Philips Pressurised Steam Generator Iron GC8220 and Similar Models' Temperature Sensor (NTC Thermistor) Replacement

Continuing from GC8220 Teardown guide, This is about its temperature sensor.

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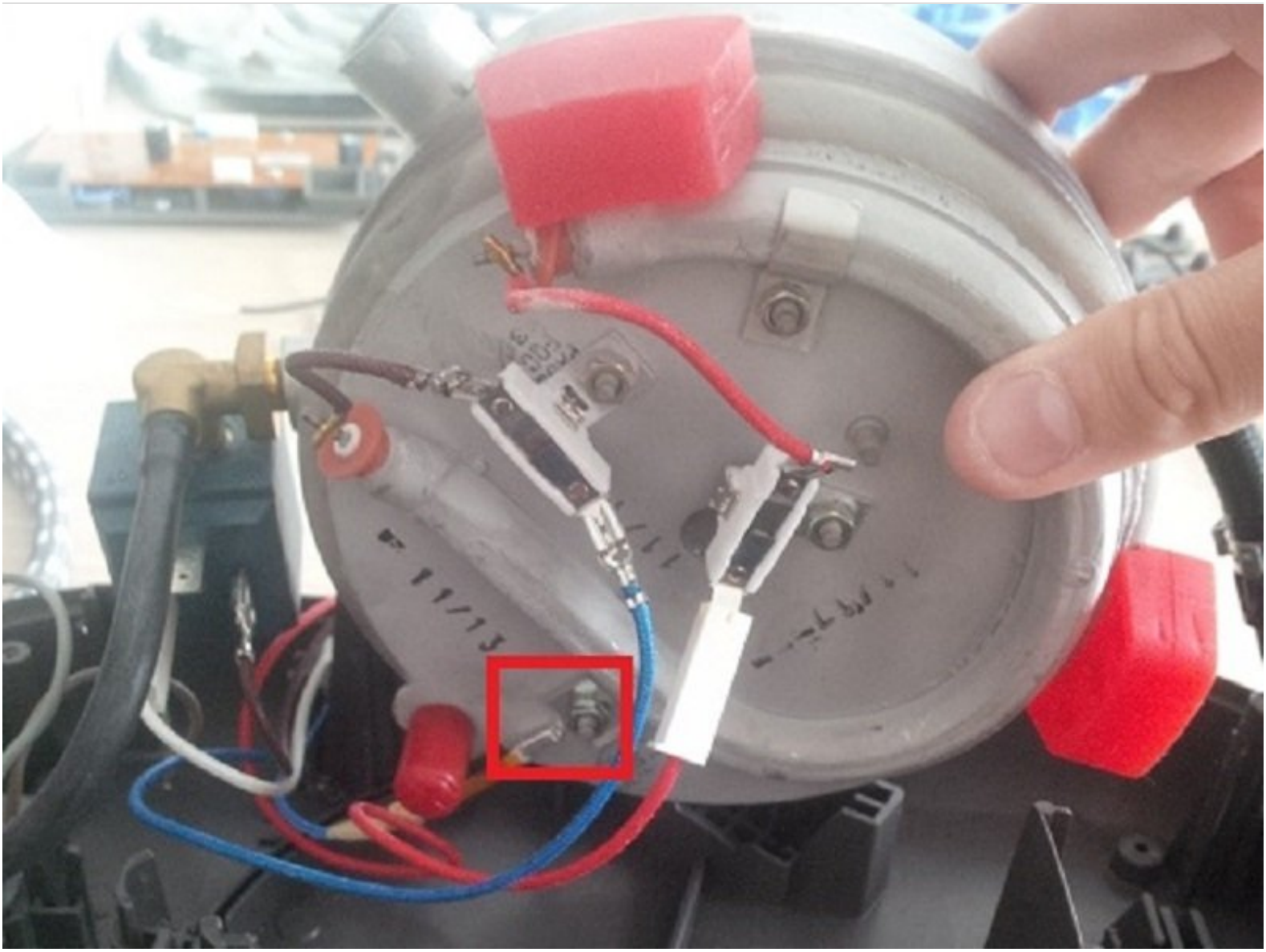


