

EVERY DAY SINCE 1946

LR Motor Shop Repairs

Job Number 103042

Prepared for PRODUCERS RICE STUTTGART

603 N. PARK AVE STUTTGART AR 72160

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AC Inspection as Found - MOTOR SHOP LR



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

> FolderID: 103042 FormID: 20521950

AC Inspection as Found

PRODUCERS RICE STUTTGART 603 N. PARK AVE

STUTTGART, AR 72160

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	WAA127255

Description:500HP Marathon 2800RPM

Hi-Speed Job Number:	103042
Manufacturer:	Marathon
Product Number:	VN5011LHFS16049AAW
Spec/ID #:	TYPE: TFS
Serial Number:	WAA127255
HP/kW:	500 (HP)
RPM:	2800 (RPM)
Frame:	5011L
Voltage:	460
Current:	555 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.00
Enclosure:	TEFC
# of Leads:	12
J-box Included:	None
Coupling/Sheave:	None
Date Received:	05/09/2024
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: **2 - High**

h 🛛 🔵 9 - Good

Overall Condition

1. Report Date

06/03/2024

2. Nameplate Picture





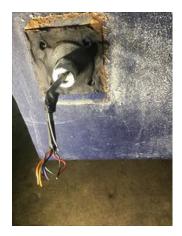
3. Photos of all six sides of the machine.





















P1 & P2







































	4.	Describe the Overall Condition of the Equipment as Received	
		Serviceable	
In	itial	Mechanical/Electrical	
	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?	(No) No
	8.	Assembled Shaft Runout	0.001 Inches
	9.	Assembled Shaft End Play	0 inches
	4.0	Air Ore Mariatian 400/	

- 10. Air Gap Variation <10%
- 11. Lead Condition





12.	Lead Length	15.5 Inches
13.	Does it have Lugs?, If so what is the Stud Size?	(Yes) Yes
14.	Lead Numbers	1, 2, 3
15.	Frame Condition	pass
16.	Fan Condition	(N) NA

(P) Pass

17. Broken or Missing Components

tac mount bracket



Initial Electrical Inspection

18. Insulation Resistance/Megger



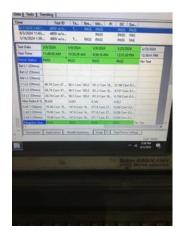
Megohms





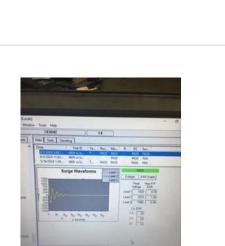
19. Winding Resistance

1-2



20. Perform Surge Test





1-3



(P) Pass





21. Number of Stator Slots7222. Stator Conditionpass23. Stator Thermistors/Ohms



24. Stator Overloads/Ohms

Mechanical Inspection

25. Drive End Bearing Brand

FAG

26. Drive End Bearing Number-

6324 M/C3 VL0241







27. Drive End Bearing Qty.	1
28. Drive End Bearing Type	(Ball) Ball Bearing
29. Drive End Lubrication Type	(Grease) Grease Lubricated
30. Drive End Bearing Insulation or Grounding Device?	grounding brush
31. Drive End Wavy Washer/Snap-Ring Other Retention Device?	none
32. Drive End Bearing Condition	replace
33. Opposite Drive End Bearing Brand	FAG
34. Opposite Drive End Bearing Number-	6318 M/C3 VL0241



35. Opposite Drive End Bearing Qty.



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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?	none
39. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	wavy washer
40. Opposite Drive End Bearing Condition	replace
41. Drive End Seal	9000-A-16968-0



