

# VersaPro™

## 96% Gas Furnace

### Service Manual

#### MODELS:

- MGM96EE060B3NB
- MGM96EE080B3NB
- MGM96EE080C4NB
- MGM96EE100C5NB
- MGM96EE120D5NB



Read this manual carefully before installation and keep it where the operator can easily find it for future reference.

Due to updates and constantly improving performance, the information and instructions within this manual are subject to change without notice.

Version Date: 05/30/24  
Please visit [www.mrcool.com/documentation](http://www.mrcool.com/documentation)  
to ensure you have the latest version of this manual.



## CONTENTS

<b>1</b>	<b>SAFETY PRECAUTIONS</b> .....	2
<b>2</b>	<b>TROUBLESHOOTING</b> .....	3
	2.1 Electrostatic Discharge (ESD) Precautions .....	3
	2.2 Resetting from Lockout.....	4
<b>3</b>	<b>ERROR CODES</b> .....	4
	3.1 No Light & No Fan .....	4
	3.2 E7 System Lockout-Failed Ignition	
	E8 System Lockout-Too Many Flame Dropouts .....	7
	3.3 E1 Low Fire Pressure Switch Stuck Closed .....	9
	3.4 E2 Low Pressure Switch Stuck Open	
	E4 Pressure Switch Cycle Lockout	
	E3 High Pressure Switch Stuck Open .....	10
	3.5 E5 Limit/Rollout Switch Open <> 5 minutes .....	12
	3.6 Pr Incorrect Polarity of L1/L2.....	16
	3.7 FL Low Flame .....	16
<b>4</b>	<b>APPENDIX</b> .....	17
	4.1 Two-Stage Controller Logic .....	17
	4.2 Ignition Failure & Re-Ignition Sequence.....	19
	4.3 Requirements for Refrigerant Leakage Sensors .....	20

## Safety Precautions

### Read Before Using

Incorrect usage may cause serious damage or injury.

The symbols below are used throughout this manual to indicate instructions that should be followed closely or actions that should be avoided to prevent death, injury, and/or property damage.



Indicates the possibility of personal injury or loss of life.



Indicates the possibility of property damage or serious consequences.

**NOTICE**

Used to address practices not related to personal injury.



### **WARNING: FIRE OR EXPLOSION HAZARD**

1. Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
2. If you smell gas:
  - Do not try to light any appliance.
  - Do not touch any electrical switch; do not use any phone in the building.
  - Leave the building immediately.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.\
3. Installation and service must be performed by a qualified installer, service agency, or the gas supplier.
4. The furnace is designed and approved for use with Natural Gas and Propane (LP) Gas ONLY.
5. **DO NOT BURN ANY LIQUID FUEL OR SOLID FUEL IN THIS FURNACE.**
6. Burning any unapproved fuel will result in damage to the furnace's heat exchanger, which could result in Fire, Personal Injury, and/or Property Damage.
7. Improper installation, adjustment, alteration, maintenance, or use could cause carbon monoxide poisoning, explosion, fire, electrical shock, or other conditions which may cause personal injury or damage. Consult a qualified service agency, local gas supplier, or your distributor for information or assistance.
8. The furnace must be kept free and clear of insulating materials. Inspect surrounding area to ensure insulation material is at a safe distance when installing furnaces or adding insulation materials. Insulation materials may be combustible. Maintain a 1 inch clearance from combustible materials to supply air ductwork for a distance of 36 inches horizontally from the furnace. See NFPA 90B or local code for further requirements.
9. The furnace **SHOULD NOT** be installed directly on carpeting, tile, or any other combustible material other than wood flooring. In downflow installations, a field supplied floor base **MUST** be used when installed on combustible materials and wood flooring. A special base is not required when this furnace is installed on industry-standard coil assembly matching correct furnace width.
10. Check entire gas assembly for leaks after lighting this appliance.
11. Never test for gas leaks with an open flame. Use a commercially available soap solution made specifically for the detection of leaks to check all connections, as specified in the installation and owner's manual.
12. See instructions for lighting/shutdown operation (as shown on a sticker directly on the inside of the furnace panel). Should the gas supply fail to shut off or if overheating occurs, shut off the gas valve to the furnace before shutting off the electrical supply.



### WARNING

1. Untrained personnel (homeowners) may only clean and replace filters and fuses as required for basic maintenance. All other operations, including installation, repair, and service must be performed by a qualified installer, service agency, or the gas supplier.
2. Do not use this furnace if any part has been under water. A flood-damaged furnace is extremely dangerous. Attempts to use the furnace can result in fire or explosion. A qualified service agent must inspect the furnace and replace all gas controls, control system parts, and electrical parts that have been wet, or the furnace if deemed necessary.
3. Wear safety glasses, protective clothing, and work gloves. Have a fire extinguisher available.
4. Read these instructions thoroughly and follow all warnings or cautions included in literature attached to the unit.
5. Consult local building codes as well as the current editions of the National Fuel Gas Code (NFGC) NFPA 54/ANSI Z223.1 and the National Electrical Code (NEC) NFPA 70.
6. This product can expose you to chemicals including lead and lead components, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).



### CAUTION: CUT HAZARD

Failure to follow this caution may result in personal injury. Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing, safety glasses, and gloves when handling parts and servicing the furnace.

## 2.1 Electrostatic Discharge (ESD) Precautions

### NOTE

Discharge body's static electricity before touching unit. An electrostatic discharge can adversely affect electrical components.

Use the following precautions during furnace installation and servicing to protect the integrated control module from damage. By putting the furnace control and the person at the same electrostatic potential these steps will help avoid exposing the integrated control module to electrostatic discharge. This procedure is applicable to both installed and uninstalled (ungrounded) furnaces.

1. Disconnect all power to the furnace. Do not touch the integrated control module or any wire connected to the control prior to discharging your body's electrostatic charge to ground.
2. Firmly touch a clean unpainted metal surface of the furnace away from the control. Any tools held in a person's hand during grounding will be discharged.
3. Service integrated control module or connecting wiring following the discharge process in step 2. Use caution not to recharge your body with static electricity; (i.e. do not move or shuffle your feet, do not touch ungrounded objects, etc.). If you come in contact with an ungrounded object, repeat step 2 before touching control or wires.
4. Discharge your body to ground before removing a new control from its container. Follow steps 1 through 3 if installing the control on a furnace. Return any old or new controls to their containers before touching any ungrounded object.

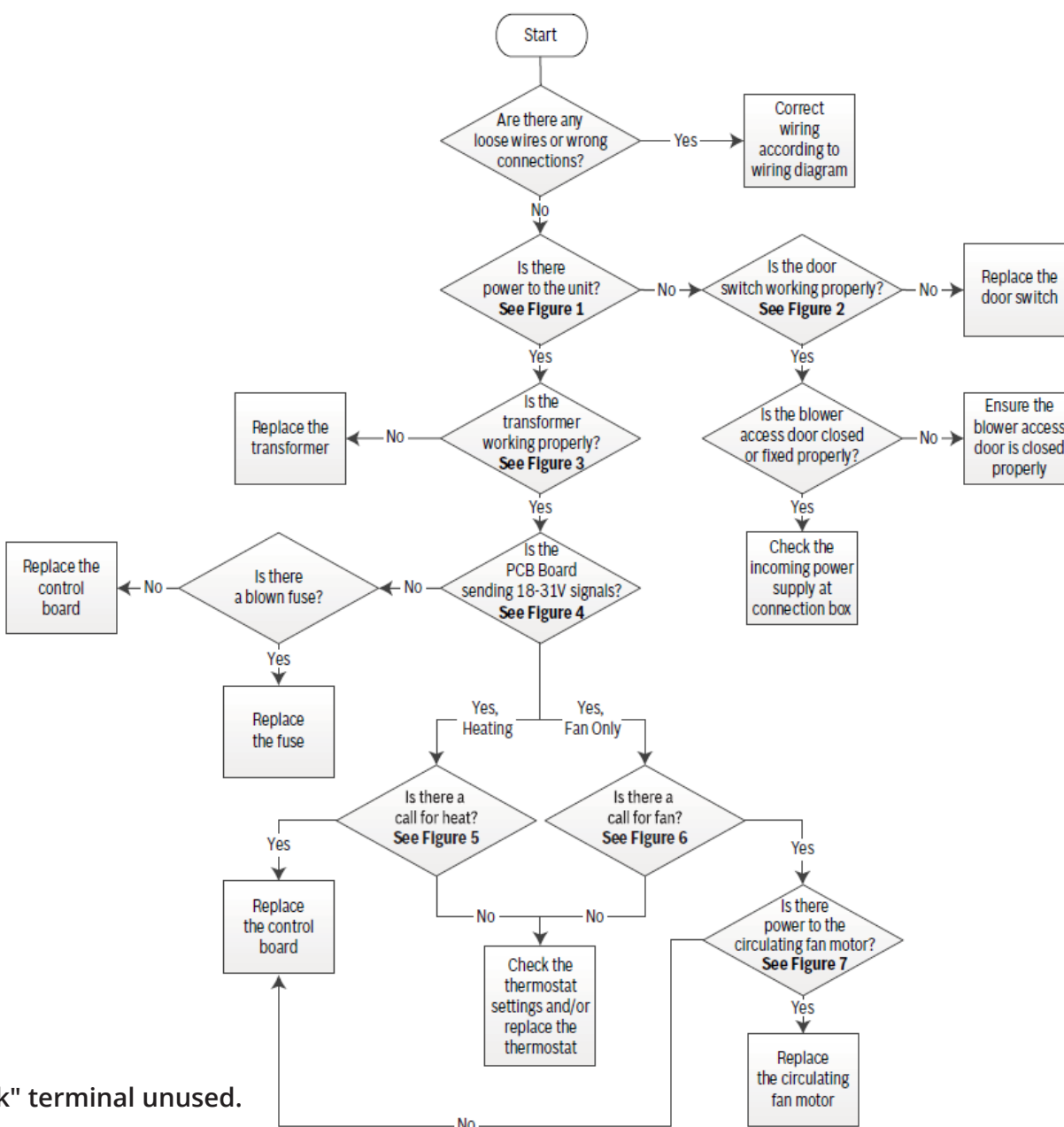
## 2.2 Resetting from Lockout

Furnace lockout results when a furnace is unable to achieve ignition after three attempts. Refer to the troubleshooting chart on the following pages for assistance in determining the source of unit operational problems.

The red diagnostic LED blinks to assist in troubleshooting the unit. If the furnace is in "lockout" it will (or can be) reset in any of the following ways.

1. Automatic reset. The integrated control module will automatically reset itself and attempt to resume normal operations following a one hour lockout period.
2. Manual power interruption. Interrupt 115 volt power to the furnace for 1 - 20 seconds.
3. Manual thermostat cycle. Lower the thermostat so that there is no longer a call for heat for 1 - 20 sec.

## 3.1 No Light & No Fan



Leave "Park" terminal unused.

