

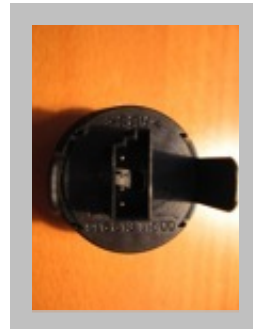
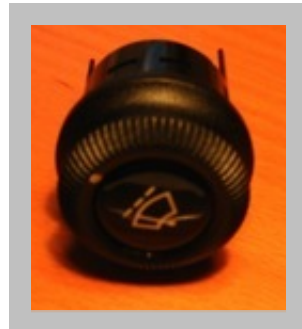
# Variable Intermittent Wiper Hack

## The Porsche Way

### Parts:

- 996 Intermittent Wiper Relay #996.615.103.00
- 996 Wiper Control Potentiometer (Dial) #996.613.115.00.A02 (A02 is gloss, A06 would be matte)
- 5' 2 Conductor Cable
  - I am using a 3 conductor electrical cable that I got from a junk shop for \$1. You could use any wire with 2 conductors but I think this it is better than using house hold wire.
- 14" 2 Conductor Cable
  - I used the same wire as above.
- Mercedes Part Number #0285458428
  - This is the connector for the dial, you can also use a computer CD-ROM connector, but it may require modification to fit. You will also need wires and pins that fit the connector. The VW wires from the OBC hack will work, and Mercedes also has a part that will work. I had a CD-ROM connector, but it wasn't fitting well, so I bought the Mercedes part, and used the CD-ROM pins and wires with it. With the Mercedes part make sure to insert the pins so that the top of the U shape they make faces away from the writing on the connector. Then snap the connector closed, to lock the pins.
- 4 Butt Connectors
- Radio Keys and Radio Car
- 2 Wire Taps
- Some Heat Shrink (If you want to use it)
- \*Soldering Skills
  - I have only soldered a few times, and I didn't have any problems. I had some trouble using my dads 50 years old soldering iron, but once I started using a my newer one, with electrical solder it took about 5 minutes.

**Total Cost:** About \$70 and an hour of your time



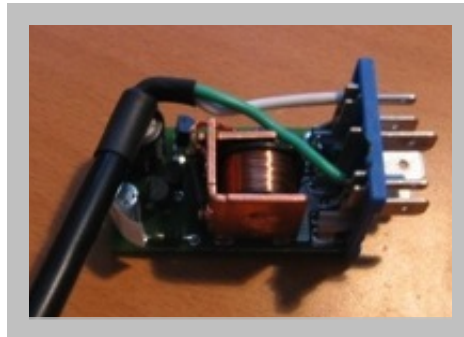
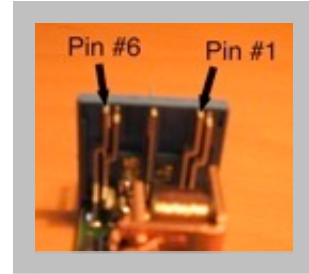
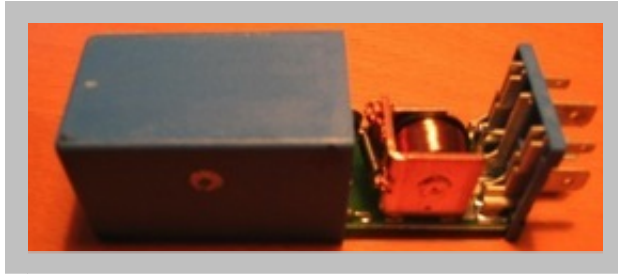
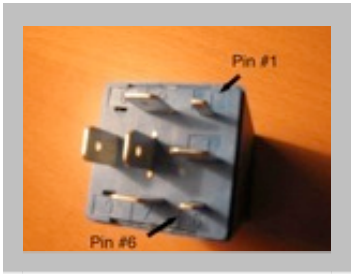
### The Hack:

This hack enables the use of variable intermittent wipers, in your 986 Boxster. The basic idea of this hack is to attach a wire to Pins 1 and 6 of the 996 relay, and attach those to the wiper dial. The other two wires on the dial connector attach to the power and ground of the cigarette lighter.

### The Wiring Harness:

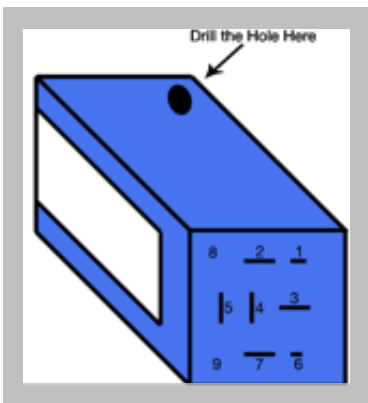
The wiring harness is simple to make, the only complicated part is soldering the wires to the inside of the relay. Take your 5' cable, and strip the cable about 2" so the wires inside are exposed. On one end strip the wires as much as necessary and use two butt connectors and heat shrink tubing to connect two of the pins for the dial connector. On the other end strip the wires 1/4". The 1/4" end will be soldered to the relay.

You now need to open up the relay. Notice that there are two indentations on the bottom of the relay. These are the clips that hold the relay and the pins in the case. You need to wedge a letter opener or knife in between these indentations. Once you do, pry the plastic apart and out of the case. This is hard to explain but once you do it you will understand. I used a bunt but thin pointed letter opener to do this. Now that the relay is open solder the wires to pins 1 and 6 using electrical solder. It is good idea to write down which color wire you soldered to which pin.



Now that the relay has been soldered, you need to drill a hole in the relay casing for the cable. I used a 5/16" drill bit, but use what ever size you need for your cable. Remember to drill on the side of pins 1, 2, and 8 so the relay fits back onto the relay panel. Once you finish run the cable through the casing and snap the relay back together.

