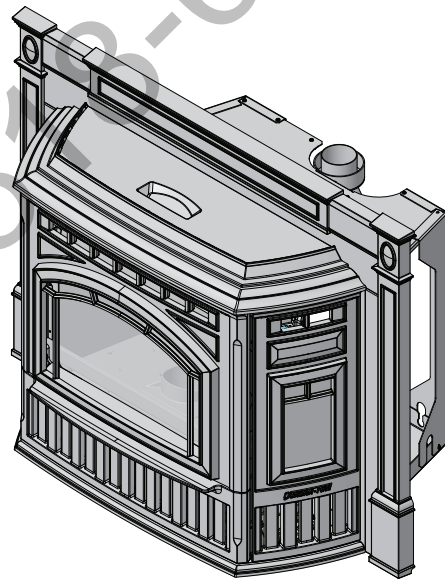
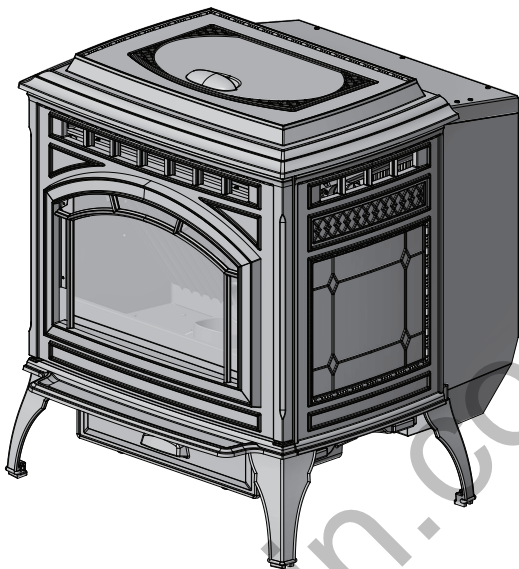


QUADRA-FIRE®

NOTHING BURNS LIKE A QUAD

TREKKER TROUBLESHOOTING MANUAL



HEARTH & HOME
technologies®

The Hearth Experts

(THIS MANUAL IS INTENDED FOR TRAINED & QUALIFIED DEALERS & TECHNICIANS USE ONLY)

Safety Alert Key:



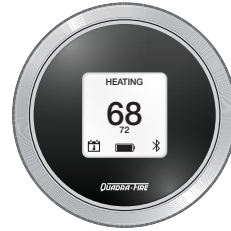
- **DANGER!** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- **WARNING!** Indicates a hazardous situation which, if not avoided could result in death or serious injury.
- **CAUTION!** Indicates a hazardous situation which, if not avoided, could result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

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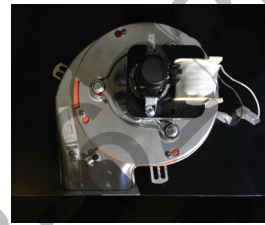
1 Normal Operation Sequence.....	3
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1 Normal Operation Sequence

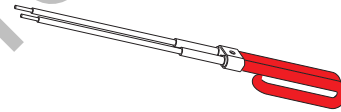
1. Set user interface to desired temperature.



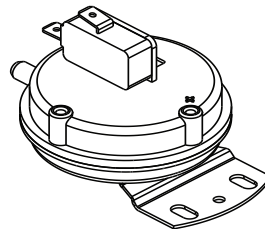
2. Exhaust blower turns on.



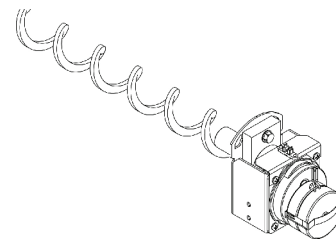
3. Igniter turns on and will preheat for approximately 2 minutes.



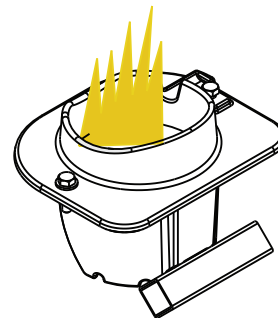
4. The vacuum switch closes.



5. The feed motor turns on, after the igniter preheat sequence expires. The initial feed of the feed motor will last approximately 75 seconds and then stop.



6. Pellets will ignite in the firepot.

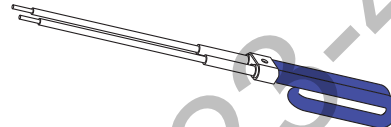


7. Exhaust probe needs to sense a six degree increase per minute for two consecutive minutes.

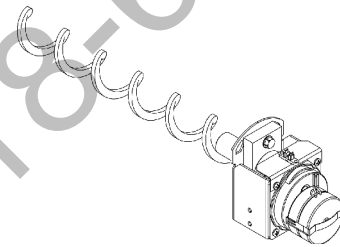


8. Igniter turns off.

(maximum igniter time is 28 minutes with retry)



9. Flame stabilization begins; appliance will feed at two second intervals for five minutes.



10. The convection blower turns on and increases speed as the appliance heats up.



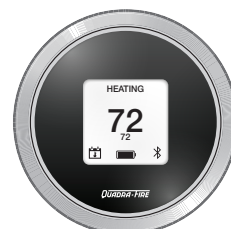
The exhaust probe will sense 124° degrees and turn on the convection blower at a low speed.

11. Power level will start at 1 and work its way up to achieve the desired set temperature.

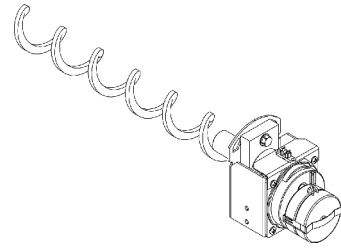
FEED RATES (SEVEN SECOND CYCLE)	
POWER LEVEL	ON TIME PER SECONDS
1	1.1
2	1.5
3	1.9
4	2.2
5	2.6

12. Set temperature is met.

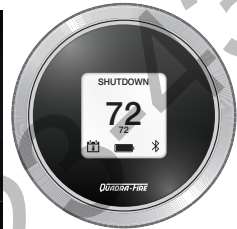
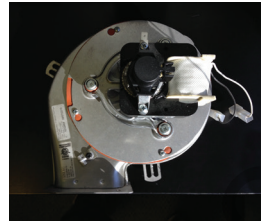
(set temperature is dependent on differential)



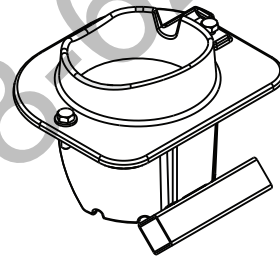
13. Feed motor turns off.



14. Exhaust blower starts the shutdown cycle; blower will run at maximum RPM for 99 seconds, purge cycle and will reduce in RPMs until shutdown sequence begins. The user interface will display shutdown.



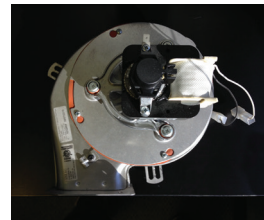
15. The fire will go out in the firepot; as the appliance will continue to cool.



16. Exhaust probe temperature drops below 124° degrees and shuts the convection blower off.

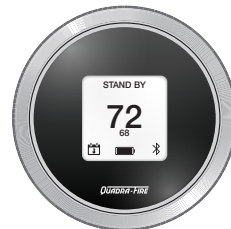


17. Exhaust probe temperature drops below 117° degrees and shuts the exhaust blower off.



NOTE: Minimum shutdown time regardless of temperature is 3 and half minutes.

18. End of the cycle; the user interface will display standby.





2 Error Codes

ERROR CODE WILL BE DISPLAY ON THE SCREEN OF THE USER INTERFACE



UI DISPLAY	#	ERROR	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
	-	MISSED IGNITION ERROR	Dirty appliance	Clean appliance (see owners manual)
			Empty Hopper	Fill hopper with pellet fuel and select "Manual Feed" from Menu
			Feed motor is not turning	See section 9 Feed System on page 18
			Dirty Firepot	Clean Firepot (see owners manual)
			Igniter has no power or is defective	See section 7 Igniter on page 14
			Igniter chamber is plugged with debris	Clean chamber (see owners manual)
			Snap disc is tripped or defective	Reset or replace snap disc
			Exhaust probe is not properly installed	See section 10 Exhaust Probe on page 20
	-	FEED ERROR	Exhaust path is dirty	Clean appliance (see owners manual)
			Empty Hopper	Fill hopper with pellet fuel and select "Manual Feed" from Menu
			Bad Hopper Switch	See section 12 Hopper Switch on page 24
			Auger Jam	Clean hopper and auger tube, See section 9 Feed System on page 18
			Bad Auger Motor	Verify operation (see Auger motor section)
			Vacuum Switch not closing	See section 8 Firebox Vacuum & Vacuum Switch on page 16
			No Vacuum	Verify operation (see Vacuum switch section)
			Bad Vacuum Switch	Verify operation (see Vacuum switch section)
			Hopper lid open	Close hopper lid. See section 12 Hopper Switch on page 24
			Snap disc is tripped or defective	Reset or replace snap disc
			Exhaust probe does not sense temperature - snap disc tripped	See section 10 Exhaust Probe on page 20
			Exhaust probe in not attached to exhaust blower properly	See section 10 Exhaust Probe on page 20
	2	EXHAUST PROBE ERROR	Probe not connected to control board	Verify Exhaust probe is connected correctly
			Exhaust probe failed	See section 10 Exhaust Probe on page 20
			Bad Igniter	Verify operation. See section 7 Igniter on page 14
	6	EXHAUST BLOWER ERROR	Wires from exhaust blower is disconnected or shorted	Verify wires are proper connected. See section 6 Exhaust Blower on page 12.
			Blower not turning	Clean blower and verify operation. See section 6 Exhaust Blower on page 12.
			Encoder (Speed sensor) not connected to control board	Verify proper connection See section 10 Exhaust Probe on page 20.
			Defective exhaust blower	See section 6 Exhaust Blower on page 12
			Bad Encoder (Speed sensor)	See page 13 about Hall Sensor/Encoder.

UI DISPLAY	#	ERROR	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
	8	EXHAUST OVER-TEMP ERROR	Appliance is dirty	Clean appliance and venting per owner's manual
			Convection blower needs to be cleaned	Clean convection blower (see owners manual)
			Feed motor locked in the ON position	See section 9 Feed System on page 18
			Overfeeding	Verify Auger motor operation (see Auger motor section)
			Not approved fuel was used	Clean hopper and use approved fuel (see owners manual)
	10	COMMUNICATION ERROR	User interface losing communication signal	Verify no obstructions, locate user interface within 30 feet of appliance (Try another location).
			Bluetooth Key removed	Verify Bluetooth key is installed correctly
			User interface dead or weak battery	Replace battery and re-try
			Bad Bluetooth key	Replace Bluetooth key
			Bad user interface	Replace user interface
	-	Screen Dim, artifacts / Ghosting	Low battery	Replace battery
			Bad battery	Replace battery
	-	Screen Locked up	Low battery	Replace battery
			Bad battery	Replace battery
			Locked during boot up	Remove and replace battery
	-	Unable to rotate through menus	Low battery	Replace battery
			Dead battery	Replace battery
			Broken user interface encoder	Replace user interface
	-	Unable to make selection	Low battery	Replace battery
			Dead battery	Replace battery
			Broken user interface switch	Replace user interface
	-	Appliance has no power	No power to outlet	Check circuit breaker at service panel
			Snap disc is tripped or defective	Reset or replace snap disc
	-	Screen of center / Partial display	Bad refresh	Enter / exit the menu or remove / replace the battery to refresh the screen.
	-	Black screen / Blank screen	Failed boot	Remove battery, wait 15 seconds, and replace battery.
	-	Line through screen	Bad / damaged display	Enter / Exit menu to refresh (if not corrected replace user interface).

