

## LR Motor Shop Repairs

## **Job Number 104106**

Prepared for FUTURE FUEL CHEMICAL

2800 GAP RD HWY 394 SO BATESVILLE AR 72501

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AC Inspection - Rev. 2: A1803222065

1.0



FolderID: 104106

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#### AC Inspection as Found **FUTURE FUEL CHEMICAL**

2800 GAP RD HWY 394 SO BATESVILLE, AR 72501

**Hi-Speed Job Number:** 

AC Inspection - Rev. 2 Location:

LR MOTOR SHOP

Serial Number:

A1803222065

Description:75 HP BALDOR

lanufacturer:	Baldor

**Product Number:** A40-1168-0769 Serial Number: A1803222065

104106

HP/kW: 75 (HP)

RPM: 1185 (RPM)

Frame: 405LPZ

Voltage: 460 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 Final

Rewind: Yes

Bearing Housing Machined Yes

Fit Repairs Required:

Repair Stage:

Heaters: No Winding Type: Random Wound

**Bearing Type:** Rolling Element

Priorities Found: 5 - High

14 - Good

#### **Overall Condition**

1. Report Date

#### 2. Nameplate Picture



3. Photos of all six sides of the machine.









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	4.	Describe the Overall Condition of the Equipment as Received  Dirty	
	5.	Distance from the end of the shaft to the Coupling/Sheave	inches
	7	Pin hole alignment	
In	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





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
In	itial	Electrical Inspection	
	20.	Insulation Resistance/Megger	Megohms



# 21. Winding Resistance 1-2 1-3 2-3





23.	Number of Stator Slots	
<b>2</b> 4.	Stator Condition	
-	Needs rewind	
25.	Stator Thermistors/Ohms	
26.	Stator Overloads/Ohms	
Mech	anical 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?	
<ul><li>33.</li></ul>	Drive End Wavy Washer/Snap-Ring Other Retention Device?	
-	Spanner nut	
34.	Drive End Bearing Condition	
-	Contamination	

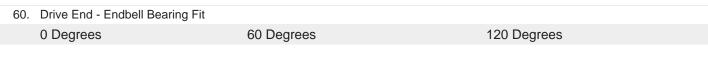


35. Opposite Drive End Bearing Brand	skf
36. Opposite Drive End Bearing Number-	6313
37. Opposite Drive End Bearing Qty.	1
38. Opposite Drive End Bearing Type	(Ball) Ball Bearing
39. Opposite Drive End Lubrication Type	(Grease) Grease Lubricated

40.	11	-	
41.	Opposite Drive End Wavy Washer/Sna	ap-Ring Other Retention Device?	wavy washer
42.	Opposite Drive End Bearing Condition		
43.	Drive End Seal		lip seal
-	2.8125-3.3625-0.25		
44.	Opposite Drive End Seal		
≀otor	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 Be	elow	
	3316 6313 Lip seal Propeller pin		
50.	Signature of Technician that Disassem	abled Motor	Cw
	anical Fits- Rotor		
51.	anical Fits- Rotor Shaft Runout		inches
51.	anical Fits- Rotor Shaft Runout Rotor Runout		
51.	anical Fits- Rotor Shaft Runout	Rotor Body	inches Opposite Drive End Bearing
51. 52.	anical Fits- Rotor Shaft Runout Rotor Runout		
51. 52.	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit		
51. 52. 53.	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housin 0 Degrees	ng 90 Degrees	Opposite Drive End Bearing
51. 52. 53.	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housir 0 Degrees  Coupling Fit Closest to the end of the S	ng 90 Degrees Shaft	Opposite Drive End Bearing  120 Degrees
51. 52. 53.	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housin 0 Degrees	ng 90 Degrees	Opposite Drive End Bearing
51. 52. 53.	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housin 0 Degrees  Coupling Fit Closest to the end of the S 0 Degrees	ng 90 Degrees Shaft	Opposite Drive End Bearing  120 Degrees
<ul><li>51.</li><li>52.</li><li>53.</li><li>54.</li></ul>	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housin 0 Degrees  Coupling Fit Closest to the end of the S 0 Degrees	ng 90 Degrees Shaft	Opposite Drive End Bearing  120 Degrees
<ul><li>51.</li><li>52.</li><li>53.</li><li>54.</li></ul>	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housir 0 Degrees  Coupling Fit Closest to the end of the S 0 Degrees  Drive End Bearing Shaft Fit	ng 90 Degrees Shaft 60 Degrees	Opposite Drive End Bearing  120 Degrees  120 Degrees
<ul><li>51.</li><li>52.</li><li>53.</li><li>54.</li><li>55.</li></ul>	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housin 0 Degrees  Coupling Fit Closest to the end of the S 0 Degrees  Drive End Bearing Shaft Fit 0 Degrees	ng 90 Degrees Shaft 60 Degrees	Opposite Drive End Bearing  120 Degrees  120 Degrees
<ul><li>51.</li><li>52.</li><li>53.</li><li>54.</li><li>55.</li></ul>	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housir 0 Degrees  Coupling Fit Closest to the end of the S 0 Degrees  Drive End Bearing Shaft Fit 0 Degrees  3.1504-3.1505-3.1505  Drive End Bearing Shaft Fit Condition	ng 90 Degrees Shaft 60 Degrees	Opposite Drive End Bearing  120 Degrees  120 Degrees  120 Degrees
<ul><li>51.</li><li>52.</li><li>53.</li><li>54.</li><li>55.</li><li>56.</li></ul>	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housir 0 Degrees  Coupling Fit Closest to the end of the S 0 Degrees  Drive End Bearing Shaft Fit 0 Degrees  3.1504-3.1505-3.1505 Drive End Bearing Shaft Fit Condition	ng 90 Degrees Shaft 60 Degrees	Opposite Drive End Bearing  120 Degrees  120 Degrees  120 Degrees
<ul><li>51.</li><li>52.</li><li>53.</li><li>54.</li><li>55.</li><li>56.</li></ul>	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housir 0 Degrees  Coupling Fit Closest to the end of the S 0 Degrees  Drive End Bearing Shaft Fit 0 Degrees  3.1504-3.1505-3.1505  Drive End Bearing Shaft Fit Condition Opposite Drive End Bearing Shaft Fit	ng 90 Degrees Shaft 60 Degrees 60 Degrees	Opposite Drive End Bearing  120 Degrees  120 Degrees  120 Degrees  (P) Pass
51. 52. 53. 54. 55. 56. 57.	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housir 0 Degrees  Coupling Fit Closest to the end of the S 0 Degrees  Drive End Bearing Shaft Fit 0 Degrees  3.1504-3.1505-3.1505  Drive End Bearing Shaft Fit Condition Opposite Drive End Bearing Shaft Fit 0 Degrees	90 Degrees Shaft 60 Degrees 60 Degrees 60 Degrees	Opposite Drive End Bearing  120 Degrees  120 Degrees  120 Degrees  (P) Pass
51. 52. 53. 54. 55.	anical Fits- Rotor Shaft Runout Rotor Runout Drive End Bearing Fit  Coupling Fit Closest to Bearing Housir 0 Degrees  Coupling Fit Closest to the end of the S 0 Degrees  Drive End Bearing Shaft Fit 0 Degrees  3.1504-3.1505-3.1505  Drive End Bearing Shaft Fit Condition Opposite Drive End Bearing Shaft Fit 0 Degrees  2.5597-2.5597-2.5597  Opposite Drive End Bearing Shaft Fit Condition	90 Degrees Shaft 60 Degrees 60 Degrees 60 Degrees	Opposite Drive End Bearing  120 Degrees  120 Degrees  (P) Pass

