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

DC Repair Report

Nextwire, LLC (11959)
701 E Arkansas Ave
Star City, AR 71667

FolderID: 100119
FormID: 14236411

DC Repair Report Rev. 2

Location:	MOTOR SHOP LR
Job Number:	100119
Serial Number:	QCCAS 160SB/4 GREEN
Status:	In need of Repair
Description:	29KW OEMER 1500RPM 160S

Hi-Speed Job Number:	100119
Manufacturer:	Other
Product Number :	QCCAS 160SB/4
HP/KW:	29 (kW)
RPM:	1500
Frame:	160S
Armature Voltage:	440 (Volts)
Armature Current:	74 (Amps)
Field Voltage:	330 (Volts)
Field Current :	2.48 (Amps)
J-Box Included:	Yes
Bearing RTDS:	No
Winding RTDS:	No
Mounting Orientation :	Horizontal

Priorities Found: **1 - High** **8 - Good**

Overall Condition

1. Describe the Overall Condition of the Equipment as Received
2. Nameplate Picture P15

	3.	Distance From the End of the Shaft to the end of the Face of the Sheave/Coupling	

Initial Mechanical/Electrical

●	4.	Does the Shaft Turn Freely?	**(Y) Yes**	
●	5.	Does Shaft Have Visible Damage?	**(Yes) Yes**	P20

	6.	Assembled Shaft Runout	
	7.	Assembled Shaft End Play	
	8.	Air Gap Variation <10%	
●	9.	Lead Condition	**(P) Pass**
	10.	Lead Length	
●	11.	Frame Condition	**(P) Pass**
●	12.	Fan Condition	**(NA) Not Applicable**
	13.	Brush Information	

Brush Number	Quantity	Condition
E49X	**4**	**pass**

	14.	Brush Holder Condition - Verify proper gap to Commutator	

Incoming Electrical Test

15. General Condition of the Armature/Commutator

16. Armature Insulation Resistance to Ground

17. Field Circuit Insulation Resistance to Ground

18. Interpole Circuit Insulation Resistance to Ground

19. Field Drop Test Fields 1&2

Total AC Voltage	Field #1	Field #2
	60	**60**

20. Field Drop Test Fields 3&4

Field #3	FIeld #4
60	**60**

21. Field Drop Test Fields 5&6

Field #5	FIeld #6

22. Field Drop Test Fields 7&8

Field #7	FIeld #8

23. Interpole Drop Test 1&2

Total AC Voltage	Interpole #1	Interpole #2
	0.32	**0.32**

24. Interpole Drop Test 3&4

Interpole #3	Interpole #4
0.32	**0.33**

25. Interpole Drop Test 5&6

Interpole #5	Interpole #6

26. Interpole Drop Test 7&8

Interpole #7	Interpole #8

27. Armature Number of Bars - Bar to Bar Test

Number of Bars	Bar to Bar Test
111	**pass**

Mechanical Inspection

28. Shaft Runout Drive End **inches**

Key way wallowed out and key destroyed.

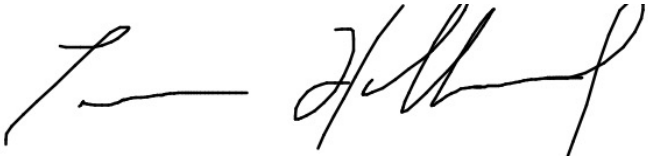
29.	Shaft Runout Armature			
	Drive End Bearing Journal	Armature Core	ODE Bearing Journal	
30.	Drive End Bearing Number		**310EC**	P26

31.	Drive End Bearing Quantity	**1**	
32.	Drive End Bearing Type	**(Roller) Roller Bearing**	
33.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	P53

34.	Drive End Bearing Insulation or Grounding Device?	**(NA)**	
35.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**	
36.	Drive End Bearing Condition	**grease dirty/contaminated**	
37.	Opposite Drive End Bearing Number	**6309 LU**	P86

38.	Opposite Drive End Bearing Quantity	**1**	
39.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
40.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
41.	Opposite Drive End Bearing Insulation or Grounding Device?	**(NA)**	
42.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**yes**	P109

43.	Opposite Drive End Bearing Condition	**replace**
44.	Signature of Technician who Performed Teardown	**Terrence. Holland**



45. List Parts Needed Prior to Reassembly

Tach coupling and sheave need replacing. Drive end end cap mount bolts 4 ea need replacing.

