MVK-01 & MVK-02
MASONRY VENT KIT
INSTALLATION INSTRUCTIONS

Description

This kit is for use on 80% AFUE furnaces installed in the upflow position only. This field installed kit may be used when a single forced draft furnace is independently vented into a tile lined masonry chimney. This kit may only be used with interior masonry chimneys or qualifying exterior masonry chimney applications identified in tables on Page 7.

The kit incorporates a flue high limit safety switch which will interrupt power to the gas valve when a backdraft condition exists.

The table on page 2 lists the kit number, the applicable models, and the limit setting. The appropriate kit must be matched to the appropriate model number for safe and reliable operation.

RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION

WARNING

This kit is for use in furnaces installed in the upflow position only.

WARNING

This kit may only be installed with interior or qualifying exterior masonry chimneys.

WARNING

To avoid the possibility of explosion or fire, never use a match or open flame to test for leaks.

WARNING

Do not bypass safety devices

Prior to installing this masonry vent kit, refer to the National Fuel Gas Code (NFPA 54ANSI Z223.1) or in Canada, CAN/CGA-B149.2-M91 to ensure that the installation is in compliance with those and all local codes. Prior to installation, ensure the condition of the masonry chimney meets the requirements outlined in the National Fuel Gas Code (NFPA 54/ANSI Z223.1), or the Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances (NFPA 211), or in Canada, CAN/CGA-B149.1 and .2.

PLEASE READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY.

WARNING

ONLY PERSONNEL THAT HAVE BEEN TRAINED TO INSTALL, ADJUST, SERVICE, MAINTENANCE OR REPAIR (HEREINAFTER, "SERVICE") THE EQUIPMENT SPECIFIED IN THIS MANUAL SHOULD SERVICE THE EQUIPMENT.

THIS EQUIPMENT IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY.

CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE EQUIPMENT.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SUPERVISION, SERVICE OR SERVICE PROCEDURES. IF YOU SERVICE THIS UNIT, YOU ASSUME RESPONSIBILITY FOR ANY INJURY OR PROPERTY DAMAGE WHICH MAY RESULT. IN ADDITION, IN JURISDICTIONS THAT REQUIRE ONE OR MORE LICENSES TO SERVICE THE EQUIPMENT SPECIFIED IN THIS MANUAL, ONLY LICENSED PERSONNEL SHOULD SERVICE THE EQUIPMENT. IMPROPER SUPERVISION, INSTALLATION, ADJUSTMENT, SERVICING, MAINTENANCE OR REPAIR OF THE EQUIPMENT SPECIFIED IN THIS MANUAL, OR ATTEMPTING TO INSTALL, ADJUST, SERVICE OR REPAIR THE EQUIPMENT SPECIFIED IN THIS MANUAL WITHOUT PROPER SUPERVISION OR TRAINING MAY RESULT IN PRODUCT DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

NOTE: Information contained in this manual (IO-754*), supersedes MVK-01 and MVK-02 data found in the furnace IO.

IO-754F
08/2024

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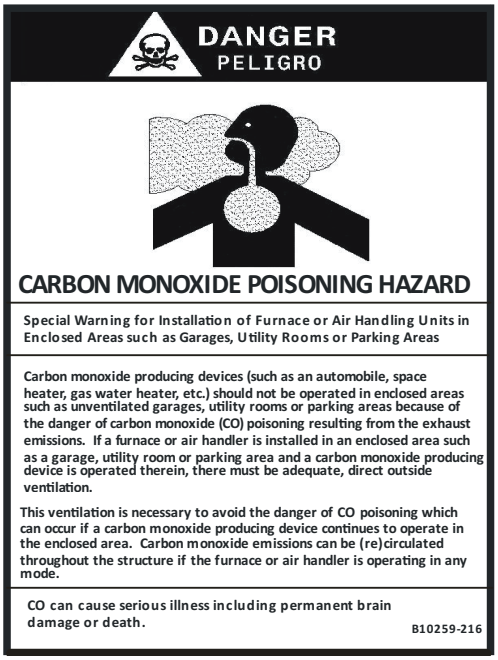
IMPORTANT INFORMATION



WARNING

HIGH VOLTAGE
DISCONNECT ALL ELECTRICAL POWER AND SHUT OFF GAS SUPPLY BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

CAUTION

TO AVOID THE RISK OF PROPERTY DAMAGE, PERSONAL INJURY OR FIRE, SHUT OFF GAS SUPPLY FIRST, THEN DISCONNECT THE ELECTRICAL SUPPLY BEFORE PROCEEDING WITH KIT INSTALLATION.

