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

AC Inspection as Found

UNITED SOLUTIONS
1052 INDUSTRIAL PARK RD
SARDIS, MS 38666

FolderID: 153300
FormID: 21235398

AC Inspection - Rev. 2

Location:	Motor Shop
Serial Number:	

Hi-Speed Job Number:	153300
Manufacturer:	Other
Product Number:	WK 315M/4-550T
Spec/ID #:	7215392
HP/kW:	400 (HP)
RPM:	1780 (RPM)
Frame:	550T
Voltage:	460
Current:	450 (Amps)
Phase:	Three
Hz:	60 (Hz)
# of Leads:	12
J-box Included:	Complete
Coupling/Sheave:	Coupling
Date Received:	07/25/2024
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:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **3 - High** **8 - Good**

Overall Condition

1.	Report Date	**08/07/2024**

2. Nameplate Picture P2

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

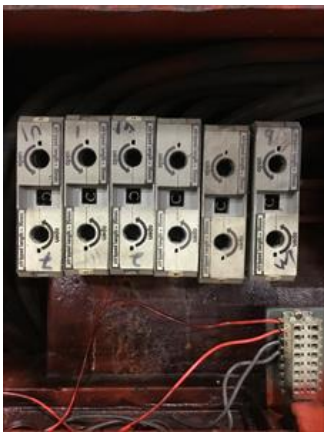
4.	Describe the Overall Condition of the Equipment as Received ***Stator windings blown in center of iron. Requires extensive repair work or restack. Rotor has several rotor bars broken and requires extensive repair or replacement.***		
5.	Distance from the end of the shaft to the Coupling/Sheave	**-0.25 inches**	P5

6.	Report Date [COPY]		

Initial Mechanical/Electrical

7.	Does Shaft Turn Freely?	**(Y) Yes**	
8.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**	
9.	Does Shaft Have Visible Damage?	**(No) No**	
10.	Assembled Shaft Runout	**0.001 Inches**	
11.	Assembled Shaft End Play	**0.001 inches**	

	12.	Air Gap Variation <10%	**No Provisions for Measurement**
●	13.	Lead Condition	**(P) Pass**
	14.	Lead Length	**24 Inches**
●	15.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**
	16.	Lead Numbers	P16



	17.	Frame Condition	**Pass**
	18.	Fan Condition	**(N) NA**
	19.	Broken or Missing Components	P22

Coupling set screw

Initial Electrical Inspection

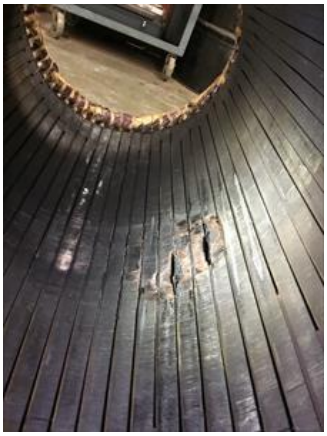
	20.	Insulation Resistance/Megger	**0 Megohms**
	21.	Winding Resistance	

1-2	1-3	2-3
0	**0**	**0**

●	22.	Perform Surge Test	**(F) Fail**
	23.	Number of Stator Slots	**60**

24.	Stator Condition	**Requires rewind**	P27

Additionally stator will require extensive iron work or restock!!!



25.	Stator Thermistors/Ohms	**186**
26.	Stator Overloads/Ohms	**N/A**

Mechanical Inspection

27.	Drive End Bearing Brand	**FAG**	P30

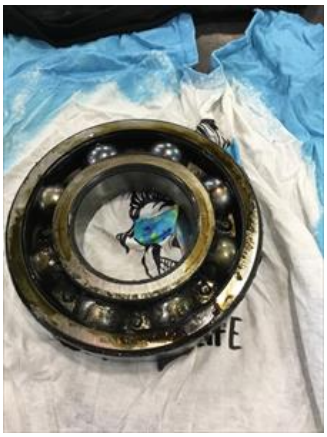
28.	Drive End Bearing Number-	**6317 C3**
29.	Drive End Bearing Qty.	**1**
30.	Drive End Bearing Type	**(Ball) Ball Bearing**
31.	Drive End Lubrication Type	**(Grease) Grease Lubricated**
32.	Drive End Bearing Insulation or Grounding Device?	**None**

33.	Drive End Wavy Washer/Snap-Ring Other Retention Device?		P36

34.	Drive End Bearing Condition	**Normal wear**	
35.	Opposite Drive End Bearing Brand	**FAG**	P38

36.	Opposite Drive End Bearing Number-	**6317 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?		P44

42.	Opposite Drive End Bearing Condition	**Normal wear**	P45



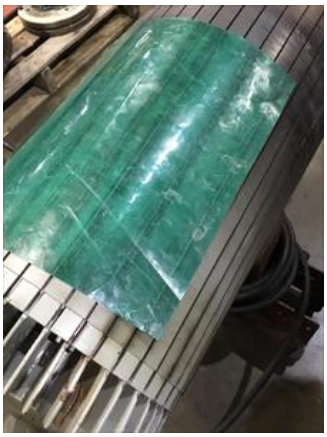
43.	Drive End Seal	**va 85**
44.	Opposite Drive End Seal	**va 85**

Rotor Inspection

45.	Rotor Type/Material	**(Copper Barred) Copper Barred Rotor**
46.	Growler Test	**(Pass) Pass**
47.	Number of Rotor Bars	**48**

48. Rotor Condition **requires extensive repair** P59

Several rotor bars broken.



49. List the Parts needed for the Repair Below

2- Va 85
2- 6317 c3

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			
	0 Degrees	90 Degrees	120 Degrees	
	3.125	**3.125**	**3.125**	
54.	Coupling Fit Closest to the end of the Shaft			
	0 Degrees	60 Degrees	120 Degrees	
	3.125	**3.125**	**3.125**	
55.	Drive End Bearing Shaft Fit			P66
	0 Degrees	60 Degrees	120 Degrees	
	3.3467	**3.3467**	**3.3467**	
	Tolerance is 3.3466-4.3472			

56.	Drive End Bearing Shaft Fit Condition	**(P) Pass**	
57.	Opposite Drive End Bearing Shaft Fit		P68
	0 Degrees	60 Degrees	120 Degrees
	3.3468	**3.3468**	**3.3468**
	Tolerance is 3.3466-4.3472		

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

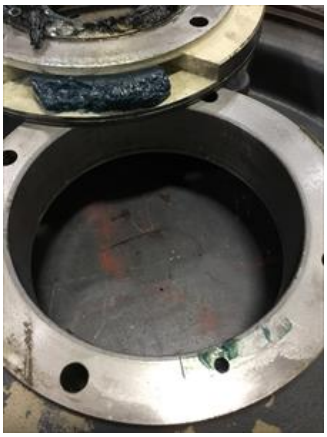
59.	Shaft Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
	Pass	**Pass**	

Mechanical Fits- Bearing Housings

60.	Drive End - Endbell Bearing Fit			P71
	0 Degrees	60 Degrees	120 Degrees	
	7.0872	**7.0872**	**7.0872**	
	Tolerance is 7.0866-7.0876			

61.	Drive End - Endbell Bearing Fit Condition	**(P) Pass**
62.	Opposite Drive End - Endbell Bearing Fit	P73

	0 Degrees	60 Degrees	120 Degrees
	7.0871	**7.0871**	**7.0871**
	Tolerance is 7.0866-7.0876		



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
69. Root cause of failure