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

AC Inspection as Found

WESTERN FOODS LLC
5215 INDUSTRIAL DR,S
PINE BLUFF, AR 71602

FolderID: 103567
FormID: 21755396

AC Inspection - Rev. 2

Location:	LITTLE ROCK MOTOR SHOP
Serial Number:	Q2-B17T5734GPE
Description:	40HP SIEMENS 1780RPM

Hi-Speed Job Number:	103567
Manufacturer:	Siemens
Product Number:	PART: 1LE22213AB116AA3
Serial Number:	Q2-B17T5734GPE
HP/kW:	40 (HP)
RPM:	1780 (RPM)
Frame:	324T
Voltage:	230 / 460
Current:	92/46 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	9
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	09/30/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **3 - High** **8 - Good**

Overall Condition

1.	Report Date	**10/01/2024**

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***	
	5.	Report Date [COPY]	**10/01/2024**

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 Inches**	
	10.	Assembled Shaft End Play	**0 inches**	
	11.	Air Gap Variation <10%		
●	12.	Lead Condition	**(P) Pass**	
	13.	Lead Length	**12.5 Inches**	P88

●	14.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
	15.	Lead Numbers	**1-9**	
	16.	Frame Condition	**pass**	

17.	Fan Condition	**(P) Pass**	P116

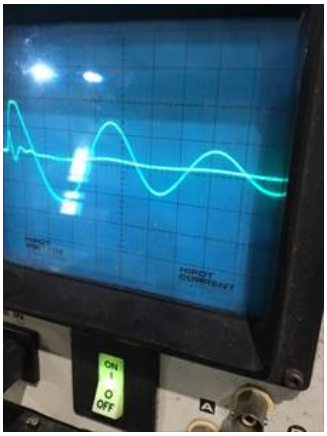
18.	Broken or Missing Components	**none**

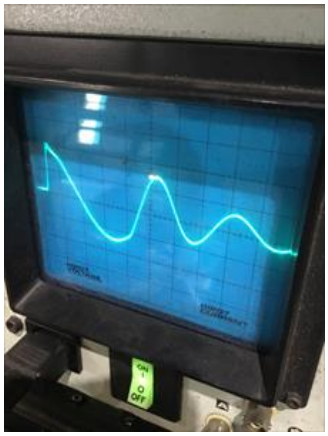
Initial Electrical Inspection

19.	Insulation Resistance/Megger	**Megohms**
20.	Winding Resistance	

1-2	1-3	2-3

21.	Perform Surge Test	**(F) Fail**	P57





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

25.	Stator Overloads/Ohms		

Mechanical Inspection

26.	Drive End Bearing Brand	**ORS**	
27.	Drive End Bearing Number-	**6312**	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	**ORS**	
35.	Opposite Drive End Bearing Number-	**6210**	P100

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**	
41.	Opposite Drive End Bearing Condition	**worn**	P119

Outer race fretted.

42.	Drive End Seal	**dust seal vA - 060**	P121

43.	Opposite Drive End Seal		

Rotor Inspection

44.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	P3

45.	Growler Test	**(Pass) Pass**
46.	Number of Rotor Bars	**40**
47.	Rotor Condition	**pass**
48.	List the Parts needed for the Repair Below ***Sleeve ODE & DE housing fits.*** ***Rewind stator*** ***6210 /C3 & 6312 / C3***	
49.	Signature of Technician that Disassembled Motor	**Terrence Holland**

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	
		2.1244	**2.1245**	**2.1245**	
	54.	Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		2.3628	**2.3629**	**2.3628**	
●	55.	Drive End Bearing Shaft Fit Condition			**(P) Pass**
	56.	Opposite Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		1.969	**1.9691**	**1.9691**	
●	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	
		5.1194	**5.1191**	**5.1193**	
●	60.	Drive End - Endbell Bearing Fit Condition			**(F) Fail**
	61.	Opposite Drive End - Endbell Bearing Fit			
		0 Degrees	60 Degrees	120 Degrees	
		Excessive pitting			
●	62.	Opposite Drive End - Endbell Bearing Fit Condition			**(F) Fail** P39

63. Bearing Cap Condition P52

Drive End Bearing Cap	Opposite Drive End Bearing Cap
pass	**na**

64. End Bell Air Seal Fits

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

65. List Machine Work Needed Below

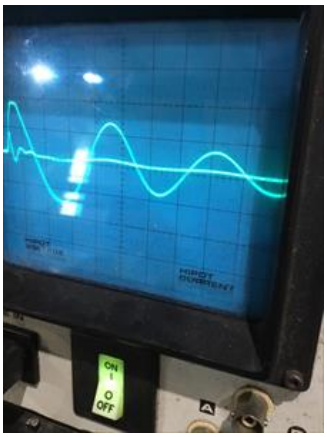
ODE housing fit bad.

66. Technician **Terrence Holland**

Root Cause of Failure

67. Failure locations P9

Windings show shorted to ground on two phases. ODE housing fit requires sleeve.



Phases 1&2

Phases 1&3

68. Root cause of failure

Winding analyzer shows 2 of 3. phases shorted to ground. Cause is indeterminate. Also both housing fits are out of tolerance.

Dynamic Balance Report

69.	Rotor Weight and Balance Grade		
	Rotor Weight	Balance Grade	
70.	Initial Balance Readings		
	Drive End	Opposite Drive End	
71.	Final Balance Readings		
	Drive End	Opposite Drive End	
72.	Technician		

Rewind

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

Mechanical Fits- Bearing Housings - Post Repair

81.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
82.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
83.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
84.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
85.	End Bell Repair Sign-off		

Assembly

86.	QC Check All Parts for Cleanliness Prior to Assembly		
87.	Photograph All Major Components prior to assembly		
88.	Final Insulation Resistance Test		
89.	Assembled Shaft Endplay		
90.	Assembled Shaft Runout		
91.	Test Run Voltage		
	Volts	Volts	Volts

92.	Test Run Amperage		
	Amps	Amps	Amps
93.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
94.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
95.	Ambient Temperature - Fahrenheit		
96.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
97.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
98.	Document Final Condition with Pictures after paint		
99.	Final Pics and QC Review		