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

AC Inspection as Found

ARKANSAS INDUSTRIAL MACHINERY
3804 N. NONA ST
NORTH LITTLE ROCK, AR 72118

FolderID: 104724
FormID: 24783778

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	
Description:	75KW

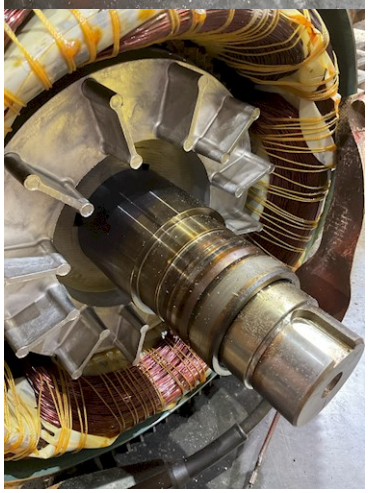
Hi-Speed Job Number:	104724
Serial Number:	6-24-25
Phase:	Three
Enclosure:	TEFC
# of Leads:	6
J-box Included:	Complete
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **1 - High** **15 - Good**

Overall Condition

1. Report Date **06/12/2025**
2. Nameplate Picture P37

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

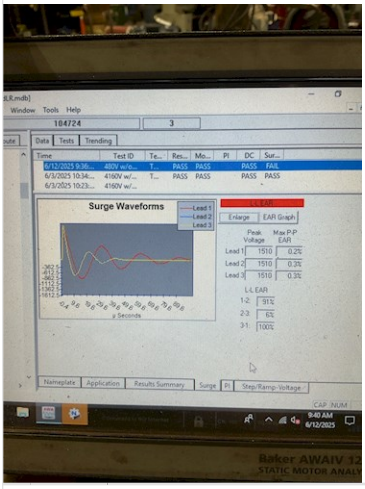


Received this way

	4.	Describe the Overall Condition of the Equipment as Received ***Dirty but serviceable***		
●	5.	Is this a UL Listed Motor	**(No) No**	
●	6.	Is the motor water cooled or can be pressure checked before teardown	**(No) No**	
Initial Mechanical/Electrical				
●	7.	Does Shaft Turn Freely?	**(Y) Yes**	
●	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	**0 Inches**	
	11.	Assembled Shaft End Play	**0 inches**	
	12.	Air Gap Variation <10%		
●	13.	Lead Condition	**(P) Pass**	
	14.	Lead Length	**Inches**	
●	15.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**	
	16.	Lead Numbers	**1-6**	
●	17.	Are the Leads insulated with Chico or other material	**(No) No**	
	18.	Frame Condition	**pass**	
●	19.	Fan Condition	**(P) Pass**	P119

●	20.	Does motor have internal fan?	**(No) No**	
	21.	Broken or Missing Components ***No***		
Initial Electrical Inspection				

22.	Insulation Resistance/Megger			**7392 Megohms**	
23.	Winding Resistance				
	1-2	1-3	2-3		
	0.0204	**0.0207**	**0.0201**		
24.	Perform Surge Test			**(F) Fail**	P57



25.	Number of Stator Slots	**72**	
26.	Stator Condition	**rewind .winding shorted internal**	P85

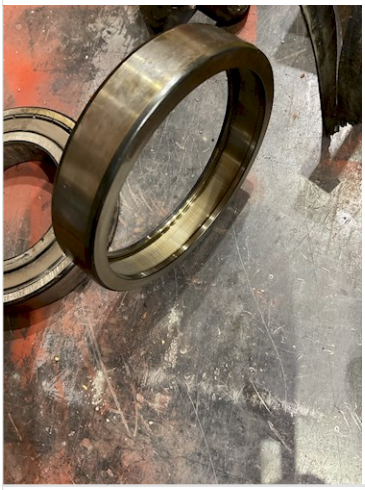
Insulation is brittle

27.	Stator Thermistors/Ohms	**114.1 ohms**
28.	Stator Overloads/Ohms	

Mechanical Inspection

29.	Drive End Bearing Brand	**SKF**	
30.	Drive End Bearing Number-	**NU213EC**	P32

31.	Drive End Bearing Qty.	**1**	
32.	Drive End Bearing Type	**(Roller) Roller Bearing**	
33.	Drive End Lubrication Type	**(Oil) Oil Lubricated**	
34.	Drive End Bearing Insulation or Grounding Device?	**NA**	
35.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**SNAP RING**	
36.	Drive End Bearing Condition	**FLUTING**	P83



37.	Opposite Drive End Bearing Brand	**SKF**	
38.	Opposite Drive End Bearing Number-	**6215 ZZ C4**	P101

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?	**na**	
43.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Snap ring**	
44.	Opposite Drive End Bearing Condition	**axial load and some frosting**	P120

