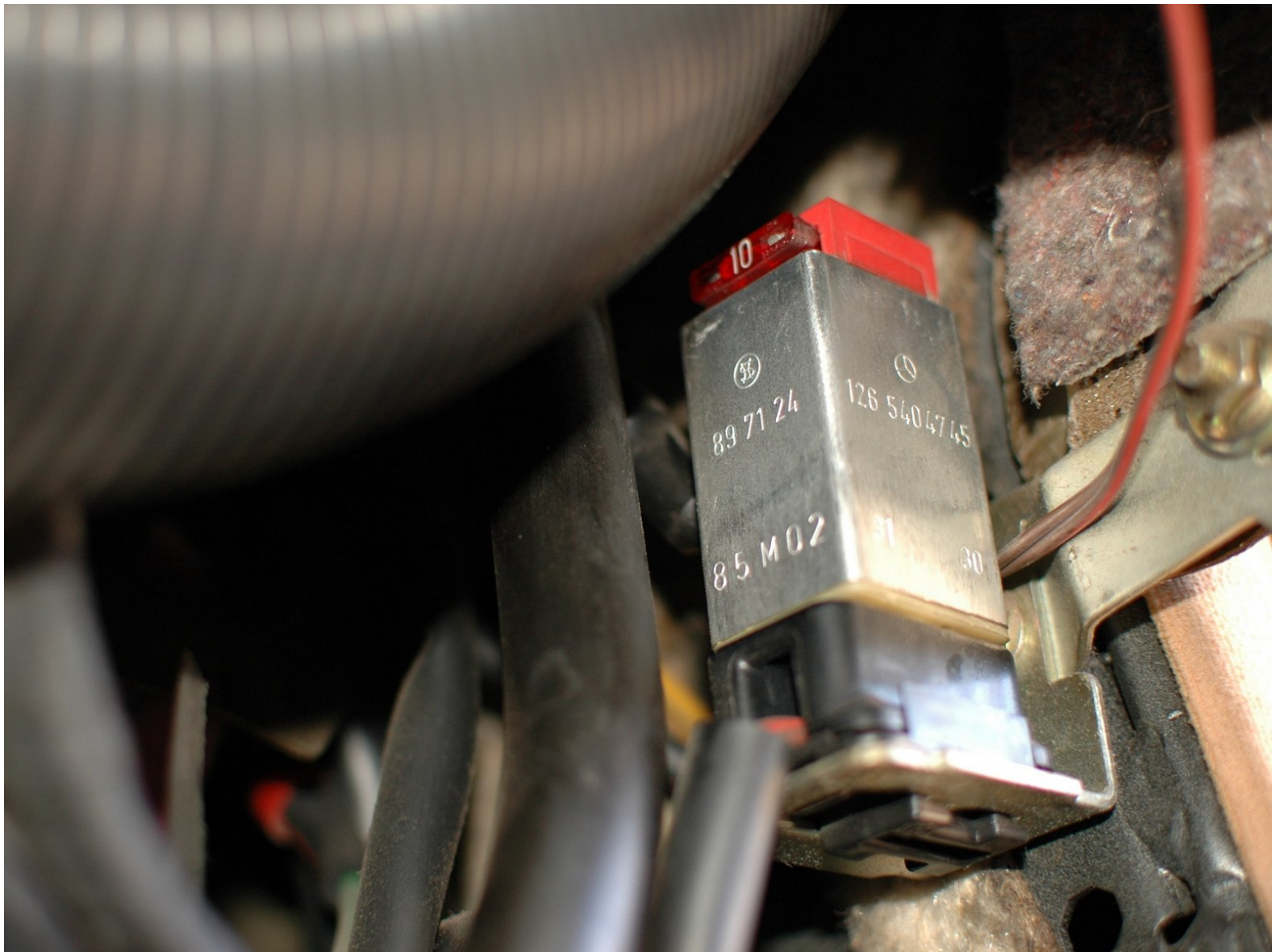




# Mercedes W123 Over-voltage Protection Relay and Fuse Replacement

On the 1984 & 1985 California models of the W123, and the 1985 "Federal" models, an over-voltage protection relay was added to protect other new components.

