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

# AC Inspection as Found

**American Kraft Paper**
**1701 Jefferson Parkway**
**White Hall, AR 71602**

FolderID: 104086
FormID: 23256287

**AC Inspection - Rev. 2**

| | |
|---|---|
| **Location:** | MOTOR SHOP LR |
| **Serial Number:** | WCE9179032001 |
| **Description:** | 125HP TECO 1780RPM |

| | |
|---|---|
| **Hi-Speed Job Number:** | 104086 |
| **Manufacturer:** | TECO Westinghouse |
| **Product Number:** | TYPE: AEHH8P-10R |
| **Spec/ID #:** | CAT: NP1254R |
| **Serial Number:** | WCE9179032001 |
| **HP/kW:** | 125 (HP) |
| **RPM:** | 1780 (RPM) |
| **Frame:** | 444T |
| **Voltage:** | 230 / 460 |
| **Current:** | 292 (Amps) |
| **Phase:** | Three |
| **Hz:** | 60 (Hz) |
| **Service Factor:** | 1.15 |
| **Enclosure:** | TEFC |
| **# of Leads:** | 12 |
| **J-box Included:** | None |
| **Coupling/Sheave:** | None |
| **Date Received:** | 05/02/2025 |
| **Bearing RTDs:** | No |
| **Stator RTDs:** | No |
| **Repair Stage:** | Final |
| **Rewind:** | Yes |
| **Shaft Machined Fit Repairs Required:** | No |
| **Bearing Housing Machined Fit Repairs Required:** | No |
| **Heaters:** | No |
| **Winding Type :** | Random Wound |
| **Bearing Type:** | Rolling Element |

Priorities Found: **2 - High** **11 - Good**

## Overall Condition

| | | |
|---|---|---|
| 1. | Report Date | **02/03/2025** |

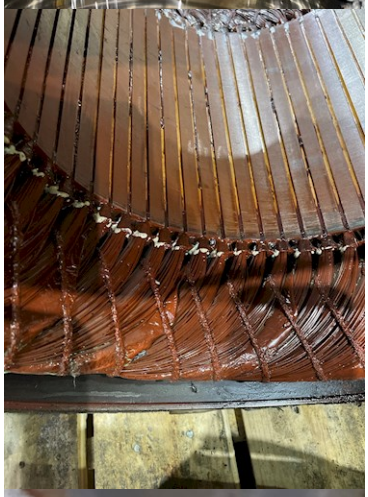
Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

2. Nameplate Picture P37


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

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.



| | | | |
|---|---|---|---|
| | 4. | Describe the Overall Condition of the Equipment as Received<br>***Windings are shorted. Needs rewind and bearings.*** | |
| **Initial Mechanical/Electrical** | | | |
| ● | 5. | Does Shaft Turn Freely? | **(Y) Yes** |
| ● | 6. | Does the shaft require T.I.R in Lathe to identify additional repairs? | **(No) No** |
| | 7. | Does Shaft Have Visible Damage? | **(No) No** |
| ● | 8. | Assembled Shaft Runout | **0.0015 Inches** |
| | 9. | Assembled Shaft End Play | **0 inches** |
| | 10. | Air Gap Variation <10%<br>***Na*** | |
| ● | 11. | Lead Condition | **(P) Pass** |

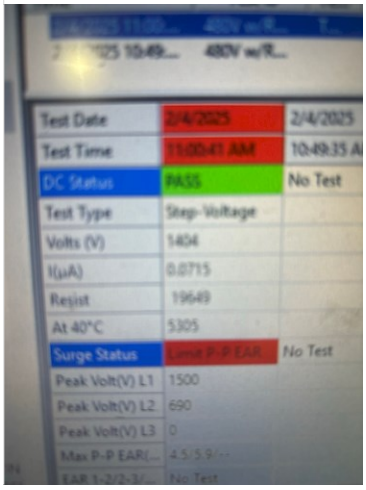
Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

| | | | | |
|---|---|---|---|---|
| | 12. | Lead Length | **12 Inches** | |
| ● | 13. | Does it have Lugs?, If so what is the Stud Size? | **(Yes) Yes** | |
| | | *3/8* | | |
| | 14. | Lead Numbers | **not ledge able** | |
| | 15. | Frame Condition | **Good** | |
| ● | 16. | Fan Condition | **(P) Pass** | P115 |

| | | | | |
|---|---|---|---|---|
| ● | 17. | Does motor have internal fan? | **(No) No** | |
| | 18. | Broken or Missing Components | **broken screw shaft air fit seal. no j-box** | P124 |

