This is what's required to add a factory trip computer to a 1993-1995 Audi 90 quattro.

(This procedure might work for FWD 90s as well as '88-'92 80/90s as well, I do not know for sure.)

Note: The wires, connectors and trip computer/autocheck modules I have been working with have been from several '88 90 quattros. Yours should look similar, but might have different numbers of wires/configuration/etc, but the basic installation is the same.

<u>Parts</u>

Audi Parts required:

• trip computer/autocheck module
[from a 1988-1992 Audi 80 (quattro)/90 (quattro) or
a 1990-1991 Audi coupe quattro]

• switch for the trip computer
[Early B3s will use a switch in the center console (by the heated seat/defrost switches),
this is the easiest switch to install. The other is the later B3/coupe quattro/B4 style
at the end of the wiper stalk. If you have a mid to late '95 with the newer style airbag wheel
you'll probably need an '96 to early '98 A4/A8 stalk assembly.]

• wiring pigtails from the donor car
[pigtail = connector plus as much wire as you can get cut out of the car.]
The **trip computer** is a 10-pin black connector, the connector for the **console-style**
switch is blue (I haven't tried the wiper stalk, so I do not know how what color
that connector is), if you plan to install the autocheck system too, the **autocheck** is a
26-pin white connector. Both the trip computer and autocheck plugs are connected to the
autocheck/trip computer assembly.

• proper coding card for your car
[see page 3 "Installing the trip computer module"]

Non-Audi parts required:

• electrical tape

• splice connectors, spade or quick
disconnect connectors and wire taps.

• some 16-22 ga. wire

• full tank of gas
[for calibration of the trip computer]

