

## Job Information

Job #: 94871

Date:

Priority: —

Authorized OT: No

Authorized by:

## Customer Information

Name: Murray Hydro

Reason: Shaft broken

Contact:

Motor#:

PO#:

Application: —

Special notes:

## Name Plate Information

Manufacturer: Gould

Enclosure : Open Drop Proof (ODP)

Enclosure Type image

Serial#:

Model#:

Service Factor:

Frame:

Horsepower/kW:

Rated RPM:

Rated Amps:

Rated Voltage:

Phase:

Cycles:

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): Water

Shaft rotation: —

Contaminant(s) Amt: Other

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: UL21c3 Japan

Bearings ODE: Worn

Bearings ODE make: NSK

Bearing Type: Ball

Bearing ODE Size: 3206BTNGC3

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: 0

Grease Cond. ODE: Other

Seals DE type: Other

Seals Image:

Seals DE size: 3/8 packing

Seals DE (inbound) condition : Worn



Seals ODE type: Other

Seals Image 2:

Seals ODE size: 3/8 packing

Seals ODE (inbound) condition : Worn



Shaft damage cause: None

Shaft Image:



## Mechanical Inspection (Continued)

Brg. Image:



Bushings/sleeves image:



Water jacket: N/A

Fan: N/A

Frame cond.: Bad



Motor Mount Position: Other

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: —

Terminal Markings:

Length of leads:

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: —

Lug type:

Connections As Received:

Lug Condition: —

Terminal

Lugs

Lug size:

Lug Attachment: —

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## AC Electrical Inspection (Continued)

Rotor Type: Other

Rotor

Rotor Condition: Ok

Num rotor bars:

Num broken bars:

### 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:

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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: Rewind

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

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:

Shaft runout(TIR-Inbound):

Bearing ODE Size:

Retainer condition: —

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## Mechanical Inspection (Continued)

Seals DE condition : Worn

Brg. Seats DE: Good

Seals DE type: Other

If DE undersized, amt.:

Seals DE size: 3/8 packing

Brg. Seats ODE: Good

Seals DE (inbound) condition : Worn

If ODE undersized, amt.:

Seals ODE condition : Worn

Shaft damage: Replace

Seals ODE type: Other

Seals ODE size: 3/8 packing

Bushings/sleeves DE: Ok

Seals ODE (inbound) condition : Worn

Bushings/sleeves ODE: Ok

Endbell fits/damage: Good

Foot/Flange condition: Ok

Endbell DE size: 2.4406

Foot flatness: Pass

Endbell DE insulated?: No

Does Air Gap Meet Customer or EASA spec(&lt;10% variation)?

Endbell ODE size: 2.4409

—

Endbell ODE insulated?: No

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## Conclusion

### Component Failure

Shaft, bearings and seals

### Cause of Failure

Water damage

### Comments

The shaft was broken behind the drive end bearing

Service Tech name: Trevor Hall

Service Tech signature:

A handwritten signature in black ink, appearing to read 'T. Hall', written over a white background.

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