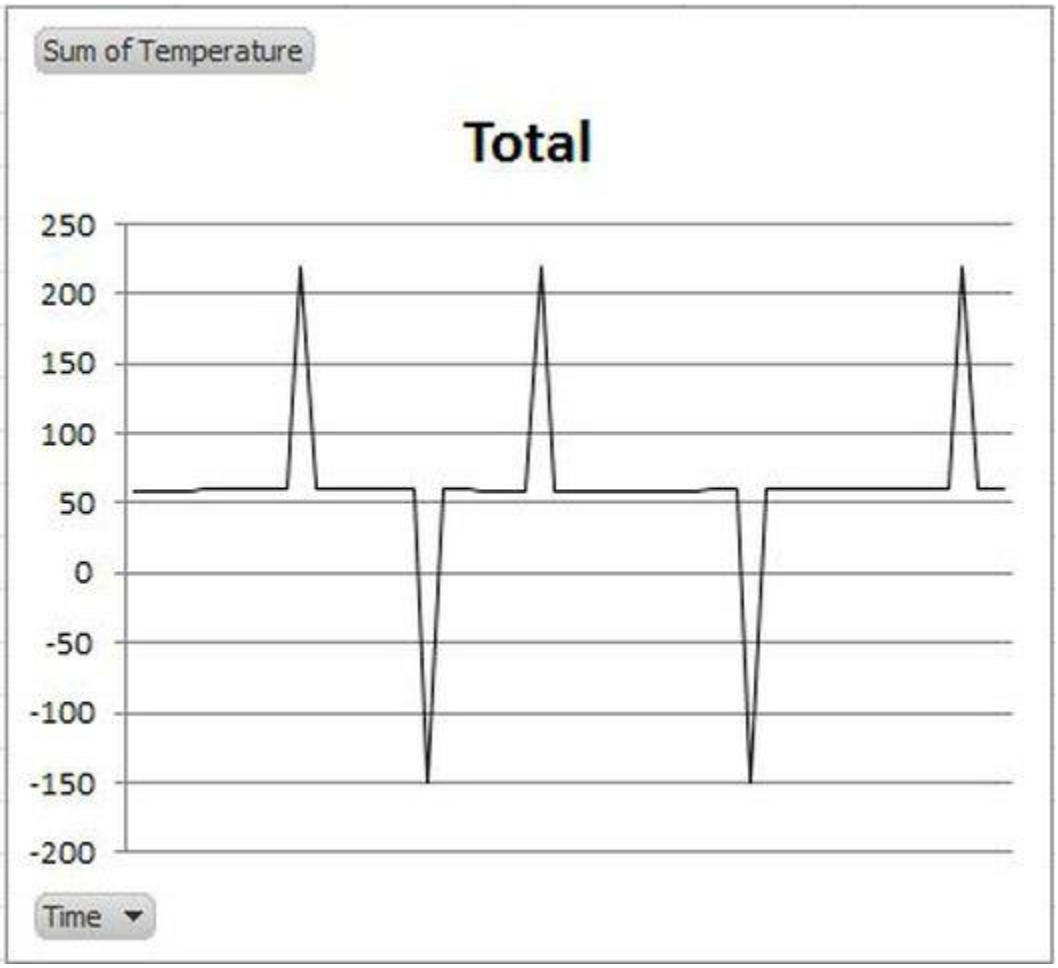
Test/Replace PT100

Does this solve the problem?

