

LR Motor Shop Repairs

Job Number 103324

Prepared for ARKANSAS INDUSTRIAL MACHINERY

3804 N. NONA ST NORTH LITTLE ROCK AR 72118

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AC Inspection as Found - Shop

AC Inspection - Rev. 2: 3G1P163602217

1.0



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

> FolderID: 103324 FormID: 21221778

AC Inspection as Found ARKANSAS INDUSTRIAL MACHINERY

3804 N. NONA ST NORTH LITTLE ROCK, AR 72118

AC Inspection - Rev. 2

Location:

Serial Number: 3G1P163602217

Description: 90KW ABB 3600RPM 250S

Shop

Hi-Speed Job Number:	102178
Manufacturer:	ABB
Product Number:	M3AA 250 SMC 2
Spec/ID #:	3GAA251914-VCG
Serial Number:	3G1P163602217
HP/kW:	90 (kW)
RPM:	3579 (RPM)
Frame:	250S
Voltage:	460
Current:	133
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.06
Enclosure:	TEFC
# of Leads:	6
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: **3 - High**





8 - Good

Overall Condition

08/07/2024 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*
- 5. Report Date [COPY]

Initial Mechanical/Electrical

6. Does Shaft Turn Freely?

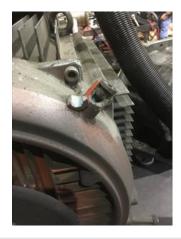
(N) No

7. Does Shaft Have Visible Damage?





8.	Assembled Shaft Runout	Inches
9.	Assembled Shaft End Play	inches
10.	Air Gap Variation <10%	
11.	Lead Condition	(P) Pass
12.	Lead Length	112 Inches
13.	Lead Numbers	1-6
14.	Frame Condition	pass
15.	Fan Condition	(P) Pass
1 6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	(No) No
17.	Broken or Missing Components	
-	ODE end bell fan cover bolt hole	



18. Does it have Lugs?, If so what is the Stud Size?

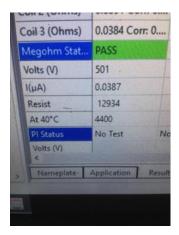
Yes

Initial Electrical Inspection

19. Insulation Resistance/Megger

Megohms

2-3



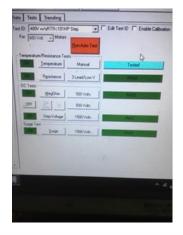
20. Winding Resistance

1-2



21. Perform Surge Test

(P) Pass



- 22. Number of Stator Slots
- 23. Stator Condition covered in oil
- 24. Stator Thermistors/Ohms
- 25. Stator Overloads/Ohms

Mechanical Inspection

26. Drive End Bearing Brand	skf
27. Drive End Bearing Number-	NU213
28. Drive End Bearing Qty.	1
29. Drive End Bearing Type	(Roller) Roller Bearing
30. Drive End Lubrication Type	(Oil) Oil Lubricated
31. Drive End Bearing Insulation or Grounding Device?	
32. Drive End Wavy Washer/Snap-Ring Other Retention Device?	snap ring
33. Drive End Bearing Condition	metal fatigue







24 0	Nanacita Deixa Fuel December Drand	ald
	Opposite Drive End Bearing Brand	skf
35. C	Opposite Drive End Bearing Number-	6215
36. C	Opposite Drive End Bearing Qty.	1
37. C	Opposite Drive End Bearing Type	(Ball) Ball Bearing
38. C	Opposite Drive End Lubrication Type	(Grease) Grease Lubricated
39. C	Opposite Drive End Bearing Insulation or Grounding Device?	
40. C	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	snap ring
41. C	Opposite Drive End Bearing Condition	
S	igns of frosting	



42.	Drive End Seal	
-	Seal kit Customer brought replacement	
43.	Opposite Drive End Seal	slinger
Rotor	Inspection	
44.	Rotor Type/Material	(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast
45.	Growler Test	(Pass) Pass
46.	Number of Rotor Bars	
47.	Rotor Condition	pass
48.	List the Parts needed for the Repair Below	
	Customer supplied essentials	
49.	Signature of Technician that Disassembled Motor	Cw
(Mrien	