# 3 ERROR CODES

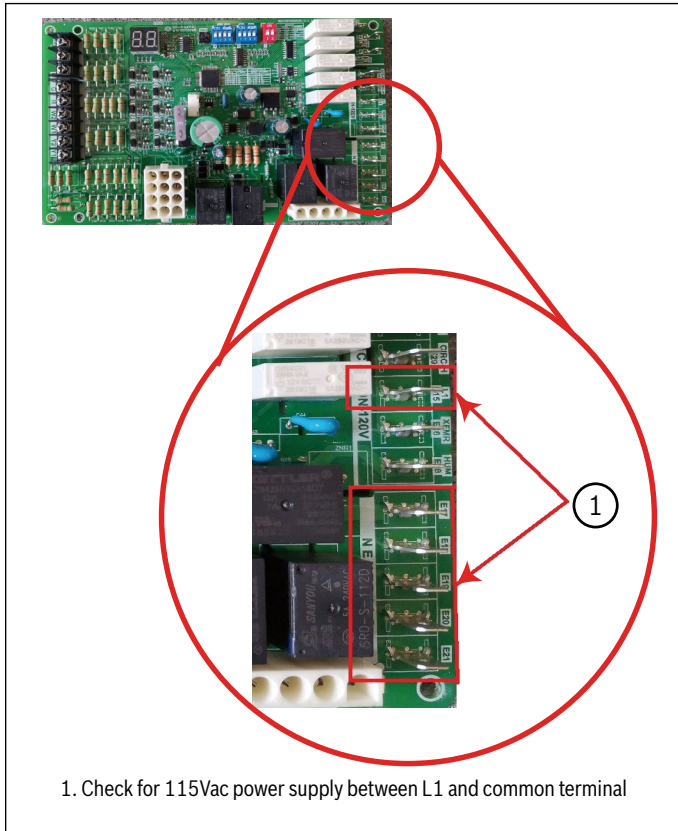


Figure 1

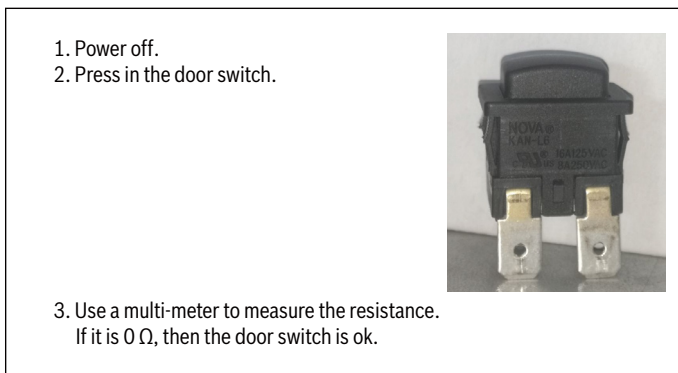


Figure 2

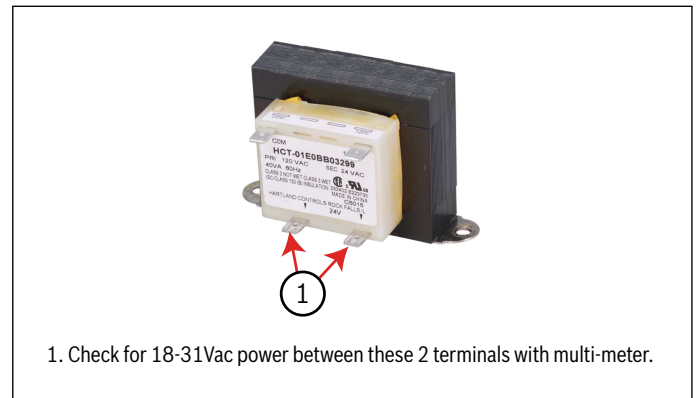


Figure 3

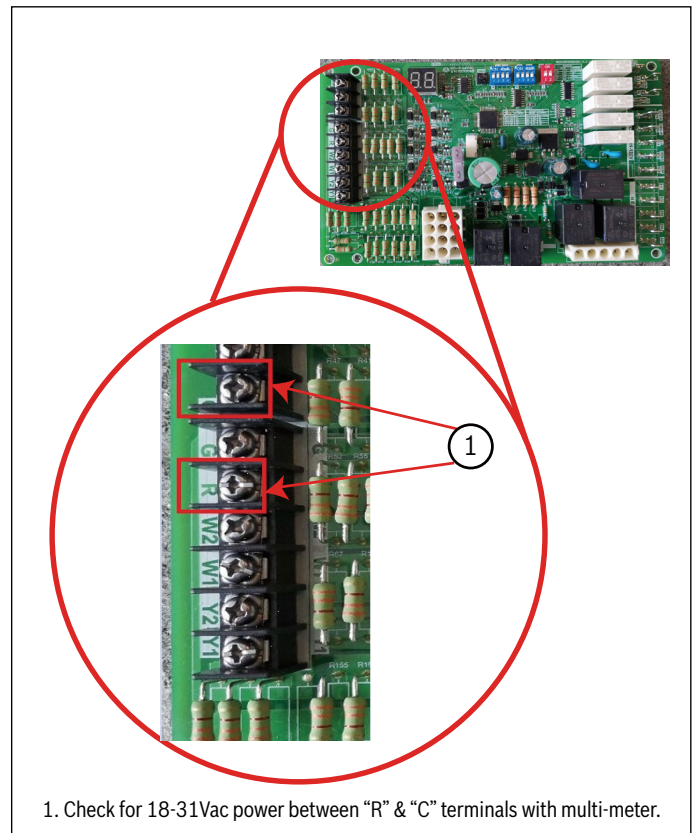


Figure 4

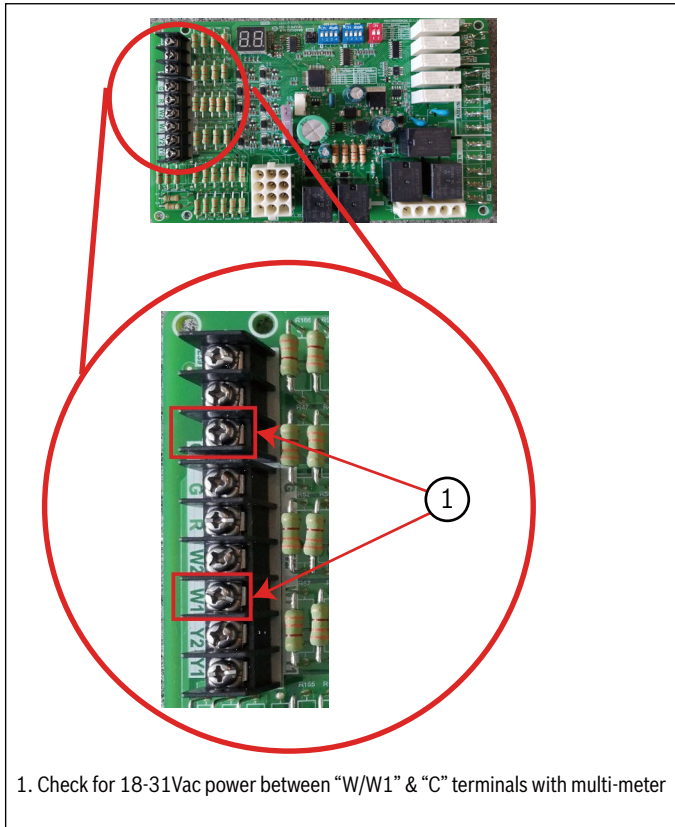


Figure 5

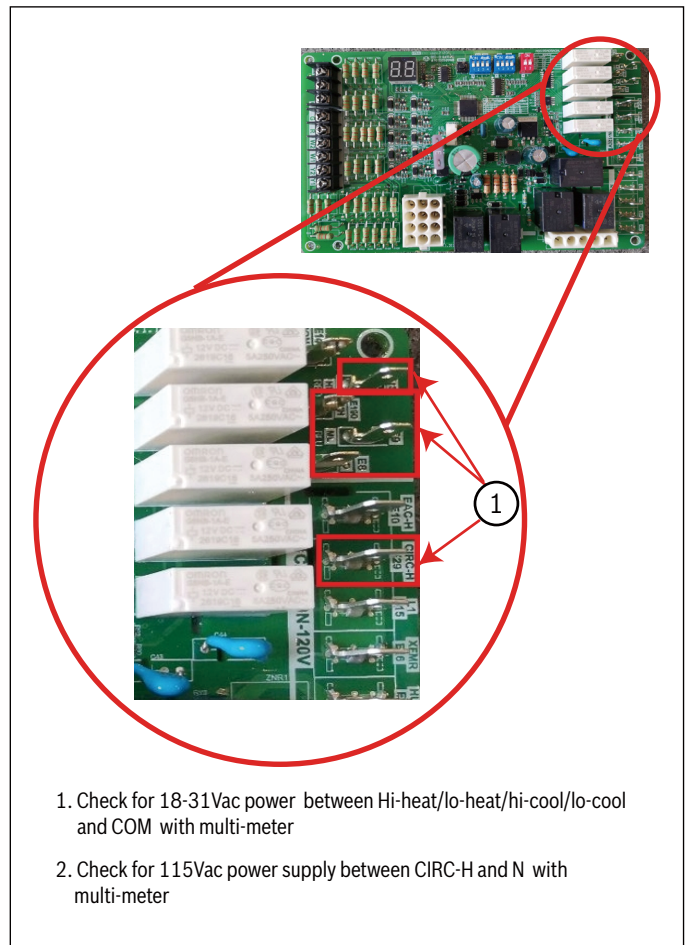


Figure 7

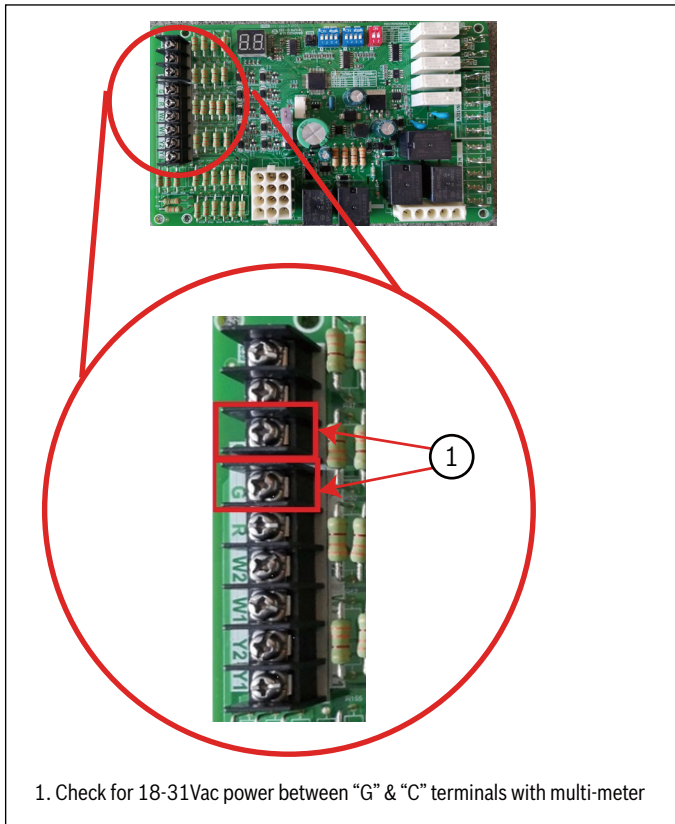


Figure 6

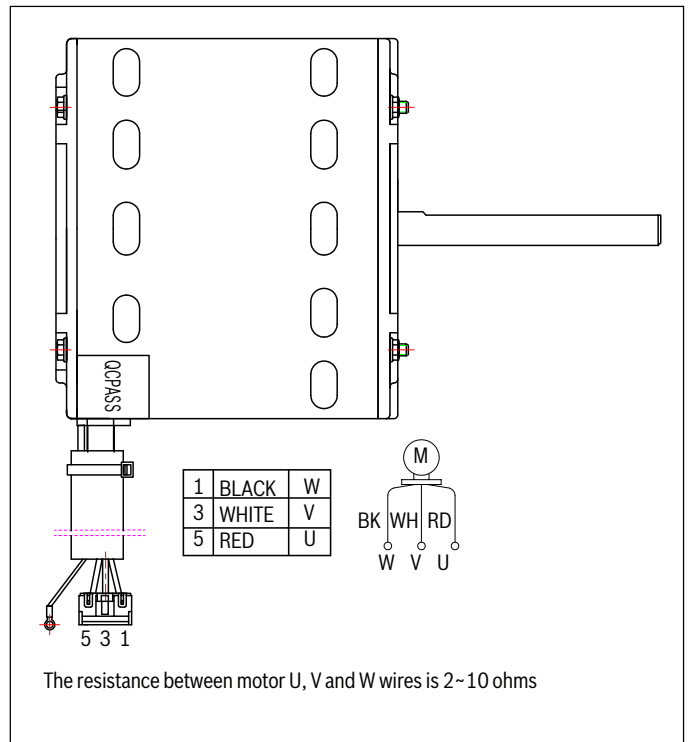
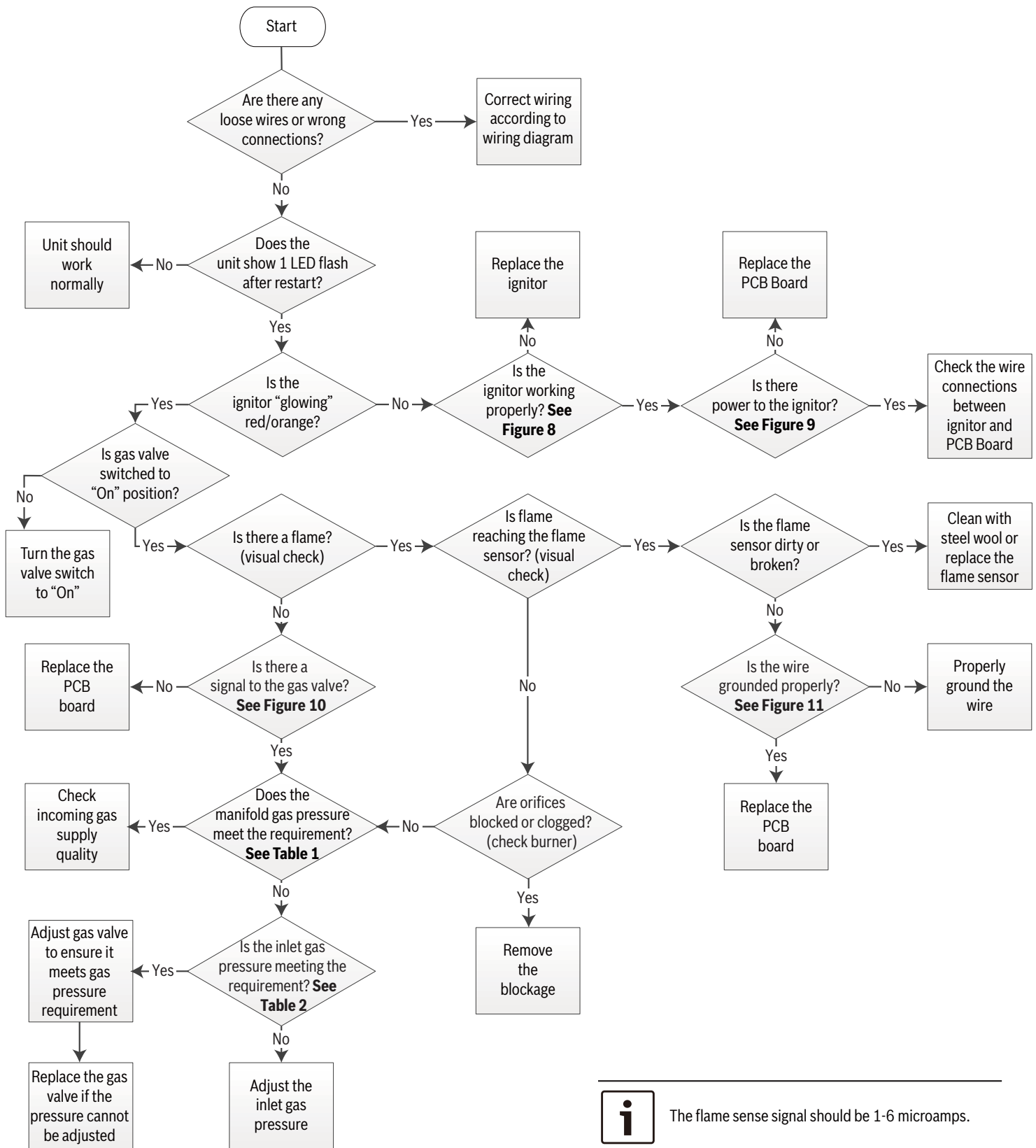


Figure 8

## 3.2 E7 System Lock-Out - Failed Ignition E8 System Lock-out - Too Many Flame Dropouts



The flame sense signal should be 1-6 microamps.



