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

AC Inspection as Found

Bryce Corporation (10053-BRC)
450 S. Benton
Searcy, AR 72143

FolderID: 103740
FormID: 22229656

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	068392601
Description:	55KW SIEMENS 3570RPM W/ FANTASTIC

Hi-Speed Job Number:	103740
Manufacturer:	Siemens
Product Number:	M: 1LGA253-2AB60-Z
Serial Number:	068392601
HP/kW:	55 (kW)
RPM:	3570 (RPM)
Frame:	250M
Voltage:	460
Current:	95 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.1
Enclosure:	TEFC
# of Leads:	6
J-box Included:	Complete
Coupling/Sheave:	Fan
Date Received:	11/11/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Bearing Housing Machined Fit Repairs Required:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **12 - Good**

Overall Condition

1.	Report Date	**11/11/2024**

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.	Distance from the end of the shaft to the Coupling/Sheave ***Fan assembly was removed by customer.***	**inches**	
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**	P16

Removed by customer

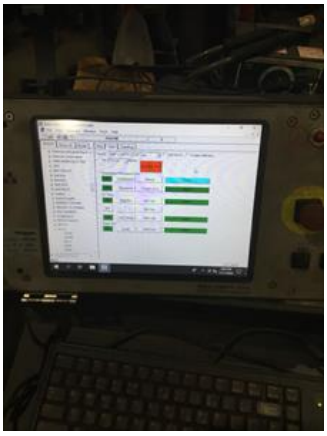
	8.	Does Shaft Have Visible Damage?	**(No) No**	
	9.	Assembled Shaft Runout	**0.001 Inches**	
	10.	Assembled Shaft End Play	**0 inches**	
	11.	Air Gap Variation <10%	**yes**	P60

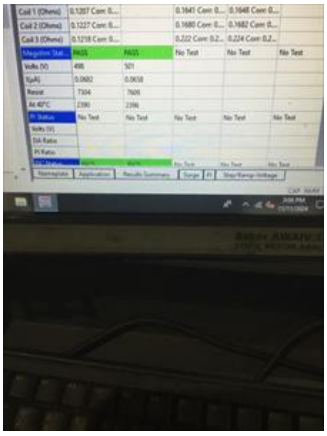
12.	Lead Condition		**(P) Pass**	
13.	Lead Length		**Inches**	
	On a connection block.			
14.	Does it have Lugs?, If so what is the Stud Size?		**(Yes) Yes**	
15.	Lead Numbers		**U1-V1-W1. U2-V2-W2**	
16.	Frame Condition		**pass**	
17.	Fan Condition		**(P) Pass**	P115

18.	Heater Quantity, Ratings		
	Quantity	Volts/Watts	Pass/Fail
19.	Broken or Missing Components		

Initial Electrical Inspection

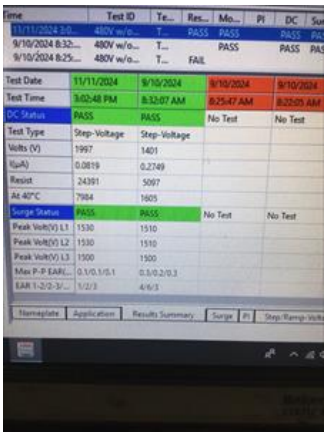
20.	Insulation Resistance/Megger	**Megohms**	P8



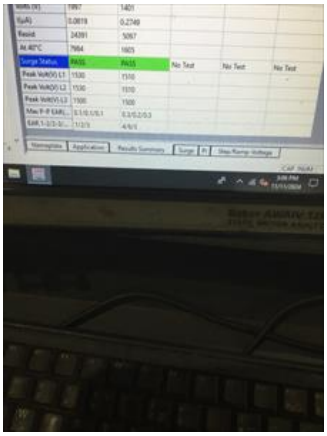


21.	Winding Resistance		P20

1-2	1-3	2-3



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



23.	Number of Stator Slots	**36**	
24.	Stator Condition	**pass**	
25.	Stator Thermistors/Ohms	**252.9**	P90

26.	Stator Overloads/Ohms	

Mechanical Inspection

27.	Drive End Bearing Brand	**ORS Turkey**	
28.	Drive End Bearing Number-	**6215 SO C3**	P32

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?	**wavy washer**	P77

34.	Drive End Bearing Condition	**replace**	
35.	Opposite Drive End Bearing Brand	**ORS Turkey**	P92

36.	Opposite Drive End Bearing Number-	**6215 SO C3**	P99

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**	P109

40.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**	
41.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?		
	2) snap rings.		
42.	Opposite Drive End Bearing Condition	**replace**	
43.	Drive End Seal	**dust seal**	P120

