

LR Motor Shop Repairs

Job Number 102813

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



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

> FolderID: 102813 FormID: 20129448

AC Inspection as Found

Process & Power

1625 East 145th Street Little Rock, AR 72206

AC Inspection - Rev. 2

Location: MOTOR SHOP LR

Serial Number: 733926/002

Description:250 HP INGERSOLL RAND 2680

Hi-Speed Job Number:	102813
Manufacturer:	Ingersoll-Rand
Product Number:	TYPE: HPM250 SM
Spec/ID #:	PART: 23271000
Serial Number:	733926/ 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:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: 3 - High

5 - Good

Overall Condition

04/22/2024 1. Report Date

2. Nameplate Picture



3. Photos of all six sides of the machine.















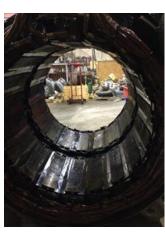












	4.	Describe the Overall Condition of the Equipment as Received				
		Dirty				
In	Initial Mechanical/Electrical					
	5.	Does Shaft Turn Freely?			(N) No	
	6.	Does the shaft require T.I.R in Lathe t	o identify additional repairs?		(No) No	
	7.	Does Shaft Have Visible Damage?			(No) No	
	8.	Assembled Shaft Runout			Inches	
	9.	Assembled Shaft End Play			inches	
	10.	Air Gap Variation <10%				
	11.	Lead Condition			(P) Pass	
	12.	Lead Length			144 Inches	
	13.	Does it have Lugs?, If so what is the S	Stud Size?		(Yes) Yes	
	14.	Lead Numbers			123	
	15.	Frame Condition				
	-	Dirty				
	16.	Fan Condition			(N) NA	
	17.	Broken or Missing Components			na	
In	itial	Electrical Inspection				
	18.	Insulation Resistance/Megger				
	19.	Winding Resistance				
		1-2	1-3	2-3		

20.	Perform Surge Test		
21.	Number of Stator Slots	17	
22.	Stator Condition	wash and bake	
23.	Stator Thermistors/Ohms	na	
24.	Stator Overloads/Ohms	na	
Mecha	Mechanical Inspection		
25.	Drive End Bearing Brand	SkF	
26.	Drive End Bearing Number-	320 Nu	



27. Drive End Bearing Qty.	1
28. Drive End Bearing Type	(Roller) Roller Bearing
29. Drive End Lubrication Type	(Grease) Grease Lubricated
30. Drive End Bearing Insulation or Grounding Device?	na
31. Drive End Wavy Washer/Snap-Ring Other Retention Device?	wavy washer
32. Drive End Bearing Condition	normal wear



33.	Opposite Drive End Bearing Brand	LS
34.	Opposite Drive End Bearing Number-	





35.	Opposite Drive End Bearing Qty.	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?	na
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	
-	Na	
40.	Opposite Drive End Bearing Condition	normal wear



41.	Drive End Seal	110 130 12
42.	Opposite Drive End Seal	na
Rotor	Inspection	
43.	Rotor Type/Material	
-	Magnetic	
44.	Growler Test	
45.	Number of Rotor Bars	

46. Rotor Condition wash



47. List the Parts needed for the Repair Below NU 320 C3. 6320 C3

48. Signature of Technician that Disassembled Motor

RW

Mechanical Fits- Rotor

49.	Shaft Runout		inches
50.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
51.	51. Coupling Fit Closest to Bearing Housing		
	0 Degrees	90 Degrees	120 Degrees
52.	Coupling Fit Closest to the end of the	Shaft	
	. =		100 B

50.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
51.	Coupling Fit Closest to Bearing Housi	ng	
	0 Degrees	90 Degrees	120 Degrees
52.	52. Coupling Fit Closest to the end of the Shaft		
	0 Degrees	60 Degrees	120 Degrees
53.	Drive End Bearing Shaft Fit		
	0 Degrees	60 Degrees	120 Degrees
	3.9377	3.9377	3.9377

54. Drive End Bearing Shaft Fit Condition





56. Opposite Drive End Bearing Shaft Fit Condition			(P) Pass	
-	DW			
	3.937	3.937	3.937	
	0 Degrees	60 Degrees	120 Degrees	
55.	Opposite Drive End Bearing Shaft Fit			



57.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
-	Pass			
Mech	Mechanical Fits- Bearing Housings			
58.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	8.46679999999999	8.46700000000001	8.4671	

Resleeve



60.	60. Opposite Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	8.46669999999999	8.46669999999999	8.466699999999999	
61.	Opposite Drive End - Endbell Bearing	Fit Condition		(F) Fail
-	Resleeve			



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	
	pass	pass	
64.	List Machine Work Needed Below		
	Both end bells need resleeved		
65.	Technician		RW
	Λ		
	(/ ()		
	1/2		