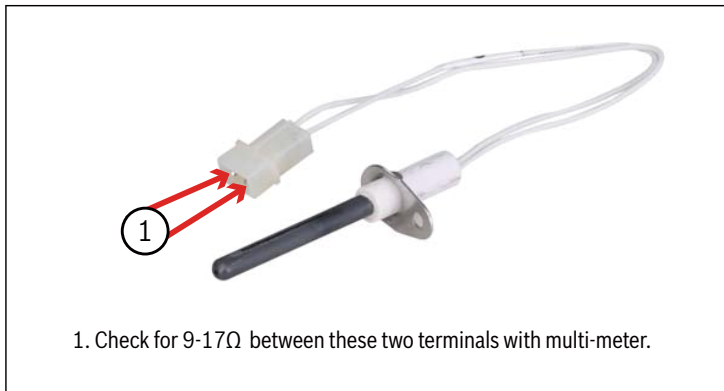


Figure 9

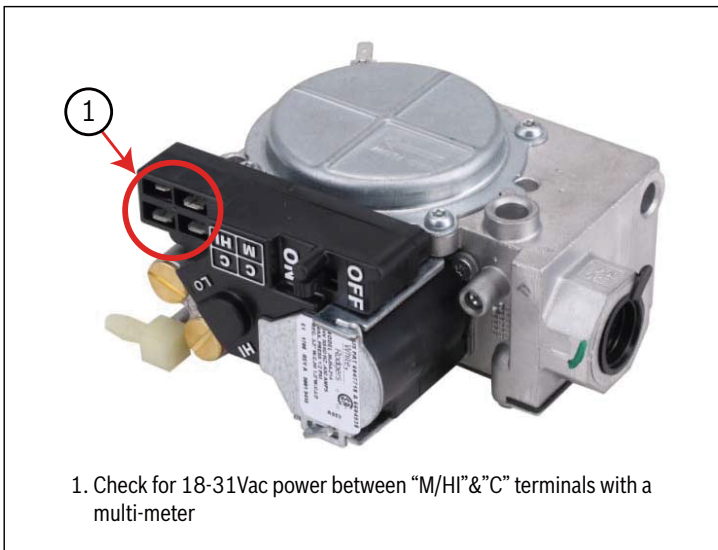


Figure 11

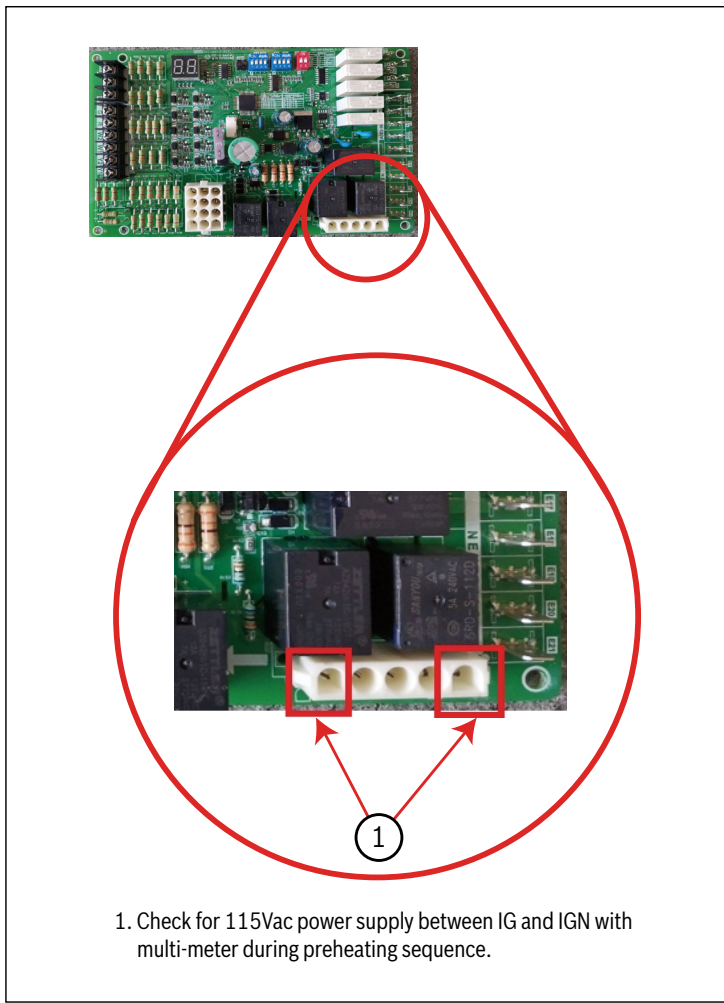


Figure 10

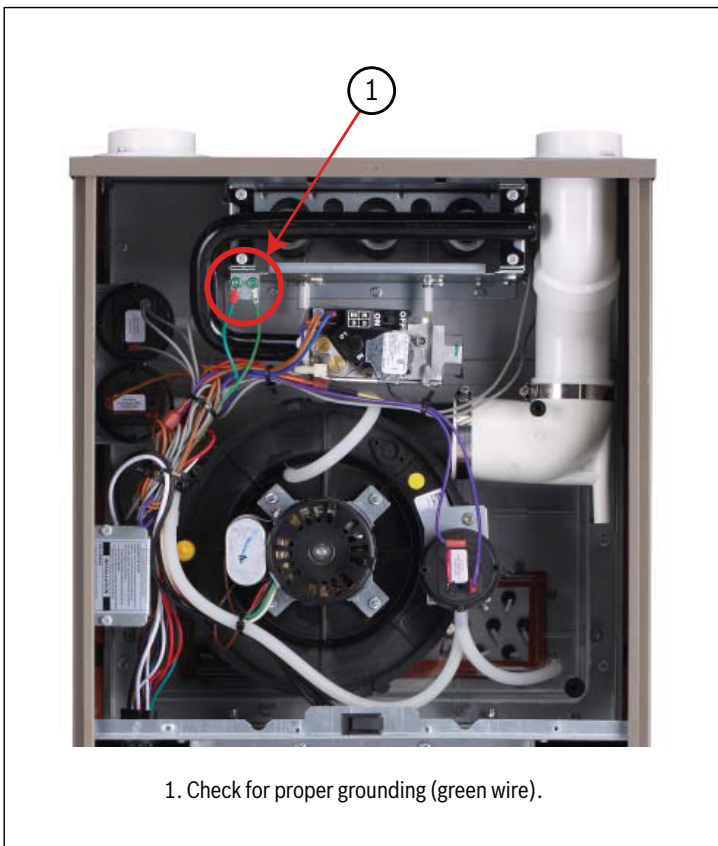


Figure 12

	Manifold Gas Pressure
Natural Gas	3.5 in. W.C.
Propane Gas	10 in. W.C.

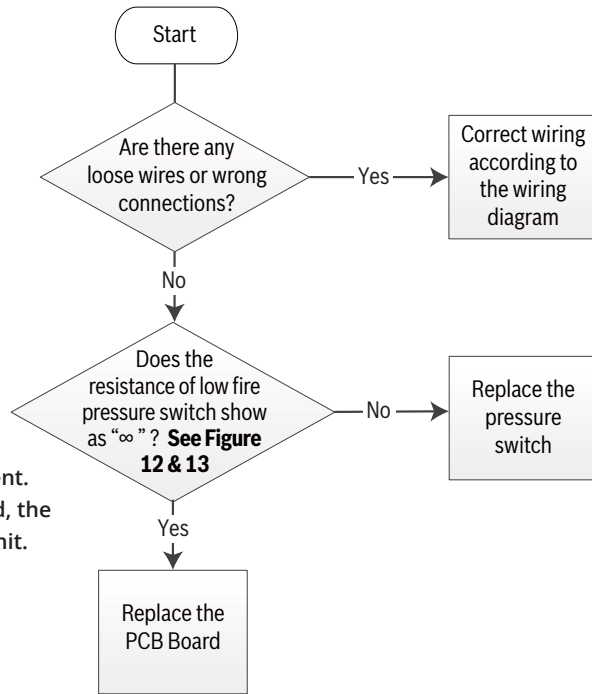
Table 1 Manifold Gas Pressure

	Inlet Gas Supply Pressure	
Natural Gas	Minimum: 4.5 in. W.C.	Maximum: 10.5 in. W.C.
Propane Gas	Minimum: 11.0 in W.C.	Maximum: 13.0 in. W.C.

