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

AC Inspection as Found

Cerf Shelby LLC
7103 OLD MILLINGTON ROAD
MILLINGTON, TN 38053

FolderID: 153024
FormID: 20729002

AC Inspection - Rev. 2

Completed by: Brandon Woodard on 06/18/2024

Location:

Serial Number: A1307022093

Description:125 HP AC

Hi-Speed Job Number:	153024
Manufacturer:	Baldor
Spec/ID #:	A44-4469-1796
Serial Number:	A1307022093
HP/kW:	125 (HP)
RPM:	1785 (RPM)
Frame:	444T
Voltage:	460
Current:	139 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1
Enclosure:	TEFC
# of Leads:	3
J-box Included:	None
Coupling/Sheave:	Coupling
Date Received:	06/13/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Teardown Inspection
Rewind:	Yes
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	Yes
Winding Type :	Random Wound
Bearing Type:	Rolling Element

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

Overall Condition

1.	Report Date	**06/18/2024**

2. Nameplate Picture P2

3. Photos of all six sides of the machine. P3

	4.	Describe the Overall Condition of the Equipment as Received ***Stator will run but surge test failed. Recommend rewind. No Machine work needed.***	
	5.	Distance from the end of the shaft to the Coupling/Sheave	**1.275 inches** P5

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	**0.001 inches**
	11.	Air Gap Variation <10%	**No Provisions for measurement**

12.	Lead Condition		**(P) Pass**	P12

13.	Lead Length	**20 Inches**	
14.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
15.	Lead Numbers	**1-3**	
16.	Frame Condition	**Pass**	
17.	Fan Condition	**(P) Pass**	P17

18. Heater Quantity, Ratings — P18

Quantity	Volts/Watts	Pass/Fail
2		

19.	Broken or Missing Components	**None**

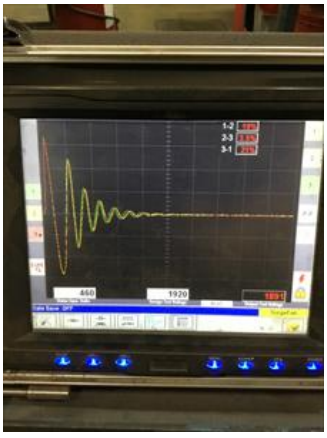
Initial Electrical Inspection

20. Insulation Resistance/Megger **Megohms** P20

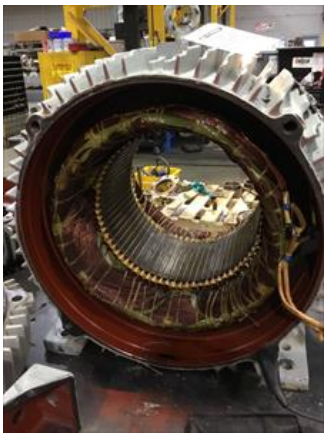
21. Winding Resistance P21

1-2	1-3	2-3

22. Perform Surge Test **(F) Fail** P22



23. Number of Stator Slots **72** P23



24.	Stator Condition	**Recommend Rewind**	
	Stator will run but surge test failed. Recommend rewind.		
25.	Stator Thermistors/Ohms	**N/A**	
26.	Stator Overloads/Ohms	**N/A**	

Mechanical Inspection

27.	Drive End Bearing Brand	**FAG**	P27

28.	Drive End Bearing Number-	**6318 ZZ C3**
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?	**None**

33.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**None**	
34.	Drive End Bearing Condition	**pitted**	P34

Moisture Present

35.	Opposite Drive End Bearing Brand	**NTN**	P35

36.	Opposite Drive End Bearing Number-	**6318 ZZ C3**	
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?	**None**	
41.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Wavy Washer**	P41

42.	Opposite Drive End Bearing Condition	**Normal Wear**	P42

43.	Drive End Seal	**None**	
44.	Opposite Drive End Seal	**None**	

Rotor Inspection

45.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
46.	Growler Test	**(Pass) Pass**	
47.	Number of Rotor Bars	**58**	P47

48.	Rotor Condition	**Pass**	
49.	List the Parts needed for the Repair Below ***VA 90 x2*** ***6318 ZZ C3 x2***		
50.	Signature of Technician that Disassembled Motor	**Brandon Woodard**	

Mechanical Fits- Rotor

51.	Shaft Runout	**0.001 inches**	
52.	Rotor Runout		

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
0.001	**0.001**	**0.001**

53. Coupling Fit Closest to Bearing Housing P53

0 Degrees	90 Degrees	120 Degrees
3.375	**3.375**	**3.375**

54. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees
3.375	**3.375**	**3.375**

55. Drive End Bearing Shaft Fit P55

0 Degrees	60 Degrees	120 Degrees
3.5435	**3.5435**	**3.5435**

Tolerance is 3.5434-3.5440

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

57. Opposite Drive End Bearing Shaft Fit P57

0 Degrees	60 Degrees	120 Degrees
3.5437	**3.5437**	**3.5437**

Tolerance is 3.5434-3.5440

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

59. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
Pass	**Pass**

Mechanical Fits- Bearing Housings

60. Drive End - Endbell Bearing Fit P60

0 Degrees	60 Degrees	120 Degrees
7.4814	**7.4814**	**7.4814**

Tolerance is 7.4803-7.4814

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

62. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
7.4813	**7.4813**	**7.4813**

Tolerance is 7.4803-7.4814

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

64. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
Pass	**Pass**

65. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
Pass	**Pass**

66. List Machine Work Needed Below

None

67. Technician **Brandon Woodard**

Root Cause of Failure

68. Failure locations

Drive end bearing

69. Root cause of failure

Water intrusion.