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

AC Inspection as Found

Welspun Tubular (11685)
9301 Frazier Pike
Little Rock, AR 72206

FolderID: 104556
FormID: 24332439

AC Inspection - Rev. 2

Location:	LR MOTOR SHOP
Serial Number:	UD1206/1456097-001-1
Description:	18.6 KW NEMA

Hi-Speed Job Number:	104556
Manufacturer:	Siemens
Product Number:	1LE15231EB290JZ4
Serial Number:	UD1206/1456097-001-1
HP/kW:	18.6 (kW)
RPM:	1775 (RPM)
Frame:	60034
Voltage:	480
Current:	29.5 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	6
J-box Included:	Complete
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
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** **13 - Good**

Overall Condition

1.	Report Date	**05/14/2025**

2. Nameplate Picture P37

3. Photos of all six sides of the machine. P45

	4.	Describe the Overall Condition of the Equipment as Received ***Serviceable***	
●	5.	Is this a UL Listed Motor	**(No) No**
●	6.	Is the motor water cooled or can be pressure checked before teardown	**(No) No**
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	**inches**
	12.	Air Gap Variation <10%	

13.	Lead Condition	**(P) Pass**	P69

14.	Lead Length	**8 Inches**	
15.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**	
	Connection block installed.		
16.	Lead Numbers	**1-6**	P99
	U1-V1-W1 ***U2-V2-W2***		

17.	Are the Leads insulated with Chico or other material	**(No) No**	
18.	Frame Condition	**pass**	
19.	Fan Condition	**(P) Pass**	P119

20.	Does motor have internal fan?	**(No) No**	

21.	Broken or Missing Components	**DE snap ring**	

Initial Electrical Inspection

22.	Insulation Resistance/Megger	**Megohms**	
23.	Winding Resistance		P20

1-2	1-3	2-3

Motor windings blown in slot.

24.	Perform Surge Test	**(NA) Not Applicable**	P57

25.	Number of Stator Slots	**36**	
26.	Stator Condition	**pass**	
27.	Stator Thermistors/Ohms		
28.	Stator Overloads/Ohms	**.3**	

Mechanical Inspection

29.	Drive End Bearing Brand	**ORS**	
30.	Drive End Bearing Number-	**6210 C3**	
31.	Drive End Bearing Qty.	**1**	

32.	Drive End Bearing Type	**(Ball) Ball Bearing**	P51

33.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
34.	Drive End Bearing Insulation or Grounding Device?	**none**	
35.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	P77

Wavy washer broken

36.	Drive End Bearing Condition	**worn**	
37.	Opposite Drive End Bearing Brand	**ORS**	
38.	Opposite Drive End Bearing Number-	**6210 C3**	
39.	Opposite Drive End Bearing Qty.	**1**	
40.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	P110

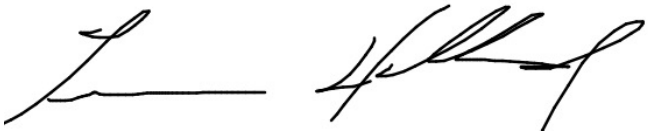
41.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	

42.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**	
43.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**two snap rings**	
44.	Opposite Drive End Bearing Condition	**worn**	
45.	Drive End Seal	**dust seal**	
46.	Opposite Drive End Seal	**dust seal**	

Rotor Inspection

47.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	P3

48.	Growler Test	**(Pass) Pass**	
49.	Number of Rotor Bars	**28**	
50.	Rotor Condition	**pass**	
51.	List the Parts needed for the Repair Below ***2) 6210 C3 bearings***		
52.	Signature of Technician that Disassembled Motor	**Terrence Holland**	



Mechanical Fits- Rotor

53.	Shaft Runout	**0.001 inches**	

54. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

55. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees

56. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees

57. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
1.9691	**1.969**	**1.969**

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

59. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
1.969	**1.969**	**1.969**

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

61. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

62. Drive End - Endbell Bearing Fit P2

0 Degrees	60 Degrees	120 Degrees

63. Drive End - Endbell Bearing Fit Condition **(F) Fail** P15

Lip worn in.

64. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
3.5448	**3.5446**	**3.5447**

Max allowed is 3.5442

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

See above

66. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

67. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

68. List Machine Work Needed Below

Sleeve both end bell housing fits.

69. Technician **Terrence Holland**

Co sign:

Root Cause of Failure

70. Failure locations P9

Both housing fits bad. Rewind stator. Windings blown in slot

71. Root cause of failure

D.E. Housing fit has lip worn in allowing the rotor to impact the stator iron causing a electrical grounding to the iron. Contaminated grease I both bearings was a contributing factor to premature bearing failure.

Dynamic Balance Report

72. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

73. Initial Balance Readings

Drive End	Opposite Drive End

74. Final Balance Readings

Drive End	Opposite Drive End

75. Technician

Rewind

76. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

77.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
78.	Post Rewind Electrical Test- Insulation Resistance		
79.	Post Rewind Polarization Index		
80.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
81.	Post Rewind Surge Test		
82.	Post Rewind Hi-Pot		
83.	Technician		
Mechanical Fits- Bearing Housings - Post Repair			
84.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
85.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
86.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
87.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
88.	End Bell Repair Sign-off		
Assembly			
89.	QC Check All Parts for Cleanliness Prior to Assembly		
90.	Photograph All Major Components prior to assembly		
91.	Final Insulation Resistance Test		
92.	Assembled Shaft Endplay		
93.	Assembled Shaft Runout		
94.	Test Run Voltage		
	Volts	Volts	Volts
95.	Test Run Amperage		
	Amps	Amps	Amps
96.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
97.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
98.	Ambient Temperature - Fahrenheit		
99.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes

100.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
101.	Document Final Condition with Pictures after paint		
102.	Final Pics and QC Review		