



**united**  
spectrographics | LLC

**PRECISION  
MANUFACTURING  
INC**

**ANYTOWN,  
USA**

July, 2018

***Infrared Inspection Report***©

Precision Manufacturing Inc  
123 Profitable Way  
Anytown, State, Zip  
**Company Contact**  
John Doe  
**Project:** 01100718

**[www.usscanman.com](http://www.usscanman.com)**

2605 CHARTER OAK DRIVE, LITTLE ROCK, AR 72227  
PHONE: 800-737-1787 & 501-228-5001 FAX: 501-228-5001 EMAIL: [Logistics@usscanman.com](mailto:Logistics@usscanman.com)



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spectrographics | LLC

## **ORDER OF REPORT CONTENTS**

- 1: Data To Facilitate Understanding & Utilizing Scan Report**
- 2: Scan Results Overview & Action Taken Form**
- 3: Identified Faulting Conditions, Information & Photographs**
- 4: List Of Facility Equipment Identified By The Customer Representative & Notations Of Faulting Conditions Found**

## **DISCLAIMER**

This report and the recommendations contained in it are based upon conditions and practices observed and information made available to United Spectrographics personnel. This report does not purport to list all hazards or faulty conditions. It is not intended to indicate that other hazards or faulty conditions do not exist. Severity ratings in the report are based on the criteria shown in this report and are intended as guidelines only. No responsibility is assumed for the control of the facility's condition, maintenance practices or correction of conditions indicated herein.

By issuing this report, neither United Spectrographics nor any of its employees makes any warranty, expressed or implied, concerning the contents of this report. Furthermore, neither United Spectrographics nor any of its employees shall be liable in any manner (other than liability that may be expressed in any policy of insurance that may be issued by United Spectrographics) for personal injury or property damage or loss of any kind arising from or connected with this inspection or failure to inspect.

## Utilizing Report Contents

Included in this report are Photographs and Thermographs of problem areas found during our recent Infrared Inspection of your facility.

**Each problem area picture is accompanied by:**

**Date**

**Location Information**

**Temperature Calculations**

**Color-coded Temperature Intensity and/or Condition Significance Data**

**A Brief Comment Relating The Item In The Photograph To Its Corresponding Thermograph**

**Suggested Corrective Recommendations.**

In most cases, problems (faults) found will be listed according to the date and order that they were located, rather than by significance or priority, as we feel that you and/or your personnel can best judge this, keeping in mind circuit importance and thermograph intensity.

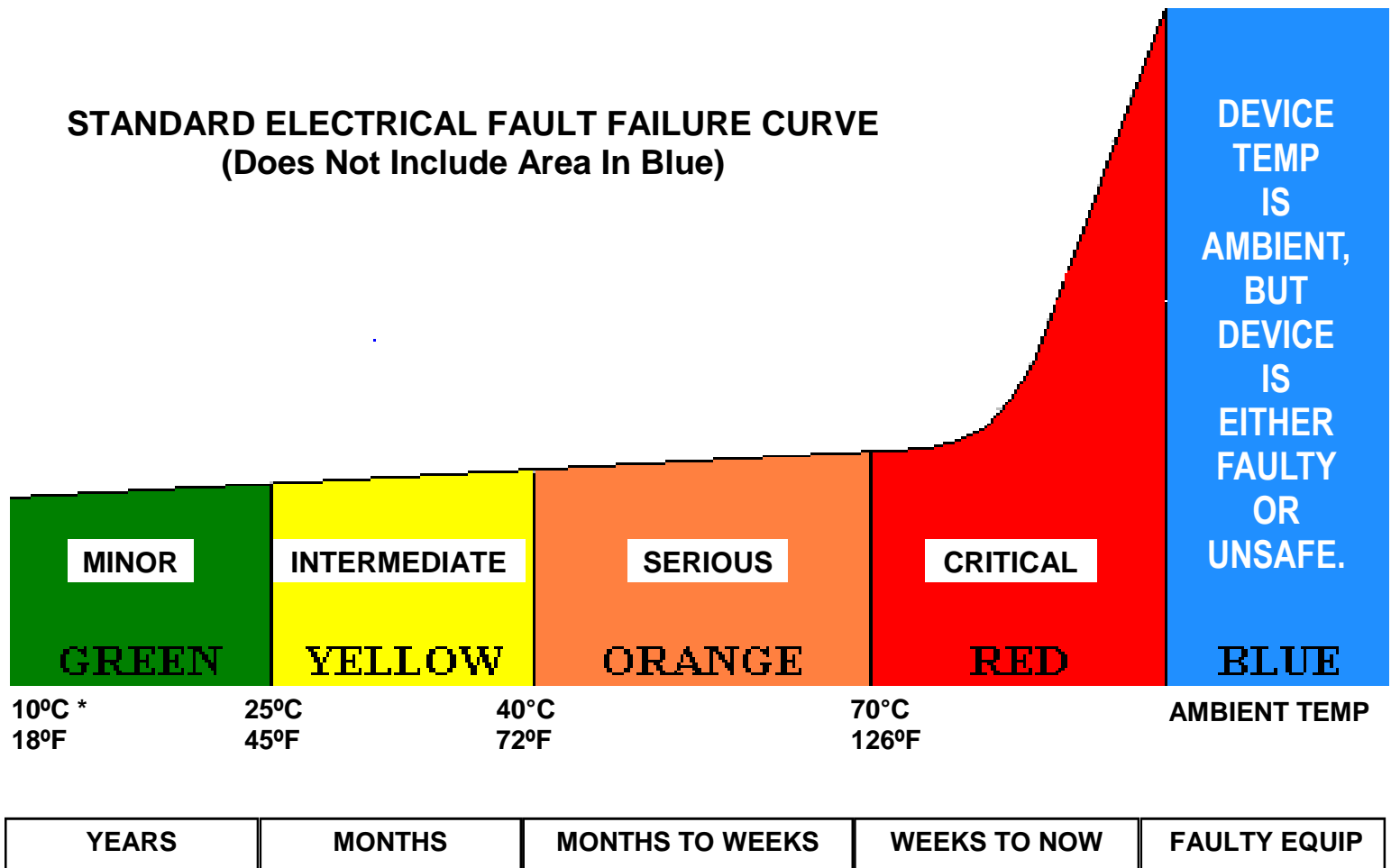
Thermal intensity is indicated by use of a color-coded data inserts that locate a fault's position on the standard electrical failure curve. The color of the insert represents the temperature range of the hottest item, or a portion of the item's circuitry, pointed out in the thermograph. The temperature ranges which the colored inserts represent are grouped as follows:

<u>INSERT</u>	<u>Temperature Range</u>
<b>Red</b>	70°C/126°F and higher above Ambient Operating Temp.
<b>Orange</b>	40°C/72°F to 69°C/124°F above Ambient Operating Temp.
<b>Yellow</b>	25°C/45°F to 39°C/70°F above Ambient Operating Temp.
<b>Green</b>	*10°C/18°F to 24°C/43°F above Ambient Operating Temp. (* See page 4)

## Determining Cost Effective Responses

Electrical equipment failures generally follow a standard mechanical/electrical failure curve. Dividing the failure curve into temp. ranges and locating a problems position on the curve allows us to indicate the probable time to its failure. Knowing a problems probable time to failure allows you to make a cost effective response to the problem areas that we locate.

Below is a depiction of the electrical fault failure curve with the thermal intensity ranges and the colors that we assign to faults detailed in our reports.



## Built In Trend Monitoring

When yearly scans are accomplished, report results allow you to trend monitor your electrical equipment without having to cross reference previous report findings.

If a previous years problem is not repaired it will show up again in the current scan report and its current intensity range indicates a current effective response.

# Defining Total Temperature and Ambient Operating Temperature And Explanation For Their Use

## Total Temperature:

Total Temperature = Ambient Operating Temperature + Fault temperature

Allows you, the customer, to evaluate possible damage to equipment.

Leads fail between 90°C/194°F and 110°C/230°

Phenolic fails around 200°C/392°F

Transformers and Motor Insulation failure temperature depends on insulation class rating.

Contacts start to fail around 130°C/266°F

## Ambient Operating Temperature (AOT\*) for Infrared Scanning Purposes:

Temperature within a device container (Box or Cabinet) that is not directly affected by faulting component = Normal Equipment Operating Temperature Contained By Box or Cabinet.

If there is no container (Example: Device mounted to a wall) it is the temperature adjacent to the device not affected by the fault.

Allows you, the customer, to determine if device will operate at intended amperage.

Most switchgear is rated to operate at approximately 40°C/104°F (Industrial) to 50°C/122°F (Marine)

If AOT is enough above normal rated temperature, either of the following conditions can cause an unanticipated trip.

1. An intermittent high load.
2. A minor (Green) or intermediate (Yellow) fault.

## Report pages with photographs:

PH stands for *Visible Light Photograph*

TH stands for *Infrared Light Thermograph*

\*AOT stands for *Ambient Operating Temperature*

Both black & white and color infrared thermographs are presented to better depict the fault condition.

In addition to the corrective response time frame suggested below and the failure curve located on the previous page, you may want to consider using the military standard responses presented below.

## **Military Standard For Evaluating Faults Located In Electrical Equipment Utilizing Temperature Data Obtained With Infrared Imaging Equipment:**

Temperatures rise above Ambient Operating Temperature:

\*10°C/18°F to 24°C/43°F component failure unlikely, but corrective measures required at next scheduled routine maintenance period or as scheduling permits. (**Green Label**)

25°C/45°F to 39°C/70°F component failure probable, unless corrected. (**Yellow Label**)

40°C/72°F to 69°C/124°F component failure almost certain, unless corrected. (**Orange Label**)

70°C/126°F and above component failure imminent. Immediately inform the person responsible for continued operation of equipment. (**Red Label**)

**Note:** United Spectrographics uses a **Blue Label** to indicate faults that require attention due to either ambient temperature (Ex: Phase Not Operating), faulty equipment elements or unsafe conditions.

\* **Note:** Temperature conditions below 10°C/18°F rise above **AOT** are not considered significant enough to record and are usually not included in the reports unless the fault temperature is being affected by a cooling medium such as oil or wind.

