oiling the bearings (if they are not sealed) will often solve the issue.
6. The thermostat on the Coal-Trol units provides all instruction for the black control box mounted on the feeder enclosure, if the thermostat cable were to fail, the fans and feeder motor might operate erratically or not at all, an easy check is to remove the thermostat from the wall and use a regular Ethernet computer cable to connect the thermostat to the stove, if the problem is resolved the cable connecting the thermostat to the stove is faulty and must be replaced.
7. If the direct vent speed is still too fast at the minimum rheostat setting, there is a tuning screw on the side of the rheostat that can reduce the speed.
8. The direct vent will make a rumbling noise when dirty or in need of lubrication.
9. Refer to APPENDIX C for further trouble shooting information.
10. Also check the website for the latest version of the manual as well as a Troubleshooting guide for the Coal-Trol <https://www.leisurelinestove.com/owners/manuals/>.

FIGURE 4 Recommended Maintenance Intervals

	Daily	Weekly	2-3 Months	Annual/End of Season
Remove Ashes	X			
Fill Hopper	X			
Check Barometric Damper	X	X	X	X
Clean Glass		X	X	X
Clean Stove Exterior		X	X	X
Clean Air Filter Media and Fans		P	X	X
Check Feed Plate		P	X	X
Test CO Interlock Operation			X	X (Replace CO Detector every 10 Years)
Clean/Lube Comb Fan			X	X
Clean/Lube Direct Vent Fan			X	X
Clean Under Grate			P	X
Clean Stove Interior			X (Vacuum Only)	X (full cleaning and scraping)
Check for Rust and Corrosion			X	X
Clean Vent Pipe/Direct Vent			P	X
Check Gaskets			X	X
Check Over-Temp Switch				X

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Coat Stove Interior (WD-40 or equiv.)				X
---------------------------------------	--	--	--	---

NOTE: Intervals marked P, could be required based on coal quantity used, amount of fines in coal, and other factors.

In Season Maintenance

CAUTION: Combustion of Anthracite Coal results in Fly Ash, a fine powdery substance that can cause respiratory irritation. Always wear a dust mask and use a HEPA Filter equipped vacuum for best results.

1. Check any Elbows and horizontal pipe runs for fly ash build up every ton of coal used, clean as needed.
2. Clean under the feed carpet every two or three months.
3. Clean convection fans and filters monthly. While the filter covers are off the fans on the sides of the stove can be run in manual mode to ensure that they all run. The fans on the rear can be observed while the filter media is removed for cleaning and the stove is above idle temperature.
4. Burn oiled coal if possible, this will reduce coal dust in the stove area and therefore reduce maintenance.
5. Unplug combustion fan and clean squirrel cage fins every two months, depending on level of dust in area of stove, may be required more frequently. Lubricate with White Lithium grease in spray can if there are lubrication points.

CAUTION: Door and glass will be hot, wear gloves.

6. Clean glass weekly for maximum coal fire visibility. Ensure the stove is in idle mode by reducing the temperature setting and wait for the stove to cool down. Use door cover to ensure glass is cool before applying cleaning agents. After cleaning, re-apply the 100% silicone spray and wipe off excess.
7. After cleaning glass set temperature back to normal setting.
8. Clear the screen opening on the rain cap from any foreign objects monthly.
9. Oil Direct Vent fan motor every two to three months with white lithium spray grease
10. Depress the test button on the CO Detector/Interlock to verify that the stove power shuts down.

Stove Shut Down and End of Season/Annual Maintenance

CAUTION: Always shut down direct vent and stove at the same time, never run direct vent while there is fire on the grate

