

# Infrared Thermography Survey for Alon Steel Rotor Core B4722

Date: July 27, 2009

An Infrared Thermography Survey was recently taken at this facility. Critical electrical equipment was checked to determine the integrity of all related components and wiring. All heat related faults that were discovered, will be illustrated utilizing Infrared and digital imaging.

Discrepancy severity will be determined from data available and a corrective action recommendation will be provided. Priority ratings are listed below along with temperature ranges for each.

Survey was performed by a ASNT Level III Trained Technician utilizing a FLIR P-65 Imaging System. The P-65 is a Long Wave Camera with internal filters capable of scanning from -40F up to 2732F.

Survey was performed in accordance with NFPA 70B02 Electrical Maintenance 2002 Edition and ASTM E 1934-99A

Due to the various types of metals and components in electrical equipment, emissivity levels vary from one piece of equipment to another. These emissivity levels are critical for accurate temperature acquisition. Back ground temperature and radiant heat generated from production equipment as well as human body heat, effect final temperature readings. All temperature levels in this report were recorded with an emissivity level of 1.0. This will ensure that temperature rise (Delta T) is no lower than the temperatures portrayed in images obtained.

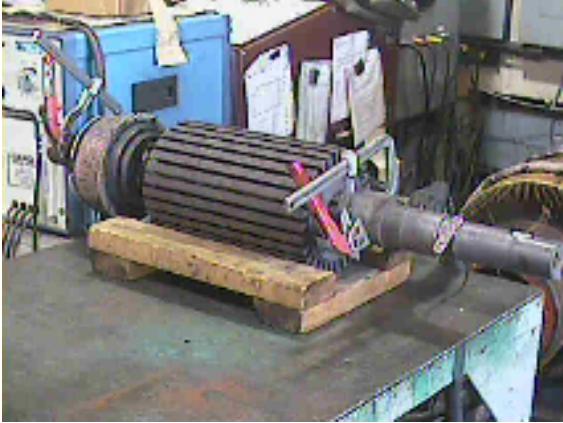
## Priority Ratings:

**Priority Rating No.1:** Temp. Rise 72.0 °F and above = Corrective action required immediately

**Priority Rating No.2:** Temp. Rise 36-72 °F= Corrective action required ASAP

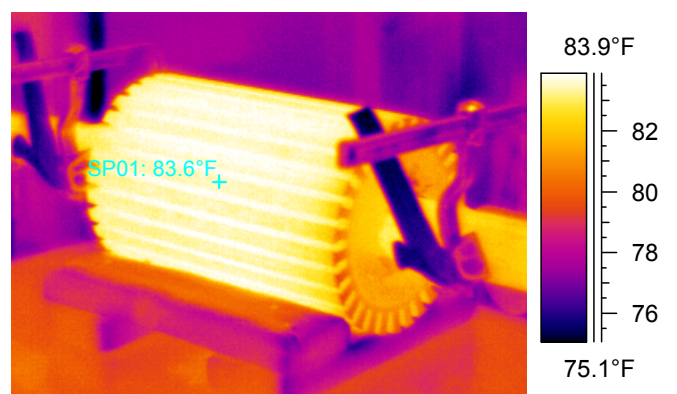
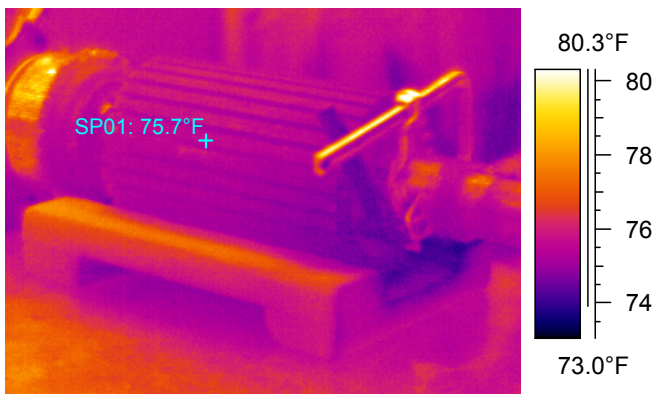
**Priority Rating No.3:** Temp. Rise 18-36 °F= Corrective action required as scheduling permits

Location	Rexel Motor Repair - Work Order B4722 Alton Steel
Equipment	Rotor Core Test Thermal Images - Taken At 1 Minute intervals for 5 Minutes at 169 amps

