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

AC Inspection as Found

US Vanadium
6105 Cynamide
Benton, AR 72015

FolderID: 102673
FormID: 19818622

AC Inspection - Rev. 2

Location:	Shop
Serial Number:	
Description:	1 HP LIFTECH

Hi-Speed Job Number:	102673
Manufacturer:	Other
Product Number:	331982-03
Spec/ID #:	35Z65358861W
Serial Number:	F1301170141
HP/kW:	1 (HP)
RPM:	1725 (RPM)
Frame:	56C
Voltage:	460
Current:	1.5
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.00
Enclosure:	TENV
# of Leads:	6
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	03/20/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
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: **2 - High** **11 - Good**

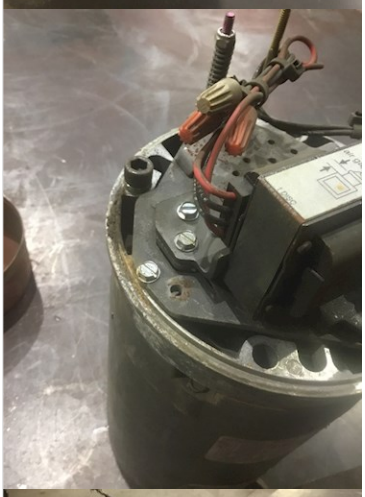
Overall Condition

1.	Report Date	**04/08/2024**

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***	
Initial Mechanical/Electrical			
●	5.	Does Shaft Turn Freely?	**(Y) Yes**
●	6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**
	7.	Does Shaft Have Visible Damage?	**(No) No**
	8.	Assembled Shaft Runout ***Na***	**Inches**
	9.	Assembled Shaft End Play ***Na***	**inches**

	10.	Air Gap Variation <10%		
		Na		
	11.	Lead Condition	**(NA) Not Applicable**	
	12.	Lead Length	**8 Inches**	
	13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
	14.	Lead Numbers	**1-3 & 11-13**	
	15.	Frame Condition	**pass**	
	16.	Fan Condition	**(P) Pass**	P112
		Internal fan		

	17.	Broken or Missing Components	**na**	

Initial Electrical Inspection

	18.	Insulation Resistance/Megger	**Megohms**	
		Na		
	19.	Winding Resistance		

1-2	1-3	2-3

		Na		
	20.	Perform Surge Test	**(NA) Not Applicable**	
		Rewind		
	21.	Number of Stator Slots	**36**	
	22.	Stator Condition	**stator pass but windings are shorted coil to coil**	
	23.	Stator Thermistors/Ohms		
		Na		
	24.	Stator Overloads/Ohms	**overload 0.03 ohms**	

Mechanical Inspection

	25.	Drive End Bearing Brand	**NTN**	

26.	Drive End Bearing Number-	**6205**	P32

27.	Drive End Bearing Qty.	**1**	
28.	Drive End Bearing Type	**(Ball) Ball Bearing**	
29.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
30.	Drive End Bearing Insulation or Grounding Device?	**na**	
31.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**na**	
32.	Drive End Bearing Condition		P81

Signs of normal wear

33.	Opposite Drive End Bearing Brand	**NSK**	P91

34.	Opposite Drive End Bearing Number-	**6203**	
35.	Opposite Drive End Bearing Qty.	**1**	

36.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
37.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
38.	Opposite Drive End Bearing Insulation or Grounding Device?		
	Na		
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	
40.	Opposite Drive End Bearing Condition		P115
	Signs of normal wear		

41.	Drive End Seal		
	Na		
42.	Opposite Drive End Seal		
	Na		

Rotor Inspection

43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
44.	Growler Test	**(Pass) Pass**	
45.	Number of Rotor Bars	**48**	
46.	Rotor Condition	**pass**	
47.	List the Parts needed for the Repair Below		
	6205 ***6203***		
48.	Signature of Technician that Disassembled Motor	**Cw**	

Mechanical Fits- Rotor

49.	Shaft Runout	**inches**	
	Na		
50.	Rotor Runout		

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

Na

51. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees

Na

52. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees

Na

53. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
0.9845	**0.9846**	**0.9846**

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

55. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
0.6693	**0.6694**	**0.6693**

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

57. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Na

Mechanical Fits- Bearing Housings

58. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
2.048	**2.0479**	**2.0479**

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

60. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
1.5747	**1.5748**	**1.5747**

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

62. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

Pass

63. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Na

64. List Machine Work Needed Below

Na

65. Technician **Cw**

Root Cause of Failure

66. Failure locations

Bearings and windings

67. Root cause of failure

Bearings have signs of normal wear mixed with contamination and windings has a coil to coil short in hi-speed

Dynamic Balance Report

68. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

69. Initial Balance Readings

Drive End	Opposite Drive End

70. Final Balance Readings

Drive End	Opposite Drive End

71. Technician

Rewind

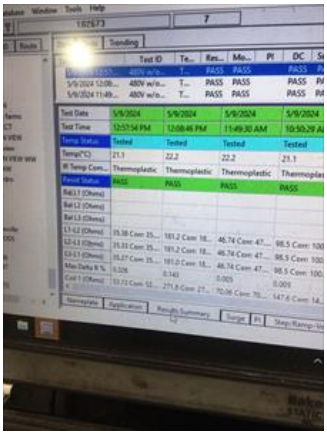
72. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

73. Core Hot Spot Test

Pre-Burnout	Post-Burnout

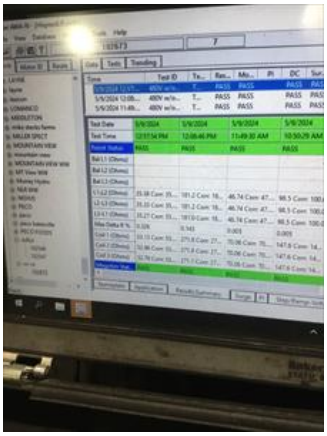
74. Post Rewind Electrical Test- Insulation Resistance **Megohms** P40



Hi speed

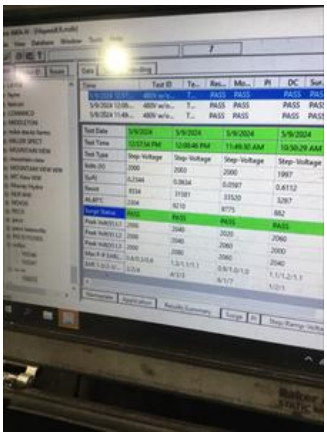
75. Post Rewind Polarization Index **Polarization Index**

76.	Post Rewind Winding Resistance			P62
	1-2	1-3	2-3	



Hi speed

77.	Post Rewind Surge Test	**(Pass) Pass**	P68



Hi speed

78.	Post Rewind Hi-Pot
79.	Technician

Assembly

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

	81.	Photograph All Major Components prior to assembly	P17

	82.	Final Insulation Resistance Test	**1 Gigohms**
	83.	Assembled Shaft Endplay	**0 inches**
●	84.	Assembled Shaft Runout	**0.001 inches**

85. Test Run Voltage

Volts	Volts	Volts
459	**458**	**460**

Witness: Low speed DM
Witness: High speed CW

1,2,3

11,12,13

86. Test Run Amperage

Amps	Amps	Amps
0.8	**0.9**	**1**

87. Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial

88. Opposite Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial

89. Ambient Temperature - Fahrenheit

90. Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

91. Opposite Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

92. Document Final Condition with Pictures after paint **Good**

Witness: CW