## **Fault Correction Recommendation When Our Source Assessment Is Inaccurate:**

When a fault is indicated in a connection or component and examination by your electrician does not turn up a loose connection or faulty component where we have indicated, **a fault does exist.**

The electrician should continue to investigate the next connection or component to be found in the direction that the heat is coming from until a source is located.

Example:

If a molded case breaker line side lead connection lug is indicated as a fault source and is found to be secure, but not frozen in place, look for a loose connection or sign of over temp. in the lead holder lug.

# SCAN RESULTS OVERVIEW

## PROMPT ATTENTION ITEMS:

Because of:

1. The intensity or heat level indicated at the time of the scan.
2. Deterioration caused by excessive temperature not present at the time of the scan.
3. Physical condition irregularities observed at the time of the scan.

**We recommend that the following faults be given prompt attention:**

Faults: #1\*, #3\*, #5, #6\*, #7\*, #8\*, #9\*, #11\*, #12

Items With Asterisks Have High Total or Ambient Operating Temperatures.

United Spectrographics  
July, 2018

## SUMMARY OF FINDINGS

FAULTS BY CATEGORY	NUMBER OF FAULTS	FAULT NO./ITEM NO.
<b>MINOR</b>	0	0
<b>INTERMEDIATE</b>	3	2/61 4/80 10/190
<b>SERIOUS</b>	4	3/77 6/125 11/192 12/222
<b>CRITICAL</b>	4	1/11 7/163 8/158 9/170
<b>SERIOUS</b>	1	5/93

**Number of items located at facility:**

249

**Number of faults:**

12

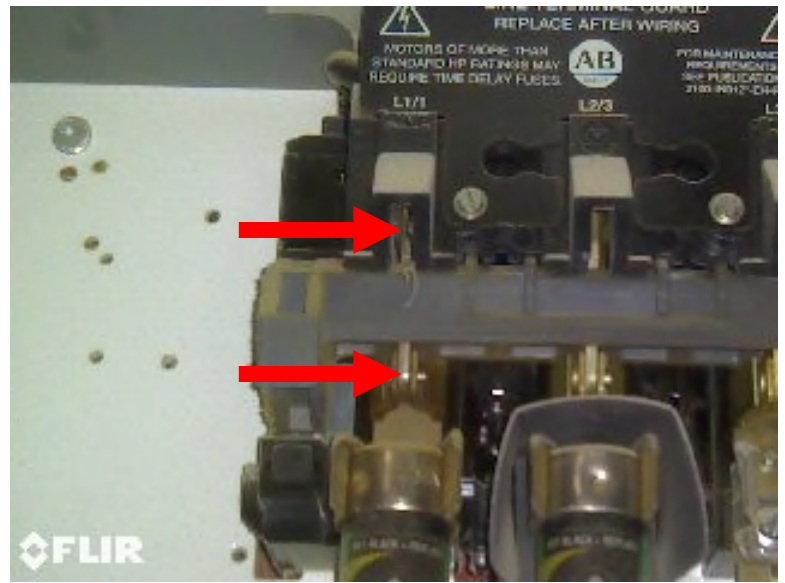


**ACTION TAKEN**  
Precision Manufacturing Inc.  
Anytown, USA  
July, 2018

<b>Fault #</b>	<b>Item #</b>	<b>Category</b>	<b>Repaired</b>	<b>Monitor</b>	<b>Date</b>	<b>Name</b>
1	11	Critical				
2	61	Intermediate				
3	77	Serious				
4	80	Intermediate				
5	93	Serious				
6	125	Serious				
7	163	Critical				
8	158	Critical				
9	170	Critical				
10	190	Intermediate				
11	192	Serious				
12	222	Serious				

PROJECT: 01100718  
 CUST REP: Mike  
 SCAN REP: Level 2 Technician  
 DATE: July 7, 2018  
 LOCATION: Power Center 1  
 Box For:  
 Foundry Lab Oven "R"  
 Fuse Disconnect

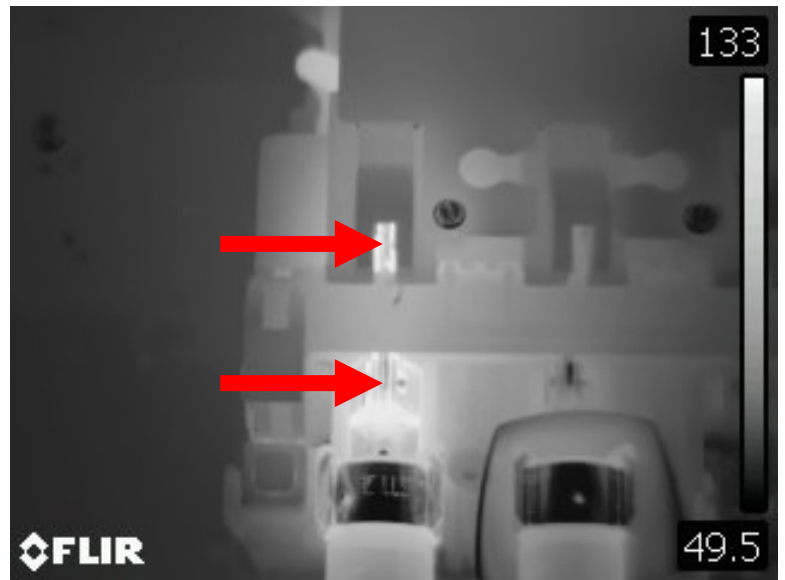
PH # 1 >



ITEM: Aø of Disconnect  
 SOURCE: Line & load side disconnect blade contact area.  
 TEMP: Temp. of contact areas range to:  
 145°C / 293°F Total Temp  
 - 66°C / 151°F AOT  
 = 79°C / 142°F above AOT.

**Note: AOT is Very High**

TH # 1 >



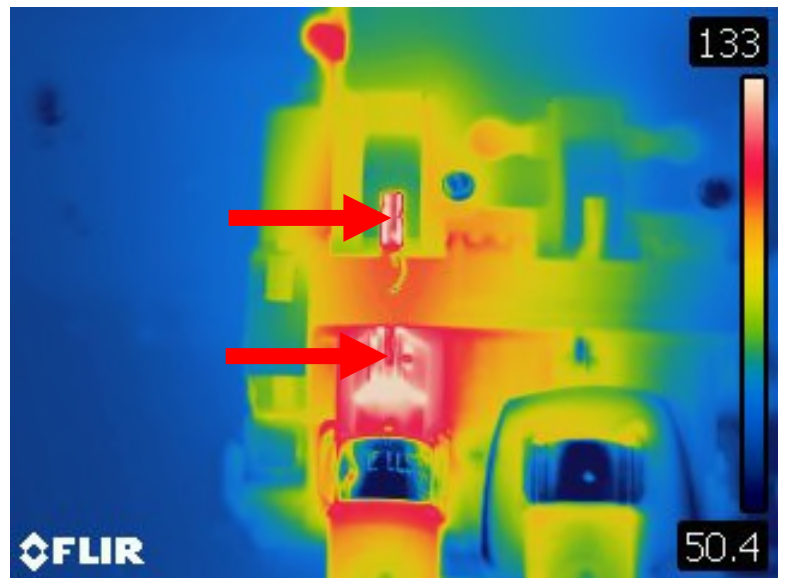
**COMMENTS**

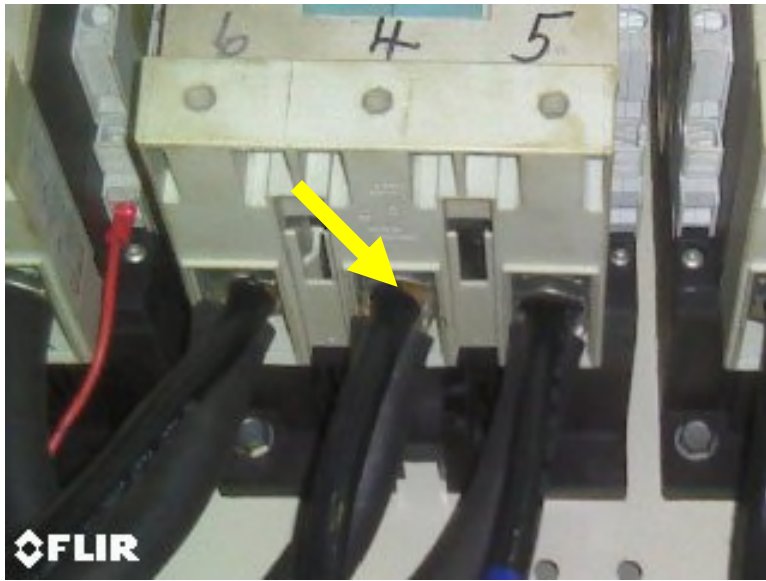
TH # 1 >

Abnormal heat is being generated in disconnect components. See red arrows in PH#1 and TH#1.

Loose and/or corroded contact areas. Clean, inspect and re-secure serviceable components.

