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

AC Inspection as Found

Weaver-Bailey Contractors
1601 Mayor Lane
Conway, AR 72032

FolderID: 102924
FormID: 20370850

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	C1203271497
Description:	100HP 404T BALDOR

Hi-Speed Job Number:	102924
Manufacturer:	Baldor
Product Number:	EM2555T
Serial Number:	C1203271497
HP/kW:	100 (HP)
RPM:	1780 (RPM)
Frame:	404T
Voltage:	230 / 460
Current:	236 / 118 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	ODP
# of Leads:	9
J-box Included:	Complete
Coupling/Sheave:	Coupling
Date Received:	05/13/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Winding Type :	Random Wound

Priorities Found: **2 - High** **8 - Good**

Overall Condition

1.	Report Date	**05/16/2024**	
2.	Nameplate Picture		P37

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

	4.	Describe the Overall Condition of the Equipment as Received ***Covered with concrete.***	
	5.	Distance from the end of the shaft to the Coupling/Sheave	**2.375 inches**
Initial Mechanical/Electrical			
●	6.	Does Shaft Turn Freely?	**(Y) Yes**
●	7.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**
	8.	Does Shaft Have Visible Damage?	**(No) No**
●	9.	Assembled Shaft Runout	**0.001 Inches**
	10.	Assembled Shaft End Play ***Na***	**inches**
	11.	Air Gap Variation <10%	**na**
●	12.	Lead Condition	**(P) Pass**
	13.	Lead Length	**12 Inches**

14.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**	P93

15.	Lead Numbers	**1-9**
16.	Frame Condition	
	Dirty	
17.	Fan Condition	**(N) NA**
18.	Heater Quantity, Ratings	

Quantity	Volts/Watts	Pass/Fail

Na

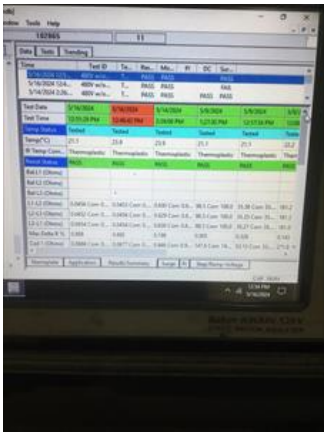
19.	Broken or Missing Components	

Initial Electrical Inspection

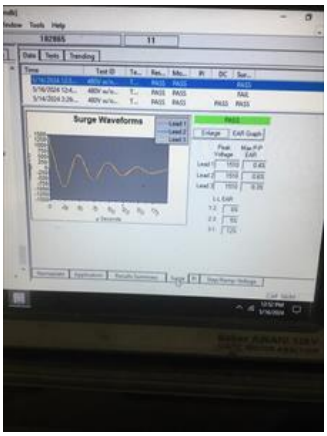
20.	Insulation Resistance/Megger	**Megohms**	P8

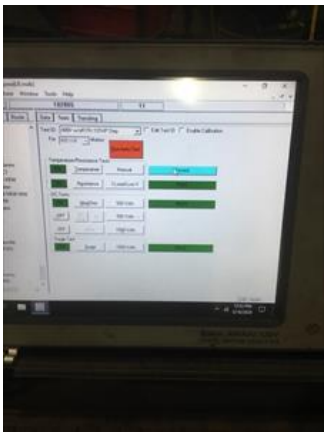
21. Winding Resistance P20

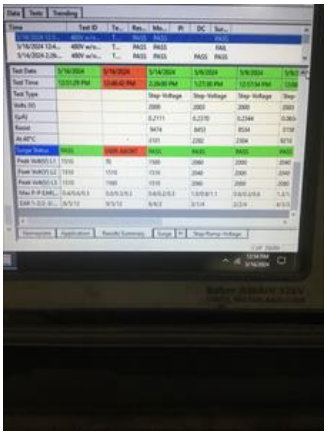
1-2	1-3	2-3

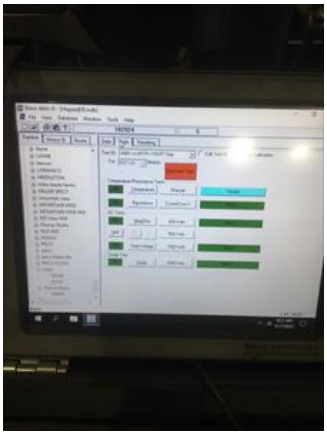


22. Perform Surge Test **(P) Pass** P57









After wash and bake.

