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

AC Recondition Repair Report

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

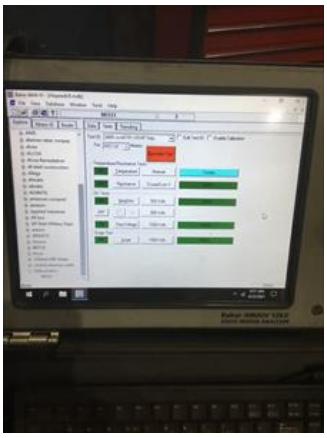
Priorities Found: **4 - High** **7 - Good**

General

1.	Job Number	**98358**
2.	Report Date	**06/22/2021**
3.	Customer	**FUTURE FUEL**

Name Plate Information

4.	Manufacturer	**U.S. MOTORS**	P5



5.	Model	**R923**	
6.	Serial Number	**CAT# H100E1S**	
7.	Horsepower	**100 HP**	
8.	KW	**KW**	
9.	Volts	**460 Volts**	
10.	Amps	**111**	
11.	RPM	**3560 RPM**	
12.	Frame	**405TS**	
13.	Enclosure	**TEFC**	
14.	Cycles	**60**	
15.	Phase	**3 PH**	
16.	Service Factor	**1.15**	
17.	Motor Mount Position		

Initial Inspection

18.	Number of Leads	**12**	
19.	Lead Length		
20.	Lead Size		
21.	Lead Condition	**(P) Pass**	P42

22.	Lead Markings	**1-12**	
23.	Lug Size, Condition, and Type		
24.	Winding RTD's		
25.	Winding Rtd's Condition		
26.	Shaft Run Out		

	27.	Does Shaft Turn Freely	**no**	
	28.	Does Shaft Have Visible Damage	**no**	
	29.	Bearing Rtd's		
	30.	Bearing Rtd's Condition		
	31.	Contamination		
●	32.	Frame Condition	**(P) Pass**	
	33.	Fan Condition		
	34.	Broken or missing components		
Initial Electric Test				
	35.	Resistance to Ground		
	36.	Winding Resistance 1-2		
	37.	Winding Resistance 2-3		
	38.	Winding Resistance 1-3		
	39.	Resistive Imbalance		
	40.	Hi-Pot		
●	41.	Surge Test	**(P) Pass**	P58

	42.	Stator Condition	**pass**	
	43.	Failure Location		
Initial Rotor Inspection				
	44.	Rotor Type	**squirrel cage laminate**	
	45.	Air Gap <10% Variation		
	46.	Number of Rotor Bars		
	47.	Number of Broken Rotor Bars		
	48.	Growler Test		
	49.	Rotor Condition		
Mechanical Inspection				
	50.	Bearing Manufacture	**SKF**	

51.	Bearing DE Size		P15

52.	Bearing DE Type	**regular ball bearing**	
53.	DE Bearing Qty.	**1**	
54.	Bearing ODE Size	**6214**	
55.	Bearing ODE Type	**regular ball bearing**	P53

56.	ODE Bearing Qty.	**1**	
57.	Insulated Bearing	**no**	
58.	Lubrication Type	**grease**	
59.	Grease Condition	**(F) Fail**	
	Dirty		
60.	Bearing Retainers	**(Y) Yes**	
61.	Shaft Grounding Device	**(NA) Not Applicable**	
62.	DE Seal	**(NA) Not Applicable**	
63.	DE Seal Type/Size		
64.	ODE Seal	**(NA) Not Applicable**	
65.	ODE Seal Type/Size		

Root Cause of Failure

66.	Component Failure	**D.E. bearing came apart**
67.	Cause of Failure	

D.E. bearing suffered catastrophic failure and came apart. As a result the drive end shaft was bent 10 thousands out of tolerance. Primary cause of bearing failure appears to be lack of lubrication. Also the drive end housing fit requires machine work as well.

