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

AC Inspection as Found

Evonik(10512)
10300 Arch St. Pike
Little Rock, AR 72206

FolderID: 103198
FormID: 20942755

AC Inspection - Rev. 2

Location:	LR MOTOR SHOP
Serial Number:	1080061170
Description:	125HP WEG EVAL

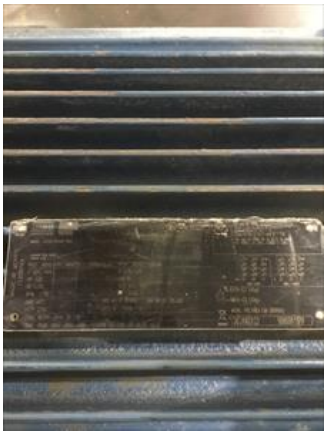
Hi-Speed Job Number:	103198
Manufacturer:	WEG
Product Number:	12518ET3E444T-W22
Serial Number:	1080061170
HP/kW:	125 (HP)
RPM:	1780 (RPM)
Frame:	444/5T
Voltage:	230 / 460
Current:	278/139A
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	12
J-box Included:	Half
Coupling/Sheave:	None
Date Received:	07/09/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **3 - High** **7 - Good**

Overall Condition

1. Report Date

2. Nameplate Picture P37



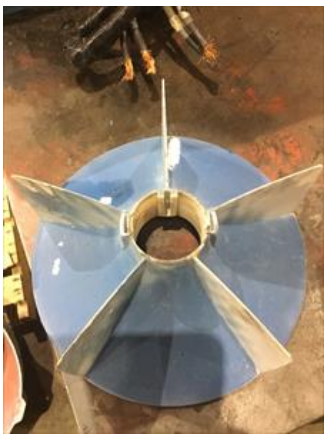
3. Photos of all six sides of the machine. P45

Has a water line almost half way up the windings

4.	Describe the Overall Condition of the Equipment as Received		
Initial Mechanical/Electrical			
5.	Does Shaft Turn Freely?		
6.	Does the shaft require T.I.R in Lathe to identify additional repairs?		
7.	Does Shaft Have Visible Damage?		
8.	Assembled Shaft Runout	**Inches**	
9.	Assembled Shaft End Play	**inches**	
10.	Air Gap Variation <10%		
11.	Lead Condition	**(P) Pass**	P69

12.	Lead Length	**12 Inches**	
13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	

14.	Lead Numbers	**1-12**	
	Connected: (1&12), (2&10), (3&11)--line (4&7), (5&8), (6&9)		
15.	Frame Condition	**pass**	
16.	Fan Condition	**(P) Pass**	P115



17.	Broken or Missing Components	**none**	

Initial Electrical Inspection

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

19.	Winding Resistance			
	1-2	1-3	2-3	
20.	Perform Surge Test			
21.	Number of Stator Slots		**48**	
22.	Stator Condition		**rewind**	
23.	Stator Thermistors/Ohms			
24.	Stator Overloads/Ohms			

Mechanical Inspection

25.	Drive End Bearing Brand	**C&U**	P12

26.	Drive End Bearing Number-	**6319 C3**	P32

27.	Drive End Bearing Qty.	**1**
28.	Drive End Bearing Type	**(Ball) Ball Bearing**
29.	Drive End Lubrication Type	**(Grease) Grease Lubricated**
30.	Drive End Bearing Insulation or Grounding Device?	**none**
31.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**
32.	Drive End Bearing Condition	**replace**
33.	Opposite Drive End Bearing Brand	**C&U** P92

34.	Opposite Drive End Bearing Number-	**6316 C3**	P99

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**	P109

38.	Opposite Drive End Bearing Insulation or Grounding Device?		
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**spring loaded bearing cap & snap ring**	P114

40.	Opposite Drive End Bearing Condition	**worn**	
41.	Drive End Seal		
42.	Opposite Drive End Seal	**lip seal in cap**	

Rotor Inspection

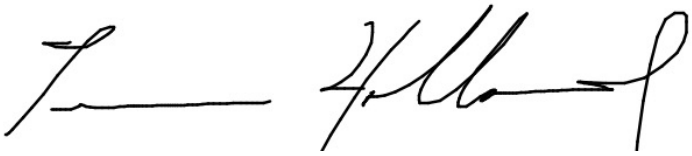
43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	P3

44.	Growler Test	**(Pass) Pass**	

45.	Number of Rotor Bars	**41**
46.	Rotor Condition	**pass**
47.	List the Parts needed for the Repair Below	

Rewind stator. Replace bearings.
ODE: 6316
DE: 6319

48.	Signature of Technician that Disassembled Motor	**Terrence Holland**



Mechanical Fits- Rotor

49.	Shaft Runout	**0.002 inches**
50.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

51.	Coupling Fit Closest to Bearing Housing	

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
3.7405	**3.7404**	**3.7405**

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

0 Degrees	60 Degrees	120 Degrees
3.1498	**3.15**	**3.15**

56.	Opposite Drive End Bearing Shaft Fit Condition	**(P) Pass**
57.	Shaft Air Seal Fits	

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

58.	Drive End - Endbell Bearing Fit	

0 Degrees	60 Degrees	120 Degrees
7.8748	**7.8746**	**7.8748**

59.	Drive End - Endbell Bearing Fit Condition	**(P) Pass**
60.	Opposite Drive End - Endbell Bearing Fit	

0 Degrees	60 Degrees	120 Degrees
6.6931	**6.6933**	**6.6933**

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

62. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
pass	

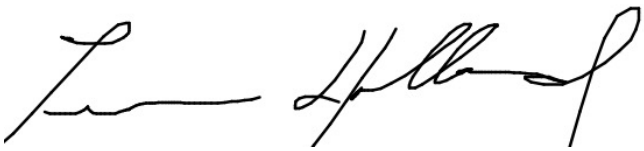
63. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

64. List Machine Work Needed Below

None

65. Technician **Terrence Holland**



Root Cause of Failure

66. Failure locations

Windings

67. Root cause of failure

Significant water intrusion inside stator on both ends.

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

Rewind

72. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

73.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
74.	Post Rewind Electrical Test- Insulation Resistance		
75.	Post Rewind Polarization Index		
76.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
77.	Post Rewind Surge Test		
78.	Post Rewind Hi-Pot		
79.	Technician		

Assembly

80.	QC Check All Parts for Cleanliness Prior to Assembly		
81.	Photograph All Major Components prior to assembly		
82.	Final Insulation Resistance Test		
83.	Assembled Shaft Endplay		
84.	Assembled Shaft Runout		
85.	Test Run Voltage		
	Volts	Volts	Volts
86.	Test Run Amperage		
	Amps	Amps	Amps
87.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
88.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
89.	Ambient Temperature - Fahrenheit		
90.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
91.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
92.	Document Final Condition with Pictures after paint		
93.	Final Pics and QC Review		