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

AC Inspection as Found

FUTURE FUEL CHEMICAL
2800 GAP RD HWY 394 SO
BATESVILLE, AR 72501

FolderID: 104106
FormID: 23300438

AC Inspection - Rev. 2

Location:	LR MOTOR SHOP
Serial Number:	A1803222065
Description:	75 HP BALDOR

Hi-Speed Job Number:	104106
Manufacturer:	Baldor
Product Number:	A40-1168-0769
Serial Number:	A1803222065
HP/kW:	75 (HP)
RPM:	1185 (RPM)
Frame:	405LPZ
Voltage:	460
Current:	86.9 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	6
J-box Included:	Complete
Coupling/Sheave:	Propeller
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	Yes
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **5 - High** **15 - 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 ***Dirty***	
	5.	Distance from the end of the shaft to the Coupling/Sheave ***Pin hole alignment***	**inches**

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?	**(Yes) Yes**	P26

Bushing ride area

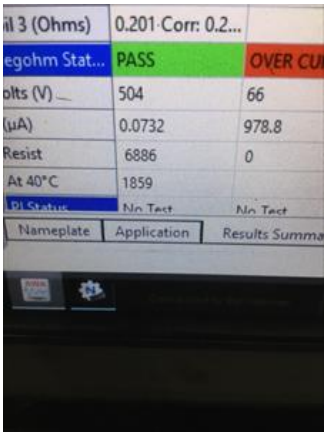
Propeller ride area

●	9.	Assembled Shaft Runout	**0.0003 Inches**

	10.	Assembled Shaft End Play	**inches**
	11.	Air Gap Variation <10%	
●	12.	Lead Condition	**(NA) Not Applicable**
	13.	Lead Length	**12 Inches**
	14.	Does it have Lugs?, If so what is the Stud Size?	
		Yes	
	15.	Lead Numbers	**1-3**
	16.	Frame Condition	**pass**
●	17.	Fan Condition	**(P) Pass**
●	18.	Does motor have internal fan?	**(No) No**
●	19.	Broken or Missing Components	**propeller pin is broke in half**

Initial Electrical Inspection

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



	21.	Winding Resistance	P20

1-2	1-3	2-3

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

23.	Number of Stator Slots	
24.	Stator Condition	
	Needs rewind	
25.	Stator Thermistors/Ohms	
26.	Stator Overloads/Ohms	

Mechanical Inspection

27.	Drive End Bearing Brand	**skf**
28.	Drive End Bearing Number-	**3316**
29.	Drive End Bearing Qty.	**1**
30.	Drive End Bearing Type	**(Ball) Ball Bearing**
31.	Drive End Lubrication Type	**(Grease) Grease Lubricated**
32.	Drive End Bearing Insulation or Grounding Device?	
33.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	
	Spanner nut	
34.	Drive End Bearing Condition	P82
	Contamination	

35.	Opposite Drive End Bearing Brand	**skf**
36.	Opposite Drive End Bearing Number-	**6313**
37.	Opposite Drive End Bearing Qty.	**1**
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?	

41.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	
42.	Opposite Drive End Bearing Condition		P117

Contamination

43.	Drive End Seal	**lip seal**	

2.8125-3.3625-0.25

44.	Opposite Drive End Seal		

Rotor Inspection

45.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
46.	Growler Test	**(Pass) Pass**	
47.	Number of Rotor Bars		
48.	Rotor Condition		
49.	List the Parts needed for the Repair Below		