Mechanical Fits - Armature

46. Coupling Fit Closest to Bearing Housing

0 Degrees	60 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

0 Degrees	60 Degrees	120 Degrees
1.9688	**1.9687**	**1.9686**

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

50. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
1.7718	**1.7719**	**1.7717**

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

52. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

53. Drive End - End Bell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
1.9688	**1.9687**	**1.9686**

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

55. Opposite Drive End - End Bell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
3.937	**3.937**	**3.9369**

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

57. Bearing Cap Condition

Drive End	Opposite Drive End
pass	**na**

58. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

59. List any Machine work Needed Below **D.E. shaft extension key way wallowed out.** P59

60. Signature of Technician Performing Measurements **Terrence. Holland**

Dynamic Balance Report

61. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

62. Initial Balance Readings

Drive End Readings	Opposite Drive End Readings

63. Final Balance Readings

Drive End Readings	Opposite Drive End Readings

64. Signature of the Balance Technician

Commutator Data

65. Total Copper Segment Length

66. Number of Bars

67. Number of Wires Per Copper Bar and Size

Number of Wires per Bar	Wire Size

68. Equalizers per Copper Bar and Equalizer Wire Size

Equalizers per Bar	Wire Size

69. Document Commutator Diameter, Minimum and Max

Current Comm Diameter	Minimum Comm Diameter	Maximum Comm Diameter

70. Commutator Shaft Diameter

Front Shaft Diameter	Back Shaft Diameter

71. Commutator Type

72. Commutator Bore

73. Signature of Technician Recording Data

Post Armature Rewind Testing

74. Post Rewind Armature Insulation Resistance to Ground

75. Post Rewind Field Circuit Measure the Insulation Resistance to Ground

76. Post Rewind Armature Number of Bars - Bar to Bar Test

Number of Bars	Bar to Bar Test

77. Post Rewind Field Circuit Insulation Resistance to Ground

78. Post Rewind Interpole Circuit Insulation Resistance to Ground

79. Post Rewind Field Drop Test Fields 1&2

Total AC Voltage	Field #1	Field #2

80. Post Rewind Field Drop Test Fields 3&4

Field #3	FIeld #4

81. Post Rewind Field Drop Test Fields 5&6

Field #5	FIeld #6

82. Post Rewind Field Drop Test Fields 7&8

Field #7	FIeld #8

83. Post Rewind Interpole Drop Test 1&2

Total AC Voltage	Interpole #1	Interpole #2

84. Post Rewind Interpole Drop Test 3&4

Interpole #3	Interpole #4

85. Post Rewind Interpole Drop Test 5&6

Interpole #5	Interpole #6

86. Post Rewind Interpole Drop Test 7&8

Interpole #7	Interpole #8

Post Mechanical Repair

87. Post Repair Coupling Fit Closest to Bearing Housing

0 Degrees	60 degrees	120 degrees

88. Post Repair Coupling Fit Closest to the End of the Shaft

0 Degrees	60 degrees	120 degrees

89. Post Repair Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees

90. Post Repair Drive End Bearing Shaft Fit Condition

91. Post Repair Drive End Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees

92. Post Repair Drive End Opposite Drive End Bearing Shaft Fit Condition

93. Post Repair Drive End - End Bell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

94. Post Repair Drive End - Endbell Bearing Fit Condition

95. Post Repair Opposite Drive End - End Bell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

96. Post Repair Opposite Drive End - Endbell Bearing Fit Condition

97. Post Repair Bearing Cap Condition

Drive End	Opposite Drive End

98. Post Repair End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

99. Signature of Tech Performing Mechanical Repairs

Assembly

100. Take Pictures of all Major Components Prior to Reassembly

101. Verify Brush Box Holders Have the Proper Clearance, and Brushes have been Seated Properly

102. Assembled Shaft End Play and Runout

Shaft Endplay	Shaft Runout

103. Perform No-Load Test Run, Record Armature Voltage and Current

Voltage	Current

104. Perform No-Load Test Run, Record Field Voltage and Current

Voltage	Current

105. Document Vibration Readings Drive End

Horizontal	Vertical	Axial

106.	Document Vibration Readings Opposite Drive End		
	Horizontal	Vertical	Axial
107.	Perform Full-Load Test Run, Record Armature Voltage and Current		
	Voltage	Current	
108.	Perform Full-Load Test Run, Record Field Voltage and Current		
	Voltage	Current	
109.	Document Vibration Readings Under Full Load Drive End		
	Horizontal	Vertical	Axial
110.	Document Vibration Readings Under Full Load Opposite Drive End		
	Horizontal	Vertical	Axial
111.	Ambient Temperature		
112.	Drive End Bearing Temps Under Full Load		
	5 Minutes	10 Minutes	15 Minutes
113.	Opposite Drive End Bearing Temps Under Full Load		
	5 Minutes	10 Minutes	15 Minutes
114.	Final Test Run Sign-Off		
115.	Document Final Condition With Pictures		
116.	Final QC Sign-Off		