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— EVERY DAY SINCE 1946 —

Motor Shop Repairs

**Job Number 97548**

Prepared for FUTURE FUEL CHEMICAL

2800 GAP RD HWY 394 SO  
BATESVILLE AR 72501

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AC Recondition Repair Report

1.0

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Millington, Tn 38053  
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## AC Recondition Repair Report

FolderID: 97548  
FormID: 9291706

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

Priorities Found: 1 - High 7 - Good

General	
1. Job Number	97548
2. Report Date	
3. Customer	FUTURE FUEL
Name Plate Information	
4. Manufacturer	P5
5. Model	
6. Serial Number	
7. Horsepower	
10/5HP	
8. KW	
9. Volts	460
10. Amps	
125/98	
11. RPM	
1745/870	
12. Frame	256TDZ
13. Enclosure	EXP
14. Cycles	60 HZ
15. Phase	3 PH
16. Service Factor	
17. Motor Mount Position	
Initial Inspection	
18. Number of Leads	8
19. Lead Length	8 Inches
20. Lead Size	10
21. Lead Condition	(P) Pass
22. Lead Markings	metal TVs
23. Lug Size, Condition, and Type	
3/16 eyelet good	
24. Winding RTD's	
25. Winding Rtd's Condition	
26. Shaft Run Out	
27. Does Shaft Turn Freely	
28. Does Shaft Have Visible Damage	
29. Bearing Rtd's	

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30. Bearing Rtd's Condition	
31. Contamination	
<i>Fuel oil</i>	
32. Frame Condition	
33. Fan Condition	
34. Broken or missing components	
<b>Initial Electric Test</b>	
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	
42. Stator Condition	
43. Failure Location	
<b>Initial Rotor Inspection</b>	
44. Rotor Type	
45. Air Gap <10% Variation	
46. Number of Rotor Bars	
47. Number of Broken Rotor Bars	
48. Growler Test	
49. Rotor Condition	
<b>Mechanical Inspection</b>	
50. Bearing Manufacture	Marc P1
51. Bearing DE Size	6309 2z
52. Bearing DE Type	Deep groove ball
53. DE Bearing Qty.	1
54. Bearing ODE Size	6209 2z
55. Bearing ODE Type	deep groove ball
56. ODE Bearing Qty.	1
57. Insulated Bearing	
58. Lubrication Type	polyrex em
59. Grease Condition	(F) Fail
 Contaminated	
60. Bearing Retainers	
61. Shaft Grounding Device	
62. DE Seal	
63. DE Seal Type/Size	
64. ODE Seal	
65. ODE Seal Type/Size	
<b>Root Cause of Failure</b>	
66. Component Failure	DE Seal failure
67. Cause of Failure	
68. Comments	
<i>Rewind</i>	



### Machine Fit Inspection Report

70. Shaft Run Out	
71. Initial Shaft Run Out	0.0005 "
72. Final Shaft Run Out	
73. DE Bearing Shaft Fit	(P) Pass
74. DE Initial Shaft Bearing Fit Size 1	1.7722 "
75. DE Initial Shaft Bearing Fit Size 2	1.7722 "
76. DE Initial Shaft Bearing Fit Size 3	1.772 "
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	1.7721 "
82. ODE Initial Shaft Bearing Fit Size 2	1.772 "
83. ODE Initial Shaft Bearing Fit Size 3	1.772 "
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	(P) Pass
94. DE Initial Endbell Fit Size 1	3.9371 "
95. DE Initial Endbell Fit Size 2	3.9372 "
96. DE Initial Endbell Fit Size 3	3.9372 "
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	
101. DE Endbell Air Seal Fit	
102. Initial Endbell Air Seal Fit Size	
103. Finial Endbell Air Seal Fit Size	
104. ODE Endbell Fit	(P) Pass
105. ODE Initial Endbell Fit Size 1	3.3467 "
106. ODE Initial Endbell Fit Size 2	3.3466 "
107. ODE Initial Endbell Fit Size 3	3.3465 "
108. ODE Final Endbell Fit Size 1	
109. ODE Final Endbell Fit Size 2	
110. ODE Final Endbell Fit Size 3	

