

# LR Motor Shop Repairs

# **Job Number 103550**

Prepared for HMS MFG (12553)

6901 Lindsey Road Little Rock AR 72206

# **Table of Contents**

AC Inspection as Found - LR MOTOR SHOP

AC Inspection - Rev. 2: 511564 SC10415020004

1.0



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

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# **AC Inspection as Found** HMS MFG (12553)

6901 Lindsey Road Little Rock, AR 72206

#### AC Inspection - Rev. 2

Location: LR MOTOR SHOP Serial Number: 511564 SC10415020004 **Description:**CONAIR VACUUM PUMP

Hi-Speed Job Number:	103550
Manufacturer:	Other
Product Number:	M: LDP10BJ2020
Serial Number:	511564 SC10415020004
HP/kW:	10 (HP)
Voltage:	460
Current:	14 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	9
J-box Included:	Complete
Coupling/Sheave:	Coupling
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: 1 - High

10 - Good

## **Overall Condition**

10/14/2024 1. Report Date

## 2. Nameplate Picture



3. Photos of all six sides of the machine.



















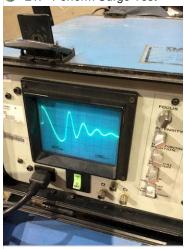




4	4.	Describe the Overall Condition of the Serviceable	Equipment as Received		
5	5.	Distance from the end of the shaft to t	he Coupling/Sheave		inches
Initi	ial	Mechanical/Electrical			
• 6	3.	Does Shaft Turn Freely?			(Y) Yes
• 7	7.	Does the shaft require T.I.R in Lathe to	o identify additional repairs?		(No) No
8	3.	Does Shaft Have Visible Damage?			
9	9.	Assembled Shaft Runout			Inches
10	0.	Assembled Shaft End Play			inches
1	1.	Air Gap Variation <10%			
12	2.	Lead Condition			(P) Pass
1;	3.	Lead Length			10 Inches
14	4.	Does it have Lugs?, If so what is the S	Stud Size?		(No) No
1	5.	Lead Numbers			1-9
10	6.	Frame Condition			pass
17	7.	Fan Condition			(N) NA
-		Missing			
18	8.	Broken or Missing Components			fan and fan cover bolts
Initi	ial	Electrical Inspection			
19	9.	Insulation Resistance/Megger			Megohms
-		Pass			
20	0.	Winding Resistance			
		1-2	1-3	2-3	

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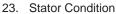




22. Number of Stator Slots

wash and bake

36







24. Stator Thermistors/Ohms

25. Stator Overloads/Ohms

#### **Mechanical Inspection**

26. Drive End Bearing Brand

FAG 6307

7. Drive End Bearing Number-



28. Drive End Bearing Qty.

1

29. Drive End Bearing Type	(Ball) Ball Bearing
30. Drive End Lubrication Type	(Grease) Grease Lubricated
31. Drive End Bearing Insulation or Grounding Device?	
32. Drive End Wavy Washer/Snap-Ring Other Retention Device?	
33. Drive End Bearing Condition	normal wear



34. Opposite Drive End Bearing Brand	Nachi
35. Opposite Drive End Bearing Number-	6206



36. Opposite Drive End Bearing Qty.	1
37. Opposite Drive End Bearing Type	(Ball) Ball Bearing
38. Opposite Drive End Lubrication Type	(Grease) Grease Lubricated
39. Opposite Drive End Bearing Insulation or Grounding Device?	
40. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	Wavy washer
41. Opposite Drive End Bearing Condition	grease contamination



- 42. Drive End Seal
- 43. Opposite Drive End Seal

#### **Rotor Inspection**

44. Rotor Type/Material

(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast



45.	Growler Test	(Pass) Pass
46.	Number of Rotor Bars	28
47.	Rotor Condition	pass
48.	List the Parts needed for the Repair Below	
	1- 6307C3 Bearing 2-6206C3 Bearing	
49.	Signature of Technician that Disassembled Motor	RW
	A	



