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

AC Inspection as Found

MOTOR - KTG USA
400 Mahannah
Memphis, TN 38107

FolderID: 155296
FormID: 24107064

AC Inspection - Rev. 2

Location:	Motor Shop Millington
Serial Number:	Z 01 7687606-0008 M 0005

Description:50 HP AC

Hi-Speed Job Number:	155296
Manufacturer:	US Motors/Nidec
Product Number:	H50P2ES
Serial Number:	Z 01 7687606-0008 M 0005
HP/kW:	50 (HP)
RPM:	1780 (RPM)
Frame:	336TS
Voltage:	230 / 460
Current:	112/56 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	12
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	04/10/2025
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Teardown Inspection
Rewind:	No
Shaft Machined Fit Repairs Required:	Yes
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

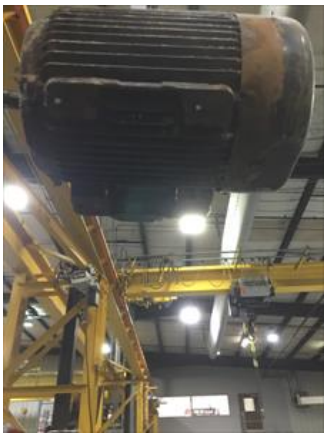
Priorities Found: **5 - High** **10 - Good**

Overall Condition

1.	Report Date	**04/14/2025**

2. Nameplate Picture P2

3. Photos of all six sides of the machine. P3



	4.	Describe the Overall Condition of the Equipment as Received ***Passed all electrical tests. Requires machine work to two bearing fits. Recommend recondition.***	
	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?	**(N) No**
	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	**0.008 Inches**
	11.	Assembled Shaft End Play	**0.093 inches**
	12.	Air Gap Variation <10%	**No Provisions for measures**
	13.	Lead Condition	**(P) Pass** P13

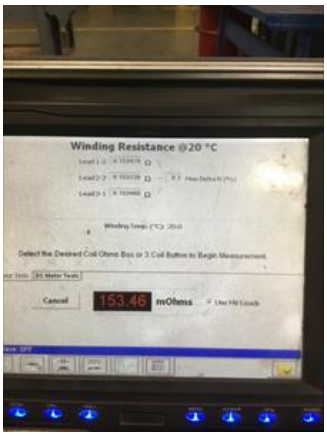
	14.	Lead Length	**12 Inches**
	15.	Does it have Lugs?, If so what is the Stud Size? ***1/4"***	**(Yes) Yes**
	16.	Lead Numbers	**1-12**
	17.	Are the Leads insulated with Chico or other material	**(No) No**
	18.	Frame Condition	**Pass**
	19.	Fan Condition	**(P) Pass**
	20.	Does motor have internal fan?	**(No) No**
	21.	Broken or Missing Components	**None**

Initial Electrical Inspection

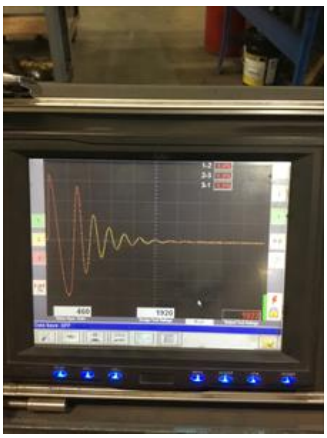
22. Insulation Resistance/Megger **92000 Megohms** P22

23. Winding Resistance P23

1-2	1-3	2-3
.15347	**.15372**	**.15346**



24. Perform Surge Test **(P) Pass** P24



25. Number of Stator Slots **48**

26. Stator Condition **Pass** P26

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

Mechanical Inspection

29.	Drive End Bearing Brand	**PEER**	P29

30.	Drive End Bearing Number-	**6311 ZZ C3**	
31.	Drive End Bearing Qty.	**1**	
32.	Drive End Bearing Type	**(Ball) Ball Bearing**	
33.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
34.	Drive End Bearing Insulation or Grounding Device?	**None**	
35.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**None**	
36.	Drive End Bearing Condition	**Normal wear**	P36

37.	Opposite Drive End Bearing Brand	**PEER**	P37

38.	Opposite Drive End Bearing Number-	**6311 ZZ C3**
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?	**None**
43.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Wavy Washer** P43

44.	Opposite Drive End Bearing Condition	**Normal wear**
45.	Drive End Seal	**VA 55** P45

46.	Opposite Drive End Seal	**None**

Rotor Inspection

47.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
48.	Growler Test	**(Pass) Pass**
49.	Number of Rotor Bars	**56**
50.	Rotor Condition	P50

51. List the Parts needed for the Repair Below

6311 ZZ C3 x2
VA 55

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

Mechanical Fits- Rotor

53.	Shaft Runout	**0.001 inches**

54. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
0.001	**0.001**	**0.001**

55. Coupling Fit Closest to Bearing Housing P55

0 Degrees	90 Degrees	120 Degrees
1.875	**1.875**	**1.875**

56.	Coupling Fit Closest to the end of the Shaft			
	0 Degrees	60 Degrees	120 Degrees	
	1.875	**1.875**	**1.875**	
57.	Drive End Bearing Shaft Fit			P57
	0 Degrees	60 Degrees	120 Degrees	

Under cut and requires repair.

58.	Drive End Bearing Shaft Fit Condition		**(F) Fail**
59.	Opposite Drive End Bearing Shaft Fit		P59
	0 Degrees	60 Degrees	120 Degrees
	2.1653	**2.1653**	**2.1653**

Tolerance is 2.1655-2.1660. .0002 under tolerance recommend adding loctite during re assembly.

60.	Opposite Drive End Bearing Shaft Fit Condition		**(P) Pass**
61.	Shaft Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
	Pass	**Pass**	

Mechanical Fits- Bearing Housings

62. Drive End - Endbell Bearing Fit P62

0 Degrees	60 Degrees	120 Degrees
4.7257	**4.7258**	**4.7257**

Tolerance is 4.7244-4.7253. .0004 out of tolerance recommend no machine work.

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

64. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
4.7265	**4.7263**	**4.7261**

Tolerance is 4.7244-4.7253. Out of tolerance and round. Requires repair

65. Opposite Drive End - Endbell Bearing Fit Condition **(F) Fail** P65

66. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
N/A	**N/A**

67. End Bell Air Seal Fits

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

68. List Machine Work Needed Below

Repair Drive end shaft fit and opposite drive end end bell.

69. Technician **Brandon Woodard**

Root Cause of Failure

70. Failure locations

Bearing fits

71. Root cause of failure