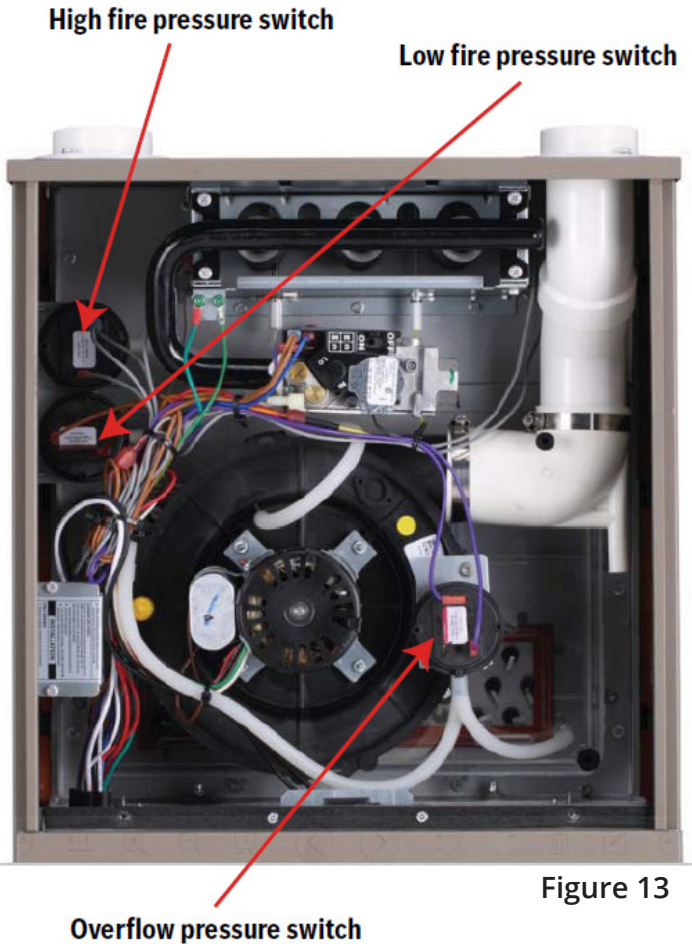
Table 2 Inlet Gas Supply Pressure

# 3 ERROR CODES

## 3.3 E1 Low Fire Pressure Switch Stuck Closed



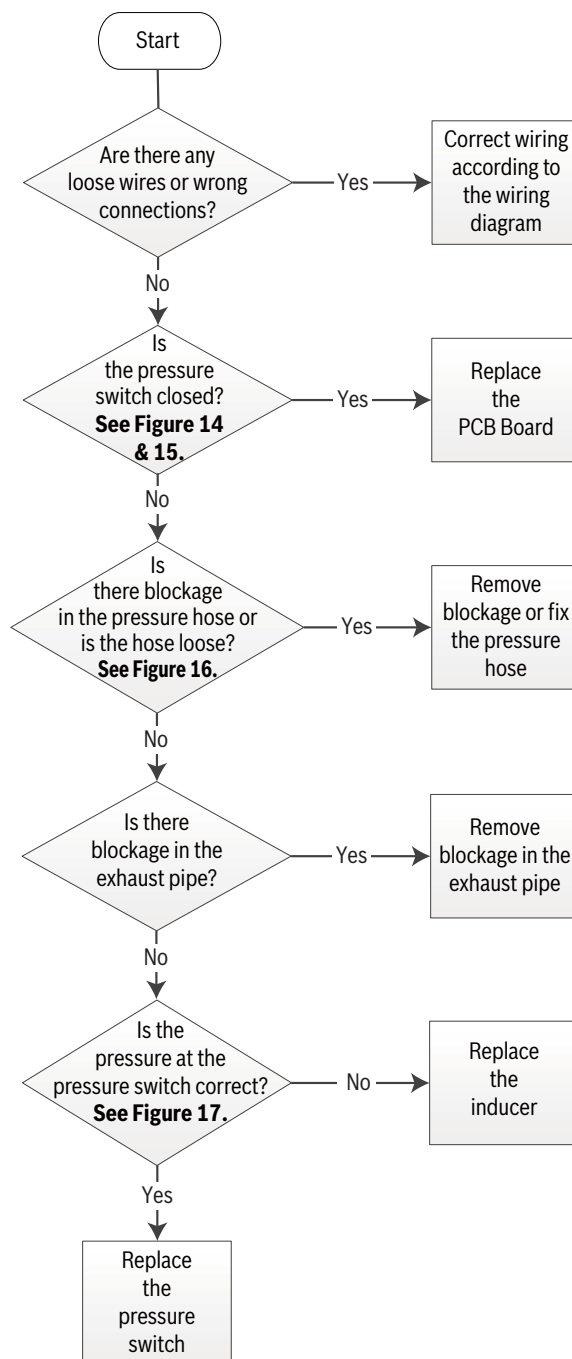
This error could also be caused by a blocked vent. Check vent for obstructions. If a vent is blocked, the unit's safety protection logic will turn off the unit.



1. Check for  $\infty$  resistance between these two terminals with multi-meter.

Figure 14

## 3.4 E2 Low Pressure Switch Stuck Open E4 Pressure Switch Cycle Lockout E3 High Pressure Switch Stuck Open



# 3 ERROR CODES

The pressure switch that you are checking in this step depends on the number of LED flashes. Refer to the specific flashes and their descriptions.

