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

AC Inspection as Found

Lexicon (10257)
8900 Fouche Dam Pike
Little Rock, AR

FolderID: 103398
FormID: 21348798

AC Inspection - Rev. 2

Location:	SHOP
Serial Number:	623471C-4
Description:	2HP REULAND EVAL

Hi-Speed Job Number:	103398
Manufacturer:	Reuland
Product Number:	16554-GG0655B
Serial Number:	623471C-4
HP/kW:	2 (HP)
RPM:	1800 (RPM)
Frame:	WE0-184/H4
Voltage:	230 / 460
Current:	6.0/3.0
Phase:	Three
Hz:	60 (Hz)
Enclosure:	TENV
# of Leads:	9
J-box Included:	Complete
Coupling/Sheave:	Coupling
Date Received:	08/19/2024
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: **1 - High** **9 - Good**

Overall Condition

1.	Report Date	**08/20/2024**

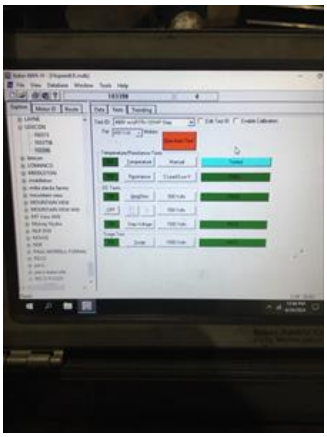
2. Nameplate Picture P37

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

4.	Describe the Overall Condition of the Equipment as Received ***Dirty but serviceable***		
5.	Distance from the end of the shaft to the Coupling/Sheave ***3/16" shaft out***	**0.187 inches**	P76

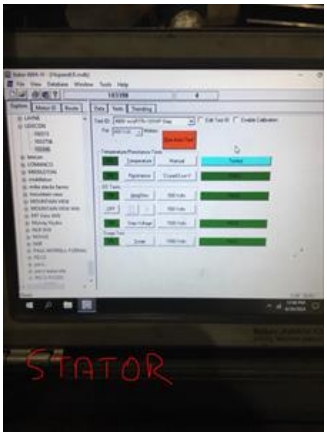
	6.	Report Date [COPY]	**08/20/2024**
Initial Mechanical/Electrical			
🔴	7.	Does Shaft Turn Freely?	**(N) No**
		Bearings sound rough.	
🟢	8.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**
	9.	Does Shaft Have Visible Damage?	**(No) No**
	10.	Assembled Shaft Runout	**Inches**
	11.	Assembled Shaft End Play	**inches**
	12.	Air Gap Variation <10%	
🟢	13.	Lead Condition	**(P) Pass**
	14.	Lead Length	**6 Inches**
🟢	15.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**
	16.	Lead Numbers	**1-9**
	17.	Frame Condition	**pass**
	18.	Fan Condition	**(N) NA**
	19.	Broken or Missing Components	**missing several screws on brush covers**
Initial Electrical Inspection			
	20.	Insulation Resistance/Megger	**1,000 Megohms**
	21.	Winding Resistance	P20

1-2	1-3	2-3



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

Wound rotor passed surge bat failed Meg. Will retest after wash and bake. Stator passed all electrical tests.



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

Mechanical Inspection

27.	Drive End Bearing Brand	**NTN**	
28.	Drive End Bearing Number-	**6205 z**	P32

29.	Drive End Bearing Qty.	**1**	
30.	Drive End Bearing Type	**(Ball) Ball Bearing**	
31.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
32.	Drive End Bearing Insulation or Grounding Device?	**none**	

33.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**three spacers**	P77

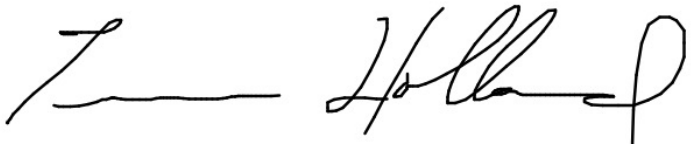
34.	Drive End Bearing Condition	**replace**
35.	Opposite Drive End Bearing Brand	**NTN**
36.	Opposite Drive End Bearing Number-	**6005 Z C3** P100

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

Rotor Inspection

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

46.	Growler Test	**(Pass) Pass**
47.	Number of Rotor Bars	
	Wound rotor	
48.	Rotor Condition	**pass**
49.	List the Parts needed for the Repair Below	
	Bearings.	
50.	Signature of Technician that Disassembled Motor	**Terrence Holland**



Mechanical Fits- Rotor

51.	Shaft Runout	**0.002 inches**

52. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

53. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees

54. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees

55. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
0.9847	**0.9847**	**0.9846**

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

57. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
0.07877000000000001	**0.7786**	**0.7786999999999999**

Pass

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

59. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

60. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
2.0481	**2.048**	**2.048**

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

62. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
1.8505	**1.8506**	**1.8505**

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

64. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

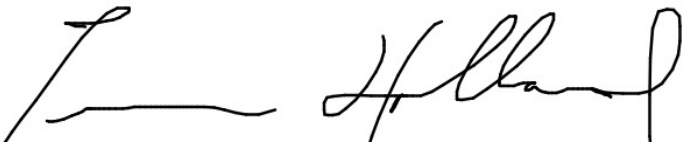
65. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

66. List Machine Work Needed Below

DE housing fit

67. Technician **Terrence Holland**



Root Cause of Failure

68. Failure locations

Bearings worn and rotor megs low.

69. Root cause of failure

Bearing grease hardened and not providing lubrication to bearings.
Low megs possibly due to excessive amounts of carbon from the brushes inside the rotor windings.

Dynamic Balance Report

70. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

71. Initial Balance Readings

Drive End	Opposite Drive End

72. Final Balance Readings

Drive End	Opposite Drive End

73. Technician

Assembly

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

75.	Photograph All Major Components prior to assembly	**(Complete) Complete**	
76.	Final Insulation Resistance Test	**Megohms**	P31

77.	Assembled Shaft Endplay	**inches**	
78.	Assembled Shaft Runout	**0.003 inches**	

79. Test Run Voltage P56

Volts	Volts	Volts
457	**455**	**459**

80. Test Run Amperage

Amps	Amps	Amps
1.6	**1.7**	**1.6**

81. Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial

82. Opposite Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial

83. Ambient Temperature - Fahrenheit

84. Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

85. Opposite Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

86. Document Final Condition with Pictures after paint

See below

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