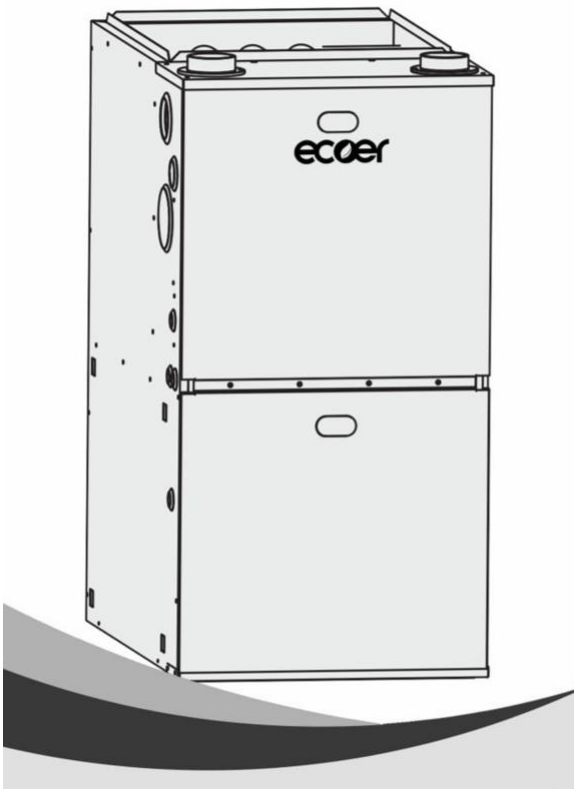
96%Furnace Service Manual

Contents



All phases of this installation must comply with National, State and Local Codes.

IMPORTANT

These instructions do not cover all variations in systems or provide for every possible contingency to be met in connection with installing and servicing. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to local distributor.

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Unitary Small HP
AHRI Standard 210/240
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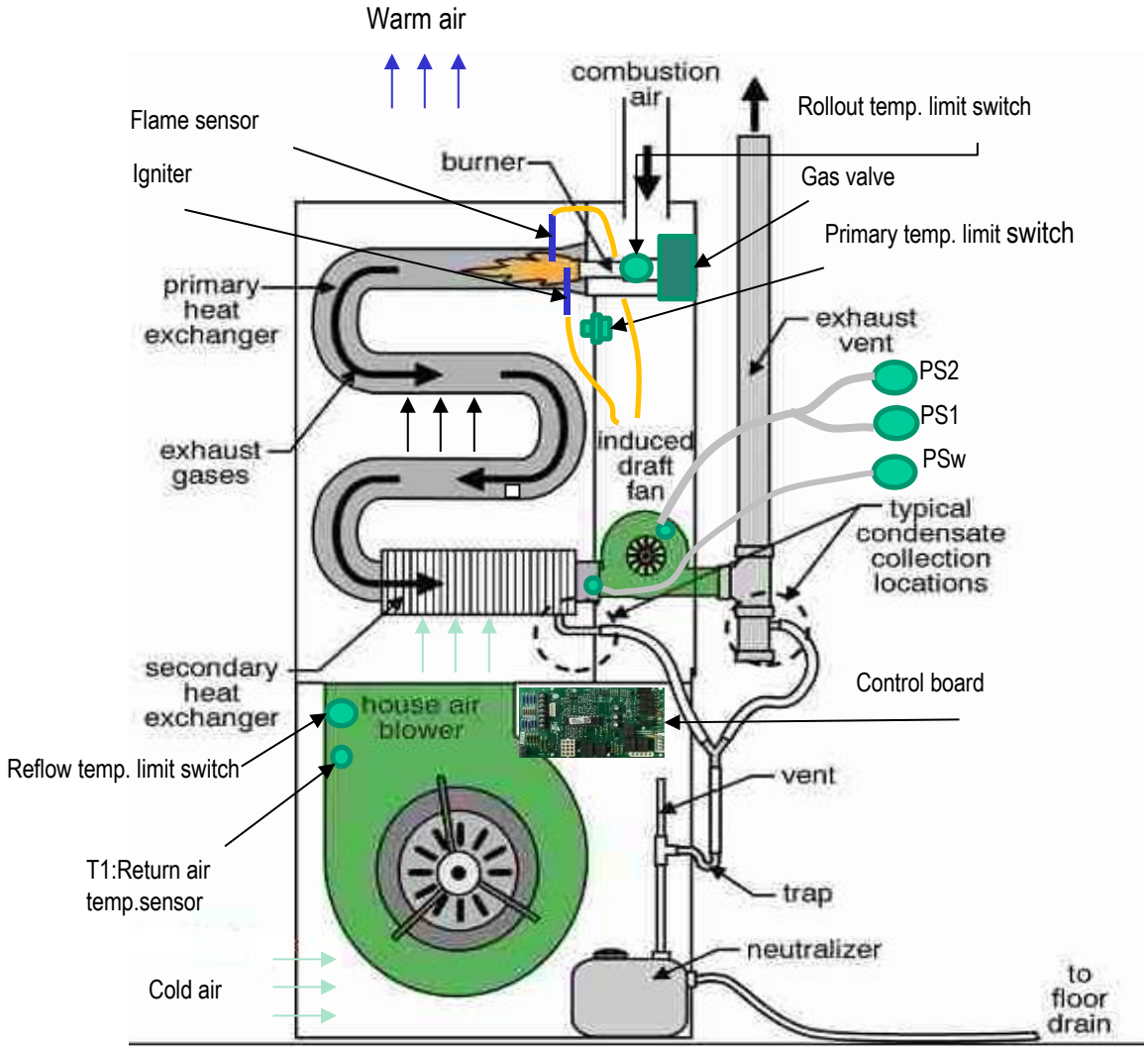
1. General Information



Normal workflow:

① Receive power supply and W heating signals;

② After a few seconds, the induced draft fan will start to operate;

③ After the induced draft fan runs for more than ten seconds, the ignition needle is started for preheating;

④ After the ignition needle is warmed up for 17 seconds, the gas valve is opened;

⑤ The flame sensor detects the flame and the ignition is successful;

⑥ After ignition is successful, run for tens of seconds， the blower will start to send warm air into the room.

If the system does not operate according to the above normal logic, refer to the troubleshooting charts and associated figures on the following pages for assistance in determining the source of unit operational problems.

The specific code to assist in troubleshooting the unit. According to the displayed fault code, find the fault type and troubleshooting represented by the corresponding code.

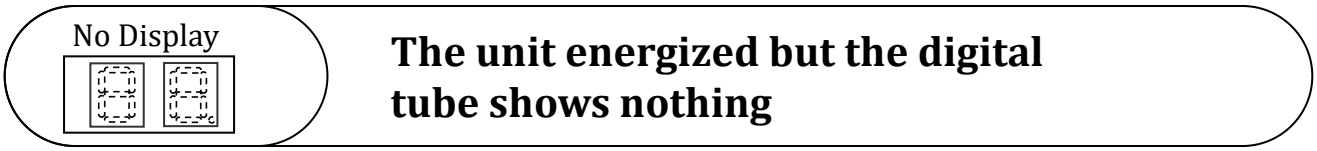
Code	Definition	Description	Page
E1	Shorted pressure		6
E2	Open pressure 1st-stage	Lockout after 5 minutes	8
E3	Open pressure 2nd-stage	Lockout after 5 minutes	8
E4	Open Pressure Switch locked	Reset from lockout after one hour	8
E5	Open thermal limit, Rollout switch		10
E6	Open thermal limit, Rollout switch (After 5 times)		10
E7	Ignition failure locked	Reset from lockout after one hour	17
E8	Flame loss locked	Reset from lockout after one hour	17
FE	Gas valve relay stuck close	Replace the Gas valve	21
FL	Flame low		22
Pr	Power reversed		23
Fo	Fuse open		24
bE	board error	Replace the control board	25
nL	Signal error		25

Remarks:

1. Integrated control module will automatically attempt to reset from lockout after one hour.
2. Error Codes will cease if power to the control module is interrupted through the disconnect or door switch.

2. Troubleshooting

2.1 Problems without Codes

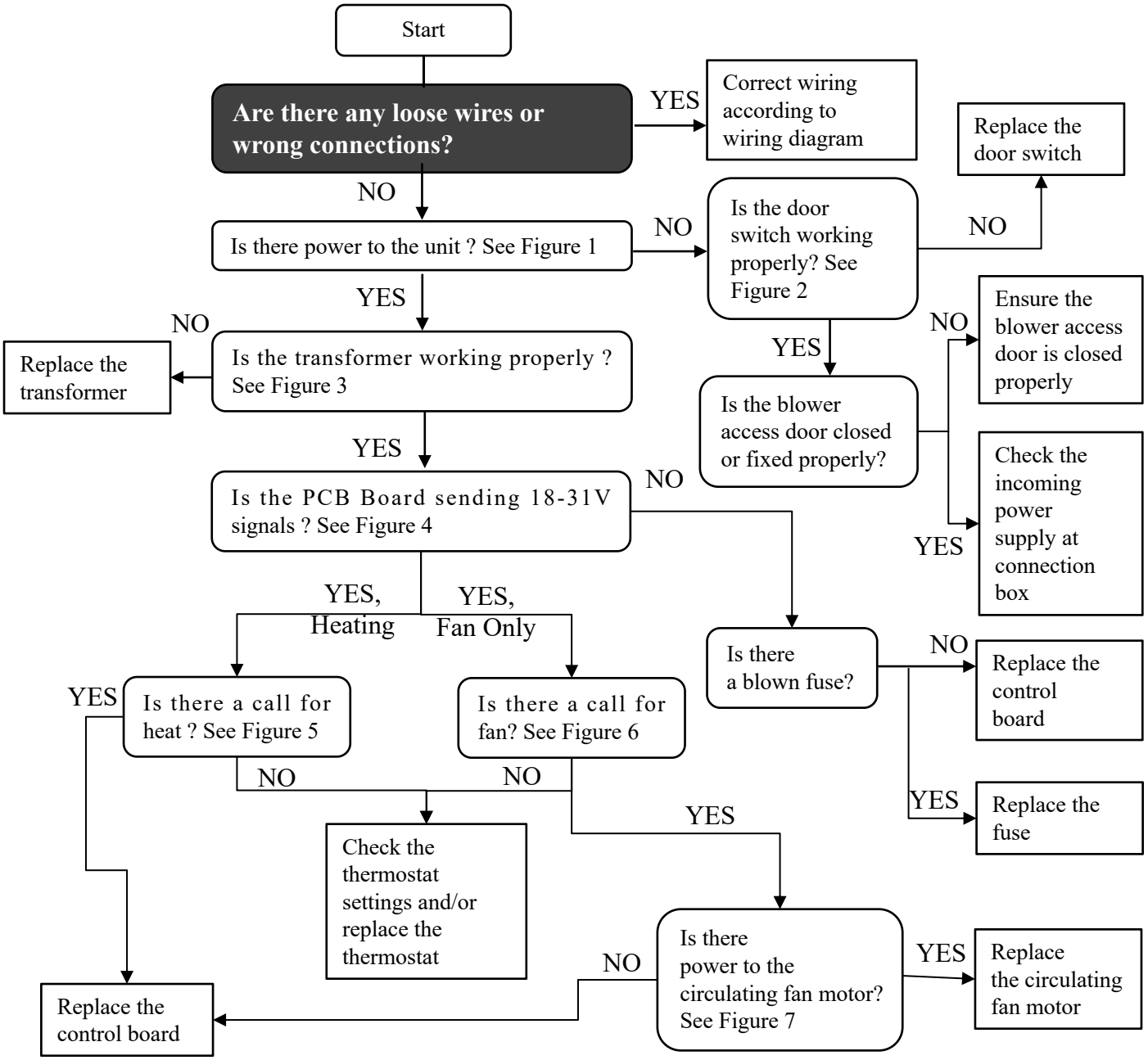


1.Error definition:

System Does Not Start Normally.

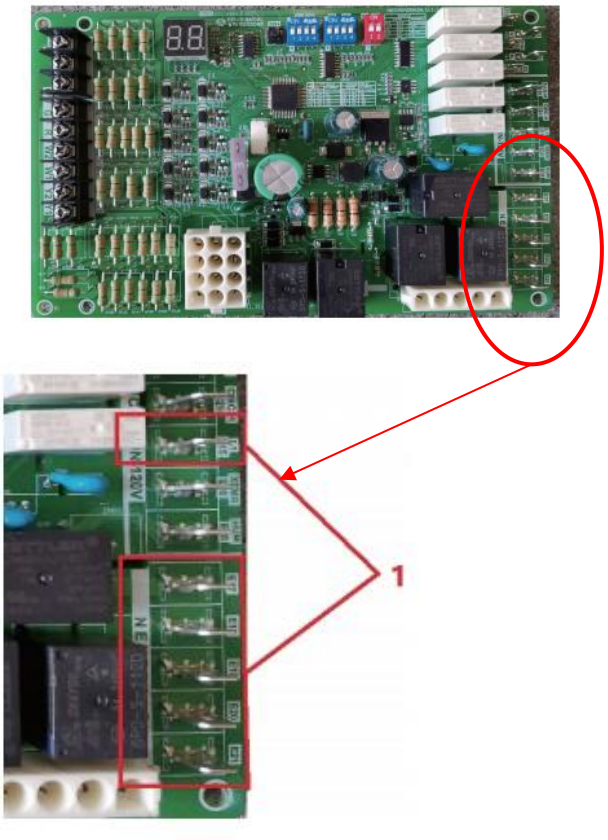
2.Possible causes:

- Loose connection at port on main control board
- Damaged door switch
- Damaged transformer
- Damaged main control board



