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— EVERY DAY SINCE 1946 —

LR Motor Shop Repairs

Job Number 100326

Prepared for Hiland Dairy (10126)

6901 I-30
Little Rock AR 72209

Table of Contents

AC Recondition As Found - *MOTOR SHOP LR*

AC Recondition - Rev. 2: *680B400G79*

1.0

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Table of Contents



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AC Recondition As Found

Hiland Dairy (10126)

6901 I-30

Little Rock, AR 72209

FolderID: 100326
FormID: 14618454

AC Recondition - Rev. 2

Location: MOTOR SHOP LR

Serial Number: 680B400G79

Description: 200HP WESTINGHOUSE 1800RPM
445T

Hi-Speed Job Number: 100326

Manufacturer: TECO Westinghouse

Product Number: TUDP

Serial Number: 680B400G79

HP/kW: 200 (HP)

RPM: 1775 (RPM)

Frame: 445T

Voltage: 460

Current: 224

Phase: Three

Hz: 60 (Hz)

Service Factor: 1.15

Enclosure: ODP

J-box Included: None

Coupling/Sheave: Coupling

Bearing RTDs: No

Stator RTDs: No

Repair Stage: Teardown Inspection

Heaters: No

Winding Type : Random Wound

Bearing Type: Rolling Element

Priorities Found: ● 5 - High ● 3 - Good

Overall Condition

1. Report Date

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1.0

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

- | | |
|---|-----------|
| <input checked="" type="radio"/> 6. Does Shaft Turn Freely? | (Yes) Yes |
|---|-----------|

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7. Does Shaft Have Visible Damage?

(No) No



8. Assembled Shaft Runout	0.001 Inches
9. Assembled Shaft End Play	
10. Air Gap Variation <10%	
11. Lead Condition	(P) Pass



12. Lead Length	18 Inches
13. Frame Condition	pass
14. Fan Condition	(N) NA
15. Broken or Missing Components	
Initial Electrical Inspection	
16. Insulation Resistance/Megger	0 Megohms
17. Winding Resistance	
1-2	1-3 2-3

18. Perform Surge Test

(F) Fail

 **Rewind**



19. Stator Condition

**dirty and grounded and
shorted**



Mechanical Inspection

20. Drive End Bearing Number-

NU319



21. Drive End Bearing Qty.

1

22. Drive End Bearing Type

(Roller) Roller Bearing

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23. Drive End Lubrication Type

(Grease) Grease Lubricated



24. Drive End Bearing Insulation or Grounding Device?

na

25. Drive End Wavy Washer/Snap-Ring Other Retention Device?

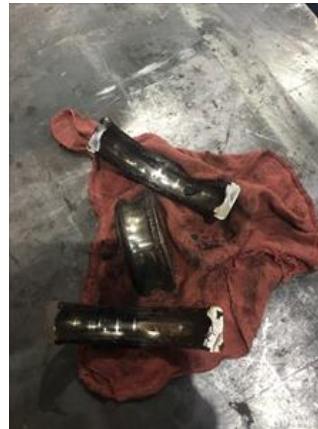
na

26. Drive End Bearing Condition

pass

27. Opposite Drive End Bearing Number-

6313ZZ



28. Opposite Drive End Bearing Qty.

1

29. Opposite Drive End Bearing Type

(Ball) Ball Bearing

30. Opposite Drive End Lubrication Type

(Grease) Grease Lubricated

31. Opposite Drive End Bearing Insulation or Grounding Device?

na

32. Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?

snap ring

33. Opposite Drive End Bearing Condition

pass

34. Drive End Seal

na

35. Opposite Drive End Seal

na

Rotor Inspection

36. Rotor Type/Material

(Squirrel Aluminum) Squirrel
Cage Aluminum Die Cast

37. Growler Test

(Pass) Pass

38. Number of Rotor Bars

58



40. List the Parts needed for the Repair Below

41. Signature of Technician that Disassembled Motor

RW

Mechanical Fits- Rotor42. Shaft Runout **0.001 inches**

43. Rotor Runout

Drive End Bearing Fit

Rotor Body

Opposite Drive End Bearing

0**0.003****0.001**

44. Coupling Fit Closest to Bearing Housing

0 Degrees

90 Degrees

120 Degrees

45. Coupling Fit Closest to the end of the Shaft

0 Degrees

60 Degrees

120 Degrees

46. Drive End Bearing Shaft Fit

0 Degrees

60 Degrees

120 Degrees



3.7418**3.7418****3.7418**

● 47. Drive End Bearing Shaft Fit Condition

(P) Pass

48. Opposite Drive End Bearing Shaft Fit			
0 Degrees	60 Degrees	120 Degrees	
2.5589	2.5589	2.5589	
49. Opposite Drive End Bearing Shaft Fit Condition			(F) Fail
Recommend rebuild shaft bearing fit			



