Hi-Speed Industrial Service
7030 Ryburn Dr
Millington, Tn 38053
901-873-5300

AC Inspection as Found

Rogers Group (01189502)
1032 Hwy 5
Cabot, AR 72023

FolderID: 102193
FormID: 18708432

AC Inspection - Rev. 2

Location:	Shop
Serial Number:	

Manufacturer:	Other
Serial Number:	HY20160704
HP/kW:	11 (kW)
RPM:	3516 (RPM)
Frame:	11C-160M1
Voltage:	460
Current:	17.5
Phase:	Three
Hz:	60 (Hz)
Enclosure:	TEFC
Coupling/Sheave:	None
Date Received:	12/12/2023
Repair Stage:	Final

Priorities Found: **3 - High** **5 - Good**

Overall Condition

1. Report Date
2. Nameplate Picture P37

3. Photos of all six sides of the machine. P45

4. Describe the Overall Condition of the Equipment as Received

Serviceable

Initial Mechanical/Electrical

5. Does Shaft Turn Freely? **(Yes) Yes**

6. Does Shaft Have Visible Damage? **(No) No** P17

7. Assembled Shaft Runout **0.002 Inches**

8. Assembled Shaft End Play **inches**

9. Air Gap Variation <10%

10. Lead Condition P56

11. Lead Length

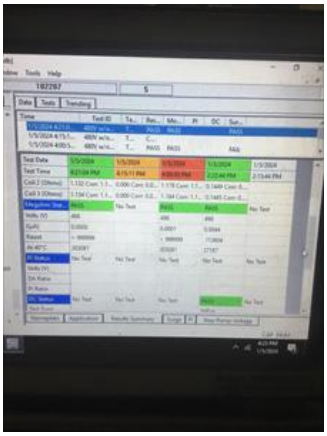
12. Lead Numbers

13.	Stator Temperature Detector Rating and Function				
	Quantity	Rating	Quantity Passed		
14.	Bearing Temperature Detector Rating and Function				
	Quantity	Rating	Quantity Passed		
15.	Frame Condition			**pass**	
16.	Fan Condition			**(P) Pass**	P109

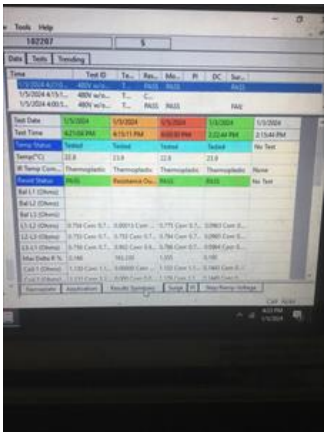
17.	Heater Quantity, Ratings				
	Quantity	Volts/Watts	Pass/Fail		
18.	Broken or Missing Components			**none**	

Initial Electrical Inspection

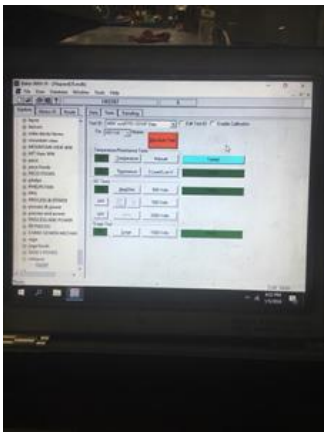
19.	Insulation Resistance/Megger	**Megohms**	P8

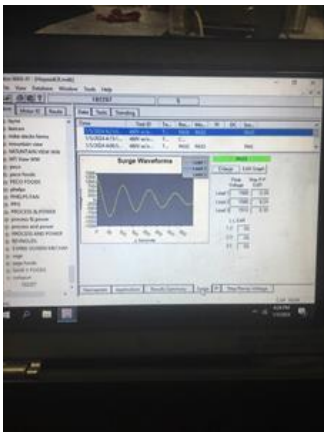


20.	Winding Resistance			P20
	1-2	1-3	2-3	



21.	Perform Surge Test	**(P) Pass**	P58





22.	Number of Stator Slots	**30**	
23.	Stator Condition	**pass**	
24.	Stator Thermistors/Ohms		
25.	Stator Overloads/Ohms		

Mechanical Inspection

26.	Drive End Bearing Brand	**NSK**	
27.	Drive End Bearing Number-	**6309**	P28

28.	Drive End Bearing Qty.	**1**	
29.	Drive End Bearing Type	**(Ball) Ball Bearing**	P50

30.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
31.	Drive End Bearing Insulation or Grounding Device?		
32.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	
33.	Drive End Bearing Condition	**replace**	P80

34.	Opposite Drive End Bearing Brand	**NSK**	
35.	Opposite Drive End Bearing Number-	**6309**	P97

36.	Opposite Drive End Bearing Qty.	**1**	
37.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
38.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	

39.	Opposite Drive End Bearing Insulation or Grounding Device?	
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**no**
41.	Opposite Drive End Bearing Condition	**replace**

