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

AC Inspection as Found

KTG USA MOTOR
400 Mahannah
Memphis, TN 38107

FolderID: 153928
FormID: 21959295

AC Inspection - Rev. 2

Location:	Ktg
Serial Number:	4624124
Description:	757 KW ABB

Hi-Speed Job Number:	153928
Manufacturer:	ABB
Serial Number:	4624124
HP/kW:	747 (kW)
RPM:	1200 (RPM)
Voltage:	480
Current:	1063 (Amps)
Phase:	Three
Hz:	60.3 (Hz)
Enclosure:	TEFC
# of Leads:	12
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	10/15/2024
Bearing RTDs:	No
Stator RTDs:	Yes
Repair Stage:	Teardown Inspection
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	Yes
Winding Type :	Form Coil
Bearing Type:	Rolling Element

Priorities Found: **2 - High** **10 - Good**

Overall Condition

1.	Report Date	**10/16/2024**
2.	Nameplate Picture	P2

3. Photos of all six sides of the machine.

	4.	Describe the Overall Condition of the Equipment as Received ***Great condition! Passed all electrical tests and no machine work required. Drive end bearing had significant electrical fluting. Recommend adding Aegis ring internal to drive end. Opposite drive endbell is insulated so no insulated bearing required.***	
	5.	Report Date [COPY]	
Initial Mechanical/Electrical			
●	6.	Does Shaft Turn Freely?	**(Y) Yes**
●	7.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**
	8.	Does Shaft Have Visible Damage?	**(No) No**
●	9.	Assembled Shaft Runout	**0.002 Inches**
	10.	Assembled Shaft End Play	**0.001 inches**
	11.	Air Gap Variation <10%	**No Provisions for measurement**
●	12.	Lead Condition	**(P) Pass**
	13.	Lead Length	**32 Inches**
		Inside J BOX	
●	14.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**
		LANDED ON BUSS.	

15. Lead Numbers **UVW 1-2** P15

16. Stator Temperature Detector Rating and Function P16

Quantity	Rating	Quantity Passed
6	**100**	**6**

17. Frame Condition **Pass**

18. Fan Condition **(P) Pass** P18

19. Heater Quantity, Ratings

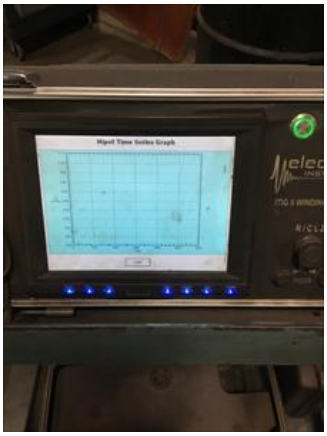
Quantity	Volts/Watts	Pass/Fail
1		**Pass**

Rating unknown. Functions at 120v.

20. Broken or Missing Components **None**

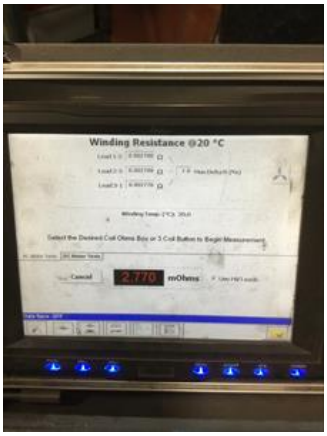
Initial Electrical Inspection

21. Insulation Resistance/Megger **92000 Megohms** P21

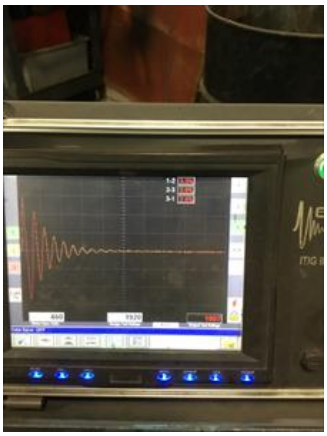


22.	Winding Resistance			P22

1-2	1-3	2-3
.00279	**.002799**	**.00277**



23.	Perform Surge Test	**(P) Pass**	P23



24.	Number of Stator Slots	**72**	
25.	Stator Condition	**Pass**	P25

26.	Stator Thermistors/Ohms	**N/A**	
27.	Stator Overloads/Ohms	**N/A**	

Mechanical Inspection

28.	Drive End Bearing Brand	**KOYO**	P28

29.	Drive End Bearing Number-	**6324 C3**
30.	Drive End Bearing Qty.	**1**
31.	Drive End Bearing Type	**(Ball) Ball Bearing**
32.	Drive End Lubrication Type	**(Grease) Grease Lubricated**
33.	Drive End Bearing Insulation or Grounding Device?	**None**
34.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**None**
35.	Drive End Bearing Condition	**Significant electrical fluting.** P35

36.	Opposite Drive End Bearing Brand	**KOYO**	P36

37.	Opposite Drive End Bearing Number-	**6322 C3**	
38.	Opposite Drive End Bearing Qty.	**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?	**Insulated end bell**	P41

1000 meg, 0 ohms

O ring in grove of bearing housing.

42.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Springs in bearing cap**	P42

43.	Opposite Drive End Bearing Condition	**Normal wear**	P43

44.	Drive End Seal	**Labyrinth**	
45.	Opposite Drive End Seal	**Labyrinth**	

Rotor Inspection

46.	Rotor Type/Material	**(Copper Barred) Copper Barred Rotor**	P46

47.	Growler Test	**(Pass) Pass**	
48.	Number of Rotor Bars	**86**	
49.	Rotor Condition	**Pass**	P49

50. List the Parts needed for the Repair Below

6324 C3
6322 C3
Aegis ring SGR-133.9-3FH [Mfr# SGR-133.9-154.9-3FH]

51. Signature of Technician that Disassembled Motor **Brandon Woodard**

Mechanical Fits- Rotor

52. Shaft Runout **0.002 inches**

53. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
0.002	**0.002**	**0.002**

54. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees
4.333	**4.333**	**4.333**

55. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees
4.333	**4.333**	**4.333**

56. Drive End Bearing Shaft Fit P56

0 Degrees	60 Degrees	120 Degrees
4.7255	**4.7255**	**4.7255**

Tolerance is 4.7249-4.7255

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

58. Opposite Drive End Bearing Shaft Fit P58

0 Degrees	60 Degrees	120 Degrees
4.3318	**4.3318**	**4.3318**

Tolerance is 4.3312-4.3318

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

60. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
Pass	**Pass**

Mechanical Fits- Bearing Housings

61. Drive End - Endbell Bearing Fit P61

0 Degrees	60 Degrees	120 Degrees
10.2379	**10.2379**	**10.2379**

Tolerance is 10.2362-10.2375. .0003 out of Tolerance. Recommend no machine work.

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

63. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
9.4512	**9.4512**	**9.4512**

Tolerance is 9.4488-9.4499. Bearing housing is oversized for thermal growth. Bearing is locked in place with o ring to prevent outer race from spinning.

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

65. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
Pass	**Pass**

66. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
Pass	**Pass**

67. List Machine Work Needed Below

None recommend

68. Technician **Brandon Woodard**

Root Cause of Failure

69. Failure locations

Drive end bearing.

70. Root cause of failure

Electrical fluting