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

AC Inspection as Found

UNITED SOLUTIONS
1052 INDUSTRIAL PARK RD
SARDIS, MS 38666

FolderID: 152050
FormID: 19448161

AC Inspection - Rev. 2

Completed by: JAMES VALENTINE on 02/20/2024

Location: Motor Shop

Serial Number:

Hi-Speed Job Number:	152050
Manufacturer:	US Motors/Nidec
Serial Number:	R087441476-0002M0001
HP/kW:	25 (HP)
RPM:	2905 (RPM)
Frame:	256JM
Voltage:	460
Current:	29 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	DP
# of Leads:	12
J-box Included:	Half
Coupling/Sheave:	None
Date Received:	02/20/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Teardown Inspection
Rewind:	No
Shaft Machined Fit Repairs Required:	Yes
Bearing Housing Machined Fit Repairs Required:	No
Bearing Type:	Rolling Element

Priorities Found: **4 - High** **42 - Good**

Overall Condition

1.	Report Date	**02/20/2024**	
2.	Nameplate Picture		P2

3. Photos of all six sides of the machine.






4. Describe the Overall Condition of the Equipment as Received

Electrical good.
Bearing failure.

Initial Mechanical/Electrical

5.	Does Shaft Turn Freely?	**(No) No**
6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(Yes) Yes**
7.	Does Shaft Have Visible Damage?	**(No) No**
8.	Assembled Shaft Runout	**Inches**

Unable to record

9.	Assembled Shaft End Play		**inches**
	Unable to record		
10.	Air Gap Variation <10%		**good**
11.	Lead Condition		**(P) Pass**
12.	Lead Length		**14 Inches**
13.	Does it have Lugs?, If so what is the Stud Size?		**(No) No**
14.	Lead Numbers		**1 thru 12**
15.	Frame Condition		**good**
16.	Fan Condition		**(N) NA**
17.	Heater Quantity, Ratings		

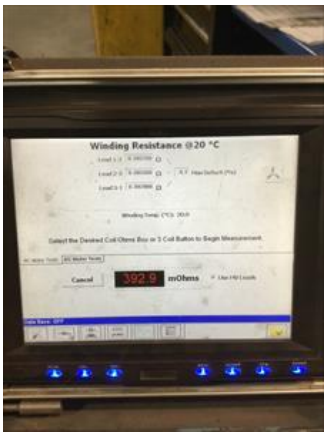
Quantity	Volts/Watts	Pass/Fail

N/a

18.	Broken or Missing Components	**none**

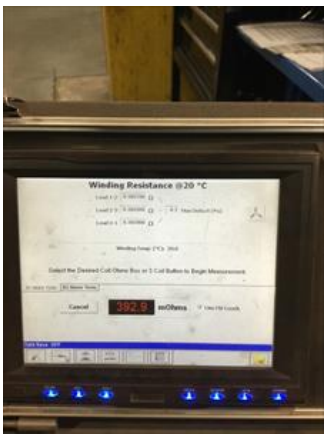
Initial Electrical Inspection

19.	Insulation Resistance/Megger	**392 Megohms**	P19



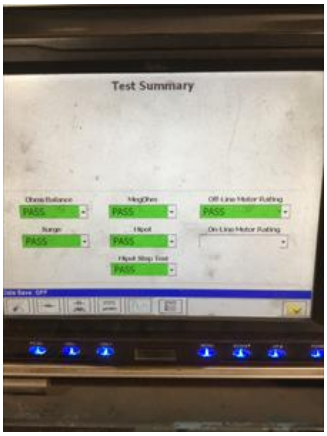
20.	Winding Resistance		P20

1-2	1-3	2-3
.0393700	**.383300**	**.392900**



21.	Perform Surge Test	**(P) Pass**	P21

22.	Number of Stator Slots	**36**	
23.	Stator Condition	**good**	P23



24.	Stator Thermistors/Ohms	**none**
25.	Stator Overloads/Ohms	**none**

Mechanical Inspection

26.	Drive End Bearing Brand	**peer**
27.	Drive End Bearing Number-	**6310**
28.	Drive End Bearing Qty.	**1**
29.	Drive End Bearing Type	**(Ball) Ball Bearing**
30.	Drive End Lubrication Type	**(Grease) Grease Lubricated**
31.	Drive End Bearing Insulation or Grounding Device?	**none**
32.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**

33.	Drive End Bearing Condition	**bad**	P33

34.	Opposite Drive End Bearing Brand	**peer**	
35.	Opposite Drive End Bearing Number-	**6207**	
36.	Opposite Drive End Bearing Qty.	**1**	
37.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
38.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
39.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**	
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	P40

41.	Opposite Drive End Bearing Condition	**good**	P41

42.	Drive End Seal	**n/a**
43.	Opposite Drive End Seal	**n/a**

Rotor Inspection

44.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
45.	Growler Test	**(Pass) Pass**	
46.	Number of Rotor Bars	**28**	
47.	Rotor Condition	**good**	
48.	List the Parts needed for the Repair Below ***1-6310 bearing*** ***1-6207 bearing***		
49.	Signature of Technician that Disassembled Motor	**James Valentine**	

Mechanical Fits- Rotor

50.	Shaft Runout	**inches**	
	N/a		
51.	Rotor Runout		

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

N/a

52. Coupling Fit Closest to Bearing Housing — P52

0 Degrees	90 Degrees	120 Degrees
1.2535	**1.254**	**1.254**

53. Coupling Fit Closest to the end of the Shaft P53

0 Degrees	60 Degrees	120 Degrees
1.254	**1.254**	**1.254**

54. Drive End Bearing Shaft Fit P54

0 Degrees	60 Degrees	120 Degrees
1.9719	**1.972**	**1.972**
1.9690/1.9686		

55. Drive End Bearing Shaft Fit Condition **(F) Fail**

56. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
1.3785	**1.3781**	**1.3782**
1.3785/1.3781		

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

58. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
pass	**pass**

Mechanical Fits- Bearing Housings

59. Drive End - Endbell Bearing Fit P59

0 Degrees	60 Degrees	120 Degrees
4.33	**4.3299**	**4.3289**

4.3307/4.3316

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

61. Opposite Drive End - Endbell Bearing Fit P61

0 Degrees	60 Degrees	120 Degrees
2.839	**2.8369**	**2.834**

2.8346/2.83532

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

63. Bearing Cap Condition P63

Drive End Bearing Cap	Opposite Drive End Bearing Cap
good	**n/a**

64. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
n/a	**n/a**

65. List Machine Work Needed Below

None

66. Technician **James Valentine**

Root Cause of Failure

67. Failure locations

D/e bearing

68. Root cause of failure P68

Excessive dirt.
Not a complete bearing shield