Figures & Tables for 2.1

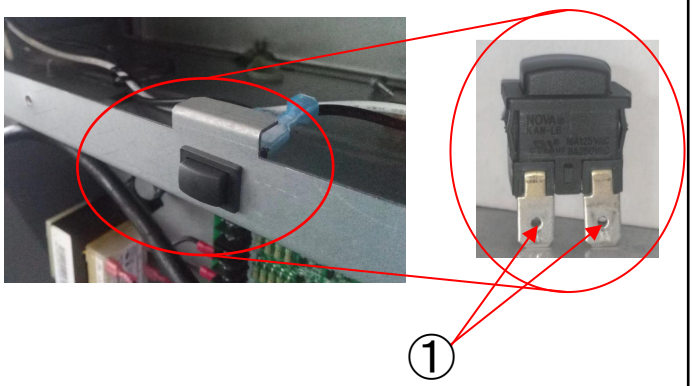
Figure 1



1. Check for 115Vac power supply between L1 and common terminal.

Figure 2

1. Power off.
2. Press in the door switch.

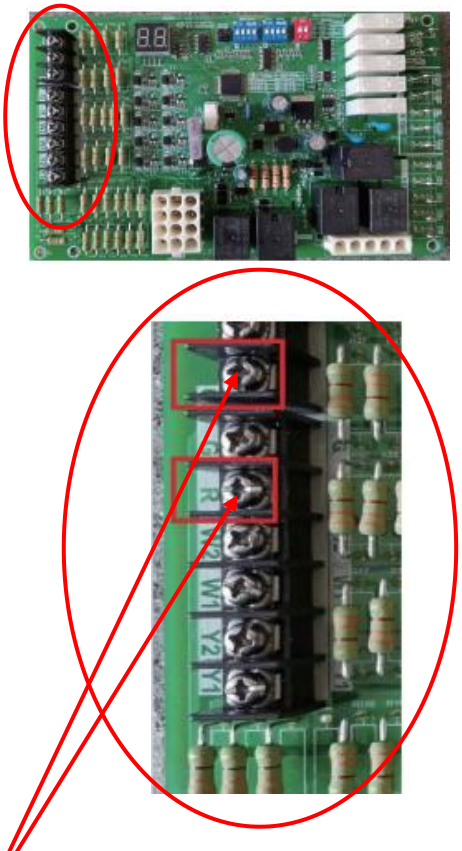


3. Use a multi-meter to measure the resistance.
If it is 0 Ω, then the door switch is ok.

Figure 3

1. Check for 18-31Vac power between these 2 terminals with multi-meter.

Figure 4



1. Check for 18-31Vac power between “R” & “C” terminals with multi-meter.

Figures & Tables for 2.1

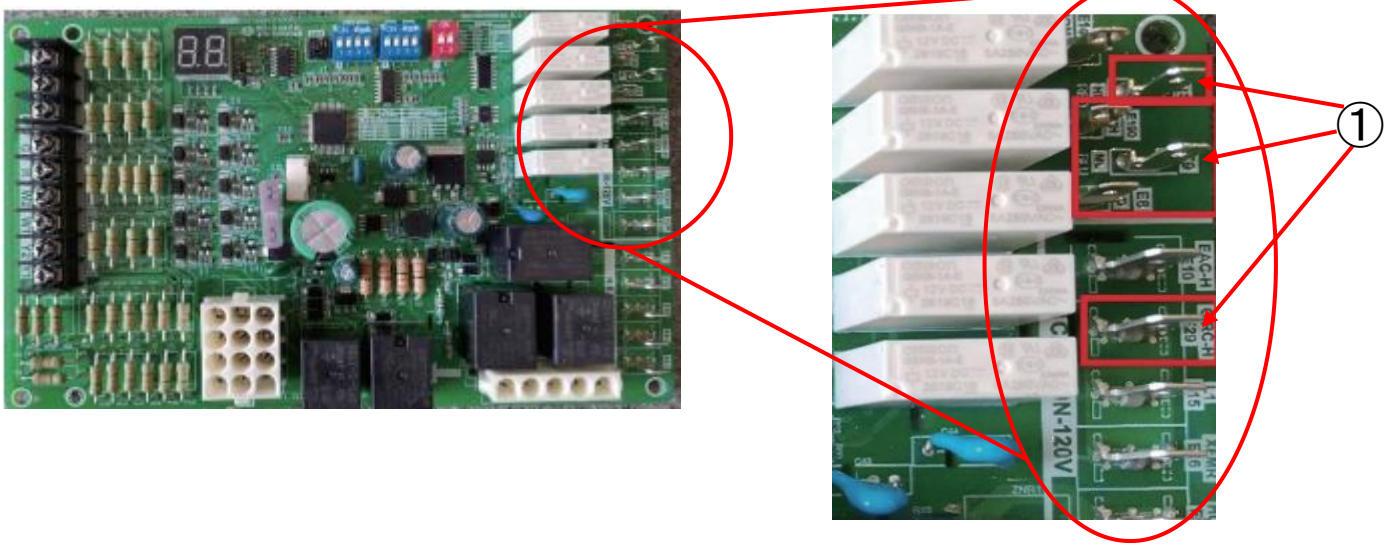
Figure 5

1. Check for 18-31Vac power between “W/W1” & “C” terminals with multi-meter.

Figure 6

1. Check for 18-31Vac power between “G” & “C” terminals with multi-meter.

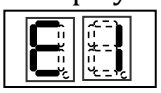
Figure 7



1. Check for 18-31Vac power between Hi-heat/lo-heat/hi-cool/lo-cool and COM with multi-meter.
2. Check for 115Vac power supply between CIRC-H and N with multi-mete.

2.2 Code E1

Display



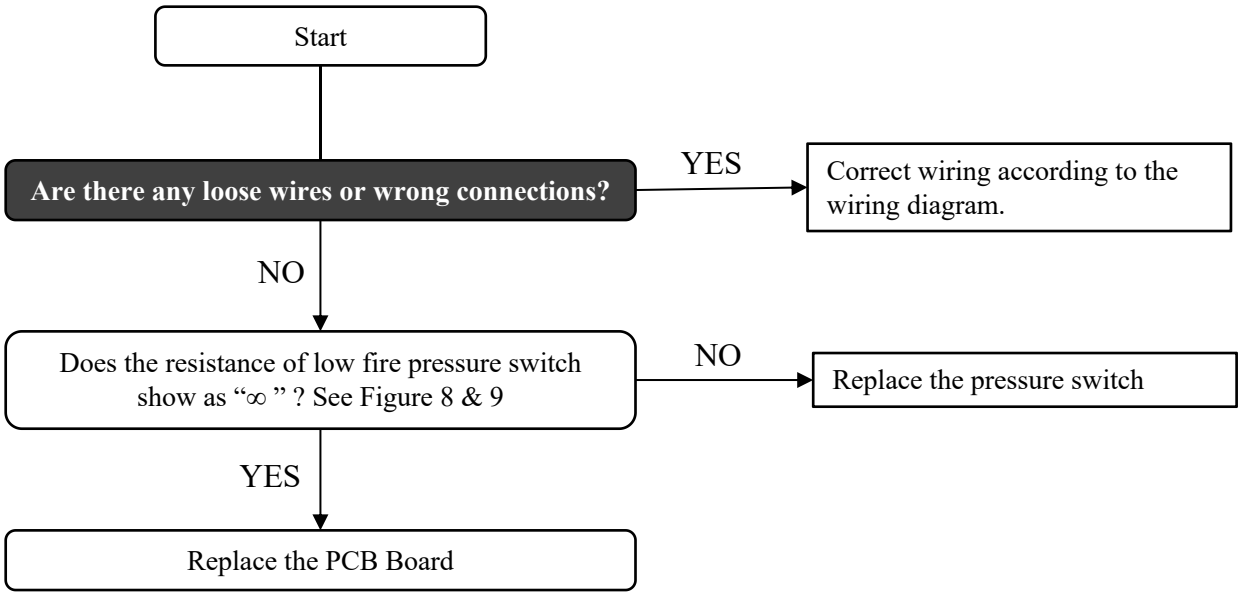
Shorted pressure

1.Error definition:

Low Fire Pressure Switch Stuck Closed.

2.Possible causes:

- Pressure switch stuck closed. Check switch function, verify inducer is turning off.



NOTES:

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

Figures & Tables for 2.2

Figure 8

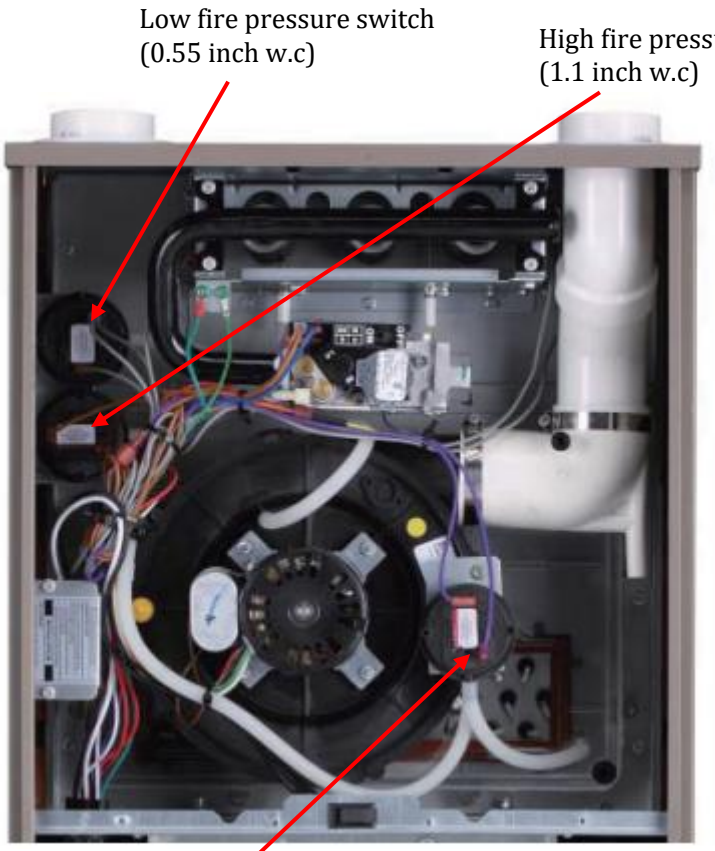
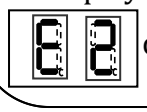
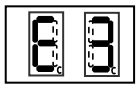
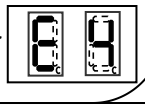


Figure 9

1. Check for ∞ resistance between these two terminals with multi-meter.

2.3 Code E2 or E3 or E4

Display  or  or 

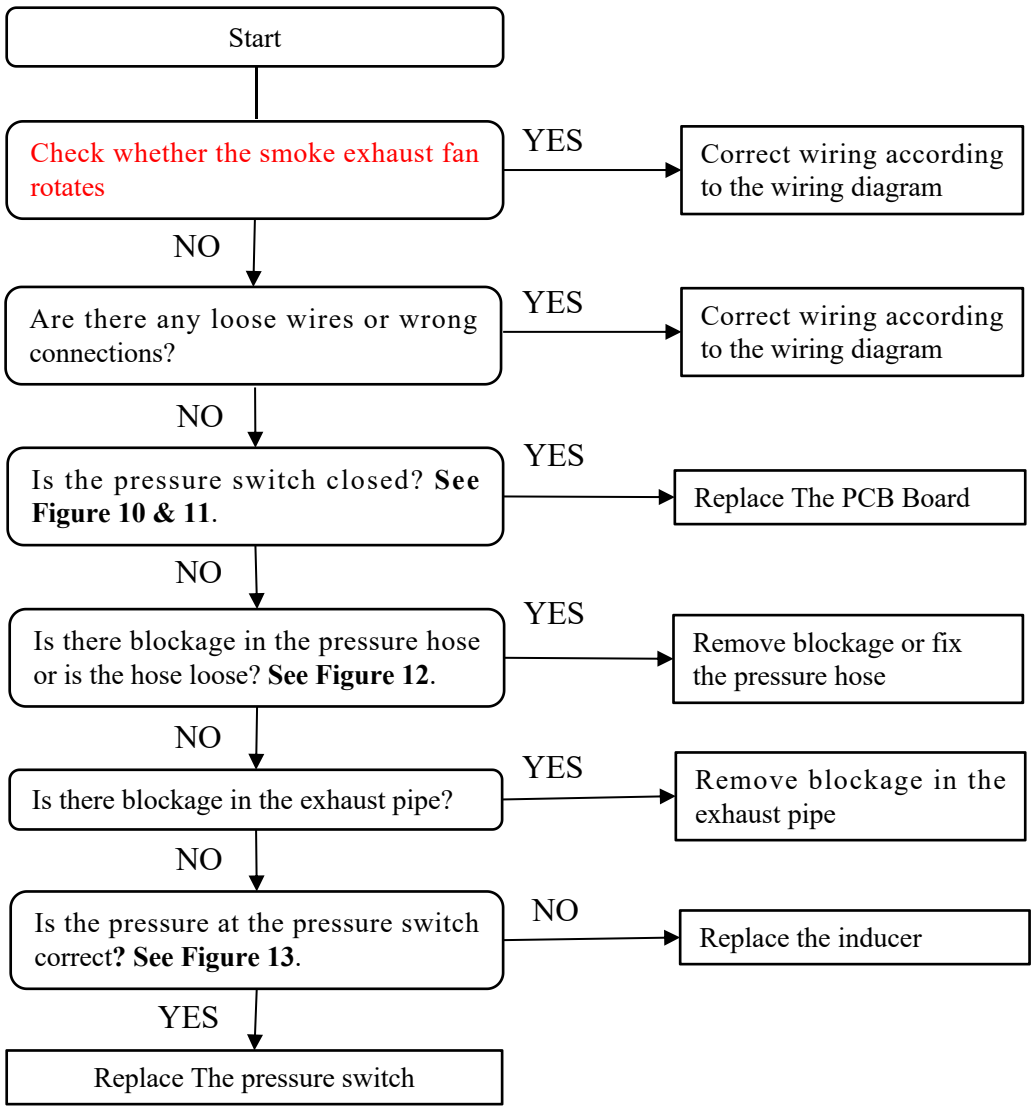
Open pressure 1st-stage / Open pressure 2nd-stage /Open Pressure Switch locked

1.Error definition:

E2 (Low Pressure Switch Stuck Open)
E3 (High Pressure Switch Stuck Open)
E4 (Pressure Switch Cycle Lockout)

2.Possible causes:

- Loose connection or wiring error
- Damaged pressure switch
- The pressure hose or pipe blocked



Figures & Tables for 2.3

Figure 10

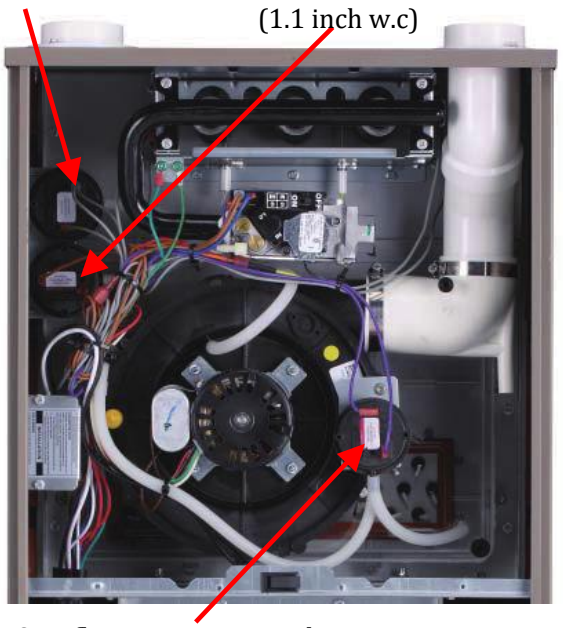
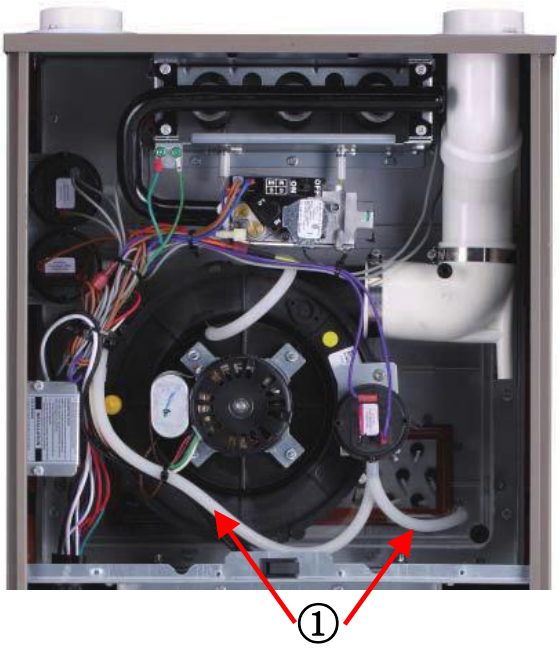


