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: 103659
FormID: 22029101

AC Inspection - Rev. 2

Location:	LR MOTOR SHOP
Serial Number:	G 001 ZX
Description:	75HP EXP RELIANCE

Hi-Speed Job Number:	103659
Manufacturer:	Reliance
Spec/ID #:	01MAN3
Serial Number:	G 001 ZX
HP/kW:	75 (HP)
RPM:	1780 (RPM)
Frame:	445T
Voltage:	460
Current:	84 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	6
J-box Included:	Complete
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **1 - High** **11 - Good**

Overall Condition

1.	Report Date	**10/28/2024**

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.	Report Date [COPY]	**10/28/2024**
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?	**(No) No**
●	9.	Assembled Shaft Runout	**0.0004 Inches**
	10.	Assembled Shaft End Play	**inches**
	11.	Air Gap Variation <10%	

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

13.	Lead Length	**14 Inches**	
14.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**	P94

3/8

15.	Lead Numbers	**1-6**	
16.	Frame Condition	**pass**	
17.	Fan Condition	**(P) Pass**	P116

18.	Broken or Missing Components		

Initial Electrical Inspection

19.	Insulation Resistance/Megger	**Megohms**	

Pass

20.	Winding Resistance			
	1-2	1-3	2-3	

Na

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

22.	Number of Stator Slots	**72**	
23.	Stator Condition	**wash and bake**	P85

24.	Stator Thermistors/Ohms	**na**	
25.	Stator Overloads/Ohms	**yes**	

Mechanical Inspection

26.	Drive End Bearing Brand	**FAG**	P12

27.	Drive End Bearing Number-	**6318ZZ**	
28.	Drive End Bearing Qty.	**1**	
29.	Drive End Bearing Type	**(Ball) Ball Bearing**	
30.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
31.	Drive End Bearing Insulation or Grounding Device?	**na**	
32.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**na**	
33.	Drive End Bearing Condition	**axial load**	P83

34.	Opposite Drive End Bearing Brand	**FAG**	P93

35.	Opposite Drive End Bearing Number-	**6318ZZ**	
36.	Opposite Drive End Bearing Qty.	**1**	
37.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
38.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
39.	Opposite Drive End Bearing Insulation or Grounding Device?	**na**	
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Wavy washer**	
41.	Opposite Drive End Bearing Condition	**axial load**	P119

42.	Drive End Seal	**pass**	
43.	Opposite Drive End Seal	**pass**	

Rotor Inspection

44.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
45.	Growler Test	**(Pass) Pass**	
46.	Number of Rotor Bars	**58**	
47.	Rotor Condition	**pass**	P41

48. List the Parts needed for the Repair Below

2-6318 bearings

49. Signature of Technician that Disassembled Motor **RW**

Mechanical Fits- Rotor

50.	Shaft Runout	**0.0004 inches**	
51.	Rotor Runout		

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

52. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees

53. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees

54. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
3.5436	**3.5436**	**3.5436**

55. Drive End Bearing Shaft Fit Condition **(P) Pass** P81

56. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
3.5434	**3.5434**	**3.5434**

57. Opposite Drive End Bearing Shaft Fit Condition **(P) Pass** P96

58. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
pass	

Mechanical Fits- Bearing Housings

59. Drive End - Endbell Bearing Fit P2

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

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

61. Opposite Drive End - Endbell Bearing Fit P30

0 Degrees	60 Degrees	120 Degrees
7.4825	**7.4828**	**7.4817**

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

Resleeve

63. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
pass	

64. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
pass	

65. List Machine Work Needed Below

Ode end bell bearing fit

66. Technician **RW**

Co sign TH

Root Cause of Failure

67. Failure locations

Bearings and grease contamination. Bearings were over greased.

68. Root cause of failure

Axial load on bearings

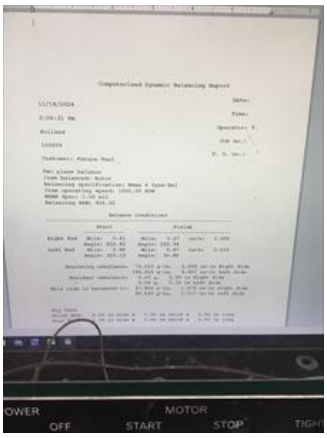
Dynamic Balance Report

69. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

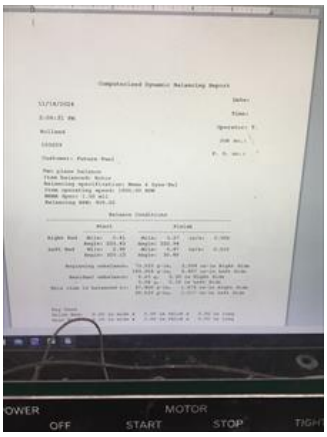
70. Initial Balance Readings P11

Drive End	Opposite Drive End



71. Final Balance Readings P27

Drive End	Opposite Drive End



72. Technician **Terrence Holland**

Mechanical Fits- Bearing Housings - Post Repair

73. Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

74. Opposite Drive End - Endbell Bearing Fit Post Repair P19

0 Degrees	60 Degrees	120 Degrees
7.4812	**7.4812**	**7.4811**

75. Bearing Cap Condition Post Repair

Drive End Bearing Cap	Opposite Drive End Bearing Cap

76. End Bell Air Seal Fits Post Repair

Drive End Air Seal	Opposite Drive End Air Seal

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

Assembly

78. QC Check All Parts for Cleanliness Prior to Assembly **Terrence Holland**

79. Photograph All Major Components prior to assembly P17

80.	Final Insulation Resistance Test	**Megohms**	P31

81.	Assembled Shaft Endplay		**0 inches**
82.	Assembled Shaft Runout		**0.001 inches**
83.	Test Run Voltage		P56

Volts	Volts	Volts

84.	Test Run Amperage	P65

Amps	Amps	Amps

85. Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial
0.02	**0.03**	**0.02**

86. Opposite Drive End Vibration Readings - Inches Per Second

Horizontal	Vertical	Axial
0.04	**0.03**	**0.07000000000000001**

87. Ambient Temperature - Fahrenheit

88. Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

89. Opposite Drive End Bearing Temps - Fahrenheit

5 Minutes	10 Minutes	15 Minutes

90. Document Final Condition with Pictures after paint P130

91. Final Pics and QC Review **Terrence Holland**

Co witness: CW