- Make sure you have a reliable bluetooth connection
- Maximum distance of 30 foot from appliance
- On an interior wall
- 5 feet from the floor
- Not behind doors, bookcases or other objects
- Away from drafts and direct heat from the appliance

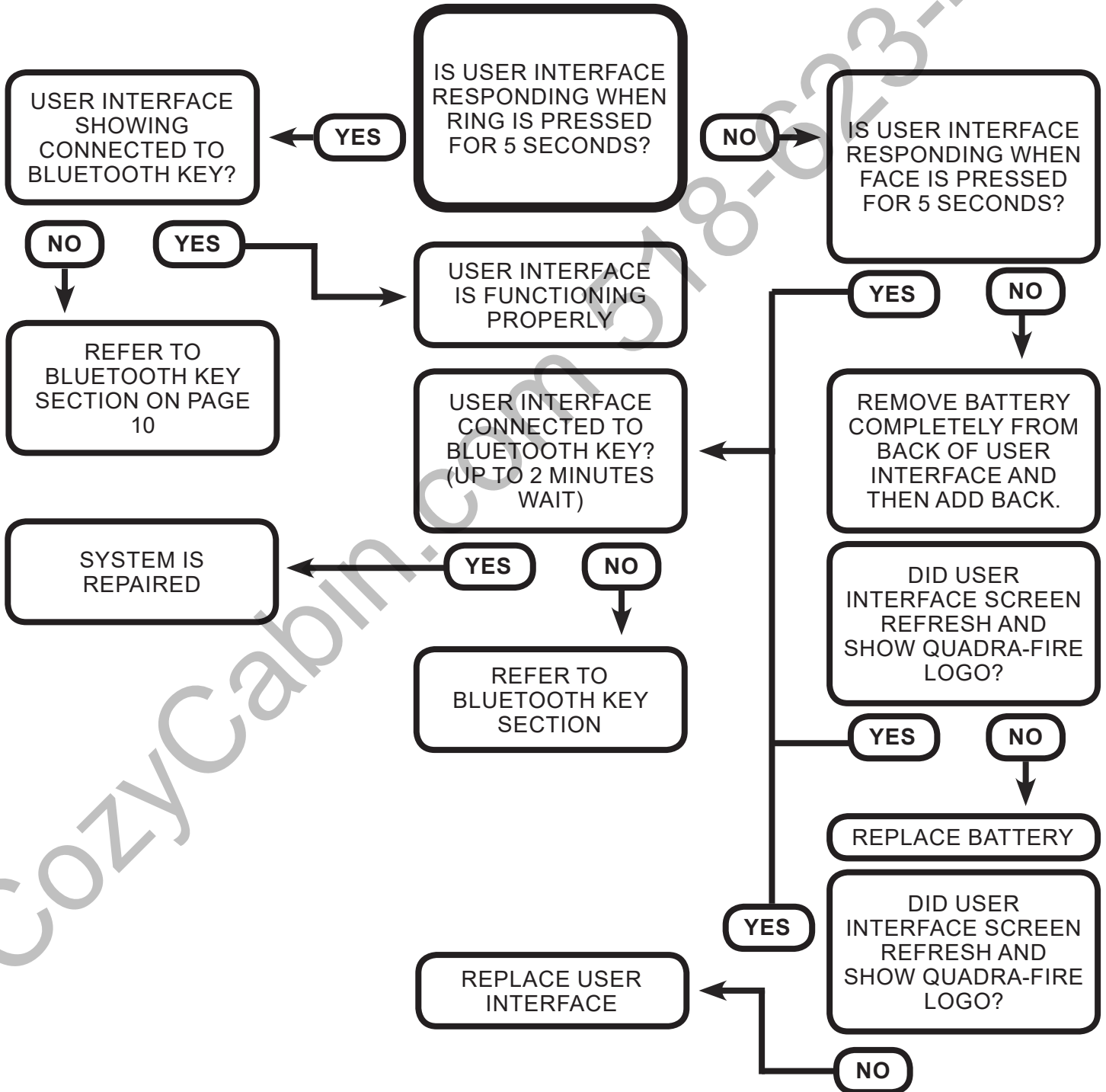
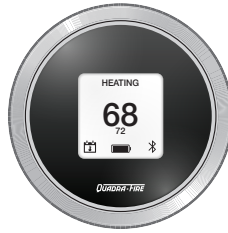
NOTICE: Verify stable connection before mounting the user interface.

While we state a maximum range of 30 feet, we recommend pairing the user interface to the appliance and accessing the diagnostics menu to view the Bluetooth signal strength prior to selection of final mounting location for the user interface.

While viewing the signal strength on the diagnostics menu, move the user interface to the desired location and look at the signal strength.

- Ideally, the user interface should be located where the signal strength shows in the range of -55db to -78db.
- Occasionally, the signal strength may decrease to as low as -79db, which is considered normal.
- However, a steady wireless signal strength of -79db may still connect and function, but may affect the reliability of the Bluetooth connection.

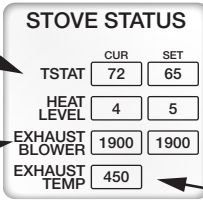
3 Wireless User Interface



4 Diagnostics Screen



Tstat (thermostat)
shows current and set temperatures

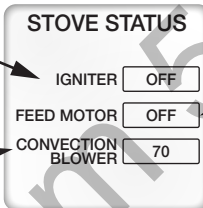


Heat Level
shows current and set heat level

Exhaust Blower
shows current and set RPM ranges

Exhaust Temp
shows current exhaust temperature

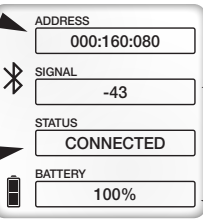
Igniter
displays on or off



Feed Motor
displays on or off

Convection Blower
displays current percentage of input voltage

Address
displays IP address

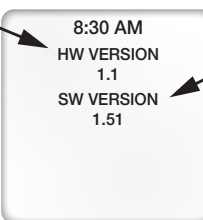


Signal
displays current signal strength
(lower the negative number the stronger the signal)

Status
displays current connection with Bluetooth key

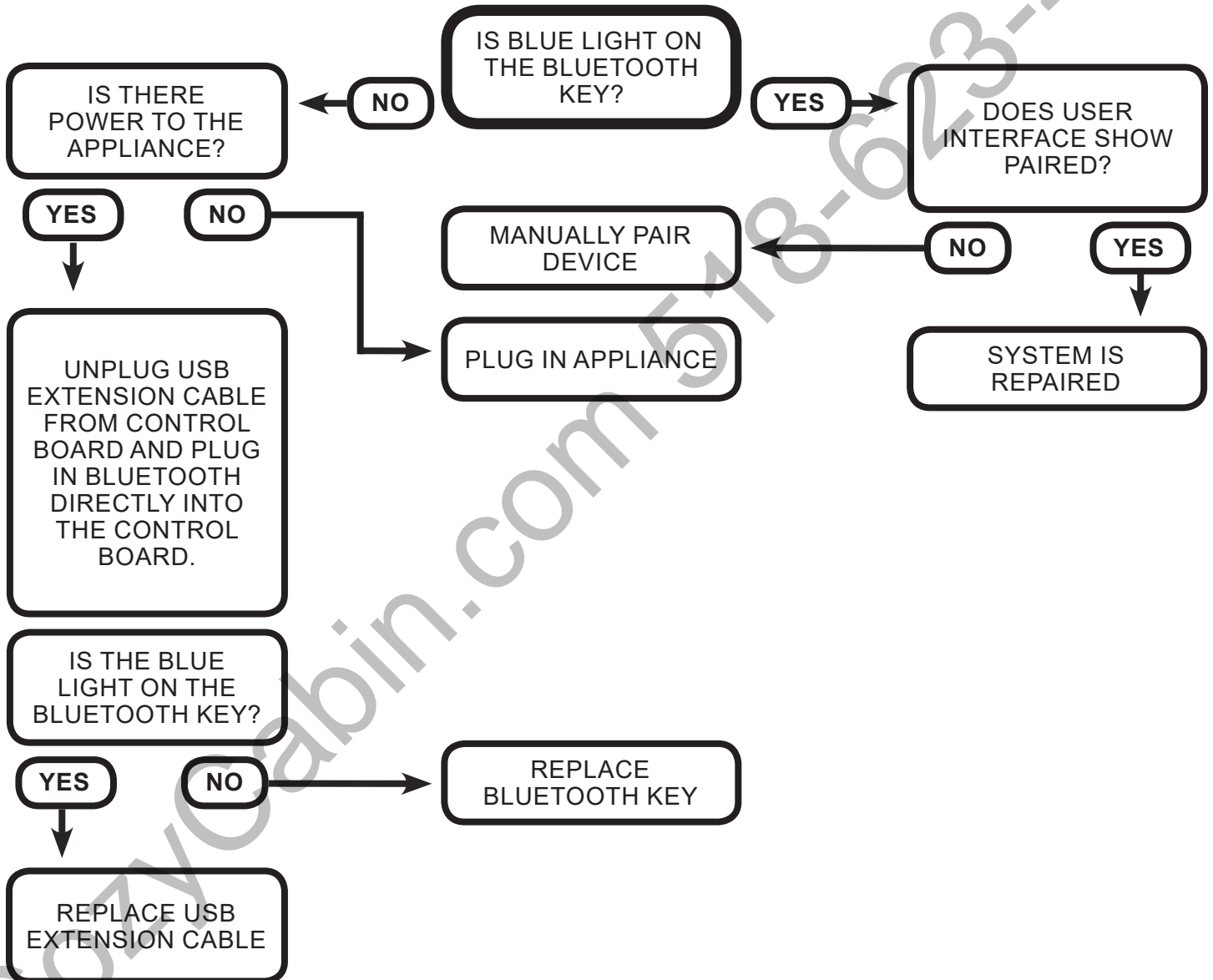
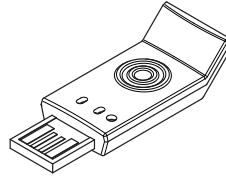
Battery
displays current life status of the battery