42. Opposite Drive End Seal

Replace o-rings



Rotor Inspection

(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast

43. Rotor Type/Material

44.	Growler Test		(Pass) Pass
45.	Number of Rotor Bars		55
46.	Rotor Condition		pass
47.	List the Parts needed for the Repair E	selow	
	Replace bearings & sleeve both housin needs to be a hybrid insulated bearing. Install aegis grounding ring internally o	g fits. Opposite drive end fit needs to be insu Replace broken tach mounting bracket. In drive end bearing cap.	lated and opposite driven bearing
	Z	lla	
Mech	anical Fits- Rotor		
49.	Shaft Runout		0.002 inches
50.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
51.	Coupling Fit Closest to Bearing House	ng	
	0 Degrees	90 Degrees	120 Degrees
52.	Coupling Fit Closest to the end of the	Shaft	
	0 Degrees	60 Degrees	120 Degrees
	5	5	5
53.	Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	4.7257	4.7258	4.7258
	Drive End Bearing Shaft Fit Condition		(P) Pass
54.			
-	Opposite Drive End Bearing Shaft Fit		
-	Opposite Drive End Bearing Shaft Fit 0 Degrees	60 Degrees	120 Degrees
55.	Opposite Drive End Bearing Shaft Fit 0 Degrees 3.5435	60 Degrees 3.5436	3.5437
55. 55.	Opposite Drive End Bearing Shaft Fit 0 Degrees 3.5435 Opposite Drive End Bearing Shaft Fit	60 Degrees 3.5436	-
55. 55.	Opposite Drive End Bearing Shaft Fit 0 Degrees 3.5435	60 Degrees 3.5436	3.5437

58.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	10.2382	10.238	10.2382	
59.	Drive End - Endbell Bearing Fit Co	ndition		(F) Fail
-	Out of tolerance. Max allowed is 10	.2375		
60.	Opposite Drive End - Endbell Beau	ring Fit		
	0 Degrees	60 Degrees	120 Degrees	
	7.4822	7.4821	7.4823	
61.	Opposite Drive End - Endbell Bear Max allowed is 7.4814	ring Fit Condition		(F) Fail
62.	Bearing Cap Condition			
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
	pass	pass		
63.	End Bell Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
64.	List Machine Work Needed Below Sleeve both housing fits. ODE hous	sing fit needs to be insulated.		
65. Technician Terrence Holland				
loot	Cause of Failure			
66.	Failure locations			
		Replace broken tach mount bracket.		

67. Root cause of failure

D.E shaft grounding brush was worn and had minimal contact with shaft. Both bearings showed signs of frosting from electrical discharge to ground causing the blackened grease to lose its lubrication qualities.







Dynamic Balance Report

68. Rotor Weight and Balance Grade Rotor Weight

Balance Grade



69.	Initial Balance Readings	
	Drive End	Opposite Drive End
	0.03	0.08

70. Final Balance Readings			
Drive End	Opposite Drive End		
0.03	0.08		
71. Technician	1	-	SC
Mechanical Fits- Bearing House	sings - Post Repair		
72. Drive End - Endbell Bearing	Fit Post Repair		
0 Degrees	60 Degrees	120 Degrees	
10.2366	10.2366	10.2367	



73.	73. Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
	7.4812	7.4812	7.4812



74.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
	Installed Agis ring on D.E. Bearing cap		
75.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
70	End Dell Densir Cizy off	0	
	End Bell Repair Sign-off	Gary	
Asser	-		
77.	QC Check All Parts for Cleanliness Pr	rior to Assembly RW	
E	λL		

78. Photograph All Major Components prior to assembly

(Complete) Complete







79. Final Insulation Resistance Test





7000 Megohms



80.	Assembled Shaft Endplay			inches
81.	Assembled Shaft Runout			0.0003 inches
82.	Test Run Voltage			
	Volts	Volts	Volts	
	454	454	457	



Co witness CRW

83. Test Run Amperage		
Amps	Amps	Amps
160.1	154.1	156



84.	. Drive End Vibration Readings - Inches Per Second				
	Horizontal	Vertical	Axial		
	0.01	0.05	0.01		
85.	Opposite Drive End Vibration Readings - Inches Per Second				
	Horizontal	Vertical	Axial		
	0.05	0.08	0.0089999999999999999		
86.	36. Ambient Temperature - Fahrenheit				
87.	. Drive End Bearing Temps - Fahrenheit				
	5 Minutes	10 Minutes	15 Minutes		
88.	Opposite Drive End Bearing Temps - Fahrenheit				
	5 Minutes	10 Minutes	15 Minutes		

89. Document Final Condition with Pictures after paint



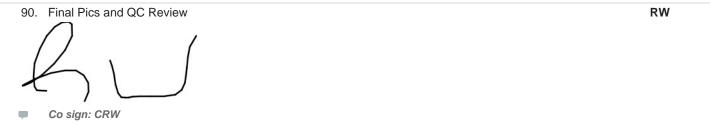














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TermsAndConditions

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- 16. <u>NO INDIVIDUAL LIABILITY</u>. 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.