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**Mechanical Fits- Bearing Housings** 



Excessive wear



<b>6</b> 1.	Drive End - Endbell Bearing Fit Cond	ition	(F) Fail
62.	Opposite Drive End - Endbell Bearing	Fit	
	0 Degrees	60 Degrees 12	20 Degrees
-	5.5129-5.5127-5.5128		
<b>6</b> 3.	Opposite Drive End - Endbell Bearing	Fit Condition	(P) Pass
<b>6</b> 4.	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	
<b>6</b> 6.		ng shaft fit, and propeller shaft fit, and bore propell	er for new shaft fit
67.	Technician .	- TU	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 and water contamination

#### **Dynamic Balance Report**

70. Rotor Weight and Balance Grade

Rotor Weight Balance Grade

71.	Initial Balance Readings			
	Drive End	Opposite Drive End		
	21170 2110	opposite zine zine		
72.	Final Balance Readings			
	Drive End	Opposite Drive End		
73.	Technician			
Rewin	ıd			
74.	Core Test Results - Watts loss per Po	ound		
	Pre-Burnout	Post Burnout		
7.5	One Hat On at Tast			
75.	Core Hot Spot Test	Deat Death		
	Pre-Burnout	Post-Burnout		
76.	Post Rewind Electrical Test- Insulation	n Resistance		
77.	Post Rewind Polarization Index			
78.	Post Rewind Winding Resistance			
	1-2	1-3	2-3	
79.	Post Rewind Surge Test			
80.	Post Rewind Hi-Pot			
_	Technician			
	anical Fits- Rotor - Post Repair			
	Shaft Runout Post Repair			
83.	Rotor Runout Post Repair			
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
8.4	Coupling Fit Closest to Bearing Housi	ng Poet Repair		
04.	0 Degrees	90 Degrees	120 Degrees	
	o Degrees	30 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 Rep			
	0 Degrees	60 Degrees	120 Degrees	
97	Opposite Drive End Bearing Shaft Fit	Post Popoir		
07.			120 Dogrado	
	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			
Mecha	Mechanical Fits- Bearing Housings - Post Repair			
90.	Drive End - Endbell Bearing Fit Post F	Repair		
	0 Degrees	60 Degrees	120 Degrees	

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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	
03	End Bell Air Seal Fits Post Repair		
93.	Drive End Air Seal	Opposite Drive End Air Seal	
	Drive Life All Seal	Opposite Drive Lift All Seal	
94.	End Bell Repair Sign-off		
Assen	nbly		
95.	QC Check All Parts for Cleanliness Pr	ior to Assembly	
96.	Photograph All Major Components pri	or to assembly	
97.	Final Insulation Resistance Test		
98.	Assembled Shaft Endplay		
99.	Assembled Shaft Runout		
100.	Test Run Voltage		
	Volts	Volts	Volts
101	Test Run Amperage		
101.		Amps	Amps
	Amps	Amps	Amps
102.	Drive End Vibration Readings - Inches	s Per Second	
	Horizontal	Vertical	Axial
103.	Opposite Drive End Vibration Reading	s - Inches Per Second	
	Horizontal	Vertical	Axial
104	Ambient Temperature - Fahrenheit		
	5. Drive End Bearing Temps - Fahrenheit		
100.	5 Minutes	10 Minutes	15 Minutes
106.	Opposite Drive End Bearing Temps -	Fahrenheit	
	5 Minutes	10 Minutes	15 Minutes
	Document Final Condition with Picture	es after paint	
108.	Final Pics and QC Review		

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