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

AC Recondition As Found

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

FolderID: 100368
FormID: 14677472

AC Recondition - Rev. 2

Location:	LR Motor Shop
Serial Number:	5279033001
Description:	350HP LOUIS ALLIS 900RPM 7110Z

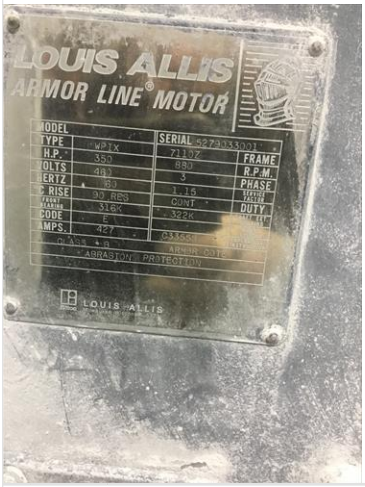
Hi-Speed Job Number:	100368
Manufacturer:	Other
Serial Number:	5279033001
HP/kW:	350 (HP)
RPM:	880 (RPM)
Frame:	7110Z
Voltage:	460
Current:	427
Phase:	Three
Hz:	60 (Hz)
Enclosure:	ODP
J-box Included:	Complete
Coupling/Sheave:	Sheave
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Heaters:	Yes
Winding Type :	Form Coil
Bearing Type:	Rolling Element

Priorities Found: **2 - High** **6 - Good**

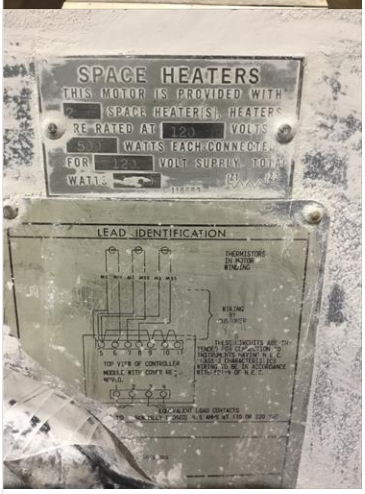
Overall Condition

1. Report Date

2. Nameplate Picture P37

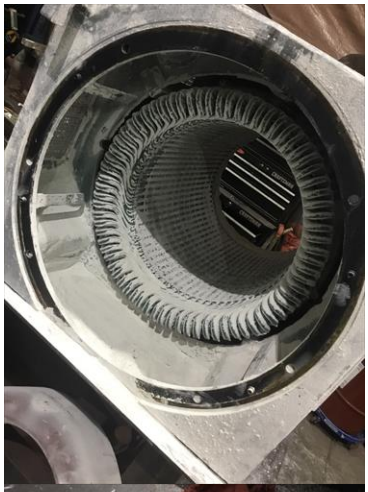


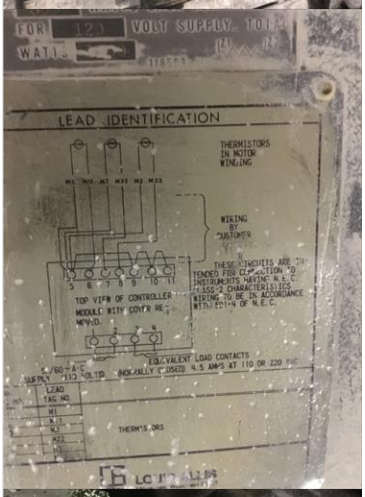
3. Photos of all six sides of the machine. P48









	4.	Describe the Overall Condition of the Equipment as Received ***Dirty***		
	5.	Distance from the end of the shaft to the Coupling/Sheave		**inches**
Initial Mechanical/Electrical				
●	6.	Does Shaft Turn Freely?		**(Yes) Yes**
	7.	Does Shaft Have Visible Damage?		**(No) No**
	8.	Assembled Shaft Runout		
	9.	Assembled Shaft End Play		
	10.	Air Gap Variation <10%		
●	11.	Lead Condition		**(P) Pass**
	12.	Lead Length		**12 Inches**
	13.	Frame Condition		**pass**
	14.	Fan Condition		**(N) NA**
	15.	Broken or Missing Components		**coupling is broken and ODE bearing cap bolt**
	16.	Heater Quantity, Ratings		
		Quantity	Volts/Watts	Pass/Fail
Initial Electrical Inspection				
	17.	Insulation Resistance/Megger		
	18.	Winding Resistance		
		1-2	1-3	2-3
●	19.	Perform Surge Test		**(P) Pass**
●	20.	Stator Condition		**thermistors**
Mechanical Inspection				
	21.	Drive End Bearing Number-		**6322**
	22.	Drive End Bearing Qty.		**1**
	23.	Drive End Bearing Type		**(Ball) Ball Bearing**
	24.	Drive End Lubrication Type		**(Grease) Grease Lubricated**
	25.	Drive End Bearing Insulation or Grounding Device?		**na**
	26.	Drive End Wavy Washer/Snap-Ring Other Retention Device?		**na**
	27.	Drive End Bearing Condition		**wear**
	28.	Opposite Drive End Bearing Number-		**6316**
	29.	Opposite Drive End Bearing Qty.		**1**
	30.	Opposite Drive End Bearing Type		**(Ball) Ball Bearing**

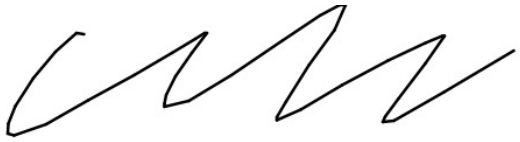
31.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
32.	Opposite Drive End Bearing Insulation or Grounding Device?	**na**
33.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**na**
34.	Opposite Drive End Bearing Condition	**excessive wear and metal fatigue**
35.	Drive End Seal	**na**
36.	Opposite Drive End Seal	**na**