INTRODUCTION

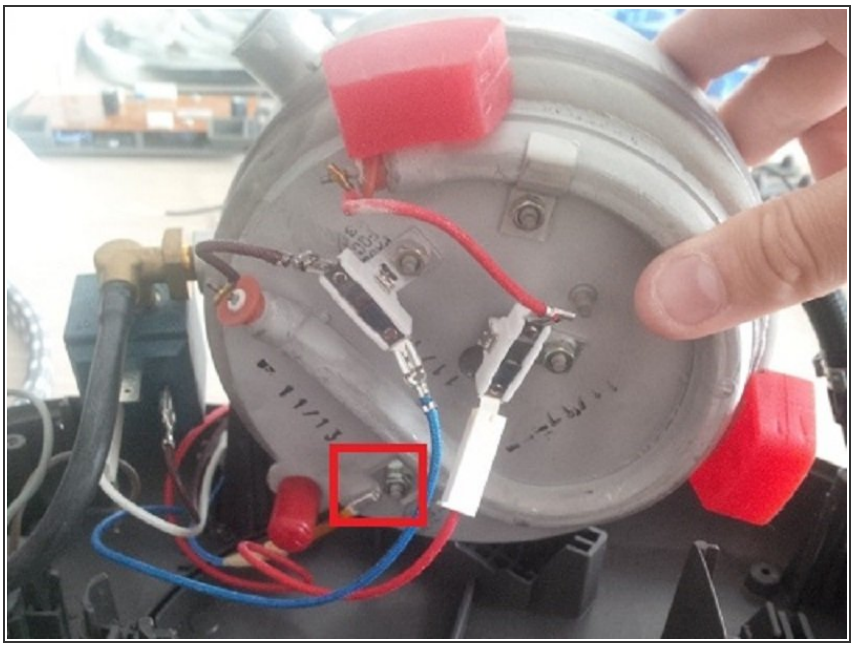
There is this great teardown guide for Philips Steam Iron:

Philips Pressurised Steam Generator GC8220 Teardown

I want to clarify about its temperature sensor; that if faulty, it will make problems for the steam function.

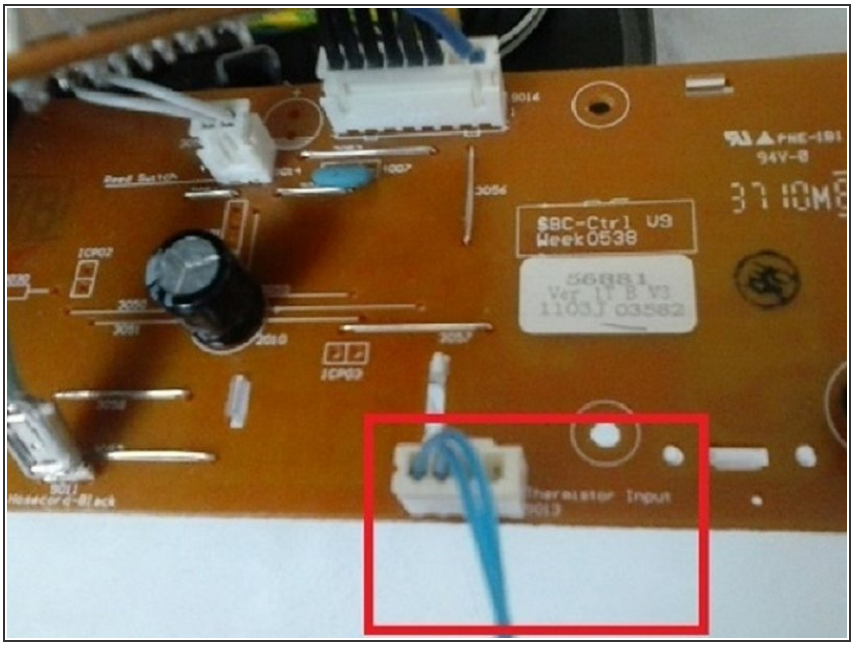
If no Philips spare part is available to you, it can be replaced with a generic from electronics component shops.

