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

AC Inspection as Found

Rogers Group (01189502)
1032 Hwy 5
Cabot, AR 72023

FolderID: 102570
FormID: 19554932

AC Inspection - Rev. 2

Location:	Shop
Serial Number:	990301870
Description:	200HP 1175RPM TOSHIBA

Hi-Speed Job Number:	102570
Manufacturer:	Toshiba
Spec/ID #:	C2006FLF4BMO
Serial Number:	990301870
HP/kW:	200 (HP)
RPM:	1175 (RPM)
Frame:	505 UZ
Voltage:	460
Current:	234 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	12
J-box Included:	None
Coupling/Sheave:	None
Repair Stage:	Final
Heaters:	No
Bearing Type:	Rolling Element

Priorities Found: **1 - High** **8 - Good**

Overall Condition

1. Report Date

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

Initial Mechanical/Electrical

5. Does Shaft Turn Freely? **(Yes) Yes**

6. Does the shaft require T.I.R in Lathe to identify additional repairs?

7.	Does Shaft Have Visible Damage?	**(No) No**	P26

8.	Assembled Shaft Runout		
9.	Assembled Shaft End Play		
10.	Air Gap Variation <10%		
11.	Lead Condition	**(P) Pass**	
12.	Lead Length	**13.5 Inches**	P87

13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
14.	Lead Numbers	**1-12**	

10,4,8,2
9,5,11,3
7,1,12,6

15. Stator Temperature Detector Rating and Function

Quantity	Rating	Quantity Passed

16. Bearing Temperature Detector Rating and Function

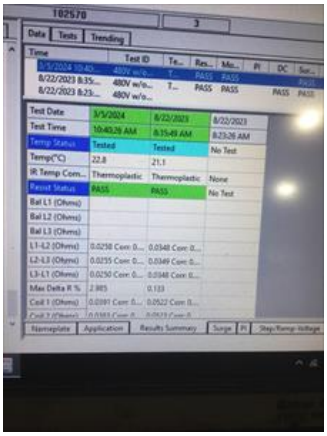
Quantity	Rating	Quantity Passed

17.	Frame Condition	**pass**	
18.	Fan Condition	**(P) Pass**	P115

19. Broken or Missing Components

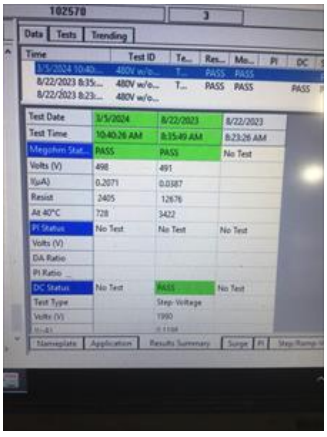
Initial Electrical Inspection

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

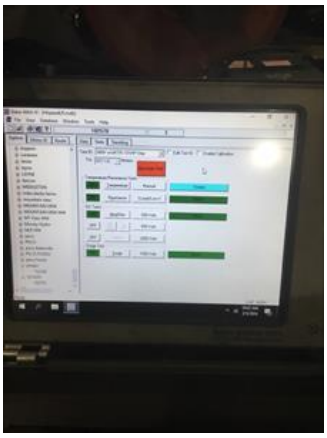


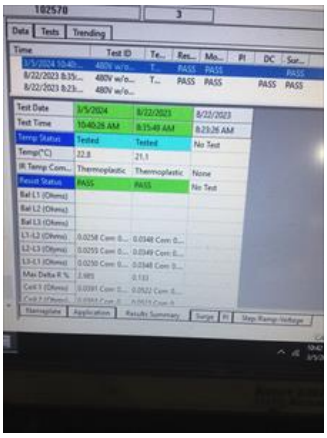
21. Winding Resistance P20

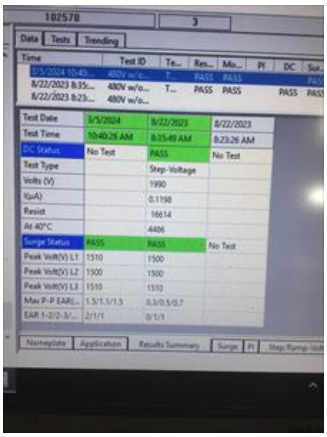
1-2	1-3	2-3



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







23.	Number of Stator Slots	**72**	
24.	Stator Condition	**pass**	
25.	Stator Thermistors/Ohms		
26.	Stator Overloads/Ohms		

Mechanical Inspection

27.	Drive End Bearing Brand	**Koyo**	
28.	Drive End Bearing Number-	**NU 322R**	P32

29.	Drive End Bearing Qty.	**1**	

30.	Drive End Bearing Type	**(Roller) Roller Bearing**	P51

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	**replace**	
35.	Opposite Drive End Bearing Brand	**Koyo**	
36.	Opposite Drive End Bearing Number-	**6318**	P99

37.	Opposite Drive End Bearing Qty.	**1**	
38.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	P106

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	**yes**
	Needs new o ring	
44.	Opposite Drive End Seal	**yes**
	Needs new o ring	

Rotor Inspection

45.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
46.	Growler Test	**(Pass) Pass**
47.	Number of Rotor Bars	**60**
48.	Rotor Condition	**pass**
49.	List the Parts needed for the Repair Below	
50.	Signature of Technician that Disassembled Motor	

Mechanical Fits- Rotor

51.	Shaft Runout	**0.003 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

55.	Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees
4.3341	**4.3341**	**4.3339**

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

0 Degrees	60 Degrees	120 Degrees
3.5441	**3.5442**	**3.5437**

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
9.4496	**9.4496**	**9.4498**

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

62. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

Bad due to groove worn in fit.

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

64. Bearing Cap Condition P52

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

Fan cover mount bolts need to be drilled and tapped from broken off bolts.

67. Technician **Terrence Holland**

Root Cause of Failure

68. Failure locations

Stator housing had water inside and ODE housing fit.

69. Root cause of failure P18

Excessive amounts of water inside the stator and contaminated grease on both ends

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

77. Post Rewind Polarization Index

78. Post Rewind Winding Resistance

1-2	1-3	2-3

79. Post Rewind Surge Test

80.	Post Rewind Hi-Pot		
81.	Technician		
Mechanical Fits- Rotor - Post Repair			
82.	Shaft Runout Post Repair		
83.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
84.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
85.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
86.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
87.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
88.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
89.	Shaft Repair Sign-off		
Mechanical Fits- Bearing Housings - Post Repair			
90.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
91.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
92.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
93.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
94.	End Bell Repair Sign-off		
Assembly			
95.	QC Check All Parts for Cleanliness Prior to Assembly		
96.	Photograph All Major Components prior to assembly		
97.	Final Insulation Resistance Test		
98.	Assembled Shaft Endplay		
99.	Assembled Shaft Runout		
100.	Test Run Voltage		
	Volts	Volts	Volts

101.	Test Run Amperage		
	Amps	Amps	Amps
102.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
103.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
104.	Ambient Temperature - Fahrenheit		
105.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
106.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
107.	Stator Temperatures- Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
108.	Document Final Condition with Pictures after paint		
109.	Final Pics and QC Review		