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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	(P) Pass
118. Service Technician	David Maclin
	

### 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

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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



P1.1



P5.2



P5.3



P5.4



P5.5



P5.6



P5.7



P5.8



P5.9: Fan Broken



P5.10

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4. **BILLING AND PAYMENT TERMS.** Hi-Speed shall invoice Buyer for all goods and/or services as same are rendered at the address listed on the quotation. Payments for all goods and/or services shall be due thirty (30) days from the date of the current invoice or as otherwise set forth in the quotation. Late payments are subject to a late fee of 5% of the total invoice amount. Recurring late payments may lead to a deposit requirement on future services or sale of goods. Buyer shall be liable to Hi-Speed for any and all fees and expenses incurred by Hi-Speed to collect any invoices or to enforce these Standard Terms and Conditions, including but not limited to, attorney's fees.
5. **DELIVERY OF GOODS AND/OR SERVICES.** Unless otherwise identified in the quotation, all shipments are F.O.B. Hi-Speed's warehouse and the title to and all risk of loss with respect to any goods shipped shall pass to Buyer when such goods are delivered to the carrier at Hi-Speed's warehouse. Hi-Speed will use its best efforts to affect delivery by the date or dates specified in the quotation. However, Hi-Speed shall not be liable for delay in or failure to make shipment, or to perform services, by any identified date for any reason whatsoever, including but not limited to, causes beyond its reasonable control, such as strikes, fires, floods, epidemics, quarantines, restrictions, severe weather, embargos, acts of God, or public enemy, war, riot, delays in transportation or the inability to obtain necessary labor, materials or manufacturing facilities.
6. **DELIVERY SITE AND TIME FOR PERFORMANCE.** Hi-Speed and Buyer agree that time is of the essence for the purchase order and that Buyer shall fully cooperate with Hi-Speed in order to allow Hi-Speed full access to prosecute its work diligently and in an orderly manner. Buyer shall assist Hi-Speed in every way possible to avoid delaying, disrupting or interfering with the progress of Hi-Speed's work at the project site. In the event Hi-Speed's work is delayed, hindered, suspended, disrupted, re-sequenced or interfered with or rendered less efficient or more costly or adversely affected in any way as a result of acts or omissions of Buyer or other contractors or employees of Buyer or by any other reason beyond Hi-Speed's control and without the fault of Hi-Speed, then, in such event, Buyer shall be liable to Hi-Speed for any damages, additional costs, expenses, labor, materials, man hours, acceleration costs, overtime, additional jobsite overhead, extended home office overhead, and any and all other direct and indirect expenses of whatsoever nature or kind, caused in whole or in part, as a result of any of the above-referenced occurrences. Hi-Speed's project records will be the basis for computing the additional costs and damages of Hi-Speed's labor, materials, expenses and overhead related to such changes. BUYER WARRANTS THAT THE SITE FOR DELIVERY OR INSTALLATION OF ANY GOODS AND/OR FOR THE PERFORMANCE OF ANY SERVICES SHALL BE READY AND ADEQUATE FOR HI-SPEED'S DELIVERY OF GOODS AND/OR PERFORMANCE OF SERVICES AND THAT HI-SPEED SHALL HAVE FULL ACCESS THERETO, FREE OF ALL OBSTRUCTIONS. BUYER SHALL ASSUME ALL EXTRA COSTS ASSOCIATED WITH HI-SPEED'S INABILITY TO INSTALL ANY GOODS OR PERFORM ANY SERVICES AS A RESULT OF BUYER'S FAILURE TO COMPLY WITH THIS PROVISION. HI-SPEED MAY NOT INSPECT THE SITE PRIOR TO DELIVERY AND/OR INSTALLATION OF GOODS AND/OR PERFORMANCE OF SERVICES AND MAKES NO WARRANTY AS TO THE SUFFICIENCY OF THE SITE FOR THE DELIVERY AND/OR INSTALLATION OF GOODS AND/OR THE PERFORMANCE OF SERVICES AT SUCH SITE.
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8. **WARRANTIES.** Hi-Speed warrants that all goods shall conform in all material aspects to the goods identified in the quotation to Buyer and/or purchase order, and Hi-Speed makes to Buyer the manufacturer's express warranty for any goods sold to Buyer, which is offered by the manufacturer at the time of acceptance of any quotation by Buyer. This warranty is conditioned upon the installation, operation, and maintenance of the goods in accordance with the manufacturer's recommendations and/or standard industry practice and the goods at all times being operated or used under normal operating conditions for which they were designed. Hi-Speed, at its sole option, will repair or



