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

AC Inspection as Found

Arauco-Malvern MDF (10298)
1275 Willamette Rd
Malvern, AR 72104

FolderID: 103510
FormID: 21614434

AC Inspection - Rev. 2

Location:	LR MOTORSHOP
Serial Number:	2MA460270-G1-KY
Description:	100HP RELIANCE 1180 RPM

Hi-Speed Job Number:	103510
Manufacturer:	Reliance
Product Number:	TYPE: P
Spec/ID #:	2MA4602070-G1-KY
HP/kW:	100 (HP)
RPM:	1180 (RPM)
Frame:	444TS
Voltage:	460
Current:	120 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	ODP
# of Leads:	3
J-box Included:	None
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
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: **3 - High** **11 - Good**

Overall Condition

1. Report Date

2. Nameplate Picture P37

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

	4.	Describe the Overall Condition of the Equipment as Received	
	5.	Report Date [COPY]	
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**
	9.	Assembled Shaft Runout	
	10.	Assembled Shaft End Play	**inches**
	11.	Air Gap Variation <10%	
●	12.	Lead Condition	**(P) Pass**
	13.	Lead Length	**16 Inches**
●	14.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**
	15.	Lead Numbers	
	16.	Frame Condition	**good** P114

	17.	Fan Condition		**(N) NA**
	18.	Broken or Missing Components		**no t. box**
Initial Electrical Inspection				
	19.	Insulation Resistance/Megger		**1370 Megohms**
	20.	Winding Resistance		
		1-2	1-3	2-3
		0.1083	**0.1082**	**0.1084**
	21.	Perform Surge Test		**(P) Pass**
	22.	Number of Stator Slots		**72**
	23.	Stator Condition		
	24.	Stator Thermistors/Ohms		
	25.	Stator Overloads/Ohms		
Mechanical Inspection				
	26.	Drive End Bearing Brand		**Fag**
	27.	Drive End Bearing Number-		**63182z 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?		
		Na		
	32.	Drive End Wavy Washer/Snap-Ring Other Retention Device?		
		Na		
	33.	Drive End Bearing Condition		**replace**

34.	Opposite Drive End Bearing Brand	**Wag**
35.	Opposite Drive End Bearing Number-	**62132ZC3**
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?	
	Na	
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	
	Na	
41.	Opposite Drive End Bearing Condition	**replace**
42.	Drive End Seal	
	Na	
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	**60**
47.	Rotor Condition	
48.	List the Parts needed for the Repair Below	
49.	Signature of Technician that Disassembled Motor	**RHR**

Mechanical Fits- Rotor

50.	Shaft Runout	**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
3.5435	**3.5437**	**3.5436**

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

0 Degrees	60 Degrees	120 Degrees

Good

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
7.4817	**7.482**	**7.489**

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

61. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
4.7255	**4.7257**	**4.7258**

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

63. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

64. End Bell Air Seal Fits

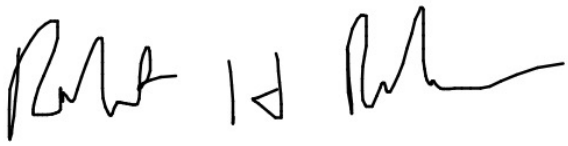
Drive End Air Seal	Opposite Drive End Air Seal

Pass

65. List Machine Work Needed Below

Both. End Bells. Bad

66. Technician **RHR**



Root Cause of Failure

67. Failure locations

Contamination

68. Root cause of failure

Contamination deteriorated insulation on wire and needs to be rewound. Windings did check good on electrical test.

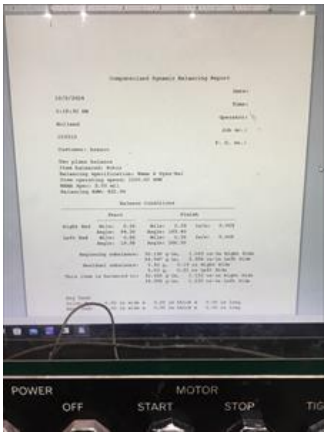
Dynamic Balance Report

69. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

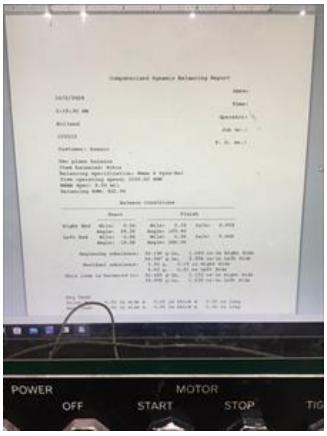
70. Initial Balance Readings P11

Drive End	Opposite Drive End
.36	**.86**



71. Final Balance Readings P27

Drive End	Opposite Drive End
.39	**.36**



72. Technician **Terrence Holland**

Rewind

73. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

74. Core Hot Spot Test

Pre-Burnout	Post-Burnout

75. Post Rewind Electrical Test- Insulation Resistance

76. Post Rewind Polarization Index

77. Post Rewind Winding Resistance

1-2	1-3	2-3

78. Post Rewind Surge Test

79. Post Rewind Hi-Pot

80. Technician

Mechanical Fits- Bearing Housings - Post Repair

81. Drive End - Endbell Bearing Fit Post Repair P5

0 Degrees	60 Degrees	120 Degrees
7.4813	**7.4814**	**7.4813**

82. Opposite Drive End - Endbell Bearing Fit Post Repair P19

0 Degrees	60 Degrees	120 Degrees
4.7245	**4.7246**	**4.7246**

83. Bearing Cap Condition Post Repair P24

Drive End Bearing Cap | Opposite Drive End Bearing Cap

Sum frosting on idle end

84. End Bell Air Seal Fits Post Repair

Drive End Air Seal | Opposite Drive End Air Seal

85. End Bell Repair Sign-off **Gary**

Assembly

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

87. Photograph All Major Components prior to assembly P17

88.	Final Insulation Resistance Test	**13.86 Gigohms**	P31

89.	Assembled Shaft Endplay	**0 inches**
90.	Assembled Shaft Runout	**0.001 inches**

91. Test Run Voltage P56

Volts	Volts	Volts
458	**457**	**460**

92. Test Run Amperage

Amps	Amps	Amps
40.3	**38.7**	**39.6**

93. Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial

	0.02	**0.04**	**0.02**
94.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.07000000000000001	**0.03**	**0.07000000000000001**
95.	Ambient Temperature - Fahrenheit		
96.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
97.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
98.	Document Final Condition with Pictures after paint		
99.	Final Pics and QC Review	**Terrence Holland**	P132

Co sign: RW