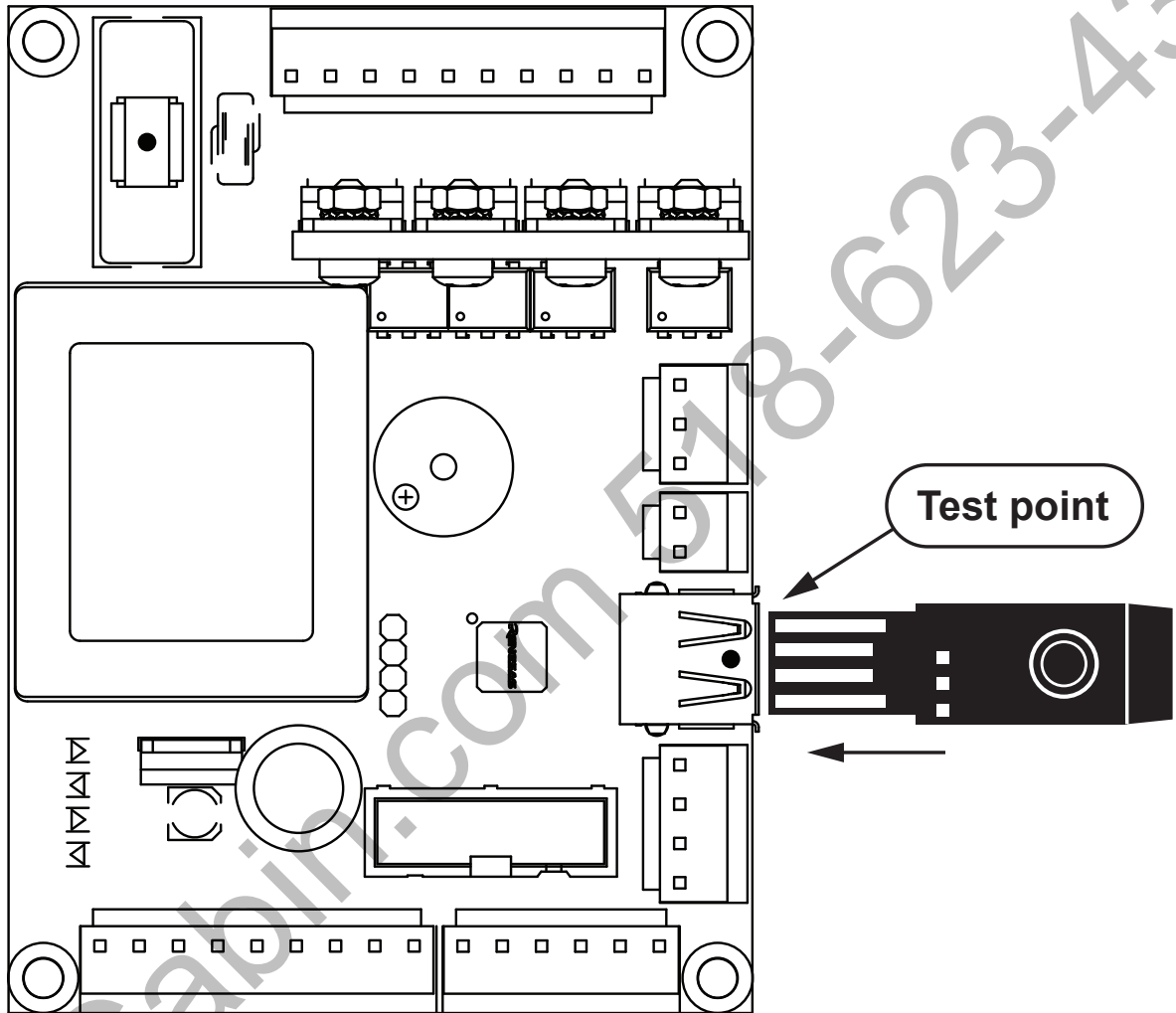
HW Version
displays current hardware version



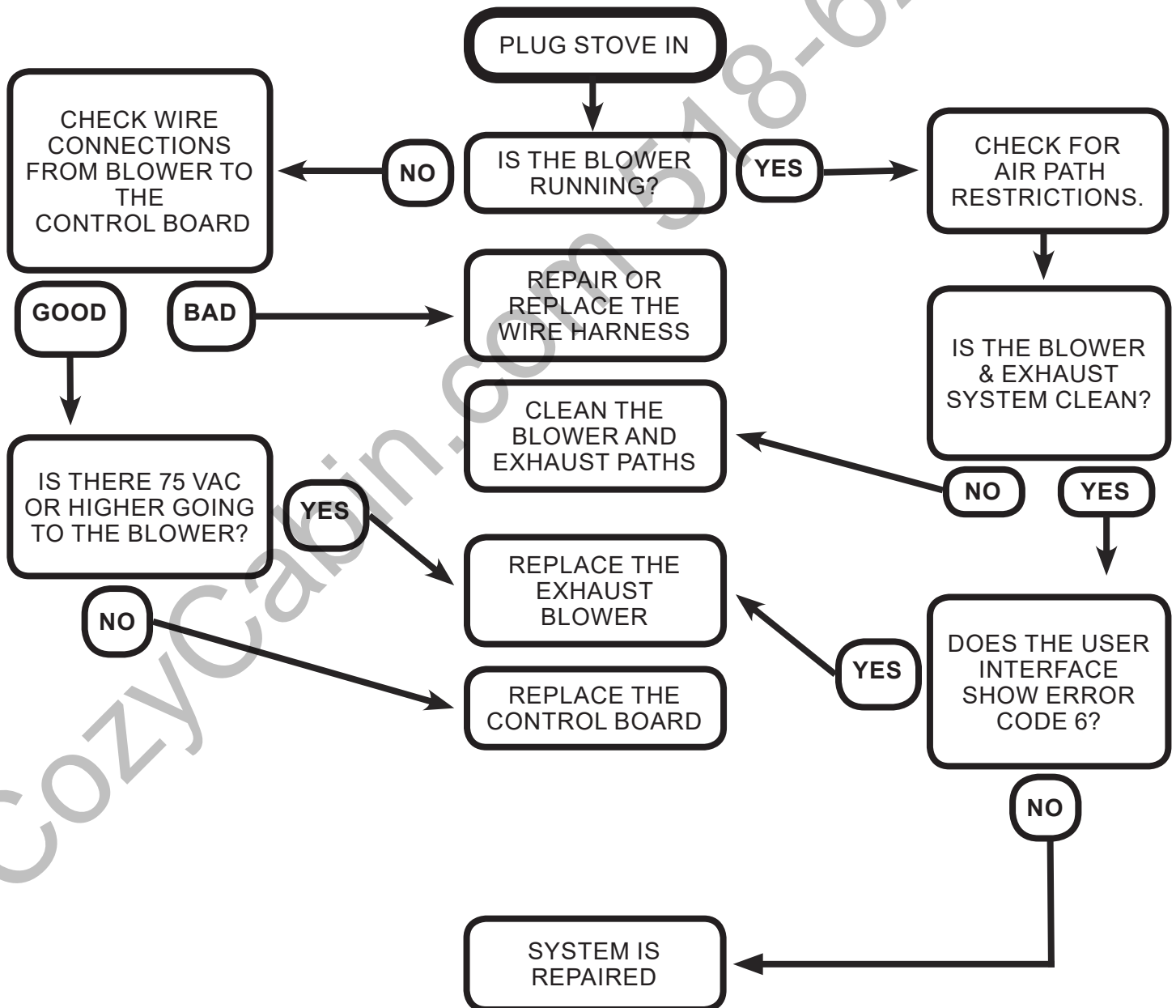
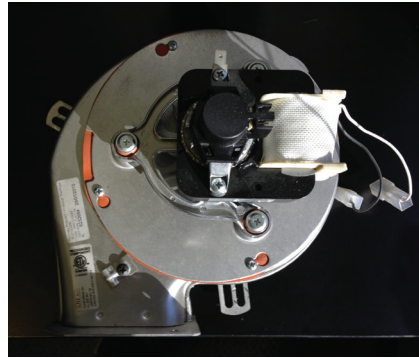
SW Version
displays current software version

