EPA Standard of Performance for New Residential Wood Heaters

Non-Confidential Business Information

Certification Test Report

Manufacturer:	Hearth & Home Technologies, Inc.
Heater Type:	Pellet-Fired, Freestanding or Insert
Model Line:	Trekker Series (Formally the Mt. Vernon E2-C Series)
Models:	TREKKER-MBK, TREKKER-PMH, TREKKER-TWL TREKKERI-MBK, TREKKERI-PMH, TREKKERI-TWL
Prepared for:	Hearth & Home Technologies, Inc. 1445 North Highway Colville, WA 99114
Prepared by:	OMNI-Test Laboratories, Inc. 13327 NE Airport Way Portland, OR 97230 (503) 643-3788
Test Period:	May 19, 2017
Report Date:	July 7, 2017
Revised Report Date:	August 31, 2022
Report Number:	0061PS094E

-Report Edition Number (003) 08/31/22 -

AUTHORIZED SIGNATORIES

This report has been reviewed and approved by the following authorized signatories:

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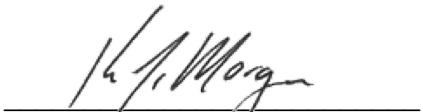
This report has been reviewed and approved by the following authorized signatories:

Technician:

Riley Tiegs, Technician
OMNI-Test Laboratories, Inc.

Evaluator:



Ken Morgan, Technical Services Director
OMNI-Test Laboratories, Inc.

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Section 1
Appliance, Testing, & Results

1.1 - Appliance Description

Appliance Manufacturer: Hearth & Home Technologies, Inc.

Pellet Stove Model Line: Trekker Series

Model Numbers:

Freestanding	Insert
TREKKER-MBK	TREKKERI-MBK
TREKKER-PMH	TREKKERI-PMH
TREKKER-TWL	TREKKERI-TWL

Model Similarity: The sample unit tested is a model MTV-E2-MBK-C; one of the freestanding models of the original model line, which is equivalent to the current TREKKER-MBK in all aspects, except the user interface. The original MTV-E2 series used a wired thermostat, whereas the TREKKER series uses a Bluetooth wireless thermostat. The fireplace insert models of the Trekker Series are identical to the freestanding versions in all interior parts and configurations. All critical components, air flow pathways, and K List items (aside from overall stove dimensions) are identical between the two versions. Within each version, the different model numbers represent color options for the unit's enamel finish – three for the freestanding and three for the insert. Color does not affect emissions performance.

Type: Freestanding and fireplace insert, air-circulating type, pellet-fired room heater.

The Trekker Series' principal elements include a fuel hopper, grey cast iron firebox chamber, ductile iron burn pot, and electrical fuel feed, combustion air, and convection air supply systems. The frame of the unit is constructed of mild steel and the outer fascia of cast iron.

The air intake has a cross sectional area of 4.2 in^2. Drawn though this opening, air is forced by the combustion air blower through an air wash above the door and holes in the firepot. Combustion products are routed out of the firebox chamber via a baffle-type heat exchanger through a 3 inch diameter flue outlet located on the rear of the unit.

Fuel is supplied from the hopper to the burn pot via a screw-type auger. Fuel supply rate is varied by cycling the auger motor as needed.

Ashes fall through the burn pot into a removable ash drawer located at the bottom of the unit. The drawer is accessed through the front firebox door, which also features a 14" x 21" glass panel.

The electrical systems are regulated by a user-operated control board featuring a simple dial which can be adjusted to achieve desired heat output. The unit can also be controlled by an external thermostat system.

More detailed information is shown in the manufacturer's design drawings, Appendix C of this report. This information is considered confidential business information (CBI) by the manufacturer and is not included in the non-CBI version of this report.

Appliance Photographs

E2-C/Trekker Series

Test Date: 5/29/2017

E2-C Series Front

E2-C Series Back

E2-C Series Left

E2-C Series Right

1.2 - Procedures and Results Summary

INTRODUCTION

Hearth & Home Technologies, Inc. retained OMNI-Test Laboratories, Inc. (*OMNI*) to perform U.S. Environmental Protection Agency (EPA) certification testing on the E2-C Series. The E2-C Series is a freestanding or insert style pellet-burning residential heating appliance.

The testing was performed at *OMNI*'s testing facility in Portland, Oregon. The altitude of the laboratory is 30 feet above sea level. The unit was received in good condition and logged in at the *OMNI*'s testing facility on May 17, 2017. It was assigned and labeled with *OMNI* ID #2188. *OMNI* representative Aaron Kravitz conducted the certification testing and completed all testing by May 29, 2017.

This report is organized in accordance with the EPA-recommended outline and is summarized in the Table of Contents immediately preceding this section. The results in this report are limited to the item(s) submitted.

In August 2021 the model line E2-C was discontinued, the Trekker series replaced all models previously shown in this report. See appliance description for additional details.

SUMMARY OF RESULTS

The average particulate emission rate over the complete, integrated test run was measured to be 0.74 g/hr.

The average particulate emission factor for the complete, integrated test run was measured to be 0.57 g/dry kg of fuel.

The average thermal efficiency for the complete, integrated test run was measured to be 77.9%.

The particulate emission rate calculated from the one-hour filter was 0.58 g/hr.

Negative filter weights were found in train A and train B of the emissions sampling equipment. Negative weights are caused by transfer of filter material to the O-ring gaskets, there is no evidence of actual filter loss. Negative filter values are added back into total catch to avoid transfer weight on O-rings from being counted as emissions.

No additional anomalies occurred during this test series, raw data, certification documents, and results were found to be valid and appropriate for certification to ASTM E2779.

The proportionality results and sample train agreement for the test run was acceptable. Quality check results for each test run are presented in Section 3 of this report.

TESTING PROCEDURE

The E2-C/Trekker Series was tested in accordance with the U.S. EPA 40 CFR Part 60, Subpart AAA – Standards of Performance for New Residential Wood Heaters using ASTM E2515 and ASTM E2779. The fuel used for certification testing was Lignetics brand densified wood pellet fuel; this fuel was graded as Premium by the Pellet Fuels Institute and was produced at registered mill # 03208. Particulate emissions were measured using dual sampling trains consisting of two sets of filters (front and back).

The product was tested using a 6" chimney connector and chimney assembly; an adapter was used to attach the connector to the 3" flue outlet.

The results of the integrated test run indicate an average particulate emission rate of 0.74 g/hr. The Trekker Series results are within the emission limit of 2.0 g/hr. for affected appliances manufactured on or after May 15, 2020.

The model E2-C/Trekker Series was tested for thermal efficiency and carbon monoxide (CO) emissions in accordance with CSA B415.1-10. The heater has a demonstrated an average thermal efficiency of 77.9%. The calculated CO emission rate was 0.15 g/min.

Efficiency results were calculated using spread sheet Version 2.2 created 12/14/2009 and distributed by CSA. Example calculations for CSA B415.1 were not provided by CSA; spreadsheet is protected from modifications by means of a password.

An ambient filter (Background) was not operated during this series, there were no operations in the area that would have generated additional particulate into the ambient air. Running an ambient filter can only reduce emissions by backing out any particulate not generated by fuel in the appliance, it can never increase emissions. Tests conducted without an ambient filter are considered worse case.

Upon completion of emissions certification testing, the sample unit was sealed and will be stored by the manufacturer in accordance with the requirements of the CFR.

E2-C Series – Sealed Test Unit

1.3 - Summary Tables

Table 1 – Particulate Emissions

	One-Hour Filter	Integrated Total	Uncorrected Total
Emission Rate (g/hr)	0.58	0.74	0.80[1]
Emission Factor (g/dry kg)	0.22	0.57	0.62[1]

[1]Corrected refers to gravimetric analysis that takes negative filter weights as a negative value in cases where filter residue was transferred to (stuck to) O-ring gaskets to account for the mass transfer. An "n/a" denotes there were no negative filter weights and therefore no "corrections" were performed. Uncorrected refers to gravimetric analysis where negative filter weights are taken as zero, thus reporting a higher value by over-reporting of transferred filter material. The uncorrected values were added to this revision of this report in response to a request by the US EPA in a deficiency letter dated 08/24/2022.

Table 2 – Efficiency and CO

	Burn Rate Segment			Integrated Total
	Maximum	Medium	Minimum	
Time (minutes)	62	121	180	363
Burn Rate (dry kg/hr)	2.62	1.26	0.85	1.29
Heat Input Rate (BTU/hr, HHV)	50,775	24,391	16,396	24,933
Heat Output Rate (BTU/hr, HHV)	39,428	19,136	12,682	19,419
Efficiency (%, HHV)	77.7%	78.5%	77.3%	77.9%
Efficiency (%, LHV)	83.0%	83.8%	82.6%	83.2%
CO Emission Rate (g/min)	0.06	0.07	0.22	0.15

Table 3 – Test Facility Conditions

	Initial	Middle	Final
Room Temperature (°F)	68	72	70
Barometric Pressure (in Hg)	30.19	30.16	30.14
Air Velocity (ft/min)	< 50	< 50	< 50
Induced Draft (in H2O)	0	0	0

Table 4 – Fuel Measurement Summary

	Pretest	Burn Rate Segment			Integrated Total
		Maximum	Medium	Minimum	
Time (min)	64	62	121	180	363
Burn Rate (dry kg/hr)	2.31	2.62	1.26	0.85	1.29
Consumed Fuel (lbs)	5.8	6.4	6.0	6.0	18.4
Moisture Content (dry basis %)	7.09	7.09	7.09	7.09	7.09

Table 5 – Dilution Tunnel and Flue Gas Measurements

	Burn Rate Segment			Integrated Total
	Maximum	**Medium**	**Minimum**	
Flue Draft (in H_2O)	-0.052	-0.036	-0.028	-0.035
Tunnel Velocity (ft/sec)	12.17	11.95	11.71	11.87
Tunnel Flow Rate (dscf/min)	130.9	133.0	131.4	131.7
Tunnel Temperature (°F)	111.7	92.5	87.8	93.4

Table 6 – Heater Configuration

	Pretest	Burn Rate Segment		
		Maximum	**Medium**	**Minimum**
Dial Setting	5 (max)	5 (max)	2	1 (min)
Trim Pot Setting	+4	+4	+1	+1

Section 2
Test Data

2.1 Test Data by Run
2.2 Sample Analysis & Tares

Test Instruction Recommendations: Mt. Vernon E2

Created on/by: 05/10/17; C. Winslow Howe – HHT Design Engineer

Purpose: To create repeatability in test protocol for coal bed establishment and loading of the stove.

Hopper Fuel: Hopper of the unit should be loaded up with a full 2 bags of fuel (Each bag weighing 40lb)

Test Settings:

High: Dial should be set to 5 and the trim pot should be set to +4. When the unit is set and running at this setting the light above the dial control will Flash 5 times with a pause between each sequence

Medium: Dial should be set to 2 and the trim pot should be set to +1. When the unit is set and running at this setting the light above the dial control will flash 2 times with a pause between each sequence.

Low: Dial should be set to 1 and the trim pot should be set to +1. When the unit is set and running at this setting the light above the dial control will flash once with a pause between each flash.

	
High	Medium

 Low	

Pellet Heater Conditioning Data - ASTM E2779

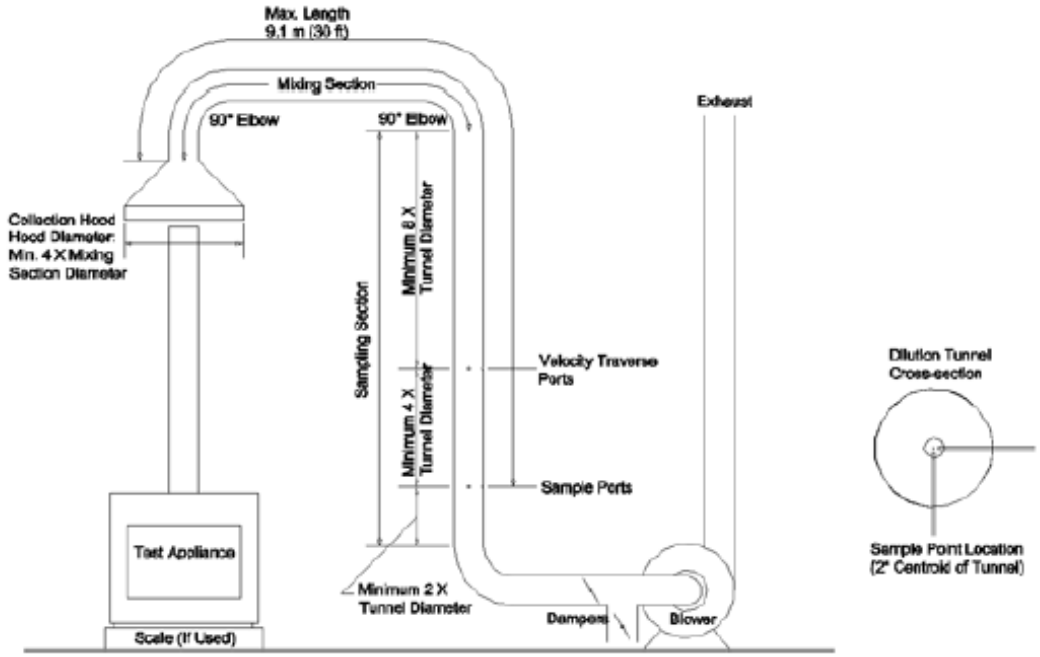
Manufacturer: Hearth & Home
Model: E2 /Trekker
Tracking No.: 2188
Project No.: 0061PS094E
Test Date:
Operation Category: Medium
Operated for more than 48 hours at a Medium burn rate.

Elapsed Time (hours)	Scale Reading (lbs)	Stack (°F)
0	6.4	232
1		176
2		162
3		145
4		143
5		144
6	6.2	230
7		179
8		169
9		154
10		152
11		154
12	6.0	230
13		174
14		164
15		148
16		144
17		142
18	6.2	241
19		180
20		167
21		154
22		151
23		149
24	6.1	230
25		176
26		158
27		139
28		139
29		138
30		345
31		348
32	6.2	346
33		346
34		342
35		341
36		339
37		329
38		382
39		393
40		292
41		274
42	6.5	277
43		208
44		186
45		165
46		160
47		156
48		280
49		205
50		

2.1 - Test Data by Run

Run 1 Notes & Results

Example of ASTM E2515-11 Dilution Tunnel



Prior to testing, sample point and traverse point locations are verified to ensure placement is within specifications. Collection hood, tunnel diameter, and mixing section length are also verified to be within specifications.

Pellet Heater Test Results - ASTM E2779 / ASTM E2515

Manufacturer: Hearth & Home
Model: E2
Project No.: 0061PS094E
Tracking No.: 2188
Run: 1
Test Date: 05/19/17

Burn Rate (Composite)	**1.29 kg/hr dry**
Average Tunnel Temperature	93 degrees F
Average Gas Velocity in Dilution Tunnel - vs	11.87 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	7904.1 dscf/hour
Average Delta p	0.054 inches H20
Average Delta H	1.32 inches H20
Total Time of Test	363 minutes

Burn Rate (High)	**2.62**	kg/hr dry
Burn Rate (Med)	**1.26**	kg/hr dry
	48.0%	of High
Burn Rate (Low)	**0.85**	kg/hr dry
	32.3%	of High

	AMBIENT	SAMPLE TRAIN 1	SAMPLE TRAIN 2	1st HR FILTER (TRAIN 1)
Total Sample Volume - Vm	N/A cubic feet	59.409 cubic feet	59.199 cubic feet	9.694 cubic feet
Average Gas Meter Temperature	72 degrees F	82 degrees F	82 degrees F	75 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	0.000 dscf	57.620 dscf	57.717 dscf	9.518 dscf
Total Particulates - m_n	0 mg	5.3 mg	5.5 mg	0.7 mg
Particulate Concentration (dry-standard) - C_f/C_s	0.000000 grams/dscf	0.00009 grams/dscf	0.00010 grams/dscf	0.00007 grams/dscf
Total Particulate Emissions - E_T	0.00 grams	4.40 grams	4.56 grams	0.58 grams
Particulate Emission Rate	0.00 grams/hour	0.73 grams/hour	0.75 grams/hour	0.58 grams/hour
Emissisons Factor		0.56 g/kg	0.58 g/kg	0.22 g/kg
Difference from Average Total Particulate Emissions		0.08 grams	0.08 grams	

Dual Train Comparison Results Are Acceptable

FINAL AVERAGE RESULTS

Integrated Test Run	
Total Particulate Emissions - E_T	4.48 grams
Particulate Emission Rate	**0.74 grams/hour**
Emissisons Factor	0.57 grams/kg
First Hour Emissions	
Total Particulate Emissions - E_T	0.58 grams
Particulate Emission Rate	0.58 grams/hour
Emissisons Factor	0.22 grams/kg

QUALITY CHECKS	
Filter Temps < 90 °F	OK
Filter Face Velocity (47 mm)	OK
Leakage Rate	OK
Ambient Temp (55-90°F)	OK
Negative Probe Weight Eval.	OK
Pro-Rate Variation	OK
Train Precision ≤ 7.5%	1.77
Train Precision ±0.5 g/kg	0.02
Medium Burn Rate < 50%	OK

Pellet Heater Test Results - ASTM E2779 / ASTM E2515

UNCORRECTED

Manufacturer: Hearth & Home
Model: E2
Project No.: 0061PS094E
Tracking No.: 2188
Run: 1
Test Date: 05/19/17

Burn Rate (Composite)	**1.29 kg/hr dry**
Average Tunnel Temperature	93 degrees F
Average Gas Velocity in Dilution Tunnel - vs	11.87 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	7904.1 dscf/hour
Average Delta p	0.054 inches H20
Average Delta H	1.32 inches H20
Total Time of Test	363 minutes

Burn Rate (High)	**2.62**	kg/hr dry
Burn Rate (Med)	**1.26**	kg/hr dry
	48.0%	of High
Burn Rate (Low)	**0.85**	kg/hr dry
	32.3%	of High

	AMBIENT	SAMPLE TRAIN 1	SAMPLE TRAIN 2	1st HR FILTER (TRAIN 1)
Total Sample Volume - Vm	N/A cubic feet	59.409 cubic feet	59.199 cubic feet	9.694 cubic feet
Average Gas Meter Temperature	72 degrees F	82 degrees F	82 degrees F	75 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	0.000 dscf	57.620 dscf	57.717 dscf	9.518 dscf
Total Particulates - m_n	0 mg	5.8 mg	5.9 mg	0.7 mg
Particulate Concentration (dry-standard) - C_f/C_s	0.000000 grams/dscf	0.00010 grams/dscf	0.00010 grams/dscf	0.00007 grams/dscf
Total Particulate Emissions - E_T	0.00 grams	4.81 grams	4.89 grams	0.58 grams
Particulate Emission Rate	0.00 grams/hour	0.80 grams/hour	0.81 grams/hour	0.58 grams/hour
Emissisons Factor		0.62 g/kg	0.63 g/kg	0.22 g/kg
Difference from Average Total Particulate Emissions		0.04 grams	0.04 grams	

Dual Train Comparison Results Are Acceptable

FINAL AVERAGE RESULTS

Integrated Test Run	
Total Particulate Emissions - E_T	4.85 grams
Particulate Emission Rate	**0.80 grams/hour**
Emissisons Factor	0.62 grams/kg
First Hour Emissions	
Total Particulate Emissions - E_T	0.58 grams
Particulate Emission Rate	0.58 grams/hour
Emissisons Factor	0.22 grams/kg

QUALITY CHECKS

Filter Temps < 90 °F	OK
Filter Face Velocity (47 mm)	OK
Leakage Rate	OK
Ambient Temp (55-90°F)	OK
Negative Probe Weight Eval.	OK
Pro-Rate Variation	OK
Medium Burn Rate < 50%	OK

OMNI-Test Laboratories

Manufacturer: Hearth & Home
Model: E2
Date: 05/19/17
Run: 1
Control #: 0061PS094E
Test Duration: 363
Output Category: Integrated

Technicians: Aaron Kravitz

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	77.9%	83.2%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	78%	83.6%

Output Rate (kJ/h)	20,471	19,419	**(Btu/h)**
Burn Rate (kg/h)	1.29	2.84	**(lb/h)**
Input (kJ/h)	26,284	24,933	**(Btu/h)**

Test Load Weight (dry kg)	7.80	17.18	**dry lb**
MC wet (%)	6.62		
MC dry (%)	7.09		
Particulate (g)	4.48		
CO (g)	53.72		
Test Duration (h)	6.05		

Emissions	**Particulate**	**CO**
g/MJ Output	0.04	0.43
g/kg Dry Fuel	0.57	6.89
g/min	0.74	0.15
lb/MM Btu Output	0.08	1.01

Air/Fuel Ratio (A/F)	31.51

VERSION: **N/A (Part of OMNI Std. Form)**

OMNI-Test Laboratories

Manufacturer: Hearth & Home
Model: E2
Date: 05/19/17
Run: 1
Control #: 0061PS094E
Test Duration: 62
Output Category: Maximum

Technicians: Aaron Kravitz

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	77.7%	83.0%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	78%	83.4%

Output Rate (kJ/h)	41,564	39,428	**(Btu/h)**
Burn Rate (kg/h)	2.62	5.78	**(lb/h)**
Input (kJ/h)	53,526	50,775	**(Btu/h)**

Test Load Weight (dry kg)	2.71	5.98	**dry lb**
MC wet (%)	6.62		
MC dry (%)	7.09		
Particulate (g)	N/A		
CO (g)	3.78		
Test Duration (h)	1.03		

Emissions	**Particulate**	**CO**
g/MJ Output	N/A	0.09
g/kg Dry Fuel	N/A	1.39
g/min	N/A	0.06
lb/MM Btu Output	N/A	0.20

Air/Fuel Ratio (A/F)	18.55

VERSION: **N/A (Part of OMNI Std. Form)**

OMNI-Test Laboratories

Manufacturer: Hearth & Home
Model: E2
Date: 05/19/17
Run: 1
Control #: 0061PS094E
Test Duration: 121
Output Category: Medium

Technicians: Aaron Kravitz

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	78.5%	83.8%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	79%	84.2%

Output Rate (kJ/h)	20,172	19,136	**(Btu/h)**
Burn Rate (kg/h)	1.26	2.78	**(lb/h)**
Input (kJ/h)	25,712	24,391	**(Btu/h)**

Test Load Weight (dry kg)	2.54	5.60	**dry lb**
MC wet (%)	6.62		
MC dry (%)	7.09		
Particulate (g)	N/A		
CO (g)	7.91		
Test Duration (h)	2.02		

Emissions	Particulate	CO
g/MJ Output	N/A	0.19
g/kg Dry Fuel	N/A	3.11
g/min	N/A	0.07
lb/MM Btu Output	N/A	0.45

Air/Fuel Ratio (A/F)	30.16

VERSION: **N/A (Part of OMNI Std. Form)**

OMNI-Test Laboratories

Manufacturer: Hearth & Home
Model: E2
Date: 05/19/17
Run: 1
Control #: 0061PS094E
Test Duration: 180
Output Category: Minimum

Technicians: Aaron Kravitz

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	77.3%	82.6%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	78%	83.1%

Output Rate (kJ/h)	13,369	12,682	**(Btu/h)**
Burn Rate (kg/h)	0.85	1.87	**(lb/h)**
Input (kJ/h)	17,285	16,396	**(Btu/h)**

Test Load Weight (dry kg)	2.54	5.60	**dry lb**
MC wet (%)	6.62		
MC dry (%)	7.09		
Particulate (g)	N/A		
CO (g)	39.17		
Test Duration (h)	3.00		

Emissions	**Particulate**	**CO**
g/MJ Output	N/A	0.98
g/kg Dry Fuel	N/A	15.41
g/min	N/A	0.22
lb/MM Btu Output	N/A	2.27

Air/Fuel Ratio (A/F)	43.00

VERSION: **N/A (Part of OMNI Std. Form)**

Pellet Heater Run Notes

Air Control Settings

High Burn Rate Target: 100%
Settings: Dial = 5 (maximum)
Trim Pot = +4

Medium Burn Rate Target: <50% of max
Settings: Dial = 2
Trim Pot = +1

Low Burn Rate Target: Minimum
Settings: Dial = 1 (minimum)
Trim Pot = +1

Additional Settings Notes:

-None-

Preburn Notes

Time	Notes
0:00	Started unit on “High” settings
64:00	Ended preburn

Test Notes

Time	Notes
00:00	Began Sampling
60:00-61:00	Swapped Filter A
61:00-62:00	Adjusted settings to target medium burn rate
182:00-183:00	Adjusted settings to target minimum burn rate
363:00	Ended Sampling

Pellet Moisture Content: See Analysis Sheet

5/22/2017

Pellet Heater Supplemental Data

Start Time: 09:44
Stop Time: 15:47

Booth #: E1
Gas Meter y Factors: A: 0.984 B: 0.990

Stack Gas Leak Check:
Initial: 0 Final: 0

Sample Train Leak Check:
A: 0.000 @ 8.5 "Hg
B: 0.000 @ 8.5 "Hg

Calibrations: Span Gas CO_2: 16.74 CO(%): 4.202 CO(ppm): 901
Mid Gas CO_2: 9.97 CO(%): 2.503 CO(ppm): 501

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	8:53	8:56	8:58	3:50	3:53	3:56
CO_2	0.00	16.74	10.00	-0.03	16.54	9.98
CO(%)	0.000	4.201	2.479	0.002	4.227	2.486
CO(ppm)	0	901	494	0	899	491

Air Velocity (ft/min): Initial: <50 Final: <50
Scale Audit (lbs): Initial: 10.0 Final: 10.0
Pitot Tube Leak Test: Initial: 0 Final: 0
Stack Diameter (in): 6
Induced Draft: 0
% Smoke Capture: 100
Flue Pipe Cleaned Prior to First Test in Series:
Date: 5/17/2017 Initials: _____

	Initial	Middle	Ending
P_b (in/Hg)	30.19	30.16	30.14
Ambient (°F)	68	72	70
R/H (%)	39.0	34.6	32.6

Background Filter Volume: N/A

Tunnel Traverse		
Microtector Reading	dP (in H_2O)	T(°F)
0.011	0.022	110
0.017	0.034	110
0.019	0.038	110
0.016	0.032	110
0.009	0.018	110
0.018	0.036	110
0.018	0.036	110
0.010	0.020	110
Center:		
N/A	0.055	110
Static:		
N/A	-0.16	110

5/22/2017

Pellet Heater Preburn Data - ASTM E2779

Manufacturer: Hearth & Home
Model: E2
Tracking No.: 2188
Project No.: 0061PS094E
Test Date: 5/19/2017

PB Length: 64 min
Recording Interval: 1 min

		Averages:	299	68	0	5	0
Elapsed Time (min)	Scale Reading	Weight Change	Stack (F)	Ambient (F)	Draft ("H2O)	CO2 (%)	CO (%)
0	5.8	-	199	68	0.00	0.02	0.00
1	5.7	-0.1	209	69	0.00	0.02	0.00
2	5.6	-0.1	224	69	0.00	0.02	0.00
3	5.9	0.3	240	68	-0.04	0.01	0.00
4	5.8	-0.1	252	68	-0.04	0.02	0.00
5	5.7	-0.1	260	68	-0.04	0.01	0.00
6	5.5	-0.2	268	68	-0.04	0.01	0.00
7	5.4	-0.1	275	68	-0.05	0.01	0.00
8	5.3	-0.1	278	68	-0.05	0.02	0.00
9	5.2	-0.1	281	68	-0.05	0.02	0.00
10	5.1	-0.1	284	68	-0.05	0.02	0.00
11	5.0	-0.1	287	68	-0.05	0.00	0.00
12	4.9	-0.1	290	68	-0.05	0.00	0.00
13	4.8	-0.1	292	68	-0.05	0.00	0.00
14	4.7	-0.1	295	68	-0.05	16.55	4.15
15	4.6	-0.1	295	68	-0.05	16.75	4.19
16	4.5	-0.1	297	68	-0.05	15.01	3.67
17	4.4	-0.1	299	68	-0.05	9.69	2.38
18	4.3	-0.1	299	68	-0.05	10.00	2.47
19	4.2	-0.1	303	68	-0.05	1.08	0.09
20	4.1	-0.1	306	68	-0.05	1.00	0.09
21	4.0	-0.1	319	68	-0.05	14.84	0.05
22	3.9	-0.1	328	68	-0.05	8.24	0.03
23	4.7	0.8	304	68	-0.05	0.29	0.00
24	4.5	-0.2	297	68	-0.05	4.92	0.01
25	4.3	-0.2	298	68	-0.05	5.74	0.01
26	4.2	-0.1	297	68	-0.05	5.27	0.01
27	4.1	-0.1	301	68	-0.05	7.66	0.00
28	4.0	-0.1	304	68	-0.05	6.51	0.00
29	3.8	-0.2	306	68	-0.05	7.21	0.00
30	3.7	-0.1	307	68	-0.05	7.37	0.00
31	3.6	-0.1	307	68	-0.05	5.52	0.01
32	3.5	-0.1	307	68	-0.05	6.50	0.00
33	3.4	-0.1	306	67	-0.05	5.92	0.00
34	3.3	-0.1	306	68	-0.05	7.02	0.00
35	3.2	-0.1	307	68	-0.05	6.56	0.01
36	3.0	-0.2	311	68	-0.05	7.66	0.00
37	2.9	-0.1	310	68	-0.05	6.24	0.00
38	2.8	-0.1	311	68	-0.05	5.97	0.01
39	2.7	-0.1	314	68	-0.05	7.44	0.00
40	2.6	-0.1	314	68	-0.05	7.04	0.00
41	2.5	-0.1	315	68	-0.05	7.50	0.00
42	2.4	-0.1	314	68	-0.05	6.36	0.01
43	2.3	-0.1	313	68	-0.05	6.94	0.00
44	2.2	-0.1	313	68	-0.05	0.01	0.00
45	2.1	-0.1	313	68	-0.05	0.01	0.00
46	2.0	-0.1	312	68	-0.05	0.02	0.00
47	1.9	-0.1	314	68	-0.05	0.04	0.00
48	1.7	-0.2	314	68	-0.05	6.62	0.00
49	1.6	-0.1	316	68	-0.05	8.26	0.00
50	1.5	-0.1	317	68	-0.05	7.84	0.00
51	1.4	-0.1	341	68	-0.06	6.48	0.01
52	1.3	-0.1	331	68	-0.05	1.74	0.15
53	1.2	-0.1	314	69	-0.05	5.72	0.00
54	1.1	-0.1	313	69	-0.05	6.59	0.00
55	1.0	-0.1	311	69	-0.05	6.45	0.00
56	0.9	-0.1	309	68	-0.05	6.34	0.00
57	0.8	-0.1	312	69	-0.05	7.86	0.00
58	0.7	-0.1	313	69	-0.05	7.94	0.00
59	0.6	-0.1	312	68	-0.05	7.15	0.00
60	0.5	-0.1	311	68	-0.05	6.09	0.00
61	0.4	-0.1	314	68	-0.05	6.85	0.00
62	0.2	-0.2	315	68	-0.05	7.14	0.00
63	0.1	-0.1	315	69	-0.05	6.25	0.00
64	0.0	-0.1	315	69	-0.05	6.48	0.00

Pellet Heater Test Data - ASTM E2779 / ASTM E2515

Run: 1

Manufacturer: Hearth & Home
Model: E2
Tracking No.: 2188
Project No.: 0061PS094E
Test Date: 19-May-17
Beginning Clock Time: 09:44

High Burn End Time: 62
Medium Burn End Time: 183
Total Sampling Time: 363 min
Recording Interval: 1 min
Background Sample Volume: N/A cubic feet

Meter Box Y Factor: 0.984 (1) 0.99 (2) N/A (Amb)

Barometric Pressure: Begin 30.19, Middle 30.16, End 30.14, Average 30.16 "Hg

OMNI Equipment Numbers: 132, 185, 209, 244, 283A, 335, 336, 410, 559, 592, 594

PM Control Modules: 335/336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.160 "H2O
Tunnel Area: 0.19635 ft2
Pitot Tube Cp: 0.99

Avg. Tunnel Velocity: 11.87 ft/sec.
Intial Tunnel Flow: 125.8 scfm
Average Tunnel Flow: 131.7 scfm
Post-Test Leak Check (1): 0.000 cfm @ -9 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ -9 in. Hg
Fuel Moisture: 7.09 Dry Basis %

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Center	
Initial dP	0.022	0.034	0.038	0.032	0.018	0.036	0.036	0.020	0.055	"H2O
Temp:	110	110	110	110	110	110	110	110	110	°F

V_{strav} 12.16 ft/sec V_{scent} 16.08 ft/sec F_p 0.756

	Particulate Sampling Data																Fuel Weight (lb)		Temperature Data (°F)				Stack Gas Data		
Elapsed Time (min)	Gas Meter 1 (ft^3)	Gas Meter 2 (ft^3)	Sample Rate 1 (cfm)	Sample Rate 2 (cfm)	Orifice dH 1 ("H_2O)	Meter Temp 1 (°F)	Meter Vacuum 1 ("Hg)	Orifice dH 2 ("H_2O)	Meter Temp 2 (°F)	Meter Vacuum 2 ("Hg)	Dilution Tunnel (°F)	Dilution Tunnel Center dP	sqrt dp	vsi	Pro. Rate 1	Pro. Rate 2	Scale Reading	Weight Change	Stack	Filter 1	Filter 2	Ambient	Draft ("H_2O)	CO_2 (%)	CO (%)
0	0.000	0.000			0.62	72	1.4	0.29	72	1.2	110	0.055	0.235	12.16			32.9		316	68	68	68	-0.051	7.22	0.004
1	0.145	0.156	0.15	0.16	1.31	72	1.99	1.13	72	1.2	111	0.054	0.232	12.06	92	99	32.8	-0.1	314	68	69	68	-0.051	7.02	0.004
2	0.307	0.318	0.16	0.16	1.33	72	2.02	1.11	72	1.2	111	0.056	0.237	12.29	100	101	32.7	-0.1	316	69	69	68	-0.052	8.66	0.005
3	0.469	0.480	0.16	0.16	1.32	72	2.02	1.11	72	1.2	111	0.055	0.235	12.18	101	102	32.6	-0.1	314	69	69	68	-0.052	7.22	0.003
4	0.630	0.643	0.16	0.16	1.32	72	2.02	1.11	72	1.2	111	0.056	0.237	12.29	100	101	32.5	-0.1	315	70	70	69	-0.052	5.9	0.005
5	0.792	0.806	0.16	0.16	1.32	72	2.01	1.11	72	1.2	110	0.052	0.228	11.83	104	105	32.4	-0.1	313	70	70	69	-0.051	5.74	0.006
6	0.953	0.968	0.16	0.16	1.32	72	2.02	1.11	72	1.2	110	0.053	0.230	11.94	103	104	32.3	-0.1	314	70	70	69	-0.052	7.96	0.005
7	1.116	1.130	0.16	0.16	1.32	72	2.01	1.11	72	1.2	110	0.055	0.235	12.16	102	102	32.2	-0.1	315	70	70	69	-0.051	6.85	0.004
8	1.277	1.293	0.16	0.16	1.31	72	2.01	1.11	72	1.2	110	0.055	0.235	12.16	101	102	32.1	-0.1	314	71	71	69	-0.051	6.17	0.004
9	1.438	1.456	0.16	0.16	1.32	72	2.02	1.11	73	1.2	111	0.053	0.230	11.95	103	104	32.0	-0.1	315	71	71	69	-0.051	7	0.004
10	1.600	1.618	0.16	0.16	1.31	72	2.01	1.10	73	1.2	111	0.055	0.235	12.18	101	102	31.9	-0.1	316	71	71	69	-0.052	6.1	0.005
11	1.761	1.780	0.16	0.16	1.32	72	2.01	1.11	73	1.2	110	0.057	0.239	12.38	99	100	31.8	-0.1	313	71	71	69	-0.051	5.51	0.007
12	1.924	1.943	0.16	0.16	1.32	72	2.02	1.10	73	1.2	110	0.054	0.232	12.05	103	103	31.7	-0.1	313	71	71	69	-0.051	6.32	0.005
13	2.085	2.105	0.16	0.16	1.31	73	2.01	1.11	73	1.2	111	0.051	0.226	11.72	104	105	31.6	-0.1	314	72	72	69	-0.052	7.11	0.003
14	2.246	2.268	0.16	0.16	1.31	73	2.01	1.10	73	1.2	110	0.057	0.239	12.38	99	100	31.5	-0.1	314	72	72	69	-0.051	7.26	0.003
15	2.407	2.430	0.16	0.16	1.31	73	2.01	1.10	73	1.2	111	0.052	0.228	11.84	103	104	31.4	-0.1	316	72	72	69	-0.052	7.75	0.004
16	2.568	2.592	0.16	0.16	1.31	73	2.02	1.10	73	1.2	113	0.052	0.228	11.86	104	105	31.2	-0.2	326	72	72	69	-0.057	7.48	0.004
17	2.731	2.754	0.16	0.16	1.31	73	2	1.10	74	1.2	120	0.057	0.239	12.49	101	100	31.2	0	342	72	72	69	-0.055	2.71	0.052
18	2.892	2.918	0.16	0.16	1.31	73	2.01	1.09	74	1.2	114	0.055	0.235	12.21	101	103	31.1	-0.1	320	73	73	69	-0.052	2.7	0.039
19	3.053	3.080	0.16	0.16	1.30	73	2.02	1.10	74	1.2	112	0.052	0.228	11.85	103	104	31.0	-0.1	313	73	73	69	-0.051	7.12	0.003
20	3.214	3.242	0.16	0.16	1.31	74	2.01	1.10	74	1.2	112	0.056	0.237	12.30	100	101	30.9	-0.1	312	73	73	69	-0.051	7.15	0.003
21	3.376	3.404	0.16	0.16	1.31	74	2.01	1.10	74	1.2	111	0.055	0.235	12.18	101	101	30.8	-0.1	311	73	73	69	-0.051	6.95	0.003
22	3.538	3.567	0.16	0.16	1.30	74	2.01	1.10	74	1.2	112	0.056	0.237	12.30	100	101	30.7	-0.1	313	73	73	69	-0.051	6.98	0.003
23	3.699	3.729	0.16	0.16	1.31	74	2.01	1.10	74	1.2	111	0.056	0.237	12.29	99	100	30.6	-0.1	313	73	73	69	-0.051	5.91	0.005
24	3.860	3.891	0.16	0.16	1.31	74	2.01	1.10	75	1.2	111	0.054	0.232	12.06	101	102	30.5	-0.1	311	73	73	69	-0.051	6.27	0.005
25	4.022	4.053	0.16	0.16	1.31	74	2.01	1.10	75	1.2	111	0.056	0.237	12.29	100	100	30.4	-0.1	311	74	73	69	-0.050	7.07	0.004
26	4.183	4.216	0.16	0.16	1.31	74	2.01	1.10	75	1.2	111	0.057	0.239	12.39	99	100	30.3	-0.1	310	74	73	69	-0.051	6.5	0.005
27	4.346	4.378	0.16	0.16	1.30	75	2.01	1.10	75	1.2	111	0.055	0.235	12.18	101	101	30.2	-0.1	313	74	73	69	-0.052	7.86	0.003
28	4.507	4.540	0.16	0.16	1.30	75	2.01	1.10	75	1.2	111	0.056	0.237	12.29	99	100	30.0	-0.2	313	74	74	69	-0.051	6.58	0.004
29	4.669	4.702	0.16	0.16	1.30	75	2.02	1.10	75	1.2	112	0.054	0.232	12.07	102	102	29.9	-0.1	313	74	74	69	-0.051	6.53	0.005
30	4.830	4.865	0.16	0.16	1.31	75	2.01	1.10	75	1.2	111	0.056	0.237	12.29	99	101	29.8	-0.1	315	74	74	69	-0.052	6.89	0.005
31	4.992	5.028	0.16	0.16	1.31	75	2.02	1.10	76	1.2	112	0.055	0.235	12.19	101	102	29.7	-0.1	318	74	74	69	-0.052	7.37	0.003
32	5.154	5.190	0.16	0.16	1.31	75	2.01	1.09	76	1.2	111	0.057	0.239	12.39	99	99	29.6	-0.1	316	74	74	69	-0.052	6.52	0.006
33	5.316	5.352	0.16	0.16	1.31	75	2.02	1.10	76	1.2	111	0.056	0.237	12.29	100	100	29.5	-0.1	317	74	74	69	-0.052	8.19	0.003
34	5.478	5.515	0.16	0.16	1.30	76	2.02	1.10	76	1.2	111	0.054	0.232	12.06	102	103	29.4	-0.1	317	74	74	70	-0.052	7.19	0.003
35	5.639	5.678	0.16	0.16	1.31	76	2.01	1.10	76	1.2	111	0.056	0.237	12.29	99	101	29.3	-0.1	316	74	74	69	-0.052	6.06	0.004
36	5.801	5.840	0.16	0.16	1.31	76	2.02	1.10	76	1.2	111	0.054	0.232	12.06	102	102	29.2	-0.1	318	74	74	69	-0.052	7.24	0.004
37	5.962	6.002	0.16	0.16	1.31	76	2.02	1.10	76	1.2	111	0.054	0.232	12.06	101	102	29.1	-0.1	318	75	74	70	-0.052	6.42	0.004
38	6.125	6.165	0.16	0.16	1.31	76	2.02	1.10	77	1.2	111	0.056	0.237	12.29	100	100	28.9	-0.2	317	75	74	70	-0.052	7.48	0.003
39	6.287	6.327	0.16	0.16	1.31	76	2.02	1.10	77	1.2	111	0.057	0.239	12.39	99	99	28.8	-0.1	318	75	74	70	-0.052	7.39	0.002
40	6.449	6.491	0.16	0.16	1.31	76	2.02	1.10	77	1.3	111	0.051	0.226	11.72	104	106	28.7	-0.1	317	75	74	69	-0.052	6.7	0.004
41	6.611	6.653	0.16	0.16	1.31	76	2.02	1.09	77	1.2	111	0.055	0.235	12.18	101	101	28.6	-0.1	317	75	74	70	-0.052	6.21	0.005
42	6.773	6.816	0.16	0.16	1.31	77	2.02	1.10	77	1.2	112	0.056	0.237	12.30	100	101	28.5	-0.1	318	75	74	70	-0.052	6.8	0.004
43	6.935	6.978	0.16	0.16	1.31	77	2.02	1.10	77	1.2	112	0.054	0.232	12.07	101	102	28.4	-0.1	316	75	74	70	-0.052	7.01	0.004
44	7.098	7.141	0.16	0.16	1.31	77	2.02	1.10	77	1.3	112	0.055	0.235	12.19	101	101	28.3	-0.1	315	75	75	70	-0.053	7.31	0.005
45	7.260	7.304	0.16	0.16	1.31	77	2.02	1.10	77	1.2	112	0.056	0.237	12.30	100	101	28.2	-0.1	315	75	75	70	-0.052	5.87	0.005

Pellet Heater Test Data - ASTM E2779 / ASTM E2515

Run: 1

Manufacturer: Hearth & Home
Model: E2
Tracking No.: 2188
Project No.: 0061PS094E
Test Date: 19-May-17
Beginning Clock Time: 09:44

High Burn End Time: 62
Medium Burn End Time: 183
Total Sampling Time: 363 min
Recording Interval: 1 min
Background Sample Volume: N/A cubic feet

Meter Box Y Factor: 0.984 (1) 0.99 (2) N/A (Amb)

Barometric Pressure: Begin 30.19, Middle 30.16, End 30.14, Average 30.16 "Hg

OMNI Equipment Numbers: 132, 185, 209, 244, 283A, 335, 336, 410, 559, 592, 594

PM Control Modules: 335/336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.160 "H2O
Tunnel Area: 0.19635 ft2
Pitot Tube Cp: 0.99

Avg. Tunnel Velocity: 11.87 ft/sec.
Intial Tunnel Flow: 125.8 scfm
Average Tunnel Flow: 131.7 scfm
Post-Test Leak Check (1): 0.000 cfm @ -9 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ -9 in. Hg
Fuel Moisture: 7.09 Dry Basis %

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Center	
Initial dP	0.022	0.034	0.038	0.032	0.018	0.036	0.036	0.020	0.055	"H2O
Temp:	110	110	110	110	110	110	110	110	110	°F

V_{strav} 12.16 ft/sec V_{scent} 16.08 ft/sec F_p 0.756

	Particulate Sampling Data																	Fuel Weight (lb)		Temperature Data (°F)				Stack Gas Data		
Elapsed Time (min)	Gas Meter 1 (ft^3)	Gas Meter 2 (ft^3)	Sample Rate 1 (cfm)	Sample Rate 2 (cfm)	Orifice dH 1 ("H_2O)	Meter Temp 1 (°F)	Meter Vacuum 1 ("Hg)	Orifice dH 2 ("H_2O)	Meter Temp 2 (°F)	Meter Vacuum 2 ("Hg)	Dilution Tunnel (°F)	Dilution Tunnel Center dP	sqrt dp	vsi	Pro. Rate 1	Pro. Rate 2	Scale Reading	Weight Change	Stack	Filter 1	Filter 2	Ambient	Draft ("H_2O)	CO_2 (%)	CO (%)
46	7.421	7.466	0.16	0.16	1.32	77	2.01	1.09	77	1.2	119	0.052	0.228	11.92	103	104	28.1	-0.1	337	75	75	70	-0.055	4.61	0.015
47	7.584	7.629	0.16	0.16	1.31	77	2.01	1.10	78	1.2	120	0.055	0.235	12.27	102	102	28.1	0	338	75	75	70	-0.052	3.18	0.021
48	7.746	7.792	0.16	0.16	1.31	77	2.02	1.10	78	1.2	114	0.052	0.228	11.87	104	104	28.0	-0.1	314	75	75	70	-0.051	3.45	0.022
49	7.908	7.955	0.16	0.16	1.31	77	2.01	1.09	78	1.2	113	0.060	0.245	12.74	96	97	27.9	-0.1	311	75	75	70	-0.051	6.04	0.003
50	8.071	8.118	0.16	0.16	1.32	77	2.02	1.10	78	1.3	113	0.056	0.237	12.31	100	100	27.8	-0.1	312	75	75	70	-0.050	7.33	0.002
51	8.233	8.280	0.16	0.16	1.30	77	2.02	1.10	78	1.2	112	0.053	0.230	11.96	102	103	27.7	-0.1	310	75	75	70	-0.051	6.5	0.004
52	8.395	8.443	0.16	0.16	1.31	78	2.02	1.10	78	1.3	112	0.055	0.235	12.19	100	101	27.6	-0.1	312	75	75	70	-0.051	7.06	0.003
53	8.558	8.606	0.16	0.16	1.31	78	2.02	1.10	78	1.2	111	0.053	0.230	11.95	103	103	27.5	-0.1	309	75	75	70	-0.051	5.46	0.005
54	8.719	8.769	0.16	0.16	1.31	78	2.03	1.10	78	1.3	112	0.055	0.235	12.19	100	101	27.4	-0.1	313	75	75	70	-0.051	7.66	0.012
55	8.882	8.932	0.16	0.16	1.32	78	2.02	1.10	78	1.2	112	0.056	0.237	12.30	100	100	27.2	-0.2	314	75	75	70	-0.051	6.62	0.003
56	9.045	9.094	0.16	0.16	1.31	78	2.02	1.09	78	1.2	111	0.056	0.237	12.29	100	100	27.1	-0.1	314	76	75	70	-0.051	7.5	0.003
57	9.207	9.257	0.16	0.16	1.31	78	2.02	1.10	79	1.3	111	0.057	0.239	12.39	98	99	27.0	-0.1	315	76	75	70	-0.051	6.65	0.005
58	9.370	9.420	0.16	0.16	1.31	78	2.02	1.10	79	1.2	111	0.054	0.232	12.06	102	102	26.9	-0.1	314	76	75	70	-0.051	6.65	0.004
59	9.532	9.584	0.16	0.16	1.31	78	2.02	1.09	79	1.3	111	0.056	0.237	12.29	99	101	26.8	-0.1	315	76	75	70	-0.051	7.25	0.004
60	9.694	9.746	0.16	0.16	1.31	78	2.02	1.09	79	1.2	111	0.051	0.226	11.72	104	104	26.7	-0.1	313	76	75	71	-0.051	6.46	0.005
61	9.858	9.908	0.16	0.16	1.32	78	2	1.10	79	1.3	112	0.057	0.239	12.41	100	99	26.6	-0.1	316	75	75	70	-0.052	7.11	0.004
62	10.021	10.071	0.16	0.16	1.32	78	2	1.10	79	1.3	110	0.057	0.239	12.38	99	99	26.5	-0.1	312	76	75	70	-0.050	7.83	0.003
63	10.185	10.234	0.16	0.16	1.32	78	2	1.10	79	1.3	109	0.055	0.235	12.15	101	101	26.4	-0.1	307	76	75	70	-0.050	6.99	0.004
64	10.348	10.398	0.16	0.16	1.32	78	2	1.10	79	1.3	106	0.055	0.235	12.12	100	101	26.3	-0.1	296	76	75	70	-0.049	5.6	0.007
65	10.511	10.560	0.16	0.16	1.31	79	1.99	1.10	79	1.3	105	0.053	0.230	11.89	102	102	26.2	-0.1	288	76	75	70	-0.048	5.48	0.006
66	10.674	10.723	0.16	0.16	1.32	79	1.99	1.10	79	1.2	103	0.054	0.232	11.98	101	101	26.2	0	277	76	75	70	-0.045	4.42	0.004
67	10.837	10.886	0.16	0.16	1.31	79	1.99	1.10	79	1.2	101	0.055	0.235	12.07	100	100	26.1	-0.1	269	76	75	70	-0.045	5.72	0.004
68	11.000	11.049	0.16	0.16	1.32	79	2	1.10	79	1.2	100	0.053	0.230	11.84	102	102	26.0	-0.1	261	76	75	70	-0.042	4.47	0.004
69	11.163	11.212	0.16	0.16	1.32	79	1.99	1.10	79	1.2	97	0.054	0.232	11.92	100	101	26.0	0	249	75	75	70	-0.041	4.37	0.004
70	11.327	11.375	0.16	0.16	1.32	79	2	1.09	79	1.2	97	0.055	0.235	12.03	100	100	26.0	0	243	75	75	70	-0.040	3.91	0.004
71	11.491	11.538	0.16	0.16	1.32	79	1.99	1.09	79	1.2	95	0.057	0.239	12.22	98	98	25.9	-0.1	236	75	75	71	-0.039	2.51	0.012
72	11.655	11.701	0.16	0.16	1.32	79	1.99	1.10	79	1.2	95	0.055	0.235	12.00	100	100	25.9	0	232	75	75	70	-0.038	4.57	0.002
73	11.818	11.865	0.16	0.16	1.32	79	1.99	1.10	80	1.2	94	0.053	0.230	11.77	101	102	25.8	-0.1	227	75	75	70	-0.037	3.41	0.004
74	11.982	12.028	0.16	0.16	1.32	79	2	1.10	80	1.3	94	0.056	0.237	12.10	99	98	25.8	0	225	75	75	70	-0.037	4.27	0.004
75	12.145	12.191	0.16	0.16	1.32	79	1.99	1.10	80	1.2	93	0.055	0.235	11.98	99	99	25.7	-0.1	222	75	74	71	-0.037	3.82	0.004
76	12.308	12.354	0.16	0.16	1.32	79	1.99	1.10	80	1.3	105	0.055	0.235	12.11	100	100	25.7	0	265	75	75	70	-0.045	2.12	0.052
77	12.471	12.518	0.16	0.16	1.32	79	1.99	1.10	80	1.3	102	0.059	0.243	12.51	96	97	25.7	0	257	75	75	71	-0.038	1.69	0.070
78	12.635	12.681	0.16	0.16	1.32	79	2	1.10	80	1.3	96	0.054	0.232	11.90	101	100	25.6	-0.1	233	75	75	71	-0.038	4.58	0.004
79	12.798	12.845	0.16	0.16	1.32	79	1.99	1.09	80	1.2	94	0.059	0.243	12.42	96	96	25.6	0	223	75	74	71	-0.037	2.77	0.014
80	12.962	13.008	0.16	0.16	1.33	79	1.99	1.10	80	1.3	94	0.057	0.239	12.21	98	98	25.5	-0.1	219	75	74	70	-0.036	4.54	0.004
81	13.127	13.171	0.17	0.16	1.32	79	1.99	1.10	80	1.3	93	0.057	0.239	12.20	98	97	25.5	0	217	75	74	71	-0.036	4.15	0.004
82	13.290	13.334	0.16	0.16	1.32	79	1.99	1.10	80	1.3	92	0.054	0.232	11.86	100	100	25.4	-0.1	214	75	74	70	-0.035	3.77	0.003
83	13.454	13.497	0.16	0.16	1.31	80	2	1.10	80	1.2	92	0.053	0.230	11.75	101	101	25.4	0	213	75	74	71	-0.035	3.53	0.022
84	13.617	13.661	0.16	0.16	1.32	80	1.99	1.10	80	1.2	92	0.056	0.237	12.08	98	99	25.3	-0.1	212	75	74	71	-0.035	4.45	0.002
85	13.780	13.824	0.16	0.16	1.32	80	1.99	1.10	80	1.3	91	0.056	0.237	12.07	98	98	25.3	0	210	74	74	71	-0.035	3.1	0.026
86	13.944	13.987	0.16	0.16	1.32	80	1.99	1.10	80	1.2	91	0.056	0.237	12.07	98	98	25.3	0	209	74	74	71	-0.034	3.38	0.004
87	14.107	14.150	0.16	0.16	1.32	80	2	1.10	80	1.3	91	0.056	0.237	12.07	98	98	25.2	-0.1	210	74	74	71	-0.034	4.55	0.004
88	14.271	14.314	0.16	0.16	1.33	80	2	1.10	80	1.3	91	0.057	0.239	12.18	98	98	25.1	-0.1	210	74	74	71	-0.035	4.06	0.003
89	14.435	14.478	0.16	0.16	1.33	80	1.99	1.10	80	1.2	91	0.052	0.228	11.63	102	102	25.1	0	211	74	74	71	-0.034	4.99	0.003
90	14.599	14.641	0.16	0.16	1.32	80	2	1.10	80	1.3	90	0.054	0.232	11.84	100	100	25.0	-0.1	210	74	74	71	-0.034	3.47	0.005
91	14.763	14.804	0.16	0.16	1.32	80	1.99	1.10	80	1.3	91	0.055	0.235	11.96	99	99	25.0	0	211	74	74	71	-0.034	5.83	0.003

Pellet Heater Test Data - ASTM E2779 / ASTM E2515

Run: 1

Manufacturer: Hearth & Home
Model: E2
Tracking No.: 2188
Project No.: 0061PS094E
Test Date: 19-May-17
Beginning Clock Time: 09:44

High Burn End Time: 62
Medium Burn End Time: 183
Total Sampling Time: 363 min
Recording Interval: 1 min
Background Sample Volume: N/A cubic feet

Meter Box Y Factor: 0.984 (1) 0.99 (2) N/A (Amb)

Barometric Pressure: Begin 30.19, Middle 30.16, End 30.14, Average 30.16 "Hg

OMNI Equipment Numbers: 132, 185, 209, 244, 283A, 335, 336, 410, 559, 592, 594

PM Control Modules: 335/336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.160 "H2O
Tunnel Area: 0.19635 ft2
Pitot Tube Cp: 0.99

Avg. Tunnel Velocity: 11.87 ft/sec.
Intial Tunnel Flow: 125.8 scfm
Average Tunnel Flow: 131.7 scfm
Post-Test Leak Check (1): 0.000 cfm @ -9 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ -9 in. Hg
Fuel Moisture: 7.09 Dry Basis %

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Center	
Initial dP	0.022	0.034	0.038	0.032	0.018	0.036	0.036	0.020	0.055	"H2O
Temp:	110	110	110	110	110	110	110	110	110	°F

V_{strav} 12.16 ft/sec V_{scent} 16.08 ft/sec F_p 0.756

	Particulate Sampling Data																	Fuel Weight (lb)		Temperature Data (°F)				Stack Gas Data		
Elapsed Time (min)	Gas Meter 1 (ft^3)	Gas Meter 2 (ft^3)	Sample Rate 1 (cfm)	Sample Rate 2 (cfm)	Orifice dH 1 ("H_2O)	Meter Temp 1 (°F)	Meter Vacuum 1 ("Hg)	Orifice dH 2 ("H_2O)	Meter Temp 2 (°F)	Meter Vacuum 2 ("Hg)	Dilution Tunnel (°F)	Dilution Tunnel Center dP	sqrt dp	vsi	Pro. Rate 1	Pro. Rate 2	Scale Reading	Weight Change	Stack	Filter 1	Filter 2	Ambient	Draft ("H_2O)	CO_2 (%)	CO (%)
92	14.926	14.967	0.16	0.16	1.32	80	2	1.10	80	1.3	90	0.056	0.237	12.06	98	98	24.9	-0.1	210	74	74	71	-0.035	3.28	0.015
93	15.090	15.131	0.16	0.16	1.32	80	1.99	1.10	80	1.2	90	0.056	0.237	12.06	98	99	24.9	0	209	74	74	71	-0.034	3.79	0.004
94	15.253	15.294	0.16	0.16	1.32	80	1.99	1.10	80	1.3	90	0.055	0.235	11.95	99	99	24.8	-0.1	207	74	74	71	-0.034	3.57	0.004
95	15.417	15.458	0.16	0.16	1.32	80	2	1.10	80	1.2	90	0.056	0.237	12.06	98	99	24.8	0	209	74	74	71	-0.035	5.75	0.002
96	15.580	15.621	0.16	0.16	1.32	80	2	1.09	81	1.2	90	0.056	0.237	12.06	98	98	24.7	-0.1	211	74	74	70	-0.035	5.36	0.002
97	15.744	15.784	0.16	0.16	1.33	80	1.99	1.10	81	1.3	90	0.057	0.239	12.16	97	97	24.7	0	207	74	74	71	-0.034	2.53	0.014
98	15.908	15.948	0.16	0.16	1.32	80	2	1.10	81	1.2	90	0.054	0.232	11.84	100	100	24.6	-0.1	208	74	74	71	-0.035	4.62	0.002
99	16.072	16.111	0.16	0.16	1.33	80	1.99	1.10	81	1.2	90	0.057	0.239	12.16	97	97	24.6	0	207	74	74	71	-0.033	3.34	0.007
100	16.236	16.276	0.16	0.16	1.33	80	1.99	1.10	81	1.3	90	0.054	0.232	11.84	100	101	24.6	0	207	74	74	71	-0.034	3.59	0.005
101	16.400	16.439	0.16	0.16	1.32	80	2	1.10	81	1.3	90	0.054	0.232	11.84	100	100	24.5	-0.1	208	74	74	71	-0.034	4.27	0.003
102	16.564	16.602	0.16	0.16	1.32	80	1.99	1.10	81	1.2	90	0.054	0.232	11.84	100	100	24.4	-0.1	210	74	74	71	-0.034	5.13	0.002
103	16.727	16.765	0.16	0.16	1.32	80	1.99	1.10	81	1.3	90	0.054	0.232	11.84	99	100	24.4	0	208	74	74	71	-0.034	3.6	0.005
104	16.891	16.928	0.16	0.16	1.32	80	1.99	1.10	81	1.2	90	0.055	0.235	11.95	99	99	24.3	-0.1	207	74	74	71	-0.034	4.23	0.004
105	17.055	17.092	0.16	0.16	1.32	80	2	1.10	81	1.3	90	0.055	0.235	11.95	99	99	24.3	0	208	74	73	71	-0.034	3.61	0.006
106	17.218	17.256	0.16	0.16	1.32	80	1.99	1.10	81	1.3	100	0.055	0.235	12.06	99	100	24.2	-0.1	243	74	74	71	-0.041	2.62	0.060
107	17.382	17.419	0.16	0.16	1.32	80	2	1.09	81	1.2	102	0.053	0.230	11.86	102	102	24.2	0	250	74	74	71	-0.037	1.6	0.080
108	17.546	17.582	0.16	0.16	1.32	80	2	1.10	81	1.3	93	0.056	0.237	12.09	99	98	24.2	0	222	74	74	71	-0.035	2.75	0.012
109	17.710	17.746	0.16	0.16	1.32	81	1.99	1.10	81	1.3	92	0.055	0.235	11.97	99	100	24.1	-0.1	212	74	74	71	-0.034	2.14	0.045
110	17.874	17.909	0.16	0.16	1.32	81	2	1.10	81	1.3	91	0.054	0.232	11.85	100	100	24.1	0	210	74	74	71	-0.034	5.03	0.002
111	18.038	18.073	0.16	0.16	1.32	81	1.99	1.10	81	1.3	91	0.056	0.237	12.07	98	99	24.0	-0.1	209	74	74	71	-0.034	3.76	0.017
112	18.202	18.237	0.16	0.16	1.32	81	2	1.10	81	1.3	90	0.056	0.237	12.06	98	98	24.0	0	207	74	74	71	-0.033	3.25	0.008
113	18.366	18.400	0.16	0.16	1.32	81	2	1.10	81	1.3	90	0.056	0.237	12.06	98	98	24.0	0	206	74	74	71	-0.033	3.89	0.003
114	18.529	18.563	0.16	0.16	1.32	81	1.99	1.10	81	1.3	90	0.054	0.232	11.84	99	100	23.9	-0.1	204	74	74	71	-0.034	3.02	0.007
115	18.693	18.726	0.16	0.16	1.32	81	2	1.10	81	1.3	90	0.054	0.232	11.84	100	100	23.8	-0.1	206	74	74	71	-0.034	5.17	0.002
116	18.856	18.890	0.16	0.16	1.33	81	1.99	1.10	81	1.3	90	0.054	0.232	11.84	99	100	23.8	0	205	74	74	71	-0.034	3.67	0.004
117	19.020	19.054	0.16	0.16	1.33	81	2	1.10	81	1.3	90	0.053	0.230	11.73	101	101	23.8	0	206	74	74	71	-0.034	5.36	0.002
118	19.184	19.217	0.16	0.16	1.33	81	1.99	1.10	81	1.3	90	0.054	0.232	11.84	100	100	23.7	-0.1	205	74	74	71	-0.034	3.43	0.006
119	19.348	19.380	0.16	0.16	1.32	81	2	1.10	81	1.3	90	0.054	0.232	11.84	100	100	23.6	-0.1	207	74	74	71	-0.034	5.16	0.002
120	19.512	19.544	0.16	0.16	1.32	81	2	1.10	81	1.3	90	0.054	0.232	11.84	100	100	23.6	0	206	74	74	71	-0.034	3.86	0.005
121	19.677	19.707	0.16	0.16	1.33	81	1.99	1.10	81	1.3	89	0.056	0.237	12.05	99	98	23.5	-0.1	206	74	74	71	-0.033	3.38	0.006
122	19.840	19.872	0.16	0.16	1.32	81	2	1.09	81	1.3	90	0.056	0.237	12.06	98	99	23.5	0	207	74	74	71	-0.034	4.39	0.003
123	20.004	20.035	0.16	0.16	1.32	81	1.99	1.10	81	1.3	90	0.054	0.232	11.84	100	100	23.5	0	207	74	74	71	-0.034	3.69	0.004
124	20.168	20.198	0.16	0.16	1.31	81	2	1.10	81	1.3	90	0.056	0.237	12.06	98	98	23.4	-0.1	207	74	74	71	-0.033	3.92	0.004
125	20.331	20.361	0.16	0.16	1.32	81	2	1.10	81	1.3	89	0.057	0.239	12.15	97	97	23.4	0	205	74	74	71	-0.033	3.76	0.004
126	20.495	20.524	0.16	0.16	1.32	81	2	1.10	81	1.3	90	0.058	0.241	12.27	96	96	23.3	-0.1	206	74	74	71	-0.034	5.69	0.002
127	20.659	20.689	0.16	0.16	1.33	81	1.99	1.10	81	1.3	89	0.054	0.232	11.83	100	101	23.3	0	206	74	74	71	-0.034	3.45	0.014
128	20.823	20.852	0.16	0.16	1.33	81	2	1.10	81	1.3	90	0.053	0.230	11.73	101	101	23.2	-0.1	208	74	74	71	-0.034	5.32	0.003
129	20.987	21.015	0.16	0.16	1.32	81	2	1.10	82	1.3	90	0.056	0.237	12.06	98	98	23.1	-0.1	209	74	74	71	-0.034	4.81	0.003
130	21.151	21.179	0.16	0.16	1.33	81	2	1.10	81	1.3	90	0.055	0.235	11.95	99	99	23.1	0	208	74	74	71	-0.034	3.91	0.004
131	21.315	21.342	0.16	0.16	1.33	81	2	1.10	81	1.3	90	0.057	0.239	12.16	97	97	23.0	-0.1	209	74	74	71	-0.034	4.52	0.008
132	21.479	21.506	0.16	0.16	1.32	81	2	1.10	82	1.3	90	0.054	0.232	11.84	100	100	23.0	0	209	74	74	72	-0.034	4.61	0.003
133	21.643	21.670	0.16	0.16	1.32	81	1.99	1.10	82	1.3	90	0.057	0.239	12.16	97	97	22.9	-0.1	208	74	74	72	-0.034	3.77	0.004
134	21.807	21.833	0.16	0.16	1.32	81	2	1.10	82	1.3	90	0.053	0.230	11.73	101	100	22.9	0	208	74	74	72	-0.034	3.95	0.004
135	21.971	21.996	0.16	0.16	1.32	81	2	1.10	82	1.3	90	0.051	0.226	11.51	103	102	22.8	-0.1	210	74	74	72	-0.034	5.23	0.002
136	22.134	22.159	0.16	0.16	1.33	81	2	1.10	82	1.3	98	0.056	0.237	12.15	98	98	22.8	0	234	74	74	72	-0.041	3.03	0.030
137	22.298	22.323	0.16	0.16	1.32	81	2	1.10	82	1.3	104	0.054	0.232	11.99	101	101	22.7	-0.1	261	74	74	72	-0.044	3.12	0.020

Pellet Heater Test Data - ASTM E2779 / ASTM E2515

Run: 1

Manufacturer: Hearth & Home
Model: E2
Tracking No.: 2188
Project No.: 0061PS094E
Test Date: 19-May-17
Beginning Clock Time: 09:44

High Burn End Time: 62
Medium Burn End Time: 183
Total Sampling Time: 363 min
Recording Interval: 1 min
Background Sample Volume: N/A cubic feet

Meter Box Y Factor: 0.984 (1) 0.99 (2) N/A (Amb)

Barometric Pressure:

Begin	Middle	End	Average
30.19	30.16	30.14	30.16 "Hg

OMNI Equipment Numbers: 132, 185, 209, 244, 283A, 335, 336, 410, 559, 592, 594

PM Control Modules: 335/336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.160 "H2O
Tunnel Area: 0.19635 ft2
Pitot Tube Cp: 0.99

Avg. Tunnel Velocity: 11.87 ft/sec.
Intial Tunnel Flow: 125.8 scfm
Average Tunnel Flow: 131.7 scfm
Post-Test Leak Check (1): 0.000 cfm @ -9 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ -9 in. Hg
Fuel Moisture: 7.09 Dry Basis %

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Center	
Initial dP	0.022	0.034	0.038	0.032	0.018	0.036	0.036	0.020	0.055	"H2O
Temp:	110	110	110	110	110	110	110	110	110	°F

V_{strav} 12.16 ft/sec V_{scent} 16.08 ft/sec F_p 0.756

	Particulate Sampling Data																	Fuel Weight (lb)		Temperature Data (°F)				Stack Gas Data		
Elapsed Time (min)	Gas Meter 1 (ft^3)	Gas Meter 2 (ft^3)	Sample Rate 1 (cfm)	Sample Rate 2 (cfm)	Orifice dH 1 ("H_2O)	Meter Temp 1 (°F)	Meter Vacuum 1 ("Hg)	Orifice dH 2 ("H_2O)	Meter Temp 2 (°F)	Meter Vacuum 2 ("Hg)	Dilution Tunnel (°F)	Dilution Tunnel Center dP	sqrt dp	vsi	Pro. Rate 1	Pro. Rate 2	Scale Reading	Weight Change	Stack	Filter 1	Filter 2	Ambient	Draft ("H_2O)	CO_2 (%)	CO (%)
138	22.462	22.487	0.16	0.16	1.33	81	2	1.10	82	1.3	94	0.056	0.237	12.10	98	99	22.7	0	228	74	74	71	-0.035	1.54	0.067
139	22.626	22.651	0.16	0.16	1.32	81	2	1.10	82	1.3	92	0.057	0.239	12.19	97	98	22.7	0	216	74	74	72	-0.035	3.15	0.012
140	22.790	22.814	0.16	0.16	1.33	81	2	1.09	82	1.3	92	0.053	0.230	11.75	101	101	22.6	-0.1	211	74	74	71	-0.034	3.21	0.005
141	22.955	22.978	0.16	0.16	1.32	81	2	1.10	82	1.3	91	0.053	0.230	11.74	102	101	22.6	0	208	74	74	72	-0.034	4.17	0.007
142	23.119	23.141	0.16	0.16	1.32	82	2	1.10	82	1.3	91	0.058	0.241	12.28	96	96	22.5	-0.1	209	74	74	72	-0.034	4.6	0.002
143	23.283	23.304	0.16	0.16	1.32	82	2.01	1.10	82	1.3	91	0.053	0.230	11.74	101	101	22.5	0	209	74	74	72	-0.034	5.93	0.002
144	23.447	23.468	0.16	0.16	1.32	82	2.01	1.09	82	1.3	91	0.053	0.230	11.74	101	101	22.4	-0.1	209	74	74	72	-0.034	4.26	0.004
145	23.611	23.632	0.16	0.16	1.32	82	2	1.09	82	1.3	90	0.053	0.230	11.73	101	101	22.4	0	209	74	74	72	-0.034	4.96	0.003
146	23.774	23.795	0.16	0.16	1.32	82	2	1.10	82	1.3	90	0.054	0.232	11.84	99	100	22.3	-0.1	206	74	74	72	-0.033	2.24	0.051
147	23.938	23.958	0.16	0.16	1.32	82	2	1.10	82	1.3	90	0.055	0.235	11.95	99	99	22.3	0	207	74	74	72	-0.033	4.08	0.003
148	24.102	24.122	0.16	0.16	1.32	82	2	1.10	82	1.3	90	0.057	0.239	12.16	97	97	22.2	-0.1	208	74	74	72	-0.034	5.66	0.002
149	24.266	24.286	0.16	0.16	1.33	82	1.99	1.10	82	1.3	90	0.051	0.226	11.51	103	103	22.2	0	207	74	74	72	-0.033	3.8	0.004
150	24.430	24.449	0.16	0.16	1.32	82	2	1.09	82	1.3	90	0.055	0.235	11.95	99	99	22.1	-0.1	208	74	74	72	-0.034	3.93	0.025
151	24.594	24.612	0.16	0.16	1.33	82	2.01	1.10	82	1.3	91	0.054	0.232	11.85	100	100	22.1	0	208	74	74	72	-0.034	4.39	0.003
152	24.759	24.776	0.16	0.16	1.33	82	2	1.10	82	1.3	91	0.052	0.228	11.63	102	102	22.0	-0.1	209	74	74	72	-0.034	4.76	0.003
153	24.923	24.939	0.16	0.16	1.31	82	2	1.10	82	1.3	90	0.052	0.228	11.62	102	101	22.0	0	207	74	74	72	-0.034	2.7	0.017
154	25.087	25.103	0.16	0.16	1.32	82	2	1.10	82	1.3	90	0.056	0.237	12.06	98	98	21.9	-0.1	208	74	74	72	-0.034	4.65	0.003
155	25.251	25.267	0.16	0.16	1.33	82	2	1.10	82	1.3	90	0.053	0.230	11.73	101	101	21.9	0	207	74	74	72	-0.033	2.96	0.009
156	25.415	25.430	0.16	0.16	1.32	82	2	1.10	82	1.3	90	0.055	0.235	11.95	99	99	21.8	-0.1	207	74	74	72	-0.034	5.14	0.003
157	25.579	25.593	0.16	0.16	1.32	82	2	1.10	82	1.3	90	0.055	0.235	11.95	99	99	21.8	0	207	74	74	72	-0.033	2.6	0.032
158	25.743	25.757	0.16	0.16	1.32	82	2	1.10	82	1.3	90	0.056	0.237	12.06	98	98	21.7	-0.1	210	74	74	72	-0.034	5.54	0.003
159	25.907	25.920	0.16	0.16	1.33	82	2	1.10	82	1.3	90	0.058	0.241	12.27	96	96	21.7	0	207	74	74	72	-0.034	2.74	0.016
160	26.070	26.085	0.16	0.16	1.33	82	2	1.10	82	1.3	90	0.054	0.232	11.84	99	101	21.6	-0.1	208	75	74	72	-0.034	5.43	0.002
161	26.235	26.248	0.16	0.16	1.33	82	2	1.10	82	1.3	90	0.055	0.235	11.95	99	99	21.6	0	209	75	74	72	-0.034	4.85	0.004
162	26.399	26.412	0.16	0.16	1.33	82	2	1.09	82	1.3	90	0.052	0.228	11.62	102	102	21.5	-0.1	209	75	74	72	-0.034	3.98	0.004
163	26.563	26.575	0.16	0.16	1.33	82	2.01	1.09	82	1.3	91	0.051	0.226	11.52	103	102	21.5	0	210	75	74	72	-0.034	5.09	0.003
164	26.728	26.738	0.17	0.16	1.32	82	2	1.10	82	1.3	90	0.052	0.228	11.62	102	101	21.4	-0.1	208	75	74	72	-0.034	2.66	0.010
165	26.892	26.902	0.16	0.16	1.32	82	2.01	1.10	82	1.3	91	0.055	0.235	11.96	99	99	21.4	0	210	75	74	72	-0.034	5.67	0.002
166	27.056	27.066	0.16	0.16	1.32	82	2.01	1.10	82	1.3	96	0.053	0.230	11.79	101	102	21.3	-0.1	226	75	74	72	-0.043	2.97	0.010
167	27.220	27.229	0.16	0.16	1.32	82	2	1.09	82	1.3	104	0.054	0.232	11.99	101	101	21.2	-0.1	261	75	74	72	-0.043	3.28	0.014
168	27.384	27.392	0.16	0.16	1.32	82	2	1.10	82	1.3	96	0.052	0.228	11.68	102	102	21.2	0	236	75	74	72	-0.035	2.08	0.047
169	27.547	27.556	0.16	0.16	1.32	82	2.01	1.10	82	1.3	94	0.056	0.237	12.10	98	99	21.2	0	222	75	74	72	-0.036	3.56	0.009
170	27.712	27.719	0.16	0.16	1.32	82	2.01	1.10	82	1.3	93	0.053	0.230	11.76	102	101	21.1	-0.1	215	75	74	72	-0.035	3.95	0.004
171	27.875	27.883	0.16	0.16	1.32	82	2.01	1.10	83	1.3	92	0.056	0.237	12.08	98	98	21.1	0	214	75	74	72	-0.035	5.73	0.002
172	28.039	28.047	0.16	0.16	1.33	82	2.01	1.10	83	1.3	92	0.055	0.235	11.97	99	99	21.0	-0.1	213	75	74	72	-0.035	3.97	0.007
173	28.203	28.210	0.16	0.16	1.32	82	2.01	1.09	83	1.3	91	0.055	0.235	11.96	99	99	21.0	0	211	75	74	72	-0.034	3.73	0.006
174	28.368	28.373	0.16	0.16	1.32	82	2.01	1.10	83	1.3	91	0.056	0.237	12.07	99	98	20.9	-0.1	209	75	75	72	-0.034	2.4	0.058
175	28.532	28.537	0.16	0.16	1.33	82	2	1.10	83	1.3	91	0.056	0.237	12.07	98	98	20.9	0	209	75	75	72	-0.034	4.47	0.003
176	28.697	28.700	0.16	0.16	1.32	82	2	1.10	83	1.3	91	0.054	0.232	11.85	100	99	20.8	-0.1	209	75	75	73	-0.034	4.46	0.004
177	28.861	28.864	0.16	0.16	1.32	82	2	1.10	83	1.3	91	0.060	0.245	12.49	95	95	20.8	0	209	75	75	73	-0.034	4.17	0.004
178	29.025	29.027	0.16	0.16	1.32	82	2.01	1.09	83	1.3	91	0.054	0.232	11.85	100	99	20.7	-0.1	209	75	75	72	-0.034	4.87	0.004
179	29.189	29.190	0.16	0.16	1.32	83	2.01	1.09	83	1.3	91	0.059	0.243	12.39	95	95	20.7	0	208	75	75	72	-0.034	3.01	0.007
180	29.352	29.354	0.16	0.16	1.31	83	2.01	1.10	83	1.3	91	0.053	0.230	11.74	100	101	20.6	-0.1	208	75	75	72	-0.034	3.78	0.006
181	29.517	29.517	0.16	0.16	1.31	83	2	1.09	83	1.3	91	0.053	0.230	11.74	101	100	20.6	0	206	75	75	73	-0.034	3.29	0.006
182	29.680	29.681	0.16	0.16	1.32	83	2.01	1.10	83	1.3	91	0.051	0.226	11.52	102	103	20.5	-0.1	210	75	75	73	-0.034	5.36	0.004
183	29.844	29.845	0.16	0.16	1.32	83	2.01	1.10	83	1.3	91	0.047	0.217	11.06	107	107	20.5	0	210	75	75	73	-0.034	4.34	0.003

