8: Troubleshooting

8   Troubleshooting

8.0   No Heat

8.0.1 Nozzle Heater

If the upper heater is not putting out any heat, run through some of the items on this list:
- Verify that the process profile has not been inadvertently saved with no heat in that event.
- Verify that the incoming air line is still connected. Look for problems with the lines.
- Verify that the incoming pressure is set for 80 PSI on both the Nitrogen and Air inputs to the machine.
- Measure both legs of the incoming 220V ac line to insure the voltage is within tolerance of the heating element. (210-232 VAC)
- Check fuse F3 and replace if blown.
- Measure the resistance of the upper heater element. It should be 52 ohms. See *section 10: Maintenance* for details on how to checkout the heating element. Replace the element if required.

8.0.2 Communications Problems

If the 'temp communications link' alarm is persistent:
- Insure that the communication cables relating to the temperature control are connected properly – see schematic or block diagram in the schematics section of this manual.
- Reboot computer to unlock COM port.
- Verify the setup parameters.

8.1   No or Low Flow Condition
- Verify that the incoming air line is still connected. Look for problems with the lines
- Verify that the incoming pressure is set for 80 PSI.
- Check fuse F6, should be O.S.A. Slo Blo fuse.

8.2   Nozzle Does Not Pick Up Component
- Check nozzle vacuum filter. Clean and replace element (F1AE).
- Check nozzle vacuum cup. Replace if worn or missing.

8.3   No Motion
- Reboot computer to unlock COM port.

## 8.4   Machine Alarm Conditions & Alarm Screen

When the system senses an undesirable condition, an alarm message will be displayed in the status bar at the bottom of the screen.

The following pages list all alarms and what causes them.

<u>Machine Hardware Alarms</u>

This alarm type occurs when one of the following conditions is detected:

```
SerialPort_Failure
Z_Axis_Motor_Comm_Restart
Vision_Axis_Motor_Comm_Restart
Nozzle_TempControl_Comm_Restart
Left_Preheat_TempControl_Comm_Restart
Right_Preheat_TempControl_Comm_Restart
Center_Preheat_TempControl_Comm_Restart
DeviceIO_Communication_Restart
Low_Pressure_Air_Regulator
Low_Pressure_N2_Regulator
```
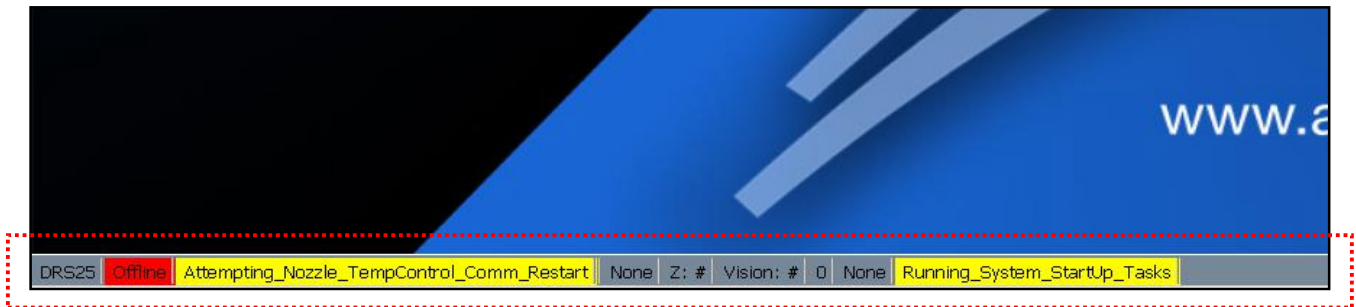
<u>Process Alarms</u>

