

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

LR Motor Shop Repairs

Job Number 103356

Prepared for Paul Morrell Formalwear

120 S Victory St Little Rock AR 72201

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AC Inspection - Rev. 2: E9041.51

1.0





AC Inspection as Found

Paul Morrell Formalwear

120 S Victory St Little Rock, AR 72201

FolderID: 103356 FormID: 21278235

AC Inspection - Rev. 2

LITTLE ROCK MOTOR SHOP Location:

Serial Number: E9041.51

Description: 3HP BROOK HANSEN

Hi-Speed Job Number:	103356
Manufacturer:	Other
Serial Number:	E9041.51
HP/kW:	3 (HP)
RPM:	3480 (RPM)
Frame:	W-DA182TC-M
Voltage:	230 / 460
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	TEFC
# of Leads:	9
J-box Included:	Half
Coupling/Sheave:	Fan
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**





8 - Good

Overall Condition

1. Report Date

2. Nameplate Picture



3. Photos of all six sides of the machine.









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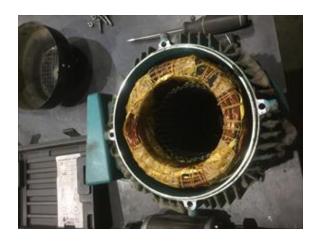










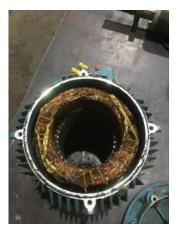












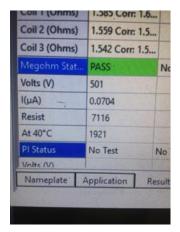
4. Describe the Overall Condition of the Equipment as Received Dirty
5. Distance from the end of the shaft to the Coupling/Sheave inches Unattached
6. Report Date [COPY]
Initial Mechanical/Electrical
7. Does Shaft Turn Freely?
(N) No
8. Does the shaft require T.I.R in Lathe to identify additional repairs?
(No) No

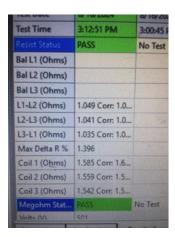
(Yes) Yes

Shaft is damaged where the air gap is in end bell



10.	Assembled Shaft Runout	Inches		
11.	Assembled Shaft End Play	inches		
12.	Air Gap Variation <10%			
13.	Lead Condition	(P) Pass		
14.	Lead Length	8 Inches		
15.	Does it have Lugs?, If so what is the Stud Size?	(No) No		
16.	Lead Numbers	1-9		
17.	Frame Condition			
18.	Fan Condition	(P) Pass		
19.	Broken or Missing Components	j-box cover and bolts for cover and fan cover		
Initial Electrical Inspection				
20.	Insulation Resistance/Megger	Megohms		





22. Perform Surge Test

(P) Pass



23.	Number of Stator Slots	36
24.	Stator Condition	pass
25.	Stator Thermistors/Ohms	
26.	Stator Overloads/Ohms	
Mecha	anical Inspection	
27.	Drive End Bearing Brand	
28.	Drive End Bearing Number-	6206
29.	Drive End Bearing Qty.	1
30.	Drive End Bearing Type	(Ball) Ball Bearing
31.	Drive End Lubrication Type	(Grease) Grease Lubricated
32.	Drive End Bearing Insulation or Grounding Device?	
33.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	wavy washer

34. Drive End Bearing Condition

Contamination



35.	Opposite Drive End Bearing Brand	NSK
36.	Opposite Drive End Bearing Number-	6205
37.	Opposite Drive End Bearing Qty.	1
38.	Opposite Drive End Bearing Type	(Ball) Ball Bearing
39.	Opposite Drive End Lubrication Type	(Grease) Grease Lubricated
40.	Opposite Drive End Bearing Insulation or Grounding Device?	
41.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	snap ring
42.	Opposite Drive End Bearing Condition	
•	Wear	



43.	Drive End Seal 30-42-7 TTO	
44.	Opposite Drive End Seal	25-37-7 NTK
Rotor	Inspection	
45.	Rotor Type/Material	(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast
46.	Growler Test	(Pass) Pass
47.	Number of Rotor Bars	
48.	Rotor Condition	pass

