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

AC Inspection as Found

Miller Spectacular Shows (12776)
79 Mountain Drive
Greenbrier, AR 72058

FolderID: 102766
FormID: 20121499

AC Inspection - Rev. 2

Location:	LITTLE ROCK MOTOR SHOP
Serial Number:	132
Description:	4.5KW ROWAN ELECTRONICA

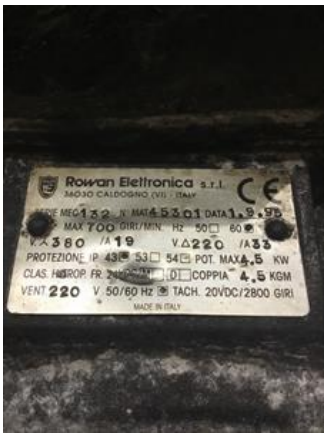
Hi-Speed Job Number:	102766
Manufacturer:	Other
Product Number:	M: 45601
Serial Number:	132
HP/kW:	4.5 (kW)
RPM:	700 (RPM)
Current:	33 (Amps)
Phase:	Three
Hz:	60 (Hz)
J-box Included:	Complete
Coupling/Sheave:	None
Bearing RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	Yes
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **6 - High** **2 - Good**

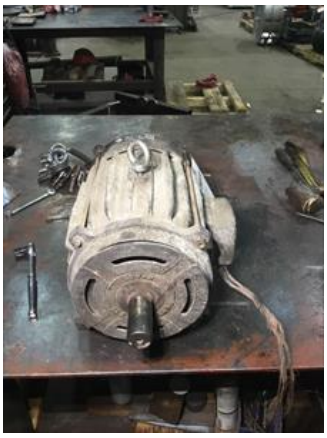
Overall Condition

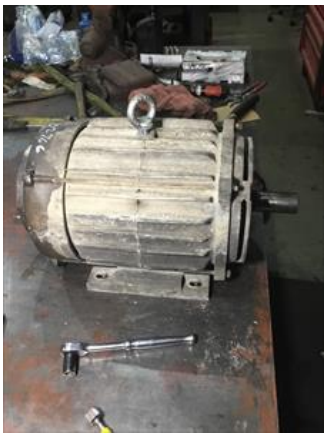
1. Report Date

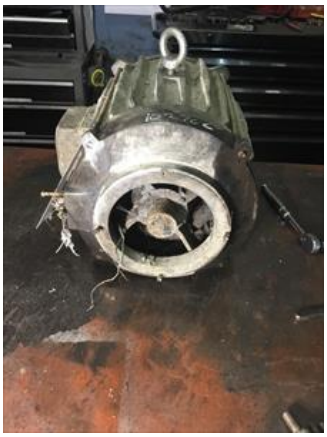
2. Nameplate Picture P37

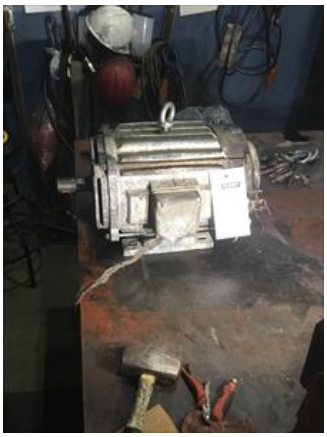


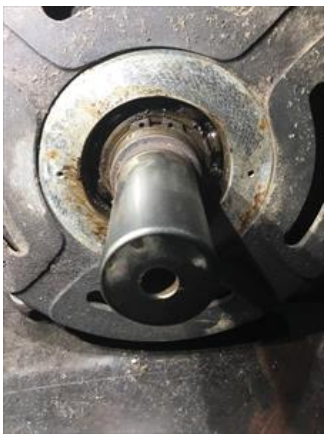
3. Photos of all six sides of the machine. P45

