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

AC Inspection as Found

Nidec Motor Corporation (10473)
500 Morrow St.
Mena, AR 71953

FolderID: 102311
FormID: 18970110

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	D 05 7798318-0012 R 0004

Description:150HP US MOTORS VERTICAL 1800RPM H444TP

Hi-Speed Job Number:	102311
Manufacturer:	US Motors/Nidec
Product Number:	HO150P2SLG
Serial Number:	D 05 7798318-0012 R 0004
HP/kW:	150 (HP)
RPM:	1785 (RPM)
Frame:	H444TP
Voltage:	460
Current:	168
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	WPI
J-box Included:	Complete
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **4 - Good**

Overall Condition

1. Report Date

2. Nameplate Picture P37

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

	4.	Describe the Overall Condition of the Equipment as Received	
Initial Mechanical/Electrical			
●	5.	Does Shaft Turn Freely?	**(Yes) Yes**
	6.	Does Shaft Have Visible Damage?	**(No) No**
	7.	Assembled Shaft Runout	
	8.	Assembled Shaft End Play	
	9.	Air Gap Variation <10%	
●	10.	Lead Condition	**(P) Pass** P55

	11.	Lead Length	**18 Inches**
	12.	Lead Numbers	
	13.	Frame Condition	

14.	Fan Condition	**(N) NA**	
15.	Broken or Missing Components		
Initial Electrical Inspection			
16.	Insulation Resistance/Megger		
17.	Winding Resistance		
	1-2	1-3	2-3
18.	Perform Surge Test		
19.	Number of Stator Slots		
20.	Stator Condition		
21.	Stator Thermistors/Ohms		
22.	Stator Overloads/Ohms		
Mechanical Inspection			
23.	Drive End Bearing Brand	**SKF**	
24.	Drive End Bearing Number-	**7322 BEC B14**	
25.	Drive End Bearing Qty.	**1**	
26.	Drive End Bearing Type	**(Thrust) Thrust**	
27.	Drive End Lubrication Type	**(Oil) Oil Lubricated**	
28.	Drive End Bearing Insulation or Grounding Device?	**none**	
29.	Drive End Wavy Washer/Snap-Ring Other Retention Device?		
30.	Drive End Bearing Condition	**replace**	
31.	Opposite Drive End Bearing Brand	**SKF**	
32.	Opposite Drive End Bearing Number-	**6215**	P89

33.	Opposite Drive End Bearing Qty.	**1**	
34.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	P92

35.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
36.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**	
37.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**spacer and snap ring**	P98

38.	Opposite Drive End Bearing Condition	**replace**	
39.	Drive End Seal		
40.	Opposite Drive End Seal		

Rotor Inspection

41.	Rotor Type/Material		P3

42.	Growler Test	**(Pass) Pass**	

43.	Number of Rotor Bars	**57**
44.	Rotor Condition	**pass**
45.	List the Parts needed for the Repair Below	
46.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

47.	Shaft Runout	**inches**
48.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

49.	Coupling Fit Closest to Bearing Housing	

0 Degrees	90 Degrees	120 Degrees

50.	Coupling Fit Closest to the end of the Shaft	

0 Degrees	60 Degrees	120 Degrees

51.	Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees

52.	Drive End Bearing Shaft Fit Condition	
53.	Opposite Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees
2.9531	**2.9532**	**2.953**

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

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

56.	Drive End - Endbell Bearing Fit	

0 Degrees	60 Degrees	120 Degrees

57.	Drive End - Endbell Bearing Fit Condition	
58.	Opposite Drive End - Endbell Bearing Fit	

0 Degrees	60 Degrees	120 Degrees
5.1185	**5.1184**	**5.1186**

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

60. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
pass	

61. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

62. List Machine Work Needed Below

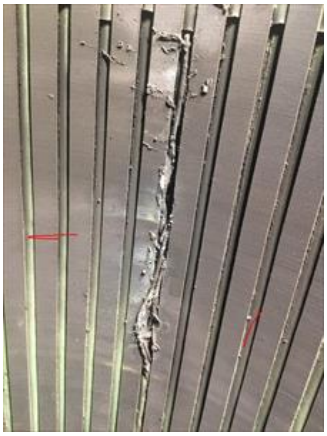
None

63. Technician **Terrence Holland**

Root Cause of Failure

64. Failure locations P9

Stator windings.



65. Root cause of failure P16

Windings in slot shorted to ground.

Dynamic Balance Report

66. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

67. Initial Balance Readings

Drive End	Opposite Drive End

68.	Final Balance Readings		
	Drive End	Opposite Drive End	
69.	Technician		

Rewind

70.	Core Test Results - Watts loss per Pound		
	Pre-Burnout	Post Burnout	
71.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
72.	Post Rewind Electrical Test- Insulation Resistance		
73.	Post Rewind Polarization Index		
74.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
75.	Post Rewind Surge Test		
76.	Post Rewind Hi-Pot		
77.	Technician		

Mechanical Fits- Rotor - Post Repair

78.	Shaft Runout Post Repair		
79.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
80.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
81.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
82.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
83.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
84.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
85.	Shaft Repair Sign-off		

Mechanical Fits- Bearing Housings - Post Repair

86.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
87.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees

88.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
89.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
90.	End Bell Repair Sign-off		
Assembly			
91.	QC Check All Parts for Cleanliness Prior to Assembly		
92.	Photograph All Major Components prior to assembly		
93.	Final Insulation Resistance Test		
94.	Assembled Shaft Endplay		
95.	Assembled Shaft Runout		
96.	Test Run Voltage		
	Volts	Volts	Volts
97.	Test Run Amperage		
	Amps	Amps	Amps
98.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
99.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
100.	Ambient Temperature - Fahrenheit		
101.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
102.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
103.	Document Final Condition with Pictures after paint		
104.	Final Pics and QC Review		