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

AC Recondition As Found

Hiland Dairy (10126)
6901 I-30
Little Rock, AR 72209

FolderID: 100749
FormID: 15649884

AC Recondition - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	W08 473295F
Description:	30KW ATB 1800RPM 200L

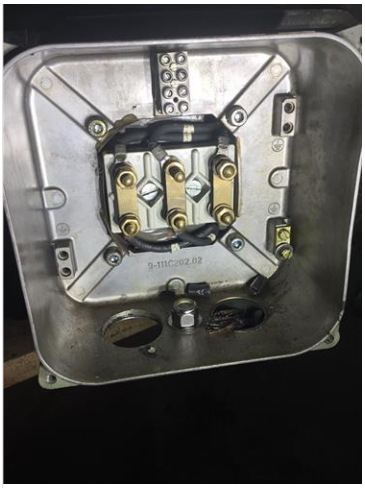
Hi-Speed Job Number:	100749
Manufacturer:	Other
Product Number:	3113762-2
Serial Number:	W08 473295F
HP/kW:	30 (kW)
RPM:	1780 (RPM)
Frame:	200L
Voltage:	460
Current:	56
Phase:	Three
Hz:	60 (Hz)
Enclosure:	TEFC
J-box Included:	Complete
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **6 - High** **2 - Good**

Overall Condition

1. Report Date
2. Nameplate Picture

P20



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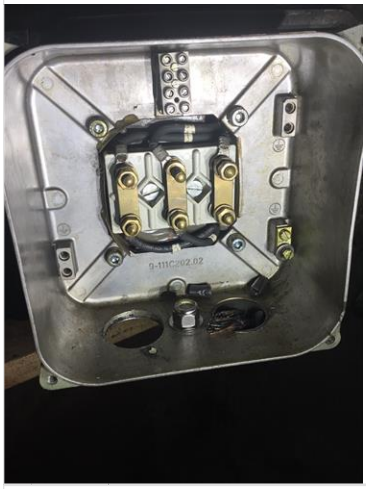
	3.	Photos of all six sides of the machine.	
	4.	Describe the Overall Condition of the Equipment as Received ***Serviceable***	
Initial Mechanical/Electrical			
●	5.	Does Shaft Turn Freely? Resolved: (2/15/2023)	**(No) No**
	6.	Does Shaft Have Visible Damage?	**(No) No**
	7.	Assembled Shaft Runout	
	8.	Assembled Shaft End Play	
	9.	Air Gap Variation <10%	

10.	Lead Condition	**(P) Pass**	P32
	# 1-6 delta.		



11.	Lead Length		
12.	Frame Condition	**pass**	
13.	Fan Condition	**(P) Pass**	P54

14.	Broken or Missing Components		
	Fan cover mount bolts. One connection block lead wire mount bolt.		

Initial Electrical Inspection

15.	Insulation Resistance/Megger		
16.	Winding Resistance		

1-2	1-3	2-3

17.	Perform Surge Test Resolved: (2/15/2023)	**(F) Fail**	P35

18.	Number of Stator Slots		
19.	Stator Condition	**rewind stator**	

Mechanical Inspection

20.	Drive End Bearing Brand		
21.	Drive End Bearing Number-	**6212 2Z**	
22.	Drive End Bearing Qty.	**1**	
23.	Drive End Bearing Type	**(Ball) Ball Bearing**	
24.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
25.	Drive End Bearing Insulation or Grounding Device?	**none**	
26.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**yes, 2ea.**	P39

27.	Drive End Bearing Condition	**total cage and bearing failure.**	
28.	Opposite Drive End Bearing Brand		
29.	Opposite Drive End Bearing Number-	**6212 2Z**	

30.	Opposite Drive End Bearing Qty.	**1**	P48

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

Rotor Inspection

38.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	P3

39.	Growler Test	**(Pass) Pass**
40.	Number of Rotor Bars	
41.	Rotor Condition	**pass**
42.	List the Parts needed for the Repair Below ***Re-sleeve both end bell housing fits. Machine both shaft bearing journals. Rewind Stator.***	
43.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

44.	Shaft Runout			
45.	Rotor Runout			
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
46.	Coupling Fit Closest to Bearing Housing			
	0 Degrees	90 Degrees	120 Degrees	
47.	Coupling Fit Closest to the end of the Shaft			
	0 Degrees	60 Degrees	120 Degrees	
48.	Drive End Bearing Shaft Fit			P40
	0 Degrees	60 Degrees	120 Degrees	

Excessive wear.

