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: 102901
FormID: 20320002

AC Inspection - Rev. 2

Location:	LR Motor Shop
Serial Number:	ID: P18G7185D
Description:	1.5 HP RELIANCE VIBE MOTOR

Hi-Speed Job Number:	102901
Manufacturer:	Reliance
Spec/ID #:	P18G7185D
HP/kW:	1.5 (HP)
RPM:	1755 (RPM)
Frame:	182TDZ
Voltage:	460
Current:	2.5 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.20
Enclosure:	TENV
# of Leads:	3
J-box Included:	None
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	Yes
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **3 - High** **6 - Good**

Overall Condition

1.	Report Date	**05/30/2024**

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2. Nameplate Picture P2

3. Photos of all six sides of the machine. P3

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Bearing is off the shoulder.

4. Describe the Overall Condition of the Equipment as Received

Serviceable

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**

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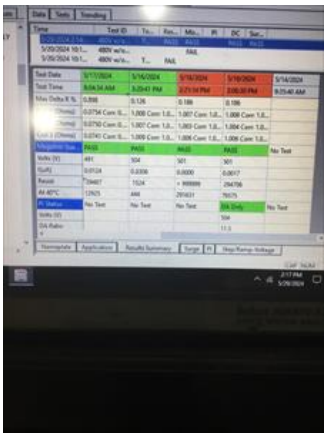
7.	Does Shaft Have Visible Damage?	**(Yes) Yes**	P7
	Seal surface worn.		

8.	Assembled Shaft Runout	**Inches**	
9.	Assembled Shaft End Play	**inches**	
10.	Air Gap Variation <10%		
11.	Lead Condition	**(P) Pass**	
12.	Lead Length	**56.5 Inches**	
13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
14.	Lead Numbers	**1-3**	
15.	Frame Condition	**pass**	
16.	Fan Condition	**(N) NA**	
17.	Broken or Missing Components		
	None		

Initial Electrical Inspection

18.	Insulation Resistance/Megger	**Megohms**	P18



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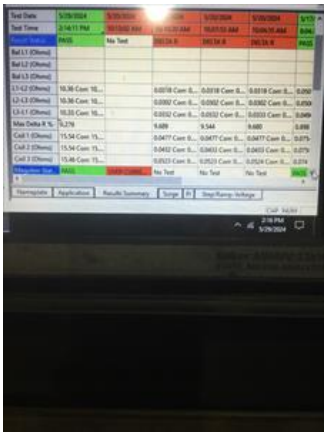
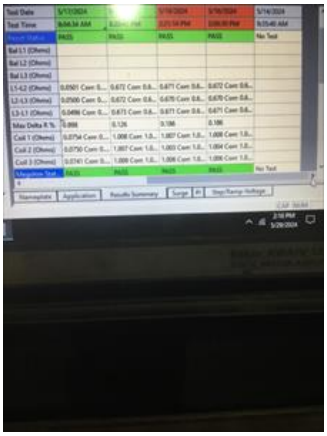
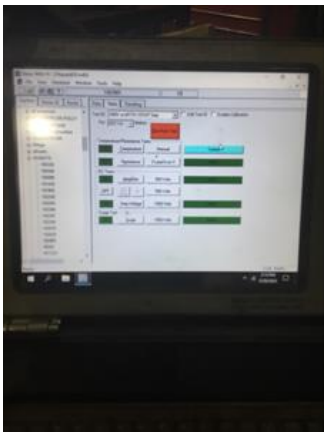
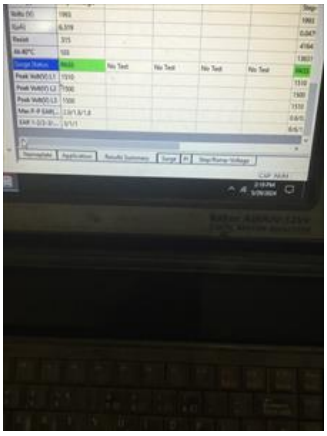
19.	Winding Resistance			P19
	1-2	1-3	2-3	





20.	Perform Surge Test	**(P) Pass**	P20





21.	Number of Stator Slots	**36**
22.	Stator Condition	**pass**
23.	Stator Thermistors/Ohms	
24.	Stator Overloads/Ohms	

Mechanical Inspection

25.	Drive End Bearing Brand	**FAG**

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26.	Drive End Bearing Number-	**6206-2Z-L038-C3**	P26

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?	**none**
32.	Drive End Bearing Condition	**replace**
33.	Opposite Drive End Bearing Brand	**FAG**
34.	Opposite Drive End Bearing Number-	**6205-2Z-L038-C3** P34

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?	**wavy washer** P39

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40.	Opposite Drive End Bearing Condition	**replace**	
41.	Drive End Seal	**National 471224**	P41