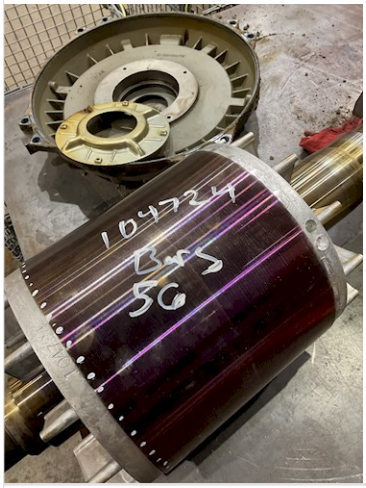
45.	Drive End Seal	**YES**	
46.	Opposite Drive End Seal	**NA**	

Rotor Inspection

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

48.	Growler Test	**(Pass) Pass**	

49.	Number of Rotor Bars	**56**	P28



50.	Rotor Condition	**pass**
51.	List the Parts needed for the Repair Below ***1-NU213C4 roller.bearing*** ***2-6215 ZZ C4 bearing***	
52.	Signature of Technician that Disassembled Motor	**RW**

Mechanical Fits- Rotor

53.	Shaft Runout		**0.0004 inches**
54.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
	0.0003	**0.0005**	**0.0003**
55.	Coupling Fit Closest to Bearing Housing		
	0 Degrees	90 Degrees	120 Degrees
	2.3631	**2.3631**	**2.3631**
56.	Coupling Fit Closest to the end of the Shaft		
	0 Degrees	60 Degrees	120 Degrees
	3.3631	**2.3631**	**2.3631**
57.	Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	2.5603	**2.5603**	**2.5603**

58. Drive End Bearing Shaft Fit Condition **(P) Pass** P81

59. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
2.9533	**2.9533**	**2.9533**

60. Opposite Drive End Bearing Shaft Fit Condition **(P) Pass** P97

61. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Pass

Mechanical Fits- Bearing Housings

62. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
4.7253	**4.7249**	**4.7249**

63. Drive End - Endbell Bearing Fit Condition **(P) Pass** P15

64. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
5.1186	**5.1186**	**5.1186**

65. Opposite Drive End - Endbell Bearing Fit Condition **(P) Pass** P39

66. Bearing Cap Condition P52

Drive End Bearing Cap	Opposite Drive End Bearing Cap
	pass

67. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Pass

68. List Machine Work Needed Below

None

69. Technician **RW**

Co sign: CRW

Root Cause of Failure

70. Failure locations

Winding and drive bearing

71. Root cause of failure

Dr bearing had fluting . Winding insulation break down.

Dynamic Balance Report

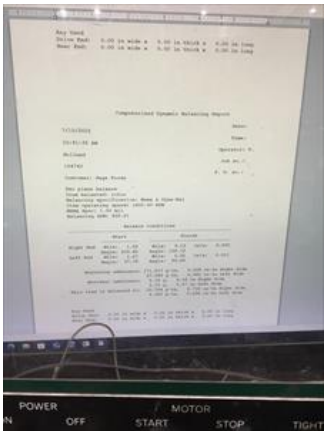
72. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

See below

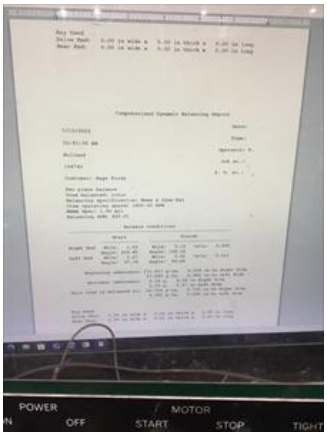
73. Initial Balance Readings P11

Drive End	Opposite Drive End



74. Final Balance Readings P27

Drive End	Opposite Drive End
.12	**.50**



75. Technician **Terrence Holland**

Rewind

76. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

77. Core Hot Spot Test

Pre-Burnout	Post-Burnout

78. Post Rewind Electrical Test- Insulation Resistance **Megohms**

79. Post Rewind Polarization Index **Polarization Index**

80. Post Rewind Winding Resistance

1-2	1-3	2-3

81. Post Rewind Surge Test

82. Post Rewind Hi-Pot **micro-amps**

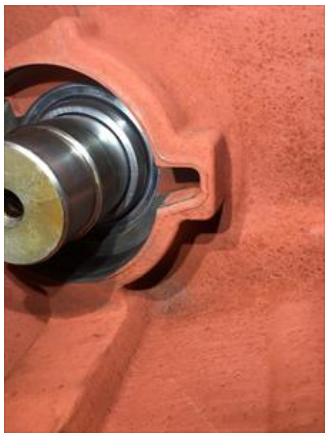
83. Technician

Assembly

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

See below

85. Photograph All Major Components prior to assembly P17



Picture taken by David Williams!

86.	Final Insulation Resistance Test	**Megohms**	P31

87.	Assembled Shaft Endplay	**0 inches**
88.	Assembled Shaft Runout	**0.001 inches**

89. Test Run Voltage — P55

Volts	Volts	Volts
230	**229**	**232**

90. Test Run Amperage

Amps	Amps	Amps
50.2	**46.1**	**48.2**

91. Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial

92.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
93.	Ambient Temperature - Fahrenheit		
94.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
95.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
96.	Document Final Condition with Pictures after paint		
	See item below		
97.	Final Pics and QC Review	**Terrence Holland**	P135

Co sign: RW