1. When supplemental heat is no longer needed the stove should be shut down and allowed to cool down.
2. If needed push fire off grate into ash pan after shutting down unit.
3. After the stove is cool remove all unburned coal from the hopper, and remove the ash pan from the stove.
4. Remove all ash off the grate and vacuum the inside of the stove using a shop vac fitted with a HEPA filter to minimize dust.
5. Brush down all interior surfaces with a stiff nylon brush and vacuum up all loose ash.
6. A wipe down of all stove surfaces using a baking soda and water mixture at the rate of two gallons water to one box baking soda can be helpful, this will neutralize the acidic nature of the coal ash.
7. Clean Direct vent immediately after shut down. The fan impellor should be carefully cleaned and inspected (refer to APPENDIX D for instructions on disassembly). Coat the impellor with WD-40 or other suitable metal protector.
8. Clean and the body of the direct vent by scraping any caked-on fly ash and vacuum thoroughly.
9. Be careful to properly seal all parts upon reassembly with high temperature silicone.
10. Lubricate the direct vent motor and run for an hour or so to prevent the bearings from seizing during the summer.
11. Remove all flue pipes from the stove and chimney/power venter. Take pipes and ash pans outside and wash down thoroughly and dry in the sun. Inspect all vent connections for looseness, evidence of corrosion or leakage. Check the barometric draft control for free movement and re-level it when re-installed for the next burn season.
12. Cover the opening to the outside to block air from entering the house or if Flue Pipe is reinstalled immediately after cleaning, block the flue from inside the stove and leave a conspicuous note as a reminder to remove before lighting stove.
13. Coat the stove, and ash pans with WD-40 or other suitable metal protector (if metal vent pipe is used, coat that also) and store all loose items (flue pipe and ash pans) in a dry location.
14. If the stove is located in a damp location, a drop cord with a 40 watt bulb makes an excellent heat source to keep the stove dry and rust free.

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15. Every third or fourth year the stove should be touched up using high heat paint from Forest Paints (Stove Bright is the brand name, refer to the painting instructions on the Leisure Line web site). The standard color is metallic black, although stoves could be painted with any of the colors available from Forest Paints.

Recommended Spare Parts

1. Generally speaking the motors on your stove are the first items to fail, the feeder motor is the most common failure point and should be purchased as a spare item. Next on the list is the combustion fan which runs 24-7 and is located in one of the dirtiest places on the stove. The next item to keep as a spare would be the convection fans, these generally last in excess of 10 years with proper cleaning. Since there are multiple fans only one need be purchased.
2. Spare fuses for the Coal-trol are a must and should be kept near the black box that attaches to the side of the feeder enclosure for easy access (one is included with the thermostat). In the case of a blown fuse the motors should be individually checked in a power outlet before the fuse is replaced to help determine the cause.
3. Common items such as gasket material, high temp silicone, high heat mortar mix, fire stop rings, fire starter bags, glass, and other commonly replaced parts are listed on the parts list in FIGURE 5. Although the 3 year warranty allows some time to purchase spares (glass is not covered by warranty).
4. Purchase of parts can be accomplished through your local dealer. If you do not have a dealer or your dealer does not stock the parts you can purchase them directly from the factory at suggested retail plus shipping and handling here: <https://leisurelinestove.com/parts-accessories/> . Warranty items will be credited at the time the old part is received and warranty coverage is verified.
5. A Spare Direct Vent Motor Assembly can be purchased to ensure un interrupted operation in the event of a failure, however the direct vent motor assembly should last eight to ten years with proper maintenance.
6. The CO detector should be replaced every ten years, per the manufacturer's instructions.
7. The 4" barometric damper is not a typical failure part, unless mechanical damage occurs due to mishandling or contact.
8. Refer to APPENDIX E for a listing of the major assemblies and part numbers and their location on the stove.