68. Comments

	69.	Service Technician	**Terrence. Holland**

Machine Fit Inspection Report

●	70.	Shaft Run Out	**(F) Fail**
	71.	Initial Shaft Run Out	**0.2 "**
	72.	Final Shaft Run Out	
●	73.	DE Bearing Shaft Fit	**(F) Fail**
	74.	DE Initial Shaft Bearing Fit Size 1	
	75.	DE Initial Shaft Bearing Fit Size 2	
	76.	DE Initial Shaft Bearing Fit Size 3	
	77.	DE Finial Shaft Bearing Fit Size 1	
	78.	DE Finial Shaft Bearing Fit Size 2	
	79.	DE Finial Shaft Bearing Fit Size 3	
	80.	ODE Bearing Shaft Fit	
	81.	ODE Initial Shaft Bearing Fit Size 1	
	82.	ODE Initial Shaft Bearing Fit Size 2	
	83.	ODE Initial Shaft Bearing Fit Size 3	
	84.	ODE Finial Shaft Bearing Fit Size 1	
	85.	ODE Finial Shaft Bearing Fit Size 2	
	86.	ODE Finial Shaft Bearing Fit Size 3	
	87.	DE Air Seal Shaft Fit	
	88.	DE Initial Air Seal Shaft Size	
	89.	DE Final Air Seal Shaft Size	
	90.	ODE Air Seal Shaft Fit	
	91.	ODE Initial Air Seal Shaft Size	
	92.	ODE Final Air Seal Shaft Size	
●	93.	DE Endbell Fit	**(F) Fail**
		Machine work needed.	
	94.	DE Initial Endbell Fit Size 1	
	95.	DE Initial Endbell Fit Size 2	
	96.	DE Initial Endbell Fit Size 3	
	97.	DE Final Endbell Fit Size 1	
	98.	DE Finial Endbell Fit Size 2	
	99.	DE Final Endbell Fit Size 3	
	100.	DE Endbell Fit Insulated	**(NA) Not Applicable**
	101.	DE Endbell Air Seal Fit	
	102.	Initial Endbell Air Seal Fit Size	
	103.	Finial Endbell Air Seal Fit Size	
	104.	ODE Endbell Fit	
	105.	ODE Initial Endbell Fit Size 1	
	106.	ODE Initial Endbell Fit Size 2	
	107.	ODE Initial Endbell Fit Size 3	
	108.	ODE Final Endbell Fit Size 1	
	109.	ODE Final Endbell Fit Size 2	

110.	ODE Final Endbell Fit Size 3	
111.	ODE Endbell Fit Insulated	
112.	ODE Endbell Air Seal Fit	
113.	ODE Initial Endbell Seal Fit Size	
114.	ODE Finial Endbell Seal Fit Size	
115.	Foot Flatness	**(P) Pass**
116.	Foot Condition	**(P) Pass**
117.	Flange Condition	**(NA) Not Applicable**
118.	Service Technician	

Balancing Report

119.	Balance Type	
120.	Balance Operating Speed	
121.	Start Left End	
122.	Start Right End	
123.	Balancing Specification	
124.	Finish Left End	
125.	Finish Right End	
126.	Service Technician	

Assembly and Final Test

127.	Meggar Testing Reading	
128.	Surge Test	
129.	Hi-Pot	
130.	Winding Resistance 1-2	
131.	Winding Resistance 2-3	
132.	Winding Resistance 1-3	
133.	Test Run Voltage Phase A	
134.	Test Run Amps A	
135.	Test Run Voltage Phase B	
136.	Test Run Amps B	
137.	Test Run Voltage Phase C	
138.	Test Run Amps C	
139.	DE Horizontal Vibration Reading	
140.	DE Vertical Vibration Reading	
141.	DE Axial Vibration Reading	
142.	ODE Horizontal Vibration Reading	
143.	ODE Vertical Vibration Reading	
144.	ODE Axial Vibration Reading	
145.	Ambient Temp at start of Test Run	
146.	Temp at 5 minutes	
147.	Temp at 10 minutes	
148.	Temp at 15 minutes	
149.	Temp at 20 minutes	
150.	Temp at 25 minutes	
151.	Temp at 30 minutes	
152.	Temp at 35 minutes	
153.	Temp at 40 minutes	
154.	Temp at 45 minutes	
155.	Temp at 50 minutes	

156.	Temp at 55 minutes
157.	Temp at 60 minutes
158.	Motor Paint
159.	Service Technician