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

AC Inspection as Found

Windsor Door (10299-WIN)
5800 Scott Hamilton
Little Rock, AR 72209

FolderID: 102548
FormID: 19507778

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	857611A-2
Description:	5HP 1675RPM REULAND

Hi-Speed Job Number:	102548
Manufacturer:	Reuland
Spec/ID #:	13035-XX2975A
Serial Number:	857611A-2
HP/kW:	5 (HP)
RPM:	1675 (RPM)
Frame:	1014
Voltage:	460
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TENV
Repair Stage:	Final

Priorities Found: **2 - High** **2 - 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.	Distance from the end of the shaft to the Coupling/Sheave	
Initial Mechanical/Electrical			
	6.	Does Shaft Turn Freely?	
	7.	Does the shaft require T.I.R in Lathe to identify additional repairs?	
	8.	Does Shaft Have Visible Damage?	
	9.	Assembled Shaft Runout	
	10.	Assembled Shaft End Play	
	11.	Air Gap Variation <10%	
●	12.	Lead Condition	**(F) Fail**
	13.	Lead Length	**10 Inches**

14.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**
15.	Lead Numbers	**1-9**
16.	Stator Temperature Detector Rating and Function	

Quantity	Rating	Quantity Passed

17.	Bearing Temperature Detector Rating and Function	

Quantity	Rating	Quantity Passed

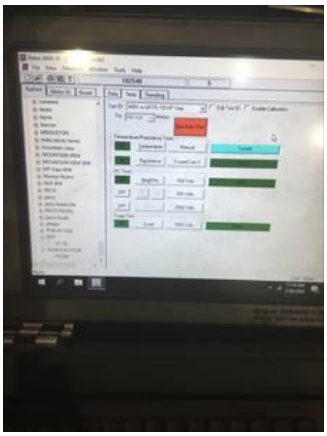
18.	Frame Condition	**pass**
19.	Fan Condition	
20.	Heater Quantity, Ratings	

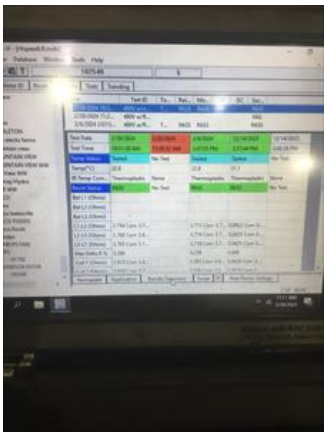
Quantity	Volts/Watts	Pass/Fail

21.	Broken or Missing Components	**none**

Initial Electrical Inspection

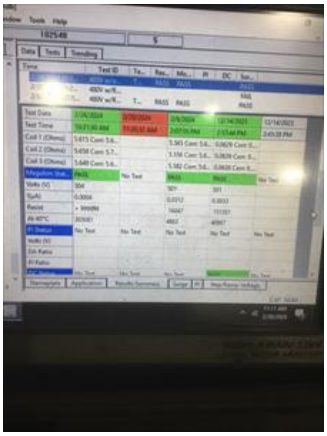
22.	Insulation Resistance/Megger	**Megohms**	P8



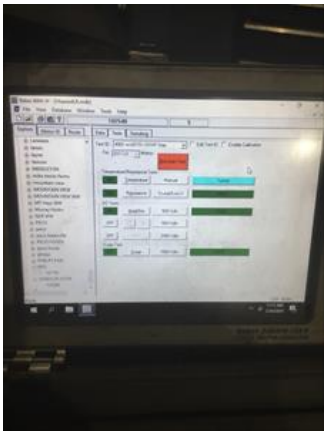


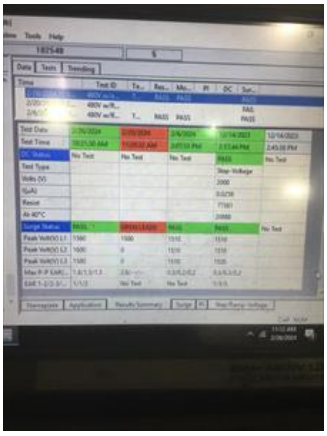
23.	Winding Resistance		P20

1-2	1-3	2-3



24.	Perform Surge Test		P57





25.	Number of Stator Slots	**36**	
26.	Stator Condition	**oil saturated**	
27.	Stator Thermistors/Ohms		
28.	Stator Overloads/Ohms		

Mechanical Inspection

29.	Drive End Bearing Brand	**Nachi**	
30.	Drive End Bearing Number-	**6207 ZE C3**	P32

31.	Drive End Bearing Qty.	**1**
32.	Drive End Bearing Type	**(Ball) Ball Bearing**
33.	Drive End Lubrication Type	**(Grease) Grease Lubricated**
34.	Drive End Bearing Insulation or Grounding Device?	**none**
35.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**
36.	Drive End Bearing Condition	**replace**
37.	Opposite Drive End Bearing Brand	**Nachi**

38.	Opposite Drive End Bearing Number-	**6207 ZE C3**	P99

39.	Opposite Drive End Bearing Qty.	**1**
40.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**
41.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
42.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**
43.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**
44.	Opposite Drive End Bearing Condition	**replace**
45.	Drive End Seal	**none**
46.	Opposite Drive End Seal	**none**

