

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

> FolderID: 102193 FormID: 18708432

AC Inspection as Found Rogers Group (01189502) 1032 Hwy 5 Cabot, AR 72023

AC Inspection - Rev. 2				
Location:	Shop			
Serial Number:				

Manufacturer:	Other
Serial Number:	HY20160704
HP/kW:	11 (kW)
RPM:	3516 (RPM)
Frame:	11C-160M1
Voltage:	460
Current:	17.5
Phase:	Three
Hz:	60 (Hz)
Enclosure:	TEFC
Coupling/Sheave:	None
Date Received:	12/12/2023
Repair Stage:	Final

Priorities Found: **3 - High**

5 - Good

Overall Condition



Report Date 1. 2. Nameplate Picture

P37



Photos of all six sides of the machine.

P45



























Describe the Overall Condition of the Equipment as Received Serviceable

Initial Mechanical/Electrical

6.

0

5. Does Shaft Turn Freely?

Does Shaft Have Visible Damage?

(Yes) Yes

(No) No P17





7. Assembled Shaft Runout 0.002 Inches 8. Assembled Shaft End Play inches 9. Air Gap Variation <10%

Lead Condition P56 10.



- 11. Lead Length
- Lead Numbers

13. Stator Temperature Detector Rating and Function
Quantity Rating Quantity Passed

14. Bearing Temperature Detector Rating and Function
Quantity Rating Quantity Passed

15. Frame Condition pass
16. Fan Condition (P) Pass P109



17. Heater Quantity, Ratings

Quantity Volts/Watts Pass/Fail

18. Broken or Missing Components none

Initial Electrical Inspection



19. Insulation Resistance/Megger Megohms P8

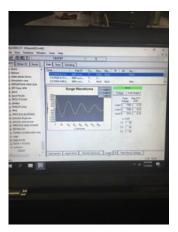






21. Perform Surge Test(P) PassP58





22.	Number of Stator Slots	30
23.	Stator Condition	pass
24	Stator Thermistors/Ohms	

25. Stator Overloads/Ohms

20.	Stator Overloads/Orinis		
Mecha	nical Inspection	ō	
26.	Drive End Bearing Brand	NSK	
27.	Drive End Bearing Number-	6309	P28



(Ball) Ball Bearing

P50

29. Drive End Bearing Type





30. Drive End Lubrication Type (Grease) Grease Lubricated
 31. Drive End Bearing Insulation or Grounding Device?
 32. Drive End Wavy Washer/Snap-Ring Other Retention Device? wavy washer
 33. Drive End Bearing Condition replace P80



34. Opposite Drive End Bearing Brand

NSK

35. Opposite Drive End Bearing Number
6309 P97





36. Opposite Drive End Bearing Qty.

37. Opposite Drive End Bearing Type (Ball) Ball Bearing

38. Opposite Drive End Lubrication Type (Grease) Grease Lubricated







43. Opposite Drive End Seal P121





44.	DE Sleeve Bearing Inside Diamet	er	
	0 degrees	120 degrees	240 degrees
45.	DE Sleeve Bearing Outside Diam	eter	
	0 degrees	120 degrees	240 degrees
46.	DE Sleeve Bearing Housing Insid	e Diameter	
	0 degrees	120 degrees	240 degrees
47.	DE Sleeve Bearing to Housing Cl	earance	
	0 degrees	120 degrees	240 degrees
48.	ODE Sleeve Bearing Inside Diam	eter	
	0 degrees	120 degrees	240 degrees
49.	ODE Sleeve Bearing Outside Dia	meter	
	0 degrees	120 degrees	240 degrees

50. ODE Sleeve Bearing H	ODE Sleeve Bearing Housing Inside Diameter			
0 degrees	120 degrees	240 degrees		
51. ODE Sleeve Bearing to	Housing Clearance			
0 degrees	120 degrees	240 degrees		
0 degrees	120 degrees	240 degrees		

Rotor Inspection

0

52. Rotor Type/Material

(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast

РЗ



53.	Growler Test (I	Pass) Pass
54.	Number of Rotor Bars	26
55.	Rotor Condition	pass
56.	List the Parts needed for the Repair Below	
	2) 6309 bearings. Repair both shaft bearing journals.	

