

STOVE MAINTENANCE

By far the most important factor in obtaining cost-effective, efficient, reliable heat from your pellet-burning appliance is performing regularly scheduled routine maintenance on your stove. The cleaner you keep the appliance, the better it will perform. Burning wood pellets is an inexpensive way to provide supplemental heat to your home, however, burning any wood product requires regular maintenance of the heating appliance. The trade-off of having an inexpensive, renewable energy heat source in your home, is taking what amounts to a few hours a month to maintain the integrity of the heat source by performing specific cleaning tasks.

Daily and/or Bi-weekly Stove Maintenance

- Shut down stove and let it cool a minimum of 60 minutes.
- Once stove has cooled for 60 minutes, toggle the on/off toggle switch to the off position.
- Unplug the power cord from the back of the stove.

Clean Heat Exchanger Tubes (daily, if possible or at a minimum bi-weekly - every 6 to 9 bags of pellets)

- Open Heat Exchanger door above Burn Chamber door to expose the heat exchanger tubes and heat exchanger scraper rod (leave Burn Chamber door closed, Figure 8).



Figure 7



Figure 8

- Cautiously confirm that heat exchanger scraper rod is cool (Figure 9).



Figure 9

- Grasp heat exchanger scraper rod and move rod up and down to clean deposits from the outside of the heat exchanger tubes. Use of both hands will enable full even strokes to clean deposits from the entire length of the heat exchanger tubes (full stroke length approximately 5.25”).

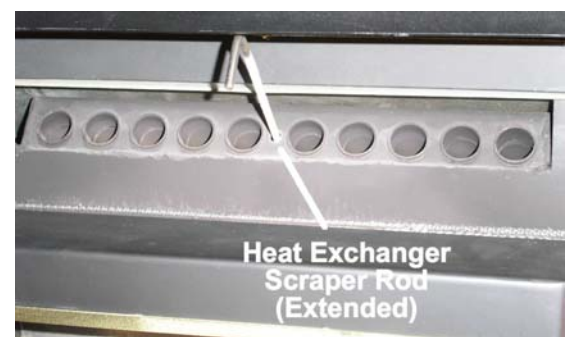


Figure 10

- If the scraper becomes stuck while cleaning the heat exchanger tubes, gently wiggle the rod left and right while putting moderate upward or

downward pressure on the rod (use of channel locks on the rod may be required if the scraper becomes securely lodged). If daily cleaning of the heat exchanger tubes is not done, eventually the heat exchanger tubes will become encrusted with deposits, not enabling the tubes to be cleaned at all. Deposits accumulated on the heat exchanger tubes will result in less efficient transfer of heat from the burn chamber to the home.

- ❖ **NOTE:** If the heat exchanger tubes are not cleaned on a regular basis by following the above-identified procedure, eventually deposits will build-up to the point that the scraper rod and attached scraper will not move. All heat exchanger scrapers and scraper rods are checked at the factory before shipment to confirm functionality. Repair of an immovable heat exchanger scraper rod is cost prohibitive. This repair is not covered under warranty.

Inspect burn pot for clinkers/air obstructions (Bi-weekly or every 6 to 9 bags of pellets)

- Vacuum or brush off any accumulation of ash from the artificial log.
- Confirm that log is cool.
- Remove log from front of burn box by grasping log on the sides and lifting straight up.
- Look inside burn pot (Figure 11) to check for any accumulation of ash or clinkers. A clinker is a hard ash formation that can be created when the ash present in the burn pot begins to melt.



Figure 11

- Use of a mirror and flashlight will allow for close inspection inside the burn pot area.
- Confirm that the burn pot area is cool (room temperature).
- Using a screwdriver (or spoon) to reach inside the burn pot, gently dislodge and remove any clinkers that may have formed inside the burn pot.
- There are air intake holes on the bottom front side and back side of the burn pot, these holes must be clear of obstructions for an efficient burn. Clear away any build up of carbon and/or ash by scraping the bottom front inside of the burn pot with a trowel, paint scraper or spoon.
- Once any clinkers have been removed from the burn pot and the front inside burn pot air intake holes are clear, re-inspect the burn pot for ash accumulation. Remove any ash that has accumulated with a Cheetah Ash Vacuum or any alternate vacuum with sufficient filtering to avoid putting ash inside your home. If you do not have a vacuum with sufficient filtering using a narrow, firm bristle, nylon brush, brush any ash that has accumulated in the burn pot through the burn grate holes to beneath the burn grate.
- Check the burn grate (located at the bottom of the burn pot, viewed with mirror and flashlight as demonstrated above) for any blocked holes.