23. Number of Stator Slots **48**

24. Stator Condition **wash and bake**

25. Stator Thermistors/Ohms

Na

26. Stator Overloads/Ohms

Mechanical Inspection

27.	Drive End Bearing Brand	**NTN**	
28.	Drive End Bearing Number-	**6316**	P32

29.	Drive End Bearing Qty.	**1**	
30.	Drive End Bearing Type	**(Ball) Ball Bearing**	
31.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
32.	Drive End Bearing Insulation or Grounding Device?		
33.	Drive End Wavy Washer/Snap-Ring Other Retention Device?		
	Na		
34.	Drive End Bearing Condition	**replace**	
35.	Opposite Drive End Bearing Brand	**SKF**	
36.	Opposite Drive End Bearing Number-	**6312**	P99

37.	Opposite Drive End Bearing Qty.	**1**	
38.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
39.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
40.	Opposite Drive End Bearing Insulation or Grounding Device?	**na**	
41.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	
42.	Opposite Drive End Bearing Condition	**replace**	
43.	Drive End Seal	**na**	
44.	Opposite Drive End Seal	**na**	
45.	DE Sleeve Bearing Inside Diameter		

0 degrees	120 degrees	240 degrees

46.	DE Sleeve Bearing Outside Diameter		
	0 degrees	120 degrees	240 degrees
47.	DE Sleeve Bearing Housing Inside Diameter		
	0 degrees	120 degrees	240 degrees
48.	DE Sleeve Bearing to Housing Clearance		
	0 degrees	120 degrees	240 degrees
49.	ODE Sleeve Bearing Inside Diameter		
	0 degrees	120 degrees	240 degrees
50.	ODE Sleeve Bearing Outside Diameter		
	0 degrees	120 degrees	240 degrees
51.	ODE Sleeve Bearing Housing Inside Diameter		
	0 degrees	120 degrees	240 degrees
52.	ODE Sleeve Bearing to Housing Clearance		
	0 degrees	120 degrees	240 degrees

Rotor Inspection

53.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
54.	Growler Test	**(Pass) Pass**
55.	Number of Rotor Bars	**40**
56.	Rotor Condition	**pass**
57.	List the Parts needed for the Repair Below ***Bearings & extensive clean up***	
58.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Co witness RRW

Mechanical Fits- Rotor

59.	Shaft Runout		**0.001 inches**
60.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
61.	Coupling Fit Closest to Bearing Housing		
	0 Degrees	90 Degrees	120 Degrees
62.	Coupling Fit Closest to the end of the Shaft		
	0 Degrees	60 Degrees	120 Degrees

63. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
3.1496	**3.1496**	**3.1495**

64. Drive End Bearing Shaft Fit Condition **(P) Pass**

65. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
2.3623	**2.3623**	**2.3624**

66. Opposite Drive End Bearing Shaft Fit Condition **(P) Pass** P95

67. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

68. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
6.6942	**6.695**	**6.6947**

69. Drive End - Endbell Bearing Fit Condition **(F) Fail**

70. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
5.119	**5.1189**	**5.119**

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

72. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
pass	**na**

73. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Na

74. List Machine Work Needed Below

D.E housing fit bad

75. Technician **Terrence Holland**

Root Cause of Failure

76. Failure locations

D.E housing

77. Root cause of failure

Bearing failure due to contaminated grease and excessive amounts of concrete on motor.

