



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

AC Recondition As Found

Gravel Ridge Sewer District 213

7442 Gibson Road
Jacksonville, AR 72078

FolderID: 99722
FormID: 13428303

AC Recondition - Rev. 2

Location: Shop

Serial Number: 9605486-901 R2100762

Description: 15HP US Motors 1200RPM 284VPZ
Vertical

Hi-Speed Job Number: 99722

Manufacturer: US Motors/Nidec

Serial Number: 9605486-901 R2100762

HP/kW: 15 (HP)

RPM: 1150 (RPM)

Frame: 284VPZ

Voltage: 230 / 460

Current: 38.8/19.4

Phase: Three

Hz: 60 (Hz)

Service Factor: 1.15


Enclosure: WPI


J-box Included: None

Date Received: 04/26/2022

Repair Stage: Teardown Inspection

Bearing Type: Rolling Element

Priorities Found:  1 - High

 6 - Good

Overall Condition



1. Report Date

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2. Nameplate Picture

P21



3. Describe the Overall Condition of the Equipment as Received

4. Distance from the end of the shaft to the Coupling/Sheave

inches

P33

3/16" S.O. Both coupling set screws are missing. Coupling key missing.



Initial Mechanical/Electrical



5. Does Shaft Turn Freely?

(Yes) Yes

6. Does Shaft Have Visible Damage?

P12



7. Assembled Shaft Runout





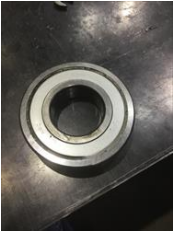
0.001 Inches

8. Assembled Shaft End Play





9. Air Gap Variation <10%



10. Lead Condition

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| | | | |
|--|--|----------------------------------|-----------------|
| 11. | Lead Length | 8 Inches | |
| 12. | Stator Temperature Detector Rating and Function | | |
| | Quantity | Rating | Quantity Passed |
| 13. | Bearing Temperature Detector Rating and Function | | |
| | Quantity | Rating | Quantity Passed |
| 14. | Frame Condition | pass | |
| 15. | Fan Condition | (N) NA | |
| 16. | Heater Quantity, Ratings | | |
| | Quantity | Volts/Watts | Pass/Fail |
| 17. | Broken or Missing Components | coupling missing both set screws | |
| Initial Electrical Inspection  | | | |
| 18. | Insulation Resistance/Megger | | |
| 19. | Winding Resistance | | |
| | 1-2 | 1-3 | 2-3 |
| 20. | Perform Surge Test | (NA) Not Applicable | P35 |
|  | | | |
| 21. | Stator Condition | rewind | |
| Mechanical Inspection  | | | |
| 22. | Drive End Bearing Number- | 6311Z | P8 |
|  | | | |
| 23. | Drive End Bearing Qty. | 1 | |
| 24. | Drive End Bearing Type | (Ball) Ball Bearing | P20 |
|  | | | |
| 25. | Drive End Lubrication Type | (Grease) Grease Lubricated | |

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| | | | |
|---|--|---|-----|
| 26. | Drive End Bearing Insulation or Grounding Device? | | |
| 27. | Drive End Wavy Washer/Snap-Ring Other Retention Device? | | |
| 28. | Drive End Bearing Condition | | P43 |
|  | | | |
| 29. | Opposite Drive End Bearing Number- | 6209 D | P47 |
|  | | | |
| 30. | Opposite Drive End Bearing Qty. | 1 | |
| 31. | Opposite Drive End Bearing Type | (Ball) Ball Bearing | |
| 32. | Opposite Drive End Lubrication Type | (Grease) Grease Lubricated | |
| 33. | Opposite Drive End Bearing Insulation or Grounding Device? | | |
| 34. | Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device? | | |
| 35. | Opposite Drive End Bearing Condition | | P59 |
|  | | | |
| 36. | Drive End Seal | | |
| 37. | Opposite Drive End Seal | | |
| Rotor Inspection | | | |
| 38. | Rotor Type/Material | (Squirrel Aluminum) Squirrel Cage Aluminum Die Cast | |
| 39. | Growler Test | (Pass) Pass | |
| 40. | Number of Rotor Bars | | |
| 41. | Rotor Condition | pass | |
| 42. | List the Parts needed for the Repair Below | | |
| 43. | Signature of Technician that Disassembled Motor | Terrence. Holland | |
|  | | | |
| Mechanical Fits- Rotor | | | |

| | | | |
|--|---|---|----------------------------|
| 44. | Shaft Runout | | 0.001 inches |
| 45. | Rotor Runout | | |
| | Drive End Bearing Fit | Rotor Body | Opposite Drive End Bearing |
| 46. | Coupling Fit Closest to Bearing Housing | | |
| | 0 Degrees | 90 Degrees | 120 Degrees |
| 47. | Coupling Fit Closest to the end of the Shaft | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 48. | Drive End Bearing Shaft Fit | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| | 2.1655 | 2.1655 | 2.1655 |
| 49. | Drive End Bearing Shaft Fit Condition | | (P) Pass |
| 50. | Opposite Drive End Bearing Shaft Fit | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| | 1.7723 | 1.7723 | 1.7721 |
| 51. | Opposite Drive End Bearing Shaft Fit Condition | | (P) Pass |
| 52. | Shaft Air Seal Fits | | |
| | Drive End Air Seal | Opposite Drive End Air Seal | |
| Mechanical Fits- Bearing Housings | | | |
| 53. | Drive End - Endbell Bearing Fit | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| | 4.7252 | 4.725 | 4.7253 |
| 54. | Drive End - Endbell Bearing Fit Condition | | (P) Pass |
| 55. | Opposite Drive End - Endbell Bearing Fit | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| | 3.3472 | 3.3472 | 3.3473 |
| 56. | Opposite Drive End - Endbell Bearing Fit Condition | | (P) Pass |
| 57. | Bearing Cap Condition | | |
| | Drive End Bearing Cap | Opposite Drive End Bearing Cap | |
| | pass | pass | |
| |  |  | |
| 58. | End Bell Air Seal Fits | | |
| | Drive End Air Seal | Opposite Drive End Air Seal | |
| 59. | List Machine Work Needed Below | | |

60. Technician

Terrence. Holland



Root Cause of Failure

61. Failure locations

Windings blown

62. Root cause of failure