Pellet Heater Test Data - ASTM E2779 / ASTM E2515

Run: 1

Manufacturer: Hearth & Home
Model: E2
Tracking No.: 2188
Project No.: 0061PS094E
Test Date: 19-May-17
Beginning Clock Time: 09:44

High Burn End Time: 62
Medium Burn End Time: 183
Total Sampling Time: 363 min
Recording Interval: 1 min
Background Sample Volume: N/A cubic feet

Meter Box Y Factor: 0.984 (1) 0.99 (2) N/A (Amb)

Barometric Pressure:

Begin	Middle	End	Average
30.19	30.16	30.14	30.16 "Hg

OMNI Equipment Numbers: 132, 185, 209, 244, 283A, 335, 336, 410, 559, 592, 594

PM Control Modules: 335/336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.160 "H2O
Tunnel Area: 0.19635 ft2
Pitot Tube Cp: 0.99

Avg. Tunnel Velocity: 11.87 ft/sec.
Intial Tunnel Flow: 125.8 scfm
Average Tunnel Flow: 131.7 scfm
Post-Test Leak Check (1): 0.000 cfm @ -9 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ -9 in. Hg
Fuel Moisture: 7.09 Dry Basis %

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Center	
Initial dP	0.022	0.034	0.038	0.032	0.018	0.036	0.036	0.020	0.055	"H2O
Temp:	110	110	110	110	110	110	110	110	110	°F

V_{strav} 12.16 ft/sec V_{scent} 16.08 ft/sec F_p 0.756

	Particulate Sampling Data																Fuel Weight (lb)		Temperature Data (°F)				Stack Gas Data		
Elapsed Time (min)	Gas Meter 1 (ft^3)	Gas Meter 2 (ft^3)	Sample Rate 1 (cfm)	Sample Rate 2 (cfm)	Orifice dH 1 ("H_2O)	Meter Temp 1 (°F)	Meter Vacuum 1 ("Hg)	Orifice dH 2 ("H_2O)	Meter Temp 2 (°F)	Meter Vacuum 2 ("Hg)	Dilution Tunnel (°F)	Dilution Tunnel Center dP	sqrt dp	vsi	Pro. Rate 1	Pro. Rate 2	Scale Reading	Weight Change	Stack	Filter 1	Filter 2	Ambient	Draft ("H_2O)	CO_2 (%)	CO (%)
184	30.008	30.008	0.16	0.16	1.33	83	2	1.10	83	1.3	91	0.053	0.230	11.74	101	100	20.4	-0.1	209	75	75	72	-0.034	3.98	0.003
185	30.172	30.171	0.16	0.16	1.32	83	2	1.10	83	1.3	90	0.056	0.237	12.06	98	98	20.4	0	205	75	75	72	-0.033	2.73	0.075
186	30.337	30.335	0.16	0.16	1.33	83	2	1.10	83	1.3	89	0.053	0.230	11.72	101	101	20.4	0	198	75	75	73	-0.031	2.69	0.010
187	30.502	30.498	0.16	0.16	1.32	83	2	1.10	83	1.3	88	0.056	0.237	12.04	98	97	20.3	-0.1	193	75	75	73	-0.031	3.2	0.004
188	30.666	30.662	0.16	0.16	1.32	83	2	1.09	83	1.3	88	0.054	0.232	11.82	99	100	20.3	0	192	75	75	73	-0.031	3.89	0.005
189	30.830	30.826	0.16	0.16	1.32	83	2	1.09	83	1.3	88	0.052	0.228	11.60	101	102	20.3	0	190	75	75	72	-0.030	3.19	0.004
190	30.994	30.989	0.16	0.16	1.32	83	2	1.10	83	1.3	87	0.049	0.221	11.25	104	104	20.3	0	185	75	75	72	-0.030	1.52	0.070
191	31.158	31.152	0.16	0.16	1.31	83	2.01	1.10	83	1.3	88	0.052	0.228	11.60	101	101	20.2	-0.1	187	75	75	73	-0.030	5.29	0.002
192	31.322	31.316	0.16	0.16	1.32	83	2.01	1.10	83	1.3	87	0.057	0.239	12.13	97	97	20.2	0	187	75	75	72	-0.030	2.64	0.009
193	31.486	31.480	0.16	0.16	1.32	83	2	1.09	83	1.3	87	0.054	0.232	11.81	99	100	20.1	-0.1	184	75	75	73	-0.029	2.11	0.021
194	31.650	31.643	0.16	0.16	1.32	83	2.01	1.09	83	1.3	87	0.054	0.232	11.81	99	99	20.1	0	185	75	75	72	-0.030	4.26	0.003
195	31.814	31.807	0.16	0.16	1.33	83	2	1.09	83	1.3	87	0.054	0.232	11.81	99	100	20.1	0	182	75	74	73	-0.029	1.7	0.035
196	31.979	31.970	0.16	0.16	1.32	83	2	1.09	83	1.3	87	0.056	0.237	12.02	98	97	20.0	-0.1	183	75	74	72	-0.030	3.55	0.013
197	32.143	32.134	0.16	0.16	1.32	83	2	1.10	83	1.3	100	0.053	0.230	11.84	101	102	20.0	0	226	75	75	73	-0.038	1.77	0.090
198	32.307	32.297	0.16	0.16	1.32	83	2.01	1.09	83	1.3	94	0.053	0.230	11.77	101	101	20.0	0	214	75	75	72	-0.031	1.23	0.080
199	32.472	32.461	0.16	0.16	1.33	83	2.01	1.09	83	1.3	90	0.051	0.226	11.51	103	103	19.9	-0.1	196	75	75	73	-0.030	2.62	0.017
200	32.637	32.624	0.16	0.16	1.33	83	2	1.10	83	1.3	89	0.055	0.235	11.94	99	98	19.9	0	189	75	75	72	-0.029	3.36	0.006
201	32.801	32.788	0.16	0.16	1.32	83	2	1.09	83	1.3	88	0.057	0.239	12.14	97	97	19.9	0	184	75	75	73	-0.029	2.06	0.025
202	32.965	32.951	0.16	0.16	1.32	83	2.01	1.10	83	1.3	87	0.054	0.232	11.81	99	99	19.9	0	182	75	75	72	-0.029	3.63	0.007
203	33.129	33.114	0.16	0.16	1.31	83	2	1.09	83	1.3	87	0.051	0.226	11.48	102	102	19.8	-0.1	179	75	74	72	-0.028	1.97	0.026
204	33.293	33.279	0.16	0.17	1.32	83	2.01	1.09	83	1.3	87	0.055	0.235	11.92	98	99	19.8	0	178	75	74	72	-0.028	2.82	0.019
205	33.457	33.442	0.16	0.16	1.32	83	2.01	1.10	83	1.3	87	0.054	0.232	11.81	99	99	19.8	0	177	75	74	72	-0.029	3.58	0.005
206	33.622	33.606	0.16	0.16	1.32	83	2.01	1.09	83	1.3	86	0.057	0.239	12.12	97	97	19.7	-0.1	177	75	74	72	-0.028	2.22	0.029
207	33.786	33.769	0.16	0.16	1.32	83	2.01	1.09	83	1.3	86	0.056	0.237	12.01	97	97	19.7	0	176	75	74	72	-0.028	1.91	0.025
208	33.950	33.932	0.16	0.16	1.32	83	2	1.10	83	1.3	86	0.056	0.237	12.01	97	97	19.7	0	176	75	74	72	-0.028	3.7	0.003
209	34.114	34.096	0.16	0.16	1.33	83	2	1.09	83	1.3	86	0.054	0.232	11.80	99	100	19.6	-0.1	176	75	74	72	-0.028	2.32	0.061
210	34.278	34.260	0.16	0.16	1.32	83	2.01	1.10	83	1.3	86	0.053	0.230	11.69	100	101	19.6	0	176	75	74	72	-0.027	2.42	0.013
211	34.443	34.423	0.16	0.16	1.33	83	2.01	1.09	83	1.3	86	0.056	0.237	12.01	98	97	19.6	0	176	75	74	72	-0.028	3.03	0.016
212	34.608	34.586	0.16	0.16	1.33	83	2.01	1.10	83	1.3	86	0.054	0.232	11.80	100	99	19.5	-0.1	176	75	74	73	-0.028	2.48	0.014
213	34.773	34.749	0.17	0.16	1.32	83	2.01	1.10	83	1.3	86	0.054	0.232	11.80	100	99	19.5	0	176	75	74	73	-0.027	3.1	0.006
214	34.937	34.913	0.16	0.16	1.32	83	2.01	1.09	83	1.3	85	0.055	0.235	11.90	98	99	19.5	0	172	75	74	73	-0.027	1.28	0.063
215	35.101	35.077	0.16	0.16	1.32	83	2.01	1.09	83	1.3	86	0.054	0.232	11.80	99	100	19.4	-0.1	174	75	74	72	-0.028	3.64	0.008
216	35.265	35.241	0.16	0.16	1.32	83	2	1.10	83	1.3	86	0.053	0.230	11.69	100	101	19.4	0	174	75	74	73	-0.027	3.25	0.004
217	35.429	35.404	0.16	0.16	1.32	83	2.01	1.09	83	1.3	85	0.054	0.232	11.79	99	99	19.4	0	173	75	74	72	-0.027	2.32	0.033
218	35.594	35.567	0.16	0.16	1.31	83	2.01	1.10	83	1.3	86	0.053	0.230	11.69	101	100	19.3	-0.1	174	75	74	73	-0.027	3.29	0.008
219	35.758	35.731	0.16	0.16	1.33	83	2	1.10	83	1.3	85	0.053	0.230	11.68	100	100	19.3	0	173	75	74	73	-0.027	1.71	0.038
220	35.922	35.894	0.16	0.16	1.32	83	2.01	1.10	83	1.3	85	0.051	0.226	11.45	102	102	19.3	0	174	75	74	72	-0.027	2.57	0.029
221	36.086	36.058	0.16	0.16	1.33	83	2	1.09	83	1.3	85	0.055	0.235	11.90	98	99	19.2	-0.1	175	75	74	73	-0.027	2.98	0.005
222	36.250	36.221	0.16	0.16	1.32	83	2.01	1.09	83	1.3	85	0.055	0.235	11.90	98	98	19.2	0	175	75	74	73	-0.027	2.66	0.010
223	36.414	36.384	0.16	0.16	1.32	83	2.01	1.09	83	1.3	86	0.051	0.226	11.46	102	102	19.2	0	176	75	74	73	-0.028	3.79	0.002
224	36.579	36.547	0.16	0.16	1.32	83	2	1.09	83	1.3	85	0.051	0.226	11.45	103	102	19.2	0	173	75	74	73	-0.026	1.56	0.036
225	36.744	36.711	0.16	0.16	1.32	83	2.01	1.09	83	1.3	86	0.054	0.232	11.80	100	100	19.1	-0.1	174	75	74	73	-0.027	3.86	0.014
226	36.908	36.875	0.16	0.16	1.32	83	2	1.09	83	1.3	85	0.051	0.226	11.45	102	102	19.1	0	175	75	74	73	-0.027	3.39	0.007
227	37.072	37.038	0.16	0.16	1.32	83	2.01	1.09	83	1.3	97	0.051	0.226	11.58	103	103	19.0	-0.1	213	75	74	73	-0.037	1.94	0.120
228	37.237	37.201	0.16	0.16	1.32	83	2.01	1.09	83	1.3	95	0.054	0.232	11.89	101	100	19.0	0	212	75	74	72	-0.030	1.47	0.090
229	37.401	37.365	0.16	0.16	1.31	83	2.01	1.09	83	1.3	89	0.053	0.230	11.72	100	101	19.0	0	193	75	74	73	-0.029	2.72	0.007

Pellet Heater Test Data - ASTM E2779 / ASTM E2515

Run: 1

Manufacturer: Hearth & Home
Model: E2
Tracking No.: 2188
Project No.: 0061PS094E
Test Date: 19-May-17
Beginning Clock Time: 09:44

High Burn End Time: 62
Medium Burn End Time: 183
Total Sampling Time: 363 min
Recording Interval: 1 min
Background Sample Volume: N/A cubic feet

Meter Box Y Factor: 0.984 (1) 0.99 (2) N/A (Amb)

Barometric Pressure:

Begin	Middle	End	Average
30.19	30.16	30.14	30.16 "Hg

OMNI Equipment Numbers: 132, 185, 209, 244, 283A, 335, 336, 410, 559, 592, 594

PM Control Modules: 335/336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.160 "H2O
Tunnel Area: 0.19635 ft2
Pitot Tube Cp: 0.99

Avg. Tunnel Velocity: 11.87 ft/sec.
Intial Tunnel Flow: 125.8 scfm
Average Tunnel Flow: 131.7 scfm
Post-Test Leak Check (1): 0.000 cfm @ -9 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ -9 in. Hg
Fuel Moisture: 7.09 Dry Basis %

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Center	
Initial dP	0.022	0.034	0.038	0.032	0.018	0.036	0.036	0.020	0.055	"H2O
Temp:	110	110	110	110	110	110	110	110	110	°F

V_{strav} 12.16 ft/sec V_{scent} 16.08 ft/sec F_p 0.756

	Particulate Sampling Data																	Fuel Weight (lb)		Temperature Data (°F)				Stack Gas Data		
Elapsed Time (min)	Gas Meter 1 (ft^3)	Gas Meter 2 (ft^3)	Sample Rate 1 (cfm)	Sample Rate 2 (cfm)	Orifice dH 1 ("H_2O)	Meter Temp 1 (°F)	Meter Vacuum 1 ("Hg)	Orifice dH 2 ("H_2O)	Meter Temp 2 (°F)	Meter Vacuum 2 ("Hg)	Dilution Tunnel (°F)	Dilution Tunnel Center dP	sqrt dp	vsi	Pro. Rate 1	Pro. Rate 2	Scale Reading	Weight Change	Stack	Filter 1	Filter 2	Ambient	Draft ("H_2O)	CO_2 (%)	CO (%)
230	37.565	37.528	0.16	0.16	1.31	83	2.01	1.09	83	1.3	87	0.055	0.235	11.92	98	98	19.0	0	182	75	74	73	-0.028	0.97	0.130
231	37.729	37.692	0.16	0.16	1.32	83	2.01	1.09	83	1.3	87	0.052	0.228	11.59	101	102	18.9	-0.1	179	75	74	73	-0.028	2.74	0.019
232	37.893	37.855	0.16	0.16	1.32	83	2.01	1.09	83	1.3	87	0.055	0.235	11.92	98	98	18.9	0	178	75	74	73	-0.028	3.02	0.012
233	38.057	38.019	0.16	0.16	1.32	83	2.01	1.09	83	1.3	86	0.052	0.228	11.58	101	101	18.9	0	177	75	74	73	-0.027	2.09	0.025
234	38.222	38.182	0.16	0.16	1.32	83	2.01	1.09	83	1.3	86	0.056	0.237	12.01	98	97	18.8	-0.1	177	75	74	73	-0.028	3.44	0.017
235	38.386	38.345	0.16	0.16	1.33	83	2.01	1.10	83	1.3	86	0.053	0.230	11.69	100	100	18.8	0	177	75	74	73	-0.028	3.07	0.004
236	38.550	38.508	0.16	0.16	1.33	83	2.01	1.10	83	1.3	86	0.052	0.228	11.58	101	101	18.7	-0.1	178	75	74	73	-0.028	4.26	0.003
237	38.715	38.673	0.17	0.16	1.32	83	2.01	1.09	84	1.3	86	0.057	0.239	12.12	97	97	18.7	0	179	75	74	73	-0.028	4.58	0.005
238	38.880	38.836	0.16	0.16	1.32	84	2.01	1.08	84	1.3	86	0.052	0.228	11.58	102	101	18.7	0	179	75	74	73	-0.028	3.24	0.005
239	39.044	38.999	0.16	0.16	1.32	84	2.01	1.09	84	1.3	86	0.056	0.237	12.01	97	97	18.6	-0.1	179	75	74	73	-0.028	3.01	0.009
240	39.208	39.162	0.16	0.16	1.32	84	2.01	1.09	84	1.3	86	0.053	0.230	11.69	100	100	18.6	0	179	75	74	73	-0.028	2.88	0.014
241	39.372	39.325	0.16	0.16	1.32	84	2.01	1.09	84	1.3	86	0.055	0.235	11.91	98	98	18.6	0	178	75	74	73	-0.028	1.74	0.100
242	39.537	39.489	0.16	0.16	1.31	84	2.02	1.09	84	1.3	86	0.052	0.228	11.58	102	101	18.5	-0.1	178	75	74	73	-0.028	3.62	0.004
243	39.700	39.653	0.16	0.16	1.31	84	2.01	1.09	84	1.3	86	0.054	0.232	11.80	98	99	18.5	0	177	75	74	73	-0.027	2.41	0.019
244	39.865	39.816	0.16	0.16	1.32	84	2.02	1.09	84	1.3	86	0.054	0.232	11.80	100	99	18.5	0	177	75	74	73	-0.028	3.51	0.007
245	40.029	39.979	0.16	0.16	1.32	84	2.01	1.09	84	1.3	86	0.056	0.237	12.01	97	97	18.4	-0.1	175	75	74	73	-0.028	2	0.037
246	40.193	40.143	0.16	0.16	1.32	84	2.01	1.09	84	1.3	86	0.055	0.235	11.91	98	98	18.4	0	175	75	74	73	-0.027	2.24	0.018
247	40.358	40.306	0.16	0.16	1.32	84	2.01	1.09	84	1.3	86	0.053	0.230	11.69	101	100	18.4	0	177	75	74	73	-0.028	3.94	0.004
248	40.522	40.470	0.16	0.16	1.32	84	2.02	1.09	84	1.3	86	0.053	0.230	11.69	100	100	18.4	0	176	75	74	73	-0.027	2.53	0.013
249	40.686	40.633	0.16	0.16	1.32	84	2.01	1.08	84	1.3	86	0.053	0.230	11.69	100	100	18.3	-0.1	176	75	74	73	-0.028	3.53	0.007
250	40.851	40.796	0.16	0.16	1.32	84	2.01	1.09	84	1.3	86	0.054	0.232	11.80	100	99	18.3	0	177	75	74	73	-0.027	2.36	0.027
251	41.016	40.959	0.16	0.16	1.32	84	2.02	1.09	84	1.3	86	0.051	0.226	11.46	102	102	18.3	0	175	75	74	73	-0.027	2.12	0.026
252	41.180	41.122	0.16	0.16	1.32	84	2.01	1.09	84	1.3	86	0.056	0.237	12.01	97	97	18.2	-0.1	177	75	75	73	-0.028	4.26	0.003
253	41.344	41.287	0.16	0.16	1.32	84	2.01	1.09	84	1.3	86	0.056	0.237	12.01	97	98	18.2	0	179	75	74	73	-0.028	4.1	0.004
254	41.509	41.450	0.16	0.16	1.31	84	2.02	1.08	84	1.3	86	0.053	0.230	11.69	101	100	18.1	-0.1	178	75	74	73	-0.028	3.1	0.025
255	41.673	41.613	0.16	0.16	1.31	84	2.02	1.09	84	1.3	86	0.056	0.237	12.01	97	97	18.1	0	179	75	74	73	-0.028	3.36	0.007
256	41.837	41.776	0.16	0.16	1.32	84	2.01	1.09	84	1.3	86	0.055	0.235	11.91	98	98	18.1	0	177	75	75	73	-0.027	1.5	0.072
257	42.001	41.939	0.16	0.16	1.32	84	2.02	1.09	84	1.3	97	0.054	0.232	11.92	100	100	18.0	-0.1	216	75	75	73	-0.039	2.84	0.040
258	42.165	42.103	0.16	0.16	1.32	84	2.01	1.09	84	1.3	98	0.054	0.232	11.93	100	100	18.0	0	222	75	75	73	-0.031	1.04	0.270
259	42.329	42.266	0.16	0.16	1.32	84	2.01	1.09	84	1.3	90	0.053	0.230	11.73	100	100	18.0	0	196	75	75	74	-0.029	1.53	0.053
260	42.494	42.429	0.16	0.16	1.32	84	2.02	1.08	84	1.3	89	0.054	0.232	11.83	100	99	17.9	-0.1	187	75	75	73	-0.030	3.21	0.014
261	42.658	42.592	0.16	0.16	1.32	84	2.02	1.09	84	1.3	88	0.054	0.232	11.82	99	99	17.9	0	184	75	75	73	-0.029	3.69	0.004
262	42.822	42.755	0.16	0.16	1.32	84	2.02	1.09	84	1.3	87	0.053	0.230	11.70	100	100	17.9	0	181	75	75	74	-0.028	1.41	0.053
263	42.987	42.919	0.16	0.16	1.31	84	2.02	1.09	84	1.3	87	0.052	0.228	11.59	102	101	17.8	-0.1	180	75	75	74	-0.028	3.21	0.013
264	43.152	43.082	0.16	0.16	1.31	84	2.01	1.09	84	1.3	87	0.051	0.226	11.48	103	102	17.8	0	179	75	75	74	-0.028	2.56	0.007
265	43.316	43.245	0.16	0.16	1.32	84	2.02	1.09	84	1.3	87	0.056	0.237	12.02	97	97	17.8	0	178	75	75	73	-0.028	2.79	0.014
266	43.480	43.408	0.16	0.16	1.32	84	2.02	1.09	84	1.3	87	0.053	0.230	11.70	100	100	17.7	-0.1	178	75	75	74	-0.028	3.85	0.005
267	43.644	43.572	0.16	0.16	1.31	84	2.02	1.09	84	1.3	87	0.054	0.232	11.81	99	99	17.7	0	178	75	75	74	-0.028	2.29	0.022
268	43.808	43.735	0.16	0.16	1.31	84	2.01	1.09	84	1.3	87	0.050	0.224	11.36	103	103	17.7	0	177	75	75	74	-0.028	2.28	0.017
269	43.972	43.898	0.16	0.16	1.31	84	2.02	1.09	84	1.3	87	0.054	0.232	11.81	99	99	17.6	-0.1	178	75	75	74	-0.028	4.23	0.004
270	44.137	44.061	0.16	0.16	1.31	84	2.01	1.09	84	1.3	87	0.055	0.235	11.92	99	98	17.6	0	177	75	75	74	-0.027	1.62	0.055
271	44.301	44.224	0.16	0.16	1.32	84	2.02	1.09	84	1.3	87	0.056	0.237	12.02	97	97	17.6	0	176	75	75	74	-0.027	2.82	0.025
272	44.465	44.387	0.16	0.16	1.32	84	2.01	1.09	84	1.3	87	0.051	0.226	11.48	102	102	17.5	-0.1	176	75	75	73	-0.027	3.4	0.006
273	44.629	44.551	0.16	0.16	1.32	84	2.02	1.09	84	1.3	87	0.055	0.235	11.92	98	99	17.5	0	175	75	75	74	-0.027	2.21	0.038
274	44.793	44.714	0.16	0.16	1.32	84	2.02	1.09	84	1.3	87	0.055	0.235	11.92	98	98	17.5	0	176	75	75	74	-0.027	2.72	0.010
275	44.958	44.877	0.16	0.16	1.32	84	2.02	1.08	84	1.3	86	0.052	0.228	11.58	102	101	17.4	-0.1	174	75	75	74	-0.027	1.47	0.059

Pellet Heater Test Data - ASTM E2779 / ASTM E2515

Run: 1

Manufacturer: Hearth & Home
Model: E2
Tracking No.: 2188
Project No.: 0061PS094E
Test Date: 19-May-17
Beginning Clock Time: 09:44

High Burn End Time: 62
Medium Burn End Time: 183
Total Sampling Time: 363 min
Recording Interval: 1 min
Background Sample Volume: N/A cubic feet

Meter Box Y Factor: 0.984 (1) 0.99 (2) N/A (Amb)

Barometric Pressure: Begin 30.19, Middle 30.16, End 30.14, Average 30.16 "Hg

OMNI Equipment Numbers: 132, 185, 209, 244, 283A, 335, 336, 410, 559, 592, 594

PM Control Modules: 335/336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.160 "H2O
Tunnel Area: 0.19635 ft2
Pitot Tube Cp: 0.99

Avg. Tunnel Velocity: 11.87 ft/sec.
Intial Tunnel Flow: 125.8 scfm
Average Tunnel Flow: 131.7 scfm
Post-Test Leak Check (1): 0.000 cfm @ -9 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ -9 in. Hg
Fuel Moisture: 7.09 Dry Basis %

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Center	
Initial dP	0.022	0.034	0.038	0.032	0.018	0.036	0.036	0.020	0.055	"H2O
Temp:	110	110	110	110	110	110	110	110	110	°F

V_{strav} 12.16 ft/sec V_{scent} 16.08 ft/sec F_p 0.756

	Particulate Sampling Data																	Fuel Weight (lb)		Temperature Data (°F)				Stack Gas Data		
Elapsed Time (min)	Gas Meter 1 (ft^3)	Gas Meter 2 (ft^3)	Sample Rate 1 (cfm)	Sample Rate 2 (cfm)	Orifice dH 1 ("H_2O)	Meter Temp 1 (°F)	Meter Vacuum 1 ("Hg)	Orifice dH 2 ("H_2O)	Meter Temp 2 (°F)	Meter Vacuum 2 ("Hg)	Dilution Tunnel (°F)	Dilution Tunnel Center dP	sqrt dp	vsi	Pro. Rate 1	Pro. Rate 2	Scale Reading	Weight Change	Stack	Filter 1	Filter 2	Ambient	Draft ("H_2O)	CO_2 (%)	CO (%)
276	45.123	45.040	0.16	0.16	1.32	84	2.02	1.09	84	1.3	87	0.054	0.232	11.81	100	99	17.4	0	175	75	75	74	-0.027	3.14	0.007
277	45.287	45.203	0.16	0.16	1.32	84	2.02	1.09	84	1.3	86	0.051	0.226	11.46	102	102	17.4	0	175	75	75	74	-0.027	2.45	0.011
278	45.451	45.366	0.16	0.16	1.32	84	2.02	1.09	84	1.3	86	0.053	0.230	11.69	100	100	17.4	0	174	75	75	73	-0.027	2.31	0.026
279	45.616	45.530	0.16	0.16	1.32	84	2.02	1.08	84	1.3	86	0.053	0.230	11.69	101	100	17.3	-0.1	175	75	75	74	-0.027	3.46	0.005
280	45.780	45.693	0.16	0.16	1.31	84	2.02	1.08	84	1.3	86	0.052	0.228	11.58	101	101	17.3	0	175	75	75	74	-0.027	2.74	0.007
281	45.944	45.856	0.16	0.16	1.32	85	2.02	1.08	84	1.3	86	0.051	0.226	11.46	102	102	17.3	0	173	76	75	74	-0.027	1.91	0.056
282	46.108	46.018	0.16	0.16	1.32	85	2.02	1.09	84	1.3	87	0.054	0.232	11.81	99	98	17.2	-0.1	175	76	75	74	-0.027	3.91	0.003
283	46.272	46.181	0.16	0.16	1.31	85	2.01	1.09	84	1.3	86	0.050	0.224	11.35	103	103	17.2	0	174	75	75	74	-0.026	1.87	0.036
284	46.436	46.345	0.16	0.16	1.31	85	2.02	1.08	84	1.3	86	0.056	0.237	12.01	97	98	17.2	0	173	75	75	74	-0.027	2.88	0.049
285	46.600	46.508	0.16	0.16	1.32	85	2.02	1.08	84	1.3	87	0.052	0.228	11.59	101	101	17.1	-0.1	176	76	75	73	-0.027	4.19	0.003
286	46.765	46.671	0.16	0.16	1.32	85	2.02	1.09	84	1.3	86	0.055	0.235	11.91	99	98	17.1	0	174	76	75	74	-0.027	2.05	0.020
287	46.929	46.833	0.16	0.16	1.32	85	2.02	1.09	84	1.3	95	0.054	0.232	11.89	100	99	17.0	-0.1	205	76	75	74	-0.038	3.52	0.015
288	47.093	46.997	0.16	0.16	1.32	85	2.02	1.09	84	1.3	101	0.052	0.228	11.73	102	103	17.0	0	220	76	75	74	-0.036	0.97	0.240
289	47.258	47.161	0.16	0.16	1.31	85	2.02	1.09	85	1.3	91	0.052	0.228	11.63	102	102	17.0	0	193	76	75	74	-0.029	0.64	0.140
290	47.423	47.323	0.16	0.16	1.31	85	2.02	1.08	85	1.3	89	0.053	0.230	11.72	101	99	17.0	0	184	76	75	74	-0.028	2.99	0.012
291	47.587	47.486	0.16	0.16	1.32	85	2.02	1.09	85	1.3	88	0.050	0.224	11.37	103	103	16.9	-0.1	180	76	75	74	-0.028	2.04	0.032
292	47.751	47.649	0.16	0.16	1.32	85	2.02	1.09	85	1.3	88	0.054	0.232	11.82	99	99	16.9	0	179	76	75	74	-0.028	3.91	0.007
293	47.915	47.812	0.16	0.16	1.31	85	2.02	1.09	85	1.3	88	0.052	0.228	11.60	101	101	16.9	0	179	76	75	74	-0.028	3.67	0.004
294	48.079	47.976	0.16	0.16	1.32	85	2.02	1.09	85	1.3	88	0.053	0.230	11.71	100	100	16.8	-0.1	179	76	75	74	-0.028	3.14	0.027
295	48.244	48.138	0.16	0.16	1.31	85	2.01	1.09	85	1.3	87	0.052	0.228	11.59	101	100	16.8	0	179	76	75	74	-0.028	3.6	0.003
296	48.408	48.301	0.16	0.16	1.32	85	2.02	1.08	85	1.3	87	0.051	0.226	11.48	102	102	16.8	0	177	76	75	74	-0.027	2.51	0.018
297	48.572	48.464	0.16	0.16	1.32	85	2.02	1.08	85	1.3	87	0.054	0.232	11.81	99	99	16.7	-0.1	175	76	75	74	-0.027	2.11	0.030
298	48.736	48.627	0.16	0.16	1.32	85	2.01	1.09	85	1.3	87	0.051	0.226	11.48	102	102	16.7	0	174	76	75	74	-0.027	1.43	0.043
299	48.900	48.791	0.16	0.16	1.32	85	2.02	1.08	85	1.3	87	0.054	0.232	11.81	99	99	16.7	0	175	76	75	74	-0.027	3.75	0.004
300	49.065	48.953	0.16	0.16	1.32	85	2.02	1.08	85	1.3	87	0.054	0.232	11.81	100	98	16.6	-0.1	176	76	75	74	-0.028	3.58	0.006
301	49.229	49.116	0.16	0.16	1.32	85	2.02	1.08	85	1.3	87	0.052	0.228	11.59	101	101	16.6	0	176	76	75	74	-0.027	2.48	0.030
302	49.394	49.279	0.16	0.16	1.31	85	2.02	1.09	85	1.3	87	0.054	0.232	11.81	100	99	16.6	0	175	76	75	74	-0.027	2.17	0.028
303	49.558	49.442	0.16	0.16	1.31	85	2.03	1.08	85	1.3	87	0.053	0.230	11.70	100	100	16.5	-0.1	175	76	75	74	-0.027	2.99	0.005
304	49.722	49.605	0.16	0.16	1.31	85	2.02	1.08	85	1.3	87	0.055	0.235	11.92	98	98	16.5	0	174	76	75	74	-0.027	2.93	0.011
305	49.887	49.768	0.16	0.16	1.31	85	2.02	1.08	85	1.3	87	0.055	0.235	11.92	99	98	16.5	0	174	76	75	74	-0.027	2.77	0.008
306	50.051	49.931	0.16	0.16	1.31	85	2.03	1.08	85	1.3	87	0.051	0.226	11.48	102	102	16.5	0	175	76	75	74	-0.027	2.74	0.013
307	50.215	50.093	0.16	0.16	1.31	85	2.03	1.08	85	1.3	87	0.056	0.237	12.02	97	96	16.4	-0.1	176	76	75	74	-0.027	3.75	0.003
308	50.379	50.257	0.16	0.16	1.32	85	2.02	1.08	85	1.3	87	0.052	0.228	11.59	101	101	16.4	0	176	76	75	74	-0.027	3.32	0.003
309	50.543	50.420	0.16	0.16	1.31	85	2.02	1.08	85	1.3	87	0.056	0.237	12.02	97	97	16.4	0	175	76	75	74	-0.027	2.19	0.033
310	50.707	50.582	0.16	0.16	1.31	85	2.02	1.08	85	1.3	87	0.055	0.235	11.92	98	97	16.3	-0.1	173	76	75	74	-0.027	2.17	0.061
311	50.872	50.745	0.16	0.16	1.32	85	2.03	1.08	85	1.3	87	0.056	0.237	12.02	98	97	16.3	0	174	76	75	74	-0.027	3.23	0.008
312	51.036	50.908	0.16	0.16	1.32	85	2.03	1.08	85	1.3	87	0.053	0.230	11.70	100	100	16.3	0	175	76	75	74	-0.027	2.59	0.016
313	51.200	51.071	0.16	0.16	1.32	85	2.03	1.08	85	1.3	87	0.053	0.230	11.70	100	100	16.2	-0.1	175	76	75	75	-0.027	3.32	0.010
314	51.365	51.234	0.16	0.16	1.32	85	2.02	1.08	85	1.3	87	0.051	0.226	11.48	102	102	16.2	0	174	76	75	75	-0.027	2.23	0.012
315	51.530	51.397	0.16	0.16	1.31	85	2.03	1.08	85	1.3	87	0.052	0.228	11.59	101	101	16.2	0	174	76	75	75	-0.026	1.87	0.023
316	51.694	51.559	0.16	0.16	1.31	85	2.03	1.08	85	1.3	87	0.052	0.228	11.59	101	100	16.1	-0.1	175	76	75	74	-0.027	3.18	0.010
317	51.858	51.722	0.16	0.16	1.31	85	2.03	1.08	85	1.3	92	0.051	0.226	11.53	102	102	16.1	0	191	76	75	75	-0.036	3.84	0.003
318	52.022	51.886	0.16	0.16	1.31	85	2.03	1.07	85	1.3	100	0.055	0.235	12.06	99	100	16.1	0	213	76	76	74	-0.036	1.03	0.240
319	52.186	52.048	0.16	0.16	1.31	85	2.03	1.08	85	1.3	92	0.051	0.226	11.53	102	101	16.0	-0.1	199	76	76	75	-0.029	2.68	0.016

Pellet Heater Test Data - ASTM E2779 / ASTM E2515

Run: 1

Manufacturer: Hearth & Home
Model: E2
Tracking No.: 2188
Project No.: 0061PS094E
Test Date: 19-May-17
Beginning Clock Time: 09:44

High Burn End Time: 62
Medium Burn End Time: 183
Total Sampling Time: 363 min
Recording Interval: 1 min
Background Sample Volume: N/A cubic feet

Meter Box Y Factor: 0.984 (1) 0.99 (2) N/A (Amb)

Barometric Pressure: Begin 30.19, Middle 30.16, End 30.14, Average 30.16 "Hg

OMNI Equipment Numbers: 132, 185, 209, 244, 283A, 335, 336, 410, 559, 592, 594

PM Control Modules: 335/336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.160 "H2O
Tunnel Area: 0.19635 ft2
Pitot Tube Cp: 0.99

Avg. Tunnel Velocity: 11.87 ft/sec.
Intial Tunnel Flow: 125.8 scfm
Average Tunnel Flow: 131.7 scfm
Post-Test Leak Check (1): 0.000 cfm @ -9 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ -9 in. Hg
Fuel Moisture: 7.09 Dry Basis %

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Center	
Initial dP	0.022	0.034	0.038	0.032	0.018	0.036	0.036	0.020	0.055	"H2O
Temp:	110	110	110	110	110	110	110	110	110	°F

V_{strav} 12.16 ft/sec V_{scent} 16.08 ft/sec F_p 0.756

	Particulate Sampling Data																	Fuel Weight (lb)		Temperature Data (°F)				Stack Gas Data		
Elapsed Time (min)	Gas Meter 1 (ft^3)	Gas Meter 2 (ft^3)	Sample Rate 1 (cfm)	Sample Rate 2 (cfm)	Orifice dH 1 ("H_2O)	Meter Temp 1 (°F)	Meter Vacuum 1 ("Hg)	Orifice dH 2 ("H_2O)	Meter Temp 2 (°F)	Meter Vacuum 2 ("Hg)	Dilution Tunnel (°F)	Dilution Tunnel Center dP	sqrt dp	vsi	Pro. Rate 1	Pro. Rate 2	Scale Reading	Weight Change	Stack	Filter 1	Filter 2	Ambient	Draft ("H_2O)	CO_2 (%)	CO (%)
320	52.350	52.210	0.16	0.16	1.31	85	2.02	1.08	85	1.3	90	0.052	0.228	11.62	101	100	16.0	0	186	76	76	74	-0.028	2.13	0.018
321	52.514	52.373	0.16	0.16	1.31	85	2.03	1.08	85	1.3	89	0.052	0.228	11.61	101	101	16.0	0	181	76	76	75	-0.028	3.14	0.009
322	52.678	52.536	0.16	0.16	1.31	85	2.03	1.08	85	1.3	88	0.054	0.232	11.82	99	99	15.9	-0.1	178	76	76	75	-0.028	2.39	0.023
323	52.842	52.700	0.16	0.16	1.31	85	2.03	1.08	85	1.3	88	0.048	0.219	11.14	105	105	15.9	0	178	76	76	75	-0.027	2.46	0.015
324	53.007	52.862	0.16	0.16	1.31	85	2.03	1.08	85	1.3	88	0.052	0.228	11.60	102	100	15.9	0	177	76	76	74	-0.027	2.52	0.019
325	53.171	53.024	0.16	0.16	1.32	85	2.02	1.08	85	1.3	88	0.052	0.228	11.60	101	100	15.8	-0.1	179	76	76	75	-0.028	4.6	0.003
326	53.335	53.187	0.16	0.16	1.32	85	2.03	1.08	85	1.3	87	0.053	0.230	11.70	100	100	15.8	0	176	76	76	75	-0.027	1.93	0.054
327	53.500	53.350	0.16	0.16	1.31	85	2.03	1.08	85	1.3	88	0.051	0.226	11.49	102	102	15.7	-0.1	176	76	76	75	-0.027	3.57	0.008
328	53.665	53.513	0.16	0.16	1.31	85	2.03	1.08	85	1.3	87	0.049	0.221	11.25	104	104	15.7	0	176	76	76	75	-0.027	2.46	0.012
329	53.829	53.675	0.16	0.16	1.32	85	2.03	1.08	85	1.3	87	0.052	0.228	11.59	101	100	15.7	0	176	76	76	75	-0.027	3.31	0.006
330	53.993	53.837	0.16	0.16	1.31	85	2.03	1.08	85	1.3	88	0.051	0.226	11.49	102	101	15.6	-0.1	178	77	76	75	-0.027	3.68	0.004
331	54.157	54.000	0.16	0.16	1.31	85	2.03	1.08	85	1.3	87	0.048	0.219	11.13	105	105	15.6	0	176	76	76	75	-0.027	1.46	0.100
332	54.320	54.164	0.16	0.16	1.31	85	2.03	1.08	85	1.3	87	0.050	0.224	11.36	102	103	15.6	0	175	76	76	75	-0.027	2.15	0.031
333	54.485	54.326	0.16	0.16	1.31	85	2.03	1.07	85	1.3	88	0.048	0.219	11.14	106	104	15.6	0	178	77	76	75	-0.027	4.29	0.002
334	54.648	54.488	0.16	0.16	1.31	86	2.03	1.08	85	1.3	87	0.050	0.224	11.36	102	102	15.5	-0.1	177	77	76	75	-0.027	2.77	0.020
335	54.813	54.651	0.16	0.16	1.31	86	2.03	1.08	85	1.3	88	0.052	0.228	11.60	101	101	15.5	0	176	77	76	75	-0.027	2.94	0.016
336	54.977	54.814	0.16	0.16	1.31	86	2.03	1.08	86	1.3	87	0.053	0.230	11.70	100	99	15.5	0	175	77	76	75	-0.027	2.37	0.015
337	55.141	54.977	0.16	0.16	1.32	86	2.04	1.08	86	1.3	88	0.053	0.230	11.71	100	100	15.4	-0.1	176	77	76	75	-0.028	4.2	0.006
338	55.306	55.139	0.16	0.16	1.32	86	2.03	1.08	86	1.3	88	0.054	0.232	11.82	99	98	15.4	0	178	77	76	75	-0.028	4.06	0.005
339	55.470	55.301	0.16	0.16	1.31	86	2.03	1.08	86	1.3	87	0.052	0.228	11.59	101	100	15.4	0	177	77	76	75	-0.027	1.96	0.033
340	55.635	55.464	0.16	0.16	1.31	86	2.03	1.07	86	1.3	88	0.050	0.224	11.37	103	102	15.3	-0.1	178	77	76	75	-0.027	3.23	0.009
341	55.799	55.627	0.16	0.16	1.32	86	2.03	1.07	86	1.3	88	0.052	0.228	11.60	101	100	15.3	0	179	77	76	74	-0.028	3.76	0.005
342	55.963	55.790	0.16	0.16	1.31	86	2.03	1.08	86	1.3	88	0.054	0.232	11.82	99	99	15.3	0	178	77	76	75	-0.027	1.84	0.057
343	56.127	55.952	0.16	0.16	1.31	86	2.03	1.08	86	1.3	87	0.053	0.230	11.70	100	99	15.2	-0.1	177	77	76	75	-0.027	3.04	0.015
344	56.291	56.114	0.16	0.16	1.31	86	2.04	1.08	86	1.3	87	0.053	0.230	11.70	100	99	15.2	0	178	77	76	75	-0.027	2.96	0.010
345	56.455	56.277	0.16	0.16	1.30	86	2.04	1.08	86	1.3	88	0.045	0.212	10.79	108	108	15.1	-0.1	179	77	76	75	-0.028	4.3	0.009
346	56.619	56.440	0.16	0.16	1.31	86	2.04	1.08	86	1.3	88	0.054	0.232	11.82	99	99	15.1	0	179	77	76	75	-0.027	2.52	0.011
347	56.783	56.602	0.16	0.16	1.31	86	2.04	1.08	86	1.3	89	0.056	0.237	12.05	97	96	15.1	0	186	77	76	75	-0.037	2.59	0.010
348	56.947	56.764	0.16	0.16	1.31	86	2.04	1.08	86	1.3	100	0.053	0.230	11.84	101	100	15.0	-0.1	218	77	76	75	-0.037	1.11	0.140
349	57.111	56.927	0.16	0.16	1.31	86	2.03	1.07	86	1.3	94	0.052	0.228	11.66	101	101	15.0	0	205	77	76	75	-0.030	1.83	0.068
350	57.276	57.090	0.17	0.16	1.31	86	2.03	1.07	86	1.3	91	0.048	0.219	11.17	106	105	15.0	0	191	77	76	75	-0.029	3.13	0.010
351	57.440	57.252	0.16	0.16	1.30	86	2.04	1.07	86	1.3	90	0.050	0.224	11.39	103	102	15.0	0	184	77	76	75	-0.028	1.83	0.071
352	57.605	57.414	0.16	0.16	1.31	86	2.03	1.08	86	1.3	89	0.051	0.226	11.50	102	101	14.9	-0.1	181	77	76	75	-0.028	2.57	0.014
353	57.769	57.576	0.16	0.16	1.31	86	2.04	1.08	86	1.3	89	0.054	0.232	11.83	99	98	14.9	0	179	77	76	75	-0.028	3.26	0.007
354	57.933	57.739	0.16	0.16	1.31	86	2.04	1.07	86	1.3	88	0.053	0.230	11.71	100	100	14.9	0	178	77	76	75	-0.028	3.07	0.014
355	58.097	57.901	0.16	0.16	1.30	86	2.04	1.07	86	1.3	88	0.050	0.224	11.37	103	102	14.8	-0.1	178	77	76	75	-0.028	3.19	0.006
356	58.260	58.063	0.16	0.16	1.31	86	2.04	1.07	86	1.3	88	0.054	0.232	11.82	98	98	14.8	0	179	77	76	75	-0.028	3.45	0.006
357	58.424	58.225	0.16	0.16	1.31	86	2.04	1.07	86	1.3	88	0.052	0.228	11.60	101	100	14.7	-0.1	178	77	76	76	-0.027	2.55	0.016
358	58.588	58.388	0.16	0.16	1.31	86	2.04	1.07	86	1.3	88	0.052	0.228	11.60	101	100	14.7	0	177	77	76	75	-0.027	2.34	0.012
359	58.752	58.550	0.16	0.16	1.31	86	2.05	1.07	86	1.3	88	0.053	0.230	11.71	100	99	14.7	0	180	77	76	75	-0.028	5.77	0.002
360	58.916	58.712	0.16	0.16	1.31	86	2.04	1.07	86	1.3	88	0.054	0.232	11.82	99	98	14.6	-0.1	180	77	76	75	-0.028	3.38	0.007
361	59.080	58.874	0.16	0.16	1.31	86	2.04	1.07	86	1.3	88	0.053	0.230	11.71	100	99	14.6	0	181	77	76	75	-0.028	4.1	0.003
362	59.245	59.036	0.16	0.16	1.31	86	2.04	1.08	86	1.3	88	0.053	0.230	11.71	100	99	14.5	-0.1	181	77	76	75	-0.027	3.38	0.002
363	59.409	59.199	0.16	0.16	1.30	86	2.04	1.07	86	1.3	88	0.051	0.226	11.49	102	101	14.5	0	180	77	76	75	-0.027	2.6	0.051
Avg/Tot	59.409	59.199	0.16	0.16	1.32	82	2.01	1.09	82	1.28	93	0.05	0.232		100	100			217	75	74	72	-0.035	3.87	0.000
																									0.000

2.2 - Sample Analysis & Tares

Analysis Worksheets
Tared Filter, Probe, and O-Ring Data
Pellet Fuel Label
Pellet Fuel Analysis Report

OMNI-Test Laboratories, Inc. **ASTM E2779 Pellet Heater Run Sheets**

Client: **Hearth & Home** Project Number: **0061PS094E** Run Number: **1**
Model: **E2** Tracking Number: **2188** Date: **5/19/2017**
Test Crew: **A. Kravitz**
OMNI Equipment ID numbers: 132, 185, 209, 244, 283A, 335, 336, 410, 559, 592, 594

ASTM E2515 Lab Sheet

Assembled By:

A. Kravitz

Date/Time in Dessicator:

5/19/2017 16:15

	Weighing #1	Weighing #2	Weighing #3	Weighing #4	Weighing #5
	Date: 5/22/17	Date: 5/23/17	Date:	Date:	Date:
	Time: 0900	Time: 0815	Time:	Time:	Time:
	R/H %: 15.9	R/H %: 17.1	R/H %:	R/H %:	R/H %:
	Temp (F): 73.7	Temp (F): 77.1	Temp (F):	Temp (F):	Temp (F):
	Audit 1: 500.1	Audit 1: 500.1	Audit 1:	Audit 1:	Audit 1:
	Audit 2: 4999.9	Audit 2: 4999.9	Audit 2:	Audit 2:	Audit 2:
	Audit 3: 99999.6	Audit 3: 99999.7	Audit 3:	Audit 3:	Audit 3:
	Initials:	Initials:	Initials:	Initials:	Initials:

Train	Item	ID #	Tare (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)
A	Front Filter (60 min)	D142	120.6	121.1	121.3			
A	Front Filter (Remainder)	D143	123.5	126.5	126.6			
A	Rear Filter	D144	122.4	121.9	121.9			
A	Probe	33	113946.8	113947.1	113947.2			
A	O-Ring Set	R461	4143.6	4145.2	4145.2			
B	Front Filter	D145	120.5	124.1	124.2			
B	Rear Filter	D146	123.3	122.7	122.9			
B	Probe	62	117663.9	117664.2	117664.3			
B	O-Ring Set	R462	3292.3	3294.1	3294.1			
BG	Filter	N/A						

Technician Signature: Date: 5/23/17

Pellet Heater Lab Data - ASTM E2779 / ASTM E2515

Manufacturer:	Hearth & Home	Equipment Numbers:	131, 244, 283A, 592
Model:	E2		
Tracking No.:	2188		
Project No.:	0061PS094E		
Run #:	1		
Date:	5/19/17		

TRAIN 1 (First Hour emissions)

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch	Filter	D142	121.3	120.6	0.7
B. Rear filter catch	Filter				0.0
C. Probe catch*	Probe				0.0
D. Filter seals catch*	Seals				0.0

Sub-Total	Total Particulate, mg:	0.7

TRAIN 1 (Remainder of Test)

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch	Filter	D143	126.6	123.5	3.1
B. Rear filter catch	Filter	D144	121.9	122.4	-0.5
C. Probe catch*	Probe	33	113947.2	113946.8	0.4
D. Filter seals catch*	Seals	R461	4145.2	4143.6	1.6

Sub-Total	Total Particulate, mg:	4.6
Train 1 Aggregate	Total Particulate, mg:	**5.3**

TRAIN 2

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch	Filter	D145	124.2	120.5	3.7
B. Rear filter catch	Filter	D146	122.9	123.3	-0.4
C. Probe catch*	Probe	62	117664.3	117663.9	0.4
D. Filter seals catch*	Seals	R462	3294.1	3292.3	1.8

Total Particulate, mg:	5.5

AMBIENT

Sample Component	Reagent	Filter # or Probe #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch*	Filter				0.0

Total Particulate, mg:	0.0

*Particulate catch that results in a negative number, is assumed to be zero for probes and seals, negative numbers for filters are assumed to be part of the seal weight

Component	Equations:
A. Front filter catch	Final (mg) - Tare (mg) = Particulate, mg
B. Rear filter catch	Final (mg) - Tare (mg) = Particulate, mg
C. Probe catch	Final (mg) - Tare (mg) = Particulate, mg

Tare Sheet: Probes___ 47mm Filters ✓ 100mm Filters___ O-Ring Pair___

Date/time Placed in Dessicator: 4/6/2017

Thermohygrometer ID #: 592

Prepared By: S. Button

Analytical Balance ID #: 244

Audit Weight ID #/Mass: 283A / 200 mg

ID #	Date: 4/7/2017 Time: 1400 RH %: 18.4% T (°F): 68°F Audit: 200.0 mg	Date: 4/10/2017 Time: 830 RH %: 5.1% T (°F): 69°F Audit: 200.0 mg	Date: Time: RH %: T (°F): Audit:	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
D141	122.6	122.7					
D142	120.5	120.6			5/12/17	0061PSO94E	1
D143	123.6	~~123.5~~ 123.5			↓	↓	↓
D144	122.4	122.4					
D145	120.6	120.5					
D146	123.4	123.3					
D147	122.5	122.6					
D148	120.5	120.6					
D149	123.2	123.2					
D150	122.8	122.7					
D151	119.9	119.8					
D152	124.1	124.0					
D153	122.4	122.3					
D154	123.8	123.7					
D155	119.6	119.5					
D156	119.8	119.9					
D157	123.6	123.4					
D158	121.7	121.5					
D159	120.4	120.4					
D160	123.8	123.7					
D161	121.4	121.4					
D162	124.4	124.2					
	Initials: SB	Initials: SB	Initials:	Initials:			

Final Technician Signature: _____ Date: 4/10/2017

Evaluator signature: _____

Tare Sheet: (check one) Probes ✓ 47mm Filters_____ 100mm Filters_____ O-Ring Pair_____

Prepared By: A. Krawitz Balance ID #: 244 Thermohygrometer ID #: 592 Audit Weight ID #/Mass: 131 / 500 mg

Placed in Dessicator: Date: 3/9/17 Time: 1400 ID #	Date: 3/14/17 Time: 11:00 RH %: 11.1 T (°F): 69.4 Audit: 99998.1	Date: 3/17/17 Time: 13:00 RH %: 12.6 T (°F): 70.8 Audit: 99999.3	Date: Time: RH %: T (°F): Audit:	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
14	114552.8	114552.9			[redacted]		
16	114270.7	114270.9	-				
17	114564.8	114564.6	-				
~~18~~	~~114407.7~~	~~114404.7~~ A					
21	114397.0	114397.0	-				
22	114351.1	114350.9	-				
27	114281.2	114281.1	-				
29	114282.2	114282.1	-				
36	114336.3	114336.4	-				
33	113947.0	113946.8	-		5/19/17	0061 PS094 E	1
62	117664.0	117663.9	-		↓	↓	↓
66	118461.6	118461.4	-				
	Initials: A	Initials: A	Initials:	Initials:			

Final Technician Signature: [signature] 3/17/ Date: 3/17/17

Evaluator signature: [signature] 4/24/2017

Control No. P-SFDP-0002.xls, Effective date: 2/1/2017

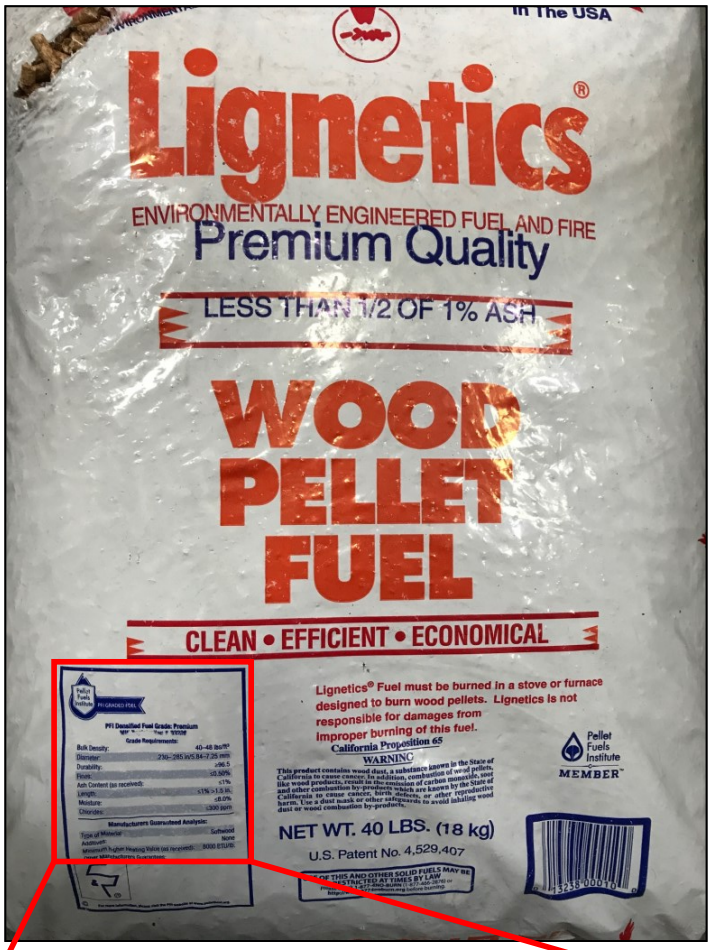
Tare Sheet: (check one) Probes_____ 47mm Filters_____ 100mm Filters_____ O-Ring Pair ✓

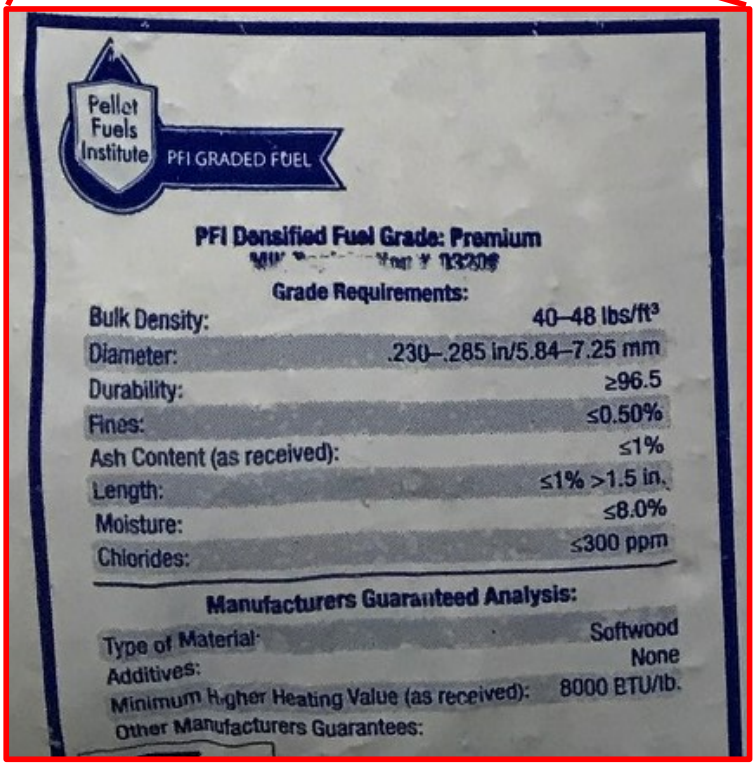
Prepared By: A. Kravitz Balance ID #: 244 Thermohygrometer ID #: 582 Audit Weight ID #/Mass: 283A / 5g ~~50 mg~~

Placed in Dessicator: Date: 3/9/17 Time: 14:00	Date: 3/14/17 Time: 11:15 RH %: 11.2 T (°F): 69.8 Audit: 4999.9	Date: 3/17/17 Time: 1000 RH %: 7.6 T (°F): 69.9 Audit: 4999.9	Date: Time: RH %: T (°F): Audit:	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
ID #							
R447	3330.1	3330.3			[redacted]		
R448	3343.1	3343.2					
R449	3345.0	3345.2					
R450	3306.8	3306.9					
R451	4119.4	4119.6					
R452	4090.6	4090.0					
R453	4906.8	4906.6					
R454	3308.0	3308.1					
R455	3331.6	3331.8					
R456	3316.84	3316.6					
R457	4076.9	4077.0					
R458	4155.9	4155.9					
R459	3306.0	3306.0					
R460	4170.4	4170.4					
R461	4143.5	4143.6			5/19/17	0061PS 94E	1
R462	3292.5	3292.3			↓	↓	↓
R463	3382.6	3382.6					
R464	3297.6	3297.6					
R465	3333.5	3333.4					
R466	3372.3	3372.4					
	Initials:	Initials:	Initials:	Initials:			

Final Technician Signature: _____ Date: 3/17/17 Evaluator signature: _____ 4/24/2017

Control No. P-SFDP-0002.xls, Effective date: 2/1/2017


In The USA
Lignetics®
ENVIRONMENTALLY ENGINEERED FUEL AND FIRE
Premium Quality
LESS THAN 1/2 OF 1% ASH
WOOD PELLET FUEL
CLEAN • EFFICIENT • ECONOMICAL
Lignetics® Fuel must be burned in a stove or furnace designed to burn wood pellets. Lignetics is not responsible for damages from improper burning of this fuel.
California Proposition 65
WARNING
Pellet Fuels Institute MEMBER
NET WT. 40 LBS. (18 kg)
U.S. Patent No. 4,529,407


Pellet Fuels Institute
PFI GRADED FUEL
PFI Densified Fuel Grade: Premium
Grade Requirements:
Bulk Density: 40–48 lbs/ft³
Diameter: .230–.285 in/5.84–7.25 mm
Durability: ≥96.5
Fines: ≤0.50%
Ash Content (as received): ≤1%
Length: ≤1% >1.5 in.
Moisture: ≤8.0%
Chlorides: ≤300 ppm
Manufacturers Guaranteed Analysis:
Type of Material: Softwood
Additives: None
Minimum Higher Heating Value (as received): 8000 BTU/lb.
Other Manufacturers Guarantees:

Twin Ports Testing, Inc.
1301 North 3rd Street
Superior, WI 54880
p: 715-392-7114
p: 800-373-2562
f: 715-392-7163
www.twinportstesting.com

Analytical Test Report

Report No: USR:W217-0492-01
Issue No: 1

Client: OMNI-TEST LABORATORIES INC.
13327 NE Airport Way
Portland, OR 97230
Attention: Sebastian Button

PO No:

Signed: Katy Mickelson

Katy Mickelson
Senior Chemist

Date of Issue: 6/6/2017

Sample Details

Sample Log No:	W217-0492-01	**Sample Date:**	
Sample Designation:	HHT - E2	**Sample Time:**	
Sample Recognized As:	Wood Pellets	**Arrival Date:**	6/1/2017

Test Results

	METHOD	UNITS	MOISTURE FREE	AS RECEIVED
Moisture Total	ASTM E871	wt. %		6.62
Ash	ASTM D1102	wt. %	0.22	0.21
Volatile Matter	ASTM D3175	wt. %		
Fixed Carbon by Difference	ASTM D3172	wt. %		
Sulfur	ASTM D4239	wt. %	0.004	0.004
SO_2	Calculated	lb/mmbtu		0.009
Net Cal. Value at Const. Pressure	ISO 1928	GJ/tonne	19.08	17.65
Net Cal. Value at Const. Pressure	ISO 1928	J/g	19079	17655
Gross Cal. Value at Const. Vol.	ASTM E711	J/g	20398	19048
Gross Cal. Value at Const. Vol.	ASTM E711	Btu/lb	8770	8190
Carbon	ASTM D5373	wt. %	51.45	48.05
Hydrogen*	ASTM D5373	wt. %	6.06	5.66
Nitrogen	ASTM D5373	wt. %	< 0.20	< 0.19
Oxygen*	ASTM D3176	wt. %	> 42.05	> 39.27
Chlorine	ASTM D6721	mg/kg		
Fluorine	ASTM D3761	mg/kg		
Mercury	ASTM D6722	mg/kg		
Bulk Density	ASTM E873	lbs/ft^3		
Fines (Less than 1/8")	TPT CH-P-06	wt.%		
Durability Index	Kansas State	PDI		
Sample Above 1.50"	TPT CH-P-06	wt.%		
Maximum Length (Single Pellet)	TPT CH-P-06	inch		
Diameter, Range	TPT CH-P-05	inch		to
Diameter, Average	TPT CH-P-05	inch		
Stated Bag Weight	TPT CH-P-01	lbs		
Actual Bag Weight	TPT CH-P-01	lbs		

*Note: As received values do not include hydrogen and oxygen in the total moisture.

Comments

Section 3
Laboratory Quality Assurance

3.1 - Quality Assurance/Quality Control
3.2 - Calibration Data
3.3 - Example Calculations

3.1 - Quality Assurance/Quality Control

OMNI follows the guidelines of ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories," and the quality assurance/quality control (QA/QC) procedures found in *OMNI*'s Quality Assurance Manual.

OMNI's scope of accreditation includes, but is not limited to, the following:

- ANSI (American National Standards Institute) for certification of product to safety standards.
- To perform product safety testing by the International Accreditation Service, Inc. (formerly ICBO ES) under accreditation as a testing laboratory designated TL-130.
- To perform product safety testing as a "Certification Organization" by the Standards Council of Canada (SCC).
- Serving as a testing laboratory for the certification of wood heaters by the U.S. Environmental Protection Agency.

This report is issued within the scope of *OMNI*'s accreditation. Accreditation certificates are available upon request.

The manufacturing facilities and quality control system for the production of the E2-C/Trekker Series at Hearth & Home Technologies, Inc. were evaluated to determine if sufficient to maintain conformance with OMNI's requirements for product certification. OMNI has concluded that the manufacturing facilities, processes, and quality control system are adequate to produce the appliance congruous with the standards and model codes to which it was evaluated.

3.2 - Calibration Data

Equipment for ASTM E2515, ASTM E2779, & EPA Method 28R

ID #	Lab Name/Purpose	Log Name	Attachment Type
131	Audit Weight, 500mg	Weight Standard, 500 mg	Calibration Certificate
132	10 lb Weight	Weight Standard, 10 lb.	Calibration Certificate
185	Platform Scale	Weight Indicator, Model WI-127	Calibration Certificate
209	Barometer	Barometer – Princo	Equipment Record
244	Milligram Balance	Analytical Balance	Calibration Certificate
283A	Audit Weights	Troemner 21pc Msas Set	Calibration Certificate
335	Sample Box / Dry Gas Meter	Apex Automated Emissions Sampling Box	Calibration Log
336	Sample Box / Dry Gas Meter	Apex Automated Emissions Sampling Box	Calibration Log
410	Microtector	Dwyer Microtector	Calibration Certificate
559	Vaneometer	Dwyer Vaneometer	Equipment Record
592	Thermohygrometer	Omega Digital Thermohygrometer	Calibration Log
594	Combustion Gas Analyzer	CAI Gas Analyzer	See Run Sheet

Certificate of Calibration

Certificate Number: **547339**

JJ Calibrations, Inc.
7007 SE Lake Rd
Portland, OR 97267-2105
Phone 503.786.3005
FAX 503.786.2994

Omni-Test Laboratories
13327 NE Airport Way
Portland, OR 97230

0723.01
Calibration

PO: OTL-13-035
Order Date: 11/19/2013
Authorized By: N/A

Property #: OMNI-00131
User: N/A
Department: N/A
Make: Ohaus
Model: 500mg
Serial #: 27503
Description: Mass
Procedure: DCN 500901
Accuracy: CLASS F (±0.72mg)

Calibrated on: 12/02/2013
*Recommended Due: 12/02/2018
Environment: 20 °C 34 % RH
As Received: Within Tolerance
As Returned: Within Tolerance
Action Taken: Calibrated
Technician: 34

Remarks: * Any number of factors may cause the calibration item to drift out of calibration before the recommended interval has expired

Refer to attachment for measurement results.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
432A	Sartorius	C-44	Microbalance 5.1g	03/11/2014	517747
723A	Rice Lake	1mg-200g (Class O)	Mass Set	09/05/2014	540048

JJ Calibrations, Inc. certifies that this instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual with the stated procedure using standards that are traceable to the National Institute of Standards and Technology (NIST), or other National Measurement Institutes (NMI's), or by using natural physical constants, intrinsic standards or ratio calibration techniques. The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2005, ISO 10012-1, the ISO 9000 family and QS 9000. The expanded uncertainties of measurements for this calibration are based upon 95% (2 sigma) confidence limits. Unless otherwise stated, a test accuracy ratio (TAR) of 4:1, if achievable, is maintained. The results reported herein apply only to the calibration of the item described above. This report may not be reproduced, except in full, without prior written consent of JJ Calibrations, Inc.
JJ Calibrations, Inc. quality system has been assessed and accredited to ISO/IEC 17025:2005.

Reviewer

3 Issued 12/06/2013 Rev # 14

Inspector

OMNI Environmental Services, Inc.
OMNI-Test Laboratories, Inc.

SCALE WEIGHT CALIBRATION DATA SHEET

Weight to be calibrated: 10 lb

ID Number: 132

Standard Calibration Weight: 10 lb

ID Number: 256

Scale Used: MTW-150K

ID Number: 353

Date: 2/19/13 By: A. Kravitz

Standard Weight (A) (Lb.)	Weight Verified (B) (Lb.)	Difference (A - B)	% Error
10.0	10.0	0.0	Ø

*Acceptable tolerance is 1%.

This calibration is traceable to NIST using calibrated standard weights.

Technician signature: Date: 2/19/13

Established 1974

QUALITY CONTROL SERVICES

LABORATORY EQUIPMENT • SALES • SERVICE • CALIBRATION • REPAIRS
2340 SE 11TH Ave. Portland, Oregon 97214 • Box 14831 Portland, Oregon 97293
(503) 236-2712 • FAX (503) 235-2535 • www.qc-services.com

ACCREDITED
Calibration Services
Certificate Number: 1550.01
Laboratory code: 115953

OMNI-Test Laboratories, Inc.
13327 NE Airport Way
Portland, OR 97230

Report Number: OMNE0321676161011

A2LA ACCREDITED
CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Scale	Weigh-Tronix	WI-127 1000x0.1lb	21676	185	Lab
Units	**Readability**	**SOP**	**Cal Date**	**Last Cal Date**	**Cal Due Date**
lbs	0.1	QC033	10/11/16	10/27/15	10/2017

FUNCTIONAL CHECKS

SHIFT TEST	LINEARITY	REPEATABILITY	ENVIRONMENTAL CONDITIONS
Test Wt: 500 Tol: 0.5	Test Wt: HB44 Tol: HB44	Test Wt: 200 Tol: 0.2	☐ Good ☑ Fair ☐ Poor
As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	Temperature: 20.3°C
As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
1000	1000.1	1000.1	0.12
700	700.1	700.1	0.12
500	500.0	500.0	0.08
200	200.0	200.0	0.08
100	100.0	100.0	0.05
50	50.0	50.0	0.05

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Avoirdupois Cast W	Rice Lake	25 and 50lb	PWO990-CA	11/4/15	11/2017	20152112

Permanent Information Concerning this Equipment:

Comments/Information Concerning this Calibration

Report prepared/reviewed by: S. King **Date:** 10-11-16

Technician: S. King **Signature:**

The uncertainty is calculated according to the ISO Guide to the Expression of Uncertainty in Measurement and includes the uncertainty of standards used combined with the observed standard deviation of the unit under test. The uncertainty is expanded with a k factor of 2 for an approximate 95% level of confidence. Instruments listed above were calibrated using standards traceable to the National Institute of Standards and Technology (NIST). Calibration data reflect results at the time and location of calibration. Calibration data should be reviewed to insure that the instrument is performing to its required accuracy.

PT ID: OMNE03

Member: National Conference of Standards Laboratories and Weights & Measures

OMNI-Test Laboratories, Inc.
Beaverton, OR (503) 643-3788

Equipment Record

Name: Fortin Type Mercurial Barometer

Type of Equipment: Barometer

S/N: 0674 **OMNI ID #:** OMNI-00209

Manufacturer: PRINCO Instruments, Inc.

Is Manufacturer's manual available in the equipment file? : Yes, if not why?

Date Received: June 2000 **Date Placed in Service:** June 2000

Condition When Received: : New 9 Used 9 Reconditioned

Location: Lab

Location of Calibration Procedures: All PRINCO Fortin mercurial barometers have scales which are set at the time of manufacture to a near zero correction by comparison with a Fortin type mercurial barometer whose scales were calibrated traceable to NIST. If the barometer is not abused an any way , it should never go out of calibration.

Location of Dates/Results of Calibrations: If the barometer is not abused an any way , it should never go out of calibration. The barometer currently hangs on the wall and is never moved.

Location of Maintenance Procedures: Maintenance is performed on an "as needed" basis.

Dates / Results of Maintenance: Regularly scheduled maintenance is not required. Pre-service and post-service maintenance is conducted per QA Manual Section 5.3.5. To date, maintenance has not been required beyond the in-service maintenance prescribed in QA Manual Section 5.3.5.

Any Planned Maintenance? : No, if yes what:

Equipment History of any damage, malfunction, modification and/or repair (including a statement on the suitability of the equipment for testing): To date, this instrument has not been damaged, has not malfunctioned, has not been modified, and has not been repaired.