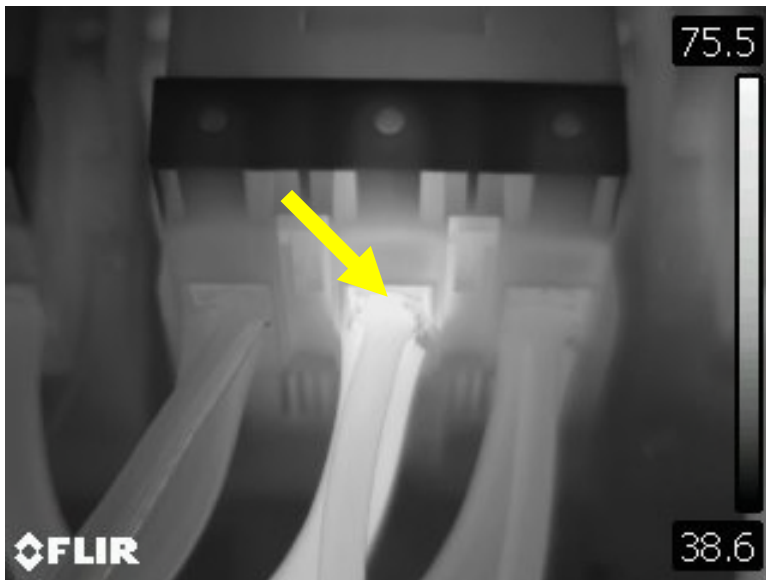
**TEMPERATURE ABOVE  
 AOT  
 79°C / 142°F**





PROJECT: 01100718  
 CUST REP: Mike  
 SCAN REP: Level 2 Technician  
 DATE: July 7, 2018  
 LOCATION: Compressor Room  
 (Downstairs)  
 Control Cabinet Labeled:  
 Cooling Tower Compressor  
 CTW0762  
 Motor Control Labeled:  
 M3

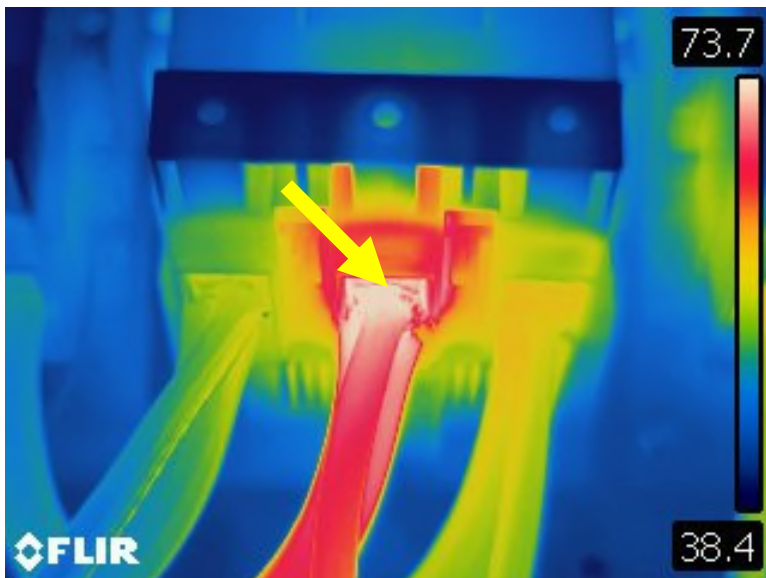
< PH # 2



ITEM: Bø of Motor Control Contact Block  
 SOURCE: Load side lead connection lug.  
 TEMP: Temp. of connection and lug is:  
 81°C / 178°F Total Temp.  
 - 45°C / 113°F AOT  
 = 36°C / 65°F above AOT.

**Note: AOT is High**

< TH # 2



< TH # 2

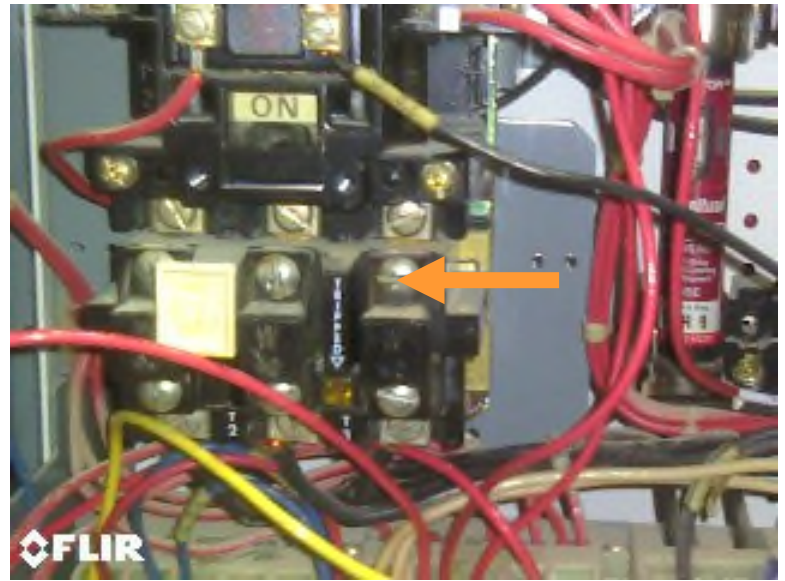
**COMMENTS**

Abnormal heat is being generated in motor control connection. See yellow arrows in PH#2 and TH#2.

Loose and/or corroded contact area. Clean, inspect and re-secure.

**TEMPERATURE ABOVE  
 AOT  
 36°C / 65°F**

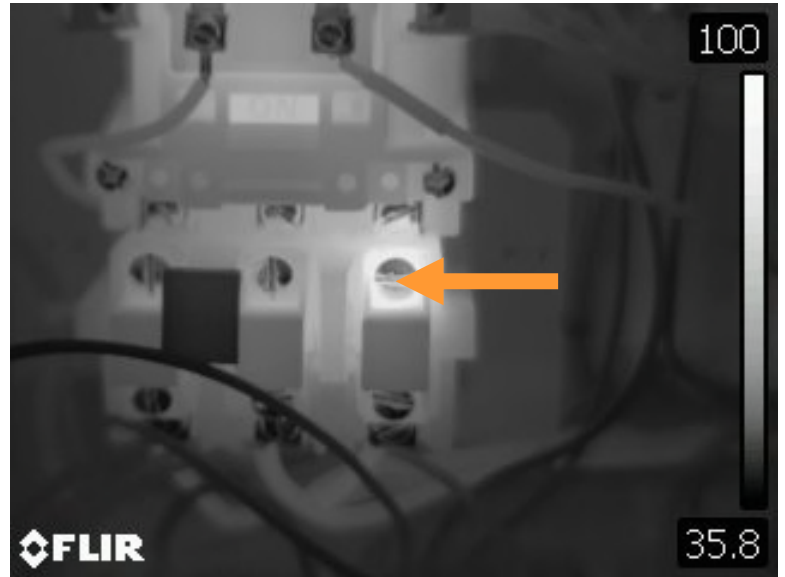
PROJECT: 01100718  
CUST REP: Mike  
SCAN REP: Level 2 Technician  
DATE: July 7, 2018  
LOCATION: Compressor/Vacuum Pump Room (Upstairs)  
Box Labeled:  
#1 Nash Vac Pump 2  
Combination Starter



PH # 3 >

ITEM: Cø of Motor Control Overload Relay  
SOURCE: Line side heater connection lug.  
TEMP: Temp. of connection and lug is:  
110°C / 230°F Total Temp.  
- 45°C / 113°F AOT  
= 65°C / 117°F above AOT.

Note: AOT is High



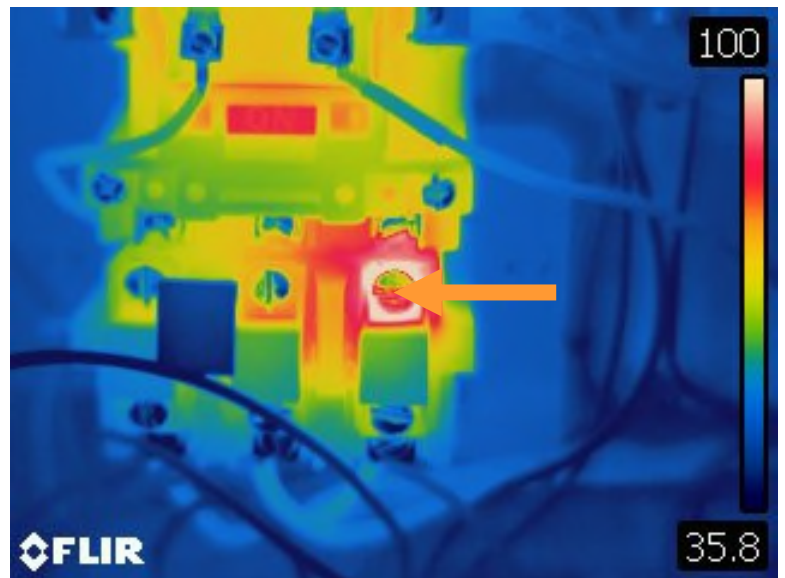
TH # 3 >

COMMENTS

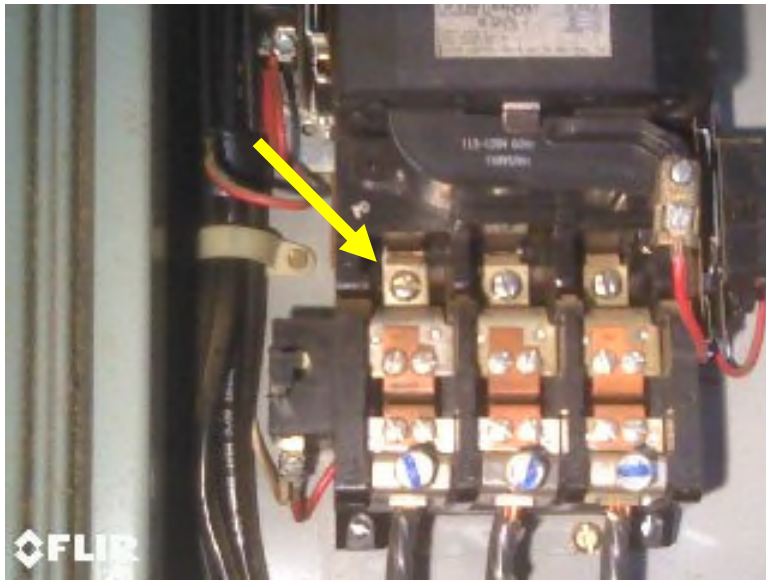
TH # 3 >

Abnormal heat is being generated in motor control component. See orange arrows in PH#3 and TH#3.

Loose and/or corroded contact area. Clean, inspect and re-secure serviceable components.