Leven Holland

57. Signature of Technician that Disassembled Motor

Terrence Holland

Mechanical Fits- Rotor					
58.	Shaft Runout		0.001 inches		
59.	Rotor Runout				
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing		
60.	Coupling Fit Closest to Bearing H	ousing			
	0 Degrees	90 Degrees	120 Degrees		
61.	Coupling Fit Closest to the end of	the Shaft			
	0 Degrees	60 Degrees	120 Degrees		
62.	Drive End Bearing Shaft Fit				
	0 Degrees	60 Degrees	120 Degrees		
	1.7712	1.7712	1.7718		
-	Measures too small. Minimum is 1.	7718.			

 63. Drive End Bearing Shaft Fit Condition 64. Opposite Drive End Bearing Shaft Fit 0 Degrees 60 Degrees 1.7725 61.7725 65. Opposite Drive End Bearing Shaft Fit Condition 66. Shaft Air Seal Fits 66. Degrees 67. Drive End - Endbell Bearing Fit 68. Degrees 69. Opposite Drive End Searing Fit 0 Degrees 3.9373 3.9373 3.9373 3.9375 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9375 60 Degrees 3.9376 <li< th=""><th></th><th></th><th></th><th></th><th></th><th></th></li<>						
0 Degrees 60 Degrees 120 Degrees 1.7725 1.7726 1.7725 Measures too large. Maximum is 1.7722 ● 65. Opposite Drive End Bearing Shaft Fit Condition (F) Fail 66. Shaft Air Seal Fits Drive End Air Seal Opposite Drive End Air Seal Mechanical Fits- Bearing Housings 67. Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9373 3.9375 68. Drive End - Endbell Bearing Fit Condition (P) Pass 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9375 3.9376 3.9376 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap		63.	Drive End Bearing Shaft Fit Condition (F) Fail) Fail
1.7725		64.	Opposite Drive End Bearing Shaft	t Fit		
Mechanical Fits- Bearing Housings 67. Drive End - Endbell Bearing Fit Opegrees 3.9373 68. Drive End - Endbell Bearing Fit Opegrees 69. Opposite Drive End - Endbell Bearing Fit Opegrees 3.9375 69. Opposite Drive End - Endbell Bearing Fit Opegrees 3.9375 3.9376 3.9376 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass P			0 Degrees	60 Degrees	120 Degrees	
65. Opposite Drive End Bearing Shaft Fit Condition 66. Shaft Air Seal Fits Drive End Air Seal Opposite Drive End Air Seal Mechanical Fits- Bearing Housings 67. Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9373 3.9373 3.9375 68. Drive End - Endbell Bearing Fit Condition (P) Pass 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9375 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap			1.7725	1.7726	1.7725	
66. Shaft Air Seal Fits Drive End Air Seal Opposite Drive End Air Seal Mechanical Fits- Bearing Housings 67. Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9373 3.9373 3.9375 68. Drive End - Endbell Bearing Fit Condition (P) Pass 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9375 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap		-	Measures too large. Maximum is 1.	7722		
Mechanical Fits- Bearing Housings 67. Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9373 3.9373 3.9373 3.9375 68. Drive End - Endbell Bearing Fit Condition (P) Pass 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 120 Degrees 3.9375 3.9376 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap		65.	Opposite Drive End Bearing Shaft	t Fit Condition	(F) Fail
Mechanical Fits- Bearing Housings 67. Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9373 3.9373 3.9375 68. Drive End - Endbell Bearing Fit Condition (P) Pass 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9375 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap		66.	Shaft Air Seal Fits			
67. Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9373 3.9373 3.9375 68. Drive End - Endbell Bearing Fit Condition (P) Pass 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9375 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap			Drive End Air Seal	Opposite Drive End Air Seal		
67. Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9373 3.9373 3.9375 68. Drive End - Endbell Bearing Fit Condition (P) Pass 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9375 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap						
0 Degrees 60 Degrees 120 Degrees 3.9373 3.9373 3.9375 68. Drive End - Endbell Bearing Fit Condition (P) Pass 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9375 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap	Me	Mechanical Fits- Bearing Housings				o
3.9373 3.9373 3.9373 3.9373 3.9375 68. Drive End - Endbell Bearing Fit Condition (P) Pass 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9375 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap		67.	Drive End - Endbell Bearing Fit			
 68. Drive End - Endbell Bearing Fit Condition 69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 3.9375 3.9376 70. Opposite Drive End - Endbell Bearing Fit Condition 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap 			0 Degrees	60 Degrees	120 Degrees	
69. Opposite Drive End - Endbell Bearing Fit 0 Degrees 60 Degrees 120 Degrees 3.9375 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap			3.9373	3.9373	3.9375	
0 Degrees 60 Degrees 120 Degrees 3.9375 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap		68.	Drive End - Endbell Bearing Fit Co	ondition	(P)	Pass
3.9375 3.9376 3.9374 70. Opposite Drive End - Endbell Bearing Fit Condition (P) Pass 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap		69.	Opposite Drive End - Endbell Bea	ring Fit		
 70. Opposite Drive End - Endbell Bearing Fit Condition 71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap 			0 Degrees	60 Degrees	120 Degrees	
71. Bearing Cap Condition Drive End Bearing Cap Opposite Drive End Bearing Cap			3.9375	3.9376	3.9374	
Drive End Bearing Cap Opposite Drive End Bearing Cap		70.	Opposite Drive End - Endbell Bea	ring Fit Condition	(P)	Pass
		71.	Bearing Cap Condition			P52
pass pass			Drive End Bearing Cap	Opposite Drive End Bearing Cap		
			pass	pass		









