



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

LR Motor Shop Repairs

Job Number 104123

Prepared for Process & Power

1625 East 145th Street
Little Rock AR 72206

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AC Inspection as Found - *MOTOR SHOP LR*

AC Inspection - Rev. 2: 733926/002

1.0

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Millington, Tn 38053
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AC Inspection as Found

Process & Power


1625 East 145th Street
Little Rock, AR 72206

FolderID: 104123
FormID: 23343949

AC Inspection - Rev. 2

Location: MOTOR SHOP LR
Serial Number: 733926/002
Description: 250 HP INGERSOLL RAND

Hi-Speed Job Number:	104123
Manufacturer:	Ingersoll-Rand
Product Number:	23271000
Serial Number:	133926/002
HP/kW:	250 (HP)
RPM:	2680 (RPM)
Voltage:	460
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.21
# of Leads:	Other
J-box Included:	Complete
Coupling/Sheave:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found:  10 - Good

Overall Condition

1. Report Date

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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

Serviceable

Initial Mechanical/Electrical

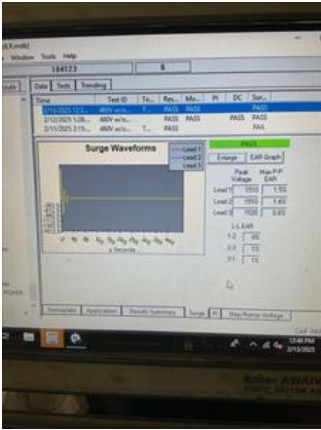
5. Does Shaft Turn Freely?	(Y) Yes
6. Does the shaft require T.I.R in Lathe to identify additional repairs?	(No) No
7. Does Shaft Have Visible Damage?	(No) No
8. Assembled Shaft Runout	Inches
Na	
9. Assembled Shaft End Play	inches
Na	
10. Air Gap Variation <10%	na
11. Lead Condition	(P) Pass
12. Lead Length	60 Inches
13. Does it have Lugs?, If so what is the Stud Size?	(Yes) Yes
14. Lead Numbers	1-2-3. 1-2-3
15. Frame Condition	pass
16. Fan Condition	(N) NA
17. Does motor have internal fan?	(No) No
18. Broken or Missing Components	
Na	

Initial Electrical Inspection

19. Insulation Resistance/Megger			6690 Megohms
20. Winding Resistance			
1-2	1-3	2-3	
0.00552	0.00553	0.00550	

21. Perform Surge Test

(P) Pass



22. Number of Stator Slots

Na

23. Stator Condition

wash and dry



24. Stator Thermistors/Ohms

na

25. Stator Overloads/Ohms

na

Mechanical Inspection

26. Drive End Bearing Brand

KOYO

27. Drive End Bearing Number-

NU320R



28. Drive End Bearing Qty.	1
29. Drive End Bearing Type	(Roller) Roller Bearing
30. Drive End Lubrication Type	(Grease) Grease Lubricated
31. Drive End Bearing Insulation or Grounding Device?	na
32. Drive End Wavy Washer/Snap-Ring Other Retention Device?	Wavy washer
33. Drive End Bearing Condition	dry grease and contaminate



34. Opposite Drive End Bearing Brand	KOYO
35. Opposite Drive End Bearing Number-	6320ZZxC3
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?	shaft insulation
40. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	snap ring
41. Opposite Drive End Bearing Condition	
<input type="checkbox"/> Normal wear	



42. Drive End Seal	110-130-12
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43. Opposite Drive End Seal

na

Rotor Inspection

44. Rotor Type/Material

☐ Magnet



45. Growler Test

☐ Na

46. Number of Rotor Bars

☐ Na

47. Rotor Condition

pass

48. List the Parts needed for the Repair Below

NU 320 6320 bearing

49. Signature of Technician that Disassembled Motor

RW

[Handwritten signature]

Mechanical Fits- Rotor

50. Shaft Runout

0 inches

51. Rotor Runout

Drive End Bearing Fit

Rotor Body

Opposite Drive End Bearing

0

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52. Coupling Fit Closest to Bearing Housing		
0 Degrees	90 Degrees	120 Degrees
Na		
53. Coupling Fit Closest to the end of the Shaft		
0 Degrees	60 Degrees	120 Degrees
Na		
54. Drive End Bearing Shaft Fit		
0 Degrees	60 Degrees	120 Degrees
3.9382	3.9382	3.9382
55. Drive End Bearing Shaft Fit Condition		(P) Pass



56. Opposite Drive End Bearing Shaft Fit		
0 Degrees	60 Degrees	120 Degrees
3.9377	3.9377	3.9377
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	

Mechanical Fits- Bearing Housings

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59.	Drive End - Endbell Bearing Fit		
	0 Degrees	60 Degrees	120 Degrees
	8.4655	8.4655	8.4655
60.	Drive End - Endbell Bearing Fit Condition		(P) Pass
61.	Opposite Drive End - Endbell Bearing Fit		
	0 Degrees	60 Degrees	120 Degrees
	8.4655	8.4655	8.4655
62.	Opposite Drive End - Endbell Bearing Fit Condition		(P) Pass