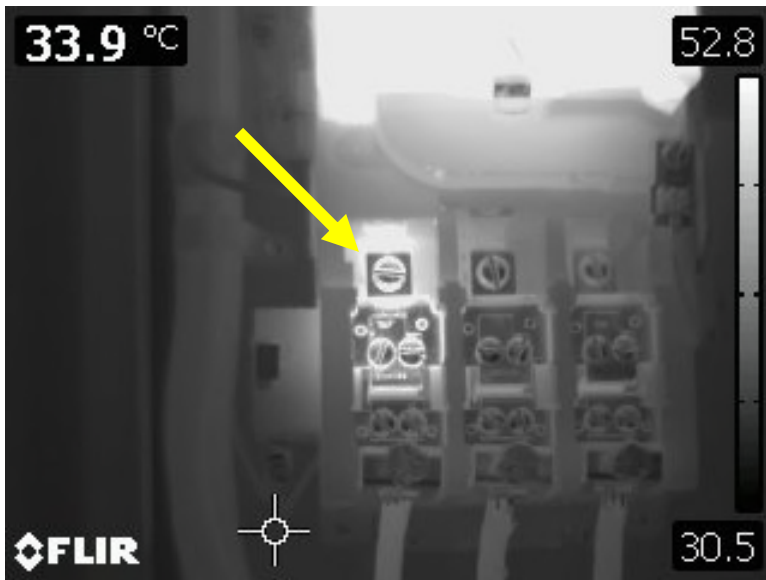


TEMPERATURE ABOVE  
AOT  
65°C / 117°F



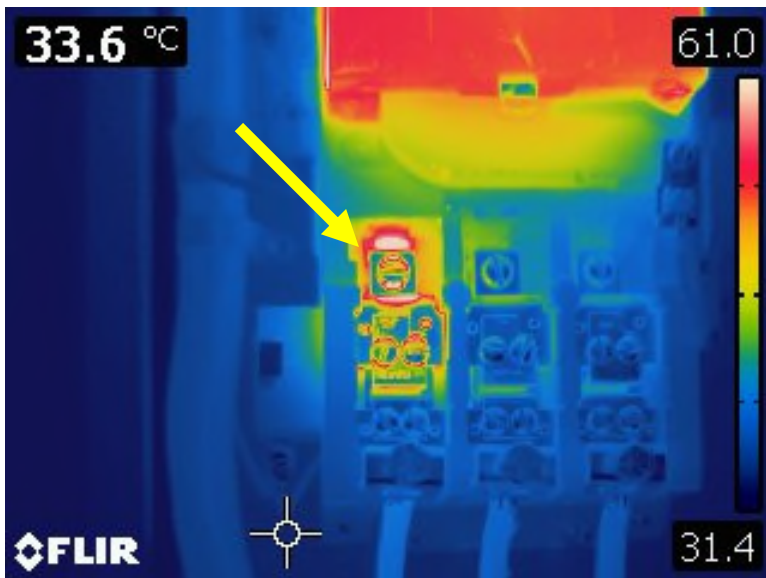
PROJECT: 01100718  
 CUST REP: Mike  
 SCAN REP: Level 2 Technician  
 DATE: July 7, 2018  
 LOCATION: Compressor/Vacuum Pump Room (Upstairs)  
 Box Labeled: #3 Nash Combination Starter

< PH # 4



ITEM: AØ of Motor Control Contact Block  
 SOURCE: Load side buss connection lug.  
 TEMP: Temp. of connection and lug is:  
 65°C / 149°F Total Temp.  
 - 34°C / 93°F AOT  
 = 31°C / 56°F above AOT.

< TH # 4



< TH # 4

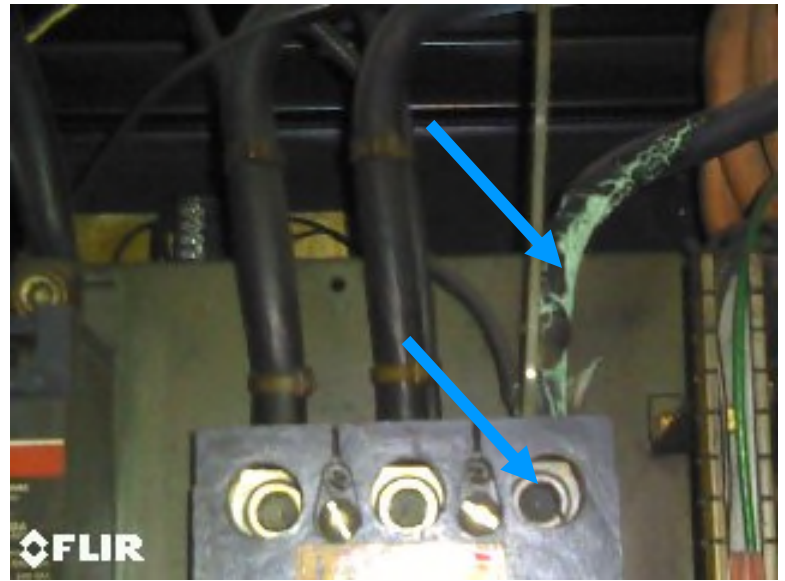
**COMMENTS**

Abnormal heat is being generated in motor control connection. yellow arrows in PH#4 and TH#4.

Loose and/or corroded contact area. Clean, inspect and re-secure.

**TEMPERATURE ABOVE AOT  
 31°C / 56°F**

PROJECT: 01100718  
CUST REP: Mike  
SCAN REP: Level 2 Technician  
DATE: July 7, 2018  
LOCATION: Compressor/Vacuum Pump Room  
(Upstairs)  
Control Cabinet Labeled:  
#3 Sullair  
Molded Case Breaker Labeled:  
Compressor



PH # 5 >

**ITEM:** Cø of Case Breaker  
**SOURCE:** Line side lead connection lug.  
And  
Line side lead is breaking down  
**TEMP:** Temp. is Ambient.

**Note: Connections show heat discoloration and insulation is cracked and melted.**

TH # 5 >

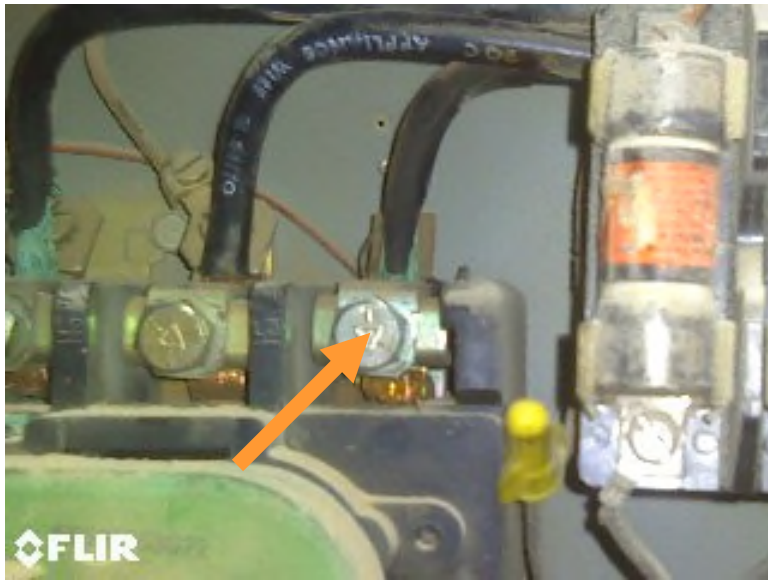
**COMMENTS**

TH # 5 >

Abnormal heat has been generated in case breaker connection. See blue arrows in PH#5 and TH#5.

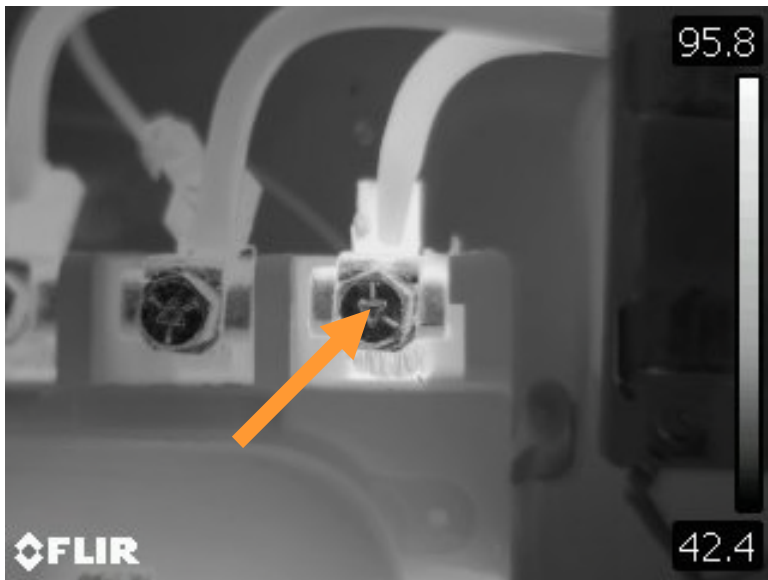
Loose and/or corroded contact area. Clean, inspect and re-secure serviceable components.

**TEMPERATURE IS  
AMBIENT**



PROJECT: 01100718  
CUST REP: Mike  
SCAN REP: Level 2 Technician  
DATE: July 7, 2018  
LOCATION: Filter Line Area  
Unlabeled Box:  
Mounted on Column F20  
Combination Starter

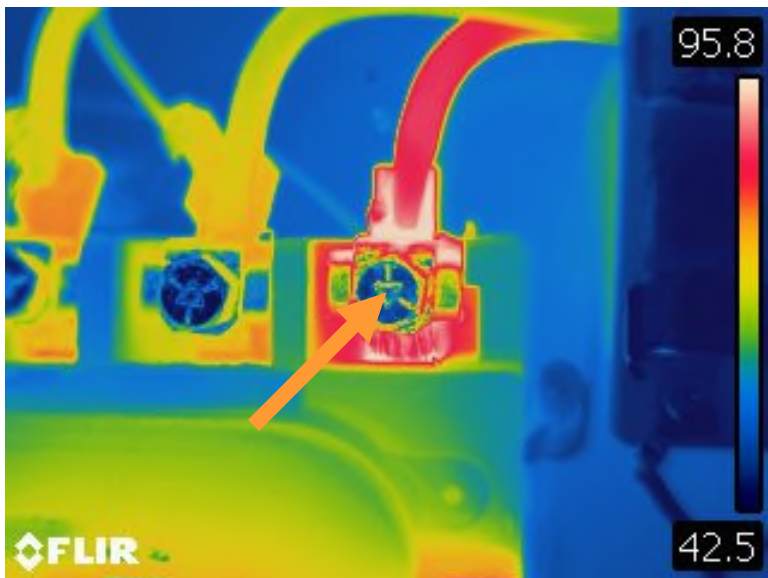
< PH # 6



ITEM: Cø of Motor Control Contact Block  
SOURCE: Line side lead connection lug.  
TEMP: Temp. of connection and lug is:  
105°C / 221°F Total Temp.  
- 45°C / 113°F AOT  
= 60°C / 108°F above AOT.