3316
6313
Lip seal
Propeller pin

50.	Signature of Technician that Disassembled Motor	**Cw**	

Mechanical Fits- Rotor

51.	Shaft Runout	**inches**	
52.	Rotor Runout		

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

53.	Coupling Fit Closest to Bearing Housing		

0 Degrees	90 Degrees	120 Degrees

54.	Coupling Fit Closest to the end of the Shaft		

0 Degrees	60 Degrees	120 Degrees

55. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees

3.1504-3.1505-3.1505

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

57. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees

2.5597-2.5597-2.5597

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

59. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

60. Drive End - Endbell Bearing Fit P2

0 Degrees	60 Degrees	120 Degrees

Excessive wear

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

62. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

5.5129-5.5127-5.5128

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

64. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

65. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

66. List Machine Work Needed Below

DE end bell bearing fit, bushing, bushing shaft fit, and propeller shaft fit, and bore propeller for new shaft fit

67. Technician **Cw**

Co sign:TLH

Root Cause of Failure

68. Failure locations

Windings, bearings, propeller shaft fit, bushing shaft fit, and seal

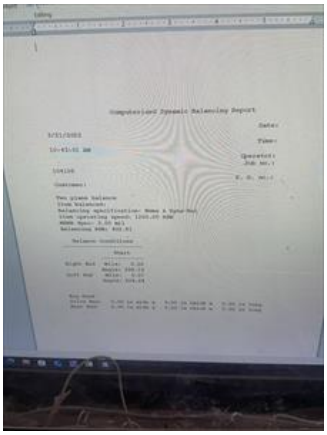
69. Root cause of failure

Wear, water contamination and bad connection on cord plugin.

Dynamic Balance Report

70. Rotor Weight and Balance Grade P7

Rotor Weight	Balance Grade



71. Initial Balance Readings

Drive End	Opposite Drive End
0.28	**0.07**

72.	Final Balance Readings			
	Drive End	Opposite Drive End		
	0.28	**0.07**		
73.	Technician			**RW**

Rewind

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

Mechanical Fits- Rotor - Post Repair

82.	Shaft Runout Post Repair			**inches**
83.	Rotor Runout Post Repair			
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
84.	Coupling Fit Closest to Bearing Housing Post Repair			
	0 Degrees	90 Degrees	120 Degrees	
85.	Coupling Fit Closest to the end of the Shaft Post Repair			
	0 Degrees	60 Degrees	120 Degrees	
86.	Drive End Bearing Shaft Fit Post Repair			
	0 Degrees	60 Degrees	120 Degrees	
87.	Opposite Drive End Bearing Shaft Fit Post Repair			
	0 Degrees	60 Degrees	120 Degrees	
88.	Shaft Air Seal Fits Post Repair			
	Drive End Air Seal	Opposite Drive End Air Seal		
89.	Shaft Repair Sign-off			

Mechanical Fits- Bearing Housings - Post Repair

90. Drive End - Endbell Bearing Fit Post Repair P5

0 Degrees	60 Degrees	120 Degrees
6.6938	**6.6939**	**6.6938**

91. Opposite Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

92. Bearing Cap Condition Post Repair

Drive End Bearing Cap	Opposite Drive End Bearing Cap

93. End Bell Air Seal Fits Post Repair P42

Drive End Air Seal	Opposite Drive End Air Seal
lip seal	

Machined for a 3.5 x 2.75 x .375 lip seal.

94. End Bell Repair Sign-off **Gary**

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Assembly

95. QC Check All Parts for Cleanliness Prior to Assembly **RW**

96. Photograph All Major Components prior to assembly **(Complete) Complete** P17

97.	Final Insulation Resistance Test	**6,630 Megohms**	P31

98.	Assembled Shaft Endplay	**0 inches**
99.	Assembled Shaft Runout	**0.004 inches**

100. Test Run Voltage P55

Volts	Volts	Volts
459	**458**	**459**

101. Test Run Amperage P65

Amps	Amps	Amps
28	**27.8**	**27.3**

102.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.01	**0.04**	**0.01**
103.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
	0.02	**0.04**	**0.03**
104.	Ambient Temperature - Fahrenheit		
105.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
106.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
107.	Document Final Condition with Pictures after paint		**see below**
108.	Final Pics and QC Review		**Terrence Holland**

P132

Co sign: RRW