

Trouble shooting process for gas fryer

1. The fault list

Description of issue	Troubleshooting process
UNIT NOT WORKING	Step 1 to step 6
PILOT LIGHT NOT LIGHTING	Step 1 to step 4
FRYER NOT HOLDING TEMP	Step 1 to step 2, step 5
PILOT LIGHT WON'T STAY LIT	Step 1 to step 4
SHUTTING DOWN AND WON'T STAY LIT	Step 1 to step 6
PILOT LIGHT COMES ON BUT FRYER DOESN'T TURN ON	Step 1 to step 6

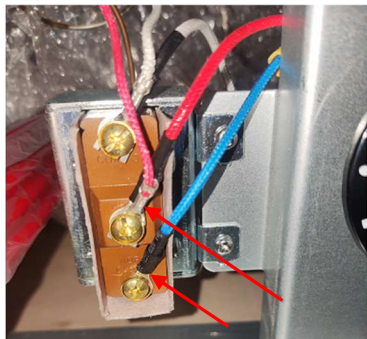
2. Trouble shooting process

Step 1

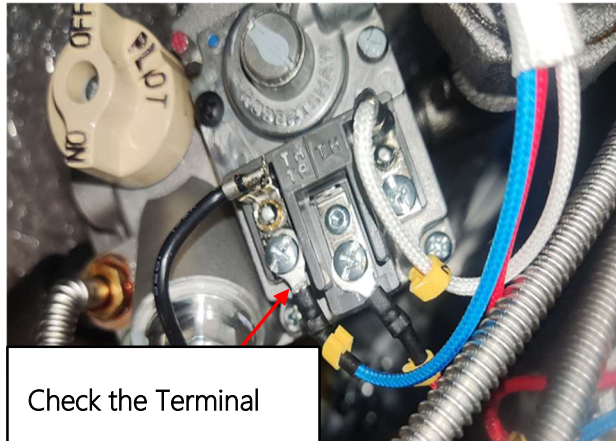
Check the gas type and pressure in the inlet pipe, change the gas type or adjust gas pressure if they don't conform to the user's manual.

Step 2

Check the wire to see if the terminal is loose, tighten the terminal if it is loose.



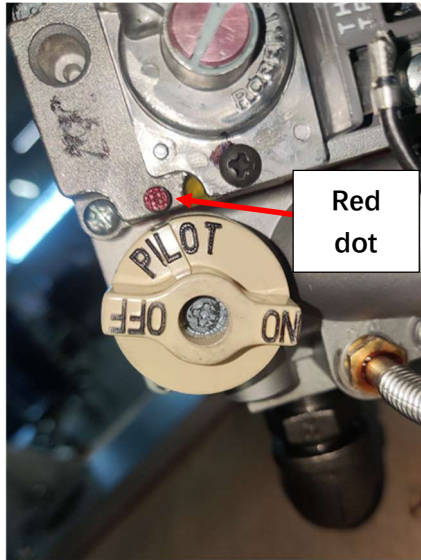
Check the Terminal



Check the Terminal

Step 3

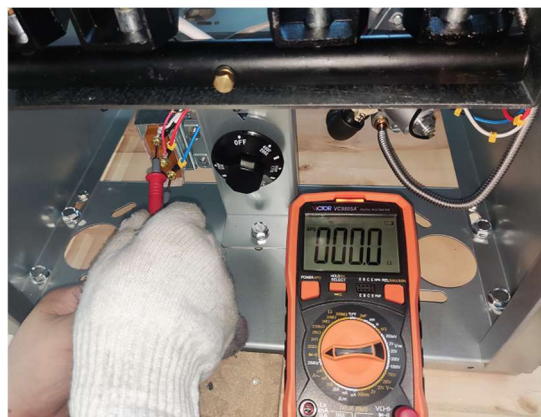
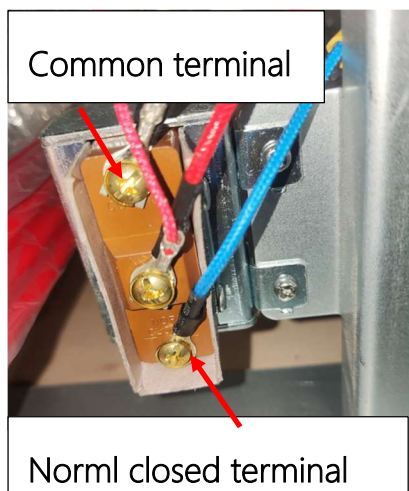
- Turn the gas valve knob to the position where the "pilot" is match with the red dot, like the picture below.