1] Yes
2] No
3] I don't know

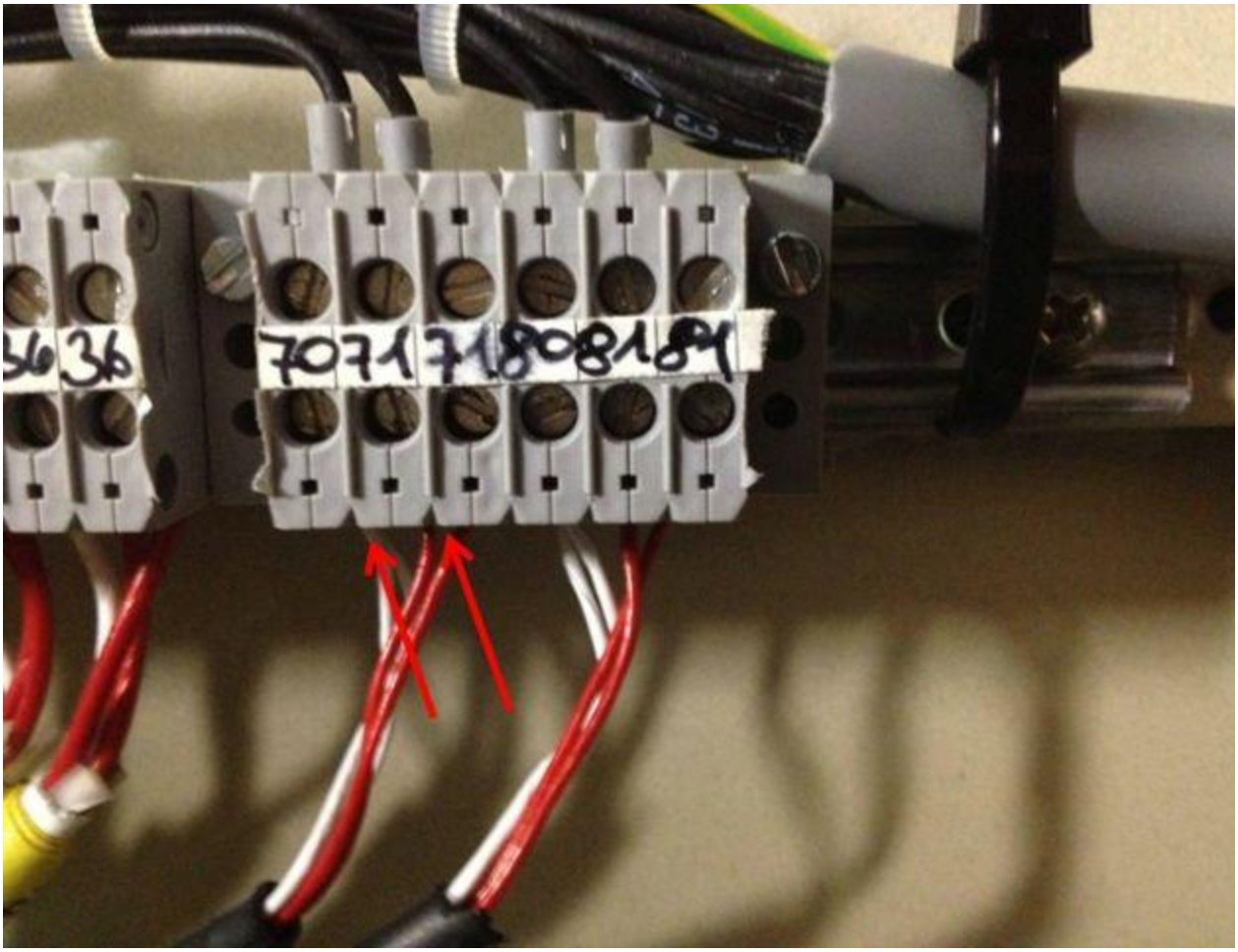
- **Explanation**

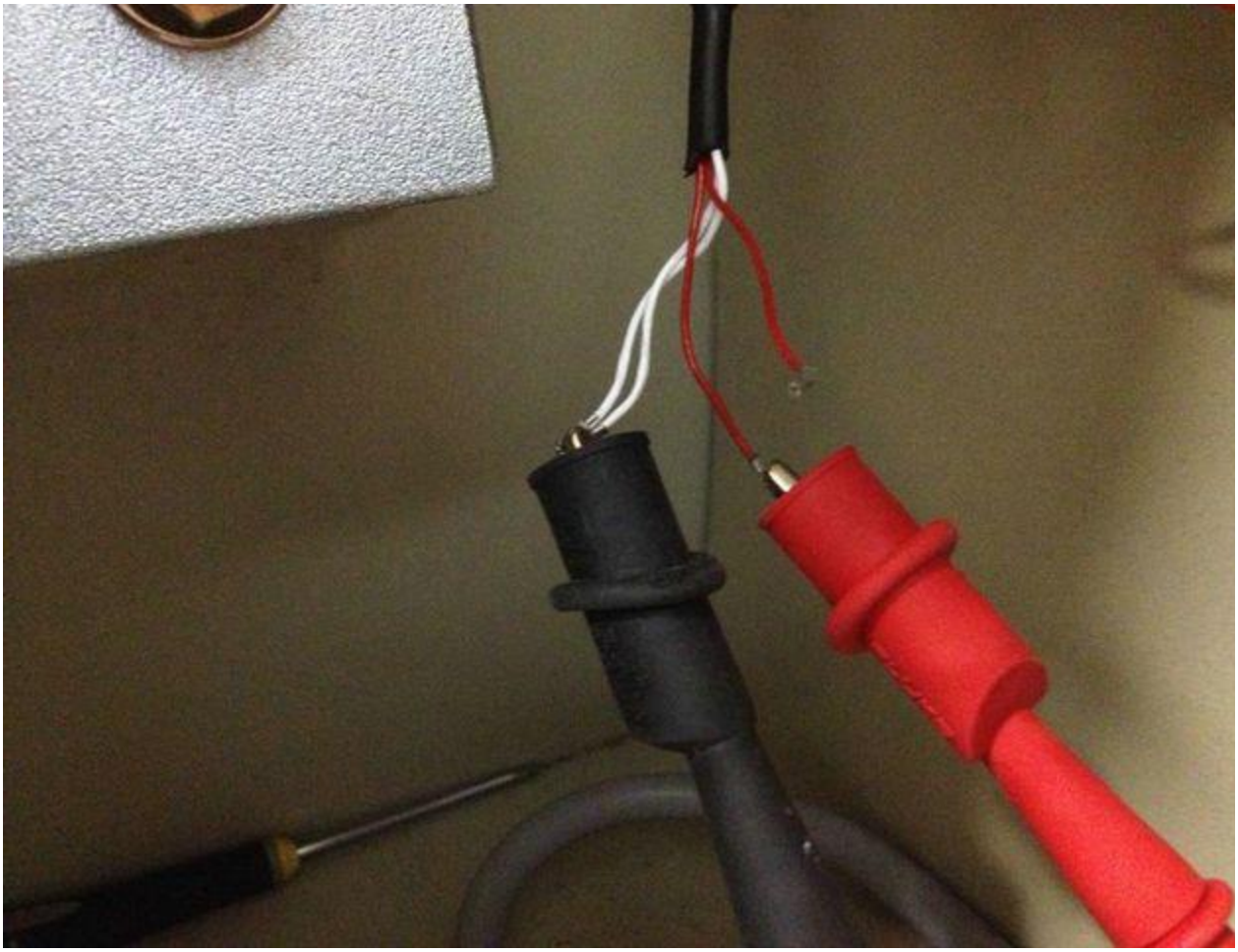
In the Collected Data Viewer, check the temperature measurement going back several days if needed. Collect the minimum and maximum temperatures.



