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— EVERY DAY SINCE 1946 —

LR Motor Shop Repairs

**Job Number 100202**

Prepared for Altech Recycling

2601 Central Airport Road  
North Little Rock AR 72117

# Table of Contents

AC Recondition As Found - *SHOP*

AC Recondition - Rev. 2: 3G1F2124759291

1.0

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

## AC Recondition As Found

**Altech Recycling**  
2601 Central Airport Road  
North Little Rock, AR 72117

FolderID: 100202  
FormID: 14389207

### AC Recondition - Rev. 2

**Location:** SHOP  
**Serial Number:** 3G1F2124759291  
**Description:** 18.5KW ABB 1800RPM 180MLA

<b>Hi-Speed Job Number:</b>	100202
<b>Manufacturer:</b>	ABB
<b>Product Number:</b>	M3AA 180MLA 4 IMB3/IM1001
<b>Serial Number:</b>	3G1F2124759291
<b>HP/kW:</b>	18.5 (kW)
<b>RPM:</b>	1783 (RPM)
<b>Frame:</b>	180MLA
<b>Voltage:</b>	460
<b>Current:</b>	30.3
<b>Phase:</b>	Three
<b>Hz:</b>	60 (Hz)
<b>Enclosure:</b>	TEFC
<b>J-box Included:</b>	Complete
<b>Coupling/Sheave:</b>	None
<b>Bearing RTDs:</b>	No
<b>Stator RTDs:</b>	No
<b>Repair Stage:</b>	Teardown Inspection
<b>Heaters:</b>	No
<b>Winding Type :</b>	Random Wound
<b>Bearing Type:</b>	Rolling Element

Priorities Found: ● 4 - High ● 5 - Good

### Overall Condition

1. Report Date
2. Nameplate Picture



3. Photos of all six sides of the machine.

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4. Describe the Overall Condition of the Equipment as Received

*Dirty*

#### Initial Mechanical/Electrical

● 5.	Does Shaft Turn Freely?	(No) No
6.	Does Shaft Have Visible Damage?	(No) No
7.	Assembled Shaft Runout	Inches
8.	Assembled Shaft End Play	
9.	Air Gap Variation <10%	
● 10.	Lead Condition	(P) Pass
11.	Lead Length	8 Inches
12.	Frame Condition	good
● 13.	Fan Condition	(P) Pass



14. Broken or Missing Components

na

#### Initial Electrical Inspection

15. Insulation Resistance/Megger

16. Winding Resistance

1-2

1-3

2-3

● 17. Perform Surge Test

(F) Fail

☐ Rotor drag iron

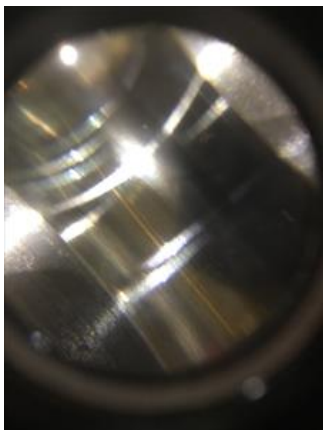
18. Stator Condition

#### Mechanical Inspection

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19. Drive End Bearing Number-	<b>6310</b>
20. Drive End Bearing Qty.	<b>1</b>
21. Drive End Bearing Type	<b>(Ball) Ball Bearing</b>
22. Drive End Lubrication Type	<b>(Grease) Grease Lubricated</b>
23. Drive End Bearing Insulation or Grounding Device?	<b>na</b>
24. Drive End Wavy Washer/Snap-Ring Other Retention Device?	<b>na</b>
25. Drive End Bearing Condition	<b>normal wear</b>




26. Opposite Drive End Bearing Number-	<b>6209</b>
27. Opposite Drive End Bearing Qty.	<b>1</b>
28. Opposite Drive End Bearing Type	<b>(Ball) Ball Bearing</b>
29. Opposite Drive End Lubrication Type	<b>(Grease) Grease Lubricated</b>
30. Opposite Drive End Bearing Insulation or Grounding Device?	<b>na</b>
31. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	<b>wavy washer</b>
32. Opposite Drive End Bearing Condition	<b>race came apart</b>
33. Drive End Seal	<b>slinger</b>
34. Opposite Drive End Seal	<b>slinger</b>

#### **Rotor Inspection**

35. Rotor Type/Material	<b>(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast</b>
36. Growler Test	<b>(Pass) Pass</b>
37. Number of Rotor Bars	<b>42</b>
38. Rotor Condition	<b>pass</b>

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39. List the Parts needed for the Repair Below			
6310 6209			
40. Signature of Technician that Disassembled Motor			Ca
			
<b>Mechanical Fits- Rotor</b>			
41. Shaft Runout			
42. Rotor Runout			
Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
43. Coupling Fit Closest to Bearing Housing			
0 Degrees	90 Degrees	120 Degrees	
44. Coupling Fit Closest to the end of the Shaft			
0 Degrees	60 Degrees	120 Degrees	
45. Drive End Bearing Shaft Fit			
0 Degrees	60 Degrees	120 Degrees	
1.9685			
46. Drive End Bearing Shaft Fit Condition			(P) Pass
47. Opposite Drive End Bearing Shaft Fit			
0 Degrees	60 Degrees	120 Degrees	
1.7719			
48. Opposite Drive End Bearing Shaft Fit Condition			(P) Pass
49. Shaft Air Seal Fits			
Drive End Air Seal	Opposite Drive End Air Seal		
<b>Mechanical Fits- Bearing Housings</b>			
50. Drive End - Endbell Bearing Fit			
0 Degrees	60 Degrees	120 Degrees	
4.3321			
51. Drive End - Endbell Bearing Fit Condition			(F) Fail
Egg shaped			
52. Opposite Drive End - Endbell Bearing Fit			
0 Degrees	60 Degrees	120 Degrees	
3.3474			
53. Opposite Drive End - Endbell Bearing Fit Condition			(P) Pass

## 54. Bearing Cap Condition

Drive End Bearing Cap

Opposite Drive End Bearing Cap



## 55. End Bell Air Seal Fits

Drive End Air Seal

Opposite Drive End Air Seal

## 56. List Machine Work Needed Below

*DE end bell bearing fit*

57. Technician

Cw

**Root Cause of Failure**

58. Failure locations

*ODE bearing, stator iron, DE end bell bearing fit*

59. Root cause of failure

*Lack of grease caused ODE bearing to get hot and race cage gave way allowing rotor to drag iron*



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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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