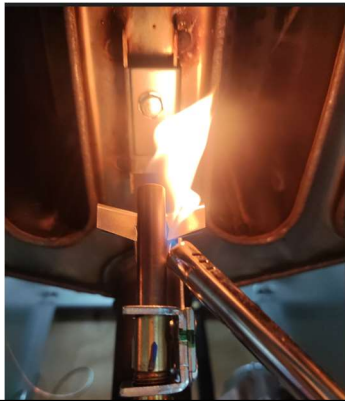
- Pressing the gas valve knob continuously for about 30 seconds and then light the pilot with igniter.
 - 1) If it can't light the pilot under the condition where the gas valve knob is being pressed, the most common case is that the gas valve is out of work. It needs to replace a new one.
 - 2) If it can light the pilot under the condition where the gas valve knob is being pressed, but can't stay lit once the gas valve knob is not pressed, this case would be caused by thermocouple fault or high limiter fault. Following Step 4 to further trouble shooting.

Step 4

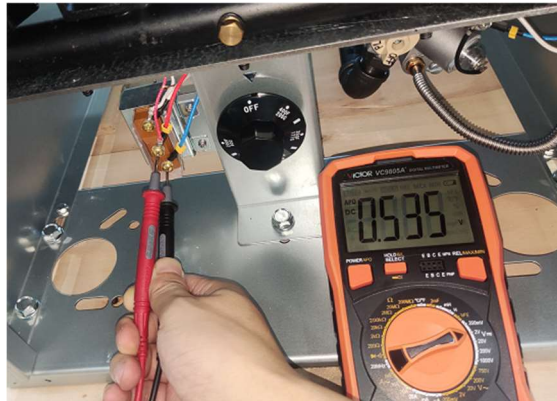
- Check the high limiter with the multimeter to see if the common terminal and normal closed terminal is connected, like the picture below. If the common terminal and normal closed terminal is not connected, which means the high limiter is bad, it needs to replace a new one.



- If the high limiter is good, and then burn the thermocouple with igniter, in the meanwhile, check the output of the thermocouple with multimeter, as the picture below. Normally the output of thermocouple is larger than 500 mV. If it is less than 350mV, the thermocouple is bad, need to replace a new one.



Burn the thermocouple



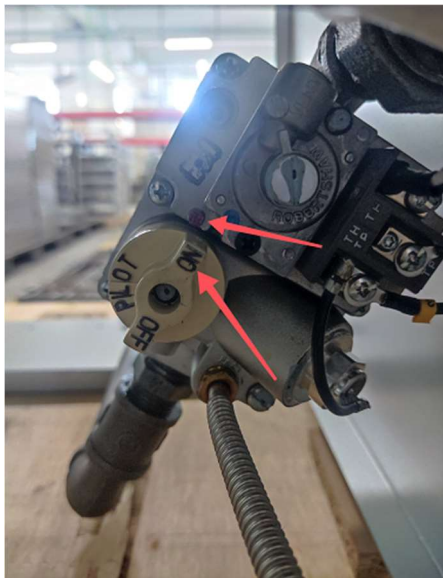
Check the output of thermocouple

Step 5

If the pilot can stay lit, but can't turn on the burner, follow the below step to further check.

- Light the pilot, and then turn the valve's knob to the position where the "ON" is match with the red dot, like the picture below. Then turn the thermostat's knob to the position like the picture below.

Valve's knob

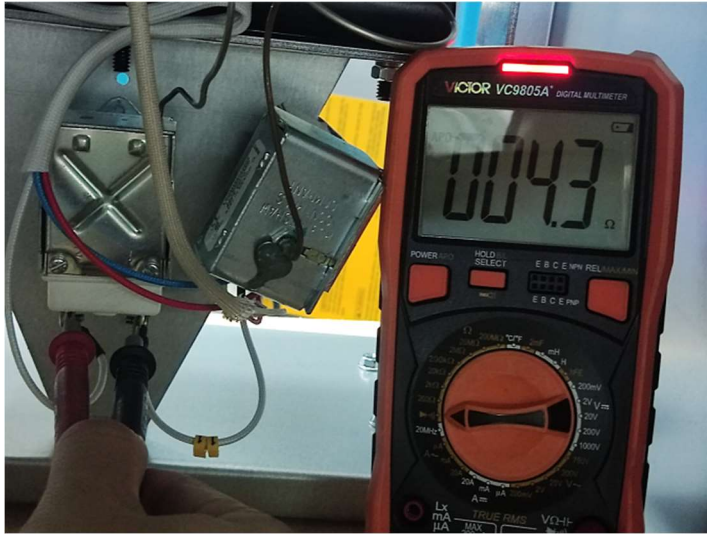


Thermostat's knob



- If it can't turn on the burner, check the two terminals of thermostat to see if they are connected, like the picture below. If the two terminals are not connected, the