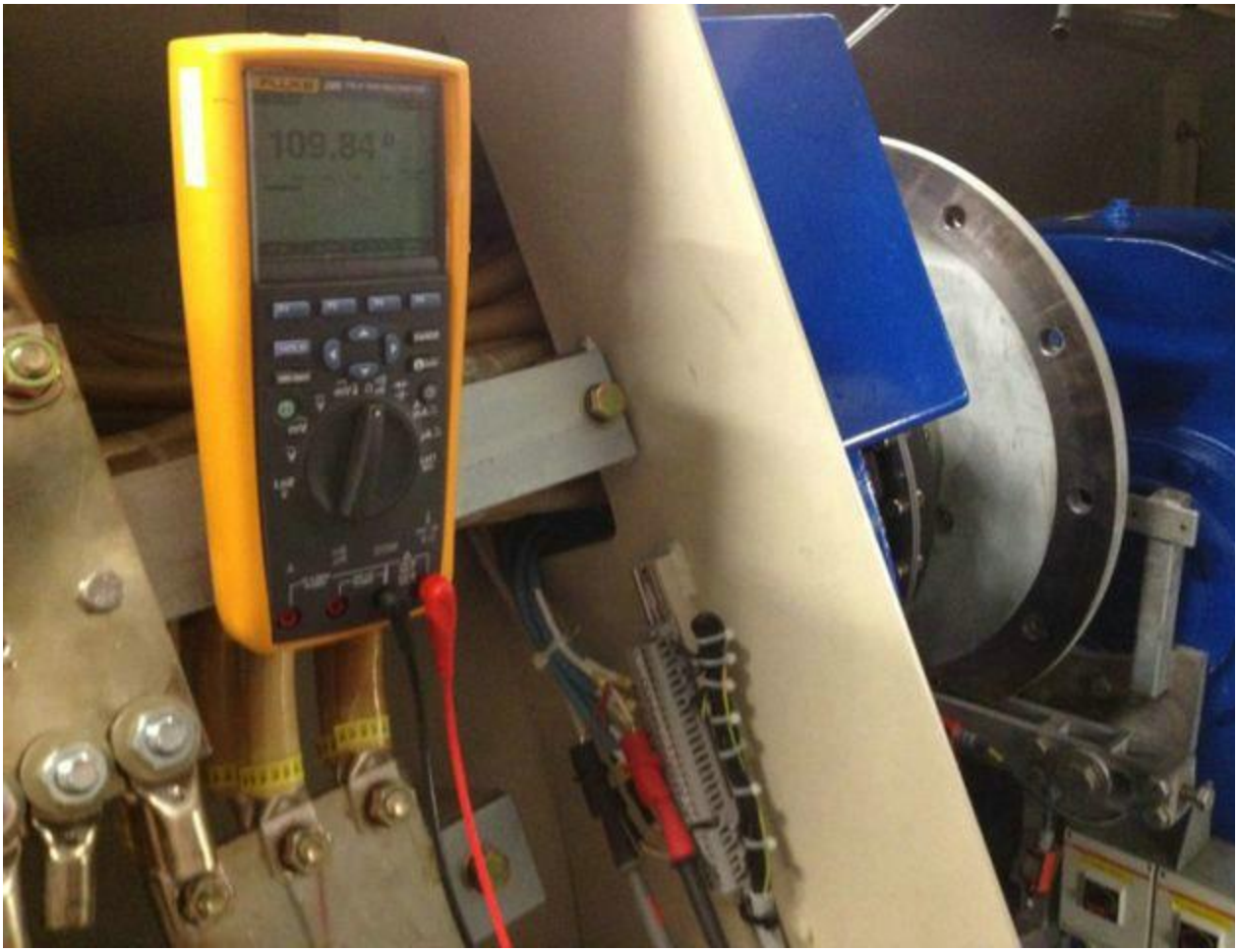
In the data, look for momentary spikes in temperature (<30 Seconds- durations longer than 30 seconds will cause alarm 876- Pt100 fault gen. bear. Front).

