



KEEPING YOUR FACILITY UP TO SPEED
— EVERY DAY SINCE 1946 —

Motor Shop Repairs

Job Number 99737

Prepared for FUTURE FUEL CHEMICAL

2800 GAP RD HWY 394 SO
BATESVILLE AR 72501

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AC Recondition As Found - *Shop*

AC Recondition - Rev. 2: *GF41*

1.0

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Printed on 6/9/2022

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AC Recondition As Found

FUTURE FUEL CHEMICAL

2800 GAP RD HWY 394 SO
BATESVILLE, AR 72501

FolderID: 99737
FormID: 13465138

AC Recondition - Rev. 2

Location: Shop

Serial Number: GF41

Description: 15/7.5HP Louis Allis 1800/900RPM
286TDZ

Hi-Speed Job Number: 99737

Manufacturer: Allis Chalmers

Product Number: GF41

Serial Number: GF41

HP/kW: 15 (HP)

RPM: 1800 (RPM)

Frame: 286TDZ

Voltage: 460

Phase: Three

Hz: 60 (Hz)

Enclosure: XP

J-box Included: Complete

Coupling/Sheave: None

Date Received: 05/02/2022

Repair Stage: Final

Shaft Machined Fit Repairs
Required: No

Bearing Housing Machined
Fit Repairs Required: Yes

Winding Type : Random Wound

Bearing Type: Rolling Element

Priorities Found: 6 - High

1 - Medium

5 - Good

Overall Condition

1. Report Date

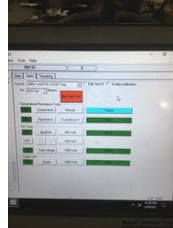
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2. Nameplate Picture



3. Describe the Overall Condition of the Equipment as Received

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Dirty

Initial Mechanical/Electrical

4. Does Shaft Turn Freely? (Yes) Yes
5. Does Shaft Have Visible Damage? (Yes) Yes

Turn shaft to clean up and sleeve end bell and bearing cap to fit.



Before



After
Shaft at Bearing cap- 2.490
Shaft at endbell- 2.046



Bearing cap I.D.- 2.520



Endbell I.D.- 2.066

6. Assembled Shaft Runout 0.001 Inches

7. Assembled Shaft End Play

8. Air Gap Variation <10%

9. Lead Condition

10. Lead Length

11. Stator Temperature Detector Rating and Function

Quantity

Rating

Quantity Passed

NA

12. Bearing Temperature Detector Rating and Function

Quantity

Rating

Quantity Passed

NA

13. Frame Condition

pass

14. Fan Condition (F) Fail

Fan is cracked



15. Heater Quantity, Ratings

Quantity

Volts/Watts

Pass/Fail

NA

16. Broken or Missing Components

NA

Initial Electrical Inspection

17. Insulation Resistance/Megger

Megohms

18. Winding Resistance

1-2

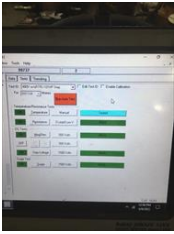
1-3

2-3

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19. Perform Surge Test

(P) Pass



20. Stator Condition

pass

Mechanical Inspection

21. Drive End Bearing Number-

6311C3

22. Drive End Bearing Qty.

1

23. Drive End Bearing Type

(Ball) Ball Bearing

24. Drive End Lubrication Type

(Grease) Grease Lubricated

25. Drive End Bearing Insulation or Grounding Device?

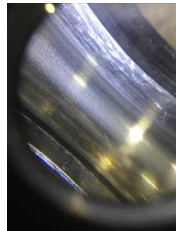
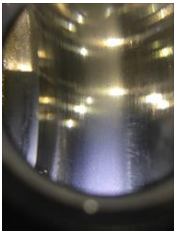
na

26. Drive End Wavy Washer/Snap-Ring Other Retention Device?

na

27. Drive End Bearing Condition

evidence of contamination



28. Opposite Drive End Bearing Number-

6211-2Z-C3

29. Opposite Drive End Bearing Qty.

1

30. Opposite Drive End Bearing Type

(Ball) Ball Bearing

31. Opposite Drive End Lubrication Type

(Grease) Grease Lubricated

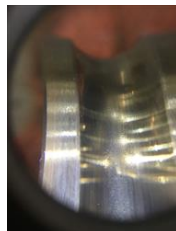
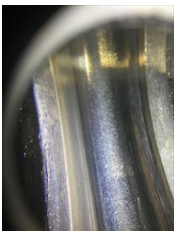
32. Opposite Drive End Bearing Insulation or Grounding Device?

na

33. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?

yes but needs replaced

34. Opposite Drive End Bearing Condition



35. Drive End Seal

na

36. Opposite Drive End Seal

na

Rotor Inspection

37. Rotor Type/Material

(Squirrel Aluminum) Squirrel
Cage Aluminum Die Cast

38. Growler Test

(Pass) Pass

39. Number of Rotor Bars

48

40. Rotor Condition

pass

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41. List the Parts needed for the Repair Below

