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: **2 - High** **11 - 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?	**(No) No**

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

8.	Assembled Shaft Runout	**0.002 Inches**	
9.	Assembled Shaft End Play	**0 inches**	
10.	Air Gap Variation <10%		
	Na		
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

Na

16.	Bearing Temperature Detector Rating and Function		

Quantity	Rating	Quantity Passed

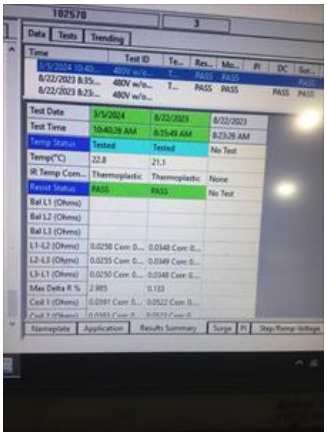
Na

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

19. Broken or Missing Components

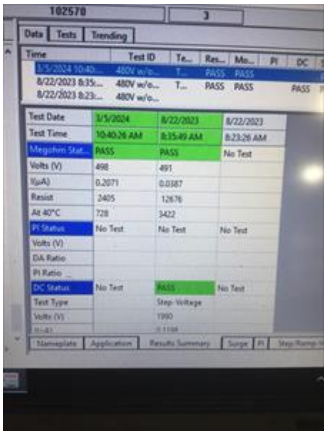
Initial Electrical Inspection

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

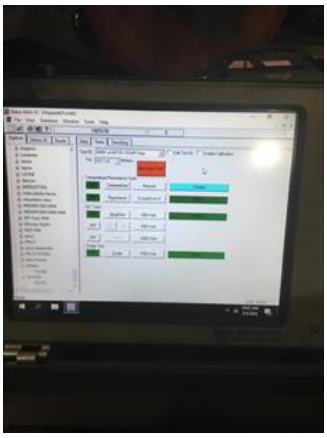


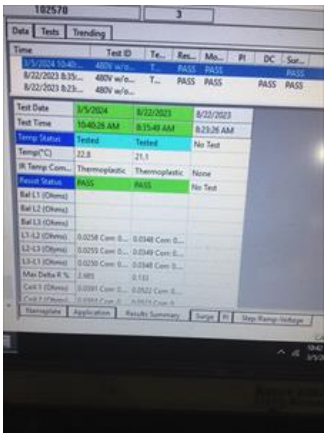
21. Winding Resistance P20

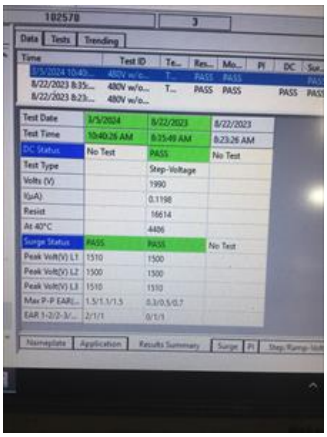
1-2	1-3	2-3



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







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

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	
	New fan cover bearings and recondition.	
50.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

51.	Shaft Runout	**0.003 inches**
52.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

Na

53. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees

Na

	54.	Coupling Fit Closest to the end of the Shaft		
		0 Degrees	60 Degrees	120 Degrees
		Na		
	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	
		Na		

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

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

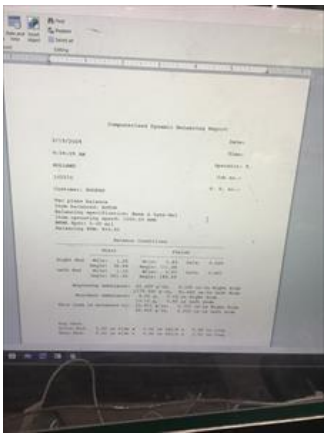
Dynamic Balance Report

70. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

71. Initial Balance Readings P11

Drive End	Opposite Drive End
1.22	**1.18**



72. Final Balance Readings

Drive End	Opposite Drive End
.43	**.07**

73. Technician **Terrence Holland**

Rewind

74. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

Na

75. Core Hot Spot Test

Pre-Burnout	Post-Burnout

Na

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

Na

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

Na

78. Post Rewind Winding Resistance

1-2	1-3	2-3

Na

79. Post Rewind Surge Test

Na

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

Na

81. Technician **Terrence Holland**

Mechanical Fits- Rotor - Post Repair

82. Shaft Runout Post Repair **inches**

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

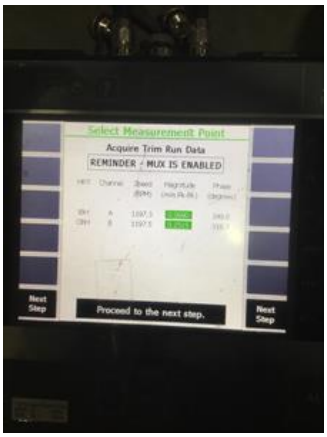
Drive End Air Seal	Opposite Drive End Air Seal

94. End Bell Repair Sign-off

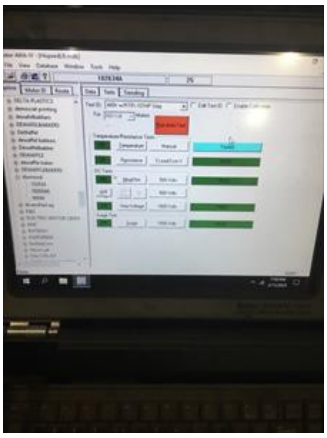
Assembly

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

96. Photograph All Major Components prior to assembly P17



97. Final Insulation Resistance Test **Megohms** P31



98.	Assembled Shaft Endplay		**inches**
99.	Assembled Shaft Runout		**0.002 inches**
100.	Test Run Voltage		P56

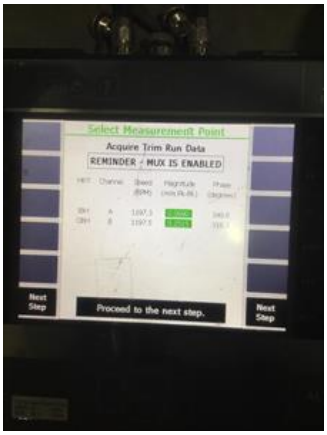
Volts	Volts	Volts
458	**458**	**459**

101.	Test Run Amperage		

Amps	Amps	Amps
61.4	**60.9**	**61.2**

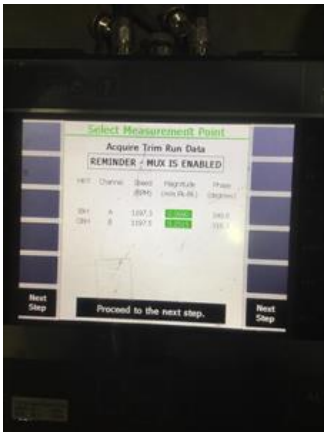
102.	Drive End Vibration Readings - Inches Per Second		P73

Horizontal	Vertical	Axial



103. Opposite Drive End Vibration Readings - Inches Per Second P85

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 **Terrence Holland** P131

Witness: RWR