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

AC Inspection as Found

DeWaffelbakkers (10743)
10000 Crystal Hill Road
N.Little Rock, AR 72113

FolderID: 103360
FormID: 21287956

AC Inspection - Rev. 2

Location:	LR MOTOR SHOP
Serial Number:	93X26057
Description:	200HP RAM/TOSHIBA EVAL

Hi-Speed Job Number:	103360
Manufacturer:	Toshiba
Product Number:	1279780-01-NW-P-2
Serial Number:	93X26057
HP/kW:	200 (HP)
RPM:	3565 (RPM)
Frame:	444TS
Voltage:	230 / 460
Current:	470/236
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	ODP
# of Leads:	9
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	08/12/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

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

Overall Condition

1.	Report Date	**08/19/2024**

2. Nameplate Picture P37

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

	4.	Describe the Overall Condition of the Equipment as Received ***Serviceable***	
	5.	Report Date [COPY]	**08/19/2024**

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**	P26

●	9.	Assembled Shaft Runout	**0.001 Inches**	
	10.	Assembled Shaft End Play	**0 inches**	
	11.	Air Gap Variation <10%	**pass**	
●	12.	Lead Condition	**(P) Pass**	P69

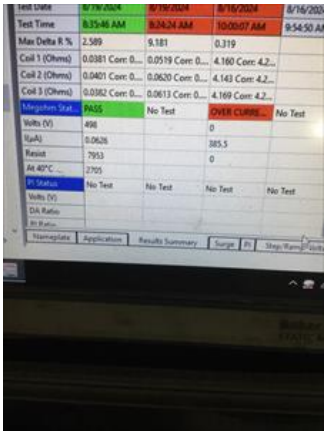
	13.	Lead Length	**5.5 Inches**	
●	14.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
	15.	Lead Numbers	**1-12**	
	16.	Frame Condition	**pass**	
	17.	Fan Condition	**(N) NA**	
	18.	Broken or Missing Components	**none**	