Bearings and machine work on both end bells

42. Signature of Technician that Disassembled Motor

Cw



Mechanical Fits- Rotor

43. Shaft Runout

44. Rotor Runout

Drive End Bearing Fit

Rotor Body

Opposite Drive End Bearing

45. Coupling Fit Closest to Bearing Housing

0 Degrees

90 Degrees

120 Degrees

46. Coupling Fit Closest to the end of the Shaft

0 Degrees

60 Degrees

120 Degrees

47. Drive End Bearing Shaft Fit

0 Degrees

60 Degrees

120 Degrees

 Pass

 48. Drive End Bearing Shaft Fit Condition

(P) Pass


49. Opposite Drive End Bearing Shaft Fit

0 Degrees

60 Degrees

120 Degrees

 Pass

 50. Opposite Drive End Bearing Shaft Fit Condition


(P) Pass

51. Shaft Air Seal Fits

Drive End Air Seal

Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

 52. Drive End - Endbell Bearing Fit

0 Degrees

60 Degrees

120 Degrees

 Pitted



 53. Drive End - Endbell Bearing Fit Condition

(F) Fail

54. Opposite Drive End - Endbell Bearing Fit		
0 Degrees	60 Degrees	120 Degrees
<div>  Worn lip </div> 		
55. Opposite Drive End - Endbell Bearing Fit Condition	(F) Fail	
56. Bearing Cap Condition		
Drive End Bearing Cap	Opposite Drive End Bearing Cap	
<div>  Pass </div>		
57. End Bell Air Seal Fits		
Drive End Air Seal	Opposite Drive End Air Seal	
58. List Machine Work Needed Below		
<i>Both end bell bearing fits</i>		
59. Technician		
Dynamic Balance Report		
60. Rotor Weight and Balance Grade		
Rotor Weight	Balance Grade	
61. Initial Balance Readings		
Drive End	Opposite Drive End	
62. Final Balance Readings		
Drive End	Opposite Drive End	
63. Technician		
Rewind		
64. Core Test Results - Watts loss per Pound		
Pre-Burnout	Post Burnout	
65. Core Hot Spot Test		
Pre-Burnout	Post-Burnout	
66. Post Rewind Electrical Test- Insulation Resistance		
67. Post Rewind Polarization Index		
68. Post Rewind Winding Resistance		
1-2	1-3	2-3
69. Post Rewind Surge Test		
70. Post Rewind Hi-Pot		
71. Technician		

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Root Cause of Failure

72. Failure locations

73. Root cause of failure

Contaminated grease caused both bearings to start the process of a major failure and the water of bearing fits on the end bells

Mechanical Fits- Bearing Housings - Post Repair

74. Drive End - Endbell Bearing Fit Post Repair

0 Degrees

60 Degrees

120 Degrees

4.725

4.7251

4.7251



75. Opposite Drive End - Endbell Bearing Fit Post Repair

0 Degrees

60 Degrees

120 Degrees

3.9375

3.9375

3.9375



76. Bearing Cap Condition Post Repair

Drive End Bearing Cap

Opposite Drive End Bearing Cap

77. End Bell Air Seal Fits Post Repair

Drive End Air Seal

Opposite Drive End Air Seal

78. End Bell Repair Sign-off

Assembly





79. Photograph All Major Components prior to assembly



80. Final Insulation Resistance Test

81. Assembled Shaft Endplay

82. Assembled Shaft Runout

83. Test Run Voltage		
Volts	Volts	Volts
84. Test Run Amperage		
Amps	Amps	Amps
85. Drive End Vibration Readings - Inches Per Second		
Horizontal	Vertical	Axial
86. Opposite Drive End Vibration Readings - Inches Per Second		
Horizontal	Vertical	Axial
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. Final Test Run Sign-off		
91. Document Final Condition with Pictures after paint		
92. Final Pics and QC Review		
<div>     </div> <div> <i>High speed</i> <i>Low speed</i> </div>		



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1. **APPLICABILITY.** The sale of any and all goods and/or services by Mock, Inc. d/b/a Hi-Speed Industrial Service ("Hi-Speed") shall be specifically conditioned upon and subject to the following terms and conditions which are incorporated by reference into any contracts and purchase orders with Hi-Speed, and which shall form and become a part of any agreement related thereto. Buyer's acceptance of any offer or quotation made by Hi-Speed for sale of any goods or services is expressly made subject to the terms and conditions set forth herein and to be so effective, Buyer need not sign or approve these Terms and Conditions to be bound hereunder provided a copy of same is provided to Buyer through any means. None of the terms and conditions contained herein may be added to, expanded, changed, modified, superseded or otherwise altered except as revised in writing and duly executed by Hi-Speed, and all orders received by Hi-Speed shall be governed only by the terms and conditions contained herein, notwithstanding any terms, conditions or provisions of any purchase order, release order, authorization or any other form issued by the Buyer. Hi-Speed hereby objects to any additional, modified, changed, deleted, altered or other terms and conditions not contained herein and notifies Buyer that any such terms or provisions are expressly rejected by Hi-Speed.
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