44.	Opposite Drive End Seal		

Rotor Inspection

45.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	P3

46.	Growler Test	**(Pass) Pass**	
47.	Number of Rotor Bars	**28**	

48.	Rotor Condition	**pass**
49.	List the Parts needed for the Repair Below ***Aegis ring recommended. D.E measurement is shaft 2.9513***	
50.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

51.	Shaft Runout	**0.001 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
2.9534	**2.9534**	**2.9534**

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

0 Degrees	60 Degrees	120 Degrees
2.9535	**2.9536**	**2.9536**

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
5.1189	**5.1189**	**5.1191**

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

0 Degrees	60 Degrees	120 Degrees
5.1181	**5.1182**	**5.1181**

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

Drive End Bearing Cap	Opposite Drive End Bearing Cap

65.	End Bell Air Seal Fits	

Drive End Air Seal	Opposite Drive End Air Seal

66. List Machine Work Needed Below

None

67. Technician **Terrence Holland**

Root Cause of Failure

68. Failure locations

Both bearings show signs of excessive wear and fluting.

69. Root cause of failure

Contaminated bearing grease and fluting.

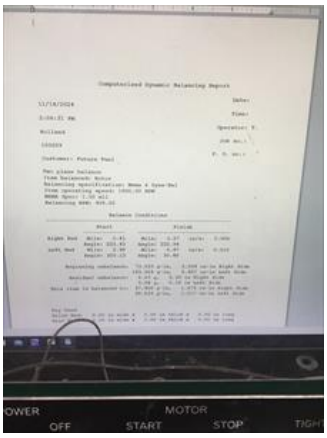
Dynamic Balance Report

70. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

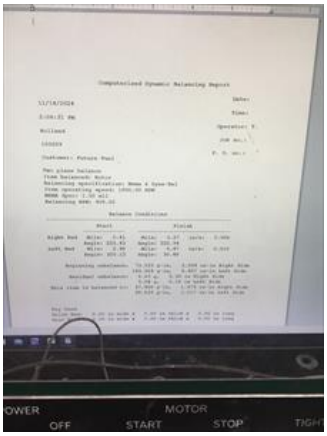
71. Initial Balance Readings P11

Drive End	Opposite Drive End

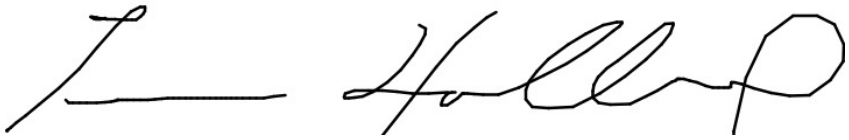


72. Final Balance Readings

Drive End	Opposite Drive End



73. Technician **Terrence Holland**



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- 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			
Assembly				

90. QC Check All Parts for Cleanliness Prior to Assembly **Terrence Holland** P4




91. Photograph All Major Components prior to assembly P17


	92.	Final Insulation Resistance Test			
	93.	Assembled Shaft Endplay		**0 inches**	
●	94.	Assembled Shaft Runout		**0.002 inches**	
	95.	Test Run Voltage			P56
		Volts	Volts	Volts	
		458	**455**	**459**	

96. Test Run Amperage

Amps	Amps	Amps
29	**26.8**	**27.5**

97. Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial

98. Opposite Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial

99. Ambient Temperature - Fahrenheit

100. Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

101. Opposite Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

102. Document Final Condition with Pictures after paint

See below

103. Final Pics and QC Review **Terrence Holland** P131