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

AC Inspection as Found

Remington (10243)
2592 AR Hwy 15 N
Lonoke, AR 72086

FolderID: 102697
FormID: 19887865

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	Z1810301367
Description:	15HP BALDOR 3520RPM

Hi-Speed Job Number:	102697
Manufacturer:	Baldor
Product Number:	CAT: 85600H24
Spec/ID #:	09G939Z602G1
Serial Number:	Z1810301367
HP/kW:	15 (HP)
RPM:	3520 (RPM)
Frame:	254TCZ
Voltage:	230 / 460
Current:	35/17.5 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	9
J-box Included:	None
Coupling/Sheave:	None
Date Received:	03/25/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound

Priorities Found: **3 - High** **7 - Good**

Overall Condition

1. Report Date

2. Nameplate Picture P37

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

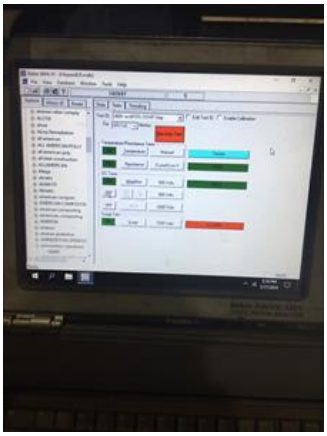
	4.	Describe the Overall Condition of the Equipment as Received ***Serviceable***	
Initial Mechanical/Electrical			
🔴	5.	Does Shaft Turn Freely?	**(N) No**
🟢	6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**
	7.	Does Shaft Have Visible Damage?	**(No) No**
	8.	Assembled Shaft Runout ***Na because of Complete ode bearing failure.***	**Inches**
	9.	Assembled Shaft End Play	**inches**
	10.	Air Gap Variation <10%	
🟢	11.	Lead Condition	**(P) Pass**

	12.	Lead Length	**12 Inches**	
●	13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
	14.	Lead Numbers	**1-9**	
	15.	Frame Condition	**pass**	
●	16.	Fan Condition	**(P) Pass**	P115

	17.	Broken or Missing Components	**none**	

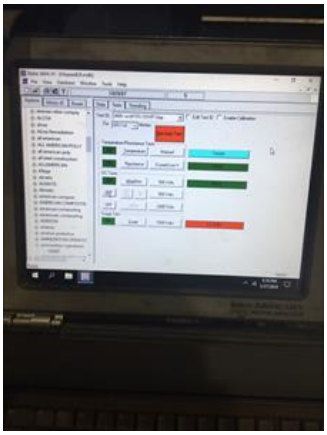
Initial Electrical Inspection

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



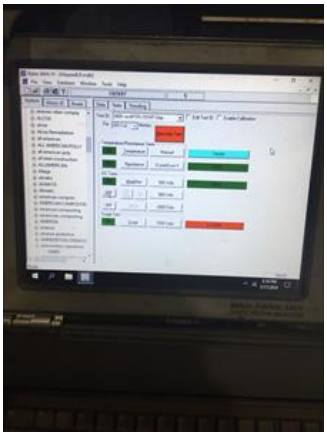
	19.	Winding Resistance		P20

1-2	1-3	2-3



20.	Perform Surge Test	**(F) Fail**	P57

Failed L-L ear. Pulled 17; 16; 16 @ 70 v across all phases.



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

Mechanical Inspection

25.	Drive End Bearing Brand		P12

26.	Drive End Bearing Number-	**7309**
27.	Drive End Bearing Qty.	**1**
28.	Drive End Bearing Type	**(Thrust) Thrust**
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		P82

33.	Opposite Drive End Bearing Brand	**Skf**	
34.	Opposite Drive End Bearing Number-	**6208**	P99

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?	**2 wavy washers**	P114

40.	Opposite Drive End Bearing Condition	**cage failure**	P118

41.	Drive End Seal	**Cho: 13369 - 1.087*2.275*0.313**	P120

42.	Opposite Drive End Seal	**na**

43. DE Sleeve Bearing Inside Diameter

0 degrees	120 degrees	240 degrees

44. DE Sleeve Bearing Outside Diameter

0 degrees	120 degrees	240 degrees

45. DE Sleeve Bearing Housing Inside Diameter

0 degrees	120 degrees	240 degrees

46. DE Sleeve Bearing to Housing Clearance

0 degrees	120 degrees	240 degrees

47. ODE Sleeve Bearing Inside Diameter

0 degrees	120 degrees	240 degrees

48. ODE Sleeve Bearing Outside Diameter

0 degrees	120 degrees	240 degrees

49. ODE Sleeve Bearing Housing Inside Diameter

0 degrees	120 degrees	240 degrees

50. ODE Sleeve Bearing to Housing Clearance

0 degrees	120 degrees	240 degrees

Rotor Inspection

51. Rotor Type/Material — **(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**

52. Growler Test — **(Pass) Pass**

53. Number of Rotor Bars — **28**

54. Rotor Condition — **pass**

55. List the Parts needed for the Repair Below

Sleeve ODE housing fit. Replace bearings and DE housing seal.

