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

# AC Inspection as Found

**AMERICAN COMPOSTING**
**11911 FAULKNER LAKE ROAD**
**NORTH LITTLE ROCK, AR 72217**

FolderID: 101775
FormID: 17697716

**AC Inspection - Rev. 2**

| | |
|---|---|
| **Location:** | MOTOR SHOP LR |
| **Serial Number:** | ES 2016 018914 ZP |

**Description:**17.3KW ELMOT-SCHAFER 1800RPM 160L

| | |
|---|---|
| **Hi-Speed Job Number:** | 101775 |
| **Manufacturer:** | Other |
| **Product Number:** | TE 03E FA 160 L4B-40H |
| **Serial Number:** | ES 2016 018914 ZP |
| **HP/kW:** | 17.3 (kW) |
| **RPM:** | 1770 (RPM) |
| **Frame:** | 160L |
| **Voltage:** | 460 |
| **Current:** | 29.3 |
| **Phase:** | Three |
| **Hz:** | 60 (Hz) |
| **Enclosure:** | TEFC |
| **J-box Included:** | Complete |
| **Coupling/Sheave:** | None |
| **Bearing RTDs:** | No |
| **Stator RTDs:** | No |
| **Repair Stage:** | Final |
| **Heaters:** | No |
| **Winding Type :** | Random Wound |
| **Bearing Type:** | Rolling Element |

Priorities Found: **3 - High** **4 - 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? **(Yes) Yes**

| | | | | |
|---|---|---|---|---|
| | 6. | Does Shaft Have Visible Damage? | **(No) No** | P20 |

| | | | | |
|---|---|---|---|---|
| | 7. | Assembled Shaft Runout | | |
| | 8. | Assembled Shaft End Play | | |
| | 9. | Air Gap Variation <10% | | |
| | 10. | Lead Condition | **(F) Fail** | P55 |

***Excessive amounts of rust and corrosion***

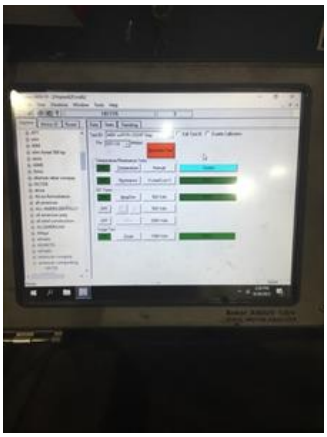
| | | | | |
|---|---|---|---|---|
| | 11. | Lead Length | **6 Inches** | |
| | 12. | Lead Numbers | | |
| | 13. | Frame Condition | **pass** | |
| | 14. | Fan Condition | **(P) Pass** | P95 |

| | | | | |
|---|---|---|---|---|
| | 15. | Broken or Missing Components | **4 ea** | |

*4 ea D.E housing mount lots need replaced.*

## Initial Electrical Inspection

| | | | | |
|---|---|---|---|---|
| 16. | Insulation Resistance/Megger | | | |
| 17. | Winding Resistance | | | |
| | 1-2 | 1-3 | 2-3 | |
| 18. | Perform Surge Test | | | P57 |



| | | | |
|---|---|---|---|
| 19. | Number of Stator Slots | **36** | |
| 20. | Stator Condition | **pass** | |
| 21. | Stator Thermistors/Ohms | | |
| 22. | Stator Overloads/Ohms | | |

## Mechanical Inspection

| | | | |
|---|---|---|---|
| 23. | Drive End Bearing Brand | **ORS** | |
| 24. | Drive End Bearing Number- | **6309 EV1 C3** | P30 |

| | | | |
|---|---|---|---|
| 25. | Drive End Bearing Qty. | **1** | |

| | | | |
|---|---|---|---|
| 26. | Drive End Bearing Type | **(Ball) Ball Bearing** | P49 |

| | | | |
|---|---|---|---|
| 27. | Drive End Lubrication Type | **(Grease) Grease Lubricated** | |
| 28. | Drive End Bearing Insulation or Grounding Device? | **none** | |
| 29. | Drive End Wavy Washer/Snap-Ring Other Retention Device? | **none** | |
| 30. | Drive End Bearing Condition | **replace** | |
| 31. | Opposite Drive End Bearing Brand | **ORS** | P86 |

| | | | |
|---|---|---|---|
| 32. | Opposite Drive End Bearing Number- | **6209 EV1 C3** | |
| 33. | Opposite Drive End Bearing Qty. | **1** | |
| 34. | Opposite Drive End Bearing Type | **(Ball) Ball Bearing** | |
| 35. | Opposite Drive End Lubrication Type | **(Grease) Grease Lubricated** | |
| 36. | Opposite Drive End Bearing Insulation or Grounding Device? | **none** | |
| 37. | Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device? | **wavy washer** | P98 |

| | | | |
|---|---|---|---|
| 38. | Opposite Drive End Bearing Condition | **replace** | |
| 39. | Drive End Seal | **45*72*10** | P101 |

| | | | |
|---|---|---|---|
| 40. | Opposite Drive End Seal | **45*72*10** | P102 |

## Rotor Inspection

| | | |
|---|---|---|
| 41. | Rotor Type/Material | **(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast** |

| | | |
|---|---|---|
| 42. | Growler Test | **(Pass) Pass** |
| 43. | Number of Rotor Bars | **28** |
| 44. | Rotor Condition | **rusted** |
| 45. | List the Parts needed for the Repair Below | |

