

# How to Clean the Harman PF100 Furnace



Here are step-by-step instructions for cleaning your Harman PF100 Pellet Furnace. These instructions are to be used in conjunction with the **owner's manual** that came with your furnace. If you have any questions about the procedure please don't hesitate to call your local authorized dealer.

In order to maintain top efficiency it is important to clean and vacuum the inside of the furnace 3 or 4 times per burn season. The furnace is designed to be very easy to clean and it should take about an hour to complete.

**A thorough cleaning is required at the end of each heating season.** Keep in mind that cleaning both your insert and venting system is essential. It boosts heat output and keeps the furnace running at maximum efficiency. Many Harman dealers offer annual cleaning services for their customers. **Please read through this entire guide before beginning.**

## **TOOLS YOU WILL NEED:**

Dust Mask & Safety Goggles	Paper towels
Shop vacuum w/fine dust (HEPA) filter	Rubber gloves (soot really gets into pores)
Standard socket set or nut driver set	Drop cloth
Tooth brush	Flashlight or drop light
3" to 4" paintbrush	4 in. flexible brush (for venting pipe)
Small putty knife	Burn pot scraper (included w/furnace)
Hearth glass cleaner	

## **TIPS BEFORE YOU START:**

**Be sure the furnace is completely out and cool (and unplugged from electrical power!).**

The furnace must be completely out before cleaning. Every part must be cool to the touch, including the pellets that are left in the burn pot. **Live pellets are a fire hazard – especially if they get sucked into a vacuum cleaner.** Every year there are stories of house vacuums catching fire by inadvertently sucking up hot ashes. **Worse still this can be the source of a house fire!**

Hot ashes should be stored in a metal container with a tight fitting lid. When the ashes are completely out they can be used as a soil conditioner for your lawn or garden.

**Wear a dust mask!** This is important! Don't be foolhardy when it comes to protecting your lungs. Wear a mask and protective goggles. Professional chimney sweeps wear both while performing cleaning tasks.



### **STEP #1: PREPARE THE WORK AREA**

Start by placing a drop cloth on the floor in front of your furnace. Alternatively you can use newspaper. Keep your tools on the drop cloth so you can wrap them in it and take them outside for cleaning when you are done.

### **STEP #2: CLEAN THE EXTERIOR OF THE BURN POT**

Open the side access door (Fig. 1) and begin by removing loose soot deposits from within the burn pot. Remove the flame guide and vacuum the ash from the burn pot and above the burn pot (Fig. 2).



Fig. 1



Fig. 2



Fig. 3

Clean the burn pot using the scraper provided (Fig. 3). Use the flat end of the scraper to remove the carbon from the burn pot. Alternatively use a hammer and a straight tip screw driver to tap the deposits loose.

### **STEP #3: CLEAN THE INTERIOR OF THE BURN POT**

You'll now need to clean ash from inside the burn pot. Remove the clean out plate under the burn pot by loosening the two wing nuts holding the plate in place (Fig. 4). You may need to use pliers to loosen the wing nuts initially. Vacuum all ash from the burn pot's interior (Fig. 5).

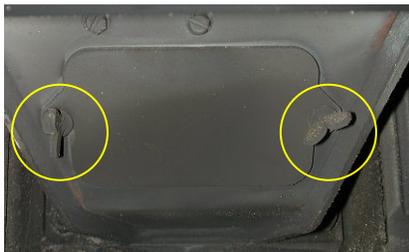


Fig. 4



Fig. 5



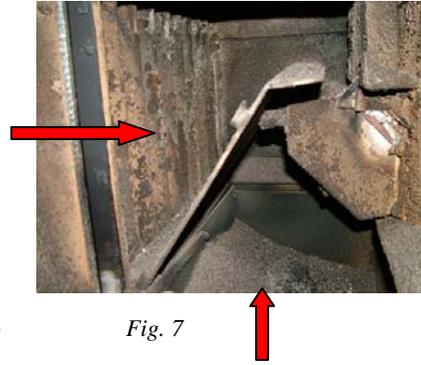
Fig. 6

Use your finger to brush out any ash that can't be reached with the nozzle of the vacuum (Fig. 6). After cleaning, be sure the plate is fully closed before hand tightening the wing nuts. (*Note: Do not tighten the wing nuts with pliers.*)

#### **STEP #4: REMOVE THE UPPER BAFFLE PLATE**

Remove the upper baffle plate from the firebox on the wall opposite the burn-pot. To accomplish this, lift the cover plate up about 1/2" and it can be removed for cleaning (Fig. 7).

Use the pointed end of the scraper and a brush to clean the heat exchanger behind the cover, let the ashes fall into the ash pan. Clean the remainder of the inside of the burn chamber using the scraper, putty knife, brush and vacuum.