Figure 11

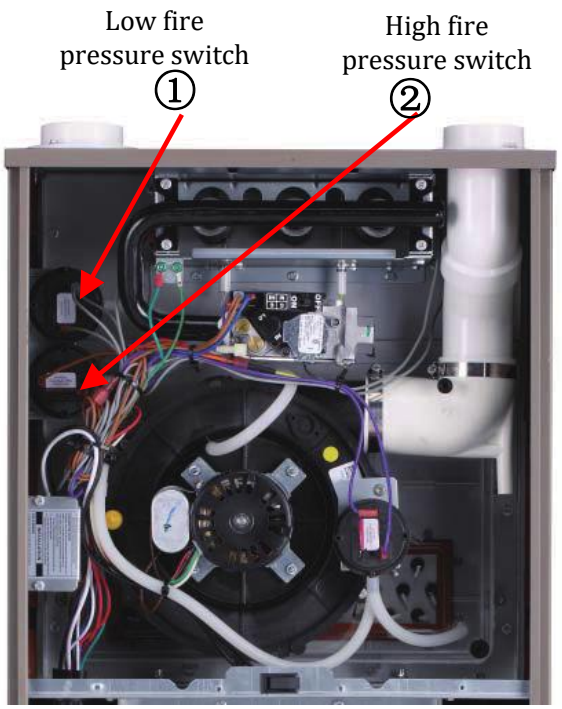
1. Check for 0Vac between these two terminals with multi-meter.

Figure 12



1. Check pressure hose for proper operating condition.
   Check for proper hose connections.
   Check and remove any blockages in the hose.

Figure 13

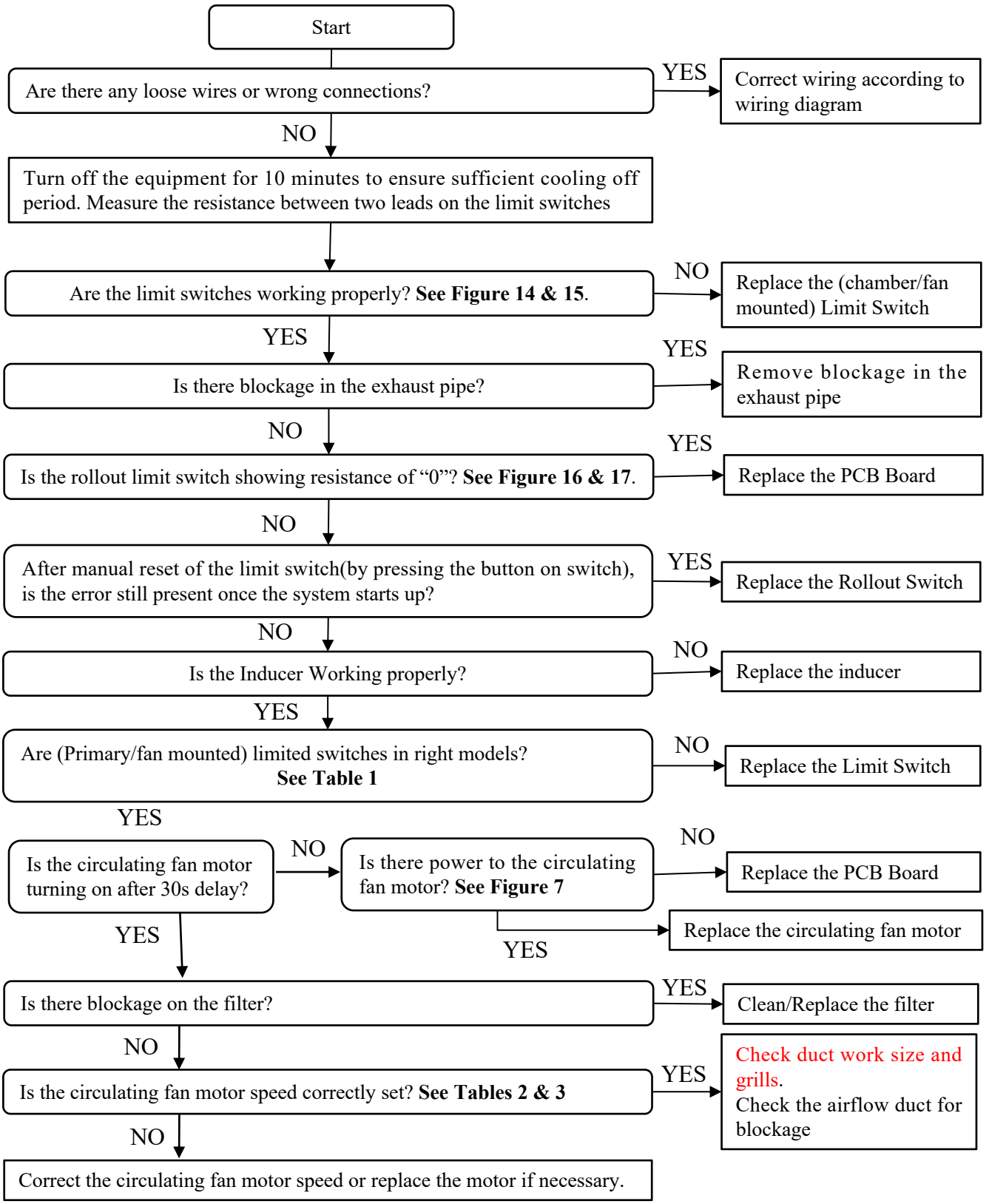


Check to see if the pressure at pressure switch is correct by
removing the hose and measuring with a manometer.
(1) Low Pressure Switch Set Point: 0.55 in. WC.
(2) High Pressure Switch Set Point: 1.1 in. WC.

2.4 Code E5 or E6

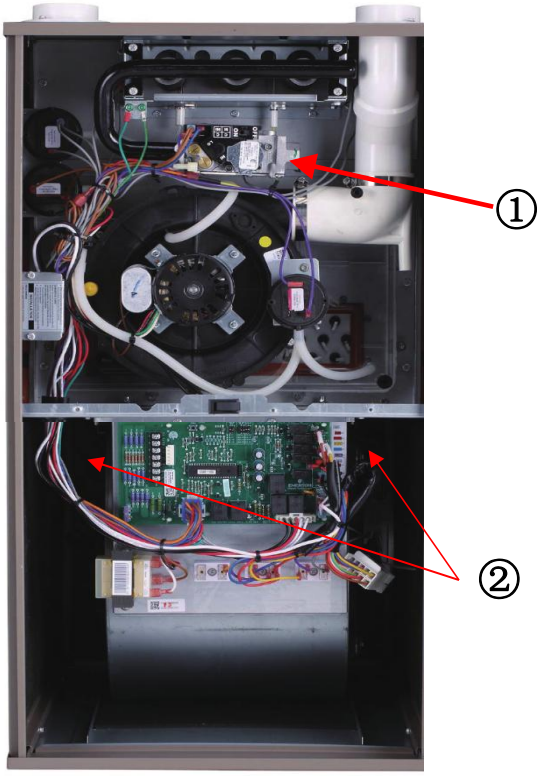
Display E5 or E6

Open thermal limit, Rollout switch / Open thermal limit, Rollout switch(After 5 times)



Figures & Tables for 2.4

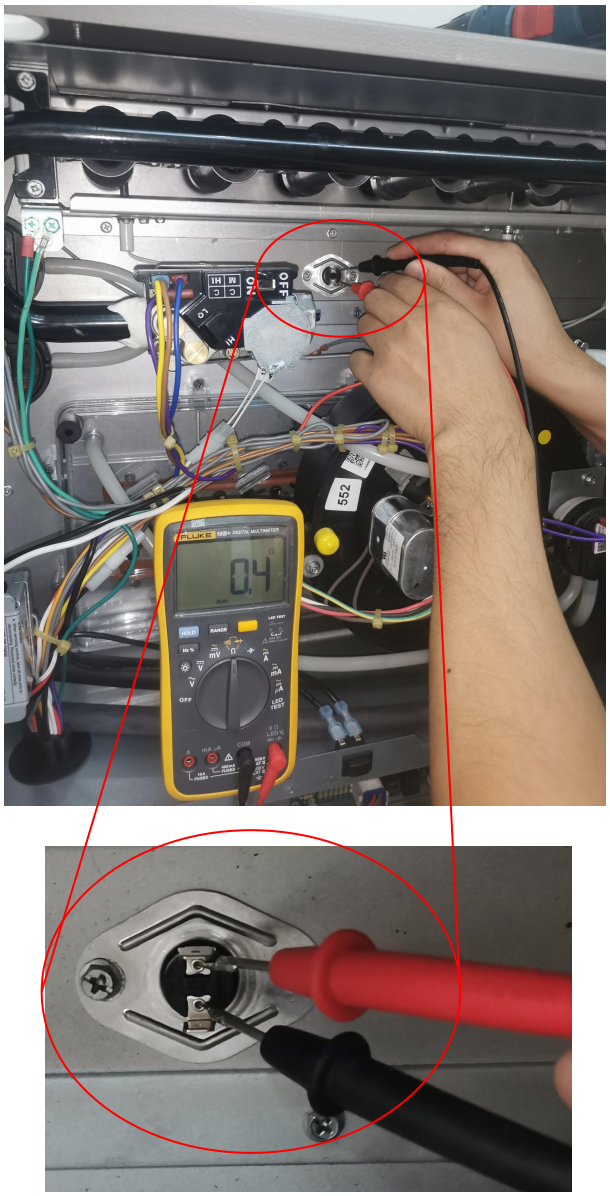
Figure 14



1. Primary limit switch (behind the gas valve)
2. Fan mounted limit switch (side of blower fan, behind PCB board).

How to detect the Fan mounted limit switch
See next page

Figure 15



Test the resistance between these two terminals with a multimeter. The resistance ought to be very close to zero resistance. Make sure to perform this inspection on limit switches installed on both chambers and fans.

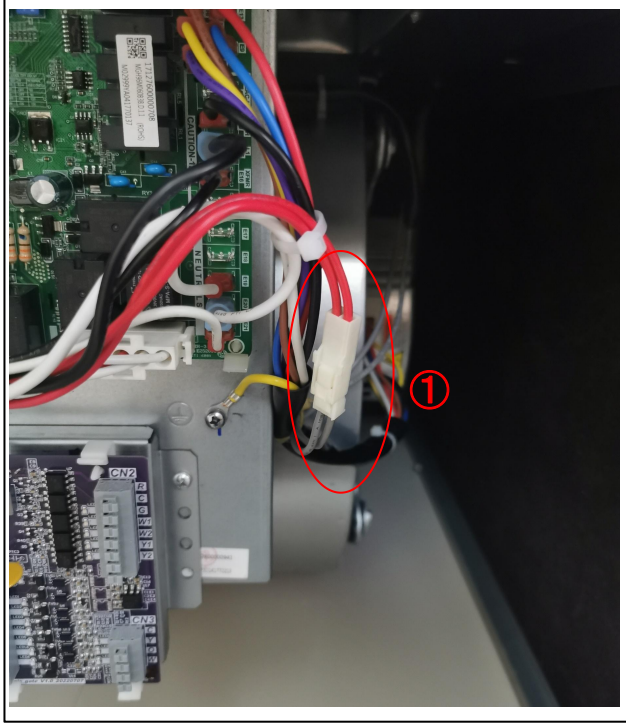
Table 1

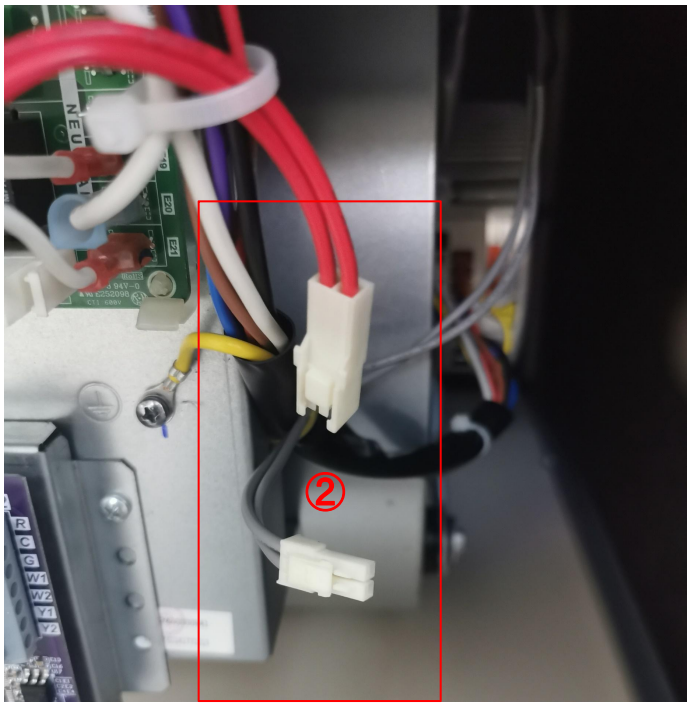
Parts Name	Rollout Switch	Primary limit switch	Fan mounted temp. limit switch
off/on	300℉ /-	150℉ /120℉	100℉ /85℉

