

Thank you for Purchasing a Leisure Line Coal Stoker Stove. Proper Care and Maintenance are an important part of getting the most out of your stove

Leisure Line Stove Operations & Maintenance Manual And Safety Instructions

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

<http://www.leisurelinestoves.com>

info@leisurelinestoves.com

Please contact your dealer for any questions

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Hopper lid Moisture is a sign of poor Draft, correct the problem immediately
A chimney or approved power venter is required for safe stoker stove operation***

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Important Warning Statements

Your Stove comes with one Carbon Monoxide Detector, It is recommended that there be one outside each sleeping area and at least one per floor, read your CO manual completely before lighting stove

IMPORTANT: This carbon monoxide alarm is designed to detect carbon monoxide from ANY source of combustion. It is NOT designed to detect smoke, fire, or any other gas. 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.

General Carbon Monoxide Information

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 this 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.

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 immediately!

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Warning!!

Improper installation, adjustments, alterations, service, or maintenance of your Leisure Line Stove or Power Venter can cause property damage, personal injury or loss of life. Stoves are designed for burning Anthracite Coal only, Rice or Buckwheat size.

Installation and service must 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.

UL ratings on all Leisure Line stoves and Power Venters are dependent on sufficient clearance as defined on the label on the rear of your stove and in this manual.

All stoves must utilize a Barometric Draft Control such as the Field Controls Type RC Barometric Damper, the weights should be adjusted to obtain a -.03" to -.05" water column negative pressure in the flue pipe at the stove outlet.

Utilize a magnetic thermometer to ensure that stove body temperature does not exceed 500* F.

All Leisure Line Stoves are Designed as supplemental heat sources only and should not be used as a replacement for your primary heating unit (s).

Assembly Instructions

1. Open/Unpack all boxes, unwrap stove and remove all contents from inside stove.
2. Check for all parts for your particular stove model per the packing list in Appendix A.
3. Tools needed are: a 7/16" combination wrench, a 7/16" deep wall socket with 1/4" drive ratchet (this item makes the job easier but is not absolutely requires), a 5/16" nut driver or socket for the 1/4" drive ratchet, a small torpedo level or short carpenters level, and a 3/8" combination wrench is needed for Hearth Stove Assembly.
4. Locate the convection blower in the items shipped with the stove, the following table shows the corresponding fan for each stove model:

<i>Stove Model</i>	<i>Fan Type</i>	<i>Location</i>	<i>Quantity</i>
Econo	110 CFM	In Hopper	one
Lil'Heater/Sidewinder	265 CFM	Rear Right	one
Hearth	212 CFM, double blower	Rear Bottom	one
Pioneer TV & BV	265 CFM	Rear Right	one
Pocono	265 CFM	Rear Left/Right	two
Hyfire II	265 CFM	Rear Left/Right	two

5. Install the fan (s) by removing the hardware that is already in place for the particular mounting location. For the hearth stove ensure that the rubber grommets are in place before tightening nuts.

TIP: IF THE FAN VIBRATES OR MAKES EXCESSIVE NOISE IT CAN BE QUIETED DOWN BY PLACING SOME FIBERGLASS STOVE GASKET ON THE MOUNTING SURFACE BETWEEN THE STOVE BODY AND FAN FLANGE.

6. Remove the four 1/4" feeder mounting bolts (7/16" Head) from the rear of the stove and place the feeder over the opening and line up the bolt holes. The gasket material may need to be pushed away from the holes. Install the bolts and tighten snug but not overly tight.

TIP: USE Permatex 81343 ANTI SEIZE COMPOUND ON ALL THREADED FASTENERS FOR EASIER REMOVAL LATER .

7. Locate the 1/4" X 5/8" white fiberglass gasket material in the Ship Kit box and install around the hopper opening where it will contact the feeder. This prevents any rattling or vibration in the hopper assembly and seals any small pieces of coal into the hopper.
8. 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

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hopper all are inside the feeder opening. Re-install and tighten the two hopper mounting bolts with washers.

NOTE: If your stove is equipped with the Coal-Trol automatic control unit proceed with step i., if not proceed to step j. for installation of the manual control box.

