

## Job Information

Job #: 139038

Date: February 6, 2019

Priority: —

Authorized OT: No

Authorized by:

## Customer Information

Name: United Solutions

Reason: Motor inspection

Contact: Debra Bolton

Motor#:

PO#:

Application: Direct Drive

Special notes:

## Name Plate Information

Manufacturer: US

Enclosure : Open Drop Proof (ODP)

Enclosure Type image

Serial#: 97485-GY

Model#: 4090D452200

Service Factor:

Frame: 409ATZ

Horsepower/kW: 200

Rated RPM: 1750/1900



Armature

Volts 500

Amps 325

Fields

Volts 300

Amps 4.235

Nameplate

DE

ODE

F1

F2

Top



## Mechanical Inspection

Inspect bolt holes and fasteners. Validate correct fasteners.

Does the shaft turn freely?: Yes

Contaminant(s): Dirt

Shaft rotation: CCW

Contaminant(s) Amt: Other

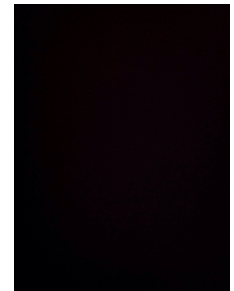
Shaft Condition: Good

Contaminant Image:

Shaft grounding device present?: No

Type of grounding device:

Shaft runout(TIR-Inbound):



Bearing Type Image



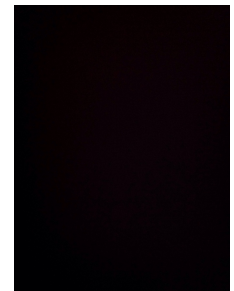
Bearing Make Image



Bearing Retainer Image



Thermal Protection



Lubrication Type: Grease

Thermal Protection device DE:

Thermal Overloads

Lubrication brand inbound: Mobile Polyrex EM

Thermal Protection device ODE:

N/A

Lubrication brand outbound: Mobile Polyrex EM

Grease Amt DE: 0

Grease Cond. DE: Other

Grease Amt ODE: 0

Grease Cond. ODE: Other

### 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 (Continued)

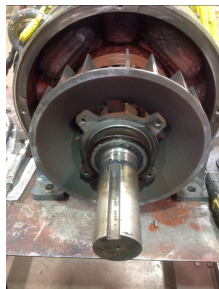
Brushholders	Number	8
	Condition	Good
	Size	
	Spring type	Constant tension

Brushes	Number	8
	Size	18703
	Shunt Len.	3 inches
	Insulated	No
	TermType	

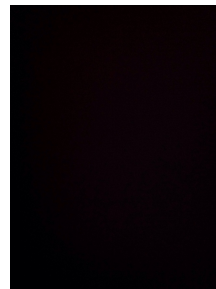
Brg Image



Shaft Image



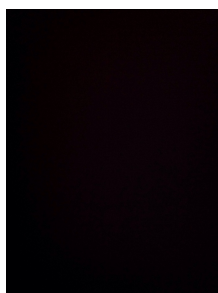
Brushing/sleeves



End bell



Water jacket: N/A



Fan: Ok



Frame cond.: Good



Motor Mount Position: Horizontal/Foot mount

Foot/Flange condition: Ok

Foot flatness: Pass



MILLINGTON, TN

LITTLE ROCK, AR

## Mechanical Inspection (Continued)

Missing parts?

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

Other missing parts

### 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

## Electrical Inspection

☐ Move armature imbalance to Assemble

Commutator: Salvageable

## Winding Inspection

Meg Test IP to Flds: Good

Polarity Check IP to Flds: —

Meg Series to Shunt: Bad

**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



## DC Electrical Inspection

Brushes: Normal wear

Brush Image:



Brush holders: Salvageable Qty. 8

Insulators: Salvageable Qty. 8

Lead support stud: Salvageable Qty.

Alternate brush image:

Rocker ring: Salvageable Qty.



Commutator Type: Tig welded

Commutator images

Commutator Hardness: Good

Commutator Condition : Replace

Commutator Film: Ok



Armature type: Factory If other

Failure mode: Ok If other

Failure location: Other If other

Armature condition: Brittle If other

Winding color: Still has color

Armature images



Inside windings

Insulation

## DC Electrical Inspection (Continued)

### Armature Test Results

Megs: Good Hi-pot: Good Core loss: Good

Armature image



### Fields condition

Series/Stab condition: Shorted turn-turn

Fields condition image:

Shunts condition: Shorted turn-turn

InterCoils condition: Replace



### Fields test results

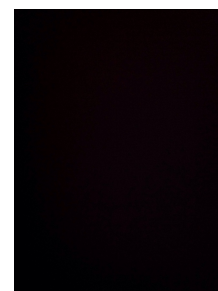
Series/Stab	Meg: Bad	Hi Pot: Ok	Resistance: Ok
Shunts	Meg: Bad	Hi Pot: Ok	Resistance: Ok
InterCoils	Meg: Ok	Hi Pot: Bad	Resistance: Bad

Thermistors: In use

Field Test image

RTD: None At

Thermostat: Open



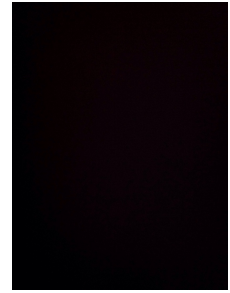


MILLINGTON, TN

LITTLE ROCK, AR

Leads/jumpers: Ok

Lead jumper Image:



## Conclusion

### Component Failure

Fields interpoles and armature

### Cause of Failure

Shorted stab shunt fields and Innerpoles

### Comments

Rewind everything. Fields Interpoles and armature. Replace commutator. Commutator does not have enough meat on it for another turn and undercut do to the grooving.

Service Tech name: Dan Mahan

Service Tech  
signature:

**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