



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

LR Motor Shop Repairs

**Job Number 102711**

Prepared for ARKANSAS INDUSTRIAL MACHINERY

3804 N. NONA ST  
NORTH LITTLE ROCK AR 72118

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


**AC Inspection as Found**  
**ARKANSAS INDUSTRIAL MACHINERY**  
3804 N. NONA ST  
NORTH LITTLE ROCK, AR 72118

FolderID: 102711  
FormID: 20193256

**AC Inspection - Rev. 2**

**Location:** Shop  
**Serial Number:** 3GV1211067435003  
**Description:** 75KW ABB 3581 RPM

<b>Hi-Speed Job Number:</b>	102711
<b>Manufacturer:</b>	ABB
<b>Product Number:</b>	M: M3AA250SMB-2
<b>Serial Number:</b>	3GV1211067435003
<b>HP/kW:</b>	75 (kW)
<b>RPM:</b>	3581 (RPM)
<b>Frame:</b>	350SMB
<b>Voltage:</b>	460
<b>Phase:</b>	Three
<b>Hz:</b>	60 (Hz)
<b>Service Factor:</b>	1.15
<b>Enclosure:</b>	TEFC
<b># of Leads:</b>	6
<b>J-box Included:</b>	Complete
<b>Coupling/Sheave:</b>	None
<b>Date Received:</b>	03/27/2024
<b>Bearing RTDs:</b>	No
<b>Stator RTDs:</b>	No
<b>Repair Stage:</b>	Teardown Inspection
<b>Rewind:</b>	No
<b>Shaft Machined Fit Repairs Required:</b>	Yes
<b>Bearing Housing Machined Fit Repairs Required:</b>	No
<b>Heaters:</b>	No
<b>Winding Type :</b>	Random Wound
<b>Bearing Type:</b>	Rolling Element

Priorities Found:  **10 - Good**

**Overall Condition**

1. Report Date

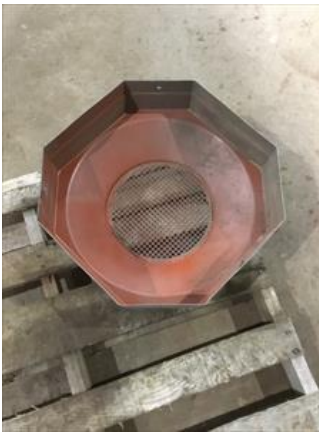
**04/26/2024**

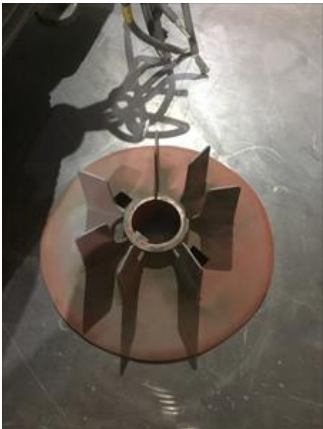
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## 2. Nameplate Picture



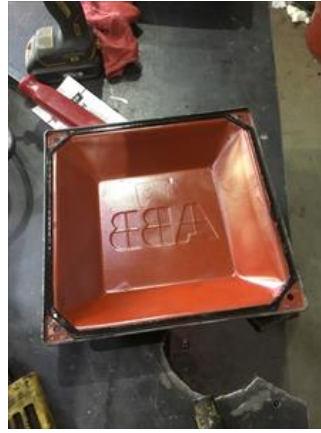
## 3. Photos of all six sides of the machine.