9. Locate the Coal-Trol black relay/control unit in the Ship Kit Box and mount on the hopper using the pre-punched holes, tighten the nuts. The unit can be mounted on either side of the Hopper back, there are holes punched.
10. Instructions for manual control installation, locate the rheostat control box and mount it to the hopper using the pre-punched holes, tighten the nuts. Connect the red cord to the feeder motor and the blue cord to the combustion fan (cords are identified by tiewraps of the indicated color). If your stove is an Econo or Sidewinder the fan is in the hopper and is already connected internally, if not connect the yellow cord to the convection fan.
11. Remove the glass clips and 1/4" bolts from the inside of the top door assembly. 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 in the door opening using the clips and bolts previously removed.
12. Install both doors onto the stove using the pins that are taped in the hinge tab on each door
13. Install the spring handles on the doors
14. Place the stove in its final resting place and connect flue pipe and barometric damper to chimney or Power Vent (refer to Power Vent Instruction manual for mounting and safety switch installation). Use 6" black 24 gauge pipe with the crimp inserted in stove flue outlet.
15. Using the torpedo or carpenters short level check the bottom edges of the stove to ensure it is level, if not adjust the feet (Lil' Heater only) or shim under the appropriate leg using non-combustible material.
16. If stove is mounted in a mobile home it must be secured to a non-combustible floor. A fresh air supply must be brought into the burner unit. Proper clearances must be held. Refer to local codes for detailed requirements.

Stove Pre-Operation Instruction

1. Verify that all cords to the feeder, combustion fan and convection fans are connected, verify that the green cord is not used.
2. Using a level ensure that the barometric damper pivot is level and that the weight is located appropriate to the flue pipe orientation and is lined up with the 4 on the sliding scale. If your barometric damper does not have a value on the scale you must use a draft gauge to adjust the weight for proper draft.
3. Verify that the chimney has been inspected by a professional and is clean and free of damage.
4. Install the thermostat for your Coal-Trol at least 10 feet from the stove and on a wall not adjacent to the stove. Ensure that both ends are connected
5. Plug in the power cord and set the thermostat two degrees below the room temperature. Read the Automation Correct thermostat manual thoroughly before proceeding with lighting the stove.
6. Familiarize yourself with the menus and settings on the thermostat by going through each to see how the display responds to input.
7. Place the fire stop ring on the grate and fill the hopper with coal after all thermostat familiarization activities are complete.

Stove Concept of Operation and General Information

1. A Leisure Line Coal Stoker stove is not designed to replace your primary heating unit. Ensure that your primary heating unit is in good repair before lighting your placing your stove into operation. Burn only Rice or Buckwheat size Anthracite Coal.
2. The convection fan (s) 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

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attracts cooler air to the fan inlet. The convection fan speed is controlled automatically by the out put from the thermostat to the black box attached to the hopper. For manually controlled stoves fan speed is controlled by the relay box attached to the hopper.

3. The combustion fan mounted under the feeder motor is run at full speed all the time regardless whether the stove has automatic or manual control. If combustion fan is equipped with inlet cover as shown below, make sure it is at least half open/ During Spring and Fall it may necessary to partially close the inlet cover is moisture is evident in hopper lid.



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Stove Concept of Operation and General Information, contd.

4. The feeder motor is run on a timer by output from the thermostat to the black box attached to the hopper. A timer runs the stoker motor a certain number of seconds depending on heat demand and thermostat set point. For manually controlled stoves the stoker runs 100% of the time and coal feed is adjusted by way of an adjustment screw on the back of the feeder. Stoves controlled by the Coal-Trol Thermostat do not have an adjustment screw.
5. Generally speaking your stove is capable of heating the entire house if properly sized, however getting heat from one room to another may require the use of fans or other means to initiate air movement. For details on how to get the heat to move consult your dealer. The Hot Air Jacket Installation manual found in Appendix B contains some useful information with regards to utilizing your hot air furnace to help move hot air generated by the stove.

Lighting the Stove

1. Place a fire starter bag on the grate and move the coal aside so it contacts the air holes, cover it partially with coal
2. If stove is vented by a power vent, switch the unit on and adjust the rheostat until the barometric damper is opening slightly.
3. If stove is manually controlled proceed to step 4., if automatically controlled using a Coal-Trol proceed to step 5.
4. Plug rheostat box into a wall outlet and turn the convection fan rheostat to low speed, adjust feed screw to all the way out (minimum coal feed). Light the starter bag and close the door, after four minutes throw a handful of coal onto the flames using a small shovel if there is exposed starter bag visible.
5. Turn on the power switch on the Coal-Trol black box attached to the hopper. Ensure that the thermostat set point is 2* F below the room temp. Check feed rate (FR) if above 20 unplug the red cord. Light the starter bag and close the door, after four minutes throw a handful of coal onto the flames using a small shovel if there is exposed starter bag visible.
6. After ash is visible at the end of the grate remove the starter ring by knocking it into the ash pan with the shovel (when the ash bucket is emptied, remember to remove the fire stop ring for future use). Plug in the red cord if it was unplugged and observe the FR to see if the process is stable (FR will be 0).