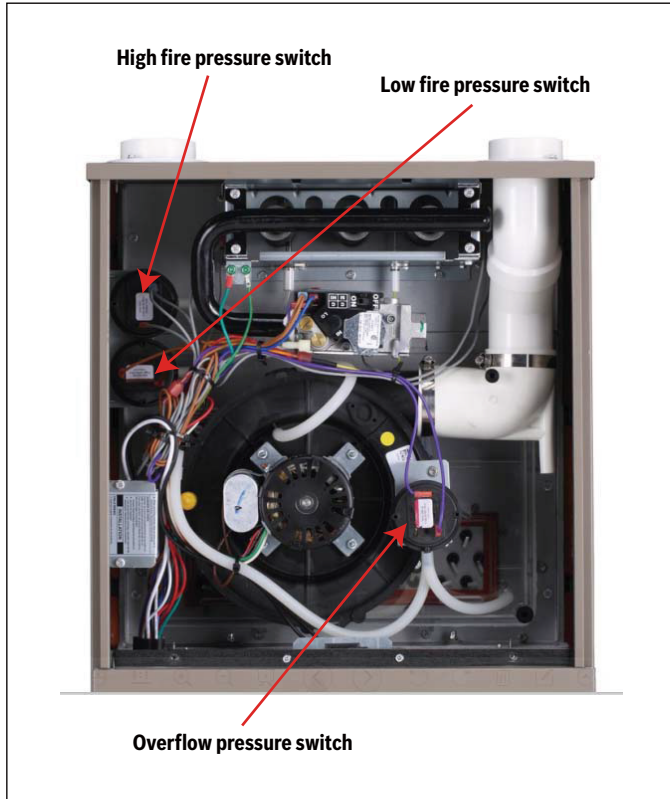


Figure 15

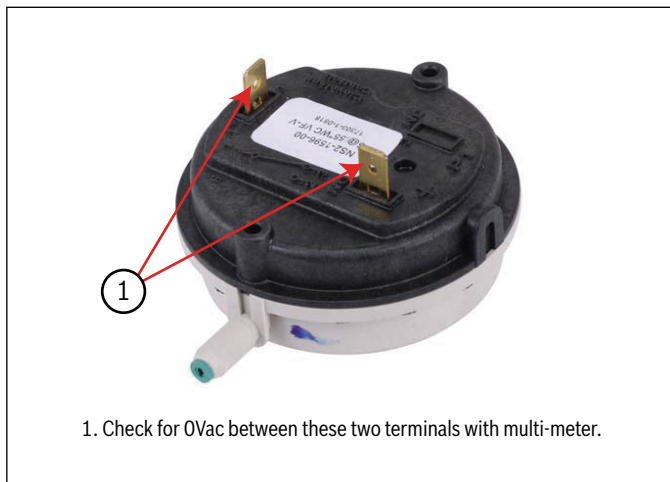


Figure 16

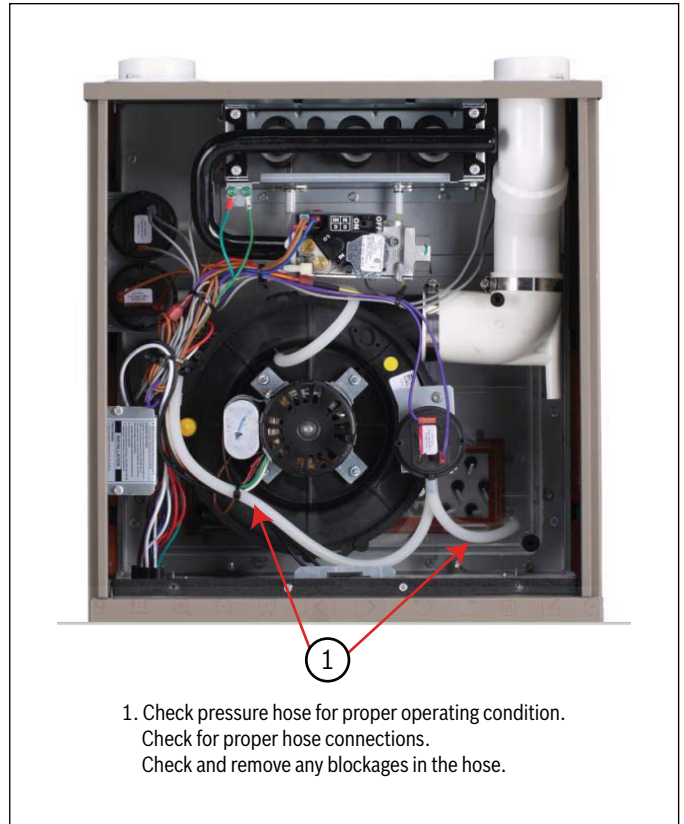


Figure 17

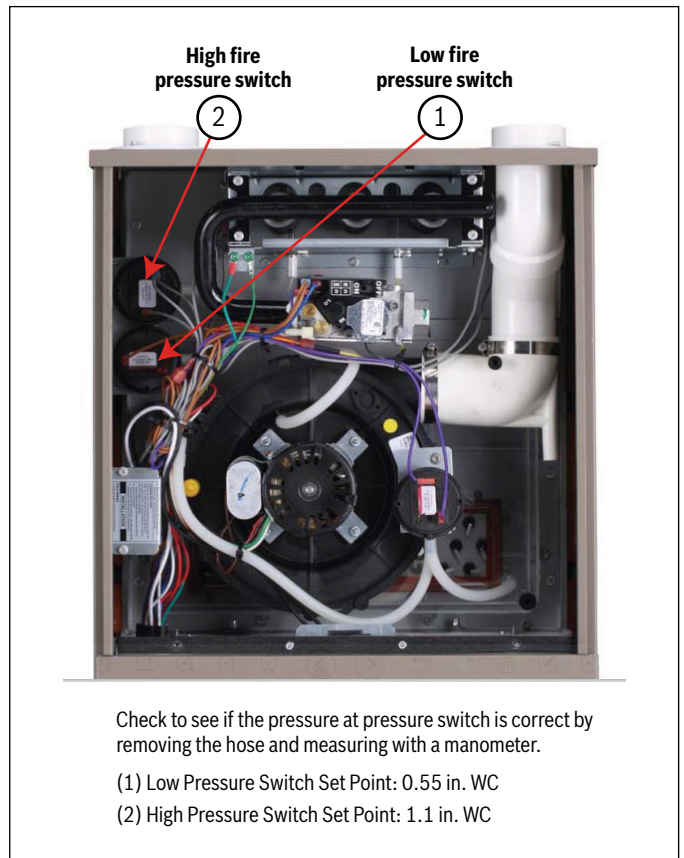
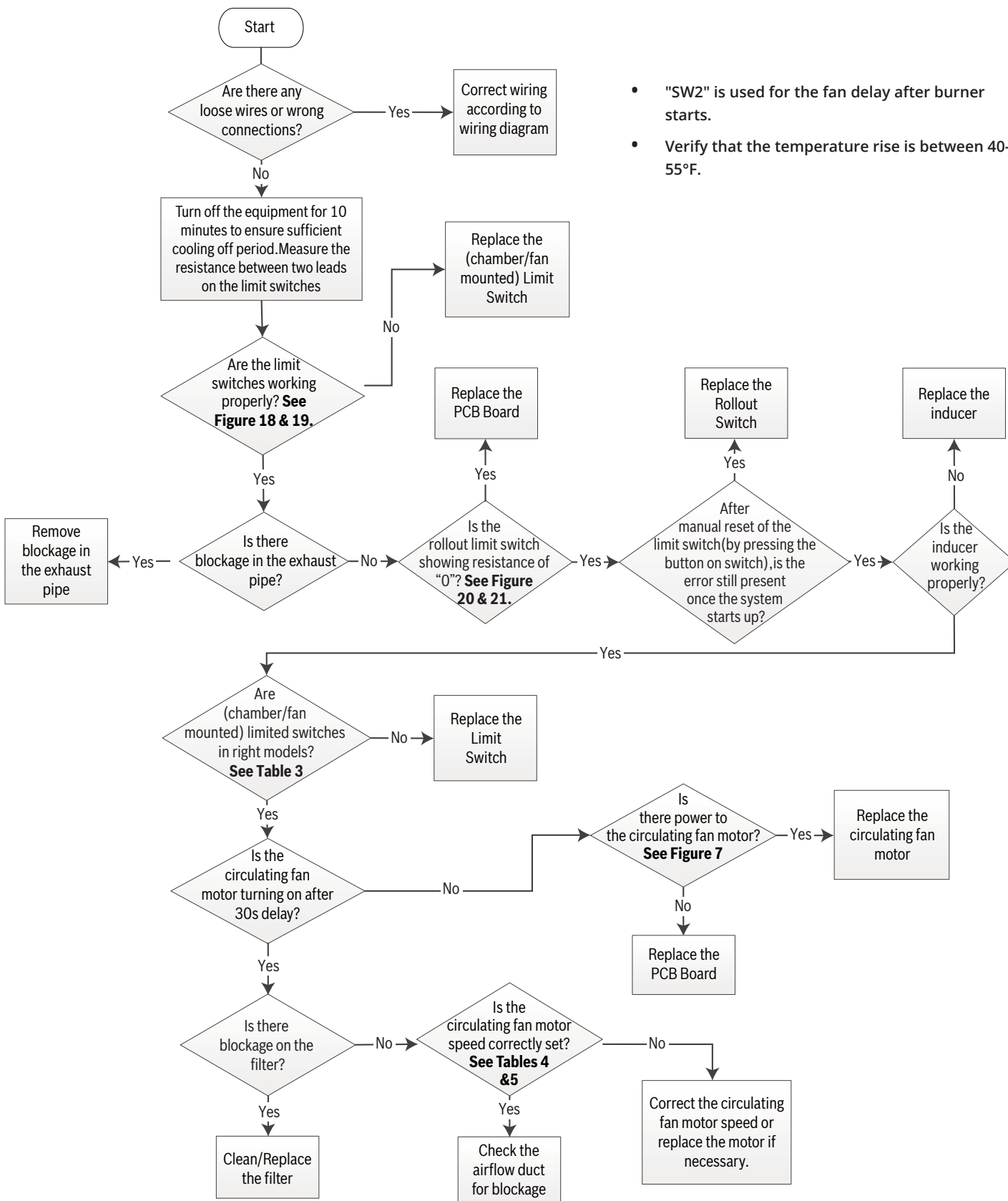


Figure 18

## 3.5 E5 Limit/Rollout Switch Open Less than 5 Minutes E6 Limit/Rollout Switch Open More than 5 Minutes



- "SW2" is used for the fan delay after burner starts.
- Verify that the temperature rise is between 40-55°F.

# 3 ERROR CODES

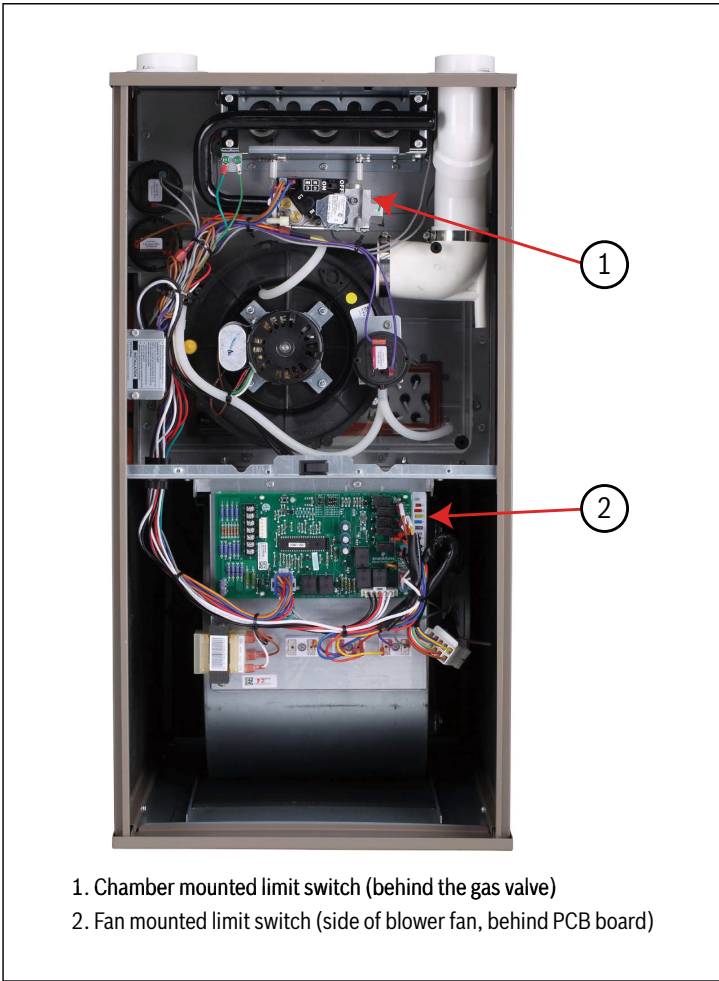


Figure 19

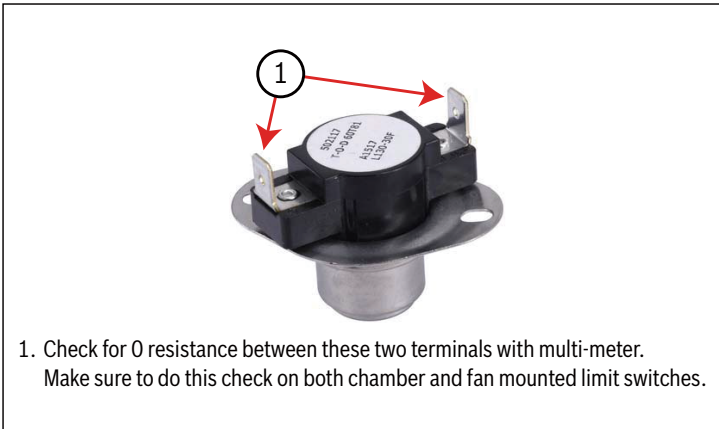


Figure 20

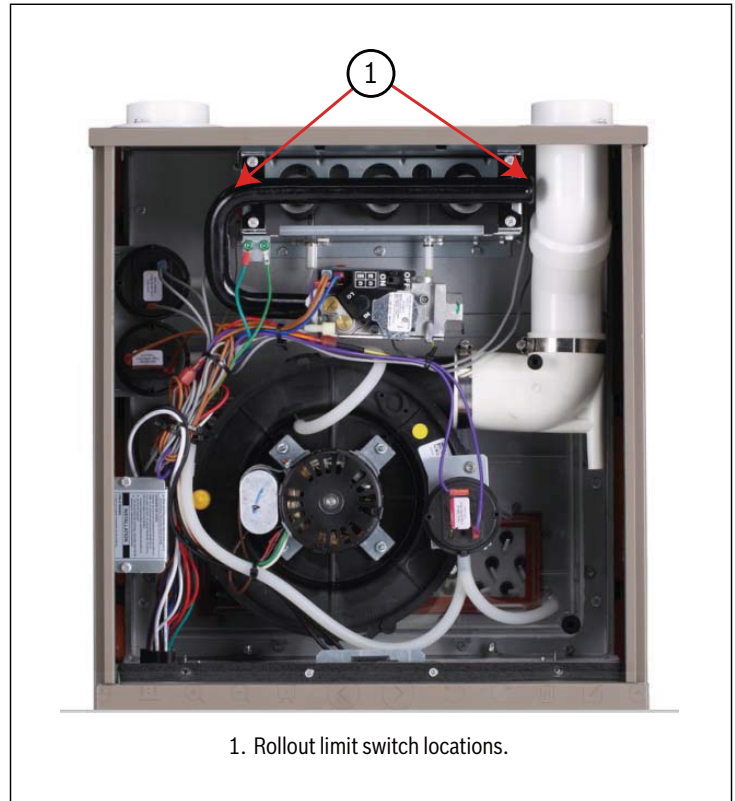


Figure 21

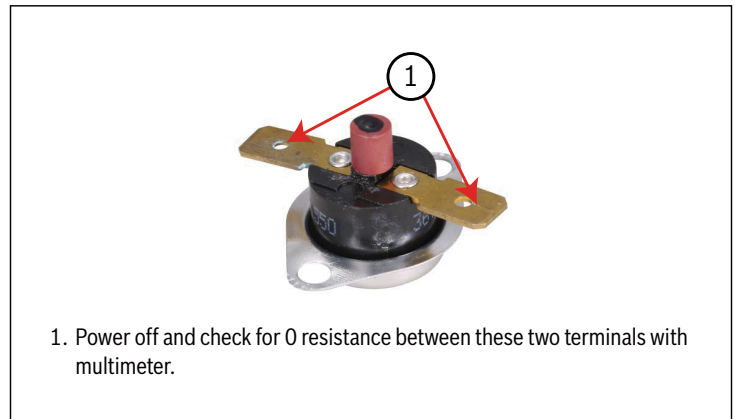


Figure 22

Model			MGM96EE060B3NB	MGM96EE080B3NB	MGM96EE080C4NB	MGM96EE100C5NB	MGM96EE120D5NB
Rollout Switch - Resettable	--	°F	300				
Inlet High Temp. Limit Switch - Fixed	Off/On	°F	150 / 120	150 / 120	150 / 120	150 / 120	150 / 120

