

FolderID: 103320 FormID: 21971907

AC Inspection as Found Arkansas Electric Cooperative (12029)

410 Henderson Rd

Malvern, AR 72104

AC Inspection - Rev. 2

Location:	LR Motor Shop
Serial Number:	2003

Description:2250HP HITACHI 505RPM

Hi-Speed Job Number:	103320
Manufacturer:	Other
Product Number:	M: 377468-2
Serial Number:	2003
HP/kW:	2250 (HP)
RPM:	505 (RPM)
Frame:	VERTICAL
Voltage:	6600
Current:	185 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.15
Enclosure:	WPI
# of Leads:	3
J-box Included:	Complete
Coupling/Sheave:	Coupling
Bearing RTDs:	Yes
Stator RTDs:	Yes
Repair Stage:	Final
Rewind:	No
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	Yes
Winding Type :	Form Coil
Bearing Type:	Rolling Element

Priorities Found: 🔵 1 - High

10 - Good

Overall Condition

Report Date 1.

10/25/2024

Ο

2. Nameplate Picture



3. Photos of all six sides of the machine.









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P37

P45











































































































































Removed gaulding from keyway.







Machined new key.



Removed gaulding from keyseat.

- Describe the Overall Condition of the Equipment as Received Motor is dirty inside and needs bearings replaced. Rotor was packed with dirt. Stator had a lot of trash behind the laminations.
- 5. Distance from the end of the shaft to the Coupling/Sheave

0 inches

P76



Ir	Initial Mechanical/Electrical				
	6.	Does Shaft Turn Freely?	(Y) Yes		
	7.	Does the shaft require T.I.R in Lathe to identify additional repairs?	(No) No		
	8.	Does Shaft Have Visible Damage?	(No) No		
	9.	Assembled Shaft Runout	Inches		
	•	Na			
	10.	Assembled Shaft End Play	inches		
	-	Na			
	11.	Air Gap Variation <10%			
	•	Na			
	12.	Lead Condition	(P) Pass		
	13.	Lead Length	15 Inches		

	14.	Does it have Lugs?, If so what is	the Stud Size?	((Yes) Yes	P94
	15.	Lead Numbers		-	T1 T2 T3	
	16.	Stator Temperature Detector Rati	ing and Function			
		Quantity	Rating	Quantity Passed		
		6				
		Each are 109.9 ohms.				
17. Bearing Temperature Detector Rating and Function						
		Quantity	Rating	Quantity Passed		
		2				
	18.	Frame Condition			Good	
	19.	Fan Condition			(P) Pass	

20.	Heater Quantity, Ratings				P118
	Quantity	Volts/Watts	Pas	ss/Fail	
	4	.22 kw	Pas	SS	
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21.	Broken or Missing Components			No	den .
22	Insulation Resistance/Megger			2000 Megohms	P8
<i></i> .				2000 mogerine	
mmillionalis) mm Window Tauta 1 183	Hay - 0 1288 2				
Tests Te	Et Bandag Et Bandag Et Bando III Etabase Strang Maan				
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COAR J	Teacher Station				
	Terring String String				
	Constant of the local division of the local				
	Martin C. Andrew C. Martin M. Ma Artin M. Martin M. Ma				
23.	Winding Resistance				
	1-2	1-3	2-3	}	
	0.2	0.2	0.2		









30. Drive End Bearing Number-





FJ-6 29456

P32





31.	Drive End Bearing Qty.	1	
32.	Drive End Bearing Type	(Thrust) Thrust	
33.	Drive End Lubrication Type	(Oil) Oil Lubricated	
34.	Drive End Bearing Insulation or Grounding Device?		P64
	168		



35. Drive End Wavy Washer/Snap-Ring Other Retention Device?

no

36. Drive End Bearing Condition







37.	Opposite Drive End Bearing Brand	NSK	
38.	Opposite Drive End Bearing Number-	6332 c3	P100
39.	Opposite Drive End Bearing Qty.	1	
40.	Opposite Drive End Bearing Type	(Ball) Ball Bearing	
41.	Opposite Drive End Lubrication Type	(Grease) Grease Lubricated	
42.	Opposite Drive End Bearing Insulation or Grounding Device?	no	
43.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	retaining nut and washer	
44.	Opposite Drive End Bearing Condition	worn	P119
•	Bearing shows signs of a bad check valve allowing the upper end to hammer. hammering.	Bearing has pitting from	