Making the wiring harness

1.) First remove the old taping material from both the trip computer and switch connectors.
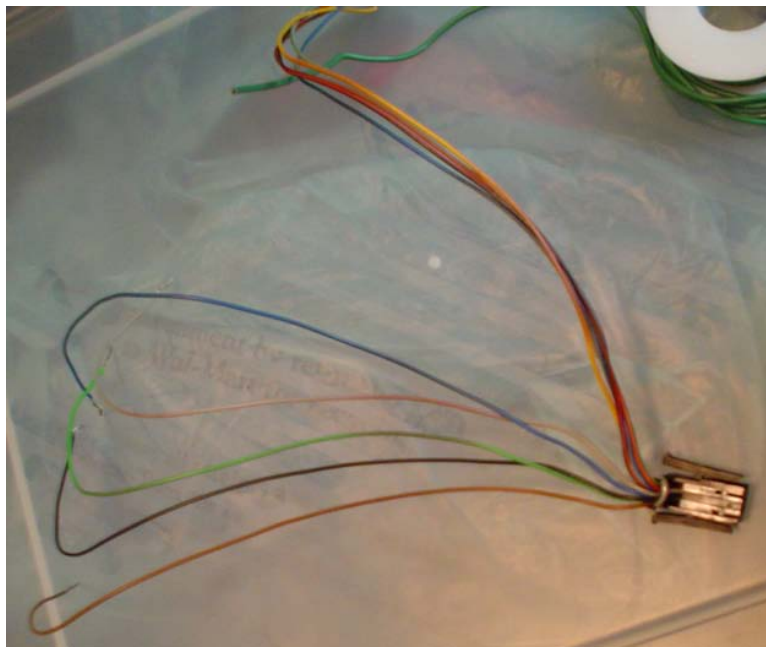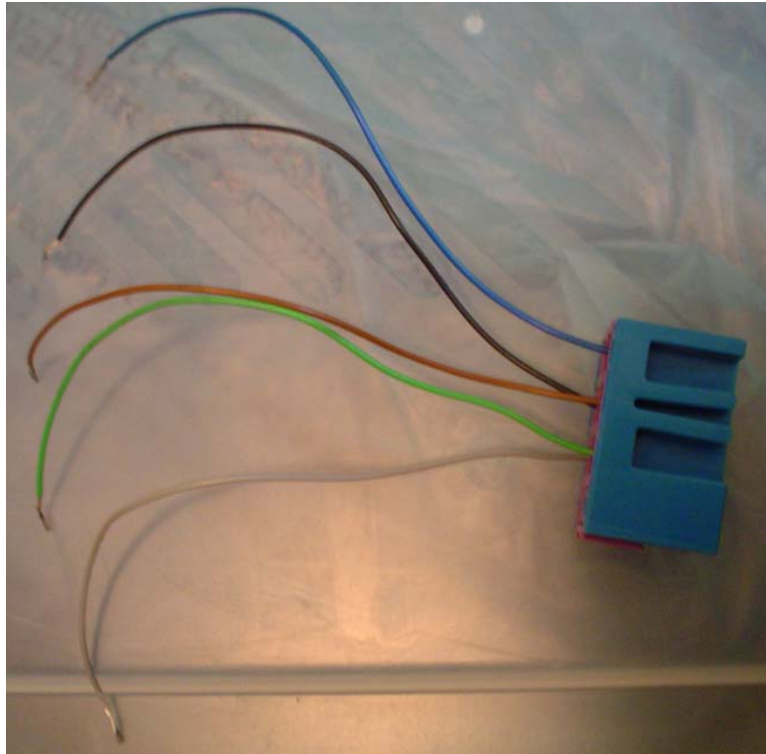
2.) Next, install splice connectors to all 5 wires on the switch connector (blue). They will match up exactly with the wiring harness for the trip computer (black). (blue, black, brown, grey, green)
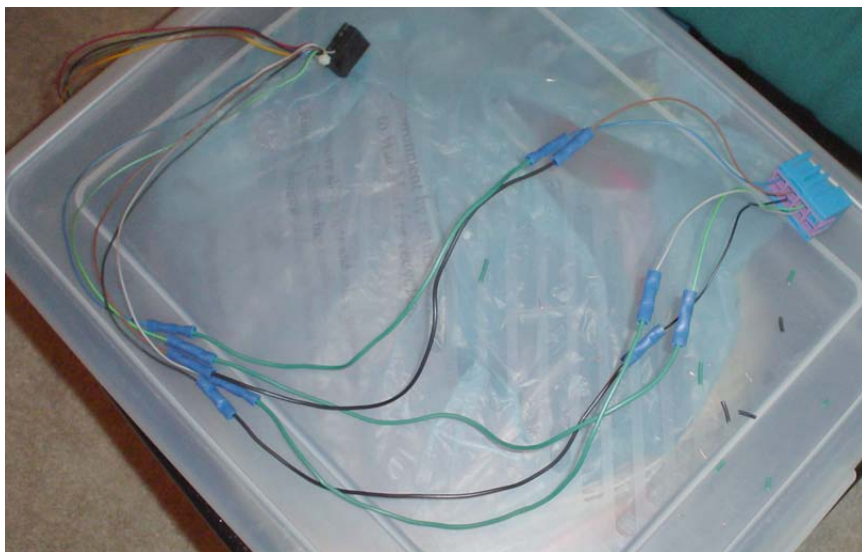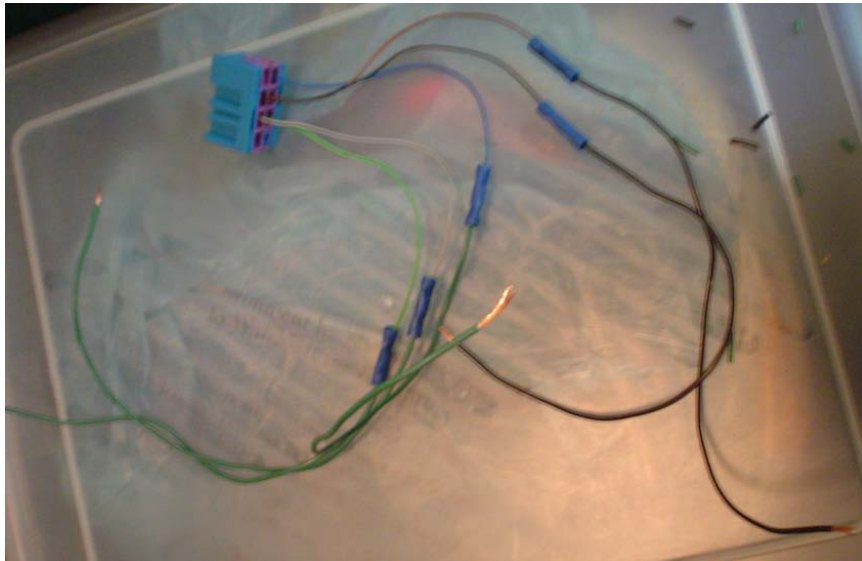