63.	Bearing Cap Condition	
	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	
	None	
66.	Technician	RW
		
	Co sign TRH	
Root Cause of Failure		
67.	Failure locations	
	De bearing	

68. Root cause of failure

Bearing inner race walked up the shaft from over heating from mixing the grease



Dynamic Balance Report

69. Rotor Weight and Balance Grade

Rotor Weight

Balance Grade

70. Initial Balance Readings

Drive End

Opposite Drive End

71. Final Balance Readings

Drive End

Opposite Drive End

72. Technician

Assembly

73. QC Check All Parts for Cleanliness Prior to Assembly

74. Photograph All Major Components prior to assembly

75. Final Insulation Resistance Test

76. Assembled Shaft Endplay

77. Assembled Shaft Runout

78. Test Run Voltage

Volts

Volts

Volts

79. Test Run Amperage

Amps

Amps

Amps

80. Drive End Vibration Readings - Inches Per Second

Horizontal

Vertical

Axial

81. Opposite Drive End Vibration Readings - Inches Per Second

Horizontal

Vertical

Axial

82. Ambient Temperature - Fahrenheit

83. Drive End Bearing Temps - Fahrenheit

5 Minutes

10 Minutes

15 Minutes

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84. Opposite Drive End Bearing Temps - Fahrenheit			
5 Minutes		10 Minutes	15 Minutes
85. Document Final Condition with Pictures after paint			
86. Final Pics and QC Review			



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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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4. **BILLING AND PAYMENT TERMS.** Hi-Speed shall invoice Buyer for all goods and/or services as same are rendered at the address listed on the quotation. Payments for all goods and/or services shall be due thirty (30) days from the date of the current invoice or as otherwise set forth in the quotation. Late payments are subject to a late fee of 5% of the total invoice amount. Recurring late payments may lead to a deposit requirement on future services or sale of goods. Buyer shall be liable to Hi-Speed for any and all fees and expenses incurred by Hi-Speed to collect any invoices or to enforce these Standard Terms and Conditions, including but not limited to, attorney's fees.
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6. **DELIVERY SITE AND TIME FOR PERFORMANCE.** Hi-Speed and Buyer agree that time is of the essence for the purchase order and that Buyer shall fully cooperate with Hi-Speed in order to allow Hi-Speed full access to prosecute its work diligently and in an orderly manner. Buyer shall assist Hi-Speed in every way possible to avoid delaying, disrupting or interfering with the progress of Hi-Speed's work at the project site. In the event Hi-Speed's work is delayed, hindered, suspended, disrupted, re-sequenced or interfered with or rendered less efficient or more costly or adversely affected in any way as a result of acts or omissions of Buyer or other contractors or employees of Buyer or by any other reason beyond Hi-Speed's control and without the fault of Hi-Speed, then, in such event, Buyer shall be liable to Hi-Speed for any damages, additional costs, expenses, labor, materials, man hours, acceleration costs, overtime, additional jobsite overhead, extended home office overhead, and any and all other direct and indirect expenses of whatsoever nature or kind, caused in whole or in part, as a result of any of the above-referenced occurrences. Hi-Speed's project records will be the basis for computing the additional costs and damages of Hi-Speed's labor, materials, expenses and overhead related to such changes. BUYER WARRANTS THAT THE SITE FOR DELIVERY OR INSTALLATION OF ANY GOODS AND/OR FOR THE PERFORMANCE OF ANY SERVICES SHALL BE READY AND ADEQUATE FOR HI-SPEED'S DELIVERY OF GOODS AND/OR PERFORMANCE OF SERVICES AND THAT HI-SPEED SHALL HAVE FULL ACCESS THERETO, FREE OF ALL OBSTRUCTIONS. BUYER SHALL ASSUME ALL EXTRA COSTS ASSOCIATED WITH HI-SPEED'S INABILITY TO INSTALL ANY GOODS OR PERFORM ANY SERVICES AS A RESULT OF BUYER'S FAILURE TO COMPLY WITH THIS PROVISION. HI-SPEED MAY NOT INSPECT THE SITE PRIOR TO DELIVERY AND/OR INSTALLATION OF GOODS AND/OR PERFORMANCE OF SERVICES AND MAKES NO WARRANTY AS TO THE SUFFICIENCY OF THE SITE FOR THE DELIVERY AND/OR INSTALLATION OF GOODS AND/OR THE PERFORMANCE OF SERVICES AT SUCH SITE.
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8. **WARRANTIES.** Hi-Speed warrants that all goods shall conform in all material aspects to the goods identified in the quotation to Buyer and/or purchase order, and Hi-Speed makes to Buyer the manufacturer's express warranty for any goods sold to Buyer, which is offered by the manufacturer at the time of acceptance of any quotation by Buyer. This warranty is conditioned upon the installation, operation, and maintenance of the goods in accordance with the manufacturer's recommendations and/or standard industry practice and the goods at all times being operated or used under normal operating conditions for which they were designed. Hi-Speed, at its sole option, will repair or

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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.
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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.
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