- If any holes in the burn grate have ash or carbon build-up restricting airflow, scrape the burn grate clean of ash and/or carbon deposits with a screwdriver, narrow trowel, narrow paint scraper or spoon using care to not touch the cartridge heater/igniter. After clearing any obstructed burn grate holes, vacuum the burn pot area again (or brush the burn grate with a narrow, firm bristle, nylon brush).

Clean Door Glass (As Needed)

- Clean glass by wiping with a clean dry soft cloth.
- If glass is soiled such that it cannot be cleaned with a dry cloth, use of gas appliance glass cleaner is suggested.
- Close burn chamber and heat exchanger door.

Once the identified daily maintenance procedures have been completed, reinstall the power cord into the back of the stove, turn the power switch to the on position and resume normal stove operation.

Weekly Stove Maintenance

In addition to the Bi-Weekly Stove Maintenance procedures, perform the following procedures once a week (or every 10 to 15 bags of pellets).

- Shut down stove and let it cool a minimum of 60 minutes.
- Once stove has cooled for 60 minutes, toggle the on/off toggle switch to the off position.

Clean Burn Pot, Burn Grate, Burn Box, Burn Chamber (Weekly or every 10 to 15 bags of pellets)

- Open Burn chamber door.
- Using a small brush, brush any accumulation of ash inside the burn chamber (Figure 12) into the ash pan/drawer. If preferred, vacuum any

accumulation of ash from the burn chamber using a Cheetah Ash Vacuum or alternate vacuum with sufficient filtering to avoid putting ash inside your home.



Figure 12

- Vacuum or brush off any accumulation of ash from the artificial log.
- Confirm that log is cool.
- Remove log from front of burn box by grasping log on the sides and lifting straight up.
- Confirm that burn pot area is cool.
- Vacuum the burn pot area thoroughly.
- Remove the wing nut at the front of the burn pot (use of pliers may be necessary).



Figure 13

- Lift the front of the burn pot up, remove the burn pot from the burn box.
- Once the burn pot is removed from the burn box, thoroughly clean it using a firm bristle wire or nylon brush taking care to ensure that all burn pot holes are clear of obstruction.

- Locate the burn grate jog switch (Figure 14) found on the right side of the stove, just below the right side panel (switch is located on the bottom lip of the stove frame, pointing downward).



Figure 14

- Depress the switch to move the grate and grate rod (power cord must be plugged in but the stove power should be turned off).
- When the grate jog switch is depressed, the circulation blower will turn on and you will see the grate rod (which extends through the front of the burn box) slowly moving.
- The grate rod will move forward and back while the grate jog switch remains depressed.
- Looking inside the burn box, keep the switch depressed until the grate and grate rod are both in their forward most position.
- When the grate is in its forward most position, release the grate jog switch to stop the movement of the grate.
- Reach inside the burn box and remove the grate by lifting it straight up.
- Thoroughly clean the grate using a firm bristle wire or nylon brush taking care to ensure that all grate holes are clear of obstruction.
- Thoroughly vacuum the inside of the burn box (Figure 15).



Figure 15

- Vacuum all ash from the two air combustion channels that extend directly back from the burn box (Figure 16).



Figure 16

- Vacuum any ash that may have accumulated inside the front edge of the igniter tube.
- Put the burn grate back into the burn box by placing the grate on the stay clean grate rod, straddling it over the stay clean grate rod spacer.
- Put the burn pot back into the burn box by placing the top rear upper edge of the burn pot under the small tabs located near the top rear edge of the burn box.
- Once the back of the burn pot is located under the burn box retention tabs, rotate the front of the burn pot downward to seat it in the burn box.
- While pushing the front of the burn pot downward and pushing the back angled surface of the burn pot toward

the rear of the stove reinstall the wing nut to secure the burn pot in place.