#### **Second Baffle Plate:**

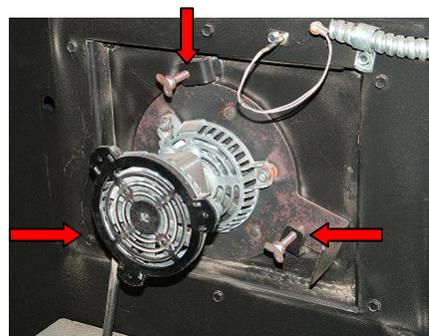
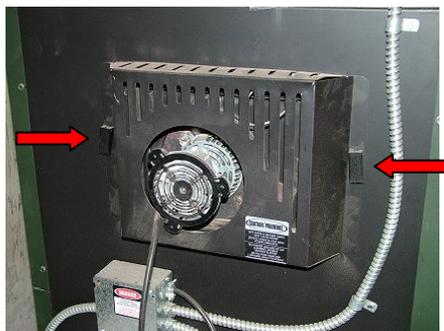
After all the scraping and brushing of ashes is complete you can remove and empty the ash pan. There is a second baffle plate located below the upper baffle plate that becomes accessible when the ash pan is removed. Tip the top of the cover forward and lift up and out of the furnace.

Do a final clean-up of the baffle and vacuuming of the inside of the firebox area and the ash pan (ashes noted by lower right arrow on Fig. 7). Replace the baffle plates being sure they are securely latched into position. Also, be sure the flame guide is replaced on the burn pot. Replace the ash pan, close and latch the firebox door and outside cover door.

#### **STEP #5: REMOVE THE COMBUSTION MOTOR**

First, remove the combustion blower cover. The combustion blower housing is held in place with two flip latches (Fig. 8). Next, remove the combustion motor by first loosening the three thumb screws (Fig. 9). You can then twist the motor assembly counter-clockwise to remove it.

**NOTE: The motor wires do not need to be disconnected.**



### **STEP #6: CLEAN THE COMBUSTION MOTOR & SURROUNDING AREA**

When the combustion blower is removed, the inside of the combustion blower area (Fig. 10) needs to be brushed and vacuumed.

Next, the fins of the combustion blower (Fig. 11) will need detailed cleaning as they will accumulate sooty dust. Although the combustion fan is shown removed in this view for clarity (Fig. 12), you do not need to disconnect the wiring of the motor for this step. The fins of the blower need to be carefully cleaned with a toothbrush. Be extra careful not to bend the fins on the combustion blower as this may cause an imbalance or interference with the inside of the blower housing when it is reassembled.



*Fig. 10*



*Fig. 11*

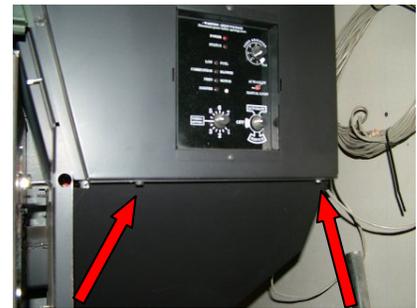


*Fig. 12*

### **STEP #7: CLEAN THE AUGER DRIVE BOX**

The next step is to clean the inside of the pellet feed mechanism and a general cleanup “under the hood” of the furnace. Start by removing the large sheet-metal cover under the pellet hopper (Fig. 13).

There are four screws holding this cover in place; two are located as seen in the image in fig. 13. The other two screws are on the other side of the furnace. You need only to loosen the screws a few turns and slide the cover off.

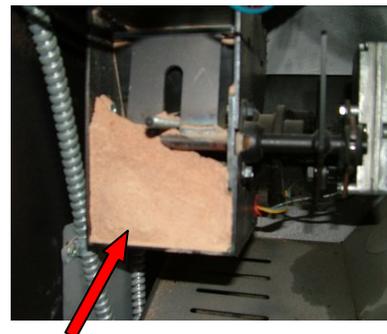


*Fig. 13*

Under the cover you will find the feeder assembly; you will need to remove the wing nut in the center of the housing cover (Fig. 14) and remove the cover. After removing the cover, clean out the inside of the housing (Fig. 15) with a small brush and a vacuum. Replace the auger assembly cover and wing nut and then the outer sheet metal cover. Tighten the sheet metal cover screws snugly and you are done cleaning the “engine housing”.



*Fig. 14*



*Fig. 15*

### **STEP #8: CLEAN OR REPLACE THE AIR FILTER**

You will need to clean or replace the air filter on the filter box (Fig. 16). Follow the air filter manufacturer's instructions for cleaning or replacement.

Filters are widely available at hardware stores and home centers.



*Fig. 16*

### **STEP #9: SWEEP THE ENTIRE FLUE SYSTEM**

It is very important that the **entire flue system** is inspected and cleaned **once per year**. In order to clean the flue system you will need to sweep it from its exit point using rods and an appropriately sized brush.

You may need to take apart sections of pipe in order to do this. Note: Professional installers often design the venting system so that certain joints can be taken apart. These joints will often have either aluminum tape or silicone caulking on the outside. Use a knife to scrape off the silicone caulking on the joints you plan to take apart.

If your pellet stove is installed into an existing chimney you will need to clean the chimney as well as the pellet pipe. To do this you will need the appropriate sized chimney brush and rods. (i.e. a six inch diameter chimney will need a 6" diameter brush)

Once the flue system has been cleaned, reconnect and recaulk the pellet vent. High temperature RTV silicone caulking will work for this. Note: it is very important that each joint of the pipe within the home be airtight. Even small pinhole leaks can leak smoke!

If you have any questions regarding any aspect of these cleaning instructions, please refer back to your Owner's Manual or contact your authorized Harman dealer.