3.)   Now tape the 5 wires together as tight as you can (will help when you snake them behind the dash). You will only need one other wire out of the trip computer connector (black) which is the **yellow wire**. This wire is referred to as the consumption wire. I spliced in a piece of black wire to the yellow wire in the trip computer pigtail (see below)
(The rest of the wires are not used/needed on a 1993-1995 Audi 90 quattro [they're taped off in the top/right of the left picture below].)
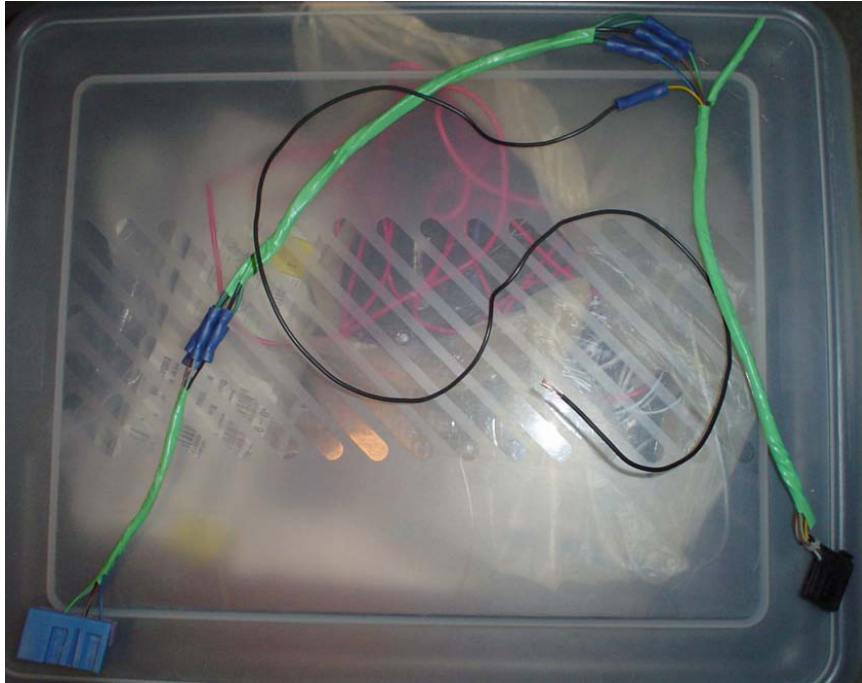
installing the wiring harness

