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

# AC Recondition As Found

**ARKANSAS SERVICE ONE**
**14318 EAST POLK ROAD**
**ALEXANDER, AR 72002**

FolderID: 101156
FormID: 16338623

### AC Recondition - Rev. 2

| | |
|---|---|
| **Location:** | MOTOR SHOP LR |
| **Serial Number:** | 6936289A-003 |
| **Description:** | 15HP RELIANCE 1800RPM 254T |

| | |
|---|---|
| **Hi-Speed Job Number:** | 101156 |
| **Manufacturer:** | Reliance |
| **Product Number:** | P25G5292A |
| **Serial Number:** | 6936289A-003 |
| **HP/kW:** | 15 (HP) |
| **RPM:** | 1765 (RPM) |
| **Frame:** | 254T |
| **Voltage:** | 230 / 460 |
| **Current:** | 39/19.5 |
| **Phase:** | Three |
| **Hz:** | 60 (Hz) |
| **Service Factor:** | 1.15 |
| **Enclosure:** | TEFC |
| **J-box Included:** | Complete |
| **Coupling/Sheave:** | Sheave |
| **Bearing RTDs:** | No |
| **Stator RTDs:** | No |
| **Repair Stage:** | Final |
| **Heaters:** | No |
| **Winding Type :** | Random Wound |
| **Bearing Type:** | Rolling Element |

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

## Overall Condition

1. Report Date
2. Nameplate Picture P37


| | | | |
|---|---|---|---|
| | 3. | Photos of all six sides of the machine. | |
| | 4. | Describe the Overall Condition of the Equipment as Received<br>*Ok* | |
| | 5. | Distance from the end of the shaft to the Coupling/Sheave | **0.75 inches** |

## Initial Mechanical/Electrical

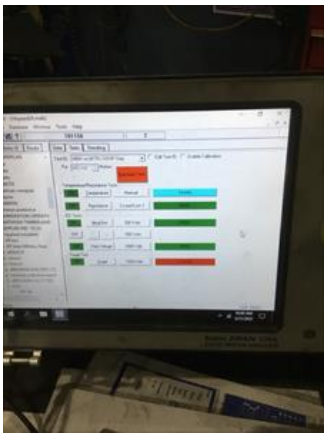
| | | | |
|---|---|---|---|
| ● | 6. | Does Shaft Turn Freely? | **(Yes) Yes** |
| | 7. | Does Shaft Have Visible Damage? | **(No) No** |
| | 8. | Assembled Shaft Runout | |
| | 9. | Assembled Shaft End Play | |
| | 10. | Air Gap Variation <10% | |
| ● | 11. | Lead Condition | **(P) Pass** |
| | 12. | Lead Length | **12 Inches** |
| | 13. | Frame Condition | **good** |
| ● | 14. | Fan Condition | **(F) Fail** |
| | 15. | Broken or Missing Components | **fan broken 1 5/8 shaft 7 1/2 fan diameter** |

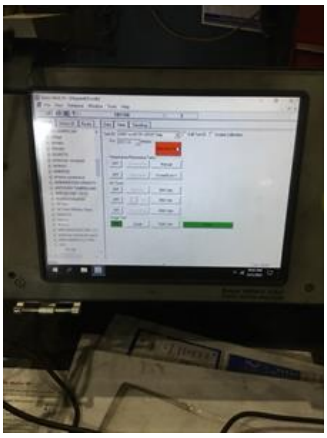
## Initial Electrical Inspection

| | | | |
|---|---|---|---|
| | 16. | Insulation Resistance/Megger | **Megohms** |
| | 17. | Winding Resistance | |

| 1-2 | 1-3 | 2-3 |
|---|---|---|

| | | | | |
|---|---|---|---|---|
| ● | 18. | Perform Surge Test | **(P) Pass** | P57 |





