Electrical (see Electrical Troubleshooting section for detailed control box checks)

P: I loose hose heat while spraying but controller still operates.

S: For low voltage hoses: If you have the Tru-Flow electrical connections, make sure to check the plug connections along the hose length; they should be “twisted” and locked into place. Also check the plug connection at unit and tighten if needed. Check fuses and circuit breakers inside the control box. Also, check the tap setting on the transformer and tighten if needed.

The following steps require a voltmeter / ohmmeter:

For low voltage hoses: Check voltage coming from the transformer tap setting (voltage will depend upon which tap setting is being used).

For high voltage hoses: Check line voltage at plug on the unit; there should be full line voltage at the plug. Check resistance across the flat spades of the heat tape plug; there should be approximately 190 ohms of resistance.

P: No hose heat at power up, but digital controller operates normally.

S: For Low Voltage hoses: Check resistance of hose circuit using an ohm meter and going across both plugs. Resistance should be about .3 ohms per 50' of hose. Check fuses. Check all electrical connections and tighten if needed. Check line voltage at transformer tap setting.

S: For High Voltage hoses: Check resistance of heat tape using an ohm meter and going across the flat spades of the three prong plug with test leads. Resistance should be about 190 ohms. Check fuses. Check all electrical connections and tighten if needed. Check line voltage at the female end of the plug at the machine.

P: No heat at power up and the digital controller(s) shows an error code.

S: Thermocouple mismatch. For high voltage hoses: Check the thermocouple electrical plug connection at the unit and tighten if needed. Inspect the wiring connection inside the plug housing; re-strip and connect wires if needed, making sure the white wire is connected to the pos (+) terminal and the red wire is connected to the neg (-) terminal.

S: Thermocouple mismatch. For low voltage hoses: Check the thermocouple electrical plug at the unit and tighten if needed. Inspect the wiring connections inside the plug housing; re-strip and re-connect the wires if needed.

Error Codes

Err 1: Reversed thermocouple connection + to -. Change sensor leads on terminals 1 and 2.

Err 2: Sensor type mismatch or open RTD. Go to In prompt in program, check selection or RTD and replace as necessary.

Err 3: Sensor type mismatch. Go to In prompt and check selection.

Err 4: Open thermocouple, bad connection or broken wire. Inspect sensor wires and repair/ replace as necessary.

Err 5: Electrical noise. Cycle power to system and see if error clears or check system for electrical interference.

Blank screen: Controller is inoperable. Check for line voltage at terminals 7 & 8.

P: Only the main power light is on, nothing else seems to have power.

S: Emergency circuit is engaged. Reset the circuit: with power off to the machine, twist and release the e-stop button and turn main power back on the unit.

P: Pressure climbs and trips overpressure switch.

S: If using pneumatic system, make sure inbound air is no greater than 100psi. Turn off main power, bleed pressure off the lines and turn main power back on. With side blocks off of the gun, check for material flow from both lines. If both lines have good material flow it indicates a gun problem. If one side is weak or no material is coming through, it indicates a restriction. To locate the restriction, bleed pressure off lines and then, beginning at the gun end, loosen each connection in succession until material flow is present. The restriction will be located at a point in line after the material is found flowing freely.

If using a hydraulic system, lower hydraulic pressure to 0 to lower line pressure, bleed off pressure in lines then follow the same procedure outlined above to locate line restriction.

P: New overpressure switch is tripping while operating at normal pressures.

S: New overpressure switches are not calibrated when coming directly from the factory. In order to calibrate the switch, pull off the end cap (flush with housing) to access the adjustment screw (located behind the green wire) and using a 5/32 allen head bit, turn the adjustment screw clockwise about 1 full rotation; this should put you in the “ball park” of the proper setting. If possible, increase fluid pressure to desired trip point (consult user manual for pressure limit) then turn counter clockwise until the switch activates. You are now set at the proper overpressure set point.

P: What is the best solvent to use for long term storage of the system?

S: The best solvent for flushing the system of material is acetone. Simply pump acetone through the system until all of the material is out of the lines and clean acetone is moving through. Follow up with a light weight lubricant such as hydraulic oil to insure proper lubrication of the internal seals.

Hose Troubleshooting (low voltage hoses)

See Fig. A for a typical hose diagram.

Test #1

1) With jumper wire or heated whip connected at the end of the hose:

Unplug hose from machine, check resistance of hose heat. Resistance is based on total length of hose used. All readings have a variance of +/- 10%.

50' = .3 ohms

100' = .6 ohms

150' = .9 ohms

200' = 1.2 ohms

250' = 1.5 ohms

300' = 1.8 ohms

If hose has continuity, check electrical output at machine. If hose does not have continuity, continue to test # 2.

Test #2

1) Unplug jumper wire #22094-00 or whip hose from main hose bundle and check continuity of the jumper or whip hose assembly. If there is no continuity, replace or repair assembly. If continuity is good, continue to step #2.

2) With jumper wire or whip unplugged from main hose assembly, place black lead of VOM on A-side plug of hose at machine end and place the red lead of VOM on the A-side plug of hose at gun end. If no resistance = broken connection on A-side circuit. If resistance is good, check B-side hose using same procedure. If no resistance on either length or only one side, perform continuity check on each individual 50' length of hose assembly following the procedures outlined above until breech is located. Repair as required.

