

## Troubleshooting Guide

### ---- Rotor Section ----

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>Rotor Does Not Turn</b>	Power not on.	Turn selector switch to DH.
	Rotor Stuck or Frozen in place.	Determine cause from other inspection and repair.
	Drive Motor does not turn	Fuse blown or Circuit breaker tripped, replace if necessary. Replace Drive Motor if necessary.
	Seals are sticking.	Loosen if stuck or frozen to unit.
	Chain is not engaging sprocket on wheel.	Adjust, align chain, drive or perimeter sprocket.
	Tensioner not tight.	Adjust Tensioner.
<b>Rotor Turns, But Drying Performance is Poor</b>	Poor performance.	Determine Cause from other rotor inspection.
	Seal not engaging with cassette causing bypass of air.	Check seal clearance, adjust or Replace seals if necessary.
	Dirty or damaged rotor.	Blow out dirt if possible with compressed air, replace if necessary.
<b>High Process Outlet Temperature</b>	Poor seal clearance.	Check seal clearance, adjust or Replace seals if necessary.
	Check Rotor Speed.	Contact Factory.
<b>Low Reactivation Outlet Temperature</b>	Poor seal clearance.	Check seal clearance, adjust or Replace seals if necessary.
	Check Rotor Speed.	Contact Factory.
	Heated to Temperature Low.	Check heated to temperature adjust to proper setpoint if necessary.

For trouble with rotor not covered by the chart above, contact the factory at the cover address.

## Troubleshooting Guide

### --- General Unit Shut Down problems ---

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>Unit Will Not Start at All</b>	<p>Unit selector switch not in the Proper position</p> <p>Phase Monitor (If Installed) ON light not lit up</p>	<p>Check to see if unit is calling for DH mode to run.</p> <p>Make sure the jumper plug is plugged in or the optional humidistat.</p> <p>Make Sure the selector switch is in the proper mode.</p> <p>See (Phase Monitor (If Installed) ON light not lit up under "Red Faults Lights On" in Fault Light Section).</p>
<b>Unit Runs for 10 Minutes and Shuts Down</b>	<p>DH Motor Not Running.</p> <p>High Limit Tripped.</p> <p>Rotation Switch not hitting magnet on the rotor.</p>	<p>Check the fuse or circuit breaker for rotor motor and reset or replace if necessary.</p> <p>If fuse is good check to make sure there is power to the motor.</p> <p>Replace motor if necessary, or see (DH Rotor Not Turning).</p> <p>Make sure the switch is set for 325 to 350° and then reset high limit switch, if you can not reset you may need to replace.</p> <p>Adjust switch to hit the cam on rotor when the switch is half way up the ramp.</p>

## Troubleshooting Guide

### --- Reactivation Section ---

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>No Blower Operation</b>	<b><u>Mode Selector Switch</u></b> Switch in Wrong position	Place switch in proper mode
	<b><u>Control Transformer</u></b> No input voltage Blown Control Fuse or Circuit Breaker. Defective transformer	Check disconnect and supply fusing Replace control fuse or reset breaker Replace transformer
	<b><u>Motor Protection</u></b> Overload on motor tripped	Reset overload and check motor amps/overload setting
	<b><u>Motor Starter</u></b> Defective motor starter	Replace motor starter
	<b><u>Motor</u></b> No input voltage Improper wiring Defective motor	Check fusing Correct wiring Replace motor
	<b><u>Blower Damage</u></b> Defective or locked bearings Check for physical damage Wheel came loose from Shaft	Replace bearings Replace or repair blower Realign and tighten

## Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>No Blower Operation</b>	<b><u>Control Relays</u></b>	
	Improper part	Check relay voltage
	Improper wiring	Check wiring
	Defective relay	Replace relay
	<b><u>Open Humidistat (Optional)</u></b>	
	Humidistat satisfied	Adjust humidistat, if applicable
	Defective humidistat	Replace humidistat
<b>Blower Runs; No Heat;</b>	<b><u>Mode Selector Switch</u></b>	
	Switch in Wrong position	Place switch in proper mode
	<b><u>Manual Gas Valve</u></b>	
	Gas valve(s) closed	Open gas valve(s)
	<b><u>Airflow Switch</u></b>	
	Blower running backwards	Reverse motor direction
	Blocked intake or discharge	Find and remove obstructions
	Clogged airflow tube or pick-up ports	Clean or replace tubing or pick-up ports
Defective switch	Replace switch	
	<b><u>Flame Safeguard Relay (FSR)</u></b>	
No input voltage	Checking wiring	
Defective FSR	Replace FSR	

## Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>Blower Runs; No Heat;</b>	<b><u>Igniter</u></b> No current (open igniter) No voltage	During trial for ignition: Check igniter current and spark Check FSR output to spark rod
	<b><u>High Limit</u></b> High limit tripped High limit does not reset	Reset high limit Replace high limit
	<b><u>Gas Valve</u></b> Main valve does not open        Defective solenoid	Check FSR output to main valve during ignition trial. Check gas valve circuit and wiring. Compare supply voltage to nameplate voltage. Inlet gas pressure too high. Clean and/or replace gas valve parts. Replace solenoid or valve assembly.
	<b><u>Regulator</u></b> Clogged vent orifice No supply pressure Improper manifold pressure Defective regulator	Clean or replace orifice Check all gas cocks and piping Adjust regulator Replace regulator

## Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>Blower Runs; No Heat;</b>	<u><b>No Flame Signal</b></u> Flame rod oxidized Dirt build-up on insulator (Low fire not properly adjusted) Low fire set to low Flame rod ceramic cracked	Scrape oxide coating off rod or replace flame rod. Clean dirt deposit from insulator surface and install protective boot. Adjust low fire. Replace flame rod.
	<u><b>Flame Safeguard Relay (FSR)</b></u> Defective FSR	Replace FSR
<b>High Limit Tripped</b>	<u><b>High Limit</b></u> Temperature reading for high limit went above 325° F High limit will not reset	Reset high limit Replace high limit
	<u><b>Airflow Restricted</b></u> Blower running backwards Belts slipping Blocked intake or discharge	Reverse motor direction Tighten and/or replace belts Find and remove obstruction
	<u><b>Continuous High Fire</b></u> Foreign material holding valve open Plunger jammed Faulty amplifier	Clean, replace valve and/or seat if necessary Clean, or if necessary, replace plunger Replace faulty amplifier

## Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>High Limit Tripped</b>	<p><u>Unit Over firing</u></p> <p>The discharge temperature with burner operating exceeds allowable temperature rise for heater</p>	Adjust modulating valve or regulator to obtain temperature rise specified for unit
<b>Modulating Valve Does Not Modulate; Continuous High Fire</b>	<p><u>Modulating Valve</u></p> <p>Foreign material holding valve open</p> <p>Plunger jammed</p>	<p>Disassemble valve remove foreign material replace valve and/or seat if necessary</p> <p>Clean or if necessary replace plunger</p>
	<p><u>Discharge Or Entering Air Temperature Sensor</u></p> <p>Open circuit in discharge temperature sensor</p> <p>Temperature control system out of calibration range</p> <p>Sensor cross-wired to controller</p>	<p>Replace the sensor</p> <p>Perform temperature control system calibration</p> <p>Correct wiring terminations</p>
	<p><u>Amplifier (SC11B)</u></p> <p>Faulty amplifier</p>	Replace faulty amplifier
<b>Modulating Valve Does Not Modulate; Continuous Low Fire</b>	<p><u>Amplifier (SC11B)</u></p> <p>Three position dip switches on circuit board not set to correct position for 4-20mA or 0-10 volt input signal</p> <p>SC11B input not phased correctly for + &amp; -</p> <p>Faulty amplifier</p>	<p>Set dip switches to desired position for operation</p> <p>Switch wires around to match + or -</p> <p>Replace faulty amplifier</p>

## Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>Modulating Valve Does Not Modulate; Continuous Low Fire</b>	<b><u>Transformer</u></b>  No voltage output to amplifier	Replace transformer (also check for short in modulating valve coil)
	<b><u>Modulating Valve</u></b>  Valve coil is open or shorted  Plunger jammed  Ruptured main or balancing diaphragm	Replace coil if its resistance is less than 40W or greater than 85W.  Clean or replace plunger  Determine diaphragm condition and replace if defective
	<b><u>Carel Controller</u></b>  No output from the controller to the SC11B amplifier	Replace controller if defective