Certificate of Calibration

Certificate Number: **642192**

JJ Calibrations, Inc.
7007 SE Lake Rd
Portland, OR 97267-2105
Phone 503.786.3005
FAX 503.786.2994

Omni-Test Laboratories
13327 NE Airport Way
Portland, OR 97230

OnSite

0723.01
Calibration

PO: **170117**
Order Date: **02/06/2017**
Authorized By: **N/A**

Property #: **Omni-00244**
User: **N/A**
Department: **N/A**
Make: **Sartorius**
Model: **BP 1215**
Serial #: **90709883**
Description: **Balance, Analytical, 120g**
Procedure: **500887**
Accuracy: **±.0005g**

Calibrated on: **02/06/2017**
*Recommended Due: **08/06/2017**
Environment: **23 °C 32 % RH**
* As Received: **Within Tolerance**
* As Returned: **Within Tolerance**
Action Taken: **Calibrated**
Technician: **123**

Remarks: * Many factors may cause the unit to drift out of calibration before the recommended due date. Any reported error is the absolute value between the reference and the unit. Uncertainties include the effects of the unit.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
723A	Rice Lake	1mg-200g (Class 0)	Mass Set	02/03/2018	637125

Measurement Data

Parameter / Measurement Description	Range Unit	Reference	Min	Max	*Error	UUT	Uncertainty Accredited = ✓
Before/After							
Force							
	g	0.00100	0.0005	0.0015	0.0000	0.0010 g	4E-02 ✓
	g	0.01000	0.0095	0.0105	0.0001	0.0101 g	4E-02 ✓
	g	0.10000	0.0995	0.1005	0.0000	0.1000 g	4E-02 ✓
	g	0.50000	0.4995	0.5005	0.0000	0.5000 g	4E-02 ✓
	g	2.00000	1.9995	2.0005	0.0000	2.0000 g	4E-02 ✓
	g	23.00000	22.9995	23.0005	0.0002	23.0002 g	4E-02 ✓
	g	48.00000	47.9995	48.0005	0.0004	48.0004 g	4E-02 ✓
	g	72.00000	71.9995	72.0005	0.0003	72.0003 g	4E-02 ✓
	g	95.00000	94.9995	95.0005	0.0005	95.0005 g	4E-02 ✓
	g	120.00000	119.9995	120.0005	0.0005	120.0005 g	4E-02 ✓

JJ Calibrations, Inc. certifies that this instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual with the stated procedure using standards that are traceable to the National Institute of Standards and Technology (NIST), or other National Measurement Institutes (NMI's), or by using natural physical constants, intrinsic standards or ratio calibration techniques. The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2005, ISO 10012-1, the ISO 9000 family and QS 9000. The expanded uncertainties of measurements for this calibration are based upon 95% (2 sigma) confidence limits. Unless otherwise stated, a test accuracy ratio (TAR) of 4:1, if achievable, is maintained. The results reported herein apply only to the calibration of the item described above. This report may not be reproduced, except in full, without prior written consent of JJ Calibrations, Inc.
JJ Calibrations, Inc. quality system has been assessed and accredited to ISO/IEC 17025:2005.

Reviewer

3 Issued 02/10/2017 Rev # 15

Inspector

Certificate of Calibration

Certificate Number: **543402**

JJ Calibrations, Inc.
7007 SE Lake Rd
Portland, OR 97267-2105
Phone 503.786.3005
FAX 503.786.2994

Omni-Test Laboratories
13327 NE Airport Way
Portland, OR 97230

0723.01
Calibration

PO: OTL-13-031
Order Date: 09/27/2013
Authorized By: N/A

Property #: OMNI-00283A
User: N/A
Department: N/A
Make: Troemner Inc
Model: 1mg-100g (Class F)
Serial #: 47883
Description: Mass Set, 21 Pc.
Procedure: DCN 500901
Accuracy: Class F

Calibrated on: 10/09/2013
*Recommended Due: 10/09/2018
Environment: 20 °C 41 % RH
As Received: Other - See Remarks
As Returned: Within Tolerance
Action Taken: Calibrated
Technician: 34

Remarks: * Any number of factors may cause the calibration item to drift out of calibration before the recommended interval has expired

Changed set from a Class 4 to a Class F per Jeremy Clark.
Received missing 1g weight.
Refer to attachment for measurement results.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
432A	Sartorius	C-44	Microbalance 5.1g	03/11/2014	517747
479A	Sartorius	MC210S	Scale, 210g	02/22/2014	517755
503A	Rice Lake	1mg-200g (Class O)	Mass Set	12/07/2013	517746
723A	Rice Lake	1mg-200g (Class O)	Mass Set	09/05/2014	540048

Reviewer

3 Issued 10/11/2013 Rev # 14

Inspector

JJ Calibrations, Inc.

Manufacturer: Troemner Inc.
Model: 1mg-100g (Class F)
Nomenclature: Mass Set, 21 Pc.
Serial: 47883

Certificate #: 543402
Date: 09Oct2013
Technician: 34
Calibration Interval: 60 Months

Parameter		Nominal	JJ Standard	UUT	UUT ± Limit	Uncertainty ±
Mass Verification						
Data in mg		1	0.996	1.048	0.100	0.0115
	dot	2	2.002	1.973	0.120	0.0115
		2	2.002	2.048	0.120	0.0115
		5	4.996	5.033	0.170	0.0115
		10	10.000	10.053	0.210	0.0115
	dot	20	19.999	19.966	0.260	0.0115
		20	19.999	20.069	0.260	0.0115
		50	49.998	50.018	0.350	0.0115
		100	99.998	100.144	0.430	0.0115
	dot	200	199.999	200.045	0.540	0.0115
		200	199.999	199.967	0.540	0.0115
		500	499.996	500.334	0.720	0.0115
Data in grams		1		Missing		
	dot	2	2.000000	1.999888	0.0011	0.0000394
		2	2.000000	2.000335	0.0011	0.0000394
		5	5.000002	4.999996	0.0015	0.0000395
		10	9.99998	9.99984	0.0020	0.0000580
	dot	20	19.99999	20.00100	0.0040	0.0000855
		20	19.99999	20.00079	0.0040	0.0000855
		50	49.99997	49.99949	0.0100	0.0001390
		100	99.99999	99.99802	0.0200	0.0002900

Supplement Data Sheet
Bold Italics indicates Out of Tolerance Value.

Thermal Metering System Calibration
Y Factor

Manufacturer:	APEX
Model:	XC-60-EP
Serial Number:	606001
OMNI Tracking No.:	OMNI-00335
Calibrated Orifice:	☐ Yes

Previous Calibration Comparision

		Acceptable Deviation (5%)	Deviation
Date	7/7/2016		
y Factor	0.999	0.04995	0.015
Acceptance	Acceptable		

Current Calibration

Acceptable y Deviation	0.020
Maximum y Deviation	0.006
Acceptable dH@ Deviation	N/A
Maximum dH@ Deviation	N/A
Acceptance	Acceptable

Average Gas Meter y Factor	**Orifice Meter dH@**
0.984	**N/A**

Calibration Date:	01/03/17	
Calibrated by:	B. Davis	
Calibration Frequency:	Six months	
Next Calibration Due:	7/3/2017	
Instrument Range:	1.000	cfm
Standard Temp.:	68	oF
Standard Press.:	29.92	"Hg
Barometric Press., Pb:	30.24	"Hg
Signature/Date:		1/6/2017

Reference Standard *			
Standard Calibrator	Model	Standard Test Meter	
	S/N	OMNI-00001	
	Calib. Date	27-Oct-16	
	Calib. Value	0.9823	y factor (ref)

Calibration Parameters	Run 1	Run 2	Run 3
Reference Meter Pressure ("H2O), Pr	0.00	0.00	0.00
DGM Pressure ("H2O), Pd	2.25	1.25	0.75
Initial Reference Meter	222.4	233.7	238.8
Final Reference Meter	233.608	238.735	244.617
Initial DGM	0	0	0
Final DGM	11.284	5.124	5.938
Temp. Ref. Meter (°F), Tr	67.0	67.0	68.0
Temperature DGM (°F), Td	78.0	78.0	79.0
Time (min)	53.0	32.0	48.0
Net Volume Ref. Meter, Vr	11.208	5.035	5.817
Net Volume DGM, Vd	11.284	5.124	5.938
Gas Meter y Factor =	**0.991**	**0.982**	**0.981**
Gas Meter y Factor Deviation (from avg.)	0.006	0.002	0.004
Orifice dH@	**N/A**	**N/A**	**N/A**
Orifice dH@ Deviation (from avg.)	N/A	N/A	N/A

where:

1. Deviation = |Average value for all runs - current run value|
** 2. y = [Vr x (y factor (ref)) x (Pb + (Pr/ 13.6)) x (Td + 460)]/ [Vd x (Pb + (Pd / 13.6)) x (Tr + 460)]
** 3. dH@ = 0.0317 x Pd / (Pb (Td + 460)) x [(Tr + 460) x time) / Vr]^2

* Reference calibration is traceable to NIST through NIST Test # 40674, Kimble ASTM E1272, or NIST traceable laboratory
** Equations come from EPA Method 5
The uncertainty of measurement is ±0.14 ft^3/min. This is based on the reference standard having a TAR (Test Accuracy Ratio) of at least 4:1.

DIFFERENTIAL PRESSURE GAUGE CALIBRATION DATA SHEET

Instrument to be calibrated: Pressure Transducer

Maximum Range: 2" W.C. ID Number: OMNI-00335B

Calibration Instrument: Digital Manometer ID Number: OMNI-00633

Date: 1/3/17 By: B. Davis

This form is to be used only in conjunction with Standard Procedure C-SPC.

Range of Calibration Point ("WC)	Digital Manometer Input ("WC)	Pressure Gauge Response ("WC)	Difference (Input - Response)	% Error of Full Span*
0-20% Max. Range 0 – 0.4	0.155	0.16	0.005	0.25
20-40% Max. Range 0.4 – 0.8	0.505	0.50	0.005	0.25
40-60% Max. Range 0.8 – 1.2	1.001	1.00	0.001	0.05
60-80% Max. Range 1.2 – 1.6	1.495	1.48	0.015	0.75
80-100% Max. Range 1.6 – 2.0	1.985	1.99	0.005	0.25

*Acceptable tolerance is 4%.

The uncertainty of measurement is ±0.4" WC. This is based on the reference standard having a TAR (Test Accuracy Ratio) of at least 4:1.

Technician signature: _____ Date: 1/3/17

Reviewed by: _____ Date: 1/6/2017

Temperature Calibration
EPA Method 28R, ASTM 2515

Booth:	Temperature Monitor Type:	Equipment Number:
E1	National Instruments Logger	00335, 00336

Reference Meter Equipment Number: 00373	Calibration Due Date: 8/02/17

Calibration Performed By:	Date:	Ambient Temperature:	Barometric Pressure:
B. Davis	1/4/17	66	30.16

Input Temperature (F)	Ambient	Meter A	Meter B	Filter A	Filter B	Tunnel	FB Interior
0	0	0	0	0	0	0	0
100	100	100	100	100	100	100	100
300	300	300	300	300	300	300	300
500	500	501	501	500	500	500	500
700	700	701	701	701	701	700	700
1000	1001	1001	1001	1001	1001	1000	1000

Input (F)	FB Top	FB Bottom	FB Back	FB Left	FB Right	Imp A	Imp B	Cat	Stack
0	0	0	0	0	0	0	0	0	0
100	100	100	100	100	100	100	100	100	100
300	300	300	300	300	300	300	300	300	300
500	500	500	500	500	500	500	501	500	500
700	700	700	700	700	700	701	701	701	700
1000	1000	1000	1000	1000	1000	1001	1001	1001	1000
1500								1501	
2000								2001	

Technician signature: _____ Date: 1/4/17

Reviewed By: _____ Date: _____

1/6/2017

Thermal Metering System Calibration
Y Factor

Manufacturer:	APEX
Model:	XC-60-EP
Serial Number:	606002
OMNI Tracking No.:	OMNI-00336
Calibrated Orifice:	☐ Yes

Previous Calibration Comparision

		Acceptable Deviation (5%)	Deviation
Date	7/7/2016		
y Factor	1.005	0.05025	0.015
Acceptance	Acceptable		

Current Calibration

Acceptable y Deviation	0.020
Maximum y Deviation	0.002
Acceptable dH@ Deviation	N/A
Maximum dH@ Deviation	N/A
Acceptance	Acceptable

Average Gas Meter y Factor	**Orifice Meter dH@**
0.990	**N/A**

Calibration Date:	01/03/17	
Calibrated by:	B. Davis	
Calibration Frequency:	Six months	
Next Calibration Due:	7/3/2017	
Instrument Range:	1.000	cfm
Standard Temp.:	68	oF
Standard Press.:	29.92	"Hg
Barometric Press., Pb:	30.24	"Hg
Signature/Date:		1/6/2017

Reference Standard *			
Standard Calibrator	Model	Standard Test Meter	
	S/N	OMNI-00001	
	Calib. Date	27-Oct-16	
	Calib. Value	0.9823	y factor (ref)

Calibration Parameters	Run 1	Run 2	Run 3
Reference Meter Pressure ("H2O), Pr	0.00	0.00	0.00
DGM Pressure ("H2O), Pd	1.90	1.00	0.70
Initial Reference Meter	249.7	257	262.227
Final Reference Meter	256.938	262.17	269.982
Initial DGM	0	0	0
Final DGM	7.263	5.214	7.847
Temp. Ref. Meter (°F), Tr	68.0	68.0	68.0
Temperature DGM (°F), Td	76.0	79.0	79.0
Time (min)	34.0	33.0	59.0
Net Volume Ref. Meter, Vr	7.238	5.170	7.755
Net Volume DGM, Vd	7.263	5.214	7.847
Gas Meter y Factor =	**0.989**	**0.992**	**0.989**
Gas Meter y Factor Deviation (from avg.)	0.001	0.002	0.001
Orifice dH@	**N/A**	**N/A**	**N/A**
Orifice dH@ Deviation (from avg.)	N/A	N/A	N/A

where:

1. Deviation = |Average value for all runs - current run value|
** 2. y = [Vr x (y factor (ref)) x (Pb + (Pr/ 13.6)) x (Td + 460)]/ [Vd x (Pb + (Pd / 13.6)) x (Tr + 460)]
** 3. dH@ = 0.0317 x Pd / (Pb (Td + 460)) x [(Tr + 460) x time) / Vr]^2

* Reference calibration is traceable to NIST through NIST Test # 40674, Kimble ASTM E1272, or NIST traceable laboratory
** Equations come from EPA Method 5
The uncertainty of measurement is ±0.14 ft^3/min. This is based on the reference standard having a TAR (Test Accuracy Ratio) of at least 4:1.

DIFFERENTIAL PRESSURE GAUGE CALIBRATION DATA SHEET

Instrument to be calibrated: Pressure Transducer

Maximum Range: 2" W.C. ID Number: OMNI-00336B

Calibration Instrument: Digital Manometer ID Number: OMNI-00633

Date: 1/3/17 By: B. Davis

This form is to be used only in conjunction with Standard Procedure C-SPC.

Range of Calibration Point ("WC)	Digital Manometer Input ("WC)	Pressure Gauge Response ("WC)	Difference (Input - Response)	% Error of Full Span*
0-20% Max. Range 0 – 0.4	0.134	0.140	0.006	0.30
20-40% Max. Range 0.4 – 0.8	0.514	0.52	0.006	0.30
40-60% Max. Range 0.8 – 1.2	0.925	0.93	0.005	0.25
60-80% Max. Range 1.2 – 1.6	1.356	1.35	0.006	0.30
80-100% Max. Range 1.6 – 2.0	1.917	1.91	0.007	0.35

*Acceptable tolerance is 4%.

The uncertainty of measurement is ±0.4" WC. This is based on the reference standard having a TAR (Test Accuracy Ratio) of at least 4:1.

Technician signature: _____ Date: 1/3/17

Reviewed by: _____ Date: 1/6/2017

Temperature Calibration
EPA Method 28R, ASTM 2515

Booth:	Temperature Monitor Type:	Equipment Number:
E1	National Instruments Logger	00335, 00336

Reference Meter Equipment Number: 00373	Calibration Due Date: 8/02/17

Calibration Performed By:	Date:	Ambient Temperature:	Barometric Pressure:
B. Davis	1/4/17	66	30.16

Input Temperature (F)	Ambient	Meter A	Meter B	Filter A	Filter B	Tunnel	FB Interior
0	0	0	0	0	0	0	0
100	100	100	100	100	100	100	100
300	300	300	300	300	300	300	300
500	500	501	501	500	500	500	500
700	700	701	701	701	701	700	700
1000	1001	1001	1001	1001	1001	1000	1000

Input (F)	FB Top	FB Bottom	FB Back	FB Left	FB Right	Imp A	Imp B	Cat	Stack
0	0	0	0	0	0	0	0	0	0
100	100	100	100	100	100	100	100	100	100
300	300	300	300	300	300	300	300	300	300
500	500	500	500	500	500	500	501	500	500
700	700	700	700	700	700	701	701	701	700
1000	1000	1000	1000	1000	1000	1001	1001	1001	1000
1500								1501	
2000								2001	

Technician signature: _____ Date: 1/4/17

Reviewed By: _____ Date: _____

1/6/2017

Certificate of Calibration

Certificate Number: **629694**

JJ Calibrations, Inc.
7007 SE Lake Rd
Portland, OR 97267-2105
Phone 503.786.3005
FAX 503.786.2994

0723.01
Calibration

Omni-Test Laboratories
13327 NE Airport Way
Portland, OR 97230

PO: **160099**
Order Date: **08/18/2016**
Authorized By: **N/A**

Property #: **OMNI-00410**
User: **N/A**
Department: **N/A**
Make: **Dwyer**
Model: **1430**
Serial #: **OMNI-00410**
Description: **Microtector**
Procedure: **500908**
Accuracy: **±0.00025" WC**

Calibrated on: **08/29/2016**
*Recommended Due: **08/29/2017**
Environment: **19** °C **50** % RH
* As Received: **Other - See Remarks**
* As Returned: **Limited**
Action Taken: **Calibrated**
Technician: **34**

Remarks: * Many factors may cause the unit to drift out of calibration before the recommended due date. Any reported error is the absolute value between the reference and the unit. Uncertainties include the effects of the unit.

Calibrated micrometer head only per Bruce Davis.

Limited Calibration - Calibrated micrometer head only.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
541A	Select	E8FED2	8 Piece Gage Block Set	11/24/2016	607288

Measurement Data

Parameter / Measurement Description	Range	Unit	Reference	Min	Max	%Error	UUT	Uncertainty
Before/After								Accredited = ✓
Length								
		Inch	0.1300	0.129	0.131	0.000	0.130 Inch	1.1E-03 ✓
		Inch	0.3850	0.384	0.386	0.000	0.385 Inch	1.1E-03 ✓
		Inch	0.6150	0.614	0.616	0.000	0.615 Inch	1.1E-03 ✓
		Inch	0.8700	0.869	0.871	0.001	0.871 Inch	1.1E-03 ✓
		Inch	1.0000	0.999	1.001	0.001	1.001 Inch	1.1E-03 ✓

JJ Calibrations, Inc. certifies that this instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual with the stated procedure using standards that are traceable to the National Institute of Standards and Technology (NIST), or other National Measurement Institutes (NMI's), or by using natural physical constants, intrinsic standards or ratio calibration techniques. The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2005, ISO 10012-1, the ISO 9000 family and QS 9000. The expanded uncertainties of measurements for this calibration are based upon 95% (2 sigma) confidence limits. Unless otherwise stated, a test accuracy ratio (TAR) of 4:1, if achievable, is maintained. The results reported herein apply only to the calibration of the item described above. This report may not be reproduced, except in full, without prior written consent of JJ Calibrations, Inc.
JJ Calibrations, Inc. quality system has been assessed and accredited to ISO/IEC 17025:2005.

Reviewer

3 Issued 08/31/2016 Rev # 15

Stacy Heath
Inspector

Certificate: **629694**

OMNI Environmental, Inc.
OMNI-Test Laboratories, Inc.

VWR Temperature Hygrometer Calibration Procedure and Data Sheet

Frequency: Every Two Years

Step 1: Locate NIST traceable standard.

Step 2: Place unit to be calibrated, tracking No. OMNI- 00592, inside OMNI desiccate box on the same shelf with the NIST traceable standard.

Step 3: After a period of not less than four hours record the temperature and humidity of both units in the spaces provide below.

Step 4: If the unit to be calibrated matches the NIST standard within ± 4%, it is acceptable. If not, the unit needs to be sent to a repair company or replaced.

Verification Data:

Date: 1/5/17 Technician: B Davis

Time in desiccate: 0900 Recording time: 0845 1/6/17

NIST Standard Temperature: 67.5 °F NIST Standard Humidity: 9.5

Test Unit Temperature Reading: 66.9 °F Test Unit Humidity Reading: 6.1

Test unit OMNI- 00592 is X or was not __ within acceptable limits.

Technician Signature:

Comments: Humidity Results of 00592 are within ± 4% of Reference meter

3.3 - Example Calculations

Equations and Sample Calculations – ASTM E2779 & E2515

Manufacturer:	Hearth & Home
Model:	E2
Run:	1
Category:	[Integrated]

Equations used to calculate the parameters listed below are described in this appendix. Sample calculations are provided for each equation. The raw data and printout results from a sample run are also provided for comparison to the sample calculations.

M_{Bdb} – Weight of test fuel burned during test run, dry basis, kg

M_{BSidb} – Weight of test fuel burned during test run segment *i*, dry basis, kg

BR – Average dry burn rate over full integrated test run, kg/hr

BR_{Si} – Average dry burn rate over test run segment *i*, kg/hr

V_s – Average gas velocity Dry burn rate, kg/hr

Q_{sd} – Average gas flow ra Total particulate matter collected, mg

$V_{m(std)}$ – Volume of Gas S Volume of gas sampled corrected to standard conditions, dscf

m_n – Total Particulate Ma Average dilution tunnel gas velocity, ft/sec

C_s - Concentration of part Particulate concentration, g/dscf

E_T – Total Particulate Em Dilution tunnel gas flow rate, dscf/min

PR - Proportional Rate Va Particulate emission rate, lbs/hr

PM_R – Average particulat Total particulate emissions, grams

PM_F – Average particulat Average fuel load moisture content, %

M_{Bdb} – Weight of test fuel burned during test run, dry basis, kg
ASTM E2779 equation (1)

$$M_{Bdb} = (M_{Swb} - M_{Ewb})(100/(100 + FM))$$

Where,

FM = average fuel moisture of test fuel, % dry basis
M_{Swb} = weight of test fuel in hopper at start of test run, wet basis, kg
M_{Ewb} = weight of test fuel in hopper at end of test run, wet basis, kg

Sample Calculation:

7.1 %
M_{Swb} = 32.9 lbs
M_{Ewb} = 14.5 lbs
0.4536 = Converstion factor from lbs to kg

M_{Bdb} = [(32.9 x 0.4536) - (14.5 x 0.4536)] (100/(100 + 7.09)

M_{Bdb} = **7.8** kg

M_{BSidb} – Weight of test fuel burned during test run segment *i*, dry basis, kg
ASTM E2779 equation (2)

$$M_{BSidb} = (MS_{Siwb} - M_{ESiwb})(100/(100 + FM))$$

Where,

M_{SSiwb} = weight of test fuel in hopper at start of test run segment *i*, wet basis, kg

M_{ESiwb} = weight of test fuel in hopper at end of test run segment *i*, wet basis, kg

Sample Calculation (from medium burn rate segment):

FM = 7.1 %

M_{SSiwb} = 26.5 lbs

M_{ESiwb} = 20.5 lbs

0.4536 = Converstion factor from lbs to kg

M_{BSidb} = [(26.5 x 0.4536) - (20.5 x 0.4536)] (100/(100 + 7)

M_{BSidb} = **2.5** kg

BR – Average dry burn rate over full integrated test run, kg/hr
ASTM E2779 equation (3)

$$BR = \frac{60\ M_{Bdb}}{\theta}$$

Where,

θ = Total length of full intergrated test run, min

Sample Calculation:

M_{Bdb} = 7.79 kg

θ = 363 min

$$BR = \frac{60 \times 7.79}{363}$$

BR = **1.29** kg/hr

BR_{Si} – Average dry burn rate over test run segment *i*, kg/hr
ASTM E2779 equation (4)

$$BR_{Si} = \frac{60\ M_{BSidb}}{\theta_{Si}}$$

Where,

θ_{Si} = Total length of test run segment *i*, min

Sample Calculation (from medium burn rate segment):

M_{BSidb} = 2.54 kg

θ = 121 min

$$BR = \frac{60 \times 2.54}{121}$$

BR = **1.26** kg/hr

V_s – Average gas velocity in the dilution tunnel, ft/sec
ASTM E2515 equations (9)

$$V_s = F_p \times K_p \times C_P \times \left(\sqrt{\Delta P}\right)_{avg} \times \sqrt{\frac{T_s}{P_s \times M_s}}$$

Where:

F_p = Adjustment factor for center of tunnel pitot tube placement, $Fp = \frac{V_{strav}}{V_{scent}}$, ASTM E2515 Equation (1)

v_{scent} = Dilution tunnel velocity calculated after the multi-point pitot traverse at the center, ft/sec

v_{strav} = Dilution tunnel velocity calculated after the multi-point pitot traverse, ft/sec

k_p = Pitot tube constant, 85.49

C_p = Pitot tube coefficient: 0.99, unitless

ΔP* = Velocity pressure in the dilution tunnel, in H_2O

T_s = Absolute average gas temperature in the dilution tunnel, °R; (°R = °F + 460)

P_s = Absolute average gas static pressure in diltuion tunnel, = $P_{bar} + P_g$, in Hg

P_{bar} = Barometric pressure at test site, in. Hg

P_g = Static pressure of tunnel, in. H_20; (in Hg = in H_20/13.6)

M_s = **The dilution tunnel wet molecular weight; M_s = 28.78 assuming a dry weight of 29 lb/lb-mole

Sample calculation:

$$Fp = \frac{12.16}{16.08} = 0.756$$

$$V_s = 0.756 \times 85.49 \times 0.99 \times 0.232 \times \left(\frac{93.4 + 460}{\left(30.16 + \frac{-0.16}{13.6}\right) \times 28.78} \right)^{1/2}$$

V_s = **11.87** ft/s

*The ASTM test standard mistakenly has the square root of the average delta p instead of the average of the square root of delta p. The current EPA Method 2 is also incorrect. This was verified by Mike Toney at EPA.

**The ASTM test standard mistakenly identifies Ms as the dry molecular weight. It should be the wet molecular weight as indicated in EPA Method 2.

Q_{sd} – Average gas flow rate in dilution tunnel, dscf/hr
ASTM E2515 equation (3)

$$Q_{sd} = 3600 \times (1 - B_{ws}) \times v_s \times A \times \frac{T_{std}}{T_s} \times \frac{P_s}{P_{std}}$$

Where:

3600	=	Conversion from seconds to hours (ASTM method uses 60 to convert in minutes)
B_{ws}	=	Water vapor in gas stream, proportion by volume; assume 2%
A	=	Cross sectional area of dilution tunnel, ft^2
T_{std}	=	Standard absolute temperature, 528 °R
P_s	=	Absolute average gas static pressure in diltuion tunnel, = P_{bar} + P_g , in Hg
T_s	=	Absolute average gas temperature in the dilution tunnel, °R; (°R = °F + 460)
P_{std}	=	Standard absolute pressure, 29.92 in Hg

Sample calculation:

$$Q_{sd} = 3600 \times (1 - 0.02) \times 11.87 \times 0.196 \times \frac{528}{93.4 + 460} \times \frac{30.2 + \frac{-0.16}{13.6}}{29.92}$$

Q_{sd} = **7904.1** dscf/hr

$V_{m(std)}$ – Volume of Gas Sampled Corrected to Dry Standard Conditions, dscf
ASTM E2515 equation (6)

$$V_{m(std)} = K_1 \times V_m \times Y \times \frac{P_{bar} + \left(\frac{\Delta H}{13.6}\right)}{T_m}$$

Where:

K_1	=	17.64 °R/in. Hg
V_m	=	Volume of gas sample measured at the dry gas meter, dcf
Y	=	Dry gas meter calibration factor, dimensionless
P_{bar}	=	Barometric pressure at the testing site, in. Hg
ΔH	=	Average pressure differential across the orifice meter, in. H_2O
T_m	=	Absolute average dry gas meter temperature, °R

Sample Calculation:

Using equation for Train 1:

$$V_{m(std)} = 17.64 \times 59.409 \times 0.984 \times \frac{\left(30.16 + \frac{1.32}{13.6}\right)}{(81.6 + 460)}$$

$V_{m(std)}$ = **57.620** dscf

Using equation for Train 2:

$$V_{m(std)} = 17.64 \times 59.199 \times 0.99 \times \frac{\left(30.16 + \frac{1.09}{13.6}\right)}{(81.7 + 460)}$$

$V_{m(std)}$ = **57.717** dscf

Using equation for ambient train:

$$V_{m(std)} = 17.64 \times N/A \times N/A \times \frac{\left(\underline{30.16} + \frac{0.00}{13.6}\right)}{(72.2 + 460)}$$

$V_{m(std)}$ = **0.000** dscf

m_n – Total Particulate Matter Collected, mg
ASTM E2515 Equation (12)

$$m_n = m_p + m_f + m_g$$

Where:

m_p = mass of particulate matter from probe, mg

m_f = mass of particulate matter from filters, mg

m_g = mass of particulate matter from filter seals, mg

Sample Calculation:

Using equation for Train 1 (first hour):

m_n = 0.0 + 0.7 + 0.0

m_n = 0.7 mg

Using equation for Train 1 (remainder):

m_n = 0.4 + 2.6 + 1.6

m_n = 4.6 mg

Train 1 Aggregate = **5.3** mg

Using equation for Train 2:

m_n = 0.4 + 3.3 + 1.8

m_n = **5.5** mg

C_s - Concentration of particulate matter in tunnel gas, dry basis, corrected to standard conditions, g/dsc
ASTM E2515 equation (13)

$$C_s = K_2 \times \frac{m_n}{V_{m(std)}}$$

Where:

K_2	=	Constant, 0.001 g/mg
m_n	=	Total mass of particulate matter collected in the sampling train, mg
$V_{m(std)}$	=	Volume of gas sampled corrected to dry standard conditions, dscf

Sample calculation:

For Train 1:

$$C_s = 0.001 \times \frac{5.3}{57.62}$$

C_s = **0.00009** g/dscf

For Train 2

$$C_s = 0.001 \times \frac{5.5}{57.72}$$

C_s = **0.00010** g/dscf

For Ambient Train

$$C_r = 0.001 \times \frac{0.0}{0.00}$$

C_r = **0.000000** g/dscf

E_T – Total Particulate Emissions, g
ASTM E2515 equation (15)

$$E_T = (c_s - c_r) \times Q_{std} \times \theta$$

Where:

C_s	=	Concentration of particulate matter in tunnel gas, g/dscf
C_r	=	Concentration particulate matter room air, g/dscf
Q_{std}	=	Average dilution tunnel gas flow rate, dscf/hr
θ	=	Total time of test run, minutes

Sample calculation:

For Train 1

E_T = (0.000092 - 0.000000) x 7904.1 x 363 /60

E_T = 4.40 g

For Train 2

E_T = (0.000095 - 0.000000) x 7904.1 x 363 /60

E_T = 4.56 g

Average

E = 4.48 g

Total emission values shall not differ by more than 7.5% from the total average emissions

7.5% of the average =	0.34
Train 1 difference =	0.08
Train 2 difference =	0.08

PR - Proportional Rate Variation
ASTM E2515 equation (16)

$$PR = \left[\frac{\theta \times V_{mi} \times V_s \times T_m \times T_{si}}{\theta_i \times V_m \times V_{si} \times T_{mi} \times T_s} \right] \times 100$$

Where:

θ = Total sampling time, min

θ_i = Length of recording interval, min

V_{mi} = Volume of gas sample measured by the dry gas meter during the “ith” time interval, dcf

V_m = Volume of gas sample as measured by dry gas meter, dcf

V_{si} = Average gas velocity in the dilution tunnel during the "ith" time interval, ft/sec

V_s = Average gas velocity in the dilution tunnel, ft/sec

T_{mi} = Absolute average dry gas meter temperature during the "ith" time interval, ^oR

T_m = Absolute average dry gas meter temperature, ^oR

T_{si} = Absolute average gas temperature in the dilution tunnel during the "ith" time interval, ^oR

T_s = Absolute average gas temperature in the dilution tunnel, ^oR

Sample calculation (for the first 1 minute interval of Train 1):

$$PR = \left(\frac{363 \times 0.145 \times 11.87 \times (111.0 + 460) \times (81.6 + 460)}{1 \times 59.41 \times 12.06 \times (93.4 + 460) \times (72.0 + 460)} \right) \times 100$$

PR = 92 %

PM_R – Average particulate emissions for full integrated test run, g/hr
ASTM E2779 equation (5)

$$PM_R = 60 (E_T/\theta)$$

Where,

E_T = Tota particulate emissions, grams

θ = Total length of full intergrated test run, min

Sample Calculation:

E_T (Dual train average) = 4.48 g

θ = 363 min

$PM_R = 60$ x (4.48 / 363)

PM_R = **0.74** g/hr

PM_F – Average particulate emission factor for full integrated test run, g/dry kg of fuel burned
ASTM E2779 equation (6)

$$PM_F = E_T/M_{Bdb}$$

Where,

E_T = Tota particulate emissions, grams

M_{Bdb} = Weight of test fuel burned during test run, dry basis, kg

Sample Calculation:

E_T (Dual train average) = 4.48 g

M_{Bdb} = 7.79 kg

PM_F = 4.48 / 7.79)

PM_F = **0.57** g/kg

Appendix A
Labeling & Owner's Manual

CAUTION: HOT WHILE IN OPERATION DO NOT TOUCH, KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION: CHAUD LORS DE L'OPÉRATION. NE PAS TOUCHER. GARDEZ LES ENFANTS ET LES VÊTEMENTS LOIN DE L'ESPACE DÉSIGNÉ DE L'INSTALLATION. LE CONTACT PEUT CAUSER DES BRÛLURES À LA PEAU. VOIR L'ÉTIQUETTE ET LES INSTRUCTIONS.

EM
C OTL US

REPORT #/RAPPORT #
061-S-83-2, 0061PS094E

Serial No. / N° de série

HF

BARCODE LABEL

QUADRA-FIRE

TREKKER-C Pellet Stove

Listed Solid Fuel Room Heater/Pellet Type. Also suitable for Mobile Home Installation. This appliance has been tested and listed for use in Manufactured Homes in accordance with OAR 814-23-9000 through 814-23-909.

Appareil de chauffage de combustible solide/de type de boulettes. Accepté dans l'installation dans les maisons mobiles. Cet appareil a été testé et enregistré pour l'usage dans les Maisons Mobiles en accord avec OAR 814-23-9000 jusqu'à 814-23-909.

PREVENT HOUSE FIRES / PRÉVENTION DES FEUX DE MAISON

Install and use only in accordance with manufacturer's installation and operating instructions. Contact local building or fire officials about restrictions and inspection in your area.

WARNING - FOR MOBILE HOMES: Do not install appliance in a sleeping room. An outside combustion air inlet must be provided. The structural integrity of the mobile home floor, ceiling and walls must be maintained. Refer to manufacturer's instructions and local codes for precautions required for passing chimney through a combustible wall or ceiling. Inspect and clean vent system frequently in accordance with manufacturer's instructions. DO NOT CONNECT THIS UNIT TO A CHIMNEY SERVING ANOTHER APPLIANCE. Use a 3" or 4" diameter type "L" or "PL" venting system.

Installez et utilisez en accord avec les instructions d'installation et d'opération du fabricant. Contactez le bureau de la construction ou le bureau des incendies au sujet des restrictions et des inspections d'installation dans votre voisinage. Ne pas obstruez l'espace en dessous de l'appareil.

AVIS - Pour Les Maisons Mobiles: Ne pas installer dans une chambre à coucher. Un tuyau extérieur de combustion d'air doit être installé et ne doit pas être obstrué lorsque l'appareil est en usage. La structure intégrale du plancher, du plafond et des murs de la maison mobile doit être maintenue intacte. Référez vous aux instructions du fabricant et des codes locaux pour les précautions requises pour passer une cheminée à travers un mur ou un plafond combustibles, et les compensations maximums. Inspectez et nettoyez la cheminée fréquemment. Ne pas connecter cet appareil à une cheminée servant un autre appareil. Utilisez système de ventilation "L" ou "PL" diamètre 76mm ou 102mm

Conforms to ASTM Std E1509-12. Certified to ULC S627-00. Room Heating Pellet BurningType, (UM) 84-HUD FOR USE ONLY WITH PELLETIZED WOOD FUEL. Do not use any other type of fuel.

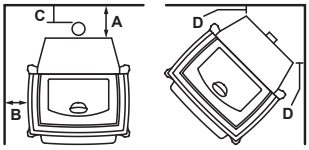
Input Rating: 50,775 Btu's/hr. Electrical Rating:115 VAC, 60 Hz, Start 2.9 Amps, Run 2.45 Amps. Route power cord away from unit. Do not route cord under or in front of appliance. Do not obstruct the space beneath the heater.

DANGER: Risk of electrical shock. Disconnect power supply before servicing. Replace glass only with 5mm ceramic. To start, turn dial control to desired setting and set thermostat above room temperature, the stove will light automatically. To shutdown, turn dial control to OFF or set thermostat below room temperature. For further instruction refer to owner's manual. Keep viewing doors tightly closed during operation. Keep viewing and ash removal doors tightly closed during operation.

Conforme à la norme ASTM E1509-12 Std. Certifié à la norme ULC S627-00. Room Heating Pellet Burning Type, (UM) 84-HUD POUR USAGE AVEC LES BOULETTES DE BOIS. N'utiliser aucun autre genre de combustible.

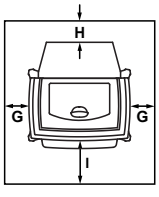
Puissance de Rendement: 50,775 Btu's/hr. Puissance Électrique: 115 VAC, 60 Hz, Début 2.9 Amps, Courir 2.45 Amps, Éloignez le fil électrique de l'appareil. Ne pas faire passer le fil électrique au dessus ou en dessous de l'appareil. Ne pas bloquer l'espace au dessous de l'appareil.

DANGER: Il y a risque de décharge électrique. Déconnectez le fil électrique de la prise de contact avant le service. Remplacez la vitre seulement avec une vitre céramique de 5 mm disponible chez votre fournisseur. Pour commencer, tournez la molette de réglage à la température désirée et réglez le thermostat au-dessus de la température ambiante, le poêle s'allumera automatiquement. Pour éteindre, tournez la molette de réglage sur OFF ou réglez le thermostat dessous de la température ambiante. Pour des instructions supplémentaires, référez vous au manuel du propriétaire. Gardez la porte d'ouverture et la porte des cendres fermées hermétiquement durant l'opération.



MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS
ESPACES LIBRES MINIMUM DES MATÉRIAUX

A	Back Wall / Mur Arrière	2 in [51 mm]
B	Side Wall / Mur De Côté	6 in [152 mm]
C	"L" or "PL" Pipe to Back Wall / "L" ou "PL" Un Tuyau Mur Arrière	1 in [25 mm]
D	Side Wall / Mur De Côté	2 in [51 mm]



USA
G = 2 in
H* = 2 in
I = 6 in

CANADA
G = 51 mm
H* = 51 mm
I = 152 mm

FLOOR PROTECTION / PROTECTION DU SOL

Floor protector must be non-combustible material, extending beneath heater and to the front/sides/rear as indicated. Measure front distance (I) from the surface of the glass door.

Le poêle doit être placé sur une assise non combustible s'étendant tout autour de lui, comme les schémas l'indiquent. Mesurez la distance du devant (I) de la surface de la porte vitrée.

*Non-combustible floor protection must extend 2 inches (51mm) beneath the flue pipe when installed with horizontal venting or under the Top Vent Adapter with vertical installation. RECOMMENDED IN USA; REQUIRED IN CANADA.

*Un protecteur incombustible de plancher doit s'étendre 2 inches (51mm) sous le conduit de cheminée pour une installation de ventilation horizontale ou sous un adapteur de ventilation de dessus pour une installation verticale. RECOMMANDÉ AUX ÉTATS-UNIS; NÉCESSAIRE AU CANADA.

Manufactured by:Fabriqué par

HEARTH & HOME technologies

352 Mountain House Road, Halifax, PA 17032
www.quadrafire.com

This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual

U.S. ENVIRONMENTAL PROTECTION AGENCY
Certified to comply with 2020 particulate standards at 0.74 G/HR. Tested under ASTM E2515, ASTM E2779, and CSA B415.1-10

2021	2022	2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Made in U.S.A. of US and imported parts.
Fabriqué aux États-Unis-d'Amérique par des pièces d'origine américaine et pièces importées.

DO NOT REMOVE THIS LABEL / NE PAS ENLEVER L'ÉTIQUETTE

7080-801A

CAUTION: HOT WHILE IN OPERATION DO NOT TOUCH, KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION: CHAUD LORS DE L'OPÉRATION. NE PAS TOUCHER. GARDEZ LES ENFANTS ET LES VÊTEMENTS LOIN DE L'ESPACE DÉSIGNÉ DE L'INSTALLATION. LE CONTACT PEUT CAUSER DES BRÛLURES À LA PEAU. VOIR L'ÉTIQUETTE ET LES INSTRUCTIONS.

EM

C US

REPORT #/RAPPORT #
061-S-84-2, 0061PS094E

QUADRA-FIRE

TREKKERI-C Pellet Insert

Serial No. / N° de série

HF

BARCODE LABEL

Listed Solid Fuel Room Heater/Pellet Type. Also suitable for Mobile Home Installation. This appliance has been tested and listed for use in Manufactured Homes in accordance with OAR 814-23-9000 through 814-23-909.

Appareil de chauffage de combustible solide/de type de boulettes. Accepté dans l'installation dans les maisons mobiles. Cet appareil a été testé et enregistré pour l'usage dans les Maisons Mobiles en accord avec OAR 814-23-9000 jusqu'à 814-23-909.

PREVENT HOUSE FIRES / PRÉVENTION DES FEUX DE MAISON

Install and use only in accordance with manufacturer's installation and operating instructions. Contact local building or fire officials about restrictions and inspection in your area.
WARNING - FOR MOBILE HOMES: Do not install appliance in a sleeping room. An outside combustion air inlet must be provided. The structural integrity of the mobile home floor, ceiling and walls must be maintained. Refer to manufacturer's instructions and local codes for precautions required for passing chimney through a combustible wall or ceiling. Inspect and clean vent system frequently in accordance with manufacturer's instructions. DO NOT CONNECT THIS UNIT TO A CHIMNEY SERVING ANOTHER APPLIANCE. Use a 3" or 4" diameter type "L" or "PL" venting system.

Installez et utilisez en accord avec les instructions d'installation et d'opération du fabricant. Contactez le bureau de la construction ou le bureau des incendies au sujet des restrictions et des inspections d'installation dans votre voisinage. Ne pas obstruez l'espace en dessous de l'appareil.
AVIS - Pour Les Maisons Mobiles: Ne pas installer dans une chambre à coucher. Un tuyau extérieur de combustion d'air doit être installé et ne doit pas être obstrué lorsque l'appareil est en usage. La structure intégrale du plancher, du plafond et des murs de la maison mobile doit être maintenue intacte. Référez vous aux instructions du fabricant et des codes locaux pour les précautions requises pour passer une cheminée à travers un mur ou un plafond combustibles, et les compensations maximums. Inspectez et nettoyez la cheminée fréquemment. Ne pas connecter cet appareil à une cheminée servant un autre appareil. Utilisez systèm de ventilation "L" ou "PL" diamètre 76mm ou 102mm

Conforms to ASTM Std E1509-12. Certified to ULC S628-93. Room Heating Pellet BurningType, (UM) 84-HUD FOR USE ONLY WITH PELLETIZED WOOD FUEL. Do not use any other type of fuel.

Input Rating: 50,775 Btu's/hr. Electrical Rating:115 VAC, 60 Hz, Start 2.9 Amps, Run 2.45 Amps. Route power cord away from unit. Do not route cord under or in front of appliance. Do not obstruct the space beneath the heater.

DANGER: Risk of electrical shock. Disconnect power supply before servicing. Replace glass only with 5mm ceramic. To start, turn dial control to desired setting and set thermostat above room temperature, the stove will light automatically. To shutdown, turn dial control to OFF or set thermostat below room temperature. For further instruction refer to owner's manual. Keep viewing doors tightly closed during operation. Keep viewing and ash removal doors tightly closed during operation.

Conforme à la norme ASTM E1509-12 Std. Certifié à la norme ULC S628-93. Room Heating Pellet Burning Type, (UM) 84-HUD POUR USAGE AVEC LES BOULETTES DE BOIS. N'utiliser aucun autre genre de combustible.

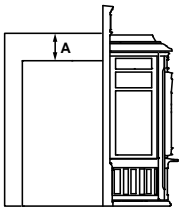
Puissance de Rendement: 50,775 Btu's/hr. Puissance Électrique: 115 VAC, 60 Hz, Début 2.9 Amps, Courir 2.45 Amps, Éloignez le fil électrique de l'appareil. Ne pas faire passer le fil électrique au dessus ou en dessous de l'appareil. Ne pas bloquer l'espace au dessous de l'appareil.

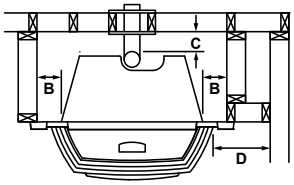
DANGER: Il y a risque de décharge électrique. Déconnectez le fil électrique de la prise de contact avant le service. Remplacez la vitre seulement avec une vitre céramique de 5 mm disponible chez votre fournisseur. Pour commencer, tournez la molette de réglage à la température désirée et réglez le thermostat au-dessus de la température ambiante, le poêle s'allumera automatiquement. Pour éteindre, tournez la molette de réglage sur OFF ou réglez le thermostat dessous de la température ambiante. Pour des instructions supplémentaires, référez vous au manuel du propriétaire. Gardez la porte d'ouverture et la porte des cendres fermées hermétiquement durant l'opération.

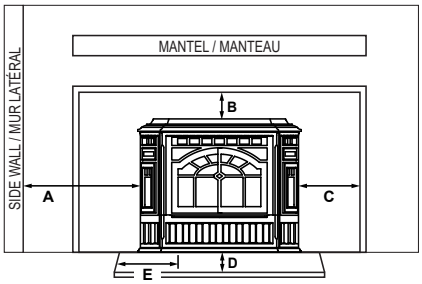
MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS / ESPACES LIBRES MINIMUM DES MATÉRIAUX COMBUSTIBLES

AS A BUILT-IN UNIT / COMME APPAREIL INSÉRÉ

A	Top of Hopper / Haut de la trémie	Top/Rear Vent / Des Conduits Du Haut/Arrières	3 in [76mm]
B	Side of Outside Skin / Côté de Enveloppe extérieure	Top/Rear Vent / Des Conduits Du Haut/Arrières	2 in [51mm]
C	Vent Pipe to Combustible / Des Conduits de combustible	Top/Rear Vent / Des Conduits Du Haut/Arrières	3 in [76mm]
D	Cast Side to Side Wall / Moulage Side à Wall Side	Top/Rear Vent / Des Conduits Du Haut/Arrières	6 in [152mm]







MASONRY OR ZERO CLEARANCE / DÉGAGEMENT DE LA MAÇONNERIE OU DÉGAGEMENT ZÉRO*

A Cast Side to Side Wall / Moulage Side à Wall Side	6 in [152 mm]
B Insert top to face trim / Insérez le dessus de la garniture de façade	0 in [0 mm]
C Insert side to face trim / Insérez le côté de la garniture de façade	0 in [0 mm]
D Hearth extension from door opening / Prolongement d'âtre depuis l'ouverture de la porte devant	6 in [152 mm]
E Hearth extension from side of door opening / Prolongement d'âtre depuis le côté de l'ouverture de la porte	6 in [152 mm]

Manufactured by:Fabriqué par

HEARTH&HOME technologies

352 Mountain House Road, Halifax, PA 17032
www.quadrafire.com

This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

U.S. ENVIRONMENTAL PROTECTION AGENCY
Certified to comply with 2020 particulate standards at 0.74 G/HR.
Tested under ASTM E2515, ASTM E2779, and CSA B415.1-10

2021	2022	2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Made in U.S.A. of US and imported parts.
Fabriqué aux États-Unis-d'Amérique par des pièces d'origine américaine et pièces importées.

DO NOT REMOVE THIS LABEL / NE PAS ENLEVER L'ÉTIQUETTE

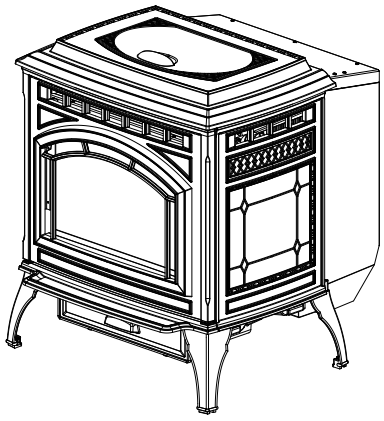
Owner's Manual
Operation & Care

INSTALLER: Leave this manual with party responsible for use and operation.
OWNER: Retain this manual for future reference.

Contact your dealer with questions regarding installation, operation or service.

QUADRA-FIRE®

TREKKER FREE STANDING PELLET APPLIANCE
MODEL(S):
TREKKER-MBK
TREKKER-PMH
TREKKER-TWL



Pellet Fuels Institute

EM C-TL US

⚠ CAUTION

Check building codes prior to installation.

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult local building, fire officials or authorities having jurisdiction about restrictions, installation inspection, and permits.

Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies recommends HHT Factory Trained or NFI certified professionals.

hearthED FACTORY TRAINING Fuel Your Fire

NFI NATIONAL FIREPLACE INSTITUTE® A CERTIFICATION AGENCY

For Units Post Serial # HF3156001

⚠ WARNING

If the information in these instructions is not followed exactly, a fire could result causing property damage, personal injury, or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not over fire - If appliance or chimney connector glows, you are over firing. Over firing will void your warranty.
- Comply with all minimum clearances to combustibles as specified. Failure to comply may cause house fire.

⚠ WARNING

HOT SURFACES!
Glass and other surfaces are hot during operation AND cool down. Hot glass will cause burns.

- Do not touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures
- High temperatures may ignite clothing or other flammable materials.
- Keep clothing, furniture, draperies and other flammable materials away.

⚠ CAUTION

Tested and approved for wood pellets only. Burning of any other type of fuel voids your warranty.

NOTE: To obtain a French translation of this manual, please contact your dealer or visit www.quadrafire.com
REMARQUE : Pour obtenir une traduction française de ce manuel, s'il vous plaît contacter votre revendeur ou visitez www.quadrafire.com

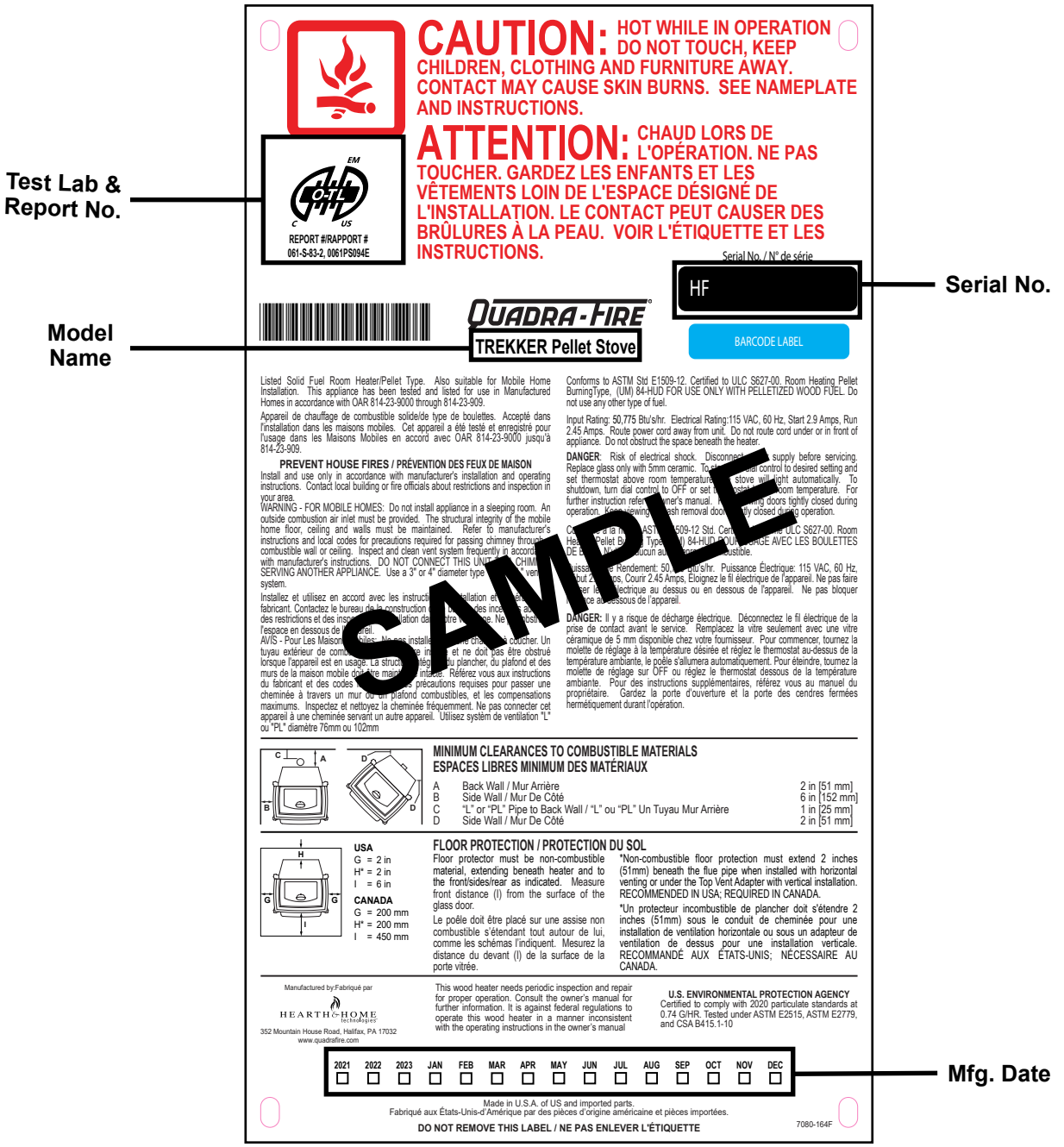
Congratulations

and Welcome to the Quadra-Fire Family!

NOTE: Clearances may only be reduced by means approved by the regulatory authority having jurisdiction

A. Sample of Serial Number / Safety Label

LOCATION: Back of Stove



Safety Alert Key:

- **DANGER!** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- **WARNING!** Indicates a hazardous situation which, if not avoided could result in death or serious injury.
- **CAUTION!** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE:** Indicates practices which may cause damage to the appliance or to property.

TABLE OF CONTENTS

➔ = Contains updated information

B. Warranty Policy

Hearth & Home Technologies LLC

LIMITED LIFETIME WARRANTY

Hearth & Home Technologies LLC ("HHT") extends the following warranty for HHT gas, wood, pellet and electric hearth appliances (each a "Product" and collectively, the "Product(s)") and certain component parts set forth in the table below ("Component Part(s)") that are purchased from a HHT authorized dealer or distributor.

WARRANTY COVERAGE:

HHT warrants that the Products and their Component Parts will be free from defects in materials and workmanship for the applicable period of Warranty coverage set forth in the table below ("Warranty Period"). If a Product or Component Parts are found to be defective in materials or workmanship during the applicable Warranty Period, HHT will, at its option, repair the applicable Component Part(s), replace the applicable Component Part(s), or refund the purchase price of the applicable Product(s). The maximum amount recoverable under this Warranty is limited to the purchase price of the Product. This Warranty is transferable from the original purchaser to subsequent owners, but the Warranty Period will not be extended in duration or expanded in coverage for any such transfer. This Warranty is subject to conditions, exclusions, and limitations as described below.

WARRANTY PERIOD:

Warranty coverage begins at the date of installation. In the case of new home constructions, Warranty coverage begins on the date of first occupancy of the dwelling or six months after the sale of the Product(s) by an independent, authorized HHT dealer or distributor, whichever occurs earlier. However, the Warranty coverage shall commence no later than 24 months following the date of Product shipment from HHT, regardless of the installation or occupancy date.

The term "Lifetime" in the table below is defined as: 20 years from the beginning date of warranty coverage for gas appliances, and 10 years from the beginning date of warranty coverage for wood and pellet appliances. These time periods reflect the minimum expected useful lives of the designated Component Parts under normal operating conditions.

Warranty Period		**HHT Manufactured Appliances and Venting**					
Component Parts	Labor	Gas	Pellet	Wood	Electric	Venting	Component Parts Covered by this Warranty
1 Year		X	X	X		X	All parts including handles, external enameled components and other material except as covered by Warranty Conditions, Warranty Exclusions, and Warranty Limitations listed
2 Years					X		All parts except as covered by Warranty Conditions, Warranty Exclusions, and Warranty Limitations listed
2 years			X	X			Igniters, Auger Motors, Electronic Components, and Glass
		X					Electrical components limited to modules, remotes/wall switches, valves, pilots, blowers, junction boxes, wire harnesses, transformers and lights (excluding light bulbs)
		X		X			Molded Refractory Panels, Glass Liners
3 years			X				Firepots, burnpots, mechanical feeders/auger assemblies
5 years	1 year	X					Vent Free Burners, Vent Free Logs
			X	X			Castings, Medallions and Baffles
6 years	3 years			X			Catalysts
7 years	3 years		X	X			Manifold tubes, HHT Chimney and Terminations
10 years	1 year	X					Burners, logs and refractory
Limited Lifetime	3 years	X	X	X			Firebox and heat exchanger, FlexBurn® System (engine, inner cover, access cover and fireback)
1 Year	None	X	X	X	X	X	All purchased replacement parts

WARRANTY CONDITIONS:

- Because HHT cannot control the quality of any Products sold by unauthorized sellers, this Warranty only covers Products that are purchased through an HHT authorized dealer or distributor unless otherwise prohibited by law; a list of HHT authorized dealers is available on the HHT branded websites.
- This Warranty is only valid while the applicable Product remains at the site of original installation.
- This Warranty is only valid in the country in which the HHT authorized dealer or distributor that sold the applicable Product is authorized to sell applicable Product.
- Contact your installing distributor or dealer for Warranty service. If the installing dealer or distributor is unable to provide necessary parts, contact the nearest HHT authorized dealer or supplier. Additional service fees may apply if you are seeking Warranty service from a dealer other than the dealer from whom you originally purchased the applicable Product.
- No HHT consumer should bear cost of warranty service or costs incurred while servicing warranty claims (i.e., travel, gas, or mileage) when the service is performed within the terms of this Warranty. Check with your dealer or distributor in advance for any costs to you when arranging a warranty call. Travel and shipping charges for parts are not covered by this Warranty.

WARRANTY EXCLUSIONS:

This Warranty does not cover the following:

- Changes in surface finishes as a result of normal use. As a heating appliance, some changes in color of interior and exterior surface finishes may occur. This is not a flaw and is not covered under the Warranty.
- Damage to printed, plated, or enameled surfaces caused by fingerprints, accidents, misuse, scratches, melted items or other external sources and residues left on the plated surfaces from the use of abrasive cleaners or polishes.
- Repair or replacement of parts that are subject to normal wear and tear during the Warranty Period are not covered. These parts include: paint, wood and pellet gaskets, firebricks, grates, flame guides, batteries and the discoloration of glass.
- Minor expansion, contraction, or movement of certain parts causing noise. These conditions are normal and complaints related to this noise are not covered by this Warranty.
- Damages resulting from: (1) failure to install, operate, or maintain the applicable Product in accordance with the installation instructions, operating instructions, and listing agent identification label furnished with the applicable Product; (2) failure to install the applicable Product in accordance with local building codes; (3) shipping or improper handling; (4) improper operation, abuse, misuse, continued operation with damaged, corroded or failed components, accident, or improperly/incorrectly performed repairs; (5) environmental conditions, inadequate ventilation, negative pressure, or drafting caused by tightly sealed constructions, insufficient make-up air supply, or handling devices such as exhaust fans or forced air furnaces or other such causes; (6) use of fuels other than those specified in the operation instructions; (7) installation or use of components not supplied with the applicable Product or any other components not expressly authorized and approved by HHT; (8) modification of the appliance not expressly authorized and approved by HHT in writing; and/or (9) interruptions or fluctuations of electrical power supply to the applicable Product.
- Non-HHT venting components, hearth connections or other accessories used in conjunction with the applicable Product.
- Any part of a pre-existing fireplace system in which an insert or a decorative gas applicable Product is installed.
- HHT's obligation under this Warranty does not extend to the Product's capability to heat the desired space. Information is provided to assist the consumer and the dealer in selecting the proper Product for the application. Consideration must be given to the Product location and configuration, environmental conditions, insulation and air tightness of the structure.

This warranty is void if:

- The applicable Product has been over-fired, operated in atmospheres contaminated by chlorine, fluorine, or other damaging chemicals. Over-firing can be identified by, but not limited to, warped plates or tubes, deformation/warping of interior cast iron structure or components, rust colored cast iron, bubbling, cracking and discoloration of steel or enamel finishes.
- The applicable Product is subjected to prolonged periods of dampness or condensation.
- There is any damage to the applicable Product due to water or weather damage which is the result of, but not limited to, improper chimney or venting installation.

LIMITATIONS OF REMEDIES AND LIABILITY:

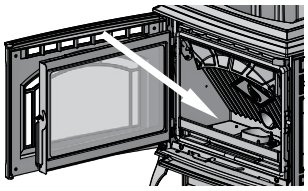
- **EXCEPT TO THE EXTENT PROVIDED BY LAW, HHT MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY SPECIFIED HEREIN. The owner's exclusive remedy and HHT's sole obligation under this Warranty or in contract, tort or otherwise, shall be limited to replacement of the Component Part(s), repair of the Component Part(s), or refund of the original purchase price of the applicable Product(s), as specified above; provided, however, that (i) if HHT is unable to provide replacement of the Component Part(s) and repair of the Component Part(s) is not commercially practicable or cannot be timely made, or (ii) the customer is willing to accept a refund of the purchase price of the applicable Product(s), HHT may discharge all such obligations by refunding the purchase price of the applicable Product. In no event will HHT be liable for any incidental or consequential damages caused by defects in the applicable Product. Some States do not allow the exclusion or limitation of incidental 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 other rights which vary from State to State. THE DURATION OF ANY IMPLIED WARRANTY IS LIMITED TO DURATION OF THE EXPRESSED WARRANTY SPECIFIED ABOVE FOR THE APPLICABLE PRODUCT. Some States do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.**

QUICK START GUIDE

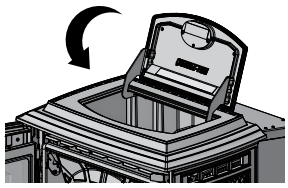
Before you plug in this appliance, follow these instructions

Set Up

1. Empty fire box of component packet and any other debris.



2. Add pellets and close lid.



3. Turn DIAL to OFF
4. Plug in the appliance
   - Exhaust blower will run for about 45 Seconds (wait for it to stop before priming)
   - Green light will start fl ashing
5. Ensure thermostat is connected properly per included instructions.

Prime

1. After the exhaust blower has stopped; quickly turn the dial from OFF to HI two times:

- The LIGHT will turn solid green and pellets will feed. Wait for 2 minutes
- If the LIGHT did not turn solid green:
- Turn dial back to OFF
- Unplug appliance, plug it back in and repeat

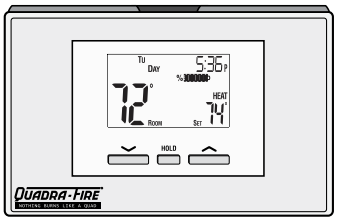
Priming is only needed for first fire or starting fire on empty hopper.
NOTE: The prime function is only required during initial set up of the unit, or after the unit has alarmed out due to an empty hopper. Priming while under normal operating conditions will cause the fire pot to overfill.

Run

1. While thermostat is in RUN mode, the set temperature can be temporarily changed by pressing UP.
2. Choose Setting:

*The temporarily changed set temperature will return to the programmed value stored in memory when start time of the next upcoming scheduled event is reached (MORN, DAY, EVE, OR NITE).

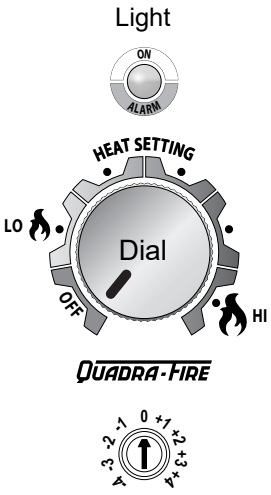
**Appliance will not turn on unless target temperature is a higher temperature than the room temperature.



- LO – HI*
- Green LIGHT will begin flashing and stove will start

It may take as long as 10 minutes to achieve a fire in the fire pot. Turning the knob or thermostat to off during this time will interrupt the startup process.

*For first fire, HHT recommends running on HI for first 30 minutes



1 Listing and Code Approvals

A. Appliance Certification

Model:	Trekker Pellet Stove
Laboratory:	OMNI Test Laboratories, Inc.
Report No:	061-S-83-2, 0061PS094E
Type:	Solid Fuel Room Heater, Pellet Fuel Burning Type
Standard(s):	ASTM E1509-12, ULC S627-00 and (UM) 84-HUD, Mobile Home Approved.
Can be found at: www.quadrafire.com/about-us/epa-certification	

The Trekker is Certified to comply with 2020 particulate emission standards.

This pellet appliance needs periodic inspection and repair for proper operation. It is against federal regulations to operate this pellet appliance in a manner inconsistent with the operating instructions in the owner's manual.

NOTICE: This installation must conform with local codes. In the absence of local codes you must comply with the **ASTM E1059-12, ULC S627-00, (UM) 84-HUD and ULC/ORD-C-1482**.

B. BTU & Efficiency Specifications

EPA Certification Number:	Number: 98-17
EPA Certified Emissions:	0.74 grams per hour
***LHV Tested Efficiency:**	83.2%
****HHV Tested Efficiency:**	77.9%
*****EPA BTU Output:**	12,682 to 39,428 / hr.
******BTU Input:**	16,396 to 50,775 / hr.
Vent Size:	3" or 4" Type "L" or "PL"
Hopper Capacity:	80 lbs.
Fuel:	Premium Wood Pellets
* Weighted average LHV (Low Heating Value) efficiency using data collected during EPA emissions tests in accordance with the requirements of CSA B415.1.	
** Weighted average HHV (High Heating Value) efficiency using data collected during EPA emissions tests in accordance with the requirements of CSA B415.1.	
*** A range of BTU outputs calculated using HHV efficiency and the burn rates from the EPA tests.	
**** Based on the maximum feed rate per hour multiplied by approximately 8600 BTU's which is the average BTU's from a pound of pellets.	

C. Glass Specifications

This stove is equipped with 5mm ceramic glass. Replace glass only with 5mm ceramic glass. Please contact your dealer for replacement glass.

D. Electrical Rating

115 VAC, 60 Hz, Start 2.9 Amps, Run 2.45 Amps

E. Mobile Home Approved

- This appliance is approved for mobile home installations when not installed in a sleeping room and when an outside combustion air inlet is provided.
- The structural integrity of the mobile home floor, ceiling, and walls must be maintained.
- The appliance must be properly grounded to the frame of the mobile home and use only Listed pellet vent Class “L” or “PL” connector pipe.
- Outside Air Kit (OAK-3) must be installed in a mobile home installation.

F. Sleeping Room

When installed in a sleeping room it is recommended that 3ft of vertical be installed prior to horizontally exiting the room and a smoke/CO alarm be installed in the bedroom. The size of the room must be at least 50ft³ per 1,000 Btu/hr stove input, if the stove exceeds the room size, out air must be installed.

G. California - Prop65

WARNING

This product and the fuels used to operate this product (wood), and the products of combustion of such fuels, can expose you to chemicals including carbon black, which is known to the State of California to cause cancer, and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to: WWW.P65Warnings.ca.gov

WARNING

Fire Risk.
Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with unit).
- Do NOT Over fire - If appliance or chimney connector glows, you are over firing.

Any such action that may cause a fire hazard.

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.

For assistance or additional information, consult a qualified installer, service agency or your dealer.

NOTE: Hearth & Home Technologies, manufacturer of this appliance, reserves the right to alter its products, their specifications and/or price without notice.

2 Operating Instructions

WARNING

Fire Risk.

- Do not operate appliance before reading and understanding operating instructions.
- Failure to operate appliance properly may cause a house fire.

Visit www.quadrafire.com/shopping-tools/videos to view product and use & care videos.

A. Fire Safety

To provide reasonable fire safety, the following should be given serious consideration:

- Install at least one smoke detector on each floor of your home.
- Install at least one carbon monoxide detector on each floor of your home.
- Locate smoke detector away from the heating appliance and close to the sleeping areas.
- Follow the smoke detector manufacturer's placement and installation instructions and maintain regularly.
- Follow the carbon monoxide manufacturer's placement and installation instructions and maintain regularly.
- Conveniently locate a Class A fire extinguisher to contend with small fires.
- In the event of a hopper fire:
  - Evacuate the house immediately.
  - Notify fire department.

B. Non-Combustible Materials

Material which will not ignite and burn, composed of any combination of the following:

- Steel
- Plaster
- Glass
- Tile
- Brick
- Iron
- Slate
- Concrete

Materials reported as passing **ASTM E 136, Standard Test Method for Behavior of Metals, in a Vertical Tube Furnace of 750° C**.

C. Combustible Materials

Material made of/or surfaced with any of the following materials:

- Compressed Paper
- Wood
- Plywood/OSB
- Sheet Rock (drywall)
- Plastic
- Plant Fibers

Any material that can ignite and burn: flame proofed or not, plastered or non-plastered.

D. Fuel Material and Fuel Storage

Pellet fuel quality can greatly fluctuate. We recommend that you buy fuel in multi-ton lots whenever possible. However, we do recommend trying various brands before purchasing multi-ton lots to ensure your satisfaction.

Fuel Material

- Made from sawdust or wood by-products
- Depending on the source material it may have a high or low ash content.

Higher Ash Content Material

- Hardwoods with a high mineral content
- Fuel that contains bark
- Standard grade pellets or high ash pellets

Lower Ash Content Material

- Most softwoods
- Fuels with low mineral content
- Most premium grade pellets

Clinkers

Minerals and other non-combustible materials such as sand will turn into a hard, glass-like substance called a clinker when heated in the fire pot.

Trees from different areas will vary in mineral content. That is why some fuels produce more clinkers than others.

Moisture

Always burn dry fuel. Burning fuel with high moisture content takes heat from the fuel and tends to cool the appliance, robbing heat from your home. Damp pellet fuel can clog the feed system.

Size

- Pellets are either 1/4 inch or 5/16 inch (6-8mm) in diameter
- Length should be no more that 1-1/2 inches (38mm)
- Pellet lengths can vary from lot to lot from the same manufacturer
- Due to length variations, the feed rate may need adjusting occasionally

Performance

- Higher ash content requires the fire pot and the ash drawer to be emptied more frequently
- Hardwoods require more air to burn properly
- Premium wood pellets produce the highest heat output
- Burning pellets longer than 1-1/2 inches (38mm) can cause an inconsistent fuel feed rate and/or missed ignitions or feed jams.

CAUTION

Tested and approved for wood pellets. Burning of any other type of fuel voids your warranty.

Storage

- Wood pellets should be left in their original sealed bag until using to prevent moisture absorption
- Do not store any pellet fuel within the clearance requirements or in an area that would hinder routine cleaning and maintenance.

E. Before Your First Fire

1. First, make sure your appliance has been properly installed and that all safety requirements have been met. Pay particular attention to the fire protection and venting.
2. Double check that the firebox is empty and the fire pot floor is fully closed.
3. Close and latch the do

CAUTION

Odors and vapors released during initial operation.

- Curing of high temperature paint.
- Open windows for air circulation.
- Odors may be irritating to sensitive individuals.

F. Filling the Hopper

Open the hopper lid by lifting the handle. Fill the hopper with fuel. Close the hopper lid. The appliance will not feed with the hopper lid open and the fire will go out.

G. User Dial Control

The appliance has one dial control located on the side of the appliance (behind a drop door) used for changing the heat setting and restarting the appliance. There are five heat settings on this dial ranging to include: LOW, MED-LOW, MED, MED-HIGH, and HIGH. **Figure 10.1**

Turn the dial control to the desired heat setting and turn the appliance ON and OFF using the thermostat.

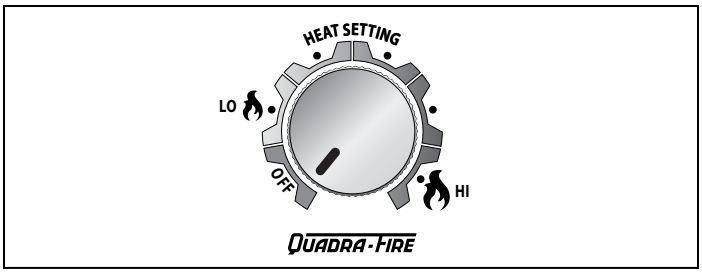


Figure 10.1

H. Normal Startup Sequence

The appliance will go into the ignition sequence followed by a start up sequence (the green LED will flash rapidly).

The ignition sequence involves the exhaust blower and igniter turning on, and the feed motor running in two stages. The first stage involves the feed motor running continuously for about a minute to start loading pellets into the fire pot. In the second stage, the feed motor will begin cycling on and off.

When the pellets are warming - on the verge of igniting - it is not uncommon for the firebox to fill with smoke.

Once ignition happens, the smoke should quickly disappear. During this stage, as well as any part during the burn process, the front door should not be opened.

This startup cycle continues until the appliance senses ignition by a rise in the exhaust temperature or the appliance times out. Following the ignition cycle the appliance continues to feed pellets to build up the fire.

After warming up, the convection blower will begin to blow warm air into the room. As the appliance increases heat the blower will increase its output.

I. Fire pot Purge

Purpose: To help remove debris from the fire pot and help the appliance burn as efficient as possible.

The frequency of the purge cycle is once every 30 minutes while the appliance is burning. During the fire pot purge, the feed is reduced to the lowest setting and the exhaust blower ramps up to a very high setting. The purge cycle lasts 99 seconds.

The purge cycle does not replace daily cleaning.

CAUTION

HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

J. Shutdown

To shut the appliance down, turn the dial control to OFF or turn the thermostat to OFF. During the shutdown process, the light will flash amber or green rapidly.

Unlike the fire pot purge, during shutdown existing fuel in the fire pot will continue to burn without the feed motor running; but, the exhaust and convection blowers will remain on until the exhaust has cooled.

NOTE: If maintenance or daily cleaning is going to be conducted immediately following a shutdown, please use caution as components especially those inside the firebox may still be hot.

Due to safety precautions:

- If the dial control is turned to OFF and back on (even if by mistake) the appliance will go through the shutdown sequence before restarting.
- Additionally, if the thermostat is turned to “OFF” during operation the appliance will go through a shutdown sequence before restarting.

NOTE: If maintenance or daily cleaning is going to be conducted immediately following a shutdown, please use caution as components especially those inside the firebox may still be hot.

