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

AC Inspection as Found

Riceland Foods (11100-RLF)
Hwy 79 & N. Park Ave.
Stuttgart, AR 72160

FolderID: 104149
FormID: 23409317

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	
Description:	50HP US 1770 RPM

Hi-Speed Job Number:	104149
Manufacturer:	US Motors/Nidec
Spec/ID #:	B097711ER-A1
HP/kW:	50 (HP)
RPM:	1770 (RPM)
Frame:	526T
Voltage:	230 / 460
Current:	116.6/58.3 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.00
Enclosure:	TE
# of Leads:	3
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	02/13/2025
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
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** **13 - Good**

Overall Condition

1.	Report Date	**02/17/2025**

2. Nameplate Picture P37

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

4. Describe the Overall Condition of the Equipment as Received

Serviceable

Initial Mechanical/Electrical

5. Does Shaft Turn Freely? **(N) No**

Fan assembly rubbing against dented in fan cover.

6. Does the shaft require T.I.R in Lathe to identify additional repairs? **(No) No**

	7.	Does Shaft Have Visible Damage?	**(No) No**	P26

●	8.	Assembled Shaft Runout	**0.001 Inches**	
	9.	Assembled Shaft End Play	**0 inches**	
	10.	Air Gap Variation <10%		
●	11.	Lead Condition	**(P) Pass**	P69

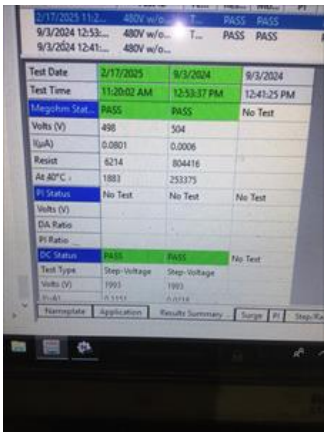
	12.	Lead Length	**10 Inches**	
●	13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
	14.	Lead Numbers	**1-3**	
	15.	Frame Condition	**pass**	
●	16.	Fan Condition	**(P) Pass**	P115

●	17.	Does motor have internal fan?	**(No) No**	

18.	Broken or Missing Components	**none**	
	Fan cover is dented but can be straightened.		

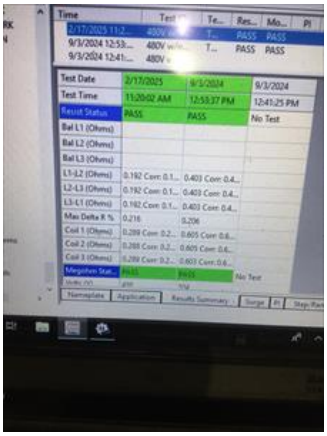
Initial Electrical Inspection

19.	Insulation Resistance/Megger	**Megohms**	P8

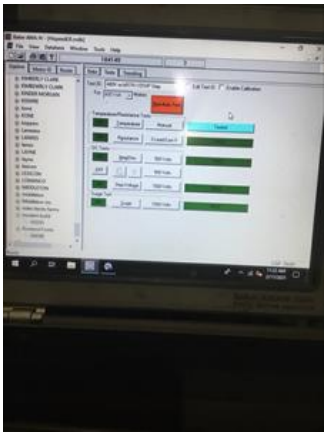


20.	Winding Resistance		P20

1-2	1-3	2-3



21.	Perform Surge Test	**(P) Pass**	P57



22.	Number of Stator Slots	**48**
23.	Stator Condition	**pass**
24.	Stator Thermistors/Ohms	

25.	Stator Overloads/Ohms		

Mechanical Inspection

26.	Drive End Bearing Brand	**MRC**	P12

27.	Drive End Bearing Number-	**311 S ZZ**	P32

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	**replace**
34.	Opposite Drive End Bearing Brand	**MRC** P92

35.	Opposite Drive End Bearing Number-	**211 S ZZ**	P99

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?	**none**
41.	Opposite Drive End Bearing Condition	**replace**
42.	Drive End Seal	**USEM 344625** P120

43.	Opposite Drive End Seal	**none**

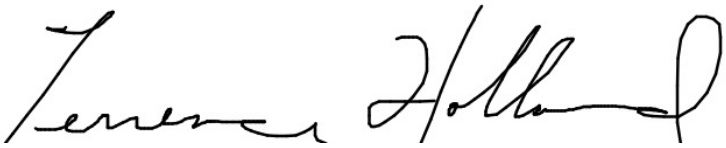
Rotor Inspection

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

45.	Growler Test	**(Pass) Pass**
46.	Number of Rotor Bars	**56**
47.	Rotor Condition	**pass**
48.	List the Parts needed for the Repair Below	

211 & 311 2RS bearings
Remove multiple dents from fan cover and replace grease overload tube. Recondition motor

49.	Signature of Technician that Disassembled Motor	**Terrence Holland**



Co sign: DM

Mechanical Fits- Rotor

50.	Shaft Runout	**0.001 inches**
51.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

52.	Coupling Fit Closest to Bearing Housing	

0 Degrees	90 Degrees	120 Degrees

53.	Coupling Fit Closest to the end of the Shaft	

0 Degrees	60 Degrees	120 Degrees
2.1247	**2.1246**	**2.1247**

54.	Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees
2.1655	**2.1654**	**2.1654**

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

0 Degrees	60 Degrees	120 Degrees
2.1655	**2.1655**	**2.1655**

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

58. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

59. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
4.7254	**4.7253**	**4.7254**

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

61. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
3.9375	**3.9376**	**3.9376**

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

63. Bearing Cap Condition P52

Drive End Bearing Cap	Opposite Drive End Bearing Cap

64. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

65. List Machine Work Needed Below

None

66. Technician **Terrence Holland**

Root Cause of Failure

67. Failure locations

Fan cover

68. Root cause of failure P18

Fan cover was dented inward which allowed the fan to rub against the cover

Dynamic Balance Report

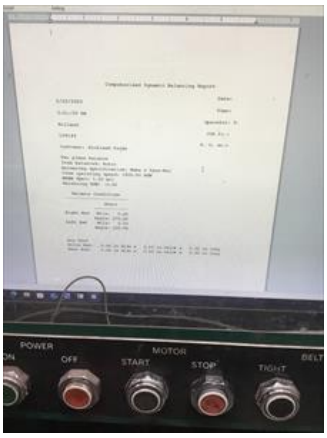
69. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

See below

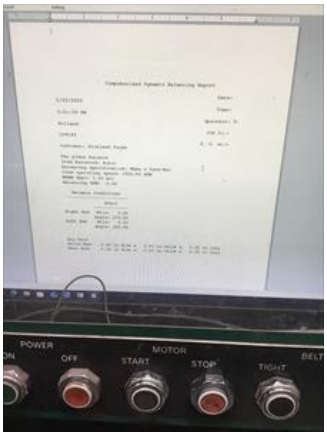
70. Initial Balance Readings P11

Drive End	Opposite Drive End



71. Final Balance Readings P27

Drive End	Opposite Drive End



72. Technician **Terrence Holland**

Assembly

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

74. Photograph All Major Components prior to assembly P17

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

76.	Assembled Shaft Endplay	**0 inches**
77.	Assembled Shaft Runout	**0.001 inches**

78. Test Run Voltage P55

Volts	Volts	Volts
460	**457**	**461**

79. Test Run Amperage P65

Amps	Amps	Amps
14.3	**13.5**	**13.6**

80.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.03	**0.05**	**0.02**
81.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.04	**0.03**	**0.02**
82.	Ambient Temperature - Fahrenheit		
83.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
84.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
85.	Document Final Condition with Pictures after paint		**see below**

Co sign: DM