42. Drive End Seal P119

43. Opposite Drive End Seal P121

44. DE Sleeve Bearing Inside Diameter

0 degrees	120 degrees	240 degrees

45. DE Sleeve Bearing Outside Diameter

0 degrees	120 degrees	240 degrees

46. DE Sleeve Bearing Housing Inside Diameter

0 degrees	120 degrees	240 degrees

47. DE Sleeve Bearing to Housing Clearance

0 degrees	120 degrees	240 degrees

48. ODE Sleeve Bearing Inside Diameter

0 degrees	120 degrees	240 degrees

49. ODE Sleeve Bearing Outside Diameter

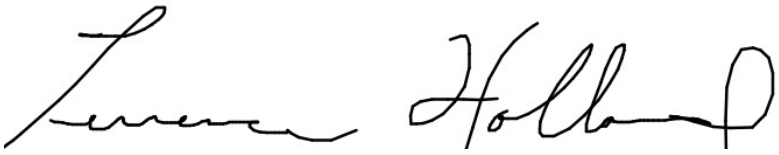
0 degrees	120 degrees	240 degrees

50.	ODE Sleeve Bearing Housing Inside Diameter		
	0 degrees	120 degrees	240 degrees
51.	ODE Sleeve Bearing to Housing Clearance		
	0 degrees	120 degrees	240 degrees

Rotor Inspection

52.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast** P3

53.	Growler Test	**(Pass) Pass**
54.	Number of Rotor Bars	**26**
55.	Rotor Condition	**pass**
56.	List the Parts needed for the Repair Below	
	2) 6309 bearings. Repair both shaft bearing journals.	
57.	Signature of Technician that Disassembled Motor	**Terrence Holland**



Mechanical Fits- Rotor

58.	Shaft Runout	**0.001 inches**
59.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

60.	Coupling Fit Closest to Bearing Housing	

0 Degrees	90 Degrees	120 Degrees

61.	Coupling Fit Closest to the end of the Shaft	

0 Degrees	60 Degrees	120 Degrees

62.	Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees
1.7712	**1.7712**	**1.7718**

Measures too small. Minimum is 1.7718.

63.	Drive End Bearing Shaft Fit Condition			**(F) Fail**
64.	Opposite Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	1.7725	**1.7726**	**1.7725**	
	Measures too large. Maximum is 1.7722			
65.	Opposite Drive End Bearing Shaft Fit Condition			**(F) Fail**
66.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		

Mechanical Fits- Bearing Housings

67.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	3.9373	**3.9373**	**3.9375**	
68.	Drive End - Endbell Bearing Fit Condition			**(P) Pass**
69.	Opposite Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	3.9375	**3.9376**	**3.9374**	
70.	Opposite Drive End - Endbell Bearing Fit Condition			**(P) Pass**
71.	Bearing Cap Condition			P52
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
	pass	**pass**		

72. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

73. List Machine Work Needed Below

Repair D.E. and O.DE bearing journals.

74. Technician **Terrence Holland**

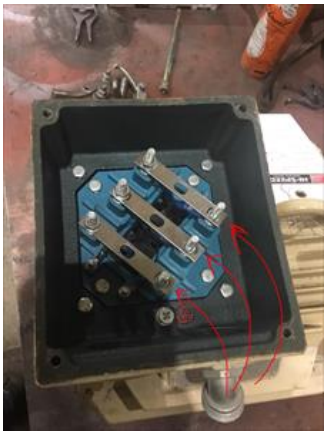
Root Cause of Failure

75. Failure locations

Shaft bearing journals.

76. Root cause of failure P18

Both bearing journals bad. Motor connection block terminals were missing nuts on one side.



Dynamic Balance Report

77. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

78. Initial Balance Readings

Drive End	Opposite Drive End

79. Final Balance Readings

Drive End	Opposite Drive End

80. Technician

Rewind

81. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

82. Core Hot Spot Test

Pre-Burnout	Post-Burnout

83. Post Rewind Electrical Test- Insulation Resistance

84.	Post Rewind Polarization Index		
85.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
86.	Post Rewind Surge Test		
87.	Post Rewind Hi-Pot		
88.	Technician		

Mechanical Fits- Rotor - Post Repair

89.	Shaft Runout Post Repair		
90.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
91.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
92.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
93.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
94.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
95.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
96.	Shaft Repair Sign-off		

Mechanical Fits- Bearing Housings - Post Repair

97.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
98.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
99.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
100.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
101.	DE Sleeve Bearing Inside ID Post Repair		
	Measure 1	Measure 2	Measure 3
102.	DE Sleeve Bearing Outside ID Post Repair		
	Measure 1	Measure 2	Measure 3

103.	DE Sleeve Bearing Inside OD Post Repair		
	Measure 1	Measure 2	Measure 3
104.	DE Sleeve Bearing Outside OD Post Repair		
	Measure 1	Measure 2	Measure 3
105.	End Bell Repair Sign-off		
106.	ODE Sleeve Bearing Inside ID Post Repair		
	Measure 1	Measure 2	Measure 3
107.	ODE Sleeve Bearing Outside ID Post Repair		
	Measure 1	Measure 2	Measure 3
108.	ODE Sleeve Bearing Inside OD Post Repair		
	Measure 1	Measure 2	Measure 3
109.	ODE Sleeve Bearing Outside OD Post Repair		
	Measure 1	Measure 2	Measure 3

Assembly

110.	QC Check All Parts for Cleanliness Prior to Assembly		
111.	Photograph All Major Components prior to assembly		
112.	Final Insulation Resistance Test		
113.	Assembled Shaft Endplay		
114.	Assembled Shaft Runout		
115.	Test Run Voltage		
	Volts	Volts	Volts
116.	Test Run Amperage		
	Amps	Amps	Amps
117.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
118.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
119.	Ambient Temperature - Fahrenheit		
120.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
121.	Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
122.	Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes

123.	Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
124.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
125.	Opposite Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
126.	Opposite Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
127.	Opposite Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
128.	Stator Temperatures- Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
129.	Stator Temperatures- Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
130.	Stator Temperatures- Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
131.	Stator Temperatures- Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
132.	Document Final Condition with Pictures after paint		
133.	Final Pics and QC Review		