

EVERY DAY SINCE 1946

LR Motor Shop Repairs

Job Number 102722

Prepared for Arauco-Malvern MDF (10298)

1275 Willamette Rd Malvern AR 72104

Table of Contents

AC Inspection as Found - LR MOTORSHOP



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

> FolderID: 102722 FormID: 19955053

AC Inspection as Found

Arauco-Malvern MDF (10298) 1275 Willamette Rd Malvern, AR 72104

AC Inspection - Rev. 2	Hi-Speed Job Number:	102722	
Location: LR MOTORSHOP	Manufacturer:	Reliance	
Serial Number:	Product Number:	01UBZ7170401G	
Description:30HP RELIANCE 1765RPM	HP/kW:	30 (HP)	
	RPM:	1765 (RPM)	
	Frame:	286T	
	Voltage:	460	
	Phase:	Three	
	Hz:	60 (Hz)	

Froduct Number.	01002/1/04010
HP/kW:	30 (HP)
RPM:	1765 (RPM)
Frame:	286T
Voltage:	460
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	3
J-box Included:	Half
Coupling/Sheave:	None
Date Received:	04/02/2024
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: 🔴 4 - High

8 - Good

Overall Condition

1. Report Date

04/02/2024

2. Nameplate Picture



3. Photos of all six sides of the machine.

























	4.	Describe the Overall Condition of the Equipment as Received Filthy	
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 Inches
	9.	Assembled Shaft End Play	0 inches
	10.	Air Gap Variation <10%	none
	11.	Lead Condition	(P) Pass
	12.	Lead Length	12 Inches
	13.	Does it have Lugs?, If so what is the Stud Size?	(Yes) Yes
	•	3/8	
	14.	Lead Numbers	1-3
	15.	Frame Condition	good
	16.	Fan Condition	(P) Pass
	17.	Broken or Missing Components	none
In	itial	Electrical Inspection	
	18.	Insulation Resistance/Megger	2000 Megohms



19. Winding Resistance			
1-2	1-3	2-3	
.966	.966	.966	

20.	Perform Surge Test	(P) Pass
21.	Number of Stator Slots	36
22.	Stator Condition	good
23.	Stator Thermistors/Ohms	none
24.	Stator Overloads/Ohms	none
Mecha	anical Inspection	
25.	Drive End Bearing Brand	SKF



26.	Drive End Bearing Number-	6310
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?	na
31.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	na
32.	Drive End Bearing Condition	
	Na	
33.	Opposite Drive End Bearing Brand	skf
34.	Opposite Drive End Bearing Number-	6310
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?	none
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	none
40.	Opposite Drive End Bearing Condition	worn from lack of lubrication
41.	Drive End Seal	none
42.	Opposite Drive End Seal	none
Rotor	Inspection	
43.	Rotor Type/Material	(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast
44.	Growler Test	(Pass) Pass
45.	Number of Rotor Bars	40
46.	Rotor Condition	good
47.	List the Parts needed for the Repair Below	
	6210 6210	

6310, 6310



Mech	anical Fits- Rotor			
49.	Shaft Runout			0 inches
50.	Rotor Runout			
	Drive End Bearing Fit	Rotor Body	Opposite Drive End E	Bearing
	0	0	0	
51.	Coupling Fit Closest to Bearing Housi	ng		
	0 Degrees	90 Degrees	120 Degrees	
	1.626	1.626	1.626	
52.	Coupling Fit Closest to the end of the	Shaft		
	0 Degrees	60 Degrees	120 Degrees	
	1.625	1.625	1.625	
53.	Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	1.962	1.962	1.962	
5 4.	Drive End Bearing Shaft Fit Condition			(P) Pass
55.	Opposite Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	1.962	1.962	1.962	
56.	Opposite Drive End Bearing Shaft Fit	Condition		(P) Pass
57.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
	ok	ok		
Mech	anical Fits- Bearing Housings			
58.	Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	4.3321	4.3321	4.3321	
• 59.	Drive End - Endbell Bearing Fit Condi	tion		(F) Fail
60.	Opposite Drive End - Endbell Bearing	Fit		
	0 Degrees	60 Degrees	120 Degrees	
	4.3321	4.3321	4.3321	
6 1.	Opposite Drive End - Endbell Bearing	Fit Condition		(F) Fail
62.	Bearing Cap Condition			
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
	na	na		
63.	End Bell Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
	ok	ok		
64.	List Machine Work Needed Below			
	Sleeve de. Sleeve ode.			

65.	Technician		David Maclin
	9		
Root	Cause of Failure		
66.	Failure locations		
	Bearings		
67.	Root cause of failure		
	Loss of lubrication		
Dynar	nic Balance Report		
68.	Rotor Weight and Balance Grade		
	Rotor Weight	Balance Grade	
_			
-	Na		
69.	Initial Balance Readings		
	Drive End	Opposite Drive End	
	084	1.02	
70.	Final Balance Readings		
	Drive End	Opposite Drive End	
	0.15	026	



71. Technician

Mechanical Fits- Bearing Housings - Post Repair

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RW

72.	72. Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
	4.3312	4.3312	4.3311



73.	73. Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
	4.331	4.331	4.331



Opposite Drive End Bearing Cap
Opposite Drive End Air Seal
Gary

M

Assembly



78. Photograph All Major Components prior to assembly













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(Complete) Complete

1.8







79. Final Insulation Resistance Test





16,150 Megohms



80.	Assembled Shaft Endplay <i>Na</i>			inches
81.	Assembled Shaft Runout			0.0002 inches
82.	Test Run Voltage			
	Volts	Volts	Volts	
	455	455	456	
	Co witness DM			





With fan

83.	Test Run Amperage	
	Amps	

11.	11.4		
XP	рнен		
A18.00	845 (II)		
0455	0455		
	a 144		
0114	0113		



0456



Amps

Co witness DM		With fan				
84.	. Drive End Vibration Readings - Inches Per Second					
	Horizontal	Vertical		Axial		
	0.01	0.007		0.01		
85.	5. Opposite Drive End Vibration Readings - Inches Per Second					
	Horizontal	Vertical		Axial		
	0.05	0.003		0.01		
86.	. Ambient Temperature - Fahrenheit					
-	Na					
87.	. Drive End Bearing Temps - Fahrenheit					
	5 Minutes	10 Minutes		15 Minutes		
	Na					
88.	. Opposite Drive End Bearing Temps - Fahrenheit					
	5 Minutes	10 Minutes		15 Minutes		
-	Na					

Amps

11.3

89. Document Final Condition with Pictures after paint







90. Final Pics and QC Review

RW





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- 2. PRICE. All quoted prices shall remain firm and binding for a period of thirty (30) days from the date of quotation or for the period specifically stated in the quotation. The price for any and all goods and/or services ordered or approved by Buyer after thirty (30) days from the date of any quotation are subject to any increase in price that may occur after the expiration of thirty (30) days from the issuance of the quotation and the date the Buyer releases any shipment.
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- 4. <u>BILLING AND PAYMENT TERMS.</u> 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.
- 5. DELIVERY OF GOODS AND/OR SERVICES. 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.
- 6. 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.
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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

TermsAndConditions

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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. <u>GOVERNING LAW AND JURISDICTION.</u> 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. <u>ABANDONED EQUIPMENT.</u> 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.
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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.