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

# AC Inspection as Found

**Welspun Tubular (11685)**
**9301 Frazier Pike**
**Little Rock, AR 72206**

FolderID: 101138
FormID: 16308069

### AC Inspection - Rev. 2

| | |
|---|---|
| **Location:** | LR MOTORSHOP |
| **Serial Number:** | 525286/01 |
| **Description:** | 2.2KW HAMMELMANN 3600RPM |

| | |
|---|---|
| **Hi-Speed Job Number:** | 101138 |
| **Manufacturer:** | Other |
| **Product Number:** | 00.00124.0183-002 |
| **Serial Number:** | 525286/01 |
| **HP/kW:** | 2.2 (kW) |
| **RPM:** | 2870 (RPM) |
| **Voltage:** | 460 |
| **Current:** | 4.9 |
| **Phase:** | Three |
| **Hz:** | 50 (Hz) |
| **Enclosure:** | TENV |
| **J-box Included:** | None |
| **Bearing RTDs:** | No |
| **Stator RTDs:** | No |
| **Repair Stage:** | Final |
| **Heaters:** | No |
| **Winding Type :** | Random Wound |
| **Bearing Type:** | Rolling Element |

## Overall Condition

1. Report Date

| | |
|---|---|
| 2. | Nameplate Picture |





| | |
|---|---|
| 3. | Photos of all six sides of the machine. |
| 4. | Describe the Overall Condition of the Equipment as Received |
| 5. | Distance from the end of the shaft to the Coupling/Sheave |

## Initial Mechanical/Electrical

| | |
|---|---|
| 6. | Does Shaft Turn Freely? |
| 7. | Does Shaft Have Visible Damage? |
| 8. | Assembled Shaft Runout |
| 9. | Assembled Shaft End Play |
| 10. | Air Gap Variation <10% |
| 11. | Lead Condition |

| | |
|---|---|
| 12. | Lead Length |
| 13. | Frame Condition |
| 14. | Fan Condition |
| 15. | Broken or Missing Components |

**Initial Electrical Inspection**

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

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

| | |
|---|---|
| 18. | Perform Surge Test |
| 19. | Number of Stator Slots |
| 20. | Stator Condition |

**Mechanical Inspection**

| | |
|---|---|
| 21. | Drive End Bearing Brand |
| 22. | Drive End Bearing Number- |
| 23. | Drive End Bearing Qty. |
| 24. | Drive End Bearing Type |
| 25. | Drive End Lubrication Type |
| 26. | Drive End Bearing Insulation or Grounding Device? |
| 27. | Drive End Wavy Washer/Snap-Ring Other Retention Device? |
| 28. | Drive End Bearing Condition |
| 29. | Opposite Drive End Bearing Brand |
| 30. | Opposite Drive End Bearing Number- |
| 31. | Opposite Drive End Bearing Qty. |
| 32. | Opposite Drive End Bearing Type |
| 33. | Opposite Drive End Lubrication Type |
| 34. | Opposite Drive End Bearing Insulation or Grounding Device? |
| 35. | Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device? |
| 36. | Opposite Drive End Bearing Condition |
| 37. | Drive End Seal |
| 38. | Opposite Drive End Seal |

**Rotor Inspection**

| | |
|---|---|
| 39. | Rotor Type/Material |
| 40. | Growler Test |
| 41. | Number of Rotor Bars |
| 42. | Rotor Condition |
| 43. | List the Parts needed for the Repair Below |
| 44. | Signature of Technician that Disassembled Motor |

**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 |
| 50. | Drive End Bearing Shaft Fit Condition | | |
| 51. | Opposite Drive End Bearing Shaft Fit | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 52. | Opposite Drive End Bearing Shaft Fit Condition | | |
| 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 |
| 55. | Drive End - Endbell Bearing Fit Condition | | |
| 56. | Opposite Drive End - Endbell Bearing Fit | | |
| | 0 Degrees | 60 Degrees | 120 Degrees |
| 57. | Opposite Drive End - Endbell Bearing Fit Condition | | |
| 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 | | |
| 61. | Technician | | |

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