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

# AC Inspection as Found

**Peco Foods**
625 S. Allen Street
Batesville, AR 72501

FolderID: 102854
FormID: 20233519

**AC Inspection - Rev. 2**

| | |
|---|---|
| **Location:** | Shop |
| **Serial Number:** | 1609937022 |
| **Description:** | HOWDEN ROTARY BLOWER |

| | |
|---|---|
| **Hi-Speed Job Number:** | 102854 |
| **Manufacturer:** | Other |
| **Spec/ID #:** | 851470TR |
| **Serial Number:** | 1609937022 |
| **# of Leads:** | Other |
| **J-box Included:** | None |
| **Coupling/Sheave:** | Gear |
| **Date Received:** | 04/29/2024 |
| **Bearing RTDs:** | No |
| **Stator RTDs:** | No |
| **Repair Stage:** | Final |
| **Rewind:** | No |
| **Shaft Machined Fit Repairs Required:** | No |
| **Bearing Housing Machined Fit Repairs Required:** | No |
| **Heaters:** | No |
| **Bearing Type:** | Rolling Element |

Priorities Found: **2 - High** **9 - Good**

## Overall Condition

| | | |
|---|---|---|
| 1. | Report Date | **05/15/2023** |
| 2. | Nameplate Picture | P37 |


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




| | | | |
|---|---|---|---|
| | 4. | Describe the Overall Condition of the Equipment as Received | |
| | | ***Rusted*** | |
| | 5. | Distance from the end of the shaft to the Coupling/Sheave | **inches** |
| | | ***Na*** | |

## Initial Mechanical/Electrical

| | | | |
|---|---|---|---|
| 🔴 | 6. | Does Shaft Turn Freely? | **(N) No** |
| 🔴 | 7. | Does the shaft require T.I.R in Lathe to identify additional repairs? | **(Yes) Yes** |
| | | ***Seal surface repair.*** | |
| | 8. | Does Shaft Have Visible Damage? | **(No) No** |
| | 9. | Assembled Shaft Runout | **Inches** |
| | | ***Na*** | |
| | 10. | Assembled Shaft End Play | **inches** |
| | | ***Na*** | |
| | 11. | Air Gap Variation <10% | |
| | | ***Na*** | |
| 🟢 | 12. | Lead Condition | **(NA) Not Applicable** |
| | 13. | Lead Length | **Inches** |
| | | ***Na*** | |
| 🟢 | 14. | Does it have Lugs?, If so what is the Stud Size? | **(No) No** |
| | 15. | Lead Numbers | |
| | | ***Na*** | |
| | 16. | Frame Condition | **rusted** |
| | 17. | Fan Condition | **(N) NA** |
| | 18. | Broken or Missing Components | |
| | | ***3 ea bearings were missing locking miniature ball bearings that fit in bearing grooves.*** | |

## Initial Electrical Inspection

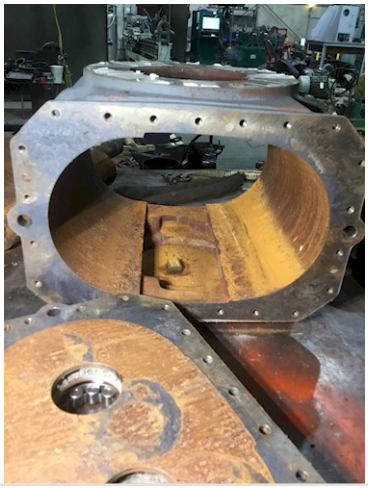
| | | | |
|---|---|---|---|
| | 19. | Insulation Resistance/Megger | **Megohms** |
| | | ***Na*** | |
| | 20. | Winding Resistance | |

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

***Na***

| | | | |
|---|---|---|---|
| 🟢 | 21. | Perform Surge Test | **(NA) Not Applicable** |
| | 22. | Number of Stator Slots | |
| | | ***Na*** | |

| | | | |
|---|---|---|---|
| 23. | Stator Condition | **rusted** | P84 |
| | ***Requires extensive cleaning*** | | |



| | | |
|---|---|---|
| 24. | Stator Thermistors/Ohms | |
| | ***Na*** | |
| 25. | Stator Overloads/Ohms | |
| | ***Na*** | |

## Mechanical Inspection

| | | |
|---|---|---|
| 26. | Drive End Bearing Brand | **Romania ENSO URB** |
| 27. | Drive End Bearing Number- | **NJ311 EN1C3SO** |
| 28. | Drive End Bearing Qty. | |
| | ***2*** | |
| 29. | Drive End Bearing Type | **(Roller) Roller Bearing** |
| 30. | Drive End Lubrication Type | **(Oil) Oil Lubricated** |
| 31. | Drive End Bearing Insulation or Grounding Device? | |
| | ***Na*** | |
| 32. | Drive End Wavy Washer/Snap-Ring Other Retention Device? | **wavy washers** |
| 33. | Drive End Bearing Condition | **rusted** P82 |