Figures & Tables for 2.4

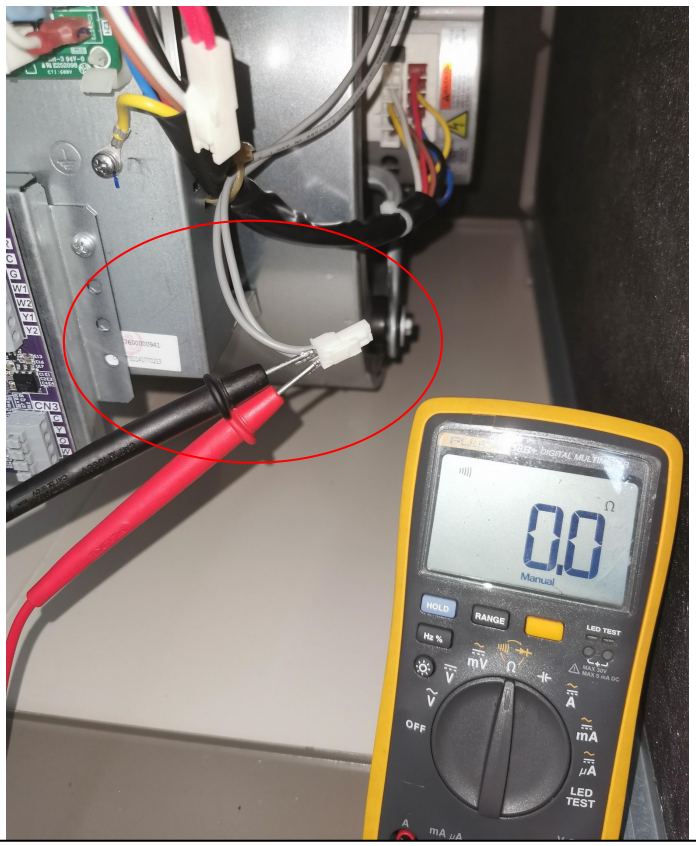
Method of detecting Fan mounted limit switch

Step 1
① Find the white plug with red and gray wires
② Remove this plug





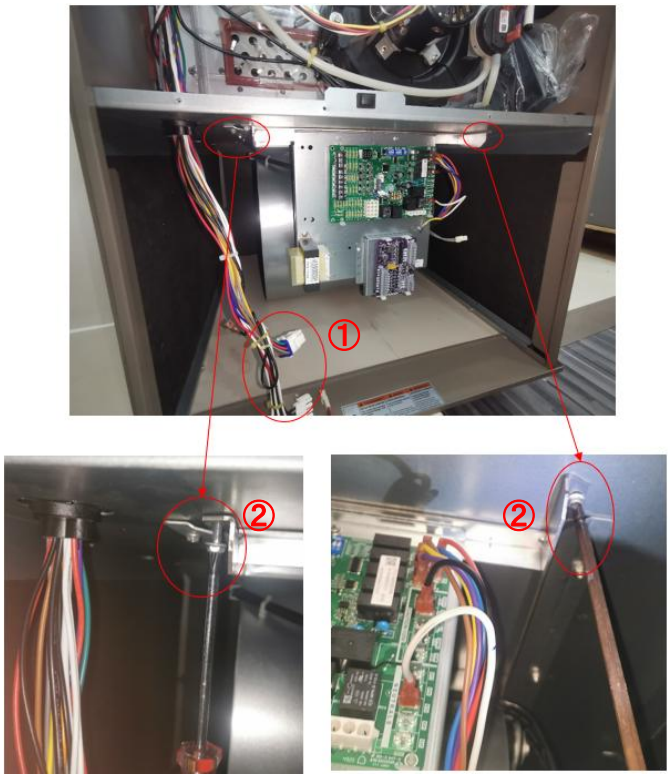
Step 2
Use a multi-meter to check the resistance on the gray wire side.
① If the resistance is close to zero, then the fan mounted limit switch is normal
②If the resistance is infinite, then there must be at least one broken fan mounted limit switch. It is required to take them out for individual tests



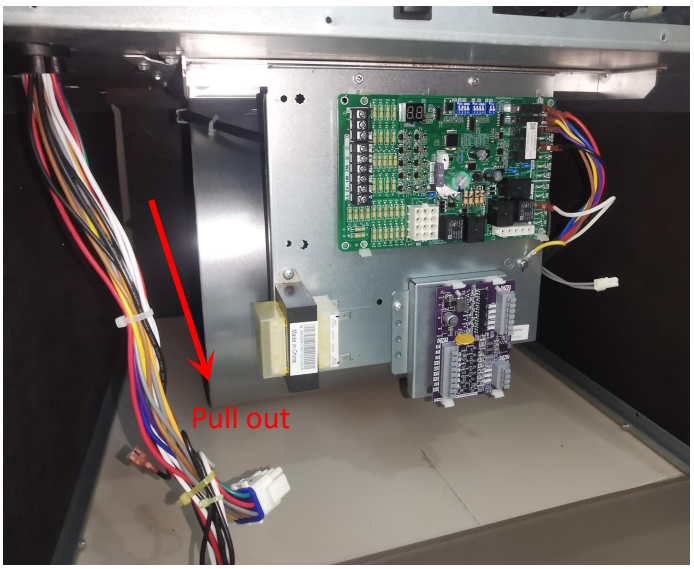
Figures & Tables for 2.4

Disassemble steps of the Fan mounted limit switch:

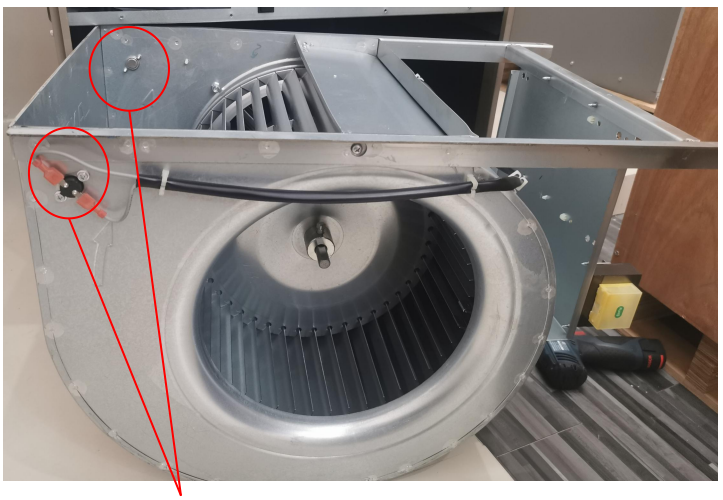
Step 1
① Remove the wiring of the main control board;
② Remove the left and right screws



Step 2
Pull out the fan assembly completely；



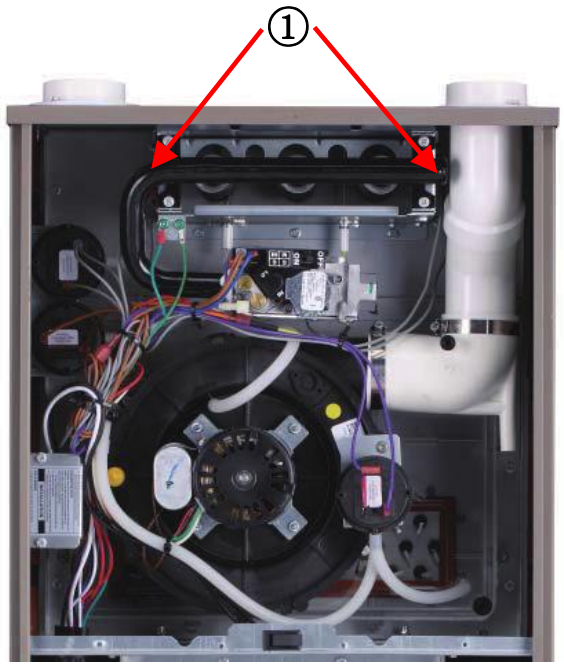
Step 3
Two temperature switches are visible on both sides of the fan。



Fan mounted limit switch

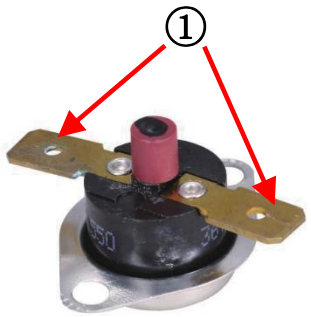
Figures & Tables for 2.4

Figure 16



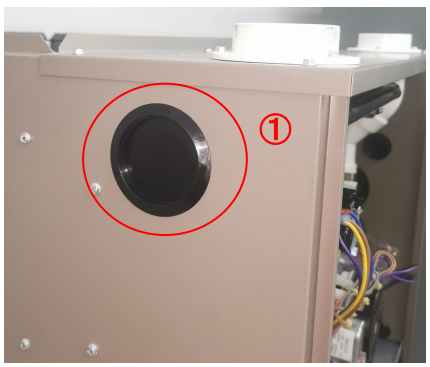
1. Rollout limit switch locations.

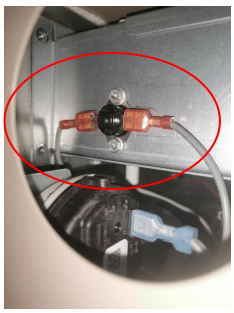
Figure 17



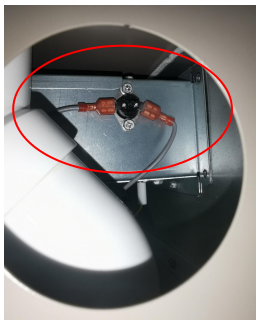
1. Turn off the power and use a multimeter to check for 0 resistance between these two terminals.

Method of detecting the Rollout limit switch





Remove the two black plastic covers on the left and right side plates of the unit.



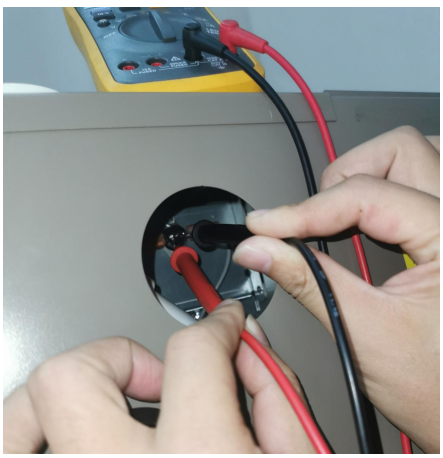


Table 2 Air Delivery - SCFM (Without Filter)

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 (19 mm) washable media filter is used, assume an additional 0.1 in. WC available external static pressure.

FURANCE SIZE	RETURN-AIR INLET	SPEED	Air volume-SCFM Temp Rise-°F	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	Air volume	1430	1390	1350	1320	1280	1240	1200	1160	1110	1065
			Temp Rise-1st stage	--	--	--	--	--	--	--	30.7	32.2	33.6
			Temp Rise-2nd stage	37	37.4	38.6	39.3	40.7	41.7	43.4	45.1	47.1	49.1
		Mid-H	Air volume	1245	1205	1165	1130	1100	1050	1010	960	920	865
			Temp Rise-1st stage	--	--	30	31.1	32.1	33.2	35.1	37	38.7	40.4
			Temp Rise-2nd stage	42.7	43.4	45	46.5	48.3	50.1	52.6	55.1	58	--
		Mid	Air volume	1075	1035	1000	955	910	860	820	780	730	685
			Temp Rise-1st stage	32.1	33.4	35.5	37.6	39.3	41	43.1	45.1	48.2	51.3
			Temp Rise-2nd stage	49.4	52.9	55.4	58	--	--	--	--	--	--
		Mid-L	Air volume	885	830	780	735	690	650	590	550	520	470
			Temp Rise-1st stage	39.1	41.7	44.9	48	51.2	54.5	59.1	--	--	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--
		L	Air volume	780	707	640	579	500	466	403	356	320	253
			Temp Rise-1st stage	48.3	52.8	58	--	--	--	--	--	--	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--
80B	Bottom or Sides	H	Air volume	1411	1374	1339	1303	1271	1233	1190	1148	1102	1054
			Temp Rise-1st stage	--	--	--	35.5	36.4	37.5	38.8	40.3	41.9	43.8
			Temp Rise-2nd stage	50.5	51.8	53.2	54.6	56	57.8	59.8	62	64.6	--
		Mid-H	Air volume	1215	1178	1144	1108	1071	1029	985	945	898	854
			Temp Rise-1st stage	38	39.2	40.4	41.7	43.2	44.9	46.9	48.9	51.5	54.2
			Temp Rise-2nd stage	56.6	58.4	60.2	62.3	64	--	--	--	--	--
		Mid	Air volume	1044	1002	968	931	886	841	805	767	718	677
			Temp Rise-1st stage	40.8	43.4	45.8	50.5	50.9	54	57.6	60.8	64.4	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--
		Mid-L	Air volume	825	790	743	698	649	608	557	527	491	463
			Temp Rise-1st stage	50.5	53.7	58.4	62.9	--	--	--	--	--	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--
		L	Air volume	786	720	645	598	539	503	436	385	348	302
			Temp Rise-1st stage	56.8	62.2	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--
80C	Bottom or Sides	H	Air volume	1516	1467	1418	1367	1312	1261	1201	1144	1086	1029
			Temp Rise-1st stage	--	--	--	--	35.1	36.2	38	39.8	41.6	43.3
			Temp Rise-2nd stage	46.7	47.4	48.8	50.1	52.5	54.8	57.4	59.9	62.7	--
		Mid-H	Air volume	1316	1259	1203	1149	1092	1031	976	909	855	791
			Temp Rise-1st stage	35	37	38.2	39.4	41.1	42.7	45.2	47.7	50.9	54
			Temp Rise-2nd stage	53.8	53.2	55.8	58.4	62	--	--	--	--	--
		Mid	Air volume	1142	1076	1014	960	894	823	765	702	651	597
			Temp Rise-1st stage	40.3	43.1	45.4	47.7	51.2	54.6	58.2	61.8	--	--
			Temp Rise-2nd stage	60	61.1	--	--	--	--	--	--	--	--
		Mid-L	Air volume	901	829	767	692	625	562	506	463	409	345
			Temp Rise-1st stage	49	49.9	55.7	61.5	--	--	--	--	--	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--
		L	Air volume	800	674	618	498	455	400	360	300	240	--
			Temp Rise-1st stage	57	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--

Table 3 Air Delivery - SCFM (Without Filter)