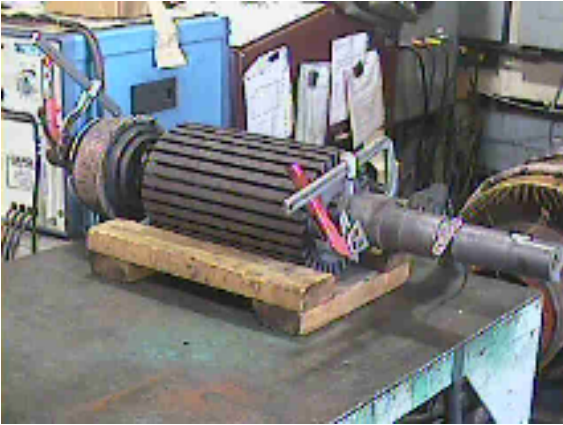


Images Before Acid Treatment	<b>07.20.09</b>
Ambient Temperature	<b>74 °F</b>
Spot 1 Temperature	<b>75.7 °F</b>

Ambient Temperature	<b>07.27.09</b>
Ambient Temperature	<b>76 °F</b>
Spot 1 Temperature	<b>83.6 °F</b>

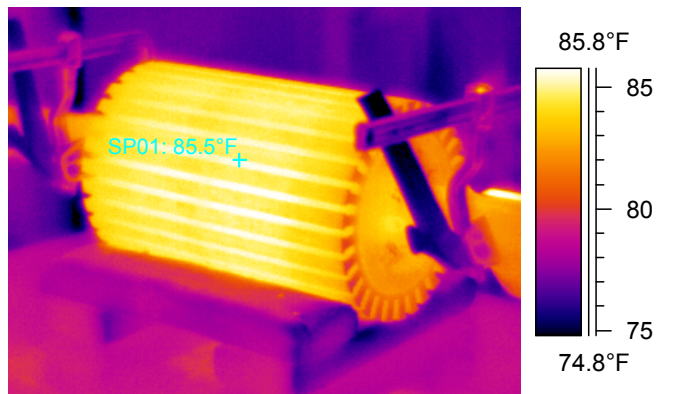
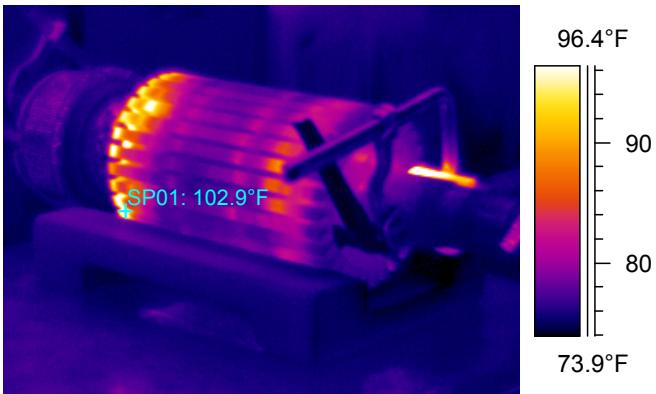


Location	Rexel Motor Repair - Work Order B4722 Alton Steel
Equipment	Rotor Core Test Thermal Images - Taken At 1 Minute intervals for 5 Minutes at 169 amps

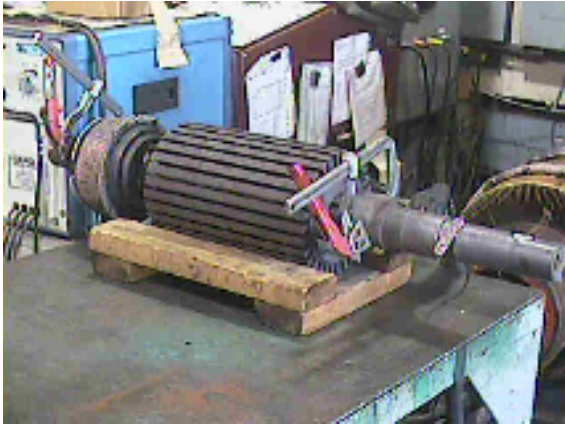


Images Before Acid Treatment	<b>07.20.09</b>
Ambient Temperature	<b>74 °F</b>
Spot 1 Temperature 1 Minute	<b>102.9 °F</b>

Ambient Temperature	<b>07.27.09</b>
Ambient Temperature	<b>76 °F</b>
Spot 1 Temperature 1 Minute	<b>885.5 °F</b>

