

LR Motor Shop Repairs

Job Number 100638

Prepared for Union Pacific-Vine St 10945

1020 N. Vine Street North Liittle Rock AR

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AC Recondition As Found - Shop

AC Recondition - Rev. 2: LV464023

1.0



FolderID: 100638

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AC Recondition As Found

Union Pacific-Vine St 10945

1020 N. Vine Street North Liittle Rock, AR

Location:

AC Recondition - Rev. 2

Serial Number: LV464023

Description:60HP GE 1200RPM 405Z

Shop

Hi-Speed Job Number:	100638
Manufacturer:	GE
Product Number:	5MB405SN3227
Serial Number:	LV464022
HP/kW:	60 (HP)
RPM:	1160 (RPM)
Frame:	405Z
Voltage:	460
Current:	71.5
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.0
Enclosure:	TEFC
J-box Included:	None
Coupling/Sheave:	Coupling
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: 5 - Good



Overall Condition

1. Report Date

Nameplate Picture



























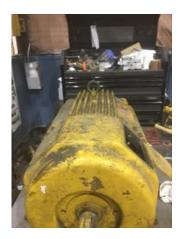
3. Photos of all six sides of the machine.





















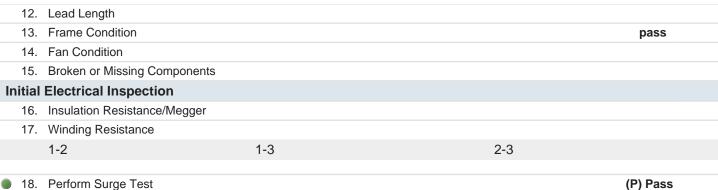




- 4. Describe the Overall Condition of the Equipment as Received
- 5. Distance from the end of the shaft to the Coupling/Sheave

Initial Mechanical/Electrical

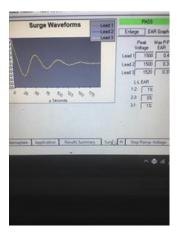
- 6. Does Shaft Turn Freely?
- 7. Does Shaft Have Visible Damage?
- 8. Assembled Shaft Runout
- 9. Assembled Shaft End Play
- 10. Air Gap Variation <10%
- 11. Lead Condition
 (P) Pass





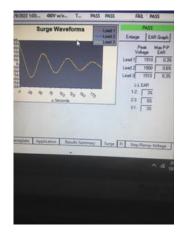


Motor





Slip ring



Slip ring Motor

19. Number of Stator Slots

20. Stator Condition wash and bake









Mechanical Inspection

21. Drive End Bearing Number-

6316



22. Drive End Bearing Qty.	1
23. Drive End Bearing Type	(Ball) Ball Bearing
24. Drive End Lubrication Type	(Grease) Grease Lubricated
25. Drive End Bearing Insulation or Grounding Device?	no
26. Drive End Wavy Washer/Snap-Ring Other Retention Device?	no
27. Drive End Bearing Condition	



29.	Opposite Drive End Bearing Qty.	1
30.	Opposite Drive End Bearing Type	(Ball) Ball Bearing
31.	Opposite Drive End Lubrication Type	(Grease) Grease Lubricated
32.	Opposite Drive End Bearing Insulation or Grounding Device?	no
33.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	no
34.	Opposite Drive End Bearing Condition	
35.	Drive End Seal	
36.	Opposite Drive End Seal	
Rotor	Inspection	
37.	Rotor Type/Material	
-	Wound rotor	
38.	Growler Test	(Pass) Pass
39.	Number of Rotor Bars	
40.	Rotor Condition	wash and bake