Rotor Inspection

37.	Rotor Type/Material	**(Aluminum Bar) Aluminum Barred Rotor**
38.	Growler Test	**(Pass) Pass**
39.	Number of Rotor Bars	
40.	Rotor Condition	**pass**
41.	List the Parts needed for the Repair Below	

6322
6316
Sleeve for ODE bearing fit
New thermistors x3
Bolt for bearing cap

42.	Signature of Technician that Disassembled Motor	**Cw**



Mechanical Fits- Rotor

43.	Shaft Runout		
44.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
45.	Coupling Fit Closest to Bearing Housing		
	0 Degrees	90 Degrees	120 Degrees
46.	Coupling Fit Closest to the end of the Shaft		
	0 Degrees	60 Degrees	120 Degrees
47.	Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees

4.3317x2

48.	Drive End Bearing Shaft Fit Condition	**(P) Pass**

49.	Opposite Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees

3.1500
3.1502
3.1501

50.	Opposite Drive End Bearing Shaft Fit Condition	**(P) Pass**
51.	Shaft Air Seal Fits	

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

52. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
9.4495 *9.4497* *9.4496*		

53. Drive End - Endbell Bearing Fit Condition **(P) Pass**

54. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
6.6917 *6.6915*		

55. Opposite Drive End - Endbell Bearing Fit Condition **(F) Fail**

Under sized

56. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
Pass	

57. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

58. List Machine Work Needed Below

ODE end bell bearing fit

59. Technician **Cw**

Dynamic Balance Report

60. Rotor Weight and Balance Grade

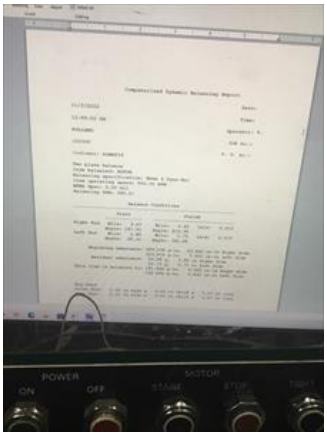
Rotor Weight	Balance Grade

61. Initial Balance Readings

Drive End	Opposite Drive End

62. Final Balance Readings P200

Drive End	Opposite Drive End



63. Technician **Terrence. Holland**

Rewind

64. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

65. Core Hot Spot Test

Pre-Burnout	Post-Burnout

66. Post Rewind Electrical Test- Insulation Resistance

67. Post Rewind Polarization Index

68. Post Rewind Winding Resistance

1-2	1-3	2-3

69. Post Rewind Surge Test

70. Post Rewind Hi-Pot

71. Technician

Root Cause of Failure

72. Failure locations

Bearings, coupling, and ODE bearing fit, and thermistors

73. Root cause of failure

ODE bearing fit was under sized putting to much pressure on the bearing causing more heat and extensive metal fatigue to the bearing races

Mechanical Fits- Rotor - Post Repair

74. Shaft Runout Post Repair

75. Rotor Runout Post Repair

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

76. Coupling Fit Closest to Bearing Housing Post Repair

0 Degrees	90 Degrees	120 Degrees

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

0 Degrees	60 Degrees	120 Degrees

78. Drive End Bearing Shaft Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

79. Opposite Drive End Bearing Shaft Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

80. Shaft Air Seal Fits Post Repair

Drive End Air Seal	Opposite Drive End Air Seal

81. Shaft Repair Sign-off

Mechanical Fits- Bearing Housings - Post Repair

82. Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

83. Opposite Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

84. Bearing Cap Condition Post Repair

Drive End Bearing Cap	Opposite Drive End Bearing Cap

85. End Bell Air Seal Fits Post Repair

Drive End Air Seal	Opposite Drive End Air Seal

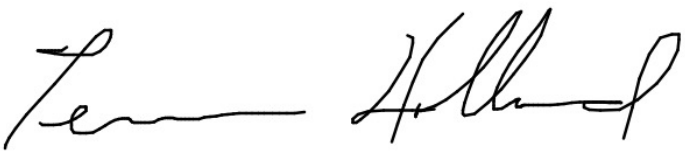
86. End Bell Repair Sign-off

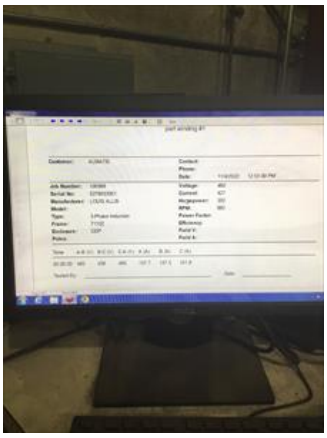
Assembly

87. Photograph All Major Components prior to assembly P0

88.	Final Insulation Resistance Test	**Megohms**	P100

89.	Assembled Shaft Endplay		
90.	Assembled Shaft Runout		
91.	Test Run Voltage		
	Volts	Volts	Volts
92.	Test Run Amperage		
	Amps	Amps	Amps
93.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.04	**0.04**	**0.01**
94.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.04	**0.03**	**0.01**
95.	Ambient Temperature - Fahrenheit		
96.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
		78.90000000000001	**83.2**
97.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
		80.8	**82.8**
98.	Stator Temperatures- Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
99.	Final Test Run Sign-off	**Terrence Holland**	P2100





100. Document Final Condition with Pictures after paint P2200