

LR Motor Shop Repairs

EVERY DAY SINCE 1946

Job Number 104455

Prepared for Buzzi Unicem

2415 Pier Street MEMPHIS TN 38113

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AC Inspection as Found - LR MOTOR SHOP

AC Inspection - Rev. 2: UD1804/77149221

1.0





AC Inspection as Found

Buzzi Unicem 2415 Pier Street MEMPHIS, TN 38113

FolderID: 104455 FormID: 24119269

AC Inspection - Rev. 2

LR MOTOR SHOP Location: Serial Number: UD1804/77149221 **Description:**20 HP SIEMANS

Hi-Speed Job Number:	104455
Manufacturer:	Siemens
Product Number:	1AV3137A1PC30051CA700A
Spec/ID #:	D-90441
Serial Number:	UD1804/77149221
HP/kW:	20 (HP)
RPM:	3565 (RPM)
Voltage:	460
Current:	24.5 (Amps)
Phase:	Three
Hz:	460 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	6
J-box Included:	Complete
Date Received:	05/01/2025
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	Yes
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: 5 - High

9 - Good

Overall Condition

1. Report Date 05/01/2025

2. Nameplate Picture



3. Photos of all six sides of the machine.









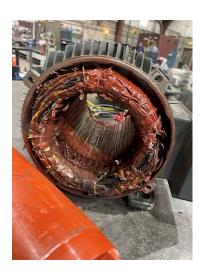




















4. Describe the Overall Condition of the Equipment as Received Rewind, machine drive end shaft fit. And bearings 5. Distance from the end of the shaft to the Coupling/Sheave inches 6. Is this a UL Listed Motor (No) No 7. Is the motor water cooled or can be pressure checked before teardown (No) No Initial Mechanical/Electrical 8. Does Shaft Turn Freely? (Y) Yes 9. Does the shaft require T.I.R in Lathe to identify additional repairs? (No) No 10. Does Shaft Have Visible Damage? (No) No 11. Assembled Shaft Runout 0.001 Inches 12. Assembled Shaft End Play inches 13. Air Gap Variation <10% 14. Lead Condition (P) Pass 15. Lead Length 9 Inches 16. Does it have Lugs?, If so what is the Stud Size? (Yes) Yes 17. Lead Numbers u1v1w1u2v2w2u3v3w3u4v4w4 18. Are the Leads insulated with Chico or other material (No) No 19. Frame Condition good 20. Fan Condition (N) NA				
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12. Assembled Shaft End Play 13. Air Gap Variation <10% 14. Lead Condition 15. Lead Length 16. Does it have Lugs?, If so what is the Stud Size? 17. Lead Numbers 18. Are the Leads insulated with Chico or other material 19. Frame Condition 10. Inches (P) Pass (P) Pass (Yes) Yes (Yes) Yes (Yes) Yes (No) No		10.	Does Shaft Have Visible Damage?	(No) No
13. Air Gap Variation <10% 14. Lead Condition 15. Lead Length 16. Does it have Lugs?, If so what is the Stud Size? 17. Lead Numbers 18. Are the Leads insulated with Chico or other material 19. Frame Condition (P) Pass (P) Pass (Yes) Yes (Yes) Yes (Yes) Yes (No) No 19. Frame Condition		11.	Assembled Shaft Runout	0.001 Inches
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17. Lead Numbers 18. Are the Leads insulated with Chico or other material 19. Frame Condition 10. Lead Numbers 11. Lead Numbers 12. u1v1w1u2v2w2u3v3w3u4v4w4 (No) No 13. good		15.	Lead Length	9 Inches
 18. Are the Leads insulated with Chico or other material 19. Frame Condition (No) No good 		16.	Does it have Lugs?, If so what is the Stud Size?	(Yes) Yes
19. Frame Condition good		17.	Lead Numbers	u1v1w1u2v2w2u3v3w3u4v4w4
3		18.	Are the Leads insulated with Chico or other material	(No) No
20. Fan Condition (N) NA		19.	Frame Condition	good
		20.	Fan Condition	(N) NA