Root Cause of Failure

66.	Failure locations Bearing housing fits oversized				
67.	Root cause of failure				
Dynar	Dynamic Balance Report				
68.	Rotor Weight and Balance Grade				
	Rotor Weight	Balance Grade			
69.	Initial Balance Readings				
	Drive End	Opposite Drive End			
70.	Final Balance Readings				
	Drive End	Opposite Drive End			
71.	Technician				
Mechanical Fits- Bearing Housings - Post Repair					
72.	2. Drive End - Endbell Bearing Fit Post Repair				

120 Degrees

8.4651

60 Degrees

8.465199999999999



0 Degrees

8.465199999999999

73.	. Opposite Drive End - Endbell Bearing Fit Post Repair			
	0 Degrees	60 Degrees	120 Degrees	
	8.4657	8.4656	8.4657	
74.	Bearing Cap Condition Post Repair			
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
75.	End Bell Air Seal Fits Post Repair			
	Drive End Air Seal	Opposite Drive End Air Seal		
76.	End Bell Repair Sign-off			Gary

Assembly



78. Photograph All Major Components prior to assembly

(Complete) Complete



















79.	Final Insulation Resistance Test Megohms			
80.	Assembled Shaft Endplay		inches	
81.	Assembled Shaft Runout		inches	
82.	Test Run Voltage			
	Volts	Volts	Volts	
83.	Test Run Amperage			
	Amps	Amps	Amps	
84.	Drive End Vibration Readings - Inches			
	Horizontal	Vertical	Axial	
85.	Opposite Drive End Vibration Reading			
	Horizontal	Vertical	Axial	
06	Ambient Temperature Februaheit			
	Ambient Temperature - Fahrenheit			
87.		Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes	
	0			
88.		Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes	
89.	Document Final Condition with Picture	es after paint		







90. Final Pics and QC Review

RW

Co witness: CRW



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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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- 5. <u>DELIVERY OF GOODS AND/OR SERVICES.</u> Unless otherwise identified in the quotation, all shipments are F.O.B. Hi-Speed's warehouse and the title to and all risk of loss with respect to any goods shipped shall pass to Buyer when such goods are delivered to the carrier at Hi-Speed's warehouse. Hi-Speed will use its best efforts to affect delivery by the date or dates specified in the quotation. However, Hi-Speed shall not be liable for delay in or failure to make shipment, or to perform services, by any identified date for any reason whatsoever, including but not limited to, causes beyond its reasonable control, such as strikes, fires, floods, epidemics, quarantines, restrictions, severe weather, embargos, acts of God, or public enemy, war, riot, delays in transportation or the inability to obtain necessary labor, materials or manufacturing facilities.
- **DELIVERY SITE AND TIME FOR PERFORMANCE.** Hi-Speed and Buver 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.
- 7. INSPECTION/ACCEPTANCE. All goods and services ordered pursuant to any quotation shall be subject to inspection by Buyer after delivery or performance to determine conformity with the quotation and/or purchase order and Hi-Speed's advertised or published specifications. Buyer shall have a period of thirty (30) days from shipment of goods at the delivery destination specified in the quotation within which to inspect the goods for conformity with the quotation, order and/or Hi-Speed's advertised and published specifications and to provide Hi-Speed with written notice of any discrepancy or rejection. Buyer shall have a period of thirty (30) days following completion of any services within which to inspect the services for conformity with the quotation, purchase order and/or Hi-Speed's advertised and published specifications and to provide Hi-Speed with written notice of any discrepancy or rejection. If the goods delivered or services performed do not so conform, upon delivery of notice to Hi-Speed of any discrepancy, nonconformance or rejection, Hi-Speed shall have sixty (60) days to cure the alleged discrepancy and/or nonconformance. If Hi-Speed fails to cure in this time period, Buyer shall have the right to reject such goods or services. After the cure period, goods that have been delivered and rejected, in whole or in part, shall be returned to Hi-Speed. Buyer shall notify Hi-Speed and arrange for the return of the goods as required. Should such non-conforming services be rejected Hi-Speed shall, at its sole cost, re-perform the non-conforming services. Inspection or failure to inspect on any occasion shall not affect Buyer's rights under the warranty provisions herein.
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- 10. <u>SEVERABILITY.</u> 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.
- 11. **GOVERNING LAW AND JURISDICTION.** Any controversy arising out of any quotation, the purchase order, the goods sold or delivered, repair or replacement thereof, or any services provided pursuant to any quotation or any purchase order, or these Standard Terms and Conditions shall be governed by the laws of the state of Tennessee without regard to any choice of law provisions and any cause of action related in any manner thereto shall be brought only in the state or federal courts of Shelby County, Tennessee.
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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, earth quake, 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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- 16. NO INDIVIDUAL LIABILITY. 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.