## Troubleshooting Guide

### ---- Process - Supply Section ----

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>No Blower Operation</b>	<b><u>Mode Selector Switch</u></b> Switch in OFF position	Place switch in proper mode
	<b><u>Control Transformer</u></b> No input voltage Blown control fuse Defective transformer	Check disconnect and supply fusing Replace control fuse Replace transformer
	<b><u>Motor Protection</u></b> Motor overload tripped Fuse Blown	Reset motor overload and check motor amps Replace Fuses
	<b><u>Motor Starter</u></b> Defective starter	Replace motor starter
	<b><u>Motor</u></b> No input voltage Improper wiring Defective motor	Check fusing Correct wiring Replace motor
	<b><u>Blower Damage</u></b> Defective or locked bearings Check for physical damage	Replace bearings Replace or repair blower

## Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>No Blower Operation</b>	<b><u>Control Relays</u></b>	
	Improper part	Check relay voltage
	Improper wiring	Check wiring
	Defective relay	Replace relay
	<b><u>Open humidistat (Optional)</u></b>	
Humidistat satisfied	Adjust humidistat, if applicable	
Defective humidistat	Replace humidistat	



## Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>Red Fault Lights On (cont.)</b>	<p><b><u>Rotation Faults (cont)</u></b></p> <p>Rotation Switch is not closing when triggered</p>	Change out switch
	<p><b><u>Low Reactivation Temperature</u></b></p> <p>Bad Inlet or Outlet sensor causing the unit to drop to a max of 50% output.</p> <p>Manual gas valve to the burner is closed not allowing gas to flow to main burner.</p> <p>Spark Rod not set properly.</p> <p>Crack in porcelain of flame rod or spark rod causing grounding of the rod.</p> <p>No gas getting to the pilot assembly.</p> <p>Pilot regulator plugged or Bad</p> <p>Gas valve for pilot not opening</p> <p>No gas to unit or main valve closed</p>	<p>Replace sensor</p> <p>Shut unit off and open the gas valve, then restart the unit.</p> <p>Adjusts spark rod to proper location between two of the holes on the pilot tube.</p> <p>Replace if cracked</p> <p>Pilot regulator plugged or Bad, Replace if you have a good flame but no signal, after making sure to check the condition of the wire.</p> <p>Make sure pilot regulator is not plugged and replace if necessary.</p> <p>Check for voltage to the coil and replace if necessary.</p> <p>Turn main gas valves open and then bleed the gas line if necessary.</p>

## Troubleshooting Guide

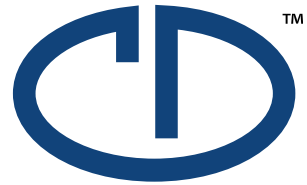
PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<p><b>Red Fault Lights On (cont.)</b></p>	<p><u>Low Reactivation Temperature (cont.)</u></p> <p>No power from the RRC controller to the SC11B Maxitrol Selectra Signal Conditioner</p>	<p>After call for DH unit will not have any power output for 60 seconds and then should have an output. If no output replace RRC card.</p> <p>Check to make sure the SC11B has 24 volt power supply between terminals 1 &amp; 2. If you have power and an inlet voltage to terminals 5 &amp; 6 but no output from 3 &amp; 4 you will need to replace the defective part.</p>
	<p>Power to the SC11B Maxitrol Selectra Signal Conditioner but none out</p>	
<p><b>Green Lights Not On</b></p>	<p><u>Process Fan Light Not On</u></p> <p>Unit selector switch not in the Proper position</p>	<p>Check to see if unit is calling for DH mode to run. Make sure the jumper plug is plugged in or the optional humidistat. or selector switch is in the proper mode</p> <p>Check to make sure the process fan is running, if not check to make sure the breaker for the fan is not tripped.</p> <p>If supply motor is running make sure the tubes attached to the airflow switch are in good condition, replace tubes or switch if necessary.</p>
	<p><u>Process Air Flow Light Not On</u></p> <p>Process Airflow switch is not closing</p> <p>Plugged or broken Airflow switch lines</p>	

## Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Green Lights Not On (cont.)	<b><u>Reactivation Fan Light Not On</u></b>  Unit Not Calling for DH  High Limit Tripped	 Check to see if unit is calling for DH mode to run. Make sure the jumper plug is plugged in or the optional humidistat. Or selector switch is in the proper mode  Reset high limit switch
	<b><u>Reactivation Air Flow Light Not On</u></b>  Reactivation Airflow switch is not closing.	 Check to make sure the reactivation fan is running, if not check to make sure the breaker for the fan is not tripped.  If Reactivation motor is not running see (Reactivation Motor Not Running)  If reactivation motor is running make sure the tubes attached to the airflow switch are in good condition, replace tubes or switch if necessary.

## Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>Amber Lights Not On</b>	<b><u>Power Light Not On</u></b>  Selector switch is in the off position  Main Power Disconnect Switch in the off position	Move selector switch to the Auto or Manual position  Move Disconnect switch to the ON position
	<b><u>Call For Dehumidification Light Not On</u></b>  Selector switch is in the OFF position  Unit Not Calling for DH	Move selector switch to the Vent or DH position  Is the “Call for Dehumidification” relay energized, if not adjust humidity transmitter to a lower set point to make the unit call for Dehumidification.



## CDI STANDARD 12 MONTH WARRANTY

AND

## LIMITATION OF REMEDIES FOR BREACH OF WARRANTY

**Climate by Design**  
INTERNATIONAL

Climate by Design International, Inc. (hereafter referred to as CDI) warrants all products to be free from defects in workmanship and material under normal usage for a period of **TWELVE (12) MONTHS** from date of original factory shipment. CDI shall only be liable under this warranty if the product is properly installed and used according to the directions furnished by CDI.

The Basic Product Warranty is a "**PARTS ONLY**" warranty and CDI's obligation shall be limited to the replacement of new parts of the products for those returned to CDI's factory **undamaged** at the purchaser's expense and found to be defective by CDI. CDI will then repair or replace, at its option any such part determined to be defective during this warranty period. Replacement parts will be shipped F.O.B. CDI's factory. CDI is not responsible for damages during transport of any product to or from CDI. Replacement of parts shall not extend the original warranty period of the original total product, including any replacement parts supplied.

This Standard warranty does not cover corrosion; normal deterioration; misapplication; labor charges paid for parts replacement, adjustments, repairs or other work; loss of refrigerant or natural gas, oil, or other fuel; components supplied by others; defects in parts resulting from neglect, negligence, accident, fire, explosion, high or low voltage, jampering or jamming controls, shorting out of components; improper or contaminated fuel, excessive or inadequate fuel pressure; frozen heating or cooling coils; or any acts of nature.

This warranty does not cover failure of the purchaser or end user to follow the recommended maintenance schedule intervals and failure to perform such items as bearing lubrication, adjustments, cleaning or service on the heating system; or improper repairs or alterations; or misapplication of the equipment.

Any component of the unit found not working at the original startup of the unit (DOA) shall be replaced with no reasonable labor or freight expenses to the owner or installing contractor. After the initial startup the warranty shall be limited to the original cost of the component. Expenses shall not be charged at more than what is considered a reasonable negotiated rate between CDI and the installing contractor doing the work. This DOA warranty does not cover corrosion; normal deterioration; misapplication; loss of refrigerant, natural gas, oil, or other fuel; components supplied by others; defects in parts resulting from neglect, negligence, accident, fire, explosion, high or low voltage, jampering or jamming controls, shorting out of components; improper or contaminated fuel, excessive or inadequate fuel pressure; frozen steam, heating or cooling coils; or any acts of nature.

It is expressly understood that this warranty is made IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, WHETHER ARISING FROM STATUTE, COMMON LAW, CUSTOM, OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE, QUALITY, DESIGN, CONDITION, DURABILITY OR SUITABILITY, and in consideration of the express warranty herein contained, BUYER EXPRESSLY WAIVES ANY RIGHT TO CLAIM OTHER WARRANTIES, EXPRESSED OR IMPLIED.

It is further understood that CDI's liability for breach of warranty shall be limited to terms of this warranty and buyer agrees that CDI SHALL NOT, IN ANY EVENT, BE LIABLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, OR DELAY. The buyer's remedies are exclusive, and shall be limited to those provided herein.