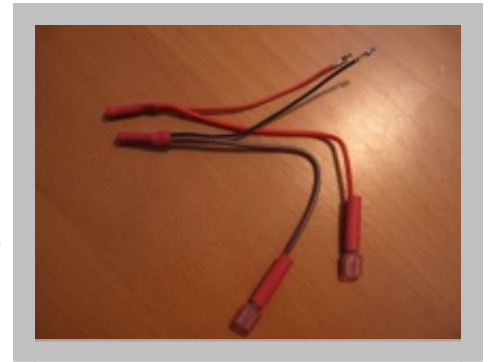
This next step is optional but highly recommended. Using some epoxy or caulk and put it around the hole in the relay. This will secure it and protect the soldered wires from being pulled off. Now using butt connectors connect two of the pins to the cable.



## Illumination Wiring Harness: (Optional)

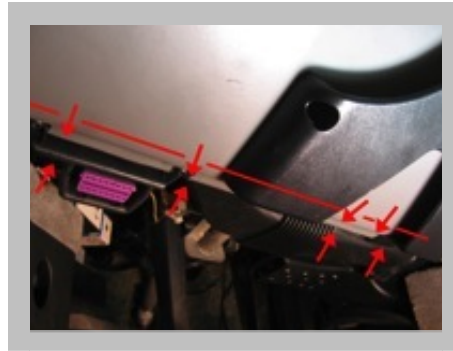
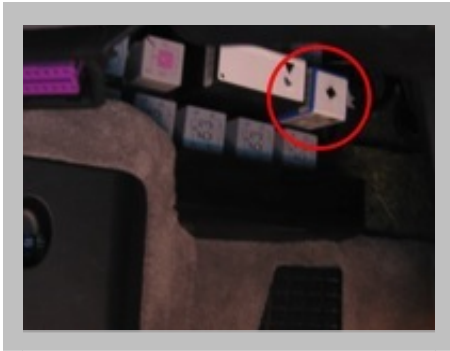
Take the 14" cable and strip both ends to expose the wires. On one end connect the power and ground pins for the dial connector. with butt connectors and heat shrink tubing. On the other end you can either strip the wires 1/2" like I did then insert them into the back of the cigarette lighter plug and secure them with tape, or you can not strip them and connect them with wire taps.

(I did this hack at the same time as the spoiler switch hack. This picture shows the pins and butt connectors without the 14" cable. The extra quick disconnects are for the spoiler switch.)



## Installation:

The installation of this hack is very simple. Start by removing the 986 relay you are replacing. It is in position 16 on the relay panel. It is the one farthest to the right and one up. Insert the new 996 relay in it's place. Then route the cable up and if you can behind the relay panel. I was able to run the cable behind the relay panel so it came out just behind the OBD II port (purple plug). I then routed the cable through the OBD II wires. Then pushed the cable underneath the knee guard trim. Once you push it under the trim it will be able to freely move in the space under the trim. Do this and route the cable all the way toward the center console, then stop with the rest of the cable still sticking out.

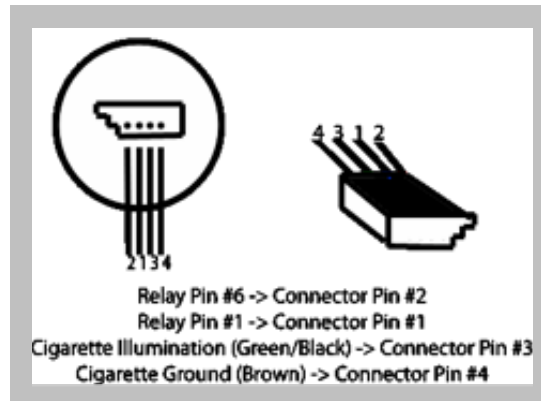


Now you need to remove the the dash button trim piece. To do this use a blunt butter knife and pry it off from the bottom. Be careful because it can take some force to remove. Now that the cover is off, remove the dummy plug and insert the wiper dial into the trim piece.

Next you need to get the cable from under the dash up through this opening. The easiest way to do this is with another wire. With the trim piece removed look at the plastic inside the opening. On the side facing the steering wheel there is a plastic piece that is open across the top. Route the cable down this side of the plastic and then it should come out the bottom of the dash. It may take a few tries but you'll get it. Then you can tie the cable on and pull it up.

Now you must connect the pins to the dial connector. Look at the diagram to determine which wires go in which slot. Hopefully, you wrote down the colors, like I mentioned earlier.

When you are inserting the pins make sure the top of the 'U' shape the pin makes is being inserted facing the side of the connector with writing.



**Illumination: (Optional)**

If you want the dial to illuminate when you turn your headlights one you need to do an extra step. Start by removing the dash button trim piece opposite the one next to the steering wheel.

You will then need to remove the radio, using your radio keys. Disconnect the radio and pull it out. Now run the 14" cable we made earlier across the radio opening from one trim opening to another. The cigarette lighter uses a plug which has three wires. The brown one is ground, and you can go ahead and connect the wire from dial connector pin 4 to it, either of the ways I described before. Next connect the other wire. You may need to turn on your headlights and try both wires to make sure you have gotten the correct one.

**Finish Up:**

Now plug the dial connector into the dial. Then replace the dash switch trim pieces, the radio, and insert your radio code. Now you are done and ready to begin waiting for some rain so you can go try out your new wipers.

Special thanks to RennTech.org, 986Forum.com, PPBB.com, and CB-Racing.com for helping me figure out how to do this hack. I hope you enjoy it, and feel free to email me if you have any questions.