KIT CONTENTS

Parts List		
Kit	**Description**	**Qty**
MVK-01	Masonry Vent w/250°F Manual Reset Limit (10123530)	1
	Wiring Harness	1
	Wiring Diagram	1
	Installation Instructions	1

MVK-02	Masonry Vent w/290°F Manual Reset Limit (0130F00124)	1
	Wiring Harness	1
	Wiring Diagram	1
	Installation Instructions	1

MODEL LIST

KITS	MODELS	LIMIT SETTINGS
MVK-01	*M(H,S)8(040-115)*	250°F
	MSS80(040-100)	
	ME(S,C)80(040-100)	
	(M,R)9S80(040-100)	
	M(9,V)C80(040-100)	
	R(9,V)T80(040-100)	
	DM80(H,S)S(040-100)*	
	DM80(S,V)E(040-100)*	
	D(M,R)80SN(040-100)*	
	D(M,R)80TN(040-100)*	
	DM80VC(040-100)*	
	DR80TC(040-100)*	
MVK-02	*M(H,S)8(120,140)S	290°F
	WFM18(120,140)S	
	*ME(S,C)80120	
	*M9(S,C)80120	
	*R9(S,T)80120	
	*(M,R)V(C,T)80120	
	DM80(H,S)S(120,140)	
	DM80(S,V)E120	
	DM80VE120	
	D(M,R)80SN120	
	D(M,R)80TN120	
	D(M,R)80(V,T)C120	

TOOL LIST

The following tools and supplies are required:

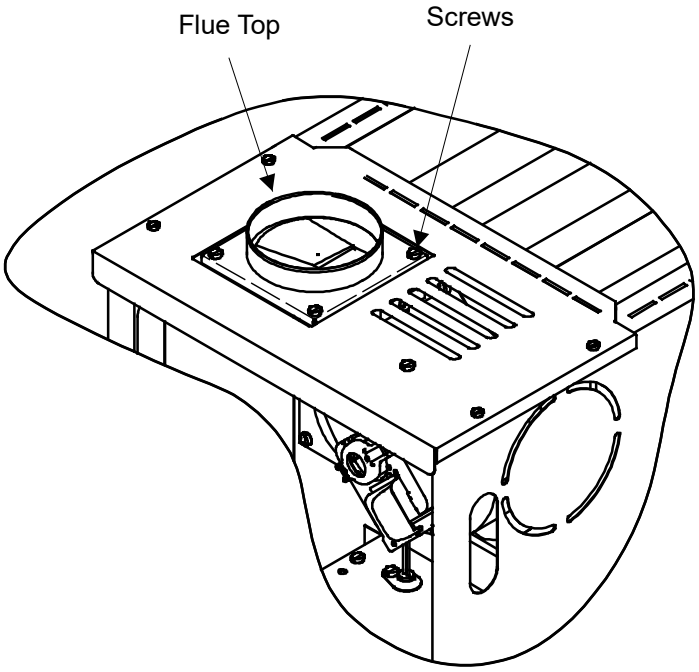
- 1 - Pair of needle nose pliers
- 1 - 1/4” nut driver

MASONRY VENT KIT INSTALLATION INSTRUCTIONS

1. Turn off the gas supply to the furnace.
2. Turn off the electrical power to the furnace.
3. Remove the furnace control access panel.