| | | | |
|---|---|---|---|
| | 19. | Number of Stator Slots | |

| | | |
|---|---|---|
| 20. | Stator Condition | **ok** |

## Mechanical Inspection

| | | |
|---|---|---|
| 21. | Drive End Bearing Brand | |
| 22. | Drive End Bearing Number- | **6309 2RS** |
| 23. | Drive End Bearing Qty. | **1** |
| 24. | Drive End Bearing Type | **(Ball) Ball Bearing** |
| 25. | Drive End Lubrication Type | **(Grease) Grease Lubricated** |
| 26. | Drive End Bearing Insulation or Grounding Device? | **no** |
| 27. | Drive End Wavy Washer/Snap-Ring Other Retention Device? | **no** |
| 28. | Drive End Bearing Condition | **rusty water contamination** |
| 29. | Opposite Drive End Bearing Brand | |
| 30. | Opposite Drive End Bearing Number- | **6309 2RS** |
| 31. | Opposite Drive End Bearing Qty. | **1** |
| 32. | Opposite Drive End Bearing Type | **(Ball) Ball Bearing** |
| 33. | Opposite Drive End Lubrication Type | **(Grease) Grease Lubricated** |
| 34. | Opposite Drive End Bearing Insulation or Grounding Device? | **no** |
| 35. | Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device? | **wavy** |
| 36. | Opposite Drive End Bearing Condition | **frosting** |
| 37. | Drive End Seal | **no** |
| 38. | Opposite Drive End Seal | **no** |

## Rotor Inspection

| | | |
|---|---|---|
| 39. | Rotor Type/Material | **(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast** |
| 40. | Growler Test | **(Pass) Pass** |
| 41. | Number of Rotor Bars | **40** |
| 42. | Rotor Condition | **good** |
| 43. | List the Parts needed for the Repair Below<br>***2 - 6309 2RS bearings, replacement fan 1 5/8 shaft/ 7 1/2 fan diameter*** | |
| 44. | Signature of Technician that Disassembled Motor | **David Maclin** |

## Mechanical Fits- Rotor

45. Shaft Runout

46. Rotor Runout

| Drive End Bearing Fit | Rotor Body | Opposite Drive End Bearing |
|---|---|---|

47. Coupling Fit Closest to Bearing Housing

| 0 Degrees | 90 Degrees | 120 Degrees |
|---|---|---|

48. Coupling Fit Closest to the end of the Shaft

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|

49. Drive End Bearing Shaft Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **1.772** | **1.772** | **1.772** |

| | | | | |
|---|---|---|---|---|
| 50. | Drive End Bearing Shaft Fit Condition | | | **(P) Pass** |
| 51. | Opposite Drive End Bearing Shaft Fit | | | |
| | 0 Degrees | 60 Degrees | 120 Degrees | |
| | **1.7722** | **1.7722** | **1.7722** | |
| 52. | Opposite Drive End Bearing Shaft Fit Condition | | | **(P) Pass** |
| 53. | Shaft Air Seal Fits | | | |
| | Drive End Air Seal | Opposite Drive End Air Seal | | |

## Mechanical Fits- Bearing Housings

| | | | | |
|---|---|---|---|---|
| 54. | Drive End - Endbell Bearing Fit | | | |
| | 0 Degrees | 60 Degrees | 120 Degrees | |
| | **3.9372** | **3.9373** | **3.9373** | |
| 55. | Drive End - Endbell Bearing Fit Condition | | | **(F) Fail** |
| 56. | Opposite Drive End - Endbell Bearing Fit | | | |
| | 0 Degrees | 60 Degrees | 120 Degrees | |
| | **3.9372** | **3.9372** | **3.9372** | |
| 57. | Opposite Drive End - Endbell Bearing Fit Condition | | | **(P) Pass** |
| 58. | Bearing Cap Condition | | | |
| | Drive End Bearing Cap | Opposite Drive End Bearing Cap | | |
| 59. | End Bell Air Seal Fits | | | |
| | Drive End Air Seal | Opposite Drive End Air Seal | | |
| 60. | List Machine Work Needed Below | | | |
| | ***None*** | | | |
| 61. | Technician | | | **David Maclin** |

## Dynamic Balance Report

| | | | |
|---|---|---|---|
| 62. | Rotor Weight and Balance Grade | | |
| | Rotor Weight | Balance Grade | |
| 63. | Initial Balance Readings | | |
| | Drive End | Opposite Drive End | |