## Initial Electrical Inspection

| | | | | |
|---|---|---|---|---|
| | 19. | Insulation Resistance/Megger | **0 Megohms** | P8 |

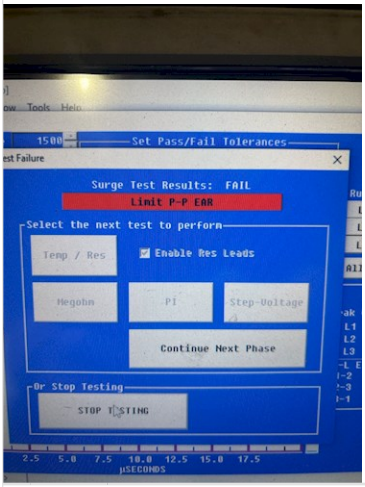


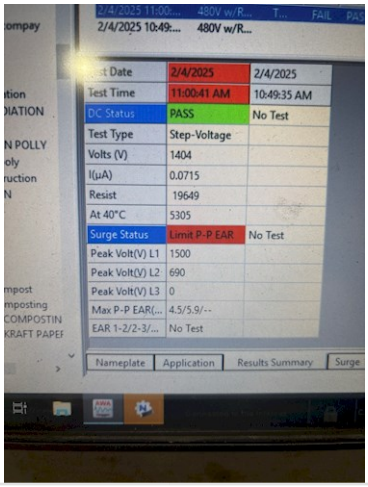

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

| | | | | |
|---|---|---|---|---|
| 20. | Winding Resistance | | | |
| | 1-2 | 1-3 | 2-3 | |

*Fail*

| | | | |
|---|---|---|---|
| 21. | Perform Surge Test | **(F) Fail** | P57 |




| | | |
|---|---|---|
| 22. | Number of Stator Slots | **60** |
| 23. | Stator Condition | **Rewind** |
| 24. | Stator Thermistors/Ohms | **na** |
| 25. | Stator Overloads/Ohms | **na** |

## Mechanical Inspection

| | | |
|---|---|---|
| 26. | Drive End Bearing Brand | **Koyo** |
| 27. | Drive End Bearing Number- | **6318 zzxc3** |
| 28. | Drive End Bearing Qty. | **1** |
| 29. | Drive End Bearing Type | **(Ball) Ball Bearing** |
| 30. | Drive End Lubrication Type | **(Grease) Grease Lubricated** |
| 31. | Drive End Bearing Insulation or Grounding Device? | **no** |
| 32. | Drive End Wavy Washer/Snap-Ring Other Retention Device? | **no** |
| 33. | Drive End Bearing Condition | **worn** |
| 34. | Opposite Drive End Bearing Brand | **SKF** |
| 35. | Opposite Drive End Bearing Number- | **6316** |
| 36. | Opposite Drive End Bearing Qty. | **1** |
| 37. | Opposite Drive End Bearing Type | **(Ball) Ball Bearing** |
| 38. | Opposite Drive End Lubrication Type | **(Grease) Grease Lubricated** |
| 39. | Opposite Drive End Bearing Insulation or Grounding Device? | **no** |
| 40. | Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device? | **no** |
| 41. | Opposite Drive End Bearing Condition | **worn** |
| 42. | Drive End Seal | **no** |
| 43. | Opposite Drive End Seal | **no** |

## Rotor Inspection

| | | |
|---|---|---|
| 44. | Rotor Type/Material | **(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast** |
| 45. | Growler Test | **(Pass) Pass** |
| 46. | Number of Rotor Bars | **50** |
| 47. | Rotor Condition | **Good** |

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

48. List the Parts needed for the Repair Below

*6318zzc3*
*6316zzc3*
*Rewind*

49. Signature of Technician that Disassembled Motor **Shon /Trevor**

## Mechanical Fits- Rotor

50. Shaft Runout **0.001 inches**

51. Rotor Runout

| Drive End Bearing Fit | Rotor Body | Opposite Drive End Bearing |
|---|---|---|
| **0.002** | **0.002** | **0.003** |

52. Coupling Fit Closest to Bearing Housing

| 0 Degrees | 90 Degrees | 120 Degrees |
|---|---|---|
| **3.3735** | **3.3733** | **3.3735** |

