



PELLET

TROUBLESHOOTING GUIDE

TIPS BEFORE USING THIS GUIDE

The stove must be **thoroughly** cleaned before proceeding with the troubleshooting process.

Here are some places to find the cleaning instructions:

- Owner's Manual
- Harman Website — www.harmanstoves.com
- You Tube — many videos showing how to clean Harman Pellet Stoves

SYMPTOM

CAUSE

CORRECTION

Power light not on

Power at outlet

Verify proper voltage and polarity at the outlet. Verify power cord is plugged into the outlet.

Fuse blown on circuit board

Replace fuse / Check for short.

Faulty wiring

Inspect / Repair stove wiring.

Faulty circuit board

Replace circuit board.

One or both blowers do not run in test mode

NOTE: Blower voltages shown on DDM screens are APPROXIMATE voltages. The DDM is not a voltmeter. Use a voltmeter to ensure accurate measurements.

NOTE: Combustion blower voltage should equal line voltage in test mode on high speed. Voltage will vary during stove operation depending on heating demand.

NOTE: The new boards do not alternate the blower speed.

Power at outlet

Verify proper voltage and polarity at the outlet.

Feed rate / Test mode knob out of alignment

Verify that when knob is turned fully clockwise the knob arrow points to "6." Verify knob settings with DDM.

Blower fan blade obstructed

Remove / Clean obstruction from blower fan blade

Faulty blower motor

Verify that when corresponding light on the control is lit there is voltage/ground to the blower motor. If voltage/ground is present and the blower will not run, replace the blower motor.

Faulty wiring

Inspect / Repair wiring.

Faulty circuit board

Both combustion and distribution blowers should run on high for approximately 1 minute after turning the feed rate knob to test mode. After 1 minute the blowers will alternate between high and low every minute. When one blower is on high the other blower will be on low. The blower lights on the control board will burn bright when that blower is on high and dim when that blower is on low. Verify proper control operation.

SYMPTOM

CAUSE

CORRECTION

Feed motor will not run in test mode.

Feed motor will only run for the first minute after turning the unit to test mode

Low draft

Install draft meter and verify draft settings. The draft differential switch must have at least $-.17''$ W.C. to close and complete ground circuit to the feed motor.

Faulty differential switch

After verifying that draft readings are correct, jump differential switch. Turn unit to test mode. If the feed motor runs, check for obstruction in differential switch tube or hopper filter/muffler. If no obstruction and the draft readings are correct, replace the differential switch.

Faulty feed motor

Verify that when the feed motor light on the control is on voltage/ground are present at the feed motor. If voltage/ground are present and the feed motor will not run, replace the feed motor.

Faulty hopper lid switch

Verify hopper lid switch operation when hopper lid closed. Broken or mis-adjusted lid switch will not allow power to feed motor.

Faulty wiring

Inspect / Repair stove wiring.

Faulty circuit board

Verify that when the stove is turned to test mode the feed motor light is lit for 1 minute. Verify voltage/ground to the motor when the feed motor light is lit.

Stove will not light in Auto. All motors run in test mode.

Fuel problem

Verify proper amount of pellets in the burn pot. Turn the stove to test to purge pellets into the burn pot if necessary. Pellets should only cover area of burn pot directly above igniter bracket. Check that pellets are dry and in good condition.

Improper igniter installation

Verify igniter and mounting bracket assembled/installed properly. Igniter bracket must be tight against burn pot - no gap between surfaces.

Draft problem

Connect draft meter and verify draft readings.

SYMPTOM

CAUSE

CORRECTION

Stove will not light in Auto. All motors run in test mode. Con't.

Dirty stove and venting

Clean stove and venting. Check for clogged holes in the burn pot. Clean area under the burn pot where the igniter is located. Clean igniter.

Back draft damper sticking

Verify that back draft damper located in the air inlet moves freely.

Temp dial setting

Set temp dial above room temperature. The stove will not light unless the temp dial is at least 2 degrees above the room sensing probe temperature. Verify temp dial setting and room sensor accuracy with DDM.

Low voltage

Verify voltage and polarity at the outlet. Verify voltage/ground at igniter terminals. Low voltage will cause the igniter temperature to be low.

Faulty room sensing probe

Verify that room sensing probe is installed correctly. Check for a four blink status. The stove will not light in auto and room temp with a four blink status error. Check for loose room sensing probe connections. Verify room sensor temperature accuracy with DDM. Install or replace room sensing probe.