Dynamic Balance Report

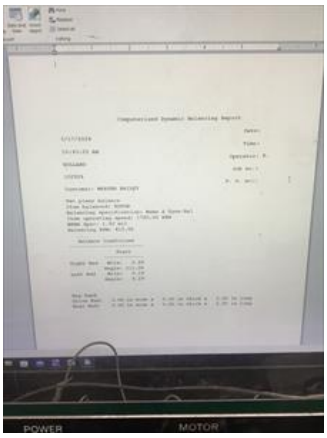
78. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

Na

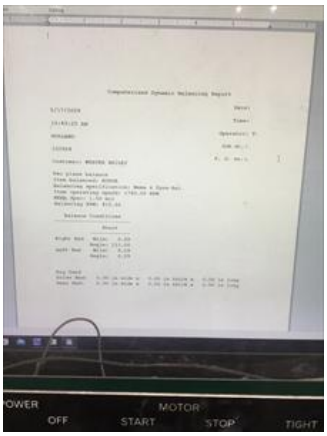
79. Initial Balance Readings P11

Drive End	Opposite Drive End



80. Final Balance Readings P27

Drive End	Opposite Drive End



81. Technician **Terrence Holland**

Rewind

82.	Core Test Results - Watts loss per Pound			
	Pre-Burnout	Post Burnout		
83.	Core Hot Spot Test			
	Pre-Burnout	Post-Burnout		
84.	Post Rewind Electrical Test- Insulation Resistance			**Megohms**
85.	Post Rewind Polarization Index			**Polarization Index**
86.	Post Rewind Winding Resistance			
	1-2	1-3	2-3	
87.	Post Rewind Surge Test			
88.	Post Rewind Hi-Pot			**micro-amps**
89.	Technician			
Mechanical Fits- Rotor - Post Repair				
90.	Shaft Runout Post Repair			**inches**
91.	Rotor Runout Post Repair			
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
92.	Coupling Fit Closest to Bearing Housing Post Repair			
	0 Degrees	90 Degrees	120 Degrees	
93.	Coupling Fit Closest to the end of the Shaft Post Repair			
	0 Degrees	60 Degrees	120 Degrees	
94.	Drive End Bearing Shaft Fit Post Repair			
	0 Degrees	60 Degrees	120 Degrees	
95.	Opposite Drive End Bearing Shaft Fit Post Repair			
	0 Degrees	60 Degrees	120 Degrees	
96.	Shaft Air Seal Fits Post Repair			
	Drive End Air Seal	Opposite Drive End Air Seal		
97.	Shaft Repair Sign-off			
Mechanical Fits- Bearing Housings - Post Repair				

98. Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees
6.6934	**6.6934**	**6.6934**

99. Opposite Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

100. Bearing Cap Condition Post Repair

Drive End Bearing Cap	Opposite Drive End Bearing Cap

101. End Bell Air Seal Fits Post Repair

Drive End Air Seal	Opposite Drive End Air Seal

102. DE Sleeve Bearing Inside ID Post Repair

Measure 1	Measure 2	Measure 3

103. DE Sleeve Bearing Outside ID Post Repair

Measure 1	Measure 2	Measure 3

104. DE Sleeve Bearing Inside OD Post Repair

Measure 1	Measure 2	Measure 3

105. DE Sleeve Bearing Outside OD Post Repair

Measure 1	Measure 2	Measure 3

106. End Bell Repair Sign-off **Gary**

107. ODE Sleeve Bearing Inside ID Post Repair

Measure 1	Measure 2	Measure 3

108. ODE Sleeve Bearing Outside ID Post Repair

Measure 1	Measure 2	Measure 3

109. ODE Sleeve Bearing Inside OD Post Repair

Measure 1	Measure 2	Measure 3

110. ODE Sleeve Bearing Outside OD Post Repair

Measure 1	Measure 2	Measure 3

Assembly

111. QC Check All Parts for Cleanliness Prior to Assembly **Terrence Holland**

112. Photograph All Major Components prior to assembly **(Complete) Complete** P17

113. Final Insulation Resistance Test **Megohms**

Na

114. Assembled Shaft Endplay **inches**

Na

115. Assembled Shaft Runout **inches**

Na

116. Test Run Voltage P56

Volts	Volts	Volts
457	**456**	**458**

117. Test Run Amperage

Amps	Amps	Amps

	44.7	**42.9**	
118.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	Na		
119.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	Na		
120.	Ambient Temperature - Fahrenheit		
	Na		
121.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
	Na		
122.	Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
	Na		
123.	Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
	Na		
124.	Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
	Na		
125.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
	Na		
126.	Opposite Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
	Na		
127.	Opposite Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
	Na		
128.	Opposite Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
	Na		
129.	Document Final Condition with Pictures after paint		P129