K. Fire Characteristics

The overall height of the flame will vary throughout the burn for a couple of reasons:

1. The flame will vary based on type of fuel or batch of fuel.
2. The appliance adjusts the burn rate according to the dial setting – the further the dial is rotated clockwise the higher the flame and consequently, heat output.
3. General maintenance and cleaning. Infrequent or poor general maintenance will result in poorer performance. Indicators for additional maintenance activities include:
   - Lazy flame
   - Black-sooted glass
   - Pellets not igniting
   - Excess pellets falling to the side of the fire pot
4. See trim adjustment section for additional information.

NOTICE: If you expect children to come into contact with this appliance, we recommend a barrier such as a decorative screen. See your retailer for suggestions.

L. General Operating of Appliance

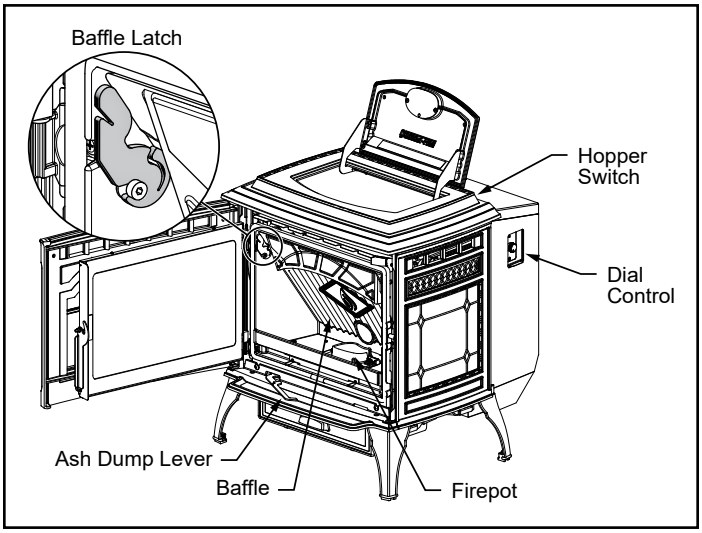


Figure 11.1

M. Restarting the Appliance

Restart Process

1. When the appliance has run out of fuel and the “empty hopper” error code illuminates, add pellet fuel to the hopper.
2. Dump the ashes and clinkers built up in the fire pot by pulling the ash dump removal handle out several times. Make sure clinkers have dropped into the ash pan then return the handle to fully closed position.
3. Turn the dial control to OFF and then up to high 2X to prime.
4. After seeing pellets drop then turn to desired setting to reset the appliance control system. The appliance will then begin its startup sequence.

Restarting After a Power Failure

1. For an electrical disruption the appliance will start on its own without need for priming - providing the control system is asking for heat.
2. The appliance will always go through a normal shutdown sequence before restarting.

WARNING

HOT SURFACES!
Glass and other surfaces are hot during operation AND cool down.

Hot glass will cause burns.

- Do not touch glass until it is cooled.
- NEVER allow children to touch glass.
- Keep children away.
- CAREFULLY SUPERVISE children in same room as appliance.
- Alert children and adults to hazards of high temperatures.
- High temperatures may ignite clothing or other flammable materials.
- Keep clothing, furniture, draperies and other flammable materials away.

N. Clear Space

Mantel: Avoid placing candles and other heat-sensitive objects on mantel or hearth. Heat may damage these objects.

NOTICE: Clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

WARNING

Fire Risk
Do NOT operate appliance:

- With appliance door open.
- Fire pot floor open.

Do NOT store fuel:

- Closer than required clearances to combustibles to appliance
- Within space required for loading or ash removal.

O. Trim Adjustment

Trim adjustment is the small dial located below the main dial control. The function of the trim adjustment is to allow for variations in elevation, venting and installation configurations, and fuel types (hard wood/soft wood).

Rotating this dial will adjust the air/fuel ratio to the appliance:

- Clockwise adjustments increase the flame height.
- Counter-clockwise adjustments will decrease the flame height.
- When changing trim settings only adjust 1 level at a time, allowing 15 minutes for fire to stabilize before making another adjustment.
- The factory default trim adjustments are set to zero (0) for most fuels and recommended venting configurations.

A properly adjusted fire will have a bright, active flame pattern that extends out of the fire pot approximately 6 to 9 inches when burning on high. A properly adjusted fire will burn cleaner and have higher efficiencies.

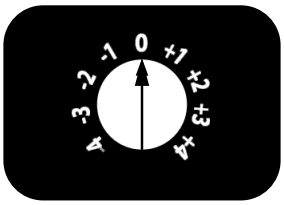


Figure 12.1

P. LED Color Coding Chart and Explanation

The number of flashes between pauses is per one second unless otherwise indicated.

LED Color	No. of Flashes between pauses	Description	Notes	
Green	Steady ON while priming feed tube (max time 2 minutes)	Feed Motor is running continuously. (priming the feed tube)	When priming the feed system and filling the fire pot, DO NOT OVERFILL Fire pot FOR IGNITION. The appliance will automatically go into start up following the prime function.	
Green	1x every 2 seconds	Appliance is on standby	To start appliance, follow start up sequence.	
Green	Blinks Continuously	Appliance is in the start up/ignition sequence or in shutdown.	During shut down, the blowers will shut off when the exhaust temperature has cooled.	
Green	1X	Stage 1: Low heat	BTU Range: 14,620 - 19,694	Average: 19,054
Green	2X	Stage 2: Med-Low heat	BTU Range: 22,102 - 23,506	Average: 22,735
Green	3X	Stage 3: Med heat	BTU Range: 30,778 - 32,680	Average: 31,603
Green	4X	Stage 4: Med-Hi heat	BTU Range: 38,576 - 42,914	Average: 40,665
Green	5X	Stage 5: Hi heat	BTU Range: 49,830 - 52,460	Average: 51,528
Amber	Blinks Continuously	Appliance is in the shutdown sequence.	During shut down, the blowers will shut off when the exhaust temperature has cooled.	
Red	1X	Empty Hopper Alarm	This alarm is caused by the fire going out from lack of fuel. Reset by turning to “OFF” then turn dial to desired setting.	
Red	2X	Exhaust Probe Alarm	Failed component error. See troubleshooting section for more information.	
Red	4X	Missed Ignition	There are a total of 2 tries per ignition sequence. If after 2 tries there is no rise in exhaust temperature this error will occur. See the troubleshooting section for additional information.	
Red	6X	Encoder Alarm	Failed Component Error: Exhaust Speed Sensor. See troubleshooting guide for more information	
Red	8X	Exhaust Over Temperature Alarm	See troubleshooting guide for more information.	

WARNING

Fire Risk

Do NOT operate appliance:

- With appliance door open.
- Fire pot floor open.

Do NOT store fuel:

- Closer than required clearances to combustibles to appliance
- Within space required for loading or ash removal.

Q. Thermostat Controls

TEMPERATURE (HEAT / OFF) SWITCH:

Set this switch to HEAT to control your appliance. The off position will disable the appliance.

SET (MULTI- FUNCTION) SLIDE SWITCH:

This provides easy access to common settings, and should always remain in RUN unless items are being adjusted.

NOTE: When thermostat is set to “Manual” non-programmable mode, all positions of the SET slide switch will act like RUN.

UP / DOWN BUTTONS:

The UP and DOWN buttons are used to control the set temperature, or adjust any other on-screen items. An items flashing, is the item currently being adjusted.

HOLD BUTTON:

This button activates and deactivates the manual Temperature HOLD feature, which maintains a fixed set temperature indefinitely without following a program routine.

COPY BUTTON:

This is used to copy temperature program items from one day to the next. Also used to access the menu setup.

NEXT BUTTON:

This is used when setting items such as software options, and temperature programs when they are flashing on the screen. Pressing the NEXT button will cycle through which item is flashing.

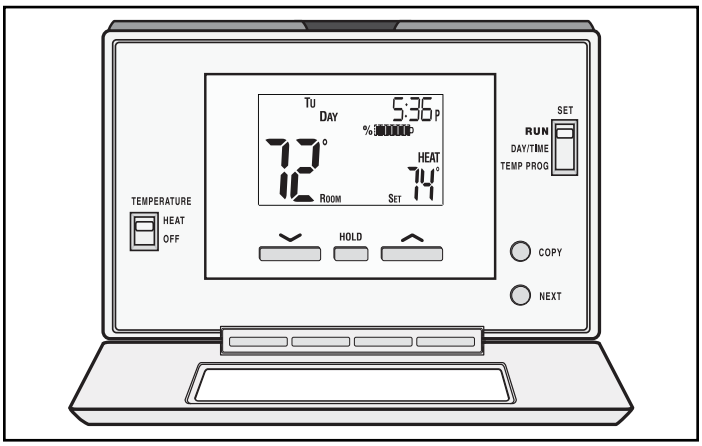


Figure 14.1

R. Thermostat Setup Options

Setup options for how the thermostat will function are performed using a menu on the display screen.

TO ACCESS THE SETUP MENU:

Move the TEMPERATURE switch into the OFF position, and then hold down the COPY button for approximately 5 seconds until the screen changes. The menu will always start with item #01, and is advanced to each following item by a single press of the NEXT button. The options for each item are changed using the UP or DOWN buttons.

ITEM #01 (CLK = CLOCK FORMAT):

- 12Hr, default: This displays the clock times using standard AM and PM values.
- 24Hr: This displays the clock times using the military-time format (example 22:00 hours, without using AM or PM).

ITEM #02 (TMP = TEMPERATURE SCALE):

- F, default: Shows all temperature values in Fahrenheit.
- C: Shows all temperature values Celsius.

ITEM #03 (PROGRAMMING STYLE):

- 7 Day, default: This style uses a separate program routine for each of the 7 days in the week.
- 5/2 Day: This style uses a weekday program routine for Monday, Tuesday, Wednesday, Thursday, Friday, and a separate weekend program routine for Saturday and Sunday.
- Manual Non-Programmable: In this setting, there are no program routines for the thermostat to follow and the temperature control will be set only by the UP and DOWN buttons on the front panel.

ITEM #04 (PERD = EVENT OR PERIOD QUANTITY):

- 4P, default: Thermostat uses four Events per day (called MORN, DAY, EVE, and NITE).
- 2P: The thermostat uses two Events per day (called DAY and NITE).

NOTE: Event or Period Quantity feature is not accessible during Manual Non-Programmable mode.

ITEM #07 (DLAY = DELAY TIME):

- 5, default: Thermostat waits 5 minutes before turning the system back on after it was last run. This internal delay prevents the appliance from turning on too quickly after shutting down. The 5 minute setting is fine for most applications.
- 2: Same operation as above but reduced to 2 minutes between state changes.

NOTE: There is no delay available when the thermostat is manually turned up and down.

ITEM #08 (TEMPERATURE DIFFERENTIAL):

- The thermostat works by turning your heating system on and off whenever the room temperature varies from the desired set-point temperature.
- Use the UP/DOWN buttons to change the number value between 1 and 9. Generally your system should cycle on about 3 to 6 times per hour. A smaller differential number makes the system cycle more frequently, so the room temperature is more precise and constant. A larger differential number will make the system remain on for a longer duration each time and decreases the number of cycles per hour.
- Default is set to 4.

S. Thermostat Operation Instructions

SET DAY AND TIME:

Place the SET switch into the DAY/TIME position. With the day flashing press UP or DOWN to set the day or the week. Press NEXT and the clock time will start flashing. Use UP or DOWN to set the time; verify the AM/PM indicator is correct. Return the SET switch to RUN position when finished.

HEATING:

Basic operation of the thermostat can be obtained with the SET switch in the RUN position. The temperature can be adjusted using the UP and DOWN buttons. When the thermostat is first powered on, it will follow a default temperature routine that is preset from the factory **(Figure 15.1)**.

LCD DISPLAY BACK LIGHT:

Event	Time	Temperature
MORN	6:00 AM	70°F (21°C)
DAY	8:00 AM	62°F (17°C)
EVE	6:00 PM	70°F (21°C)
NITE	10:00 PM	62°F (17°C)

Figure 15.1

The display screen is lighted to assist viewing at nighttime, or in locations with low light levels. Press any button on the front panel to activate the approximate 10 second back light.

TEMPERATURE OVERRIDE:

While thermostat is in RUN mode, the set temperature can be temporarily changed by pressing UP or DOWN. The temporarily changed set temperature will return to the programmed value stored in memory when start time of the next upcoming scheduled event is reached (MORN, DAY, EVE, OR NITE). While the temporary changed set temperature is in effect, the word OVERRIDE will be shown on the display screen. To cancel, move TEMPERATURE switch to OFF and back to HEAT again.

TEMPERATURE HOLD:

Temperature hold is used for maintaining a fixed set temperature; once a HOLD is initiated, the thermostat will maintain the set temperature indefinitely. To enter a HOLD state, press the HOLD button one time and the word HOLD will appear on the display. To cancel, press the HOLD button once again.

STATIC NOTICE

Thermostat is protected against normal static electric discharges, however to minimize the risk of damaging the thermostat in extremely dry weather, please touch a grounded metal object before touching the thermostat.

T. Thermostat Temperature Programs

The thermostat by default has 4 separate program events they are: MORN, DAY, EVE, and NITE. Each event ends at the start time of the following event.

NOTE: If the thermostat is set for 2 events a day instead of 4, the thermostat will only use the DAY and NITE events.

SET TEMPERATURE PROGRAMS:

1. Move TEMPERATURE switch to HEAT.
2. Move SET switch to TEMP PROG position.
3. Starting with Monday, use the UP or DOWN buttons to adjust the start time and set temperature for the MORN event, and then press NEXT button to advance.
4. Adjust the start time and set temperature of the DAY event then press NEXT button.
5. Continue in this same manner to adjust the start time and set temperatures for the EVE and NITE events for Monday.

NOTE: When the last event is finished for each day or group of days, the thermostat will advance forward into the next day or group of days.

6. Use steps 3 through 5 to set up the events for the rest of the week or group of days.
7. Return the SET switch back to RUN.

COPY PROGRAM FEATURE:

Using similar instructions as **SET TEMPERATURE PROGRAMS** the **COPY** button will allow a whole day of set program events to be copied to another day.

1. Move TEMPERATURE switch to HEAT as well as move SET switch to TEMP PROG position.
2. Starting with Monday, use the UP or DOWN buttons to adjust the start time and set temperature for the MORN, DAY, EVE, and NITE events. Press the COPY button and then press the NEXT button to advance to Tuesday.
3. With Tuesday displayed press COPY button. As all programs events from Monday will be copied to Tuesday (this will advance automatically to the next day; Wednesday, as the word COPY will appear on the screen for one second).
4. Continue in this pressing COPY button to set desired days with original setting.

NOTE: The word COPY will not appear on the display for Monday, but will display each day afterwards for approximately one second and the day of the week will automatically advance forward to the next day.

U. Thermostat Other Features

NOTE: All other features need to be completed in a timely manner as the thermostat will time out after 10 seconds.

TEMPERATURE CALIBRATION:

The internal temperature sensor in this thermostat is accurately calibrated at the factory, and in most cases alterations to this setting should not be needed. The temperature calibration feature allows you to manually offset the measured temperature by as much as plus or minus 5°F (3°C) from its original value. If several thermostats are used in the same house, this feature can be used to synchronize this thermostat to the others.

Change the temperature calibration:

1. Move TEMPERATURE switch to OFF.
2. Move SET switch to RUN.
3. Press and hold both UP and DOWN buttons together for at least 5 seconds; the words SET and CAL will appear on the display along with a single flashing temperature digit.
4. Use the UP or DOWN buttons to change the number of degrees desired for adjustment; 0° is the default value and also means no correction will be applied.
5. Press the NEXT button to accept the setting.

KEYPAD LOCKOUT:

There is the option to lock the front panel buttons to prevent unauthorized tampering of your thermostat settings.

To Lock the Keypad:

1. Move TEMPERATURE switch to HEAT.
2. Move SET switch to RUN.
3. Perform a single press of each button in the following sequence:
   - NEXT, NEXT, NEXT, HOLD

A padlock will appear on the display screen.

To Unlock the Keypad:

1. Move TEMPERATURE switch to HEAT.
2. Move SET switch to RUN.
3. Perform a single press of each button in the following sequence:
   - NEXT, NEXT, NEXT, HOLD

A padlock will no longer be present on the display screen.

HARDWARE RESET:

The hardware reset button; labeled HW RST, is a small round push button that is located in the middle of the circuit board, just below the battery holder **(Figure 16.1)**. Pressing this button will:

- Cause the LCD display screen to become fully populated
- Thermostat to perform an internal system check of its components

If the thermostat appears to be acting in an erratic manner, pressing the HW RST button may remedy this behavior. The temperature programs are not erased when a hardware reset is performed, however the clock will have to be changed to match the current day and time.

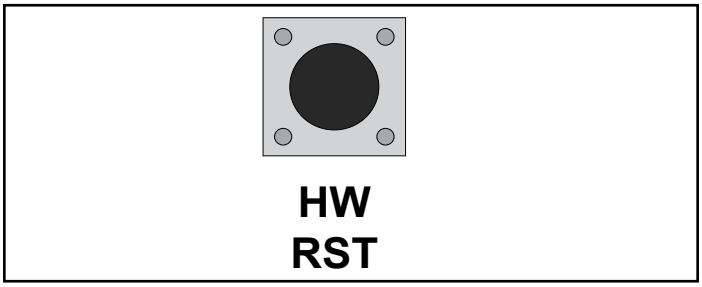


Figure 16.1

SOFTWARE RESET:

Software reset is used to erase ALL temperature events, and to return all user-adjustable software settings back to their original factory default settings.

To Perform a Software Reset:

1. Verify the thermostat's keypad is not locked.
2. Move TEMPERATURE switch to OFF.
3. Press and hold the UP, DOWN, and NEXT buttons all at the same time for at least 5 seconds. When the LCD display screen will become fully populated let go of all buttons at that point the screen will return to normal.

The clock will have to be changed to match the current day and time.

V. Thermostat Battery Replacement

This thermostat is powered by two "AA" Alkaline batteries. The batteries should be replaced AT LEAST once per year to ensure reliable operation or sooner if the LO BATT appears on the display screen. The batteries are located on the back of the thermostat's circuit board. The front portion of the thermostat can be removed from the back half by using the tabs on the top edge of the thermostat housing (**Figure 17.1**).

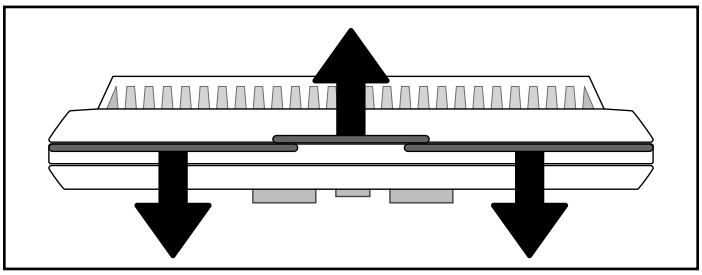


Figure 17.1

When installing new batteries, it is recommended using only brand new "AA" size alkaline batteries. Please verify the polarity markings shown in the battery compartment before adding batteries to the compartment. When finished, line up the front of the thermostat to the base, and firmly press together to securely latch the front and back halves together properly.

BATTERY GRAPHIC:

Anytime time the batteries are physically present in the thermostat, there will be a visual indicator showing the life of the battery. This will appear on the display screen (**Figures 17.2 & 17.3**).

Figure 17.2 - Full battery icon

Figure 17.3 - Low battery icon

CONNECT THERMOSTAT WIRES TO APPLIANCE:

There is a 4 screw terminal block located on the back lower left corner of the stove directly above the power cord inlet. The center 2 screws are for the thermostat wires **(Figure 17.4)**.

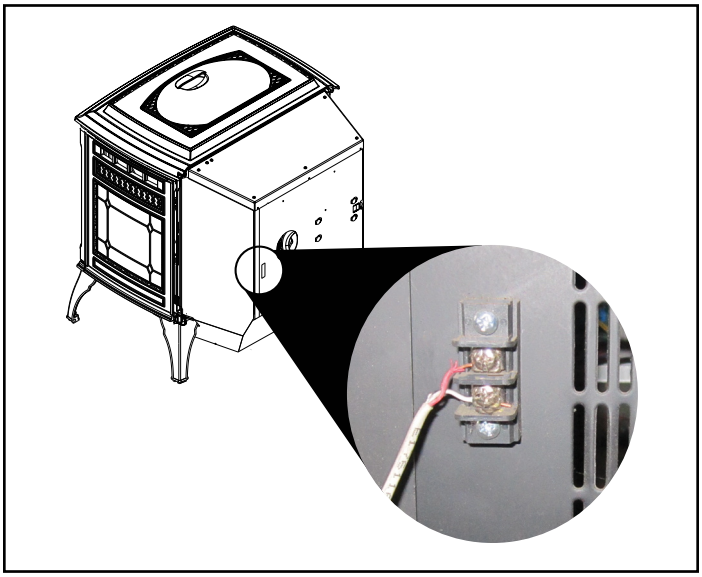


Figure 17.4

CAUTION

Shock hazard.

- Do NOT remove grounding prong from plug.
- Plug directly into properly grounded 3 prong receptacle.
- Route cord away from appliance.
- Do NOT route cord under or in front of appliance.

W. Frequently Asked Questions

What causes my glass to become dirty?
If the glass has white ash build up it is normal and the glass should be cleaned. If it is a black soot build up airflow through the appliance may be restricted. The most often cause is overdue maintenance and cleaning. See **Maintaining and Servicing** on **page 19** and/or make adjustments to the trim control.

How can I get more heat out of the appliance?
The most often cause of diminished heat output is overdue maintenance and cleaning. See **Maintaining and Servicing** on **page 19**.

What should I do if I smell smoke or there is ash/soot coming from the appliance?
Seal exhaust venting system to the appliance with High Temp silicone. Secure the venting system to the appliance with at least (3) screws. All pellet vent pipe must be secured together either by means provided by the pipe manufacturer or by (3) screws at each joint.

In addition most homes are built very tight today and with exhaust systems can create negative pressure in the home. See **Negative Pressure** on **page 15** of the installation manual. For ash or soot check the above and the exhaust blower housing and seals.

Why would my appliance run fine last winter but not start this fall?
It is possible that the stove was not properly prepared for the Non-burn season; see **Troubleshooting Guide** starting on **page 26**.

Is there a place to lubricate the blowers to quiet them down?
No. The most often cause of noisy blowers is from the impellers becoming dirty over time. See maintenance and service section for maintaining and servicing.

What is the metal object with the bend in it that came inside the plastic bag?
It is a clean-out tool used to help clean the fire pot and remove any jams in the rare event they occur in the feed tube.

Why is there a black residue building up on the outside of my home?
Wind can cause this to happen. If the appliance is operating correctly very little soot should ever exit the termination cap. Check to be sure the venting is installed per the owner's manual and local codes.

Do I need an outside air kit?
Outside air is required for mobile home installs and in some jurisdictions. Refer to **Appliance Certifications** on **page 3**, **Mobile Home Installation** on **page 24** of the installation manual and **Appliance Set-up** on **page 20** of the installation manual. Also refer to local building codes.

I am seeing sparks coming out of my pipe (termination cap) outside is this safe?
This is normal. As long as clearances to combustibles were followed this is safe.

I have no power to anything. Does this appliance have a circuit breaker or fuse or a reset button?
This appliance has one fuse on the control board and a resettable snap disc mounted to the feed tube. If the appliance overheats then the snap disc can be reset; if the fuse is blown the control board must be replaced.

Can I burn corn in my appliance?
No, this appliance is not approved to burn corn type fuel.

Where is the serial # located on my appliance?
The serial number is located on the back of the stove.

No pellets are dropping in my fire pot.
See **Troubleshooting Guide** starting on **page 26**.

Contact your dealer for additional information regarding operation and troubleshooting.
Visit www.quadrafire.com to locate a dealer.

3 Maintenance and Service

When properly maintained, your appliance will give you many years of trouble-free service. Contact your dealer to answer questions regarding proper operation, troubleshooting and service for your appliance. Visit www.quadrafire.com/owner-resources to view basic troubleshooting, FAQs, use & care videos. We recommend annual service by a qualified dealer.

CAUTION

Shock and Smoke Hazard

- Smoke spillage into room can occur if appliance is not cool before unplugging.
- Risk of shock if appliance not unplugged before servicing appliance.

A. Proper Shutdown Procedure

Turn dial control to OFF, let appliance completely cool and exhaust blower must be off. After cooling unplug appliance before servicing.

This pellet heater has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting or otherwise operate this pellet heater in a manner inconsistent with operating instructions in this manual.

Follow the detailed instructions found in this section for each step listed as referenced in the chart below.

B. Quick Reference Maintenance Chart

Cleaning or Inspection	Frequency		Daily	Weekly	Monthly	Yearly
Fire pot	As needed	OR		X		
Ash Removal from Firebox	About 5 bags of fuel depending on ash build-up	OR		X		
Glass	When clear view of fire pot becomes obscure	OR		X		
Hopper	Every ton of fuel (50 bags)	OR			X	
Exhaust Path, Drop Tube and Behind Baffles	Every ton of fuel (50 bags) or more frequently	OR			X	
Door Handle & Gasket Inspection	Prior to heating season	OR			X	
Blower, Convection	Every ton of fuel or more frequently depending on performance	OR			X	
Blower, Exhaust	Every ton of fuel or more frequently depending on performance	OR				X
Firebox - Prepare for Non-Burn Season	At end of heating season	OR				X
Venting System	Every 3 tons of fuel or more frequently depending on performance	OR				X

Table 19.1

NOTICE: These are recommendations. When burning high ash content pellet fuel or a/pellet mix you may need to clean the fire pot several times a day. Clean the stove and fire pot more frequently if you encounter heavy build-up of ash at the recommended interval or you see soot coming from the vent. Not properly cleaning your appliance on a regular basis will void your warranty.

C. General Maintenance and Cleaning

1. Cleaning Fire pot using Lever

- **Frequency:** Daily or as needed*
- **By:** Homeowner
  a. Be sure the appliance is allowed to cool.
  b. Open cast face of appliance
  c. Pull fire pot floor cleaning lever two times until the ash falls into the ash pan below **(Figure 20.1)**.
  d. It may be necessary to use your fire pot clean-out tool to chip away material that has built up on the sides of the fire pot and to push out any clinkers **(Figure 20.2)**.
  e. Larger clinkers may have to be removed from the top of the fire pot.
  f. If the clinker adheres to the sides of the fire pot, you will need to manually clean the fire pot. The fire pot floor plate must be fully closed when finished.

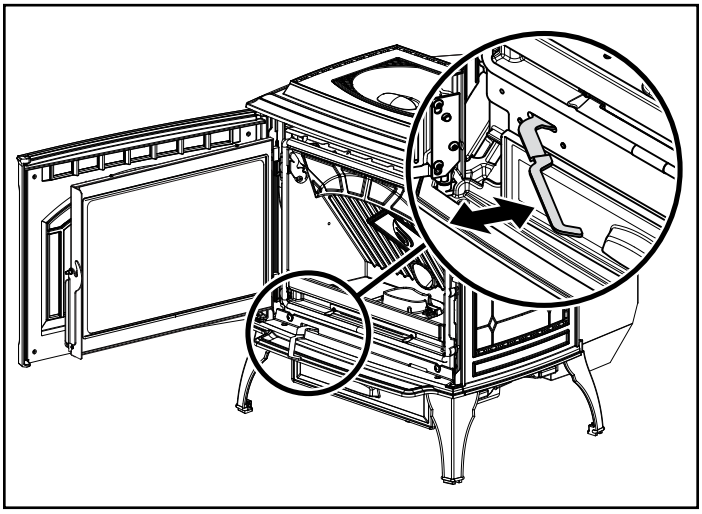


Figure 20.1

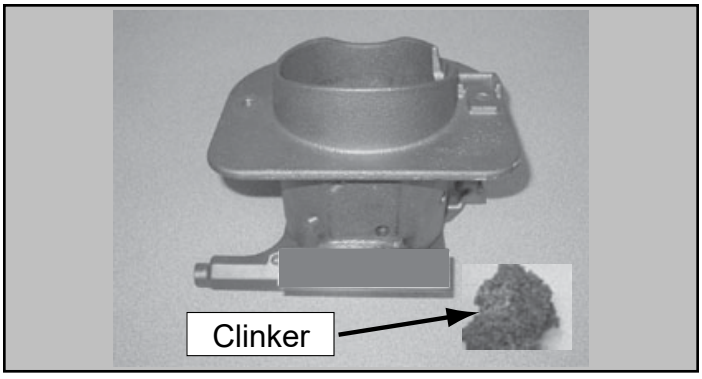


Figure 20.2 - Fire pot with large clinker

2. Cleaning Ash Pan

- **Frequency:** Weekly or every 3-5 bags
- **By:** Homeowner
  a. Locate the ash pan underneath the fire pot.
  b. Slide the ash pan straight out.
  c. Empty into a non-combustible container and re-install ash pan.
  d. When replacing ash pan push it back until it catches on the 2 side latches.

Clinkers filling the ash pan will have to be cleaned out more often than ash.

3. Ash Disposal:

Ashes should be placed in a steel container with a tight-fitting lid. The container of ashes should be moved outdoors immediately and placed on a non-combustible floor or on the ground, well away from combustible materials, pending final disposal.

If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled. Other waste shall not be placed in this container.

4. Ash Removal from Firebox

- **Frequency:** Weekly or more frequently depending on ash build-up
- **By:** Homeowner
  a. Be sure the appliance is allowed to cool.
  b. There must not be any hot ashes in the firebox during cleaning.
  c. Frequent cleaning of the ash in the firebox with a vacuum cleaner will help slow down the build-up of ash in the exhaust blower and vent system.

WARNING

RISK OF FIRE
Keep combustible materials, gasoline and other flammable vapors and liquids clear of appliance.

- Do NOT store flammable materials in the appliance's vicinity.
- Do NOT use gasoline, lantern fuel, kerosene, charcoal lighter fluid or similar liquids to start or "freshen up" a fire in this heater.

Keep all such liquids well away from the heater while it is in use as combustible materials may ignite.

5. Cleaning Heat Exchanger & Drop Tube

- **Frequency:** Monthly or every ton of fuel (50 bags).
- **By:** Homeowner

NOTE: Heavy duty vacuum cleaners may be obtained, specifically designed for solid fuel appliance cleaning.

Tools Needed: A Shop Vacuum and generic micro cleaning kit; flat head screwdriver; bottle brush, and a ½" ID hose.

a. It is necessary to remove the baffle to gain access to the heat exchanger **(Figure 21.2)**.

b. Vacuum the ash from the heat exchanger with an upholstery brush to remove the majority of the ash. Be sure to vacuum the back of the baffle also. Inspect the drop tube and remove any residue build-up in the drop tube **(Figure 21.3)**.

c. Assemble the crevice tool from the micro cleaning kit to attach to a Shop Vac **(Figure 21.4)**.

d. Use the crevice tool to finish cleaning the heat exchanger fins. It is critical that the 2 exhaust exits at the back of the firebox floor (left and right) be thoroughly cleaned **(Figure 21.2)**. There are several ways this can be done:

   — Use the crevice tool.

   — Attach a hose 1/2 inch (12.7mm) inside diameter and approximately 2 feet (607mm) in length to your vacuum hose.

   — Use a bottle brush and push the ash down to the bottom. Remove the combustion (exhaust) blower and then vacuum out the ash.

⚠ WARNING

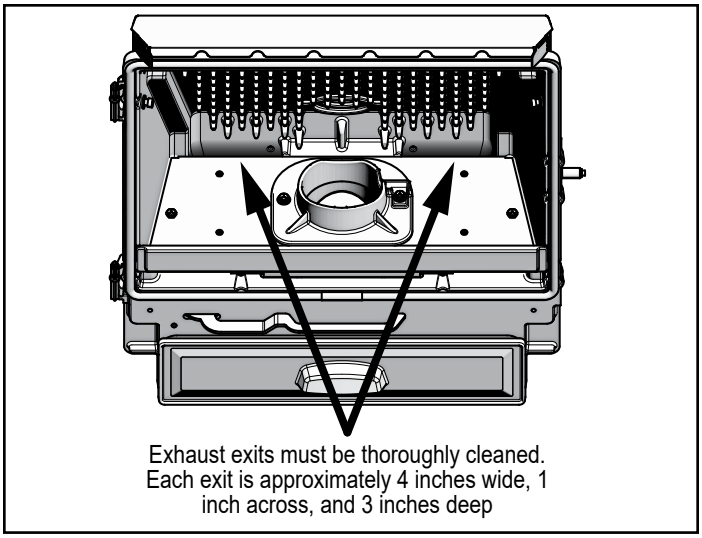
Hopper Fire Risk!

For trouble free use of your pellet appliance you must perform cleaning as called for in these instructions. Not doing so will result in:

- Poor operating performance
- Smoke spillage into the home
- Overheating of components

Not properly cleaning your appliance on a regular basis will void your warranty.

NOTE: Shop Vacuum and Micro Cleaning Kit examples are items that can be purchased at your local hardware store.



Exhaust exits must be thoroughly cleaned. Each exit is approximately 4 inches wide, 1 inch across, and 3 inches deep

Figure 21.1

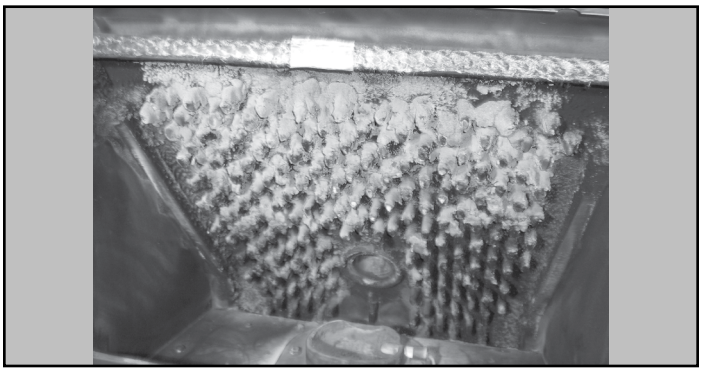


Figure 21.2 - Example of a dirty heat exchanger

Figure 21.3

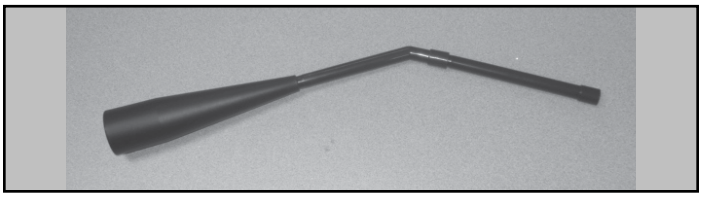


Figure 21.4

6. Ash Removal System Inspection & Cleaning

- **Frequency:** Monthly or after burning 50 bags
- **By:** Homeowner

a. Be sure the appliance is allowed to cool.

b. Open the front cast door and cycle the ash removal lever - these should be inspected for functionality

c. Inspect for any degradation or deformation.

— As the springs heat up and cool down they can lose tension.

— If there is a gap showing above the fire pot bottom, approximately 1/16 inch (1.59mm) or more, it means the springs have lost their tension

— Lost tension cannot keep the floor in the proper position causing ignition problems and fuel falling into the ash pan. If noted, call your dealer to replace the springs.

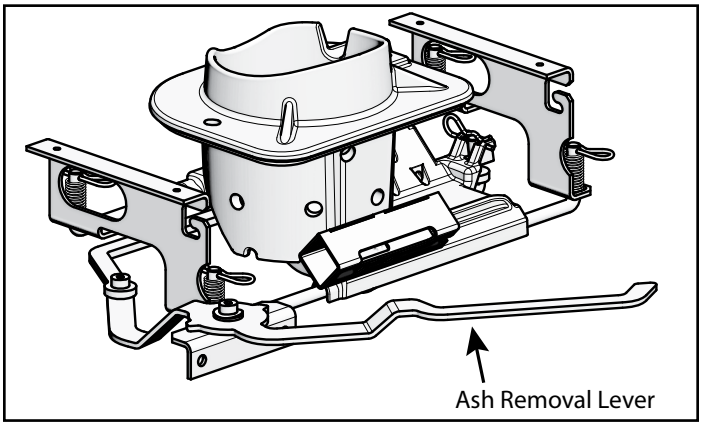


Figure 17.1

WARNING

Risk of fire!
Do NOT store fuel:

- Closer than required clearances to combustibles to appliance.
- Within space required for loading or ash removal

7. Cleaning the Hopper

- **Frequency:** See chart on page 19
- **By:** Homeowner

a. Be sure the appliance is allowed to cool.

b. After burning approximately 1 ton of fuel you will need to clean the hopper to prevent sawdust and/or fines build-up.

c. A combination of sawdust/fines and pellets on the auger reduces the amount of fuel supply to the fire pot.

d. This can result in nuisance shut downs and mis-starts

— Empty the hopper of any remaining pellets.

— Vacuum the hopper and feed tube.

8. Cleaning the Glass

- **Frequency:** See chart on page 19
- **By:** Homeowner

a. Be sure the appliance is allowed to cool.

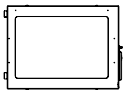
b. Clean glass with a non-abrasive commercially available cleaner. Wipe down with dry towel.

9. Door Latch & Gasket Inspection

- **Frequency:** See chart on page 19
- **By:** Homeowner

The door latch is non-adjustable but the gasket between the glass and firebox should be inspected periodically to make sure there is a good seal. If the gasket is frayed or damaged, replace with a new one.

CAUTION



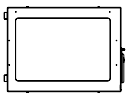
Handle glass assembly with care when cleaning glass door:

- Avoid striking, scratching or slamming glass.
- Do NOT clean glass when hot.
- Do NOT use abrasive cleaners.
- Use a hard water deposit glass cleaner on white film.

Refer to maintenance instructions.

WARNING

Handle glass doors with care.



- Inspect the gasket to ensure it is undamaged.
- Do NOT strike, slam or scratch glass.
- Do NOT operate appliance with glass door removed, cracked, broken or scratched.

10. Cleaning Exhaust System

(Requires No Lubrication)

- **Frequency:** See chart on page 19
- **By:** Homeowner
  a. Be sure the appliance is allowed to cool.
  b. Remove blower per replacement section instructions.
  c. Use a soft brush and vacuum to clean the impeller.
  d. Vacuum out exhaust path and housing **(Figure 18.1)**.
  e. Replace fan (make sure connections are fully assembled).

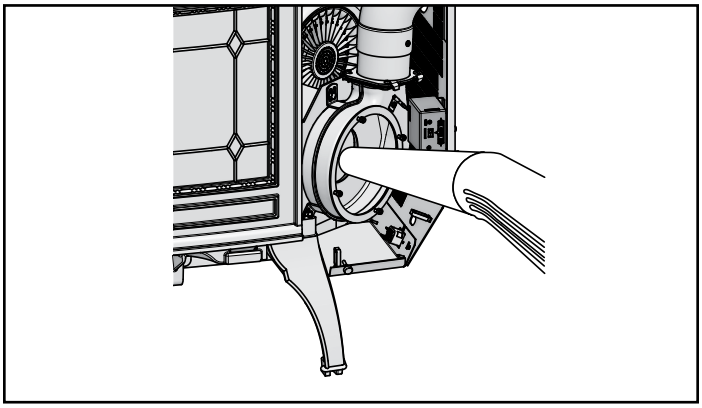


Figure 18.1

11. Cleaning Convection Blower

(Requires No Lubrication)

- **Frequency:** See chart on page 19
- **By:** Homeowner
  a. Be sure the appliance is allowed to cool.
  b. Remove blower per replacement section instructions.
  c. Use a soft brush and vacuum to clean the blower wheel.

12. Cleaning the Top Vent Adapter

(If Installed)

- **Frequency:** As needed
- **By:** Homeowner
  a. Be sure the appliance is allowed to cool.
  b. Open the clean out cover.
  c. Sweep out any ash build-up.

NOTE: This appliance is required to be cleaned frequently because soot creosote and ash may accumulate.

13. Soot and Fly-ash: Formation & Need for removal in Exhaust Venting System.

- **Frequency:** See chart on page 19
- **By:** Qualified Service Technician and/or Homeowner

The products of combustion will contain small particles of fly-ash. The fly-ash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system.

NOTE: Ash will build up more quickly in the horizontal venting sections.

14. Preparing Firebox for Non-Burn Season

- **Frequency:** See chart on page 19
- **By:** Homeowner
  a. The appliance must be in complete shutdown and allow the appliance to completely cool down.
  b. Remove all ash from firebox and vacuum thoroughly.
  c. To minimize corrosion, paint all exposed steel, including cast-iron. Use the Touch-Up paint supplied with the appliance or purchase paint from your local dealer. You must use a high-temperature paint made specifically for heating appliances.
  d. Cleaning the flue at the end of the burn season will prevent corrosives to build-up and damage the flue.

D. Soot or Creosote Fire Awareness

The chimney should be inspected periodically during the heating season to determine if a creosote build-up has occurred. If a significant layer of creosote has accumulated (1/8 inch [3mm] or more) it should be removed to reduce the risk of chimney fire.

Check daily for creosote build-up until experience shows how often you need to clean to be safe. Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in the mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire.

In the event of a soot or creosote fire, close the firebox door, exit the building immediately and contact the proper fire authorities.

DO NOT under any circumstances re-enter the building.

E. High Ash Fuel Content Maintenance

- **Frequency:** Daily
- **By:** Homeowner

If the ash build-up exceeds the half way point in the fire pot or if clinkers are adhering to the sides of the fire pot, the fire pot floor is not being cycled enough.

WARNING

Risk of Fire and Smoke!

- High ash fuels or lack of maintenance can cause fire pot to overfill. Follow proper shutdown procedure if ash buildup exceeds half way point in fire pot.
- Failure to do so could result in smoking, sooting and possible hopper fires.

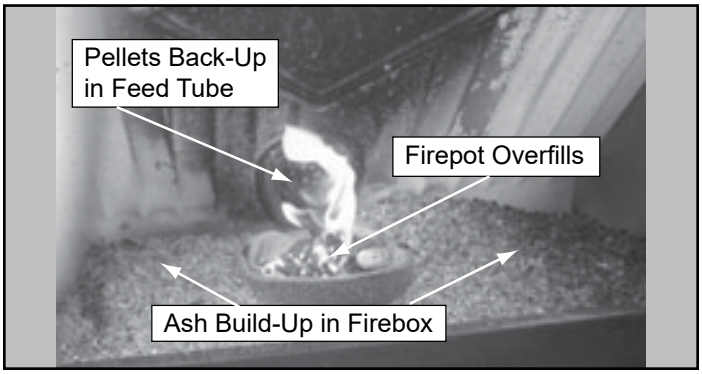


Figure 24.1

F. Baffle Removal

1. The appliance must be in complete shutdown, completely cool and the exhaust blower off.
2. Open door.
3. The baffle is located at the top inside of firebox.
4. Remove baffle by placing a flat head screw driver into the slot of the latches located in the upper corners and rotate down. The bottom of the latch will fall forward off of the post. Lift the baffle up and then out toward you **(Figure 24.2)**.
5. To replace the baffle, place the 2 locating ears behind the bottom edge and tilt the baffle up and into place.
6. The baffle must be centered in the firebox before latching it in place. If it is not centered the latch will slip between the baffle and side of the firebox instead of latching properly.
7. The bottom of the latches will fit over the posts. Using a screwdriver, rotate the top of the latch up to lock latch into place.

WARNING

Cast iron is a very heavy material.
The baffle is made of cast iron and therefore is heavy and awkward at times to maneuver. Clear and prepare your work area before you begin.

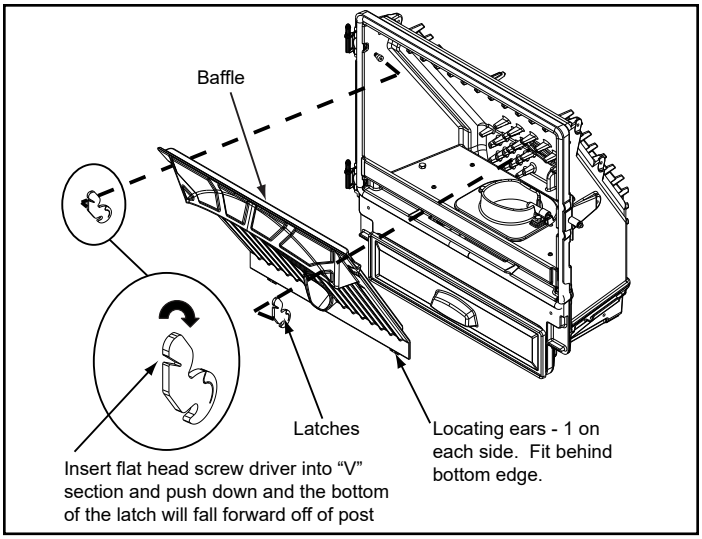


Figure 24.2

G. Glass Replacement

1. Swing open the face and remove the door from the appliance by lifting the door off of the hinge pins and lay on a flat surface face down.
2. Using a Phillips head screw driver, remove 4 screws, 2 on the top and 2 on the bottom. Remove metal bracket and then remove the glass (**Figure 24.3).**
3. Replace with new glass with gasket.
4. Re-attach metal bracket with 4 screws.
5. Re-install door over hinge pins and close face.

WARNING

- Glass is 5mm thick high temperature heat-resistant ceramic glass.
- DO NOT REPLACE with any other material.
- Alternate material may shatter and cause injury.

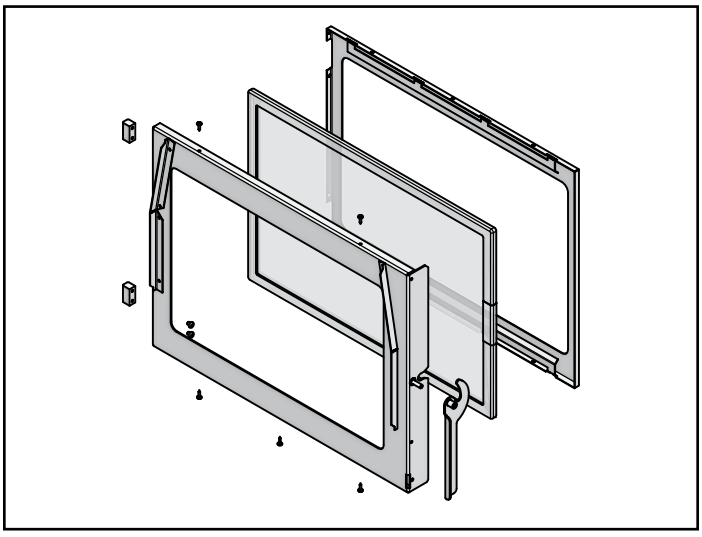


Figure 24.3

H. Convection Blower Replacement

1. Follow the proper shut down procedures.
2. Remove the left side panel by loosening the 2 screws using a Phillips head screw driver or wrench **(Figure 25.1)**.
3. Remove two lower sheet metal screws from the back panel to allow more clearance.
4. Disconnect the wire terminals.
5. Reach behind the blower and release the latch by pushing the top of the latch towards the blower **(Figure 25.1)**.
6. Rock the top of the blower slightly and lift up. The blower will pass out the left side of the appliance.
7. Install replacement blower by placing the bottom flange into the opening first then rotate blower up into position.

NOTE: You may need to loosen the surround to move it out of the way.

8. When the blower is properly positioned the latch will engage the notch to hold the blower in place **(Figure 25.1)**.
9. Re-connect wire terminals to the new blower.
10. Reposition and Re-secure the back panel.

NOTE: Make sure wires are connected prior to restarting the appliance. Failure to do so will result in the (side-mounted) safety thermal snap disc tripping resulting in cutting power to the appliance feed system.

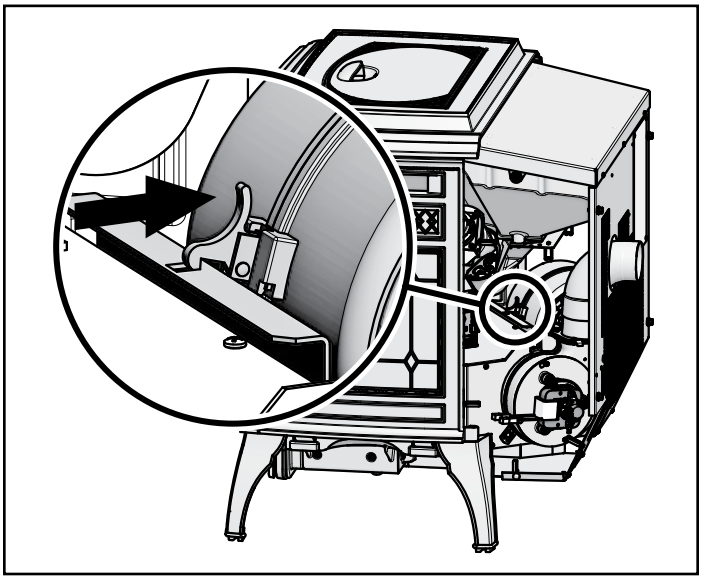


Figure 25.1

I. Combustion/Exhaust Blower Replacement

1. Follow the proper shut down procedures.
2. Remove the right side panel by loosening the 2 screws using a Phillips head screw driver or wrench **(Figure 25.2)**.
3. It is not necessary or recommended to remove the housing to replace or service the combustion blower. You only need to remove the motor and impeller.
4. Disconnect the wire from the control board connection and hall effect switch/housing.
5. Using an 7mm socket wrench or nut driver, loosen the nuts securing the motor and impeller to the housing.
6. Holding the motor, rotate the mounting plate counter-clockwise and remove motor and impeller.
7. If the gasket between housing and motor is damaged it will have to be replaced. A gasket is included with the replacement blower.
8. Re-install in reverse order.

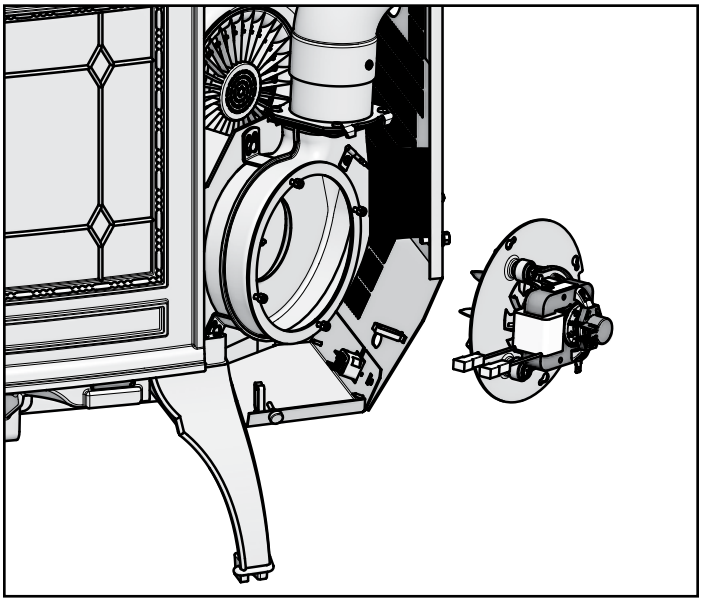


Figure 25.2

4 Troubleshooting Guide

A. General Appliance

With proper installation, operation, and maintenance your appliance will provide years of trouble-free service. If you do experience a problem, this troubleshooting guide will assist a qualified service person in the diagnosis of a problem and the corrective action to be taken. This troubleshooting guide can only be used by a qualified service technician.

Symptom	Possible Cause	Corrective Action
Plug in appliance - No response.	No Power to outlet.	Check circuit breaker at service panel.
	5 amp fuse blown	Replace control board - don't replace fuse
	Snap disc tripped or defective (#3).	Reset or replace snap disc.
Appliance will not light	No Fuel	Check hopper; load with wood pellets
	Vacuum switch not closing; no vacuum	Check vacuum switch wires are installed Check vacuum hose is connected to switch and feed tube port and is in good condition Make sure venting system is clean Make sure front door is closed Check vacuum tube for blockage or restrictions/kink
	Hopper lid open	Close hopper lid
	Defective hopper switch.	Check hopper switch operation Check hopper switch wires for integrity
	Safety snap disc is tripped (#3)	Check to make sure convection blower wires are connected and reset snap disc (located on RH side of appliance) Clean & inspect convection blower and convection air path.
	Feed System is jammed	Inspect and remove the jam from the feed assembly
	Feed motor not plugged in	Reconnect feed motor
	Igniter not plugged in	Connect the igniter wires
	Defective igniter	Replace igniter
	Fire pot plugged-up / dirty	Clean fire pot and movable floor Remove ash from the ash pan
	Dial control is set to "OFF"	Turn dial control (on the appliance) to a setting other than OFF
Fire starts but goes out	Dirty fire pot, exhaust path, and/or venting plugged	Clean fire pot and movable floor Inspect and clean exhaust path and venting Clean firebox, exhaust path, and venting (including behind baffle)
	Exhaust sensor cannot read temperature or is loose	Secure the exhaust probe to exhaust blower housing – keeping its wire away from hot surfaces
	Exhaust plenum is dirty	Clean exhaust path to plenum
	Exhaust probe is defective (error code may result)	Check for probe wire integrity and/or replace defective exhaust probe securing the exhaust probe to exhaust blower housing – keeping its wire away from hot surfaces

Table 26.1

Symptom	Possible Cause	Corrective Action
Appliance starts and stops frequently when operating in the mode	Area where the thermostat is placed affects temperature.	Check thermostat proximity to doors and windows
	Thermostat located in tight spaces effecting the on/off cycling of the appliance.	Inspect thermostat location and make sure it is not close to a surface that heats and cools quickly.
Slow or smoky start-up and/or lazy flame	Dirty fire pot, exhaust path, and/or venting system.	Clean entire appliance including: fire pot, ash build up in firebox, fire pot area, behind baffle, firebox, exhaust blower, venting, and ash pan.
	Not enough combustion air	Adjust the trim (see trim adjustment section)
	Misaligned igniter	Center the igniter in the chamber
	Wet fuel or poor quality fuel	Replace wood pellet fuel
Convection blower fails to start	Convection Blower is jammed	Clean and remove jammed object from the blower
	Not electrically connected	Connect the blower wires to its respective power wires
	Blower is defective	Replace blower
	Exhaust probe not sensing correct temperature	Secure the exhaust probe to exhaust blower housing – keeping its wire away from hot surfaces
	Control board is defective.	Replace control board
Convection Blower fails to shut off	Wire short between blower and ground - Control board is defective	Repair wire and replace control board
Exhaust blower fails to start and/ or red flashes 6X – indicating a exhaust encoder alarm.	Exhaust blower is jammed	Clean, and remove jammed object from the blower
	Not electrically connected	Connect the blower wires to its respective power wires
	Blower is defective	Replace blower
	Control board or dial control is defective.	Unplug dial control, if exhaust blower runs, dial control is defective. If exhaust blower *does not* run with dial control unplugged, replace control board.
Exhaust Blower fails to shut off	Wire short between blower and ground - Control board is defective	Repair wire and replace control board
Feed Motor fails to shut off	Wire short between ground and: feed motor, vacuum switch, hopper switch, or safety snap disc	Repair wire(s) and replace control board
	Control board is defective	Replace control board
Convection Blower makes noise	Convection blower is dirty causing an out-of-balance condition	Clean blower impellers
Igniter does not turn off	Wire short between igniter and ground – Control board is defective	Repair wire and replace control board

Table 27.1

Symptom	Possible Cause	Corrective Action
Large, lazy flame (orange color) with black ash / soot buildup on glass	Dirty appliance or venting	Clean appliance including the fire pot, exhaust path, and venting system
	Poor fuel quality, high ash content.	Purge old fuel and use higher quality / or brand of fuel
	Incorrect air-fuel adjustment	Adjust the trim (see trim adjustment section)
	Excessive feeding	Adjust trim per trim dial instructions
	Feed Motor locked on	Follow corrective action for feed motor not turning off
Excessive fuel spilling over the fire pot and/or excessive flame	Dirty Appliance	Clean appliance including the fire pot, exhaust path, and venting system
	Feed Motor locked on	Follow corrective action for feed motor not turning off
Black soot on the side of the house	Dirty Appliance	Clean appliance including the fire pot, exhaust path, and venting system
	Exhaust termination cap too close to the structure	Extend the termination further from the structure
	Excessive feeding (incorrect air-fuel ratio)	Adjust the trim (see trim adjustment section)
Appliance rumbles consistently during burns	Too much fuel	Turn trim dial counterclockwise one notch at a time
	Too much air	Turn trim dial towards the zero setting one notch at a time
	Note: Refer to trim setting section for more information, page 12.	

Table 28.1

Following correction of any Alarm, turn the dial control to the OFF position, wait 10 seconds and turn back to desired setting OR unplug the appliance, wait 10 seconds then restore power.

Alarm (LED Flashing RED)	Possible Cause	Corrective Action
1 Red Flash: Empty Hopper Alarm	Hopper empty	Fill the hopper
	Auger jam	Inspect the feed tube for jams
	Vacuum switch not closing	Make sure firebox door is shut, vacuum hose is connected to switch and drop tube, wire connectors are connected to vacuum switch, control board, hopper switch, and safety snap disc.
	Hopper lid open	Close the hopper lid
	Exhaust probe does not sense temperature	Secure the exhaust probe keeping its wire away from hot surfaces and clean the exhaust plenum
	Snap disc tripped (#3)	Reset snap disc
	Exhaust probe not attached to exhaust blower properly	Secure exhaust probe to exhaust blower housing – keeping its wire away from hot surfaces
	Exhaust path is dirty	Clean appliance including the fire pot, exhaust path, and venting system
2 Red Flashes: Exhaust Probe Fail	Not connected to the control board	Connect terminal end to control board
	Failed component	Replace exhaust probe – securing it to exhaust blower housing – keeping wire away from hot surfaces
4 Red Flashes: Missed Ignition	Hopper empty	Fill the hopper
	Feed motor doesn't turn	Inspect feed motor circuit (hopper lid must be closed, vacuum switch must be closed, snap disc closed, and feed motor must be plugged in) Clear jam in feed tube
	Dirty appliance	Clean appliance including the fire pot, exhaust path, and venting system
	Igniter has no power or is defective	Check igniter lead connections or replace igniter
	Exhaust probe not properly installed	Secure exhaust probe to exhaust blower housing – keeping its wire away from hot surfaces
	Igniter chamber plugged with debris	Clean igniter chamber
6 Red Flashes: Exhaust Blower Alarm	Wire from exhaust blower or encoder is disconnected or shorted	Make sure wire is not damaged / melted and ends are fully connected to the encoder and control board.
	Defective exhaust blower	Replace exhaust blower
	Defective encoder (on end of exhaust blower)	Replace exhaust blower
8 Red Flashes: Exhaust Over-Temp	Feed Motor Locked On	Repair wire(s) and replace control board
	Non-approved fuel used	Only use wood pellet fuel. Do not enhance its performance with any other combustible substance.
	Convection blower dirty	Clean impellers

Table 29.1

5 Reference Materials

When describing the location of a component, it is always AS YOU FACE THE FRONT OF THE APPLIANCE.

A. Component Functions

1. **Exhaust Blower**
   The combustion (exhaust) blower is mounted in the bottom right rear of appliance. The blower is designed to pull the exhaust from the appliance and push it out through the venting system.

2. **Control Board**
   The control board is located on the right side of appliance. It controls the functioning of the appliance and communicates with the Dial Control. The control board can only be replaced by an authorized dealer.

3. **Convection Blower**
   The convection blower is mounted at the bottom left of the appliance. The convection blower pushes heated air through the heat exchange system into the room.

4. **Feed System**
   The feed system is located on the right side of the appliance and can be removed as an entire assembly. The hollow feed spring (auger) pulls pellets up the feed tube from the hopper area and drops them down the feed chute into the fire pot. Reference the parts list for individual parts in feed assembly.

5. **Fire pot**
   The fire pot is made of high quality ductile iron. The floor of the fire pot opens for cleaning and is manually operated by the homeowner. The floor needs to return to a completely closed position or the appliance will not operate properly.

6. **Fuse**
   The control board fuse will blow should a short occur. The control board will need to be replaced. DO NOT REPLACE THE FUSE. If the control board fuse blows its TRIAC, that portion of the circuit, will remain closed causing the motor on that leg to run continuously at high speed.

7. **Heat Exchanger**
   The heat exchanger is located behind the baffle and transfers heat from the exhaust system into the convection air chamber. Remove the cast iron baffle to access the heat exchanger.

8. **Hopper Lid Switch**
   The hopper lid switch is located on the right side, inside the hopper. It switches the feed motor off if the hopper lid is open.

9. **Igniter (Heating Element)**
   The igniter is mounted on the base of the fire pot. Combustion air travels over the red hot igniter creating super heated air that ignites the pellets.

10. **Power Receptacle**
    The power receptacle is located below the control box on right side. Install the power cord (supplied in the appliance component pack) to the appliance receptacle. Prior to installing, check the wall receptacle for 120 volt, 60 Hz (standard current). Make sure the outlet is grounded and has the correct polarity. A good quality surge protector is highly recommended to protect the appliance electronics.

11. **Overheat Snap Discs**
    There are two overheat snap discs located within the electro-mechanical cavity of the appliance. One is mounted on the back of the drop tube in the center of the appliance; the other is mounted in the RH side between the firebox and cast side panel. Both snap discs have a reset button. If the fire tries to burn back into the feed system, the drop tube snap disc will shut the appliance down. If there is not enough circulation from the convection blower the second snap disc will shut the feed system off. Either sensor must be manually re-set if tripped. Disconnect power before resetting.

12. **Exhaust Probe - Exhaust Blower**
    The exhaust probe is a temperature-sensing device attached to the exhaust blower housing via screw and clamp. It provides sympathetic exhaust temperature feedback to the control board. In turn, the control board uses this information to adjust its heat-output systems for best performance.

13. <u>Vacuum Switch</u>

The vacuum switch is located on the right side of the appliance under the feed motor, behind right side panel. Its vacuum hose connects to the drop tube. This switch turns the feed system on when vacuum is present in the firebox. The vacuum switch is a safety device to shut off the feed motor if the exhaust or the heat exchanger system is dirty, plugged, or if the firebox door is open.

14. <u>Wiring Schematic for Control Board (Figure 28.1)</u>

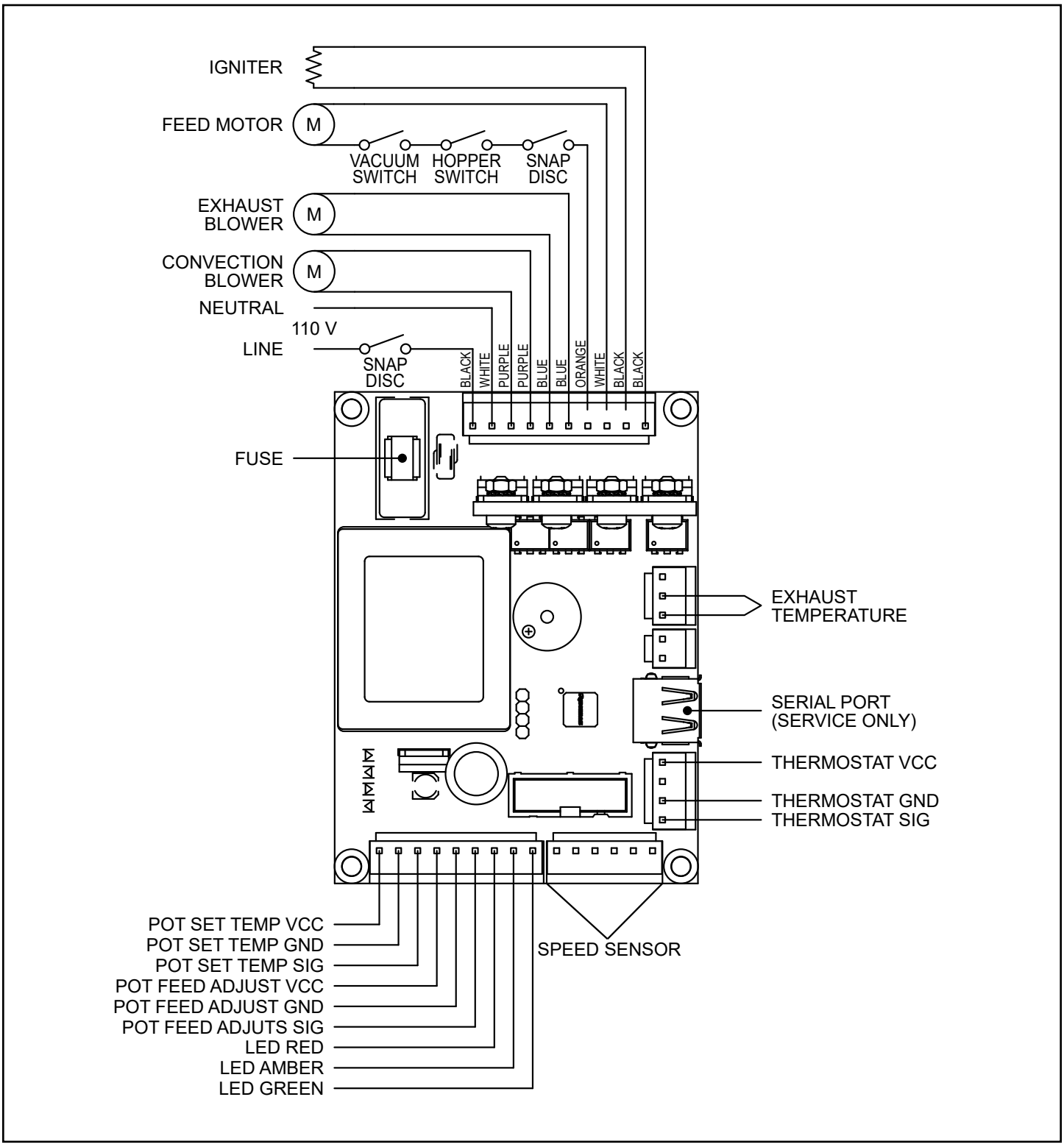


Figure 30.1 - Control Board Schematic

B. Maintenance Log

Date of Service	Performed By	Description of Service

C. Service Part List

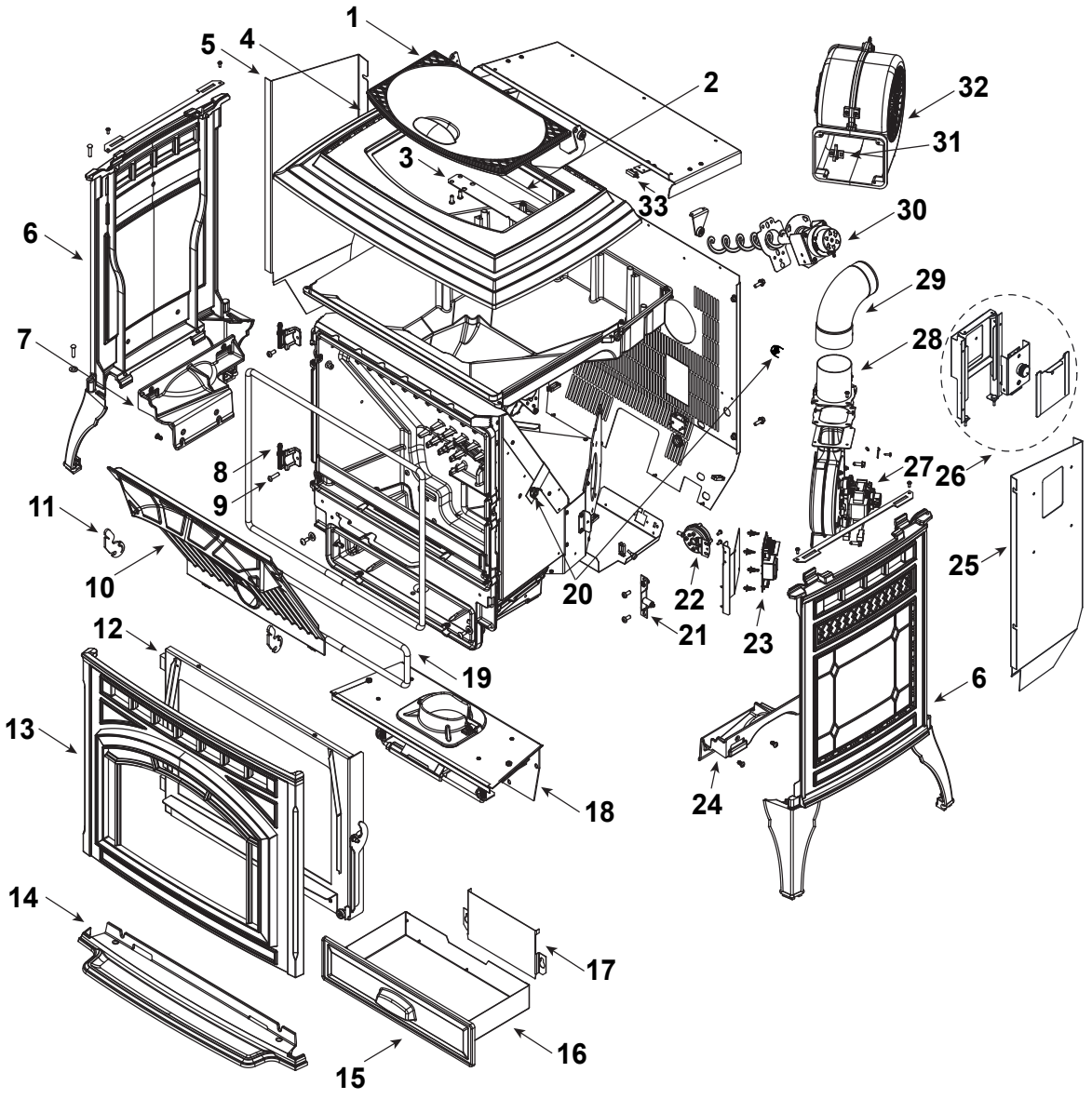
QUADRA-FIRE® **Service Parts**

Pellet Stove

TREKKER

Beginning Manufacturing Date: Jun 2018
Ending Manufacturing Date: Active

Color	SKU No.	Mfg. Dates
Matte Black	TREKKER-MBK	06/18 -
Porcelain Black	TREKKER-PBK	06/18 - 05/19
Porcelain Dark Blue	TREKKER-PDB	06/18 - 05/19
Porcelain Frost	TREKKER-PFT	06/18 -
Porcelain Mahogany	TREKKER-PMH	06/18 -
Sienna Bronze	TREKKER-CSB	06/18 - 05/19
Twilight	TREKKER-TWL	03/19 -



Part number list on following page.

04/21

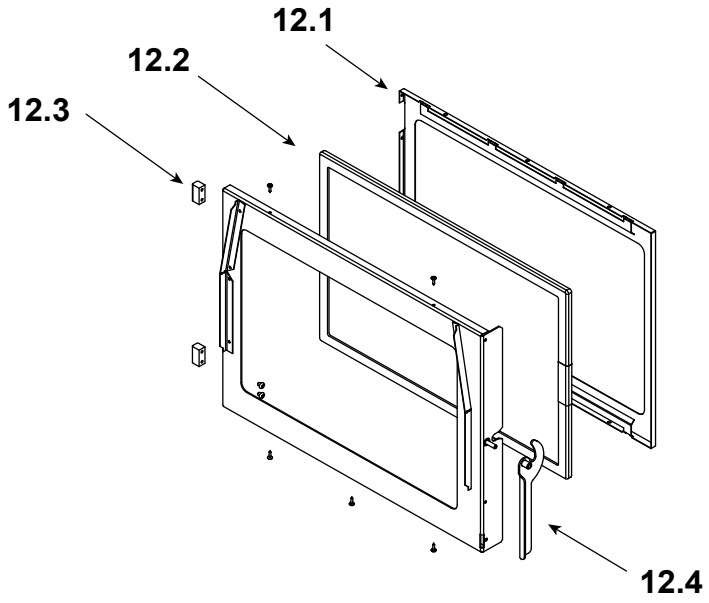
IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
1	Hopper Lid	Matte Black	7034-157MBK	
		Porcelain Black	7034-157PBK	
		Porcelain Dark Blue	7034-157PDB	
		Porcelain Frost	7034-157PFT	
		Porcelain Mahogany	7034-157PMH	
		Sienna Bronze	7034-157CSB	
		Twilight	7034-157TWL	
	Gasket, Hopper Lid	10 FT	7000-320/10	
2	Hinge Pin		SRV7034-159	
3	Hinge Retainer		SRV7034-163	
4	Top	Matte Black	7034-155MBK	
		Porcelain Black	7034-155PBK	
		Porcelain Dark Blue	7034-155PDB	
		Porcelain Frost	7034-155PFT	
		Porcelain Mahogany	7034-155PMH	
		Sienna Bronze	7034-155CSB	
		Twilight	7034-155TWL	
5	Shroud Left		SRV7080-123	
6	Side (Interchangeable)	Matte Black	7005-107MBK	
		Porcelain Black	7005-107PBK	
		Porcelain Dark Blue	7005-107PDB	
		Porcelain Frost	7005-107PFT	
		Porcelain Mahogany	7005-107PMH	
		Sienna Bronze	7005-107CSB	
		Twilight	7005-107TWL	
7	Side Mount Left		7034-128	
8	Hinge Male		SRV7034-138	
9	Gasket, Door Rope		SRV7034-177	**Y**
10	Baffle		SRV7034-263	**Y**
11	Latch, Baffle		SRV7034-149	

Additional service part numbers appear on following page.

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

#12 Door Assembly



ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
12	Door Assembly		SRV7080-022	
12.1	Glass Retainer		7034-136	**Y**
12.2	Glass Assembly w/Gasket		7034-007	**Y**
	Gasket, Channel 1/8 x 1-1/4 x 10		7000-377/10	
12.3	Hinge Female		SRV450-2910	
12.4	Door Latch Assembly		413-5200	
13	Front, Face	Matte Black	7080-161MBK	
		Porcelain Black	7080-161PBK	
		Porcelain Dark Blue	7080-161PDB	
		Porcelain Frost	7080-161PFT	
		Porcelain Mahogany	7080-161PMH	
		Sienna Bronze	7080-161CSB	
		Twilight	7080-161TWL	
14	Ash Lip	Matte Black	7080-140MBK	
		Porcelain Black	7080-140PBK	
		Porcelain Dark Blue	7080-140PDB	
		Porcelain Frost	7080-140PFT	
		Porcelain Mahogany	7080-140PMH	
		Sienna Bronze	7080-140CSB	
		Twilight	7080-140TWL	

Additional service part numbers appear on following page.

