

# LR Motor Shop Repairs

# **Job Number 101198**

Prepared for KONE INC (10211)

5003 NORTH SHORE LANE NORTH LITTLE ROCK AR 72118

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AC Recondition As Found - Shop

AC Recondition - Rev. 2: NO SN

1.0





### **AC Recondition As Found KONE INC (10211)**

**5003 NORTH SHORE LANE** NORTH LITTLE ROCK, AR 72118

FolderID: 101198 FormID: 16415098

#### AC Recondition - Rev. 2

Location: Shop Serial Number: NO SN

Description:11.5HP MARATHON 1200RPM

256TCZ

Hi-Speed Job Number:	101198
Manufacturer:	Marathon
Product Number:	4VM256TTDX8084AA L
HP/kW:	11.5 (HP)
RPM:	1145 (RPM)
Frame:	256TCZ
Voltage:	230 / 460
Current:	31.4/15.7
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.0
Enclosure:	DP
J-box Included:	Complete
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **2 - High** 

5 - Good

#### **Overall Condition**

1. Report Date

Nameplate Picture



3. Photos of all six sides of the machine.







Describe the Overall Condition of the Equipment as Received
 *Dirty*

		Dirty	
In	itial	I Mechanical/Electrical	
	5.	Does Shaft Turn Freely?	(Yes) Yes
	6.	Does Shaft Have Visible Damage?	(No) No
	7.	Assembled Shaft Runout	
	8.	Assembled Shaft End Play	
	9.	Air Gap Variation <10%	





11.	Lead Length		6.5 Inches
12.	Frame Condition		pass
13.	Fan Condition		(N) NA
14.	Broken or Missing Components		missing one through rod nut and letting eye
Initial	Electrical Inspection		
15.	Insulation Resistance/Megger		0.89 Megohms
16.	Winding Resistance		
	1-2	1-3	2-3
<ul><li>17.</li></ul>	Perform Surge Test		(F) Fail
18.	Number of Stator Slots		36 Megohms
19.	Stator Condition		Rewind





# **Mechanical Inspection**





21. Drive End Bearing Number-	6309
22. Drive End Bearing Qty.	1
23. Drive End Bearing Type	(Ball) Ball Bearing
24. Drive End Lubrication Type	(Grease) Grease Lubricated
25. Drive End Bearing Insulation or Grounding Device?	NA
26. Drive End Wavy Washer/Snap-Ring Other Retention Device?	NA
27. Drive End Bearing Condition	



## 28. Opposite Drive End Bearing Brand

NTN



## 29. Opposite Drive End Bearing Number-

6208

30. Opposite Drive End Bearing Qty.	1
31. Opposite Drive End Bearing Type	(Ball) Ball Bearing
32. Opposite Drive End Lubrication Type	(Grease) Grease Lubricated
33. Opposite Drive End Bearing Insulation or Grounding Device?	NA
34. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	Wavy washer
35. Opposite Drive End Bearing Condition	



36.	Drive End Seal	
37.	Opposite Drive End Seal	
Rotor	Inspection	
38.	Rotor Type/Material	(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast
39.	Growler Test	(Pass) Pass
40.	Number of Rotor Bars	44
41.	Rotor Condition	dirty



