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

AC Inspection as Found

PRODUCERS RICE STUTTGART
603 N. PARK AVE
STUTTGART, AR 72160

FolderID: 104081
FormID: 23216815

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	3446541612

Description:KICE IND.
NO HEADPLATE DATA

Hi-Speed Job Number:	104081
Manufacturer:	KICE
Product Number:	PD-4000
Serial Number:	3446541612
# of Leads:	Other
J-box Included:	None
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final

Priorities Found: **5 - High** **3 - Good**

Overall Condition

1. Report Date

2. Nameplate Picture P37

3. Photos of all six sides of the machine. P45

4.	Describe the Overall Condition of the Equipment as Received ***Rotors locked up and rusted.***		
5.	Distance from the end of the shaft to the Coupling/Sheave	**inches**	

Initial Mechanical/Electrical

6.	Does Shaft Turn Freely?	**(N) No**	
7.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(Yes) Yes**	
8.	Does Shaft Have Visible Damage?	**(Yes) Yes**	P26

9.	Assembled Shaft Runout ***Locked up, unable to perform***	**Inches**	
10.	Assembled Shaft End Play	**0 inches**	
11.	Air Gap Variation <10%		

12.	Lead Condition			
13.	Lead Length			**Inches**
14.	Does it have Lugs?, If so what is the Stud Size?			**(No) No**
15.	Lead Numbers			
16.	Frame Condition			**serviceable**
17.	Fan Condition			
18.	Does motor have internal fan?			
19.	Heater Quantity, Ratings			

Quantity	Volts/Watts	Pass/Fail

20.	Broken or Missing Components	**multiple hardware bolts**

Both gears worn and need replacement
Both rotor key ways wallowed

Initial Electrical Inspection

21.	Insulation Resistance/Megger	**Megohms**
22.	Winding Resistance	

1-2	1-3	2-3

23.	Perform Surge Test	
24.	Number of Stator Slots	
25.	Stator Condition	
26.	Stator Thermistors/Ohms	
27.	Stator Overloads/Ohms	

Mechanical Inspection

28.	Drive End Bearing Brand	**Koyo**

29.	Drive End Bearing Number-	**5308**	P32

(2) Koyo 5308
(1) SKF 22209 E

30.	Drive End Bearing Qty.	**2**
31.	Drive End Bearing Type	**(Ball) Ball Bearing**
32.	Drive End Lubrication Type	**(Oil) Oil Lubricated**
33.	Drive End Bearing Insulation or Grounding Device?	**none**
34.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**none**
35.	Drive End Bearing Condition	**replace**
36.	Opposite Drive End Bearing Brand	**SKF** P92

37.	Opposite Drive End Bearing Number-	**308 EC**	P99

Bearing: 308 EC
Race: NJ 308 ECJ

38.	Opposite Drive End Bearing Qty.	**2**	
39.	Opposite Drive End Bearing Type	**(Roller) Roller Bearing**	
40.	Opposite Drive End Lubrication Type	**(Oil) Oil Lubricated**	
41.	Opposite Drive End Bearing Insulation or Grounding Device?		
42.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?		
43.	Opposite Drive End Bearing Condition	**replace**	
44.	Drive End Seal	**SKF 17293**	P120

45.	Opposite Drive End Seal		

46.	DE Sleeve Bearing Inside Diameter		
	0 degrees	120 degrees	240 degrees
47.	DE Sleeve Bearing Outside Diameter		
	0 degrees	120 degrees	240 degrees
48.	DE Sleeve Bearing Housing Inside Diameter		
	0 degrees	120 degrees	240 degrees
49.	DE Sleeve Bearing to Housing Clearance		
	0 degrees	120 degrees	240 degrees
50.	ODE Sleeve Bearing Inside Diameter		
	0 degrees	120 degrees	240 degrees
51.	ODE Sleeve Bearing Outside Diameter		
	0 degrees	120 degrees	240 degrees
52.	ODE Sleeve Bearing Housing Inside Diameter		
	0 degrees	120 degrees	240 degrees
53.	ODE Sleeve Bearing to Housing Clearance		
	0 degrees	120 degrees	240 degrees

Rotor Inspection

54. Rotor Type/Material P3

55.	Growler Test	
56.	Number of Rotor Bars	
57.	Rotor Condition	**rusted but serviceable**

58. List the Parts needed for the Repair Below

(2) gears
(2) 5308 bearings
(2) 308 EC bearings and (2) NJ 308 ECJ races
(1) SKF 17293 seal and replace multiple broken bolts and parts

