

Knowledge Domain: Electrical Simple
Unit: Heating Element
Skill: Replacement of Temperature Sensing Device

Tools and Parts Required:

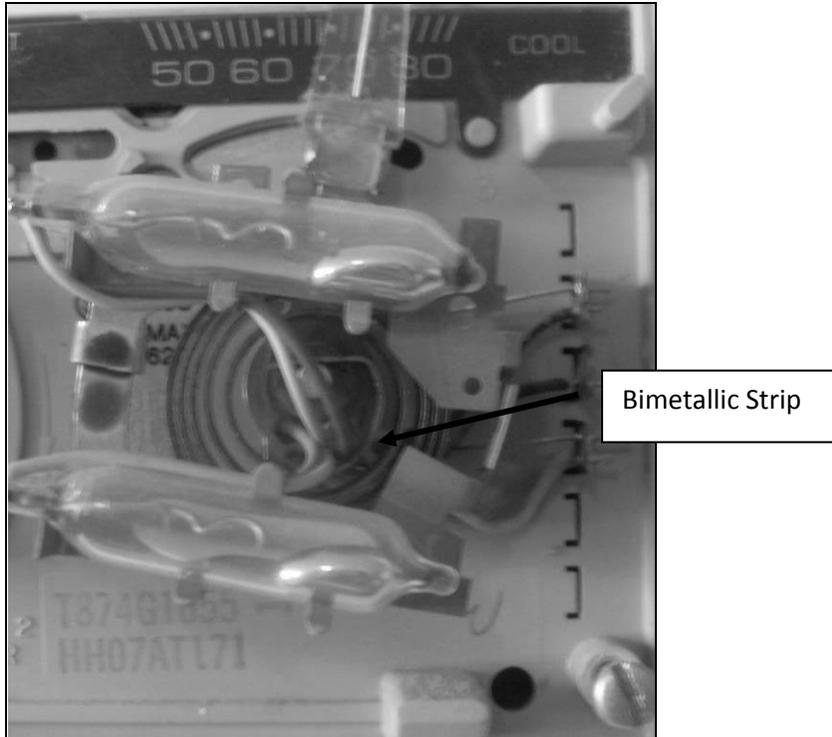
- 1) Continuity tester
- 2) Thermostat
- 3) Screwdriver

Introduction

A temperature control device controls the temperature in an enclosed space. A temperature safety ensures the air remains at the temperature the user determines or does not exceed a safe temperature. Temperature safety devices in autoclaves and other medical equipment use a bimetal strip, a bimetal thermodisc, or a gas filled bellows chamber. All temperature sensing devices control electrical contacts. A temperature sensing device that does not function properly should be replaced. A broken temperature sensing device can prevent an autoclave from functioning.

Example

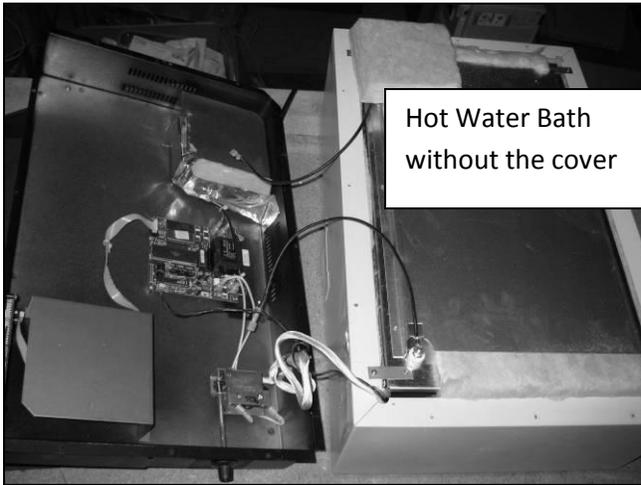
Below is a picture of a temperature sensing device. The coil behind the two glass tubes is a bimetallic strip.



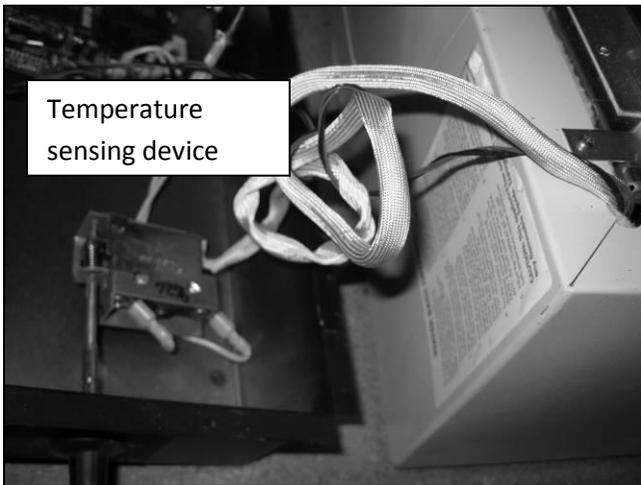
Below are pictures of a temperature sensing coil in a hot water bath device.



