



KEEPING YOUR FACILITY UP TO SPEED
— EVERY DAY SINCE 1946 —

LR Motor Shop Repairs

Job Number 103308

Prepared for Phelps Fan Manufacturing Co.

10701 Interstate 30
Little Rock AR 72209

Table of Contents



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

AC Inspection as Found
Phelps Fan Manufacturing Co.
10701 Interstate 30
Little Rock, AR 72209

FolderID: 103308
FormID: 21189108

AC Inspection - Rev. 2

Location: MOTOR SHOP LR

Serial Number:

Description: 25HP ABB 3528RPM

Hi-Speed Job Number: 103308

Manufacturer: ABB

HP/kW: 25 (HP)

RPM: 3528 (RPM)

Frame: 160L

Voltage: 460

Current: 27.5 (Amps)

Phase: Three

Hz: 60 (Hz)

Enclosure: TEFC

of Leads: 6

J-box Included: Complete

Coupling/Sheave: None

Bearing RTDs: No

Stator RTDs: No

Repair Stage: Final

Rewind: No

**Shaft Machined Fit Repairs
Required:** No

**Bearing Housing Machined
Fit Repairs Required:** Yes

Heaters: No

Winding Type : Random Wound

Bearing Type: Rolling Element

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

Overall Condition

1. Report Date

08/02/2024

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1.0

2. Nameplate Picture



3. Photos of all six sides of the machine.





4.	Describe the Overall Condition of the Equipment as Received	
	<i>Serviceable</i>	
5.	Report Date [COPY]	08/02/2024
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	Inches
	<i>Na</i>	
10.	Assembled Shaft End Play	inches
	<i>Na</i>	
11.	Air Gap Variation <10%	
	<i>Na</i>	

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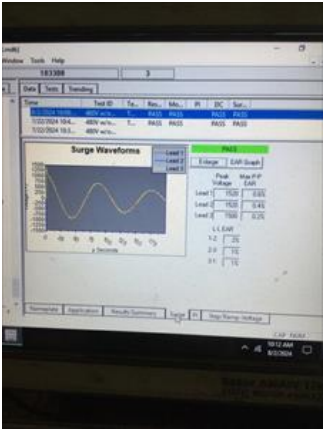
13. Lead Length	12 Inches
14. Does it have Lugs?, If so what is the Stud Size?	(Yes) Yes
15. Lead Numbers	1-6
16. Frame Condition	pass
17. Fan Condition	(F) Fail



18. Broken or Missing Components	na	
Initial Electrical Inspection		
19. Insulation Resistance/Megger	7548 Megohms	
20. Winding Resistance		
1-2	1-3	2-3
.319	.319	.319

21. Perform Surge Test

(P) Pass



22. Number of Stator Slots	36
23. Stator Condition	
Wash and bake	



24. Stator Thermistors/Ohms	na
25. Stator Overloads/Ohms	na
Mechanical Inspection	
26. Drive End Bearing Brand	FAG
27. Drive End Bearing Number-	6209ZZ



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28. Drive End Bearing Qty.	1
29. Drive End Bearing Type	(Ball) Ball Bearing
30. Drive End Lubrication Type	(Grease) Grease Lubricated
31. Drive End Bearing Insulation or Grounding Device?	NA
32. Drive End Wavy Washer/Snap-Ring Other Retention Device?	Na
33. Drive End Bearing Condition	starting to frost



34. Opposite Drive End Bearing Brand	FAG
35. Opposite Drive End Bearing Number-	6209ZZ



36. Opposite Drive End Bearing Qty.	1
37. Opposite Drive End Bearing Type	(Ball) Ball Bearing
38. Opposite Drive End Lubrication Type	(Grease) Grease Lubricated
39. Opposite Drive End Bearing Insulation or Grounding Device?	Na
40. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	wavy washer
41. Opposite Drive End Bearing Condition	frosted

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42. Drive End Seal	Na
43. Opposite Drive End Seal	Na
Rotor Inspection	
44. Rotor Type/Material	(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast



45. Growler Test	(Pass) Pass
46. Number of Rotor Bars	28
47. Rotor Condition	pass
48. List the Parts needed for the Repair Below 2- 6209ZZ	
49. Signature of Technician that Disassembled Motor	RW

Mechanical Fits- Rotor	
50. Shaft Runout	0.0008 inches
51. Rotor Runout	
Drive End Bearing Fit	Rotor Body
	Opposite Drive End Bearing
Na	

52. Coupling Fit Closest to Bearing Housing			
0 Degrees	90 Degrees	120 Degrees	
Na			
53. Coupling Fit Closest to the end of the Shaft			
0 Degrees	60 Degrees	120 Degrees	
Na			
54. Drive End Bearing Shaft Fit			
0 Degrees	60 Degrees	120 Degrees	
1.7722	1.7723	1.7722	
55. Drive End Bearing Shaft Fit Condition			(P) Pass
56. Opposite Drive End Bearing Shaft Fit			
0 Degrees	60 Degrees	120 Degrees	
1.7722	1.7722	1.7722	
57. Opposite Drive End Bearing Shaft Fit Condition			(P) Pass
58. Shaft Air Seal Fits			
Drive End Air Seal	Opposite Drive End Air Seal		
pass			
Mechanical Fits- Bearing Housings			
59. Drive End - Endbell Bearing Fit			
0 Degrees	60 Degrees	120 Degrees	
3.3468	3.3467	3.3467	
60. Drive End - Endbell Bearing Fit Condition			(P) Pass



61. Opposite Drive End - Endbell Bearing Fit			
0 Degrees	60 Degrees	120 Degrees	
3.3483	3.3483	3.478	

62. Opposite Drive End - Endbell Bearing Fit Condition

(F) Fail

Resleeve



63. Bearing Cap Condition

Drive End Bearing Cap

Opposite Drive End Bearing Cap

pass

64. End Bell Air Seal Fits

Drive End Air Seal

Opposite Drive End Air Seal

pass

65. List Machine Work Needed Below

Ode end bell bearing fit bad

66. Technician

RW

Co sign: CRW

Root Cause of Failure

67. Failure locations

Bell housing and frosted bearing

68. Root cause of failure

Ode end bell bearing fit bad

Dynamic Balance Report

69. Rotor Weight and Balance Grade

Rotor Weight

Balance Grade

70. Initial Balance Readings

Drive End

Opposite Drive End

71. Final Balance Readings

Drive End

Opposite Drive End

72. Technician

Mechanical Fits- Bearing Housings - Post Repair

73. Drive End - Endbell Bearing Fit Post Repair			
0 Degrees	60 Degrees	120 Degrees	
74. Opposite Drive End - Endbell Bearing Fit Post Repair			
0 Degrees	60 Degrees	120 Degrees	
75. Bearing Cap Condition Post Repair			
Drive End Bearing Cap	Opposite Drive End Bearing Cap		
76. End Bell Air Seal Fits Post Repair			
Drive End Air Seal	Opposite Drive End Air Seal		
77. End Bell Repair Sign-off			
Assembly			
78. QC Check All Parts for Cleanliness Prior to Assembly			
79. Photograph All Major Components prior to assembly			
80. Final Insulation Resistance Test			
81. Assembled Shaft Endplay			
82. Assembled Shaft Runout			
83. Test Run Voltage			
Volts	Volts	Volts	
84. Test Run Amperage			
Amps	Amps	Amps	
85. Drive End Vibration Readings - Inches Per Second			
Horizontal	Vertical	Axial	
86. Opposite Drive End Vibration Readings - Inches Per Second			
Horizontal	Vertical	Axial	
87. Ambient Temperature - Fahrenheit			
88. Drive End Bearing Temps - Fahrenheit			
5 Minutes	10 Minutes	15 Minutes	
89. Opposite Drive End Bearing Temps - Fahrenheit			
5 Minutes	10 Minutes	15 Minutes	
90. Document Final Condition with Pictures after paint			
91. Final Pics and QC Review			



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