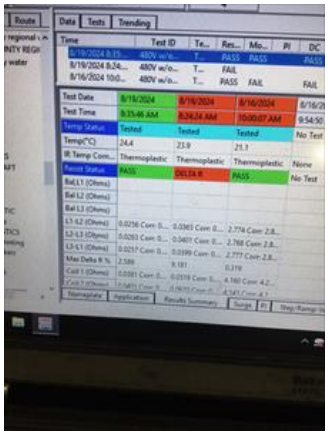
Initial Electrical Inspection

	19.	Insulation Resistance/Megger	**17.39 Megohms**	P8

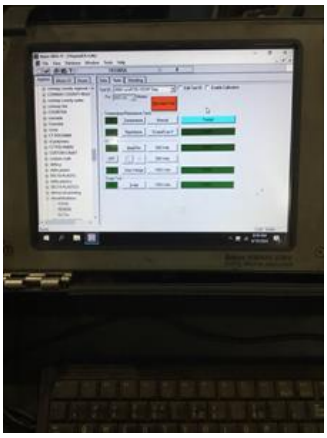
	20.	Winding Resistance		P20

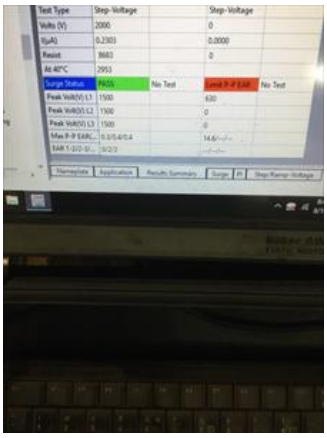
1-2	1-3	2-3

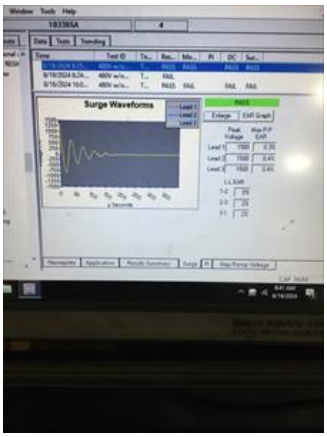


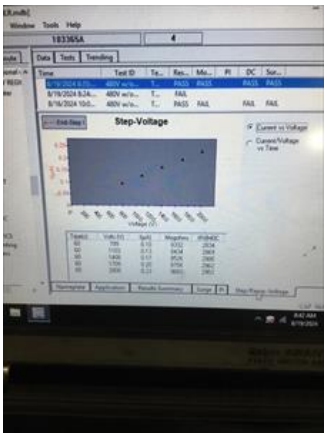


●	21.	Perform Surge Test	**(P) Pass**	P57









22.	Number of Stator Slots	**48**	
23.	Stator Condition	**dirty**	
24.	Stator Thermistors/Ohms		
25.	Stator Overloads/Ohms		

Mechanical Inspection

26.	Drive End Bearing Brand	**SKF**	P12

27.	Drive End Bearing Number-	**6313 C3**
28.	Drive End Bearing Qty.	**1**
29.	Drive End Bearing Type	**(Ball) Ball Bearing**
30.	Drive End Lubrication Type	**(Grease) Grease Lubricated**
31.	Drive End Bearing Insulation or Grounding Device?	**none**

32.	Drive End Wavy Washer/Snap-Ring Other Retention Device?		
	Gland nut and lock washer.		
33.	Drive End Bearing Condition	**replace**	
34.	Opposite Drive End Bearing Brand	**SKF**	
35.	Opposite Drive End Bearing Number-	**6313**	P100

36.	Opposite Drive End Bearing Qty.	**1**
37.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**
38.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
39.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**gland nut and lock washer**
41.	Opposite Drive End Bearing Condition	**replace**
42.	Drive End Seal	
43.	Opposite Drive End Seal	

Rotor Inspection

44.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
45.	Growler Test	**(Pass) Pass**
46.	Number of Rotor Bars	**40**
47.	Rotor Condition	**pass**
48.	List the Parts needed for the Repair Below	
	Bearings.	
49.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

50.	Shaft Runout	**0.001 inches**
51.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

52.	Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees

	53.	Coupling Fit Closest to the end of the Shaft			
		0 Degrees	60 Degrees	120 Degrees	
	54.	Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		2.5593	**2.5593**	**2.5593**	
●	55.	Drive End Bearing Shaft Fit Condition			**(P) Pass**
	56.	Opposite Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		2.5594	**2.5593**	**2.5593**	
●	57.	Opposite Drive End Bearing Shaft Fit Condition			**(P) Pass**
	58.	Shaft Air Seal Fits			
		Drive End Air Seal	Opposite Drive End Air Seal		

Mechanical Fits- Bearing Housings

	59.	Drive End - Endbell Bearing Fit			
		0 Degrees	60 Degrees	120 Degrees	
		5.5134	**5.5131**		
●	60.	Drive End - Endbell Bearing Fit Condition			**(F) Fail**
	61.	Opposite Drive End - Endbell Bearing Fit			
		0 Degrees	60 Degrees	120 Degrees	
		5.5121	**5.5123**	**5.512**	
●	62.	Opposite Drive End - Endbell Bearing Fit Condition			**(P) Pass**
	63.	Bearing Cap Condition			
		Drive End Bearing Cap	Opposite Drive End Bearing Cap		
		pass	**pass**		
	64.	End Bell Air Seal Fits			
		Drive End Air Seal	Opposite Drive End Air Seal		
	65.	List Machine Work Needed Below			
		D.E housing fit out of tolerance.			
	66.	Technician			**Terrence Holland**

Root Cause of Failure

67. Failure locations

Windings were very dirty. Leads are only 5.5" long. Top connection box cover as black mark that appears to be from where the leads shorted against it.

68. Root cause of failure

Possible leads shorting against connection box cover.

Dynamic Balance Report

69. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

70. Initial Balance Readings

Drive End	Opposite Drive End

71. Final Balance Readings

Drive End	Opposite Drive End

72. Technician

Mechanical Fits- Bearing Housings - Post Repair

73. Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

74. Opposite Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

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