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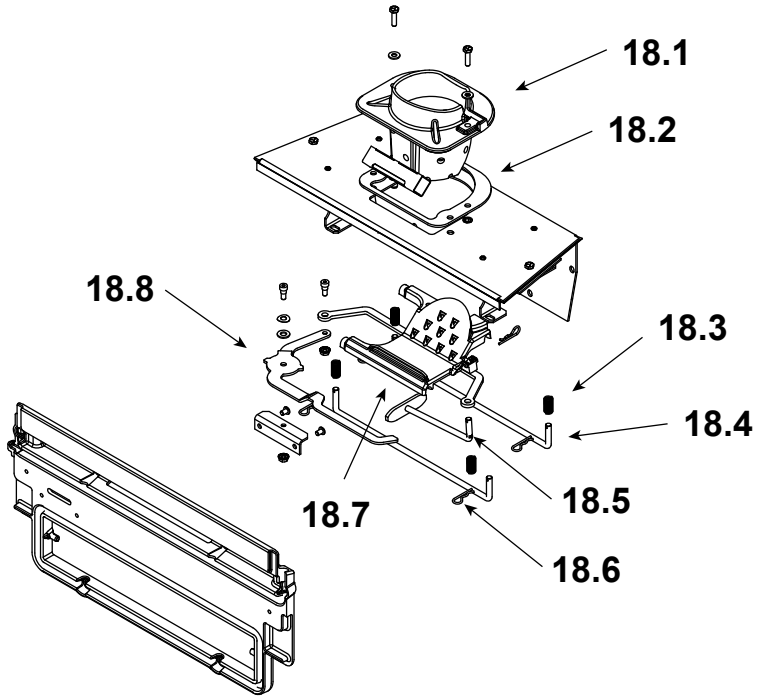
ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
15	Ash Pan Door		SRV7034-133	
16	Ash Pan Assembly		SRV7034-069	
	Twin Ball Catch		SRV7000-532	**Y**
17	Intake Shield		7034-224	**Y**

#18 Firepot Riser Assembly



18	Firepot Riser Assembly **(Does Not Include Floor Lever Assembly)**		SRV7080-082	
18.1	Firepot Assembly		SRV7080-083	**Y**
18.2	Gasket, Firepot		SRV7034-190	**Y**
18.3	Spring	Pkg of 4	7000-513/4	**Y**
18.4	Rail, Auto-clean		SRV7034-152	**Y**
18.5	Plow Weldment, Auto-clean		SRV7034-024	**Y**
18.6	Hitch Pin Clip, 3/32	Pkg of 10	7000-374/10	**Y**
18.7	Firepot Bottom		SRV7034-153	**Y**
18.8	Firepot Floor Lever Assembly **(Not Included w/Firepot Riser Assembly)**		SRV7080-018	

Additional service part numbers appear on following page.

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ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
19	Gasket, Rope, Ash Door		SRV7034-178	Y
20	Snap Disc, L250F Manual Reset **(#3)**	Qty 2 req	SRV230-1290	Y
21	Latch Bracket Assembly		SRV7034-049	Y
22	Vacuum Switch		SRV7000-531	Y
	Vacuum Hose	3 Ft cut to fit	SRV7000-373	Y
23	Control Board	**Pre #HF3156001**	SRV7080-052	Y
		Post #HF3156001	SRV7080-053	Y
	Wire Harness		SRV7080-129	Y
	Fuse 5A, Slow IEC	Pkg of 10	7000-490/10	Y
	Wire Harness, Hall Effect		SRV7080-130	Y
24	Side Mount, Right		7034-126	
25	Shroud Right	**Pre #HF3156001**	SRV7080-168	
		Post #HF3156001	SRV7080-153	
26	Dial Control Panel Door Assembly	**Post #HF3156001**	SRV7082-037	
	Dial Control w/Wire Harness	**Post #HF3156001**	SRV7082-036	Y
	User Interface **(Pre #HF3156001)**	**No longer available**	SRV7080-178	
	Battery 3V CR2477 (For Interface Pre #HF2165814)	Pkg of 2	SRV7000-869	Y
	Extension Cable USB	**Pre #HF3156001**	SRV7080-171	Y
27	Combustion Blower		SRV7080-106	Y
	Combustion Blower Gasket, Between Housing and Stove		SRV7080-117	Y
	Combustion Blower Motor Gasket, Between Motor and Housing		SRV7080-107	Y
28	Flue Collar Assembly		SRV7080-013	
29	Exhaust Transition Assembly		SRV7034-139	
	Gasket, Exhaust		SRV7034-109	
	Bluetooth Key	**Pre #HF3156001**	SRV7080-156	Y
30	Feed Assembly		SRV7080-010	Y
	Feed Spring Assembly (Only)		SRV7001-046	Y
	Gasket, Feed Motor		SRV7034-144	
	Feed Motor		812-4421	Y
31	Elbow Catch		7000-393	
32	Convection Blower		SRV7080-105	Y
33	Magnetic Switch		SRV7000-375	

Additional service part numbers appear on following page.

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
	Component Pack Assembly – Matte Black	**Pre #HF3156001**	SRV7080-066	
		Post #HF3156001	SRV7080-074	
		Porcelain Black	SRV7080-069	
		Porcelain Dark Blue	SRV7080-070	
		Porcelain Frost	SRV7080-071	
	Component Pack Assembly – Porcelain Mahogany	**Pre #HF3156001**	SRV7080-068	
		Post #HF3156001	SRV7080-075	
		Sienna Bronze	SRV7080-067	
	Component Pack Assembly – Twilight	**Pre #HF3156001**	SRV7080-072	
		Post #HF3156001	SRV7080-076	
	Paint Touch-Up	Matte Black	812-0910	
		Porcelain Black	1-00-0022	
		Porcelain Dark Blue	1-00-0020	
		Porcelain Frost	1-00-0021	
		Porcelain Mahogany	1-00-0014	
		Sienna Bronze	TOUCHUP-CSB	
		Twilight	0001285	
	Cleanout Tool		414-1140	**Y**
	Leveling Assembly		7000-000	
	Power Cord		812-1180	**Y**
	Exhaust Probe		SRV7000-669	
	Heating Element Assembly 18”, 120 VAC, 300 Watt, (**Wood Pellet Fuel Only)**		SRV7000-647	**Y**
		Pkg of 10	SRV7000-647/10	**Y**
	Wing Thumb Screw 8-32 X 1/2	Pkg of 24	7000-223/24	**Y**
	Wire Clip	Pkg of 10	7000-400/10	**Y**
ACCESSORIES				
	Collar, Offset, Top Vent		812-3570	
	Damper, 3 Inch - Tall Vertical Installs Only		PEL-DAMP3	**Y**
	Damper, 4 Inch - Tall Vertical Installs Only		PEL-DAMP4	
	Log Set, (Sold as Set only)	2 Pc	LOGS-60-AE-B	
	Outside Air Kit		OAK-3	
	Top Vent Adapter		TPVNT-3	
	Wired Thermostat Kit		SRV7080-098	**Y**

Additional service part numbers appear on following page.

QUADRA-FIRE®

NOTHING BURNS LIKE A QUAD

CONTACT INFORMATION

Hearth & Home Technologies
352 Mountain House Road
Halifax, PA 17032
Division of HNI INDUSTRIES

**Please contact your Quadra-Fire dealer with any questions or concerns.
For the number of your nearest Quadra-Fire dealer
log onto www.quadrafire.com**

CAUTION

DO NOT DISCARD THIS MANUAL

- Important operating and maintenance instructions included.
- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation of this appliance.

We recommend that you record the following pertinent information for your heating appliance.

Date purchased/installed:	
Serial Number:	Location on appliance:
Dealership purchased from:	Dealer Phone: 1( ) -
Notes:	

This product may be covered by one or more of the following patents: (United States) 5341794, 5263471, 6688302, 7216645, 7047962 or other U.S. and foreign patents pending.

HEARTH&HOME technologies™

Installation Manual

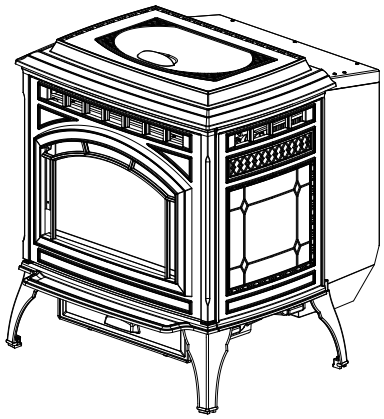
Installation & Appliance Set-Up

INSTALLER: Leave this manual with party responsible for use and operation.
OWNER: Retain this manual for future reference.

NOTICE: DO NOT DISCARD THIS MANUAL

QUADRA-FIRE®

TREKKER FREE STANDING PELLET APPLIANCE
MODEL(S):
TREKKER-MBK
TREKKER-PMH
TREKKER-TWL



Pellet Fuels Institute

EM C-TL US

⚠ CAUTION

Check building codes prior to installation.

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult local building, fire officials or authorities having jurisdiction about restrictions, installation inspection, and permits.

Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies recommends HHT Factory Trained or NFI certified professionals.

hearthED FACTORY TRAINING Fuel Your Fire

NFI NATIONAL FIREPLACE INSTITUTE® A CERTIFICATION AGENCY

For Units Post Serial # HF3156001

⚠ WARNING

If the information in these instructions is not followed exactly, a fire could result causing property damage, personal injury, or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not over fire - If appliance or chimney connector glows, you are over firing. Over firing will void your warranty.
- Comply with all minimum clearances to combustibles as specified. Failure to comply may cause house fire.

⚠ WARNING

HOT SURFACES!
Glass and other surfaces are hot during operation AND cool down. Hot glass will cause burns.

- Do not touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures
- High temperatures may ignite clothing or other flammable materials.
- Keep clothing, furniture, draperies and other flammable materials away.

⚠ CAUTION

Tested and approved for wood pellets only. Burning of any other type of fuel voids your warranty.

NOTE: To obtain a French translation of this manual, please contact your dealer or visit www.quadrafire.com
REMARQUE : Pour obtenir une traduction française de ce manuel, s'il vous plaît contacter votre revendeur ou visitez www.quadrafire.com

Safety Alert Key:

- **DANGER!** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- **WARNING!** Indicates a hazardous situation which, if not avoided could result in death or serious injury.
- **CAUTION!** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE:** Indicates practices which may cause damage to the appliance or to property.

TABLE OF CONTENTS

➔ = Contains updated information

1 Important Safety Information

A. Appliance Certification

Model:	Trekker Pellet Stove
Laboratory:	OMNI Test Laboratories, Inc.
Report No:	061-S-83-2, 0061PS094E
Type:	Solid Fuel Room Heater, Pellet Fuel Burning Type
Standard(s):	ASTM E1509-12, ULC S627-00 and (UM) 84-HUD, Mobile Home Approved.
Can be found at: www.quadrafire.com/about-us/epa-certification	

The Trekker is Certified to comply with 2020 particulate emission standards.

This pellet appliance needs periodic inspection and repair for proper operation. It is against federal regulations to operate this pellet appliance in a manner inconsistent with operating instructions in this manual.

NOTICE: This installation must conform with local codes. In the absence of local codes you must comply with the **ASTM E1509-04, ULC S627-00, (UM) 84-HUD and ULC/ORD-C-1482.**

B. BTU & Efficiency Specifications

EPA Certification Number:	Number: 98-17
EPA Certified Emissions:	0.74 grams per hour
***LHV Tested Efficiency:**	83.2%
****HHV Tested Efficiency:**	77.9%
*****EPA BTU Output:**	12,682 to 39,428 / hr.
******BTU Input:**	16,396 to 50,775 / hr.
Vent Size:	3” or 4” Type “L” or “PL”
Hopper Capacity:	80 lbs.
Fuel:	Premium Wood Pellets
* Weighted average LHV (Low Heating Value) efficiency using data collected during EPA emissions tests in accordance with the requirements of CSA B415.1.	
** Weighted average HHV (High Heating Value) efficiency using data collected during EPA emissions tests in accordance with the requirements of CSA B415.1.	
*** A range of BTU outputs calculated using HHV efficiency and the burn rates from the EPA tests.	
**** Based on the maximum feed rate per hour multiplied by approximately 8600 BTU’s which is the average BTU’s from a pound of pellets.	

C. Glass Specifications

This appliance is equipped with 5mm ceramic glass. Replace glass only with 5mm ceramic glass. Please contact your dealer for replacement glass.

D. Electrical Rating

115 VAC, 60 Hz, Start 2.9 Amps, Run 2.45 Amps

E. Mobile Home Approved

- This appliance is approved for mobile home installations when not installed in a sleeping room and when an outside combustion air inlet is provided.
- The structural integrity of the mobile home floor, ceiling, and walls must be maintained.
- The appliance must be properly grounded to the frame of the mobile home and use only Listed pellet vent Class “L” or “PL” connector pipe.
- Outside Air Kit, part OAK-3 must be installed in a mobile home installation.

F. Non-Combustible Materials

Material which will not ignite and burn, composed of any combination of the following:

- Steel
- Plaster
- Brick
- Iron
- Concrete
- Tile
- Glass
- Slate

Materials reported as passing **ASTM E 136, Standard Test Method** for Behavior of Metals, in a Vertical Tube Furnace of 750° C.

G. Combustible Materials

Material made of/or surfaced with any of the following materials:

- Wood
- Compressed Paper
- Plant Fibers
- Plastic
- Plywood/OSB
- Sheet Rock (drywall)

Any material that can ignite and burn: Flame proofed or not, plastered or non-plastered.

H. Sleeping Room

When installed in a sleeping room it is recommended that 3ft of vertical be installed prior to horizontally exiting the room and a smoke/CO alarm be installed in the bedroom. The size of the room must be at least 50ft³ per 1,000 Btu/hr stove input, if the stove exceeds the room size, out air must be installed.

I. California - Prop65

WARNING

This product and the fuels used to operate this product (wood), and the products of combustion of such fuels, can expose you to chemicals including carbon black, which is known to the State of California to cause cancer, and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to: WWW.P65Warnings.ca.gov

WARNING

Fire Risk

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with appliance).
- Do NOT Over fire - If appliance or chimney connector glows, you are over firing.

Any such action that may cause a fire hazard.

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.

For assistance or additional information, consult a qualified installer, service agency or your dealer.

NOTE: Hearth & Home Technologies, manufacturer of this appliance, reserves the right to alter its products, their specifications and/or price without notice.

2 Getting Started

A. Design, Installation & Location Considerations

NOTICE: Check building codes prior to installation.

1. Appliance Location

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult insurance carrier, local building inspector, fire officials or authorities having jurisdiction over restrictions, installation inspection and permits.

It is a good idea to plan your installation on paper, using exact measurements for clearances and floor protection, before actually beginning the installation. Location of the appliance and chimney will affect performance.

Consideration must be given to:

- Safety, convenience, traffic flow
- Placement of the chimney and chimney connector and to minimize the use of chimney offsets.
- Place the appliance where there will be a clear passage for a Listed chimney through the ceiling and roof (vertical) or through exterior wall (horizontal).
- Installing the required outside air kit will affect the location of the vent termination.

When locating vent and venting termination, the ideal location is to vent above roof line when possible. This minimizes the affects of wind loading.

Since pellet exhaust can contain ash, soot or sparks, you must consider the location of:

- Windows
- Air Intakes
- Air Conditioner
- Overhang, soffits, porch roofs, adjacent walls
- Landscaping, vegetation
- Horizontal or vertical vent termination

2. Floor Support

The supporting floor under the appliance must be able to handle the weight of the appliance, fuel load and the weight of the chimney.

Ensure that your floor will support these weights prior to installation. Add sufficient additional support to meet this weight requirement prior to installation. The weight of the appliance is 426 lbs with a full load of fuel the max weight is 473 lbs.

WARNING

Risk of Fire.
Damaged parts could impair safe operation. Do NOT install damaged, incomplete or substitute components.

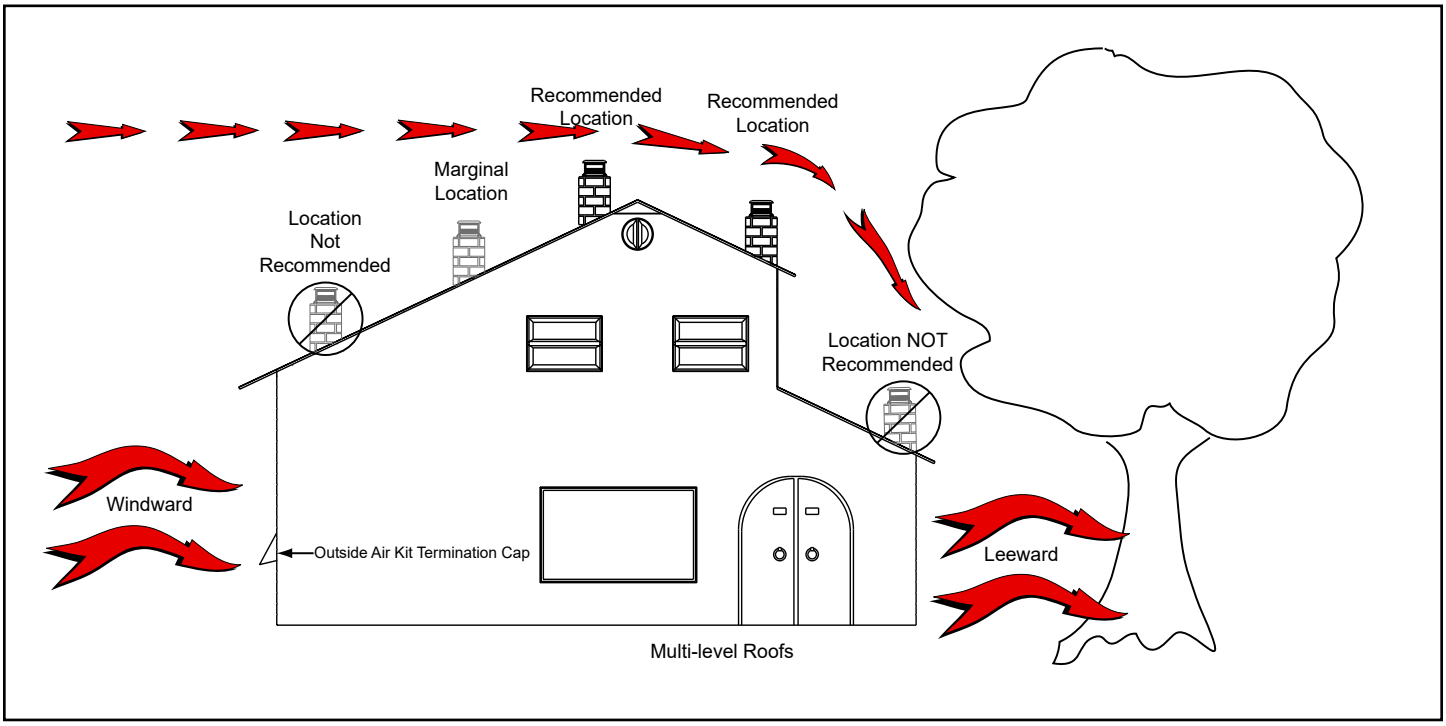


Figure 5.1

WARNING

Risk of Fire!

- Damaged parts could impair safe operation.
- Do NOT install damaged, incomplete or substitute components.

WARNING

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with appliance).
- Do NOT Over fire

Or any such action that may cause a fire hazard.

B. Tools And Supplies Needed

Tools and building supplies normally required for installation, unless installing into an existing masonry fireplace:

- Reciprocating Saw
- Channel Locks
- Hammer
- Phillips Screwdriver
- Tape Measure
- Plumb Line
- 1/4” Self-Tapping Screws
- Framing Material
- Hi-temp Caulking Material
- Gloves
- Safety Glasses
- Framing Square
- Electric Drill & Bits (1/4”)
- Level

May also need:

- Vent Support Straps
- Venting Paint

C. Inspect Appliance and Components

- Open the appliance and remove all the parts and articles packed inside the Component Pack. Inspect all the parts and glass for shipping damage.
- Report to your dealer any parts damaged in shipment.
- All labels have been removed from the glass door.
- Plated surfaces have been wiped clean with a soft cloth, if applicable.
- **Read all the instructions before starting the installation. Follow these instructions carefully during the installation to ensure maximum safety and benefit.**
- **Follow pipe manufacturer instructions for installation and air clearance requirements.**

D. Removal of Appliance from Shipping Materials

1. Remove box and 2x4 structural boards being careful not to damage product.
2. Using 3/8 socket or wrench remove both front bolts from pallet mount brackets. Front pallet mount brackets will slide outwards away from appliance **(Figure 6.1)**.
3. Using 3/8 socket or wrench remove bolts from side pallet mount brackets. Side pallet mount brackets will slide downwards from appliance **(Figure 6.2)**.
4. Carefully pull appliance off of pallet and put in desired location following Hearth Pad on page 11 and Clearance to Combustibles on page 10.

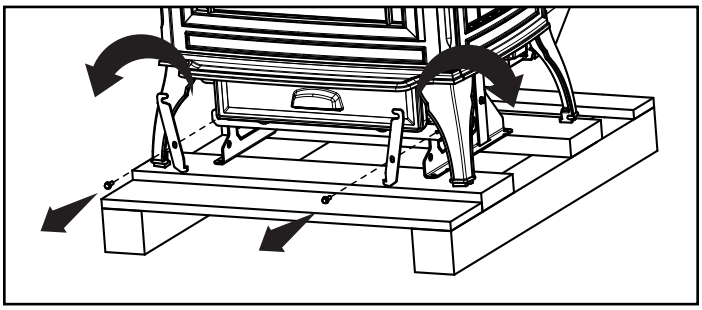


Figure 6.1

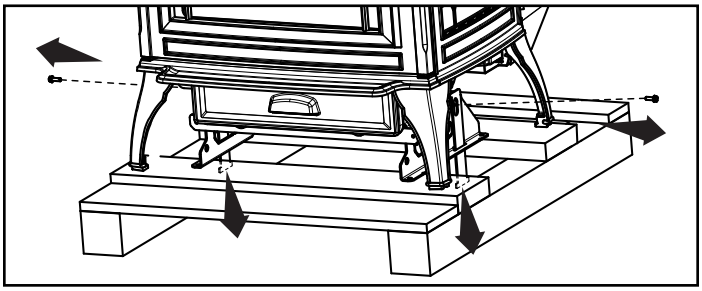


Figure 6.2

E. Install Checklist

ATTENTION INSTALLER:

Follow this Standard Work Checklist

This standard work checklist is to be used by the installer in conjunction with, not instead of, the instructions contained in this installation manual.

Customer: _____
Date Installed: _____
Lot/Address: _____
Location of Appliance: _____
Installer: _____
Dealer/Distributor Phone Number: _____
Serial Number: _____
Model Name: _____

WARNING! Risk of Fire or Explosion! Failure to install appliance to these instructions can lead to a fire or explosion.

Appliance Install	**YES**	**IF NO, WHY?**
Verified clearance to combustibles.	☐	
Appliance is leveled and connector is secured to appliance.	☐	
Hearth extension size/height decided.	☐	
Outside air kit installed.	☐	
Floor protection requirements have been met.	☐	
If appliance is connected to a masonry chimney, it should be cleaned and inspected by a professional. If installed to a factory built metal chimney, the chimney must be installed according to the manufacturer's instructions and clearances.	☐	
Venting/Chimney		
Chimney configuration complies with diagrams.	☐	
Chimney installed, locked and secured in place with proper clearance.	☐	
Chimney meets recommended height requirements (5 feet minimum vertical).	☐	
Roof flashing installed and sealed.	☐	
Terminations installed and sealed.	☐	
Electrical		
120 VAC unswitched power provided to the appliance.	☐	
Check outlet with multi-meter for proper polarity and voltage (115-120 VAC).	☐	
Record voltage reading: _____		
Clearances		
Verified all clearances meet installation manual requirements.	☐	
Mantels and wall projections comply with installation manual requirements.	☐	
Floor protection and heart extensions installed per manual requirements.	☐	
Appliance Setup		
All protective materials removed.	☐	
All labels have been removed from the door.	☐	
All packaging materials are removed from inside/under appliance.	☐	
Manual bag and all of its contents are removed from inside/under the appliance and given to the party responsible for use and operation.	☐	
Started appliance and verified that all motors and blowers operate as they should.	☐	
Checked draft using a Manometer. Record readings: _____	☐	
Checked vacuum using a Manometer. Record readings: _____	☐	

Hearth & Home Technologies recommends the following:
Photographing the installation and copying this checklist for your file.
That this checklist remain visible at all times on the appliance until the installation is complete.

Comments: Further description of the issues, who is responsible (Installer/Builder/Other Trades, ets.) and corrective action needed:
Comments communicated to party responsible _____ by _____ on _____
(Builder/Gen. Contractor) (Installer) (Date)

3 Dimensions and Clearances

A. Appliance Dimensions

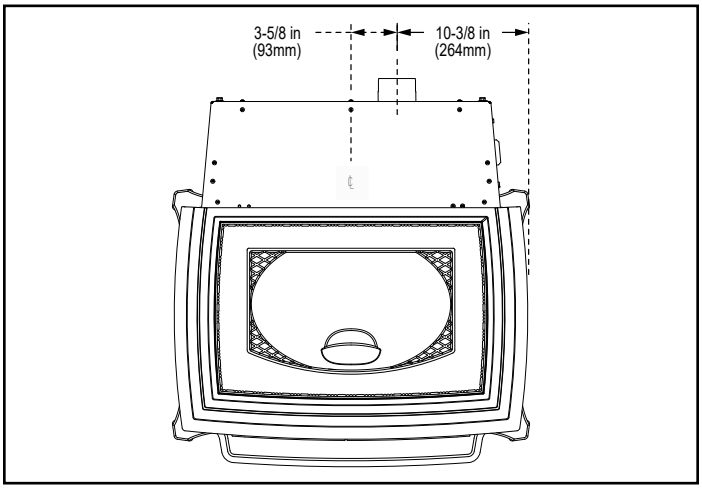


Figure 8.1 - Top View

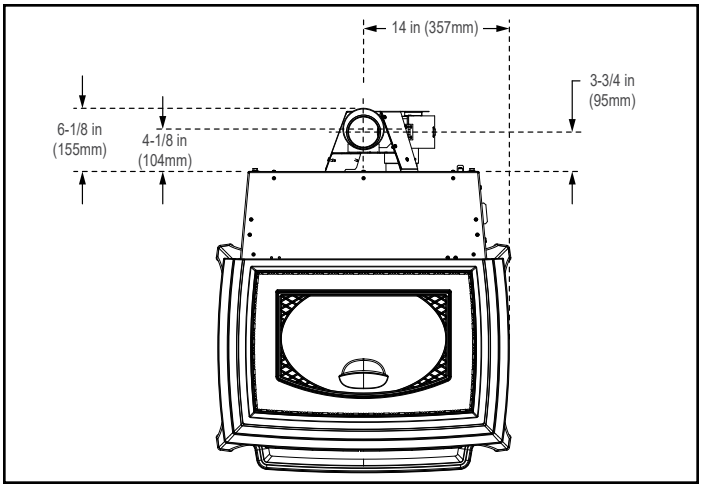


Figure 8.2 - Top View with Top Vent Adapter (TPVNT-3) and Offset Adapter (811-0720).

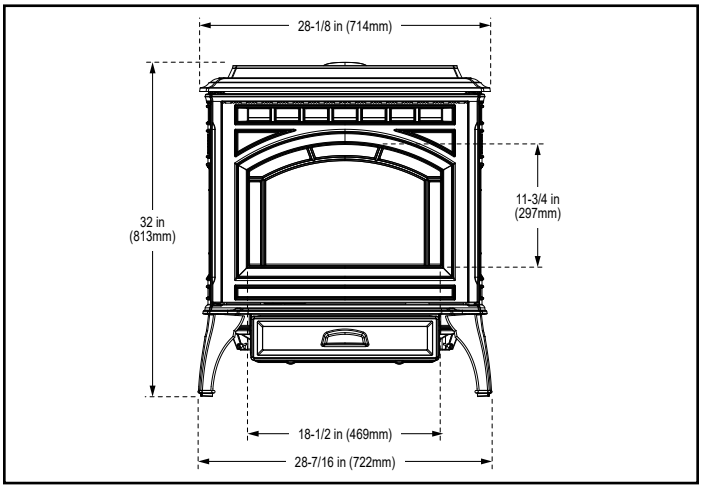


Figure 8.3 - Front View

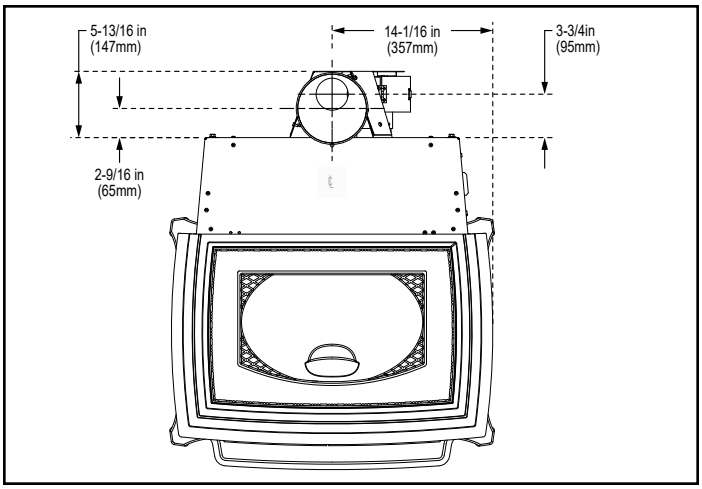


Figure 8.4 - Top View with Top Vent Adapter (TPVNT-3) and Offset Adapter (812-3570).

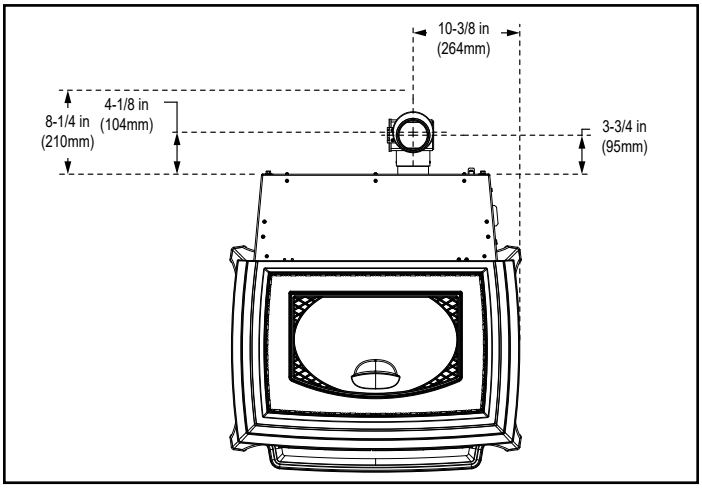


Figure 8.5 - Top View with Top Vent Adapter (TPVNT-6) and Offset Adapter (811-0720).

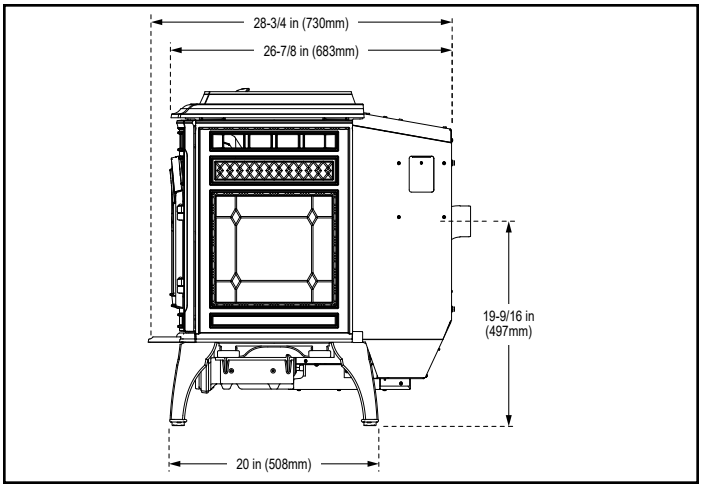


Figure 9.1 -Side View

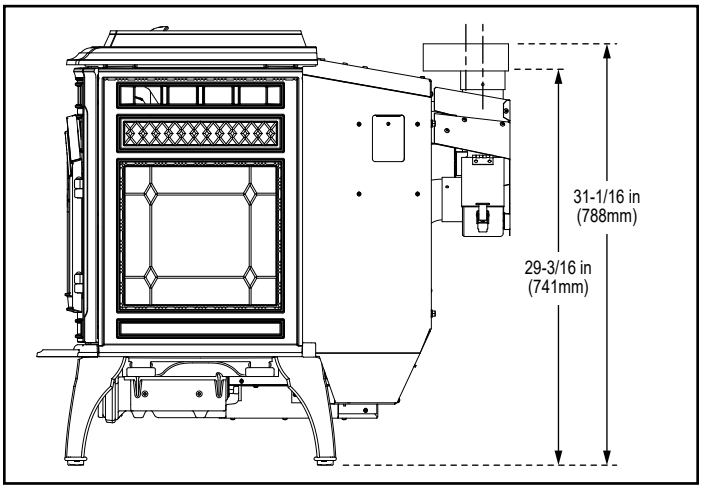


Figure 9.2 - Side View with Top Vent Adapter (TPVNT-3) and Offset Adapter (812-3570).

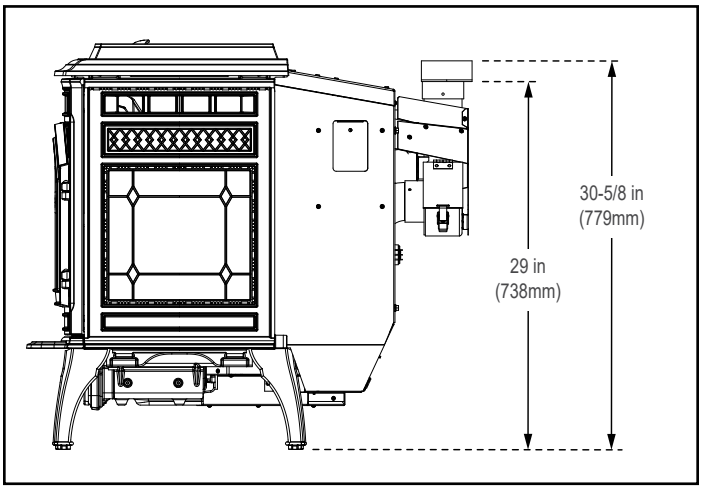


Figure 9.3 - Side View with Top Vent Adapter (TPVNT-3) and Offset Adapter (811-0720).

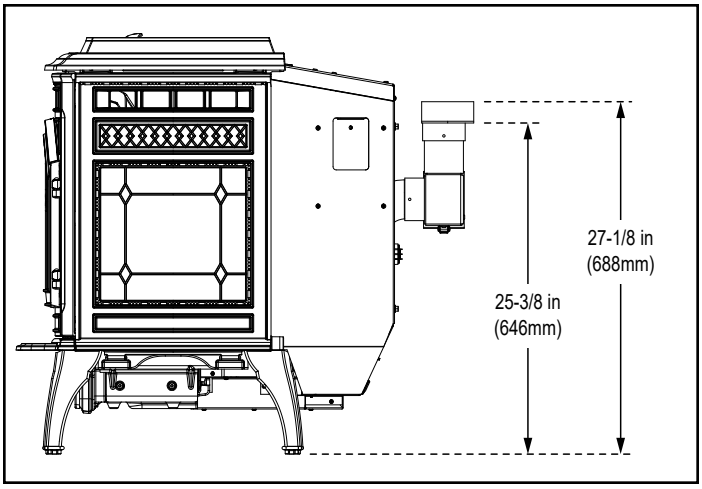
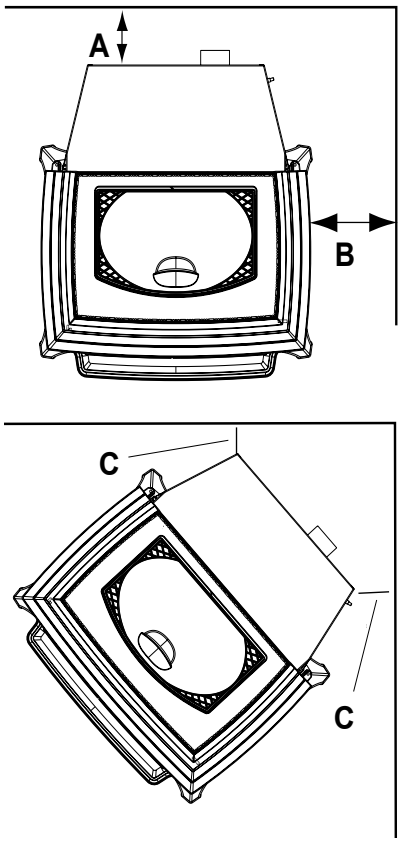


Figure 9.4 - Side View with Top Vent Adapter (TPVNT-6) and Offset Adapter (811-0720).

B. Clearances to Combustibles (US & Canada)

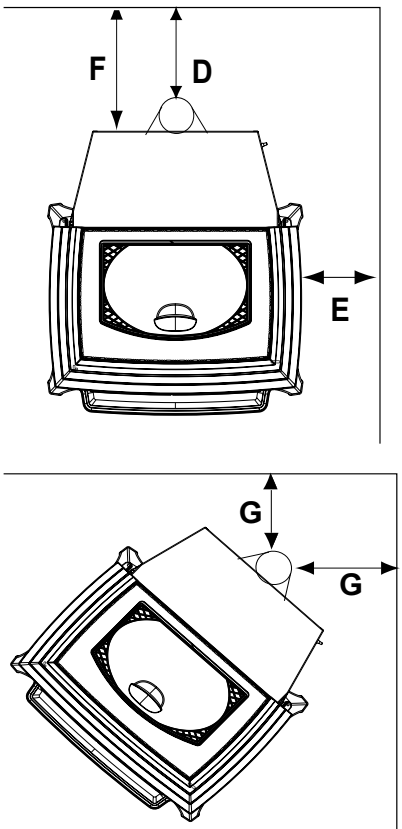


Horizontal Through the Wall		Inches	Millimeters
A	Back Wall to Appliance	2	51
B	Side Wall to Appliance	6	152
Corner Installation		**Inches**	**Millimeters**
C	Walls to Appliance	2	51

NOTE:

- Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY.
- Illustrations/diagrams are not drawn to scale.
- Actual installation may vary due to individual design preference.

Installations with:
TPVNT-3 Top Vent Adapter with Heat Shield and Clean-out
TPVNT-6 Top Vent Adapter with Clean-out
811-0720 (3" to 4") Offset Adapter
812-3570 (3" to 6") Offset Adapter



Vertical Installation		Inches	Millimeters
D	Back Wall to Flue Pipe	3	76
E	Side Wall to Appliance	6	152
F	Back Wall to Appliance	8	203
Corner Installation		**Inches**	**Millimeters**
G	Side Wall to Flue Pipe	3	76

C. Hearth Pad Requirements (UL & ULC)

Use a non-combustible floor protector, extending beneath appliance and to the front, sides and rear as indicated. Measure front distance from the surface of the glass door.

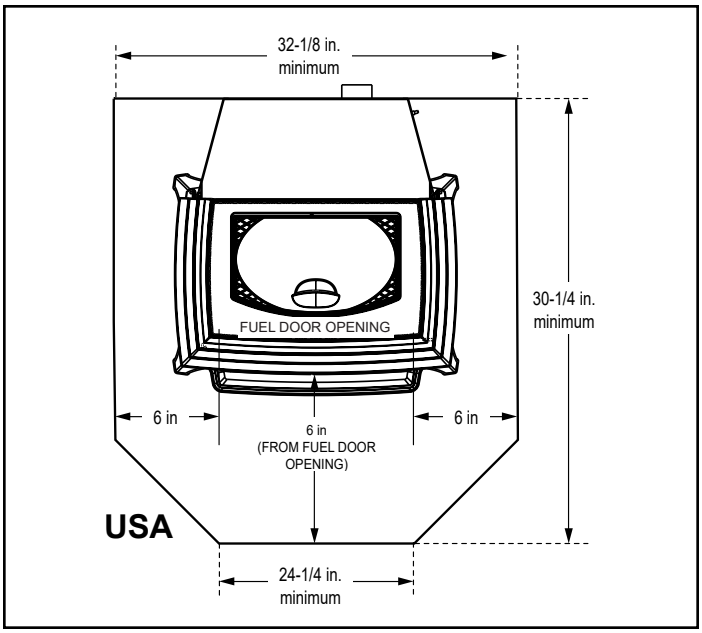


Figure 11.1

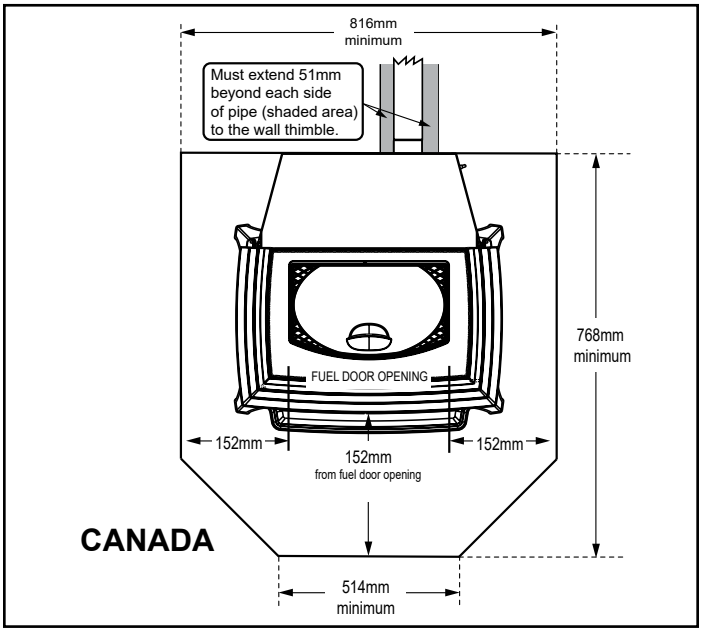


Figure 11.2

USA INSTALLATIONS:

A non-combustible floor protection is recommended extending beneath the flue pipe when installed with horizontal venting or under the Top Vent Adapter with vertical installation.

CANADA INSTALLATIONS:

A non-combustible floor protection extending beneath the flue pipe is required with horizontal venting or under the Top Vent Adapter with vertical installation.

WARNING

Fire Risk
Comply with all minimum clearances to combustibles as specified.
Failure to comply may cause house fire.

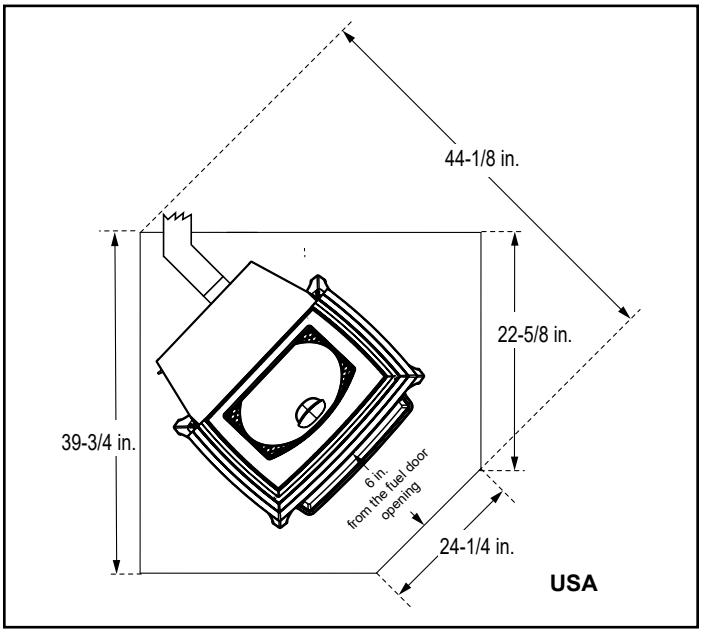


Figure 11.3

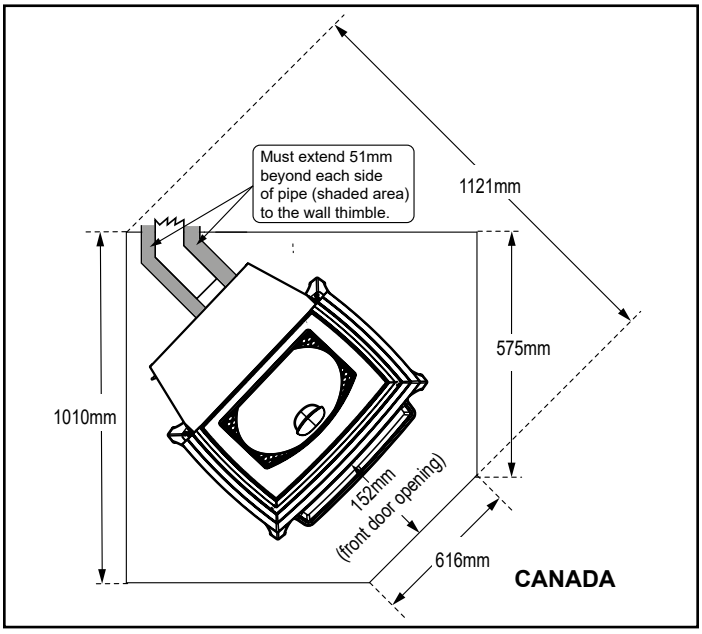


Figure 11.4

D. Alcove

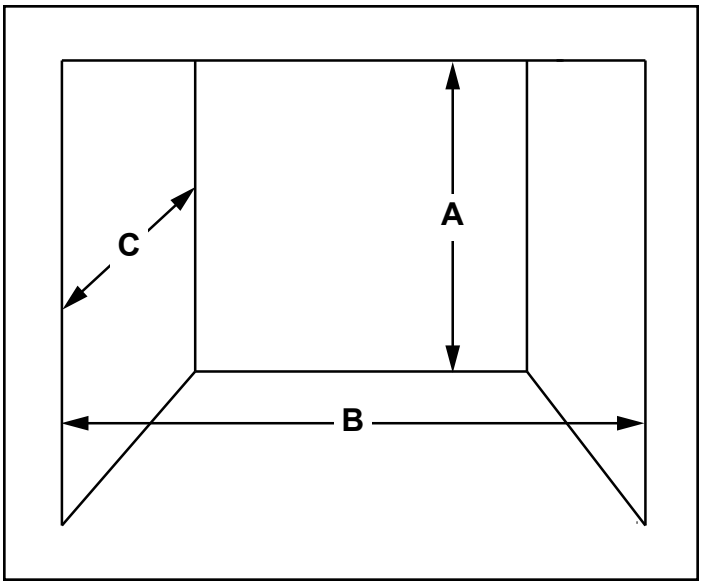


Figure 12.1

		Minimum*		Maximum	
		Inches	**Millimeters**	**Inches**	**Millimeters**
A	Height	43	1092	n/a	n/a
B	Width	40	1016	n/a	n/a
C	Depth	n/a	n/a	36	914
D	To Side Wall	6	152	n/a	n/a
*All minimums listed are to a combustible surface.					

NOTE:
- Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY.
- Illustrations/diagrams are not drawn to scale.
- Actual installation may vary due to individual design preference.

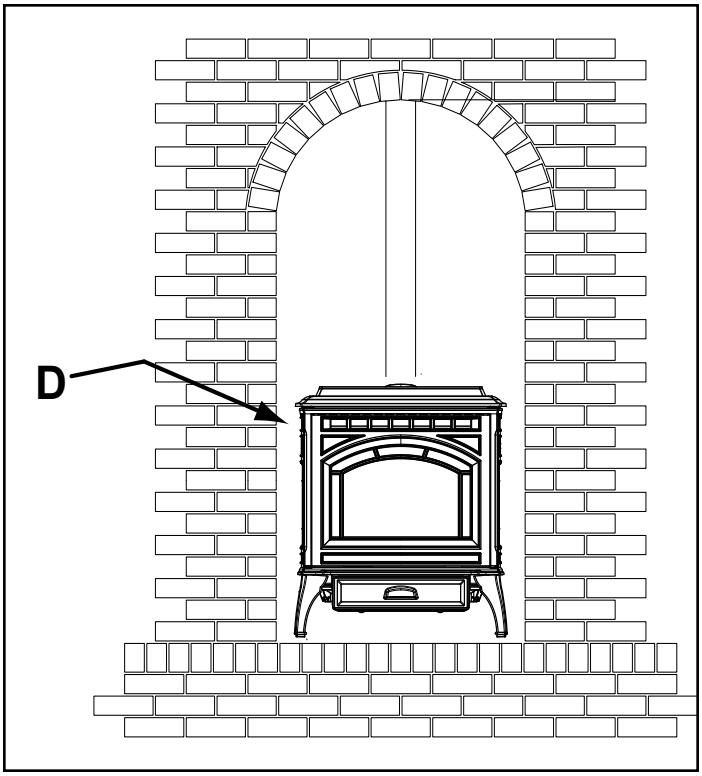
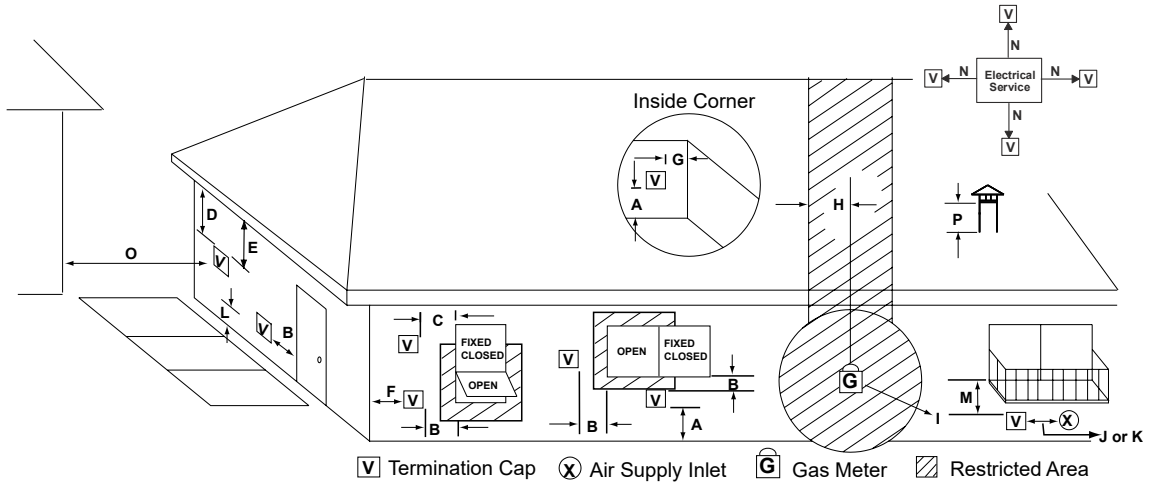


Figure 12.2

4 Vent Information

A. Venting Termination Minimum Requirements



All minimum clearances are listed with an Outside Air Kit (OAK) installed, unless otherwise noted in table below.

A	12 in.	Above Finish Grade (the grade surface must be a non-combustible material
B	12 in. 48 in. no OAK	Open door or window: below or to the side
B	12 in.	Open door or window: above
C	6 in.	Permanently closed window: above, below or to the side
D	18 in. 36 in. no OAK	Vertical clearance to a ventilated soffit located above the terminal within a horizontal distance of 2 ft from the center-line of the terminal
E	12 in.	Clearance to unventilated soffit
F	12 in.	Clearance to outside corner
G	12 in.	Clearance to inside corner
H	36 in.	Above gas meter/regulator measured from horizontal center-line of regulator
I	36 in. USA 72 in. Canada	Clearance to service regulator vent outlet
J	12 in. 48 in. no OAK	Clearance to non-mechanical air supply inlet to the building or the combustions air inlet to any other appliance
K	10 ft horizontal 3 ft vertical	Clearance to mechanical air supply
L	7 ft.	Above paved sidewalk, paved driveway located on **public** property
M	12 in.	Under an open veranda, porch, deck or balcony
N	See Note below*	Electric service: above, below or to the side (location must not obstruct or interfere with access)
O	24 in.	Adjacent building, fences and protruding parts of the structure
P	12 in.	Clearance above roof line for vertical terminations

***NOTE:** Consult local building, fire officials or authorities having jurisdiction. Local codes or regulations may require different clearances.

24 in.	Above grass, top of plants, wood or any other combustible
12 in. 36 in. no OAK	Clearance from any forced air intake of other appliance
12 in.	Clearance horizontally from combustible wall
15 in.	Vented directly through a wall, minimum length of horizontal pipe
6 in. horizontal 12 in. vertical	Minimum horizontal or vertical terminations must protrude from wall

NOTICE: Termination must exhaust above air inlet elevation.

- It is recommended that at least 60 inches (1.52m) of vertical pipe be installed when appliance is vented directly through a wall. This will create a natural draft, which will help prevent the possibility of smoke or odor venting into the home during a power outage.
- It will also keep exhaust from causing a nuisance or hazard by exposing people or shrubs to high temperatures.
- The safest and preferred venting method is to extend the vent vertically through the roof or above the roof.

NOTICE: Do NOT Terminate Vent:

- In any location that will allow flue gases or soot from entering or staining the building.
- In any location which could create a nuisance or hazard.
- In any enclosed or semi-enclosed area such as a carport, garage, attic, crawl space, under a sun deck or porch, narrow walkway.
- Closely fenced area, or any location that can build up a concentration of fumes such as a stairwell, covered breezeway, etc.

B. Avoiding Smoke and Odors

Negative Pressure, Shut-Down and Electrical Power Failure

To reduce the probability of back-drafting or burn-back in the pellet appliance during power failure or shut down conditions, it must be able to draft naturally without exhaust blower operation.

Negative pressure in the house will resist this natural draft if not accounted for in the pellet appliance installation.

Heat rises in the house and leaks out at upper levels. This air must be replaced with cold air from outdoors which flows into lower levels of the house.

Vents and chimneys into basements and lower levels of the house can become the conduit for air supply and reverse under these conditions.

Outside Air

An outside air kit (OAK-3) is recommended in all installations and must be ordered separately.

Per national building codes, consideration must be given to combustion air supply to all combustion appliances. Failure to supply adequate combustion air for all appliance demands may lead to back drafting of those and other appliances.

When the appliance is roof vented (strongly recommended):

- The air intake is best located on the exterior wall oriented towards the prevailing wind direction during the heating season.

When the appliance is side-wall vented:

- The air intake is best located on the same exterior wall as the exhaust vent outlet and located lower on the wall than the exhaust vent outlet.

The outside air supply kit can supply most of the demands of the pellet appliance, but consideration must be given to the total house demand.

House demand may consume the air needed for the appliance. It may be necessary to add additional ventilation to the space in which the pellet appliance is located.

Consult with your local HVAC professional to determine the ventilation demands for your house.

Vent Configurations

When installing a pellet appliance with a horizontal vent configuration the frequency of power outages should be considered:

- Power outages during operation will cause the appliance to immediately turn off and may create conditions where smoke will back draft into the house. In order to reduce the likelihood of smoke back drafting into the house during a power outage, Hearth and Home Technologies strongly suggests:
  - Installing the pellet venting with a minimum vertical run of 5 feet (1.52m).
  - Installing the outside air kit at least 4 feet (1.22m) below the vent termination.

To prevent soot damage to exterior walls of the house and to prevent re-entry of soot or ash into the house:

- Maintain specified clearances to windows, doors and air inlets, including air conditioners.
- Vents should not be placed below ventilated soffits. Run the vent above the roof.
- Avoid venting into alcove locations.
- Vents should not terminate under overhangs, decks or onto covered porches.
- Maintain minimum clearance of 12 inches (305mm) from the vent termination to the exterior wall. If you see deposits developing on the wall, you may need to extend this distance to accommodate your installation conditions.

CAUTION

- DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVICING ANOTHER APPLIANCE.
- DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

C. Negative Pressure

WARNING

Risk of Asphyxiation!
Negative pressure can cause spillage of combustion fumes and soot

Negative pressure results from the imbalance of air available for the appliance to operate properly. It can be strongest in lower levels of the house.

Causes include:

- Exhaust fans (kitchen, bath, etc.)
- Range hoods
- Combustion air requirements for furnaces, water appliances and other combustion appliances
- Clothes dryers
- Location of return-air vents to furnace or air conditioning
- Imbalances of the HVAC air handling system
- Upper level air leaks such as:
  - Recessed lighting
  - Attic hatch
  - Duct leaks

To minimize the effects of negative air pressure:

- Install the outside air kit with the intake facing prevailing winds during the heating season
- Ensure adequate outdoor air for all combustion appliances and exhaust equipment
- Ensure furnace and air conditioning return vents are not located in the immediate vicinity of the appliance
- Avoid installing the appliance near doors, walkways or small isolated spaces
- Recessed lighting should be a “sealed can” design
- Attic hatches weather stripped or sealed
- Attic mounted duct work and air handler joints and seams taped or sealed

D. Draft

Draft is the pressure difference needed to vent an appliance successfully. When an appliance is drafting successfully, all combustion byproducts are exiting the home through the chimney.

Install through the warm airspace enclosed by the building envelope. This helps to produce more draft, especially during lighting and die-down of the fire.

Considerations for successful draft include:

- Preventing negative pressure
- Location of appliance and chimney

NOTICE: Hearth & Home Technologies assumes no responsibility for the improper performance of the chimney system caused by:

- Inadequate draft due to environmental conditions
- Down drafts
- Tight sealing construction of the structure
- Mechanical exhausting devices

E. Chimney and Exhaust Connection

1. **Chimney & Connector:** Use 3 or 4 inch (76-102mm) diameter type “L” or “PL” venting system. It can be vented vertically or horizontally.

NOTE: The appliance exhaust outlet is designed to accommodate 3 inch venting. Use of 4 inch venting requires the use of a 3-to-4 inch exhaust vent increaser in addition to any other venting components needed, sold separately.

2. **Mobile Home:** Approved for all Listed pellet vent. If using the 3 inch (76mm) vertical Top Vent Adapter Kit or the 3 to 6 inch (76-152mm) Top Vent Offset Adapter, use Listed double wall flue connector. A Quadra-Fire Outside Air Kit (OAK-3) must be used with manufactured home installations.
3. **Residential:** The 3 inch (76mm) vertical Top Vent Adapter Kit and the 3 to 6 inch (76-152mm) Top Vent Offset Adapter are tested to use 24 gauge single wall flue connector or Listed double wall flue connector to Class A Listed metal chimneys, or masonry chimneys meeting International Residential Code standards for solid fuel appliances.
4. **INSTALL VENT AT CLEARANCE SPECIFIED BY THE VENT MANUFACTURER.**
5. Seal exhaust venting system to the unit with High Temp 500ºF RTV silicone sealant. Secure the venting system to the unit with at least (3) screws. All pellet vent pipe must be secured together either by means provided by the pipe manufacturer or by (3) screws at each joint
6. DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS APPLIANCE.
7. DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

NOTE: Follow venting manufacturers recommendations for sealing pipe joints.

WARNING

USE ONLY RECOMMENDED VENTING COMPONENTS; OTHERWISE MAKESHIFT PARTS MAY RESULT IN PROPERTY DAMAGE, PERSONAL INJURY, OR DEATH.

F. Equivalent Feet of Pipe

The table below can help you calculate the equivalent feet of pipe which is a method used to determine pellet vent size (**Figure 16.1).**

WARNING

Vent surfaces get HOT, can cause burns if touched. Non-combustible shielding or guards may be required.

Example of 3 Elbow - Rear Vent Termination Calculation

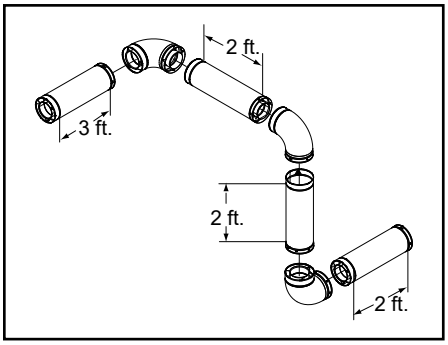


Figure 16.1

Pellet Venting Component	# of Elbows	Feet of Pipe	Multiplied By	Equivalent Feet	Components Equivalent Feet
90° Elbow or Tee	3		X	5	15
45° Elbow			X	3	
Horizontal Pipe		7	X	1	7
Vertical Pipe		2	X	0.5	1
				Total Equivalent Feet	23

Table 16.1

NOTE: This is a generic example and is not intended to represent any specific fuel type.

G. Pipe Selection Chart

The chart will help you in determining proper venting size according to the equivalent feet of pipe calculated previously and the altitude above sea level of this installation (**Figure 16.2).**

1. Locate the calculated equivalent feet of pipe on the vertical left side of the chart.
2. Move to the right horizontally on the chart until you reach your altitude above sea level.
3. If you fall below the diagonal line, 3 or 4 inch (76 to 102mm) pipe may be used.
4. If it is anywhere above the diagonal line, a 4 inch (102mm) diameter pipe is required.

NOTICE: A 90° elbow is 5 times as restrictive to the flow of exhaust gases under positive pressure as 1 foot (305mm) of horizontal pipe. A foot of horizontal pipe is twice as restrictive as a foot of vertical pipe.

WARNING

Risk of Fire!

- Only LISTED venting components may be used.
- NO OTHER vent components may be used.
- Substitute or damaged vent components may impair safe operation.

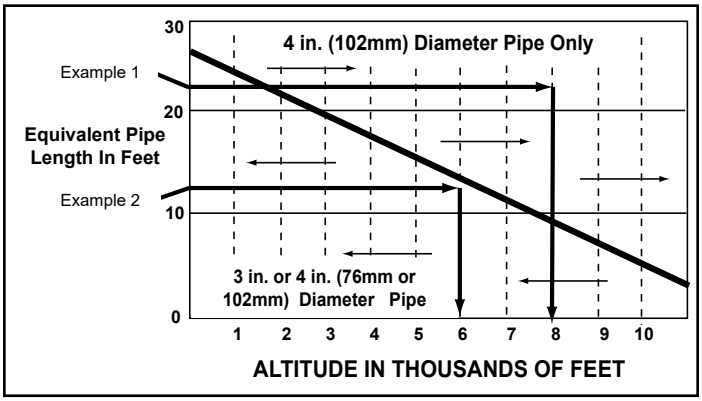


Figure 16.2

Example 1: If the equivalent length of pipe is 23 feet (7m) with altitude of 8,000 feet (2438m) you must use 4 inch (102mm) diameter type “L” or “PL” vent.

Example 2: If the equivalent length of pipe is 12 feet (3.7m) with altitude of 6,000 feet (1829m) you may use 3 or 4 inch (76 to 102mm) diameter type “L” or “PL” vent.

WARNING

Risk of Injury or Property Damage.

- Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.
- Refer to the owner’s information manual provided with this appliance.
- For assistance or additional information consult a qualified installer, service agency or your dealer.

5 Venting Systems

A. Through The Wall

Horizontal termination cap must be a minimum of 6 inches. (152mm) from the wall. Approved for mobile home installations. Must use 3 or 4 inch (76-102mm) “L” or “PL” Listed pellet venting or Listed double wall pipe and a Quadra-Fire Outside Air Kit in mobile homes.

CAUTION

➔ DO NOT DOWNWARD VENT. The following may occur:

- The appliance will not vent properly
- Smoke spillage in the house
- Excessive sooting

NOTE: In Canada, where passage through a wall or partition of combustible construction is desired, the installation shall conform to **CAN/CSA-B365**

NOTICE: Please note that while the minimum clearance for the termination cap is 6 inches (152mm) there is the possibility of soot build-up around the termination area. If this occurs we suggest to move the termination further away from the house to prevent it.

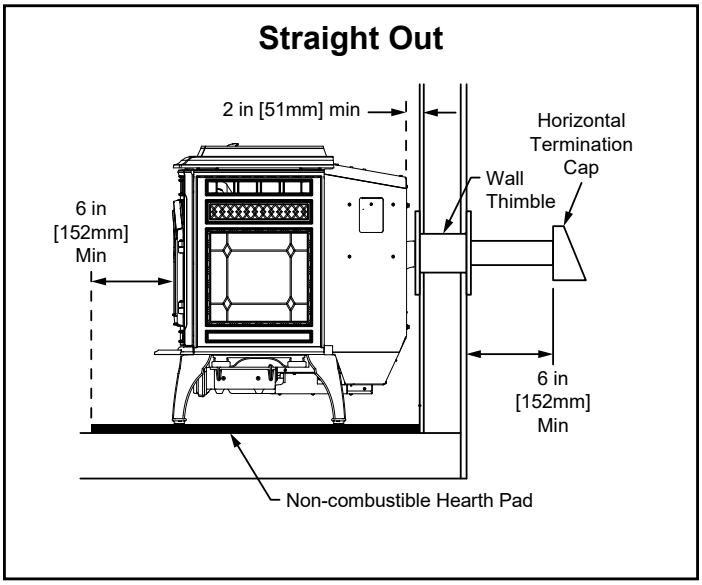


Figure 17.1

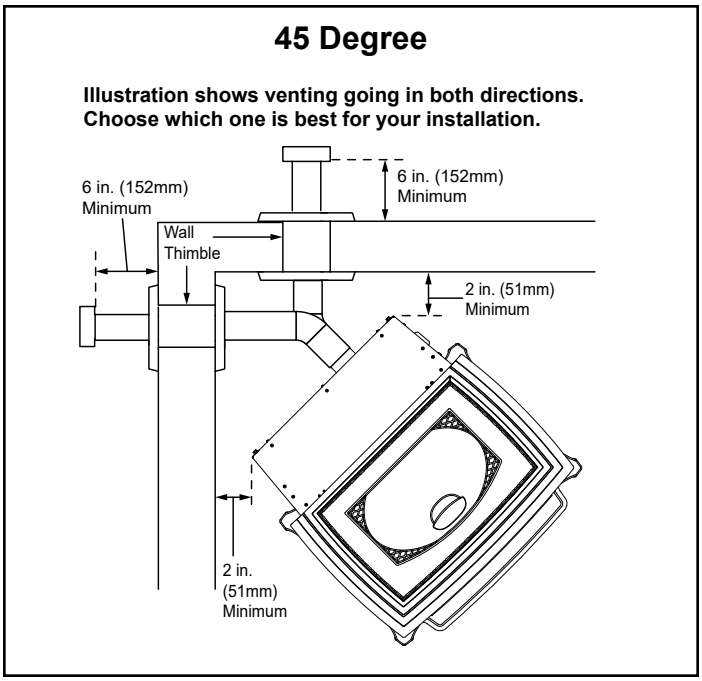


Figure 17.2

B. Vertical into Existing Class A Chimney

We recommend a minimum of 60 inches (1524mm) vertical, however above the eave is preferred.

All three installations are approved for mobile home installations. Must use 3 or 4 inch (76 to 102mm) “L” or “PL” Listed pellet venting or Listed double wall pipe and Quadra-Fire Outside Air Kit in mobile homes. Single wall pipe is approved for residential installations only.

***NOTE:** Clearance to combustibles are for standard pellet pipe. If pellet pipe manufacturer allows reduced clearances to their pipe, reduced clearances are allowed.

NOTE: A chimney connector shall not pass through an attic or roof space, closet or similar concealed space, or a floor or ceiling.

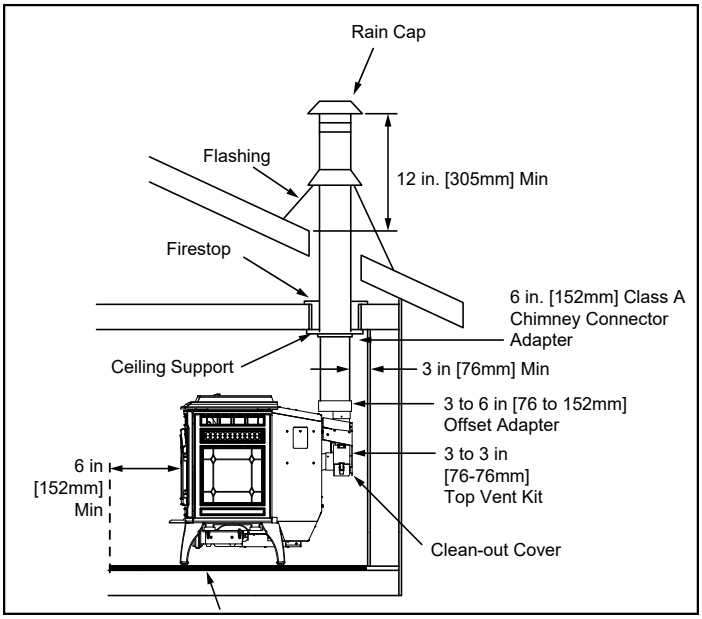


Figure 18.1

C. Through The Wall & Vertical - Exterior

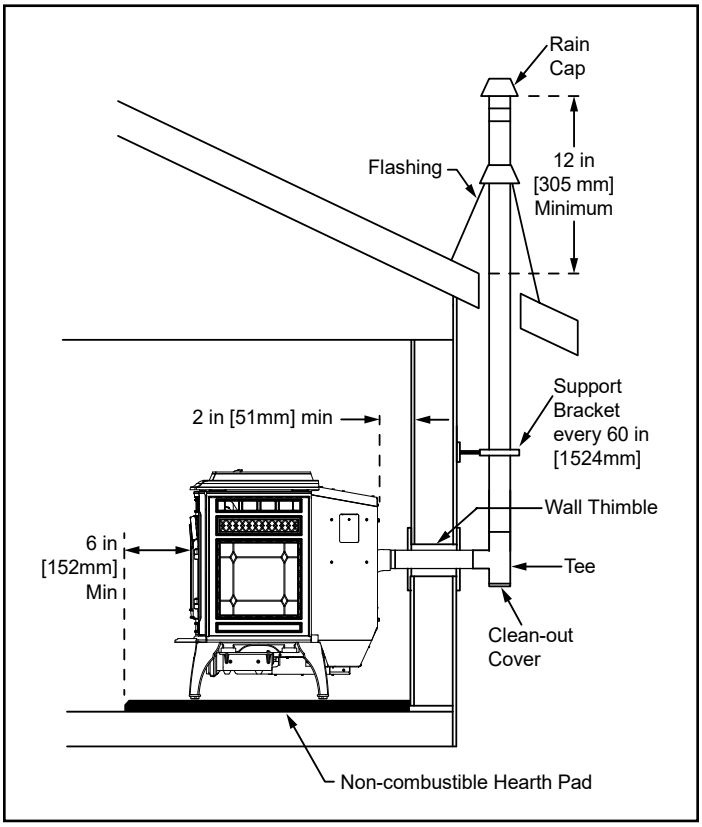


Figure 18.2

D. Vertical - Interior - Typical Installation

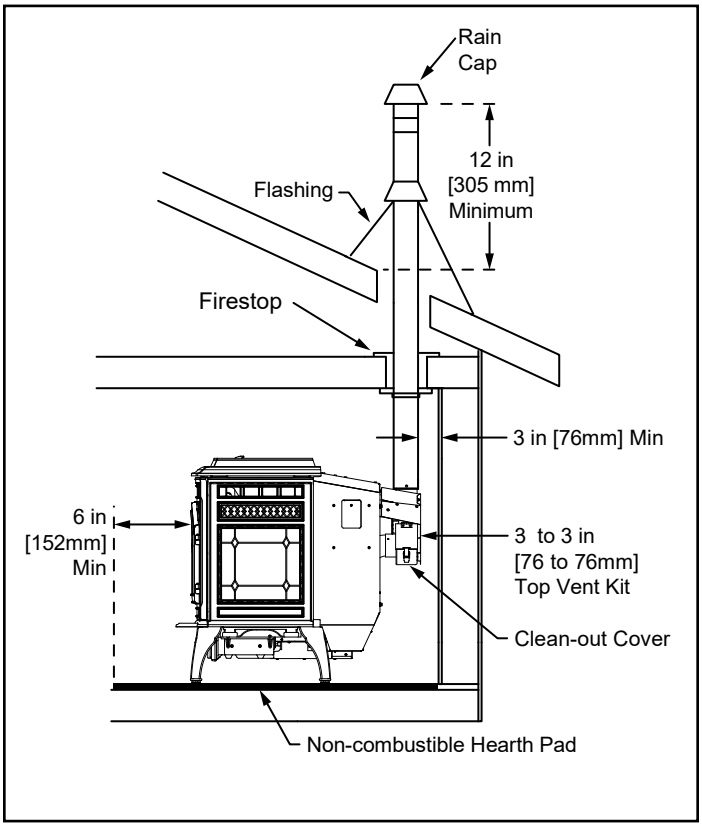


Figure 18.3

E. Masonry

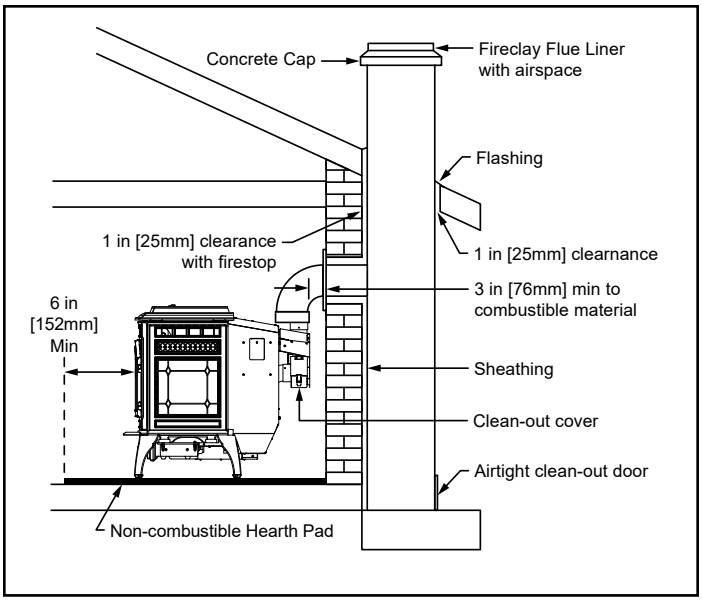


Figure 19.1

F. Alternate Masonry

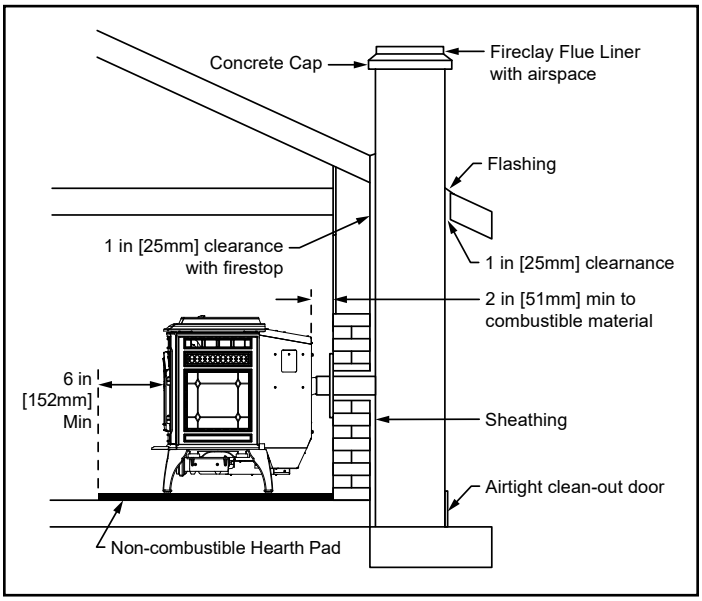


Figure 19.2

WARNING

Fire Risk.

