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

AC Inspection as Found

Reynolds Metals company
1333 highway 270
Malvern, AR 72104

FolderID: 103592
FormID: 21823772

AC Inspection - Rev. 2

Location:	Shop
Serial Number:	
Description:	Reliance

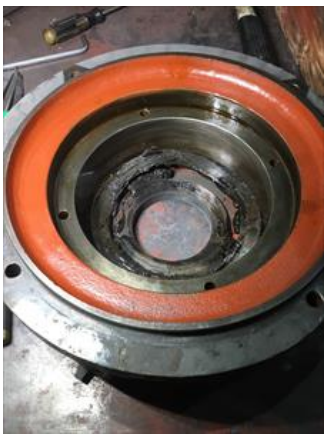
Hi-Speed Job Number:	103592
Manufacturer:	Reliance
Product Number:	M: 6300538
Voltage:	460
Current:	11 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1
Enclosure:	TENV
# of Leads:	3
J-box Included:	Half
Coupling/Sheave:	None
Date Received:	10/01/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **4 - High** **4 - Good**

Overall Condition

1.	Report Date	**10/07/2024**
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.	Report Date [COPY]	
Initial Mechanical/Electrical		
6.	Does Shaft Turn Freely?	**(N) No**
7.	Does the shaft require T.I.R in Lathe to identify additional repairs?	
8.	Does Shaft Have Visible Damage? ***Minor dings and scratches.***	**(Yes) Yes**
9.	Assembled Shaft Runout	**Inches**
10.	Assembled Shaft End Play	**inches**
11.	Air Gap Variation <10%	

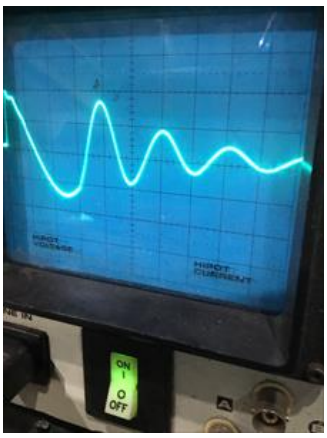
12.	Lead Condition	**(P) Pass**	P69

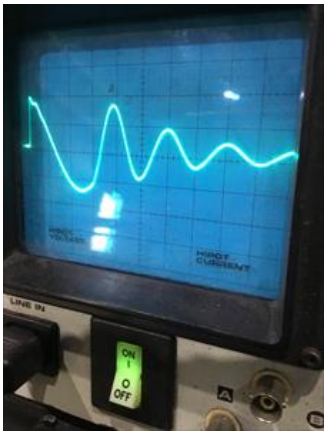
13.	Lead Length	**8.5 Inches**
14.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**
15.	Lead Numbers	**1-3**
16.	Frame Condition	**pass**
17.	Fan Condition	**(N) NA**
18.	Broken or Missing Components	**connection box top cover missing**

Initial Electrical Inspection

19.	Insulation Resistance/Megger		**Megohms**
20.	Winding Resistance		
	1-2	1-3	2-3

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





22.	Number of Stator Slots	**48**	
23.	Stator Condition	**pass**	
24.	Stator Thermistors/Ohms		
25.	Stator Overloads/Ohms		

Mechanical Inspection

26.	Drive End Bearing Brand	**FAG**	P12

27.	Drive End Bearing Number-	**6316 2Z**	P32

28.	Drive End Bearing Qty.	**1**	
29.	Drive End Bearing Type	**(Ball) Ball Bearing**	P51

30.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
31.	Drive End Bearing Insulation or Grounding Device?	**none**	
32.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	P77

33.	Drive End Bearing Condition	**replace**	
34.	Opposite Drive End Bearing Brand	**FAG**	
35.	Opposite Drive End Bearing Number-		P100

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?	**none**	
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**	
41.	Opposite Drive End Bearing Condition	**replace**	
42.	Drive End Seal		
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	**64**	
47.	Rotor Condition	**pass**	
48.	List the Parts needed for the Repair Below ***(2) 6316 2Z / C3 Bearings***		

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

Mechanical Fits- Rotor

50. Shaft Runout

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
3.1492	**3.1493**	**3.1491**

55. Drive End Bearing Shaft Fit Condition **(F) Fail**

Minimum allowed is 3.1496

56. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
3.1503	**3.1503**	**3.1501**

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 P2

0 Degrees	60 Degrees	120 Degrees

Excessive pitting

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

61. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

Lip worn in.

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

63. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
pass	**pass**

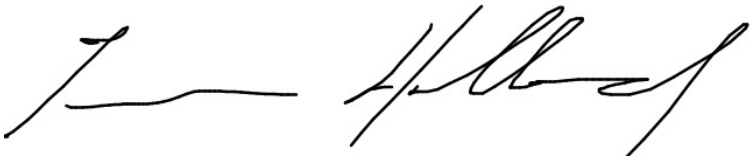
64. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

65. List Machine Work Needed Below

DE shaft fit measures too small. Both end bell housing fits worn.

66. Technician **Terrence Holland**



Root Cause of Failure

67. Failure locations

DE shaft fit, and both end bell housing fits.

68. Root cause of failure P18

ODE bearing suffered cage failure due to lack of lubrication.

Dynamic Balance Report

69. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

70. Initial Balance Readings

Drive End	Opposite Drive End

71. Final Balance Readings

Drive End	Opposite Drive End

72. Technician

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- Rotor - Post Repair

81. Shaft Runout Post Repair

82. Rotor Runout Post Repair

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

83. Coupling Fit Closest to Bearing Housing Post Repair

0 Degrees	90 Degrees	120 Degrees

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

0 Degrees	60 Degrees	120 Degrees

85. Drive End Bearing Shaft Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

86. Opposite Drive End Bearing Shaft Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

87. Shaft Air Seal Fits Post Repair

Drive End Air Seal	Opposite Drive End Air Seal

88. Shaft Repair Sign-off

Mechanical Fits- Bearing Housings - Post Repair

89. Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

90. Opposite Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

91. Bearing Cap Condition Post Repair

Drive End Bearing Cap	Opposite Drive End Bearing Cap

92.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
93.	End Bell Repair Sign-off		
Assembly			
94.	QC Check All Parts for Cleanliness Prior to Assembly		
95.	Photograph All Major Components prior to assembly		
96.	Final Insulation Resistance Test		
97.	Assembled Shaft Endplay		
98.	Assembled Shaft Runout		
99.	Test Run Voltage		
	Volts	Volts	Volts
100.	Test Run Amperage		
	Amps	Amps	Amps
101.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
102.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
103.	Ambient Temperature - Fahrenheit		
104.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
105.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
106.	Document Final Condition with Pictures after paint		
107.	Final Pics and QC Review		