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 Housing	ng	
		0 Degrees	90 Degrees	120 Degrees
	53.	3. 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
		2.5599	2.5598	2.5599
	55.	Drive End Bearing Shaft Fit Condition		(P) Pass
	56.	Opposite Drive End Bearing Shaft Fit		
		0 Degrees	60 Degrees	120 Degrees
		2.9531	2.9532	2.9532

	(P) Pass
120 Degrees	
4.7252	
	(P) Pass
120 Degrees	
	(E) E . II
	(F) Fail
	Cw
d seal	
	4.7252

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70. Initial Balance Readings

Drive End

Opposite Drive End



71. Final Balance Readings

Drive End

Opposite Drive End



72. Technician Cw

Assembly

73. QC Check All Parts for Cleanliness Prior to Assembly

Cw

74. Photograph All Major Components prior to assembly











75.	Final Insulation Resistance Test	Megohms
76.	Assembled Shaft Endplay	inches
77.	Assembled Shaft Runout	inches





79. Test Run Amperage
Amps Amps Amps



80.	Drive End Vibration Readings - Inches	Per Second	
	Horizontal	Vertical	Axial
81.	81. Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
82.	82. Ambient Temperature - Fahrenheit		
83. Drive End Bearing Temps - Fahrenheit			
	5 Minutes	10 Minutes	15 Minutes
84.	84. Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
85.	85. Document Final Condition with Pictures after paint		









86. Final Pics and QC Review

Cw

Co sign: TRH



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- 3. SCOPE OF GOODS AND/OR SERVICES. The goods and/or services provided by Hi-Speed pursuant to any quotation shall be limited exclusively to those goods and/or services expressly identified therein. Hi-Speed does not assume any responsibility and/or liability for the failure to provide any other goods and/or services not identified in any quotation. Modifications, additions or deletions to or from the scope referenced in any quotation shall only bee effective if evidenced in writing and signed by Hi-Speed. The sale of any of all goods and/or services affected by such modification, addition or deletion shall be subject to these same Standard Terms and Conditions whether or not referenced therein.
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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.
- 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. <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.
- 12. ABANDONED EQUIPMENT. Hi-Speed requires that Buyer promptly pick up or provide shipment instructions for Buyer equipment or other Buyer property in Hi-Speed's possession. If equipment or other Buyer property is left with Hi-Speed and not picked up within six (6) months after Hi-Speed's final action related to the applicable property (e.g. evaluation, teardown, estimate, completion of services), Hi-Speed will consider such property abandoned and may dispose of it in accordance with applicable law. Buyer agrees to hold Hi-Speed harmless for any damage or claim for such abandoned property and acknowledges that Hi-Speed may discard or recycle it at Hi-Speed's sole and absolute discretion. Specifically, Hi-Speed may sell Buyer's abandoned property at a private or public sale and retain the proceeds to offset Hi-Speed's storage, inspection and servicing costs. For the avoidance of doubt, Hi-Speed reserves its statutory and other lawful liens for unpaid charges related to abandoned property.
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- 14. <u>NONWAIVER.</u> No course of dealing or failure of either party to strictly enforce any term, right, or condition of these Standard Terms and Conditions will be construed as a waiver of such term, right or condition. Any waiver by Hi-Speed will only be in writing and will waive no succeeding breach of a term, right or condition.
- 15. **ASSIGNMENT.** The rights and obligations of the parties shall neither be assigned nor delegated without the prior written consent of the other party. However, any party may assign or delegate its respective rights and obligations, in whole or in part, (i) to any subsidiary, (ii) pursuant to other financing, merger or reorganization or (iii) pursuant to any sale or transfer of substantially all of the assets of the assigning party. These Standard Terms and Conditions shall bind the heirs, successors and assigns of the parties hereto.
- 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.