P83

45.	Drive End Seal			
46	Opposite Drive End Seal			
т 0.	Na			
Rotor	Inspection			
47.	Rotor Type/Material		(Copper Barred) Copper Barred Rotor	
48.	Growler Test		(Pass) Pass	
49.	Number of Rotor Bars		136	
50.	Rotor Condition		Good	
51.	List the Parts needed for the Re	pair Below		
	6332 c3 bearing FJ-6 29456			
52.		assembled Motor	Trevor Hall	
Mecha	anical Fits- Rotor			
53.	Shaft Runout		0.001 inches	
54.	Rotor Runout	Deter De l		
	Drive End Bearing Fit		Opposite Drive End Bearing	
55	Coupling Fit Closest to Bearing	Housing	0.002	
00.	0 Degrees	90 Degrees	120 Degrees	
	0 209.000	00 203.000	.20 209.000	
•	Pass			
56.	Coupling Fit Closest to the end of	of the Shaft		
	0 Degrees	60 Degrees	120 Degrees	
	Pass			
57.	Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	11.0245	11.0245	11.0246	
58.	Drive End Bearing Shaft Fit Con	dition	(P) Pass	

	59.	Opposite Drive End Bearing Shaft	Fit		
		0 Degrees	60 Degrees	120 Degrees	
		6.299	6.299	6.2991	
	60.	Opposite Drive End Bearing Shaft	Fit Condition	(P) Pass	3
	61.	Shaft Air Seal Fits			
		Drive End Air Seal	Opposite Drive End Air Seal		
		good	good		
	•	Pass			
M	echar	nical Fits- Bearing Housings			
	62.	Drive End - Endbell Bearing Fit			
		0 Degrees	60 Degrees	120 Degrees	
		20.472	20.472	20.472	
	63.	Drive End - Endbell Bearing Fit Co	ondition	(P) Pass	6
	64.	Opposite Drive End - Endbell Bea	ring Fit		
		0 Degrees	60 Degrees	120 Degrees	
		13.3858	13.3858	13.3858	
	65.	Opposite Drive End - Endbell Bea	ring Fit Condition	(P) Pass	6
	66.	Bearing Cap Condition			
		Drive End Bearing Cap	Opposite Drive End Bearing Cap		
		good	good		
	67.	End Bell Air Seal Fits			
		Drive End Air Seal	Opposite Drive End Air Seal		
		good	good		
	68.	List Machine Work Needed Below			
		Make a new key and fix where key g	joes into shaft.		
	69.	Technician		Trevor Hall	
	/				
		Infil			
R	oot C	ause of Failure			
	70.	Failure locations			
		Bearings, key, keyway and debris b	uildup inside motor.		
	71.	Root cause of failure			
		Normal wear and hammering of the	antiratchet device. Buildup of material	inside motor.	_
D	ynam	ic Balance Report			0



































































































78.	Final Insulation Resistance Test		50000 Megohms	5
79.	Assembled Shaft Endplay		0.001 inches	5
80.	Assembled Shaft Runout		0.001 inches	5
81.	Test Run Voltage			
	Volts	Volts	Volts	
	4500	4500	4500	
82.	Test Run Amperage			
	Amps	Amps	Amps	
	38	38	37	
83.	Drive End Vibration Readings - Ir	nches Per Second		
	Horizontal	Vertical	Axial	

	0.05	0.04	0.02	
84.	Opposite Drive End Vibration Rea	adings - Inches Per Second		
	Horizontal	Vertical	Axial	
	0.08	0.0700000000000001	0.02	
85.	Ambient Temperature - Fahrenhe	it		
	78			
86.	Drive End Bearing Temps - Fahre	enheit		
	5 Minutes	10 Minutes	15 Minutes	
	Na			
87.	Opposite Drive End Bearing Tem	ps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes	
	Na			
88.	Stator Temperatures- Fahrenheit			
	5 Minutes	10 Minutes	15 Minutes	
	Na			
89.	Document Final Condition with Pi	ctures after paint		
	Ready			
90.	Final Pics and QC Review		Trevor Hall	
	2 11			
	/ stall			
	1-100			
	Co sign: CRW			