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

AC Inspection as Found

CERTAINEED (10520)
2701 E ROOSEVELT ROAD
LITTLE ROCK, AR 72206

FolderID: 102861
FormID: 20233567

AC Inspection - Rev. 2

Location:	LR Motor Shop
Serial Number:	C-MM103895-FR2

Description:10HP MARATHON-SEND REPAIR QUOTE OR REPLACE

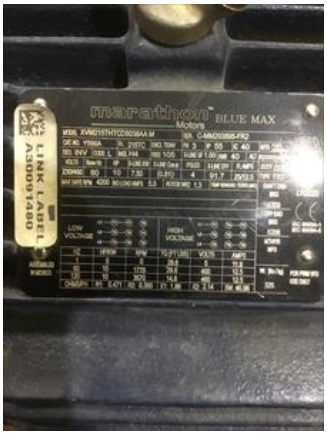
Hi-Speed Job Number:	102861
Manufacturer:	Marathon
Serial Number:	C-MM103895-FR2
HP/kW:	10 (HP)
RPM:	1770 (RPM)
Frame:	215TC
Voltage:	230 / 460
Current:	25/12.5 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1
Enclosure:	TENV
# of Leads:	9
J-box Included:	Half
Coupling/Sheave:	None
Date Received:	04/30/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Teardown Inspection
Rewind:	Yes
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **3 - High** **7 - Good**

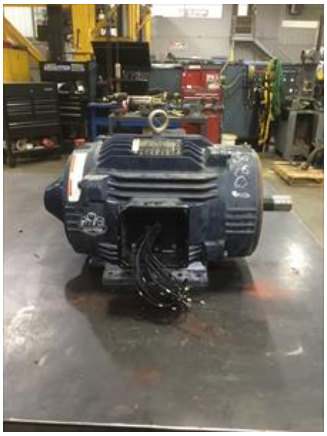
Overall Condition

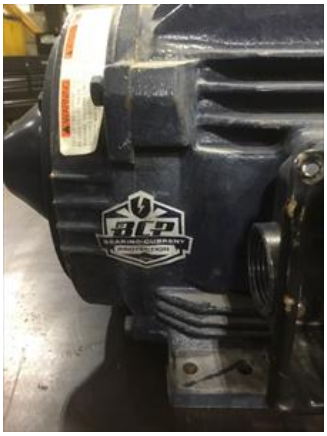
1.	Report Date	**05/09/2024**

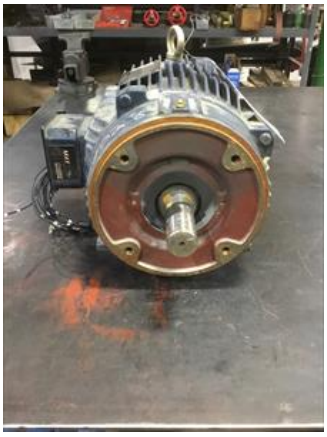
2. Nameplate Picture P37

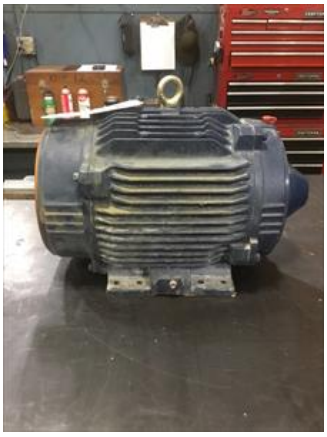


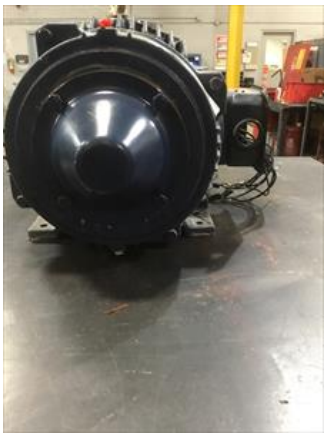
3. Photos of all six sides of the machine. P45