42. List the Parts needed for the Repair Below

43. Signature of Technician that Disassembled Motor

RW

# Mechanical Fits- Rotor

44. Shaft Runout

	45.	Rotor Runout		
		Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
	46.	Coupling Fit Closest to Bearing Housi	ng	
		0 Degrees	90 Degrees	120 Degrees
	47.	Coupling Fit Closest to the end of the		
		0 Degrees	60 Degrees	120 Degrees
	48.	Drive End Bearing Shaft Fit		
		0 Degrees	60 Degrees	120 Degrees
		1.7716	1.7716	1.7716
	49.	Drive End Bearing Shaft Fit Condition		(P) Pass
	50.	Opposite Drive End Bearing Shaft Fit		
		0 Degrees	60 Degrees	120 Degrees
		1.5744	1.5744	1.5744
	51.	Opposite Drive End Bearing Shaft Fit	Condition	(F) Fail
	-	Repair		
	52.	Shaft Air Seal Fits		
		Drive End Air Seal	Opposite Drive End Air Seal	
M	echa	anical Fits- Bearing Housings		
	53.	Drive End - Endbell Bearing Fit		
		0 Degrees	60 Degrees	120 Degrees
		3.9381	3.9381	3.9381
	54.	Drive End - Endbell Bearing Fit Condi	tion	(P) Pass



55. Opposite Drive End - Endbell Bearing Fit			
0 Degrees 60 Degrees 120 Degrees			
3.1502	3.1502	3.1502	





57. Bearing Cap ConditionDrive End Bearing CapOpposite Drive End Bearing Cap

pass



58. End Bell Air Seal Fits
Drive End Air Seal
Opposite Drive End Air Seal

59. List Machine Work Needed Below
Ode shaft bearing fit bad

60. Technician RW

Dynamic Balance Report

61. Rotor Weight and Balance Grade

Rotor Weight Balance Grade

62. Initial Balance Readings

Drive End Opposite Drive End

63.	Final Balance Readings		
	Drive End	Opposite Drive End	
_	Technician		
Rewir			
65.	Core Test Results - Watts loss per Po	ound	
	Pre-Burnout	Post Burnout	
66	Core Hot Spot Test		
66.	Pre-Burnout	Doot Disease	
	Pre-Burnout	Post-Burnout	
67.	Post Rewind Electrical Test- Insulation	n Resistance	
68.	Post Rewind Polarization Index		
69.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
	Post Rewind Surge Test		
	Post Rewind Hi-Pot		
72.	Technician		
	Cause of Failure		
73.	Failure locations		
74.	Root cause of failure		
Mecha	anical Fits- Rotor - Post Repair		
75.	Shaft Runout Post Repair		
76.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
77	Coupling Fit Closest to Bearing Housi	ng Poet Popoir	
77.			100 Degrees
	0 Degrees	90 Degrees	120 Degrees
78.	Coupling Fit Closest to the end of the	Shaft Post Repair	
	0 Degrees	60 Degrees	120 Degrees
79.	Drive End Bearing Shaft Fit Post Rep	air	
	0 Degrees	60 Degrees	120 Degrees

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80. Opposite Drive End Bearing Shaft Fit Post Repair		
0 Degrees	60 Degrees	120 Degrees
1.5752	1.5751	1.5751



81.	Shaft Air Seal Fits Post Repair			
	Drive End Air Seal	Opposite Drive End Air Seal		
82.	Shaft Repair Sign-off			
Mecha	anical Fits- Bearing Housings - P	ost Repair		
83.	Drive End - Endbell Bearing Fit Post F	Repair		
	0 Degrees	60 Degrees	120 Degrees	
84.	Opposite Drive End - Endbell Bearing	Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees	
85.	Bearing Cap Condition Post Repair			
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
86.	End Bell Air Seal Fits Post Repair			
	Drive End Air Seal	Opposite Drive End Air Seal		
87.	End Bell Repair Sign-off			Gary
	7			

## **Assembly**

88. QC Check All Parts for Cleanliness Prior to Assembly

RW

P~







- 90. Final Insulation Resistance Test
- 91. Assembled Shaft Endplay
- 92. Assembled Shaft Runout
- 93. Test Run Voltage

Volts Volts Volts





# 94. Test Run Amperage Amps Amps Amps



95.	Drive End Vibration Readings - Inches	Per Second	
	Horizontal	Vertical	Axial
96.	Opposite Drive End Vibration Reading	s - Inches Per Second	
	Horizontal	Vertical	Axial
97.	97. Ambient Temperature - Fahrenheit		
98.	98. Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
99.	99. Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
100.	100. Document Final Condition with Pictures after paint		









R W



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