49. List the Parts needed for the Repair Below

6206 6205 30-42-7 TTO seal 25-37-7 NTK seal 6206 sleeve

50. Signature of Technician that Disassembled Motor

 Cw

Chran

Mechanical Fits- Rotor					
5	1.	Shaft Runout			inches
5	2.	Rotor Runout			
		Drive End Bearing Fit	Rotor Body	Opposite Drive End B	earing
5	53. Coupling Fit Closest to Bearing Housing				
		0 Degrees	90 Degrees	120 Degrees	
_					
54. Coupling Fit Closest to the end of the Shaft					
		0 Degrees	60 Degrees	120 Degrees	
5	5.	Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		1.1812	1.1812	1.1812	
• 5	6.	Drive End Bearing Shaft Fit Condition			(P) Pass
5	7.	Opposite Drive End Bearing Shaft Fit			
		0 Degrees	60 Degrees	120 Degrees	
		0.9843	0.984400000000001	0.9844000000000001	
• 5	8.	Opposite Drive End Bearing Shaft Fit	Condition		(P) Pass
5	9.	Shaft Air Seal Fits			
		Drive End Air Seal	Opposite Drive End Air Seal		
Med	Mechanical Fits- Bearing Housings				





61.	. Drive End - Endbell Bearing Fit Condition			(F) Fail
62.	Opposite Drive End - Endbell Bearing Fit			
	0 Degrees	60 Degrees	120 Degrees	
	2.0472	2.0472	2.0471	
63.	Opposite Drive End - Endbell Bearing	Fit Condition		(P) Pass
64.	Bearing Cap Condition			
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
65.	End Bell Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		
66.	6. List Machine Work Needed Below			
	DE end bell bearing fit and DE shaft who	ere shaft goes through end bell air gap		
67.	Technician			Cw
	Molin			

Co sign: RRW

Root Cause of Failure

68. Failure locations

Bearings and DE end bell bearing fit

69. Root cause of failure

DE bearing locked up spinning in fit wearing fit out

Dynamic Balance Report

70. Rotor Weight and Balance Grade

Rotor Weight Balance Grade

71. Initial Balance Readings

Drive End Opposite Drive End

72.	Final Balance Readings			
	Drive End	Opposite Drive End		
	Technician			
	anical Fits- Bearing Housings - P	•		
74.	Drive End - Endbell Bearing Fit Post F			
	0 Degrees	60 Degrees	120 Degrees	
75.	Opposite Drive End - Endbell Bearing	Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees	
	3	<u> </u>	0	
76.	Bearing Cap Condition Post Repair			
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
77	End Bell Air Seal Fits Post Repair			
77.	Drive End Air Seal	Opposite Drive End Air Seal		
	Drive Erid Ali Seai	Opposite Drive End Ali Seai		
78.	End Bell Repair Sign-off			
Asser	nbly			
79.	QC Check All Parts for Cleanliness P	rior to Assembly		
80.	Photograph All Major Components pr	or to assembly		
81.	Final Insulation Resistance Test			
	Assembled Shaft Endplay			
	Assembled Shaft Runout			
84.	Test Run Voltage			
	Volts	Volts	Volts	
85.	Test Run Amperage			
00.	Amps	Amps	Amps	
86.	Drive End Vibration Readings - Inches	s Per Second		
	Horizontal	Vertical	Axial	
07	Opposite Drive End Vibration Booding	vo Inches Der Cocond		
87.	Opposite Drive End Vibration Reading Horizontal	Vertical	Axial	
	Horizoniai	vertical	Axiai	
88.	Ambient Temperature - Fahrenheit			
89.	Drive End Bearing Temps - Fahrenheit			
	5 Minutes	10 Minutes	15 Minutes	
90.	Opposite Drive End Bearing Temps -			
	5 Minutes	10 Minutes	15 Minutes	
Q1	Document Final Condition with Picture	es after paint		
	Final Pics and QC Review	oo allor punit		
02.	a. i loo and ao itomon			

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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.
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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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- 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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