***Replace 4 ea end bell mount bolts. Re-sleeve both housing fits. Replace 6309 & 6209 2Z bearings. Replace both housing lip seals, 45*72*10***

| | | |
|---|---|---|
| 46. | Signature of Technician that Disassembled Motor | **Terrence Holland** |

## Mechanical Fits- Rotor

| | | |
|---|---|---|
| 47. | Shaft Runout | **0.001 inches** |
| 48. | Rotor Runout | |

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

| | |
|---|---|
| 49. | Coupling Fit Closest to Bearing Housing |

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

| | |
|---|---|
| 50. | Coupling Fit Closest to the end of the Shaft |

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

| | |
|---|---|
| 51. | Drive End Bearing Shaft Fit |

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **1.7717** | **1.7178** | **1.7718** |

| | | |
|---|---|---|
| 52. | Drive End Bearing Shaft Fit Condition | **(P) Pass** |
| 53. | Opposite Drive End Bearing Shaft Fit | |

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **1.772** | **1.7719** | **1.772** |

| | | |
|---|---|---|
| 54. | Opposite Drive End Bearing Shaft Fit Condition | **(P) Pass** |
| 55. | Shaft Air Seal Fits | |

| Drive End Air Seal | Opposite Drive End Air Seal |
|---|---|

## Mechanical Fits- Bearing Housings

56. Drive End - Endbell Bearing Fit

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

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

*Excessive pitting and wear.*

58. Opposite Drive End - Endbell Bearing Fit

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

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

*Excessive pitting and wear.*

60. Bearing Cap Condition

| Drive End Bearing Cap | Opposite Drive End Bearing Cap |
|---|---|

61. End Bell Air Seal Fits

| Drive End Air Seal | Opposite Drive End Air Seal |
|---|---|

62. List Machine Work Needed Below

63. Technician **Terrence Holland**

## Dynamic Balance Report

64. Rotor Weight and Balance Grade

| Rotor Weight | Balance Grade |
|---|---|

65. Initial Balance Readings

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

66. Final Balance Readings

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

67. Technician

## Rewind

68. Core Test Results - Watts loss per Pound

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

69. Core Hot Spot Test

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

70. Post Rewind Electrical Test- Insulation Resistance

71. Post Rewind Polarization Index

72. Post Rewind Winding Resistance

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

| | | | |
|---|---|---|---|
| 73. | Post Rewind Surge Test | | |
| 74. | Post Rewind Hi-Pot | | |
| 75. | Technician | | |
| **Root Cause of Failure** | | | |
| 76. | Failure locations | | |
| 77. | Root cause of failure | | |
| **Mechanical Fits- Rotor - Post Repair** | | | |
| 78. | Shaft Runout Post Repair | | |
| 79. | Rotor Runout Post Repair | | |
| | Drive End Bearing Fit | Rotor Body | Opposite Drive End Bearing |
| 80. | Coupling Fit Closest to Bearing Housing Post Repair | | |
| | 0 Degrees | 90 Degrees | 120 Degrees |
| 81. | Coupling Fit Closest to the end of the Shaft Post Repair | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 82. | Drive End Bearing Shaft Fit Post Repair | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 83. | Opposite Drive End Bearing Shaft Fit Post Repair | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 84. | Shaft Air Seal Fits Post Repair | | |
| | Drive End Air Seal | Opposite Drive End Air Seal | |
| 85. | Shaft Repair Sign-off | | |
| **Mechanical Fits- Bearing Housings - Post Repair** | | | |
| 86. | Drive End - Endbell Bearing Fit Post Repair | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 87. | Opposite Drive End - Endbell Bearing Fit Post Repair | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 88. | Bearing Cap Condition Post Repair | | |
| | Drive End Bearing Cap | Opposite Drive End Bearing Cap | |
| 89. | End Bell Air Seal Fits Post Repair | | |
| | Drive End Air Seal | Opposite Drive End Air Seal | |
| 90. | End Bell Repair Sign-off | | |
| **Assembly** | | | |
| 91. | QC Check All Parts for Cleanliness Prior to Assembly | | |
| 92. | Photograph All Major Components prior to assembly | | |
| 93. | Final Insulation Resistance Test | | |
| 94. | Assembled Shaft Endplay | | |
| 95. | Assembled Shaft Runout | | |

| | | | |
|---|---|---|---|
| 96. | Test Run Voltage | | |
| | Volts | Volts | Volts |
| 97. | Test Run Amperage | | |
| | Amps | Amps | Amps |
| 98. | Drive End Vibration Readings - Inches Per Second | | |
| | Horizontal | Vertical | Axial |
| 99. | Opposite Drive End Vibration Readings - Inches Per Second | | |
| | Horizontal | Vertical | Axial |
| 100. | Ambient Temperature - Fahrenheit | | |
| 101. | Drive End Bearing Temps - Fahrenheit | | |
| | 5 Minutes | 10 Minutes | 15 Minutes |
| 102. | Opposite Drive End Bearing Temps - Fahrenheit | | |
| | 5 Minutes | 10 Minutes | 15 Minutes |
| 103. | Document Final Condition with Pictures after paint | | |
| 104. | Final Pics and QC Review | | |