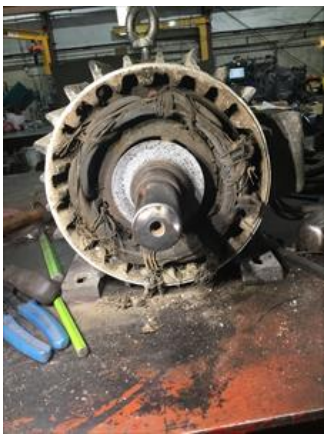


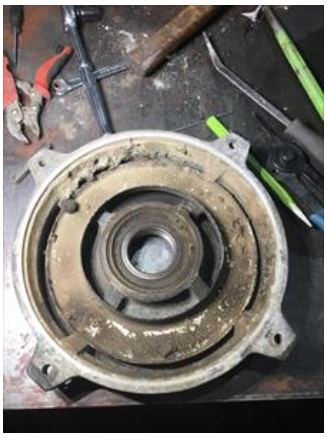


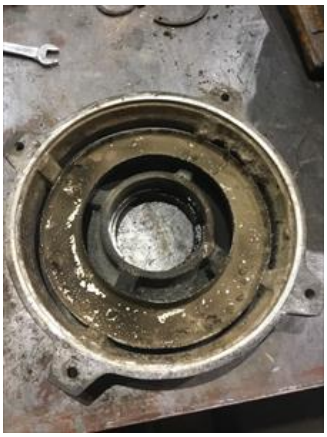


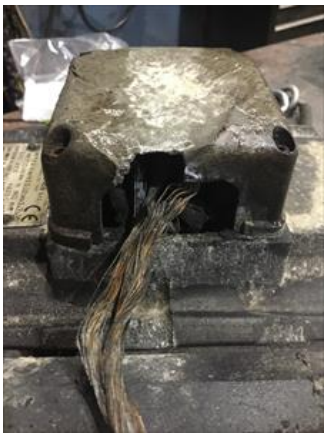


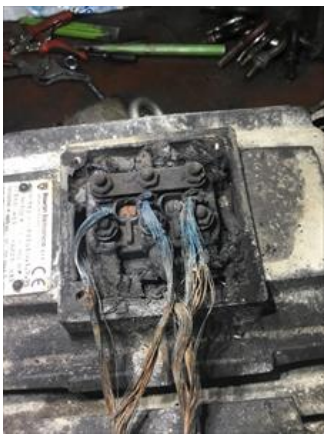


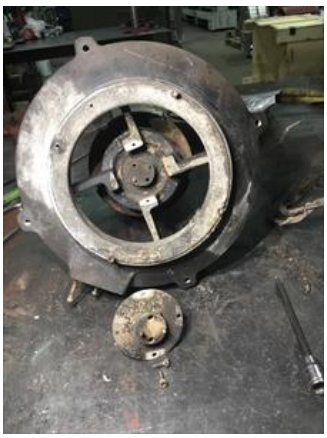






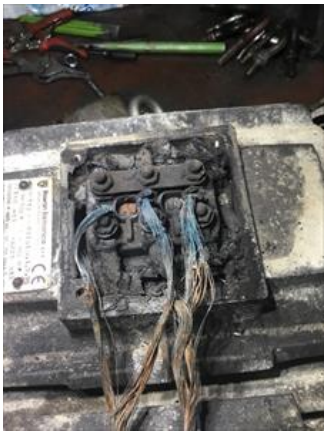




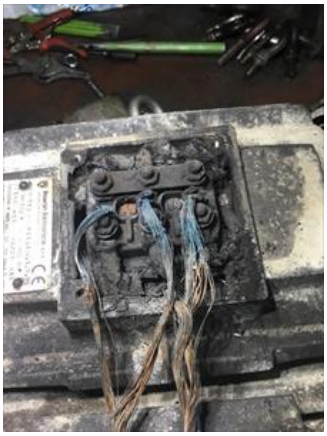


4.	Describe the Overall Condition of the Equipment as Received ***Serviceable***	
Initial Mechanical/Electrical		
5.	Does Shaft Turn Freely?	**(Y) Yes**
6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**
7.	Does Shaft Have Visible Damage?	**(No) No**
8.	Assembled Shaft Runout	
9.	Assembled Shaft End Play	
10.	Air Gap Variation <10%	

11.	Lead Condition	**(F) Fail**	P69



12.	Lead Length	**6 Inches**	P87



13.	Does it have Lugs?, If so what is the Stud Size?	**(Yes) Yes**
14.	Lead Numbers	**1-6**
15.	Stator Temperature Detector Rating and Function	

Quantity	Rating	Quantity Passed

Na

16.	Frame Condition	**pass**
17.	Fan Condition	**(N) NA**
18.	Broken or Missing Components	**tach broken, connection box broken.**

Initial Electrical Inspection

19.	Insulation Resistance/Megger	**Megohms**

Na

20. Winding Resistance

1-2	1-3	2-3

Na

21.	Perform Surge Test	**(F) Fail**

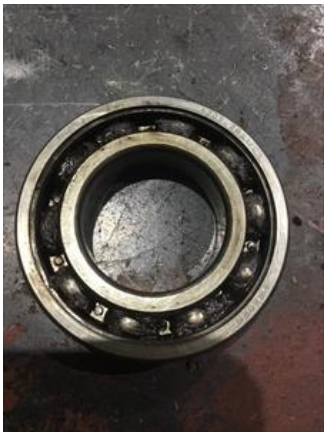
Na

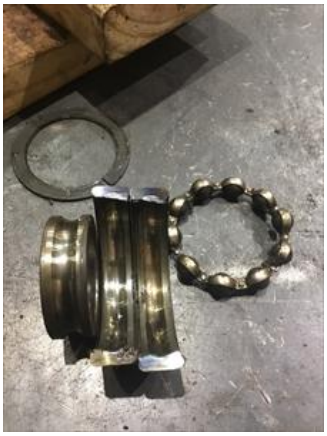
22.	Number of Stator Slots	**36**
23.	Stator Condition	**rewind**