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21.	Does motor have internal fan?	(No) No	
22.	Broken or Missing Components	missing fan and fan cover	
nitial	Electrical Inspection		
	Insulation Resistance/Megger	0 Megohms	
24.	Winding Resistance		
	1-2 1-3	2-3	
	0 0	0	
25.	Perform Surge Test	(F) Fail	
26.	Number of Stator Slots	36	
27.	Stator Condition	rewind	
28.	Stator Thermistors/Ohms		
29.	Stator Overloads/Ohms		
/lecha	anical Inspection		
30.	Drive End Bearing Brand	NTN	
31.	Drive End Bearing Number-	6308z	
32.	Drive End Bearing Qty.	1	
33.	Drive End Bearing Type	(Ball) Ball Bearing	
34.	Drive End Lubrication Type	(Grease) Grease Lubricated	
35.	Drive End Bearing Insulation or Grounding Device	? no	
36.	Drive End Wavy Washer/Snap-Ring Other Retenti	ion Device? no	
37.	Drive End Bearing Condition	worn	
38.	Opposite Drive End Bearing Brand	NTN	
39.	Opposite Drive End Bearing Number-	6208z	
40.	0. Opposite Drive End Bearing Qty.		
41.	. Opposite Drive End Bearing Type (Ball) Ball Bearing		
42.	Opposite Drive End Lubrication Type (Grease) Grease Lubricated		
43.	. Opposite Drive End Bearing Insulation or Grounding Device? no		
44.	Opposite Drive End Wavy Washer/Snap-Ring Oth	er Retention Device? no	
45.	. Opposite Drive End Bearing Condition worn		
46.	. Drive End Seal		
47.	Opposite Drive End Seal		
Rotor	Inspection		
48.	Rotor Type/Material	(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast	
49.	Growler Test	(Pass) Pass	
50.	Number of Rotor Bars	28	
51.	Rotor Condition	pass	
52.	List the Parts needed for the Repair Below		
	Rewind. Machine drive end shaft fit. 6308z and 6208z		
53.	Signature of Technician that Disassembled Motor	Trevor Hall	
Mecha	anical Fits- Rotor		
54.	Shaft Runout	0.001 inches	

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55.	Rotor Runout			
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
	21110 2110 2001111g 1 K	Titolo. Body	opposite ziive ziia zeaiiiig	
56.	Coupling Fit Closest to Bearing Housi	ng		
	0 Degrees	90 Degrees	120 Degrees	
-	Tapered			
57.	Coupling Fit Closest to the end of the	Shaft		
	0 Degrees	60 Degrees	120 Degrees	
-	Tapered			
58.	3	00.5	100 5	
	0 Degrees	60 Degrees	120 Degrees	
	1.5711	1.5711	1.5711	
59.	3		(F) Fail	
-	Undersized			
60.	Opposite Drive End Bearing Shaft Fit	00.5	100 5	
	0 Degrees	60 Degrees	120 Degrees	
0.4	1.5747	1.5747	1.5747	
61.	11 0	Condition	(F) Fail	
00	Undersized			
62.	Shaft Air Seal Fits	Occasion Disas Ford Air Occal		
	Drive End Air Seal	Opposite Drive End Air Seal		
N. 4 L	good	good		
	anical Fits- Bearing Housings			
63.	Drive End - Endbell Bearing Fit	00 5	400 B	
	0 Degrees	60 Degrees	120 Degrees	
C4	3.5433	3.5434	3.5433	
	Drive End - Endbell Bearing Fit Condi		(P) Pass	
65.	11		420 Degrees	
	0 Degrees	60 Degrees	120 Degrees	
66	3.1496 Opposite Drive End - Endbell Bearing	3.1496	3.1497 (P) Pass	
66. 67.		Fit Condition	(r <i>)</i> rass	
07.	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
68.	End Bell Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
	good	good		
69.	List Machine Work Needed Below			
	Machine DE shaft			
70.	Technician		Trevor Hall	
	// 1//			
13	[-]rl[
1				
	Co sign: CRW			