56. Signature of Technician that Disassembled Motor — **Terrence Holland**

Mechanical Fits- Rotor

57. Shaft Runout — **0.002 inches**

58. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

Na

59. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees

Na

60. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees

Na

61. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
1.7719	**1.7719**	**1.7719**

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

63. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
1.5751	**1.5751**	**1.5752**

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

65. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Good

Mechanical Fits- Bearing Housings

66. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
3.9377	**3.9378**	**3.9379**

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

68. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

Bad due to excessive wear from catastrophic bearing failure.

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

Lip worn in.

70. Bearing Cap Condition P52

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

71. End Bell Air Seal Fits

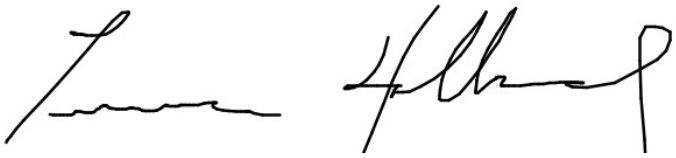
Drive End Air Seal	Opposite Drive End Air Seal

Good

72. List Machine Work Needed Below

Sleeve ODE housing fit.

73. Technician **Terrence Holland**



Root Cause of Failure

74. Failure locations

ODE housing fit.

75. Root cause of failure P18

Contaminated grease in both housings caused premature catastrophic bearing cage failure on the opposite drive end.

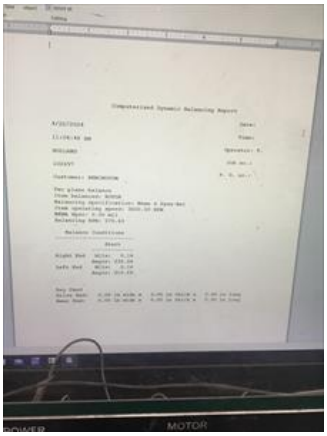
Dynamic Balance Report

76. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

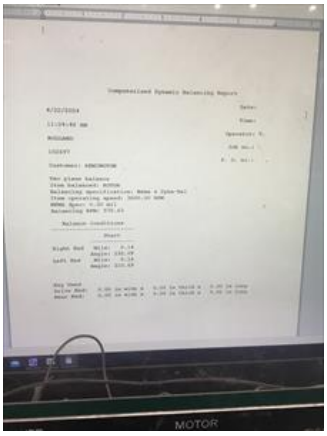
77. Initial Balance Readings P11

Drive End	Opposite Drive End

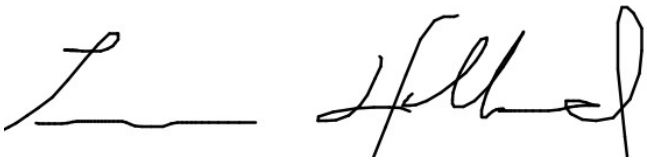


78. Final Balance Readings P27

Drive End	Opposite Drive End



79. Technician **Terrence Holland**



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
3.1503	**3.1503**	**3.1503**

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. DE Sleeve Bearing Inside ID Post Repair

Measure 1	Measure 2	Measure 3

85. DE Sleeve Bearing Outside ID Post Repair

Measure 1	Measure 2	Measure 3

86. DE Sleeve Bearing Inside OD Post Repair

Measure 1	Measure 2	Measure 3

87. DE Sleeve Bearing Outside OD Post Repair

Measure 1	Measure 2	Measure 3

88. End Bell Repair Sign-off **RW**

89. ODE Sleeve Bearing Inside ID Post Repair

Measure 1	Measure 2	Measure 3

90. ODE Sleeve Bearing Outside ID Post Repair

Measure 1	Measure 2	Measure 3

91. ODE Sleeve Bearing Inside OD Post Repair

Measure 1	Measure 2	Measure 3

92. ODE Sleeve Bearing Outside OD Post Repair

Measure 1	Measure 2	Measure 3

Assembly

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

94.	Photograph All Major Components prior to assembly	P17

95.	Final Insulation Resistance Test	**Megohms**
96.	Assembled Shaft Endplay	
97.	Assembled Shaft Runout	**inches**

98. Test Run Voltage

Volts	Volts	Volts
459	**457**	**460**

99. Test Run Amperage

Amps	Amps	Amps
6.1	**5.5**	**5.8**

100. Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial
0.06	**0.05**	**0.08**

101. Opposite Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial

102. Ambient Temperature - Fahrenheit

Na

103. Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

Na

104. Drive End Bearing Temps - Fahrenheit 20-30 Minutes

20 Minutes	25 Minutes	30 Minutes

Na

105. Drive End Bearing Temps - Fahrenheit 35-45 Minutes

35 Minutes	40 Minutes	45 Minutes

Na

106. Drive End Bearing Temps - Fahrenheit 50-60 Minutes

50 Minutes	55 Minutes	60 Minutes

Na

107. Opposite Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

Na

108. Opposite Drive End Bearing Temps - Fahrenheit 20-30 Minutes

20 Minutes	25 Minutes	30 Minutes

Na

109. Opposite Drive End Bearing Temps - Fahrenheit 35-45 Minutes

35 Minutes	40 Minutes	45 Minutes

Na

110. Opposite Drive End Bearing Temps - Fahrenheit 50-60 Minutes

50 Minutes	55 Minutes	60 Minutes

111. Document Final Condition with Pictures after paint P129

112. Final Pics and QC Review **Terrence Holland** P131

Witness: D. Maclin