Top Assy. PN	Item PN	Description	Quantity Req'd./Remarks
7529 Ash Door	1500	Bottom Door Gasket, flat 1/8" x 11/16"	5 foot (Use Silicone PN 1504 to attach)
7530 Top Door	1505	Top Door Gasket, flat 1/8" x 5/8"	5 foot (Use Silicone PN 1504 to attach)
7530 Top Door	7604	O Glass with Gasket	1
7530 Top Door	1545	1/4-20 X 3/8" bolts	4
6561 Stove Body	1009	Pioneer Ash Pan	1 (nice to have an extra for when needs emptied)
6561 Stove Body	1901	10 OZ Spray Can Metallic Black High Heat Paint	2 (will paint the whole stove) (use matching paint if custom color)
6561 Stove Body	1283	Fire Stop Ring	1 (usually a every two year replacement)
6561 Stove Body	1284	Starter Bag	10 (Keep at least a couple on hand at all times for power outages)
7319/20 Fan Array	1209	Axial Convection Fan	70/90K 10 per stove/110K 14 per stove
6532 Filter Assembly	1318	Filter Media, cut to size (can be cleaned with Soap & Water)	2 Strips per Stove (a spare set will allow cleaning without shutting stove down)
1118 TS2 BL Thermostat	1101	Thermostat Cord, 25'	1 (handy for trouble shooting and temp use)
1120 Control Module	1109	10 Amp Fuse	1 (one spare comes with the stove, replace if used)
7417 70K Feeder W/Encl.	1227	Feed Motor With Cord	1 (after 5 years or so)
7416 90K Feeder W/Encl.	1227	Feed Motor With Cord	1 (after 5 years or so)
7418 110K Feeder W/ Encl.	1227	Feed Motor With Cord	1 (after 5 years or so)
7417 70K Feeder W/Encl.	7320	Combustion Fan	1 (after 8 years or so)
7416 90K Feeder W/Encl.	7320	Combustion Fan	1 (after 8 years or so)
7418 110K Feeder W/Encl.	7320	Combustion Fan	1 (after 8 years or so)
7417 70K Feeder W/Encl.	1503	Hopper/Feeder Gasket	6' Used on grate as well (self-sticking)
7416 90K Feeder W/Encl.	1503	Hopper/Feeder Gasket	6' Used on grate as well (self-sticking)
7418 110K Feeder W/Encl.	1503	Hopper/Feeder Gasket	6' Used on grate as well (self-sticking)
7109 Direct Vent	1288	Co Detector	1 replace every 10 years
7109 Direct Vent	1345	Direct Vent Motor and Impellor Assembly	1 (after 8 years or so)

FIGURE 5 Common Replacement Parts

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APPENDIX A Stove Packing List

The stove ships with some assemblies installed, refer to the assembly instructions for remaining assembly operations.

Standard items included with each stove:

1. Stove body, wrapped with door cover, burn grate and ash pan inside. Feeder, doors, fan assemblies, direct vent and outer heat jackets come pre-installed. The control module and two rear fans are also installed. The direct vent speed control and 4" barometric damper are also installed.

NOTE: 70/90K BTU models have 4 fans per assembly, and 110K BTU model has 6 fans per assembly.