Sensors can be tested in the generator junction box. Generator bearing front sensor wires are at terminals 70 (white), 71 (red) & 71 (#2 red).


36
7071718081



Connect a multi-meter to the PT100 wires in the generator junction box.



With the multi-meter set to read Ω, check the resistance value against the resistance/temperature conversion chart.

Compare the temperature to the value in the TAC controller. If the resistance value equates to a temperature out of range, the sensor is faulty and must be replaced.

Relevant spare parts	
Description	**Item No.**
PT100 GEN.BEARING ELIN	105232

Clean grease from bearing

Does this solve the problem?

1] Yes
2] No
3] I don't know

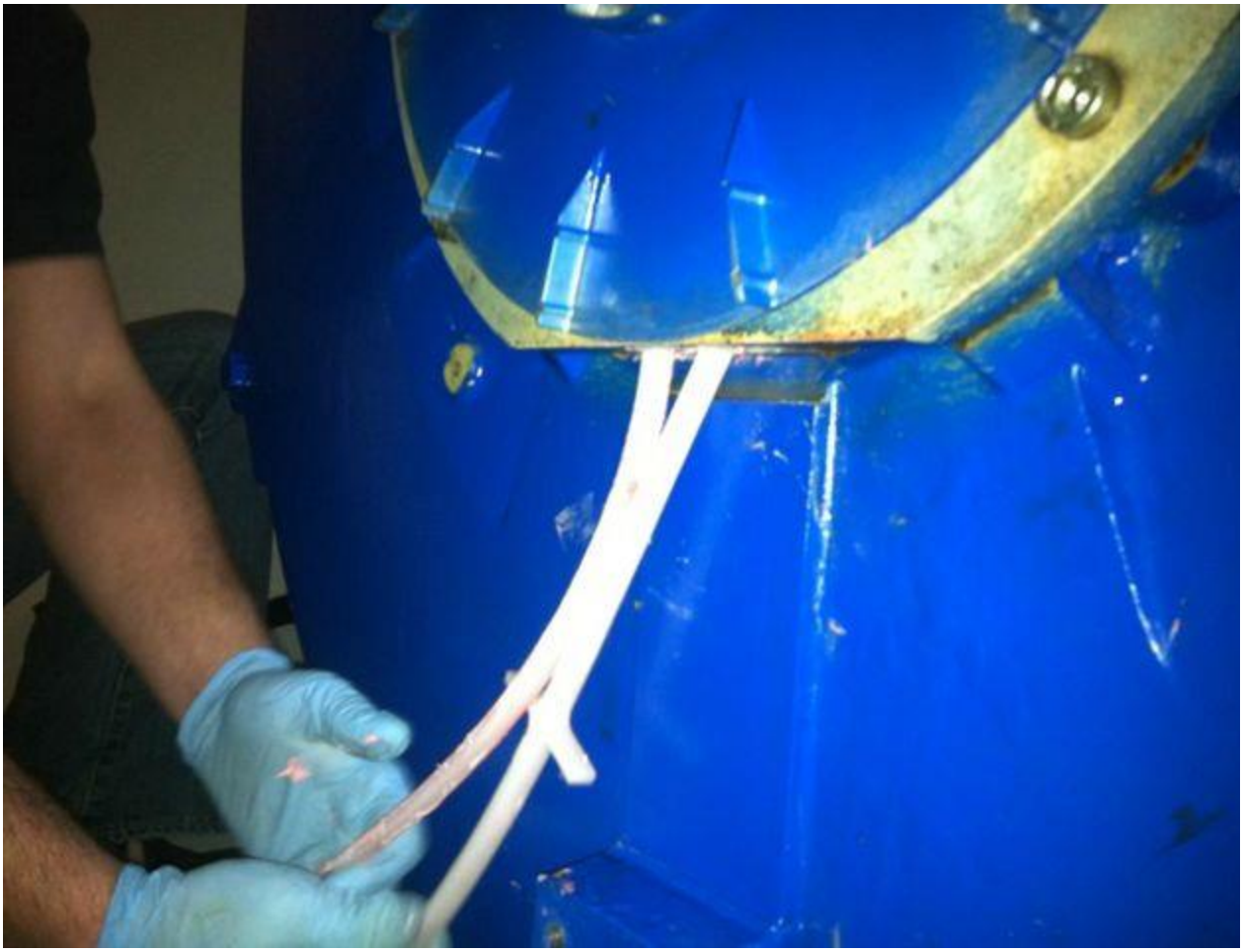
- **Explanation**

  Using the generator bearing cleanout tool (Elin A-E and Winergy models) remove the grease catch container from the end of the generator.

Run the end of the bearing clean out tool up through the grease drain opening.

Use an O-Ring tool to catch the end of the cleanout tool.

Pull the tool completely around the shaft several times until little or no residual grease comes out with the tool.



Performing this task will not remove grease from the bearing, but will remove grease from the void that has already been used in the bearings. Given that no grease will be removed from the bearings, there is no need to replenish the grease.

NOTE: The generator cap cleaner should be white plastic. If a black rubber tool arrives, the tools department should be notified of the error. The black rubber tool will work for cleaning out the bearings but not as well as the white plastic tool.

Relevant Tools	
Tool No	**Description**
VT208363	GENERATOR CAP CLEANER

Inspect generator shaft

Does this solve the problem?

