



MILLINGTON, TN

LITTLE ROCK, AR

Job Information

Job #: 96285

Date: December 2, 2019

Priority: —

Authorized OT: No

Authorized by:

Customer Information

Name: Future fuel

Reason:

Contact:

Motor#:

PO#:

Application: —

Special notes:

Name Plate Information

Manufacturer: Marathon

Enclosure : Explosion-proof enclosures (EXPL/

Serial#: WAA 1181689

Model#: TM
445TSTGN16505A

Service Factor: 1.15

Frame: 445TS

Horsepower/kW: 150

Rated RPM: 3575

Rated Amps: 168

Rated Voltage: 460

Phase: 3

Cycles: 60

Special design: No

Enclosure Type image



Nameplate

DE

ODE

F1

F2

Top



WEST TENNESSEE
7030 Ryburn Drive
Millington, TN 38053
Phone 901-873-5300
Fax 901-873-5301

CENTRAL ARKANSAS
6812 Lindsey Rd.
Little Rock, AR 72206
Phone 501-375-9178
Fax 501-375-4254

Mechanical Inspection

Inspect bolt holes and fasteners. Validate correct fasteners.

Does the shaft turn freely?: Yes

Contaminant(s): None

Shaft rotation: Bi-directional

Contaminant(s) Amt: None

Shaft grounding device present?: No

Contaminant Image:



Type of grounding device: None

Shaft runout(TIR-Inbound):

Bearings DE: Worn

Bearings DE make: NTN

Insulated: No

Bearing DE Size: 6313 Z

Bearings ODE: Worn

Bearings ODE make: NTN

Bearing Type: Ball

Bearing ODE Size: 6313 Z

Bearings Retainer: Yes

Thermal Protection: Yes

Retainer condition: Good

Thermal Protection Type: Thermocouple

Bearing Type Image



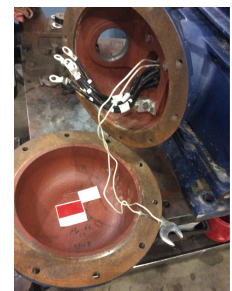
Bearing Make Image



Bearing Retainer Image



Thermal Protection



Mechanical Inspection (Continued)

Lubrication Type: Grease

Thermal Protection device DE: —

Lubrication brand inbound: Mobile Polyrex EM

Thermal Protection device ODE: Thermistors

Lubrication brand outbound: Mobile Polyrex EM

Grease Amt DE: Full

Grease Cond. DE: Gritty

Grease Amt ODE: Full

Grease Cond. ODE: Watery

Seals DE type: Slinger

Seals DE size:

Seals DE (inbound) condition :

Seals ODE type: Slinger

Seals ODE size:

Seals ODE (inbound) condition
:

Shaft damage cause: None

Shaft Image:



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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 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

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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: 6

Terminal Markings:

Length of leads: 12"

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

Size of leads:

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: Good

Terminal

Lugs

Lug size:

Lug Attachment: Replace



AC Electrical Inspection (Continued)

Rotor Type: Cast Aluminum

Rotor Condition: Ok

Num rotor bars:

Num broken bars:

Rotor



Rotor Test Results

Visual: Pass

Growler: Pass

Single phase: Pass

Stator type: Factory

If other, stator type:

Stator condition: Ok

If other, stator condition:

Failure location: In slot

If other, stator failure:

Stator 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: —

Winding Thermal Protection ODE: —

Stator test results: Salvageable



Megs incoming: Good

Surge incoming: Good

Hi-pot incoming: Good

Winding Resistance Incoming

Phases A to B

Phases B to C

Phases C to A

Resistive imbalance

Incoming

Leads/jumpers: Ok

Lead jumper Image. :

If other, leads/jumpers:



Mechanical Inspection

Inspect bolt holes and fasteners. Validate correct fasteners.

Shaft Condition: Good

Bearings Retainer: Yes

Type of grounding device:

Bearing DE Size: 6313 2Z

Shaft runout(TIR-Inbound):

Bearing ODE Size: 6313 2Z

Retainer condition: Good



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Mechanical Inspection (Continued)

Seals DE condition : Worn

Brg. Seats DE: Good

Seals DE type: N/A

If DE undersized, amt.:

Seals DE size:

Brg. Seats ODE: Good

Seals DE (inbound) condition :

If ODE undersized, amt.:

Seals ODE condition : Worn

Shaft damage: OK

Seals ODE type: N/A

Seals ODE size:

Bushings/sleeves DE: Ok

Seals ODE (inbound) condition :

Bushings/sleeves ODE: Ok

Endbell fits/damage: Good

Foot/Flange condition: Ok

Endbell DE size: 5.5128

Foot flatness: Pass

Endbell DE insulated?: No

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

Endbell ODE size: 5.5126

—

Endbell ODE insulated?: No

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Conclusion

Component Failure

Bearings/ #2 lead missing a lug.

Cause of Failure

#2 lead missing lug. Excessive amounts of rust inside end bell housing from condensation contaminated the bearing grease in both bearings.

Comments

Service Tech name: Terrence Holland

Service Tech signature:

A handwritten signature in black ink that reads 'Terrence Holland'.

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