Inspection of Chimney:

- Masonry chimney must be in good condition.
- Meets minimum standard of **NFPA 211**
- Factory-built chimney must be a minimum 6 inch (152mm) **UL103 HT**.

6 Appliance Set-Up

A. Leg Leveling System

1. Thread Allen bolts through nuts until flush (**Figure 20.1).** The Allen bolts and nuts are included in the component pack inside the appliance firebox.
2. Slide assembled nuts and bolts into slots on legs with the nuts on the bottom (**Figure 20.2)**. Use a 5/32 in. (3.96mm) Allen wrench to adjust legs up and down to desired level (**Figure 20.3).**

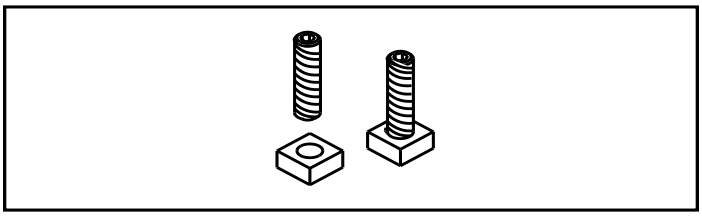


Figure 20.1

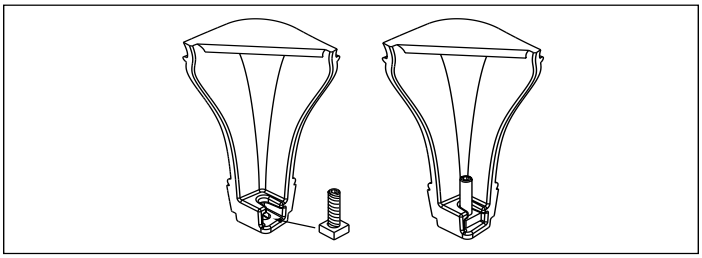


Figure 20.2

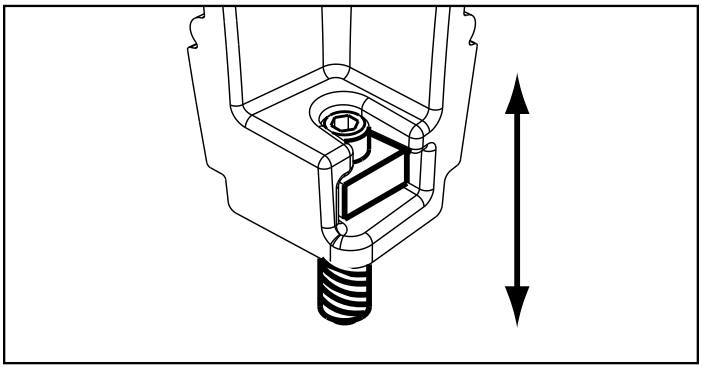


Figure 20.3 - Bolt fully extended

B. Outside Air Kit Instructions

CAUTION

Never draw outside combustion air from:

- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

Included in Kit: 2 wire ties, 1 collar assembly, 1 termination cap assembly, 1 trim ring, fasteners.

NOTE: 3 INCH ALUMINUM FLEX PIPE NOT INCLUDED.

Tools Needed: Phillips head screw driver; wire cutters hole saw or jig saw.

1. Measure distance from floor to air vent opening in appliance and mark location on wall.
   - Use saw to cut opening in wall. Cut a 3-1/2 to 4 inch (89-102mm) opening on inside wall and a 4 to 4-1/2 inch (102-114mm) opening on outside of house.
2. Use wire tie to secure flex pipe to collar assembly.
3. Slide trim ring over flex pipe and run pipe through wall.
4. Attach flex pipe (not supplied) to outside termination cap with second wire tie.
5. Secure termination cap to outside surface.
6. Secure trim ring to interior wall.

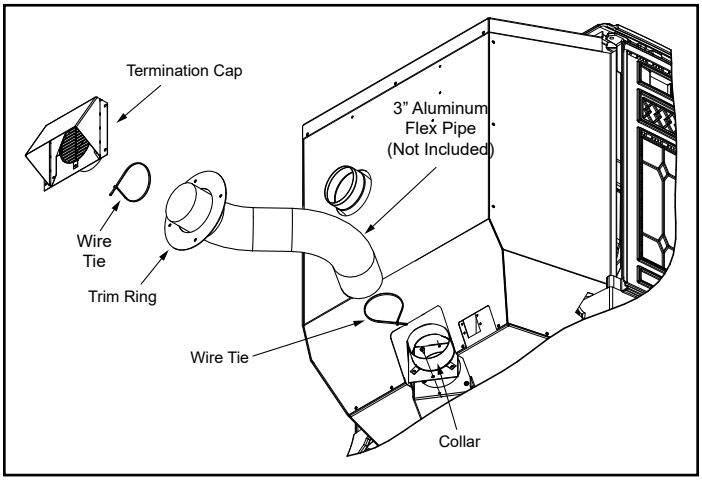


Figure 20.4 - OAK exploded view

C. Top Vent Adapter Installation

3 to 3 inch (76-76mm) Top Vent Adapter

3 to 6 inch (76-152mm) Top Vent Offset Adapter

Installing the Top Vent Adapter

1. Put a layer of high temperature silicone on the 3 inch (76mm) exhaust outlet. Do not put silicone inside of pipe **(Figure 21.1)**.
2. Slide the top vent adapter onto the rear exhaust outlet and adjust the assembly to a vertical position until the top of the flue outlet is centered and is in a level position **(Figure 21.1)**.
3. Align slot on left of adapter with hole in the back of the appliance and secure with screw. You may drill out the hole using #26 drill bit provided but only if needed **(Figure 21.2)**.
4. Install the 5 mounting screws, 3 on the left and 2 on the right.
5. Drill 2 holes with #26 drill bit through the rear exhaust outlet using the 2 holes already in the short horizontal pipe in the top vent adapter as a guide. Install the screws.
6. Install the vent pipe into the top vent adapter (be sure to silicone all joints). To use an existing 6 inch (152mm) vent system, install the 3 to 6 in (76-152mm) offset adapter before installing vent pipe.
7. To clean top vent adapter, open clean-out cover and remove any debris build-up **(Figure 21.2)**.

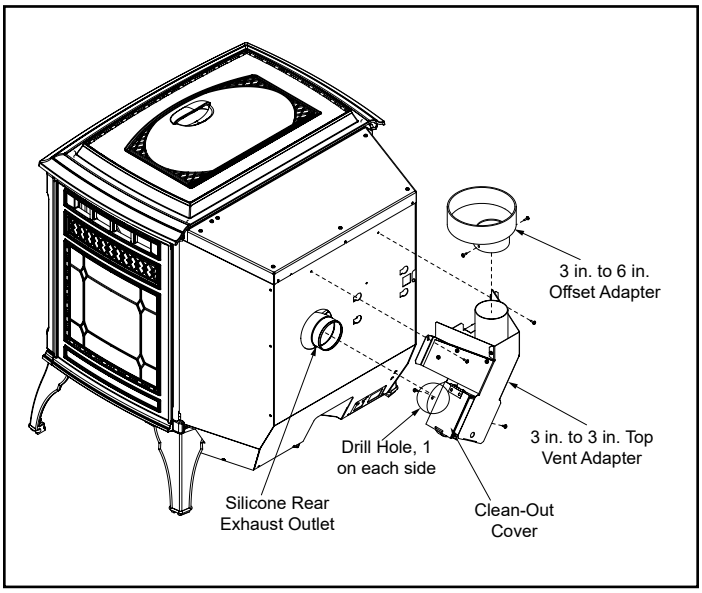


Figure 21.1

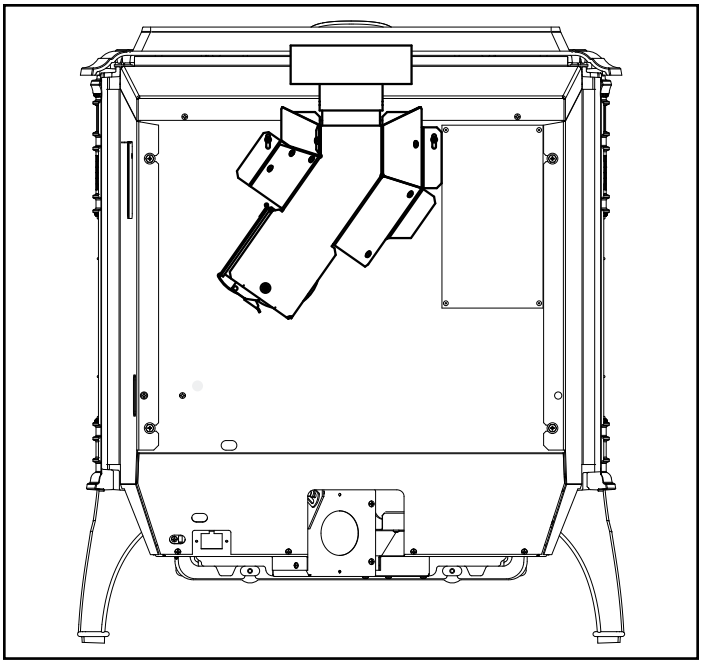


Figure 21.2

D. Rear Vent & Rear Vent to Top Vent Adapter

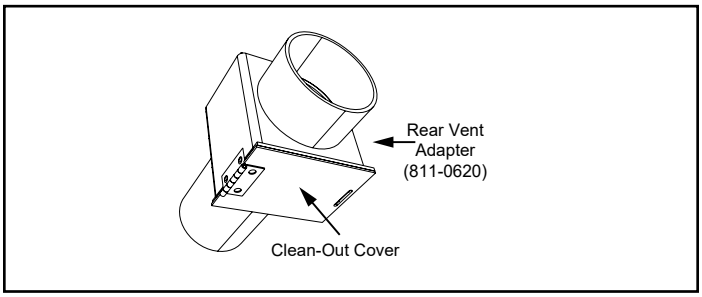


Figure 21.3 - Rear Vent Adapter

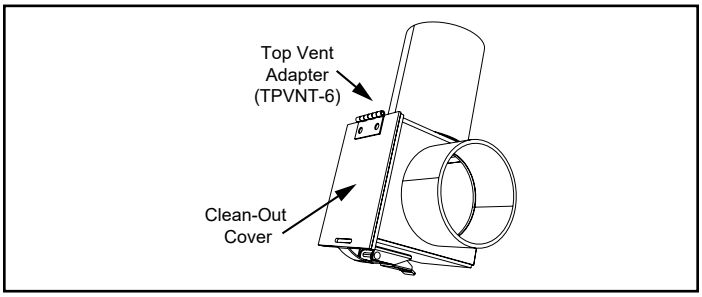


Figure 21.4 - Rear to Top Vent Adapter - 90°

1. Put a layer of high temperature silicone on the 3 inch (76mm) exhaust outlet. Do not put silicone inside of pipe **(Figure 21.1)**.
2. Slide the adapter onto the rear exhaust outlet and adjust the assembly to the appropriate position.
3. Install the vent pipe into the adapter.

E. Optional Log Set Placement Instructions

2 PIECE LOG SET INSTALLATION

1. Place the left log as shown. There are 2 indentations in the bottom of the log to fit over the screw heads in the firebox **(Figures 22.1 and 22.2)**.
2. Place the right log in front of the 2 screw heads in the firebox **(Figures 22.3 and 22.4)**.

CAUTION

Logs are FRAGILE. Use extreme care when handling or cleaning logs.

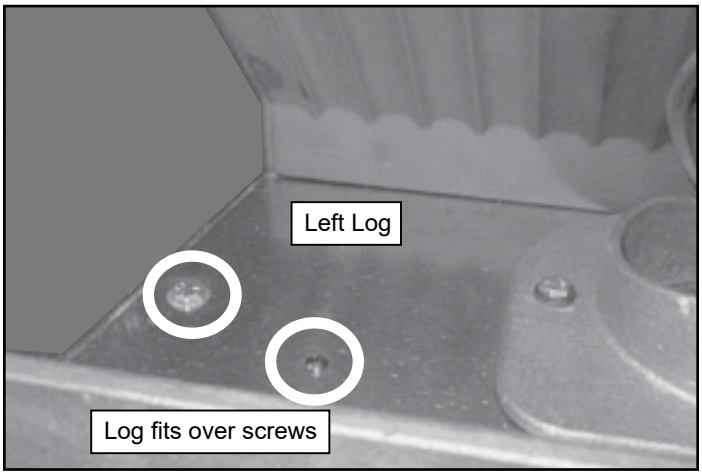


Figure 22.1

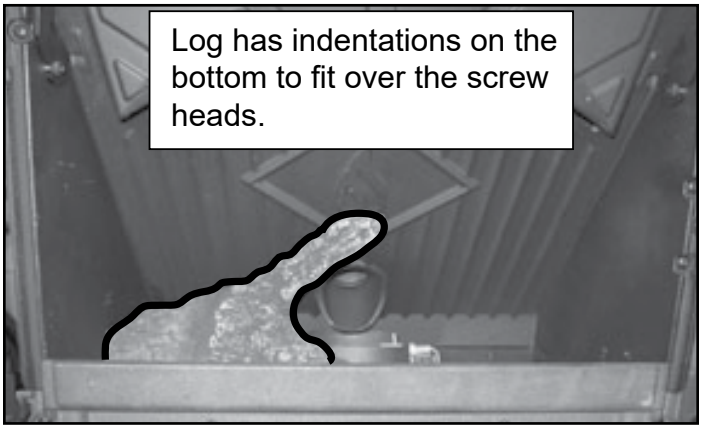


Figure 22.2

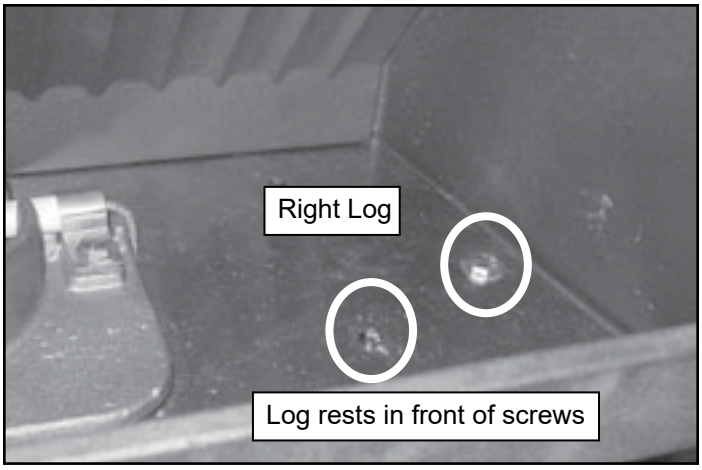


Figure 22.3

Figure 22.4

NOTICE: Due to the abrasive nature of a pellet appliance fire, the logs are not covered under warranty. Any placement variation other than shown here can cause excessive heat and shall void the appliance warranty.

F. Thermostat Installation and Operation

The kit comes with a programmable wall thermostat and 25' of thermostat wire. If you need to run more than 25' make sure you use a continuous strand of 18 to 22 gauge thermostat wire. For optimum performance your thermostat should be:

- Mounted on an inside wall, approximately 5' above the floor
- Do not locate where there is poor air circulation such as in a corner, alcove, behind doors, bookcase or other objects
- Located away from drafts, direct sunlight, above a lamp, television, radiator, a wall next to a window, or direct heat from the appliance
- Avoid damp environments as this can lead to corrosion that may shorten thermostat life
- If painting or construction work around, cover the thermostat completely or wait until work is complete before installation.

CAUTION

Shock hazard.

- Do NOT remove grounding prong from plug.
- Plug directly into properly grounded 3 prong receptacle.
- Route cord away from appliance.
- Do NOT route cord under or in front of appliance.

1. Separate the body of the thermostat from the mounting plate by gently pulling the two pieces apart **(Figure 23.1)**

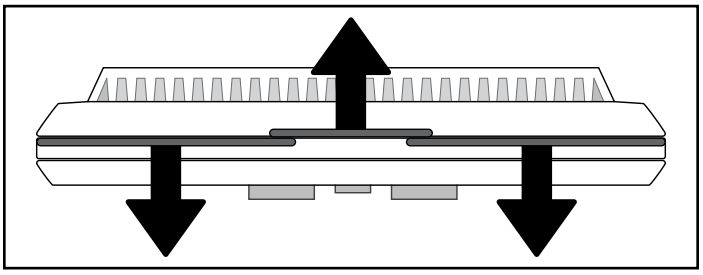


Figure 23.1

2. Use a drill with either a 3/16 drill bit for drywall or a 7/32 drill bit for plaster drill holes.
3. Using a hammer tap in wall anchors.
4. Route the wires through the opening in the base plate, and hold the base against the wall while aligning up to the holes. Attach base plate using a Phillips head screwdriver and two screws.
5. Connect your thermostat wire to the W and R terminals **(Figure 23.2)**.

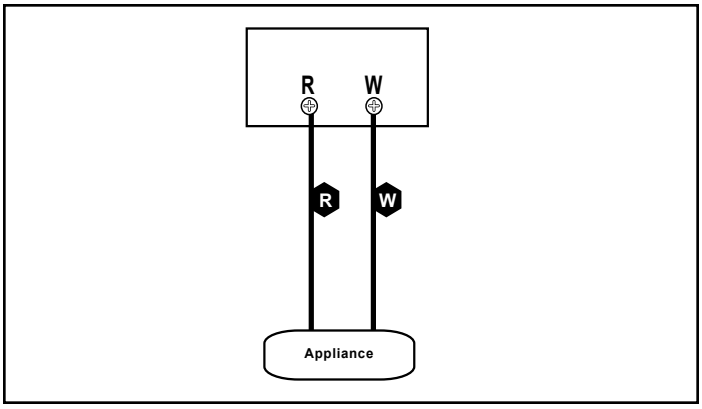


Figure 23.2

NOTE: Ensure bare wire ends are held ALL the way into the terminal block while the screws are being tightened.

6. There are two **AA ALKALINE ONLY** batteries already installed into the thermostat; to activate, remove black plastic tab that is located inside the battery compartment.

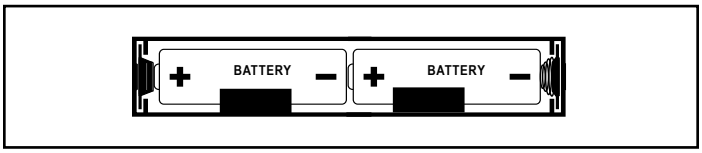


Figure 23.3

7. Snap the thermostat to the base plate.

There is a 4 screw terminal block located on the back lower left corner of the appliance directly above the power cord inlet. The center 2 screws are for the thermostat wires.

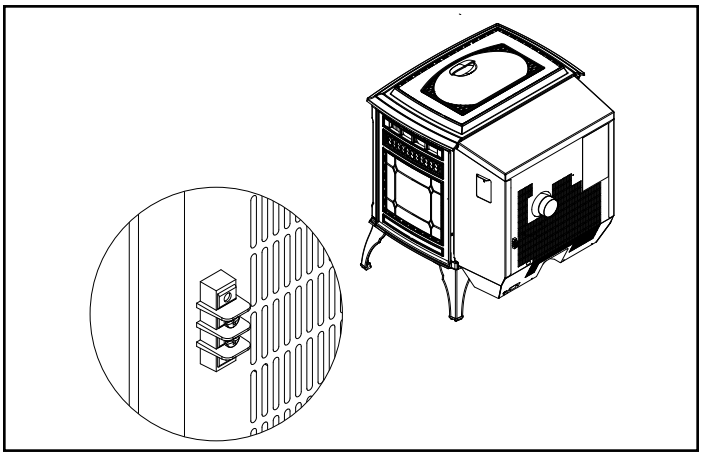


Figure 23.2

7 Mobile Home Installation

You must use a Quadra-Fire Outside Air Kit for installation in a mobile home.

1. An outside air inlet must be provided for the combustion air and must remain clear of leaves, debris, ice and/or snow. It must be unrestricted while the appliance is in use to prevent room air starvation which causes smoke spillage. Smoke spillage can also set off smoke alarms.
2. The combustion air duct system must be made of metal. It must permit zero clearance to combustible construction and prevent material from dropping into the inlet or into the area beneath the dwelling and contain a rodent screen.
3. The appliance must be secured to the mobile home structure by bolting it to the floor (using lag bolts). Use the same holes that secured the appliance to the shipping pallet.
4. The appliance must be grounded with #8 solid copper grounding wire or equivalent, terminated at each end with an NEC approved grounding device.
5. Refer to Clearances to Combustibles and floor protection requirements on page 10 for listings to combustibles and appropriate chimney systems.
6. Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
7. Follow the chimney manufacturer's instructions when installing the vent system for use in a mobile home.
8. Installation shall be in accordance with the **Manufacturers Home & Safety Standard (HUD) CFR 3280, Part 24**.

PART NUMBER: OAK-3

WARNING

Products of combustion generate carbon monoxide and different fuels generate different levels. Carbon monoxide

- Only use approved fuels in this appliance.
- Always keep door shut during operation. Operating this appliance with doors open can allow CO to leak into the home.

CO can kill you before you are aware it is in your home. At lower levels of exposure, CO causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea and fatigue. The effects of CO exposure can vary greatly from person to person depending on age, overall health and the concentration and length of exposure.

CAUTION

THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL AND CEILING/ROOF MUST BE MAINTAINED

Do NOT cut through:

- Floor joist, wall, studs or ceiling trusses.
- Any supporting material that would affect the structural integrity.

This appliance is to be connected to a factory-built chimney conforming to **CAN/ULC-S629**, Standard for 650°C Factory-Built Chimneys.

For removal of the chimney for mobile home transportation, contact the proper transportation officials.

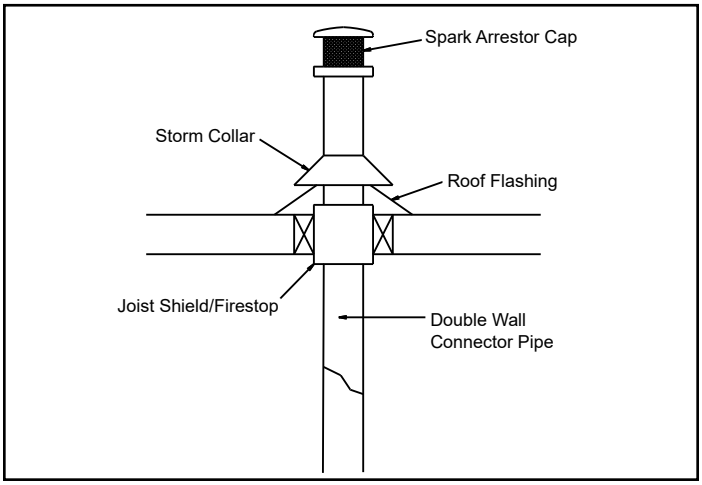


Figure 24.1

CAUTION

Never draw outside combustion air from:

- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

WARNING

It is critical to have a working smoke detector installed in the home of appliance operation.

- Smoke alarms that are properly installed and maintained play a vital role in reducing fire deaths and injuries. Having a working smoke alarm reduces the chance of fire related injuries..

WARNING

NEVER INSTALL IN A SLEEPING ROOM.

8 Reference Materials

A. Service and Maintenance Log

Date of Service	Performed By	Description of Service

Date of Service	Performed By	Description of Service

B. Accessories List

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
	Wing Thumb Screw 8-32 X 1/2	Pkg of 24	7000-223/24	**Y**
	Wire Clip	Pkg of 10	7000-400/10	**Y**
ACCESSORIES				
	Collar, Offset, Top Vent		812-3570	
	Damper, 3 Inch - Tall Vertical Installs Only		PEL-DAMP3	**Y**
	Damper, 4 Inch - Tall Vertical Installs Only		PEL-DAMP4	
	Log Set, (Sold as Set only)	2 Pc	LOGS-60-AE-B	
	Outside Air Kit		OAK-3	
	Top Vent Adapter		TPVNT-3	
	Wired Thermostat Kit		SRV7080-098	**Y**

Additional service part numbers appear on following page.

QUADRA-FIRE®

NOTHING BURNS LIKE A QUAD

CONTACT INFORMATION

Hearth & Home Technologies
352 Mountain House Road
Halifax, PA 17032
Division of HNI INDUSTRIES

**Please contact your Quadra-Fire dealer with any questions or concerns.
For the number of your nearest Quadra-Fire dealer
log onto www.quadrafire.com**

CAUTION

DO NOT DISCARD THIS MANUAL

- Important operating and maintenance instructions included.
- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation of this appliance.

We recommend that you record the following pertinent information for your heating appliance.

Date purchased/installed:	
Serial Number:	Location on appliance:
Dealership purchased from:	Dealer Phone: 1( ) -
Notes:	

This product may be covered by one or more of the following patents: (United States) 5341794, 5263471, 6688302, 7216645, 7047962 or other U.S. and foreign patents pending.

HEARTH&HOME technologies™

Owner's Manual
Operation & Care

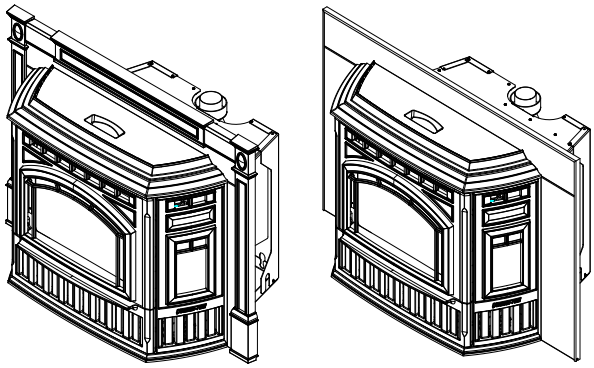
INSTALLER: Leave this manual with party responsible for use and operation.
OWNER: Retain this manual for future reference.

Contact your dealer with questions regarding installation, operation or service.

QUADRA-FIRE®

TREKKER INSERT PELLET APPLIANCE

MODEL(S):
TREKKERI-MBK
TREKKERI-PMH
TREKKERI-TWL



Pellet Fuels Institute

⚠ CAUTION

Check building codes prior to installation.

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult local building, fire officials or authorities having jurisdiction about restrictions, installation inspection, and permits.

Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies recommends HHT Factory Trained or NFI certified professionals.

hearthED FACTORY TRAINING Fuel Your Fire

NFI NATIONAL FIREPLACE INSTITUTE® A CERTIFICATION AGENCY

For Units Post Serial # HF3166001

⚠ WARNING

If the information in these instructions is not followed exactly, a fire could result causing property damage, personal injury, or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not over fire - If appliance or chimney connector glows, you are over firing. Over firing will void your warranty.
- Comply with all minimum clearances to combustibles as specified. Failure to comply may cause house fire.

⚠ WARNING

HOT SURFACES!

Glass and other surfaces are hot during operation AND cool down. Hot glass will cause burns.

- Do not touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures
- High temperatures may ignite clothing or other flammable materials.
- Keep clothing, furniture, draperies and other flammable materials away.

⚠ CAUTION

Tested and approved for wood pellets only. Burning of any other type of fuel voids your warranty.

NOTE: To obtain a French translation of this manual, please contact your dealer or visit www.quadrafire.com

REMARQUE : Pour obtenir une traduction française de ce manuel, s'il vous plaît contacter votre revendeur ou visitez www.quadrafire.com

Congratulations

and Welcome to the Quadra-Fire Family!

NOTE: Clearances may only be reduced by means approved by the regulatory authority having jurisdiction

A. Sample of Serial Number / Safety Label

LOCATION: Behind right cast side panel

Test Lab & Report No.

Serial No.

Model Number

Mfg. Date

Safety Alert Key:

- **DANGER!** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- **WARNING!** Indicates a hazardous situation which, if not avoided could result in death or serious injury.
- **CAUTION!** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE:** Indicates practices which may cause damage to the appliance or to property.

TABLE OF CONTENTS

➔ = Contains updated information

B. Warranty Policy

Hearth & Home Technologies LLC

LIMITED LIFETIME WARRANTY

Hearth & Home Technologies LLC ("HHT") extends the following warranty for HHT gas, wood, pellet and electric hearth appliances (each a "Product" and collectively, the "Product(s)") and certain component parts set forth in the table below ("Component Part(s)") that are purchased from a HHT authorized dealer or distributor.

WARRANTY COVERAGE:

HHT warrants that the Products and their Component Parts will be free from defects in materials and workmanship for the applicable period of Warranty coverage set forth in the table below ("Warranty Period"). If a Product or Component Parts are found to be defective in materials or workmanship during the applicable Warranty Period, HHT will, at its option, repair the applicable Component Part(s), replace the applicable Component Part(s), or refund the purchase price of the applicable Product(s). The maximum amount recoverable under this Warranty is limited to the purchase price of the Product. This Warranty is transferable from the original purchaser to subsequent owners, but the Warranty Period will not be extended in duration or expanded in coverage for any such transfer. This Warranty is subject to conditions, exclusions, and limitations as described below.

WARRANTY PERIOD:

Warranty coverage begins at the date of installation. In the case of new home constructions, Warranty coverage begins on the date of first occupancy of the dwelling or six months after the sale of the Product(s) by an independent, authorized HHT dealer or distributor, whichever occurs earlier. However, the Warranty coverage shall commence no later than 24 months following the date of Product shipment from HHT, regardless of the installation or occupancy date.

The term "Lifetime" in the table below is defined as: 20 years from the beginning date of warranty coverage for gas appliances, and 10 years from the beginning date of warranty coverage for wood and pellet appliances. These time periods reflect the minimum expected useful lives of the designated Component Parts under normal operating conditions.

Warranty Period		**HHT Manufactured Appliances and Venting**					
Component Parts	Labor	Gas	Pellet	Wood	Electric	Venting	Component Parts Covered by this Warranty
1 Year		X	X	X		X	All parts including handles, external enameled components and other material except as covered by Warranty Conditions, Warranty Exclusions, and Warranty Limitations listed
2 Years					X		All parts except as covered by Warranty Conditions, Warranty Exclusions, and Warranty Limitations listed
2 years			X	X			Igniters, Auger Motors, Electronic Components, and Glass
		X					Electrical components limited to modules, remotes/wall switches, valves, pilots, blowers, junction boxes, wire harnesses, transformers and lights (excluding light bulbs)
		X		X			Molded Refractory Panels, Glass Liners
3 years			X				Firepots, burnpots, mechanical feeders/auger assemblies
5 years	1 year	X					Vent Free Burners, Vent Free Logs
			X	X			Castings, Medallions and Baffles
6 years	3 years			X			Catalysts
7 years	3 years		X	X			Manifold tubes, HHT Chimney and Terminations
10 years	1 year	X					Burners, logs and refractory
Limited Lifetime	3 years	X	X	X			Firebox and heat exchanger, FlexBurn® System (engine, inner cover, access cover and fireback)
1 Year	None	X	X	X	X	X	All purchased replacement parts

WARRANTY CONDITIONS:

- Because HHT cannot control the quality of any Products sold by unauthorized sellers, this Warranty only covers Products that are purchased through an HHT authorized dealer or distributor unless otherwise prohibited by law; a list of HHT authorized dealers is available on the HHT branded websites.
- This Warranty is only valid while the applicable Product remains at the site of original installation.
- This Warranty is only valid in the country in which the HHT authorized dealer or distributor that sold the applicable Product is authorized to sell applicable Product.
- Contact your installing distributor or dealer for Warranty service. If the installing dealer or distributor is unable to provide necessary parts, contact the nearest HHT authorized dealer or supplier. Additional service fees may apply if you are seeking Warranty service from a dealer other than the dealer from whom you originally purchased the applicable Product.
- No HHT consumer should bear cost of warranty service or costs incurred while servicing warranty claims (i.e., travel, gas, or mileage) when the service is performed within the terms of this Warranty. Check with your dealer or distributor in advance for any costs to you when arranging a warranty call. Travel and shipping charges for parts are not covered by this Warranty.

WARRANTY EXCLUSIONS:

This Warranty does not cover the following:

- Changes in surface finishes as a result of normal use. As a heating appliance, some changes in color of interior and exterior surface finishes may occur. This is not a flaw and is not covered under the Warranty.
- Damage to printed, plated, or enameled surfaces caused by fingerprints, accidents, misuse, scratches, melted items or other external sources and residues left on the plated surfaces from the use of abrasive cleaners or polishes.
- Repair or replacement of parts that are subject to normal wear and tear during the Warranty Period are not covered. These parts include: paint, wood and pellet gaskets, firebricks, grates, flame guides, batteries and the discoloration of glass.
- Minor expansion, contraction, or movement of certain parts causing noise. These conditions are normal and complaints related to this noise are not covered by this Warranty.
- Damages resulting from: (1) failure to install, operate, or maintain the applicable Product in accordance with the installation instructions, operating instructions, and listing agent identification label furnished with the applicable Product; (2) failure to install the applicable Product in accordance with local building codes; (3) shipping or improper handling; (4) improper operation, abuse, misuse, continued operation with damaged, corroded or failed components, accident, or improperly/incorrectly performed repairs; (5) environmental conditions, inadequate ventilation, negative pressure, or drafting caused by tightly sealed constructions, insufficient make-up air supply, or handling devices such as exhaust fans or forced air furnaces or other such causes; (6) use of fuels other than those specified in the operation instructions; (7) installation or use of components not supplied with the applicable Product or any other components not expressly authorized and approved by HHT; (8) modification of the appliance not expressly authorized and approved by HHT in writing; and/or (9) interruptions or fluctuations of electrical power supply to the applicable Product.
- Non-HHT venting components, hearth connections or other accessories used in conjunction with the applicable Product.
- Any part of a pre-existing fireplace system in which an insert or a decorative gas applicable Product is installed.
- HHT's obligation under this Warranty does not extend to the Product's capability to heat the desired space. Information is provided to assist the consumer and the dealer in selecting the proper Product for the application. Consideration must be given to the Product location and configuration, environmental conditions, insulation and air tightness of the structure.

This warranty is void if:

- The applicable Product has been over-fired, operated in atmospheres contaminated by chlorine, fluorine, or other damaging chemicals. Over-firing can be identified by, but not limited to, warped plates or tubes, deformation/warping of interior cast iron structure or components, rust colored cast iron, bubbling, cracking and discoloration of steel or enamel finishes.
- The applicable Product is subjected to prolonged periods of dampness or condensation.
- There is any damage to the applicable Product due to water or weather damage which is the result of, but not limited to, improper chimney or venting installation.

LIMITATIONS OF REMEDIES AND LIABILITY:

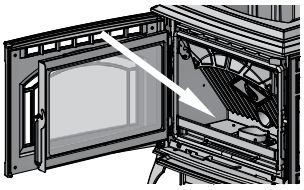
- **EXCEPT TO THE EXTENT PROVIDED BY LAW, HHT MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY SPECIFIED HEREIN. The owner's exclusive remedy and HHT's sole obligation under this Warranty or in contract, tort or otherwise, shall be limited to replacement of the Component Part(s), repair of the Component Part(s), or refund of the original purchase price of the applicable Product(s), as specified above; provided, however, that (i) if HHT is unable to provide replacement of the Component Part(s) and repair of the Component Part(s) is not commercially practicable or cannot be timely made, or (ii) the customer is willing to accept a refund of the purchase price of the applicable Product(s), HHT may discharge all such obligations by refunding the purchase price of the applicable Product. In no event will HHT be liable for any incidental or consequential damages caused by defects in the applicable Product. Some States do not allow the exclusion or limitation of incidental 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 other rights which vary from State to State. THE DURATION OF ANY IMPLIED WARRANTY IS LIMITED TO DURATION OF THE EXPRESSED WARRANTY SPECIFIED ABOVE FOR THE APPLICABLE PRODUCT. Some States do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.**

QUICK START GUIDE

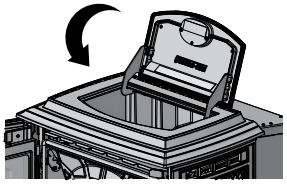
Before you plug in this appliance, follow these instructions

Set Up

1. Empty fire box of component packet and any other debris.



2. Add pellets and close lid.



3. Turn DIAL to OFF
4. Plug in the appliance
   - Exhaust blower will run for about 45 Seconds (wait for it to stop before priming)
   - Green light will start fl ashing
5. Ensure thermostat is connected properly per included instructions.

Prime

1. After the exhaust blower has stopped; quickly turn the dial from OFF to HI two times:

- The LIGHT will turn solid green and pellets will feed. Wait for 2 minutes
- If the LIGHT did not turn solid green:
- Turn dial back to OFF
- Unplug appliance, plug it back in and repeat

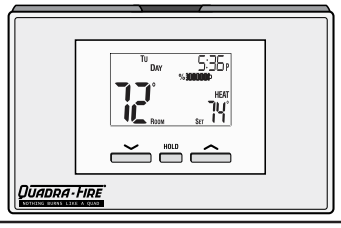
Priming is only needed for first fire or starting fire on empty hopper.
NOTE: The prime function is only required during initial set up of the unit, or after the unit has alarmed out due to an empty hopper. Priming while under normal operating conditions will cause the fire pot to overfill.

Run

1. While thermostat is in RUN mode, the set temperature can be temporarily changed by pressing UP.
2. Choose Setting:

*The temporarily changed set temperature will return to the programmed value stored in memory when start time of the next upcoming scheduled event is reached (MORN, DAY, EVE, OR NITE).

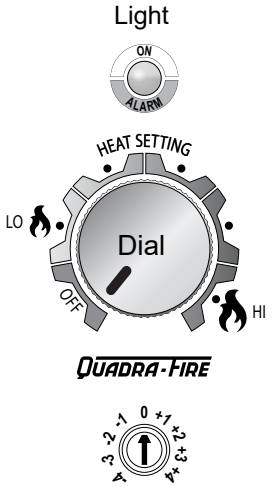
**Appliance will not turn on unless target temperature is a higher temperature than the room temperature.



- LO – HI*
- Green LIGHT will begin flashing and stove will start

It may take as long as 10 minutes to achieve a fire in the fire pot. Turning the knob or thermostat to off during this time will interrupt the startup process.

*For first fire, HHT recommends running on HI for first 30 minutes



Trim
Control Panel

April 05, 2021

1 Important Safety Information

A. Appliance Certification

Model:	Trekker Insert Pellet Appliance
Laboratory:	OMNI Test Laboratories, Inc.
Report No:	061-S-84-2, 0061PS094E
Type:	Solid Fuel Room Appliance, Pellet Fuel Burning Type
Standard:	ASTM E1509-12, ULC-S628-93 and (UM) 84-HUD, Mobile Home Approved.

The Trekker insert is Certified to comply with 2020 particulate emission standards.

This pellet appliance needs periodic inspection and repair for proper operation. It is against federal regulations to operate this pellet appliance in a manner inconsistent with the operating instructions in the owner's manual.

NOTICE: This installation must conform with local codes. In the absence of local codes you must comply with the **ASTM E1509-12, ULC S628-93, (UM) 84-HUD and ULC/ORD-C-1482**.

Approved for ZC fireboxes.

B. BTU & Efficiency Specification

Emissions Report Number:	0061PS094E
EPA Certification Number:	Number: 98-17
EPA Certified Emissions:	0.74 grams per hour
***LHV Tested Efficiency:**	83.2%
****HHV Tested Efficiency:**	77.9%
*****EPA BTU Output:**	12,700 to 39,400 / hr.
******BTU Input:**	16,400 to 50,800 / hr.
Vent Size:	3" or 4" Type "L" or "PL"
Hopper Capacity:	52 lbs.
Fuel	Premium Wood Pellets
*Weighted average LHV (Low Heating Value) efficiency using data collected during EPA emissions tests.	
*Weighted average HHV (High Heating Value) efficiency using data collected during EPA emissions tests.	
***A range of BTU outputs calculated using HHV efficiency and the burn rates from the EPA tests.	
****Based on the maximum feed rate per hour multiplied by approximately 8600 BTU's which is the average BTU's from a pound of pellets.	
‡ Grade of pellet fuel as certified by Pellet Fuels Institute (PFI), ENPlus or CANplus.	

C. Glass Specifications

This appliance is equipped with 5mm ceramic glass. Replace glass only with 5mm ceramic glass. Please contact your dealer for replacement glass.

D. Electrical Rating

115 VAC, 60 Hz, Start 2.9 Amps, Run 2.45 Amps

E. Mobile Home Approved

- This appliance is approved for mobile home installations when not installed in a sleeping room and when an outside combustion air inlet is provided.
- The structural integrity of the mobile home floor, ceiling, and walls must be maintained.
- The appliance must be properly grounded to the frame of the mobile home and use only Listed pellet vent Class “L” or “PL” connector pipe.
- Outside Air Kit (OAK-3) must be installed in a mobile home installation.

F. Sleeping Room

When installed in a sleeping room it is recommended that 3ft of vertical be installed prior to horizontally exiting the room and a smoke/CO alarm be installed in the bedroom. The size of the room must be at least 50ft³ per 1,000 Btu/hr stove input, if the stove exceeds the room size, out air must be installed.

G. California - Prop65

WARNING

This product and the fuels used to operate this product (wood), and the products of combustion of such fuels, can expose you to chemicals including carbon black, which is known to the State of California to cause cancer, and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to: WWW.P65Warnings.ca.gov

WARNING

Fire Risk.
Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with unit).
- Do NOT Over fire - If appliance or chimney connector glows, you are over firing.

Any such action that may cause a fire hazard.

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.

For assistance or additional information, consult a qualified installer, service agency or your dealer.

NOTE: Hearth & Home Technologies, manufacturer of this appliance, reserves the right to alter its products, their specifications and/or price without notice.

2 Operating Instructions

WARNING

Fire Risk.

- Do not operate appliance before reading and understanding operating instructions.
- Failure to operate appliance properly may cause a house fire.

Visit www.quadrafire.com/shopping-tools/videos to view product and use & care videos.

A. Fire Safety

To provide reasonable fire safety, the following should be given serious consideration:

- Install at least one smoke detector on each floor of your home.
- Install at least one carbon monoxide detector on each floor of your home.
- Locate smoke detector away from the heating appliance and close to the sleeping areas.
- Follow the smoke detector manufacturer's placement and installation instructions and maintain regularly.
- Follow the carbon monoxide manufacturer's placement and installation instructions and maintain regularly.
- Conveniently locate a Class A fire extinguisher to contend with small fires.
- In the event of a hopper fire:
  - Evacuate the house immediately.
  - Notify fire department.

B. Non-Combustible Materials

Material which will not ignite and burn, composed of any combination of the following:

- Steel
- Plaster
- Glass
- Tile
- Brick
- Iron
- Slate
- Concrete

Materials reported as passing **ASTM E 136, Standard Test Method for Behavior of Metals, in a Vertical Tube Furnace of 750° C**.

C. Combustible Materials

Material made of/or surfaced with any of the following materials:

- Compressed Paper
- Wood
- Plywood/OSB
- Sheet Rock (drywall)
- Plastic
- Plant Fibers

Any material that can ignite and burn: flame proofed or not, plastered or non-plastered.

D. Fuel Material and Fuel Storage

Pellet fuel quality can greatly fluctuate. We recommend that you buy fuel in multi-ton lots whenever possible. However, we do recommend trying various brands before purchasing multi-ton lots to ensure your satisfaction.

Fuel Material

- Made from sawdust or wood by-products
- Depending on the source material it may have a high or low ash content.

Higher Ash Content Material

- Hardwoods with a high mineral content
- Fuel that contains bark
- Standard grade pellets or high ash pellets

Lower Ash Content Material

- Most softwoods
- Fuels with low mineral content
- Most premium grade pellets

Clinkers

Minerals and other non-combustible materials such as sand will turn into a hard, glass-like substance called a clinker when heated in the firepot.

Trees from different areas will vary in mineral content. That is why some fuels produce more clinkers than others.

Moisture

Always burn dry fuel. Burning fuel with high moisture content takes heat from the fuel and tends to cool the appliance, robbing heat from your home. Damp pellet fuel can clog the feed system.

Size

- Pellets are either 1/4 inch or 5/16 inch (6-8mm) in diameter
- Length should be no more that 1-1/2 inches (38mm)
- Pellet lengths can vary from lot to lot from the same manufacturer
- Due to length variations, the feed rate may need adjusting occasionally

Performance

- Higher ash content requires the fire pot and the ash drawer to be emptied more frequently
- Hardwoods require more air to burn properly
- Premium wood pellets produce the highest heat output
- Burning pellets longer than 1-1/2 inches (38mm) can cause an inconsistent fuel feed rate and/or missed ignitions or feed jams.

CAUTION

Tested and approved for wood pellets. Burning of any other type of fuel voids your warranty.

Storage

- Wood pellets should be left in their original sealed bag until using to prevent moisture absorption
- Do not store any pellet fuel within the clearance requirements or in an area that would hinder routine cleaning and maintenance.

E. Before Your First Fire

1. First, make sure your appliance has been properly installed and that all safety requirements have been met. Pay particular attention to the fire protection and venting.
2. Double check that the firebox is empty and the fire pot floor is fully closed.
3. Close and latch the do

CAUTION

Odors and vapors released during initial operation.

- Curing of high temperature paint.
- Open windows for air circulation.
- Odors may be irritating to sensitive individuals.

F. Filling the Hopper

Open the hopper lid by lifting the handle. Fill the hopper with fuel. Close the hopper lid. The appliance will not feed with the hopper lid open and the fire will go out.

G. User Dial Control

The appliance has one dial control located on the side of the appliance (behind a drop door) used for changing the heat setting and restarting the appliance. There are five heat settings on this dial ranging to include: LOW, MED-LOW, MED, MED-HIGH, and HIGH. **Figure 10.1**

Turn the dial control to the desired heat setting and turn the appliance ON and OFF using the thermostat.

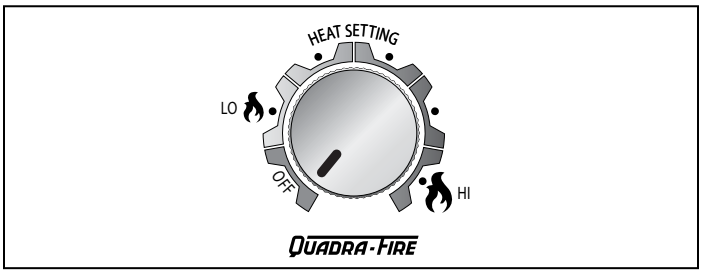


Figure 10.1

H. Normal Startup Sequence

The appliance will go into the ignition sequence followed by a start up sequence (the green LED will flash rapidly).

The ignition sequence involves the exhaust blower and igniter turning on, and the feed motor running in two stages. The first stage involves the feed motor running continuously for about a minute to start loading pellets into the fire pot. In the second stage, the feed motor will begin cycling on and off.

When the pellets are warming - on the verge of igniting - it is not uncommon for the firebox to fill with smoke.

Once ignition happens, the smoke should quickly disappear. During this stage, as well as any part during the burn process, the front door should not be opened.

This startup cycle continues until the appliance senses ignition by a rise in the exhaust temperature or the appliance times out. Following the ignition cycle the appliance continues to feed pellets to build up the fire.

After warming up, the convection blower will begin to blow warm air into the room. As the appliance increases heat the blower will increase its output.

I. Firepot Purge

Purpose: To help remove debris from the firepot and help the unit burn as efficient as possible.

The frequency of the purge cycle is once every 30 minutes while the unit is burning. During the firepot purge, the feed is reduced to the lowest setting and the exhaust blower ramps up to a very high setting. The purge cycle lasts 99 seconds.

The purge cycle does not replace daily cleaning.

CAUTION

HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

J. Shutdown

shut the appliance down, turn the dial control to OFF or turn the thermostat to OFF. During the shutdown process, the light will flash amber or green rapidly.

Unlike the fire pot purge, during shutdown existing fuel in the fire pot will continue to burn without the feed motor running; but, the exhaust and convection blowers will remain on until the exhaust has cooled.

NOTE: If maintenance or daily cleaning is going to be conducted immediately following a shutdown, please use caution as components especially those inside the firebox may still be hot.

Due to safety precautions:

- If the dial control is turned to OFF and back on (even if by mistake) the unit will go through the shutdown sequence before restarting.
- Additionally, if the thermostat is turned to “OFF” during operation the appliance will go through a shutdown sequence before restarting.

NOTE: If maintenance or daily cleaning is going to be conducted immediately following a shutdown, please use caution as components especially those inside the firebox may still be hot.

K. Fire Characteristics

The overall height of the flame will vary throughout the burn for a couple of reasons:

1. The flame will vary based on type of fuel or batch of fuel.
2. The unit adjusts the burn rate according to the dial setting – the further the dial is rotated clockwise the higher the flame and consequently, heat output.
3. General maintenance and cleaning. Infrequent or poor general maintenance will result in poorer performance. Indicators for additional maintenance activities include:
   - Lazy flame
   - Black-sooted glass
   - Pellets not igniting
   - Excess pellets falling to the side of the firepot
4. See trim adjustment section for additional information.

NOTICE: If you expect children to come into contact with this appliance, we recommend a barrier such as a decorative screen. See your retailer for suggestions.

L. Your Pellet Appliance’s General Operating Parts

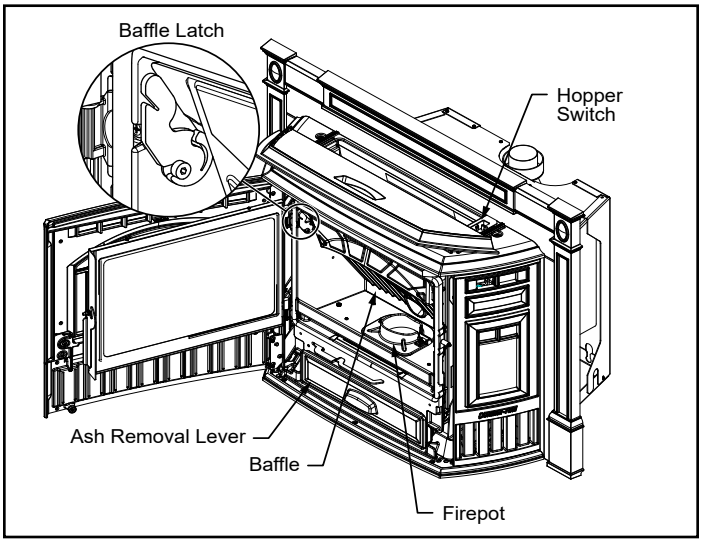


Figure 11.1

M. Restarting the Appliance

Restart Process:

1. When the appliance has run out of fuel and the “empty hopper” error code illuminates, add pellet fuel to the hopper.
2. Dump the ashes and clinkers built up in the fire pot by pulling the ash dump removal handle out several times. Make sure clinkers have dropped into the ash pan then return the handle to fully closed position.
3. Turn the dial control to OFF and then up to high 2X to prime.
4. After seeing pellets drop then turn to desired setting to reset the appliance control system. The appliance will then begin its startup sequence.

Restarting After a Power Failure:

1. For an electrical disruption the appliance will start on its own without need for priming - providing the control system is asking for heat.
2. The appliance will always go through a normal shutdown sequence before restarting.

WARNING

HOT SURFACES!
Glass and other surfaces are hot during operation AND cool down.

Hot glass will cause burns.

- Do not touch glass until it is cooled.
- NEVER allow children to touch glass.
- Keep children away.
- CAREFULLY SUPERVISE children in same room as appliance.
- Alert children and adults to hazards of high temperatures.
- High temperatures may ignite clothing or other flammable materials.
- Keep clothing, furniture, draperies and other flammable materials away.

N. Clear Space

NOTICE: Clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

Mantel:

Avoid placing candles and other heat-sensitive objects on mantel or hearth. Heat may damage these objects.

WARNING

Fire Risk

Do NOT operate appliance:

- With appliance door open.
- Firepot floor open.

Do NOT store fuel:

- Closer than required clearances to combustibles to appliance
- Within space required for loading or ash removal.

O. Trim Adjustment

Trim adjustment is the small dial located below the main dial control. The function of the trim adjustment is to allow for variations in elevation, venting and installation configurations, and fuel types (hard wood/soft wood).

Rotating this dial will adjust the air/fuel ratio to the appliance:

- Clockwise adjustments increase the flame height.
- Counter-clockwise adjustments will decrease the flame height.
- When changing trim settings only adjust 1 level at a time, allowing 15 minutes for fire to stabilize before making another adjustment.
- The factory default trim adjustments are set to zero (0) for most fuels and recommended venting configurations.

A properly adjusted fire will have a bright, active flame pattern that extends out of the fire pot approximately 6 to 9 inches when burning on high. A properly adjusted fire will burn cleaner and have higher efficiencies.

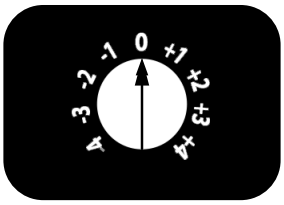


Figure 12.1

P. LED Color Coding Chart and Explanation

The number of flashes between pauses is per one second unless otherwise indicated.

LED Color	No. of Flashes between pauses	Description	Notes	
Green	Steady ON while priming feed tube (max time 2 minutes)	Feed Motor is running continuously. (priming the feed tube)	When priming the feed system and filling the fire pot, DO NOT OVERFILL Fire pot FOR IGNITION. The appliance will automatically go into start up following the prime function.	
Green	1x every 2 seconds	Appliance is on standby	To start appliance, follow start up sequence.	
Green	Blinks Continuously	Appliance is in the start up/ignition sequence or in shutdown.	During shut down, the blowers will shut off when the exhaust temperature has cooled.	
Green	1X	Stage 1: Low heat	BTU Range: 14,620 - 19,694	Average: 19,054
Green	2X	Stage 2: Med-Low heat	BTU Range: 22,102 - 23,506	Average: 22,735
Green	3X	Stage 3: Med heat	BTU Range: 30,778 - 32,680	Average: 31,603
Green	4X	Stage 4: Med-Hi heat	BTU Range: 38,576 - 42,914	Average: 40,665
Green	5X	Stage 5: Hi heat	BTU Range: 49,830 - 52,460	Average: 51,528
Amber	Blinks Continuously	Appliance is in the shutdown sequence.	During shut down, the blowers will shut off when the exhaust temperature has cooled.	
Red	1X	Empty Hopper Alarm	This alarm is caused by the fire going out from lack of fuel. Reset by turning to “OFF” then turn dial to desired setting.	
Red	2X	Exhaust Probe Alarm	Failed component error. See troubleshooting section for more information.	
Red	4X	Missed Ignition	There are a total of 2 tries per ignition sequence. If after 2 tries there is no rise in exhaust temperature this error will occur. See the troubleshooting section for additional information.	
Red	6X	Encoder Alarm	Failed Component Error: Exhaust Speed Sensor. See troubleshooting guide for more information	
Red	8X	Exhaust Over Temperature Alarm	See troubleshooting guide for more information.	

Table 13.1

WARNING

Fire Risk

Do NOT operate appliance:

- With appliance door open.
- Fire pot floor open.

Do NOT store fuel:

- Closer than required clearances to combustibles to appliance
- Within space required for loading or ash removal.

Q. Thermostat Controls

TEMPERATURE (HEAT / OFF) SWITCH:

Set this switch to HEAT to control your appliance. The off position will disable the appliance.

SET (MULTI- FUNCTION) SLIDE SWITCH:

This provides easy access to common settings, and should always remain in RUN unless items are being adjusted.

NOTE: When thermostat is set to “Manual” non-programmable mode, all positions of the SET slide switch will act like RUN.

UP / DOWN BUTTONS:

The UP and DOWN buttons are used to control the set temperature, or adjust any other on-screen items. An items flashing, is the item currently being adjusted.

HOLD BUTTON:

This button activates and deactivates the manual Temperature HOLD feature, which maintains a fixed set temperature indefinitely without following a program routine.

COPY BUTTON:

This is used to copy temperature program items from one day to the next. Also used to access the menu setup.

NEXT BUTTON:

This is used when setting items such as software options, and temperature programs when they are flashing on the screen. Pressing the NEXT button will cycle through which item is flashing.

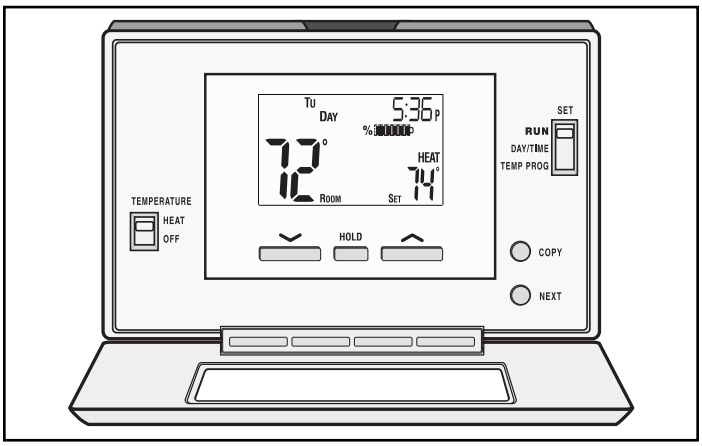


Figure 14.1

R. Thermostat Setup Options

Setup options for how the thermostat will function are performed using a menu on the display screen.

TO ACCESS THE SETUP MENU:

Move the TEMPERATURE switch into the OFF position, and then hold down the COPY button for approximately 5 seconds until the screen changes. The menu will always start with item #01, and is advanced to each following item by a single press of the NEXT button. The options for each item are changed using the UP or DOWN buttons.

ITEM #01 (CLK = CLOCK FORMAT):

- 12Hr, default: This displays the clock times using standard AM and PM values.
- 24Hr: This displays the clock times using the military-time format (example 22:00 hours, without using AM or PM).

ITEM #02 (TMP = TEMPERATURE SCALE):

- F, default: Shows all temperature values in Fahrenheit.
- C: Shows all temperature values Celsius.

ITEM #03 (PROGRAMMING STYLE):

- 7 Day, default: This style uses a separate program routine for each of the 7 days in the week.
- 5/2 Day: This style uses a weekday program routine for Monday, Tuesday, Wednesday, Thursday, Friday, and a separate weekend program routine for Saturday and Sunday.
- Manual Non-Programmable: In this setting, there are no program routines for the thermostat to follow and the temperature control will be set only by the UP and DOWN buttons on the front panel.

ITEM #04 (PERD = EVENT OR PERIOD QUANTITY):

- 4P, default: Thermostat uses four Events per day (called MORN, DAY, EVE, and NITE).
- 2P: The thermostat uses two Events per day (called DAY and NITE).

NOTE: Event or Period Quantity feature is not accessible during Manual Non-Programmable mode.

ITEM #07 (DLAY = DELAY TIME):

- 5, default: Thermostat waits 5 minutes before turning the system back on after it was last run. This internal delay prevents the appliance from turning on too quickly after shutting down. The 5 minute setting is fine for most applications.
- 2: Same operation as above but reduced to 2 minutes between state changes.

NOTE: There is no delay available when the thermostat is manually turned up and down.

ITEM #08 (TEMPERATURE DIFFERENTIAL):

- The thermostat works by turning your heating system on and off whenever the room temperature varies from the desired set-point temperature.
- Use the UP/DOWN buttons to change the number value between 1 and 9. Generally your system should cycle on about 3 to 6 times per hour. A smaller differential number makes the system cycle more frequently, so the room temperature is more precise and constant. A larger differential number will make the system remain on for a longer duration each time and decreases the number of cycles per hour.
- Default is set to 4.

S. Thermostat Operation Instructions

SET DAY AND TIME:

Place the SET switch into the DAY/TIME position. With the day flashing press UP or DOWN to set the day or the week. Press NEXT and the clock time will start flashing. Use UP or DOWN to set the time; verify the AM/PM indicator is correct. Return the SET switch to RUN position when finished.

HEATING:

Basic operation of the thermostat can be obtained with the SET switch in the RUN position. The temperature can be adjusted using the UP and DOWN buttons. When the thermostat is first powered on, it will follow a default temperature routine that is preset from the factory **(Figure 15.1)**.

LCD DISPLAY BACK LIGHT:

Event	Time	Temperature
MORN	6:00 AM	70°F (21°C)
DAY	8:00 AM	62°F (17°C)
EVE	6:00 PM	70°F (21°C)
NITE	10:00 PM	62°F (17°C)

Figure 15.1

The display screen is lighted to assist viewing at nighttime, or in locations with low light levels. Press any button on the front panel to activate the approximate 10 second back light.

TEMPERATURE OVERRIDE:

While thermostat is in RUN mode, the set temperature can be temporarily changed by pressing UP or DOWN. The temporarily changed set temperature will return to the programmed value stored in memory when start time of the next upcoming scheduled event is reached (MORN, DAY, EVE, OR NITE). While the temporary changed set temperature is in effect, the word OVERRIDE will be shown on the display screen. To cancel, move TEMPERATURE switch to OFF and back to HEAT again.

TEMPERATURE HOLD:

Temperature hold is used for maintaining a fixed set temperature; once a HOLD is initiated, the thermostat will maintain the set temperature indefinitely. To enter a HOLD state, press the HOLD button one time and the word HOLD will appear on the display. To cancel, press the HOLD button once again.

STATIC NOTICE

Thermostat is protected against normal static electric discharges, however to minimize the risk of damaging the thermostat in extremely dry weather, please touch a grounded metal object before touching the thermostat.

T. Thermostat Temperature Programs

The thermostat by default has 4 separate program events they are: MORN, DAY, EVE, and NITE. Each event ends at the start time of the following event.

NOTE: If the thermostat is set for 2 events a day instead of 4, the thermostat will only use the DAY and NITE events.

SET TEMPERATURE PROGRAMS:

1. Move TEMPERATURE switch to HEAT.
2. Move SET switch to TEMP PROG position.
3. Starting with Monday, use the UP or DOWN buttons to adjust the start time and set temperature for the MORN event, and then press NEXT button to advance.
4. Adjust the start time and set temperature of the DAY event then press NEXT button.
5. Continue in this same manner to adjust the start time and set temperatures for the EVE and NITE events for Monday.

NOTE: When the last event is finished for each day or group of days, the thermostat will advance forward into the next day or group of days.

6. Use steps 3 through 5 to set up the events for the rest of the week or group of days.
7. Return the SET switch back to RUN.

COPY PROGRAM FEATURE:

Using similar instructions as **SET TEMPERATURE PROGRAMS** the **COPY** button will allow a whole day of set program events to be copied to another day.

1. Move TEMPERATURE switch to HEAT as well as move SET switch to TEMP PROG position.
2. Starting with Monday, use the UP or DOWN buttons to adjust the start time and set temperature for the MORN, DAY, EVE, and NITE events. Press the COPY button and then press the NEXT button to advance to Tuesday.
3. With Tuesday displayed press COPY button. As all programs events from Monday will be copied to Tuesday (this will advance automatically to the next day; Wednesday, as the word COPY will appear on the screen for one second).
4. Continue in this pressing COPY button to set desired days with original setting.

NOTE: The word COPY will not appear on the display for Monday, but will display each day afterwards for approximately one second and the day of the week will automatically advance forward to the next day.

U. Thermostat Other Features

NOTE: All other features need to be completed in a timely manner as the thermostat will time out after 10 seconds.

TEMPERATURE CALIBRATION:

The internal temperature sensor in this thermostat is accurately calibrated at the factory, and in most cases alterations to this setting should not be needed. The temperature calibration feature allows you to manually offset the measured temperature by as much as plus or minus 5°F (3°C) from its original value. If several thermostats are used in the same house, this feature can be used to synchronize this thermostat to the others.

Change the temperature calibration:

1. Move TEMPERATURE switch to OFF.
2. Move SET switch to RUN.
3. Press and hold both UP and DOWN buttons together for at least 5 seconds; the words SET and CAL will appear on the display along with a single flashing temperature digit.
4. Use the UP or DOWN buttons to change the number of degrees desired for adjustment; 0° is the default value and also means no correction will be applied.
5. Press the NEXT button to accept the setting.

KEYPAD LOCKOUT:

There is the option to lock the front panel buttons to prevent unauthorized tampering of your thermostat settings.

To Lock the Keypad:

1. Move TEMPERATURE switch to HEAT.
2. Move SET switch to RUN.
3. Perform a single press of each button in the following sequence:
   - NEXT, NEXT, NEXT, HOLD

A padlock will appear on the display screen.

To Unlock the Keypad:

1. Move TEMPERATURE switch to HEAT.
2. Move SET switch to RUN.
3. Perform a single press of each button in the following sequence:
   - NEXT, NEXT, NEXT, HOLD

A padlock will no longer be present on the display screen.

HARDWARE RESET:

The hardware reset button; labeled HW RST, is a small round push button that is located in the middle of the circuit board, just below the battery holder **(Figure 16.1)**. Pressing this button will:

- Cause the LCD display screen to become fully populated
- Thermostat to perform an internal system check of its components

If the thermostat appears to be acting in an erratic manner, pressing the HW RST button may remedy this behavior. The temperature programs are not erased when a hardware reset is performed, however the clock will have to be changed to match the current day and time.

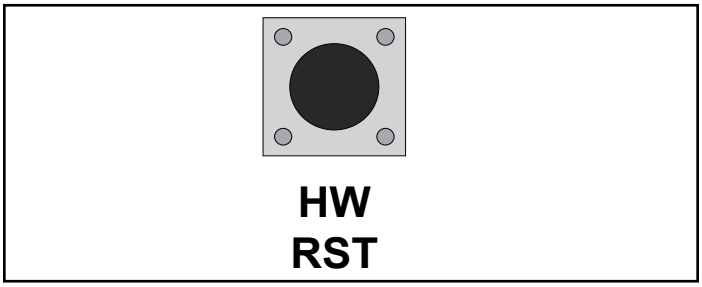


Figure 16.1

SOFTWARE RESET:

Software reset is used to erase ALL temperature events, and to return all user-adjustable software settings back to their original factory default settings.

To Perform a Software Reset:

1. Verify the thermostat's keypad is not locked.
2. Move TEMPERATURE switch to OFF.
3. Press and hold the UP, DOWN, and NEXT buttons all at the same time for at least 5 seconds. When the LCD display screen will become fully populated let go of all buttons at that point the screen will return to normal.

The clock will have to be changed to match the current day and time.

V. Thermostat Battery Replacement

This thermostat is powered by two "AA" Alkaline batteries. The batteries should be replaced AT LEAST once per year to ensure reliable operation or sooner if the LO BATT appears on the display screen. The batteries are located on the back of the thermostat's circuit board. The front portion of the thermostat can be removed from the back half by using the tabs on the top edge of the thermostat housing (**Figure 17.1**).

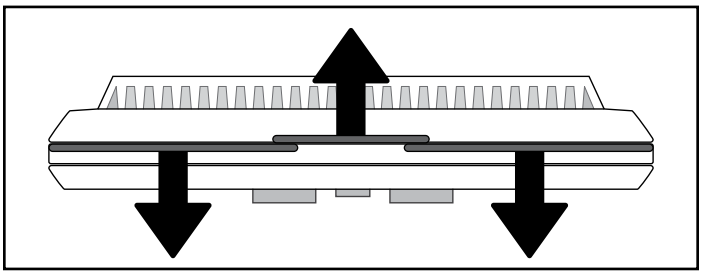


Figure 17.1

When installing new batteries, it is recommended using only brand new "AA" size alkaline batteries. Please verify the polarity markings shown in the battery compartment before adding batteries to the compartment. When finished, line up the front of the thermostat to the base, and firmly press together to securely latch the front and back halves together properly.

BATTERY GRAPHIC:

Anytime time the batteries are physically present in the thermostat, there will be a visual indicator showing the life of the battery. This will appear on the display screen (**Figures 17.2 & 17.3**).

Figure 17.2 - Full battery icon

Figure 17.3 - Low battery icon

CONNECT THERMOSTAT WIRES TO APPLIANCE:

There is a 4 screw terminal block located on the back lower left corner of the stove directly above the power cord inlet. The center 2 screws are for the thermostat wires **(Figure 17.4)**.

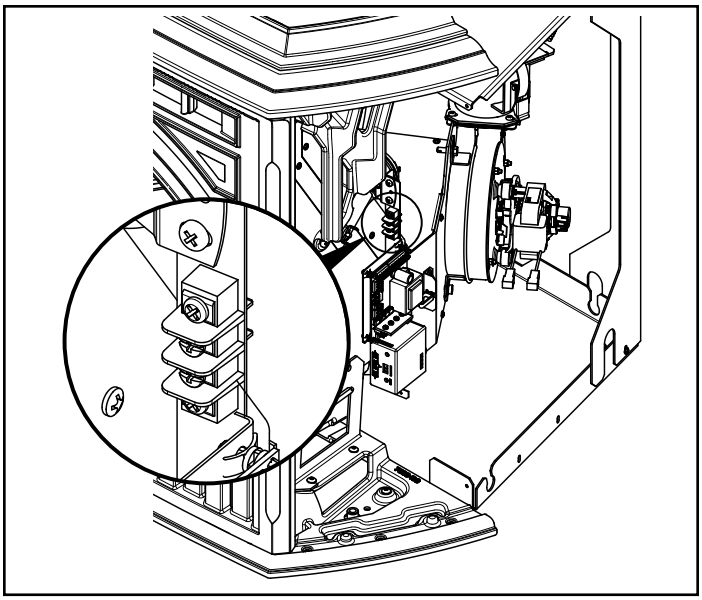


Figure 17.4

CAUTION

Shock hazard.

- Do NOT remove grounding prong from plug.
- Plug directly into properly grounded 3 prong receptacle.
- Route cord away from appliance.
- Do NOT route cord under or in front of appliance.

W. Frequently Asked Questions

What causes my glass to become dirty?
If the glass has white ash build up it is normal and the glass should be cleaned. If it is a black soot build up airflow through the unit may be restricted. The most often cause is overdue maintenance and cleaning. See **Maintaining and Servicing** on page 19 and/or make adjustments to the trim control.

How can I get more heat out of the appliance?
The most often cause of diminished heat output is overdue maintenance and cleaning. See **Maintaining and Servicing** on page 19.

What should I do if I smell smoke or there is ash/soot coming from the appliance?
Seal exhaust venting system to the unit with High Temp silicone. Secure the venting system to the unit with at least (3) screws. All pellet vent pipe must be secured together either by means provided by the pipe manufacturer or by (3) screws at each joint.

In addition most homes are built very tight today and with exhaust systems can create negative pressure in the home. See **Negative Pressure** on **page 15** of the installation manual. For ash or soot check the above and the exhaust blower housing and seals.

Why would my appliance run fine last winter but not start this fall?
It is possible that the stove was not properly prepared for the Non-burn season; see **Troubleshooting Guide** starting page 26.

Is there a place to lubricate the blowers to quiet them down?
No. The most often cause of noisy blowers is from the impellers becoming dirty over time. See maintenance and service section for maintaining and servicing.

What is the metal object with the bend in it that came inside the plastic bag?
It is a clean-out tool used to help clean the firepot and remove any jams in the rare event they occur in the feed tube.

Why is there a black residue building up on the outside of my home?
Wind can cause this to happen. If the appliance is operating correctly very little soot should ever exit the termination cap. Check to be sure the venting is installed per the owner's manual and local codes.

Do I need an outside air kit?
Outside air is required for mobile home installs and in some jurisdictions. Refer to **Listing & Code Approvals** on page 7, **Mobile Home Installation** on **page 23** of the installation manual and **Appliance Set-up** on **page 19** of the installation manual. Also refer to local building codes.

I am seeing sparks coming out of my pipe (termination cap) outside is this safe?
This is normal. As long as clearances to combustibles were followed this is safe.

I have no power to anything. Does this unit have a circuit breaker or fuse or a reset button?
This unit has one fuse on the control board and a resettable snap disc mounted to the feed tube. If the appliance overheats then the snap disc can be reset; if the fuse is blown the control board must be replaced.

Can I burn corn in my unit?
No, this appliance is not approved to burn corn type fuel.

Where is the serial # located on my unit?
The serial number is located behind the right panel.

No pellets are dropping in my firepot.
See **Troubleshooting Guide** starting on page 26.

Contact your dealer for additional information regarding operation and troubleshooting.
Visit www.quadrafire.com to locate a dealer.

3 Maintenance and Service

When properly maintained, your appliance will give you many years of trouble-free service. Contact your dealer to answer questions regarding proper operation, troubleshooting and service for your appliance. Visit www.quadrafire.com/owner-resources to view basic troubleshooting, FAQs, use & care videos. We recommend annual service by a qualified dealer.

A. Proper Shutdown Procedure

Turn dial control to OFF, let appliance completely cool and exhaust blower must be off. After cooling unplug appliance before servicing.

This pellet heater has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting or otherwise operate this pellet heater in a manner inconsistent with operating instructions in this manual.

CAUTION

Shock and Smoke Hazard

- Smoke spillage into room can occur if appliance is not cool before unplugging.
- Risk of shock if appliance not unplugged before servicing appliance.

Follow the detailed instructions found in this section for each step listed as referenced in the chart below.

B. Quick Reference Maintenance Chart

Cleaning or Inspection	Frequency		Daily	Weekly	Monthly	Yearly
Firepot	As needed	OR		X		
Ash Removal from Firebox	About 5 bags of fuel depending on ash build-up	OR		X		
Glass	When clear view of firepot becomes obscure	OR		X		
Hopper	Every ton of fuel (50 bags)	OR			X	
Exhaust Path, Drop Tube and Behind Baffles	Every ton of fuel (50 bags) or more frequently	OR			X	
Door Handle & Gasket Inspection	Prior to heating season	OR			X	
Blower, Convection	Every ton of fuel or more frequently depending on performance	OR			X	
Blower, Exhaust	Every ton of fuel or more frequently depending on performance	OR				X
Firebox - Prepare for Non-Burn Season	At end of heating season	OR				X
Venting System	Every 3 tons of fuel or more frequently depending on performance	OR				X

Table 19.1

NOTICE: These are recommendations. When burning high ash content pellet fuel or a/pellet mix you may need to clean the firepot several times a day. Clean the stove and firepot more frequently if you encounter heavy build-up of ash at the recommended interval or you see soot coming from the vent. Not properly cleaning your appliance on a regular basis will void your warranty.

