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— EVERY DAY SINCE 1946 —

LR Motor Shop Repairs

**Job Number 101088**

Prepared for MOUNTAIN VIEW WASTE WATER

571 RUDDLES RD  
MOUNTAIN VIEW AR 72560

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Submersible Pump Repair Report - *MOTOR SHOP*  
*LR*

Submersible Pump Repair Report: *G32738*

**1.0**

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Hi-Speed Industrial Service  
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## Submersible Pump Repair Report

**MOUNTAIN VIEW WASTE WATER**  
571 RUDDLES RD  
MOUNTAIN VIEW, AR 72560

FolderID: 101088  
FormID: 16229452

### Submersible Pump Repair Report

**Location:** MOTOR SHOP LR

**Serial Number:** G32738

**Description:** 5HP HYDROMATIC 1800RPM SUB PUMP

**Make:** HYDROMATIC

**HP:** 5 (HP)

**Model:** HPGF500M2-4

**Serial:** G32738

**V:** 230 (V)

**A:** 29.5 (A)

**RPM:** 1800 (RPM)

**Hz:** 60 (Hz)

**Phase:** 1

**Impeller Diameter:** 9.8 (in)

Priorities Found: ● 1 - High ● 13 - Good

### General

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2. Report Date

3. Customer

**Initial Pump Inspection**

4. Power Cord Wire Size

**8 AWG**

5. Power Cord # of Conductors

**4**

6. Power Cord Length

7. Power Cord Condition

8. Sensor Cord Wire Size

**16 AWG**

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9. Sensor Cord # of Conductors	4
10. Sensor Cord Length	
11. Sensor Cord Condition	
12. Sensor Cord for Thermal Protection?	
13. Sensor Cord for Water Protection	
● 14. Bowl Condition	(P) Pass
<div> <div></div> <div>Full of rust</div> </div>	



● 15. Impeller Condition	(P) Pass
--------------------------	----------



16. Number of Wear Rings	
17. Wear Ring Condition	
18. Wear Ring Size	
19. Wear Ring Clearance to Impeller	
20. Wear Ring Material	
● 21. Seal Surfaces Condition	(P) Pass



22. Seal Type

**Mechanical**

23. Number of Seals

**2**



24. Seal Material on Rotary Face

**carbon**

25. Seal Material on Stationary Seat

**ceramic**

26. Elastic Component Material

**Buna**

27. Seal OD

28. Seal ID

29. Seal Sleeve Material

30. Seal Plate Condition

**(N) NA**

☒ 31. Water Sensor in Seal Cavity?

**(Y) Yes**

☒ 32. Oil Filled Seal Cavity?

**(Y) Yes**

☒ 33. Oil Filled Stator?

**(Y) Yes**

### Initial Inspection

34. Number of Leads

35. Lead Length

36. Lead Size

37. Lead Condition

38. Lead Markings

39. Lead Size for Oil Filled Stator

40. Lug Size, Condition, and Type

☒ 41. Overload Required?

**(Y) Yes**

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42. Winding RTD's	
43. Winding Rtd's Condition	
44. Shaft Run Out	
45. Does Shaft Turn Freely	yes
46. Does Shaft Have Visible Damage	
47. Bearing Rtd's	(NA) Not Applicable
48. Bearing Rtd's Condition	(NA) Not Applicable
49. Contamination <i>Water in seal housing's</i>	
50. Frame Condition	(P) Pass
51. Fan Condition	(NA) Not Applicable
52. Broken or missing components	
<b>Initial Electric Test</b>	
53. Resistance to Ground	44013 Mohm
54. Winding Resistance 1-2	
55. Winding Resistance 2-3	
56. Winding Resistance 1-3	
57. Resistive Imbalance	
58. Hi-Pot	
59. Surge Test	
60. Stator Condition	wash and bake
61. Failure Location	
<b>Initial Rotor Inspection</b>	
62. Rotor Type	



63. Air Gap <10% Variation	
64. Number of Rotor Bars	
65. Number of Broken Rotor Bars	
66. Growler Test	(P) Pass
67. Rotor Condition	(P) Pass
<b>Mechanical Inspection</b>	
68. Bearing Manufacturer	SKF

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70. Bearing DE Type	ball bearing
71. DE Bearing Qty.	1
72. Bearing ODE Size	6303



73. Bearing ODE Type	ball bearing
74. ODE Bearing Qty.	1
75. Insulated Bearing	na
76. Lubrication Type	oil
77. Grease Condition	(NA) Not Applicable
78. Bearing Retainers	(NA) Not Applicable
79. Shaft Grounding Device	(NA) Not Applicable
80. DE Seal	(Y) Yes
81. DE Seal Type/Size	mechanical x2
Length 2.295 Shaft 1.25 Seat 1.875 inside seat 1.283 seat thickness .439	
82. ODE Seal	
83. ODE Seal Type/Size	
<b>Root Cause of Failure</b>	
84. Component Failure	bottom seal
85. Cause of Failure	Let water in seal housing water sensor shut down pump .pump cutter was packed with crude and rust
86. Comments	