**Note: AOT is High  
Connection shows heat discoloration and insulation is cracked and melted.**

< TH # 6



< TH # 6

### COMMENTS

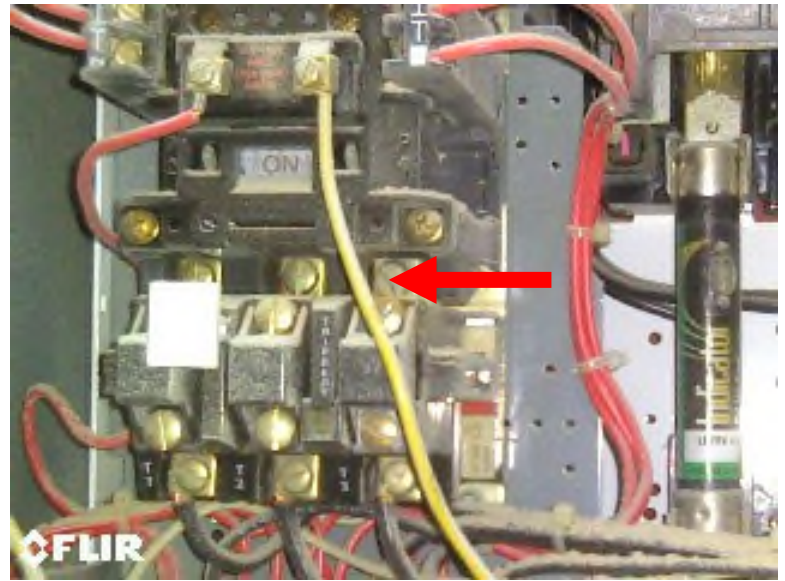
Abnormal heat is being generated in motor control connection. See orange arrows in PH#6 and TH#6.

Loose and/or corroded contact area. Clean, inspect and re-secure serviceable components.

**TEMPERATURE ABOVE  
AOT  
60°C / 108°F**

PROJECT: 01100718  
CUST REP: Mike  
SCAN REP: Level 2 Technician  
DATE: July 7, 2018  
LOCATION: Precision Sleeve Area  
Box Labeled:  
H4 Tank 1 Agitator  
Combination Starter

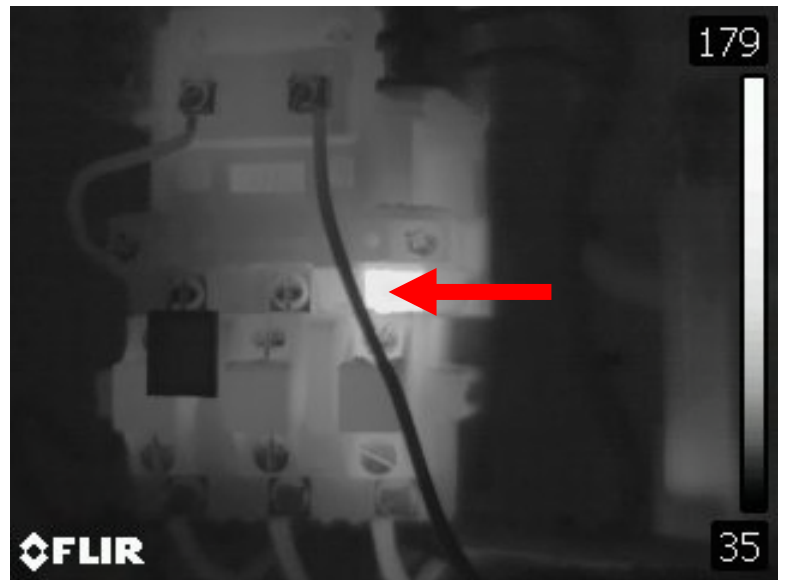
PH # 7 >



ITEM: Cø of Motor Control Overload Relay  
SOURCE: Line side bus connection lug.  
TEMP: Temp. of connection and lug is:  
192°C / 378°F Total Temp  
- 45°C / 113°F AOT  
= 147°C / 265°F above AOT.

Note: AOT is High

TH # 7 >



COMMENTS

TH # 7 >

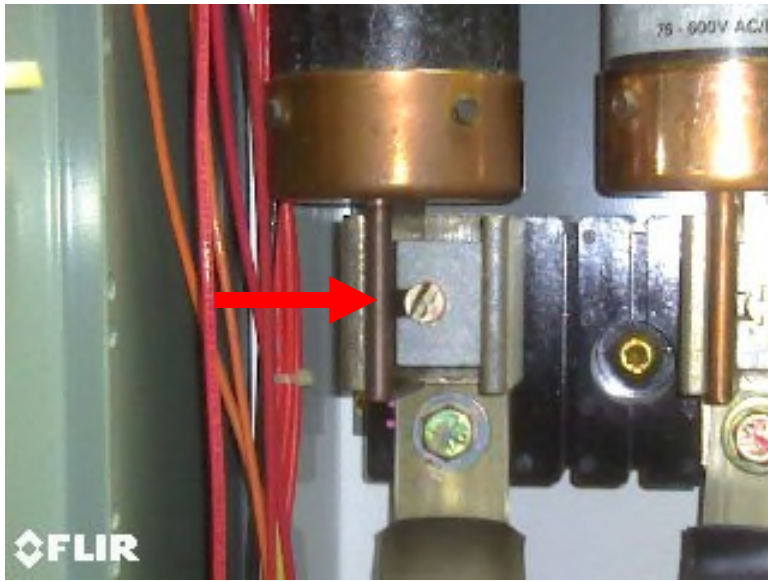
Abnormal heat is being generated in motor control connection. See red arrows in PH#7 and TH#7.

Loose and/or corroded contact area. Clean, inspect and re-secure serviceable components.

TEMPERATURE ABOVE  
AOT  
147°C / 265°F

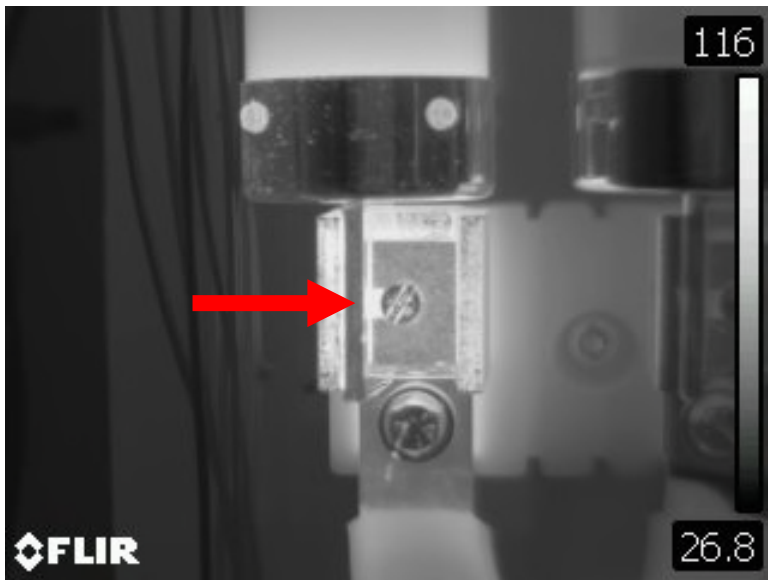






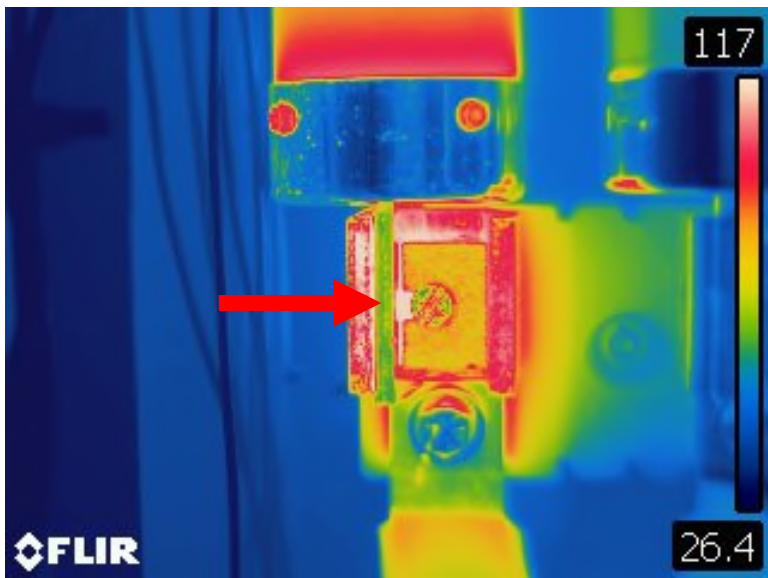
PROJECT: 01100718  
CUST REP: Mike  
SCAN REP: Level 2 Technician  
DATE: July 7, 2018  
LOCATION: Precision Sleeve Area  
Box Labeled:  
Dust Collector  
Combination Starter

< PH # 8



ITEM: Aø Fuse Block  
SOURCE: Load side fuse blade holder.  
TEMP: Temp. of blade holder is:  
144°C / 291°F Total Temp  
- 40°C / 104°F AOT  
= 104°C / 187°F above AOT.

< TH # 8



< TH # 8

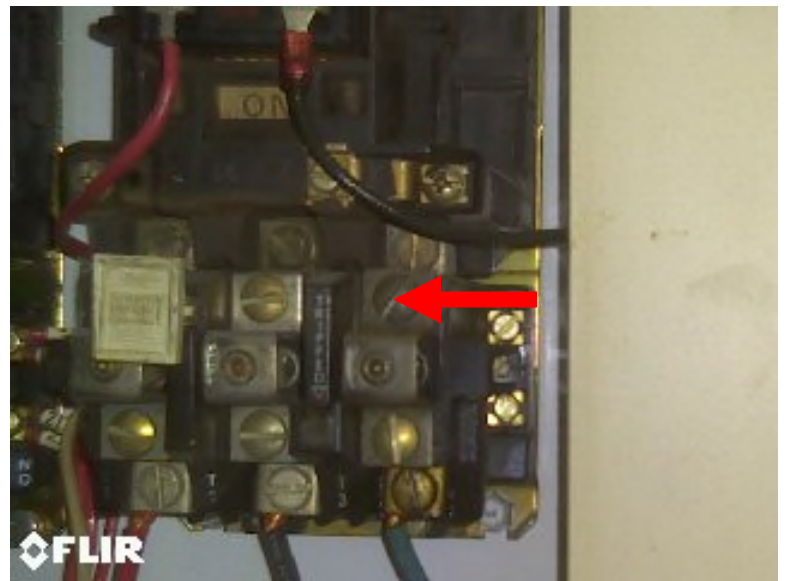
### COMMENTS

Abnormal heat is being generated in fuse block component. See red arrows in PH#8 and TH#8.