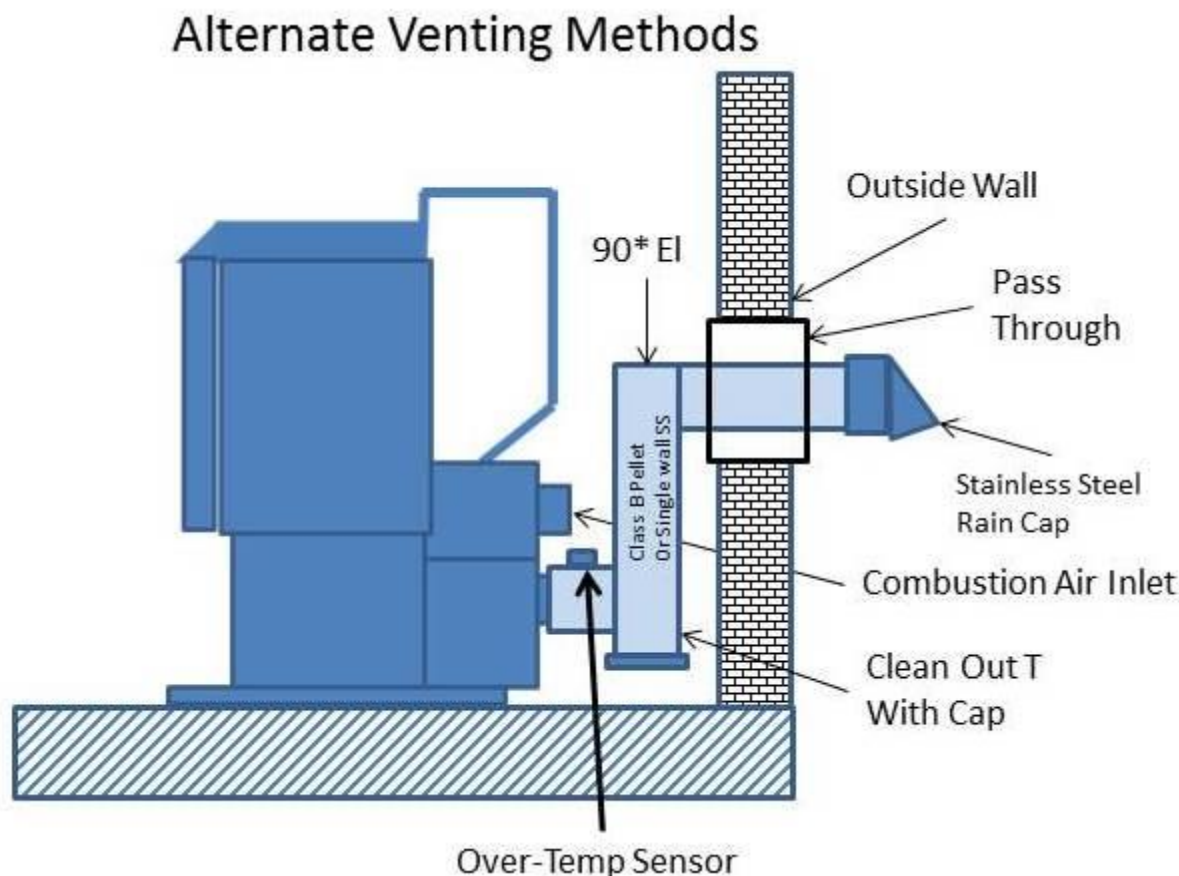
2. Ship Kit Box with glass and gasket, Coal-Trol TS2BL thermostat with 25' cord, stove and Coal-Trol owners' manual, Quick Start Guide, warranty card, brochures, thank you card, CO detector interlock, fire stop ring and starter bag.
3. Box containing hopper and lid.
4. Box containing the filters and filter enclosures (2)

Note: Optional items such as dress up trim and hardware can be purchased after installation to help the stove match the décor in the living space. Contact your dealer or Leisure Line for more information.

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APPENDIX B Alternate Direct Vent Piping Diagram

CAUTION: All joints must be sealed to prevent leaking of flue gas into the living space.
Maintain minimum 8" from rain cap outlet to siding or other exterior surface.



Sources of Information on Class B Pellet Vent and Single Wall SS 4" Pipe:

<https://www.copperfield.com/>

<https://duravent.com/pelletvent-pro/>

<https://www.ameri-vent.com/pellet-vent/pellet-vent>

<https://www.homedepot.com/p/DuraVent-PelletVent-4-in-Stove-Pipe-Kit-4PVL-KHA/100140415>

<https://www.lowes.com/pl/Pellet-stove--Wood-pellet-stove-accessories-Freestanding-stoves-accessories-Fireplaces-stoves-Heating-cooling/4294506746?refinement=4294764315>

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APPENDIX C Trouble Shooting Instructions