Now that we have the wiring harness made, let's go install it in the car.

1.) First choose/find a blank location in your center console. Remove it by gently prying at the bottom of the blank with a small flat-blade screwdriver. It should come out fairly easily.
(If you haven't already, this would be a good time to remove your
instrument cluster and the panel above the pedals.)

(if you wish to rearrange your switches so that the trip computer
button is closer to the driver's seat, this would also be a good time to do so).

2.) Since the trip computer connector is smaller than the switch connector, it'd be easiest to snake the trip computer connector through the switch hole to the instrument cluster.
(It's easy enough to use an old wire hanger and gently push it behind the ignition switch towards the center console switches, attach the connector to the wire with some tape and gently pull it through.)

4.) Now that you have the wiring harness installed, connect it to your switch and pop it into the center console. Only step left with the wiring is to connect the yellow wire.

For this you need to get up into the relay panel (behind/above the panel above the pedals). To the right of the relay/fuses you will see a few different colored wiring connectors, we want to use the black one (closest to the floor of the car).

In my car there were **two (2)** yellow wires, one going all the way through the back/front of the connector, and one only in the back of the connector.

I chose to use the one which wasn't connected to anything. You will basically want to tap this wire (I didn't have any wire taps at the time, so I used some spade connectors to make it easy to plug the yellow wire back into the black connector should I ever need to).
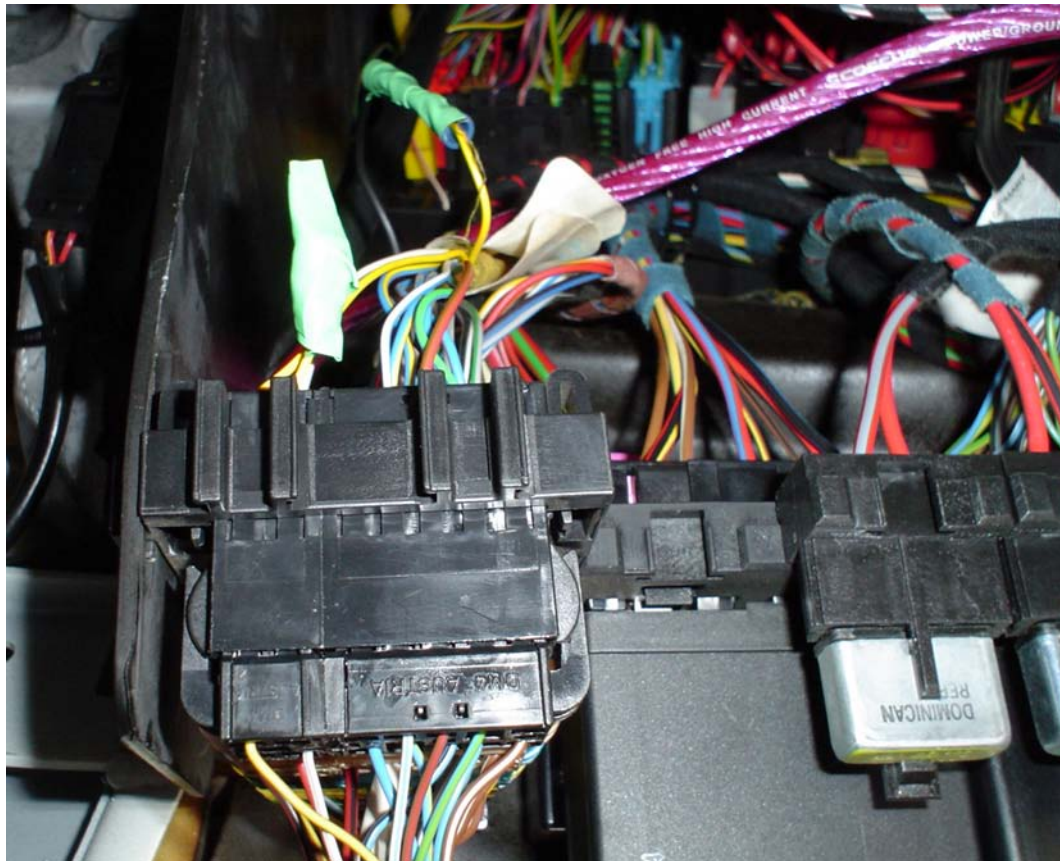
installing the trip computer module

Well, the hard part is out of the way, now all you have to do is remove your stock minicheck module from your cluster and install the trip computer/autocheck module from the donor cluster.

1.) Remove the minicheck module. This is pretty simple once you have the cluster out of the car. There are three screws (one to the left of the 4 bulbs, one on the opposite side, and one below the white harness connector. Once they're removed, simply pull the module out of the cluster.
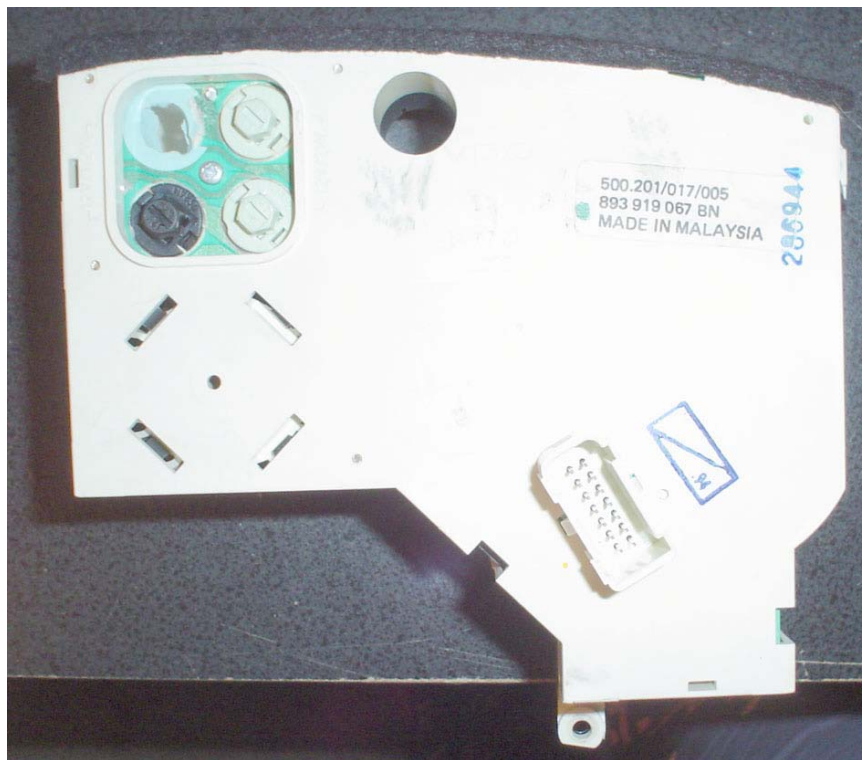