Faulty ESP probe

Verify ESP temperature accuracy with DDM. Replace ESP probe.

Faulty igniter

Check if igniter is getting hot when igniter light on the control is lit. The igniter ground circuit is wired through the draft differential switch. Check if voltage/ ground is present at the igniter when the igniter light on the control is lit. Check the resistance of the igniter. Resistance should be 47-50 ohms. Replace igniter if needed.

Faulty draft differential switch

The draft differential switch will not close allowing voltage to the igniter if the draft is less than $-.17''\text{W.C.}$ If the draft readings are correct and jumping the differential switch allows the stove to light, check for obstruction in the differential switch tube or hopper filter/muffler. Replace differential switch if needed.

SYMPTOM

CAUSE

CORRECTION

Stove will not light in Auto. All motors run in test mode. Con't.

Obstruction in feeding system

Check for obstruction in hopper, feeder and auger tube.

Faulty wiring

Inspect / Repair wiring from the control to the igniter.

Faulty circuit board

If everything above checks out correctly and no voltage to the igniter, replace the circuit board.

Erratic operation.

Power at the outlet

Verify proper voltage and polarity at the outlet.

Obstruction in feeding system

Check for obstruction in hopper, feeder and auger tube.

Faulty ESP probe

Verify ESP temperature accuracy with DDM. Replace ESP probe.

Faulty wiring

Inspect / Repair stove wiring.

Faulty room sensing probe

Check connections and location of room sensing probe. Verify room sensor accuracy with DDM. Replace room sensing probe if needed.

Faulty circuit board

Verify proper control operation. Replace circuit board if not controlling properly.

Stove burns properly. Distribution blower will not run.

Power at the outlet

Verify proper voltage and polarity at the outlet.

Stove in manual and stove temp mode

With the control set to manual and stove temp mode and the temp dial set to 5 or less (4 or less on units with control board 3-20-05886D or newer), the distribution blower will not operate. This allows you to view a fire without blowing heat into the room.

NOTE: Distribution blower will not operate in stove temp mode until ESP probe senses approx. 155 degrees.

NOTE: Distribution blower will not operate in room temp mode unless the room sensor is indicating a demand for heat or if ESP temperature climbs above 360 degrees.

Dirty stove and venting

Clean the stove and venting.

SYMPTOM

CAUSE

CORRECTION

Stove burns properly. Distribution blower will not run. Con't.

Faulty distribution blower

Verify that distribution blower spins freely. If voltage/ground is present at the distribution blower and the blower will not run, replace blower motor.

Faulty room sensor

Verify room sensor accuracy with DDM. Replace room sensor if needed.

Faulty ESP probe

Verify probe is clean. Verify ESP temperature accuracy with DDM. Replace probe if needed.

Faulty wiring

Inspect / Repair stove wiring.

Faulty circuit board

Verify that when the distribution blower light on the control board is lit, voltage/ground is present at the distribution blower.

Stove burns properly. Stove will not shut down when turned to off.

Power at the outlet

Verify voltage and polarity at the outlet.

**NOTE: The stove will continue to feed until the ESP probe senses approximately 250 degrees.*

Mode selector knob out of alignment

Turn the mode selector knob fully clockwise. Verify that the pointer is at the "H" on room temp. Re-set knob if needed. Verify that the status light goes out when the knob is turned to off.

On newer units the ESP temperature must remain below 290 degrees for approximately 35 - 40 minutes.

Stove in two blink status

On older stoves with a feeder position micro switch, check for proper operation of the micro-switch. Stoves without a feeder position micro-switch: check for missing or loose jumper at J2 on the control board. The stove will not shut down while in a two blink status error.

*NOTE: The combustion blower will run until the ESP probe senses 90 degrees.**

Dirty stove/Restricted venting

Verify that unit and venting are clean. Fly ash accumulation will prevent heat exchange, causing extra heat in exhaust and higher ESP temperatures. Repair as needed.

Faulty ESP probe

Monitor ESP temperature with DDM. If the stove is cold and continues to run, clean / replace ESP probe.

SYMPTOM

CAUSE

CORRECTION

Stove burns properly. Stove will not shut down when turned to off. Con't.

Faulty wiring

Inspect / Repair stove wiring.

Faulty circuit board

Replace circuit board.

Feed motor does not run after ignition. (Feed motor runs in test mode)

Power problem

Verify proper voltage and polarity at the outlet.

Draft problem

Install draft meter and verify draft readings. At least -.17" W.C. needed to close the differential switch and allow power to the feed motor.

