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

AC Inspection as Found

USG Interiors
850 No Broadway
Greenville, MS 38701

FolderID: 154208
FormID: 22392170

AC Inspection - Rev. 2

Location:	Millington Motorshop
Serial Number:	Z0209030129
Description:	50 Hp

Hi-Speed Job Number:	154208
Manufacturer:	Baldor
Product Number:	M4115T
Spec/ID #:	10F315X633H1
HP/kW:	50 (HP)
RPM:	1760 (RPM)
Frame:	326T
Voltage:	230 / 460
Current:	60 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	9
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	11/26/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Teardown Inspection
Rewind:	Yes
Shaft Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

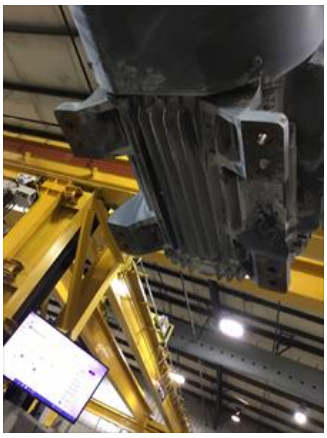
Priorities Found: **9 - High** **4 - Good**

Overall Condition

1.	Report Date	**11/26/2024**

2. Nameplate Picture P2

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



	4.	Describe the Overall Condition of the Equipment as Received ***Drive end bearing crashed dropped into the iron causing winding fail***	

Initial Mechanical/Electrical

🔴	5.	Does Shaft Turn Freely? ***Turns but rough***	**(N) No**	P6

🔴	6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(Yes) Yes**
	7.	Does Shaft Have Visible Damage?	**(No) No**
	8.	Assembled Shaft Runout	**0.001 Inches**
	9.	Assembled Shaft End Play	**0.001 inches**
	10.	Air Gap Variation <10%	
🟢	11.	Lead Condition	**(P) Pass**
	12.	Lead Length	**11 Inches**
	13.	Does it have Lugs?, If so what is the Stud Size? ***1/4"***	**(Yes) Yes**
	14.	Lead Numbers ***1,2,3 (47)(58)(69)***	**1-9**
	15.	Frame Condition	**good**

16. Fan Condition P19

17. Broken or Missing Components **no**

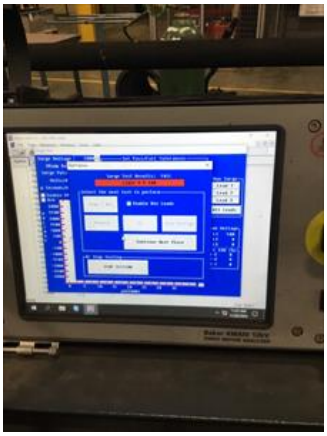
Initial Electrical Inspection

18. Insulation Resistance/Megger **0 Megohms**

19. Winding Resistance P23

1-2	1-3	2-3
.126	**.136**	**.135**

20. Perform Surge Test **(F) Fail** P24



21. Number of Stator Slots **48**

22.	Stator Condition		P26

23.	Stator Thermistors/Ohms	**none**	
24.	Stator Overloads/Ohms	**none**	

Mechanical Inspection

25.	Drive End Bearing Brand	**SKF**	
26.	Drive End Bearing Number-	**6312 C3**	
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?	**yes**	P35

32.	Drive End Bearing Condition	**crashed**	P36

33.	Opposite Drive End Bearing Brand	**SKF**	
34.	Opposite Drive End Bearing Number-	**6309C3**	P38

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 present**	
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	P43

Plastic piece in ode bearing cap

40.	Opposite Drive End Bearing Condition	**dirty mixed grease**	P44

41.	Drive End Seal	**slinger**
42.	Opposite Drive End Seal	**none present**

Rotor Inspection

43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
44.	Growler Test	**(Pass) Pass**
45.	Number of Rotor Bars	**40**
46.	Rotor Condition	**acceptable**
47.	List the Parts needed for the Repair Below ***6312 C3 bearing*** ***6309 C3 bearing*** ***Rewind***	
48.	Signature of Technician that Disassembled Motor	**Brian Goines**

Mechanical Fits- Rotor

49.	Shaft Runout		
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

53. Drive End Bearing Shaft Fit P65

0 Degrees	60 Degrees	120 Degrees
2.353	**2.353**	**2.353**

60mm = 2.3622 Pressfit tolerance is from 2.3623 to 2.3628

54. Drive End Bearing Shaft Fit Condition **(F) Fail**

55. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
1.7714	**1.7714**	**1.7714**

45mm = 1.7716 Pressfit tolerance is from 1.7718 to 1.7722

56. Opposite Drive End Bearing Shaft Fit Condition **(F) Fail**

57. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

58. Drive End - Endbell Bearing Fit P70

0 Degrees	60 Degrees	120 Degrees
5.1202	**5.1201**	**5.12**

130mm = 5.1181 Tolerance is from 5.1181 to 5.1191

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

60. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
3.9392	**3.9395**	**3.9394**

100mm = 3.9370 Tolerance is from 3.9370 to 3.9379

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

62. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

63. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

64. List Machine Work Needed Below

DE shaft fit needs to be metalized and both endbells need to be bored and bushed

65. Technician **Roger Ventrini**

Root Cause of Failure

66. Failure locations

67. Root cause of failure