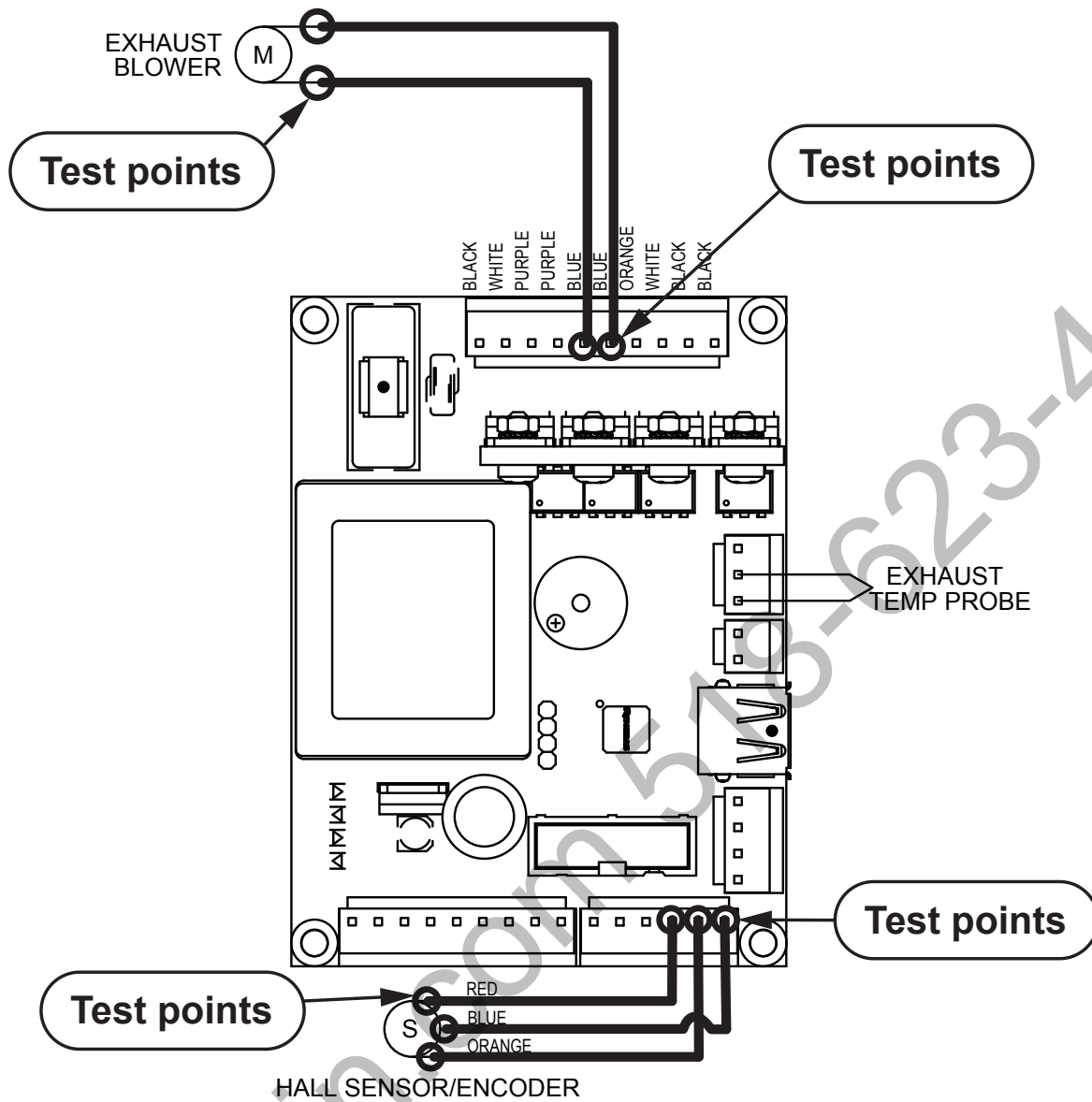
5 Bluetooth Key



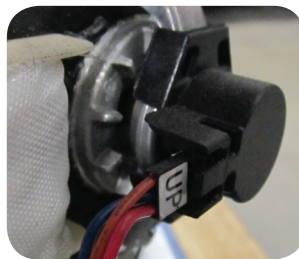


6 Exhaust Blower





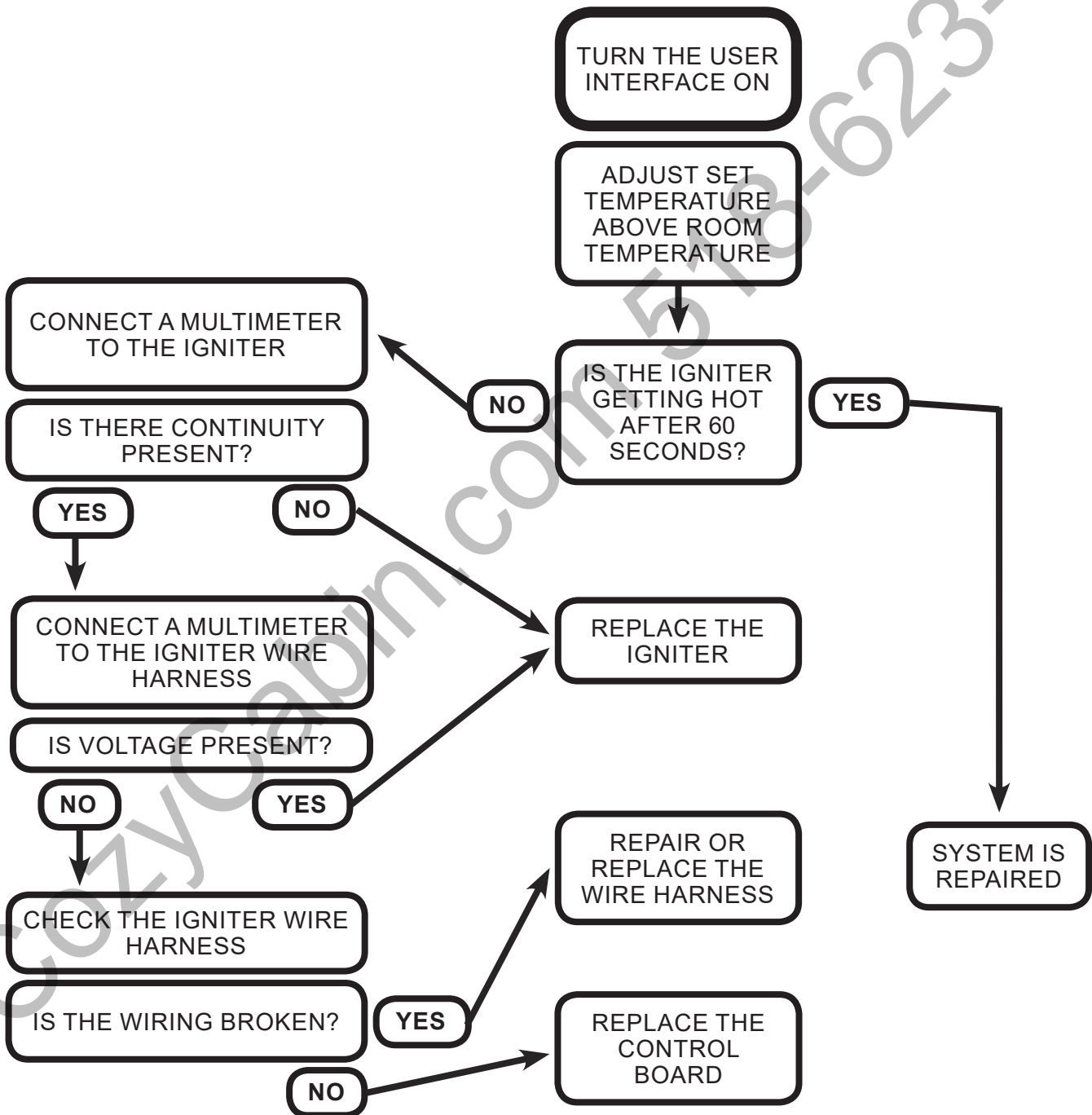
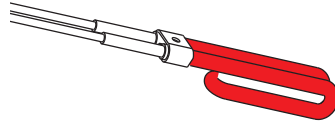
(HALL SENSOR/ENCODER) IT IS LOCATED ON TOP OF THE BLOWER.



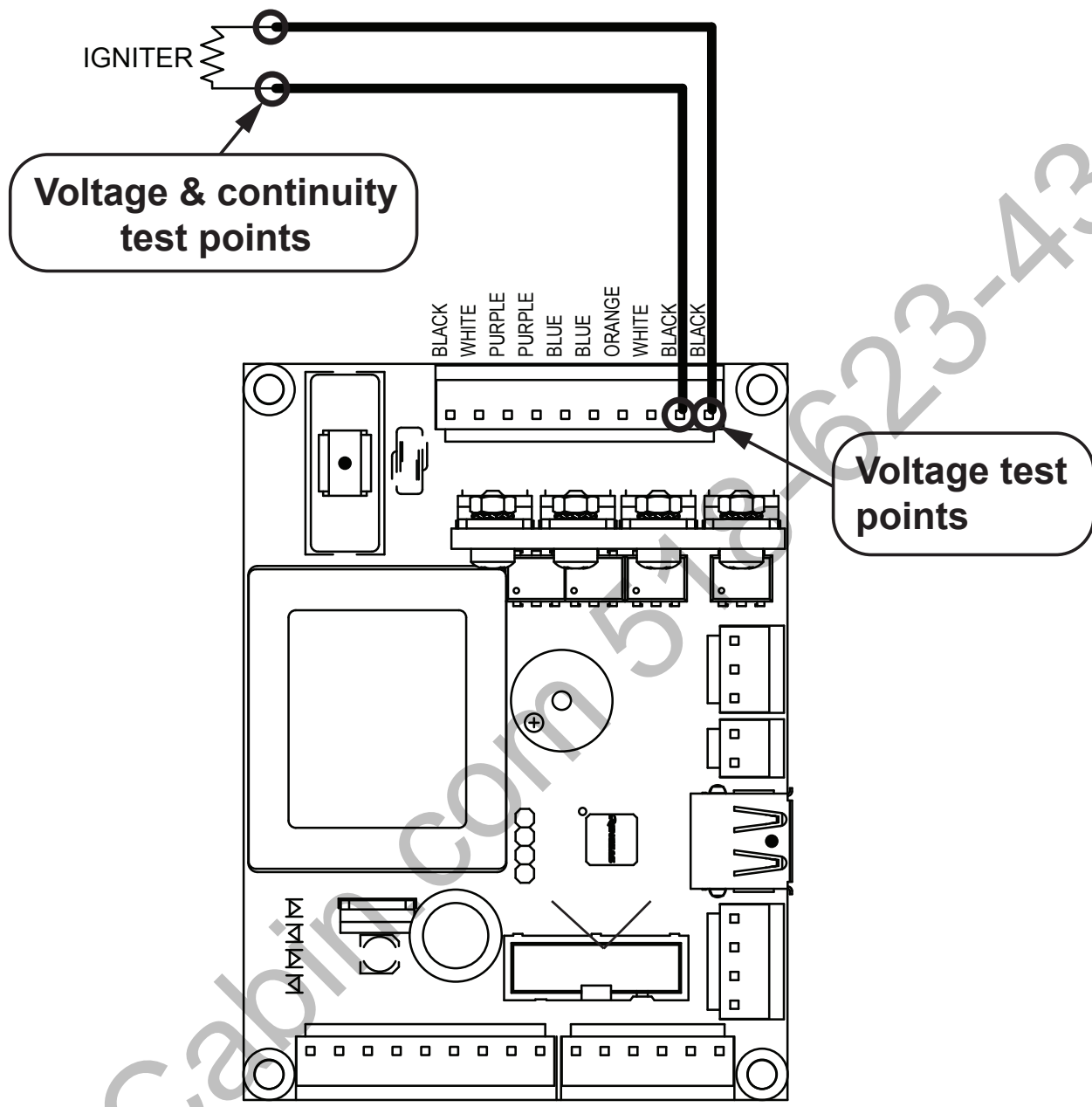
EXHAUST BLOWER VOLTS WILL RANGE FROM 80 VAC TO 90 VAC (STABLE 84 VAC TO 86 VAC) ON ANY POWER LEVEL DEPENDING ON THE LOAD PUT ON THE BLOWER TO MAINTAIN A CERTAIN RPM. THE HALL SENSOR MEASURES RPM AND ADJUSTS THE VOLTAGE TO KEEP IT WITHIN A SPECIFIC RANGE.

