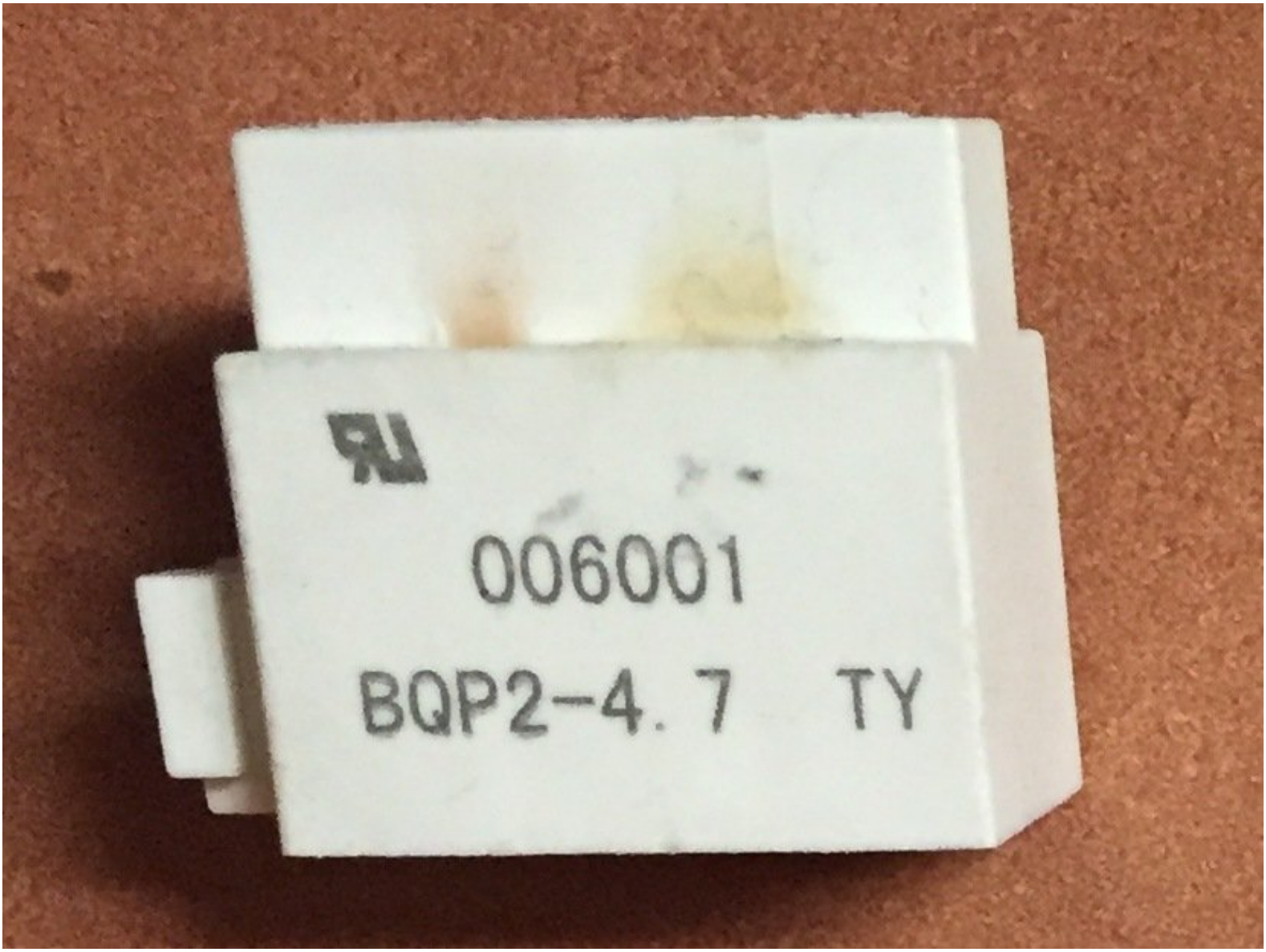
BQP2-4.7 Freezer Relay Repair

If your freezer stopped working, it could be because of a failed starter relay. If your starter relay is a BQP2-4.7, then you'll have a hard time finding a new one. Luckily you can easily repair it.

Written By: Perry Tancredi



INTRODUCTION

The motor in a freezer compressors need a little more power to start up then they do to keep running. They get that extra power through a second coil that is energized when the freezer is first turned on, and then power is cut to that second coil. Once spinning, the motor can keep going with only the first coil.

The second coil is controlled by a starter relay. It works with a thermistor - a resistor whose resistance increases once it reaches a certain temperature, thereby cutting current to the starting coil.

If the starting coil burns out, you might notice your freezer not getting cold while compressor gets warm. Often the thermistor will shatter, and you can hear it rattling around in the relay, but not always. You can check the relay with an ohmmeter. The BQP2-4.7 should read about 4.7 ohms at room temperature. Any other reading means it's probably failed.

For whatever reason, it's relatively impossible to get your hands on a BQP2-4.7, so we're going to repair one using parts from an easy to find and inexpensive similar relay - the QP2-4R7.

