Job Information

Job #:	138121			Date:	September 24, 2018
Priority:	3	Authorized OT:	No	Authorized by:	Terry Frazier

Customer Information

Name:	Ktg	Reason:	Motor was rebuilt in 2011
Contact:	Alex Kisel	Motor#:	
		PO#:	
Application:	—	Special notes:	Check to see if bolts are loose on endbells

Name Plate Information

Manufacturer:	GE	Enclosure :	Open Drop Proof (ODP)
Serial#:		Model#:	5ks444ss208a
Service Factor:		Frame:	444t
Horsepower/kW:	125	Rated RPM:	1780
Rated Amps:	137	Rated Voltage:	460
Phase:		Cycles:	
Special design:	No		

Enclosure Type image

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:	Quart
Shaft grounding device present?:	No	Contaminant Image:	
Type of grounding device:	N/A		
Shaft runout(TIR-Inbound):	.001		

Bearings DE:	Worn	Bearings DE make:	SKF
Insulated:	No	Bearing DE Size:	6318ZZ
Bearings ODE:	Worn	Bearings ODE make:	SKF
Bearing Type:	Ball	Bearing ODE Size:	6318ZZ
Bearings Retainer:	Yes	Thermal Protection:	No
Retainer condition:	Good	Thermal Protection Type:	—

Bearing Type Image

Bearing Make Image

Bearing Retainer Image

Thermal Protection

Not Available

Mechanical Inspection (Continued)

Lubrication Type:	Grease	Thermal Protection device DE:	N/A
Lubrication brand inbound:	Unknown	Thermal Protection device ODE:	N/A
Lubrication brand outbound:	Unknown		
Grease Amt DE:	Full	Grease Cond. DE:	Other
Grease Amt ODE:	Full	Grease Cond. ODE:	Other
Seals DE type:	Slinger	Seals Image:	
Seals DE size:			
Seals DE (inbound) condition :	Worn		
		Seals Image 2:	Not Available
Seals ODE type:	N/A		
Seals ODE size:	N/A		
Seals ODE (inbound) condition :	N/A		
Shaft damage cause:	None	Shaft Image:	

Mechanical Inspection (Continued)

Brg. Image:

Bushings/sleeves image:

Not Available

Water jacket: N/A

Not Available

Fan: Ok

Frame cond.: Good

Motor Mount Position: Horizontal/Foot mount

Endbell type: Single piece

Missing parts?

- [x] J-Box cover
- [ ] O-rings
- [x] J-Box
- [ ] HH cover
- [ ] Glands
- [ ] None

Other missing parts

Endbell Image:

Mechanical Inspection (Continued)

Air Gap Meaurements (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

Length of leads: 1.5'

Size of leads:

Lead condition: Good

Lug type: Hole

Lug Condition: Good

Lug size:

Lug Attachment: Acceptable

Terminal Markings: 1,2,3,7,8,9

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

1-Blue	5-Black	P1-No color assigned
2-White	6-No color assigned	P2-Brown
3-Orange	7-No color assigned	
4-Yellow	8-Red	

Connections As Received:

Terminal

Lugs

AC Electrical Inspection (Continued)

Rotor Type: Cast Aluminum

Rotor Condition: Melted bars

Num rotor bars:

Num broken bars:

Rotor

Rotor Test Results

Visual: Fail Growler: Fail Single phase: Fail

Stator type: Factory If other, stator type:

Stator condition: Ground If other, stator condition:

Failure location: In slot If other, stator failure:

Stator Image:

Failure Image:

AC Electrical Inspection (Continued)

Winding color:	Still has color	Winding image		Winding Thermal Protection:	No
Winding condition :	Charred				
Winding Thermal Protection DE:	Bad				
Winding Thermal Protection ODE:	Bad				
Stator test results:	Rewind				

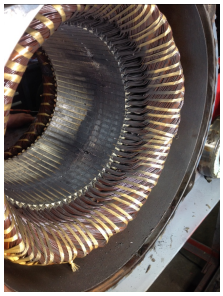
Not Available

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: Ok Lead jumper Image. :



If other, leads/jumpers:

Conclusion

Component Failure

Primary: Rotor/Stator. Secondary: Emulsification of bearing lubricant.

Cause of Failure

Rotor Failure due to unbalanced voltage that resulted in overload of rotor.

Comments

Water was found within stator and bearing grease. Bearing contained a mixture of two different grease types contaminated with water and the lubricant was extremely milky and white from emulsification. Bearing lubricant failure was taking place when the primary cause of failure occurred. Stator winding was blown in the slots at the 2,3, & 5 o'clock positions from voltage imbalance, and the rotor was blown open as the result of voltage imbalance.

Service Tech name: TF

Service Tech signature: