LR Field Services

Prepared for Tolm Group Inc (12758)

210 N Moose St
Morrilton AR 72110

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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: 103543
FormID: 21721874

AC Inspection - Rev. 2

Location:	LR MOTOR SHOP
Serial Number:	
Description:	150 HP WEG

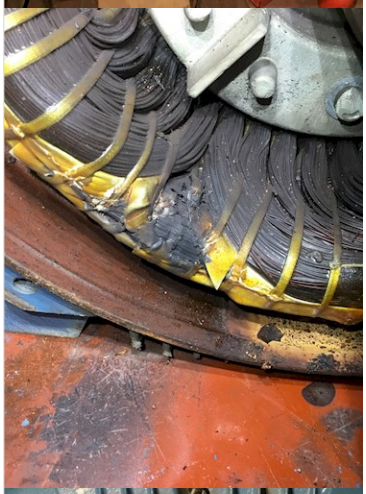
Hi-Speed Job Number:	103543
Manufacturer:	WEG
Product Number:	T15036ET3G445TS-W22
HP/kW:	150 (HP)
RPM:	3570 (RPM)
Frame:	444/5TS
Voltage:	460
Current:	163
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	12
J-box Included:	None
Coupling/Sheave:	Coupling (FLUSH)
Date Received:	09/24/2024
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:	Yes
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **1 - High** **9 - Good**

Overall Condition

1.	Report Date	**09/24/2024**
2.	Nameplate Picture	

3. Photos of all six sides of the machine.



4. Describe the Overall Condition of the Equipment as Received

Serviceable

5. Distance from the end of the shaft to the Coupling/Sheave **0 inches**

Flush

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	**0.002 Inches**

	10. Assembled Shaft End Play	**0 inches**
	11. Air Gap Variation <10%	
	12. Lead Condition	**(P) Pass**

	13. Lead Length	**15 Inches**
	14. Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**
	15. Lead Numbers	**T1-T12**
	16. Frame Condition	**pass**
	17. Fan Condition	**(P) Pass**

18. Heater Quantity, Ratings

Quantity	Volts/Watts	Pass/Fail
2	**110/140**	**pass**

19. Broken or Missing Components — **All connection box mount bolts**

Initial Electrical Inspection

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

21. Winding Resistance

1-2	1-3	2-3

22. Perform Surge Test

23. Number of Stator Slots — **48**

24. Stator Condition — **rewind**

25. Stator Thermistors/Ohms

26. Stator Overloads/Ohms

Mechanical Inspection

27. Drive End Bearing Brand — **C&U**

28. Drive End Bearing Number- — **6314 C3**

29. Drive End Bearing Qty. — **1**

30. Drive End Bearing Type — **(Ball) Ball Bearing**

31. Drive End Lubrication Type — **(Grease) Grease 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 — **contaminated grease.**

35. Opposite Drive End Bearing Brand — **C&U**

36. Opposite Drive End Bearing Number- — **6314**

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? — **none**

41. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device? — **snap ring**

42. Opposite Drive End Bearing Condition — **replace**

43.	Drive End Seal	
44.	Opposite Drive End Seal	

Rotor Inspection

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

46.	Growler Test	**(Pass) Pass**
47.	Number of Rotor Bars	**40**
48.	Rotor Condition	**pass**
49.	List the Parts needed for the Repair Below	
50.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

51.	Shaft Runout	**0.002 inches**
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	
		2.3755	**2.3754**	**2.3756**	
	55.	Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		2.7569	**2.7569**	**2.7568**	
	56.	Drive End Bearing Shaft Fit Condition			**(P) Pass**
	57.	Opposite Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		2.7569	**2.7568**	**2.7568**	
	58.	Opposite Drive End Bearing Shaft Fit Condition			**(P) Pass**
	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	
		5.9056	**5.9058**	**5.9058**	
	61.	Drive End - Endbell Bearing Fit Condition			**(P) Pass**
	62.	Opposite Drive End - Endbell Bearing Fit			
		0 Degrees	60 Degrees	120 Degrees	
		5.9052	**5.9051**	**5.9052**	
	63.	Opposite Drive End - Endbell Bearing Fit Condition			**(F) Fail**
		Undersized			

64. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
pass	**pass**




65. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

66. List Machine Work Needed Below

ODE housing fit undersized

67. Technician **Terrence Holland**

Root Cause of Failure

68. Failure locations

Rewind stator & sleeve ode housing fit

69. Root cause of failure

Water leaked into stator windings from improperly sealed connection box. Motor showed signs of being single phased because of 2 groups of coils being overheated. see pictures.

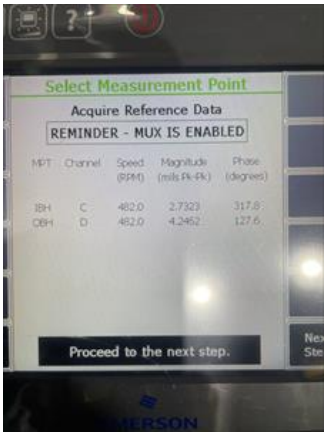
Dynamic Balance Report

70. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

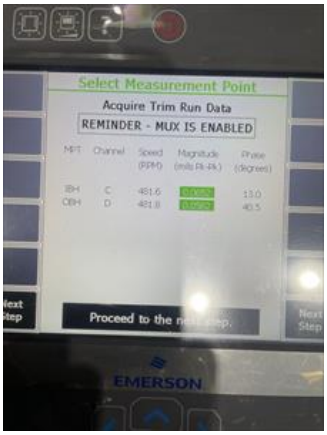
71. Initial Balance Readings

Drive End	Opposite Drive End



72. Final Balance Readings

Drive End	Opposite Drive End



73. Technician

Rewind

74. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

75. Core Hot Spot Test

Pre-Burnout	Post-Burnout

76. Post Rewind Electrical Test- Insulation Resistance **Megohms**

77. Post Rewind Polarization Index **Polarization Index**

78. Post Rewind Winding Resistance

1-2	1-3	2-3

79. Post Rewind Surge Test

80.	Post Rewind Hi-Pot	**micro-amps**
81.	Technician	

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 **Cw**

88. Photograph All Major Components prior to assembly **(Complete) Complete**

	89.	Final Insulation Resistance Test		**Megohms**
	90.	Assembled Shaft Endplay		**inches**
	91.	Assembled Shaft Runout		**inches**
	92.	Test Run Voltage		
		Volts	Volts	Volts

	93.	Test Run Amperage		
		Amps	Amps	Amps

Witnessed by TRH

94. Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial
0.03	**0.03**	**0.05**

95. Opposite Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial
0.03	**0.02**	**0.05**

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 **Crw**

Co sign: TRH

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

AC Random Coil Rewind Report

FolderID: 103543
FormID: 22187444

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

Priorities Found: 3 - High 3 - Good

General			
	1.	Job Number	**103543**
	2.	Report Date	**11/05/2024**
	3.	Customer	**TOLM**
Stator Winding			
	4.	Core Length	**12.25 "**
		Conn End 5.25 *O End 4.75*	
	5.	Core ID	**11 "**
	6.	Back Iron Depth	**2.875 "**
	7.	Slot Depth	**1.125 "**
	8.	Tooth Width	**0.357 "**
	9.	Number of Vents	**0**
	10.	Vent Width	**0 "**
●	11.	Before Burnout Core loss	**(P) Pass**
	12.	Flux Before Burnout	
	13.	Watts before burnout	
	14.	Watts loss per lb. before burnout	**1.5 W/lbs.**
●	15.	After Burnout Core Loss	**(P) Pass**
	16.	Flux After burnout	
	17.	Watts After Burnout	
	18.	Watts loss per lb After Burnout	**1.494 W/lbs.**
	19.	Core Iron Condition	
●	20.	RTD's	**(N) No**
	21.	RTD's Reading	
●	22.	Motor Heaters	**(N) No**
	23.	Heater Qty.	**0**
	24.	Heater Voltage	
	25.	Heater Wattage	
●	26.	Thermistors	**(N) No**
	27.	Number of Poles	**2**
	28.	Slots	**48**
	29.	Number of Coils	**30**
	30.	Coil Weight	
	31.	Lead Markings	
		1-12	
	32.	Grouping	

		6 Groups 5	
	33.	Multiple Wires	
	34.	Wire Size	
	35.	Turns per coil	
		1-16-18-20-22-24 *5 5 10 10 10 t/c*	
	36.	Pitch 1 to:	
		1-16,18,20,22,24	
	37.	Connection	
		1-2 wye/delta	
	38.	Lead Length	**12 "**
	39.	Lead Size	
	40.	Number of Leads	**12**
	41.	Megger Reading After Rewind	**7647 Mohms**
	42.	Coil Machine Slot	
	43.	Coil Machine Tip	
	44.	Coil Machine Pitch	
	45.	Hi Pot Reading After Rewind	**0.095 Ua**
●	46.	Surge Pattern After Rewind	**(P) Pass**
	47.	Service Technician	

130lbs
#15 65lbs
#16 45lbs
#17 20lbs
30' #6 lead wire 600v epdm