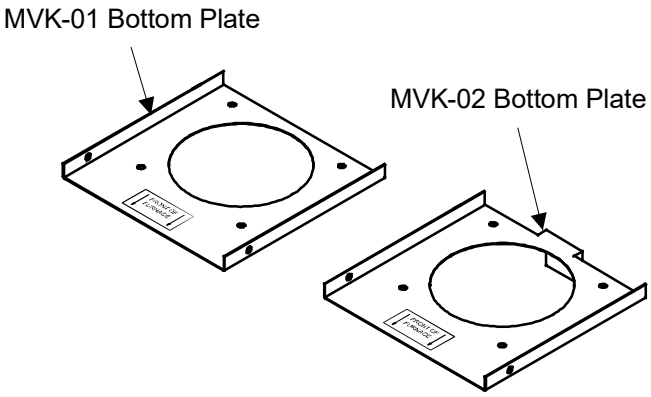
NOTE: For new installations the flue top has not been installed on the furnace. The flue top must be removed from its shipping location on burner manifold and placed on the flue transition. Screws for the flue top are located in the literature pack.

4. Remove the (4) screws securing the furnace flue top to the furnace flue transition using a 1/4" nut driver. Retain the screws for later use. The flue top must remain in place on the flue transition.

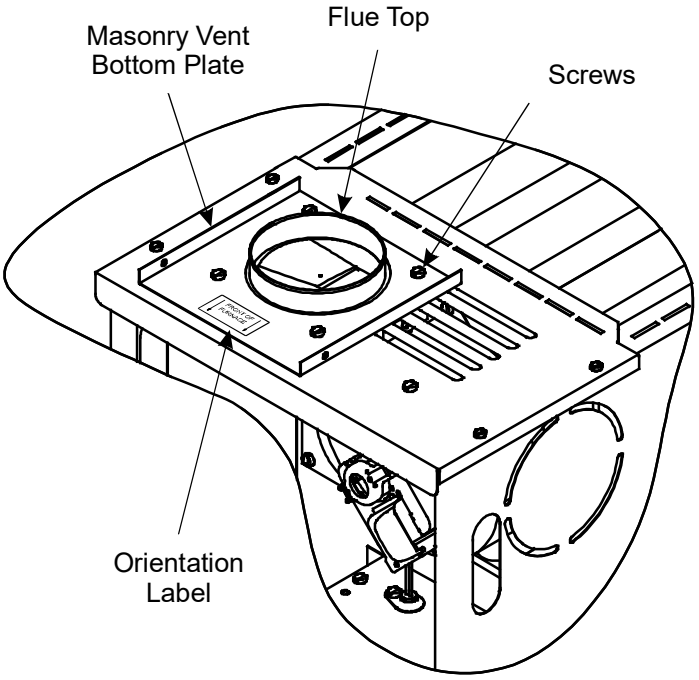


5. Masonry Vent to Furnace Connection
   a. Locate the masonry vent bottom plate supplied with the masonry vent kit.
   b. Orient the masonry vent bottom plate over the furnace flue top. A label on the bottom plate indicates the correct orientation.

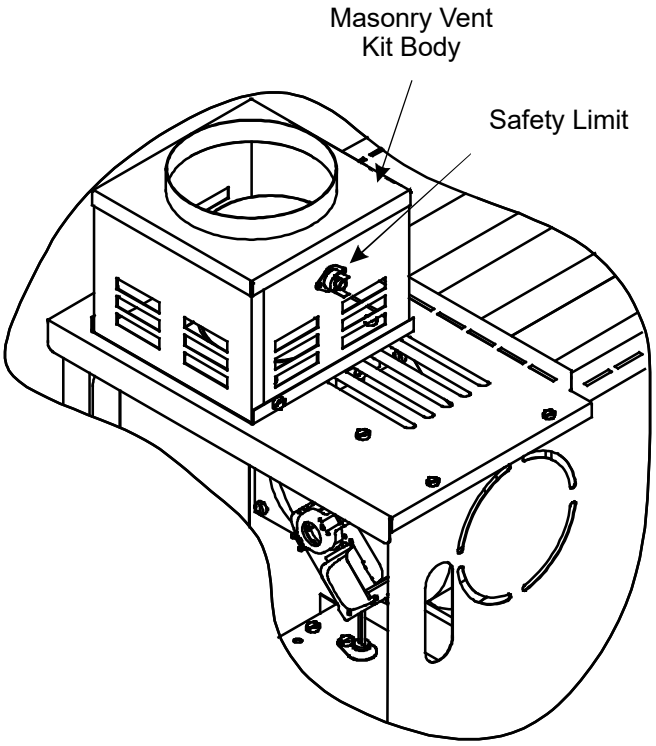
NOTE: MVK-02 bottom plate includes a keying tab. Furnace models for which the MVK-02 is approved has a keying slot in the furnace top. The keying tab on the MVK-02 fits into the keying slot in the furnace top on applicable furnace models. Verify that the masonry vent kit model is applicable to your furnace model prior to installation. If your furnace model is correct for the MVK-02 and the keying slot is not present on the furnace top, furnace top 0121F00463DG must be purchased. See the bottom plate figure below.