49.	Drive End Bearing Shaft Fit Condition	**(F) Fail**	P45

Resolved: (2/15/2023)

50.	Opposite Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	2.3621	**2.362**	**2.3622**	
51.	Opposite Drive End Bearing Shaft Fit Condition		**(F) Fail**	

Out of tolerance.

52. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

53. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

Excessive wear.

54. Drive End - Endbell Bearing Fit Condition **(F) Fail** P10

55. Opposite Drive End - Endbell Bearing Fit P17

0 Degrees	60 Degrees	120 Degrees

Excessive wear.

56. Opposite Drive End - Endbell Bearing Fit Condition **(F) Fail** P22

57. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
none	**none**

58. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

59. List Machine Work Needed Below

Re-sleeve both housing fits. Machine both shaft bearing journals.

60. Technician **Terrence Holland**

Dynamic Balance Report

61. Rotor Weight and Balance Grade

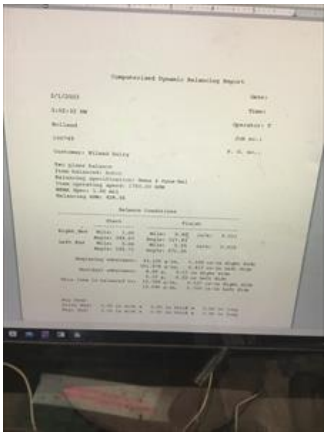
Rotor Weight	Balance Grade

62. Initial Balance Readings

Drive End	Opposite Drive End

63. Final Balance Readings

Drive End	Opposite Drive End



64. Technician

Rewind

65. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

66. Core Hot Spot Test

Pre-Burnout	Post-Burnout

67. Post Rewind Electrical Test- Insulation Resistance

68. Post Rewind Polarization Index

69. Post Rewind Winding Resistance

1-2	1-3	2-3

70. Post Rewind Surge Test

71. Post Rewind Hi-Pot

72. Technician

Root Cause of Failure

73. Failure locations

Windings shorted on drive end. Both housing fits bad. Both shaft fits bad.

74. Root cause of failure

Drive end bearing cage failure from improper lubrication caused total bearing failure. Shrapnel from bearing shorted stator coils.

Mechanical Fits- Rotor - Post Repair

75. Shaft Runout Post Repair

76. Rotor Runout Post Repair

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

77. Coupling Fit Closest to Bearing Housing Post Repair

0 Degrees	90 Degrees	120 Degrees

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

0 Degrees	60 Degrees	120 Degrees

79.	Drive End Bearing Shaft Fit Post Repair		P400
	0 Degrees	60 Degrees	120 Degrees
	2.3627	**2.3627**	**2.3627**

80.	Opposite Drive End Bearing Shaft Fit Post Repair		P500
	0 Degrees	60 Degrees	120 Degrees
	2.3625	**2.3625**	**2.3624**

81.	Shaft Air Seal Fits Post Repair	
	Drive End Air Seal	Opposite Drive End Air Seal

82.	Shaft Repair Sign-off

Mechanical Fits- Bearing Housings - Post Repair

83.	Drive End - Endbell Bearing Fit Post Repair			P0
	0 Degrees	60 Degrees	120 Degrees	
	4.331	**4.3312**	**4.3311**	

84.	Opposite Drive End - Endbell Bearing Fit Post Repair			P100
	0 Degrees	60 Degrees	120 Degrees	
	4.3312	**4.3312**	**4.3311**	

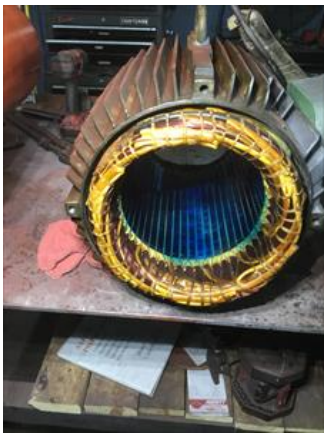
85.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	

86.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	

87.	End Bell Repair Sign-off	

Assembly

88.	QC Check All Parts for Cleanliness Prior to Assembly	
89.	Photograph All Major Components prior to assembly	P0



90.	Final Insulation Resistance Test		
91.	Assembled Shaft Endplay		
92.	Assembled Shaft Runout		
93.	Test Run Voltage		
	Volts	Volts	Volts
94.	Test Run Amperage		
	Amps	Amps	Amps
95.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
96.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
97.	Ambient Temperature - Fahrenheit		
98.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
99.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
100.	Document Final Condition with Pictures after paint		P2200

101. Final Pics and QC Review **Terrence Holland**