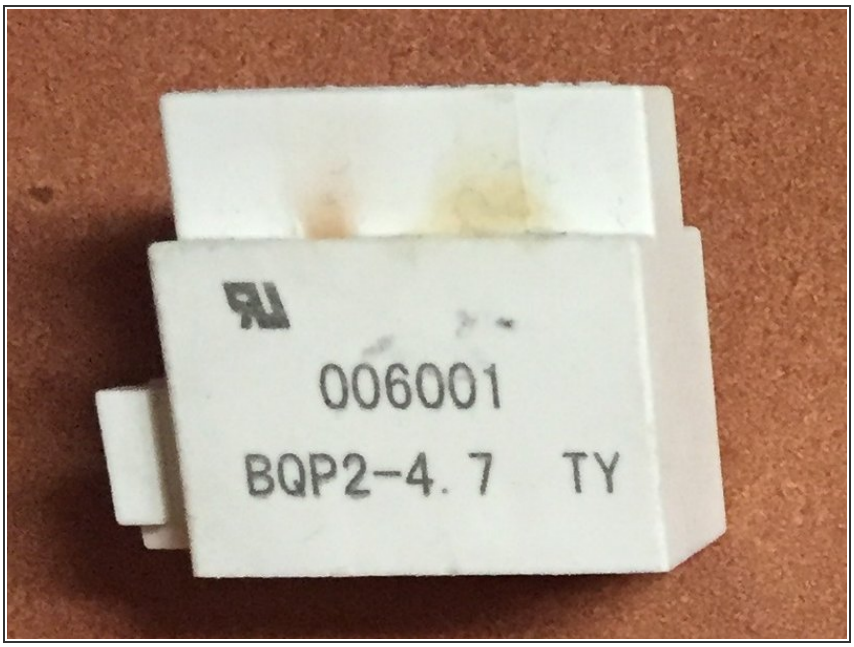
TOOLS:

- Small flathead screwdriver or other prying device (1)
- Small Needle Nose Pliers (1)

PARTS:

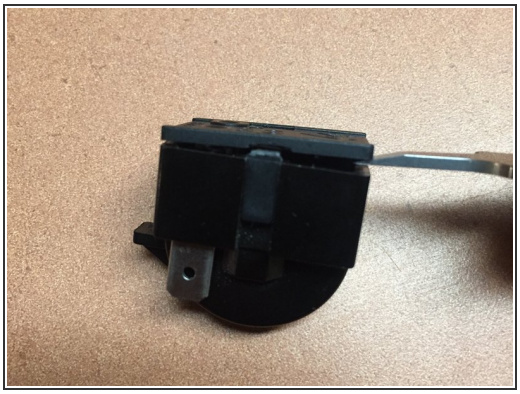
- QP2-4R7 (1)

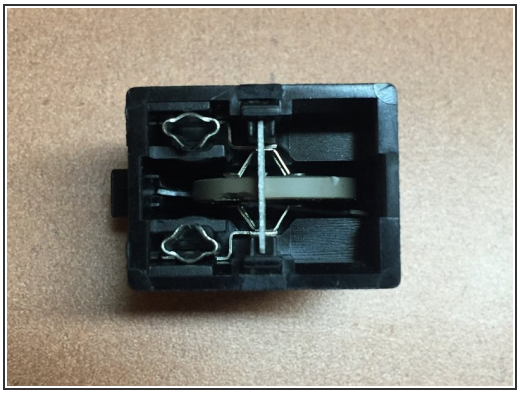
Step 1 — Inspect your relay



- The burnt out relay. Notice the brown heat marks. This picture is with the insides already removed, so yours will show leads.

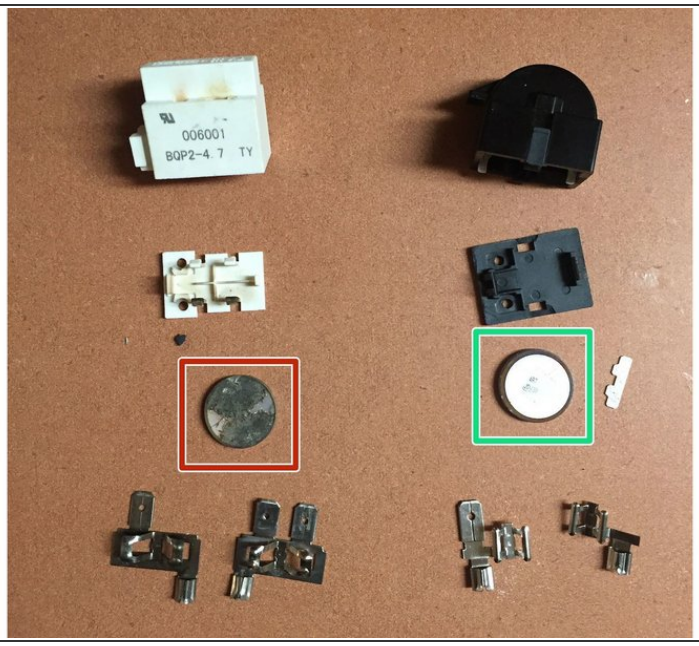
Step 2 — Disassemble the QP2-4R7 and BQP2-4.7





- Pry the bottom off the QP2-4R7. You may break the tabs on the bottom plate, but that's OK since we don't need the housing. Look inside and you'll see the disc held in by a short metal brace. Use pliers to remove the brace and remove the disc.
- Repeat the process for the BQP2-4.7, but be careful not to damage the housing if you can.

Step 3 — Inspect the parts



- Notice the burnt out component in the red box vs. the shiny new one in the green box.
- Clean the leads on the BQP2-4.7 of any residue to ensure a good connection to the new thermistor disc.
- Reassemble the BQP2-4.7 by first inserting the leads, then pushing the disc between the connectors, and finally snapping the cover plate back on.
- If you have an ohmmeter, check that you read about 4.7 ohms across the leads at room temperature.

Put the relay back into your freezer and test it out.

Be aware that the freezer will only turn on if the disc is cool, so if it turns on at first and you turn the freezer off, it probably won't immediately turn on again because the thermistor is already warm. Give it 5 minutes and try again.