Obstruction in feed system

Check for obstruction in feeder and auger tube.

Faulty ESP probe.

Monitor ESP temperature with DDM. Clean / Replace ESP probe.

Faulty circuit board

Replace circuit board.

Stove does not burn correctly

Dirty stove / venting

Clean stove and venting. Install draft meter and verify draft readings.

Fuel problem

Verify pellets are dry and are in good condition.

Feed rate setting

Verify feed rate setting. A setting of 3 to 4 works best for most pellets.

Back draft damper sticking

Verify that the back draft damper located in the air inlet is moving freely. If outside air is installed verify pipe is not obstructed.

Obstruction in feed system

Check for obstruction in the hopper, feeder and auger tube

Faulty ESP probe

Clean / Replace ESP probe.

Faulty circuit board

Verify proper control operation. Replace circuit board if needed.

SYMPTOM

CAUSE

CORRECTION

Stove noisy when feed motor is running

Slide plate

Check for obstruction in slide plate area. Check for burrs on slide plate and in the feeder housing. Check for evidence of wear on slide plate. Verify the slide plate is not warped or damaged.

Faulty feed motor

Remove feed motor and connect directly to 120 volts to check for noisy gears.

Cam bearing

Verify that the cam bearing is traveling on pusher arm properly. Adjust or replace the cam bearing.

Pillow block bearings

Verify that the pillow block bearings are seated in the housing. Check for fines or dirt in the bearings. Adjust or replace pillow block bearings.

Auger

Check for obstruction in the auger. Verify that the auger is not rubbing inside the feeder tube. Verify that the auger bearing retaining bolts are tight and the auger is not at angle in the auger tube. If the auger bearing is causing the noise, replace the auger.

Draft readings are not normal

Dirty stove / Venting

Clean stove and venting. Re-check draft readings.

Air inlet damper sticking

Verify air inlet damper is moving freely. If outside air is installed check for obstruction in pipe.

Venting configuration

Verify proper venting configuration. Change venting if needed.

Faulty combustion blower

Check that fan blade is tight on combustion blower motor shaft. Check operation of combustion blower. Verify combustion blower intake plate is installed correctly. Replace combustion blower if needed.

Faulty circuit board

Check for proper control operation. Replace circuit board if needed.

SYMPTOM

CAUSE

CORRECTION

One or both blowers run constantly when stove plugged into outlet.

Note: Dipswitch #5 is specific to ESP used on unit. Switch #5 should be "ON" for a red wired ESP and "OFF" for a black wired ESP. Refer to tech bulletins for more details.

Power at the outlet

Faulty ESP probe

Faulty wiring

Faulty circuit board

Dipswitch settings incorrect

Low draft problem

Faulty hopper lid switch

Verify proper voltage and polarity at the outlet.

Verify ESP temperature accuracy with DDM. Replace ESP probe.

Inspect / Repair stove wiring.

Verify proper control operation. Replace circuit board if not controlling properly.

Use DDM to verify control board dipswitches are set according to ESP wire color. Incorrect setting will show ESP temperature of 470 - 570 degrees on a cold stove. Adjust switches as needed.

Combustion blower will not shut off if there is insufficient draft, regardless of ESP temperature. Verify that draft reading at pressure switch is higher than $-.17''$ W.C. Locate and repair/replace source of low draft.

An open circuit in the feed motor wiring circuit, such as a faulty lid switch, draft pressure switch, loose wiring connection, or faulty feed motor will be interpreted as a low draft problem by the control board, and will cause the combustion blower to run on high speed to attempt to re-establish draft in the stove, regardless of ESP temperature. Verify lid switch operation. Repair/replace as needed.

SYMPTOM

CAUSE

CORRECTION

Stove produces whistling noise while running

Hopper seams not sealed

Remove pellets from hopper if necessary, and verify that all hopper seams are properly sealed with silicone sealer. Apply pressure to various areas around exterior of hopper and lid to change pitch of whistling noise. Reseal hopper seams as needed.

Damaged/worn gaskets and seals

Inspect gaskets for excessive wear or damage. Verify that there are no foreign materials on sealing surfaces. Replace as needed.

Doors/ access covers loose

Verify all door/lid latches operate correctly, and hinges are not bent or loose. Verify that feeder access cover is properly installed. Adjust or repair as needed.

Broken/skipped welds

Visually inspect and verify welded seams are intact. Repair or reseal as needed

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