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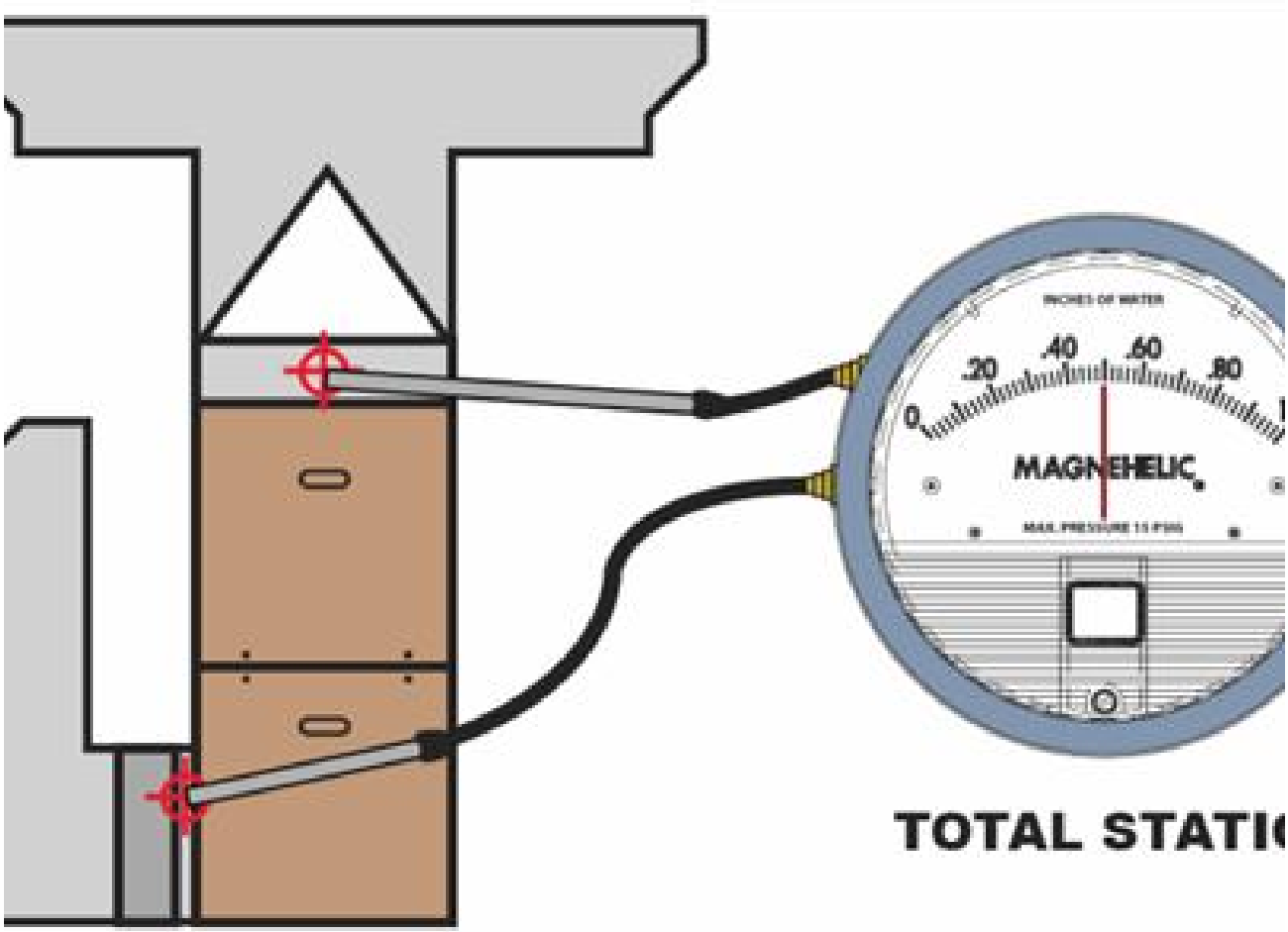
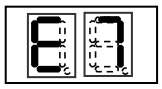
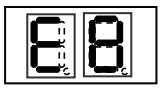
FURANCE SIZE	RETURN-AIR INLET	SPEED	Air volume-SCFM Temp Rise-°F	EXTERNAL STATIC PRESSURE(IN.W.C)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
100C	Bottom or Sides	H	Air volume	2195	2158	2116	2072	2031	1985	1940	1896	1852	1862
			Temp Rise-1st stage	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage	40.3	41	41.8	42.7	43.6	44.6	45.6	46.7	47.8	47.5
		Mid-H	Air volume	2008	1963	1924	1882	1836	1791	1744	1697	1648	1603
			Temp Rise-1st stage	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage	44.1	45.1	46	47	48.2	49.4	50.8	52.2	53.7	55.2
		Mid	Air volume	1753	1709	1666	1627	1573	1530	1487	1444	1395	1347
			Temp Rise-1st stage	--	--	--	35.4	36.6	37.6	38.7	39.9	41.3	42.7
			Temp Rise-2nd stage	50.5	51.8	53.1	54.4	56.3	57.9	59.5	61.3	63.5	65.8
		Mid-L	Air volume	1447	1388	1338	1286	1241	1186	1137	1083	1029	983
			Temp Rise-1st stage	39.8	41.5	43	44.7	46.4	48.5	50.6	53.2	55.9	58.5
			Temp Rise-2nd stage	61.2	63.8	--	--	--	--	--	--	--	--
		L	Air volume	1089	1021	946	883	820	751	685	625	565	520
			Temp Rise-1st stage	52.8	56.4	60.8	--	--	--	--	--	--	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--
100D	Bottom or Sides	H	Air volume	2283	2239	2193	2143	2095	2049	1998	1947	1897	1847
			Temp Rise-1st stage	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage	38.8	39.5	40.4	41.3	42.3	43.2	44.3	45.5	46.7	48
		Mid-H	Air volume	2086	2038	1988	1942	1889	1841	1792	1745	1695	1637
			Temp Rise-1st stage	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage	42.4	43.5	44.5	45.6	46.9	48.1	49.4	50.7	52.3	54.1
		Mid	Air volume	1813	1760	1711	1657	1609	1560	1506	1453	1402	1350
			Temp Rise-1st stage	--	--	--	--	35.8	36.9	38.2	39.6	41	42.6
			Temp Rise-2nd stage	48.8	50.3	51.8	53.4	55	56.8	58.8	60.9	63.1	--
		Mid-L	Air volume	1487	1417	1360	1296	1241	1183	1123	1064	1005	941
			Temp Rise-1st stage	38.7	40.6	42.3	44.4	46.4	48.7	51.3	54.1	57.2	61.1
			Temp Rise-2nd stage	59.5	62.5	--	--	--	--	--	--	--	--
		L	Air volume	1122	1036	977	889	802	731	646	586	532	485
			Temp Rise-1st stage	55.6	58.9	64.7	--	--	--	--	--	--	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--
120D	Bottom or Sides	H	Air volume	2290	2253	2213	2170	2127	2080	2031	1985	1937	1888
			Temp Rise-1st stage	--	--	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage	46.4	47.2	48	49	50	51.1	52.3	53.5	54.9	56.3
		Mid-H	Air volume	2079	2037	1993	1950	1907	1856	1813	1767	1726	1675
			Temp Rise-1st stage	--	--	--	--	--	--	--	--	40	41.2
			Temp Rise-2nd stage	51.1	52.2	53.3	54.5	55.7	57.3	58.6	60.1	61.6	63.4
		Mid	Air volume	1809	1764	1719	1668	1620	1572	1528	1487	1432	1364
			Temp Rise-1st stage	--	--	40.2	41.4	42.6	43.9	45.2	46.5	48.2	50.6
			Temp Rise-2nd stage	58.7	60.2	61.8	63.7	65.6	67.6	69.6	--	--	--
		Mid-L	Air volume	1489	1429	1373	1311	1265	1208	1137	1083	1032	972
			Temp Rise-1st stage	46.4	48.3	50.3	52.7	54.6	57.2	60.7	63.8	66.9	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--
		L	Air volume	1123	1051	952	899	814	741	688	605	551	507
			Temp Rise-1st stage	61.5	65.7	--	--	--	--	--	--	--	--
			Temp Rise-2nd stage	--	--	--	--	--	--	--	--	--	--

Static pressure test indicator diagram



2.5 Code E7 or E8

Display  or 

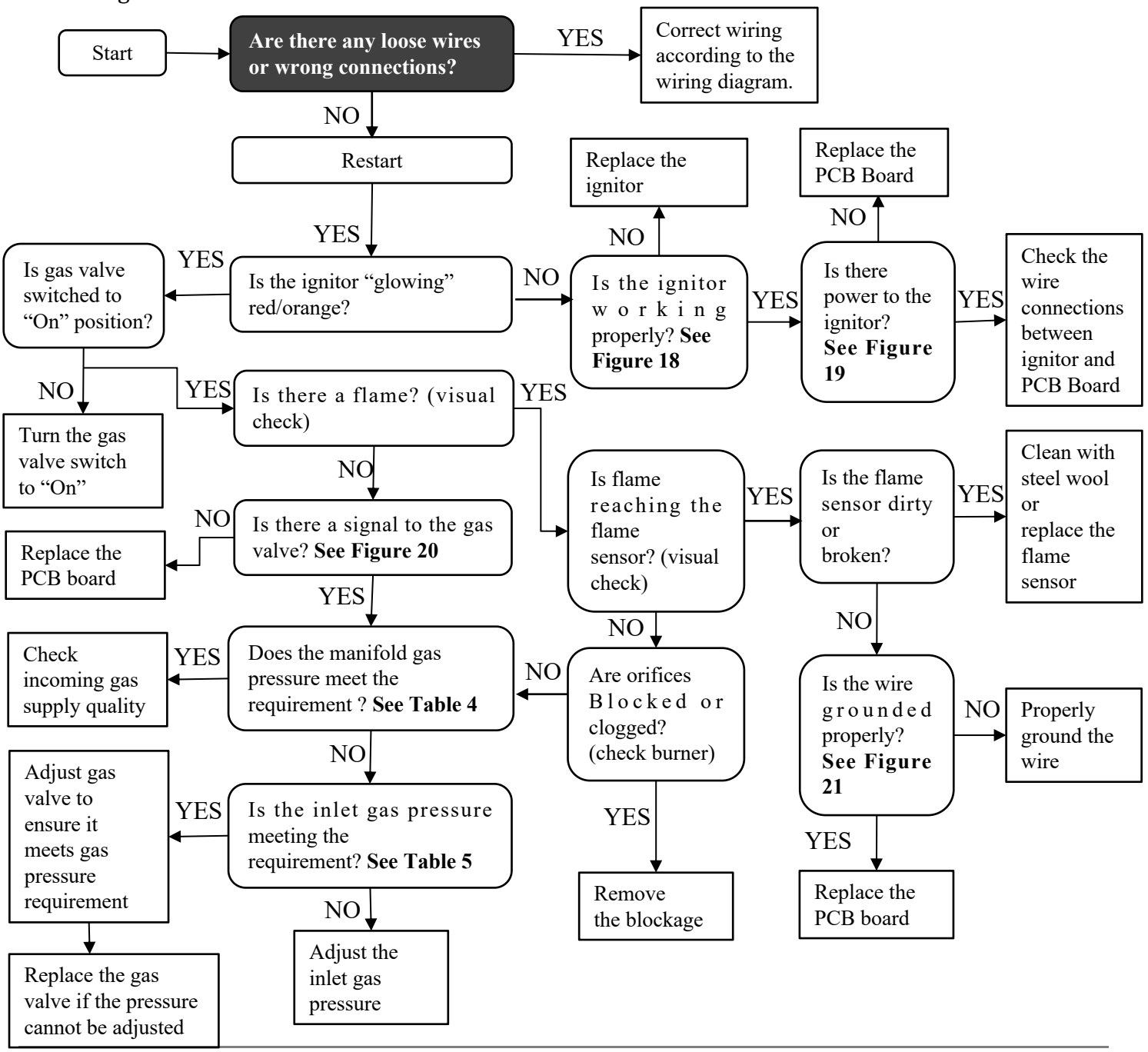
Ignition failure locked or Flame loss locked

1.Error definition:

System Lock-Out due to Failed Ignition. Or System Lock-Out due to too Many Flame Dropouts.

2.Possible causes:

- ■Loose connection at port on main control board
- ■Damaged ignitor
- ■Damaged gas valve
- ■Damaged flame sensor



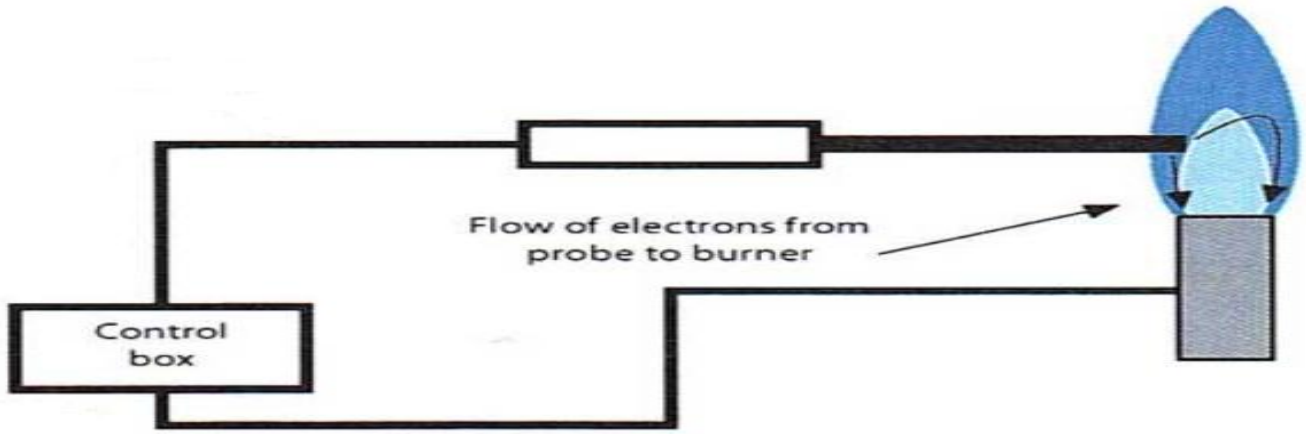
Flame rectification

Proving flame of a gas furnace is called “flame rectification”. A metal rod is mounted in the path of the flame. Theses rods are called “flame sensor” or “flame rod”. Theses are found on all Gas furnaces.

Flame rectification system is an electrical process that causes a low-level DC current to be conducted from the flame rod through the flame, and back to the furnace ground. To Check the flame rod, you must measure the flame current by using a meter that measures DC microamps in series with the flame rod.

The control board is programed to look at the strength of this current to prove flame.