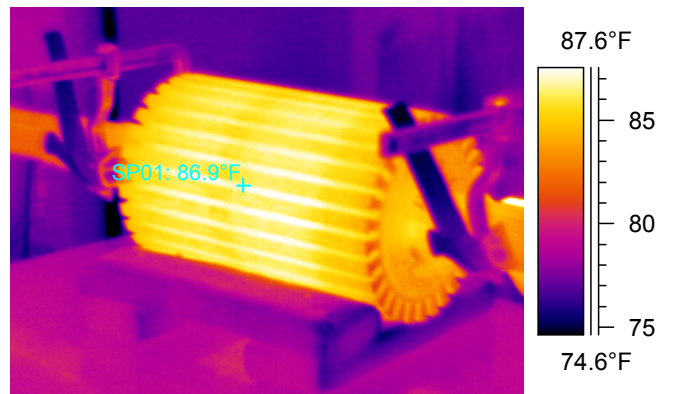
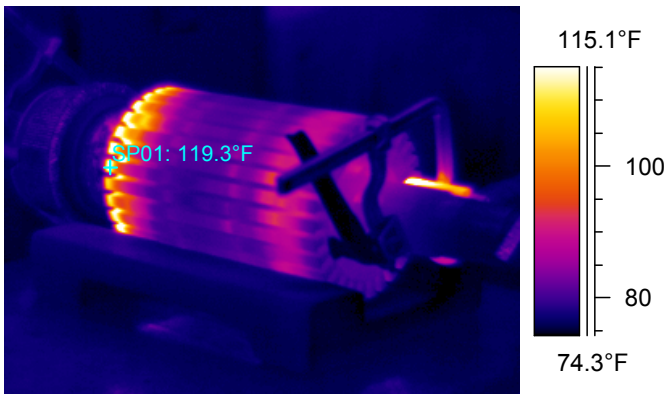


Location	Rexel Motor Repair - Work Order B4722 Alton Steel
Equipment	Rotor Core Test Thermal Images - Taken At 1 Minute intervals for 5 Minutes at 169 amps

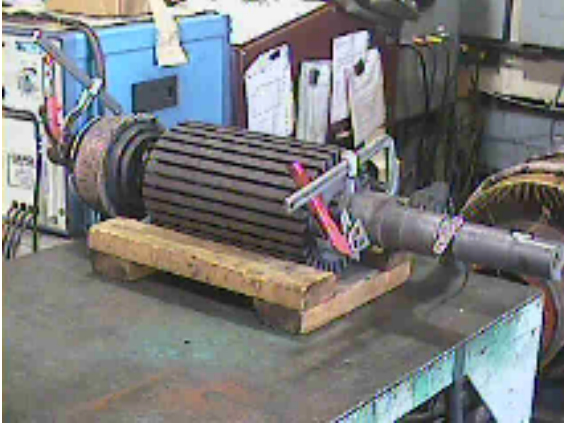


Images Before Acid Treatment	<b>07.20.09</b>
Ambient Temperature	<b>74 °F</b>
Spot 1 Temperature 2 minutes	<b>119.3 °F</b>

Ambient Temperature	07.27.09
Ambient Temperature	<b>76 °F</b>
Spot 1 Temperature 2 Minutes	<b>86.9 °F</b>

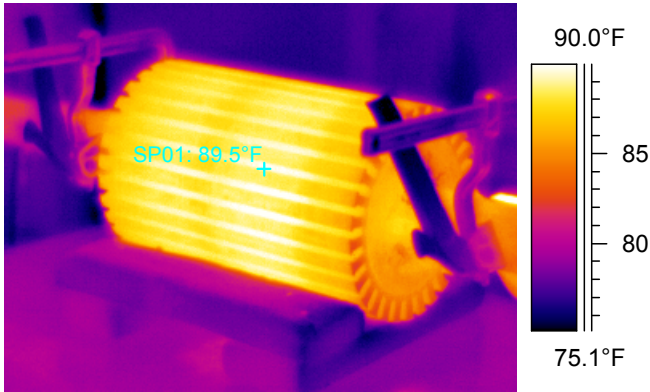
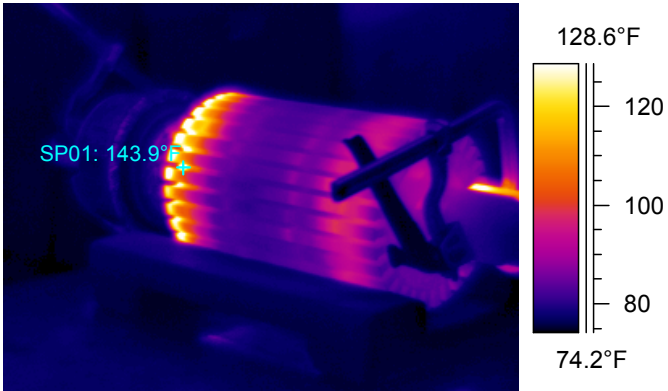


Location	Rexel Motor Repair - Work Order B4722 Alton Steel
Equipment	Rotor Core Test Thermal Images - Taken At 1 Minute intervals for 5 Minutes at 169 amps