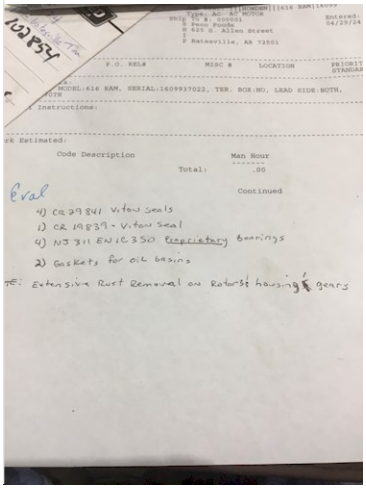
| | | |
|---|---|---|
| 34. | Opposite Drive End Bearing Brand | **Romania ENSO URB** |
| 35. | Opposite Drive End Bearing Number- | **NJ311 EN1C3SO** |
| 36. | Opposite Drive End Bearing Qty. | **2** |
| 37. | Opposite Drive End Bearing Type | **(Roller) Roller Bearing** |
| 38. | Opposite Drive End Lubrication Type | **(Oil) Oil Lubricated** |

| | | | |
|---|---|---|---|
| 39. | Opposite Drive End Bearing Insulation or Grounding Device? | | |
| | ***None*** | | |
| 40. | Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device? | **wavy washers** | |
| 41. | Opposite Drive End Bearing Condition | **rusted** | P118 |

| | | | |
|---|---|---|---|
| 42. | Drive End Seal | | |
| | ***2) CR 29841 Viton seals***<br>***1) 19839 Viton seal*** | | |
| 43. | Opposite Drive End Seal | **2) 29841 Viton seals** | |

## Rotor Inspection

| | | | |
|---|---|---|---|
| 44. | Rotor Type/Material | | |
| | ***Blower rotors.*** | | |
| 45. | Growler Test | | |
| | ***Na*** | | |
| 46. | Number of Rotor Bars | | |
| | ***Na*** | | |
| 47. | Rotor Condition | **rusted** | |
| 48. | List the Parts needed for the Repair Below | | P47 |
| | ***See photo*** | | |



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

*Witness:RRW*

## Mechanical Fits- Rotor

| | | |
|---|---|---|
| 50. | Shaft Runout | **0.002 inches** |
| 51. | Rotor Runout | |

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

*Na*

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 |
|---|---|---|

*2.1663, 2.1661, 2.1663 (rotor1)*
*2.1664, 2.1663, 2.1664 (rotor2)*

| | | |
|---|---|---|
| 55. | Drive End Bearing Shaft Fit Condition | **(P) Pass** |
| 56. | Opposite Drive End Bearing Shaft Fit | |

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

*2.1661, 2.1662, 2.1662 (rotor1)*
*2.1662, 2.1661, 2.1662 (rotor2)*

| | | |
|---|---|---|
| 57. | Opposite Drive End Bearing Shaft Fit Condition | **(P) Pass** |
| 58. | Shaft Air Seal Fits | |

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

*Na*

## Mechanical Fits- Bearing Housings

59. Drive End - Endbell Bearing Fit

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

*4.7256, 4.7256, 4.7254 (Right side)*
*4.7254, 4.7255, 4.7255 ( Left side)*

| | | |
|---|---|---|
| 60. | Drive End - Endbell Bearing Fit Condition | **(P) Pass** |
| 61. | Opposite Drive End - Endbell Bearing Fit | |

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

*4.7254, 4.7255, 4.7255 (Right side)*
*4.7250, 4.7252, 4.7253 (Left side)*

| | | | |
|---|---|---|---|
| 62. | Opposite Drive End - Endbell Bearing Fit Condition | | **(P) Pass** |
| 63. | Bearing Cap Condition | | |
| | Drive End Bearing Cap | Opposite Drive End Bearing Cap | |

*Na*

| | | | |
|---|---|---|---|
| 64. | End Bell Air Seal Fits | | |
| | Drive End Air Seal | Opposite Drive End Air Seal | |

*Na*

65. List Machine Work Needed Below P67

***Seal surface requires Polish/repair due to excessive rust.***

66. Technician **Terrence Holland**

## Root Cause of Failure

67. Failure locations

***Bearings, rotors, & housing.***

68. Root cause of failure P18

***Entire oil basin on both ends contained nothing but water. Unit is completely coated internally with rust.***

## 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

## Assembly

73. QC Check All Parts for Cleanliness Prior to Assembly **Terrence Holland** P4



| | | |
|---|---|---|
| 74. | Photograph All Major Components prior to assembly | P17 |

***Polished seal services.***
***Gary***

| | | |
|---|---|---|
| 75. | Final Insulation Resistance Test | **Megohms** |
| 76. | Assembled Shaft Endplay | **inches** |
| 77. | Assembled Shaft Runout | **inches** |

78. Test Run Voltage

| | | |
|---|---|---|
| Volts | Volts | Volts |

79. Test Run Amperage

| | | |
|---|---|---|
| Amps | Amps | Amps |

80. Drive End Vibration Readings - Inches Per Second

| | | |
|---|---|---|
| Horizontal | Vertical | Axial |

81. Opposite Drive End Vibration Readings - Inches Per Second

| | | |
|---|---|---|
| Horizontal | Vertical | Axial |

82. Ambient Temperature - Fahrenheit

83. Drive End Bearing Temps - Fahrenheit

| | | |
|---|---|---|
| 5 Minutes | 10 Minutes | 15 Minutes |

84. Opposite Drive End Bearing Temps - Fahrenheit

| | | | |
|---|---|---|---|
| | 5 Minutes | 10 Minutes | 15 Minutes |

85. Stator Temperatures- Fahrenheit

| | | |
|---|---|---|
| 5 Minutes | 10 Minutes | 15 Minutes |

86. Document Final Condition with Pictures after paint

87. Final Pics and QC Review **Terrence Holland** P131

*Witness DM*