Written By: Nicolas Siemsen



## INTRODUCTION

Only installed on a small portion of W123 cars, the over-voltage protection relay can be a bit of a mystery at first. In reality, however, it's quite simple.

While most or all of the electrical systems on all W123 cars are protected by metal fuses, these are designed to trip only with excess amperage. For example, the blue 25 amp fuse for the climate control system will only blow if the system draws over 25 amps due to a short or other problem.

However there were some new components added to the 1984 California model, and all 1985 models, of the W123 that needed protection from over-voltage as well. One example is the new computer that controls the EGR.

At the time, the best way Mercedes had to protect these items was with the over-voltage protection relay (the OVP relay). This setup allows a fuse to function as a voltage protector. It works by using a relay that monitors the voltage across the electrical system in the car. If the voltage exceeds a certain level, the relay shorts itself internally, which draws an excess amperage on the integral 10 amp fuse on top of the relay. This blows the fuse, cutting off current to the sensitive systems.

One of the easiest to recognize symptoms of a blown OVP fuse or bad OVP relay is that the tachometer will not function. In addition, the A/C compressor will not engage.

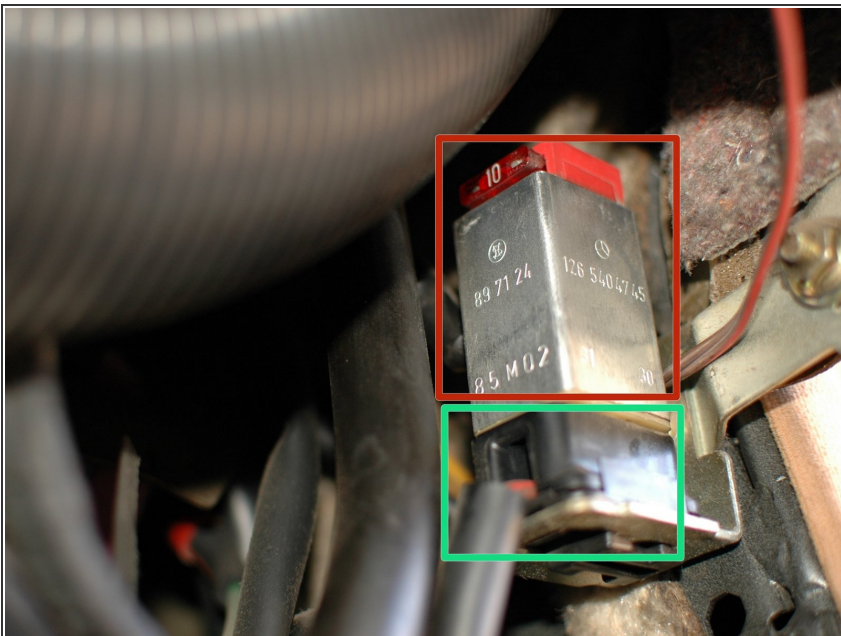
First try replacing the fuse to see if the blown fuse was a fluke. If the new fuse does not fix it or blows again quickly, you may need to replace the relay. This guide covers both.

## Step 1 — Over-voltage Protection Relay and Fuse



- To access the OVP relay you'll need to remove the passenger side kick panel. [See the guide on this process.](#)