41. List the Parts needed for the Repair Below

42. Signature of Technician that Disassembled Motor

RW



	43.	Shaft Runout		
	44.	Rotor Runout		
		Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
	45.	Coupling Fit Closest to Bearing Housi	ng	
		0 Degrees	90 Degrees	120 Degrees
	46.	Coupling Fit Closest to the end of the	Shaft	
		0 Degrees	60 Degrees	120 Degrees
	47.	Drive End Bearing Shaft Fit		
		0 Degrees	60 Degrees	120 Degrees
		3.1499	3.1499	3.1499
	48.	Drive End Bearing Shaft Fit Condition		(P) Pass
	49.	Opposite Drive End Bearing Shaft Fit		
		0 Degrees	60 Degrees	120 Degrees
		2.7562	2.7562	2.7562
	50.	Opposite Drive End Bearing Shaft Fit	Condition	
	51.	Shaft Air Seal Fits		
		Drive End Air Seal	Opposite Drive End Air Seal	
R/	loobe	onical Fita Pooring Housings		
IV		anical Fits- Bearing Housings Drive End - Endbell Bearing Fit		
	52.	-	CO Degrees	120 Degrees
		0 Degrees	60 Degrees	120 Degrees
	F2	6.6939	6.6939	6.6939
		Drive End - Endbell Bearing Fit Condi		(P) Pass
	54.	Opposite Drive End - Endbell Bearing		120 Damasa
		0 Degrees	60 Degrees 5.9063	120 Degrees
		5.9063	******	5.9063
	55.	Opposite Drive End - Endbell Bearing Bearing Cap Condition	Fit Condition	(P) Pass
	56.	• •	Opposite Drive End Bearing Con	
		Drive End Bearing Cap	Opposite Drive End Bearing Cap	
	<i></i>	pass End Bell Air Seal Fits	pass	
	57.		Onnesite Drive Fred Air Cool	
		Drive End Air Seal	Opposite Drive End Air Seal	
		List Machine Work Needed Below		
59. Technician RW				
D	ynar	nic Balance Report		
	-	Rotor Weight and Balance Grade		
		Rotor Weight	Balance Grade	
		J		

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61.	Initial Balance Readings		
011	Drive End	Opposite Drive End	
	DIIVO EIIO	Opposite Drive End	
62.	Final Balance Readings		
	Drive End	Opposite Drive End	
		·	
63.	Technician		
Rewin	nd		
64.	Core Test Results - Watts loss per Po	ound	
	Pre-Burnout	Post Burnout	
65.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
66	Post Rewind Electrical Test- Insulatio	n Basistanca	
	Post Rewind Polarization Index	TINESISTATION	
	Post Rewind Winding Resistance		
00.	1-2	1-3	2-3
	1.2		
69.	Post Rewind Surge Test		
70.	Post Rewind Hi-Pot		
71.	Technician		
Root	Cause of Failure		
72.	Failure locations		
73.	Root cause of failure		
Mecha	anical Fits- Rotor - Post Repair		
74.	Shaft Runout Post Repair		
75.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
76.	Coupling Fit Closest to Bearing Housi	•	
	0 Degrees	90 Degrees	120 Degrees
77.	Coupling Fit Closest to the end of the	Shaft Past Panair	
77.	0 Degrees	·	120 Degrees
	0 Degrees	60 Degrees	120 Degrees
78.	Drive End Bearing Shaft Fit Post Rep	air	
	0 Degrees	60 Degrees	120 Degrees
	5 5		
79.	Opposite Drive End Bearing Shaft Fit	Post Repair	
	0 Degrees	60 Degrees	120 Degrees
80.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
		.,	
81.	Shaft Repair Sign-off		
Mecha	anical Fits- Bearing Housings - P	ost Repair	

82. Drive End - Endbell Bearing Fit Post Repair			
	0 Degrees	60 Degrees	120 Degrees
83.	Opposite Drive End - Endbell Bearing	Fit Post Repair	
	0 Degrees	60 Degrees	120 Degrees
84.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
85.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
86.	End Bell Repair Sign-off		

Assembly

87. Photograph All Major Components prior to assembly

(Complete) Complete









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Stator Slip ring

89.	Assembled Shaft Endplay		
90.	Assembled Shaft Runout		
91.	Test Run Voltage		
	Volts	Volts	Volts
	457	456	456



92.	Test Run Amperage		
	Amps	Amps	Amps
	20.6	21	19.4



93. Drive End Vibration Readings - Inches Per Second			
	Horizontal	Vertical	Axial
94.	Opposite Drive End Vibration Reading	gs - Inches Per Second	
	Horizontal	Vertical	Axial
95.	95. Ambient Temperature - Fahrenheit		
96.	96. Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
97.	Opposite Drive End Bearing Temps -	Fahrenheit	
	5 Minutes	10 Minutes	15 Minutes
98.	Final Test Run Sign-off		
99.	99. Document Final Condition with Pictures after paint		

























100. Final Pics and QC Review

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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. 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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