C. General Maintenance and Cleaning

1. Cleaning Firepot using Lever

- **Frequency:** Daily or as needed*
- **By:** Homeowner
  a. Be sure the appliance is allowed to cool.
  b. Open cast face of appliance.
  c. Pull firepot floor cleaning lever two times until the ash falls into the ash pan below **(Figure 20.1)**.
  d. It may be necessary to use your firepot clean-out tool to chip away material that has built up on the sides of the firepot and to push out any clinkers **(Figure 20.2)**.
  e. Larger clinkers may have to be removed from the top of the firepot.
  f. If the clinker adheres to the sides of the firepot, you will need to manually clean the firepot. The firepot floor plate must be fully closed when finished.

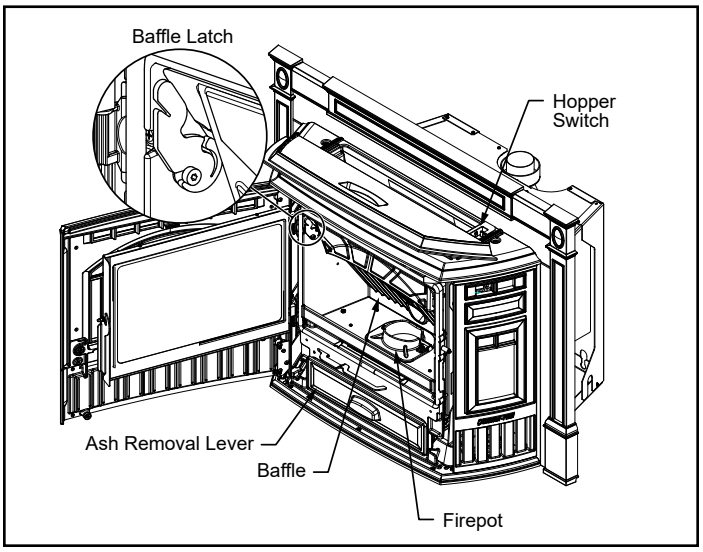


Figure 20.1

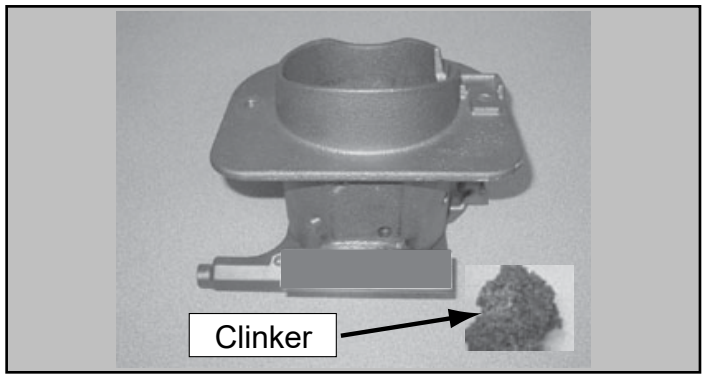


Figure 20.2 - Fire pot with large clinker

2. Cleaning Ash Pan

- **Frequency:** Weekly or every 3-5 bags
- **By:** Homeowner
  a. Locate the ash pan underneath the firepot.
  b. Slide the ash pan straight out.
  c. Empty into a non-combustible container and re-install ash pan.
  d. When replacing ash pan push it back until it catches on the 2 side latches.

Clinkers filling the ash pan will have to be cleaned out more often than ash.

3. Ash Disposal

- **Frequency:** As needed
- **By:** Homeowner

Ashes should be placed in a steel container with a tight-fitting lid. The container of ashes should be moved outdoors immediately and placed on a non-combustible floor or on the ground, well away from combustible materials, pending final disposal.

If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled. Other waste shall not be placed in this container.

4. Ash Removal from Firebox

- **Frequency:** Weekly or more frequently depending on ash build-up
- **By:** Homeowner
  a. Be sure the appliance is allowed to cool.
  b. There must not be any hot ashes in the firebox during cleaning.
  c. Frequent cleaning of the ash in the firebox with a vacuum cleaner will help slow down the build-up of ash in the exhaust blower and vent system.

WARNING

RISK OF FIRE
Keep combustible materials, gasoline and other flammable vapors and liquids clear of appliance.

- Do NOT store flammable materials in the appliance's vicinity.
- Do NOT use gasoline, lantern fuel, kerosene, charcoal lighter fluid or similar liquids to start or "freshen up" a fire in this heater.

Keep all such liquids well away from the heater while it is in use as combustible materials may ignite.

5. Cleaning Heat Exchanger & Drop Tube

- **Frequency:** Monthly or every ton of fuel (50 bags).
- **By:** Homeowner

NOTE: Heavy duty vacuum cleaners may be obtained, specifically designed for solid fuel appliance cleaning.

Tools Needed: A Shop Vacuum and generic micro cleaning kit; flat head screwdriver; bottle brush, and a ½" ID hose.

a. It is necessary to remove the baffle to gain access to the heat exchanger **(Figure 21.2)**.

b. Vacuum the ash from the heat exchanger with an upholstery brush to remove the majority of the ash. Be sure to vacuum the back of the baffle also. Inspect the drop tube and remove any residue build-up in the drop tube **(Figure 21.3)**.

c. Assemble the crevice tool from the micro cleaning kit to attach to a Shop Vac **(Figure 21.4)**.

d. Use the crevice tool to finish cleaning the heat exchanger fins. It is critical that the 2 exhaust exits at the back of the firebox floor (left and right) be thoroughly cleaned **(Figure 21.2)**. There are several ways this can be done:

   — Use the crevice tool.

   — Attach a hose 1/2 inch (12.7mm) inside diameter and approximately 2 feet (607mm) in length to your vacuum hose.

   — Use a bottle brush and push the ash down to the bottom. Remove the combustion (exhaust) blower and then vacuum out the ash.

WARNING

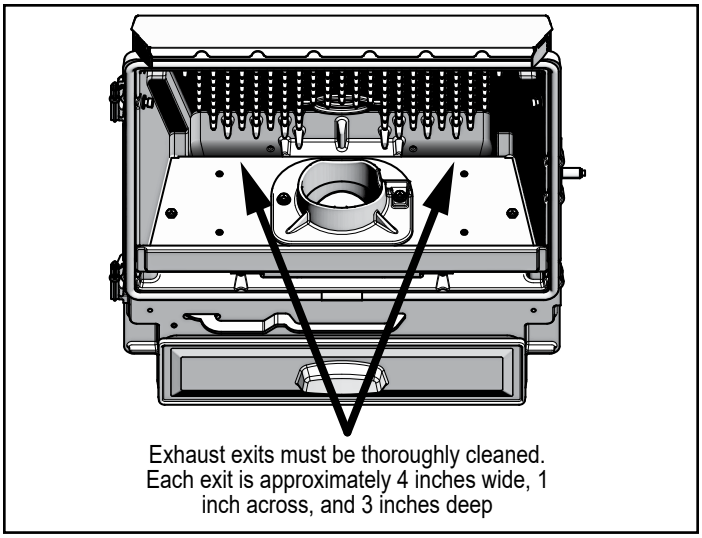
Hopper Fire Risk!

For trouble free use of your pellet appliance you must perform cleaning as called for in these instructions. Not doing so will result in:

- Poor operating performance
- Smoke spillage into the home
- Overheating of components

Not properly cleaning your appliance on a regular basis will void your warranty.

NOTE: Shop Vacuum and Micro Cleaning Kit examples are items that can be purchased at your local hardware store.



Exhaust exits must be thoroughly cleaned. Each exit is approximately 4 inches wide, 1 inch across, and 3 inches deep

Figure 21.1

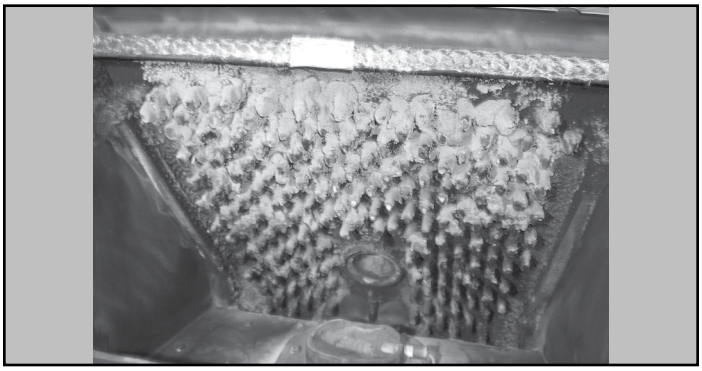


Figure 21.2 - Example of a dirty heat exchanger

Figure 21.3

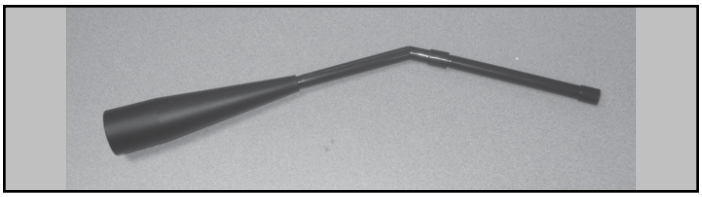


Figure 21.4

6. Ash Removal System Inspection & Cleaning

- **Frequency:** Monthly or after burning 50 bags
- **By:** Homeowner

a. Be sure the appliance is allowed to cool.

b. Open the front cast door and cycle the ash removal Lever - these should be inspected for functionality

c. Inspect for any degradation or deformation.

— As the springs heat up and cool down they can lose tension.

— If there is a gap showing above the fire pot bottom, approximately 1/16 inch (1.59mm) or more, it means the springs have lost their tension

— Lost tension cannot keep the floor in the proper position causing ignition problems and fuel falling into the ash pan. If noted, call your dealer to replace the springs.

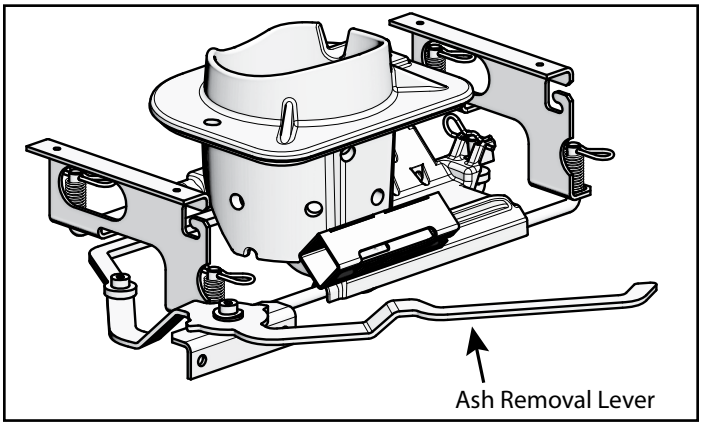


Figure 22.1

WARNING

Risk of fire!
Do NOT store fuel:

- Closer than required clearances to combustibles to appliance.
- Within space required for loading or ash removal

7. Cleaning the Hopper

- **Frequency:** See chart on page 19
- **By:** Homeowner

a. Be sure the appliance is allowed to cool.

b. After burning approximately 1 ton of fuel you will need to clean the hopper to prevent sawdust and/or fines build-up.

c. A combination of sawdust/fines and pellets on the auger reduces the amount of fuel supply to the fire pot.

d. This can result in nuisance shut downs and mis-starts

— Empty the hopper of any remaining pellets.

— Vacuum the hopper and feed tube.

8. Cleaning the Glass

- **Frequency:** See chart on page 19
- **By:** Homeowner

a. Be sure the appliance is allowed to cool.

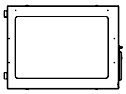
b. Clean glass with a non-abrasive commercially available cleaner. Wipe down with dry towel.

9. Door Latch & Gasket Inspection

- **Frequency:** See chart on page 19
- **By:** Homeowner

The door latch is non-adjustable but the gasket between the glass and firebox should be inspected periodically to make sure there is a good seal. If the gasket is frayed or damaged, replace with a new one.

CAUTION



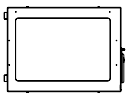
Handle glass assembly with care when cleaning glass door:

- Avoid striking, scratching or slamming glass.
- Do NOT clean glass when hot.
- Do NOT use abrasive cleaners.
- Use a hard water deposit glass cleaner on white film.

Refer to maintenance instructions.

WARNING

Handle glass doors with care.



- Inspect the gasket to ensure it is undamaged.
- Do NOT strike, slam or scratch glass.
- Do NOT operate appliance with glass door removed, cracked, broken or scratched.

10. Cleaning Exhaust System

(Requires No Lubrication)

- **Frequency:** See chart on page 19
- **By:** Homeowner
  a. Be sure the appliance is allowed to cool.
  b. Remove blower per replacement section instructions.
  c. Use a soft brush and vacuum to clean the impeller.
  d. Vacuum out exhaust path and housing **(Figure 23.1)**.
  e. Replace fan (make sure connections are fully assembled).

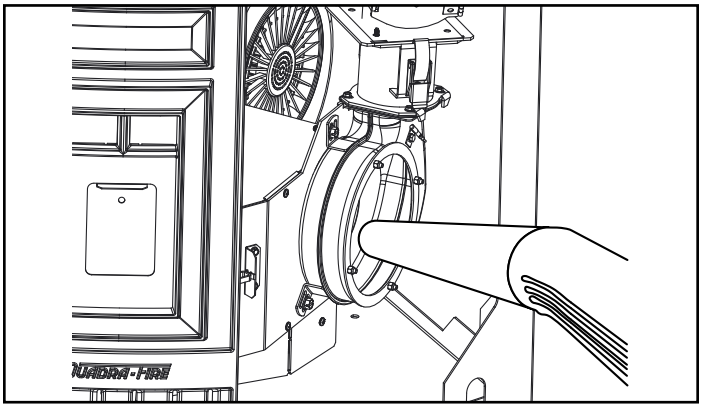


Figure 23.1

11. Cleaning Convection Blower

(Requires No Lubrication)

- **Frequency:** See chart on page 19
- B**y:** Homeowner
  a. Be sure the appliance is allowed to cool.
  b. Remove blower per replacement section instructions.
  c. Use a soft brush and vacuum to clean the blower wheel.

12. Cleaning the Top Vent Adapter

(If Installed)

- **Frequency:** As needed
- **By:** Homeowner
  a. Be sure the appliance is allowed to cool.
  b. Open the clean out cover.
  c. Sweep out any ash build-up.

NOTE: This appliance is required to be cleaned frequently because soot creosote and ash may accumulate.

13. Soot and Fly-ash: Formation & Need for removal in Exhaust Venting System.

- **Frequency:** See chart on page 19
- **By:** Qualified Service Technician and/or Homeowner

The products of combustion will contain small particles of fly-ash. The fly-ash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system.

NOTE: Ash will build up more quickly in the horizontal venting sections.

14. Preparing Firebox for Non-Burn Season

- **Frequency:** See chart on page 19
- **By:** Homeowner
  a. The appliance must be in complete shutdown and allow the appliance to completely cool down.
  b. Remove all ash from firebox and vacuum thoroughly.
  c. To minimize corrosion, paint all exposed steel, including cast-iron. Use the Touch-Up paint supplied with the appliance or purchase paint from your local dealer. You must use a high-temperature paint made specifically for heating appliances.
  d. Cleaning the flue at the end of the burn season will prevent corrosives to build-up and damage the flue.

D. Soot or Creosote Fire Awareness

The chimney should be inspected periodically during the heating season to determine if a creosote build-up has occurred. If a significant layer of creosote has accumulated (1/8 inch [3mm] or more) it should be removed to reduce the risk of chimney fire.

Check daily for creosote build-up until experience shows how often you need to clean to be safe. Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in the mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire.

In the event of a soot or creosote fire, close the firebox door, exit the building immediately and contact the proper fire authorities.

DO NOT under any circumstances re-enter the building.

E. High Ash Fuel Content Maintenance

- **Frequency:** Daily
- **By:** Homeowner

If the ash build-up exceeds the half way point in the fire pot or if clinkers are adhering to the sides of the fire pot, the fire pot floor is not being cycled enough.

WARNING

Risk of Fire and Smoke!

- High ash fuels or lack of maintenance can cause fire pot to overfill. Follow proper shutdown procedure if ash buildup exceeds half way point in fire pot.
- Failure to do so could result in smoking, sooting and possible hopper fires.

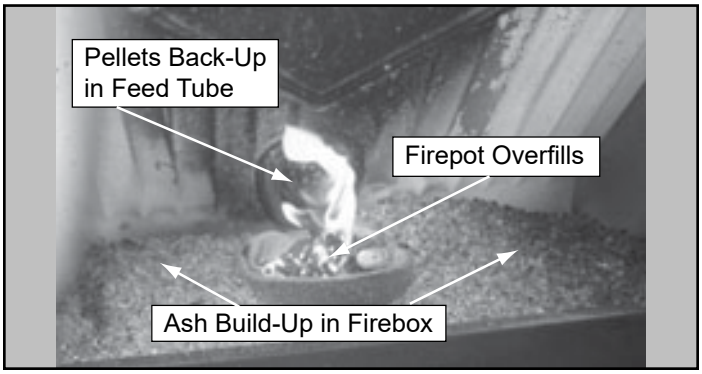


Figure 24.1

F. Baffle Removal

1. The appliance must be in complete shutdown, completely cool and the exhaust blower off.
2. Open door.
3. The baffle is located at the top inside of firebox.
4. Remove baffle by placing a flat head screw driver into the slot of the latches located in the upper corners and rotate down. The bottom of the latch will fall forward off of the post. Lift the baffle up and then out toward you **(Figure 24.2)**.
5. To replace the baffle, place the 2 locating ears behind the bottom edge and tilt the baffle up and into place.
6. The baffle must be centered in the firebox before latching it in place. If it is not centered the latch will slip between the baffle and side of the firebox instead of latching properly.
7. The bottom of the latches will fit over the posts. Using a screwdriver, rotate the top of the latch up to lock latch into place.

WARNING

Cast iron is a very heavy material.
The baffle is made of cast iron and therefore is heavy and awkward at times to maneuver. Clear and prepare your work area before you begin.

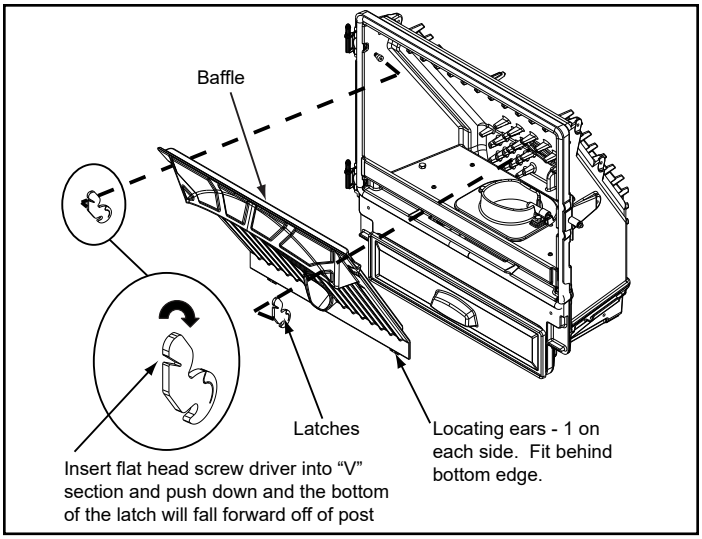


Figure 24.2

G. Glass Replacement

1. Swing open the face and remove the door from the appliance by lifting the door off of the hinge pins and lay on a flat surface face down.
2. Using a Phillips head screw driver, remove 4 screws, 2 on the top and 2 on the bottom. Remove metal bracket and then remove the glass (**Figure 24.3).**
3. Replace with new glass with gasket.
4. Re-attach metal bracket with 4 screws.
5. Re-install door over hinge pins and close face.

WARNING

- Glass is 5mm thick high temperature heat-resistant ceramic glass.
- DO NOT REPLACE with any other material.
- Alternate material may shatter and cause injury.

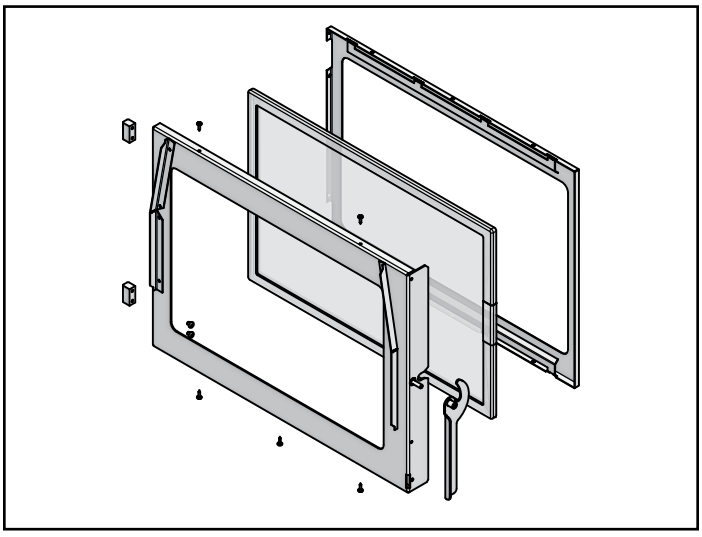


Figure 24.3

H. Convection Blower Replacement

1. Follow the proper shut down procedures.
2. Remove the left side panel by loosening the 2 screws using a Phillips head screw driver or wrench **(Figure 25.1)**.
3. Remove two lower sheet metal screws from the back panel to allow more clearance.
4. Disconnect the wire terminals.
5. Reach behind the blower and release the latch by pushing the top of the latch towards the blower **(Figure 25.1)**.
6. Rock the top of the blower slightly and lift up. The blower will pass out the left side of the appliance.

NOTE: You may need to loosen the surround to move it out of the way.

7. Install replacement blower by placing the bottom flange into the opening first then rotate blower up into position.
8. When the blower is properly positioned the latch will engage the notch to hold the blower in place **(Figure 25.1)**.
9. Re-connect wire terminals to the new blower.
10. Reposition and Re-secure the back panel.

NOTE: Make sure wires are connected prior to restarting the appliance. Failure to do so will result in the (side-mounted) safety thermal snap disc tripping resulting in cutting power to the appliance feed system.

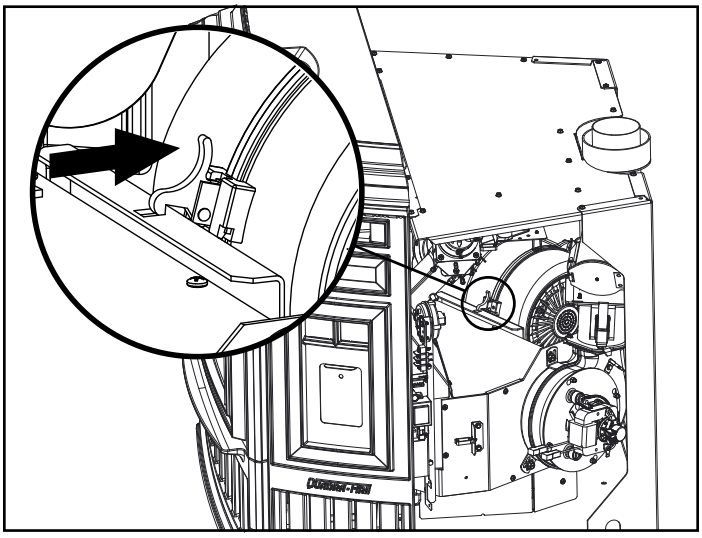


Figure 25.1

I. Combustion/Exhaust Blower Replacement

1. Follow the proper shut down procedures.
2. Remove the right side panel by loosening the 2 screws using a Phillips head screw driver or wrench **(Figure 25.2)**.
3. It is not necessary or recommended to remove the housing to replace or service the combustion blower. You only need to remove the motor and impeller.
4. Disconnect the wire from the control board connection and hall effect switch/housing.
5. Using an 7mm socket wrench or nut driver, loosen the nuts securing the motor and impeller to the housing.
6. Holding the motor, rotate the mounting plate counter-clockwise and remove motor and impeller.
7. If the gasket between housing and motor is damaged it will have to be replaced. A gasket is included with the replacement blower.
8. Re-install in reverse order.

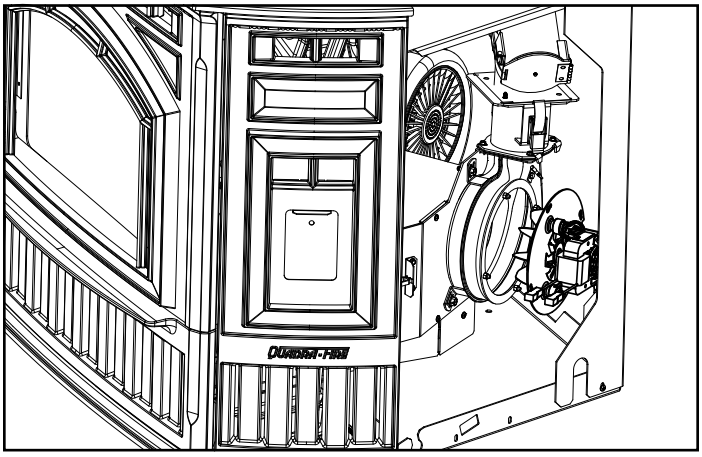


Figure 25.2

4 Troubleshooting Guide

A. General Appliance Troubleshooting

With proper installation, operation, and maintenance your appliance will provide years of trouble-free service. If you do experience a problem, this troubleshooting guide will assist a qualified service person in the diagnosis of a problem and the corrective action to be taken. This troubleshooting guide can only be used by a qualified service technician.

Symptom	Possible Cause	Corrective Action
Plug in appliance - No response	No Power to outlet.	Check circuit breaker at service panel.
	5 amp fuse blown	Replace control board - don't replace fuse
	Snap disc tripped or defective (#3).	Reset or replace snap disc.
Appliance will not light	No Fuel	Check hopper; load with wood pellets
	Vacuum switch not closing; no vacuum	Check vacuum switch wires are installed Check vacuum hose is connected to switch and feed tube port and is in good condition Make sure venting system is clean Make sure front door is closed Check vacuum tube for blockage or restrictions/kink
	Hopper lid open	Close hopper lid
	Defective hopper switch.	Check hopper switch operation Check hopper switch wires for integrity
	Safety snap disc is tripped (#3)	Check to make sure convection blower wires are connected and reset snap disc (located on RH side of appliance) Clean & inspect convection blower and convection air path.
	Feed System is jammed	Inspect and remove jam from the feed assembly
	Feed motor not plugged in	Reconnect feed motor
	Igniter not plugged in	Connect the igniter wires
	Defective igniter	Replace igniter
	Fire pot plugged-up / dirty	Clean fire pot and movable floor Remove ash from the ash pan
	Dial control is set to "OFF"	Turn dial control (on the appliance) to a setting other than OFF
	Hopper top not sitting on appliance correctly	Adjust hopper top
Fire starts but goes out	Dirty fire pot, exhaust path, and/or venting plugged	Clean fire pot and movable floor Inspect and clean exhaust path and venting Clean firebox, exhaust path, and venting (including behind baffle)
	Exhaust sensor cannot read temperature or is loose	Secure the exhaust probe to exhaust blower housing – keeping its wire away from hot surfaces
	Exhaust plenum is dirty	Clean exhaust path to plenum
	Exhaust probe is defective (error code may result)	Check for probe wire integrity and/or replace defective exhaust probe securing the exhaust probe to exhaust blower housing – keeping its wire away from hot surfaces

Table 26.1

Symptom	Possible Cause	Corrective Action
Appliance starts and stops frequently when operating in the mode	Area where the thermostat is placed affects temperature.	Check thermostat proximity to doors and windows
	Thermostat located in tight spaces effecting the on/off cycling of the appliance.	Inspect thermostat location and make sure it is not close to a surface that heats and cools quickly.
	Thermostat SWING function is set too low	Raise the thermostat swing temperature (see function section for instructions)
Slow or smoky start-up and/or lazy flame	Dirty fire pot, exhaust path, and/or venting system.	Clean entire appliance including: fire pot, ash build up in firebox, fire pot area, behind baffle, firebox, exhaust blower, venting, and ash pan.
	Not enough combustion air	Adjust the trim (see trim adjustment section)
	Misaligned igniter	Center the igniter in the chamber
	Wet fuel or poor quality fuel	Replace wood pellet fuel
Convection blower fails to start	Convection Blower is jammed	Clean and un-jam the blower
	Not electrically connected	Connect the blower wires to its respective power wires
	Blower is defective	Replace blower
	Exhaust probe not sensing correct temperature	Secure the exhaust probe to exhaust blower housing – keeping its wire away from hot surfaces
	Control board is defective.	Replace control board
Convection Blower fails to shut off	Wire short between blower and ground - Control board is defective	Repair wire and replace control board
Exhaust blower fails to start and/or red flashes 6X – indicating a exhaust encoder alarm.	Exhaust blower is jammed	Clean, and undo jam from the blower
	Not electrically connected	Connect the blower wires to its respective power wires
	Blower is defective	Replace blower
	Control board or dial control is defective.	Unplug dial control, if exhaust blower runs, dial control is defective. If exhaust blower *does not* run with dial control unplugged, replace control board.
Exhaust Blower fails to shut off	Wire short between blower and ground - Control board is defective	Repair wire and replace control board
Feed Motor fails to shut off	Wire short between ground and: feed motor, vacuum switch, hopper switch, or safety snap disc	Repair wire(s) and replace control board
	Control board is defective	Replace control board
Convection Blower makes noise	Convection blower is dirty causing an out-of-balance condition	Clean blower impellers
Igniter does not turn off	Wire short between igniter and ground – Control board is defective	Repair wire and replace control board

Symptom	Possible Cause	Corrective Action
Large, lazy flame (orange color) with black ash / soot buildup on glass	Dirty appliance or venting	Clean appliance including the fire pot, exhaust path, and venting system
	Poor fuel quality, high ash content.	Purge old fuel and use higher quality / or brand of fuel
	Incorrect air-fuel adjustment	Adjust the trim (see trim adjustment section)
	Excessive feeding	Adjust trim per trim dial instructions
	Feed Motor locked on	Follow corrective action for feed motor not turning off
Excessive fuel spilling over the fire pot and/or excessive flame	Dirty Appliance	Clean appliance including the fire pot, exhaust path, and venting system
	Feed Motor locked on	Follow corrective action for feed motor not turning off
Black soot on the side of the house	Dirty Appliance	Clean appliance including the fire pot, exhaust path, and venting system
	Exhaust termination cap too close to the structure	Extend the termination further from the structure
	Excessive feeding (incorrect air-fuel ratio)	Adjust trim per trim dial instructions
Appliance rumbles consistently during burns	Too much fuel	Turn trim dial counterclockwise one notch at a time
	Too much air	Turn trim dial towards the zero setting one notch at a time
	Note: Refer to trim setting section for more information, page 12	

5 Reference Materials

When describing the location of a component, it is always AS YOU FACE THE FRONT OF THE APPLIANCE.

A. Component Functions

1. **Exhaust Blower**
   The combustion (exhaust) blower is mounted in the bottom right rear of appliance. The blower is designed to pull the exhaust from the appliance and push it out through the venting system.

2. **Control Board**
   The control board is located on the right side of appliance. It controls the functioning of the appliance and communicates with the dial control. The control board can only be replaced by an authorized dealer.

3. **Convection Blower**
   The convection blower is mounted at the bottom left of the appliance. The convection blower pushes heated air through the heat exchange system into the room.

4. **Feed System**
   The feed system is located on the right side of the appliance and can be removed as an entire assembly. The hollow feed spring (auger) pulls pellets up the feed tube from the hopper area and drops them down the feed chute into the firepot. Reference the parts list for individual parts in feed assembly.

5. **Firepot**
   The firepot is made of high quality ductile iron. The floor of the firepot opens for cleaning and is manually operated by the homeowner. The floor needs to return to a completely closed position or the appliance will not operate properly.

6. **Fuse**
   The control board fuse will blow should a short occur. The control board will need to be replaced. DO NOT REPLACE THE FUSE. If the control board fuse blows its TRIAC, that portion of the circuit, will remain closed causing the motor on that leg to run continuously at high speed.

7. **Heat Exchanger**
   The heat exchanger is located behind the baffle and transfers heat from the exhaust system into the convection air chamber. Remove the cast iron baffle to access the heat exchanger.

8. **Hopper Lid Switch**
   The hopper lid switch is located on the right side, inside the hopper. It switches the feed motor off if the hopper lid is open.

9. **Igniter (Heating Element)**
   The igniter is mounted on the base of the firepot. Combustion air travels over the red hot igniter creating super heated air that ignites the pellets.

10. **Power Receptacle**
    The power receptacle is located below the control box on right side. Install the power cord (supplied in the appliance component pack) to the appliance receptacle. Prior to installing, check the wall receptacle for 120 volt, 60 Hz (standard current). Make sure the outlet is grounded and has the correct polarity. A good quality surge protector is highly recommended to protect the appliance electronics.

11. **Overheat Snap Discs**
    There are two overheat snap discs located within the electro-mechanical cavity of the appliance. One is mounted on the back of the drop tube in the center of the appliance; the other is mounted in the RH side between the firebox and cast side panel. Both snap discs have a reset button. If the fire tries to burn back into the feed system, the drop tube snap disc will shut the appliance down. If there is not enough circulation from the convection blower the second snap disc will shut the feed system off. Either sensor must be manually re-set if tripped. Disconnect power before resetting.
12. **Exhaust Probe - Exhaust Blower**
    The exhaust probe is a temperature-sensing device attached to the exhaust blower housing via screw and clamp. It provides sympathetic exhaust temperature feedback to the control board. In turn, the control board uses this information to adjust its heat-output systems for best performance.

13. Vacuum Switch

The vacuum switch is located on the right side of the appliance under the feed motor, behind right side panel. Its vacuum hose connects to the drop tube. This switch turns the feed system on when vacuum is present in the firebox. The vacuum switch is a safety device to shut off the feed motor if the exhaust or the heat exchanger system is dirty, plugged, or if the firebox door is open.

14. Wiring Schematic for Control Board (Figure 30.1)

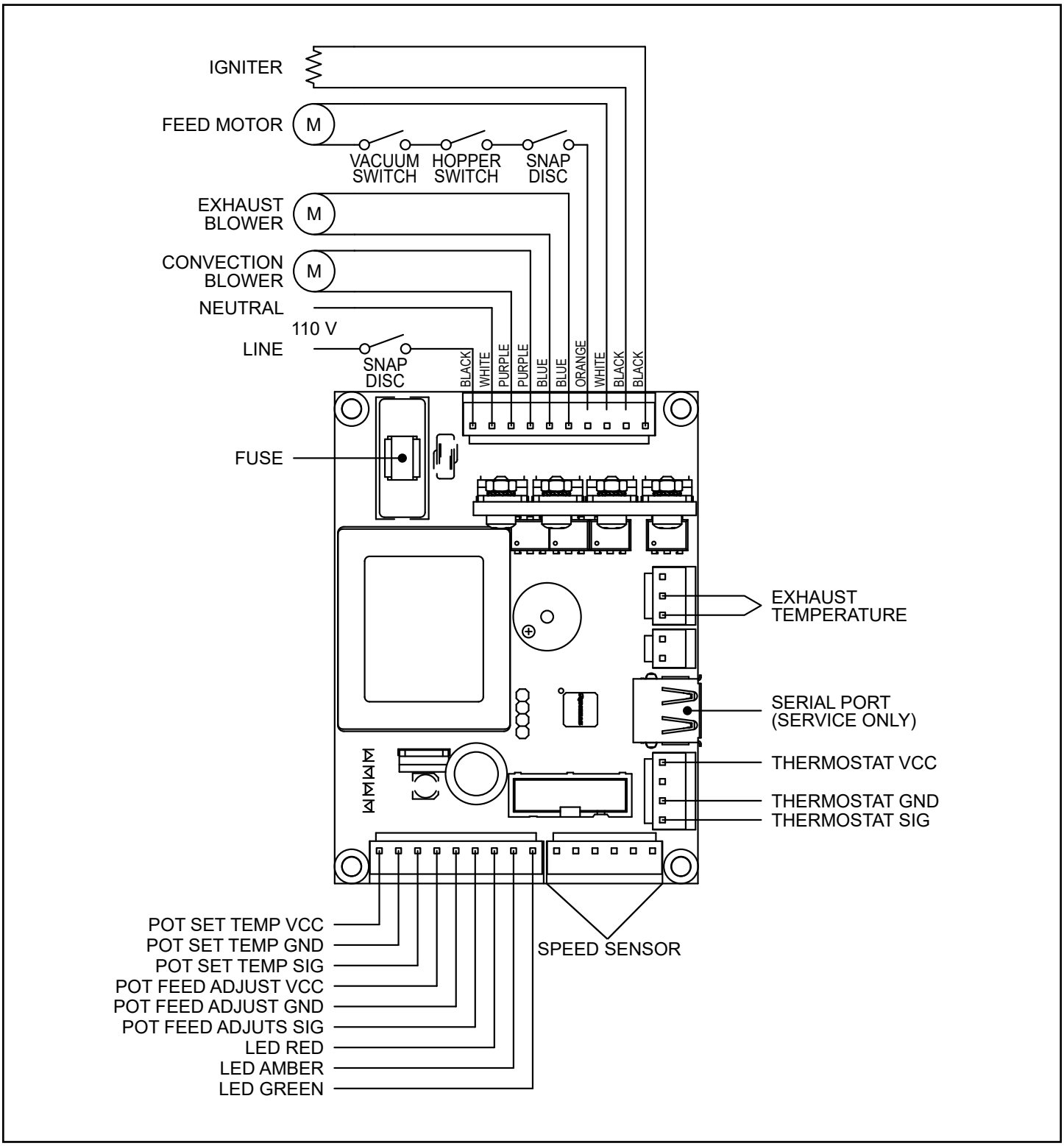


Figure 30.1 - Control Board Schematic

B. Service and Maintenance Log

Date of Service	Performed By	Description of Service

C. Service Parts List

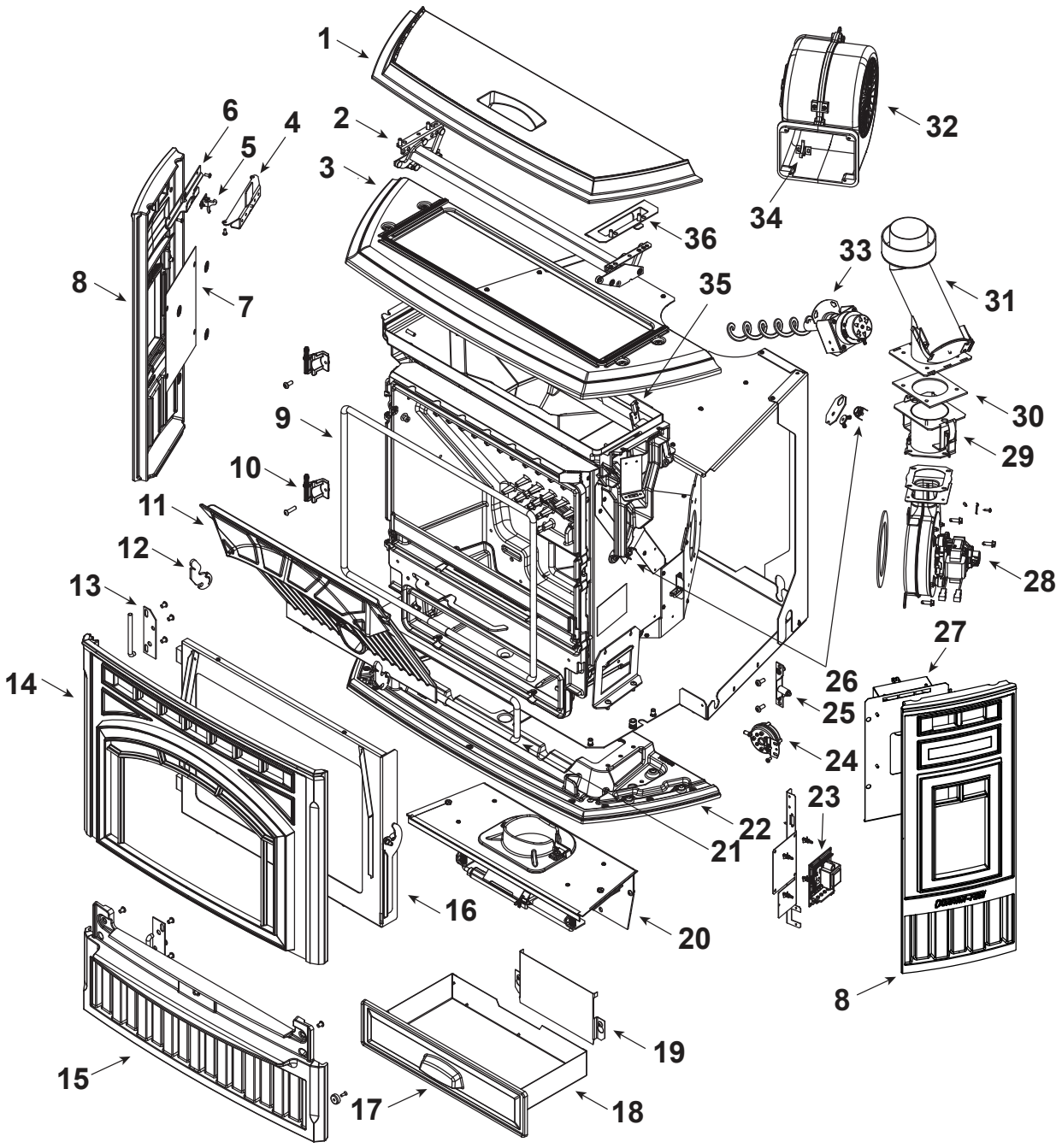
QUADRA-FIRE® Service Parts

TREKKER INSERT

Pellet Insert

Beginning Manufacturing Date: June 2018
Ending Manufacturing Date: Active

Color	SKU No.	Mfg. Dates
Matte Black	TREKKERI-MBK	06/18 -
Porcelain Mahogany	TREKKERI-PMH	06/18 -
Sienna Bronze	TREKKERI-CSB	06/18 - 05/19
Twilight	TREKKERI-TWL	03/19 -



Part number list on following pages.

06/21

TREKKER INSERT

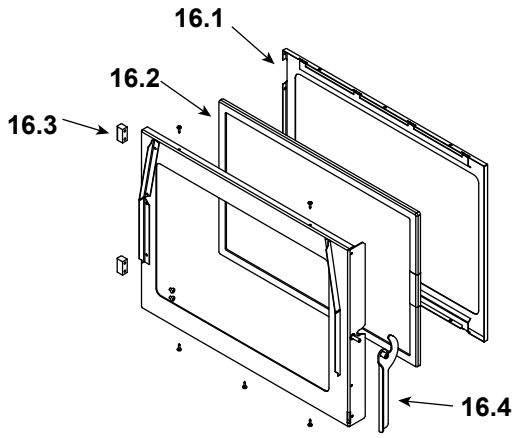
Beginning Manufacturing Date: June 2018
Ending Manufacturing Date: Active

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

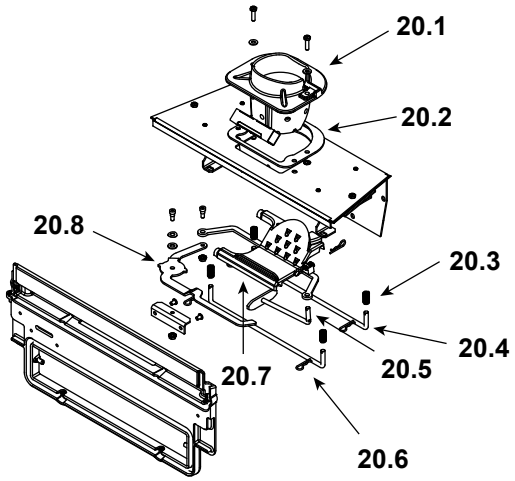
ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
1	Hopper Lid	Matte Black	7036-107MBK	
		Porcelain Mahogany	7036-107PMH	
		Sienna Bronze	7036-107CSB	
		Twilight	7036-107TWL	
	Gasket, Extruded - Field Cut to Size	10 FT	7000-320/10	
2	Top Hinge Assembly		SRV7036-006	
3	Top	Matte Black	7036-101MBK	
		Porcelain Mahogany	7036-101PMH	
		Sienna Bronze	7036-101CSB	
		Twilight	7036-101TWL	
4	Catch Clip		7036-146	
5	Elbow Catch		7000-393	
6	Bracket, Catch		7036-145	
7	Backer, Side Window		414-0280	
8	Side	Matte Black	7036-103MBK	
		Porcelain Mahogany	7036-103PMH	
		Sienna Bronze	7036-103CSB	
		Twilight	7036-103TWL	
9	Gasket, Door Rope		SRV7034-177	**Y**
10	Hinge Male		SRV7034-138	
11	Baffle		SRV7034-263	**Y**
12	Latch, Baffle		SRV7034-149	
13	Hinge Pin Retainer		7036-112	
14	Front Upper	Matte Black	7082-105MBK	
		Porcelain Mahogany	7082-105PMH	
		Sienna Bronze	7082-105CSB	
		Twilight	7082-105TWL	
15	Front Lower	Matte Black	7082-107MBK	
		Porcelain Mahogany	7082-107PMH	
		Sienna Bronze	7082-107CSB	
		Twilight	7082-107TWL	

Additional service part numbers appear on following page.

#16 Door Assembly



#20 Firepot Riser Assembly



IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
16	Door Assembly		SRV7080-015	
16.1	Glass Retainer		7034-136	
16.2	Glass Assembly	21” W x 14” H	7034-007	**Y**
16.3	Hinge, Female		SRV450-2910	
16.4	Door Latch Assembly		413-5200	
	Gasket, Channel 3 Mm X 32 - Field Cut to Size	10 Ft	7000-377/10	**Y**
17	Ash Pan Door		SRV7034-133	
18	Ash Pan Assembly		SRV7034-069	
	Twin Ball catch		SRV7000-532	**Y**
19	Intake Shield		7034-224	**Y**
20	Firepot Riser Assembly **(Does Not Include Floor Lever Assembly)**		SRV7080-082	
20.1	Firepot Assembly		SRV7080-083	**Y**
20.2	Gasket, Firepot		SRV7034-190	**Y**
20.3	Spring	Pkg of 4	7000-513/4	**Y**
20.4	Rail, Auto-Clean		SRV7034-152	**Y**
20.5	Plow Weldment, Auto-Clean		SRV7034-024	**Y**
20.6	Hitch Pin Clip 3/32	Pkg of 10	7000-374/10	**Y**
20.7	Firepot Bottom		SRV7034-153	**Y**
20.8	Firepot Floor Lever Assembly **(Not Included w/Firepot Riser Assembly)**		SRV7080-018	**Y**
21	Gasket, Rope, Ash Door		SRV7034-178	
22	Bottom	Matte Black	7036-109MBK	
		Sienna Bronze	7036-109CSB	
		Porcelain Mahogany	7036-109PMH	
		Twilight	7036-109TWL	

Additional service part numbers appear on following page.

Beginning Manufacturing Date: June 2018
Ending Manufacturing Date: Active

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
23	Control Board	**Pre #HF3166001**	SRV7080-052	**Y**
		Post #HF3166001	SRV7080-053	**Y**
	Wire Harness		SRV7080-129	**Y**
	Fuse 5A, Slow IEC	Pkg of 10	7000-490/10	**Y**
	Wire Harness, Hall Effect		SRV7080-130	**Y**
24	Vacuum Switch		SRV7000-531	**Y**
	Vacuum Hose	3 FT cut ro fit	SRV7000-373	**Y**
25	Latch Bracket Assembly		SRV7034-049	**Y**
26	Snap Disc, L250, Manual Reset **(#3)**	Qty 2 req	SRV230-1290	**Y**
27	Dial Control Panel Door Assembly	**Post #HF3166001**	SRV7082-037	
	Dial Control w/Wire Harness	**Post #HF3166001**	SRV7082-036	**Y**
	User Interface **(Pre #HF3166001)**	**No longer available**	SRV7080-178	
	Battery 3V CR2477 (For User Interface Pre #HF2155520)	Pkg of 2	SRV7000-869	**Y**
	Extension Cable USB	**Pre #HF3166001**	SRV7080-171	**Y**
	Bluetooth Key	**Pre #HF3166001**	SRV7080-156	**Y**
28	Combustion Blower		SRV7080-106	**Y**
	Gasket, Blower, Combustion (Between …)	...Housing & Stove	SRV7080-117	**Y**
	Gasket, Motor, Blower, Combustion (Between …)	...Housing & Motor	SRV7080-107	**Y**
	Gasket, Exhaust		SRV7034-109	
29	Flue Collar Assembly		SRV7082-013	
30	Gasket, Flue Adpator Flange		SRV7036-180	**Y**
31	Top Vent Adapter		TPVNT-4	
32	Convection Blower		SRV7080-105	**Y**
33	Feed Assembly		SRV7080-010	**Y**
	Feed Spring Assembly (Only)		SRV7001-046	**Y**
	Gasket, Feed Motor		SRV7034-144	
	Feed Motor		812-4421	**Y**
34	Elbow Catch		7000-393	
35	Magnetic Switch		SRV7000-375	**Y**
36	Bracket, Hopper Magnet		7036-149	
	Component Pack Mahogany Matte Black	**Pre #HF3166001**	SRV7082-043	
		Post #HF3166001	SRV7082-047	
		Sienna Bronze	SRV7082-044	
	Porcelain	**Pre #HF3166001**	SRV7082-045	
		Post #HF3166001	SRV7082-048	
	Twilight	**Pre #HF3166001**	SRV7082-046	
		Post #HF3166001	SRV7082-049	
	Cleanout Tool		414-1140	**Y**
	Power Cord		812-1180	**Y**

Additional service part numbers appear on following page.

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
	Paint Touch-Up	Matte Black	3-42-19905	
		Sienna Bronze	TOUCHUP-CSB	
		Porcelain Mahogany	1-00-0014	
		Twilight	0001285	
	Heating Element Assembly 18” (Loop Igniter)	Pkg of 1	SRV7000-647	**Y**
		Pkg of 10	SRV7000-647/10	**Y**
	Wing Thumb Screw 8-32 X 1/2	Pkg of 24	7000-223/24	**Y**
	Wire Clip		7000-400/10	**Y**
	Accessories			
	Adjustable Hearth Support		ADJSPT-12	**Y**
	Damper, 3 Inch - Tall Vertical Installs Only		PEL-DAMP3	**Y**
	Damper, 4 Inch - Tall Vertical Installs Only		PEL-DAMP4	
	Exhaust Probe		SRV7000-669	
	Log Set (2 Pc)	Sold as set only	LOGS-60-AE-B	**Y**
	Outside Air Kit		OAK-3	
	Top Vent Adapter		TPVNT-4	
	Flue Adapter (Required if TPVNT-4 is removed)		LKADP	
	Surround, Std, Panel, For Cast Trim		SP-MTVS-CST	
	Component Pack		7036-041	
	Surround, Std, Panel, w/Gold Trim	**No longer available**	SP-MTVS-GD	
	Component Pack		7036-042	
	Trim, Panel Set, Gold		SRV250-4660	
	Surround, Std, Panel, Nickel Black		SP-MTVS-NB	
	Component Pack		7036-042	
	Trim Set, Black Nickel		7019-027	
	Bracket for Trim Installation		SRV7022-503G	
	Trim Cast	Matte Black	811-0930	
		Sienna Bronze	TR-CAST-CSB	
		Porcelain Mahogany	811-0960	
		Twilight	TR-CAST-TWL	
	Footer, Left	Matte Black	414-7090MBK	
		Sienna Bronze	414-7090CSB	
		Porcelain Mahogany	414-7090PMH	
		Twilight	414-7090TWL	
	Footer, Right	Matte Black	414-7100MBK	
		Sienna Bronze	414-7100CSB	
		Porcelain Mahogany	414-7100PMH	
		Twilight	414-7100TWL	

Additional service part numbers appear on following page.

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
Accessories				
	Header	Matte Black	414-7110MBK	
		Sienna Bronze	414-7110CSB	
		Porcelain Mahogany	414-7110PMH	
		Twilight	414-7110TWL	
	Trim Leg, Left	Matte Black	414-7120MBK	
		Sienna Bronze	414-7120CSB	
		Porcelain Mahogany	414-7120PMH	
		Twilight	414-7120TWL	
	Trim Leg, Right	Matte Black	414-7130MBK	
		Sienna Bronze	414-7130CSB	
		Porcelain Mahogany	414-7130PMH	
		Twilight	414-7130TWL	
	Wired Thermostat Kit		SRV7082-098	Y
Fasteners				
	Wing Thumb Screw 8-32 X 1/2	Pkg of 24	7000-223/24	Y
	Bolt, Grd 2 Tap 3/8 x 4		223-0140	
	Nut, Wing 1/4-20	Pkg of 12	226-0110/12	Y
	Screw, Sheet Metal #8 X 1/2 S-Grip	Pkg of 40	12460/40	Y
	Washer, Sae	Pkg of 25	227-0080/25	Y
	Washer, FI 1/4 Black	Pkg of 10	1202473-10	
		Pkg of 50	1202473PK	
	Screw, Hwh Ms 1/4-20 X 3/4 Ns	Pkg of 25	220-0080/25	Y
	Nut, Ser Flange Small 1/4-20	Pkg of 24	226-0130/24	Y
		Pkg of 100	3-30-8024-100	Y
	Screw 1/4-20x5/8 Phillips Pan Head	Pkg of 24	7000-398/24	Y
	Screw Phillips Button Head 1/4-20x3/8	Pkg of 24	7000-401/24	Y
	Screw 8 - 32x3/8 HWH BK	Pkg of 40	SRV060-883/40	
	Screw Flat Head Philips 8-32 X 1/2	Pkg of 12	220-0490/12	Y
	Magnet Round		SRV7000-140	Y
	Hurricane Screw	Pkg of 40	SRV2005-861/40	
	Screw, Pan Head Phillips, 10/32 X 1/4	Pkg of 24	229-1230/24	Y
	Bolt, Shoulder, 5/16x1/4-20	Pkg of 20	223-0170/20	Y
	Screw, Pan Head Phillips 8-32 X 3/4	Pkg of 24	229-1100/24	Y
	Washer, Spring 5/16	Pkg of 4	7000-572/4	Y
	Screw, Ph, Phl Tc 8-32 X 1/2	Pkg of 25	220-0030/25	Y
	Screw, Pan Head Phillips 8-32 X 3/8	Pkg of 40	225-0500/40	Y
	Retaining Ring, 7mm	Pkg of 24	8331-004/24	Y

QUADRA-FIRE®

NOTHING BURNS LIKE A QUAD

CONTACT INFORMATION

Hearth & Home Technologies
352 Mountain House Road
Halifax, PA 17032
Division of HNI INDUSTRIES

**Please contact your Quadra-Fire dealer with any questions or concerns.
For the number of your nearest Quadra-Fire dealer
log onto www.quadrafire.com**

CAUTION

DO NOT DISCARD THIS MANUAL

- Important operating and maintenance instructions included.
- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation of this appliance.

We recommend that you record the following pertinent information for your heating appliance.

Date purchased/installed:	
Serial Number:	Location on appliance:
Dealership purchased from:	Dealer Phone: 1( ) -
Notes:	

This product may be covered by one or more of the following patents: (United States) 5341794, 5263471, 6688302, 7216645, 7047962 or other U.S. and foreign patents pending.

HEARTH&HOME technologies™

Installation Manual

Installation & Appliance Set-Up

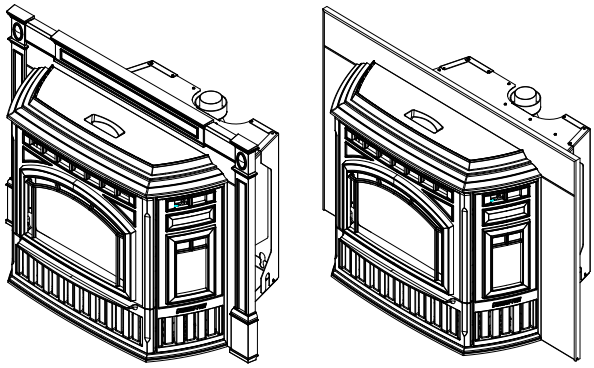
INSTALLER: Leave this manual with party responsible for use and operation.
OWNER: Retain this manual for future reference.

NOTICE: DO NOT DISCARD THIS MANUAL

QUADRA-FIRE®

TREKKER INSERT PELLET APPLIANCE

MODEL(S):
TREKKERI-MBK
TREKKERI-PMH
TREKKERI-TWL



Pellet Fuels Institute

⚠ CAUTION

Check building codes prior to installation.

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult local building, fire officials or authorities having jurisdiction about restrictions, installation inspection, and permits.

Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies recommends HHT Factory Trained or NFI certified professionals.

hearthED FACTORY TRAINING Fuel Your Fire

NFI NATIONAL FIREPLACE INSTITUTE® A CERTIFICATION AGENCY

For Units Post Serial # HF3166001

⚠ WARNING

If the information in these instructions is not followed exactly, a fire could result causing property damage, personal injury, or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not over fire - If appliance or chimney connector glows, you are over firing. Over firing will void your warranty.
- Comply with all minimum clearances to combustibles as specified. Failure to comply may cause house fire.

⚠ WARNING

HOT SURFACES!

Glass and other surfaces are hot during operation AND cool down. Hot glass will cause burns.

- Do not touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures
- High temperatures may ignite clothing or other flammable materials.
- Keep clothing, furniture, draperies and other flammable materials away.

⚠ CAUTION

Tested and approved for wood pellets only. Burning of any other type of fuel voids your warranty.

NOTE: To obtain a French translation of this manual, please contact your dealer or visit www.quadrafire.com

REMARQUE : Pour obtenir une traduction française de ce manuel, s'il vous plaît contacter votre revendeur ou visitez www.quadrafire.com

Safety Alert Key:

- **DANGER!** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- **WARNING!** Indicates a hazardous situation which, if not avoided could result in death or serious injury.
- **CAUTION!** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE:** Indicates practices which may cause damage to the appliance or to property.

TABLE OF CONTENTS

➔ = Contains updated information

1 Important Safety Information

A. Appliance Certification

Model:	Trekker Insert Pellet Appliance
Laboratory:	OMNI Test Laboratories, Inc.
Report No:	061-S-84-2, 0061PS094E
Type:	Solid Fuel Room Appliance, Pellet Fuel Burning Type
Standard:	ASTM E1509-12, ULC-S628-93 and (UM) 84-HUD, Mobile Home Approved.

The Trekker insert is Certified to comply with 2020 particulate emission standards.

This pellet appliance needs periodic inspection and repair for proper operation. It is against federal regulations to operate this pellet appliance in a manner inconsistent with the operating instructions in the owner's manual.

NOTICE: This installation must conform with local codes. In the absence of local codes you must comply with the **ASTM E1509-12, ULC S628-93, (UM) 84-HUD and ULC/ORD-C-1482**.

Approved for ZC fireboxes.

B. BTU & Efficiency Specification

Emissions Report Number:	0061PS094E
EPA Certification Number:	Number: 98-17
EPA Certified Emissions:	0.74 grams per hour
***LHV Tested Efficiency:**	83.2%
****HHV Tested Efficiency:**	77.9%
*****EPA BTU Output:**	12,700 to 39,400 / hr.
******BTU Input:**	16,400 to 50,800 / hr.
Vent Size:	3" or 4" Type "L" or "PL"
Hopper Capacity:	52 lbs.
Fuel	Premium Wood Pellets
*Weighted average LHV (Low Heating Value) efficiency using data collected during EPA emissions tests.	
*Weighted average HHV (High Heating Value) efficiency using data collected during EPA emissions tests.	
***A range of BTU outputs calculated using HHV efficiency and the burn rates from the EPA tests.	
****Based on the maximum feed rate per hour multiplied by approximately 8600 BTU's which is the average BTU's from a pound of pellets.	
‡ Grade of pellet fuel as certified by Pellet Fuels Institute (PFI), ENPlus or CANplus.	

C. Glass Specifications

This appliance is equipped with 5mm ceramic glass. Replace glass only with 5mm ceramic glass. Please contact your dealer for replacement glass.

D. Electrical Rating

115 VAC, 60 Hz, Start 2.9 Amps, Run 2.45 Amps

E. Mobile Home Approved

- This appliance is approved for mobile home installations when not installed in a sleeping room and when an outside combustion air inlet is provided.
- The structural integrity of the mobile home floor, ceiling, and walls must be maintained.
- The appliance must be properly grounded to the frame of the mobile home and use only Listed pellet vent Class “L” or “PL” connector pipe.
- Outside Air Kit, part OAK-3 must be installed in a mobile home installation.

F. Non-Combustible Materials

Material which will not ignite and burn, composed of any combination of the following:

- Steel
- Plaster
- Brick
- Iron
- Concrete
- Tile
- Glass
- Slate

Materials reported as passing **ASTM E 136, Standard Test Method for Behavior of Metals**, in a Vertical Tube Furnace of 750° C.

G. Combustible Materials

Material made of/or surfaced with any of the following materials:

- Wood
- Compressed Paper
- Plant Fibers
- Plastic
- Plywood/OSB
- Sheet Rock (drywall)

Any material that can ignite and burn: flame proofed or not, plastered or non-plastered.

H. Sleeping Room

When installed in a sleeping room it is recommended that 3ft of vertical be installed prior to horizontally exiting the room and a smoke/CO alarm be installed in the bedroom. The size of the room must be at least 50ft³ per 1,000 Btu/hr stove input, if the stove exceeds the room size, out air must be installed.

I. California - Prop65

WARNING

This product and the fuels used to operate this product (wood), and the products of combustion of such fuels, can expose you to chemicals including carbon black, which is known to the State of California to cause cancer, and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to: WWW.P65Warnings.ca.gov

WARNING

Fire Risk

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with appliance).
- Do NOT Over fire - If appliance or chimney connector glows, you are over firing.

Any such action that may cause a fire hazard.

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.

For assistance or additional information, consult a qualified installer, service agency or your dealer.

NOTE: Hearth & Home Technologies, manufacturer of this appliance, reserves the right to alter its products, their specifications and/or price without notice.

2 Getting Started

A. Design, Installation & Location Considerations

NOTICE: Check building codes prior to installation.

1. **Appliance Location**

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult insurance carrier, local building inspector, fire officials or authorities having jurisdiction over restrictions, installation inspection and permits.

It is a good idea to plan your installation on paper, using exact measurements for clearances and floor protection, before actually beginning the installation. Location of the appliance and chimney will affect performance.

Consideration must be given to:

- Safety, convenience, traffic flow
- Placement of the chimney and chimney connector and to minimize the use of chimney offsets.
- Place the appliance where there will be a clear passage for a Listed chimney through the ceiling and roof (vertical) or through exterior wall (horizontal).
- Installing the required outside air kit will affect the location of the vent termination.

When locating vent and venting termination, the ideal location is to vent above roof line when possible. This minimizes the affects of wind loading.

Since pellet exhaust can contain ash, soot or sparks, you must consider the location of:

- Windows
- Air Intakes
- Air Conditioner
- Overhang, soffits, porch roofs, adjacent walls
- Landscaping, vegetation
- Horizontal or vertical vent termination

2. **Floor Support**

The supporting floor under the appliance must be able to handle the weight of the appliance, fuel load and the weight of the chimney.

Ensure that your floor will support these weights prior to installation. Add sufficient additional support to meet this weight requirement prior to installation. The weight of the appliance is 510 lbs with a full load of fuel the max weight is 557 lbs

WARNING

Risk of Fire.

Damaged parts could impair safe operation. Do NOT install damaged, incomplete or substitute components.

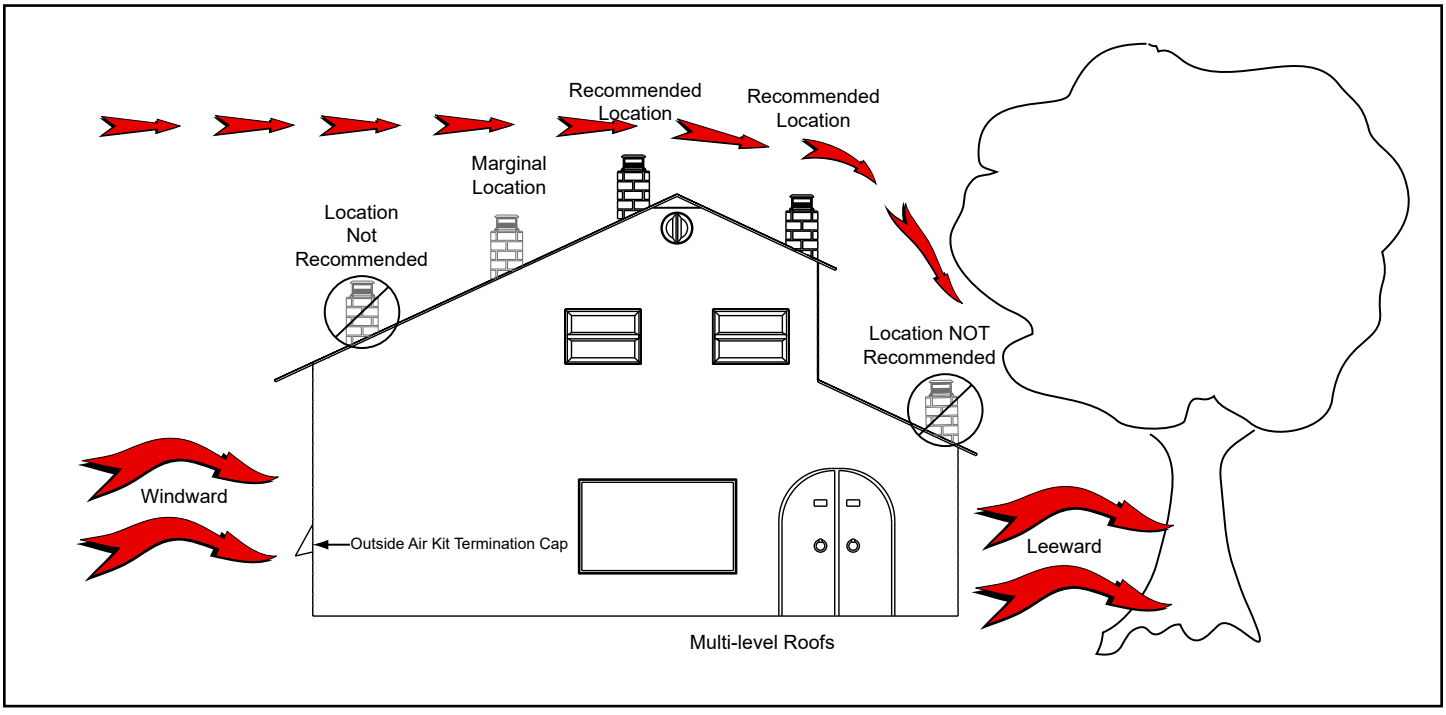


Figure 5.1

WARNING

Risk of Fire!

- Damaged parts could impair safe operation.
- Do NOT install damaged, incomplete or substitute components.

WARNING

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with appliance).
- Do NOT Over fire

Or any such action that may cause a fire hazard.

B. Tools And Supplies Needed

Tools and building supplies normally required for installation, unless installing into an existing masonry fireplace:

- Reciprocating Saw
- Channel Locks
- Hammer
- Phillips Screwdriver
- Tape Measure
- Plumb Line
- 1/4” Self-Tapping Screws
- Framing Material
- Hi-temp Caulking Material
- Gloves
- Safety Glasses
- Framing Square
- Electric Drill & Bits (1/4”)
- Level

<u>May also need:</u>

Vent Support Straps

Venting Paint

C. Inspect Appliance and Components

- Open the appliance and remove all the parts and articles packed inside the Component Pack. Inspect all the parts and glass for shipping damage.
- Report to your dealer any parts damaged in shipment.
- All labels have been removed from the glass door.
- Plated surfaces have been wiped clean with a soft cloth, if applicable.
- **Read all the instructions before starting the installation. Follow these instructions carefully during the installation to ensure maximum safety and benefit.**
- **Follow pipe manufacturer instructions for installation and air clearance requirements.**

NOTE: Upon removing the appliance from the fireplace a tag shall be permanently attached to the fireplace indicating it has been altered and should be inspected by a qualified person prior to re-use as a conventional fireplace (tag included in component pack).

D. Install Checklist

ATTENTION INSTALLER:

Follow this Standard Work Checklist

This standard work checklist is to be used by the installer in conjunction with, not instead of, the instructions contained in this installation manual.

Customer: _____
Date Installed: _____
Lot/Address: _____
Location of Appliance: _____
Installer: _____
Dealer/Distributor Phone Number: _____
Serial Number: _____
Model Name: _____

WARNING! Risk of Fire or Explosion! Failure to install appliance to these instructions can lead to a fire or explosion.

Appliance Install	**YES**	**IF NO, WHY?**
Verified clearance to combustibles.	☐	_____
Appliance is leveled and connector is secured to appliance.	☐	_____
Hearth extension size/height decided.	☐	_____
Outside air kit installed.	☐	_____
Floor protection requirements have been met.	☐	_____
If appliance is connected to a masonry chimney, it should be cleaned and inspected by a professional. If installed to a factory built metal chimney, the chimney must be installed according to the manufacturer's instructions and clearances.	☐	_____
Venting/Chimney		
Chimney configuration complies with diagrams.	☐	_____
Chimney installed, locked and secured in place with proper clearance.	☐	_____
Chimney meets recommended height requirements (5 feet minimum vertical).	☐	_____
Roof flashing installed and sealed.	☐	_____
Terminations installed and sealed.	☐	_____
Electrical		
120 VAC unswitched power provided to the appliance.	☐	_____
Check outlet with multi-meter for proper polarity and voltage (115-120 VAC). Record voltage reading: _____	☐	_____
Clearances		
Verified all clearances meet installation manual requirements.	☐	_____
Mantels and wall projections comply with installation manual requirements.	☐	_____
Floor protection and heart extensions installed per manual requirements.	☐	_____
Appliance Setup		
All protective materials removed.	☐	_____
All labels have been removed from the door.	☐	_____
All packaging materials are removed from inside/under appliance.	☐	_____
Manual bag and all of its contents are removed from inside/under the appliance and given to the party responsible for use and operation.	☐	_____
Started appliance and verified that all motors and blowers operate as they should.	☐	_____
Checked draft using a Manometer. Record readings: _____	☐	_____
Checked vacuum using a Manometer. Record readings: _____	☐	_____

Hearth & Home Technologies recommends the following:
Photographing the installation and copying this checklist for your file.
That this checklist remain visible at all times on the appliance until the installation is complete.

