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

AC Inspection as Found

Tolm Group Inc (12758)
210 N Moose St
Morrilton, AR 72110

FolderID: 103285
FormID: 21178436

AC Inspection - Rev. 2

Location:	LR MOTOR SHOP
Serial Number:	Z1074190985
Description:	110KW WEG EVAL

Hi-Speed Job Number:	103285
Manufacturer:	WEG
Product Number:	115036LY5C445AS-W22
Serial Number:	Z1074190985
HP/kW:	110 (kW)
RPM:	3570 (RPM)
Frame:	445/5TS
Voltage:	460
Current:	163A
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	12
J-box Included:	None
Coupling/Sheave:	Coupling
Date Received:	07/31/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	Yes
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **11 - Good**

Overall Condition

1.	Report Date	**08/05/2024**

2. Nameplate Picture

P37

3. Photos of all six sides of the machine.

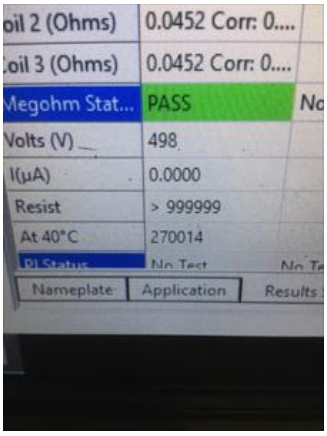
P45

	4.	Describe the Overall Condition of the Equipment as Received ***Dirty***	
	5.	Distance from the end of the shaft to the Coupling/Sheave ***Flush***	**inches**
	6.	Report Date [COPY]	
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	**Inches**
	11.	Assembled Shaft End Play	**inches**
	12.	Air Gap Variation <10%	
●	13.	Lead Condition	**(P) Pass**
	14.	Lead Length	**14 Inches**
●	15.	Does it have Lugs?, If so what is the Stud Size? ***Yes***	
	16.	Lead Numbers	**T1-T12**
	17.	Frame Condition	**pass**
●	18.	Fan Condition	**(P) Pass**
	19.	Heater Quantity, Ratings	

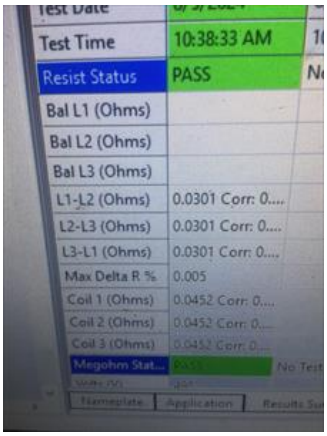
Quantity	Volts/Watts	Pass/Fail
2		

	20.	Broken or Missing Components	**J-box**
Initial Electrical Inspection			

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



22.	Winding Resistance			P20
	1-2	1-3	2-3	



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

24.	Number of Stator Slots	**48**
25.	Stator Condition	**needs cleaned**
26.	Stator Thermistors/Ohms	
27.	Stator Overloads/Ohms	**0.3**

Mechanical Inspection

28.	Drive End Bearing Brand	**C&U**

29.	Drive End Bearing Number-	**6314**	
30.	Drive End Bearing Qty.	**1**	
31.	Drive End Bearing Type	**(Ball) Ball Bearing**	
32.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
33.	Drive End Bearing Insulation or Grounding Device?		
34.	Drive End Wavy Washer/Snap-Ring Other Retention Device?		
35.	Drive End Bearing Condition	**contamination**	P83

36.	Opposite Drive End Bearing Brand	**C&U**	
37.	Opposite Drive End Bearing Number-	**6314**	
38.	Opposite Drive End Bearing Qty.	**1**	
39.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
40.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
41.	Opposite Drive End Bearing Insulation or Grounding Device?		
42.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**springs and snap ring**	
43.	Opposite Drive End Bearing Condition	**contamination**	
44.	Drive End Seal	**slinger**	
45.	Opposite Drive End Seal	**slinger**	

Rotor Inspection

46.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
47.	Growler Test	**(Pass) Pass**	
48.	Number of Rotor Bars	**40**	
49.	Rotor Condition	**pass**	
50.	List the Parts needed for the Repair Below ***6314x2***		
51.	Signature of Technician that Disassembled Motor	**Cw**	

Mechanical Fits- Rotor

52.	Shaft Runout	**inches**	
53.	Rotor Runout		

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

54. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees

55. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees

56. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
2.7559	**2.7561**	**2.756**

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

58. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
2.756	**2.7562**	**2.7561**

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

60. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

61. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
5.9064	**5.9064**	**5.9065**

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

63. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
5.9064	**5.9062**	**5.9063**

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

65. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

Pass

66. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

67. List Machine Work Needed Below

68. Technician **Cw**

Co sign: RRW

Root Cause of Failure

69. Failure locations

Bearings

70. Root cause of failure

Mixed grease and lack of lubrication

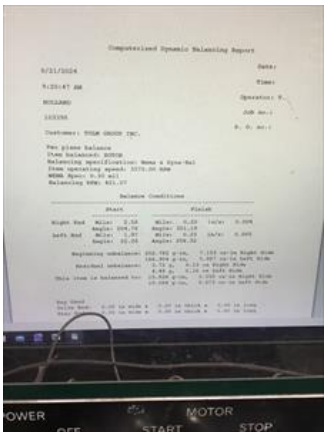
Dynamic Balance Report

71. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

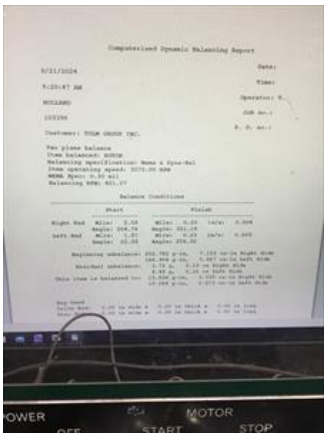
72. Initial Balance Readings P11

Drive End	Opposite Drive End



73. Final Balance Readings P27

Drive End	Opposite Drive End



74. Technician **Terrence Holland**

Assembly

75. QC Check All Parts for Cleanliness Prior to Assembly **Terrence Holland**

77.	Final Insulation Resistance Test	**9.84 Gigohms**	P31

78.	Assembled Shaft Endplay	**0 inches**	
79.	Assembled Shaft Runout	**inches**	
80.	Test Run Voltage		P56

Volts	Volts	Volts
457	**455**	**459**

81.	Test Run Amperage			P65
	Amps	Amps	Amps	
	42.3	**40.3**	**40.5**	

82.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.03	**0.04**	**0.01**
83.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.03	**0.4**	**0.04**
84.	Ambient Temperature - Fahrenheit		
85.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
86.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
87.	Document Final Condition with Pictures after paint		**see below**
88.	Final Pics and QC Review		**Terrence Holland** P132

Witness RRW