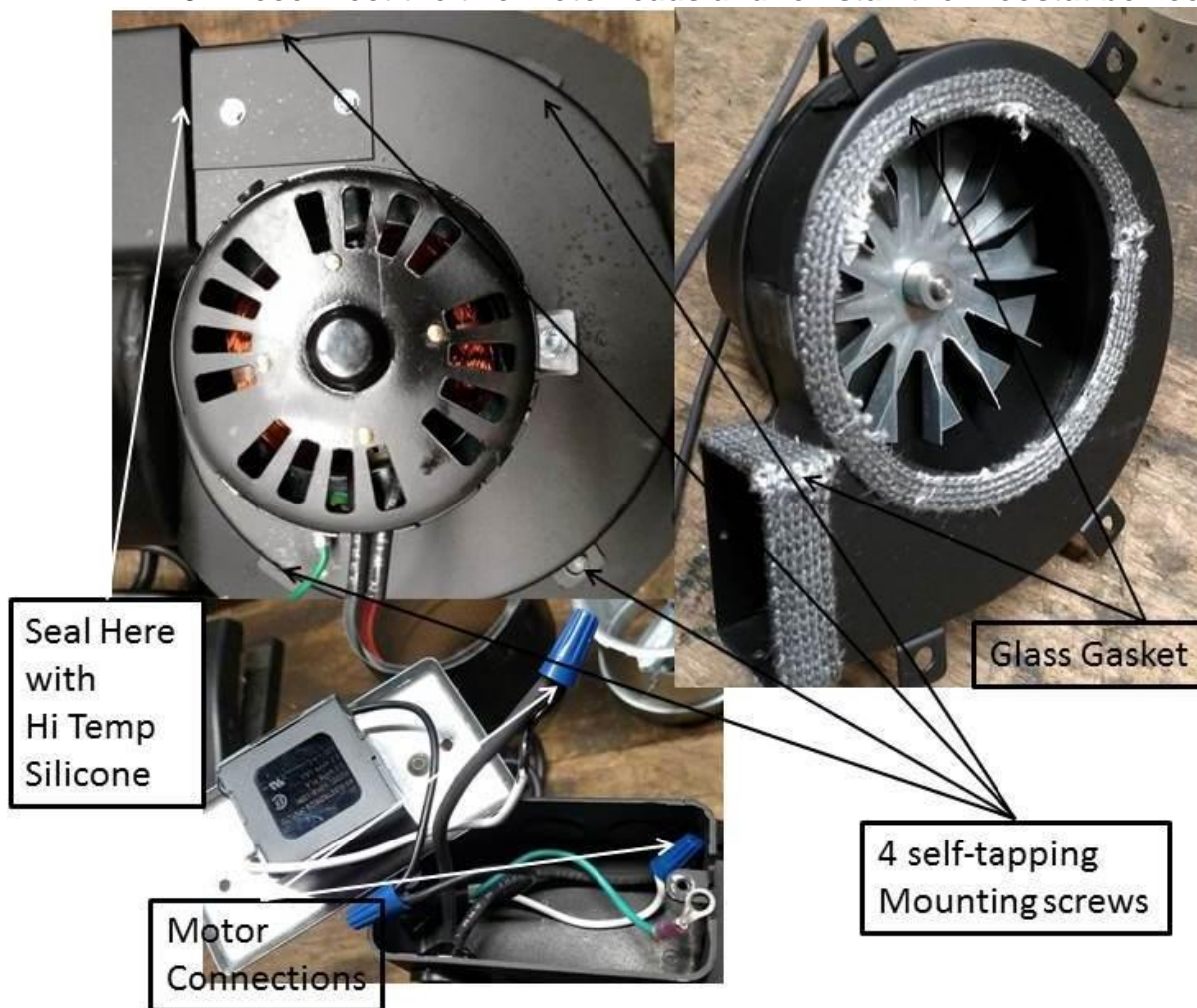
Symptom	Possible Cause	Corrective Action
Sulphur smell, or moisture under hopper lid	Poor Draft	Check for proper opening of barometric damper, adjust Rheostat if not open slightly. Check for fly ash in flue pipe and clean if needed. Direct Vent motor not operating, replace if needed (Ref APPENDIX D). Stove Gaskets Defective, inspect and replace if needed. Vent Pipe leaking, replace or reseal as needed.
No Power Light on Control Module	No Power to Control Module CO Detector/Interlock Tripped or Faulty Fuse is Blown Faulty switch on Control Module	Verify Power switch is on Verify plugged in and green power light is on. (Check power outlet if not on) Press reset if needed. Replace unit if still not working. Verify Fuse is good, Replace if needed. Verify power coming from switch in Control Module, Replace if needed.
Direct Vent Does Not Run	No Power at Unit	Verify plugged in (check power outlet). Lubricate motor, if still not working disassemble and inspect for cleanliness, clean if needed. Replace motor per APPENDIX D if still not working.
Fire Goes Out	Faulty Over-Temp Switch Stoker Mechanism jamming or dragging Hopper outlet clogged or empty Stoker Motor Defective Combustion Blower Defective	Check continuity of Over-Temp Switch if Feeder and Combustion Fan are both not working. Verify hopper outlet not clogged and sufficient coal and feed plate moves freely. Plug stoker and combustion fan into power source and verify operation, replace if needed. Go to TEST on TS2BL thermostat. Verify stoker and combustion fan operation, if not use spare cable to test again. If cable is not the issue replace control module, the least likely cause would be the TS2 BL thermostat.
Stove Not Putting out Enough Heat	Not Enough Combustion Air	Combustion fan is getting slow due to lack of lubrication and/or dirt in impellor. Fines under grate blocking air and or holes in grate plugged, remove and clean under grate.
Fire Burns Back Toward Hopper	Improper Draft Grate Gasket Missing or Out of Place Hopper Gasket Missing or Out of Place	Check for proper opening of barometric damper, Adjust Rheostat. Check for fly ash in flue pipe and clean if needed. Direct Vent motor not operating, replace if needed. Stove Gaskets Defective, inspect and replace if needed.
Red Coals Falling off the Grate into Ash Pan	MAX in TS2 BL set too high Faulty Control Module	Perform steps 16 and 17 in the section titled "Lighting and Operating the Stove". If the stoker motor runs continuously replace the control module.
TS2 BL Thermostat has no Display	No Power to Control Module Cable not connected securely Bad Cable	Verify Power Light is lit on Module. Verify cable is connected securely on both ends. Replace cable and check again. If not the cable most likely is bad module and least likely is bad TS2 BL thermostat.

