

## Job Information

Job #: 95342

Date: March 5, 2019

Priority: —

Authorized OT: No

Authorized by:

## Customer Information

Name: Hiland dairy

Reason:

Contact:

Motor#:

PO#:

Application: —

Special notes:

## Name Plate Information

Manufacturer: Loher

Enclosure : Totally Enclosed  
Fan Cooled

Enclosure Type image

Serial#: 3015375

Model#: A180la-4

Service Factor:

Frame: 230yy

Horsepower/kW: 26KW

Rated RPM: 1750

Rated Amps: 84/42

Rated Voltage: 230/460

Phase: 3

Cycles: 60

Special design: No



Nameplate

DE

ODE

F1

F2

Top



## Mechanical Inspection

Inspect bolt holes and fasteners. Validate correct fasteners.

Does the shaft turn freely?: No

Contaminant(s): Dirt

Shaft rotation: Bi-directional

Contaminant(s) Amt: Full

Shaft grounding device present?: No

Contaminant Image:



Type of grounding device:

Shaft runout(TIR-Inbound): 0.001

Bearings DE: Worn

Bearings DE make: FAG

Insulated: No

Bearing DE Size: 6311c3

Bearings ODE: Worn

Bearings ODE make: FAG

Bearing Type: Ball

Bearing ODE Size: 6311c3

Bearings Retainer: Yes

Thermal Protection: Yes

Retainer condition: Good

Thermal Protection Type: Thermocouple

Bearing Type Image



Bearing Make Image



Bearing Retainer Image



Thermal Protection



## Mechanical Inspection (Continued)

Lubrication Type: Grease

Thermal Protection device DE: Thermistors

Lubrication brand inbound: Unknown

Thermal Protection device ODE: N/A

Lubrication brand outbound: Unknown

Grease Amt DE: 0

Grease Cond. DE: Other

Grease Amt ODE: 1/4

Grease Cond. ODE: Charred

Seals DE type: Other

Seals Image:

Seals DE size: 55x77x5.5

Seals DE (inbound) condition : Bad



Seals ODE type: Other

Seals Image 2:

Seals ODE size: 55x77x5.5

Seals ODE (inbound) condition : Bad



Shaft damage cause: Other

Shaft Image:



## Mechanical Inspection (Continued)

Brg. Image:



Water jacket: N/A

Fan: Ok

Frame cond.: Good



Motor Mount Position: Vertical Flange mount

Endbell type: Single piece

Missing parts?

☐ J-Box cover ☐ O-rings ☒ J-Box☐ HH cover ☐ Glands ☐ None

Endbell Image:



Other missing parts





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## Mechanical Inspection (Continued)

### Air Gap Measurements (N/A on Single Piece Endbell)

Does Air Gap Meet Customer or EASA spec(<10% variation)?

DE @ 0

ODE @ 0

—

DE @ 90

ODE @ 90

DE @ 180

ODE @ 180

DE @ 270

ODE @ 270

## AC Electrical Inspection

Number of leads: 3

Terminal Markings:

Length of leads: 8 inches

REF: NEMA Stds. MG 1-2009, Rev. 1-2010, 2.41-Terminal Markings Identified By Color:

Size of leads: 4 awg

1-Blue  
2-White  
3-Orange  
4-Yellow

5-Black  
6-No color assigned  
7-No color assigned  
8-Red

P1-No color assigned  
P2-Brown

Lead condition: Good

Lug type:

Connections As Received:

Lug Condition: —

Terminal

Lugs

Lug size:

Lug Attachment: —

**WEST TENNESSEE**  
7030 Ryburn Drive  
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Fax 901-873-5301

**CENTRAL ARKANSAS**  
6812 Lindsey Rd.  
Little Rock, AR 72206  
Phone 501-375-9178  
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## AC Electrical Inspection (Continued)

Rotor Type: Cast Aluminum

Rotor Condition: Ok

Num rotor bars: 40

Num broken bars: 0

Rotor



### Rotor Test Results

Visual: Pass

Growler: Pass

Single phase: Pass

Stator type: Factory

If other, stator type:

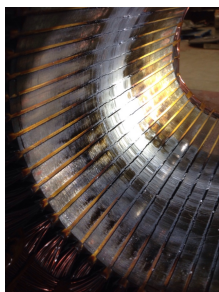
Stator condition: Other

If other, stator condition: Burnt

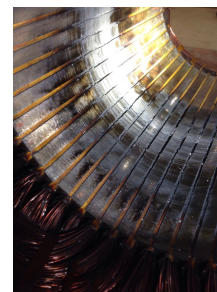
Failure location: In slot

If other, stator failure:

Stator Image:



Failure Image:



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## AC Electrical Inspection (Continued)

Winding color: Like new

Winding image

Winding Thermal Protection: Yes

Winding condition : Solid

Winding Thermal Protection DE: Good

Winding Thermal Protection ODE: —

Stator test results: Rewind



Megs incoming: Bad

Surge incoming: Bad

Hi-pot incoming: Bad

### Winding Resistance Incoming

	Phases A to B	Phases B to C	Phases C to A	Resistive imbalance
Incoming	0.262	0.255	84.201	67.0

Leads/jumpers: Ok

Lead jumper Image. :

If other, leads/jumpers:



## Mechanical Inspection

Inspect bolt holes and fasteners. Validate correct fasteners.

Shaft Condition: Worn

Bearings Retainer: Yes

Type of grounding device:

Bearing DE Size: 6311c3

Shaft runout(TIR-Inbound): Good

Bearing ODE Size: 6311c3

Retainer condition: Good



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## Mechanical Inspection (Continued)

Seals DE condition : Broken

Brg. Seats DE: Good

Seals DE type: Other

If DE undersized, amt.:

Seals DE size: 55x77x5.5

Brg. Seats ODE: Good

Seals DE (inbound) condition : Broken

If ODE undersized, amt.:

Seals ODE condition : Broken

Shaft damage: Salvageable

Seals ODE type: Other

Seals ODE size: 55x77x5.5

Bushings/sleeves DE: Ok

Seals ODE (inbound) condition : Broken

Bushings/sleeves ODE: Ok

Endbell fits/damage: Good

Foot/Flange condition: Ok

Endbell DE size: 4.7422

Foot flatness: Pass

Endbell DE insulated?: No

Does Air Gap Meet Customer or EASA spec(<10% variation)?

Endbell ODE size: 4.7251

—

Endbell ODE insulated?: No

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## Conclusion

### Component Failure

Bearings, drive-end end bell, windings

### Cause of Failure

Bearing lost lubrication and failed causing to lock up, spin inside End bell and making the rotor rub the stator iron due to excessive play in the housing.

### Comments

Bearings show frosting

Service Tech name: Trevor Hall

Service Tech signature:

A handwritten signature in black ink, appearing to read 'Trevor Hall', written over a white background.

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