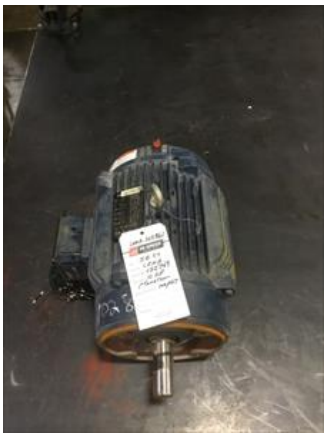




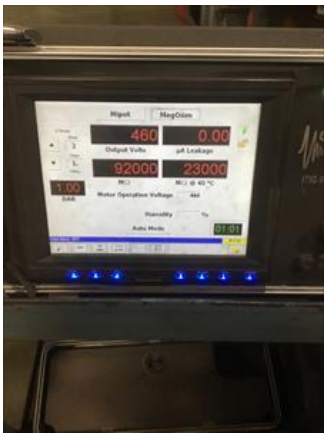






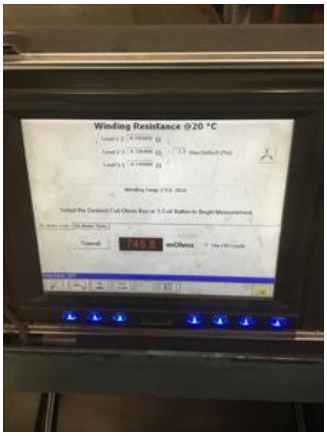


	4.	Describe the Overall Condition of the Equipment as Received ***Drive end bearing failed. Grease was gritty and cause bearing to wear out. Rotor dropped into iron and blew stator windings. Requires rewind.***	
Initial Mechanical/Electrical			
🔴	5.	Does Shaft Turn Freely?	**(N) No**
🟢	6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**
	7.	Does Shaft Have Visible Damage?	**(No) No**
🔴	8.	Assembled Shaft Runout	**0.015 Inches**
	9.	Assembled Shaft End Play	**0.005 inches**
	10.	Air Gap Variation <10%	**No Provision for Measurement**
🟢	11.	Lead Condition	**(P) Pass**
	12.	Lead Length	**10 Inches**
🟢	13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**
	14.	Lead Numbers	**1-9**
	15.	Frame Condition	**Pass**
	16.	Fan Condition	**(N) NA**
	17.	Broken or Missing Components	**None**
Initial Electrical Inspection			
	18.	Insulation Resistance/Megger	**92000 Megohms** P8



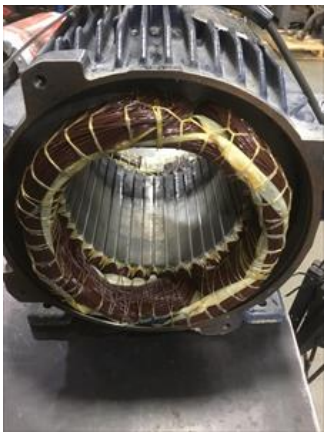
19.	Winding Resistance			P20

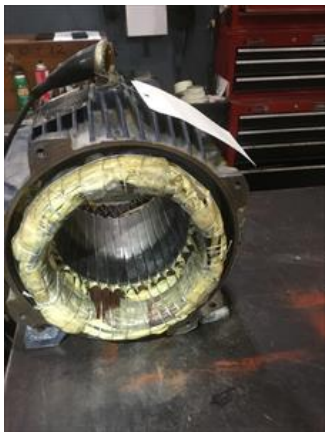
1-2	1-3	2-3
.7458	**.7364**	**.7458**



20.	Perform Surge Test	**(F) Fail**		P57

21.	Number of Stator Slots	**36**	
22.	Stator Condition	**Requires rewind**	P84

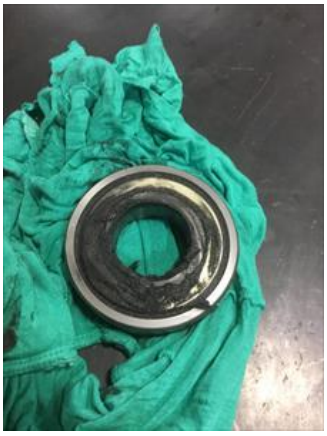




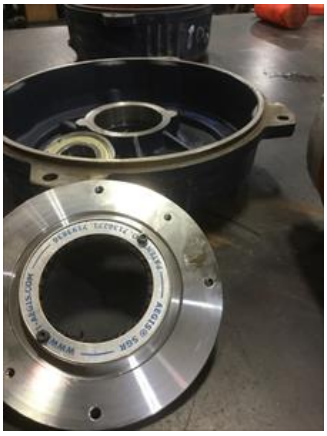
23.	Stator Thermistors/Ohms	**.5**	
24.	Stator Overloads/Ohms	**N/A**	