Furnace Size	Return-Air Inlet	Speed		External Static Pressure (in. W.C.)										
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
60B	Bottom or Sides	H	CFM	1339	1327	1338	1309	1321	1320	1342	1334	1316	1335	
			Temp. Rise-1st Stage °F	--	--	--	--	--	--	--	--	--	--	--
			Temp. Ride-2nd Stage °F	37.3	37.7	37.5	38.3	38.1	38.1	37.6	37.9	38.5	38.0	
		Mid-H	CFM	1124	1118	1102	1106	1096	1099	1102	1109	1089	1105	
			Temp. Rise-1st Stage °F	--	--	--	--	--	--	--	--	--	--	--
			Temp. Ride-2nd Stage °F	44.2	44.5	45.2	45.1	45.6	45.5	45.5	45.3	46.2	45.6	
		Mid	CFM	880	870	853	858	865	858	854	866	871	839	
			Temp. Rise-1st Stage °F	36.7	37.2	37.9	37.8	37.6	38.0	38.2	37.8	37.6	39.1	
			Temp. Ride-2nd Stage °F	56.3	57.0	58.1	57.9	57.5	58.0	58.4	57.7	57.4	59.7	
		Mid-L	CFM	779	768	762	756	740	753	757	747	785	766	
			Temp. Rise-1st Stage °F	41.4	42.0	42.4	42.8	43.8	43.1	43.0	43.6	41.6	42.7	
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	--
		Low	CFM	553	586	543	569	552	562	584	572	575	567	
			Temp. Rise-1st Stage °F	58.1	54.9	59.3	56.74	58.5	57.6	55.5	56.8	56.5	57.4	
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	--
80B	Bottom or Sides	H	CFM	1230	1233	1222	1226	1214	1236	1255	1244	1249	1251	
			Temp. Rise-1st Stage °F	--	--	--	--	--	--	--	--	--	--	--
			Temp. Ride-2nd Stage °F	53.9	53.8	54.4	54.3	54.8	53.9	53.2	53.7	53.6	53.6	
		Mid-H	CFM	1052	1052	1041	1044	1037	1034	1048	1046	1024	1076	
			Temp. Rise-1st Stage °F	41.0	41.0	41.5	41.5	41.8	42.1	41.5	41.7	42.7	40.7	
			Temp. Ride-2nd Stage °F	62.8	62.8	63.6	63.5	64.0	64.3	63.4	63.7	65.1	62.1	
		Mid	CFM	849	861	854	853	855	844	855	848	834	859	
			Temp. Rise-1st Stage °F	50.6	50.0	50.4	50.5	50.5	51.2	50.6	51.2	52.1	50.7	
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	--
		Mid-L	CFM	754	771	765	764	728	761	782	739	758	758	
			Temp. Rise-1st Stage °F	56.9	55.7	56.2	56.3	59.2	56.8	55.3	58.5	57.2	57.3	
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	--
		Low	CFM	569	554	571	572	568	572	598	594	572	548	
			Temp. Rise-1st Stage °F	--	--	--	--	--	--	--	--	--	--	--
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	--
80C	Bottom or Sides	H	CFM	1303	1301	1281	1291	1289	1291	1290	1295	1298	1253	
			Temp. Rise-1st Stage °F	--	--	--	--	--	--	--	--	--	--	--
			Temp. Ride-2nd Stage °F	50.8	50.9	51.8	51.5	51.6	51.6	51.7	51.6	51.6	53.5	
		Mid-H	CFM	1120	1127	1134	1130	1135	1138	1132	1143	1107	1112	
			Temp. Rise-1st Stage °F	38.5	38.3	38.1	38.3	38.2	38.2	38.5	38.2	39.5	39.4	
			Temp. Ride-2nd Stage °F	59.0	58.7	58.4	58.7	58.5	58.4	58.8	58.3	60.3	60.1	
		Mid	CFM	908	894	896	902	896	894	864	891	935	880	
			Temp. Rise-1st Stage °F	47.3	48.1	48.0	47.8	48.2	48.4	50.1	48.7	46.5	49.5	
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	--
		Mid-L	CFM	818	819	825	800	813	803	831	838	791	802	
			Temp. Rise-1st Stage °F	52.4	52.4	52.1	53.8	53.1	53.8	52.1	51.8	54.9	54.2	
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	--
		Low	CFM	577	628	605	624	615	601	628	573	590	588	
			Temp. Rise-1st Stage °F	--	--	--	--	--	--	--	--	--	--	--
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	--

Table 4 - Air Delivery CFM (Without Filter) \* \* \*

\* A filter is required for each return air inlet. This table shows the airflow performance without a filter. To determine airflow performance with a filter, if a 3/4 inch (19mm) washable media filter is used, assume an additional 0.1 in. W.C. available external static pressure.

\*\* The manufacturer default fan settings are based on model, refer to Table 24.

# 3 ERROR CODES

Furnace Size	Return-Air Inlet	Speed		External Static Pressure (in. W.C.)										
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
100C	Bottom or Sides	H	CFM	1752	1764	1768	1781	1774	1786	1762	1802	1792	1786	
			Temp. Rise-1st Stage °F	--	--	--	--	--	--	--	--	--	--	--
			Temp. Ride-2nd Stage °F	47.5	47.3	47.3	47.0	47.3	47.0	47.7	46.8	47.2	47.4	
		Mid-H	CFM	1512	1506	1536	1523	1514	1509	1529	1551	1565	1532	
			Temp. Rise-1st Stage °F	38.6	38.8	38.1	38.5	38.8	39.0	38.6	38.1	37.9	38.8	
			Temp. Ride-2nd Stage °F	54.8	55.1	54.1	54.6	55.1	55.3	54.7	54.0	53.6	54.8	
		Mid	CFM	1354	1354	1362	1370	1357	1381	1389	1394	1416	1383	
			Temp. Rise-1st Stage °F	42.9	43.0	42.8	42.6	43.1	42.4	42.3	42.2	41.7	42.7	
			Temp. Ride-2nd Stage °F	61.1	61.1	60.8	60.6	61.2	60.3	60.0	59.9	59.0	60.5	
		Mid-L	CFM	1165	1165	1176	1164	1185	1190	1186	1205	1174	1199	
			Temp. Rise-1st Stage °F	49.7	49.7	49.3	49.9	49.2	49.0	49.2	48.6	49.9	49.0	
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	
		Low	CFM	994	1025	1018	1024	1032	1026	1035	988	1005	1041	
			Temp. Rise-1st Stage °F	58.1	56.4	56.9	56.6	56.3	56.7	56.3	59.0	58.1	56.2	
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	
120D	Bottom or Sides	H	CFM	1926	1933	1915	1923	1916	1929	1971	1941	2036	1998	
			Temp. Rise-1st Stage °F	--	--	--	--	--	--	--	--	--	--	
			Temp. Ride-2nd Stage °F	51.8	51.7	52.2	52.1	52.4	52.1	51.1	52.0	49.8	50.7	
		Mid-H	CFM	1721	1747	1716	1749	1760	1768	1778	1783	1747	1788	
			Temp. Rise-1st Stage °F	--	--	--	--	--	--	--	--	--	--	
			Temp. Ride-2nd Stage °F	57.8	57.0	58.1	57.1	56.8	56.6	56.4	56.3	57.5	56.4	
		Mid	CFM	1489	1497	1503	1504	1507	1488	1496	1518	1519	1568	
			Temp. Rise-1st Stage °F	46.7	46.6	46.4	46.5	46.5	47.1	47.0	46.4	46.4	45.1	
			Temp. Ride-2nd Stage °F	66.5	66.3	66.1	66.1	66.1	67.0	66.7	65.8	65.9	64.0	
		Mid-L	CFM	1384	1360	1365	1384	1382	1383	1379	1401	1421	1414	
			Temp. Rise-1st Stage °F	50.2	51.1	51.0	50.4	50.6	50.6	50.8	50.1	49.5	49.9	
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	
		Low	CFM	1165	1175	1162	1158	1158	1184	1186	1204	1201	1185	
			Temp. Rise-1st Stage °F	59.5	59.0	59.8	60.0	60.1	58.9	58.9	58.1	58.4	59.2	
			Temp. Ride-2nd Stage °F	--	--	--	--	--	--	--	--	--	--	

Table 5 - Air Delivery CFM (Without Filter) \* \*\*

\* A filter is required for each return air inlet. This table shows the airflow performance without a filter. To determine airflow performance with a filter, if a 3/4 inch (19mm) washable media filter is used, assume an additional 0.1 in. W.C. available external static pressure.

\*\* The manufacturer default fan settings are based on model, refer to Table 24.



## 3.6 Pr (Incorrect Polarity of L1/L2)

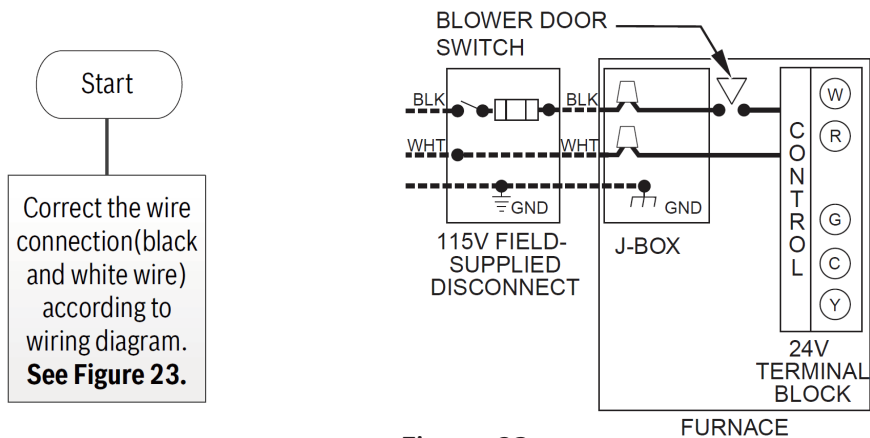


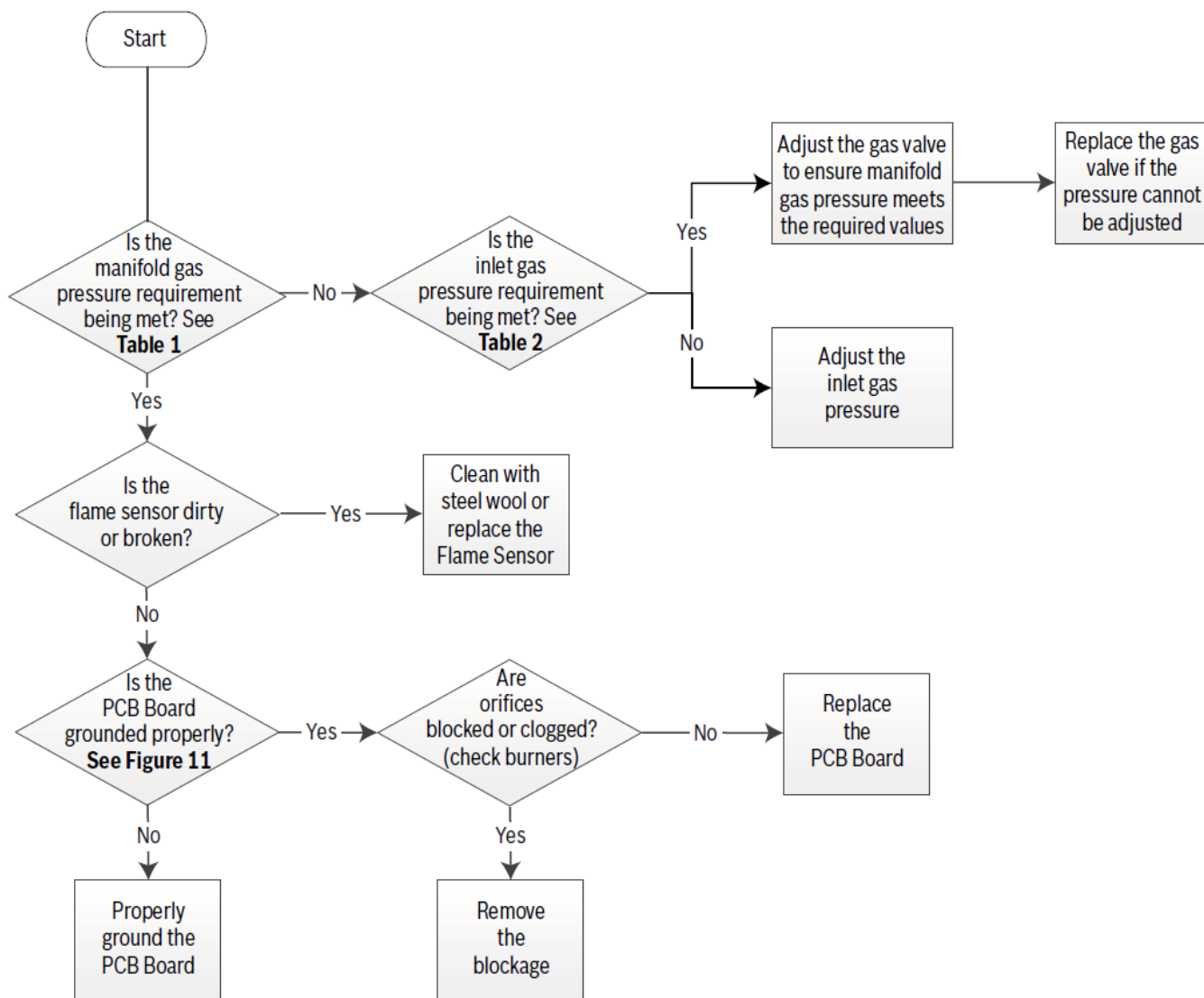
Figure 23

### NOTE

Please refer to the wiring diagram to confirm whether the connection is normal. Please check whether the input power ground wire is correctly and reliably connected to the machine.