POWER LEVEL	1	2	3	4	5
RPM +/- 50	1300	1510	1720	1930	2140

7 Igniter

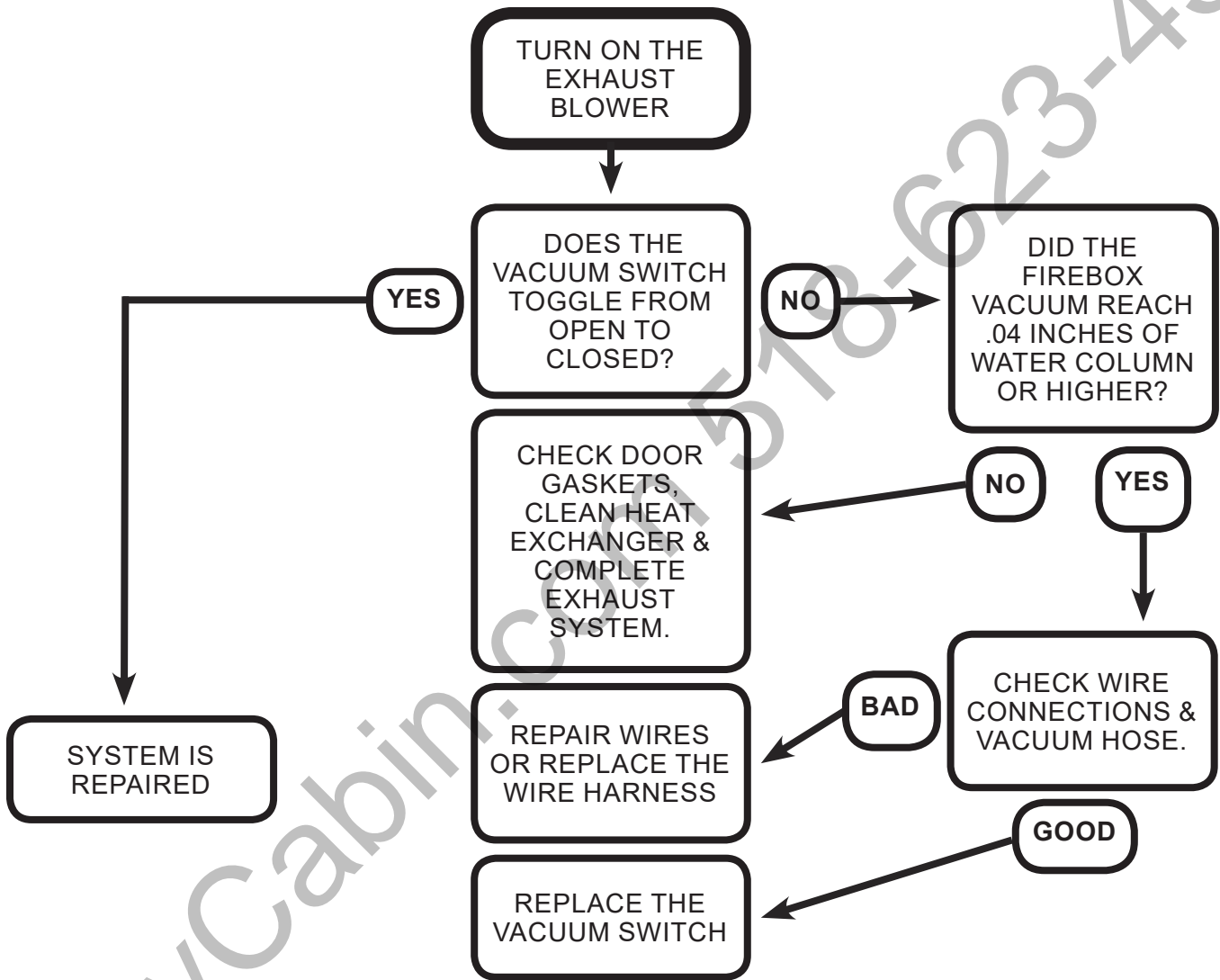
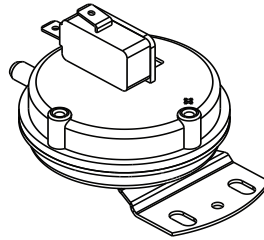


SAFETY NOTE: DO NOT touch igniter for it will be hot and burn you.



IGNITER SPECS:
300W /// 115 VAC
RESISTANCE: 48 OHMS

8 Firebox Vacuum & Vacuum Switch



VACUUM SPECS WITH USER INTERFACE TUNING SET TO 5:

COLD STOVE, PELLETS IN HOPPER, STOVE OFF USING MANUAL FEED:

VAC .30 INCHES OF WC

- POWER LEVEL 1: .09 INCHES OF WC
- POWER LEVEL 2: .11 INCHES OF WC
- POWER LEVEL 3: .13 INCHES OF WC
- POWER LEVEL 4: .15 INCHES OF WC
- POWER LEVEL 5: .17 INCHES OF WC
- SHUTDOWN: +/- .02 INCHES OF WC

1. INSTALL A VACUUM "T" BETWEEN THE VACUUM SWITCH AND DROP TUBE.
2. INSTALL THE VACUUM GAUGE TO THE "TEE".
3. DISCONNECT THE CONNECTOR FOR THE HALL SENSOR FROM THE CONTROL BOARD.

NOTE: THIS WILL ALLOW THE BLOWER TO RUN AT MAX SPEED.

4. TURN USER INTERFACE ON FIRST, THEN DIAL CONTROL.

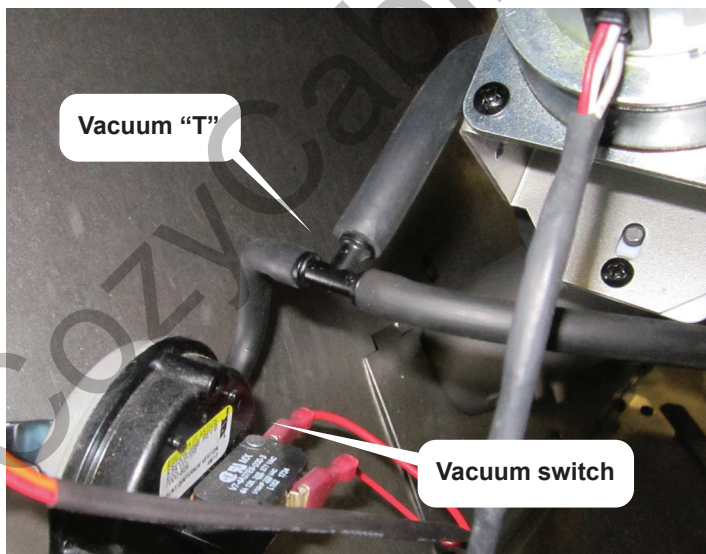
NOTE: MAKE SURE FUEL IS IN THE HOPPER AS THIS CAN EFFECT THE VACUUM READING. IT TAKES A MINIMUM OF .04 INCHES OF WATER COLUMN TO CLOSE THE VACUUM SWITCH. ****

5. YOUR VACUUM GAUGE SHOULD BE READING BETWEEN **VAC .30 +/- .05** OF WATER COLUMN WHILE THE EXHAUST BLOWER IS RUNNING (COLD STOVE, PELLETS IN HOPPER, STOVE OFF USING MANUAL FEED).
- ALL VACUUM READINGS ARE MEASURED IN

INCHES OF WATER COLUMN. LONG VERTICAL VENT RUNS WILL PRODUCE **GREATER VACUUM** COMPARED TO HORIZONTAL RUNS.

TECH TIPS:

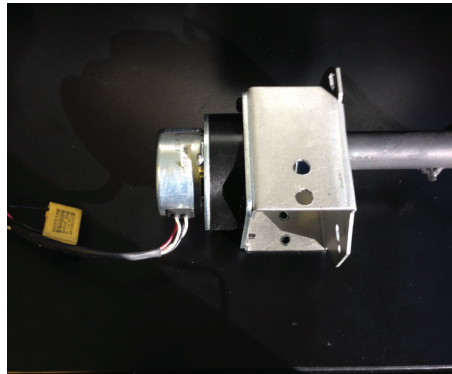
LOW VACUUM CAN BE THE RESULT OF A LEAKING DOOR GASKET, FIREPOT NOT CLOSING ALL OF THE WAY, DIRTY HEAT EXCHANGER, OR PLUGGED VENT SYSTEM. ALWAYS MAKE SURE THE UNIT IS CLEAN BEFORE MAKING ANY REPAIRS.



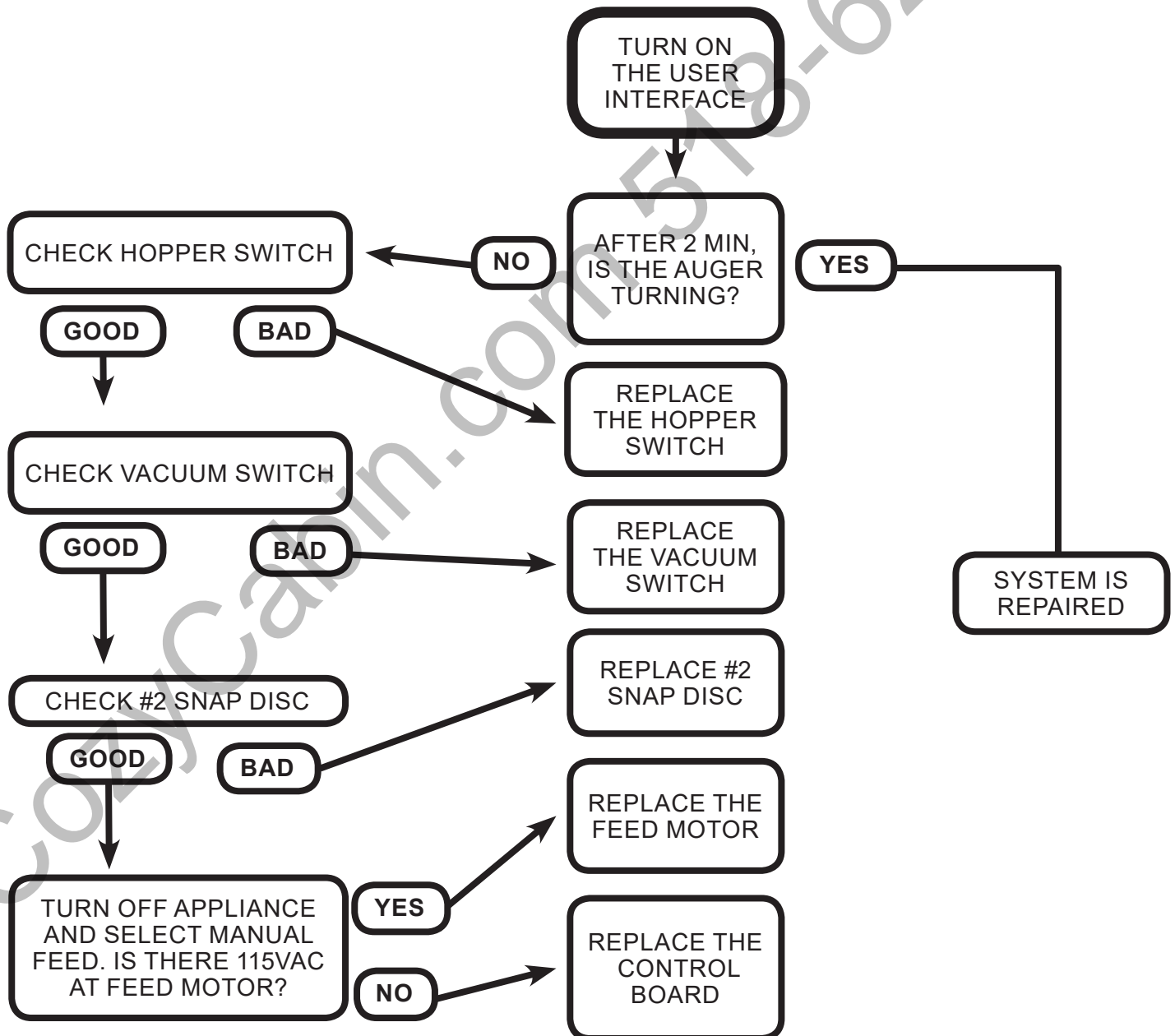
(VACUUM GAUGE)