1] Yes
2] No
3] I don't know

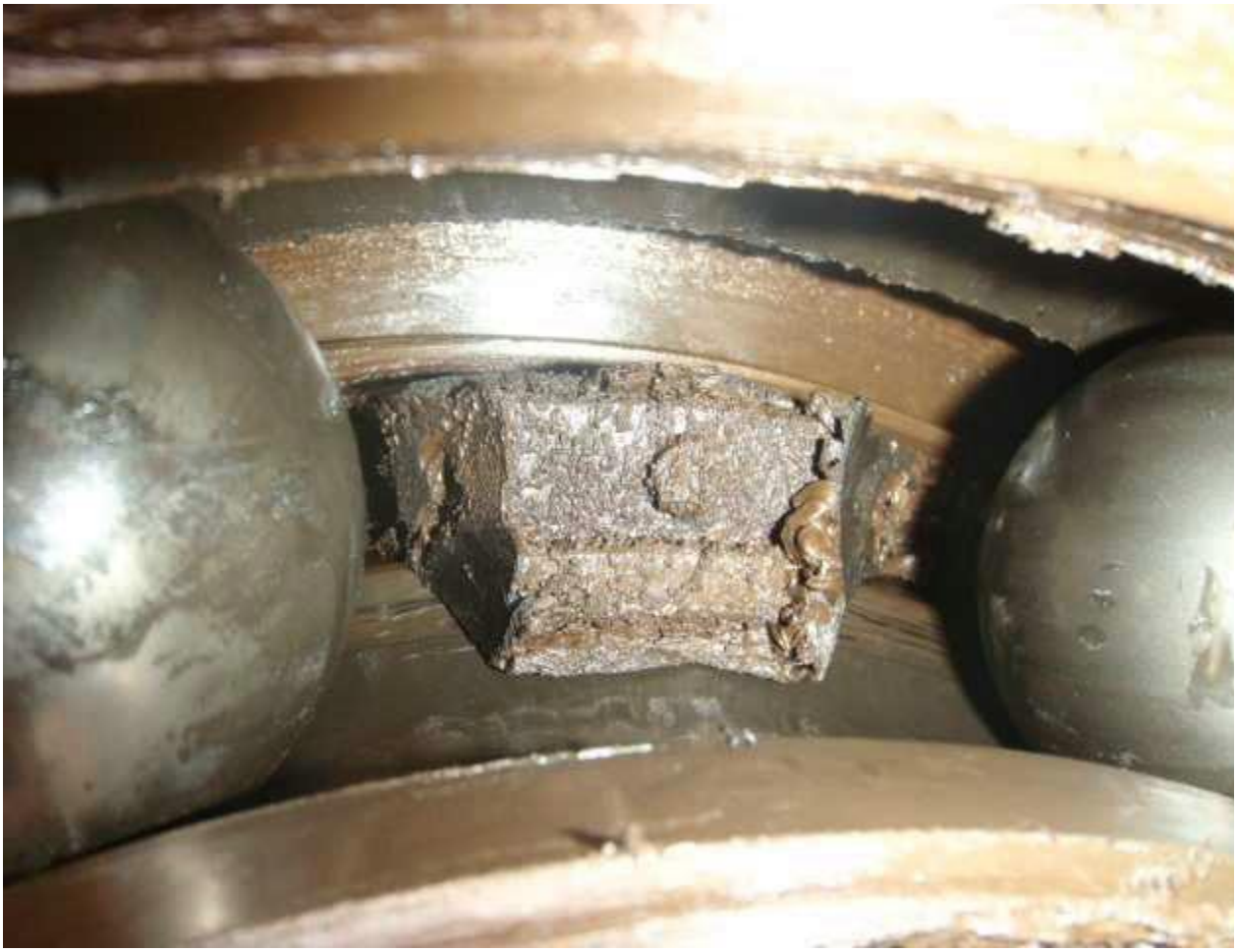
- **Explanation**

Generally, a bearing that is rotating on the shaft (and a failed bearing) can be heard down tower when the turbine is operating.

If it is suspected that the bearing is rotating or has failed, allow the turbine to freewheel while listening closely to the generator.

If abnormal noise can be heard from the bearings, remove the bearing covers and inspect 1. The bearing and 2. The inner bearing race on the shaft for signs of rotation.

Damaged Bearing:



When the cover is removed and the bearing is exposed, a feeler gauge can be placed between the shaft and inner race to determine if spinning has caused wear on the shaft.

Using a feeler gauge to check for a gap between the rotor shaft and inner bearing race.

There should be zero clearance between the shaft and the bearing inner race. If there is any measurable gap between the inner race and the shaft, the bearing is spinning and the generator must be repaired (In accordance with the latest CIM2020 solution) or replaced. If the bearing is found to be spinning on the shaft, complete a CIR for CIM 2020 and consult Engineering on how to proceed.

Change the faulty TOI-2 Tower, Water pump motor and Contactor

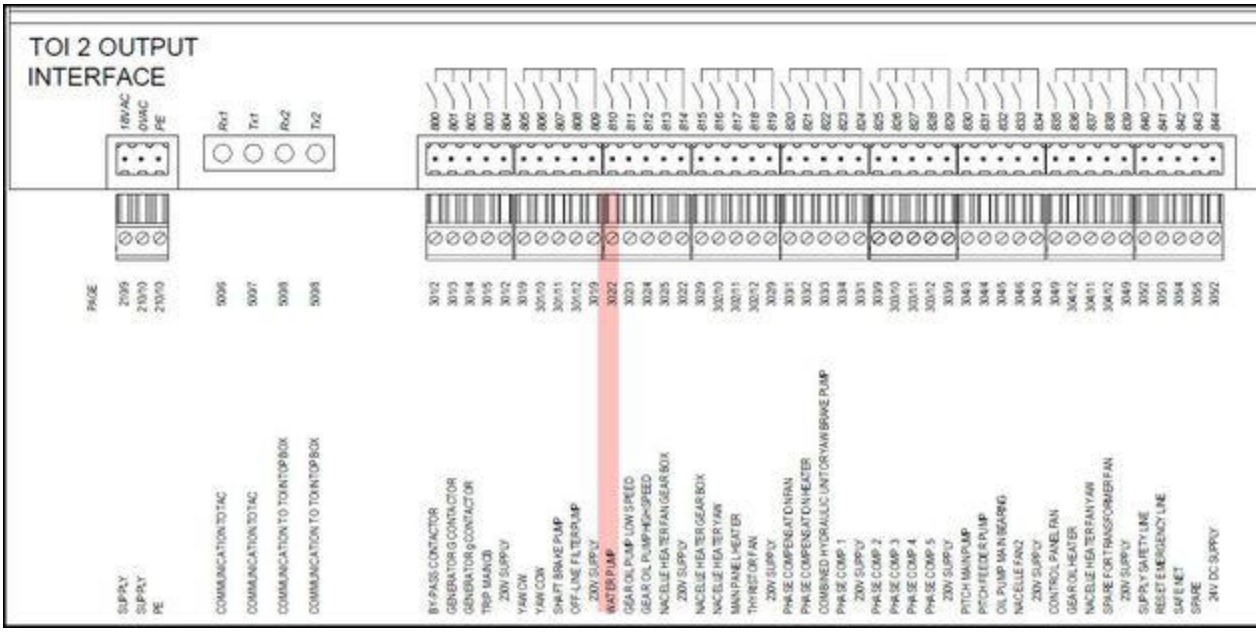
Does this solve the problem?