59. Signature of Technician that Disassembled Motor **Terrence Holland**

Mechanical Fits- Rotor

60. Shaft Runout

61. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

62. Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees

63. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees

64. Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
1.575	**1.575**	**1.5749**

Rotor #2 - 1.5751, 1.5750, 1.5750

65. Drive End Bearing Shaft Fit Condition **(P) Pass**

66. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
1.575	**1.575**	**1.575**

Rotor #2 - 1.5750, 1.5750, 1.5750

67. Opposite Drive End Bearing Shaft Fit Condition **(P) Pass**

68. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

69. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

Left side 3.5445-3.5445 3.5446
Right side 3.5450 - 3.5451 - 3.5450
22209 fit Has lip worn in.

70. Drive End - Endbell Bearing Fit Condition **(F) Fail**

71. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

Left side: 3.5444 - 3.5444 - 3.5444
Right side: 3.5445 - 35445- 35444

72. Opposite Drive End - Endbell Bearing Fit Condition **(F) Fail**

73. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

74. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

75. List Machine Work Needed Below

Machine housing fit for 22209 bearing
Repair wallowed key ways on both rotors
Machine both housing fits on ODE

76. Technician **Terrence Holland**

Root Cause of Failure

77. Failure locations

Rotor key ways wallowed
Both gears worn and missing teeth
Multiple broken bolts on gear end and housing fits out of tolerance
Replace broken parts. (Need breakdown to identify.)

78. Root cause of failure

Broken bolts on gears allowed parts to wedge themselves in the gears

Dynamic Balance Report

79. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

80. Initial Balance Readings

Drive End	Opposite Drive End

81. Final Balance Readings

Drive End	Opposite Drive End

82. Technician

Rewind

83. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

84. Core Hot Spot Test

Pre-Burnout	Post-Burnout

85. Post Rewind Electrical Test- Insulation Resistance

86. Post Rewind Polarization Index

87. Post Rewind Winding Resistance

1-2	1-3	2-3

88. Post Rewind Surge Test

89. Post Rewind Hi-Pot

90. Technician

Mechanical Fits- Rotor - Post Repair

91. Shaft Runout Post Repair

92.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
93.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
94.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
95.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
96.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
97.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
98.	Shaft Repair Sign-off		

Mechanical Fits- Bearing Housings - Post Repair

99.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
100.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
101.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
102.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
103.	DE Sleeve Bearing Inside ID Post Repair		
	Measure 1	Measure 2	Measure 3
104.	DE Sleeve Bearing Outside ID Post Repair		
	Measure 1	Measure 2	Measure 3
105.	DE Sleeve Bearing Inside OD Post Repair		
	Measure 1	Measure 2	Measure 3
106.	DE Sleeve Bearing Outside OD Post Repair		
	Measure 1	Measure 2	Measure 3
107.	End Bell Repair Sign-off		

108.	ODE Sleeve Bearing Inside ID Post Repair		
	Measure 1	Measure 2	Measure 3
109.	ODE Sleeve Bearing Outside ID Post Repair		
	Measure 1	Measure 2	Measure 3
110.	ODE Sleeve Bearing Inside OD Post Repair		
	Measure 1	Measure 2	Measure 3
111.	ODE Sleeve Bearing Outside OD Post Repair		
	Measure 1	Measure 2	Measure 3

Assembly

112.	QC Check All Parts for Cleanliness Prior to Assembly		
113.	Photograph All Major Components prior to assembly		
114.	Final Insulation Resistance Test		
115.	Assembled Shaft Endplay		
116.	Assembled Shaft Runout		
117.	Test Run Voltage		
	Volts	Volts	Volts
118.	Test Run Amperage		
	Amps	Amps	Amps
119.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
120.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
121.	Ambient Temperature - Fahrenheit		
122.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
123.	Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
124.	Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
125.	Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
126.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes

127.	Opposite Drive End Bearing Temps - Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
128.	Opposite Drive End Bearing Temps - Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
129.	Opposite Drive End Bearing Temps - Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
130.	Stator Temperatures- Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
131.	Stator Temperatures- Fahrenheit 20-30 Minutes		
	20 Minutes	25 Minutes	30 Minutes
132.	Stator Temperatures- Fahrenheit 35-45 Minutes		
	35 Minutes	40 Minutes	45 Minutes
133.	Stator Temperatures- Fahrenheit 50-60 Minutes		
	50 Minutes	55 Minutes	60 Minutes
134.	Document Final Condition with Pictures after paint		
135.	Final Pics and QC Review		