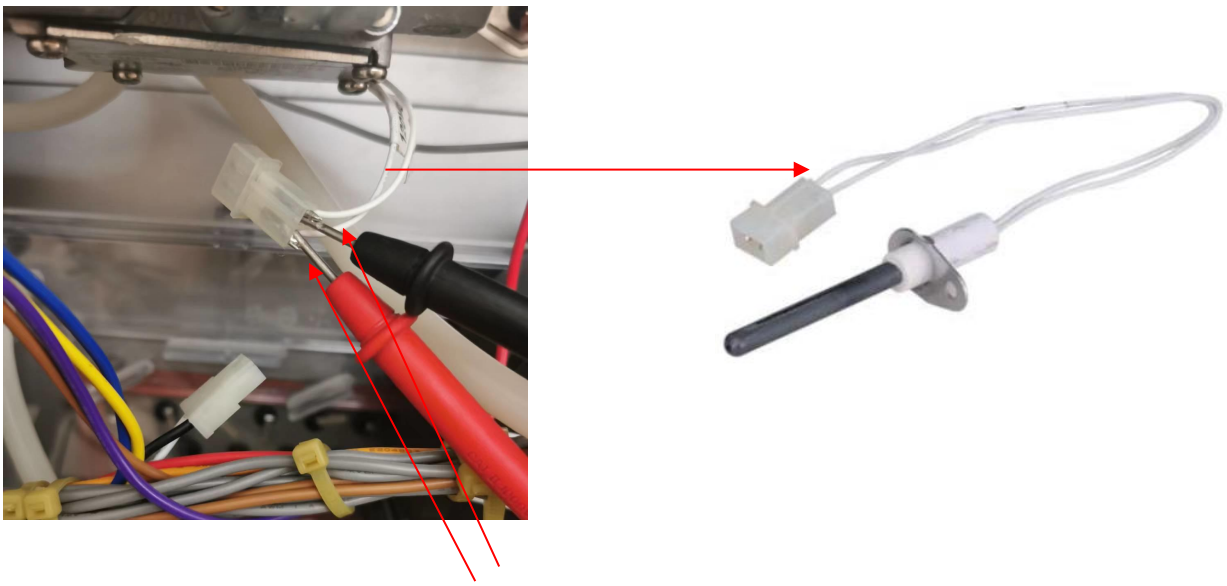
A normal signal strength between 1 microamp DC and 7 microamps DC is common. If the flame current is too low, or not present, the control board will stop the ignition operation and stop the flow of gas putting the System into a lock out state. This prevents the possibility of explosion.



https://www.youtube.com/watch?v=_0W1d8MBxyE

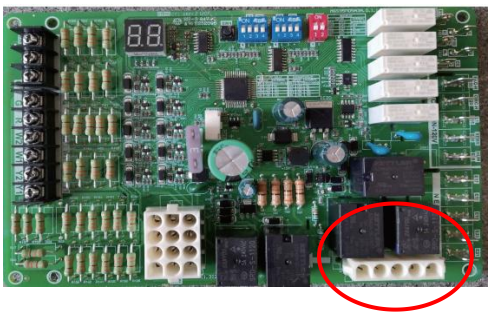
Figures & Tables for 2.5

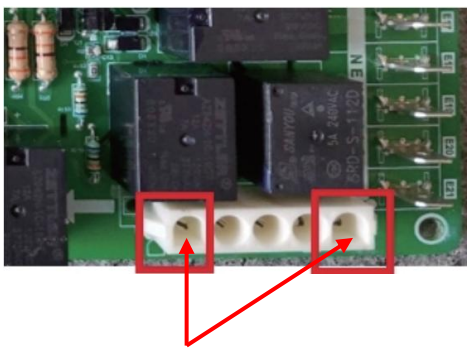
Figure 18



1. Check for 9-17Ω between these two terminals with multi-meter

Figure 19

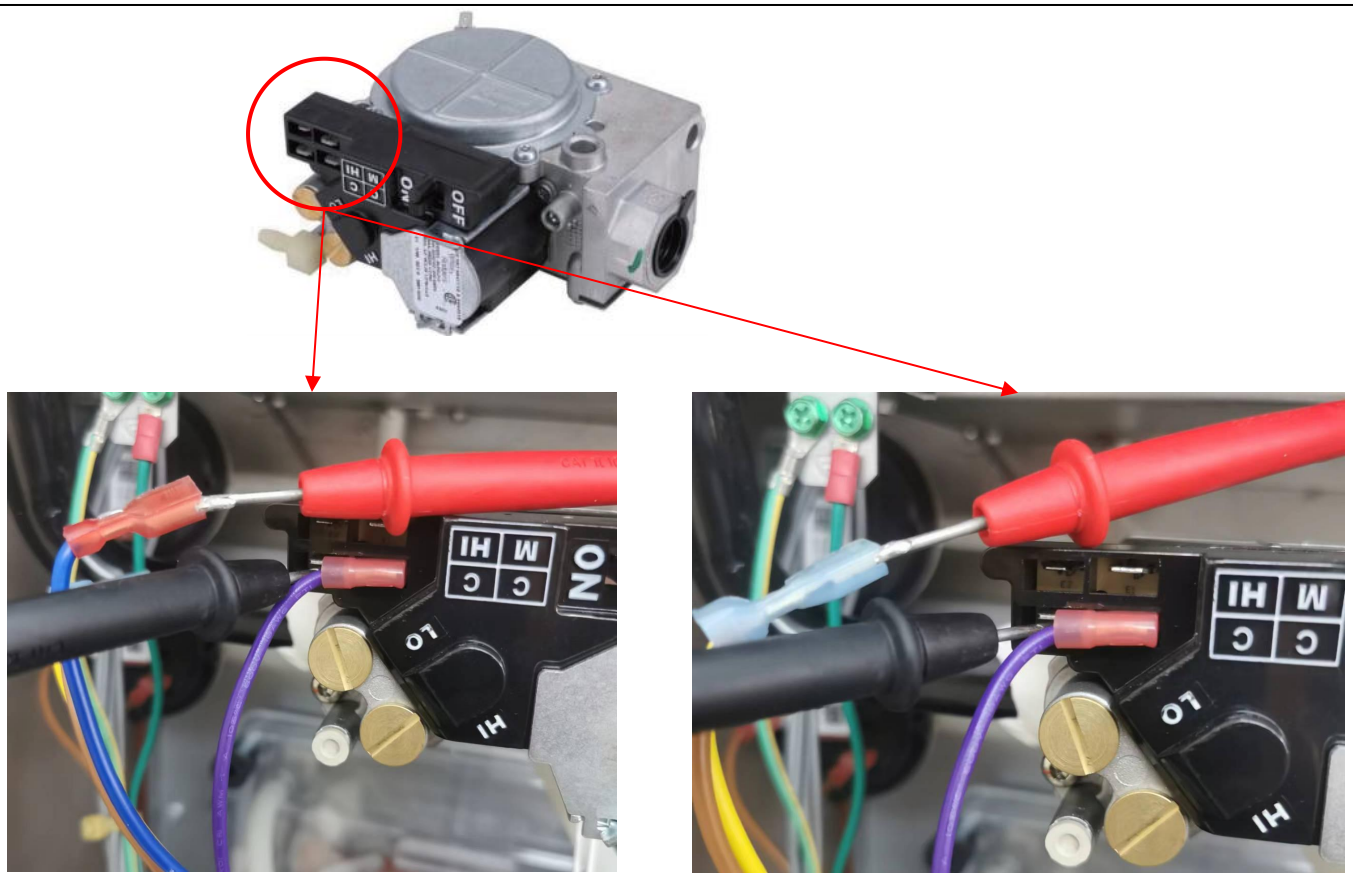




1. Check for 115Vac power supply between IG and IGN with multi-meter during preheating sequence

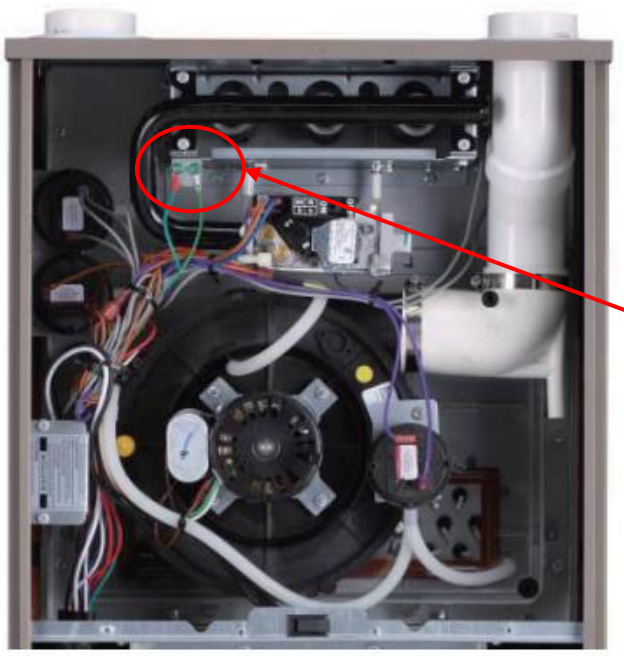
Figures & Tables for 2.5

Figure 20



1. Check for 18-31Vac power between “M”&”C”、 “H”&”C” terminals with a multi-meter.

Figure 21



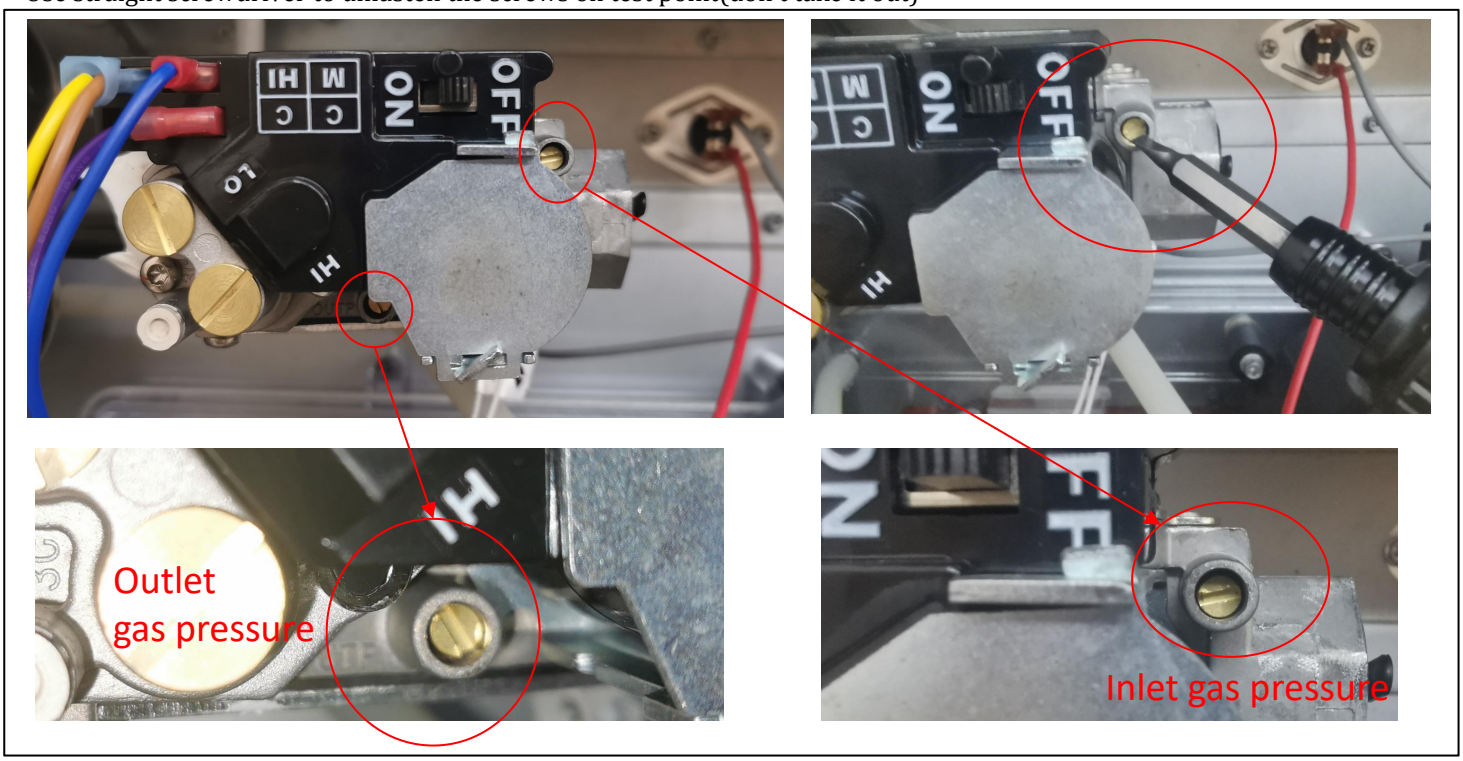
1. Check for 115Vac power supply between IG and IGN with multi-meter during preheating sequence.

Figures & Tables for 2.5

Gas valve pressure test method

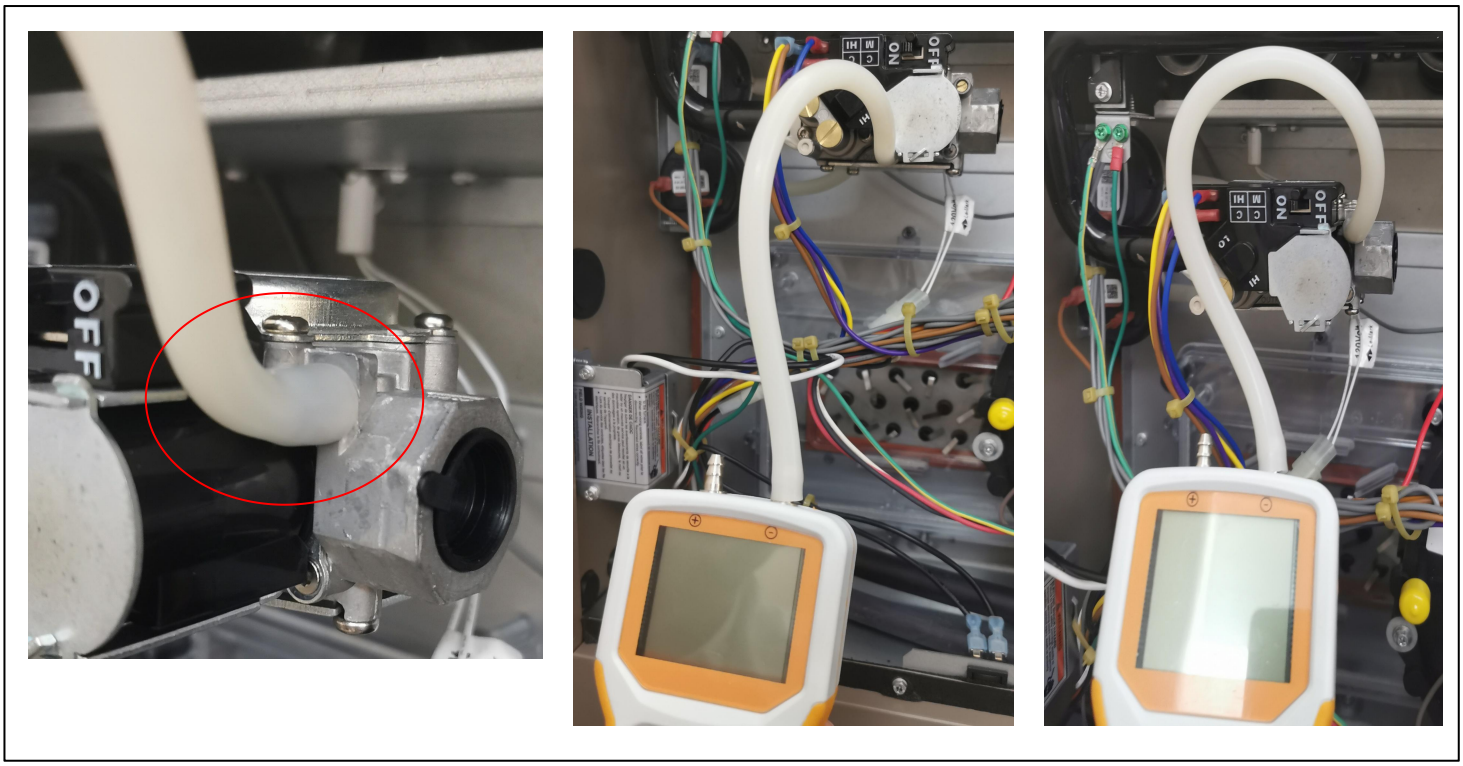
STEP 1

Use straight screwdriver to unfasten the screws on test point(don't take it out)



STEP 2

Use a 5mm rubber hose to connect gas valve test point and pressure gauge, and test the inlet and outlet gas pressure separately to make sure they are complied with table 4 and 5. After testing, tighten the test point screws.