**CDI neither assumes and does not authorize any person to assume any obligation or warranty other than those stated herein.**

Any suggestion to the contrary notwithstanding, CDI shall not, in any event, have any liability under this warranty unless and until it has been paid in full for the products. The warranty period shall begin as described above, whether or not payment has been made.

10-06-2016

*Creating the climate you need to achieve your critical mission*

[www.cdihvac.com](http://www.cdihvac.com) | PO Box 288 | 2100 Park Drive | Owatonna, MN 55060 | 507.451.2198



### WARRANTY CLAIMS



Defective material may be repaired or replaced at our option. If replaced, full credit will be issued in the amount of the original purchase price **if returned undamaged within 30 Days of shipment**, for the returned material; in the event the material is found to be not defective, or to be damaged or abused, we reserve the right to return the material "as is" to the sender and at his freight cost. If CDI agrees to keep such material, credit will be issued minus the cost of repair and reconditioning, the return and less restocking charges.

Otherwise only cost of the part will be covered by our warranty. **But** if the part(s) CDI has sent are not the problem please reinstall the old part and **return within 30 Days of shipment** the new unused part in the original package back to CDI, we will then after inspecting the part to insure it is still in good working order will return the new unused part(s) to inventory and issue credit. Old parts returned to us that are in good working condition or after the 30 Day period will be charged to you and not covered by warranty. It is important to remember that in order for our warranty to cover the cost of the new part you must return the faulty part to us within 30 days to receive credit. Then after CDI receives the part we must confirm that the returned part is actually faulty before issuing credit.

When returning the faulty part, please reference the Return Merchandise Authorization Number (Known as the RMA number). **Be sure to adequately package the part to be shipped back to CDI to prevent it from being damaged during shipment. You will not receive credit for parts received at CDI that are damaged and cannot be returned to the part manufacturer for credit.** Also please provide a small description as to what is wrong with the part that is being returned under warranty:

**Reminder:** Our warranty only covers the cost of the faulty part and **MUST** be returned within 30 days from the time of shipment from the factory to receive credit. You are responsible for any other expenses you incur, including freight charges, miscellaneous parts and the labor to install the part(s).

**Warranty DOES NOT cover the following Items:**

1. A maintenance item such as fuses, lamps, filters, etc.
2. Normal wear, adjustments, and periodic service.
3. Damage caused by accidents, improper installation or handling, or faulty repairs not performed by an authorized service representative.
4. Damage caused by operation of the unit at improper voltage loads, conditions, modifications, or installation contrary to published specifications or recommendations.
5. Damage caused by negligent maintenance such as:
  - a. Failure to keep the air inlet and outlet areas clean.
  - b. Failure to service the air filters.
  - c. Breakage due to mishandling or misuse of the product or part.
  - d. Failure to follow and perform scheduled maintenance as prescribed in supplied manuals. (See Maintenance Schedule in O&M)
6. Rental of any equipment during the performance of warranty repairs.
7. Parts purchased from sources other than CDI, Replacement of a failed CDI part with a non-CDI part voids warranty on that part. (Unless prior written authorization has been given by CDI for you to do so.)
8. Warranty Labor.
9. Shop supplies such as adhesives, caulk, cleaning supplies, and rags.
10. Expenses incurred investigating performance complaints unless the problem is caused by defective CDI materials or workmanship.
11. Electrical parts supplied by customer.

### REPLACEMENT PARTS

When writing or calling to Climate by Design International for service parts, provide the model number and serial number of the unit as stamped on the unit plate attached to the electrical door. For questions regarding wiring diagrams, it will be necessary to provide the number on the specific diagram. If replacement parts are required, include the date of installation, the date of failure, an explanation of the malfunction, and a description or part number of the replacement parts required.





**MADE IN**



**AMERICA**



**Climate by Design**  
**INTERNATIONAL**

**Property Of**

P.O. Box 288 Owatonna, MN  
Phone: (507) 451-2198  
Fax: (507) 451-1177  
Email: [hvac@cdihvac.com](mailto:hvac@cdihvac.com)  
Web Site: [www.cdihvac.com](http://www.cdihvac.com)