Replace the defective varistor

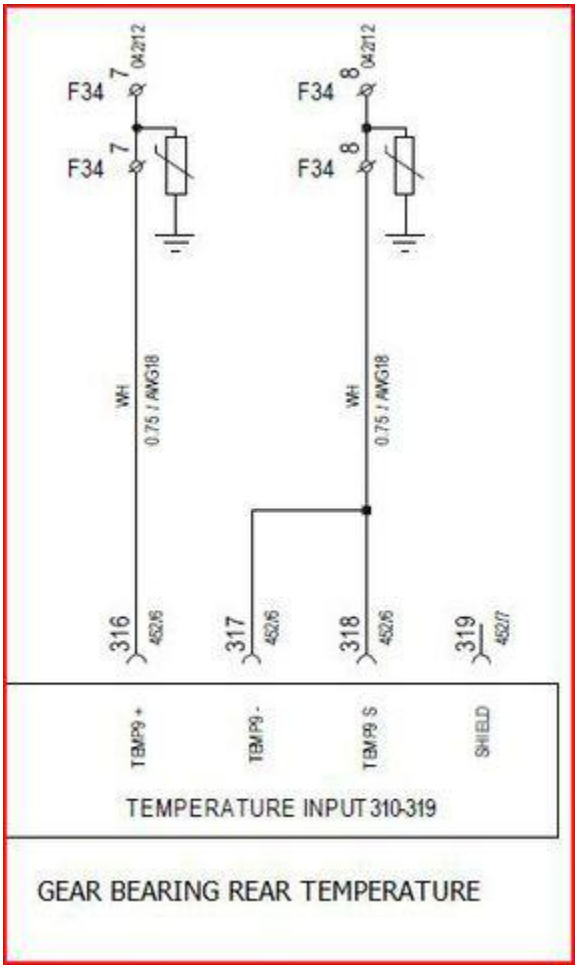
Does this solve the problem?

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

- Explanation

IN THE AN1 CABINET:

Varistor box (MkIII and above= F34/MkII and below =F10) can be tested individually by placing a multimeter (set to measure Ω) lead on the common (earth) side of the varistors and the other on the individual varistor terminals. The resistance value over the varistor should be ∞ or in the high MΩ range. If the resistance is lower, the varistor has been damaged by an over voltage in the circuit and must be replaced.



Relevant spare parts	
Description	**Item No**
VARISTOR BOX X8	**51706201**

Varistor box F34/F10:

Press clip on top and bottom of varistor box and remove the varistor assembly from the housing:

The varistor box is made up of eight varistors and has provisions for 16 wire connections (protection for 8 signals)

870 -Pt100 fault gear bear. rear - NM72,NM82,V82 Mk1-5

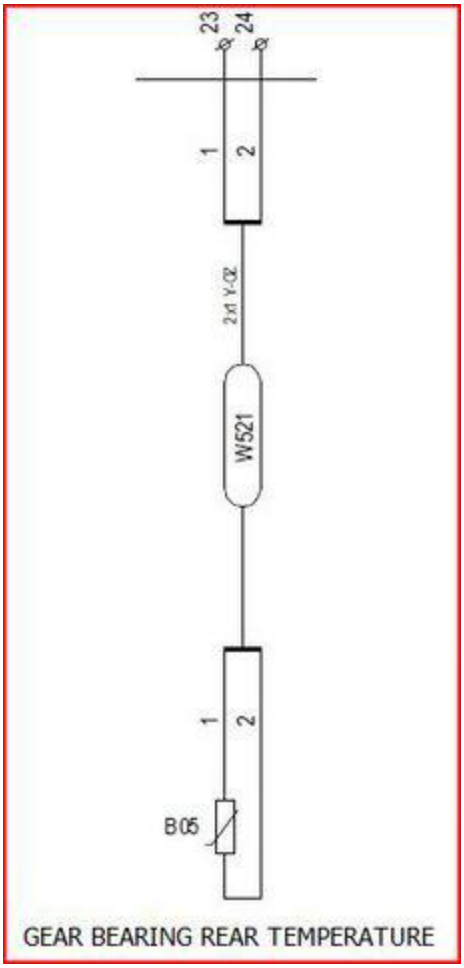
Replace the defective PT100 Sensor
Does this solve the problem?
1] Yes
2] No
3] I don't know

- Explanation

IN THE +AN12 CABINET:

Check PT100 connections and tightness in +AN12 panel X02 connection 23 and 24.

Check the sensor cable if any cracks or damage.
If defect replace the new cable



Also check the input in TOI U01 terminals 316 and 317.

Use a multimeter set to read Ω and measure the resistance across the leads of the PT100.

Use the resistance/temperature conversion chart to determine the actual measured value.

If the value matches that taken from the TAC Temperature menu, then the circuit is working as designed.

If the value is unreal (-40 to 200 °C), then the PT100 is faulty and must be replaced.

Relevant spare parts	
Description	**Item No**
PT100 SENSOR FOR HANSEN GEARBO (HANSEN)	60102405
PT100 SENSOR,TOP PSC 1030 JAKE (JAKE)	60066565
CABLE -W521 NM30T MODUL 2x1	60103088

Relevant documentation	
Description	**DMS No**
PT100 Resistance/Temperature chart	0039-6203

Replace the defective TOI
Does this solve the problem?
1] Yes
2] No
3] I don't know

- Explanation

IN THE AN1 CABINET:

If the value measured by the meter does not match that taken from the TAC Temperature menu, then the cause is likely a faulty Nacelle TOI.

Relevant spare parts	
Description	**Item No**
TOI-II INTERF EXT POC	51701601

Replace the PT100 sensor and repair the bearing housing

Does this solve the problem?

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

- Explanation

IN THE NACELLE:

If the alarm “116 –Gear bear rear temp high”, is active or recent in the alarm log, and the turbine is equipped with a HANSEN gearbox- it is most likely a spinning bearing race that has damaged the sensor and caused the fault.

Remove and inspect the gearbox rear PT100 sensor tip for signs of wear.
If there is wear on the tip, the outer race of the bearing has been spinning in the housing. Then proceed with repair solution.

HANSEN trained Vestas Technicians will be required to complete the repair

CIM 1312:
Gearbox - Hansen - EH803- HSS-bearing NR - end OR rotating in housing

Securing Hansen HSS Bearing Outer Races **DMS: 0001-4318**

Gearbox - Hansen - EH803-xN21 - HS-bearing NR - end OR
rotating in housing service message DMS: **0013-8856**

CIM 2217:
Gearbox - Hansen - EH803 - HS-bearing NR-end OR rotating in housing - factory Loctite solution failing.

If during repairing the gap between the outer race and housing are >0.23mm, a mechanical lock solution will be required to prevent the outer race from spinning.

Securing HSS Bearing Outer Race Mechanical Lock **DMS: 0011-0753**

HANSEN Technicians will be required onsite to complete the repair.

Position of the Sensor:

Remove the PT100 sensor and check the sensor tip surface for wear.

Worn PT100 Sensor 1:

Worn PT100 Sensor 2:

Worn PT100 Sensor 3:

Good PT100 sensor: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