Fig. A

Fig. B

Electrical troubleshooting

Super-Maxi

P: There is no power to heater or hose pushbuttons.

S: Check the Emergency Stop button and reset if needed. If emergency switch is not activated, see fig. C and instructions for 24 volt from transformer to push button troubleshooting guide.

P: There is power to the pushbuttons, but not the controllers.

S: Refer to fig. D and instructions for troubleshooting guide

P: The controllers come up and the # 1 green led is lit on the controller, but primary or hose is not heating.

S: Refer to fig. E and instructions for troubleshooting guide.

Fig. C

1. Number 1 Should read 220vac. If not check for loose wire connection. Number 2 should read 24vac. If not, replace transformer.

2. Numbers 4 thru 19 should read 24vac. To check these points, leave negative test lead on X2 of the transformer and follow each circled number point with the positive test lead (refer to number # 3 in fig C). See below for each numbered point that does not have 24vac.

4) Check wire connections

5) Bad fuse

6) Check wire connections

7) Bad contact block

8) Check wire connections

9) Check ISO overpressure switch

10) Check wire connections

11) Bad #1CR relay

12) Check wire connections

13) Check Poly overpressure switch

14) Check wire connections

15) Bad #2CR relay

16) Check wire connections

17) Bad #3CR relay

18) Check wire connections

19) Check wire connections

Fig D

1. Number 20 should read 24vac. If not, it is a bad contact block.

2. Number 22 thru 24 should read 24vac. To test these points, place negative lead of meter on 3B of the push button and follow the circled numbers with the positive lead (Refer to #21 for v/m lead placement). See below for circled points that do not have voltage.

22) Check wire connections

23) Bad fuse

24) Check wire connections

3. If #25 has 24vac, then ISO controller is bad, or there are loose wires. 26 and 27 should have 24vac. If not see below.

26) Bad fuse

27) Loose wire

4. If #28 has 24vac, then Poly controller is bad or there are loose wires.

5. Number 29 should read 24vac. If not, contact block is bad.

6. Number 31 thru 33 should read 24vac. To check these points, leave negative test lead at 3B of hose push button and follow circled numbers with positive test lead (refer to fig 30 for v/m lead placement). See below for any point that does not have 24vac.

31) Check wire connections

32) Bad fuse

33) Check wire connections

7. If #34 has 24vac, the hose controller is bad or there are loose wires.

Fig E

Steps 1 thru 4 are for checking primary heat

1. Numbers 1 thru 7 should read 200 to 240Vac. If not, see below.

1) Check wiring

2) Check wiring

3) Check breaker

4) Check wiring

5) Check wiring

6) Check breaker

7) Check wiring

2. Number 8 should read 220vac. If not, check to see if there is 24vac on A1 & A2 on 1PR. If yes, contactor may be bad.

3. Numbers 10 and 11 should read 220vac. If not, see below. To check these 2 points, leave one test lead on T2 and follow circled numbers with other lead.

10) Check wiring

11) Should read 220 when green led is lit on controller and zero when led is

off. If all points read correctly, go to heaters and check wire connections.

4. Numbers 13 and 14 should read 220vac. If not, see below. To check these points, move one lead to T4 and follow circled numbers with other lead.

13) Check wiring

14) Should read 220vac when green led is lit on Poly controller and zero when led is off. If all points read correctly, go to heaters and check wire connections.

Steps 5 thru 8 are for checking hose heat

5. Number 15 should read 220 volts

6. Number 16 should read 220vac. If not, bad fuse

7. Numbers 18 thru 20 should read 220vac. If not, see below. To check these points, place negative lead of meter on FU8 and follow circled number points with other lead (refer to # 17 for v/m lead placement).

18) Check wiring

19) Should read 220vac when green led is lit on hose controller and zero when led is off.

20) Should read 220vac. The contact is normally closed, so 6CR-12 should also read 220vac. If steps 5 thru 7 all read correctly, go to hose and check wire connections.

P: Would like to convert the 3 phase 380v option to a 3 phase 220v.

S: Rewiring your system from the 3 phase 380v to 3 phase 220v requires dropping the neutral leg. On the motor itself, there is a small wiring box. It will show a diagram for switching from high voltage to low voltage; this will need to be done. Inside the motor cover is a legend for the motor wiring, in the user manual is a wiring schematic that will show both 3 phase wiring options. Following the legend inside the motor cover and the schematics in the manual, you will need to remove the blue (neutral) wires and rewire the control box to accommodate the 3 phase 220v schematics found in the user manual.

P: Can the neutral leg on the 3 phase 380v motor be dropped to accommodate the power feed into the machine?

S: You can divorce the motor from the control circuit and run the motor @ 380v but the control circuit will need to have 220v running to it using a 380/240v transformer. THIS IS NOT A GLASCRAFT RECOMENDATION TO DO. The neutral leg provides a balance from the high voltage 380 to the low voltage 220v that our controls require. "Divorcing" the circuits means you will have 2 individual power feeds, and no safety cut offs by bypassing our circuit. If you do choose to go this route, you will need to make sure 220v is in the neutral leg feed to provide the proper voltage for the controls, if you feed 380v to the control box without a neutral leg, the circuits will burn up. Again, GlasCraft does not recommend this be done and therefore would require documentation of the steps taken if you should divorce the circuits.