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

AC Inspection as Found

Kimberly Clark (10176-KCM)
500 Murphy Dr.
Maumelle, AR 72113

FolderID: 102291
FormID: 18945120

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	A1910252090
Description:	200HP BALDOR 1800RPM 449T

Hi-Speed Job Number:	102291
Manufacturer:	Baldor
Spec/ID #:	A44-9023-2945
Serial Number:	A1910252090
HP/kW:	200 (HP)
RPM:	1790 (RPM)
Frame:	449T
Voltage:	460
Current:	229
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.00
Enclosure:	TEFC
J-box Included:	Complete
Coupling/Sheave:	Coupling
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **8 - Good**

Overall Condition

1. Report Date

2. Nameplate Picture — P37

Coupling is 1.5 in. Shaft out.

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

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Note: when reassembling apply sealant to both housings.

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	4.	Describe the Overall Condition of the Equipment as Received ***Serviceable***	
	5.	Distance from the end of the shaft to the Coupling/Sheave	**1.5 inches**
Initial Mechanical/Electrical			
●	6.	Does Shaft Turn Freely?	**(Yes) Yes**
	7.	Does Shaft Have Visible Damage?	**(No) No**
●	8.	Assembled Shaft Runout	**0.001 Inches**
	9.	Assembled Shaft End Play	
	10.	Air Gap Variation <10%	
●	11.	Lead Condition	**(P) Pass** P55

	12.	Lead Length	**14 Inches**

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13.	Lead Numbers	**1,2,3**	P83

6 leads No's 1-3 (2 ea.)

14.	Frame Condition	**pass**	
15.	Fan Condition	**(P) Pass**	P96

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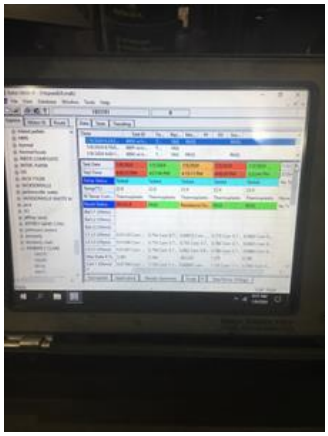
16.	Broken or Missing Components	**none**

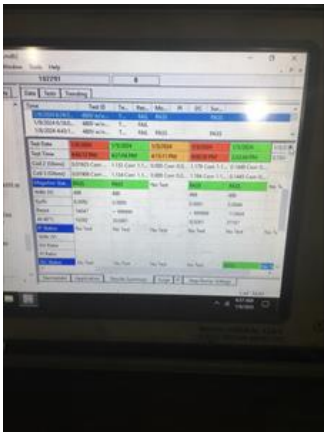
Initial Electrical Inspection

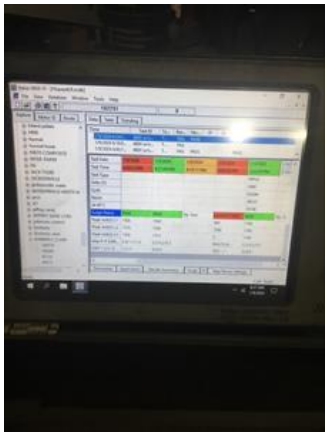
17.	Insulation Resistance/Megger	
18.	Winding Resistance	

1-2	1-3	2-3

19.	Perform Surge Test	P57







20.	Number of Stator Slots	**72**
21.	Stator Condition	

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22.	Stator Thermistors/Ohms		
23.	Stator Overloads/Ohms	**.1**	
	P1 & P2		

Mechanical Inspection

24.	Drive End Bearing Brand	**Nachi**	
25.	Drive End Bearing Number-	**6318 C3**	P30

26.	Drive End Bearing Qty.	**1**	
27.	Drive End Bearing Type	**(Ball) Ball Bearing**	
28.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
29.	Drive End Bearing Insulation or Grounding Device?		
30.	Drive End Wavy Washer/Snap-Ring Other Retention Device?		
31.	Drive End Bearing Condition	**replace**	

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32.	Opposite Drive End Bearing Brand	**skf**	P87

33.	Opposite Drive End Bearing Number-	**6318/C3 VL0241**	P90

34.	Opposite Drive End Bearing Qty.	**1**
35.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**
36.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
37.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**
38.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**
39.	Opposite Drive End Bearing Condition	**replace**
40.	Drive End Seal	**VA-90** P102

Dry rotted.