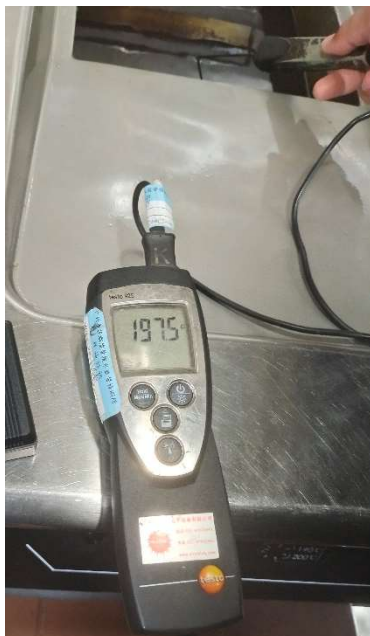
thermostat is probably bad, it need to replace with a good one; If the two terminals are connected, the gas valve is probably bad, it need to replace with a good one.



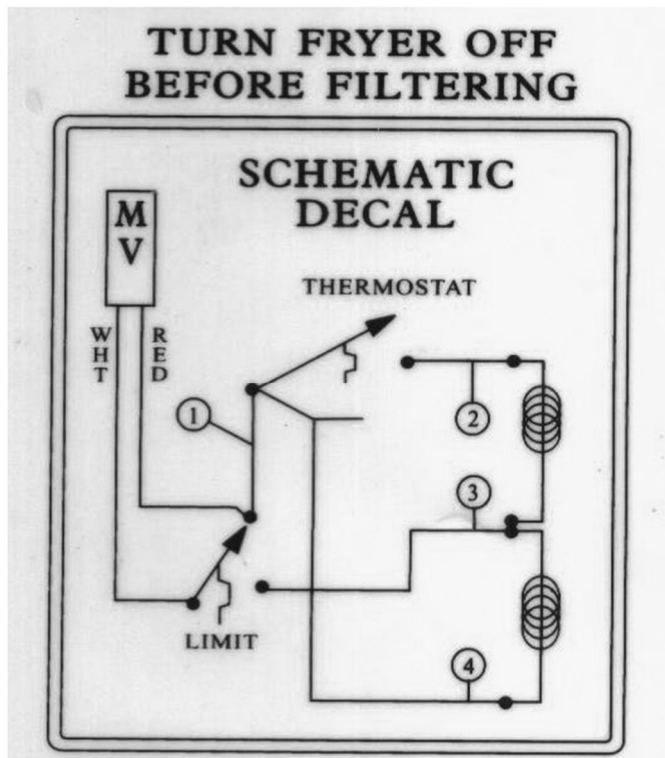
Step 6

If the unit is working properly, check the oil temperature with a thermometer.

- When the burners shut down after working, the oil temperature should be between 390°F and 408°F. If the oil temperature is too much out of range, need to replace a new thermostat.
- If the pilot also goes out after the burners shut down, check the oil temperature when the pilot goes out. If the oil temperature is lower than 430°F, need to replace a new high limiter.



3. Circuit diagram for reference



4. For the further analysis, please provide the following information which is marked "V" during maintenance process.

Description of issue	Gas type	Gas pressure	The common terminal and normal closed terminal of high limiter is connected or not	The output voltage of thermocouple	Two terminals of thermostat are connected or not	Oil temperature (Set and actual)	Fault pictures and videos
UNIT NOT WORKING	V	V	V	V	V	V	V
PILOT LIGHT NOT LIGHTING	V	V	V	V			V
FRYER NOT HOLDING TEMP	V	V	V		V		V
PILOT LIGHT WON'T STAY LIT	V	V	V	V			V
SHUTTING DOWN AND WON'T STAY LIT	V	V	V	V	V	V	V
PILOT LIGHT COMES ON BUT FRYER DOESN'T TURN ON	V	V	V	V	V	V	V

5. Critical parts needed for further analysis.

Please collect and send at least 3 pieces of fault parts to VESTA for analysis if the following critical parts are replaced.

- a) Gas Valve
- b) Thermostat
- c) High limiter
- d) Thermocouple