- Inspect the burn pot installation to ensure that there is not a gap between the back top edge of the burn pot and the burn box (Figure 17). The rear upper edge of the burn pot should be snug against the back of the burn box. If it appears that there is a gap, loosen the wing nut and attempt reinstallation of the burn pot. A gap between the back of the burn pot and burn box will have a slight adverse effect on the efficiency of the stove.



Figure 17

- Install Log
 - Place front lower edge of log in the log retention slots at the front of the burn box.
 - Drop log into burn box slots until they bottom out.
- Close burn chamber door.
- Resume normal stove operation.

Clean Door Airwash - Top and Bottom (weekly or every 10 to 15 bags)

- Open the door to the burn chamber.
- Using a narrow, firm bristle, nylon brush, clean along the glass along both the top and bottom metal guarding (the entire length of all three pieces of glass, Figures 18 and 19).



Figure 18

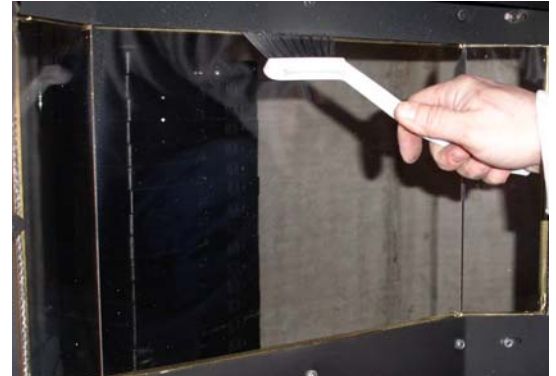


Figure 19

- Vacuum along the same length of glass, both top and bottom to remove any ash or other deposits that have been brushed loose along the length of glass (Figures 20 and 21).

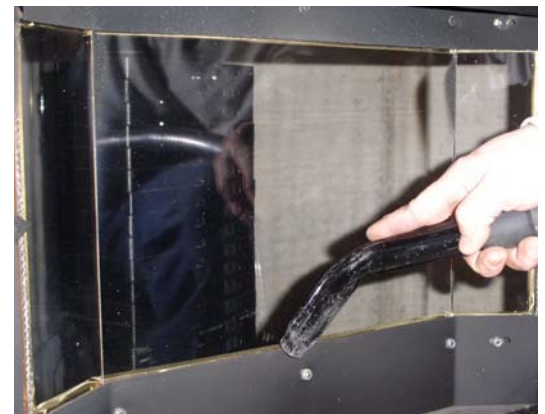


Figure 20

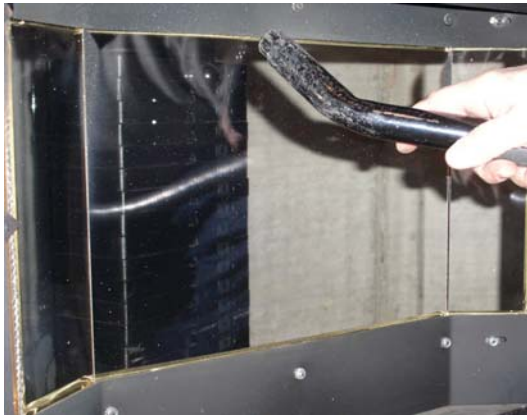


Figure 21

- The gap along the top and bottom of the glass is called the airwash. Air enters the burn chamber along this length of glass, washes along the inner surface of the glass and helps keep the glass clean during stove operation. Not cleaning the airwash on a weekly basis may cause your glass to become prematurely soiled.

Once the identified weekly maintenance procedures have been completed, reinstall the power cord into the back of the stove, turn the power switch to the on position and resume normal stove operation.

Semi-Weekly Stove Maintenance

In addition to the Bi-weekly and Weekly Stove Maintenance procedures, perform the following procedure once every other week (or every 20 to 30 bags of pellets).