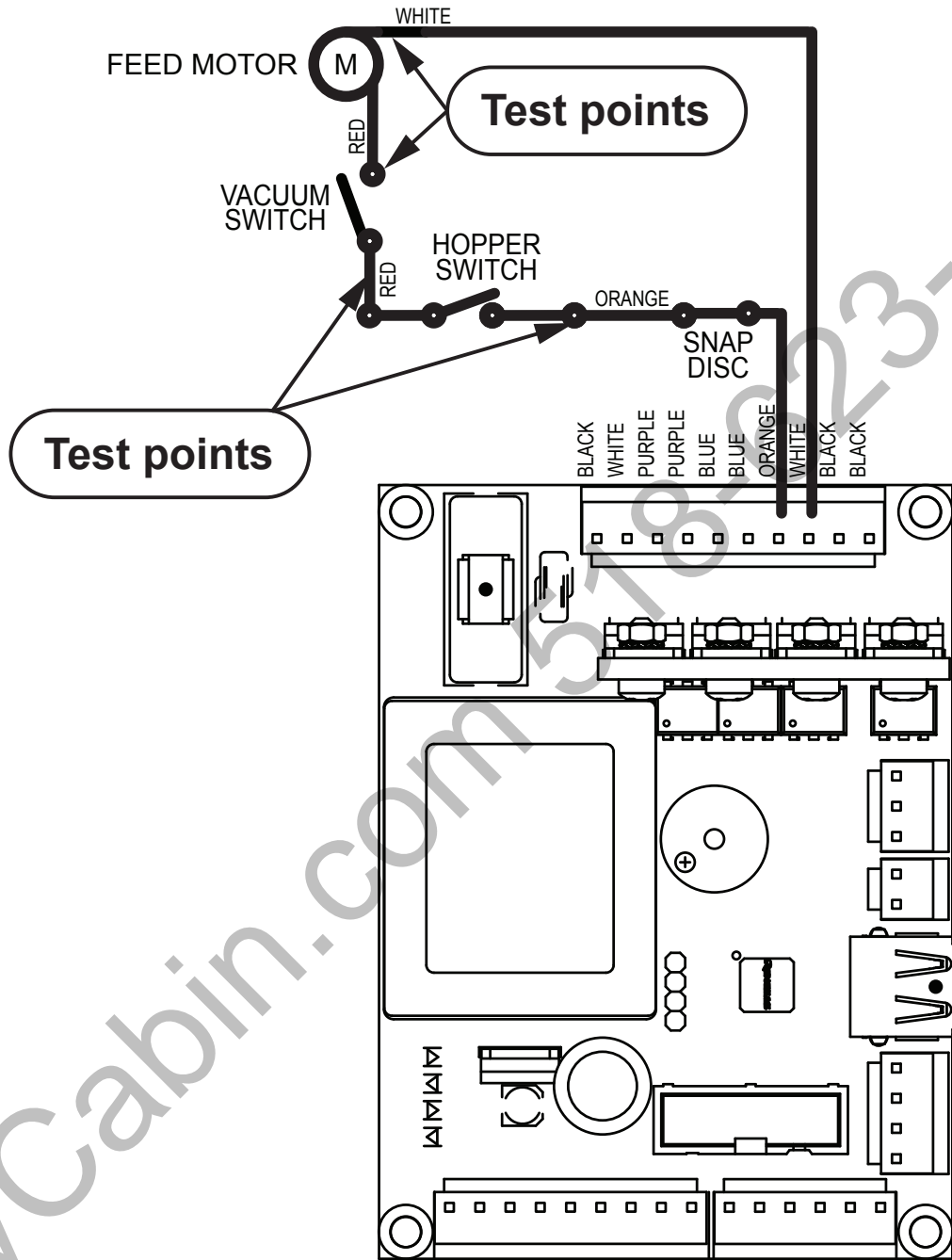
1. LOW VACUUM
2. OPERATING RANGE
3. SHUTDOWN
4. COLD STOVE / MAX BLOWER

9 Feed System



TECH TIP:
MAKE SURE THE FEED SYSTEM IS CLEAN AND FREE OF OBSTRUCTIONS BEFORE TROUBLESHOOTING.





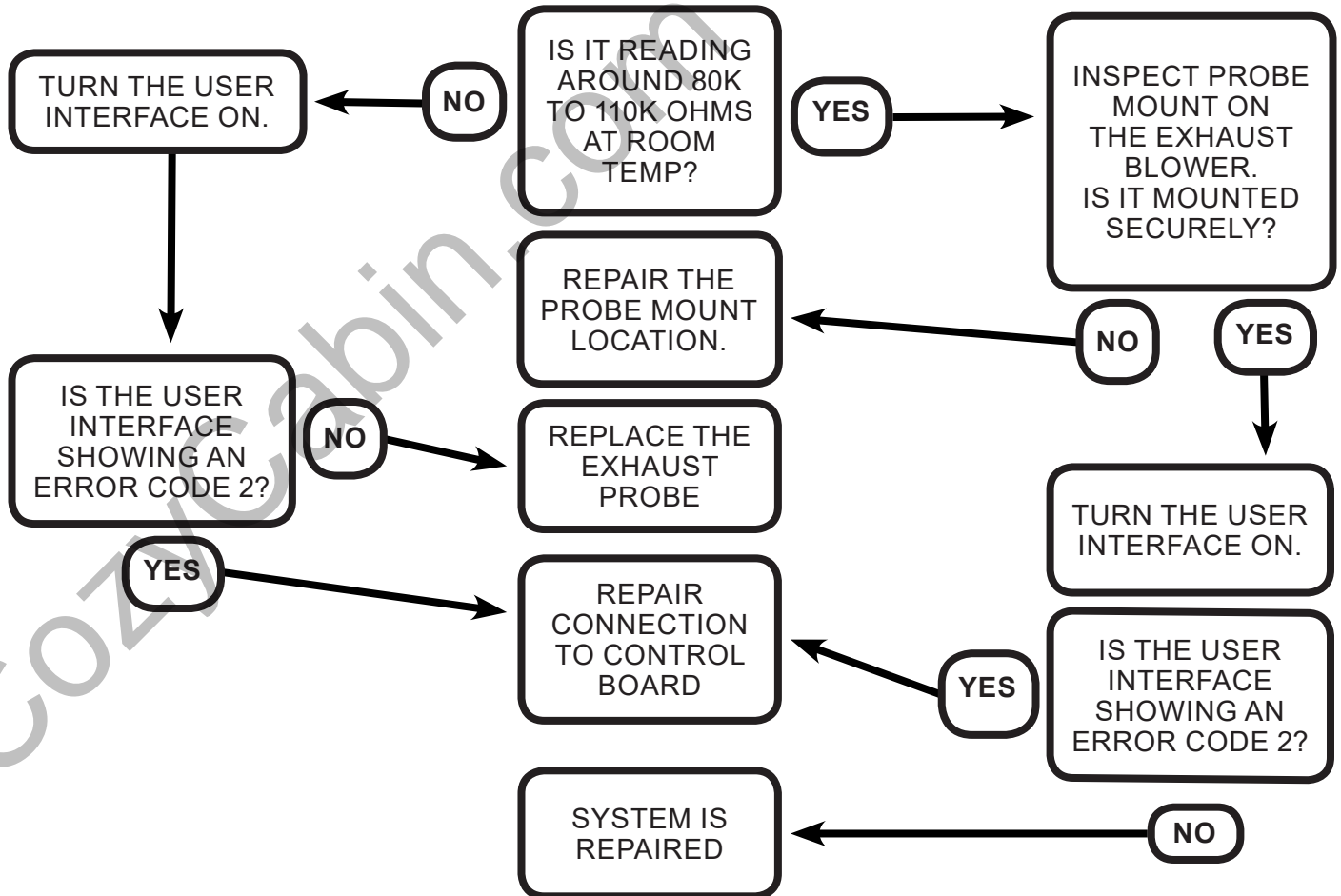
#2 SNAP DISC IS NORMALLY CLOSED UNLESS THE STOVE GETS TOO HOT.
 HOPPER SWITCH IS CLOSED WHEN THE HOPPER LID IS CLOSED.
 VACUUM SWITCH IS CLOSED WHEN THE EXHAUST BLOWER IS ON.
 FEED MOTOR RUNS ON 115 VAC.
 ALL CIRCUITS MUST BE CLOSED FOR THE FEED MOTOR TO WORK.

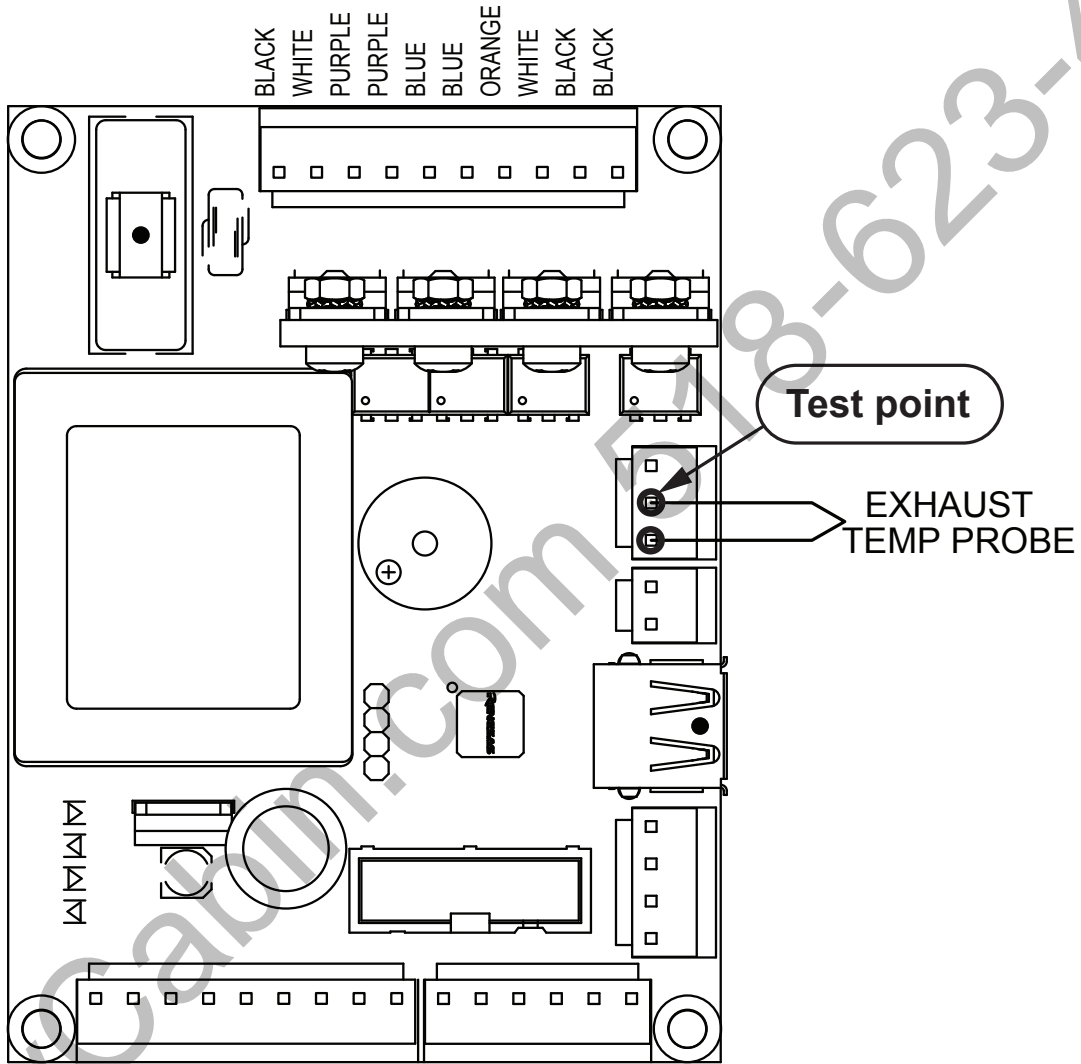
10 Exhaust Probe



PROBE IS LOCATED ON THE EXHAUST BLOWER HOUSING.