This alarm type occurs when one of the following conditions is detected:

```
Nozzle_Temperature_Limit,
Nozzle_TC_Error,
Left_Preheater_Temperature_Limit,
Left_Preheater_TC_Error,
Right_Preheater_Temperature_Limit,
Right_Preheater_TC_Error,
Center_Preheater_Temperature_Limit,
Center_Preheater_TC_Error,
Below_Minimum_Nozzle_Flow_Rate,
Nozzle_Flow_Sensor_In_Position_Failed,
Exceeded_Max_FootSwitch_Delay,
Exceeded_Max_TC_Control_Delay,
TC1_Not_Connected,
TC2_Not_Connected,
TC3_Not_Connected,
TC4_Not_Connected,
TC5_Not_Connected,
TC6_Not_Connected,
TC7_Not_Connected,
TC8_Not_Connected,
Site_Clean_Tool_Clogged
```
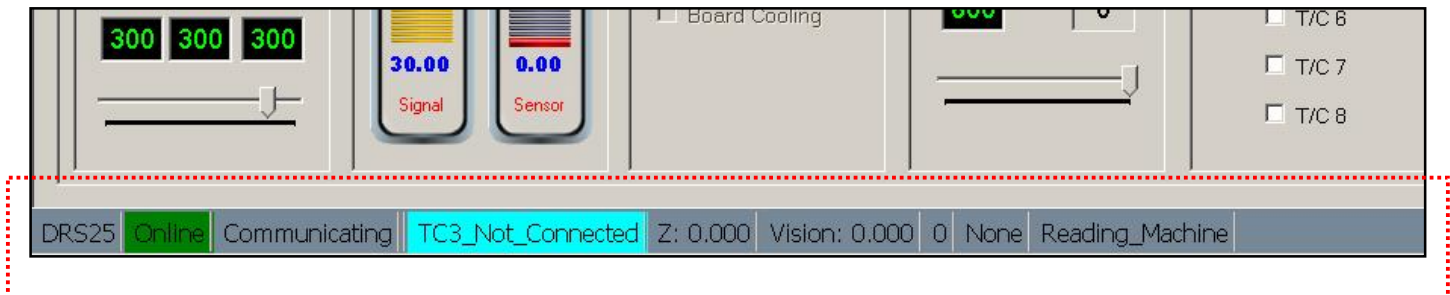
8.4.1   Maximum Time Alarm

The maximum time allowed to complete a profile event has expired.
*   Modify profile
*   Work faster
*   Call Air-Vac Process Support

8.4.2   Serial Port or Device Communication Alarm

The communications link between your computer and your motor drivers for your vision cube and your Z-axis is not functioning.
*   Check that your DB25 cable is plugged into the COM3 port expander and that the ribbon cable that connects that port to the expander card is plugged in.
*   Shut down Windows, re-boot and try motion again in "set-up/vision system" screen.
*   Call Air-Vac Technical Support.

8.4.3   Process Thermocouple Alarm

The process you are running requires one or more thermocouples to continue.
*   Install thermocouples in the appropriate channels.
*   Verify that the thermocouple is good. Plug into a handheld meter to test. Make sure the thin wires on the end of the thermocouples are twisted or shorted together.
*   Call Air-Vac Technical Support.

8.4.4   Site Cleaning Vacuum Alarm

Your site cleaning tool requires cleaning or is clogged.
*   See instructions for cleaning the tool.
*   Check vacuum filters – if clogged then replace.
*   Check profile "Teach Screen" for "Clogged%" (track bar).
*   Call Air-Vac Technical Support.

8.4.5   Temperature Limits Alarm

*   Contact Air-Vac Technical Support.

8.4.6   Flow Sensor Alarm

This alarm occurs when the DRS25 nozzle flows are out of the pre-set range of the set-point (default is 5%).
*   Check air pressure.
*   Calibrate nozzle flows.
*   Call Air-Vac Technical Support.

8.4.7   Low Pressure Alarm

This alarm occurs when the DRS25 senses low pressure on either the air or N_2 inputs.
*   Check pressure gauges on the rear of the DRS25. They must be set with no air flowing to the proper specs in your manual.
*   Check to see if your air pressure drops significantly (below 65psi) when nozzle, diffuser and vacuums are all turned on high flow.
*   Call Air-Vac Technical Support.