Ash Trap Cleanout (Weekly or every 10 to 15 bags)

- There are ash trap compartments located behind the burn chamber, which trap and prevent excess ash from exiting the stove.
- There are two ash trap clean out doors located on the right and left side of the stove (Figure 22), below the fire brick which enable you to clean accumulated ash from the ash trap

compartments located behind the burn chamber.



Figure 22



Figure 23

- Using a 5/16" nutdriver or socket extension remove the ash trap cleanout doors (Figure 23).
- Using a trowel, pull any accumulated ash from behind the ash trap doors forward to drop into the ash pan or vacuum any ash that has accumulated behind the ash trap doors with a Cheetah Ash Vacuum or any alternate vacuum with sufficient filtering to avoid putting ash inside your home.
- After all ash has been removed from behind the ash trap cleanout doors, reinstall the cleanout doors using a 5/16" nutdriver or socket extension.
- ❖ Ash trap door cleanout may not be required every week or 10 to 15 bags depending on various factors. We suggest cleaning out behind the ash trap doors weekly until you can get a feel for the required cleaning frequency. Ash trap doors should be cleaned before the cavities behind the ash trap doors become full. The picture on the right above shows the ash trap doors 2/3 to 3/4 full, which is an appropriate time to clean them out.

Monthly Stove Maintenance

In addition to the Bi-weekly, Weekly and Semi-Weekly Stove Maintenance procedures, perform the following procedure once a month (or every 40 to 50 bags of pellets).

- Shut down stove and let it cool a minimum of 60 minutes.
- Once stove has cooled for 60 minutes, toggle the on/off toggle switch to the off position.

Empty ash pan/drawer (Monthly or every 40 to 50 bags)

- Using a 7/32" Allen head wrench remove the two Allen head bolts that hold the ash pan/drawer in place (Figure 24).



Figure 24

- After the Allen head bolts have been removed, pull the ash pan straight back from the stove to remove it.
- Dispose of the ashes from the ash pan/drawer in a fireproof container.
- Vacuum the inside of the ash pan/drawer area (the space that the ash pan was just removed from).
- Before reinstalling the ash pan, check the gasket on the inside of the ash pan/drawer to confirm that it is securely in place.
- To reinstall the ash pan simply slide the pan back into the stove pedestal and reinstall the 7/32" Allen head bolts.
- Snug the ash pan in place taking care to not over tighten the bolts and deform the sides of the ash pan cover, this may result in an improper seal of the ash pan which in turn can lead to less than optimum burn conditions.

Check Air Intake (Monthly or every 40 to 50 bags)

- Inspect air intake to be sure that it is free of any obstructions.

Semi-Annual Maintenance Procedure

In addition to the Bi-weekly, Weekly and Monthly Stove Maintenance procedures, perform the following procedure twice a heating season (or once every 50 to 75bags of pellets).

Inspect and Clean Exhaust Vent System (Every 50 to 75 bags, 1 to 1½ tons of pellets)

- Twice a season (or every 50 to 75 bags, 1 to 1½ tons) it is necessary to inspect and clean all exhaust vent piping.
 - To loosen and dislodge any ash that has accumulated in the vent pipe, tap lightly along all vertical lengths of pipe.
 - Open and remove the bottom of all "T"s in your exhaust vent system to remove any accumulated ash.
 - Entering the exhaust pipe from the bottom of all "T"s in your exhaust system, vacuum as much ash out of all exhaust pipe as can be reached with a vacuum.
 - Reinstall the bottom of any "T"s that have been removed, using aluminum tape to seal all "T" end caps.
 - Go to the exit end of the exhaust system (where it vents outside the home) and remove the end cap.
 - Vacuum as much ash out of the exhaust pipe as can be reached with a vacuum.
 - Reinstall the end cap on the pipe.
- ❖ ***Improper or neglected cleaning of exhaust system can lead to less than optimum performance, premature component failure and can be EXTREMELY DANGEROUS.***

Annual Stove Maintenance

- ❖ *Before firing the stove for the first time each heating season, perform all of the above maintenance/cleaning procedures; in addition, perform the following two simple maintenance procedures.*

NOTE: It is extremely important to thoroughly inspect and clean the exhaust system prior to the beginning of the each heating season.