SET MULTIMETER TO 400K OHMS. REMOVE PROBE CONNECTION FROM THE CONTROL BOARD AND TAKE A READING. PLUG BACK INTO BOARD WHEN DONE.

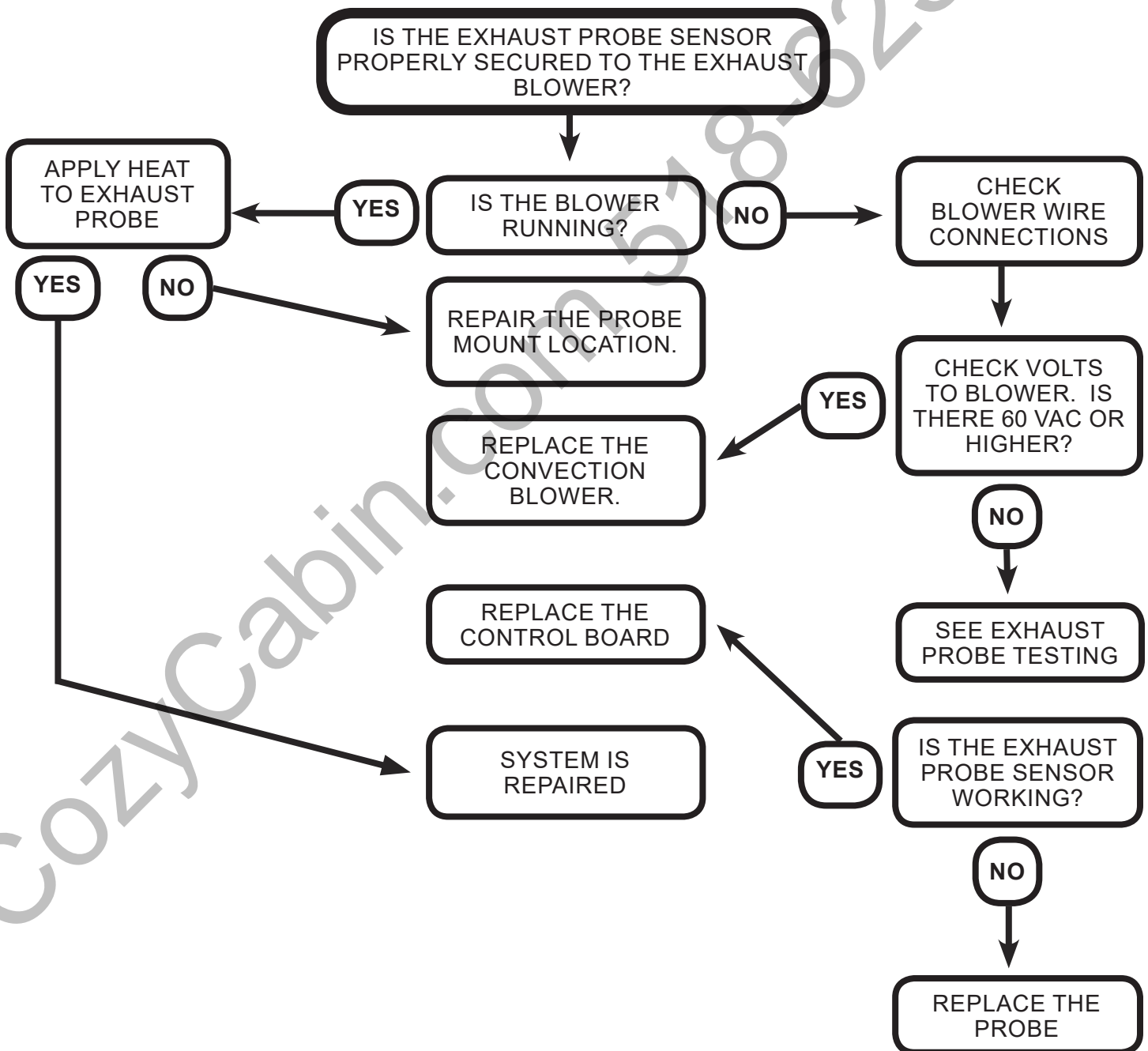


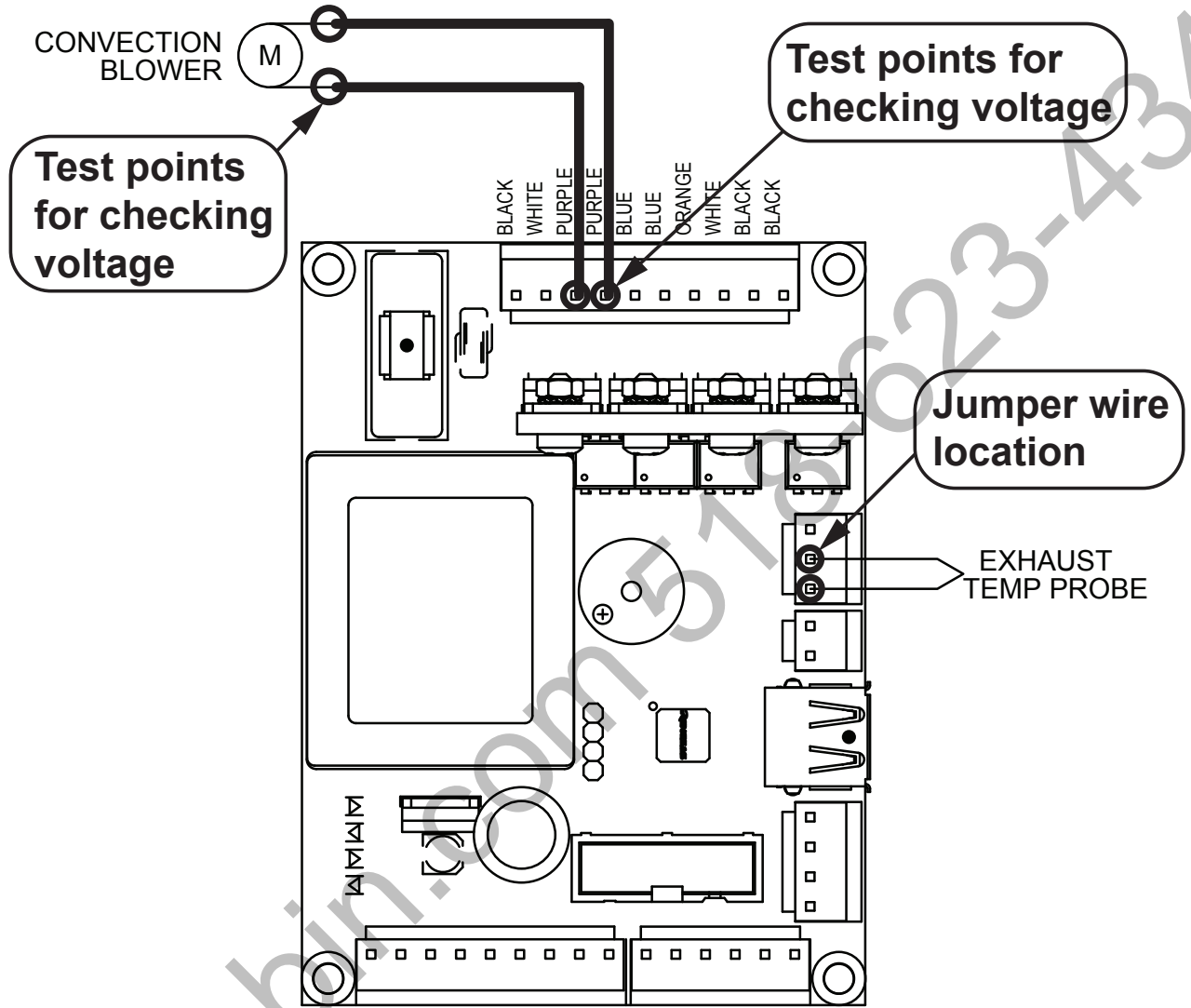


AT ROOM TEMPERATURE, THE EXHAUST PROBE WILL READ AROUND 100K OHMS. AS HEAT IS APPLIED TO THE PROBE, THE OHMS READING WILL CONTINUE TO GET SMALLER.

11 Convection Blower

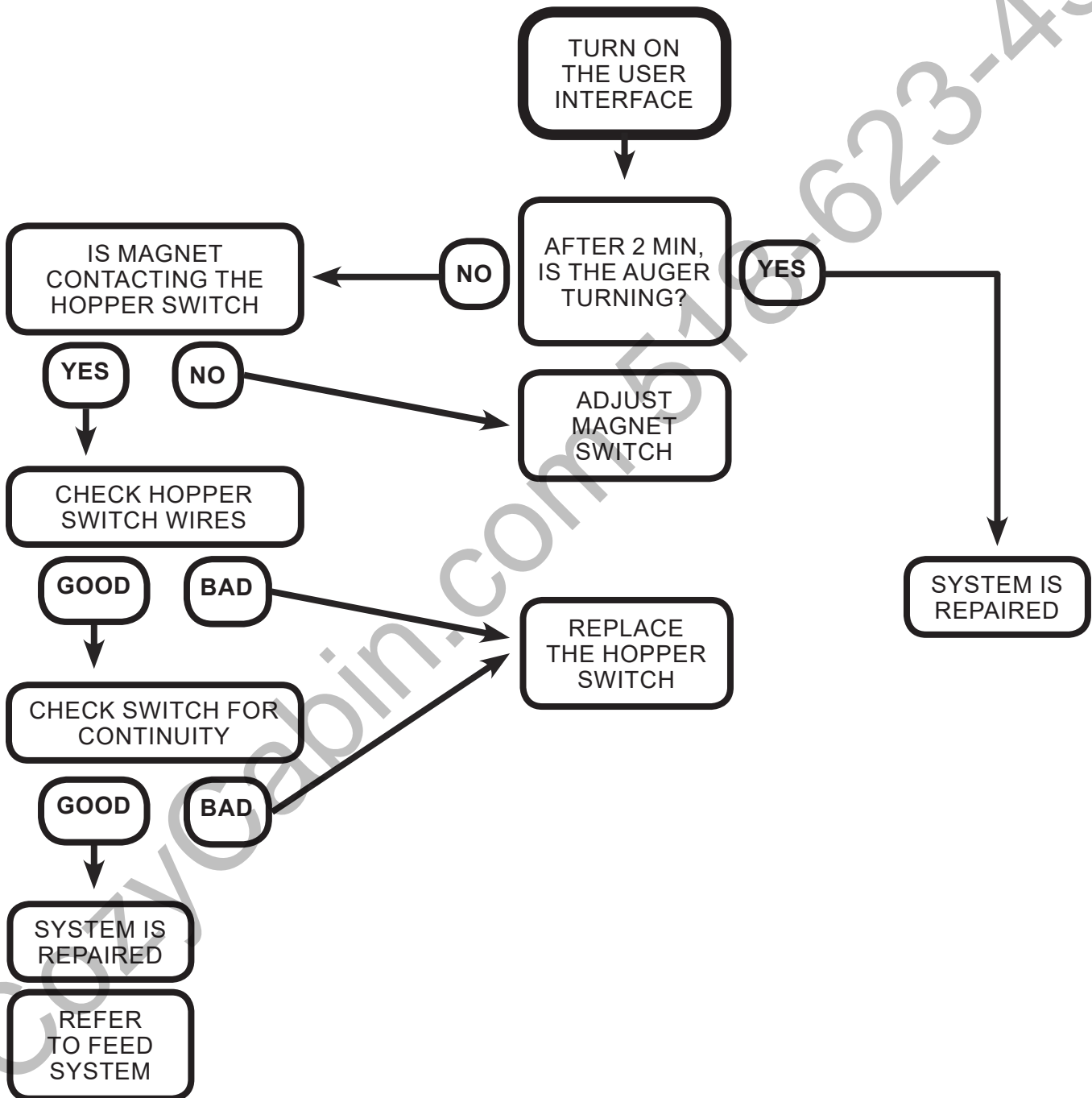
TECH TIP:
 INSTALLING A JUMPER WIRE
 ON THE EXHAUST PROBE
 CONNECTION ON THE
 BOARD WILL ALSO TURN THE
 CONVECTION BLOWER ON.