Loose and/or corroded contact area. Clean, inspect and re-secure serviceable components.

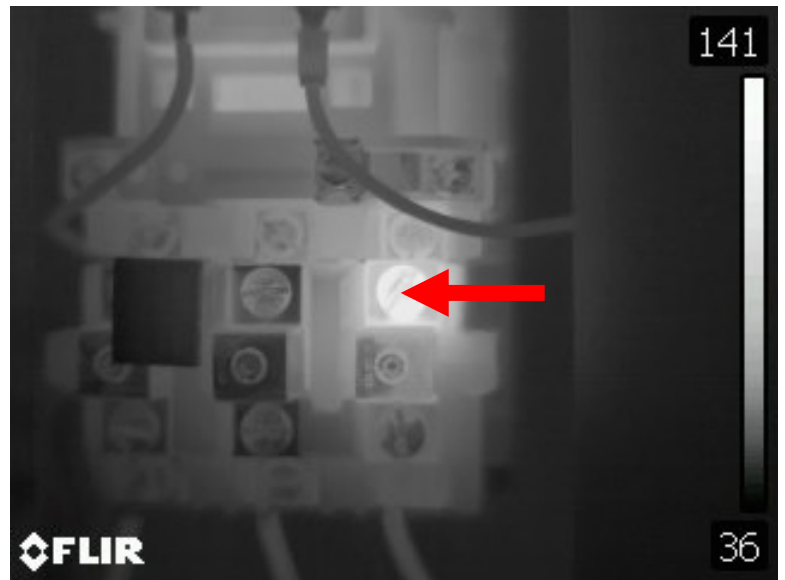
**TEMPERATURE ABOVE  
AOT  
104°C / 187°F**

PROJECT: 01100718  
CUST REP: Mike  
SCAN REP: Level 2 Technician  
DATE: July 7, 2018  
LOCATION: Precision Sleeve Area  
Box Labeled:  
H3 Right Agitator  
Combination Starter



PH # 9 >

**ITEM:** Cø of Motor Control Overload Relay  
**SOURCE:** Line side heater connection lug.  
**TEMP:** Temp. of connection and lug is:  
155°C / 311°F Total Temp  
- 41°C / 106°F AOT  
=114°C / 205°F above AOT.



TH # 9 >

**COMMENTS**

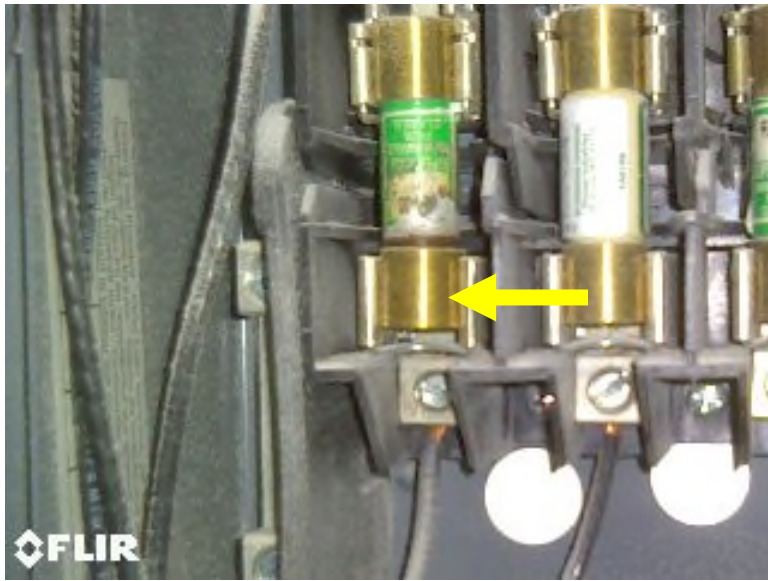
TH # 9 >

Abnormal heat is being generated in motor control component. See red arrows in PH#9 and TH#9.

Loose and/or corroded contact area. Clean, inspect and re-secure serviceable components.

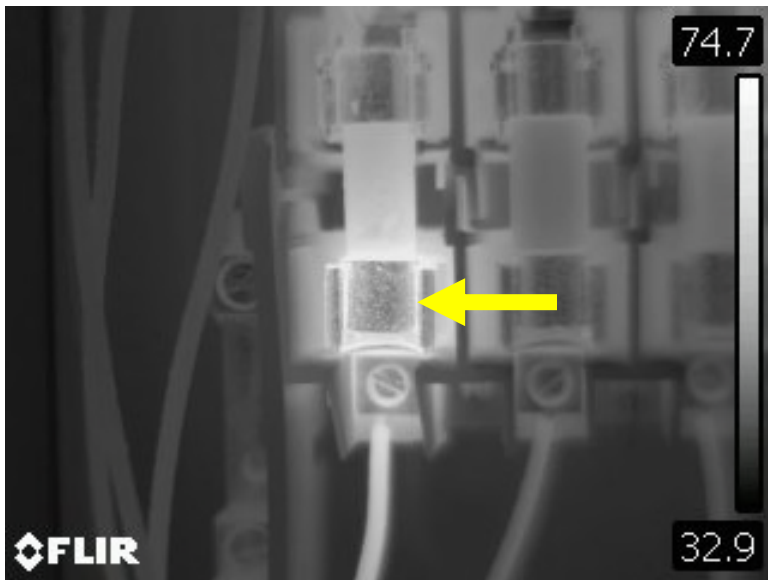


**TEMPERATURE ABOVE  
AOT  
114°C / 205°F**



PROJECT: 01100718  
 CUST REP: Mike  
 SCAN REP: Level 2 Technician  
 DATE: July 7, 2018  
 LOCATION: 152 Oven Area  
 Unlabeled Box  
 (Left of M1 Drive Cabinet)  
 Fuse Disconnect

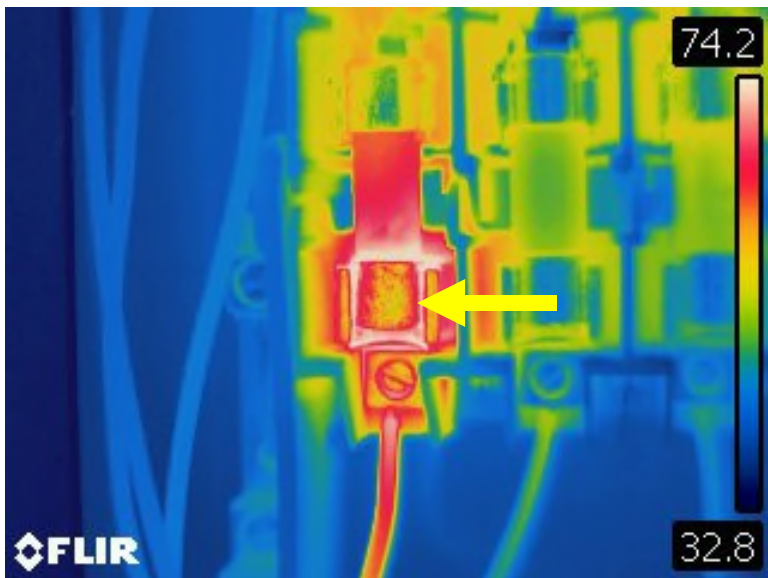
< PH # 10



ITEM: AØ Fuse Block  
 SOURCE: Load side fuse clip.  
 TEMP: Temp. of fuse clip is:  
 83°C / 181°F Total Temp.  
 - 45°C / 113°F AOT  
 = 38°C / 68°F above AOT.

**Note: AOT is High**

< TH # 10



< TH # 10

**COMMENTS**

Abnormal heat is being generated in fuse block component. See yellow arrows in PH#10 and TH#10.

Loose and/or corroded contact area. Clean, inspect and re-secure.

**TEMPERATURE ABOVE  
 AOT  
 38°C / 68°F**

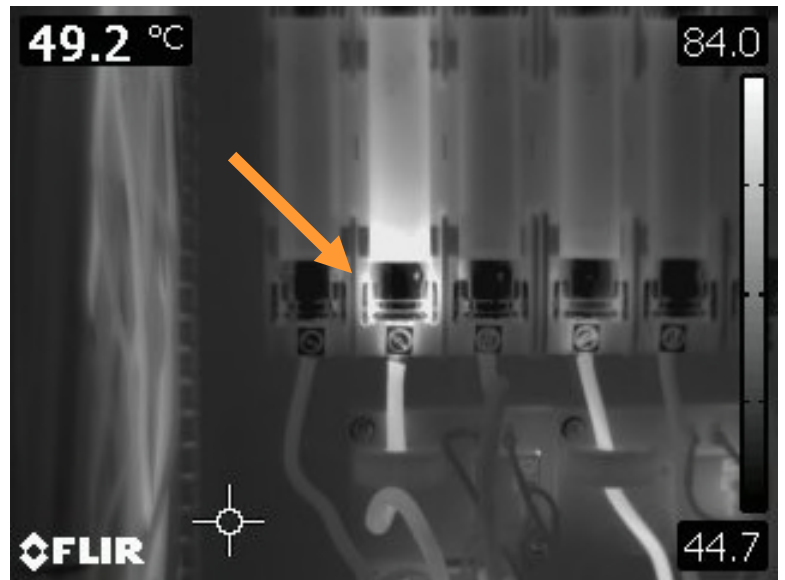
PROJECT: 01100718  
 CUST REP: Mike  
 SCAN REP: Level 2 Technician  
 DATE: July 7, 2018  
 LOCATION: 152 Oven Area  
 Control Cabinet For:  
 M1 Drive  
 3ø Fused Circuit Labeled:  
 3FU



PH #11 >

ITEM: Bø Fuse Block  
 SOURCE: Load side fuse clip.  
 TEMP: Temp. of fuse clip is:  
 101°C / 214°F Total Temp  
 - 49°C / 120°F AOT  
 = 52°C / 94°F above AOT.