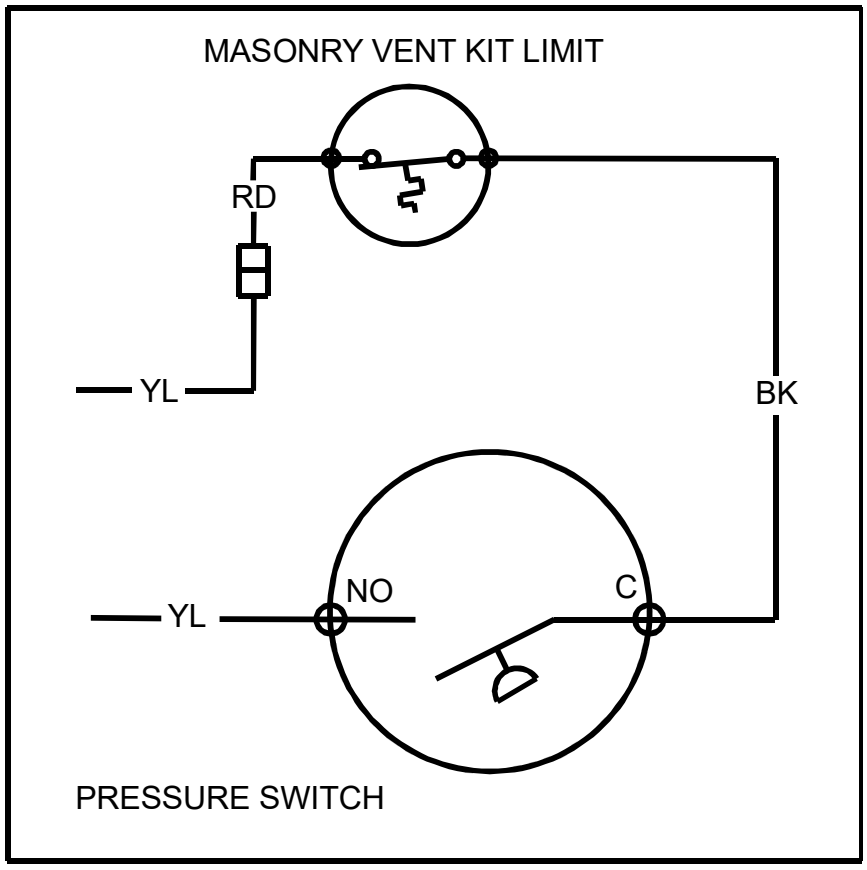
   c. Secure the bottom plate to the furnace flue transition using the screws removed in step 4 (or, in the case of a new installation, the screws from the literature pack). The furnace flue top must protrude through the hole in the masonry vent bottom plate.



6. Position the masonry vent kit body to the bottom plate and secure using the (2) screws supplied with the vent kit. The safety limit must be on the right side when facing the furnace. Ensure the flue pipe inside the masonry vent kit fits over the furnace flue top.