Start  
Correct the wire connection (black and white wire) according to wiring diagram. See Figure 23.

## 3.7 FL (Low Flame)



## 4.1 Two-Stage Controller Logic

There are two heating modes:

1. Low Fire Heating Mode: Only W1 signal
2. High Fire Heating Mode: Both W1 and W2 signal

If you are using a single-stage thermostat, only a W1 signal will be sent. In this scenario, the furnace will upstage from low to high fire via a timing sequence. The time delay is set via the S1-1 and S1-2 dip switches on the control board.

If the furnace fails to ignite, there is a separate logic for the re-ignition sequence.

### Low Fire Heating Mode Logic (only W1 signal):

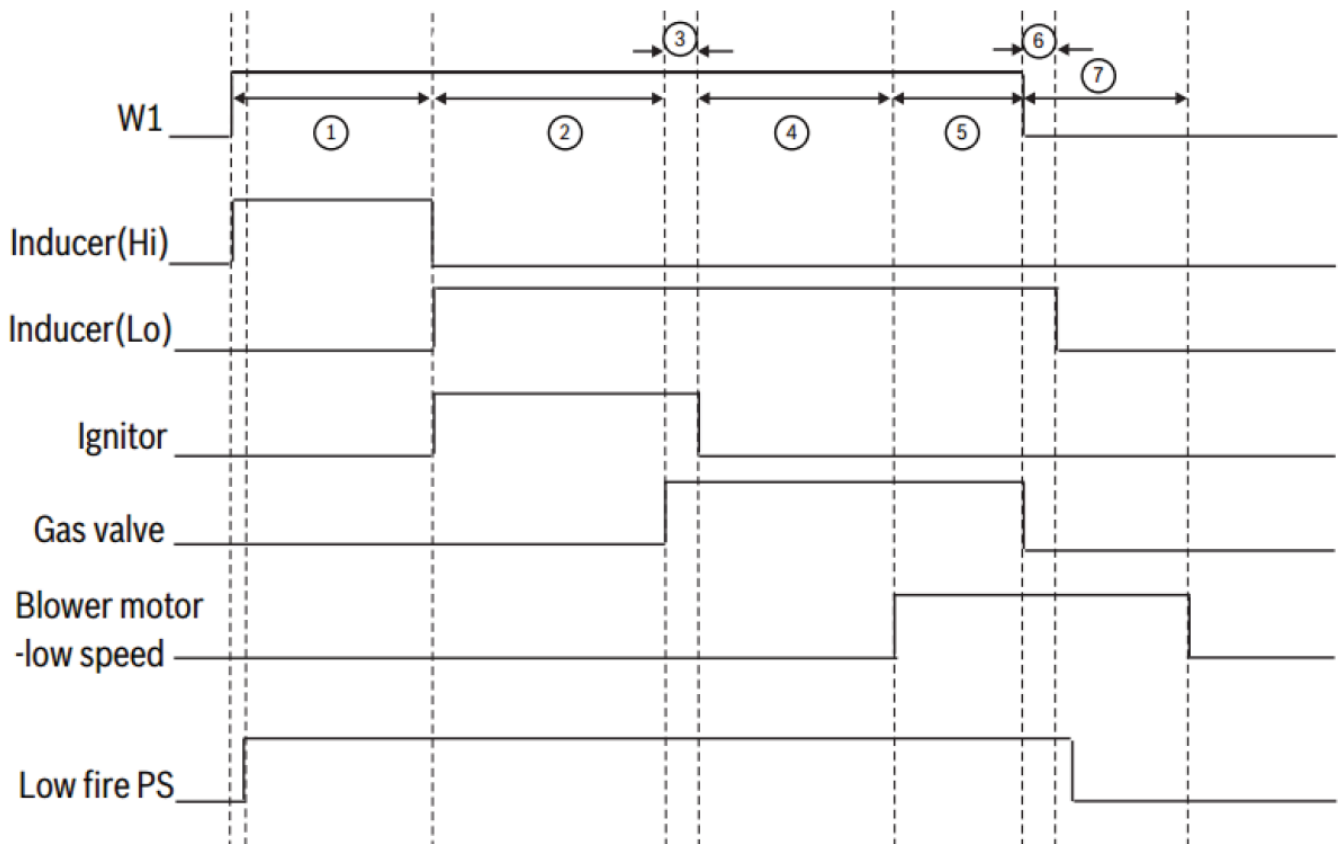


Figure 24

1. When there is a call for heat (W1), the inducer will start on high speed and the low pressure switch closes. This will last for 15 seconds.
2. Inducer will turn to low speed and the igniter will energize. This preheating sequence lasts for 17 seconds.
3. After preheating, the gas valve opens and the burners light. The igniter will turn off after 3 seconds.
4. There is a 30 second time delay before the blower motor starts.
5. The system is working properly.
6. When there is no call for heat (no W1 call) and no flame is sensed, post-purge begins. This will last for 15 seconds.
7. There is a fan delay to dissipate heat in the system. This time depends on the dip switch S1-3 and S1-4. The default time is 180 seconds.

## High Fire Heating Mode (W1+W2 Signal):

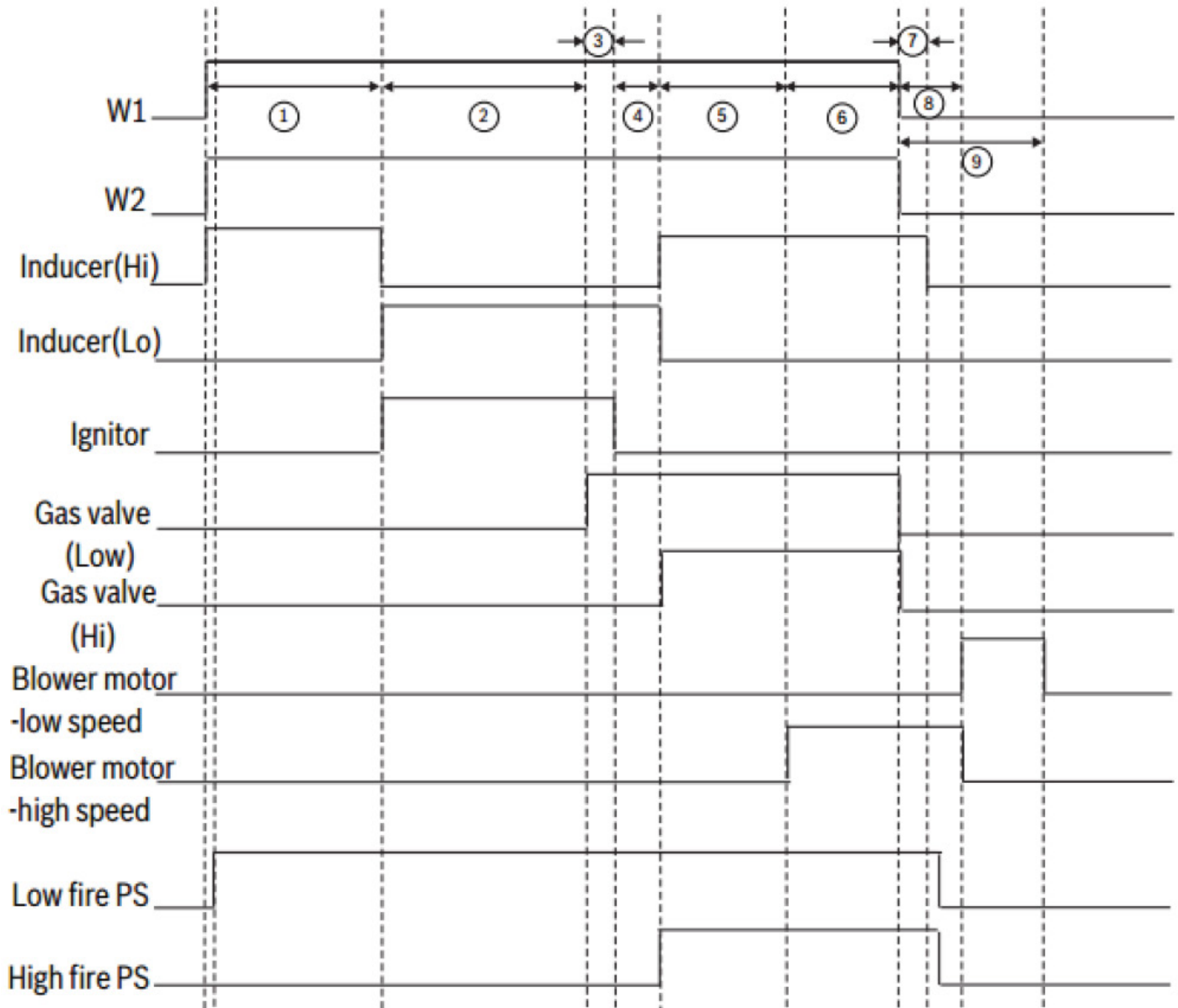


Figure 25

1. When there is a call for heat (W1), the inducer will start on high speed and the low pressure switch closes. This will last for 15 seconds.
2. Inducer will turn to low speed and the igniter will energize. This preheating sequences lasts for 17 seconds.
3. After preheating, the gas valve opens and the burners light. The igniter will turn off after 3 seconds.
4. Before the gas valve, inducer, and pressure switch turn to high stage, there is a 5 second delay.
5. There is a time delay of 30 seconds before the blower motor starts.
6. The system is working properly in high stage.
7. When there is no call for heat, there is a time delay before the inducer shuts down. This will last for 15 seconds.
8. The blower motor will run at high speed for 30 seconds for fan delay.
9. There is a fan delay to dissipate heat in the system. This time depends on the dip switch S1-3 and S1-4. The default time is 180 seconds.

## 4.2 Ignition Failure & Re-ignition Sequence

If the furnace fails to ignite, there is a separate logic for the re-ignition sequence:

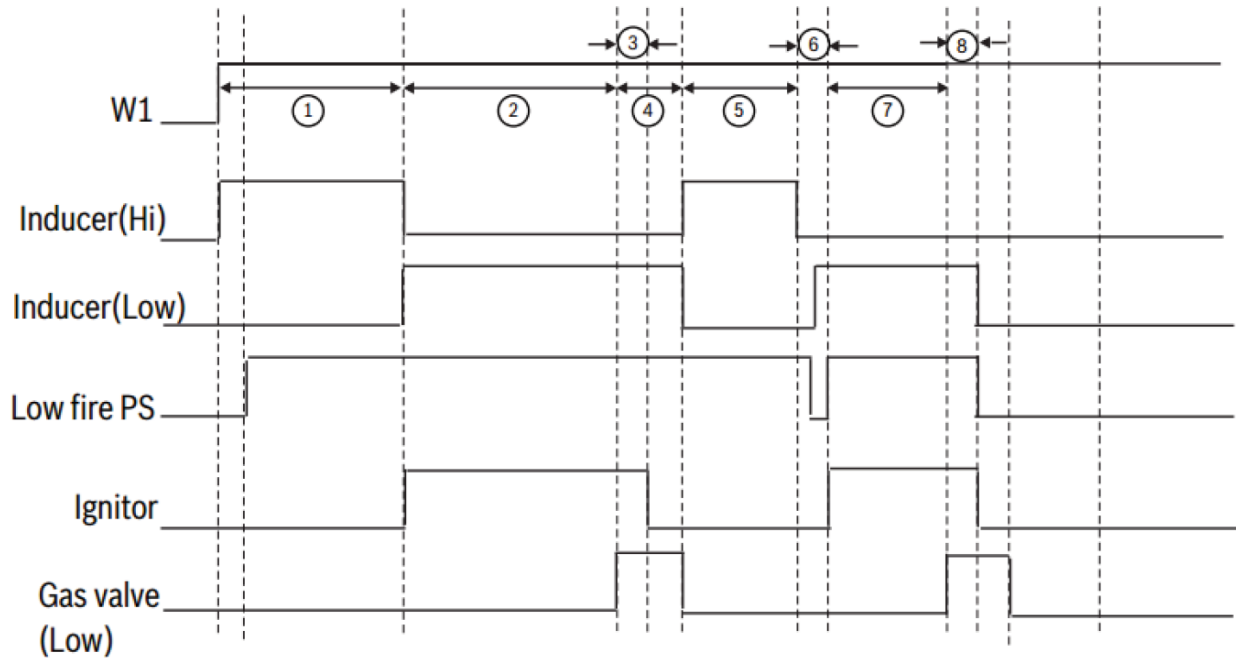


Figure 26

1. When there is a call for heat (W1), the inducer will start on high speed and the low pressure switch closes. This will last for 15 seconds.
2. Inducer will turn to low speed and the igniter will energize. This preheating sequence lasts for 17 seconds.
3. After preheating, the gas valve opens and the burners light. The igniter will turn off after 3 seconds.
4. The gas valve will open for 4 seconds if there is no flame.
5. The inducer will run at high speed for 60 seconds.
6. Test of low pressure switch
7. Preheating occurs for 27 seconds.
8. After preheating, the gas valve opens. The igniter will turn off after 3 seconds. After two failed ignition attempts, the system will lock out.