72.	End Bell Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
73.	List Machine Work Needed Below		
74	Repair D.E. and O.DE bearing journ Technician	ais.	Terrence Holland
74.	Technician		Terrence Holland
2.	√)/		
/-			
	,	,	
Root C	ause of Failure		Ō
75.	Failure locations		3
	Shaft bearing journals.		
76.	Root cause of failure		P18
	Both bearing journals bad. Motor of	connection block terminals were missing	nuts on one side.
Dynam	ic Balance Report		
77.	Rotor Weight and Balance Grade		
	Rotor Weight	Balance Grade	
78.	Initial Balance Readings		
	Drive End	Opposite Drive End	
79.	Final Balance Readings		
	Drive End	Opposite Drive End	
80.	Technician		
Rewind	1		

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

Post Burnout

Post-Burnout

81. Core Test Results - Watts loss per Pound

83. Post Rewind Electrical Test- Insulation Resistance

Pre-Burnout

82. Core Hot Spot Test
Pre-Burnout

0.4	Deat Devised Delevisation Index			
84.	Post Rewind Polarization Index			
85.	Post Rewind Winding Resistance			
	1-2	1-3	2-3	
86.	Post Rewind Surge Test			
87.	Post Rewind Hi-Pot			
88.	Technician			
Mechai	nical Fits- Rotor - Post Repair			
89.	Shaft Runout Post Repair			
90.	Rotor Runout Post Repair			
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing	
91.	Coupling Fit Closest to Bearing Ho	ousing Post Repair		
	0 Degrees	90 Degrees	120 Degrees	
92.	Coupling Fit Closest to the end of	the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees	
	_	-	_	
93.	Drive End Bearing Shaft Fit Post F	Repair		
	0 Degrees	60 Degrees	120 Degrees	
	Ü	3	3	
94.	Opposite Drive End Bearing Shaft	Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees	
	· ·		o .	
95.	Shaft Air Seal Fits Post Repair			
	Drive End Air Seal	Opposite Drive End Air Seal		
		•		
96.	Shaft Repair Sign-off			
Mechai	nical Fits- Bearing Housings -	Post Repair		
97.	Drive End - Endbell Bearing Fit Po	ost Repair		
	0 Degrees	60 Degrees	120 Degrees	
	•		•	
98.	Opposite Drive End - Endbell Bear	ring Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees	
99.	Bearing Cap Condition Post Repair	ir		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap		
		, ,		
100.	End Bell Air Seal Fits Post Repair			
	Drive End Air Seal	Opposite Drive End Air Seal		
		• •		
101.	DE Sleeve Bearing Inside ID Post	Repair		
	Measure 1	Measure 2	Measure 3	
102.	DE Sleeve Bearing Outside ID Pos	st Repair		
	Measure 1	Measure 2	Measure 3	
	dadaro i		modelio o	