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APPENDIX D Direct Vent Motor replacement

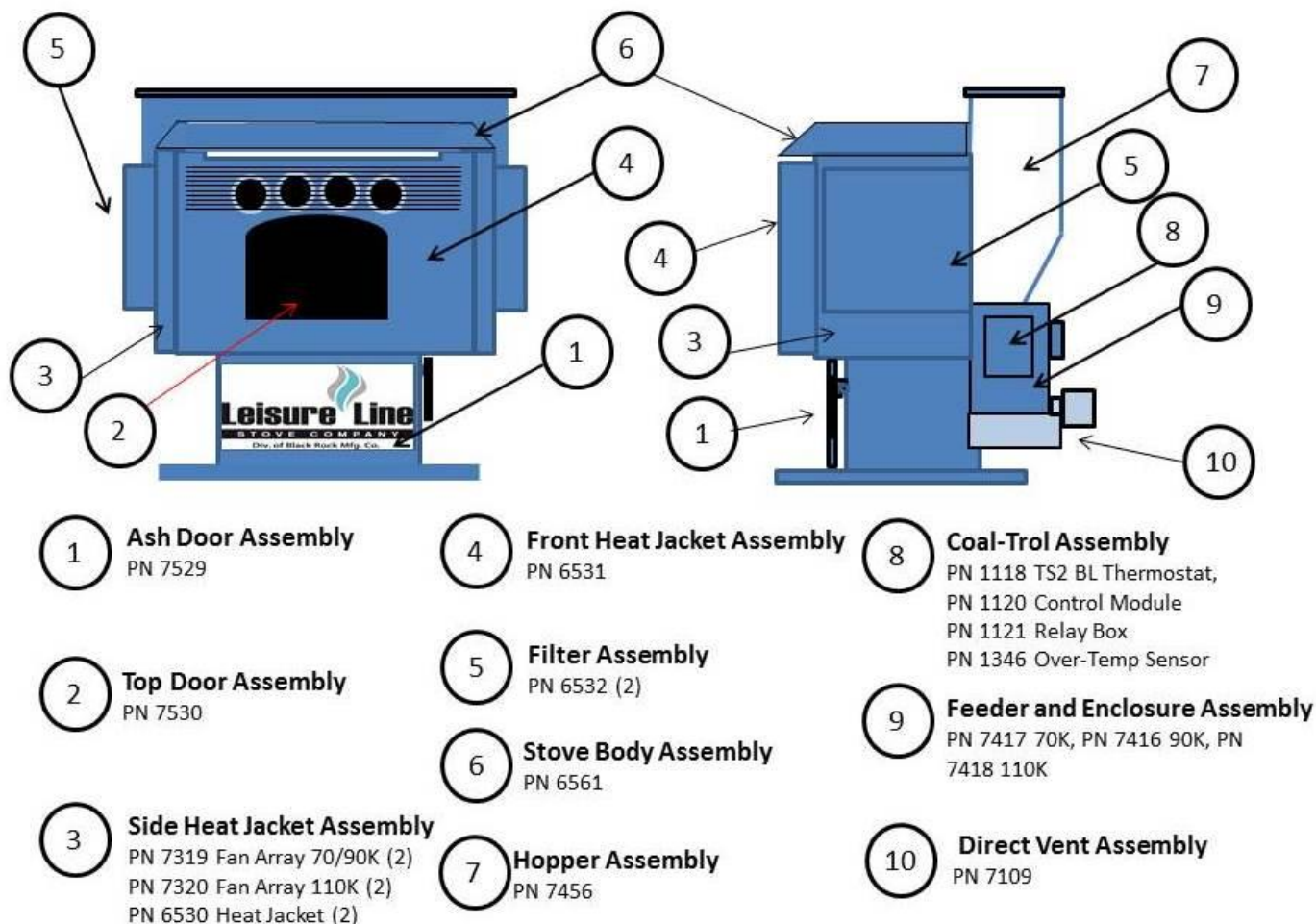
1. Unplug unit and verify stove is not lit.
2. Remove the 4 self-tapping screws that secure the motor to the housing.
3. Remove the cover on the rheostat control box and disconnect the two motor wires.
4. Rotate the direct vent motor assembly clockwise to disconnect it from the housing.
5. Un-box the new motor assembly and verify the extra mounting tab has been bent out of the way or cut off.
6. Verify/Install glass gasket as shown in the picture (cut in half to make it easier to form around the opening). Install full width around the square outlet as shown.
7. Re-install motor by rotating in place counter-clockwise and secure with the 4 self-tapping screws
8. Seal around the square outlet with high temp silicone.
9. Reconnect the two motor leads and reinstall the rheostat box cover.



