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: 103377
FormID: 21303067

AC Inspection - Rev. 2

Location:	Shop
Serial Number:	C2303291062
Description:	40HP BALDOR RELIANCE EVAL

Hi-Speed Job Number:	103377
Manufacturer:	Baldor
Product Number:	EM2539T-G
Spec/ID #:	40E245X166G1
Serial Number:	C2303291062
HP/kW:	40 (HP)
RPM:	1770 (RPM)
Frame:	324T
Voltage:	230 / 460
Current:	98/49
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	DP
# of Leads:	9
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	08/14/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

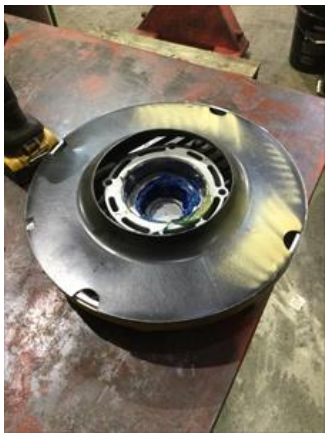
Priorities Found: **9 - Good**

Overall Condition

1.	Report Date	**08/19/2024**

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]	**08/19/2024**
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	**Inches**
	10.	Assembled Shaft End Play ***Na***	**inches**

	11.	Air Gap Variation <10%			
		Na			
●	12.	Lead Condition		**(P) Pass**	P69

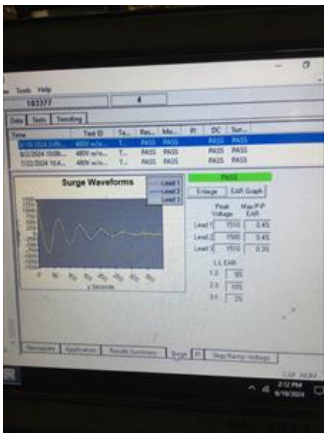
	13.	Lead Length		**24 Inches**	
●	14.	Does it have Lugs?, If so what is the Stud Size?		**(No) No**	
	15.	Lead Numbers		**1-9**	
	16.	Frame Condition		**pass**	
	17.	Fan Condition		**(N) NA**	
	18.	Broken or Missing Components		**none**	

Initial Electrical Inspection

	19.	Insulation Resistance/Megger		**107695 Megohms**	
	20.	Winding Resistance			

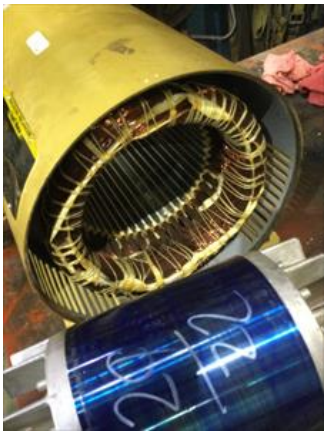
1-2	1-3	2-3
0.165	**0.164**	**0.166**

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



	22.	Number of Stator Slots		**48**	

23.	Stator Condition	**Wash and bake**	P85



24.	Stator Thermistors/Ohms	**na**	
25.	Stator Overloads/Ohms	**na**	

Mechanical Inspection

26.	Drive End Bearing Brand	**SKF**	
27.	Drive End Bearing Number-	**6312**	P32

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?	**Aegis Ring**	P64

32.	Drive End Wavy Washer/Snap-Ring Other Retention Device?		
	Na		
33.	Drive End Bearing Condition	**normal wear**	P83

34.	Opposite Drive End Bearing Brand	**FAG**	
35.	Opposite Drive End Bearing Number-	**6309**	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?		
	Na		
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Wavy washer**	
41.	Opposite Drive End Bearing Condition	**normal wear**	P119

42.	Drive End Seal		
	Na		
43.	Opposite Drive End Seal		
	Na		

Rotor Inspection

44.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
45.	Growler Test	**(Pass) Pass**	
46.	Number of Rotor Bars	**40**	
47.	Rotor Condition	**pass**	P41