NOTE: The following steps are for Coal-Trol set up only for manual stove operation simply adjusts the feed rate and fan speed to receive the desired heat level from your stove.

7. Depress the menu button until setup is displayed and the release and depress the menu button until min is displayed. Operate the stove with min displayed for at least 30 minutes until the fire is as small as it is going to get, adjust MIN as required to obtain a 1/2" fire all the way across the grate.
8. Depress the menu button one more time, MAX should be displayed, operate the stove on max for one hour or until the fire gets as big as it is going to get, adjust the value 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 is in its top level menu and displays the setback times and values.
9. It is not recommended to set the thermostat for difference between day and night settings for more than 2-3°F because large overruns in temperature may be induced by the design of the control, likewise if a higher temperature is desired, it will work much better to increase the set point 2°F at a time until the desired temperature is reached.

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In Season Maintenance

1. Check 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 fans and inlet screens monthly.
4. Oil fan motors every two months or so with 1 drop of 0W5 synthetic oil.
5. Burn oiled coal if possible, this will reduce coal dust in the stove area and therefore reduce maintenance.
6. Unplug fans and clean squirrel cage fins every two months, depending on level of dust in area of stove, may be required more frequently.
7. Refer to Power Vent manual for cleaning and maintenance instructions.
8. Clean glass daily for maximum coal fire visibility, use door cover to ensure glass is cool before applying cleaning agents.

Resolution of Common Problems

1. 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.
2. 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 chimney is not restricted if the preceding items do not correct the issue. If the stove is on a power vent ensure that the unit has been maintained per the manual and is spinning fast enough to provide sufficient draft.
3. A coal fire that is burning way to the back of the grate is 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.
4. 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 even after a power outage, cleaning the motor and oiling the bearings will often solve the issue.
5. The thermostat on the Coal-Trol units provides all instruction for the black box mounted on the hopper, 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.

Stove Shut Down and End of Season Maintenance

1. When supplemental heat is no longer needed the stove should be shut down and allowed to cool down. After the stove is cool remove all unburned coal from the hopper, and remove the ash pan from the stove. 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. Brush down all interior surfaces with a stiff nylon brush and vacuum up all loose ash. 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, this will help neutralize the acidic nature of the coal ash.

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2. Remove all flue pipes from the stove and chimney/power venter. Take pipes and ash pans outside and wash down thoroughly and dry in this sun.

Stove Shut Down and End of Season Maintenance, contd.

3. Cover the opening to the chimney and block air from entering the house. If a power vent is used remove the motor and block the opening.
4. Coat the stove, ash pans, and all flue pipe with WD-40 or other suitable metal protector and store all loose items (flue pipe and ash pans) in a dry location.
5. 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.
6. Every third or fourth year the stove should be touched up using high heat paint from Forest Paints (Stove Bright is the brand name). 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 fan, these generally last in excess of 5 years with proper cleaning and oiling.
2. Spare fuses for the Coal-trol are a must and should be kept near the black box that attaches to the hopper for easy access. 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. Purchase of these parts can be accomplished through your local dealer. If you do not have a dealer near by or your dealer does not stock the parts you can purchase them directly from the factory at suggested retail plus shipping and handling. Warranty items will be credited at the time the old part is received and warranty coverage is verified.

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APPENDIX A Stove Packing List