Figures & Tables for 2.5

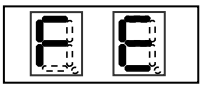
Table 4 Manifold Gas Pressure（Outlet pressure）

	Manifold Gas Pressure	
Fuel	High fire	Low fire
Natural Gas	3.5 in. W.C.	1.6 in. W.C.
Propane Gas	10 in. W.C.	4.0 in. W.C.

Table 5 Inlet Gas Supply Pressure（Inlet 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.

2.6 Code FE

Display 

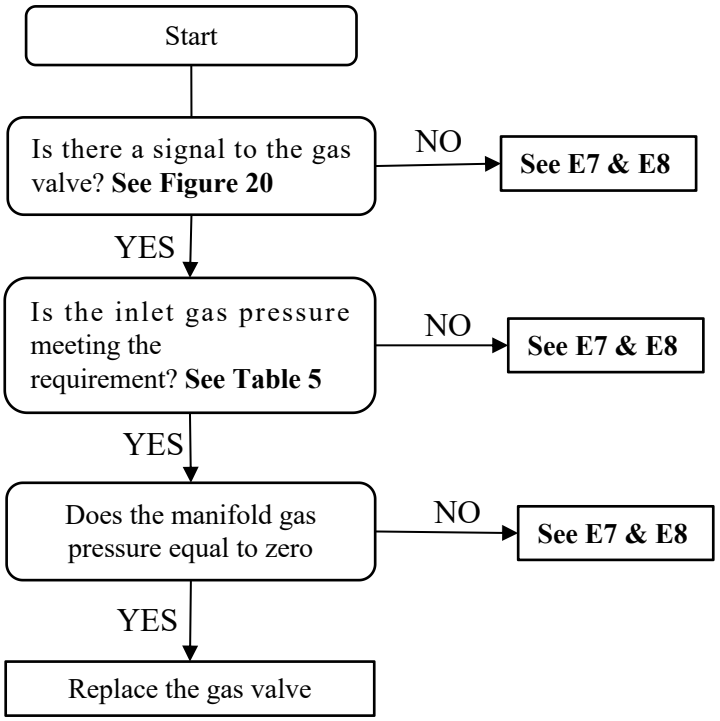
Gas valve relay stuck close

1.Error definition:

The gas valve is stuck and cannot be cut off/opened

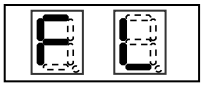
2.Possible causes:

■Damaged gas valve



2.7 Code FL

Display



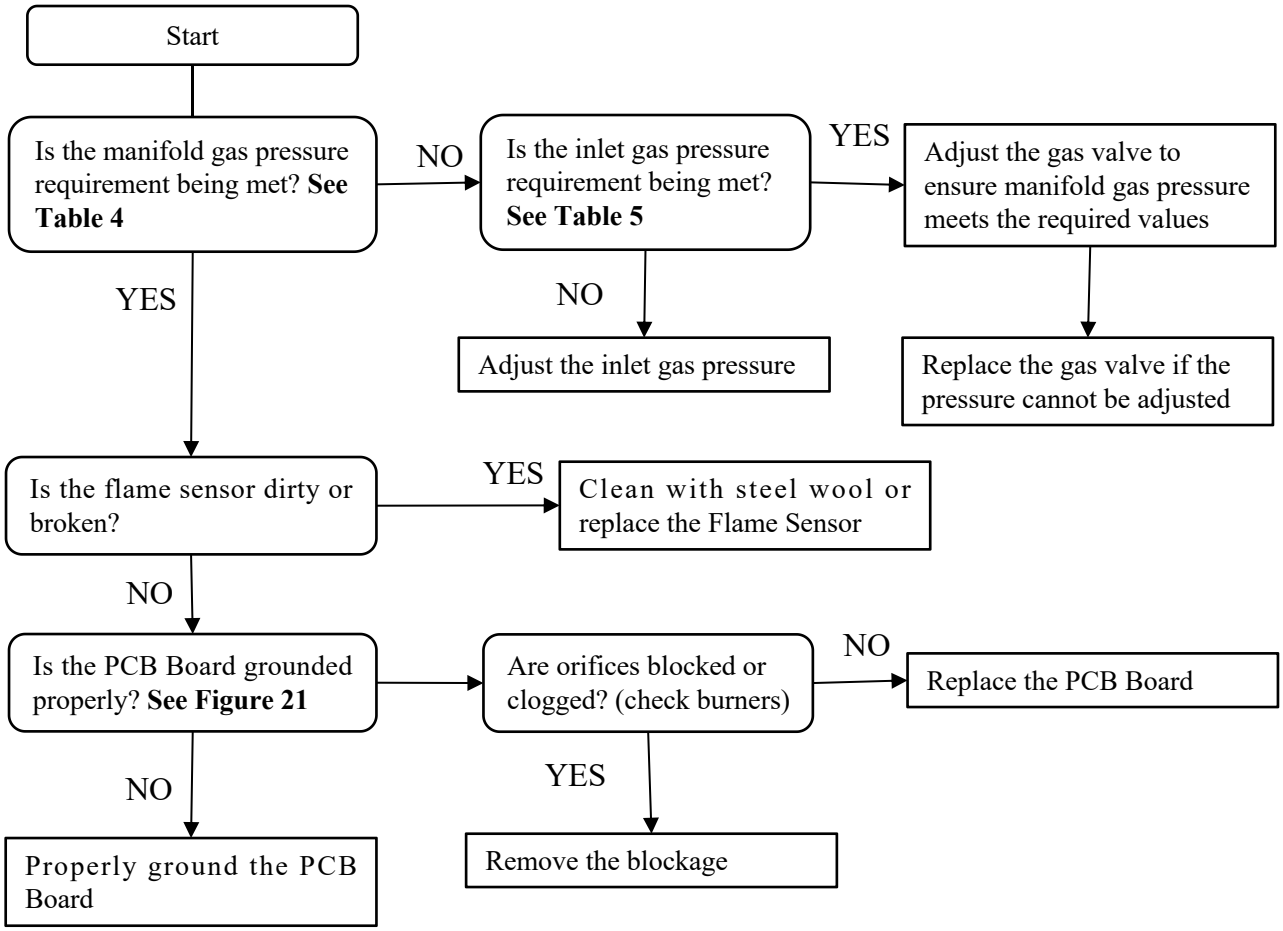
Flame low

1.Error definition:

The flame is too low

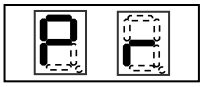
2.Possible causes:

- manifold gas pressure incorrect
- Damaged flame sensor
- Ground wire loose



2.8 Code Pr

Display



Power reversed

1.Error definition:

Incorrect Polarity of L1/L2

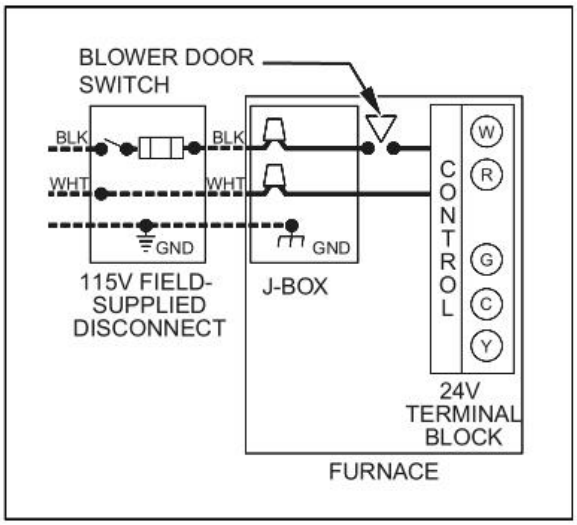
2.**Possible causes:**

- L1/l2 reverse connection

Start

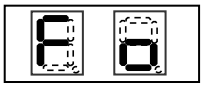
Correct the wire connection(black and white wire) according to wiring diagram. **See Figure 22**.

Figure 22



2.9 Code Po

Display



Fuse open

1.Error definition:

Fuse open

2.Possible causes:

- The fuse loosen/damaged

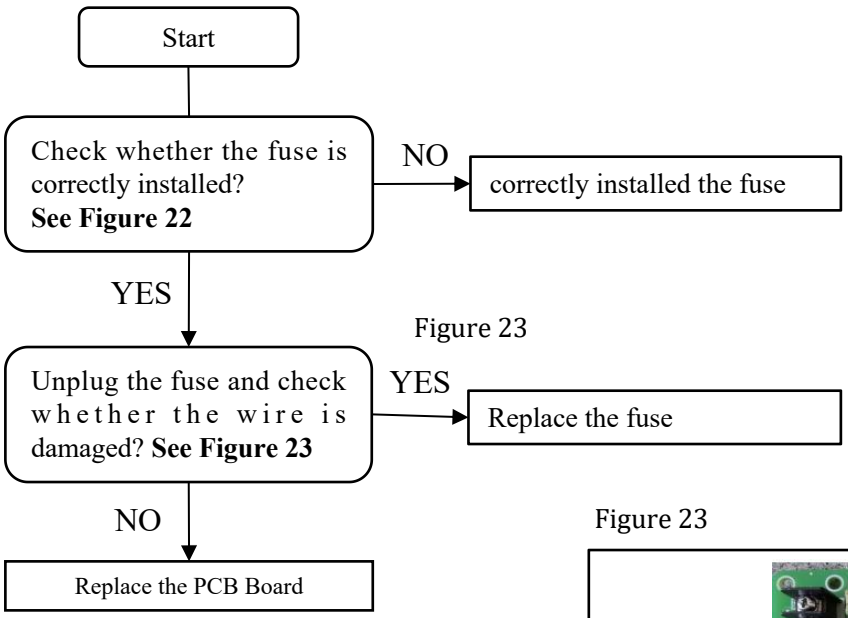
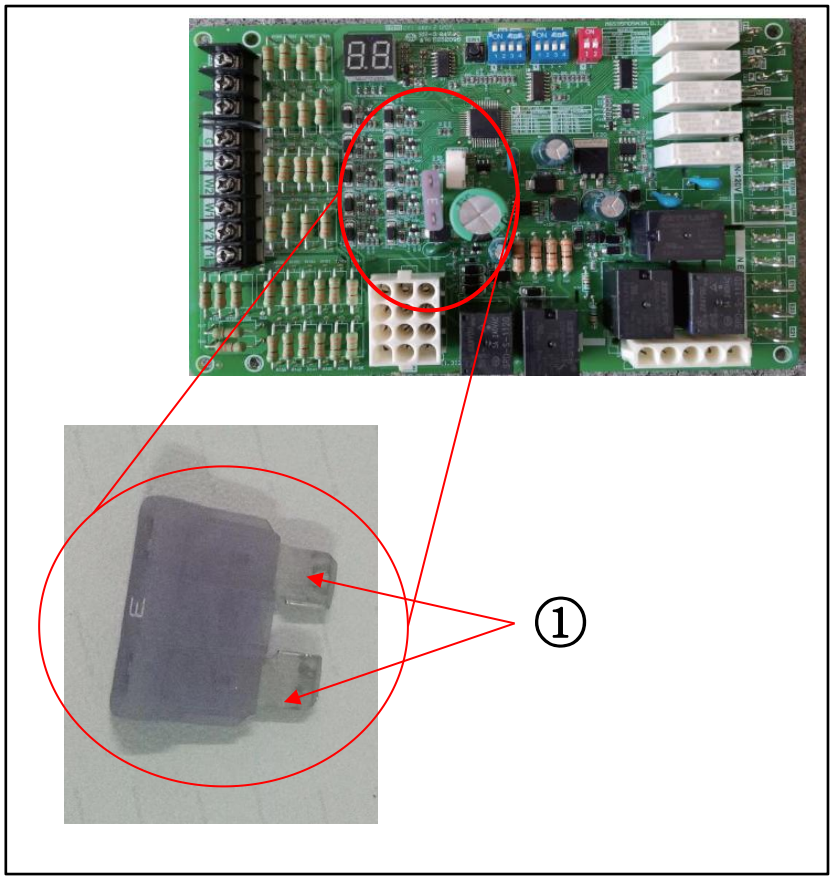


Figure 23

Figure 23



2.10 Code bE

Display

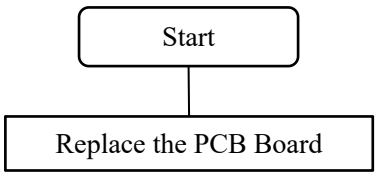
Board error

1.Error definition:

Internal fault of main control board.

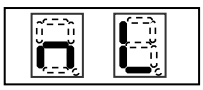
2.Possible causes:

- Control program error/hardware damage.