24.	Stator Thermistors/Ohms	**na**	
25.	Stator Overloads/Ohms	**na**	

Mechanical Inspection

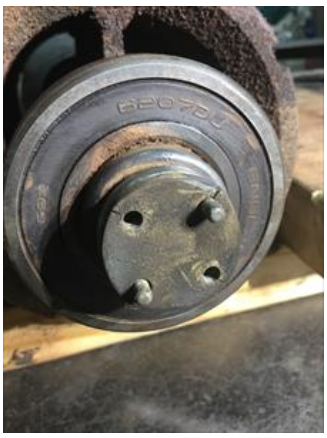
26.	Drive End Bearing Brand	**skf**	
27.	Drive End Bearing Number-	**6209 2rs**	P32

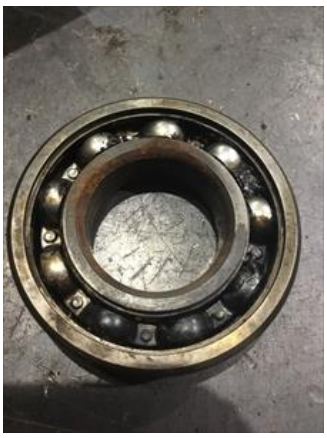


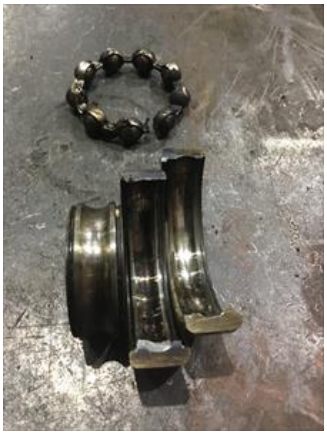


28.	Drive End Bearing Qty.	**1**	
29.	Drive End Bearing Type	**(Ball) Ball Bearing**	
30.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
31.	Drive End Bearing Insulation or Grounding Device?	**none**	
32.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**snap rings**	
33.	Drive End Bearing Condition	**replace**	
34.	Opposite Drive End Bearing Brand	**nsk**	

35.	Opposite Drive End Bearing Number-	**6207 DU**	P99



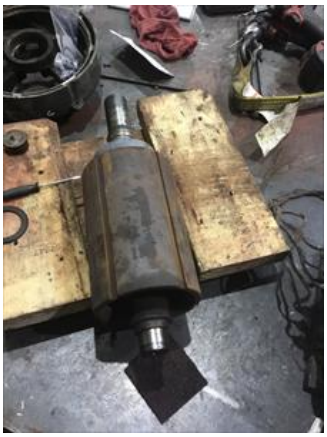


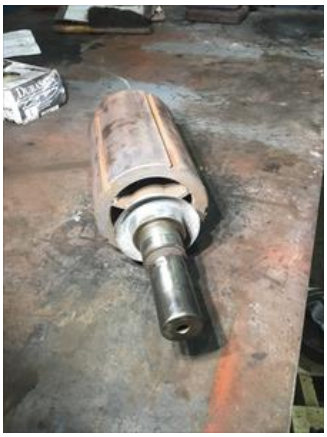


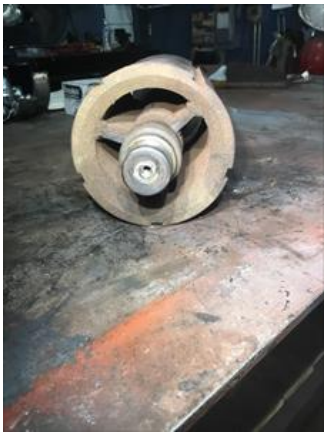
36.	Opposite Drive End Bearing Qty.	**1**
37.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**
38.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**
39.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**
40.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**
41.	Opposite Drive End Bearing Condition	**replace**
42.	Drive End Seal	**none**
43.	Opposite Drive End Seal	**none**

