

# LR Motor Shop Repairs

# **Job Number 102305**

Prepared for ARKANSAS INDUSTRIAL MACHINERY

3804 N. NONA ST NORTH LITTLE ROCK AR 72118

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AC Inspection as Found - Shop

AC Inspection - Rev. 2: NO NP

1.0



FolderID: 102305

FormID: 18968350



# **AC Inspection as Found** ARKANSAS INDUSTRIAL MACHINERY

**3804 N. NONA ST** NORTH LITTLE ROCK, AR 72118

Serial Number:

AC Inspection - Rev. 2 Location: Shop

Description: SIEMENS COMPRESSOR MOTOR

NO NP

Manufacturer:       Siemens         Enclosure:       TEFC         J-box Included:       Complete	Hi-Speed Job Number:	102305
	Manufacturer:	Siemens
J-box Included: Complete	Enclosure:	TEFC
	J-box Included:	Complete
Coupling/Sheave: Gear	Coupling/Sheave:	Gear
Bearing RTDs: No	Bearing RTDs:	No
Stator RTDs: No	Stator RTDs:	No
Repair Stage: Final	Repair Stage:	Final
Heaters: No	Heaters:	No
Winding Type: Random Wound	Winding Type :	Random Wound
Bearing Type: Rolling Element	Bearing Type:	Rolling Element

Priorities Found: **a** 2 - High



8 - Good

#### **Overall Condition**

- 1. Report Date
- 2. Nameplate Picture
- Photos of all six sides of the machine.





































4.	Describe the Overall Condition of the Equipment as Received  Dirty	
5.	Distance from the end of the shaft to the Coupling/Sheave	inches
-	Na	
Initial	Mechanical/Electrical	
<ul><li>6.</li></ul>	Does Shaft Turn Freely?	(Yes) Yes
7.	Does Shaft Have Visible Damage?	(No) No
8.	Assembled Shaft Runout	Inches
-	Na	
9.	Assembled Shaft End Play	inches
-	Na	
10.	Air Gap Variation <10%	
-	Na	
<ul><li>11.</li></ul>	Lead Condition	(P) Pass
12.	Lead Length	48 Inches
13.	Lead Numbers	T1-T12
14.	Frame Condition	pass





16. Broken or Missing Components

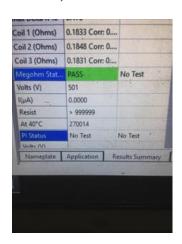
na

### **Initial Electrical Inspection**

17. Insulation Resistance/Megger

Megohms

In picture

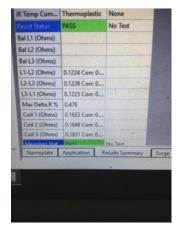


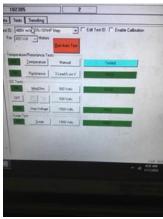
#### 18. Winding Resistance

1-2 1-3

2-3

In picture





20.	Number of Stator Slots	
21.	Stator Condition	
22.	Stator Thermistors/Ohms	
23.	Stator Overloads/Ohms	
Mecha	nical Inspection	
24.	Drive End Bearing Brand	skf
25.	Drive End Bearing Number-	NU208EC
26.	Drive End Bearing Qty.	1
27.	Drive End Bearing Type	(Roller) Roller Bearing
28.	Drive End Lubrication Type	(Oil) Oil Lubricated
29.	Drive End Bearing Insulation or Grounding Device?	na
30.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	snap ring
31.	Drive End Bearing Condition	
-	Signs of contamination	



### 32. Opposite Drive End Bearing Brand



33. Opposite Drive End Bearing Number-	6210
34. Opposite Drive End Bearing Qty.	1
35. Opposite Drive End Bearing Type	(Ball) Ball Bearing
36. Opposite Drive End Lubrication Type	(Grease) Grease Lubricated
37. Opposite Drive End Bearing Insulation or Grounding Device?	na
38. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	snap ring
39. Opposite Drive End Bearing Condition	contamination



<b>4</b> 0.	Drive End Seal	lip seal with seal sleeve
-	Seal kit failed	
41.	Opposite Drive End Seal	slinger
Rotor	Inspection	
42.	Rotor Type/Material	(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast
43.	Growler Test	(Pass) Pass
44.	Number of Rotor Bars	
45.	Rotor Condition	pass
<b>4</b> 6.	List the Parts needed for the Repair Below	
	NU208 6210 Seal kit	

47. Sign	nature of Technician that Disassembled Motor	
	/ /	
,	/ /	
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- 1		