Mechanical Inspection

25.	Drive End Bearing Brand	**Rollway**	P12

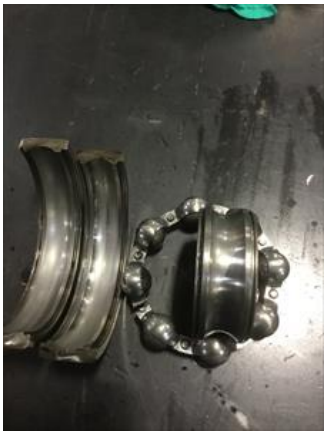


26.	Drive End Bearing Number-	**6309 ZZ C3**	
27.	Drive End Bearing Qty.	**1**	
28.	Drive End Bearing Type	**(Ball) Ball Bearing**	
29.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
30.	Drive End Bearing Insulation or Grounding Device?	**AEGIS inside bearing cap.**	P64

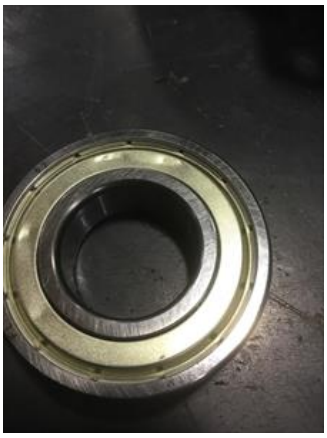


31.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**None**	
32.	Drive End Bearing Condition	**Destroyed**	P82

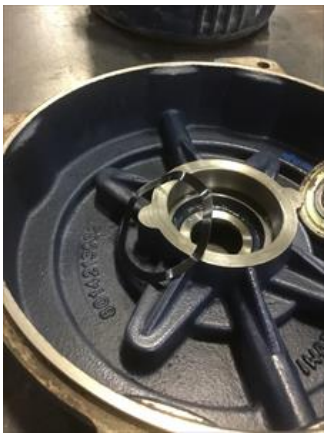
Grease was consistency of lapping compound. Bearing was excessive wore out and had excessive play.



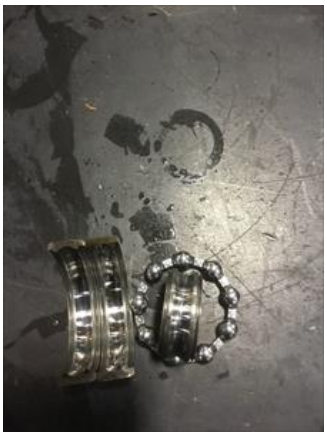
33.	Opposite Drive End Bearing Brand	**Rollway**	
34.	Opposite Drive End Bearing Number-	**6206 ZZ C3**	P99



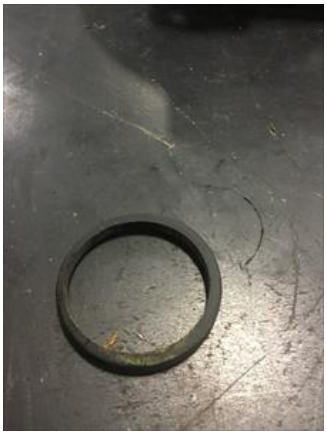
35.	Opposite Drive End Bearing Qty.	**1**	
36.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
37.	Opposite Drive End Lubrication Type	**(Grease) Grease Lubricated**	
38.	Opposite Drive End Bearing Insulation or Grounding Device?	**None**	
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Wavy Washer**	P114



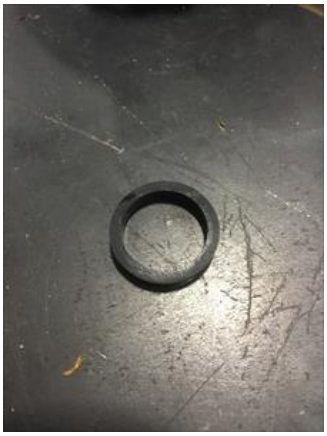
40.	Opposite Drive End Bearing Condition	**Normal wear**	P118



41.	Drive End Seal	**VA 45**	P120

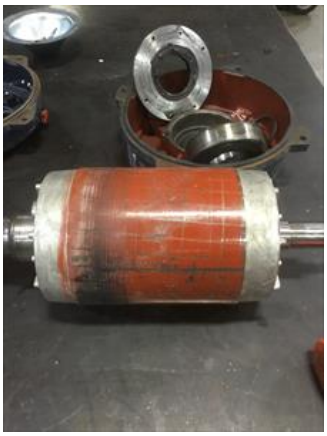


42.	Opposite Drive End Seal	**VA 30**	P123



Rotor Inspection

43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
44.	Growler Test	**(Pass) Pass**	
45.	Number of Rotor Bars	**28**	
46.	Rotor Condition		P41