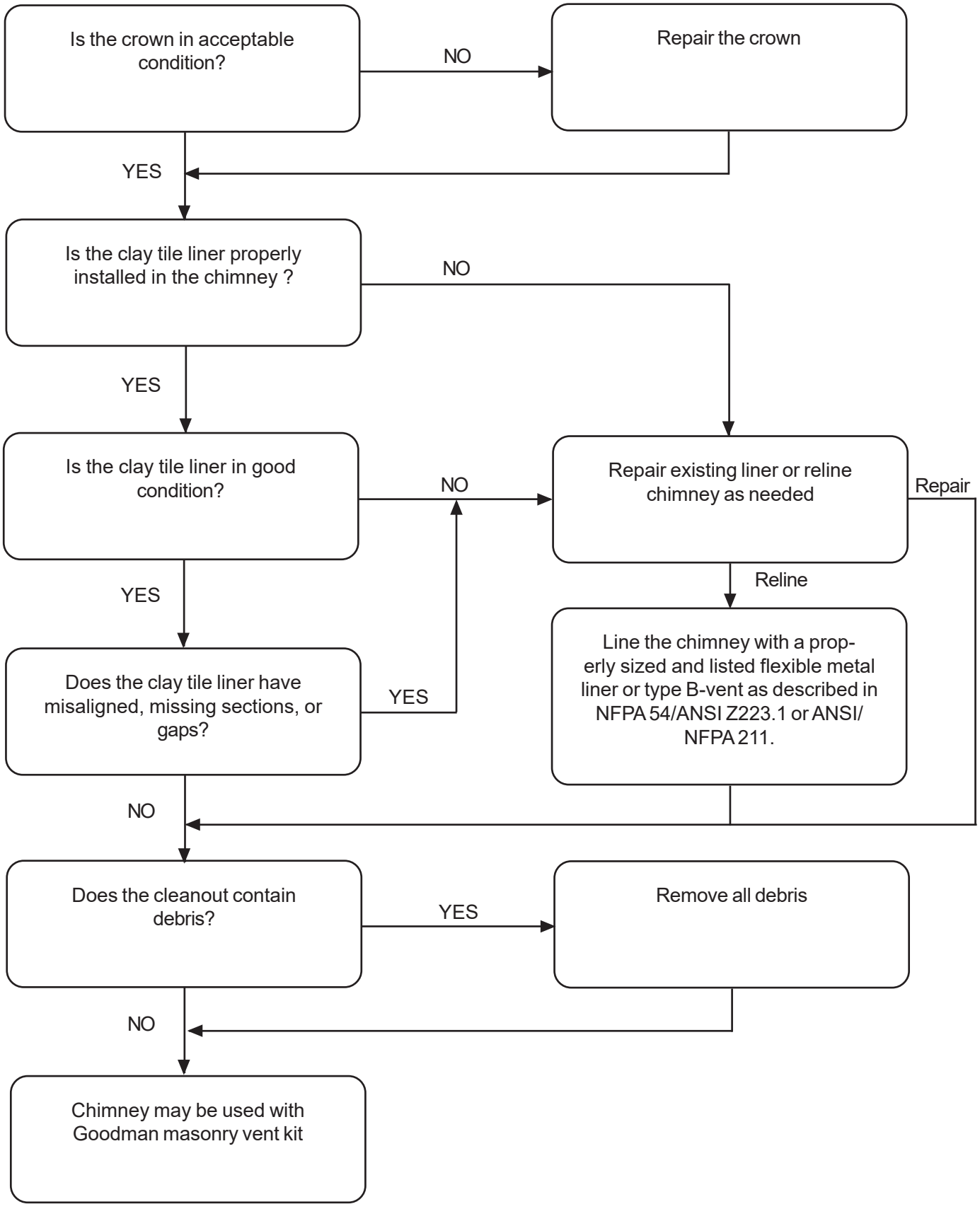
7. Connect the 5” diameter field installed type-B double wall flue pipe to the masonry vent kit body and secure on three sides using field supplied screws. Refer to the Masonry Chimney Flue Capacity table on page 6.
8. Masonry Vent Kit Wiring
   a. Locate the 2-wire wiring harness included with the masonry vent kit.
   b. Locate the wiring harness end with (2) female 1/4” quick connect terminals. Connect these terminals to the safety limit on the masonry vent kit body.
9. Masonry Vent Kit to Furnace Wiring
   a. Remove the furnace access panel.
   b. Route the masonry vent kit wiring harness through a louver in the furnace top.
   c. Locate the furnace pressure switch.
   d. Using needle nose pliers, disconnect the yellow wire from the pressure switch’s common (C) terminal. Connect the vent kit wiring harness wire with a 1/4” male quick connect terminal to the yellow wire removed from the pressure switch.
   e. Connect the vent kit wiring harness wire with a 1/4” female quick connect terminal to the pressure switch’s common (C) terminal.
   f. Review the wiring diagram on page 4 and verify the masonry vent kit to furnace wiring.
10. Reinstall the access panel.
11. Turn on the gas supply.
12. Turn on the electrical supply.
13. Using the room thermostat, place the unit into operation. Observe (3) ignition cycles and verify that the furnace functions as expected.