2.) Install the trip computer/autocheck module into your cluster. This unit uses 4 screws, 3 in the same positions as the minicheck with one additional screw (by the coding plug/country selector switch).
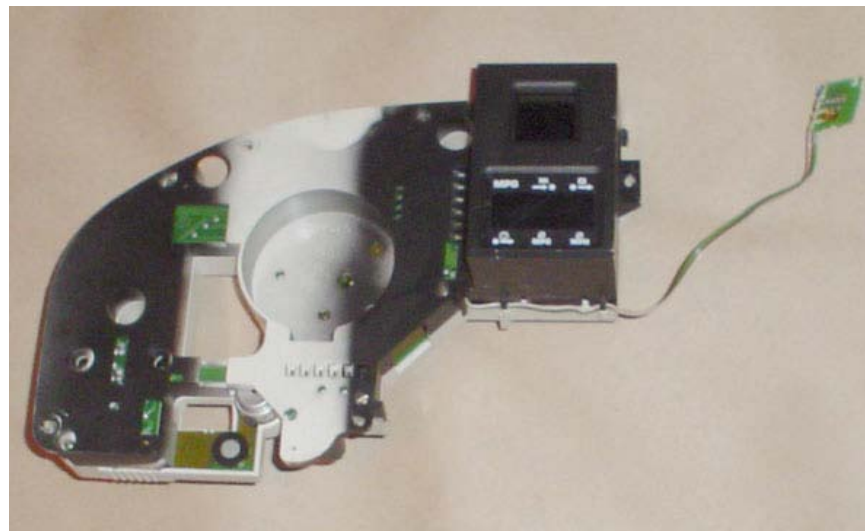
(in the above picture you can see the little fuel range calibration wire/circuit board installed behind the gas gauge, this is where it goes, although, it will need to be calibrated for your car, so, you don't have to pop it in just yet.)

3.) Install the proper coding card. If you got your cluster from a 1990-1991 Coupe quattro, you should be fine. However, if you got your cluster from a 1988-1992 80/90 the coding card will not be correct for your car. Some have modified the 80/90 cards to work in their 1993-1995 90 quattro, I however purchased the proper card.

(as mentioned below, these are all quattro part numbers, FWD use completely different part numbers!)
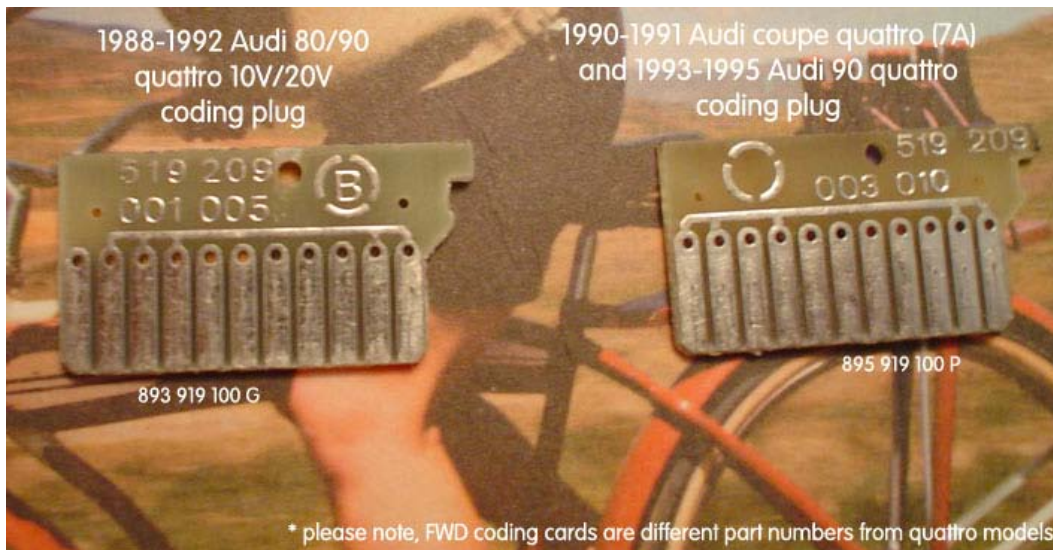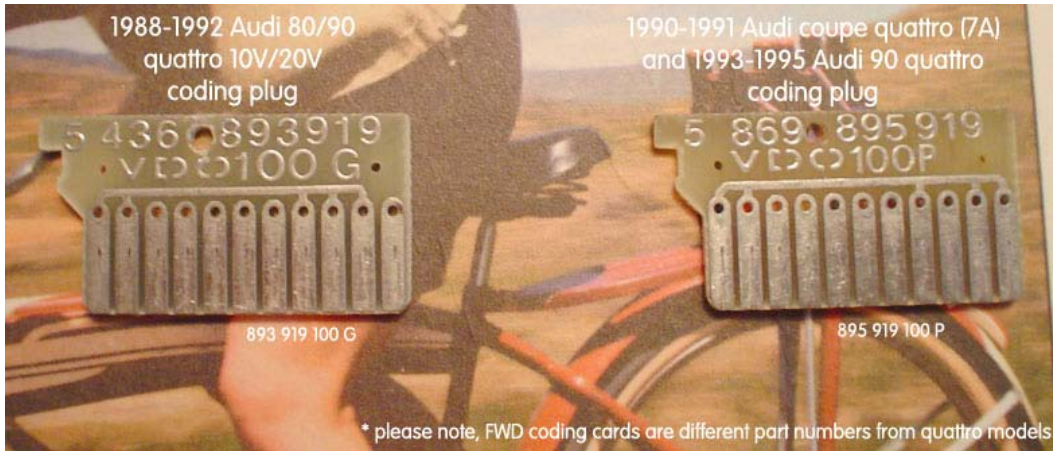
calibrating the trip computer