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

103.	DE Sleeve Bearing Inside OD Po	ost Repair				
	Measure 1	Measure 2	Measure 3			
104.	DE Sleeve Bearing Outside OD Post Repair					
	Measure 1	Measure 2	Measure 3			
	Wicasaro I	Wicdoure Z	Measure o			
105	End Dall Danair Sign off					
	End Bell Repair Sign-off	ant Dannin				
106.	ODE Sleeve Bearing Inside ID P	•				
	Measure 1	Measure 2	Measure 3			
107.	ODE Sleeve Bearing Outside ID	Post Repair				
	Measure 1	Measure 2	Measure 3			
108.	ODE Sleeve Bearing Inside OD	Post Repair				
	Measure 1	Measure 2	Measure 3			
109.	ODE Sleeve Bearing Outside Of	D Post Repair				
	Measure 1	Measure 2	Measure 3			
	Wicasaro I	Wicdoure Z	Measure o			
A	ala la c					
Assem	•	an Drianta Annanth				
	QC Check All Parts for Cleanline	·				
	Photograph All Major Componer	·				
	Final Insulation Resistance Test					
	Assembled Shaft Endplay					
114.	Assembled Shaft Runout					
115.	Test Run Voltage					
	Volts	Volts	Volts			
116.	Test Run Amperage					
	Amps	Amps	Amps			
	•					
117.	Drive End Vibration Readings - I	nches Per Second				
	Horizontal	Vertical	Axial			
	Honzontal	Vertical	Αλίαι			
118.	Opposite Drive End Vibration Re	adings - Inches Dor Socond				
110.	• •		Avial			
	Horizontal	Vertical	Axial			
	Ambient Temperature - Fahrenh					
120.	Drive End Bearing Temps - Fahr	enheit				
	5 Minutes	10 Minutes	15 Minutes			
121.	Drive End Bearing Temps - Fahr	enheit 20-30 Minutes				
	20 Minutes	25 Minutes	30 Minutes			
122	Drive End Bearing Temps - Fahr	enheit 35-45 Minutes				
	35 Minutes	40 Minutes	45 Minutes			
	oo wiii iddoo	10 Milliatos	10 Milliatos			

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

123.	Drive End Bearing Temps - Fahrenheit 50-60 Minutes			
	50 Minutes	55 Minutes	60 Minutes	
124.	. Opposite Drive End Bearing Temps - Fahrenheit			
	5 Minutes	10 Minutes	15 Minutes	
125.	. Opposite Drive End Bearing Temps - Fahrenheit 20-30 Minutes			
	20 Minutes	25 Minutes	30 Minutes	
126.	Opposite Drive End Bearing Temps - Fahrenheit 35-45 Minutes			
	35 Minutes	40 Minutes	45 Minutes	
127.	Opposite Drive End Bearing Ter			
	50 Minutes	55 Minutes	60 Minutes	
128.	Stator Temperatures- Fahrenhei			
	5 Minutes	10 Minutes	15 Minutes	
129.	·	Temperatures- Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes	
130.	Stator Temperatures- Fahrenhei			
	35 Minutes	40 Minutes	45 Minutes	
404	O. 1. T	. 50 00 M		
131.	Stator Temperatures- Fahrenhei	00.14		
	50 Minutes	55 Minutes	60 Minutes	
400	Degument Final Candition with 5	Diaturas after point		
	Document Final Condition with Pictures after paint			
133.	Final Pics and QC Review			

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.