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10. **SEVERABILITY.** The partial or complete invalidity of any provision of these Standard Terms and Conditions shall not affect the enforceability of the remainder of these Standard Terms and Conditions. If any provision is found to be invalid or unenforceable, that portion shall be modified to make it enforceable or shall be stricken and the remainder of these Standard Terms and Conditions shall enforced.
11. **GOVERNING LAW AND JURISDICTION.** Any controversy arising out of any quotation, the purchase order, the goods sold or delivered, repair or replacement thereof, or any services provided pursuant to any quotation or any purchase order, or these Standard Terms and Conditions shall be governed by the laws of the state of Tennessee without regard to any choice of law provisions and any cause of action related in any manner thereto shall be brought only in the state or federal courts of Shelby County, Tennessee.
12. **ABANDONED EQUIPMENT.** Hi-Speed requires that Buyer promptly pick up or provide shipment instructions for Buyer equipment or other Buyer property in Hi-Speed's possession. If equipment or other Buyer property is left with Hi-Speed and not picked up within six (6) months after Hi-Speed's final action related to the applicable property (e.g. evaluation, teardown, estimate, completion of services), Hi-Speed will consider such property abandoned and may dispose of it in accordance with applicable law. Buyer agrees to hold Hi-Speed harmless for any damage or claim for such abandoned property and acknowledges that Hi-Speed may discard or recycle it at Hi-Speed's sole and absolute discretion. Specifically, Hi-Speed may sell Buyer's abandoned property at a private or public sale and retain the proceeds to offset Hi-Speed's storage, inspection and servicing costs. For the avoidance of doubt, Hi-Speed reserves its statutory and other lawful liens for unpaid charges related to abandoned property.
13. **FORCE MAJEURE.** Neither party shall be responsible for any delay or failure in performance of any party of the quotation, purchase order or these Standard Terms and Conditions to the extent that such delays or failures are caused by fire, flood, earthquake, explosion, war, embargo, government requirement, civil or military authority, acts of God, or any other circumstances beyond its reasonable control and not involving any fault or negligence on the party affected ("Condition"). If any such Condition occurs, the party delayed or unable to perform shall promptly give written notice to the other party and, if such Condition remains at the end of thirty (30) days, the party affected by the other party's delay and inability to perform may elect to (i) terminate such order or part thereof, or (ii) suspend the order for the duration of the Condition, if the Buyer is the suspending party, buy elsewhere comparable material to be sold under the order and apply to any commitment the purchase price of such purchase, and resume performance of the order once the Condition ceases, with an option in the affected party to extend the period of this order up to the length of the time the Condition endures.
14. **NONWAIVER.** No course of dealing or failure of either party to strictly enforce any term, right, or condition of these Standard Terms and Conditions will be construed as a waiver of such term, right or condition. Any waiver by Hi-Speed will only be in writing and will waive no succeeding breach of a term, right or condition.
15. **ASSIGNMENT.** The rights and obligations of the parties shall neither be assigned nor delegated without the prior written consent of the other party. However, any party may assign or delegate its respective rights and obligations, in whole or in part, (i) to any subsidiary, (ii) pursuant to other financing, merger or reorganization or (iii) pursuant to any sale or transfer of substantially all of the assets of the assigning party. These Standard Terms and Conditions shall bind the heirs, successors and assigns of the parties hereto.
16. **NO INDIVIDUAL LIABILITY.** Notwithstanding any other agreement to the contrary, the Buyer agrees that in no event will the Buyer hold and Hi-Speed owner, director, officer or employee personally liable for unintentional tortious conduct or conduct that constitutes the breach of any contract between Hi-Speed and the Buyer, even if the Hi-Speed owner, director, officer or employee is or could be construed to be a party to such contract.