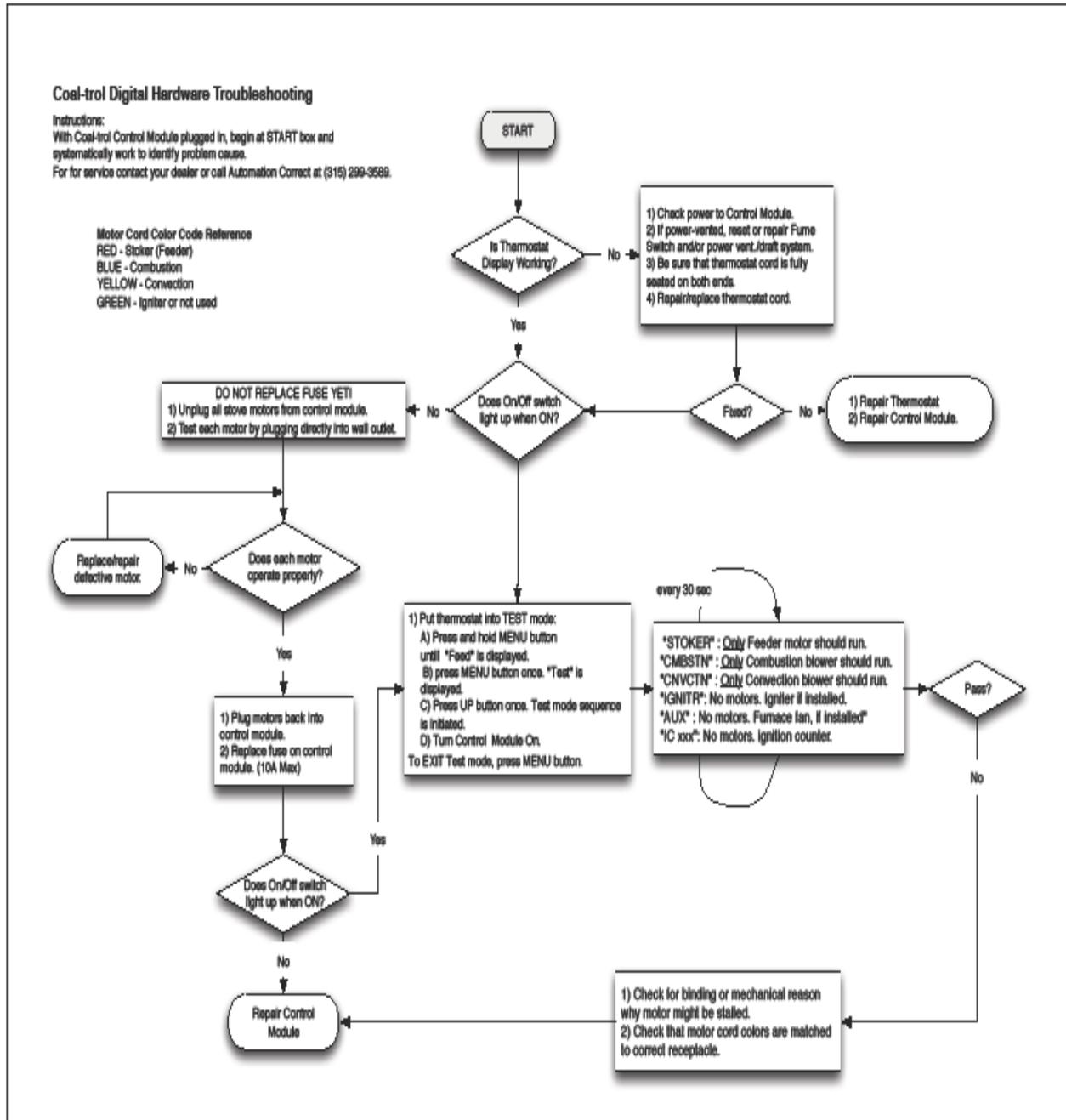
Stove Model	Items in Stove	Remarks	Feeder	Items in shipment
Econo	Ash Pan, Doors	Discontinued Model Fan Mounted and ships in Hopper	70 K	Stove, Hopper, Feeder, Ship Kit, Thermostat Box
Lil' Heater, Sidewinder	Ash Pan, Doors		70 K	Stove, Hopper, Fan, Feeder, Ship Kit, Thermostat Box
Hearth	Ash Pan, Doors, Brass for Hopper, Brass for stove e Motor Cover, Door Cover	Fan and other items shi inside stove	90 K with motor cover	Stove, Hopper, Feeder, Ship Kit, Thermostat Box
Pioneer	Ash Pan, Doors, Brass for vent flue pipe, Door Cover	Fan ships outside stove	90 K with motor cover	Stove, Hopper, Feeder, Ship Kit, Thermostat Box
Pocono	Ash Pan and Doors	Fans ship outside stove	110 K	Stove, Hopper, Feeder, Two Fans, Ship Kit, Thermostat Box
Hyfire	Ash Pan and Doors	Fans ship outside stove	Double 90K	Stove, Hopper, Feeder, Two Fans, Ship Kit, Thermostat Box

Note: Ship Kits have packing list enclosed for further detail of contents. Pioneer and Hearth only include door cover/ash pan cover. It is optional for other units. Stoves that ship with no Coal-Trol come with feeder that has adjustable feeder carpet and rheostat box for convection fan speed control.

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Coal-Trol Trouble Shooting Guide



For questions dealer cannot answer please call Leisure Line Stove Co 570-752-1811
Or questions or warranty on Coal Trol Thermostat Automation Correct 315-299-3589

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