Step 1 — Temperature Sensor (NTC Thermistor)



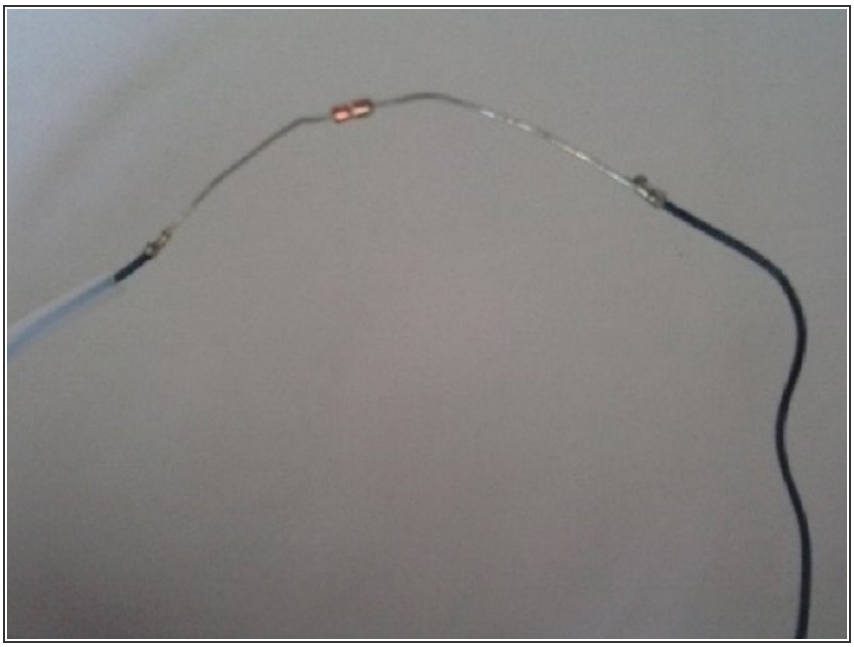
- The Temperature Sensor is attached to the bottom of the Boiler unit.
- It is an NTC Thermistor.

Step 2



- It is connected to the Main PCB.

Step 3



- It looks like a diode. But it is a resistor that changes value with temperature.

Step 4

Philips Components — Product specification

NTC thermistors, high-temperature sensors — 2322 633 5/7/8

FEATURES

- Small diameter
- Quick response to temperature change
- High stability over a long life
- Wide temperature range from −40 to +300 °C
- Resistant to corrosive atmospheres and harsh environments.

APPLICATION

- High temperature measurement control
  - Domestic appliances
  - Automotive systems
  - Industrial process control.

DESCRIPTION

These thermistors have a negative temperature coefficient and are mounted in a glass envelope.

QUICK REFERENCE DATA

PARAMETER	VALUE	UNIT
Temperature range:		
2322 633 5....	−40 to +200	°C
2322 633 7....	0 to 300	°C
Resistance value at 25 °C (R_{25})	10 to 100	kΩ
Tolerance on R_{25}-value	±5 and ±10	%
$B_{25/85}$-value	3977	K
Tolerance on $B_{25/85}$-value	±1.3	%
Rated dissipation	100	mW
Dissipation factor	2.5	mW/K
Response time	0.9	s
Thermal time constant τ	6	s
Temperature coefficient at 25 °C	−4.38	%/K
Climatic category:		
2322 633 5....	40/155/56	
2322 633 7....	0/300/56	
2322 633 8....	40/200/56	
Mass:		

- They come in a range of values. 10kOhms ~ 100 kOhms.

To reassemble your device, follow these instructions in reverse order.