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41. Opposite Drive End Seal **VA-90** P103

Dry rotted.

Rotor Inspection

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

43.	Growler Test	**(Pass) Pass**
44.	Number of Rotor Bars	**58**
45.	Rotor Condition	**pass**
46.	List the Parts needed for the Repair Below	
47.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

48.	Shaft Runout			**0.001 inches**
49.	Rotor Runout			
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
50.	Coupling Fit Closest to Bearing Housing			
	0 Degrees	90 Degrees	120 Degrees	
51.	Coupling Fit Closest to the end of the Shaft			
	0 Degrees	60 Degrees	120 Degrees	
52.	Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	3.5436	**3.5435**	**3.5435**	
53.	Drive End Bearing Shaft Fit Condition			**(P) Pass**
54.	Opposite Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	3.5435	**3.5434**	**3.5434**	
55.	Opposite Drive End Bearing Shaft Fit Condition			**(P) Pass**
56.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		

Mechanical Fits- Bearing Housings

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57. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
7.4809	**7.481**	**7.481**

58. Drive End - Endbell Bearing Fit Condition **(P) Pass**

59. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
7.4808	**7.4806**	**7.4087**

60. Opposite Drive End - Endbell Bearing Fit Condition **(P) Pass**

61. Bearing Cap Condition P51

Drive End Bearing Cap	Opposite Drive End Bearing Cap
	pass

62. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

63. List Machine Work Needed Below

None

64. Technician **Terrence Holland**

Root Cause of Failure

65. Failure locations

Bearings and stator windings.

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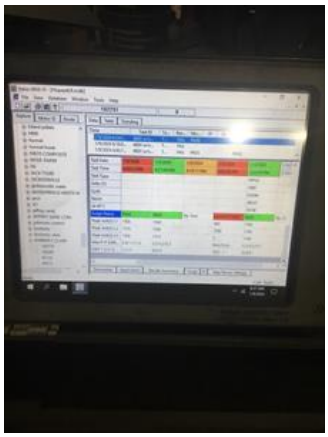
66. Root cause of failure

Windings failed resistance p.p ear test. Additionally, both bearings had hardened contaminated grease in them and showed signs of frosting and fluting. Recommend ceramic bearing in addition to aegis ring being installed to alleviate this problem. Also recommend stator rewind.



Dynamic Balance Report

67. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

68. Initial Balance Readings

Drive End	Opposite Drive End

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69.	Final Balance Readings		
	Drive End	Opposite Drive End	
70.	Technician		

Rewind

71.	Core Test Results - Watts loss per Pound		
	Pre-Burnout	Post Burnout	
72.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
73.	Post Rewind Electrical Test- Insulation Resistance		
74.	Post Rewind Polarization Index		
75.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
76.	Post Rewind Surge Test		
77.	Post Rewind Hi-Pot		
78.	Technician		

Mechanical Fits- Rotor - Post Repair

79.	Shaft Runout Post Repair		
80.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
81.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
82.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
83.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
84.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
85.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
86.	Shaft Repair Sign-off		

Mechanical Fits- Bearing Housings - Post Repair

87.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
88.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees

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89.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
90.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
91.	End Bell Repair Sign-off		
Assembly			
92.	QC Check All Parts for Cleanliness Prior to Assembly		
93.	Photograph All Major Components prior to assembly		
94.	Final Insulation Resistance Test		
95.	Assembled Shaft Endplay		
96.	Assembled Shaft Runout		
97.	Test Run Voltage		
	Volts	Volts	Volts
98.	Test Run Amperage		
	Amps	Amps	Amps
99.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
100.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
101.	Ambient Temperature - Fahrenheit		
102.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
103.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
104.	Document Final Condition with Pictures after paint		
105.	Final Pics and QC Review		

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