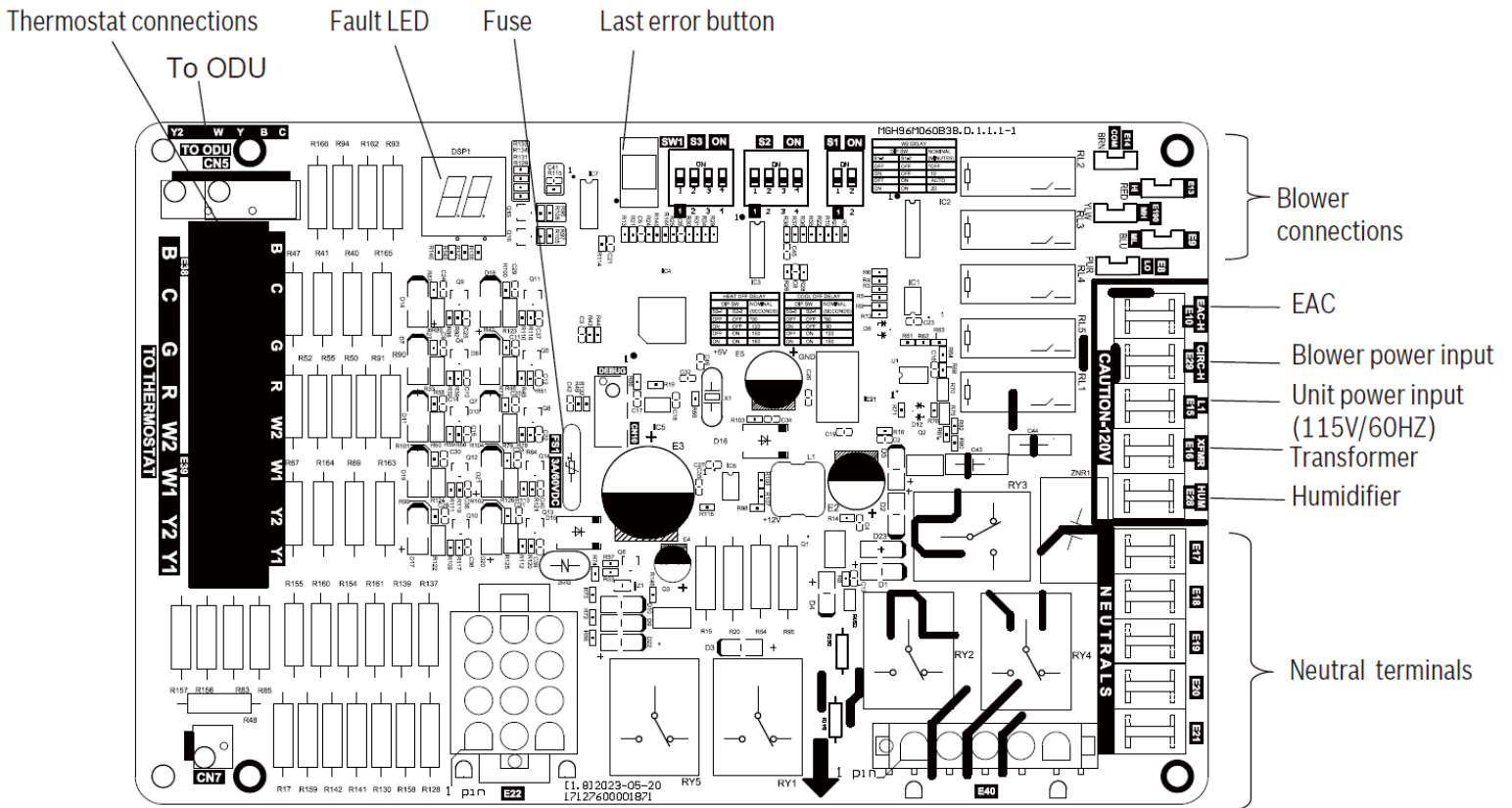
## 4.3 Requirements for Refrigerant Leakage Sensors

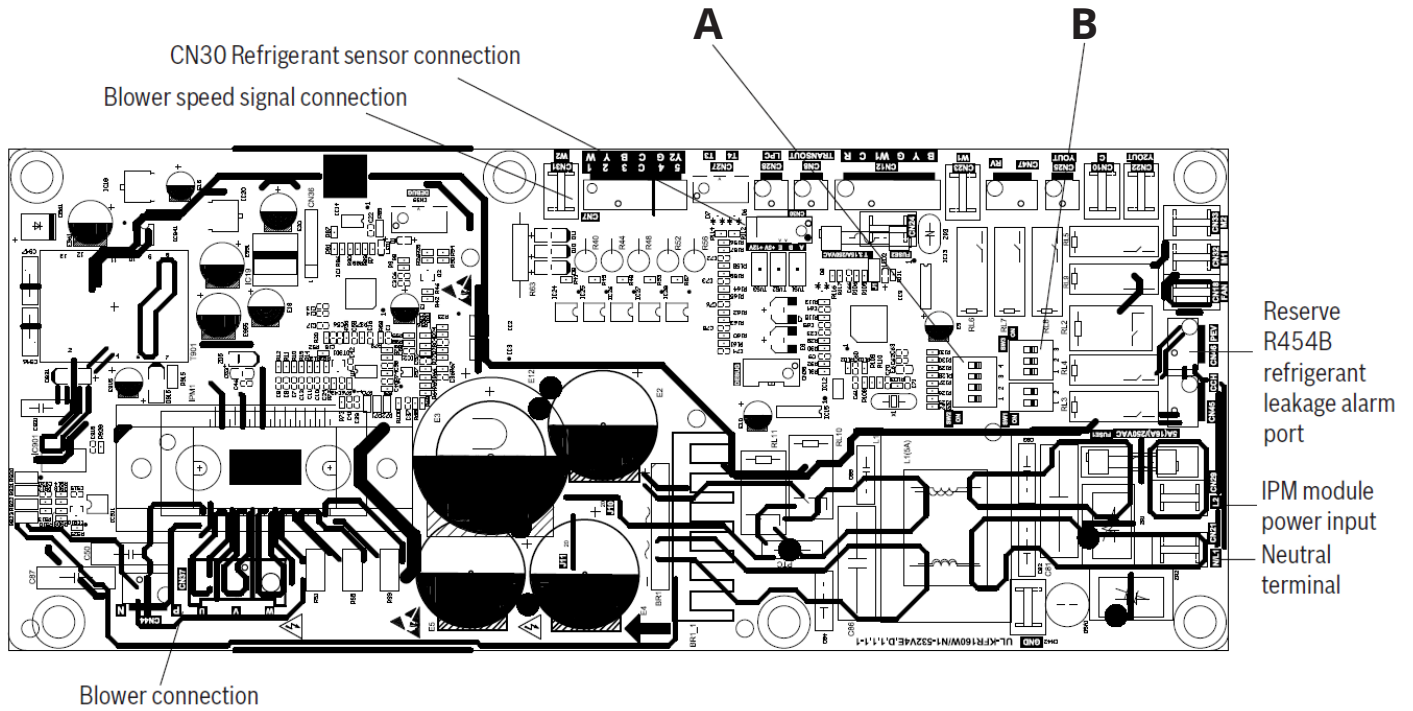
W2 Delay		
DIP SW		Nominal (Minutes)
S1-1	S1-2	
*OFF	OFF	OFF
ON	OFF	10
OFF	ON	AUTO
ON	ON	20

Heat Off Delay		
DIP SW		Nominal (Minutes)
S2-1	S2-2	
*OFF	OFF	90
ON	OFF	120
OFF	ON	150
ON	ON	180

Cool Off Delay		
DIP SW		Nominal (Minutes)
S2-3	S2-4	
*OFF	OFF	60
ON	OFF	90
OFF	ON	120
ON	ON	150

### Option Switch Positions





Series of Products		
SW2-4	OFF	80% Gas Furnace
	ON	96% Gas Furnace

### A

96% Machine Type			
DIP SW			Type
SW2-1	SW2-2	SW2-3	
OFF	OFF	OFF	*
OFF	OFF	ON	*
OFF	ON	OFF	60B, 80B
OFF	ON	ON	80C
ON	OFF	OFF	100C
ON	OFF	ON	120D

### B

Fan Speed		
SW1-1	OFF	Normal Speed
	ON	Slow Speed
SW1-2	OFF	W/O Refrigerant Sensor
	ON	W/ Refrigerant Sensor

## WARNING

According to the safety requirements of UL 60335-2-40 on combustible refrigerant A2L, when the gas furnace is used with coil and the new type of combustible refrigerant is used in the coil, the unit must be equipped with the refrigerant gas detection sensor to monitor the refrigerant concentration around the unit in real time to prevent the danger of abnormal refrigerant leakage.

Refrigerant gas detection sensors are manufactured under the coil manufacturing label and must be installed by a qualified local gas supplier, distributor or service organization.

If the refrigerant gas detection sensor is not installed or is incorrectly installed, it does not meet the requirements of current regulations and cannot effectively warn of an emergency, which may cause personal injury. Therefore, follow the instructions provided in the manual.

**Installation of refrigerant gas detection sensor:**

For the use of a coil unit, connect the refrigerant gas sensor cable terminal to the CN30 Interface, as shown in "Gas Furnace Control Module" and move the drive plate SW1-2 to the "ON" position. Refer to the coil manual for installation locations of refrigerant gas sensors.

**Operation Indication of Refrigerant Gas Sensor:**

When the sensor detects a refrigerant leak, the unit will respond according to the following rules.

LED2 Number of Green Flashes	Fault Location	Fault Cause	Unit Response & Handling Method
1	The refrigerant sensor communication fails	The communication with the refrigerant sensor fails for 2 minutes or the refrigerant sensor is faulty.	The LED2 indicator of the driver board blinks green once, and the Y signal is disconnected to stop cooling. Contact MRCOOL to check the sensor.
2	Refrigerant concentration exceeds the limit alarm value	The pipe is damaged or the refrigerant leaks.	The green light of the drive board LED2 flashes twice, disconnect the Y signal, stop the refrigeration, and the fan in the unit will continue to run until the refrigerant concentration is detected to decrease to a safe value. Maintain ventilation and avoid open flames. Contact MRCOOL to check the unit.
3	Forget the dip reminder	The sensor is connected and communication is normal, but SW1-2 is in the "OFF" position.	LED2 of the driver board blinks green three times. Check whether SW1-2 is in the ON position.
4	Expiration reminder	The sensor expired or is faulty.	The LED2 indicator of the driver board blinks green four times to turn off the Y signal and stop cooling. Contact MRCOOL for a new refrigerant detection sensor.



**MRCOOL®**  
COMFORT MADE SIMPLE

**VersaPro™**  
**96% Gas Furnace**  
Service Manual

The design and specifications of this product and/or manual are subject to change without prior notice.  
Consult with the sales agency or manufacturer for details.