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: 103634
FormID: 21947538

AC Inspection - Rev. 2

Location:	LR MOTORSHOP
Serial Number:	CAT: H0150V2SLG
Description:	150HP US MOTORS 1780RPM

Hi-Speed Job Number:	103634
Manufacturer:	US Motors/Nidec
Product Number:	M: DN11
Spec/ID #:	A047712362-009 R 0004
Serial Number:	CAT: H0150V2SLG
HP/kW:	150 (HP)
RPM:	1780 (RPM)
Frame:	H444TP
Voltage:	460
Current:	164 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	WPI
# of Leads:	6
J-box Included:	None
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	Yes
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	Yes
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **3 - High** **6 - Good**

Overall Condition

1.	Report Date	**10/21/2024**

2. Nameplate Picture

P37

3. Photos of all six sides of the machine.

P45

Heater ohms

	4.	Describe the Overall Condition of the Equipment as Received ***Serviceable***	
	5.	Report Date [COPY]	
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	
	10.	Assembled Shaft End Play	**inches**
	11.	Air Gap Variation <10%	
●	12.	Lead Condition	**(P) Pass**
	13.	Lead Length	**22 Inches**

14.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**	P94

15.	Lead Numbers	**1,2,3-7,8,9**
16.	Frame Condition	**pass**
17.	Fan Condition	
18.	Heater Quantity, Ratings	P118

Quantity	Volts/Watts	Pass/Fail
1	**115/192**	

19. Broken or Missing Components

No connection box.

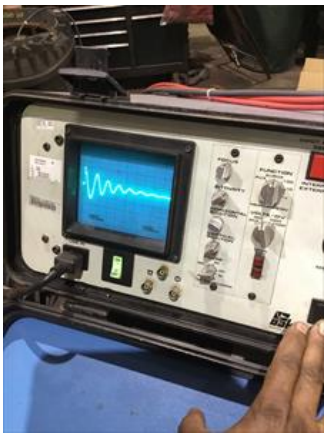
Initial Electrical Inspection

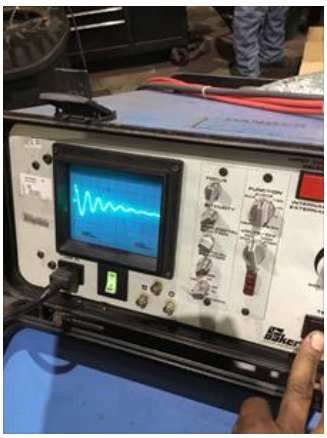
20.	Insulation Resistance/Megger	**Megohms**	P8

21.	Winding Resistance		

1-2	1-3	2-3

22.	Perform Surge Test	**(P) Pass**	P57





23.	Number of Stator Slots	**72**
24.	Stator Condition	**rusty but passed surge & Meg**
25.	Stator Thermistors/Ohms	
26.	Stator Overloads/Ohms	**.1**

Mechanical Inspection

27.	Drive End Bearing Brand	**FAG**

28.	Drive End Bearing Number-	**7322-B-XL-MP**	P32

29.	Drive End Bearing Qty.	**1**	
30.	Drive End Bearing Type	**(Thrust) Thrust**	P51

31.	Drive End Lubrication Type	**(Oil) Oil Lubricated**
32.	Drive End Bearing Insulation or Grounding Device?	**none**
33.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**
34.	Drive End Bearing Condition	**replace**
35.	Opposite Drive End Bearing Brand	**in- readable**
36.	Opposite Drive End Bearing Number-	**6215 J**
37.	Opposite Drive End Bearing Qty.	**1**
38.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**
39.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
40.	Opposite Drive End Bearing Insulation or Grounding Device?	
	Aegis ring attached to bearing cap	
41.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**snap-ring**
42.	Opposite Drive End Bearing Condition	**rusted and worn with cage failure** P119

43.	Drive End Seal	
44.	Opposite Drive End Seal	**dust seal**

Rotor Inspection

45.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
	Hollow shafted.	
46.	Growler Test	**(Pass) Pass**
47.	Number of Rotor Bars	**57**
48.	Rotor Condition	**pass**
49.	List the Parts needed for the Repair Below	
	Sleeve ODE housing fit.	
50.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

51.	Shaft Runout		
52.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
53.	Coupling Fit Closest to Bearing Housing		
	0 Degrees	90 Degrees	120 Degrees
54.	Coupling Fit Closest to the end of the Shaft		
	0 Degrees	60 Degrees	120 Degrees
55.	Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	4.3302	**4.3301**	**4.3301**
56.	Drive End Bearing Shaft Fit Condition		**(F) Fail**

57. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
2.9522	**2.9523**	**2.9523**

Minimum allowed

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

59. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

60. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

61. Drive End - Endbell Bearing Fit Condition **(P) Pass**

62. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

Has lip worn in.

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

64. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

65. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

66. List Machine Work Needed Below

Sleeve lower end bell housing, and repair upper and lower bearing shaft fits. Replace worn shaft grounding ring.

67. Technician **Terrence Holland**

Root Cause of Failure

68. Failure locations

Lower bear was rusted and grease was contaminated. Lower bearing housing has lip worn in and upper bearing shaft fit measures too small.

69. Root cause of failure

Water contaminated grease in lower bearing.

Dynamic Balance Report

70. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

71. Initial Balance Readings

Drive End	Opposite Drive End

72.	Final Balance Readings		
	Drive End	Opposite Drive End	
73.	Technician		

Mechanical Fits- Rotor - Post Repair

74.	Shaft Runout Post Repair		
75.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
76.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
77.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
78.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
79.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
80.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
81.	Shaft Repair Sign-off		

Mechanical Fits- Bearing Housings - Post Repair

82.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
83.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
84.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
85.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
86.	End Bell Repair Sign-off		

Assembly

87.	QC Check All Parts for Cleanliness Prior to Assembly
88.	Photograph All Major Components prior to assembly
89.	Final Insulation Resistance Test
90.	Assembled Shaft Endplay
91.	Assembled Shaft Runout

92.	Test Run Voltage		
	Volts	Volts	Volts
93.	Test Run Amperage		
	Amps	Amps	Amps
94.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
95.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
96.	Ambient Temperature - Fahrenheit		
97.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
98.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
99.	Document Final Condition with Pictures after paint		
100.	Final Pics and QC Review		