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Root	Root Cause of Failure				
71.	Failure locations				
	Windings, bearings and drive end shaft	Windings, bearings and drive end shaft fit			
72.	Root cause of failure				
	Windings look single phased. Shaft bed	came undersized and took out the drive end bea	ring.		
Dynar	mic Balance Report				
73.	Rotor Weight and Balance Grade				
	Rotor Weight	Balance Grade			
74.	Initial Balance Readings				
	Drive End	Opposite Drive End			
7.5	F: 10.1 D !!				
75.	Final Balance Readings	Occasion District			
	Drive End	Opposite Drive End			
76	Technician				
Rewin					
	Core Test Results - Watts loss per Po	ound			
	Pre-Burnout Post Burnout				
	1 ost Burnout				
78.	Core Hot Spot Test				
	Pre-Burnout	Post-Burnout			
	Post Rewind Electrical Test- Insulation Resistance				
	Post Rewind Polarization Index				
81.	Post Rewind Winding Resistance				
	1-2	1-3	2-3		
82	Post Rewind Surge Test				
	Post Rewind Hi-Pot				
	Technician				
	anical Fits- Rotor - Post Repair				
	Shaft Runout Post Repair				
	Rotor Runout Post Repair				
00.	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing		
	Dive the Bearing Fit	Rotor Body	Opposite Brive End Bearing		
87.	Coupling Fit Closest to Bearing Housi	ng Post Repair			
	0 Degrees	90 Degrees	120 Degrees		
88.	Coupling Fit Closest to the end of the	·			
	0 Degrees	60 Degrees	120 Degrees		
90	Drive End Regring Shoff Eit Boot Boot	oir.			
89.	Drive End Bearing Shaft Fit Post Repa		120 Dograda		
	0 Degrees	60 Degrees	120 Degrees		
90.	Opposite Drive End Bearing Shaft Fit	Post Repair			
	0 Degrees	60 Degrees	120 Degrees		
	3	3	3		

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91.	91. Shaft Air Seal Fits Post Repair					
	Drive End Air Seal Opposite Drive End Air Seal					
	Shaft Repair Sign-off					
Assen	•					
	QC Check All Parts for Cleanliness Pr	<u> </u>				
	Photograph All Major Components prior to assembly					
95.	Final Insulation Resistance Test					
96.	s. Assembled Shaft Endplay					
	7. Assembled Shaft Runout					
98.	98. Test Run Voltage					
	Volts	Volts	Volts			
99.	Test Run Amperage					
	Amps	Amps	Amps			
100.	100. Drive End Vibration Readings - Inches Per Second					
	Horizontal	Vertical	Axial			
101.	101. Opposite Drive End Vibration Readings - Inches Per Second					
	Horizontal	Vertical	Axial			
102.	Ambient Temperature - Fahrenheit					
	. Drive End Bearing Temps - Fahrenheit					
	5 Minutes	10 Minutes	15 Minutes			
	o Mindred	To Minutes	To Milliatos			
104.	04. Opposite Drive End Bearing Temps - Fahrenheit					
	5 Minutes	10 Minutes	15 Minutes			
105	105. Document Final Condition with Pictures after paint					
	Final Pics and QC Review					
100.	a and all all review					

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- 8. <u>WARRANTIES.</u> 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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- 9. LIMITATION OF DAMAGES. HI-SPEED SHALL HAVE NO LIABILITY TO BUYER WITH RESPECT TO THE SALE OR DELIVERY OF ANY GOODS OR THE REPAIR THEREOF OR WITH RESPECT TO THE SALE OR PERFORMANCE OF ANY SERVICES, FOR LOST PROFITS, SPECIAL, CONSEQUENTIAL, EXEMPLARY, PUNITIVE OR INCIDENTAL DAMAGES OF ANY KIND OR NATURE WHETHER ARISING IN CONTRACT, TORT, GOODS LIABILITY OR OTHERWISE, EVEN IF HI-SPEED WAS ADVISED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGES. HI-SPEED SHALL NOT BE LIABLE FOR ANY DAMAGES OR DELAYS CAUSED BY ANY FAILURE TO MAKE ANY DELIVERY OF GOODS BY ANY EXPECTED TIME OR DATE OR THE FAILURE TO PROVIDE OR COMPLETE ANY SERVICES BY ANY EXPECTED DATE OR TIME. IN NO EVENT SHALL HI-SPEED BE LIABLE TO BUYER FOR ANY DAMAGES WHATSOEVER IN EXCESS OF THE TOTAL PRICE PAID FOR ALL GOODS AND/OR SERVICES HEREUNDER OR REFERENCED IN ANY QUOTATION OR THE PURCHASE ORDER.
- 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.
- 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.
- 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.