1] Yes
2] No
3] I don't know

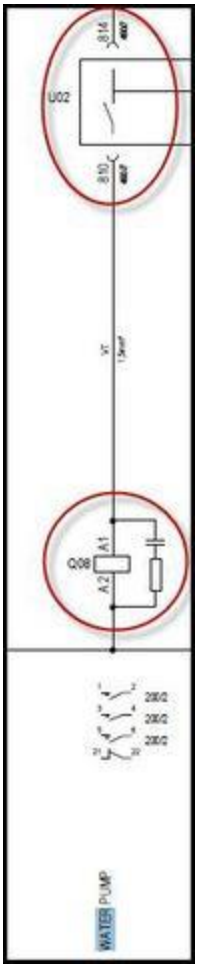
- **Explanation**

Check the bearing temperature at cotnroller, if the temperature for Gen bearing and Gen windings equal and raised gradually, Test the motor operation through the controller test mode function, If the motor not run check .

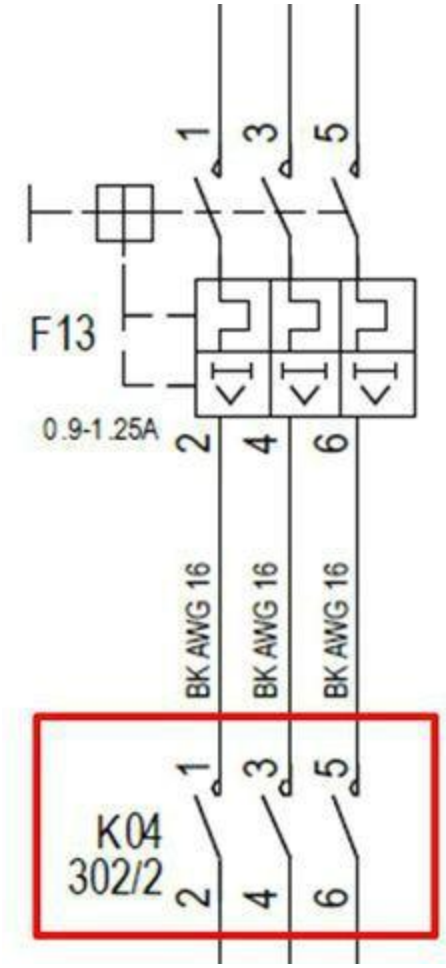
AT2 Cabinet Check the TOI-2 Tower out put 810 Water pump, if there is no out put while testing change the TOI-2 tower Check the motor contactor Q8/K04 coil supply and termimal out puts and if there is not output change the conctactor.


TOI 2 OUTPUT
INTERFACE
18VAC
0VAC
PE
Rx1
Tx1
Rx2
Tx2
PAGE
SUPPLY
SUPPLY
PE
COMMUNICATION TO TAC
COMMUNICATION TO TAC
COMMUNICATION TO TOWTOP BOX
COMMUNICATION TO TOWTOP BOX
BY-PASS CONTACTOR
GENERATOR G CONTACTOR
GENERATOR g CONTACTOR
TRIP MAN/B
230V SUPPLY
YAW CCW
YAW CON
SHAFT BRAKE PUMP
OFF-LINE FILTER PUMP
230V SUPPLY
WATER PUMP
GEAR OIL PUMP LOW SPEED
GEAR OIL PUMP HIGH SPEED
NACELLE HEATER FAN GEAR BOX
230V SUPPLY
NACELLE HEATER GEAR BOX
NACELLE HEATER YAW
MAIN PANEL HEATER
THYRISTOR FAN
230V SUPPLY
PHASE COMPENSATION FAN
PHASE COMPENSATION HEATER
COMBINED HYDRAULIC UNIT ORYAW BRAKE PUMP
PHASE COMP 1
230V SUPPLY
PHASE COMP 2
PHASE COMP 3
PHASE COMP 4
PHASE COMP 5
230V SUPPLY
PITCH MAIN PUMP
PITCH FEEDER PUMP
OIL PUMP MAIN BEARING
NACELLE FAN2
230V SUPPLY
CONTROL PANEL FAN
GEAR OIL HEATER
NACELLE HEATER FAN YAW
SPARE FOR TRANSFORMER FAN
230V SUPPLY
SUPPLY SAFETY LINE
RESET EMERGENCY LINE
SAFE NET
SPARE
24V DC SUPPLY