This must be done to both clean any accumulated ash and/or soot that may have accumulated, but also to confirm that it is free of any obstructions, such as bird or rodent nests which will have a significant detrimental effect on the performance of the appliance.

- Shut down stove and let it cool a minimum of 60 minutes.
- Once stove has cooled for 60 minutes, toggle the on/off toggle switch to the off position.
- Unplug the power cord from the back of the stove (as identified in the Daily Stove Maintenance procedure above)

Oil Circulation Blower

- Remove Right Side Panel
 - Loosen the two screws (if your side panel is slotted) or remove the two screws (if your side panel has holes) at the back of the right side panel of the stove (right as you are looking at the stove from the front) that hold the right side panel in place.
 - Open the burn chamber door and heat exchanger door.
 - Pull the back of the right side panel away from the stove 1" to 2".
 - Push forward on the side panel (toward the front of the stove) to free it from the stove; you may need to "bump" the side panel forward with the palm of your hand to free it.
- Locate the oil port on the circulation blower (Figure 25)



Figure 25

- Place two drops of oil into the oil port on the circulation blower
- Reinstall Right Side Panel
 - Open the burn chamber and heat exchanger doors.
 - Holding the rear of the side panel 1" to 2" away from the side of the stove, position the front of the panel around the door latch.
 - Keeping the rear of the side panel 1 to 2" away from the side panel of the stove, slide the panel forward until the inner front surface of the side panel bottoms out against the outer surface of the stove.
 - Holding the front of the panel flush against the side of the stove, slide the panel toward the rear of the stove. The front of the panel has two slots, which will catch behind Phillips head screws mounted on the side of the stove (one near the top, one near the bottom) to hold the front of the panel in place.
 - After the front of the panel is secured behind the two Phillips head screws, push the back lip of the panel around the back of the stove.
 - Reattach the back of the side panel to the stove using two screws mounted through either holes or slots on the back of the side panel.

Oil Exhaust Blower

- Remove Left Side Panel
 - Loosen the two screws (if your side panel is slotted) or remove the two screws (if your side panel has holes) at the back of the left side panel of the stove (left as you are looking at the stove from the front) that hold the left side panel in place.
 - Open the burn chamber door and heat exchanger door about half way (45 degrees).
 - Pull the back of the left side panel away from the stove 1" to 2".
 - Push forward on the side panel (toward the front of the stove) to free it from the stove; you may need to "bump" the side panel forward with the palm of your hand to free it.
- Locate the oil port on exhaust blower (figure 26).



Figure 26

- Put two drops of oil into oil port on the exhaust blower.
- Reinstall left side panel.
 - Open the burn chamber and heat exchanger doors to approximately 45 degrees.

- Holding the side panel with two hands, align the front of the side panel so it fits around the hinges of both doors.
 - Moving the front of the panel as far forward as possible (front of panel just behind the end of the burn chamber and heat exchanger doors) push the front of the panel flush against the side of the stove.
 - Holding the front of the panel flush against the side of the stove, slide the panel toward the rear of the stove. The front of the panel has two slots, which will catch behind Phillips head screws mounted on the side of the stove (one near the top, one near the bottom) to hold the front of the panel in place.
 - After the front of the panel is secured behind the two Phillips head screws, push the back lip of the panel around the back of the stove.
 - Reattach the back of the side panel to the stove using two screws mounted through either holes or slots on the back of the side panel.
- After the stove has been fully reassembled, reattach the power cord
 - Toggle the power switch to the "On" position to turn the power on and immediately hold the set button and low buttons down to lower the set temperature of the stove. Lower the set temperature to the lowest available setting, 50F.
 - The exhaust blower will turn on and run for 30 minutes. This 30 minutes of run time will give the oil applied to the exhaust motor sufficient time to thoroughly lubricate the exhaust motor.
 - After 30 minutes the exhaust blower will turn off.

Resume normal stove operation.