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		<del></del>					
M	Mechanical Fits- Rotor						
	48.	Shaft Runout			inches		
	7	Pass					
	49.	Rotor Runout					
		Drive End Bearing Fit	Rotor Body	Opposite Drive End B	earing		
	_	Ma					
		■ Na					
	50.	Coupling Fit Closest to Bearing Housing		400 Damasa			
		0 Degrees	90 Degrees	120 Degrees			
	-	Na					
	51.	Coupling Fit Closest to the end of the	Shaft				
		0 Degrees	60 Degrees	120 Degrees			
	<b>-</b>	Na					
	52.	Drive End Bearing Shaft Fit	00 B	400 D			
		0 Degrees	60 Degrees	120 Degrees			
		1.5751	1.5752	1.5752	(D) D		
		Drive End Bearing Shaft Fit Condition			(P) Pass		
	54.	Opposite Drive End Bearing Shaft Fit	CO Doggood	100 Daggae			
		0 Degrees 1.9686	60 Degrees 1.9685	120 Degrees 1.9686			
	55	Opposite Drive End Bearing Shaft Fit		1.9080	(P) Pass		
		Shaft Air Seal Fits	Condition		(r) rass		
	50.	Drive End Air Seal	Opposite Drive End Air Seal				
		Dive Life All Geal	Opposite Drive End All Ocal				
	-	Na					
M	lecha	anical Fits- Bearing Housings					
	57.	Drive End - Endbell Bearing Fit					
		0 Degrees	60 Degrees	120 Degrees			
		3.1496	3.1496	3.1496			
	58.	Drive End - Endbell Bearing Fit Condition	tion		(P) Pass		
	59.	Opposite Drive End - Endbell Bearing	Fit				
		0 Degrees	60 Degrees	120 Degrees			
		3.544	3.5439	3.544			
	60.	Opposite Drive End - Endbell Bearing	Fit Condition		(P) Pass		

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Pass



62.	End Bell Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
-	Na		
63.	List Machine Work Needed Below Na		
64.	Technician	Cv	V

#### **Root Cause of Failure**

65. Failure locations

Bearings and DE seal

66. Root cause of failure

Wear and contamination

# **Dynamic Balance Report**

67. Rotor Weight and Balance Grade

Rotor Weight Balance Grade

hoin

68. Initial Balance Readings

Drive End Opposite Drive End

69. Final Balance Readings

Drive End Opposite Drive End

70. Technician

#### Rewind

71. Core Test Results - Watts loss per Pound

Pre-Burnout Post Burnout

72.	72. Core Hot Spot Test				
	Pre-Burnout	Post-Burnout			
	3. Post Rewind Electrical Test- Insulation Resistance				
	Post Rewind Polarization Index				
75.	Post Rewind Winding Resistance				
	1-2	1-3	2-3		
76	Post Rewind Surge Test				
	Post Rewind Hi-Pot				
	Technician				
	anical Fits- Rotor - Post Repair				
	Shaft Runout Post Repair				
	Rotor Runout Post Repair				
00.	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing		
	Drive End Bearing Fit	Notor Body	Opposite Drive Life Bearing		
81.	Coupling Fit Closest to Bearing Housi	ng Post Repair			
	0 Degrees	90 Degrees	120 Degrees		
82.	Coupling Fit Closest to the end of the	Shaft Post Repair			
	0 Degrees	60 Degrees	120 Degrees		
02	Drive End Dearing Chaft Fit Deat Ban	a in			
03.	Drive End Bearing Shaft Fit Post Rep		120 Dograda		
	0 Degrees	60 Degrees	120 Degrees		
84.	Opposite Drive End Bearing Shaft Fit	Post Repair			
	0 Degrees	60 Degrees	120 Degrees		
	3	13 13			
85.	Shaft Air Seal Fits Post Repair				
	Drive End Air Seal	Opposite Drive End Air Seal			
	Shaft Repair Sign-off				
	anical Fits- Bearing Housings - P	•			
87.	Drive End - Endbell Bearing Fit Post F	•	100 D		
	0 Degrees	60 Degrees	120 Degrees		
88	Opposite Drive End - Endbell Bearing	Fit Post Renair			
00.	0 Degrees	60 Degrees	120 Degrees		
	o Begrees	oo Degrees	120 Degrees		
89.	Bearing Cap Condition Post Repair				
	Drive End Bearing Cap	Opposite Drive End Bearing Cap			
90.	End Bell Air Seal Fits Post Repair				
	Drive End Air Seal	Opposite Drive End Air Seal			
Ω1	End Bell Repair Sign-off				
	sembly				
	QC Check All Parts for Cleanliness Pi	rior to Assembly			
32.	CO OHOUR AND ALLO TO CHEATHINGS FI	ioi to Addonnory			

93.	Photograph All Major Components pri	or to assembly	
94.	Final Insulation Resistance Test		
95.	Assembled Shaft Endplay		
96.	Assembled Shaft Runout		
97.	Test Run Voltage		
	Volts	Volts	Volts
98.	Test Run Amperage		
	Amps	Amps	Amps
99.	Drive End Vibration Readings - Inches		
	Horizontal	Vertical	Axial
100. Opposite Drive End Vibration Readings - Inches Per Second			
	Horizontal	Vertical	Axial
101	Ambient Temperature - Fahrenheit		
	Drive End Bearing Temps - Fahrenhei	it	
.02.	5 Minutes	10 Minutes	15 Minutes
	o ivilitates	10 Militates	10 Millates
103. Opposite Drive End Bearing Temps - Fahrenheit			
	5 Minutes	10 Minutes	15 Minutes
104.	Document Final Condition with Picture	es after paint	
105.	Final Pics and QC Review		



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