**Machine Fit Inspection Report**

88. Shaft Run Out

89. Initial Shaft Run Out

90. Final Shaft Run Out

91. DE Bearing Shaft Fit

92. DE Initial Shaft Bearing Fit Size

Measure 1

Measure 2

Measure 3

93. DE Final Shaft Bearing Fit Size

Measure 1

Measure 2

Measure 3

94. ODE Bearing Shaft Fit

95. ODE Initial Shaft Bearing Fit Size

Measure 1

Measure 2

Measure 3

96. ODE Final Shaft Bearing Fit Size

Measure 1

Measure 2

Measure 3

97. DE Air Seal Shaft Fit

98. DE Air Seal Shaft Size

Initial

Final

99. ODE Air Seal Shaft Fit

100. ODE Air Seal Shaft Size

Initial

Final

101. DE Endbell Fit

102. DE Initial Endbell Fit Size

Measure 1

Measure 2

Measure 3

103. DE Final Endbell Fit Size

Measure 1

Measure 2

Measure 3

104. DE Endbell Fit Insulated

105. DE Endbell Air Seal Fit

106. DE Endbell Air Seal Fit Size

Initial

Final

107. ODE Endbell Fit

108. ODE Initial Endbell Fit Size

Measure 1

Measure 2

Measure 3

109. ODE Final Endbell Fit Size			
Measure 1	Measure 2	Measure 3	
110. ODE Endbell Fit Insulated			
111. ODE Endbell Air Seal Fit			
112. ODE Endbell Air Seal Fit Size			
Initial	Final		
113. Foot Flatness			
114. Foot Condition			
115. Flange Condition			
116. Service Technician			
<b>Balancing Report</b>			
117. Balance Type			
118. Balance Operating Speed			
119. Start Left End			
120. Start Right End			
121. Balancing Specification			
122. Finish Left End			
123. Finish Right End			
124. Service Technician			
<b>Assembly and Final Test</b>			
125. Rotor and Impeller Balanced			
126. Stator Housing Refilled with Oil (if required)			
127. Stator Pressure Test			
128. Seal Cavity Pressure Test			
129. Time Under Pressure			
130. Overload Continuity			
131. Water Sensor Open?			
132. Meggar Testing Reading			
133. Surge Test			
134. Hi-Pot			
135. Winding Resistance			
1-2	2-3	3-1	
136. Test Run			

137. Test Run Voltage		
Phase A	Phase B	Phase C
215	218	



138. Test Run Current		
Phase A	Phase B	Phase C
139. DE Vibration Reading		
Horizontal	Vertical	Axial
140. ODE Vibration Reading		
Horizontal	Vertical	Axial
141. Ambient Temp at start of Test Run		
142. Temp at 5 minutes		
143. Temp at 10 minutes		
144. Temp at 15 minutes		
145. Temp at 20 minutes		
146. Temp at 25 minutes		
147. Temp at 30 minutes		
148. Temp at 35 minutes		
149. Temp at 40 minutes		
150. Temp at 45 minutes		
151. Temp at 50 minutes		
152. Temp at 55 minutes		
153. Temp at 60 minutes		
154. Motor Paint		

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155. Service Technician

RW

RW



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2. **PRICE.** All quoted prices shall remain firm and binding for a period of thirty (30) days from the date of quotation or for the period specifically stated in the quotation. The price for any and all goods and/or services ordered or approved by Buyer after thirty (30) days from the date of any quotation are subject to any increase in price that may occur after the expiration of thirty (30) days from the issuance of the quotation and the date the Buyer releases any shipment.
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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.
7. **INSPECTION/ACCEPTANCE.** All goods and services ordered pursuant to any quotation shall be subject to inspection by Buyer after delivery or performance to determine conformity with the quotation and/or purchase order and Hi-Speed's advertised or published specifications. Buyer shall have a period of thirty (30) days from shipment of goods at the delivery destination specified in the quotation within which to inspect the goods for conformity with the quotation, order and/or Hi-Speed's advertised and published specifications and to provide Hi-Speed with written notice of any discrepancy or rejection. Buyer shall have a period of thirty (30) days following completion of any services within which to inspect the services for conformity with the quotation, purchase order and/or Hi-Speed's advertised and published specifications and to provide Hi-Speed with written notice of any discrepancy or rejection. If the goods delivered or services performed do not so conform, upon delivery of notice to Hi-Speed of any discrepancy, nonconformance or rejection, Hi-Speed shall have sixty (60) days to cure the alleged discrepancy and/or nonconformance. If Hi-Speed fails to cure in this time period, Buyer shall have the right to reject such goods or services. After the cure period, goods that have been delivered and rejected, in whole or in part, shall be returned to Hi-Speed. Buyer shall notify Hi-Speed and arrange for the return of the goods as required. Should such non-conforming services be rejected Hi-Speed shall, at its sole cost, re-perform the non-conforming services. Inspection or failure to inspect on any occasion shall not affect Buyer's rights under the warranty provisions herein.
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.