64. Final Balance Readings

| Drive End | Opposite Drive End |
|---|---|

65. Technician

## Rewind

66. Core Test Results - Watts loss per Pound

| Pre-Burnout | Post Burnout |
|---|---|

67. Core Hot Spot Test

| Pre-Burnout | Post-Burnout |
|---|---|

68. Post Rewind Electrical Test- Insulation Resistance

69. Post Rewind Polarization Index

70. Post Rewind Winding Resistance

| 1-2 | 1-3 | 2-3 |
|---|---|---|

71. Post Rewind Surge Test

72. Post Rewind Hi-Pot

73. Technician

## Root Cause of Failure

74. Failure locations

75. Root cause of failure

## Mechanical Fits- Rotor - Post Repair

76. Shaft Runout Post Repair

77. Rotor Runout Post Repair

| Drive End Bearing Fit | Rotor Body | Opposite Drive End Bearing |
|---|---|---|

78. Coupling Fit Closest to Bearing Housing Post Repair

| 0 Degrees | 90 Degrees | 120 Degrees |
|---|---|---|

79. Coupling Fit Closest to the end of the Shaft Post Repair

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|

| | | | |
|---|---|---|---|
| 80. | Drive End Bearing Shaft Fit Post Repair | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 81. | Opposite Drive End Bearing Shaft Fit Post Repair | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 82. | Shaft Air Seal Fits Post Repair | | |
| | Drive End Air Seal | Opposite Drive End Air Seal | |
| 83. | Shaft Repair Sign-off | | |

**Mechanical Fits- Bearing Housings - Post Repair**

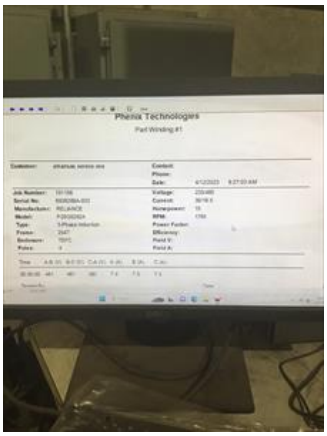
| | | | |
|---|---|---|---|
| 84. | Drive End - Endbell Bearing Fit Post Repair | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 85. | Opposite Drive End - Endbell Bearing Fit Post Repair | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 86. | Bearing Cap Condition Post Repair | | |
| | Drive End Bearing Cap | Opposite Drive End Bearing Cap | |
| 87. | End Bell Air Seal Fits Post Repair | | |
| | Drive End Air Seal | Opposite Drive End Air Seal | |
| 88. | End Bell Repair Sign-off | | |

**Assembly**

89. QC Check All Parts for Cleanliness Prior to Assembly

90. Photograph All Major Components prior to assembly P17

| | | | |
|---|---|---|---|
| 91. | Final Insulation Resistance Test | | |
| 92. | Assembled Shaft Endplay | | |
| 93. | Assembled Shaft Runout | | |
| 94. | Test Run Voltage | | P53 |
| | Volts | Volts | Volts |


| | | | |
|---|---|---|---|
| 95. | Test Run Amperage | | |
| | Amps | Amps | Amps |

| | | | |
|---|---|---|---|
| 96. | Drive End Vibration Readings - Inches Per Second | | |
| | Horizontal | Vertical | Axial |

| | | | | |
|---|---|---|---|---|
| 97. | Opposite Drive End Vibration Readings - Inches Per Second | | | |
| | Horizontal | Vertical | Axial | |
| 98. | Ambient Temperature - Fahrenheit | | | |
| 99. | Drive End Bearing Temps - Fahrenheit | | | |
| | 5 Minutes | 10 Minutes | 15 Minutes | |
| 100. | Opposite Drive End Bearing Temps - Fahrenheit | | | |
| | 5 Minutes | 10 Minutes | 15 Minutes | |
| 101. | Document Final Condition with Pictures after paint | | | |
| 102. | Final Pics and QC Review | | **Terrence Holland** | P102 |