48.	List the Parts needed for the Repair Below		
	1-6312 Bearing 1-6309 Bearing		
49.	Signature of Technician that Disassembled Motor	**RW**	

Mechanical Fits- Rotor

50.	Shaft Runout	**0.0004 inches**	

51. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

Na

52. Coupling Fit Closest to Bearing Housing P33

0 Degrees	90 Degrees	120 Degrees
2.125	**2.125**	**2.125**

53. Coupling Fit Closest to the end of the Shaft P46

0 Degrees	60 Degrees	120 Degrees
2.125	**2.125**	**2.125**

54. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
2.3621	**2.3621**	**2.3621**

55. Drive End Bearing Shaft Fit Condition **(P) Pass** P81

56.	Opposite Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	1.7718	**1.7718**	**1.7718**

57. Opposite Drive End Bearing Shaft Fit Condition **(P) Pass** P96

58.	Shaft Air Seal Fits	
	Drive End Air Seal	Opposite Drive End Air Seal

Pass

Mechanical Fits- Bearing Housings

59.	Drive End - Endbell Bearing Fit		
	0 Degrees	60 Degrees	120 Degrees
	5.1183	**5.1183**	**5.183**

60. Drive End - Endbell Bearing Fit Condition **(P) Pass** P15

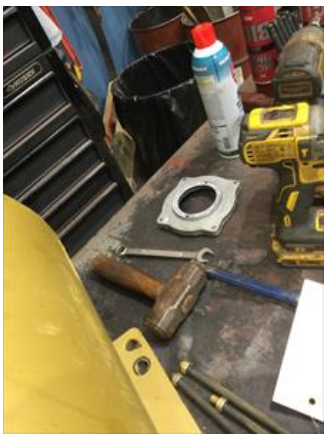
61. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
3.9379	**3.9379**	**3.9379**

62. Opposite Drive End - Endbell Bearing Fit Condition **(P) Pass** P39

63. Bearing Cap Condition P52

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



64. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
pass	**na**

65. List Machine Work Needed Below

None

66. Technician **RW**

Co sign: CRW

Root Cause of Failure

67. Failure locations

Bearing

68. Root cause of failure

Bearing

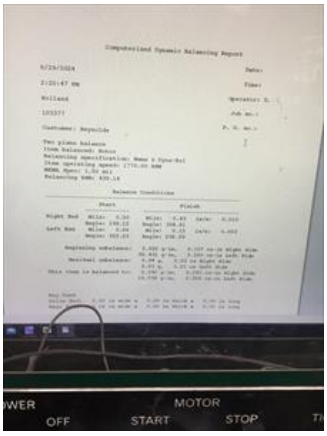
Dynamic Balance Report

69. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

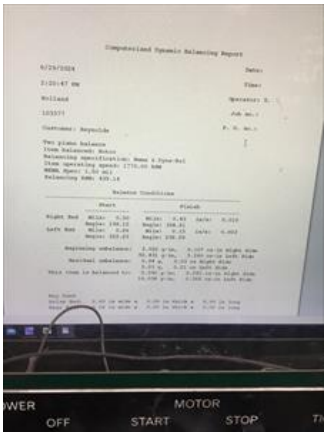
70. Initial Balance Readings P11

Drive End	Opposite Drive End



71. Final Balance Readings P27

Drive End	Opposite Drive End



72. Technician **Terrence Holland**

Assembly

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

74. Photograph All Major Components prior to assembly P17

75.	Final Insulation Resistance Test	**Megohms**	
	Pass		
76.	Assembled Shaft Endplay		
77.	Assembled Shaft Runout		
78.	Test Run Voltage		P56
	Volts	Volts	Volts

79.	Test Run Amperage		P65
	Amps	Amps	Amps

80. Drive End Vibration Readings - Inches Per Second

	Horizontal	Vertical	Axial
	0.03	**0.02**	

81. Opposite Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial
0.02	**0.05**	

82. Ambient Temperature - Fahrenheit

83. Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

84. Opposite Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

85. Document Final Condition with Pictures after paint **see below**

86. Final Pics and QC Review **Terrence Holland** P132

Witness: DM