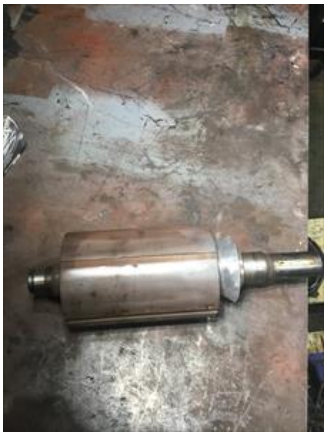
Rotor Inspection

44.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**









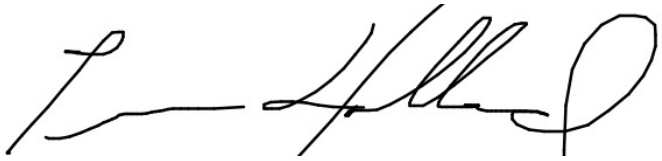
45.	Growler Test	**(Pass) Pass**
46.	Number of Rotor Bars	
47.	Rotor Condition	

Pass

48. List the Parts needed for the Repair Below

Re-sleeve both housing fits. Repair both shaft bearing journals. Replace broken tach and associated hardware. Rewind stator.

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



Mechanical Fits- Rotor

50.	Shaft Runout		
51.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

52.	Coupling Fit Closest to Bearing Housing			
	0 Degrees	90 Degrees	120 Degrees	

Na

53.	Coupling Fit Closest to the end of the Shaft			
	0 Degrees	60 Degrees	120 Degrees	

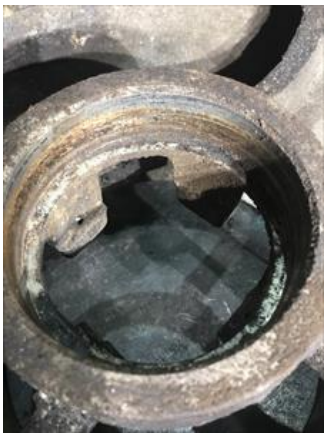
Na

54.	Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	1.7647	**1.7649**	**1.7644**	
55.	Drive End Bearing Shaft Fit Condition			**(F) Fail**
56.	Opposite Drive End Bearing Shaft Fit			
	0 Degrees	60 Degrees	120 Degrees	
	1.3776	**1.3777**	**1.3779**	
57.	Opposite Drive End Bearing Shaft Fit Condition			**(F) Fail**
58.	Shaft Air Seal Fits			
	Drive End Air Seal	Opposite Drive End Air Seal		

Mechanical Fits- Bearing Housings

59.	Drive End - Endbell Bearing Fit			P2
	0 Degrees	60 Degrees	120 Degrees	

Excessive wear and pitting.

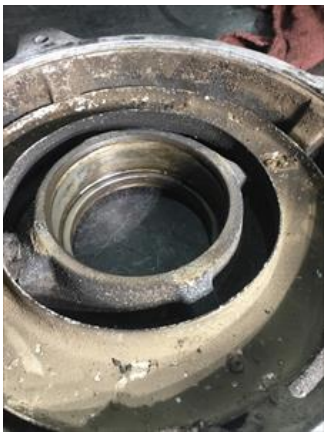


60.	Drive End - Endbell Bearing Fit Condition			**(F) Fail**

61. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees

Excessive wear and pitting.



62. Opposite Drive End - Endbell Bearing Fit Condition

63. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap

64. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

65. List Machine Work Needed Below

66. Technician

Root Cause of Failure

67. Failure locations

68. Root cause of failure

Dynamic Balance Report

69. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

70. Initial Balance Readings

Drive End	Opposite Drive End

71. Final Balance Readings

Drive End	Opposite Drive End

72. Technician

Rewind

73. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

74. Core Hot Spot Test

Pre-Burnout	Post-Burnout

75. Post Rewind Electrical Test- Insulation Resistance

76.	Post Rewind Polarization Index		
77.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
78.	Post Rewind Surge Test		
79.	Post Rewind Hi-Pot		
80.	Technician		

Mechanical Fits- Rotor - Post Repair

81.	Shaft Runout Post Repair		
82.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
83.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
84.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
85.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
86.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
87.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
88.	Shaft Repair Sign-off		

Mechanical Fits- Bearing Housings - Post Repair

89.	Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
90.	Opposite Drive End - Endbell Bearing Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
91.	Bearing Cap Condition Post Repair		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
92.	End Bell Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
93.	End Bell Repair Sign-off		

Assembly

94.	QC Check All Parts for Cleanliness Prior to Assembly		
95.	Photograph All Major Components prior to assembly		
96.	Final Insulation Resistance Test		
97.	Assembled Shaft Endplay		
98.	Assembled Shaft Runout		

99.	Test Run Voltage		
	Volts	Volts	Volts
100.	Test Run Amperage		
	Amps	Amps	Amps
101.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
102.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
103.	Ambient Temperature - Fahrenheit		
104.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
105.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
106.	Document Final Condition with Pictures after paint		
107.	Final Pics and QC Review		