WIRING DIAGRAM

CHIMNEY INSPECTION CHART

Refer to the National Fuel Gas Code (NFPA 54/ANSI Z223.1), or the Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances (NFPA 211) or, in Canada, the Canadian Installation Codes (CAN/CGA-B149.1 and .2) for additional requirements.



MASONRY CHIMNEY FLUE CAPACITIES - SINGLE FURNACE WITH TYPE B DOUBLE WALL VENT CONNECTOR

Height, H, (ft)	Lateral, L, (ft)	Minimum Internal Chimney Area					
		28 in^2	38 in^2	50 in^2	63 in^2	78 in^2	95 in^2
		Appliance Input Rating in Thousands of Btu per Hour					
6	2	86	130	180	247	320	401
	5	82	117	165	231	298	376
8	2	93	145	198	266	350	446
	5	88	134	183	247	328	423
	8	83	127	175	239	318	410
10	2	103	162	221	298	388	491
	5	96	148	204	277	365	466
	10	87	139	191	263	347	444
15	2	114	179	250	336	441	562
	5	107	164	231	313	416	533
	10	97	153	216	296	394	567
	15	89	141	201	281	375	485
20	2	124	201	274	375	491	627
	5	116	184	254	350	463	597
	10	107	172	237	332	440	566
	15	97	159	220	314	418	541
	20	83	148	206	296	397	513
30	2	137	216	303	421	558	717
	5	128	198	281	393	526	683
	10	115	184	263	373	500	648
	15	107	171	243	353	476	621
	20	91	159	227	332	450	592
	30	N/A	N/A	188	288	416	555
50	2	161	251	351	477	633	812
	5	151	230	323	445	596	774
	10	138	215	304	424	567	733
	15	127	199	282	400	539	702
	20	N/A	185	264	376	511	669
	30	N/A	N/A	N/A	327	468	623

NOTE: MASONRY CHIMNEY FLUE CAPACITIES TABLE WAS EXTRACTED FROM TABLE 13.1(C) OF CHAPTER 13 OF THE NATIONAL FUEL GAS CODE, NFPA54/ANSI Z223.1

EXTERIOR MASONRY CHIMNEY APPLICATIONS TABLE

PERMITTED EXTERIOR CHIMNEY APPLICATION

MINIMUM 99% WINTER DESIGN TEMPERATURE*	PERMITTED CHIMNEY
+17°F (-8°C) or Warmer	** Exterior Masonry Chimneys

* The 99% Winter Design Dry-Bulb (db) temperatures are found in the 2005 ASHRAE Fundamentals Handbook CD and Chapter 28. Fig. G.2.4 in the NFPA54/ANSI Z223.1-2009 (Appendix G) also provides w inter design temperatures for some locations.

** Chimneys w ith one or more sides exposed to the outdoors below the roof line

PERMITTED VENT MATERIAL FOR EXTERNAL CHIMNEY APPLICATION

MINIMUM 99% WINTER DESIGN TEMPERATURE*	CHIMNEY LOCATION	FURNACE VENT CONNECTOR MATERIAL	WATER HEATER VENT CONNECTOR MATERIAL
-10°F (-23°C) or Warmer	** Exterior Masonry Chimneys	Listed Type B Double Wall Metal Pipe	Listed Type B Double Wall Metal Pipe or Single Wall Galvanized Steel Pipe

* The 99% Winter Design Dry-Bulb (db) temperatures are found in the 2005 ASHRAE Fundamentals Handbook CD and Chapter 28. Fig. G.2.4 in the NFPA54/ANSI Z223.1-2009 (Appendix G) also provides winter design temperatures for some locations.

** Chimneys with one or more sides exposed to the outdoors below the roof line

NOTE: INFORMATION CONTAINED IN THIS MANUAL (IO-754*), SUPERSEDES MVK-01 AND MVK-02 DATA FOUND IN THE FURNACE IO.

NOTE: Specifications and performance data listed herein are subject to change without notice.

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