Note: AOT is High.



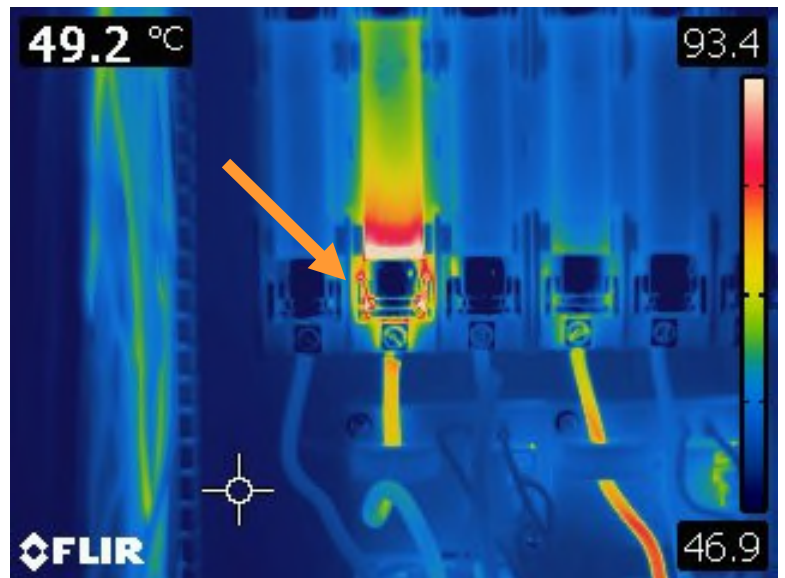
TH #11 >

**COMMENTS**

TH #11 >

Abnormal heat is being generated in fuse block component. See orange arrows in PH#11 and TH#11.

Loose and/or corroded contact area. Clean, inspect and re-secure serviceable components.

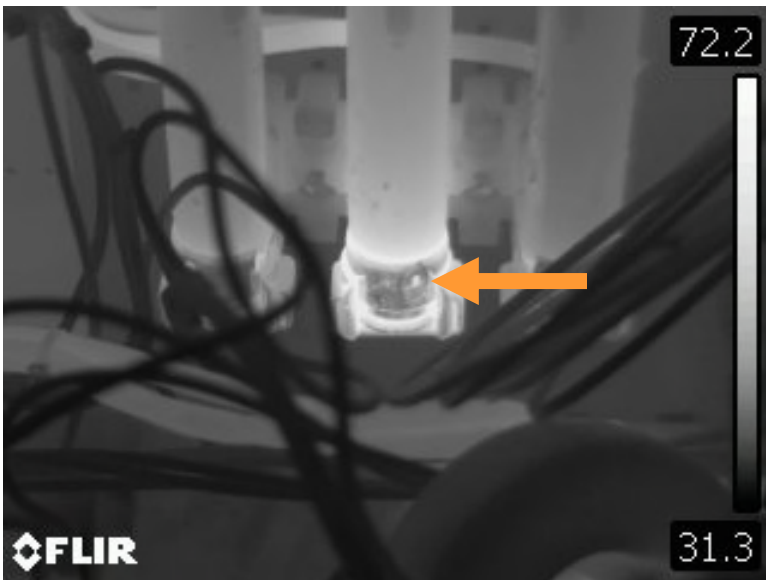


**TEMPERATURE ABOVE  
 AOT  
 52°C / 94°F**



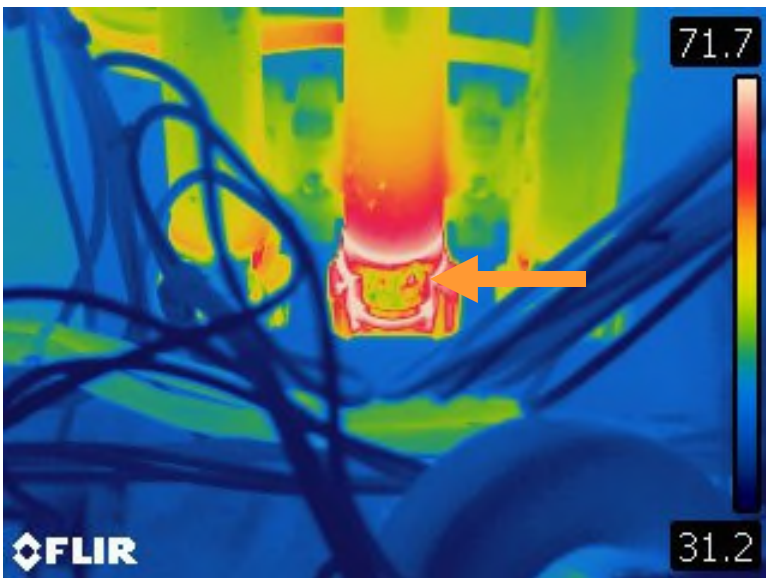
PROJECT: 01100718  
CUST REP: Mike  
SCAN REP: Level 2 Technician  
DATE: July 7, 2018  
LOCATION: MOL Colt Area  
Box Labeled:  
Dust Collector  
Combination Starter

< PH # 12



ITEM: Bø Fuse Block  
SOURCE: Load side fuse clip.  
TEMP: Temp. of fuse clip is:  
79°C / 174°F Total Temp  
- 38°C / 100°F AOT  
= 41°C / 74°F above AOT.

< TH # 12



< TH # 12

### COMMENTS

Abnormal heat is being generated in fuse block component. See orange arrows in PH#12 and TH#12.

Loose and/or corroded contact area. Clean, inspect and re-secure serviceable components.

**TEMPERATURE ABOVE  
AOT  
41°C / 74°F**

## AREA/EQUIPMENT LIST

Following is a list of the electrical equipment located at the **Precision Manufacturing, Anytown, USA**, facility and data relating to its operating condition at the time the scan was performed.

**NOTE: Items noted as visually inspected were not operational or show no visible load at the time of the inspection.**

No.	Equipment	Operating	Visually Inspected	Fault #
<b>EQUIPMENT LIST</b>				
<b>POWER CENTER 1 (INSIDE)</b>				
1	Computers Fuse Disconnect	X		
2	ITE Switchboard Section 1—Breakers	X		
3	ITE Switchboard Section 2—Main & Breakers	X		
4	Office Lighting Panel “Q”—Fuse Disconnect	X		
5	Breaker “A”	X		
6	Breaker “B”	X		
7	Breaker “C”	X		
8	Breaker “D”	X		
9	(Left) Capacitor Disconnect	X		
10	(Right) Capacitor Disconnect	X		
11	Foundry Lab Oven “R”—Fuse Disconnect	X		1
<b>POWER CENTER 1 (OUTSIDE)</b>				
12	Outside Substation Transformer	X		
13	High Voltage Disconnect (In Switch Room, Did Not Open)			
14	High Voltage Fuses (In Switch Room, Did Not Open)			
<b>PUMP HOUSE POWER CENTER</b>				
15	SPS-0831 Switch (Did Not Open-4160 V)			
16	Unlabeled Panel	X		
17	Jockey Pump Combination Starter		X	
18	Eastland Bldg. Feed (Did Not Open-4160 V)			
19	Switchgear Line #1 (Did Not Open-4160 V)			
20	Switchgear Line #2 (Did Not Open-4160 V)			

No.	Equipment	Operating	Visually Inspected	Fault #
21	Switchgear (Did Not Open-4160 V)			
22	225 kVA Transformer	X		
<b>SUBSTATION OUTSIDE PUMP HOUSE</b>				
23	Transformer	X		
24	Switches	X		
25	Overhead Service	X		
26	Service Entry	X		
<b>BATTERY ROOM</b>				
27	Battery Chargers & Plugs	X		
<b>SOUTH OF GRINDING ROOM</b>				
28	Panel #67	X		
29	Panel #68	X		
30	Overhead Transformer	X		
<b>POWER CENTER #2 (UPSTAIRS)</b>				
31	Transformer (In Back Room)	X		
32	B1 Lighting Panel	X		
33	480/277 ITE Volt Switchboard (Section D)	X		
34	480/277 ITE Volt Switchboard (Section A)—Breakers	X		
35	480/277 ITE Volt Switchboard (Section B)—Breakers	X		
36	480/277 ITE Volt Switchboard (Section C)—Main	X		
37	Sect. 1—Main Switch (Did Not Open-4160 V)			
38	Sect. 2—Main Switch (Did Not Open-4160 V)			
39	Sect. 3—Main Switch (Did Not Open-4160 V)			
<b>POWER CENTER 3</b>				
40	Supply Fan Combination Starter	X		
41	Feeder Unit 3 Panel (Did Not Open—4160V)			
42	Feeder Unit 1 Panel (Did Not Open—4160V)			
43	Incoming Line 1 Panel (Did Not Open—4160V)			

No.	Equipment	Operating	Visually Inspected	Fault #
44	Bus Tie Switch (Did Not Open—4160V)			
45	Incoming Line 2 Panel (Did Not Open—4160V)			
46	Feeder Unit 2 Panel (Did Not Open—4160V)			
47	Unlabeled 600A Disconnect	X		
48	Transformer—1000 KVA	X		
	<b>Switchgear</b>			
49	B1 Breaker	X		
50	B2 Breaker		X	
51	B3 Breaker	X		
52	B4 Breaker	X		
53	Main	X		
54	A1 Breaker	X		
55	A2 Breaker	X		
	<b>COMPRESSOR ROOM (DOWNSTAIRS)</b>			
56	Vac Fan CTW 1578 Combination Starter	X		
57	EXH 1344 Control Cabinet	X		
58	Vac Tower & Pump Disconnect	X		
59	PMP 1706	X		
60	Main Power Kaesar Air Dryer	X		
61	Cooling Tower Comp CTW0762 Control Cabinet	X		2
62	Vac Sys Main	X		
63	Air Tech Air Dryer Disconnect	X		
64	Air Tech Air Combination Starter	X		
65	Make Up Air Combination Starter	X		
66	Kaesar 150 HP Compressor East Fuse Disconnect		X	
67	Kaesar Compressor East CMP 2061		X	
68	Kaesar 150 HP Compressor West Fuse Disconnect	X		
69	Kaesar Compressor West CMP 2062	X		
70	Kaesar 250 HP Compressor Fuse Disconnect	X		
71	Kaesar Compressor 250 Control Cabinet	X		