47. List the Parts needed for the Repair Below

Rewind
Aegis ring 2.165" SGR-53.5-3FH
6309 C3
6206 C3

48. Signature of Technician that Disassembled Motor **Brandon Woodard**

Mechanical Fits- Rotor

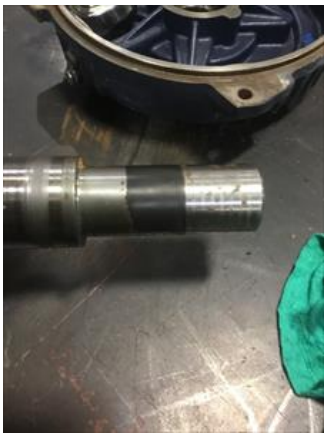
49. Shaft Runout **0.001 inches**

50. Rotor Runout

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
0.001	**0.001**	**0.001**

51. Coupling Fit Closest to Bearing Housing P33

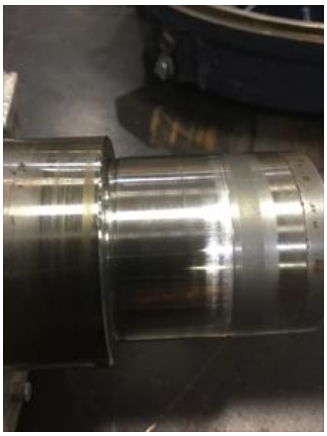
0 Degrees	90 Degrees	120 Degrees
1.375	**1.375**	**1.375**



52. Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees
1.375	**1.375**	**1.375**

53.	Drive End Bearing Shaft Fit			P79
	0 Degrees	60 Degrees	120 Degrees	
	1.7718	**1.7718**	**1.7718**	
	Tolerance is 1.7718-1.7722			

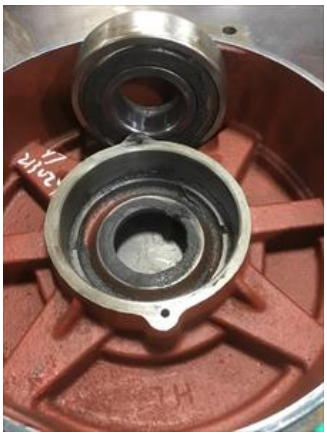


54.	Drive End Bearing Shaft Fit Condition	**(P) Pass**	
55.	Opposite Drive End Bearing Shaft Fit		P89
	0 Degrees	60 Degrees	120 Degrees
	1.1812	**1.1812**	**1.1812**
	Tolerance is 1.1812-1.1815		

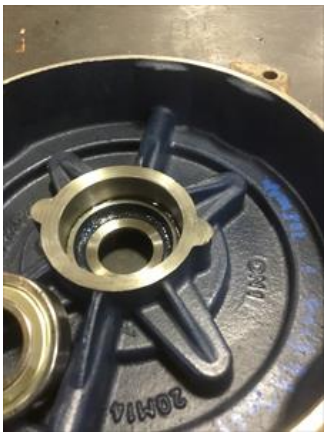
56.	Opposite Drive End Bearing Shaft Fit Condition	**(P) Pass**	
57.	Shaft Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
	Pass	**Pass**	

Mechanical Fits- Bearing Housings

58.	Drive End - Endbell Bearing Fit			P2
	0 Degrees	60 Degrees	120 Degrees	
	3.9376	**3.9376**	**3.9376**	
	Tolerance is 3.9370-3.9379			



59.	Drive End - Endbell Bearing Fit Condition		**(P) Pass**
60.	Opposite Drive End - Endbell Bearing Fit		P30
	0 Degrees	60 Degrees	120 Degrees
	2.4415	**2.4415**	**2.4415**
	Tolerance is 2.4409-2.4416		



61.	Opposite Drive End - Endbell Bearing Fit Condition		**(P) Pass**
62.	Bearing Cap Condition		
	Drive End Bearing Cap	Opposite Drive End Bearing Cap	
	Pass	**N/A**	
63.	End Bell Air Seal Fits		
	Drive End Air Seal	Opposite Drive End Air Seal	
	Pass	**Pass**	
64.	List Machine Work Needed Below		
	None		
65.	Technician		**Brandon Woodard**

Root Cause of Failure

66.	Failure locations
67.	Root cause of failure