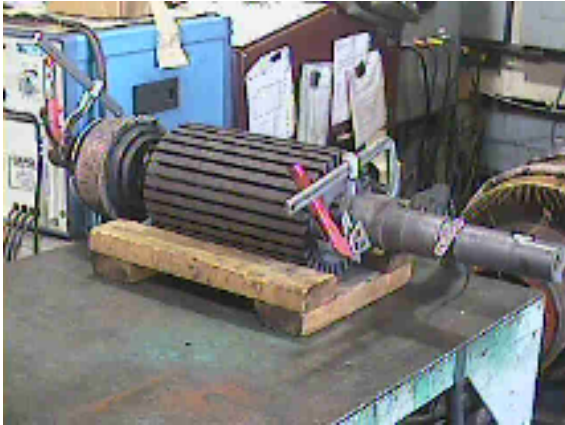


Images Before Acid Treatment	<b>07.20.09</b>
Ambient Temperature	<b>74 °F</b>
Spot 1 Temperature 3 Minutes	<b>143.9 °F</b>

Ambient Temperature	07.27.09
Ambient Temperature	<b>76 °F</b>
Spot 1 Temperature 3 Minutes	<b>89.5 °F</b>

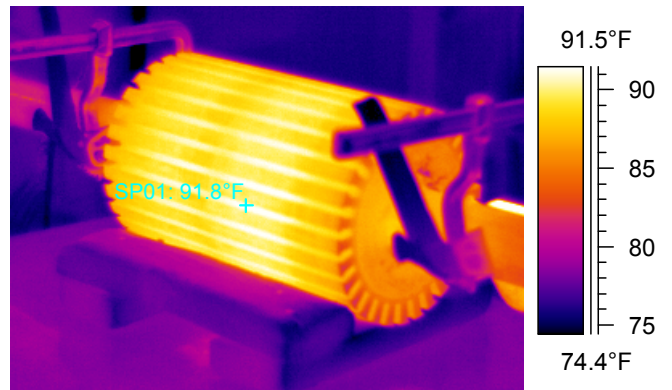
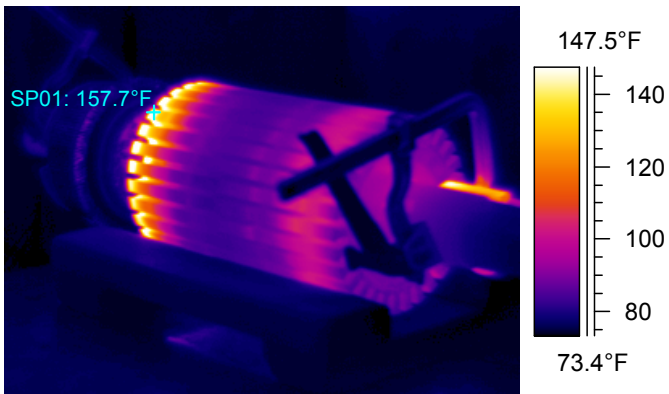


Location	Rexel Motor Repair - Work Order B4722 Alton Steel
Equipment	Rotor Core Test Thermal Images - Taken At 1 Minute intervals for 5 Minutes at 169 amps

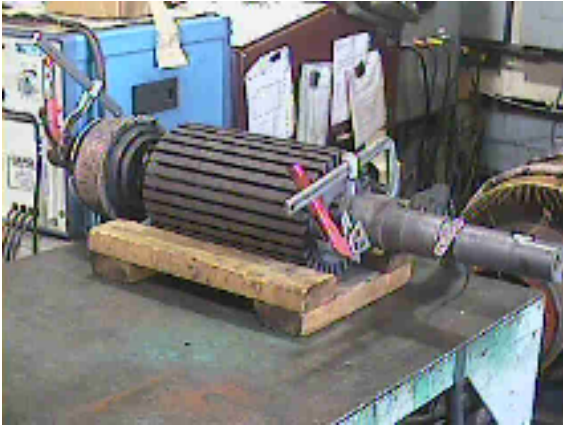


Images Before Acid Treatment	07.20.09
Ambient Temperature	74 °F
Spot 1 Temperature 4 Minutes	<b>157.7 °F</b>

Ambient Temperature	07.27.09
Ambient Temperature	76 °F
Spot 1 Temperature 4 Minutes	<b>91.8 °F</b>



Location	Rexel Motor Repair - Work Order B4722 Alton Steel
Equipment	Rotor Core Test Thermal Images - Taken At 1 Minute intervals for 5 Minutes at 169 amps



Images Before Acid Treatment	<b>07.20.09</b>
Ambient Temperature	<b>74 °F</b>
Spot 1 Temperature 5 Minutes	<b>167.2 °F</b>

Ambient Temperature	07.27.09
Ambient Temperature	<b>76 °F</b>
Spot 1 Temperature 5 Minutes	<b>93 °F</b>