CONVECTION BLOWER VOLTS RANGE: 62VAC TO LINE VOLTAGE (+/- 5VAC)(POWER LEVEL 1 TO POWER LEVEL 5)

12 Hopper Switch



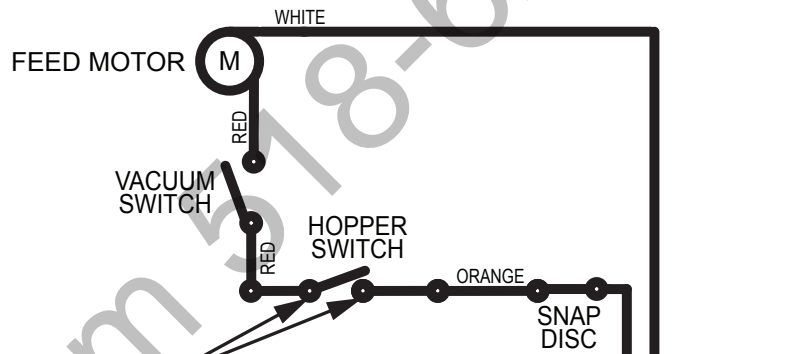
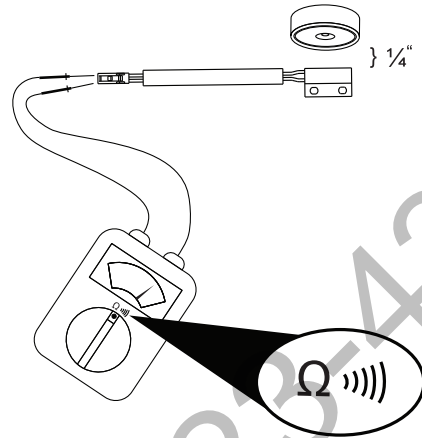
Hopper Switch Testing Methods

OPTION 1

RUN CONTINUITY TEST ON HOPPER SWITCH.

GOOD = CLOSURES WITH MAGNET

FAIL = STAYS OPEN WITH MAGNET



Test points

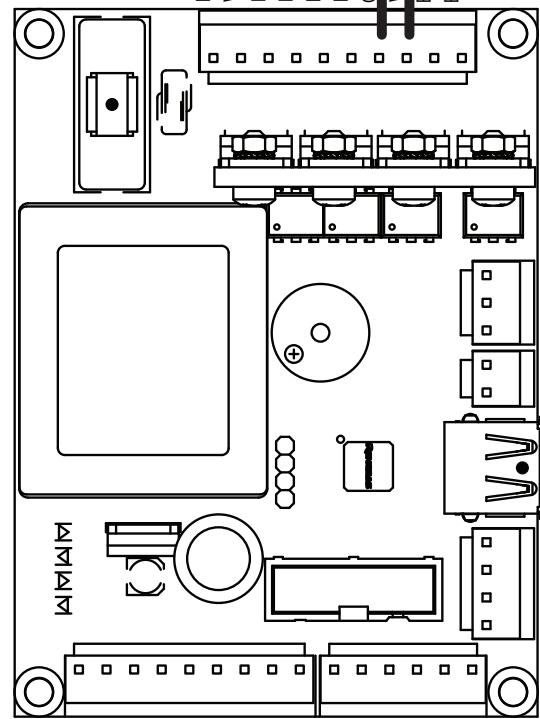
OPTION 2

REMOVE HOPPER SWITCH FROM WIRING AND CLOSE CIRCUIT WITH JUMP WIRE.

TEST CIRCUIT:

IF FEED MOTOR TURNS ON HOPPER SWITCH IS BAD.

IF FEED MOTOR DOES NOT WORK:
TEST HOPPER SWITCH FOR CONTINUITY; OPTION 1, AND MOVE ONTO ANOTHER COMPONENT WITH IN THE FEED SYSTEM (REFER TO SECTION ON FEED SYSTEM PAGE 14 AND 15).



HOPPER SWITCH IS CLOSED WHEN THE HOPPER LID IS CLOSED.

13

General Specifications

CONVECTION BLOWER VOLTS LOW TO HIGH (VAC)	62V TO LINE VOLTAGE
EXHAUST BLOWER VOLT RANGE (80 VAC TO 90 VAC; STABLE 84 VAC TO 86 VAC) & RPM HEAT LEVEL 1 HEAT LEVEL 2 HEAT LEVEL 3 HEAT LEVEL 4 HEAT LEVEL 5	~1400RPM ~1625RPM ~1850RPM ~2075RPM ~2300RPM
FEED MOTOR "ON" TIMES HEAT LEVEL 1 HEAT LEVEL 2 HEAT LEVEL 3 HEAT LEVEL 4 HEAT LEVEL 5	1.1 1.5 1.9 2.2 2.6
CONVECTION BLOWER CFM	220
HOPPER CAPACITY FREESTANDING INSERT	80 LBS 52 LBS
SNAP DISCS #2 (OVER HEAT, SHUTS OFF FEED MOTOR, MANUAL RESET) #3 (OVER HEAT, SHUTS OFF ALL POWER, MANUAL RESET)	L250 L250
VACUUM COLD STOVE, FUEL IN HOPPER, STOVE OFF USING MANUAL FEED	.30 +/- .05 @ APPROX. 94 VOLTS +/- 3 VOLTS
NOTE: STOVE WAS PLUGGED INTO A 120V OUTLET. VOLTAGE CAN VARY DEPENDING ON VOLTS FROM THE OUTLET.	

14

Service Repair Tools

1. MULTIMETER

Used for taking volt reading or doing continuity tests.

2. MAGNEHELIC OR DIGITAL VACUUM GAUGE

Used for taking firebox vacuum readings in inches of water column. Range of the gauge needs to be from zero to .50 inches of water column. A vacuum hose and a "T" will also be needed.

3. HAND TOOLS

Phillips and flathead screwdriver, 11/32 inch nut driver, SAE Allen wrench set, and SAE socket set.

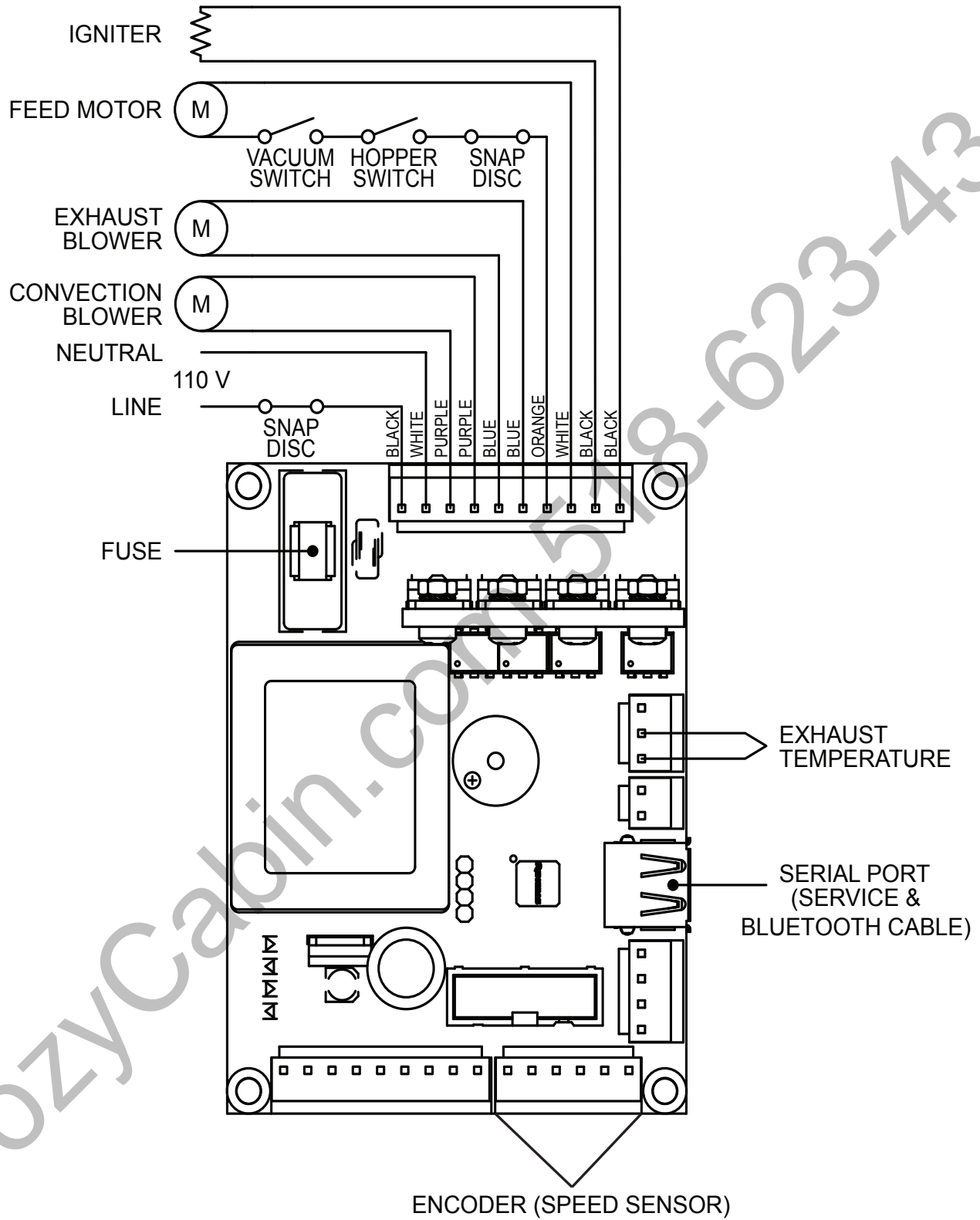
4. VACUUM CLEANER

Needed to clean firebox, heat exchanger, blowers, and venting.

5. MICRO CLEANING KIT FOR VACUUM CLEANER

This is an attachment kit for cleaning the "hard to reach" areas.

15 Wire Diagram



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CONTACT INFORMATION

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Please contact a HHT Service Technician with any questions or concerns.

For the number of a HHT Service Technician log onto www.myHHT.com.


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