50. Shaft Air Seal Fits			
Drive End Air Seal		Opposite Drive End Air Seal	
Mechanical Fits- Bearing Housings			
51. Drive End - Endbell Bearing Fit			
0 Degrees		60 Degrees	120 Degrees
7.8756		7.8756	7.8756
	52. Drive End - Endbell Bearing Fit Condition		(F) Fail
	Resleeve		



53. Opposite Drive End - Endbell Bearing Fit			
0 Degrees	60 Degrees	120 Degrees	
5.5131	5.5131	5.5131	

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54. Opposite Drive End - Endbell Bearing Fit Condition

(F) Fail

Resleeve



55. Bearing Cap Condition

Drive End Bearing Cap
pass

Opposite Drive End Bearing Cap
pass



56. End Bell Air Seal Fits

Drive End Air Seal

Opposite Drive End Air Seal

57. List Machine Work Needed Below

Ode shaft bearing fit bad. De and Ode end bell bearing fit bad

58. Technician

RW

RW

Root Cause of Failure

59. Failure locations

60. Root cause of failure



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1. **APPLICABILITY.** The sale of any and all goods and/or services by Mock, Inc. d/b/a Hi-Speed Industrial Service ("Hi-Speed") shall be specifically conditioned upon and subject to the following terms and conditions which are incorporated by reference into any contracts and purchase orders with Hi-Speed, and which shall form and become a part of any agreement related thereto. Buyer's acceptance of any offer or quotation made by Hi-Speed for sale of any goods or services is expressly made subject to the terms and conditions set forth herein and to be so effective, Buyer need not sign or approve these Terms and Conditions to be bound hereunder provided a copy of same is provided to Buyer through any means. None of the terms and conditions contained herein may be added to, expanded, changed, modified, superseded or otherwise altered except as revised in writing and duly executed by Hi-Speed, and all orders received by Hi-Speed shall be governed only by the terms and conditions contained herein, notwithstanding any terms, conditions or provisions of any purchase order, release order, authorization or any other form issued by the Buyer. Hi-Speed hereby objects to any additional, modified, changed, deleted, altered or other terms and conditions not contained herein and notifies Buyer that any such terms or provisions are expressly rejected by Hi-Speed.
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4. **BILLING AND PAYMENT TERMS.** Hi-Speed shall invoice Buyer for all goods and/or services as same are rendered at the address listed on the quotation. Payments for all goods and/or services shall be due thirty (30) days from the date of the current invoice or as otherwise set forth in the quotation. Late payments are subject to a late fee of 5% of the total invoice amount. Recurring late payments may lead to a deposit requirement on future services or sale of goods. Buyer shall be liable to Hi-Speed for any and all fees and expenses incurred by Hi-Speed to collect any invoices or to enforce these Standard Terms and Conditions, including but not limited to, attorney's fees.
5. **DELIVERY OF GOODS AND/OR SERVICES.** Unless otherwise identified in the quotation, all shipments are F.O.B. Hi-Speed's warehouse and the title to and all risk of loss with respect to any goods shipped shall pass to Buyer when such goods are delivered to the carrier at Hi-Speed's warehouse. Hi-Speed will use its best efforts to affect delivery by the date or dates specified in the quotation. However, Hi-Speed shall not be liable for delay in or failure to make shipment, or to perform services, by any identified date for any reason whatsoever, including but not limited to, causes beyond its reasonable control, such as strikes, fires, floods, epidemics, quarantines, restrictions, severe weather, embargos, acts of God, or public enemy, war, riot, delays in transportation or the inability to obtain necessary labor, materials or manufacturing facilities.
6. **DELIVERY SITE AND TIME FOR PERFORMANCE.** Hi-Speed and Buyer agree that time is of the essence for the purchase order and that Buyer shall fully cooperate with Hi-Speed in order to allow Hi-Speed full access to prosecute its work diligently and in an orderly manner. Buyer shall assist Hi-Speed in every way possible to avoid delaying, disrupting or interfering with the progress of Hi-Speed's work at the project site. In the event Hi-Speed's work is delayed, hindered, suspended, disrupted, re-sequenced or interfered with or rendered less efficient or more costly or adversely affected in any way as a result of acts or omissions of Buyer or other contractors or employees of Buyer or by any other reason beyond Hi-Speed's control and without the fault of Hi-Speed, then, in such event, Buyer shall be liable to Hi-Speed for any damages, additional costs, expenses, labor, materials, man hours, acceleration costs, overtime, additional jobsite overhead, extended home office overhead, and any and all other direct and indirect expenses of whatsoever nature or kind, caused in whole or in part, as a result of any of the above-referenced occurrences. Hi-Speed's project records will be the basis for computing the additional costs and damages of Hi-Speed's labor, materials, expenses and overhead related to such changes. BUYER WARRANTS THAT THE SITE FOR DELIVERY OR INSTALLATION OF ANY GOODS AND/OR FOR THE PERFORMANCE OF ANY SERVICES SHALL BE READY AND ADEQUATE FOR HI-SPEED'S DELIVERY OF GOODS AND/OR PERFORMANCE OF SERVICES AND THAT HI-SPEED SHALL HAVE FULL ACCESS THERETO, FREE OF ALL OBSTRUCTIONS. BUYER SHALL ASSUME ALL EXTRA COSTS ASSOCIATED WITH HI-SPEED'S INABILITY TO INSTALL ANY GOODS OR PERFORM ANY SERVICES AS A RESULT OF BUYER'S FAILURE TO COMPLY WITH THIS PROVISION. HI-SPEED MAY NOT INSPECT THE SITE PRIOR TO DELIVERY AND/OR INSTALLATION OF GOODS AND/OR PERFORMANCE OF SERVICES AND MAKES NO WARRANTY AS TO THE SUFFICIENCY OF THE SITE FOR THE DELIVERY AND/OR INSTALLATION OF GOODS AND/OR THE PERFORMANCE OF SERVICES AT SUCH SITE.
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8. **WARRANTIES.** Hi-Speed warrants that all goods shall conform in all material aspects to the goods identified in the quotation to Buyer and/or purchase order, and Hi-Speed makes to Buyer the manufacturer's express warranty for any goods sold to Buyer, which is offered by the manufacturer at the time of acceptance of any quotation by Buyer. This warranty is conditioned upon the installation, operation, and maintenance of the goods in accordance with the manufacturer's recommendations and/or standard industry practice and the goods at all times being operated or used under normal operating conditions for which they were designed. Hi-Speed, at its sole option, will repair or