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*Excessive wear where the gear rides*



Water in remaining oil and metal shavings

4.	Describe the Overall Condition of the Equipment as Received	
	<i>Dirty</i>	
<b>Initial Mechanical/Electrical</b>		
5.	Does Shaft Turn Freely?	(Y) Yes
6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	(No) No
7.	Does Shaft Have Visible Damage?	(Yes) Yes
	<i>Excessive wear on gear fit</i>	



8.	Assembled Shaft Runout	Inches
	<i>Unable to get accurate measurements due to wear</i>	
9.	Assembled Shaft End Play	inches
	<i>Na</i>	
10.	Air Gap Variation <10%	
	<i>Na</i>	
11.	Lead Condition	(P) Pass
12.	Lead Length	100 Inches
13.	Does it have Lugs?, If so what is the Stud Size?	(No) No
	<i>Has end clamps</i>	
14.	Lead Numbers	1-6
15.	Frame Condition	pass
16.	Fan Condition	(P) Pass
17.	Broken or Missing Components	na

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## Initial Electrical Inspection

18. Insulation Resistance/Megger	Megohms
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18. Insulation Resistance/Megger	Megohms
----------------------------------	---------

Max Delta R %	0.593	
Coil 1 (Ohms)	0.0453 Corr: 0....	
Coil 2 (Ohms)	0.0452 Corr: 0....	
Coil 3 (Ohms)	0.0457 Corr: 0....	
Megohm Stat....	PASS	No Test
Volts (V)	501	
I(μA)	0.2361	
Resist	2122	
At 40°C	572	
PI Status	No Test	No Test
Volts (V)		
Nameplate	Application	Results Summary

## 19. Winding Resistance

1-2                      1-3                      2-3

1-2                      1-3                      2-3

1-2                      1-3                      2-3

IR Temp Com...	Thermoplastic	None
Resist Status	PASS	No Test
Bal L1 (Ohms)		
Bal L2 (Ohms)		
Bal L3 (Ohms)		
L1-L2 (Ohms)	0.0303 Corr: 0....	
L2-L3 (Ohms)	0.0302 Corr: 0....	
L3-L1 (Ohms)	0.0304 Corr: 0....	
Max Delta R %	0.593	
Coil 1 (Ohms)	0.0453 Corr: 0....	
Coil 2 (Ohms)	0.0452 Corr: 0....	
Coil 3 (Ohms)	0.0457 Corr: 0....	
Minimum Delta R %	0.544	Min. Temp
Nameplate	Application	Results Summary

20. Perform Surge Test (P) Pass

20. Perform Surge Test (P) Pass

21. Number of Stator Slots	48
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21. Number of Stator Slots	48
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22. Stator Condition	pass
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22. Stator Condition	pass
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23. Stator Thermistors/Ohms	na
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23. Stator Thermistors/Ohms	na
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24. Stator Overloads/Ohms

Na

## Mechanical Inspection

25. Drive End Bearing Brand



26. Drive End Bearing Number-	NU 213
27. Drive End Bearing Qty.	1
28. Drive End Bearing Type	(Roller) Roller Bearing
29. Drive End Lubrication Type	(Oil) Oil Lubricated
30. Drive End Bearing Insulation or Grounding Device?	na
31. Drive End Wavy Washer/Snap-Ring Other Retention Device?	snap ring
32. Drive End Bearing Condition	

Signs of contamination





33. Opposite Drive End Bearing Brand



34. Opposite Drive End Bearing Number-	6215
35. Opposite Drive End Bearing Qty.	1
36. Opposite Drive End Bearing Type	(Ball) Ball Bearing
37. Opposite Drive End Lubrication Type	(Grease) Grease Lubricated
38. Opposite Drive End Bearing Insulation or Grounding Device?	na
39. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	snap ring
40. Opposite Drive End Bearing Condition	



41. Drive End Seal	
 Seal kit	
42. Opposite Drive End Seal	
 Na	
<b>Rotor Inspection</b>	
43. Rotor Type/Material	(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast
44. Growler Test	(Pass) Pass
45. Number of Rotor Bars	40
46. Rotor Condition	pass
47. List the Parts needed for the Repair Below	
Seal kit NU213 6215	

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48. Signature of Technician that Disassembled Motor