Mechanical Fits- Rotor	
50. Shaft Runout	inches
51. Rotor Runout	

Drive End Bearing Fit Rotor Body Opposite Drive End Bearing

52	. Coupling Fit Closest to Bearing Ho	pusing		
	0 Degrees	90 Degrees	120 Degrees	
53	. Coupling Fit Closest to the end of	the Shaft		
	0 Degrees	60 Degrees	120 Degrees	
54	. Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	1.3783	1.3783	1.3783	
9 55	Drive End Bearing Shaft Fit Condi	tion		(P) Pass



10 10		And the second s			
	56.	Opposite Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		1.1815	1.1815	1.1815	
	57.	Opposite Drive End Bearing Shaft Fit	Condition		(P) Pass



58.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
-	Pass			
Mech	Mechanical Fits- Bearing Housings			
59.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	3.15	1.15	1.501	



792.08	61.	61. Opposite Drive End - Endbell Bearing Fit			
		0 Degrees	60 Degrees	120 Degrees	
		2.442	2.4419	2.4419	
	62.	Opposite Drive End - Endbell Bearing	Fit Condition		(F) Fail



Resleeve

63.	Bearing Cap Condition		
00.	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
	pass		
64.	End Bell Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
	pass		
65.	List Machine Work Needed Below		
	Ode end bell bearing fit bad		
66.	Technician	R	W
	h///		

Co sign TRH

Root Cause of Failure

67.	Failure locations				
	Ode end bell bearing fit bad				
68.	Root cause of failure				
	Gearbox had no oil rotors rubbed case				
Dyna	mic Balance Report				
-	Rotor Weight and Balance Grade				
	Rotor Weight	Balance Grade			
	•				
-	Na				
70.	Initial Balance Readings				
	Drive End	Opposite Drive End			
-	Na				
71.	Final Balance Readings				
	Drive End	Opposite Drive End			
_	A/-				
	Na				
72.					
-	Na				
	Mechanical Fits- Bearing Housings - Post Repair				
73.	Drive End - Endbell Bearing Fit Post F	Repair			
	0 Degrees	60 Degrees	120 Degrees		
<b>•</b> 74.	Opposite Drive End - Endbell Bearing				
	0 Degrees	60 Degrees	120 Degrees		
	2.4413	2.4414	2.4414		



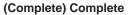
75. Bearing Cap Condition Post Repair	
Drive End Bearing Cap	Opposite Drive End Bearing Cap
76. End Bell Air Seal Fits Post Repair	
Drive End Air Seal	Opposite Drive End Air Seal

Assembly

78. QC Check All Parts for Cleanliness Prior to Assembly

RW

79. Photograph All Major Components prior to assembly























80	Final Insulation Resistance Test  Passed the HI POT		Megohms
81	Assembled Shaft Endplay Na		inches
82	Assembled Shaft Runout		0.0002 inches
83	Test Run Voltage		
	Volts	Volts	Volts
	459	459	459





## Co sign CRW

After assembly of pump

84. Test Run Amperage	. Test Run Amperage		
Amps	Amps	Amps	
4.7	4.6	4.5	



85.	85. Drive End Vibration Readings - Inches Per Second			
	Horizontal	Vertical	Axial	
-	Na			
86.	Opposite Drive End Vibration Readings - Inches Per Second			
	Horizontal	Vertical	Axial	
-	Na			
87.	Ambient Temperature - Fahrenheit			
-	Na			
88.	Drive End Bearing Temps - Fahrenheit			
	5 Minutes	10 Minutes	15 Minutes	
-	Na			
89.	Opposite Drive End Bearing Temps - Fahrenheit			
	5 Minutes	10 Minutes	15 Minutes	
	O Militatoo	10 111111111111111111111111111111111111	10 111111111111111111111111111111111111	
	o Minutoo	To immuos	To Miniator	

## 90. Document Final Condition with Pictures after paint











91. Final Pics and QC Review

RW

Co sign CRW



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