Comments: Further description of the issues, who is responsible (Installer/Builder/Other Trades, ets.) and corrective action needed:
Comments communicated to party responsible _____ by _____ on _____
(Builder/Gen. Contractor) (Installer) (Date)

3 Dimensions and Clearances

A. Appliance Dimensions

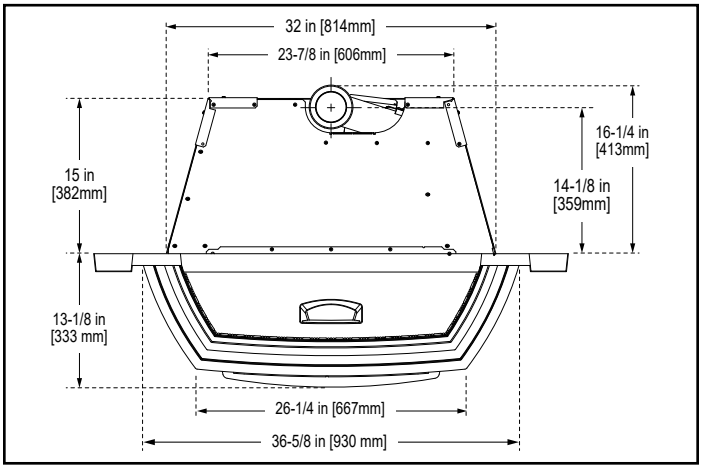


Figure 8.1 - Top View with Cast Panel Set

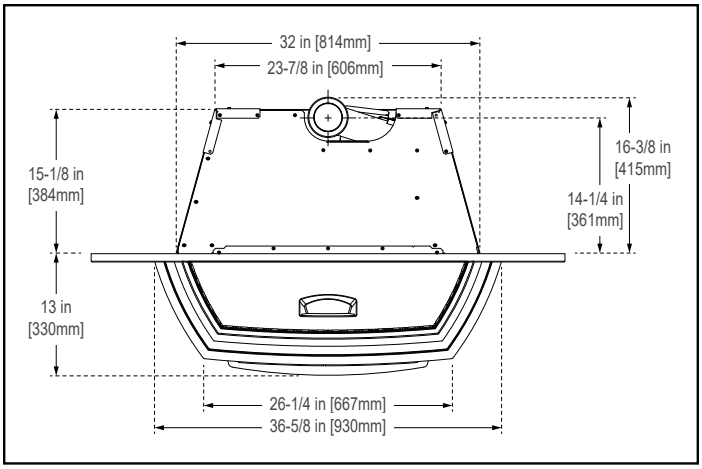


Figure 8.4 - Top View with Basic Surround Panel Set

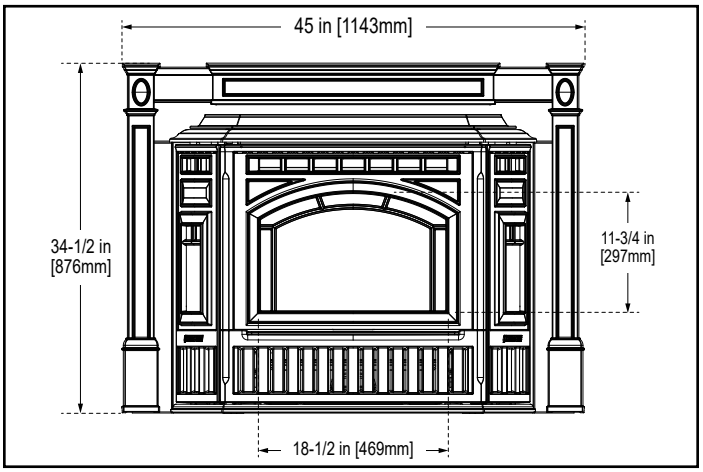


Figure 8.2 - Front View with Cast Panel Set

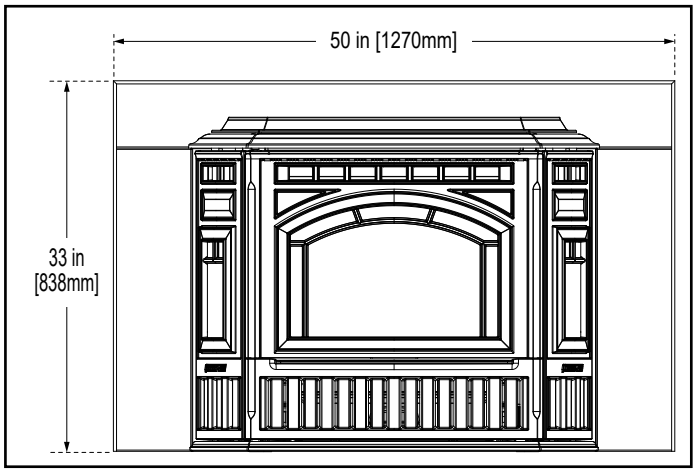


Figure 8.5 - Front View with Basic Surround Panel Set

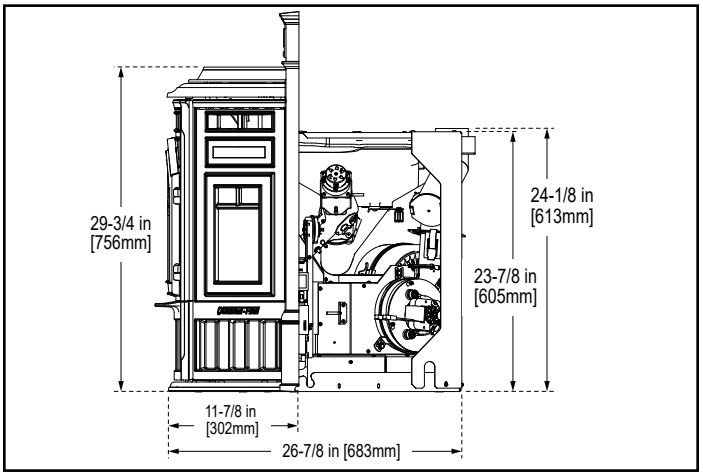


Figure 8.3 - Side View with Cast Panel Set

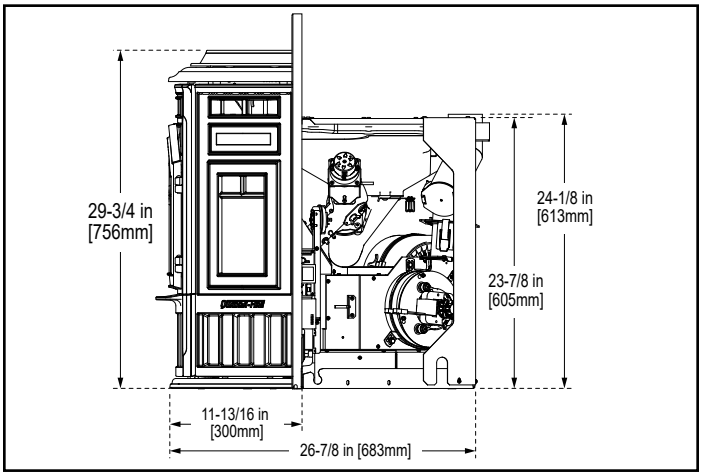
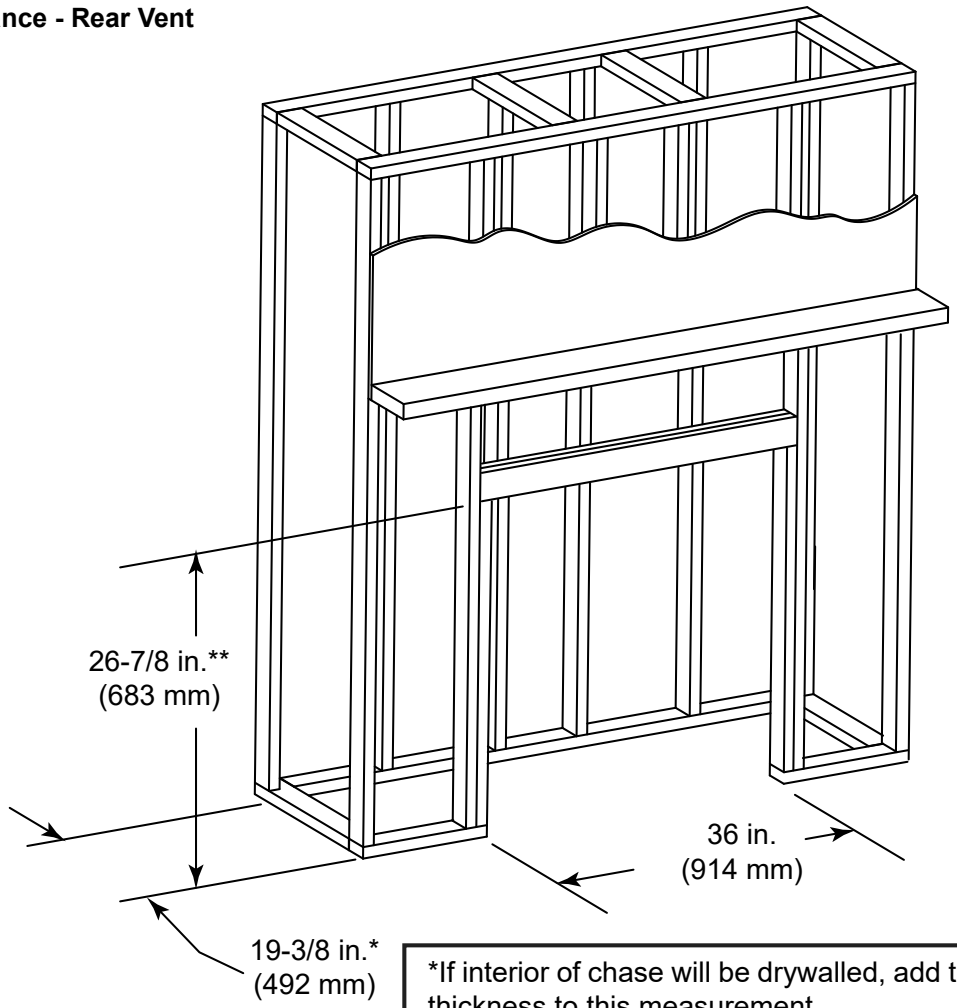


Figure 8.6 - Side View with Basic Surround Set

B. Clearance to Combustibles, US & CAN

Built-in Appliance - Rear Vent



*If interior of chase will be drywalled, add the thickness to this measurement.
**From finished floor protection. The size of your floor protector choice must be added to this dimension.

Figure 9.1

WARNING

Fire Risk.

- Comply with all minimum clearances to combustibles as specified.

Failure to comply may cause house fire.

NOTE:

- Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY.
- Illustrations/diagrams are not drawn to scale.
- Actual installation may vary due to individual design preference.

C. Masonry Chimney and Fireplace Clearances

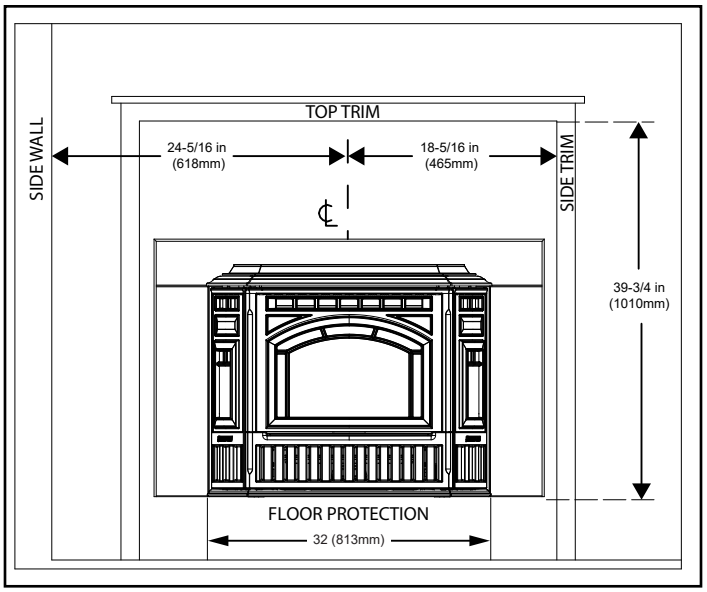


Figure 10.1

NOTE: If trim measurement is over 3/4 in (19mm) in depth use mantle or side clearances to combustibles.

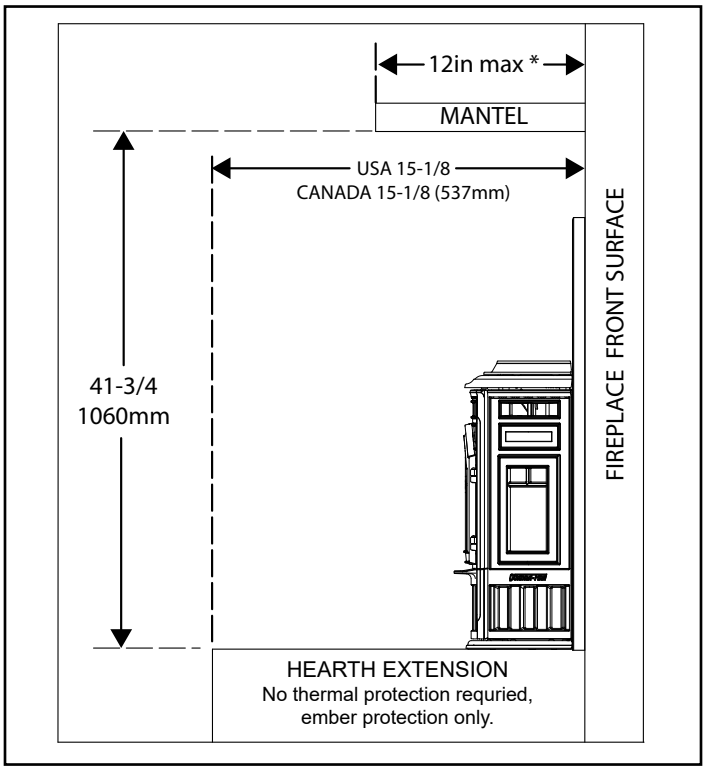


Figure 10.2

*If mantel depth is 10 inches or less, than the height from the hearth to the bottom of the mantel is 39-3/4 inches.

D. Minimum Opening for Masonry & ZC Fireplaces

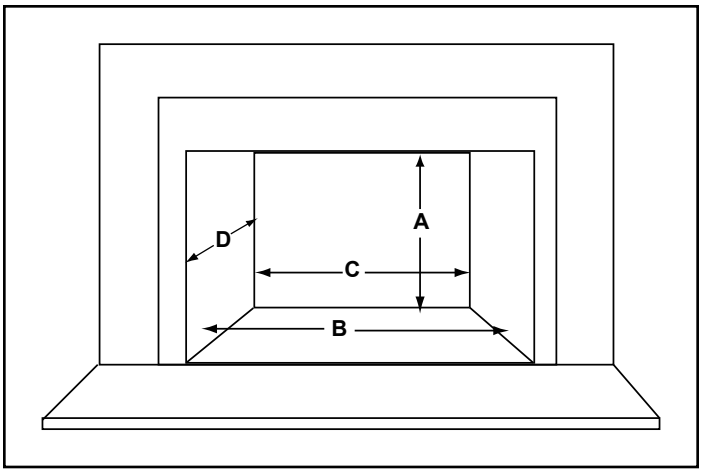


Figure 10.3

Minimum Opening Dimensions		Inches	Millimeters
A	Height	24-3/8	619
B	Front Width (Steel Panel Set)	32-1/4	819
	Front Width (Cast Panel Set)	32-1/4	819
C	Back Width	24-1/8	613
D	Depth (Steel Panel Set)	16-5/8	422
	Depth (Cast Panel Set)	16-1/4	413

Table 10.1

NOTE: Minimum opening dimensions include a 1/4" (6mm) clearance around unit.

E. Hearth Extension

Use a non-combustible ember floor protector, extending beneath the appliance and to the front, and to the sides as indicated in Floor Protection below.

F. Floor Protection

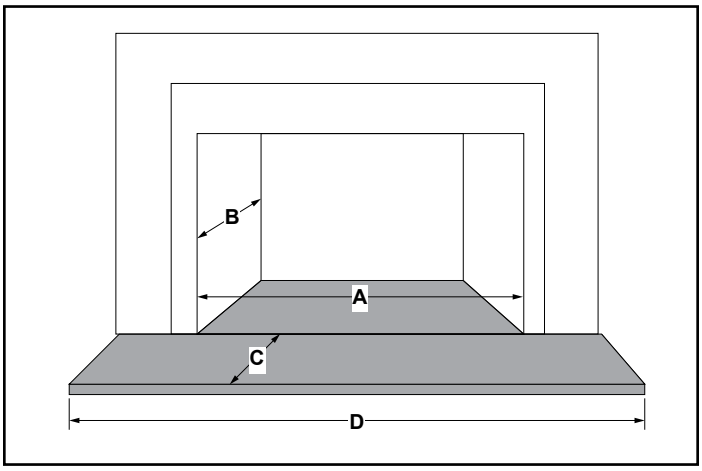


Figure 11.1

Minimum Floor Protection Dimensions		Inches	Millimeters
A	Front Width (Steel Panel Set)	32-1/4	819
	Front Width (Cast Panel Set)	32-1/4	819
B	Depth (Steel Panel Set)	16-5/8	422
	Depth (Cast Panel Set)	16-1/4	413
C	Floor Protection Depth	15-1/8	384
D	Floor Protection Width	32	813

Table 11.1

G. Installation into a Factory-Built Fireplace

The following modifications are permissible:

- Removal of damper or locked in open position
- Removal of smoke shelf or baffle
- Removal of ember catches
- Removal of fire grate
- Removal of view screen/curtain
- Removal of doors
- Removal of factory-built fireplace floor

- External trim pieces which do not affect the operation of the fireplace may be removed providing they can be stored on or within the fireplace for reassembly if the insert is removed.
- The permanent metal warning label provided must be attached to the back of the fireplace, with screws or nails, stating that the fireplace may have been altered to accommodate the insert, and must be returned to original condition for use as a conventional fireplace **(Figure 11.2)**.

WARNING

THIS FIREPLACE MAY HAVE BEEN ALTERED TO ACCOMMODATE AN INSERT. IT MUST BE RETURNED TO ITS ORIGINAL CONDITION BEFORE USE AS A SOLID FUEL BURNING FIREPLACE.

250-2061

Figure 11.2

- If the hearth extension is lower than the fireplace opening, the portion of the insert extending onto the hearth must be supported.
- Manufacturer designed adjustable support kit can be ordered from your dealer.

NOTE: Refer to chimney liner manufacturer for recommendations on supporting the liner. Installation into fireplaces without a permit will void the listing.

- The firebrick (refractory), glass doors, screen rails, screen mesh and log grates can be removed from a factory-built firebox in order to gain minimum insert opening requirements.
- Any smoke shelves, shields and baffles may be removed from a factory-built firebox if attached with mechanical fasteners.
- The metal floor of the factory-built firebox may be removed to facilitate the installation of the insert only when a 1 inch (25mm) airspace is provided between the insert and the floor of outer wrap.

The following is only one example as there are many different models of factory-built fireplaces.

NOTE: This example is for reference only. Any modifications must not compromise the structural integrity or reduce the protection for combustible materials.

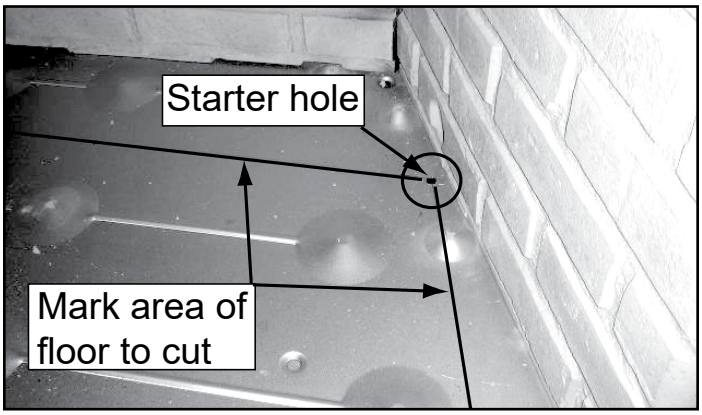


Figure 11.3 - Measure and mark the metal floor for cutting. With a drill, make a starter hole in each corner.

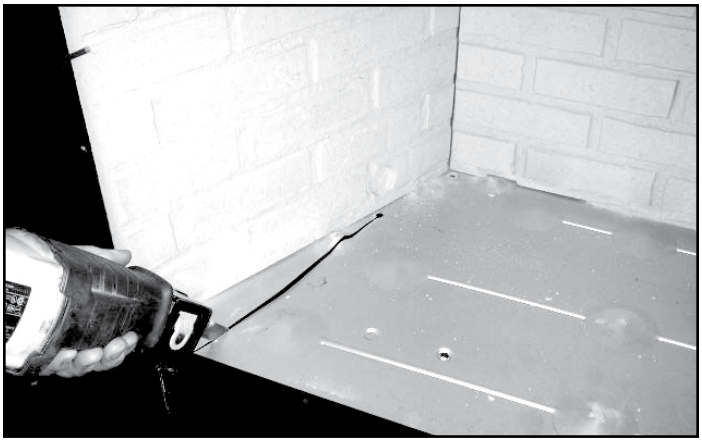


Figure 12.1 - Using a saws-all, cut out the floor.

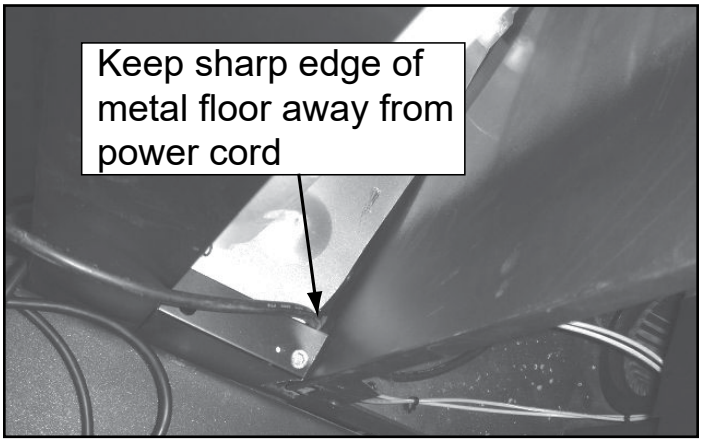


Figure 12.2 - Place the insert into the factory-built firebox. Ensure that the power cord can not be damaged by the sharp metal edge. You may need to cut out a notch to accommodate the cord.

H. Installation into a Masonry Fireplace

All modifications that can be made to a Factory Built Fireplace can be made to a Masonry Fireplace.

In addition DO NOT remove any brick or mortar from the existing fireplace.

WARNING

- Removing floor of fireplace must not weaken structure of firebox or reduce protection for combustible materials.
- Final approval of this installation type is contingent upon the appropriate local authority having jurisdiction.

I. Prefabricated Metal Chimney

The chimney can be new or existing, masonry or prefabricated and must meet the following minimum requirements:

- Must be minimum 6 inch (152mm) inside diameter of high temperature chimney listed to **UL 103 HT (2100°F) or ULC-S628**.
- Must use components required by the manufacturer for installation.
- Must maintain clearances required by the manufacturer for installation.
- Refer to manufacturers instructions for installation
- This insert is listed to **ASTM E 1509-12 Standard** and is approved for installation into listed factory-built zero clearance fireplaces listed to **UL 127** conforming to the following specifications and instructions:
- The original factory-built clearance fireplace chimney cap must be re-installed after installing the approved chimney liner meeting type **UL 103 HT** requirements (2100°F) per **UL 1777**.
- If the chimney is not listed as meeting HT requirements, or if the factory built fireplace was tested prior to 1998, a full height listed chimney liner must be installed from the appliance flue collar to the chimney top.
- The liner must be securely attached to the insert flue collar and the chimney top.
- The air flow of the factory-built zero-clearance fireplace system must not be altered. The flue liner top support attachment must not reduce the air flow for the existing air-cooled chimney system.
- No dilution air is allowed to enter the chimney.

1. Secure the fireplace damper in the open position. If this cannot be accomplished, it will be necessary to remove the damper.
2. Seal damper area of chimney around chimney connector with a high temperature sealant or seal insert against the face of the fireplace.
3. Both methods must be removable and replaceable for cleaning and re-installation.

WARNING

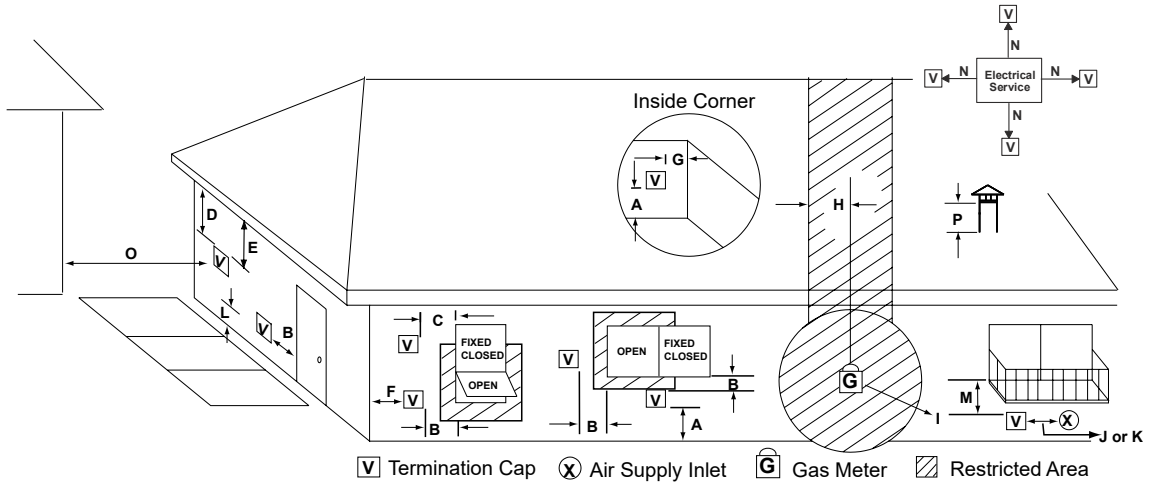
Risk of Fire!

Follow venting manufacturer's clearances and instructions when installing venting system.

NOTICE: In Canada when using a factory-built chimney it must be safety listed, **Type UL103 HT (2100°F) [1149°C] CLASS "A" or conforming to CAN/ULC-S629M, STANDARD FOR 650°C FACTORY-BUILT CHIMNEYS**.

4 Vent Safety Information

A. Venting Termination Minimum Requirements



All minimum clearances are listed with an Outside Air Kit (OAK) installed, unless otherwise noted in table below.

A	12 in.	Above Finish Grade (the grade surface must be a non-combustible material
B	12 in. 48 in. no OAK	Open door or window: below or to the side
B	12 in.	Open door or window: above
C	6 in.	Permanently closed window: above, below or to the side
D	18 in. 36 in. no OAK	Vertical clearance to a ventilated soffit located above the terminal within a horizontal distance of 2 ft from the center-line of the terminal
E	12 in.	Clearance to unventilated soffit
F	12 in.	Clearance to outside corner
G	12 in.	Clearance to inside corner
H	36 in.	Above gas meter/regulator measured from horizontal center-line of regulator
I	36 in. USA 72 in. Canada	Clearance to service regulator vent outlet
J	12 in. 48 in. no OAK	Clearance to non-mechanical air supply inlet to the building or the combustions air inlet to any other appliance
K	10 ft horizontal 3 ft vertical	Clearance to mechanical air supply
L	7 ft.	Above paved sidewalk, paved driveway located on **public** property
M	12 in.	Under an open veranda, porch, deck or balcony
N	See Note below*	Electric service: above, below or to the side (location must not obstruct or interfere with access)
O	24 in.	Adjacent building, fences and protruding parts of the structure
P	12 in.	Clearance above roof line for vertical terminations

***NOTE:** Consult local building, fire officials or authorities having jurisdiction. Local codes or regulations may require different clearances.

24 in.	Above grass, top of plants, wood or any other combustible
12 in. 36 in. no OAK	Clearance from any forced air intake of other appliance
12 in.	Clearance horizontally from combustible wall
15 in.	Vented directly through a wall, minimum length of horizontal pipe
6 in. horizontal 12 in. vertical	Minimum horizontal or vertical terminations must protrude from wall

NOTICE: Termination must exhaust above air inlet elevation.

- It is recommended that at least 60 inches (1.52m) of vertical pipe be installed when appliance is vented directly through a wall. This will create a natural draft, which will help prevent the possibility of smoke or odor venting into the home during a power outage.
- It will also keep exhaust from causing a nuisance or hazard by exposing people or shrubs to high temperatures.
- The safest and preferred venting method is to extend the vent vertically through the roof or above the roof.

NOTICE: Do NOT Terminate Vent:

- In any location that will allow flue gases or soot from entering or staining the building.
- In any location which could create a nuisance or hazard.
- In any enclosed or semi-enclosed area such as a carport, garage, attic, crawl space, under a sun deck or porch, narrow walkway.
- Closely fenced area, or any location that can build up a concentration of fumes such as a stairwell, covered breezeway, etc.

B. Avoiding Smoke and Odors

Negative Pressure, Shut-Down and Electrical Power Failure

To reduce the probability of back-drafting or burn-back in the pellet appliance during power failure or shut down conditions, it must be able to draft naturally without exhaust blower operation.

Negative pressure in the house will resist this natural draft if not accounted for in the pellet appliance installation.

Heat rises in the house and leaks out at upper levels. This air must be replaced with cold air from outdoors which flows into lower levels of the house.

Vents and chimneys into basements and lower levels of the house can become the conduit for air supply and reverse under these conditions.

Outside Air

An outside air kit (OAK-3) is recommended in all installations and must be ordered separately.

Per national building codes, consideration must be given to combustion air supply to all combustion appliances. Failure to supply adequate combustion air for all appliance demands may lead to back drafting of those and other appliances.

When the appliance is roof vented (strongly recommended):

- The air intake is best located on the exterior wall oriented towards the prevailing wind direction during the heating season.

When the appliance is side-wall vented:

- The air intake is best located on the same exterior wall as the exhaust vent outlet and located lower on the wall than the exhaust vent outlet.

The outside air supply kit can supply most of the demands of the pellet appliance, but consideration must be given to the total house demand.

House demand may consume the air needed for the appliance. It may be necessary to add additional ventilation to the space in which the pellet appliance is located.

Consult with your local HVAC professional to determine the ventilation demands for your house.

Vent Configurations

When installing a pellet appliance with a horizontal vent configuration the frequency of power outages should be considered:

- Power outages during operation will cause the appliance to immediately turn off and may create conditions where smoke will back draft into the house. In order to reduce the likelihood of smoke back drafting into the house during a power outage, Hearth and Home Technologies strongly suggests:
  - Installing the pellet venting with a minimum vertical run of 5 feet (1.52m).
  - Installing the outside air kit at least 4 feet (1.22m) below the vent termination.

To prevent soot damage to exterior walls of the house and to prevent re-entry of soot or ash into the house:

- Maintain specified clearances to windows, doors and air inlets, including air conditioners.
- Vents should not be placed below ventilated soffits. Run the vent above the roof.
- Avoid venting into alcove locations.
- Vents should not terminate under overhangs, decks or onto covered porches.
- Maintain minimum clearance of 12 inches (305mm) from the vent termination to the exterior wall. If you see deposits developing on the wall, you may need to extend this distance to accommodate your installation conditions.

CAUTION

- DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVICING ANOTHER APPLIANCE.
- DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

C. Negative Pressure

WARNING

Risk of Asphyxiation!
Negative pressure can cause spillage of combustion fumes and soot

Negative pressure results from the imbalance of air available for the appliance to operate properly. It can be strongest in lower levels of the house.

Causes include:

- Exhaust fans (kitchen, bath, etc.)
- Range hoods
- Combustion air requirements for furnaces, water appliances and other combustion appliances
- Clothes dryers
- Location of return-air vents to furnace or air conditioning
- Imbalances of the HVAC air handling system
- Upper level air leaks such as:
  - Recessed lighting
  - Attic hatch
  - Duct leaks

To minimize the effects of negative air pressure:

- Install the outside air kit with the intake facing prevailing winds during the heating season
- Ensure adequate outdoor air for all combustion appliances and exhaust equipment
- Ensure furnace and air conditioning return vents are not located in the immediate vicinity of the appliance
- Avoid installing the appliance near doors, walkways or small isolated spaces
- Recessed lighting should be a “sealed can” design
- Attic hatches weather stripped or sealed
- Attic mounted duct work and air handler joints and seams taped or sealed

D. Draft

Draft is the pressure difference needed to vent an appliance successfully. When an appliance is drafting successfully, all combustion byproducts are exiting the home through the chimney.

Install through the warm airspace enclosed by the building envelope. This helps to produce more draft, especially during lighting and die-down of the fire.

Considerations for successful draft include:

- Preventing negative pressure
- Location of appliance and chimney

NOTICE: Hearth & Home Technologies assumes no responsibility for the improper performance of the chimney system caused by:

- Inadequate draft due to environmental conditions
- Down drafts
- Tight sealing construction of the structure
- Mechanical exhausting devices

E. Chimney and Exhaust Connection

1. **Chimney & Connector:** Use 3 or 4 inch (76-102mm) diameter type “L” or “PL” venting system. It can be vented vertically or horizontally.

NOTE: The appliance exhaust outlet is designed to accommodate 3 inch venting. Use of 4 inch venting requires the use of a 3-to-4 inch exhaust vent increaser in addition to any other venting components needed, sold separately.

2. **Mobile Home:** Approved for all Listed pellet vent. If using the 3 inch (76mm) vertical Top Vent Adapter Kit or the 3 to 6 inch (76-152mm) Top Vent Offset Adapter, use Listed double wall flue connector. A Quadra-Fire Outside Air Kit (OAK-3) must be used with manufactured home installations.
3. **Residential:** The 3 inch (76mm) vertical Top Vent Adapter Kit and the 3 to 6 inch (76-152mm) Top Vent Offset Adapter are tested to use 24 gauge single wall flue connector or Listed double wall flue connector to Class A Listed metal chimneys, or masonry chimneys meeting International Residential Code standards for solid fuel appliances.
4. **INSTALL VENT AT CLEARANCE SPECIFIED BY THE VENT MANUFACTURER.**
5. Seal exhaust venting system to the unit with High Temp 500ºF RTV silicone sealant. Secure the venting system to the unit with at least (3) screws. All pellet vent pipe must be secured together either by means provided by the pipe manufacturer or by (3) screws at each joint.
6. DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS APPLIANCE.
7. DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

NOTE: Follow venting manufacturers recommendations for sealing pipe joints.

WARNING

USE ONLY RECOMMENDED VENTING COMPONENTS; OTHERWISE MAKESHIFT PARTS MAY RESULT IN PROPERTY DAMAGE, PERSONAL INJURY, OR DEATH.

F. Equivalent Feet of Pipe

The table below can help you calculate the equivalent feet of pipe which is a method used to determine pellet vent size **(Figure 16.1)**.

WARNING

Vent surfaces get HOT, can cause burns if touched. Non-combustible shielding or guards may be required.

Example of 3 Elbow-Rear Vent Termination Calculation

NOTE: This is a generic example and is not intended to represent any specific fuel type.

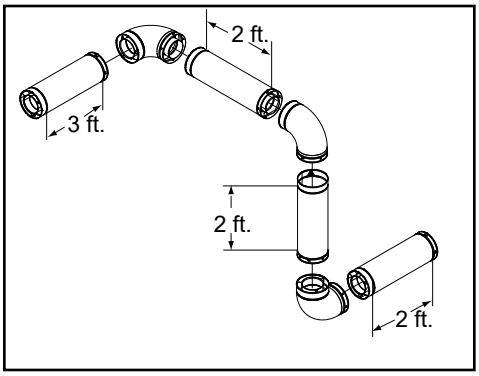


Figure 16.1

Pellet Venting Component	# of Elbows	Feet of Pipe	Multiplied By	Equivalent Feet	Components Equivalent Feet
90° Elbow or Tee	3		X	5	15
45° Elbow			X	3	
Horizontal Pipe		7	X	1	7
Vertical Pipe		2	X	0.5	1
				Total Equivalent Feet	23

Table 16.1

G. Pipe Selection Chart

The chart will help you in determining proper venting size according to the equivalent feet of pipe calculated previously and the altitude above sea level of this installation (**Figure 16.2).**

1. Locate the calculated equivalent feet of pipe on the vertical left side of the chart.
2. Move to the right horizontally on the chart until you reach your altitude above sea level.
3. If you fall below the diagonal line, 3 or 4 inch (76 to 102mm) pipe may be used.
4. If it is anywhere above the diagonal line, a 4 inch (102mm) diameter pipe is required.

NOTICE: A 90° elbow is 5 times as restrictive to the flow of exhaust gases under positive pressure as 1 foot (305mm) of horizontal pipe. A foot of horizontal pipe is twice as restrictive as a foot of vertical pipe.

WARNING

Risk of Fire!

- Only LISTED venting components may be used.
- NO OTHER vent components may be used.
- Substitute or damaged vent components may impair safe operation.

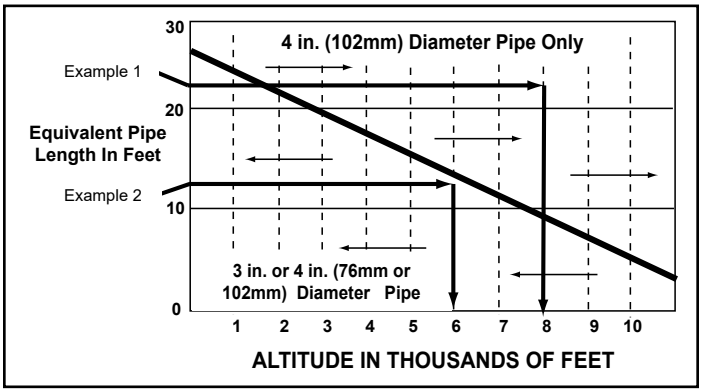


Figure 16.2

Example 1: If the equivalent length of pipe is 23 feet (7m) with altitude of 8,000 feet (2438m) you must use 4 inch (102mm) diameter type “L” or “PL” vent.

Example 2: If the equivalent length of pipe is 12 feet (3.7m) with altitude of 6,000 feet (1829m) you may use 3 or 4 inch (76 to 102mm) diameter type “L” or “PL” vent.

WARNING

Risk of Injury or Property Damage.

- Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.
- Refer to the owner’s information manual provided with this appliance.
- For assistance or additional information consult a qualified installer, service agency or your dealer.

5 Venting Systems

A. Full Reline with Outside Air - Horizontal

CAUTION

Never draw outside combustion air from:
- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

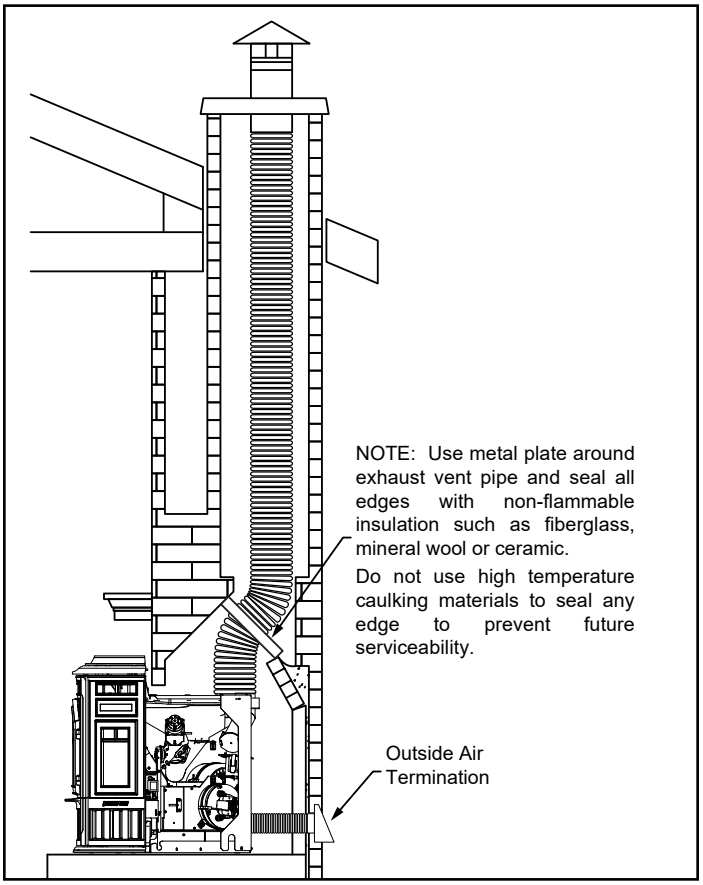


Figure 17.1

NOTE: In Canada, where passage through a wall or partition of combustible construction is desired, the installation shall conform to **CAN/CSA-B365**

WARNING

Fire Risk.

Inspection of Chimney:
- Masonry chimney must be in good condition.
- Meets minimum standard of **NFPA 211**
- Factory-built chimney must be a minimum 6 inch (152mm) **UL103 HT**.

NOTE:
- Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY.
- Illustrations/diagrams are not drawn to scale.
- Actual installation may vary due to individual design preference.

B. Full Reline with Outside Air - Vertical

NOTE: Check clearances carefully for this type of installation to ensure adequate room for outside air venting.

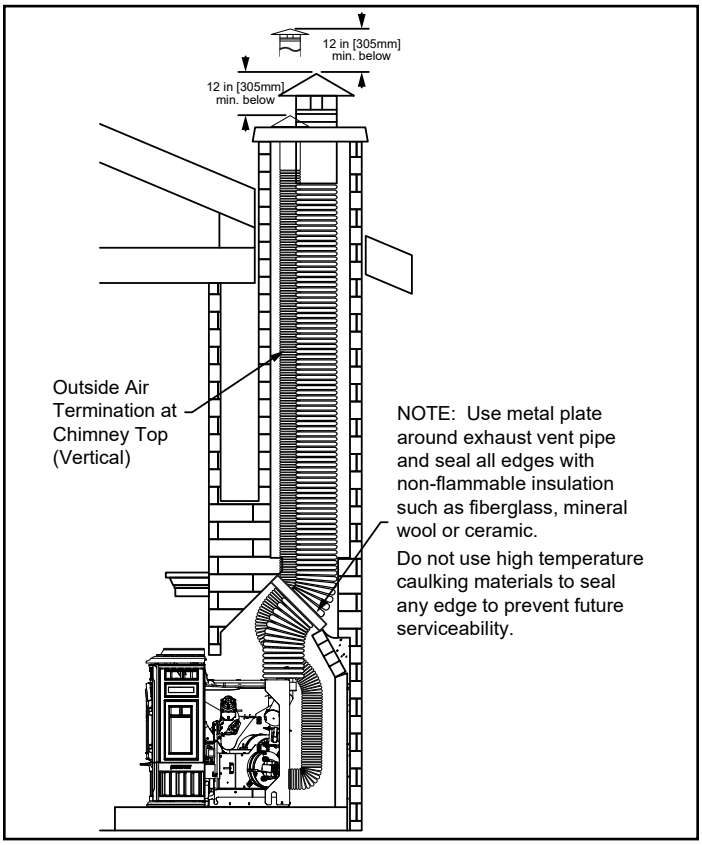


Figure 17.2

NOTE: In Canada this fireplace insert must be installed with a continuous chimney liner extending from the fireplace insert to the top of the chimney. The chimney liner must conform to the Class 3 requirements of **CAN/ULC-S635, Standard for Lining Systems for Existing Masonry or Factory-Built Chimneys and Vents, or CAN/ULC-S640, Standard for Lining Systems for New Masonry Chimneys**.

NOTE: In Canada only a full reline is allowed per **ULC S628, ORD ULC C1482-M1990**.

CAUTION

Check building codes prior to installation.
- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult local building, fire officials or authorities having jurisdiction about restrictions, installation inspection, and permits.

C. Direct Connect with Outside Air

D. Direct Connect without Outside Air

NOTE: In Canada, only a full reline is allowed per **ULC S628-93, ORD ULC C1482-M1990**.

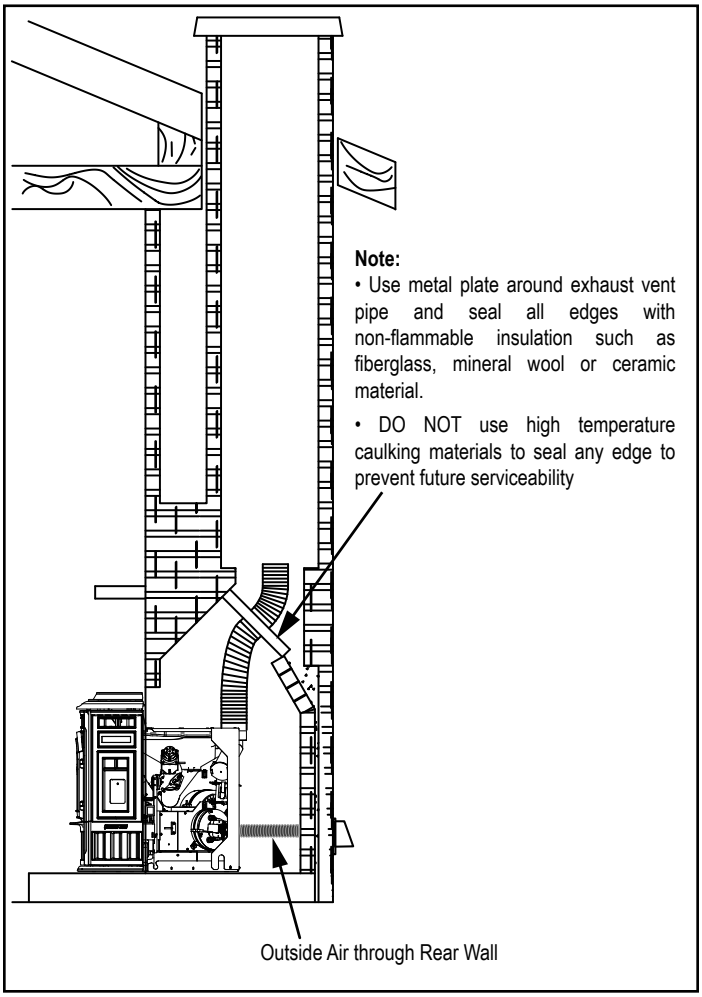


Figure 18.2

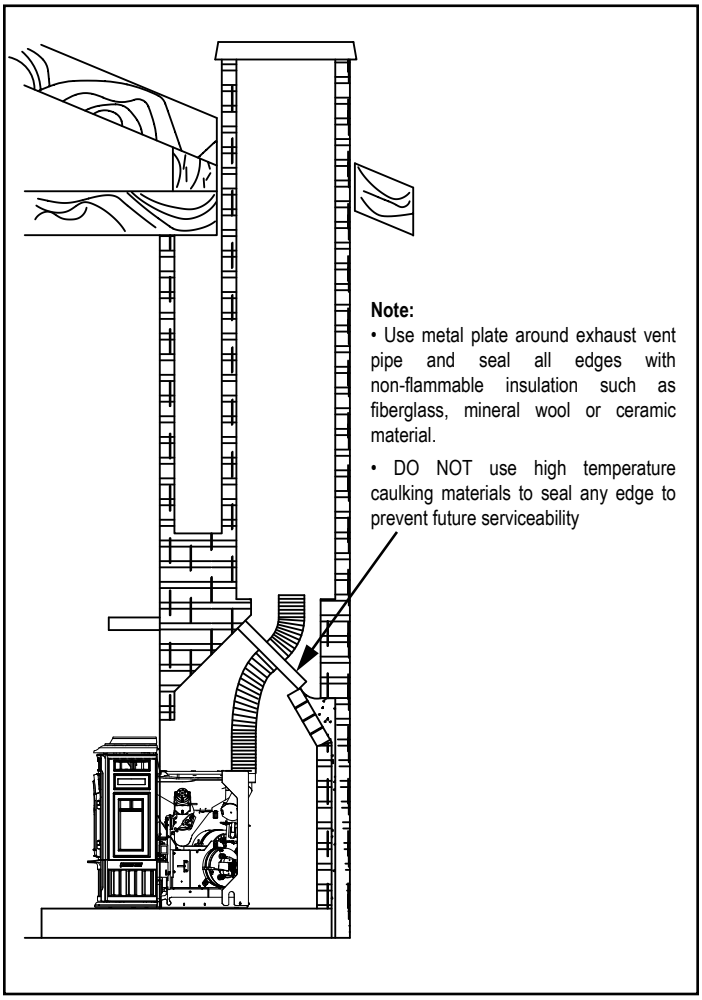


Figure 18.2

NOTE:
- Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY.
- Illustrations/diagrams are not drawn to scale.
- Actual installation may vary due to individual design preference.

CAUTION

Never draw outside combustion air from:
- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

WARNING

Fire Risk.

Inspection of Chimney:
- Masonry chimney must be in good condition.
- Meets minimum standard of **NFPA 211**
- Factory-built chimney must be a minimum 6 inch (152mm) **UL103 HT**.

NOTE: In Canada, where passage through a wall or partition of combustible construction is desired, the installation shall conform to **CAN/CSA-B365**.

6 Appliance Set-Up

A. Leveling System

The leveling bolts are located on the sides of the appliance, front and rear. To access the bolts, remove the front access panels. Reach in and turn the bolt to the desired height to level the appliance **(Figure 19.1)**.

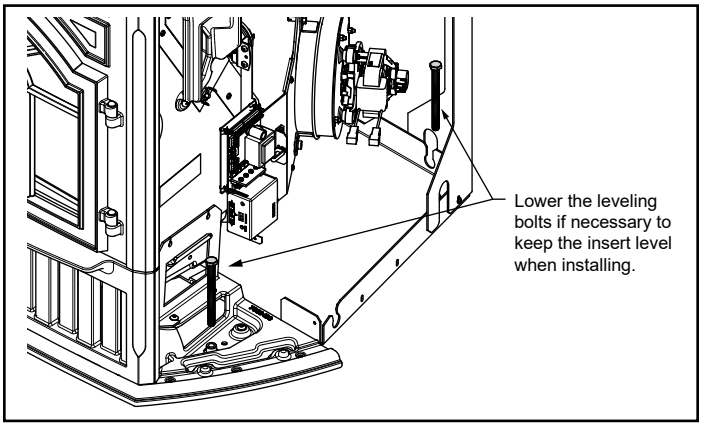


Figure 19.1

B. Outside Air Kit Instructions

3 INCH (76mm) ALUMINUM FLEX PIPE NOT INCLUDED

1. Measure distance from floor to air vent opening in appliance and mark location on wall.
2. Use saw to cut opening in wall. Cut a 3-1/2 to 4 inch (89-102mm) opening on inside wall and a 4 to 4-1/2 inch (102-114mm) opening on outside of house.
3. Use wire ties to secure flex pipe to collar assembly.
4. Slide trim ring over flex pipe and run pipe through wall.
5. Attach flex pipe (not included) to outside termination cap with second wire tie **(Figure 19.2)**.
6. Secure termination cap to outside surface.
7. Secure trim ring to interior wall.

CAUTION

Never draw outside combustion air from:

- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

D. Removal of Cast Sides

Remove the right side panel by releasing the upper, spring-loaded latch. Access the latch through the upper panel vent holes. The cast panel should fall forward. Lift it out of its lower nest and set the panel aside. You may need to disconnect the dial control wire harness.

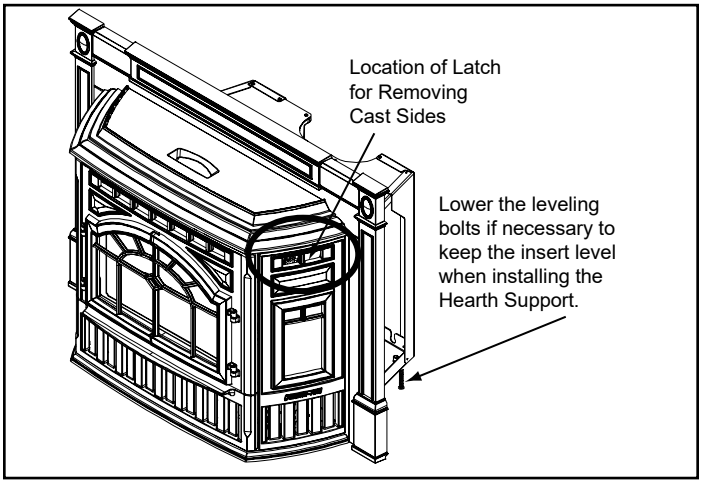


Figure 19.2 - Shown with Cast Panel Set

D. Surround & Cast Trim Set

1. Remove contents from box being careful not to scratch or damage the cast trim pieces.
2. Lay the surround set face down on protective covering to prevent scratching the painted surface.
3. Secure the surround legs to top panel with the screws provided.
4. Now bend the tabs down toward the backside of the panel set, 5 on top and 2 on each leg. Leave the panel set face down **(Figure 20.1)**.
5. Place the corresponding cast trim pieces (2 cast trim legs and 1 cast trim header) underneath the panel set, also face down.
6. Place washer provided over tab and secure the trim and panel together with screw. Continue for all tabs.
7. Secure cast footers with screws.
8. Remove both left and right cast sides from insert**.**
9. Carefully slide surround and trim over the top of the insert into place matching the mounting holes on the panel with the mounting holes on the insert. Secure with screws provided. (Figure 20.2)

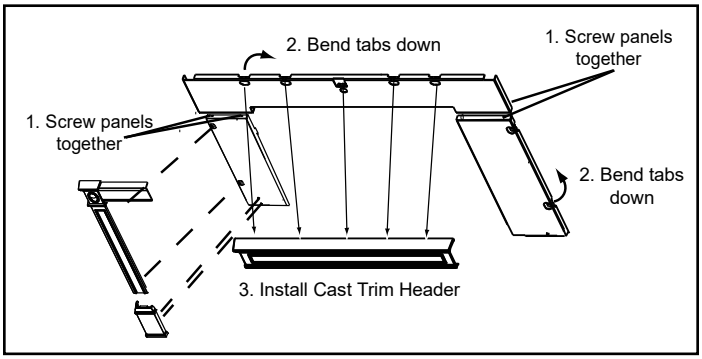


Figure 20.1

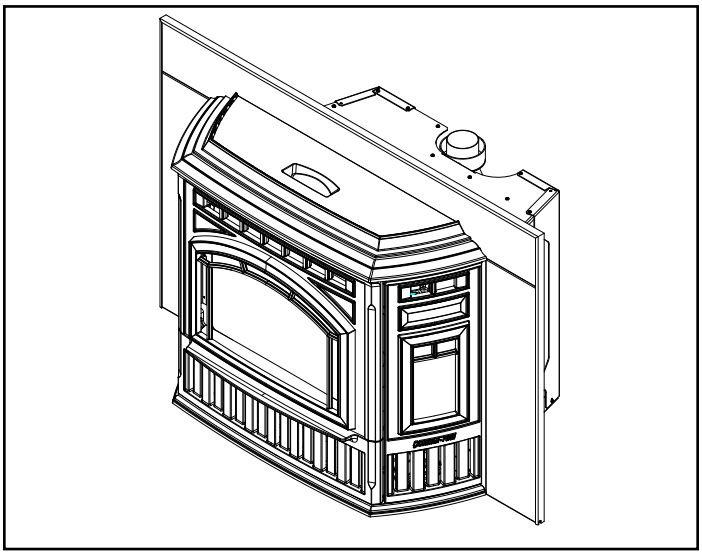


Figure 20.2 - Completed View

E. Surround & Basic Trim Set

1. Secure the top panel to the surround sides with the screws provided **(Figure 20.3)**.
2. Assemble the trim with the (2) corner brackets provided **(Figure 20.4)**.
3. Remove the 2 cast sides and slide the assembled trim over the assembled surround set **(Figure 19.3 on page 19)**.
4. Carefully slide surround and trim over the top of the insert into place matching the mounting holes on the panel with the mounting holes on the insert. Secure with screws provided **(Figure 20.5)**.

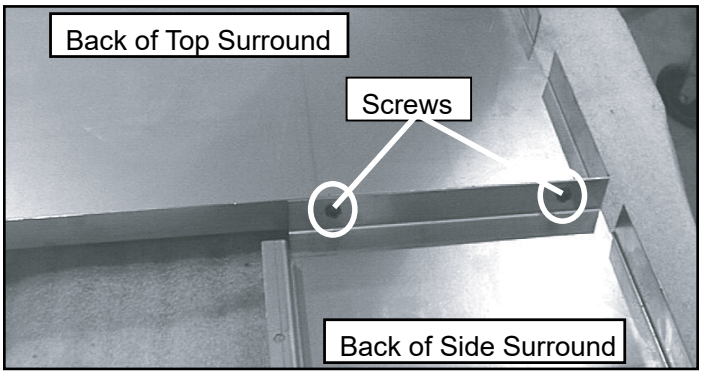


Figure 20.3

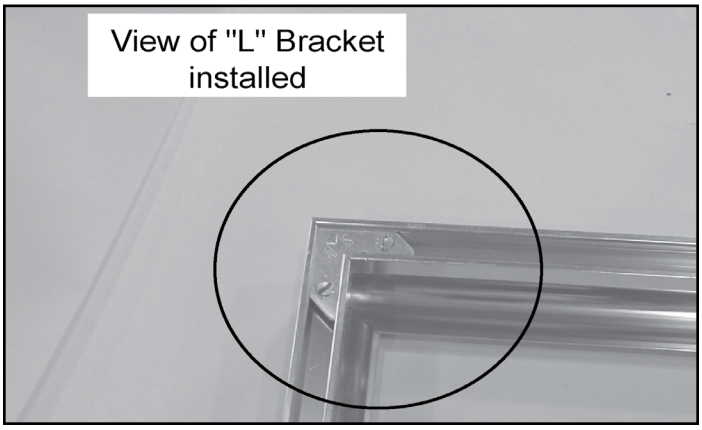


Figure 20.4

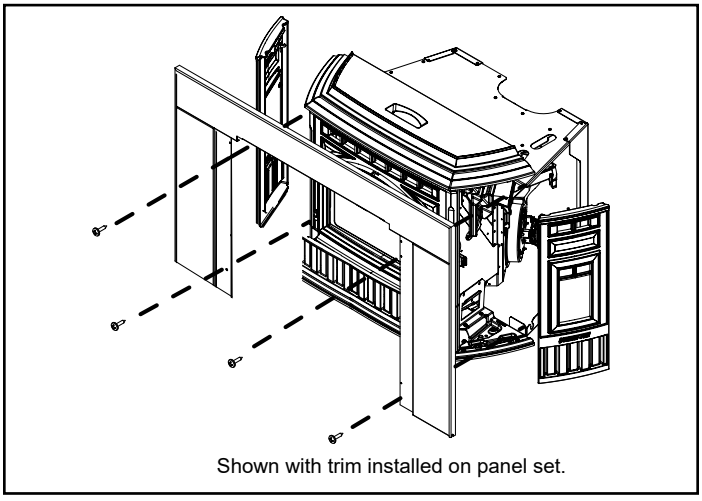


Figure 20.5

F. Optional Log Set Instructions

2 PIECE LOG SET INSTALLATION

1. Place the left log as shown. There are 2 indentations in the bottom of the log to fit over the screw heads in the firebox **(Figures 21.1 and Figure 21.2)**.
2. Place the right log in front of the 2 screw heads in the firebox **(Figures 21.3 and Figure 21.4)**.

CAUTION

Logs are FRAGILE. Use extreme care when handling or cleaning logs.

NOTICE: Due to the abrasive nature of a pellet appliance fire, the logs are not covered under warranty. Any placement variation other than shown here can cause excessive heat and shall void the appliance warranty.

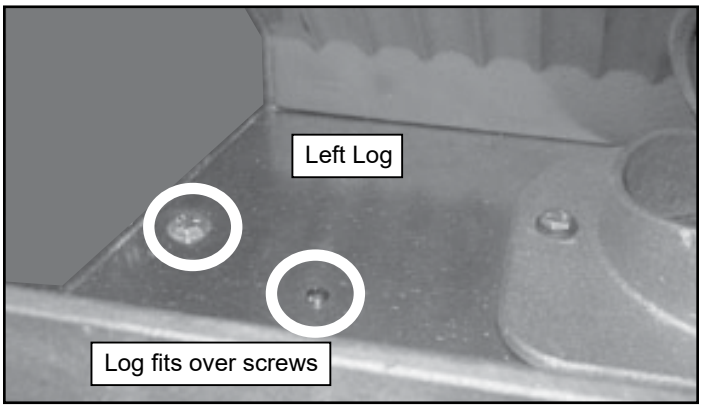


Figure 21.1

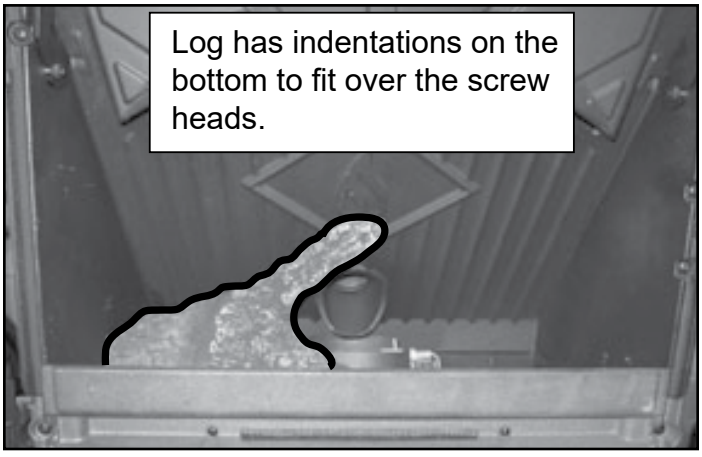


Figure 21.2

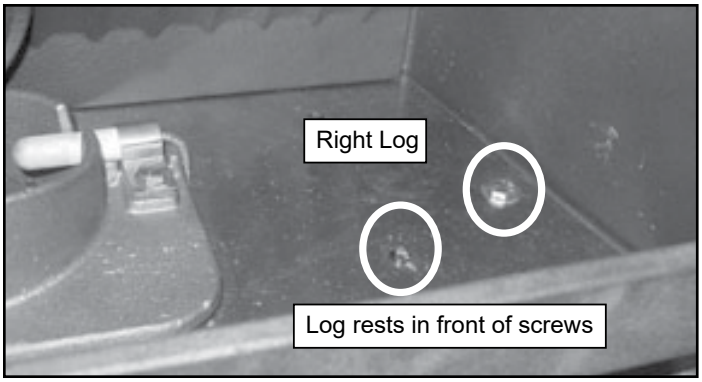


Figure 21.3

Figure 21.4

H. Thermostat Installation

The kit comes with a programmable wall thermostat and 25' of thermostat wire. If you need to run more than 25' make sure you use a continuous strand of 18 to 22 gauge thermostat wire. For optimum performance your thermostat should be:

- Mounted on an inside wall, approximately 5' above the floor
- Do not locate where there is poor air circulation such as in a corner, alcove, behind doors, bookcase or other objects
- Located away from drafts, direct sunlight, above a lamp, television, radiator, a wall next to a window, or direct heat from the appliance
- Avoid damp environments as this can lead to corrosion that may shorten thermostat life
- If painting or construction work around, cover the thermostat completely or wait until work is complete before installation.

CAUTION

Shock hazard.

- Do NOT remove grounding prong from plug.
- Plug directly into properly grounded 3 prong receptacle.
- Route cord away from appliance.
- Do NOT route cord under or in front of appliance.

1. Separate the body of the thermostat from the mounting plate by gently pulling the two pieces apart **(Figure 22.1)**

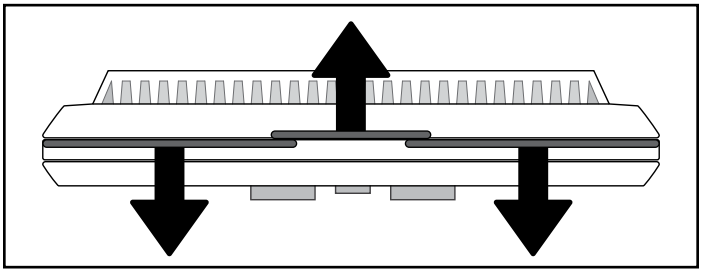


Figure 22.1

2. Use a drill with either a 3/16 drill bit for drywall or a 7/32 drill bit for plaster drill holes.
3. Using a hammer tap in wall anchors.
4. Route the wires through the opening in the base plate, and hold the base against the wall while aligning up to the holes. Attach base plate using a Phillips head screwdriver and two screws.
5. Connect your thermostat wire to the W and R terminals **(Figure 22.2)**.

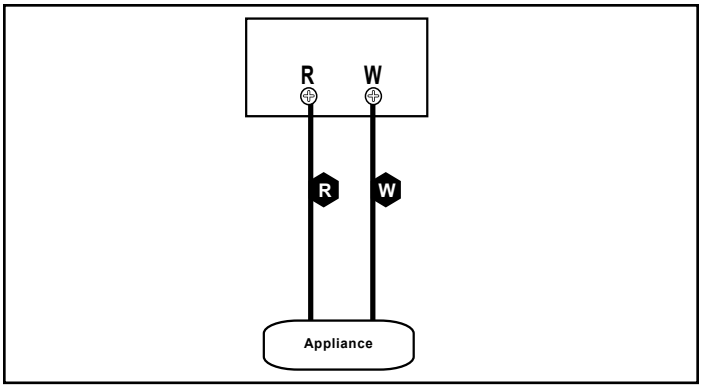


Figure 22.2

NOTE: Ensure bare wire ends are held ALL the way into the terminal block while the screws are being tightened.

6. There are two **AA ALKALINE ONLY** batteries already installed into the thermostat; to activate, remove black plastic tab that is located inside the battery compartment.

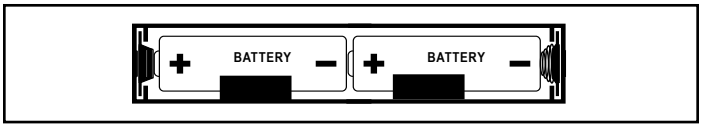


Figure 22.3

7. Snap the thermostat to the base plate.

CONNECT THERMOSTAT WIRES TO APPLIANCE:

There is a 4 screw terminal block located on the back lower left corner of the stove directly above the power cord inlet. The center 2 screws are for the thermostat wires **(Figure 22.4)**.

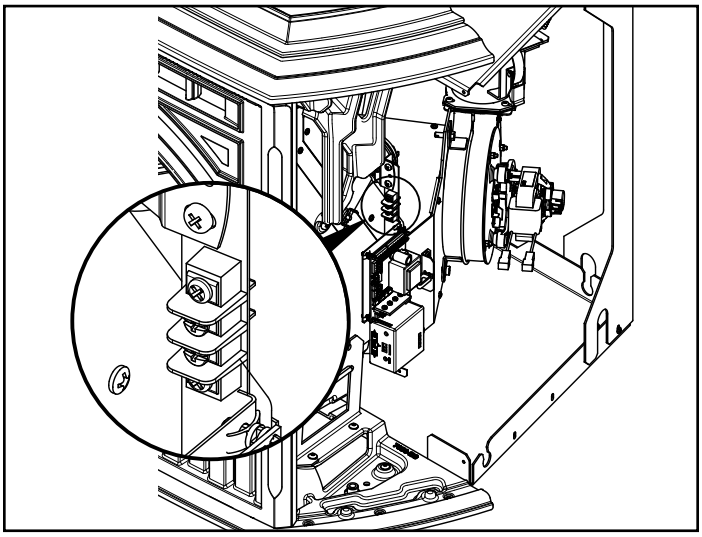


Figure 22.4

7 Mobile Home Installation

You must use a Quadra-Fire Outside Air Kit for installation in a mobile home.

1. An outside air inlet must be provided for the combustion air and must remain clear of leaves, debris, ice and/or snow. It must be unrestricted while the appliance is in use to prevent room air starvation which causes smoke spillage. Smoke spillage can also set off smoke alarms.
2. The combustion air duct system must be made of metal. It must permit zero clearance to combustible construction and prevent material from dropping into the inlet or into the area beneath the dwelling and contain a rodent screen.
3. The appliance must be secured to the mobile home structure by bolting it to the floor (using lag bolts). Use the same holes that secured the appliance to the shipping pallet.
4. The appliance must be grounded with #8 solid copper grounding wire or equivalent, terminated at each end with an NEC approved grounding device.
5. Refer to Clearances to Combustibles and floor protection requirements on page 9 for listings to combustibles and appropriate chimney systems.
6. Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
7. Follow the chimney manufacturer's instructions when installing the vent system for use in a mobile home.
8. Installation shall be in accordance with the Manufacturers Home & Safety Standard (HUD) CFR 3280, Part 24.

PART NUMBER: OAK-3

WARNING

Products of combustion generate carbon monoxide and different fuels generate different levels. Carbon monoxide

- Only use approved fuels in this appliance.
- Always keep door shut during operation. Operating this appliance with doors open can allow CO to leak into the home.

CO can kill you before you are aware it is in your home. At lower levels of exposure, CO causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea and fatigue. The effects of CO exposure can vary greatly from person to person depending on age, overall health and the concentration and length of exposure.

CAUTION

THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL AND CEILING/ROOF MUST BE MAINTAINED

Do NOT cut through:

- Floor joist, wall, studs or ceiling trusses.
- Any supporting material that would affect the structural integrity.

This appliance is to be connected to a factory-built chimney conforming to **CAN/ULC-S629, Standard for 650°C Factory-Built Chimneys**.

For removal of the chimney for mobile home transportation, contact the proper transportation officials.

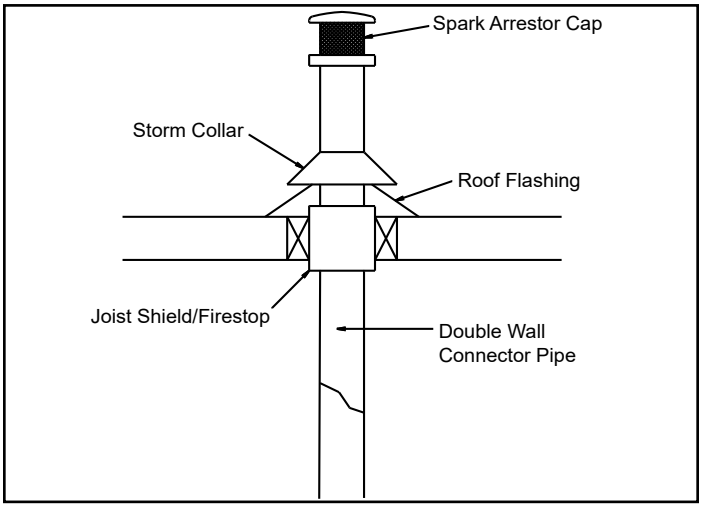


Figure 23.1

CAUTION

Never draw outside combustion air from:

- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

WARNING

It is critical to have a working smoke detector installed in the home of appliance operation.

- Smoke alarms that are properly installed and maintained play a vital role in reducing fire deaths and injuries. Having a working smoke alarm reduces the chance of fire related injuries..

WARNING

NEVER INSTALL IN A SLEEPING ROOM.

8 Refrence Materials

A. Service & Maintenance Log

Date of Service	Performed By	Description of Service

Date of Service	Performed By	Description of Service

B. Accessory List

Beginning Manufacturing Date: June 2018
Ending Manufacturing Date: Active

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
	Paint Touch-Up	Matte Black	3-42-19905	
		Sienna Bronze	TOUCHUP-CSB	
		Porcelain Mahogany	1-00-0014	
		Twilight	0001285	
	Heating Element Assembly 18” (Loop Igniter)	Pkg of 1	SRV7000-647	**Y**
		Pkg of 10	SRV7000-647/10	**Y**
	Wing Thumb Screw 8-32 X 1/2	Pkg of 24	7000-223/24	**Y**
	Wire Clip		7000-400/10	**Y**
	Accessories			
	Adjustable Hearth Support		ADJSPT-12	**Y**
	Damper, 3 Inch - Tall Vertical Installs Only		PEL-DAMP3	**Y**
	Damper, 4 Inch - Tall Vertical Installs Only		PEL-DAMP4	
	Exhaust Probe		SRV7000-669	
	Log Set (2 Pc)	Sold as set only	LOGS-60-AE-B	**Y**
	Outside Air Kit		OAK-3	
	Top Vent Adapter		TPVNT-4	
	Flue Adapter (Required if TPVNT-4 is removed)		LKADP	
	Surround, Std, Panel, For Cast Trim		SP-MTVS-CST	
	Component Pack		7036-041	
	Surround, Std, Panel, w/Gold Trim	**No longer available**	SP-MTVS-GD	
	Component Pack		7036-042	
	Trim, Panel Set, Gold		SRV250-4660	
	Surround, Std, Panel, Nickel Black		SP-MTVS-NB	
	Component Pack		7036-042	
	Trim Set, Black Nickel		7019-027	
	Bracket for Trim Installation		SRV7022-503G	
	Trim Cast	Matte Black	811-0930	
		Sienna Bronze	TR-CAST-CSB	
		Porcelain Mahogany	811-0960	
		Twilight	TR-CAST-TWL	
	Footer, Left	Matte Black	414-7090MBK	
		Sienna Bronze	414-7090CSB	
		Porcelain Mahogany	414-7090PMH	
		Twilight	414-7090TWL	
	Footer, Right	Matte Black	414-7100MBK	
		Sienna Bronze	414-7100CSB	
		Porcelain Mahogany	414-7100PMH	
		Twilight	414-7100TWL	

Additional service part numbers appear on following page.

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers**. Provide model number and serial number when requesting service parts from your dealer or distributor.

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	Stocked at Depot
	Accessories			
	Header	Matte Black	414-7110MBK	
		Sienna Bronze	414-7110CSB	
		Porcelain Mahogany	414-7110PMH	
		Twilight	414-7110TWL	
	Trim Leg, Left	Matte Black	414-7120MBK	
		Sienna Bronze	414-7120CSB	
		Porcelain Mahogany	414-7120PMH	
		Twilight	414-7120TWL	
	Trim Leg, Right	Matte Black	414-7130MBK	
		Sienna Bronze	414-7130CSB	
		Porcelain Mahogany	414-7130PMH	
		Twilight	414-7130TWL	
	Wired Thermostat Kit		SRV7082-098	**Y**
	Fasteners			
	Wing Thumb Screw 8-32 X 1/2	Pkg of 24	7000-223/24	**Y**
	Bolt, Grd 2 Tap 3/8 x 4		223-0140	
	Nut, Wing 1/4-20	Pkg of 12	226-0110/12	**Y**
	Screw, Sheet Metal #8 X 1/2 S-Grip	Pkg of 40	12460/40	**Y**
	Washer, Sae	Pkg of 25	227-0080/25	**Y**
	Washer, FI 1/4 Black	Pkg of 10	1202473-10	
		Pkg of 50	1202473PK	
	Screw, Hwh Ms 1/4-20 X 3/4 Ns	Pkg of 25	220-0080/25	**Y**
	Nut, Ser Flange Small 1/4-20	Pkg of 24	226-0130/24	**Y**
		Pkg of 100	3-30-8024-100	**Y**
	Screw 1/4-20x5/8 Phillips Pan Head	Pkg of 24	7000-398/24	**Y**
	Screw Phillips Button Head 1/4-20x3/8	Pkg of 24	7000-401/24	**Y**
	Screw 8 - 32x3/8 HWH BK	Pkg of 40	SRV060-883/40	
	Screw Flat Head Philips 8-32 X 1/2	Pkg of 12	220-0490/12	**Y**
	Magnet Round		SRV7000-140	**Y**
	Hurricane Screw	Pkg of 40	SRV2005-861/40	
	Screw, Pan Head Phillips, 10/32 X 1/4	Pkg of 24	229-1230/24	**Y**
	Bolt, Shoulder, 5/16x1/4-20	Pkg of 20	223-0170/20	**Y**
	Screw, Pan Head Phillips 8-32 X 3/4	Pkg of 24	229-1100/24	**Y**
	Washer, Spring 5/16	Pkg of 4	7000-572/4	**Y**
	Screw, Ph, Phl Tc 8-32 X 1/2	Pkg of 25	220-0030/25	**Y**
	Screw, Pan Head Phillips 8-32 X 3/8	Pkg of 40	225-0500/40	**Y**
	Retaining Ring, 7mm	Pkg of 24	8331-004/24	**Y**

QUADRA-FIRE®

NOTHING BURNS LIKE A QUAD

CONTACT INFORMATION

Hearth & Home Technologies
352 Mountain House Road
Halifax, PA 17032
Division of HNI INDUSTRIES

**Please contact your Quadra-Fire dealer with any questions or concerns.
For the number of your nearest Quadra-Fire dealer
log onto www.quadrafire.com**

CAUTION

DO NOT DISCARD THIS MANUAL

- Important operating and maintenance instructions included.
- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation of this appliance.

We recommend that you record the following pertinent information for your heating appliance.

Date purchased/installed:	
Serial Number:	Location on appliance:
Dealership purchased from:	Dealer Phone: 1( ) -
Notes:	

This product may be covered by one or more of the following patents: (United States) 5341794, 5263471, 6688302, 7216645, 7047962 or other U.S. and foreign patents pending.

HEARTH&HOME technologies™

Appendix B
Revision History

Date	Project No.	Tech. & Evaluator	Report Sect.	Summary of Changes
7/7/17	0061PS094E	Aaron Kravitz	All	Original report was generated
7/12/17	0061PS094E Edition 001	Aaron Kravitz	All	Grammar and non-technical edits.
8/11/21	0061PS094E Edition 002	Bruce Davis	Preface	Cover, signatories, and table of content edited for new edition.
			1	Summary of results updated with negative filter weight information. Valid and appropriate statement added. Testing procedure updated with background filter information and CSA B415 statement.
			2	Train precision data added to page 15
			Appendix A	Replaced all E2-C manuals and labels with Trekker manuals and labels.
			Appendix B	Revision history table added.
08/31/22	0061PS094E Edition 003	R Tiegs K Morgan	1	Added "Uncorrected" Emission values to Table 1 (with footnote) And Test Results pg. 19
			1	Wood Heater Operating Instructions Added pg. 13
			1	Dilution Tunnel Schematic Added pg. 17
				Statement at the end of pg 5 removed in reference to CBI report only.