47. DE Sleeve Bearing Inside Diameter

0 degrees	120 degrees	240 degrees

48. DE Sleeve Bearing Outside Diameter

0 degrees	120 degrees	240 degrees

49. DE Sleeve Bearing Housing Inside Diameter

0 degrees	120 degrees	240 degrees

50. DE Sleeve Bearing to Housing Clearance

0 degrees	120 degrees	240 degrees

51. ODE Sleeve Bearing Inside Diameter

0 degrees	120 degrees	240 degrees

52. ODE Sleeve Bearing Outside Diameter

0 degrees	120 degrees	240 degrees

53. ODE Sleeve Bearing Housing Inside Diameter

0 degrees	120 degrees	240 degrees

54. ODE Sleeve Bearing to Housing Clearance

0 degrees	120 degrees	240 degrees

Rotor Inspection

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

56.	Growler Test	**(Pass) Pass**
57.	Number of Rotor Bars	**45**
58.	Rotor Condition	**pass**
59.	List the Parts needed for the Repair Below	
	Replace Bearings and re-lead Stator. Repair DE housing fit.	
60.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

61.	Shaft Runout	**0.001 inches**
62.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

63.	Coupling Fit Closest to Bearing Housing	

0 Degrees	90 Degrees	120 Degrees

64.	Coupling Fit Closest to the end of the Shaft	

0 Degrees	60 Degrees	120 Degrees

65.	Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees
1.3781	**1.378**	**1.3781**

66.	Drive End Bearing Shaft Fit Condition	
67.	Opposite Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees
1.378	**1.3779**	**1.378**

68.	Opposite Drive End Bearing Shaft Fit Condition	
69.	Shaft Air Seal Fits	

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

70.	Drive End - Endbell Bearing Fit	

0 Degrees	60 Degrees	120 Degrees
2.8357	**2.8354**	**2.8356**

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

0 Degrees	60 Degrees	120 Degrees
2.8352	**2.8353**	**2.8353**

73.	Opposite Drive End - Endbell Bearing Fit Condition	**(P) Pass**
74.	Bearing Cap Condition	

Drive End Bearing Cap	Opposite Drive End Bearing Cap

75. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

76. List Machine Work Needed Below

Sleeve DE housing fit.

77. Technician **Terrence Holland**

Root Cause of Failure

78. Failure locations

Windings, saturated with oil, DE housing fit bad. Re lead motor because of saturated leads. Motor brake power lead broken.

79. Root cause of failure

Motor brake lead broke off from connection which kept the brake from disengaging. Also stator windings and leads were saturated with oil.

Dynamic Balance Report

80. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

81. Initial Balance Readings

Drive End	Opposite Drive End

82. Final Balance Readings

Drive End	Opposite Drive End

83. Technician

Rewind

84. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

85. Core Hot Spot Test

Pre-Burnout	Post-Burnout

86. Post Rewind Electrical Test- Insulation Resistance

87. Post Rewind Polarization Index

88. Post Rewind Winding Resistance

1-2	1-3	2-3

89. Post Rewind Surge Test

90. Post Rewind Hi-Pot

91. Technician

Mechanical Fits- Rotor - Post Repair

92. Shaft Runout Post Repair

93.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
94.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
95.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
96.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
97.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
98.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
99.	Shaft Repair Sign-off		

Mechanical Fits- Bearing Housings - Post Repair

100.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
101.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
102.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
103.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
104.	DE Sleeve Bearing Inside ID Post Repair		
	Measure 1	Measure 2	Measure 3
105.	DE Sleeve Bearing Outside ID Post Repair		
	Measure 1	Measure 2	Measure 3
106.	DE Sleeve Bearing Inside OD Post Repair		
	Measure 1	Measure 2	Measure 3
107.	DE Sleeve Bearing Outside OD Post Repair		
	Measure 1	Measure 2	Measure 3
108.	End Bell Repair Sign-off		

109.	ODE Sleeve Bearing Inside ID Post Repair		
	Measure 1	Measure 2	Measure 3
110.	ODE Sleeve Bearing Outside ID Post Repair		
	Measure 1	Measure 2	Measure 3
111.	ODE Sleeve Bearing Inside OD Post Repair		
	Measure 1	Measure 2	Measure 3
112.	ODE Sleeve Bearing Outside OD Post Repair		
	Measure 1	Measure 2	Measure 3

Assembly

113.	QC Check All Parts for Cleanliness Prior to Assembly		
114.	Photograph All Major Components prior to assembly		
115.	Final Insulation Resistance Test		
116.	Assembled Shaft Endplay		
117.	Assembled Shaft Runout		
118.	Test Run Voltage		
	Volts	Volts	Volts
119.	Test Run Amperage		
	Amps	Amps	Amps
120.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
121.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
122.	Ambient Temperature - Fahrenheit		
123.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
124.	Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
125.	Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
126.	Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
127.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes

128.	Opposite Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
129.	Opposite Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
130.	Opposite Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
131.	Stator Temperatures- Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
132.	Stator Temperatures- Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
133.	Stator Temperatures- Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
134.	Stator Temperatures- Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
135.	Document Final Condition with Pictures after paint		
136.	Final Pics and QC Review		