No.	Equipment	Operating	Visually Inspected	Fault #
72	Kaeser Air Dryer AAD 2065	X		
	<b>COMPRESSOR / VACUUM PUMP ROOM (UPSTAIRS)</b>			
73	Return Pump VAC #2 East—Combination Starter	X		
74	Return Pump VAC #1 West—Combination Starter	X		
75	#2 SIHI VAC0388 Vacuum Pump—Combination Starter		X	
76	Vac Pump 6 Combination Starter		X	
77	#1 Nash Vac 0387, Vac Pump 2—Combination Starter	X		3
78	Return Pump VAC #3	X		
79	Supply Pumps Catch Tank North	X		
80	#3 Nash—Combination Starter (For Vac. Pump)	X		4
81	Vac Pump 4 Combination Starter		X	
82	Vac Pump 5 Combination Starter		X	
83	#3 Sullair CMP-0754		Not in Service	
84	(Left) Fuse Disconnect (Exhaust Fan)		X	
85	(Right) Fuse Disconnect		X	
86	Unlabeled Fuse Disconnect	X		
87	Unlabeled Panel By Door	X		
88	Kaeser Air Compressor Control Cabinet	X		
89	Kaeser Air Compressor Disconnect	X		
90	#5 Sullair Combination Starter Panel		X	
91	#5 Sullair CMP0753		X	
92	#3 Sullair Fuse Disconnect		X	
93	#3 Sullair Control Cabinet		X	5
	<b>CAFETERIA</b>			
94	Panel #1	X		
	<b>WALL OUTSIDE OF CAFETERIA</b>			
95	#2 Disconnect		X	

No.	Equipment	Operating	Visually Inspected	Fault #
96	#3 Discon	X		
97	#4 Discon		X	
98	#5 Combination starter	X		
99	#6 Discon		X	
100	#7 Discon	X		
	<b>SHIPPING WAREHOUSE</b>			
101	#78 Panel	X		
102	#79 Panel	X		
103	#80 Panel	X		
	<b>MAIN AISLE</b>			
104	Unlabeled 208/120 Volt Distribution Panel (East End)	X		
105	#52 Panel (In Exit Hallway)	X		
106	#126 Panel	X		
107	#50 Panel	X		
108	#49 Panel	X		
109	#122 Transformer	X		
110	#121 Transformer	X		
111	#48 Panel	X		
112	#47 Panel	X		
113	#108 Panel	X		
114	(2) Overhead Transformers	X		
115	(White) Overhead Transformer	X		
116	Overhead Transformer (In Hallway By Vending)	X		
117	#45 Panel	X		
118	126 West	X		
119	#117 Transformer	X		
120	#44 Panel	X		
121	#43 Panel	X		
122	#42 Panel	X		

No.	Equipment	Operating	Visually Inspected	Fault #
123	#114 Transformer	X		
	<b>FILTER LINE AREA PANELS</b>			
124	#56 Panel	X		
125	Unlabeled Combination Starter (@ Column F20)	X		6
126	#55 Fuse Disconnect	X		
127	#54 Panel	X		
128	#144 Transformer	X		
129	#126A Panel (@ Column F7)	X		
130	#126B Panel	X		
131	Unlabeled Panel (@ Column F12)	X		
132	#179 Transformer (@ Column H13)	X		
133	Unlabeled Panel	X		
134	#93 Panel (@ Column H13)	X		
	<b>FILTER LINE AREA EQUIPMENT</b>			
135	Impregnator Control Panel	X		
136	Needle Feeder Control Panel	X		
137	"Restart 6th" (Oven #1) Control Cabinet	X		
138	"Restart 5th" (Oven #1) Control Cabinet	X		
139	"Restart 4th" (Oven #2) Control Cabinet	X		
140	Unlabeled (Oven #2) Control Cabinet	X		
141	"Restart 2nd" (Oven #2) Control Cabinet	X		
142	"Restart 1st" (Oven #3) Control Cabinet	X		
143	Unlabeled (Oven #3) Control Cabinet	X		
144	DMA Accumulator Control Cabinet	X		
145	Green Stacker Control Cabinet	X		
146	Lippert Panel Control Cabinet	X		
147	Generator Transfer Switch		X	

No.	Equipment	Operating	Visually Inspected	Fault #
148	Kiln Control Cabinet (Multiple Doors)	X		
149	Oxidizer (Left of Kiln Control Cabinet)	X		
150	South Unloader 90 degree Control Cabinet	X		
151	South Belt Drive Control Cabinet	X		
152	South Speedup & Slowdown Conveyor	X		
153	South Packer Control Cabinet	X		
154	North Unloader 90 degree Control Cabinet	X		
155	North Belt Drive Control Cabinet	X		
156	North Speedup & Slowdown Conveyor	X		
157	North Packer Control Cabinet	X		
	<b>PRECISION SLEEVE AREA</b>			
158	Dust Collector Combination Starter	X		8
159	Panel 57	X		
160	#11 Oven Control Cabinet	X		
161	#9 Oven Control Cabinet (Could Not Open)			
162	H-4 Control Cabinet	X		
163	H-4 Tank 1 Agitator Combination Starter	X		7
164	H-4 Tank 2 Agitator Combination Starter	X		
165	H-4 Tank 3 Agitator Combination Starter		X	
166	H-4 Tank 4 Agitator Combination Starter		X	
167	H-3 Control Cabinet	X		
168	Unlabeled Control Cabinet (Next to Oven 11)	X		
169	H-3 Left Agitator Combination Starter	X		
170	H-3 Right Agitator Combination Starter	X		9
171	Unlabeled Conveyor Control Cabinet	X		
172	Vibrator Control Cabinet		X	
173	Panel 83	X		
174	Panel 364	X		
175	Panel 183	X		
176	Panel 77	X		

No.	Equipment	Operating	Visually Inspected	Fault #
	<b>PRECISION SLEEVE WAREHOUSE AREA</b>			
177	Panel 63	X		
178	Panel 64	X		
179	Overhead Transformer (2)	X		
	<b>#152 OVEN AREA</b>			
180	Tunnel Oven Fuse Disconnect		X	
181	Unlabeled (Orange) Fuse Disconnect		X	
182	Dust Collector Combination Starter	X		
183	Unlabeled (Orange) Fuse Disconnect		X	
184	#184 Panel	X		
185	Unlabeled Control Cabinet (Exhaust Fans)	X		
186	Multi-Head #2 Control Cabinet	X		
187	Multi-Head #1 Control Cabinet	X		
188	Multi-Head #1 Fuse Disconnect	X		
189	M-2 Drive Cabinet		X	
190	Unlabeled Fuse Disconnect	X		10
191	Acme Transformer	X		
192	M-1 Drive Cabinet	X		11
193	Unlabeled Fuse Disconnect	X		
194	Conveyor #2 Control Cabinet	X		
195	Conveyor #1 Control Cabinet	X		
196	OVN 1692 Control Cabinet	X		
197	Main Fuse Disconnect (152 Machine)	X		
198	#23 Panel (On North Side of Oven)	X		
199	#25 Panel (On North Side of Oven)	X		
200	Bus Duct #10	X		
201	Bus Duct #11	X		

No.	Equipment	Operating	Visually Inspected	Fault #
	<b>#161 OVEN AREA</b>			
202	#2 Oven South Control Cabinet	X		
203	Precision Sleeves #2 South Drive Panel	X		
204	OVC 0301 Control Cabinet	X		
205	Torit Dust Collector Control Cabinet	X		
206	#2 Oven North Control Cabinet	X		
	<b>XO AREA</b>			
207	#18 Panel (No Access At Time of Scan)	X		
208	#3 Blender	X		
209	#2 Blender		X	
210	#17 Panel	X		
	<b>BASE TECH AREA</b>			
211	Holding Tanks Control Cabinet	X		
	<b>VVT AREA</b>			
212	Bus Duct 1	X		
213	Bus Duct 13	X		
214	Bus Duct 14	X		
215	#188 Oven Control Cabinet (OVN 0287)	X		
216	#189 Oven Control Cabinet	X		
217	VVT Agitator 1 Control Cabinet	X		
218	VVT Agitator 2 Control Cabinet	X		
219	Fan Control Cabinet	X		
	<b>MOL COLT AREA</b>			
220	DSC0582— Combination Starter (Outside)	X		
221	Main Disconnect	X		
222	Dust Collector Combination Starter	X		12
223	Solvent Pump Combination Starter		X	
224	Lift Table Hyd. Pump		X	
225	Cowles Mixer Combination Starter	X		
226	(2) Unlabeled Disconnects		X	

No.	Equipment	Operating	Visually Inspected	Fault #
	<b>XP AREA</b>			
227	Panel 32	X		
228	Panel 33	X		
229	Panel 412	X		
230	CS-1 Control Cabinet		X	
	<b>MAINTENANCE SHOP AREA</b>			
231	Panel 59	X		
232	Panel 60	X		
	<b>EASTLAND RD. BUILDING</b>			
	<b>RECEIVING AREA</b>			
233	Office Panel (Main) Square D Fuse Disconnect	X		
234	Switchboard (6 Fuse Disconnects)	X		
235	Box #1 Panel	X		
236	"No. 3 Only" Panel	X		
	<b>OUTSIDE ON NORTHEAST CORNER</b>			
237	Pad Mounted Transformer (Fins Only)	X		
	<b>WALL OUTSIDE MEN'S RESTROOM</b>			
238	Unlabeled Panel	X		
	<b>WATERMODEL AREA</b>			
239	3 Panels (Unlabeled)	X		
240	225 KVA Transformer	X		
	<b>WATERMODEL LAB AREA</b>			
241	Cond. Disconnect		X	
242	Hot Water Tank 1 Fuse Disconnect		X	
243	Hot Water Tank 2 Fuse Disconnect		X	
244	Unlabeled 208/120 Volt Distribution Panel	X		
245	Hot Water Tank #3 Fuse Disconnect	X		
246	Overhead Transformer	X		

<b>No.</b>	<b>Equipment</b>	<b>Operating</b>	<b>Visually Inspected</b>	<b>Fault #</b>
247	Transformer Disconnect	X		
	<b>SHOP AREA</b>			
248	Various Distribution Panels	X		
249	Various Disconnects	X		