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

AC Inspection as Found

Baldor Warranty Division
685 Mid America Blvd
Hot Springs, AR 71913

FolderID: 103646
FormID: 21974764

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	C2301231302
Description:	30HP BALDOR 1760RPM

Hi-Speed Job Number:	103646
Manufacturer:	Baldor
Product Number:	CAT: EM4104T
Spec/ID #:	10C151Y538G1
Serial Number:	C2301231302
HP/kW:	30 (HP)
RPM:	1760 (RPM)
Frame:	286T
Voltage:	230 / 460
Current:	76/38 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	9
J-box Included:	Half
Coupling/Sheave:	None
Date Received:	10/09/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **2 - High** **9 - Good**

Overall Condition

1.	Report Date	**11/04/2024**

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?	**(Y) Yes**
6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**

	7.	Does Shaft Have Visible Damage?	**(No) No**	P26

●	8.	Assembled Shaft Runout	**0.001 Inches**	
	9.	Assembled Shaft End Play		
	10.	Air Gap Variation <10%		
●	11.	Lead Condition	**(P) Pass**	P69

	12.	Lead Length	**12 Inches**	
●	13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
	14.	Lead Numbers	**1-9**	P98

	15.	Frame Condition	**pass**	
●	16.	Fan Condition	**(P) Pass**	P116

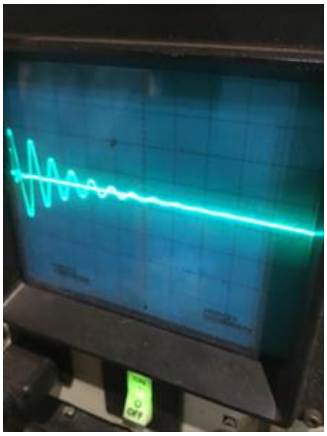
17.	Broken or Missing Components	**outer connection box cover**	

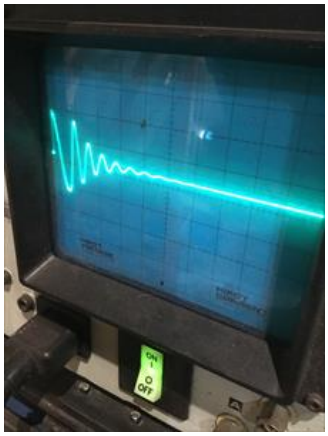
Initial Electrical Inspection

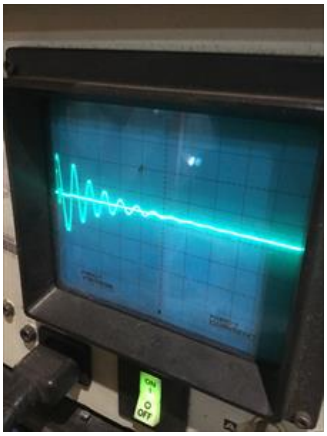
18.	Insulation Resistance/Megger	**Megohms**	
19.	Winding Resistance		

1-2	1-3	2-3

20.	Perform Surge Test	**(F) Fail**	P57







21.	Number of Stator Slots	**48**
22.	Stator Condition	**rewind**
23.	Stator Thermistors/Ohms	
24.	Stator Overloads/Ohms	

Mechanical Inspection

25.	Drive End Bearing Brand	**SKF**	P12

26.	Drive End Bearing Number-	**6311 C3**	P32

27.	Drive End Bearing Qty.	**1**
28.	Drive End Bearing Type	**(Ball) Ball Bearing**
29.	Drive End Lubrication Type	**(Grease) Grease Lubricated**
30.	Drive End Bearing Insulation or Grounding Device?	**none**
31.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**
32.	Drive End Bearing Condition	**replace** P83

33.	Opposite Drive End Bearing Brand	**SKF**	P93

34.	Opposite Drive End Bearing Number-	**6309 C3**	P100

35.	Opposite Drive End Bearing Qty.	**1**
36.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**
37.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
38.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**

39. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device? P115

40. Opposite Drive End Bearing Condition **replace** P119

41. Drive End Seal P121

42.	Opposite Drive End Seal	**none**

Rotor Inspection

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

44.	Growler Test	**(Pass) Pass**
45.	Number of Rotor Bars	**40**
46.	Rotor Condition	**pass**
47.	List the Parts needed for the Repair Below ***Rewind stator & replace both bearings.***	
48.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

49.	Shaft Runout	**0.001 inches**
50.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

51.	Coupling Fit Closest to Bearing Housing	

0 Degrees	90 Degrees	120 Degrees

52.	Coupling Fit Closest to the end of the Shaft			
	0 Degrees	60 Degrees	120 Degrees	
	1.8734	**1.8733**	**1.8734**	
53.	Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	2.1645	**2.1647**	**2.1645**	
54.	Drive End Bearing Shaft Fit Condition			**(F) Fail**
	Undersized: minimum allowed is 2.1655			
55.	Opposite Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	1.7718	**1.7718**	**1.7718**	
56.	Opposite Drive End Bearing Shaft Fit Condition			**(P) Pass**
57.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		

Mechanical Fits- Bearing Housings

58.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
59.	Drive End - Endbell Bearing Fit Condition			**(P) Pass**
60.	Opposite Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
61.	Opposite Drive End - Endbell Bearing Fit Condition			**(P) Pass**
62.	Bearing Cap Condition			P52
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
	pass	**pass**		

63.	End Bell Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
64.	List Machine Work Needed Below		
	D.E.shaft bearing journal measures too small		

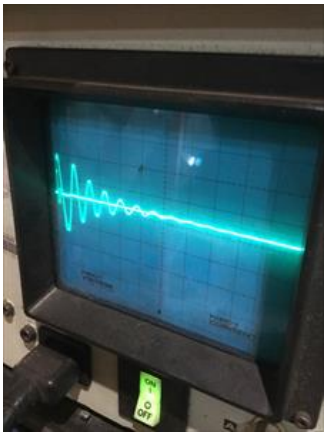
65. Technician **Terrence Holland**

Root Cause of Failure

66. Failure locations P9

67. Root cause of failure P18

Windings shorted turn to turn in slot.



Dynamic Balance Report

68. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

69. Initial Balance Readings

Drive End	Opposite Drive End

70. Final Balance Readings

Drive End	Opposite Drive End

71. Technician

Rewind

72.	Core Test Results - Watts loss per Pound		
	Pre-Burnout	Post Burnout	
73.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
74.	Post Rewind Electrical Test- Insulation Resistance		
75.	Post Rewind Polarization Index		
76.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
77.	Post Rewind Surge Test		
78.	Post Rewind Hi-Pot		
79.	Technician		
Assembly			
80.	QC Check All Parts for Cleanliness Prior to Assembly		
81.	Photograph All Major Components prior to assembly		
82.	Final Insulation Resistance Test		
83.	Assembled Shaft Endplay		
84.	Assembled Shaft Runout		
85.	Test Run Voltage		
	Volts	Volts	Volts
86.	Test Run Amperage		
	Amps	Amps	Amps
87.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
88.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
89.	Ambient Temperature - Fahrenheit		
90.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
91.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
92.	Document Final Condition with Pictures after paint		
93.	Final Pics and QC Review		