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

AC Inspection as Found

MOUNTAIN VIEW WASTE WATER
571 RUDDLES RD
MOUNTAIN VIEW, AR 72560

FolderID: 102526
FormID: 19473088

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	FMB03086A01
Description:	25HP 1760RPM

Hi-Speed Job Number:	102526
Manufacturer:	Marathon
Serial Number:	FMB03086A01
HP/kW:	25 (HP)
RPM:	1760 (RPM)
Frame:	284HYZ
Voltage:	230 / 460
Current:	66/33 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	DP
# of Leads:	9
J-box Included:	Complete
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final

Priorities Found: **4 - High** **7 - 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 ***Serviceable***		
	5. Distance from the end of the shaft to the Coupling/Sheave	**inches**	
Initial Mechanical/Electrical			
🟢	6. Does Shaft Turn Freely?	**(Yes) Yes**	
	7. Does the shaft require T.I.R in Lathe to identify additional repairs?		
	8. Does Shaft Have Visible Damage?	**(No) No**	P26

🔴	9. Assembled Shaft Runout	**0.002 Inches**	
	10. Assembled Shaft End Play		
	11. Air Gap Variation <10%		

12.	Lead Condition	**(P) Pass**	P69

13.	Lead Length	**13.5 Inches**
14.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**
15.	Lead Numbers	**1-9**
16.	Frame Condition	**pass**
17.	Fan Condition	**(P) Pass** P115

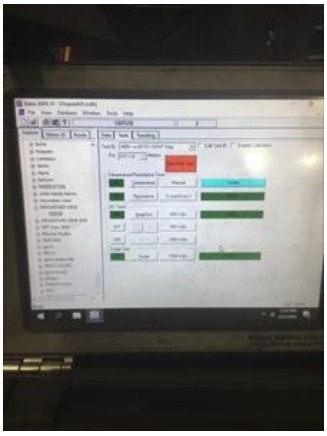
18. Heater Quantity, Ratings

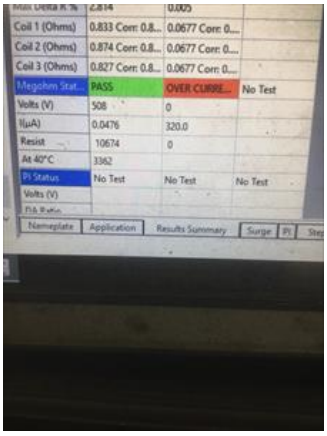
Quantity	Volts/Watts	Pass/Fail

19. Broken or Missing Components

Initial Electrical Inspection

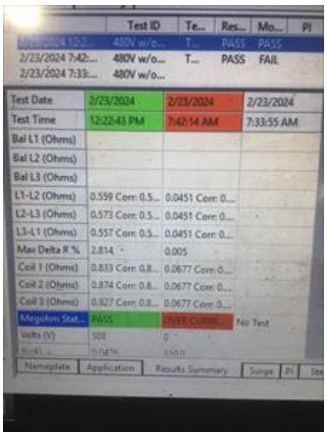
20. Insulation Resistance/Megger **Megohms** P8



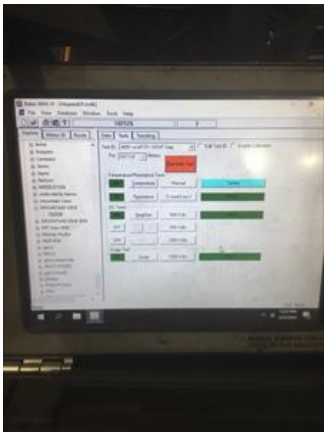


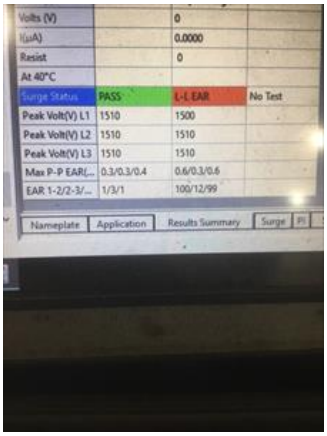
21. Winding Resistance P20

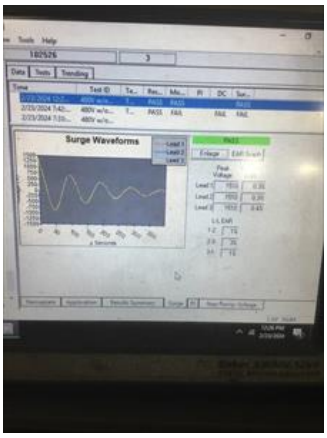
1-2	1-3	2-3



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







	23.	Number of Stator Slots	**48**
●	24.	Stator Condition	**pass**
	25.	Stator Thermistors/Ohms	
	26.	Stator Overloads/Ohms	

Mechanical Inspection

	27.	Drive End Bearing Brand	**SKF**
	28.	Drive End Bearing Number-	P32

	29.	Drive End Bearing Qty.	**1**
	30.	Drive End Bearing Type	**(Thrust) Thrust**
	31.	Drive End Lubrication Type	**(Grease) Grease Lubricated**
	32.	Drive End Bearing Insulation or Grounding Device?	**none**
	33.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**
	34.	Drive End Bearing Condition	**replace**
	35.	Opposite Drive End Bearing Brand	**FAG**

36.	Opposite Drive End Bearing Number-		P99

37.	Opposite Drive End Bearing Qty.	**1**	P103

38.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**
39.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
40.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**
41.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy** P114

