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

AC Inspection as Found

Almatis Inc/RCP Bauxite (10014)
4701 Alcoa Road
Bauxite, AR 72011

FolderID: 102830
FormID: 20172870

AC Inspection - Rev. 2

Location:	LR Motor Shop
Serial Number:	1-5106-16338-1-1
Description:	60HP RELIANCE 1200 RPM

Hi-Speed Job Number:	102830
Manufacturer:	Siemens
Serial Number:	1-5106-16338-1-1
HP/kW:	60 (HP)
RPM:	1170 (RPM)
Frame:	404T
Voltage:	460
Current:	70.7 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	3
J-box Included:	Complete
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Teardown Inspection
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: **4 - High** **7 - Good**

Overall Condition

1.	Report Date	**05/08/2024**

2. Nameplate Picture P37

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

	4.	Describe the Overall Condition of the Equipment as Received ***Good condition. Passed all electrical tests. Requires machine work to both end bells.***	

Initial Mechanical/Electrical

●	5.	Does Shaft Turn Freely?	**(Y) Yes**	
●	6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**	
	7.	Does Shaft Have Visible Damage?	**(Yes) Yes**	P26
		Shaft has previous been metalized. Starting to flake off.		

●	8.	Assembled Shaft Runout	**0.001 Inches**	
	9.	Assembled Shaft End Play	**0.001 inches**	
	10.	Air Gap Variation <10%	**No Provisions for Measurement**	

11.	Lead Condition	**(P) Pass**	P69

12.	Lead Length	**12 Inches**	
13.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**	P93

3/8"

14.	Lead Numbers	**None**	
15.	Frame Condition	**Pass**	
16.	Fan Condition	**(P) Pass**	
17.	Broken or Missing Components	**Yes**	P122

Fan shroud cracked.

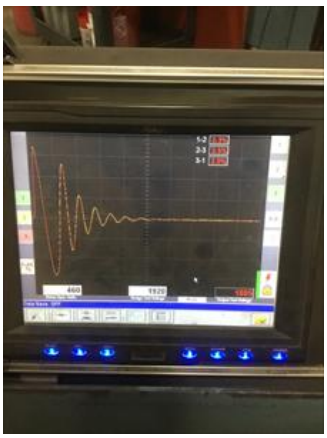
Initial Electrical Inspection

18. Insulation Resistance/Megger **920000 Megohms** P8

19. Winding Resistance P20

1-2	1-3	2-3
.1463	**.1465**	**.14654**

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



21. Number of Stator Slots **72**

22. Stator Condition P84

23.	Stator Thermistors/Ohms	**N/A**	
24.	Stator Overloads/Ohms	**N/A**	

Mechanical Inspection

25.	Drive End Bearing Brand	**FAFNIR**	P12

26.	Drive End Bearing Number-	**6316 C3**	
27.	Drive End Bearing Qty.	**1**	
28.	Drive End Bearing Type	**(Ball) Ball Bearing**	
29.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
30.	Drive End Bearing Insulation or Grounding Device?	**None**	
31.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Lock Nut**	
32.	Drive End Bearing Condition	**Normal wear**	P82

33.	Opposite Drive End Bearing Brand	**FAFNIR**	P92

34.	Opposite Drive End Bearing Number-	**6313 C3**	
35.	Opposite Drive End Bearing Qty.	**1**	
36.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
37.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
38.	Opposite Drive End Bearing Insulation or Grounding Device?	**None**	
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**None**	
40.	Opposite Drive End Bearing Condition	**Normal Wear**	P118

41.	Drive End Seal		P120

42.	Opposite Drive End Seal	**None**	

Rotor Inspection

43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
44.	Growler Test	**(Pass) Pass**
45.	Number of Rotor Bars	**60**
46.	Rotor Condition	**Pass**
47.	List the Parts needed for the Repair Below ***6313 C3*** ***6316 C3***	
48.	Signature of Technician that Disassembled Motor	**Brandon Woodard**

Mechanical Fits- Rotor

49.	Shaft Runout		**0.001 inches**
50.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
	0.002	**0.002**	**0.002**
51.	Coupling Fit Closest to Bearing Housing		
	0 Degrees	90 Degrees	120 Degrees
	2.875	**2.875**	**2.875**
52.	Coupling Fit Closest to the end of the Shaft		
	0 Degrees	60 Degrees	120 Degrees
	2.874	**2.874**	**2.874**
53.	Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	3.1501	**3.1501**	**3.1501**
	Tolerance is 3.1497-3.1503		
54.	Drive End Bearing Shaft Fit Condition		**(P) Pass**
55.	Opposite Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	2.5596	**2.5596**	**2.5596**
	Tolerance is 2.5592-2.5597		
56.	Opposite Drive End Bearing Shaft Fit Condition		**(P) Pass**
57.	Shaft Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
	Pass	**Pass**	

Mechanical Fits- Bearing Housings

58.	Drive End - Endbell Bearing Fit			P2
	0 Degrees	60 Degrees	120 Degrees	
	6.6958	**6.6957**	**6.6958**	

Tolerance is 6.6929-6.6939. .0019 out of tolerance.

59.	Drive End - Endbell Bearing Fit Condition		**(F) Fail**
60.	Opposite Drive End - Endbell Bearing Fit		P30
	0 Degrees	60 Degrees	120 Degrees
	5.515	**5.5148**	**5.5147**

Tolerance is 5.5118-5.5128. .002 out of tolerance.

61.	Opposite Drive End - Endbell Bearing Fit Condition		**(F) Fail**
62.	Bearing Cap Condition		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
	Pass	**Pass**	
63.	End Bell Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
	Pass	**Pass**	
64.	List Machine Work Needed Below		

Bore and bush both end bell.
Braze cracks in fan shroud.
Check integrity of old metalized surface on shaft.

65.	Technician	**Brandon Woodard**

Root Cause of Failure

66. Failure locations
67. Root cause of failure