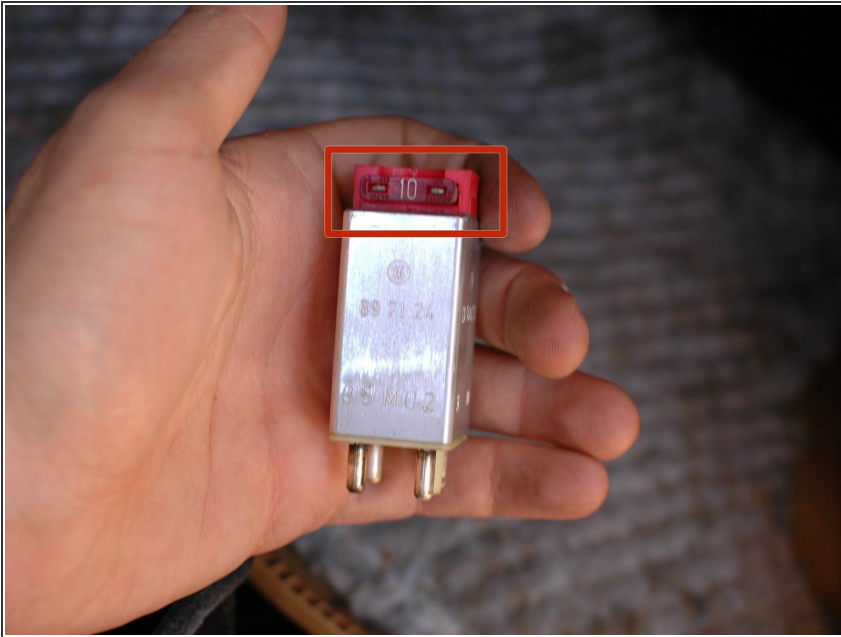
## Step 2



- Look up inside below the dash, just beneath the furthest right side dash vent. You'll see the OVP relay with the red fuse on top.
- Even if you are just checking the fuse, the easiest way to get access is to remove the entire relay. Simply pull it up and off of the black plug it is attached to, which sits beneath it.

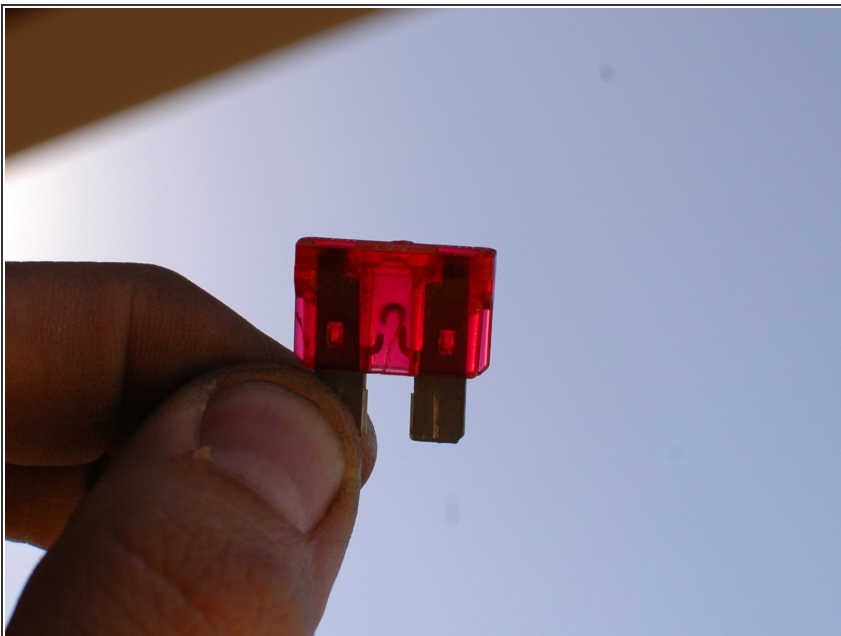


### Step 3



- This is the OVP relay out from under the dash.
- The fuse on top slides in side-ways. It is a 10 amp fuse.
- You can use a needle nose pliers to pull the fuse out of the holder that is attached to the relay.

### Step 4



- As you can see here, the fuse was blown. The filament is broken internally.
- Since this was the case, the fuse was replaced. The tachometer returned to normal function indicating that the fuse was the problem.
- If the fuse continues to blow, the OVP relay may need to be replaced. If the fuse is not blown, you may need to test and/or replace the OVP relay.

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