

## Job Information

Job #: 97072

Date: July 13, 2020

Priority: —

Authorized OT: No

Authorized by:

## Customer Information

Name: Process and Power

Reason:

Contact:

Motor#:

PO#:

Application: —

Special notes:

## Name Plate Information

Manufacturer: Reliance

Enclosure : Open Drop Proof (ODP)

Enclosure Type image

Serial#: 6486956

Model#: L001LF

Service Factor: 1.25

Frame: 445tsd

Horsepower/kW: 150

Rated RPM: 3575

Rated Amps: 176

Rated Voltage: 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): Other

Shaft rotation: Bi-directional Contaminant(s) Amt: None

Shaft grounding device present?: No Contaminant Image:



Type of grounding device:

Shaft runout(TIR-Inbound):

Bearings DE: Worn Bearings DE make: Other

Insulated: No Bearing DE Size: 6313 2z

Bearings ODE: Worn Bearings ODE make: Other

Bearing Type: Ball Bearing ODE Size: 6313 2z

Bearings Retainer: Yes Thermal Protection: No

Retainer condition: Bad Thermal Protection Type: —

Bearing Type Image



Bearing Make Image



Bearing Retainer Image



Thermal Protection

## Mechanical Inspection (Continued)

Lubrication Type: Grease

Thermal Protection device DE: —

Lubrication brand inbound: Unknown

Thermal Protection device ODE: —

Lubrication brand outbound: Unknown

Grease Amt DE: 0

Grease Cond. DE: Other

Grease Amt ODE: 1/4

Grease Cond. ODE: Charred

Seals DE type: N/A

Seals DE size:

Seals DE (inbound) condition :

Seals ODE type: N/A

Seals ODE size:

Seals ODE (inbound) condition  
:

Shaft damage cause: Other

Shaft Image:



### WEST TENNESSEE

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## Mechanical Inspection (Continued)

Brg. Image:



Water jacket: N/A

Fan: Ok

Frame cond.: Good



Motor Mount Position: Horizontal/Foot mount

Endbell type: Single piece

Missing parts?

- |   |                                  |                                |
|---|----------------------------------|--------------------------------|
| <input checked="" type="checkbox"/> J-Box cover | <input type="checkbox"/> O-rings | <input type="checkbox"/> J-Box |
| <input type="checkbox"/> HH cover               | <input type="checkbox"/> Glands  | <input type="checkbox"/> None  |

Endbell Image:



Other missing parts



## 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: 6

Terminal Markings:

Length of leads: 8 foot

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

Size of leads: 2 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: Bad

Lug type: Copper

Connections As Received:

Lug Condition: Good

Terminal

Lugs

Lug size: Same

Lug Attachment: —



## AC Electrical Inspection (Continued)

Rotor Type: Cast Aluminum

Rotor Condition: Melted bars

Num rotor bars: 40

Num broken bars: 5

Rotor



### Rotor Test Results

Visual: Fail

Growler: Fail

Single phase: Fail

Stator type: Factory

If other, stator type:

Stator condition: Poled

If other, stator condition:

Failure location: In slot

If other, stator failure:

Stator Image:



Failure Image:



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## AC Electrical Inspection (Continued)

Winding color: Dull black

Winding image

Winding Thermal Protection: No

Winding condition : Charred

Winding Thermal Protection DE: —

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

Leads/jumpers: Replace

Lead jumper Image. :

If other, leads/jumpers:



## Mechanical Inspection

Inspect bolt holes and fasteners. Validate correct fasteners.

Shaft Condition: Damaged

Bearings Retainer: Yes

Type of grounding device:

Bearing DE Size: 6313 2z

Shaft runout(TIR-Inbound):

Bearing ODE Size: 6313 2z

Retainer condition: Bad



MILLINGTON, TN

LITTLE ROCK, AR

## Mechanical Inspection (Continued)

Seals DE condition : None

Brg. Seats DE: Undersized

Seals DE type: N/A

If DE undersized, amt.:

Seals DE size:

Brg. Seats ODE: Undersized

Seals DE (inbound) condition :

If ODE undersized, amt.:

Seals ODE condition : None

Shaft damage: Replace

Seals ODE type: N/A

Seals ODE size:

Bushings/sleeves DE: Ok

Seals ODE (inbound) condition :

Bushings/sleeves ODE: Ok

Endbell fits/damage: Bad

Foot/Flange condition: Ok

Endbell DE size:

Foot flatness: Pass

Endbell DE insulated?: No

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

Endbell ODE size:

—

Endbell ODE insulated?: No

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## Conclusion

### Component Failure

Bearings, windings, bearing caps, leads, shaft, endbells, rotor

### Cause of Failure

No lubrication in bearings

### Comments

Upon tearing down numerous problems were found. Rotor has melted bars, windings are blown, shaft is bad, endbells are bad, bearing cap is broken. Suggest replace

Service Tech name: Trevor Hall

Service Tech signature:

A handwritten signature in black ink, appearing to read 'T. Hall'.**WEST TENNESSEE**

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