Cw



### Mechanical Fits- Rotor

49. Shaft Runout inches

 *To much wear to get accurate measurements*

50. Rotor Runout

Drive End Bearing Fit

Rotor Body

Opposite Drive End Bearing

 *Na*

51. Coupling Fit Closest to Bearing Housing

0 Degrees

90 Degrees

120 Degrees

 *Na*

52. Coupling Fit Closest to the end of the Shaft

0 Degrees

60 Degrees

120 Degrees

 *Na*

53. Drive End Bearing Shaft Fit

0 Degrees


60 Degrees

120 Degrees

**2.5602**

**2.5602**

**2.5602**

 54. Drive End Bearing Shaft Fit Condition (P) Pass

55. Opposite Drive End Bearing Shaft Fit

0 Degrees


60 Degrees

120 Degrees

**2.9534**

**2.9533**

**2.9534**

 56. Opposite Drive End Bearing Shaft Fit Condition (P) Pass

57. Shaft Air Seal Fits

Drive End Air Seal

Opposite Drive End Air Seal

 *Na*

### Mechanical Fits- Bearing Housings

58. Drive End - Endbell Bearing Fit

0 Degrees

60 Degrees

120 Degrees

**4.7253**

**4.7253**

**4.7254**

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

60. Opposite Drive End - Endbell Bearing Fit

0 Degrees

60 Degrees

120 Degrees

**5.119**

**5.1189**

**5.1188**

 61. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass

62. Bearing Cap Condition

Drive End Bearing Cap

Opposite Drive End Bearing Cap

 *Pass*

63. End Bell Air Seal Fits	
Drive End Air Seal	Opposite Drive End Air Seal
<div> <div></div> <div>Na</div> </div>	
64. List Machine Work Needed Below <i>DE shaft gear fit</i>	
65. Technician	Cw
	
<b>Root Cause of Failure</b>	
66. Failure locations <i>Bearings and shaft gear fit</i>	
67. Root cause of failure <i>Excessive wear</i>	



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

## AC Recondition Repair Report

FolderID: 102711  
FormID: 20193501

ARKANSAS INDUSTRIAL  
MACHINERY  
3804 N. NONA ST  
NORTH LITTLE ROCK, AR 72118

Shop

Priorities Found:

General	
1. Job Number	102711
2. Report Date	04/25/2024
3. Customer	AIM
Name Plate Information	
4. Manufacturer	ABB
5. Model	M3AA250SMB-2
6. Serial Number	33V1211067435003
7. Horsepower	HP
8. KW	75 KW
9. Volts	460 Volts
10. Amps	111 Amps
11. RPM	3581 RPM
12. Frame	
Na	
13. Enclosure	TEFC
14. Cycles	60 HZ
15. Phase	3 PH
16. Service Factor	1.15
17. Motor Mount Position	Horizontal
Initial Inspection	
18. Number of Leads	6
19. Lead Length	Inches
20. Lead Size	
21. Lead Condition	
22. Lead Markings	
23. Lug Size, Condition, and Type	
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	
30. Bearing Rtd's Condition	
31. Contamination	
32. Frame Condition	

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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
51. Bearing DE Size
52. Bearing DE Type
53. DE Bearing Qty.
54. Bearing ODE Size
55. Bearing ODE Type
56. ODE Bearing Qty.
57. Insulated Bearing
58. Lubrication Type
59. Grease Condition
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
67. Cause of Failure
68. Comments
69. Service Technician
<b>Machine Fit Inspection Report</b>
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

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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
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
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
101.	DE Endbell Air Seal Fit
102.	Initial Endbell Air Seal Fit Size
103.	Finial Endbell Air Seal Fit Size
104.	ODE Endbell Fit
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
Balancing Report	
119.	Balance Type
120.	Balance Operating Speed

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121. Start Left End
122. Start Right End
123. Balancing Specification
124. Finish Left End
125. Finish Right End
126. Service Technician
<b>Assembly and Final Test</b>
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
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



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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.