

LR Motor Shop Repairs

Job Number 103006

Prepared for Process & Power

1625 East 145th Street Little Rock AR 72206

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AC Inspection as Found - MOTOR SHOP LR

AC Inspection - Rev. 2

1.0



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

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AC Inspection as Found

Process & Power

1625 East 145th Street Little Rock, AR 72206

AC Inspection - Rev. 2

Location:

MOTOR SHOP LR

Serial Number:

Description: 125HP RELIANCE ELECTRIC MOTOR EVAL

Hi-Speed Job Number:	103006
	103006
Manufacturer:	Reliance
Spec/ID #:	01MIN61162
HP/kW:	125 (HP)
RPM:	1785 (RPM)
Frame:	405TDZ
Voltage:	230 / 460
Current:	300
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	DP
# of Leads:	12
J-box Included:	None
Coupling/Sheave:	None
Date Received:	05/23/2024
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: 1 - High

8 - Good

Overall Condition

1. Report Date 05/30/2024

2. Nameplate Picture



3. Photos of all six sides of the machine.

















4. Describe the Overall Condition of the Equipment as Received *Greasy*

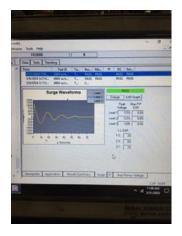


In	Initial Mechanical/Electrical		
	5.	Does Shaft Turn Freely?	(Y) Yes
	6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	(No) No
	7.	Does Shaft Have Visible Damage?	(No) No
	8.	Assembled Shaft Runout	Inches
	9.	Assembled Shaft End Play	inches
	10.	Air Gap Variation <10%	





12.	2. Lead Length			54 Inches
13.	13. Does it have Lugs?, If so what is the Stud Size?			(No) No
14.	Lead Numbers			1/12
15.	Frame Condition			dirty
16.	Fan Condition (N) NA			(N) NA
17.	. Broken or Missing Components			
Initial	Initial Electrical Inspection			
18.	Insulation Resistance/Megger			4136 Megohms
19.	Winding Resistance			
	1-2	1-3	2-3	
	0.01086	0.01085	0.01085	
2 0.	Perform Surge Test			(P) Pass



21. Number of Stator Slots 72

22. Stator Condition very dirty



23.	Stator Thermistors/Ohms	
24.	Stator Overloads/Ohms	

Mechanical Inspection

25. Drive End Bearing Brand NSK

26. Drive End Bearing Number- NU316



27. Drive End Bearing Qty.	1
28. Drive End Bearing Type	(Roller) Roller Bearing
29. Drive End Lubrication Type	(Grease) Grease Lubricated
30. Drive End Bearing Insulation or Grounding Device?	na
31. Drive End Wavy Washer/Snap-Ring Other Retention Device?	na



33	3. Opposite Drive End Bearing Brand	NSK
34	4. Opposite Drive End Bearing Number-	6316



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?	na
39. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	
40. Opposite Drive End Bearing Condition	Fatigue



41. Drive End Seal

42.	Opposite Drive End Seal	
Rotor	Inspection	
43.	Rotor Type/Material	(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast
44.	Growler Test	(Pass) Pass
45.	Number of Rotor Bars	47
46.	Rotor Condition	dirty
47.	List the Parts needed for the Repair Below	
	NU316 6316	
48.	Signature of Technician that Disassembled Motor	RW

Mechanical Fits- Rotor			
49.	Shaft Runout		0.0005 inches
50.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
51.	Coupling Fit Closest to Bearing Housi	ng	
	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		
	0 Degrees	60 Degrees	120 Degrees
	3.1503	3.1503	3.1503
5 4.	Drive End Bearing Shaft Fit Condition		(P) Pass
55.	Opposite Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	3.1497	3.1497	3.1497
56.	Opposite Drive End Bearing Shaft Fit	Condition	(P) Pass



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57.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
	pass	pass		
Mecha	Mechanical Fits- Bearing Housings			
58.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	6.6939	6.6939	6.6939	
59.	Drive End - Endbell Bearing Fit Condi	tion		(P) Pass



60.	60. Opposite Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	6.6951	6.6951	6.6951	
61.	61. Opposite Drive End - Endbell Bearing Fit Condition			(F) Fail



62. Bearing Cap Condition

Drive End Bearing Cap

Opposite Drive End Bearing Cap

pass



63. End Bell Air Seal Fits

Drive End Air Seal Opposite Drive End Air Seal

64. List Machine Work Needed Below

ODE end bell bearing fit bad

65. Technician RW

Co sign: CRW

Root Cause of Failure

66. Failure locations

Ode bearing had metal fatigue.motor filled with grease and dirt

67. Root cause of failure

Stator having low megs, Ode bearing had metal fatigue. motor filled with grease and dirt

Dynamic Balance Report

68. Rotor Weight and Balance Grade

Rotor Weight Balance Grade

69. Initial Balance Readings

Drive End

Opposite Drive End



70. Final Balance Readings

Drive End

Opposite Drive End



71. Technician Cw

Mechanical Fits- Bearing Housings - Post Repair

72. Drive End - Endbell Bearing Fit Post Repair

0 Degrees 60 Degrees 120 Degrees

73.	73. Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
	6.6933	6.6933	6.6934



74.	Bearing Cap Condition Post Repair			
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
75.	End Bell Air Seal Fits Post Repair			
	Drive End Air Seal	Opposite Drive End Air Seal		
76.	End Bell Repair Sign-off			
Assembly				

77. QC Check All Parts for Cleanliness Prior to Assembly

Mui

Cw

78. Photograph All Major Components prior to assembly













79.	Final Insulation Resistance Test	Megohms
-	Pass	
80.	Assembled Shaft Endplay	inches
81.	Assembled Shaft Runout	inches





83. Test Run Amperage
Amps Amps Amps

Witnessed by: TH



84.	Drive End Vibration Readings - Inches				
	Horizontal	Vertical	Axial		
	0.04	0.04	0.04		
85.	Opposite Drive End Vibration Readings - Inches Per Second				
	Horizontal	Vertical	Axial		
	0.05	0.06	0.06		
86.	Ambient Temperature - Fahrenheit				
87.	Drive End Bearing Temps - Fahrenheit				
	5 Minutes	10 Minutes	15 Minutes		
88.	Opposite Drive End Bearing Temps - Fahrenheit				
	5 Minutes	10 Minutes	15 Minutes		
89.	Document Final Condition with Pictures after paint				







90. Final Pics and QC Review

Cw

Co sign: TH



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