This last step is necessary so that the trip computer knows how much gas is in the tank.

You will need a full tank of gas (as mentioned on page 1) to properly complete the calibration.

So what you will want to do is reinstall the instrument cluster back into the car, but leave the little fuel range calibration wire/card dangling out where you can adjust it with a very small flat-blade or Phillips head screwdriver.

The steps for calibration are as follows:

1.) With the ignition key in the **OFF** position, press and hold down the trip computer **RESET** button.

2.) Keeping the **RESET** button pressed, turn the ignition key to the **ON** position. Verify that the correct trip computer code is displayed (a532 for the coupe quattro and 1993-1995 90 quattro).

3.) Release the **RESET** button and verify that the next number displayed is approximately the amount of fuel in the tank. This is displayed in litres x 10.

The reading will probably be higher than what is needed for a 1993-1995 90 quattro, but with a full tank of fuel, this should be somewhere between 579 and 610.
Note 1: Yes, even though the trip computer displays in MPG, it's calibrated in liters.
Note 2: A 1993-1995 90 quattro has a 61 liter tank.

4.) You will now want to calibrate the reading on the range calibration board. The lowest I could get my card to go was about 579 (57.9 litres), which is just below the maximum capacity of 610 (61 liters). From the factory these cars are set with a 5 liter/1 gallon reserve.

To adjust the switch, turn it to the left, very slowly, and watch the trip computer display. It will slowly go down.

Note: Just remember, the maximum capacity of a 1993-1995 90 is 61 liters
(610 on the trip computer), so anything above that will be very inaccurate.

5.) Now turn the car off, pop the range calibration board in behind the gas gauge (only has one orientation which will work - pay attention to how this was on the donor cluster).

Verify all of your connections and then reinstall the cluster in the car!

You're DONE! Congratulations you're one of the few people in North America with a fully operational trip computer in a 1993-1995 90 quattro!

Now go for a drive! If everything is working properly you should get the following functions:
Starting from the top/left to the lower/right:
- Instantaneous fuel consumption
- Miles or kilometers to empty
- Fuel consumption per trip
- Driving time (max. range 23 hours; 59 minutes)
- Average fuel consumption
- Average driving speed

The **RESET** touch control in the center of the switch serves several functions.

By depressing **RESET for 2 seconds**, the "fuel consumption per trip", "driving time", "average fuel consumption", and "average driving speed" can be reset.

The "instantaneous fuel consumption" and "miles or kilometers to empty" displays can't be reset.

By pushing **RESET** briefly, the computer's alert signals for driving time and low fuel reserve can be interrupted.

A few shots of the finished product: