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

AC Recondition As Found

MOST INC (00473501)
355 JAMES LAWRENCE RD
JACKSON, TN 38301

FolderID: 148585
FormID: 14976091

AC Recondition - Rev. 2

Location:	Plant
Serial Number:	1041037915

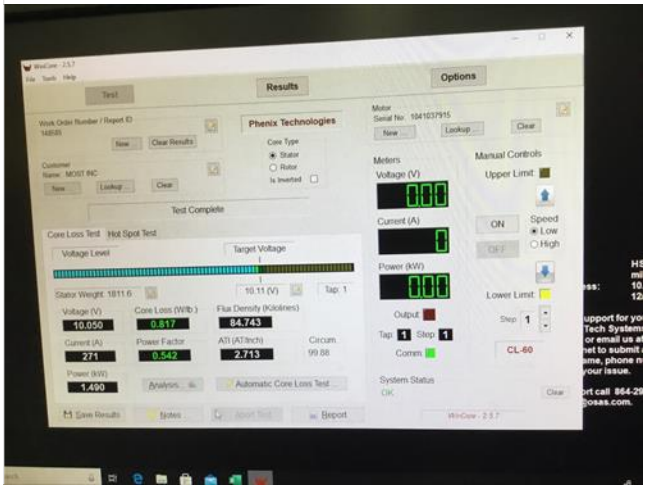
Description: HORIZONTAL AC MOTOR

Hi-Speed Job Number:	148585
Manufacturer:	WEG
Spec/ID #:	MODEL MGP80
Serial Number:	1041037915
HP/kW:	1000 (HP)
RPM:	713 (RPM)
Voltage:	4160
Current:	134.1 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
# of Leads:	3
J-box Included:	Complete
Coupling/Sheave:	Coupling
Date Received:	10/18/2022
Bearing RTDs:	Yes
Stator RTDs:	Yes
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	Yes
Winding Type :	Form Coil
Bearing Type:	Rolling Element

Priorities Found: **1 - High** **9 - Good**

Overall Condition

1. Report Date **11/02/2022** P1



2. Nameplate Picture P2

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

4. Describe the Overall Condition of the Equipment as Received

Fair, frame has had tabs welded on it to secure what appears to be the hood in the past. Coupling is in poor condition due to impacting from hammering. We highly suggest replacement of coupling, it is included in the quote. The stator failed the surge test. It is possible for a motor to fail the surge test though running. However, it is a warning sign that a failure will likely occur soon. Stator rewind is highly recommended.

5. Distance from the end of the shaft to the Coupling/Sheave **-0.375 inches** P5

Coupling protruding 3/8". Coupling was damaged when received. Coupler was beat on with a big hammer which bent flange and has visible damage on inside diameter. Coupling needs replaced.






Initial Mechanical/Electrical

6. Does Shaft Turn Freely? **(Yes) Yes**

7.	Does Shaft Have Visible Damage?	**(Yes) Yes**	P7

Does not require any repair.

Slight grinder marks on coupler end of shaft. No repair necessary.

8.	Assembled Shaft Runout	**0.0003 Inches**	P8

Grinder marks on end of shaft.

9.	Assembled Shaft End Play	**0.002 inches**	
10.	Air Gap Variation <10%	**Pass**	
11.	Lead Condition	**(P) Pass**	P11

12.	Lead Length	**32 Inches**	P12

Lugged with 3/8 hole
32" from jbox mount plate

13. Stator Temperature Detector Rating and Function

Quantity	Rating	Quantity Passed
9	**100 ohms**	**10**

Order 10 RTDs

14. Bearing Temperature Detector Rating and Function P14

Quantity	Rating	Quantity Passed
2	**100**	**2**

RTD on each end

Drive end RTD plastic cracked

15.	Frame Condition	**Good**	
16.	Fan Condition	**(P) Pass**	P16

17. Heater Quantity, Ratings — P17

Quantity	Volts/Watts	Pass/Fail
2	**120/595**	

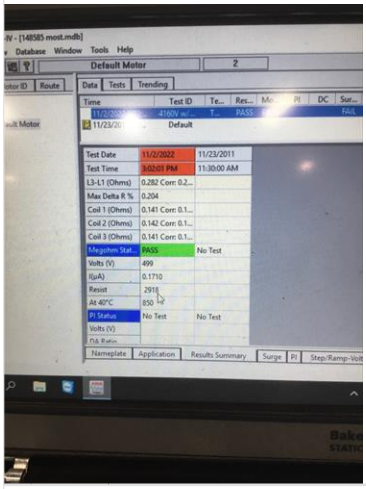
18. Broken or Missing Components — P18

End bell bolt holes need chased with tap M20x2.5. Two end bell bolts need replaced. M20x2.5 x 75mm. Missing 12 of 16 bolts for electrical panel cover.

Correct metric bolt on top, wrong standard bold on bottom.

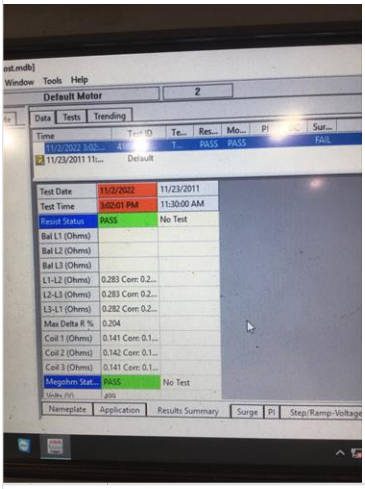
Initial Electrical Inspection

19. Insulation Resistance/Megger **2918 Megohms** P19

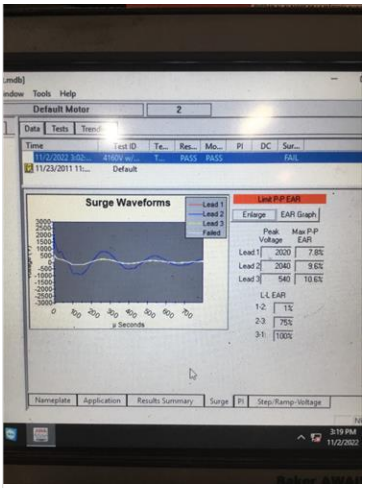


20. Winding Resistance P20

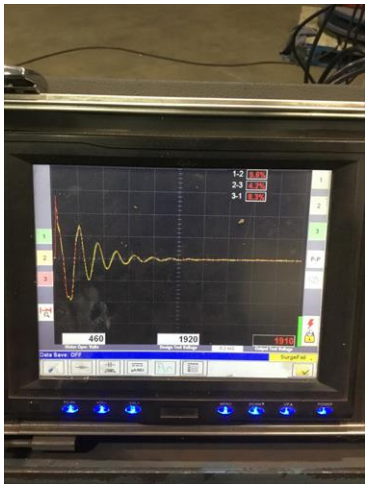
1-2	1-3	2-3
.283	**.283**	**.282**



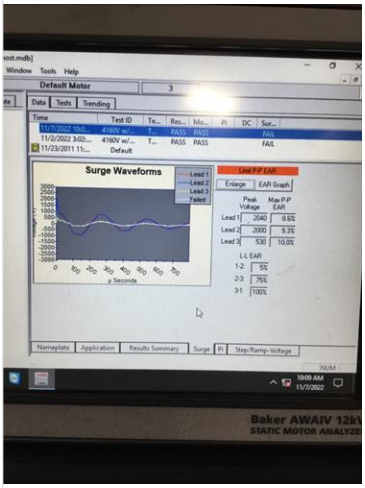
21. Perform Surge Test **(F) Fail** P21



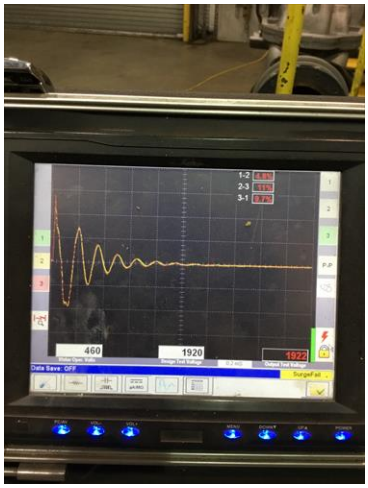
Before wash and bake



Before wash and bake



After wash and bake

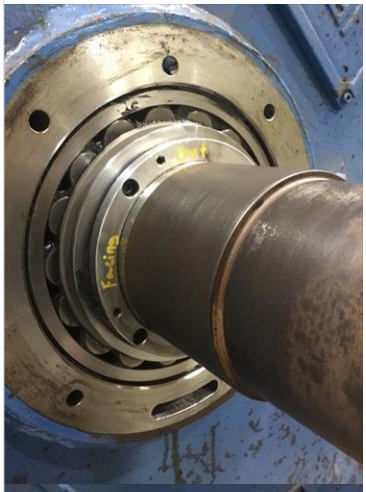


After wash and bake

22.	Number of Stator Slots	**90 Gigohms**
23.	Stator Condition	**fail surge test**

Mechanical Inspection

24.	Drive End Bearing Number-	**22228 CC/W33**	P24





25.	Drive End Bearing Qty.	**1**	
26.	Drive End Bearing Type	**(Other) Other**	
	Double tapered roller		
27.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
28.	Drive End Bearing Insulation or Grounding Device?	**None**	
29.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Yes**	P30

30.	Drive End Bearing Condition	**Good working condition**	
31.	Opposite Drive End Bearing Number-	**6322C3**	P33

4 springs on inner bearing cap

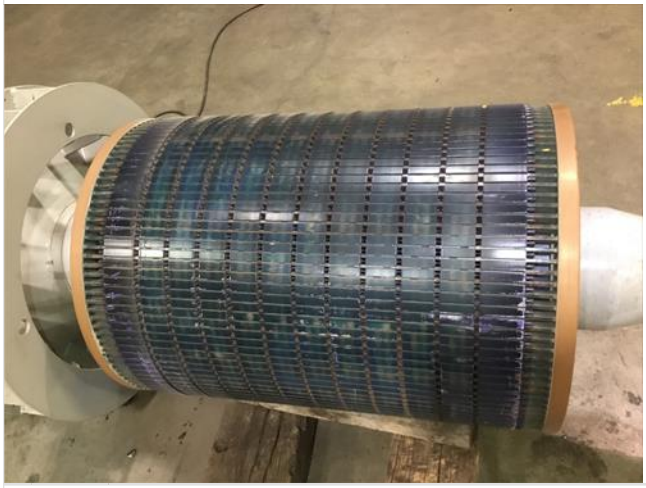
32.	Opposite Drive End Bearing Qty.	**1**

33.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	P35

34.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
35.	Opposite Drive End Bearing Insulation or Grounding Device?	**None**
36.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Yes**
37.	Opposite Drive End Bearing Condition	**Good working condition**
38.	Drive End Seal	**None**
39.	Opposite Drive End Seal	**None**

Rotor Inspection

40.	Rotor Type/Material	**(Copper Barred) Copper Barred Rotor**	P42



41.	Growler Test	**(Pass) Pass**
42.	Number of Rotor Bars	**112**
43.	Rotor Condition	**Good**
44.	List the Parts needed for the Repair Below ***1-6322C3 Bearing*** ***1-22228 CC/W33*** ***2 M20x2.5 x75mm bolts***	
45.	Signature of Technician that Disassembled Motor	**Brandon Woodard**

Mechanical Fits- Rotor

46.	Shaft Runout		**.001**	
47.	Rotor Runout			
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
	.0002	**.003**	**.0001**	
48.	Coupling Fit Closest to Bearing Housing			P50
	0 Degrees	90 Degrees	120 Degrees	
	5.1248	**5.1248**	**5.1249**	

49.	Coupling Fit Closest to the end of the Shaft			
	0 Degrees	60 Degrees	120 Degrees	
	5.1248	**5.1247**	**5.1248**	
50.	Drive End Bearing Shaft Fit			P52
	0 Degrees	60 Degrees	120 Degrees	
	5.5133	**5.5133**	**5.5135**	

140mm=5.5118. Tolerance is 5.5129-5.5139 within tolerance

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

140mm=5.5118. Tolerance is 5.5129-5.5139 within tolerance

52. Opposite Drive End Bearing Shaft Fit P54

0 Degrees	60 Degrees	120 Degrees
4.331	**4.3311**	**4.3331**

110mm=4.3307. Tolerance is 4.3312-4.3318 .0001 out of tolerance press fit recommend no machine work

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

110mm=4.3307. Tolerance is 4.3312-4.3318 .0001 out of tolerance press fit recommend no machine work

54. Shaft Air Seal Fits

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

Mechanical Fits- Bearing Housings

55. Drive End - Endbell Bearing Fit P57

0 Degrees	60 Degrees	120 Degrees
9.8432	**9.8432**	**9.8433**

250mm=9.8425. Tolerance is 9.8425-9.8436 within tolerance

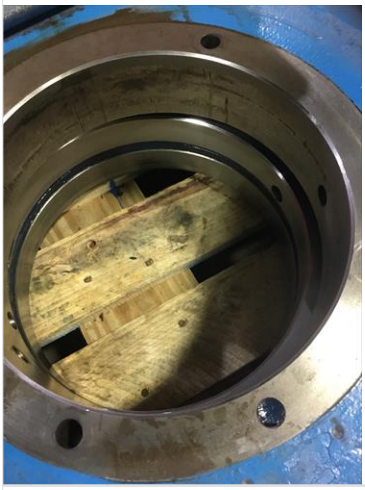
56. Drive End - Endbell Bearing Fit Condition **(P) Pass**

