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

# AC Inspection as Found

**MARS FOOD (0001269)**
1098 N. Broadway
Greenville, MS 38701

FolderID: 153906
FormID: 21966130

## AC Inspection - Rev. 2

**Completed by: JAMES VALENTINE on 10/17/2024**

**Location:** 5 Floor

**Serial Number:**

| | |
|---|---|
| **Hi-Speed Job Number:** | 153906 |
| **Manufacturer:** | Other |
| **Product Number:** | NRD132M2 |
| **Serial Number:** | EN60034-1 |
| **HP/kW:** | 20 (HP) |
| **RPM:** | 6250 (RPM) |
| **Frame:** | IP54 |
| **Voltage:** | 460 |
| **Current:** | 32 (Amps) |
| **Phase:** | Three |
| **Hz:** | 105 (Hz) |
| **Service Factor:** | 1.15 |
| **Enclosure:** | TEFC |
| **# of Leads:** | 3 |
| **J-box Included:** | Complete |
| **Coupling/Sheave:** | None |
| **Date Received:** | 10/16/2024 |
| **Bearing RTDs:** | No |
| **Stator RTDs:** | No |
| **Repair Stage:** | Teardown Inspection |
| **Rewind:** | No |
| **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: **8 - High** **46 - Good**

## Overall Condition

| | | |
|---|---|---|
| 1. | Report Date | **10/16/2024** |

2. Nameplate Picture P2

3. Photos of all six sides of the machine. P3

| | | | |
|---|---|---|---|
| | 4. | Describe the Overall Condition of the Equipment as Received | |
| | 5. | Report Date [COPY] | |

**Initial Mechanical/Electrical**

| | | | | |
|---|---|---|---|---|
| 🟢 | 6. | Does Shaft Turn Freely? | **(Y) Yes** | |
| 🟢 | 7. | Does the shaft require T.I.R in Lathe to identify additional repairs? | **(No) No** | |
| 🔴 | 8. | Does Shaft Have Visible Damage? | **(Yes) Yes** | P8 |

*Damage is on drive end. 180 degrees out.*

| | | | |
|---|---|---|---|
| 🔴 | 9. | Assembled Shaft Runout | **0.003 Inches** |
| 🟢 | 10. | Assembled Shaft End Play | **0.005 inches** |
| | 11. | Air Gap Variation <10% | |

| | | | | |
|---|---|---|---|---|
| 12. | Lead Condition | **(P) Pass** | P12 |

| | | | |
|---|---|---|---|
| 13. | Lead Length | **10 Inches** | |
| 14. | Does it have Lugs?, If so what is the Stud Size? | | |
| 15. | Lead Numbers | **1-3** | |
| 16. | Frame Condition | **good** | |
| 17. | Fan Condition | **(F) Fail** | P17 |

| | | | |
|---|---|---|---|
| 18. | Broken or Missing Components | **fan** | P18 |

*Fan shaft dimensions.7487*

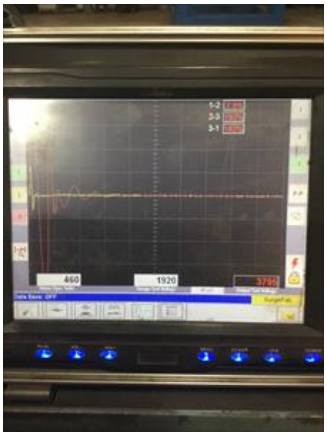
## Initial Electrical Inspection

| | | | |
|---|---|---|---|
| 19. | Insulation Resistance/Megger | **Megohms** | P19 |


| | | | |
|---|---|---|---|
| 20. | Winding Resistance | | P20 |

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


| | | | |
|---|---|---|---|
| 21. | Perform Surge Test | **(F) Fail** | P21 |




| | | |
|---|---|---|
| 22. | Number of Stator Slots | **36** |
| 23. | Stator Condition | **bad** |
| 24. | Stator Thermistors/Ohms | |
| 25. | Stator Overloads/Ohms | |

## Mechanical Inspection

| | | |
|---|---|---|
| 26. | Drive End Bearing Brand | **nachi** |

| | | | |
|---|---|---|---|
| 27. | Drive End Bearing Number- | **6308ze** | |
| 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? | **none** | |
| 32. | Drive End Wavy Washer/Snap-Ring Other Retention Device? | **none** | |
| 33. | Drive End Bearing Condition | **good** | P33 |

| | | | |
|---|---|---|---|
| 34. | Opposite Drive End Bearing Brand | **nachi** | |
| 35. | Opposite Drive End Bearing Number- | **6308ze** | |
| 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? | **none** | |
| 40. | Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device? | **none** | |
| 41. | Opposite Drive End Bearing Condition | **good** | P41 |

| | | | |
|---|---|---|---|
| 42. | Drive End Seal | **none** | |
| 43. | Opposite Drive End Seal | **none** | |

## Rotor Inspection

| | | | |
|---|---|---|---|
| 44. | Rotor Type/Material | **(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast** | |
| 45. | Growler Test | **(Pass) Pass** | |
| 46. | Number of Rotor Bars | **36** | |
| 47. | Rotor Condition | **good** | |

48. List the Parts needed for the Repair Below

*2-3608 bearings*
*1-rewind*
*1-fan*

49. Signature of Technician that Disassembled Motor **James Valentine**

## Mechanical Fits- Rotor

50. Shaft Runout **inches**

51. Rotor Runout

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

52. Coupling Fit Closest to Bearing Housing

| 0 Degrees | 90 Degrees | 120 Degrees |
|---|---|---|
| **1.0235** | **1.0235** | **1.0235** |

53. Coupling Fit Closest to the end of the Shaft

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **1.0233** | **1.0233** | **1.0233** |

54. Drive End Bearing Shaft Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **1.5756** | **1.5756** | **1.5756** |

*1.5756/1.5752*

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

56. Opposite Drive End Bearing Shaft Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **1.5756** | **1.5756** | **1.5756** |

*1.5756/1.5752*

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

58. Shaft Air Seal Fits

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

## Mechanical Fits- Bearing Housings

59. Drive End - Endbell Bearing Fit

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

*3.5433/3.5442*

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

61. Opposite Drive End - Endbell Bearing Fit

| 0 Degrees | 60 Degrees | 120 Degrees |
|---|---|---|
| **3.5442** | **3.5442** | **3.5442** |

*3.5433/3.5442*

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 |
|---|---|

65. List Machine Work Needed Below

***None***

66. Technician **James Valentine**

## Root Cause of Failure

67. Failure locations

***Winding failure***

68. Root cause of failure

***N/a***