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APPENDIX E Major Assemblies Diagram and Parts List



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APPENDIX F Warranty

LEISURE LINE STOVE COMPANY LIMITED WARRANTY

The following limited warranty is in effect for the original purchaser while the stove, boiler or furnace is in the original purchaser's possession, ownership, and control. The Leisure Line stoker stove, boiler or furnace you have purchased is warranted by the manufacturer against defects as follows:

Workmanship is warranted Lifetime. The metal body including combustion area of the stove, boiler or furnace is warranted Lifetime. The gear motor is warranted for three (3) years. The hopper and lid are warranted for five (5) years. Fans and rheostats are warranted for three (3) years. Ash containers are warranted for three (3) years. The grate is warranted for five (5) years.

The glass, paint and brass products are not warranted.

The warranty does not apply if damage occurs because of accident, improper handling of operation, shipping damage, abuse, misuse, RUST, or corrosion, or unauthorized repair made or attempted. Warranty applies to parts only and does not cover labor or shipping.

This warranty means that this stove or components will be replaced or repaired at our option. Only stoves or components that prove to be defective will be repaired or replaced. If any part of the unit becomes defective during the warranty period, return the component to dealer, if not available send the component freight prepaid to the factory with proof of purchase.

*** All liability for any consequential damage for breach of any written or implied warranties is disclaimed and excluded herefrom. Some states do not allow the exclusion or limitations of accidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights and you may also have rights which vary from state to state.

This warranty is void if you do not return the attached card within thirty (30) days after the date of purchase, PARTS ONLY, LABOR AND SHIPPING ARE NOT COVERED

*** A term required by Federal Law.

Black Rock Manufacturing Co, DBA Leisure Line Stove Company,
R 620 Broad Street, Berwick PA 18603

Always use a CO Alarm

Name _____

Address _____

City _____ State _____ Zip _____

Where Purchased _____

Selling Price less tax _____ Purchase Date _____

Model: Lil Heater ☐ Sidewinder ☐ Pioneer ☐ Hearth ☐ Pocono ☐ Hyfire ☐

AK110 ☐ WL110 ☐ AK220 ☐ AA220 ☐ All American Heater ☐

(MUST BE MAILED WITHIN 30 DAYS OF PURCHASE)

PLEASE READ THE MANUAL

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APPENDIX G Installation and Maintenance Record

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