250mm=9.8425. Tolerance is 9.8425-9.8436 within tolerance

57. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
9.4498	**9.4496**	**9.4496**

240mm=9.4488. Tolerance is 9.4488-9.4499 within tolerance



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

240mm=9.4488. Tolerance is 9.4488-9.4499 within tolerance

59. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
good	**good**

60. End Bell Air Seal Fits

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

61. List Machine Work Needed Below

None

62. Technician **Brandon Woodard**

Dynamic Balance Report

63. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade
4330 Lbs	**API 610-11**

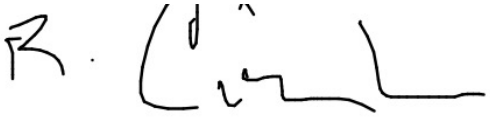
64. Initial Balance Readings

Drive End	Opposite Drive End
1.56 mils	**1.80 mils**

65. Final Balance Readings

Drive End	Opposite Drive End
.078 mils	**.115 mils**

66. Technician **R. Cordova**



Root Cause of Failure

67. Failure locations

STATOR FAILED SURGE TESTING

68. Root cause of failure

Coupling failed due to impacting. Winding failure is likely attributable to voltage spikes caused by transient voltage often times attributed to switching of other high voltage devices, and or lightning. Age/Temperature is also a possible factor in the winding degradation.

Assembly

69. Photograph All Major Components prior to assembly P71

70.	Final Insulation Resistance Test	**3769 Megohms**	P72

3769 Mohms @ 12kV
>1000 Mohms @500v after assembly

71.	Assembled Shaft Endplay	**0.001 inches**
72.	Assembled Shaft Runout	**0.0005 inches**

73. Test Run Voltage P75

Volts	Volts	Volts
4169	**4160**	**4164**

74. Test Run Amperage P76

Amps	Amps	Amps
56.78	**56.74**	**55.63**

75. Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial
0.046	**0.024**	**0.08599999999999999**

76. Opposite Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial
0.038	**0.026**	**0.078**

77. Ambient Temperature - Fahrenheit **68**

78. Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes
88	**99**	

79. Opposite Drive End Bearing Temps - Fahrenheit

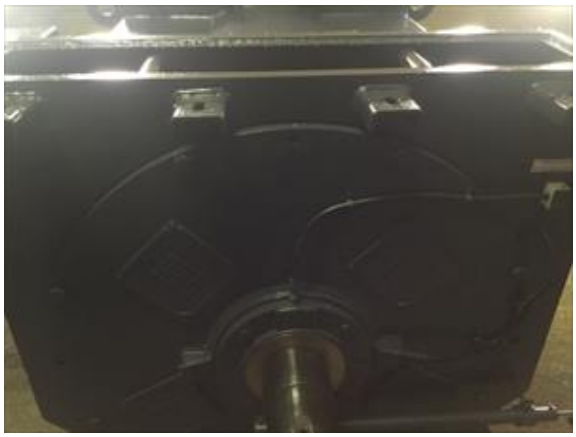
5 Minutes	10 Minutes	15 Minutes
82	**86**	

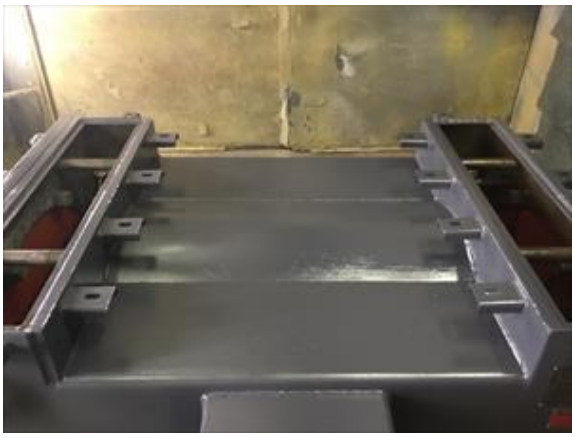
80. Stator Temperatures- Fahrenheit

5 Minutes	10 Minutes	15 Minutes
77	**81**	

81. Final Test Run Sign-off **Brandon Woodard**

82. Document Final Condition with Pictures after paint P84





83. Final Pics and QC Review P85