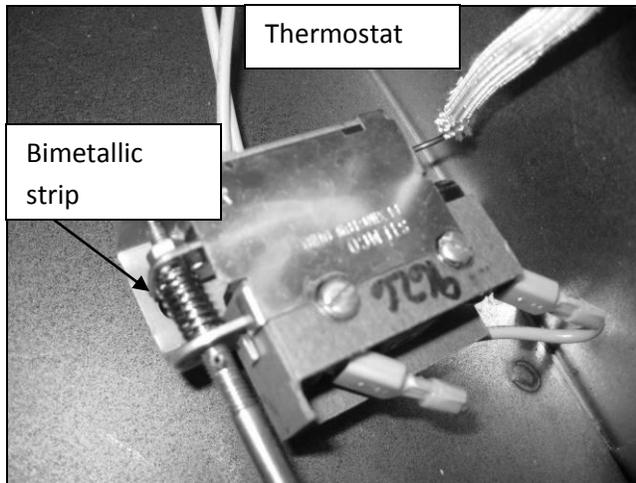
Hot Water Bath



Hot Water Bath
without the cover



Temperature
sensing device



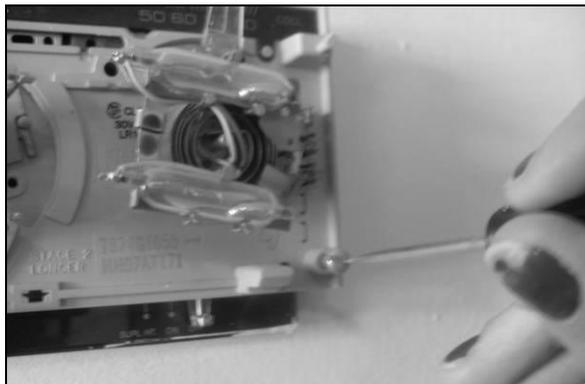
Identification and Diagnosis

Turn off the electric power. Remove the cover of the temperature sensing device. Test the temperature sensing device with a continuity tester.

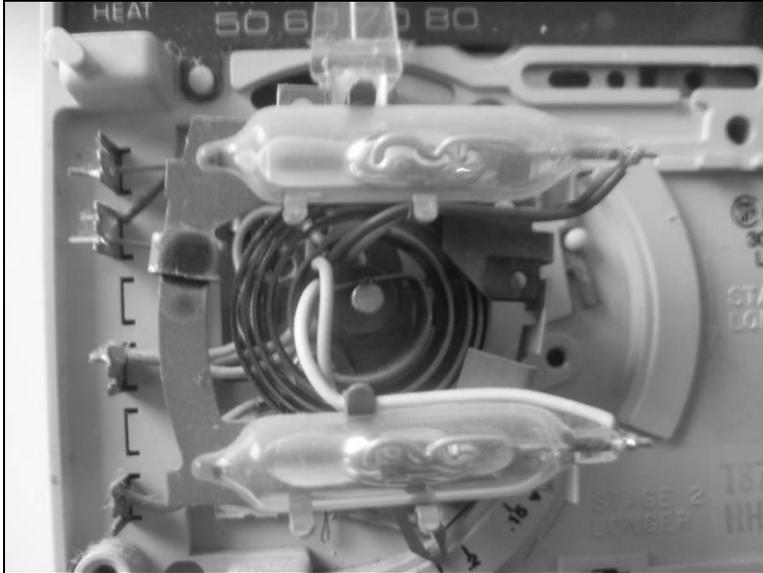
Touch one end of the continuity tester to one lead of the thermostat. Touch the other end of the continuity tester to the other lead of the thermostat. If the thermostat functions, the continuity tester will light or buzz. Increase the heat using a hair dryer or hot air. The temperature sensing device should open. The tester should not glow or buzz when the contacts are open.

Procedure

Disconnect the wires from the old temperature sensing device. As you disconnect each wire, wrap masking tape around the end of each wire. Write on the masking tape each wire's terminal location and code identification. Use a pen to record the information. Unscrew the temperature sensing device to remove.



Install the new temperature sensing device in the same location as the old one. Gently pull the labeled wires through the base of the new device. Do not damage the wires or remove the wire labels.



Attach each of the old wires to the corresponding terminals of the new device. As you attach the wires, remove the wire's label. If necessary, strip the wire ends. Replace the cover.

Exercise

Remove the temperature sensing device. Replace the temperature sensing device.

Your instructor must verify your work before you continue.

Preventative Maintenance and Calibration

Always calibrate every medical device before returning it to use.