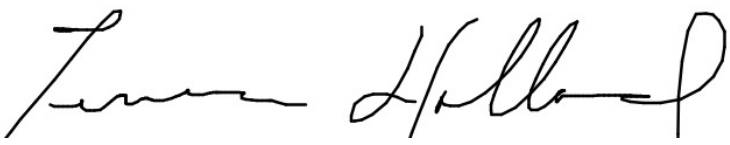
42.	Opposite Drive End Seal		

Rotor Inspection

43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
44.	Growler Test	**(Pass) Pass**	
45.	Number of Rotor Bars	**28**	
46.	Rotor Condition	**pass**	
47.	List the Parts needed for the Repair Below		

Bearings, o-rings, DE housing seal, and shaft seal surface repair.
(2) 6311-2R S1NR/C3 GJN proprietary bearings (shaker assembly)
(1) 6206-2Z/C3 and (1) 6205-2Z/C3 bearing (motor)
(1) National 471224 seal. (DE housing)
Replace 2 ea. o-rings. (Oil basin cavity)

48.	Signature of Technician that Disassembled Motor	**Terrence Holland**	



Co witness RRW

Mechanical Fits- Rotor

49.	Shaft Runout	**0.001 inches**	

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	50.	Rotor Runout			
		Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
	51.	Coupling Fit Closest to Bearing Housing			
		0 Degrees	90 Degrees	120 Degrees	
	52.	Coupling Fit Closest to the end of the Shaft			
		0 Degrees	60 Degrees	120 Degrees	
	53.	Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		1.5815	**1.5816**	**1.5818**	
●	54.	Drive End Bearing Shaft Fit Condition			**(P) Pass**
	55.	Opposite Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		1.9835	**1.9829**		
●	56.	Opposite Drive End Bearing Shaft Fit Condition			**(F) Fail**
	57.	Shaft Air Seal Fits			
		Drive End Air Seal	Opposite Drive End Air Seal		

Mechanical Fits- Bearing Housings

	58.	Drive End - Endbell Bearing Fit			
		0 Degrees	60 Degrees	120 Degrees	
		2.4404	**2.4405**	**2.44**	
●	59.	Drive End - Endbell Bearing Fit Condition			**(F) Fail**
	60.	Opposite Drive End - Endbell Bearing Fit			
		0 Degrees	60 Degrees	120 Degrees	
		2.0478	**2.0472**	**2.0472**	
●	61.	Opposite Drive End - Endbell Bearing Fit Condition			**(F) Fail**
		Out of round			
	62.	Bearing Cap Condition			P62
		Drive End Bearing Cap	Opposite Drive End Bearing Cap		
		pass			

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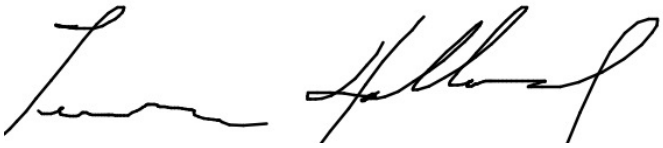
63. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

64. List Machine Work Needed Below

Repair DE shaft seal surface. Repair De housing fit.

65. Technician **Terrence Holland**



Root Cause of Failure

66. Failure locations

Both housing fits, and ODE shaft fit.

67. Root cause of failure

Pin in weight was dislodged and laying in the bottom of the stator. Also bearing grease was contaminated in both bearings.

Dynamic Balance Report

68. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

69. Initial Balance Readings

Drive End	Opposite Drive End

70. Final Balance Readings

Drive End	Opposite Drive End

71. Technician

Mechanical Fits- Rotor - Post Repair

72. Shaft Runout Post Repair

73. Rotor Runout Post Repair

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

74. Coupling Fit Closest to Bearing Housing Post Repair

0 Degrees	90 Degrees	120 Degrees

75. Coupling Fit Closest to the end of the Shaft Post Repair

0 Degrees	60 Degrees	120 Degrees

76. Drive End Bearing Shaft Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

77. Opposite Drive End Bearing Shaft Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

78. Shaft Air Seal Fits Post Repair

Drive End Air Seal	Opposite Drive End Air Seal

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79.	Shaft Repair Sign-off		
Mechanical Fits- Bearing Housings - Post Repair			
80.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
81.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
82.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
83.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
84.	End Bell Repair Sign-off		
Assembly			
85.	QC Check All Parts for Cleanliness Prior to Assembly		
86.	Photograph All Major Components prior to assembly		
87.	Final Insulation Resistance Test		
88.	Assembled Shaft Endplay		
89.	Assembled Shaft Runout		
90.	Test Run Voltage		
	Volts	Volts	Volts
91.	Test Run Amperage		
	Amps	Amps	Amps
92.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
93.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
94.	Ambient Temperature - Fahrenheit		
95.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
96.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
97.	Document Final Condition with Pictures after paint		
98.	Final Pics and QC Review		

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