50Hz

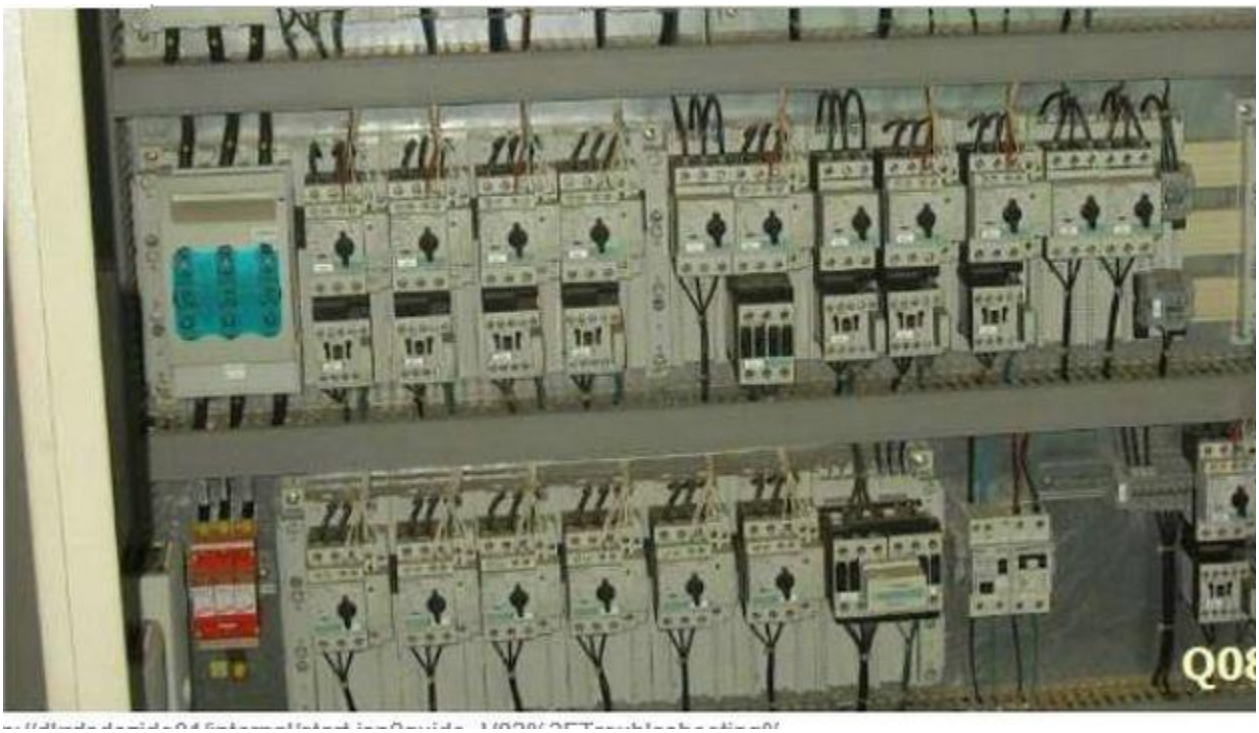


60 Hz



Relevant spare parts	
Description	**Item No.**
TOI-II INTERF NM1500 TOWER	51701501

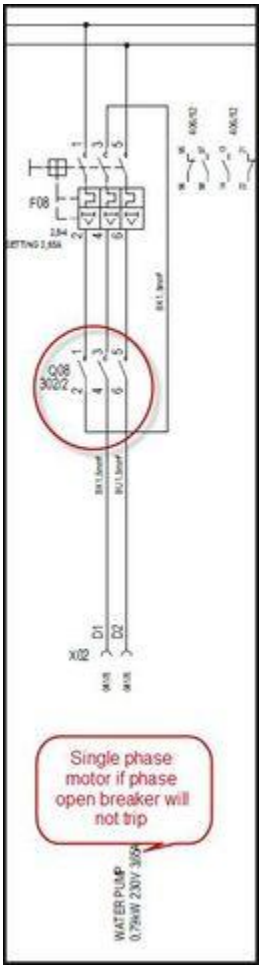
Relevant spare parts	
Description	**Item No.**
CONTACTOR 3RT1016-1AP02 230V 50/60Hz	60004394



At Nacelle Check input voltge to the motor (M06) and supply voltage present but motor not run,stop the test fucntion disconnect the supply voltage and check the winding continuity,if the motor winding opened, the breaker will not trip since single phase circuit not closed. No fault current flow. Change the motor.

Relevant spare parts	
Description	**Item No.**
MOTOR WATER PUMP UPS40-180F	60061710

Relevant documentation	
Description	**DMS No.**
Water pump motor replacement SWI	0023-9289


F08
Q08
3P2/2
X02
D1
D2
Single phase motor if phase open breaker will not trip
WATER PUMP