53. Coupling Fit Closest to the end of the Shaft

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **3.3746** | **3.3746** | **3.3746** |

54. Drive End Bearing Shaft Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **3.544** | **3.5439** | **3.5439** |

55. Drive End Bearing Shaft Fit Condition **(P) Pass**

56. Opposite Drive End Bearing Shaft Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **3.1498** | **3.1499** | **3.1499** |

57. Opposite Drive End Bearing Shaft Fit Condition **(P) Pass**

58. Shaft Air Seal Fits

| Drive End Air Seal | Opposite Drive End Air Seal |
|---|---|
| **good** | **good** |

## Mechanical Fits- Bearing Housings

59. Drive End - Endbell Bearing Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **7.4812** | **7.4813** | **7.4813** |

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

61. Opposite Drive End - Endbell Bearing Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **6.6941** | **6.6941** | **6.6941** |

*.0002 over max*

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

63. Bearing Cap Condition

| Drive End Bearing Cap | Opposite Drive End Bearing Cap |
|---|---|
| **good** | **good** |

64. End Bell Air Seal Fits

| Drive End Air Seal | Opposite Drive End Air Seal |
|---|---|
| **good** | **good** |

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

65. List Machine Work Needed Below

***None***

66. Technician **Shon/ Trevor Finished**

***Co-sign TRH***

## Root Cause of Failure

67. Failure locations

***Windings failed. They got hot and shorted.***

68. Root cause of failure

***Overloading of the windings***

## Dynamic Balance Report

69. Rotor Weight and Balance Grade

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

***See below***

70. Initial Balance Readings

| Drive End | Opposite Drive End |
|---|---|
| **1.35** | **.40** |

71. Final Balance Readings P27

| Drive End | Opposite Drive End |
|---|---|
| **.07** | **.28** |

72. Technician **Terrence Holland**

## Rewind

73. Core Test Results - Watts loss per Pound

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

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

| | | | | |
|---|---|---|---|---|
| 74. | Core Hot Spot Test | | | |
| | Pre-Burnout | Post-Burnout | | |
| 75. | Post Rewind Electrical Test- Insulation Resistance | | | **Megohms** |
| 76. | Post Rewind Polarization Index | | | **Polarization Index** |
| 77. | Post Rewind Winding Resistance | | | |
| | 1-2 | 1-3 | 2-3 | |
| 78. | Post Rewind Surge Test | | | |
| 79. | Post Rewind Hi-Pot | | | **micro-amps** |
| 80. | Technician | | | |

## Assembly

81. QC Check All Parts for Cleanliness Prior to Assembly — **Terrence Holland**

82. Photograph All Major Components prior to assembly — P17

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

| | | | |
|---|---|---|---|
| 83. | Final Insulation Resistance Test | **4.59 Gigohms** | P31 |

| | | |
|---|---|---|
| 84. | Assembled Shaft Endplay | **0 inches** |
| 85. | Assembled Shaft Runout | **0.002 inches** |

86. Test Run Voltage P55

| Volts | Volts | Volts |
|---|---|---|
| **455** | **454** | **458** |


87. Test Run Amperage P65

| Amps | Amps | Amps |
|---|---|---|
| **43.5** | **39.5** | **40.1** |

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

| | | | |
|---|---|---|---|
| 88. | Drive End Vibration Readings - Inches Per Second | | |
| | Horizontal | Vertical | Axial |
| | **0.06** | **0.05** | **0.06** |
| 89. | Opposite Drive End Vibration Readings - Inches Per Second | | |
| | Horizontal | Vertical | Axial |
| | **0.02** | **0.01** | **0.03** |
| 90. | Ambient Temperature - Fahrenheit | | |
| 91. | Drive End Bearing Temps - Fahrenheit | | |
| | 5 Minutes | 10 Minutes | 15 Minutes |
| | | | |
| 92. | Opposite Drive End Bearing Temps - Fahrenheit | | |
| | 5 Minutes | 10 Minutes | 15 Minutes |
| | | | |
| 93. | Document Final Condition with Pictures after paint | | **see below** |
| 94. | Final Pics and QC Review | | **Terrence Holland** |

P132

***Co sign: DM***

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.

Hi-Speed Industrial Service disclaims all warranties, both express and implied, relating to the information, reports, opinions and analysis disclosed to the Customer by Hi-Speed. Hi-Speed shall not be liable for any errors or omissions, or any losses, injury or damages arising from the use of such information, reports, opinions and analysis by the Customer.