42.	Opposite Drive End Bearing Condition	**replace**
43.	Drive End Seal	**carbon ceramic double seal** P120

44.	Opposite Drive End Seal		
45.	DE Sleeve Bearing Inside Diameter		
	0 degrees	120 degrees	240 degrees
46.	DE Sleeve Bearing Outside Diameter		
	0 degrees	120 degrees	240 degrees
47.	DE Sleeve Bearing Housing Inside Diameter		
	0 degrees	120 degrees	240 degrees
48.	DE Sleeve Bearing to Housing Clearance		
	0 degrees	120 degrees	240 degrees
49.	ODE Sleeve Bearing Inside Diameter		
	0 degrees	120 degrees	240 degrees
50.	ODE Sleeve Bearing Outside Diameter		
	0 degrees	120 degrees	240 degrees
51.	ODE Sleeve Bearing Housing Inside Diameter		
	0 degrees	120 degrees	240 degrees
52.	ODE Sleeve Bearing to Housing Clearance		
	0 degrees	120 degrees	240 degrees

Rotor Inspection

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

54.	Growler Test	**(Pass) Pass**
55.	Number of Rotor Bars	**40**
56.	Rotor Condition	**pass**
57.	List the Parts needed for the Repair Below ***Replace O rings, seals and gaskets.***	
58.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

59.	Shaft Runout	**0.002 inches**
60.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

61.	Coupling Fit Closest to Bearing Housing	

0 Degrees	90 Degrees	120 Degrees

62.	Coupling Fit Closest to the end of the Shaft	

0 Degrees	60 Degrees	120 Degrees

63.	Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees
2.1654	**2.1652**	**2.1652**

64.	Drive End Bearing Shaft Fit Condition	**(F) Fail**
65.	Opposite Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees
1.9685	**1.9686**	**1.9686**

66.	Opposite Drive End Bearing Shaft Fit Condition	
67.	Shaft Air Seal Fits	

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

Mechanical Fits- Bearing Housings

68. Drive End - Endbell Bearing Fit

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

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

70. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

Ad, has lip worn in.

71. Opposite Drive End - Endbell Bearing Fit Condition **(F) Fail**

Lip groove worn in.

72. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
pass	

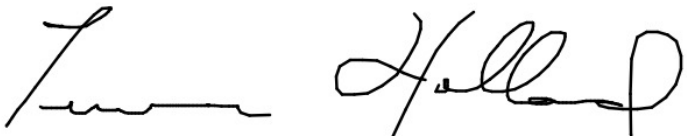
73. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

74. List Machine Work Needed Below

Sleeve ODE bearing housing. Repair D.E shaft bearing journal. Replace brass sleeve on D.E shaft.

75. Technician **Terrence. Holland**



Root Cause of Failure

76. Failure locations

ODE housing fit, DE brass seal sleeve worn. DE shaft bearing journal worn.

77. Root cause of failure

Wear on housing and shaft machine fits.

Dynamic Balance Report

78. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

79. Initial Balance Readings

Drive End	Opposite Drive End

80. Final Balance Readings

Drive End	Opposite Drive End

81. Technician

Rewind

82. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

83.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
84.	Post Rewind Electrical Test- Insulation Resistance		
85.	Post Rewind Polarization Index		
86.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
87.	Post Rewind Surge Test		
88.	Post Rewind Hi-Pot		
89.	Technician		
Mechanical Fits- Rotor - Post Repair			
90.	Shaft Runout Post Repair		
91.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
92.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
93.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
94.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
95.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
96.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
97.	Shaft Repair Sign-off		
Mechanical Fits- Bearing Housings - Post Repair			
98.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
99.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
100.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
101.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	

102.	DE Sleeve Bearing Inside ID Post Repair		
	Measure 1	Measure 2	Measure 3
103.	DE Sleeve Bearing Outside ID Post Repair		
	Measure 1	Measure 2	Measure 3
104.	DE Sleeve Bearing Inside OD Post Repair		
	Measure 1	Measure 2	Measure 3
105.	DE Sleeve Bearing Outside OD Post Repair		
	Measure 1	Measure 2	Measure 3
106.	End Bell Repair Sign-off		
107.	ODE Sleeve Bearing Inside ID Post Repair		
	Measure 1	Measure 2	Measure 3
108.	ODE Sleeve Bearing Outside ID Post Repair		
	Measure 1	Measure 2	Measure 3
109.	ODE Sleeve Bearing Inside OD Post Repair		
	Measure 1	Measure 2	Measure 3
110.	ODE Sleeve Bearing Outside OD Post Repair		
	Measure 1	Measure 2	Measure 3

Assembly

111.	QC Check All Parts for Cleanliness Prior to Assembly		
112.	Photograph All Major Components prior to assembly		
113.	Final Insulation Resistance Test		
114.	Assembled Shaft Endplay		
115.	Assembled Shaft Runout		
116.	Test Run Voltage		
	Volts	Volts	Volts
117.	Test Run Amperage		
	Amps	Amps	Amps
118.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
119.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
120.	Ambient Temperature - Fahrenheit		
121.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes

122.	Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
123.	Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
124.	Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
125.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
126.	Opposite Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
127.	Opposite Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
128.	Opposite Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
129.	Stator Temperatures- Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
130.	Stator Temperatures- Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
131.	Stator Temperatures- Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
132.	Stator Temperatures- Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
133.	Document Final Condition with Pictures after paint		
134.	Final Pics and QC Review		