HI-SPEED INDUSTRIAL SERVICE

KEEPING YOUR FACILITY UP TO SPEED

EVERY DAY SINCE 1946

Motor Shop Repairs

# Job Number 98455

Prepared for Highland Pellets (012194)

5601 Industrial Dr North
Pine Bluff AR  71602

# Table of Contents

Hi-Speed Industrial Service
7030 Ryburn Dr
Millington, Tn 38053
901-873-5300

# AC Recondition Repair Report

FolderID: 98455
FormID: 11139682

**Highland Pellets (012194)**
5601 Industrial Dr North
Pine Bluff, AR 71602

Priorities Found: **12 - Good**

| | | |
|---|---|---|
| **General** | | |
| 1. | Job Number | **98455** |
| 2. | Report Date | **7/16/2021** |
| 3. | Customer | **12194** |
| **Name Plate Information** | | |
| 4. | Manufacturer | **EP.MA MOTOR** |

| | | |
|---|---|---|
| 5. | Model | **HN1521910** |
| 6. | Serial Number | |
| 7. | Horsepower | **1** |
| 8. | KW | |
| 9. | Volts | |
| 10. | Amps | **3.06** |
| 11. | RPM | **1730** |
| 12. | Frame | **N-80M** |
| 13. | Enclosure | **TEFC** |
| 14. | Cycles | |
| 15. | Phase | **3** |
| 16. | Service Factor | **1.15** |
| 17. | Motor Mount Position | |
| **Initial Inspection** | | |
| 18. | Number of Leads | **9** |
| 19. | Lead Length | **9 Inches** |
| 20. | Lead Size | **20** |
| 21. | Lead Condition | **(P) Pass** |
| 22. | Lead Markings | **1-9** |
| 23. | Lug Size, Condition, and Type | |
| 24. | Winding RTD's | **(NA) Not Applicable** |
| 25. | Winding Rtd's Condition | **(NA) Not Applicable** |

| | | |
|---|---|---|
| | 26. Shaft Run Out | |
| | 27. Does Shaft Turn Freely | **yes** |
| | 28. Does Shaft Have Visible Damage | **no** |
| | 29. Bearing Rtd's | **(NA) Not Applicable** |
| ● | 30. Bearing Rtd's Condition | **(NA) Not Applicable** |
| | 31. Contamination | |
| ● | 32. Frame Condition | **(P) Pass** |
| ● | 33. Fan Condition | **(P) Pass** |

| | | |
|---|---|---|
| | 34. Broken or missing components | |

## Initial Electric Test

| | | |
|---|---|---|
| | 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 | **(NA) Not Applicable** |
| | 42. Stator Condition | **rewind** |

| | | |
|---|---|---|
| | 43. Failure Location | |

## Initial Rotor Inspection

| | | |
|---|---|---|
| 44. | Rotor Type | **cast aluminum** |

| | | |
|---|---|---|
| 45. | Air Gap <10% Variation | |
| 46. | Number of Rotor Bars | |
| 47. | Number of Broken Rotor Bars | |
| 48. | Growler Test | |
| 49. | Rotor Condition | **(P) Pass** |

## Mechanical Inspection

| | | |
|---|---|---|
| 50. | Bearing Manufacture | **NSK** |
| 51. | Bearing DE Size | |
| 52. | Bearing DE Type | |
| 53. | DE Bearing Qty. | |
| 54. | Bearing ODE Size | **6204ZZ** |
| 55. | Bearing ODE Type | **ball bearing** |
| 56. | ODE Bearing Qty. | **1** |
| 57. | Insulated Bearing | **no** |
| 58. | Lubrication Type | **grease** |
| 59. | Grease Condition | **(NA) Not Applicable** |
| 60. | Bearing Retainers | **(NA) Not Applicable** |
| 61. | Shaft Grounding Device | |
| 62. | DE Seal | |
| 63. | DE Seal Type/Size | |
| 64. | ODE Seal | |
| 65. | ODE Seal Type/Size | |

## Root Cause of Failure

| | | |
|---|---|---|
| 66. | Component Failure | |
| 67. | Cause of Failure | |
| 68. | Comments | |
| 69. | Service Technician | |

## Machine Fit Inspection Report

| | | |
|---|---|---|
| 70. | Shaft Run Out | |
| 71. | Initial Shaft Run Out | |
| 72. | Final Shaft Run Out | |
| 73. | DE Bearing Shaft Fit | |
| 74. | DE Initial Shaft Bearing Fit Size 1 | |

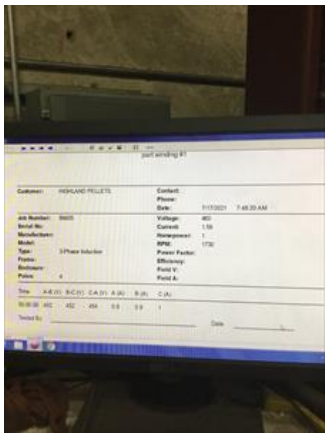
| | | | |
|---|---|---|---|
| | 75. | DE Initial Shaft Bearing Fit Size 2 | |
| | 76. | DE Initial Shaft Bearing Fit Size 3 | |
| | 77. | DE Finial Shaft Bearing Fit Size 1 | |
| | 78. | DE Finial Shaft Bearing Fit Size 2 | |
| | 79. | DE Finial Shaft Bearing Fit Size 3 | |
| ● | 80. | ODE Bearing Shaft Fit | **(P) Pass** |
| | 81. | ODE Initial Shaft Bearing Fit Size 1 | |
| | 82. | ODE Initial Shaft Bearing Fit Size 2 | |
| | 83. | ODE Initial Shaft Bearing Fit Size 3 | |
| | 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 | |
| | 95. | DE Initial Endbell Fit Size 2 | |
| | 96. | DE Initial Endbell Fit Size 3 | |
| | 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 | **(NA) Not Applicable** |
| | 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 | |
| | 106. | ODE Initial Endbell Fit Size 2 | |
| | 107. | ODE Initial Endbell Fit Size 3 | |
| | 108. | ODE Final Endbell Fit Size 1 | |
| | 109. | ODE Final Endbell Fit Size 2 | |
| | 110. | ODE Final Endbell Fit Size 3 | |
| | 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 | |
| | 116. | Foot Condition | |
| | 117. | Flange Condition | |
| | 118. | Service Technician | **RW** |

## 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 | **452 Volts** |

| | |
|---|---|
| 134. Test Run Amps A | **0.9 Amps** |

| | | |
|---|---|---|
| 135. | Test Run Voltage Phase B | **452 Volts** |

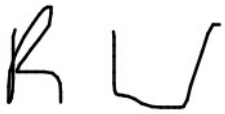

| | | |
|---|---|---|
| 136. | Test Run Amps B | **0.9 Amps** |
| 137. | Test Run Voltage Phase C | **453 Volts** |


| | | |
|---|---|---|
| 138. | Test Run Amps C | **1 Amps** |
| 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 | |
| 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 **(P) Pass**

159. Service Technician **RW**



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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.
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.
3. **SCOPE OF GOODS AND/OR SERVICES.** The goods and/or services provided by Hi-Speed pursuant to any quotation shall be limited exclusively to those goods and/or services expressly identified therein. Hi-Speed does not assume any responsibility and/or liability for the failure to provide any other goods and/or services not identified in any quotation. Modifications, additions or deletions to or from the scope referenced in any quotation shall only bee effective if evidenced in writing and signed by Hi-Speed. The sale of any of all goods and/or services affected by such modification, addition or deletion shall be subject to these same Standard Terms and Conditions whether or not referenced therein.
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.
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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, earth quake, 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.