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10. **SEVERABILITY.** The partial or complete invalidity of any provision of these Standard Terms and Conditions shall not affect the enforceability of the remainder of these Standard Terms and Conditions. If any provision is found to be invalid or unenforceable, that portion shall be modified to make it enforceable or shall be stricken and the remainder of these Standard Terms and Conditions shall enforced.
11. **GOVERNING LAW AND JURISDICTION.** Any controversy arising out of any quotation, the purchase order, the goods sold or delivered, repair or replacement thereof, or any services provided pursuant to any quotation or any purchase order, or these Standard Terms and Conditions shall be governed by the laws of the state of Tennessee without regard to any choice of law provisions and any cause of action related in any manner thereto shall be brought only in the state or federal courts of Shelby County, Tennessee.
12. **ABANDONED EQUIPMENT.** Hi-Speed requires that Buyer promptly pick up or provide shipment instructions for Buyer equipment or other Buyer property in Hi-Speed's possession. If equipment or other Buyer property is left with Hi-Speed and not picked up within six (6) months after Hi-Speed's final action related to the applicable property (e.g. evaluation, teardown, estimate, completion of services), Hi-Speed will consider such property abandoned and may dispose of it in accordance with applicable law. Buyer agrees to hold Hi-Speed harmless for any damage or claim for such abandoned property and acknowledges that Hi-Speed may discard or recycle it at Hi-Speed's sole and absolute discretion. Specifically, Hi-Speed may sell Buyer's abandoned property at a private or public sale and retain the proceeds to offset Hi-Speed's storage, inspection and servicing costs. For the avoidance of doubt, Hi-Speed reserves its statutory and other lawful liens for unpaid charges related to abandoned property.
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