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

AC Inspection as Found

US Vanadium
6105 Cynamide
Benton, AR 72015

FolderID: 101427
FormID: 16875129

AC Inspection - Rev. 2

Location:	Shop
Serial Number:	C445T17FC7B
Description:	150HP LEESON 1800RPM 445T

Hi-Speed Job Number:	101427
Manufacturer:	Other
Product Number:	G151171.60
Serial Number:	C445T17FC7B
HP/kW:	150 (HP)
RPM:	1800 (RPM)
Frame:	445T
Voltage:	460
Current:	169
Phase:	Three
Hz:	60 (Hz)
Enclosure:	TEFC
J-box Included:	Complete
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **3 - High** **6 - Good**

Overall Condition

1. Report Date
2. Nameplate Picture

P37

	3.	Photos of all six sides of the machine.	
	4.	Describe the Overall Condition of the Equipment as Received	

Initial Mechanical/Electrical

🟢	5.	Does Shaft Turn Freely?	**(Yes) Yes**	
	6.	Does Shaft Have Visible Damage?	**(No) No**	
🔴	7.	Assembled Shaft Runout	**0.0005 Inches**	
	8.	Assembled Shaft End Play		
	9.	Air Gap Variation <10%		
🟢	10.	Lead Condition	**(P) Pass**	
	11.	Lead Length		
	12.	Frame Condition	**wash and bake**	
🔴	13.	Fan Condition	**(F) Fail**	P93

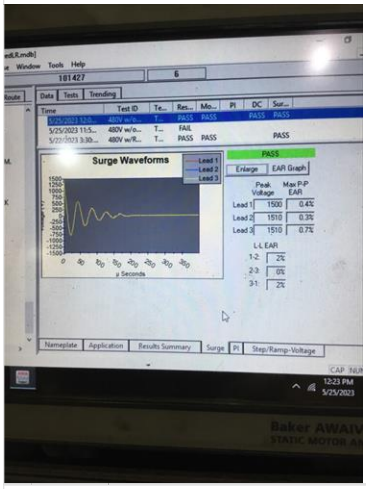
	14.	Broken or Missing Components	

Initial Electrical Inspection

	15.	Insulation Resistance/Megger	**1926 Megohms**
	16.	Winding Resistance	

1-2	1-3	2-3
.0234	**.0235**	**.0234**

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



18.	Number of Stator Slots		
19.	Stator Condition	**wash and bake**	P69

20.	Stator Thermistors/Ohms	**na**	
21.	Stator Overloads/Ohms	**na**	

Mechanical Inspection

22.	Drive End Bearing Brand	**SKF**	
23.	Drive End Bearing Number-	**6318**	P32

Metal fatigue

24.	Drive End Bearing Qty.	**1**	

25.	Drive End Bearing Type	**(Ball) Ball Bearing**	
26.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
27.	Drive End Bearing Insulation or Grounding Device?	**na**	
28.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**snap ring**	
29.	Drive End Bearing Condition		
30.	Opposite Drive End Bearing Brand	**SKF**	
31.	Opposite Drive End Bearing Number-	**6317**	P88

32.	Opposite Drive End Bearing Qty.	**1**	
33.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
34.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
35.	Opposite Drive End Bearing Insulation or Grounding Device?	**na**	
36.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**na**	
37.	Opposite Drive End Bearing Condition		
38.	Drive End Seal		
39.	Opposite Drive End Seal		

Rotor Inspection

40.	Rotor Type/Material		
41.	Growler Test		
42.	Number of Rotor Bars		
43.	Rotor Condition		
44.	List the Parts needed for the Repair Below		
45.	Signature of Technician that Disassembled Motor		

Mechanical Fits- Rotor

46.	Shaft Runout		
47.	Rotor Runout		

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

48.	Coupling Fit Closest to Bearing Housing	

0 Degrees	90 Degrees	120 Degrees

49.	Coupling Fit Closest to the end of the Shaft	

0 Degrees	60 Degrees	120 Degrees

50. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
3.5437	**3.5437**	**3.5437**

51. Drive End Bearing Shaft Fit Condition **(P) Pass** P76

52. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
3.347	**3.347**	**3.347**

53. Opposite Drive End Bearing Shaft Fit Condition **(P) Pass** P86

54. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

55. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
7.4815	**7.4815**	**7.4815**

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

57. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
7.0887	**7.0887**	**7.0887**

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

Resleeve

59. Bearing Cap Condition

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

60. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

61. List Machine Work Needed Below

Ode end bell bearing fit

62. Technician **RW**

Dynamic Balance Report

63. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

64. Initial Balance Readings

Drive End	Opposite Drive End

65. Final Balance Readings

Drive End	Opposite Drive End

66. Technician

Rewind

67. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

68.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
69.	Post Rewind Electrical Test- Insulation Resistance		
70.	Post Rewind Polarization Index		
71.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
72.	Post Rewind Surge Test		
73.	Post Rewind Hi-Pot		
74.	Technician		
Root Cause of Failure			
75.	Failure locations		
76.	Root cause of failure		
Mechanical Fits- Rotor - Post Repair			
77.	Shaft Runout Post Repair		
78.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
79.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
80.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
81.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
82.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
83.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
84.	Shaft Repair Sign-off		
Mechanical Fits- Bearing Housings - Post Repair			
85.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
86.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
87.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	

88. End Bell Air Seal Fits Post Repair

Drive End Air Seal	Opposite Drive End Air Seal

89. End Bell Repair Sign-off

Assembly

90. QC Check All Parts for Cleanliness Prior to Assembly P4

91.	Photograph All Major Components prior to assembly		
92.	Final Insulation Resistance Test		
93.	Assembled Shaft Endplay		
94.	Assembled Shaft Runout		
95.	Test Run Voltage		
	Volts	Volts	Volts
96.	Test Run Amperage		
	Amps	Amps	Amps
97.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
98.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
99.	Ambient Temperature - Fahrenheit		
100.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
101.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes

102. Document Final Condition with Pictures after paint

103. Final Pics and QC Review **Terrence. Holland** P103