2.11 Code nL

Display



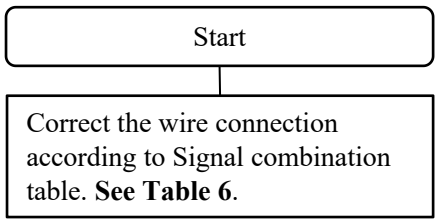
Signal error

1.Error definition:

Signal error

2.Possible causes:

- Wrong wiring of signal line



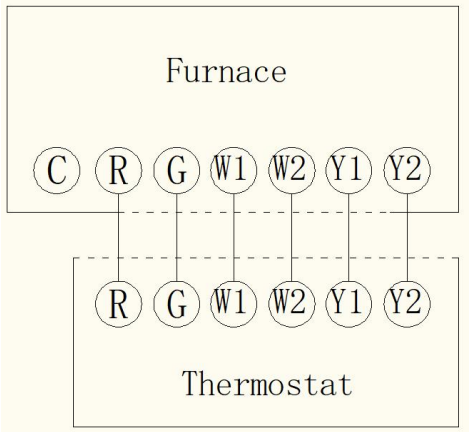
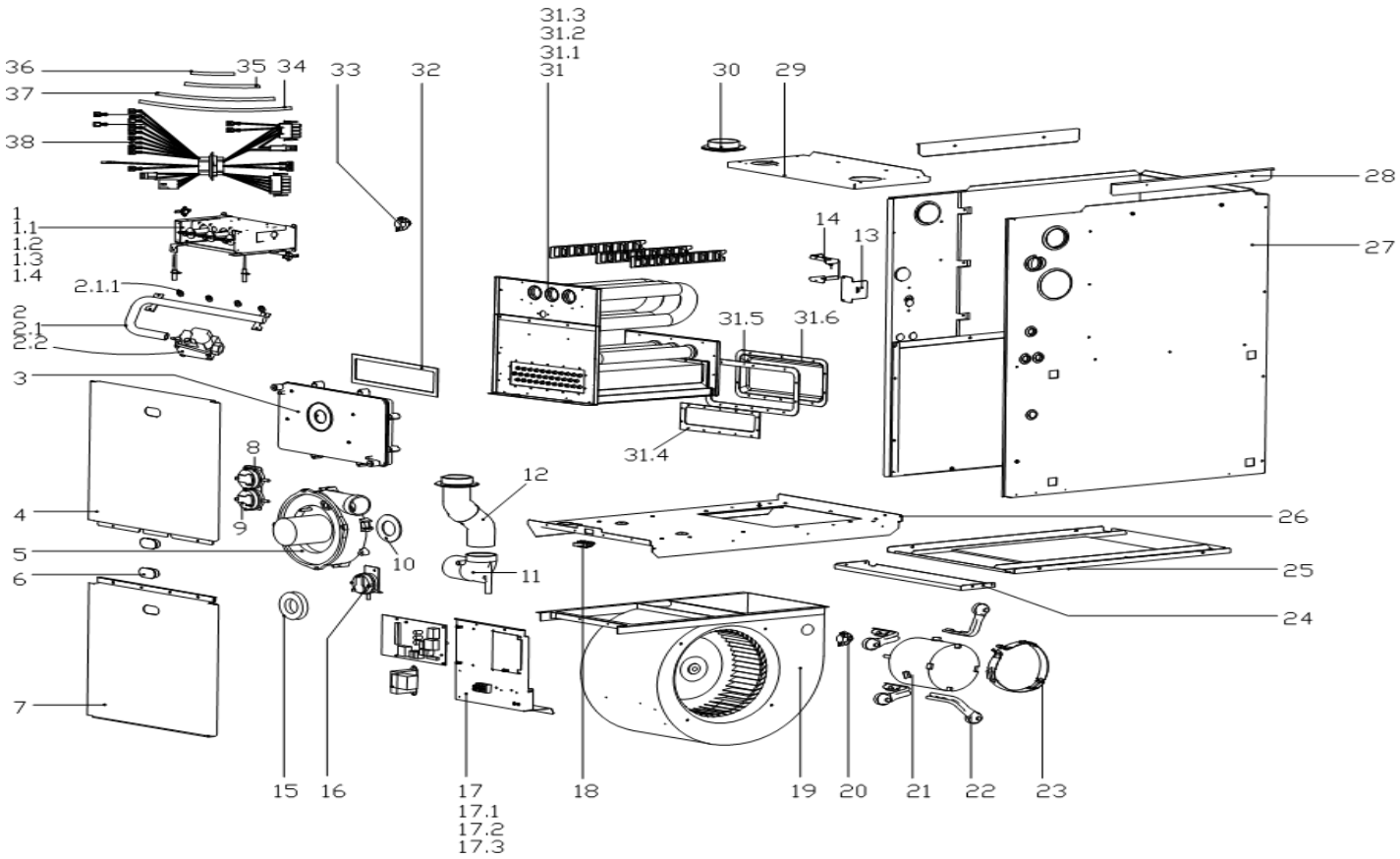


Table 6 Signal combination

Signal					Status	Definition
W1	W2	Y1	Y2	G		
●	-	-	-	-	Normal	Heat mode
●	●	-	-	-	Normal	Heat mode
-	-	●	-	●	Normal	Cool mode
-	-	●	●	●	Normal	Cool mode
-	-	●	-	-	Error	No fan signal
-	-	●	●	-	Error	No fan signal
-	●	-	-	-	Error	No W1 signal
●	-	-	-	●	Error	Fan signal conflict
●	-	●	-	-	Error	Cool and heating conflict

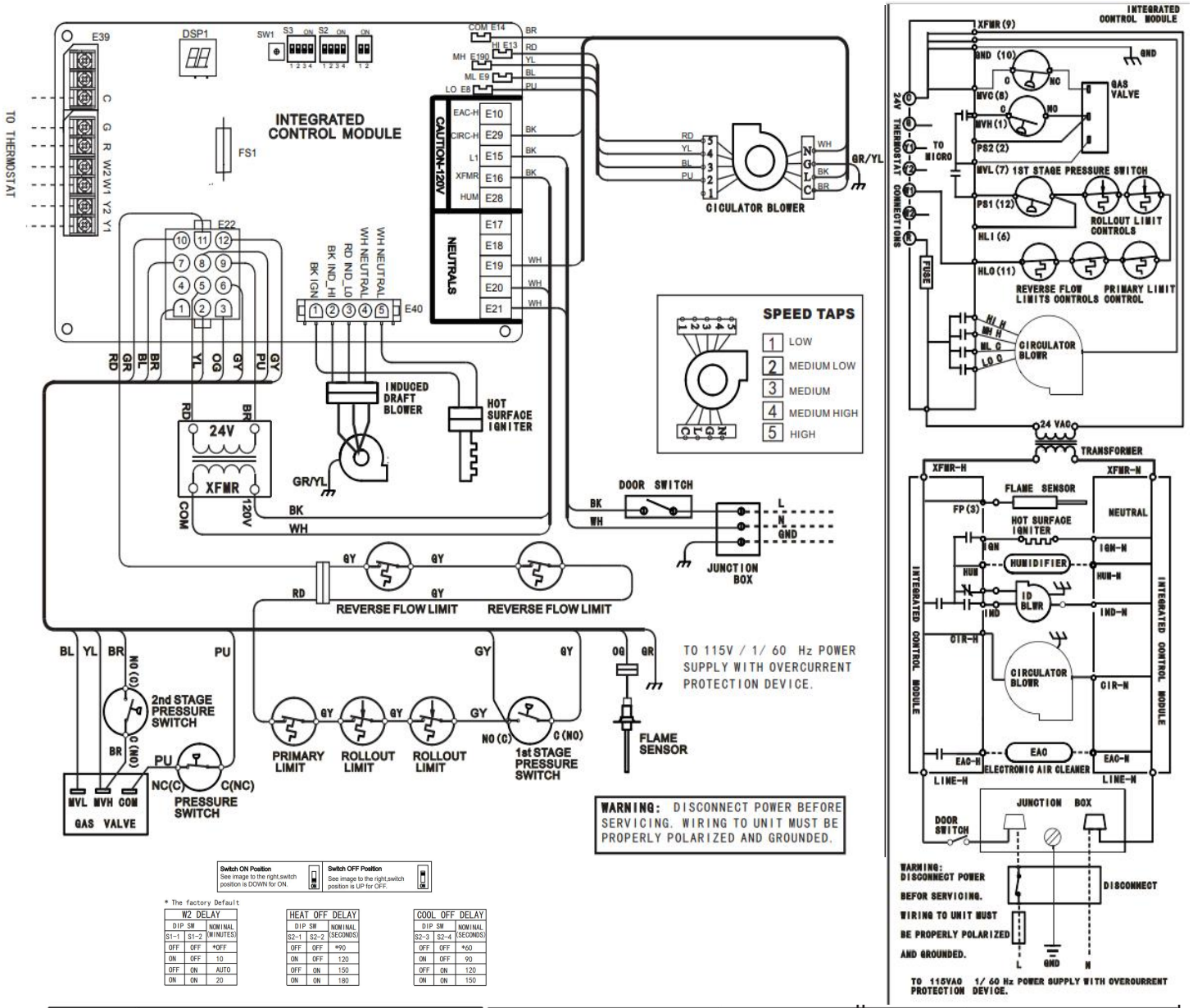
3. Parts List



Model	Parts Number
MGH96M060B3*	EAC0005001
MGH96M080B3*	EAC0005002
MGH96M080C4*	EAC0005003
MGH96M100C5*	EAC0005004
MGH96M100D5*	EAC0005005
MGH96M120D5*	EAC0005006

#	Part Name	Qty	Parts Number					
			060B	080B	080C	100C	100D	120D
1	Burner ass'y	1	EAC12227600001408	EAC12227600001400		EAC12227600001402		EAC12227600001405
1.1	Rollout Switch	2	EAC17400513000045					
1.2	Igniter	1	EAC17427600000007					
1.3	Flame sensor	1	EAC11201006000010					
1.4	Burner	3-6	EAC17427600000004					
2	Gas pipe ass'y	1	EAC15427600000065	EAC15427600000060		EAC15427600000061		EAC15427600000063
2.1	Gas pipe assembly	1	EAC15427600000007	EAC15427600000002		EAC15427600000006		EAC15327600000002
2.1.1a	Copper nozzle	3-6	EAC15527600000001					
2.1.1b	Nat. to L.P. Gas conversion kit(optional)	3-6	EAC15527600000005					
2.2	Gas valve	1	EAC17427600001389					
3	Drain box	1	EAC12127600000018		EAC12127600000019		EAC12127600000020	
4	Front panel (Upper)	1	EAC12227600000171		EAC12227600000166		EAC12227600000170	
5	Inducer	1	EAC17400801002944			EAC17400801000935		
6	Sight glass	2	EAC12127600000009					
7	Front panel (Lower)	1	EAC12227600000163		EAC12227600000167		EAC12227600000168	
8	Pressure switch (High fire)	1	EAC17400515000422					
9	Pressure switch (Low fire)	1	EAC17400515000421					
10	Inducer gasket	1	EAC12427600000049					
11	Flue discharge elbow	1	EAC12127600000015					
12	Flue discharge pipe joint ass'y	1	EAC12127600000016					
13	Junction box cover	1	EAC12227600000817					
14	Junction box	1	EAC12227600000818					
15	Flue discharge clasp	1	EAC12127600000365	EAC12127600000366		EAC12127600000367		EAC12127600000045
16	Pressure switch (water level)	1	EAC17400515000420					
17	Electric control box ass'y	1	EAC17227600000941					
17.1	Linear Transformer	1	EAC11203103000197					
17.2	Main control board	1	EAC17127600000708					
18	Door switch	1	EAC17427600001148					
19	Centrifugal fan	1	EAC12200102000010		EAC12200102000031			
20	Fan mounted temp. limit switch	2	EAC17400513000874					
21	ECM blower motor	1	EAC11002015011986			EAC11002015011987		
22	Motor bracket ass'y	4	EAC12227600000245		EAC12223000001933			
23	Motor bracket	1	EAC12223000001993					
24	Bottom support plate	1	EAC12227600000265		EAC12227600000267		EAC12227600000268	
25	Bottom return plate	1	EAC12227600000849		EAC12227600000819		EAC12227600000833	
26	Blower partition panel	1	EAC12227600000222		EAC12227600000217		EAC12227600000219	
27	Cabinet ass'y	1	EAC12227600000842		EAC12227600000823		EAC12227600000837	
28	Supporting bar ass'y	2	EAC12227600000274					
29	Top panel	1	EAC12227600000169		EAC12227600000164		EAC12227600000165	
30	Air inlet pipe joint	1	EAC12127600000010					
31	Heat exchanger ass'y	1	EAC15727600000080	EAC15727600000079	EAC15727600000075	EAC15727600000076	EAC15727600000077	EAC15727600000078
32	Drain pan gasket	1	EAC12427600000035		EAC12427600000033		EAC12427600000034	
33	Chamber limit switch	1	EAC17400513001114					
34	Hose I	1	EAC12627600000005					
35	Hose IV	2	EAC12627600000006					
36	Hose II	1	EAC12627600000007					
37	Hose III	1	EAC12627600000009					
38	Wire harness	1	EAC17401203016840					

4. Wiring Diagram



Switch ON Position: See image to the right,switch position is DOWN for ON.

Switch OFF Position: See image to the right,switch position is UP for OFF.

* The factory Default

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 (SECONDS)
S2-1	S2-2	
OFF	OFF	*90
ON	OFF	120
OFF	ON	150
ON	ON	180

COOL OFF DELAY		
DIP SW		NOMINAL (SECONDS)
S2-3	S2-4	
OFF	OFF	*60
ON	OFF	90
OFF	ON	120
ON	ON	150

96% machine windshield setting		FAN SPEED						
		DIP SW			NOMINAL SPEED			
		S3-1	S3-2	S3-3	H-heat	L-heat	H-cool	H-cool
120D		*OFF	ON	OFF	4	3	3	2
100D		*OFF	OFF	ON	4	2	3	2
100C		*OFF	OFF	ON	4	2	3	2
		OFF	OFF	OFF	4	2	2	2
80C		*ON	OFF	OFF	5	3	5	4
		ON	ON	OFF	5	3	4	3
80B		*ON	OFF	OFF	5	3	5	4
		ON	ON	ON	5	3	3	2
		ON	OFF	ON	5	3	5	3
		ON	ON	OFF	5	3	4	3
60B		*OFF	ON	ON	4	3	5	3
		OFF	ON	OFF	4	3	3	2

YL	YELLOW	GY	GRAY
OR	ORANGE	RD	RED
PU	PURPLE		
GR	GREEN		
BK	BLACK		
BR	BROWN		
WH	WHITE		
BL	BLUE		

JUNCTION	
TERMINAL	
PLUG CONNECTION	
EQUIPMENT GND	
FIELD GND	
FIELD SPLICE	

SWITCH (TEMP.)	
IGNITER	
SWITCH (PRESS.)	
OVERCURRENT PROT. DEVICE	
KEY	

NOTE:
1. SET HEAT ANTICIPATOR ON ROOM THERMOSTAT AT 0.7 AMPS.
2. MANUFACTURER'S SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
3. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C. USE COPPER CONDUCTORS ONLY.
4. BLOWER SPEEDS SHOULD BE ADJUSTED BY INSTALLER TO MATCH THE INSTALLATION REQUIREMENTS SO AS TO PROVIDE THE CORRECT COOLING CFM. (SEE SPEC SHEET FOR AIR FLOW CHART)
5. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N. E. C. AND LOCAL CODES.

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