

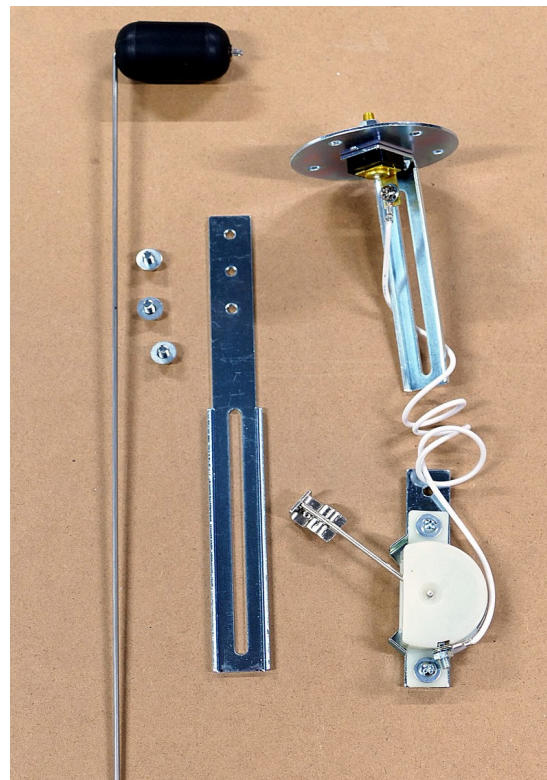
Installing the Bosch Fuel Level Sensor

Once the fuel sensors are unpacked, you should have two pieces. The sensor and the float arm. The sensor comes with an extension installed out of the box.

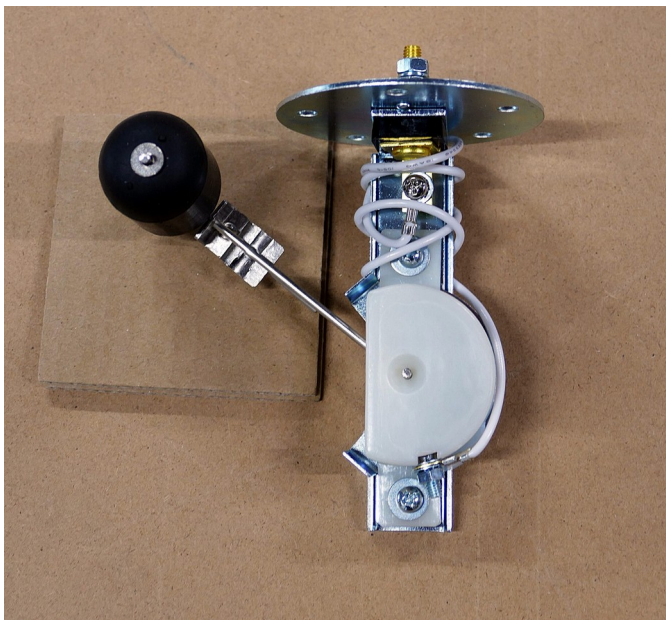
In the picture below, the stock fuel sensor parts are to the right. The modified sensor is to the left. This is what you will want to install in your fuel tank.



Start by disassembling the sensor to remove the extension piece.



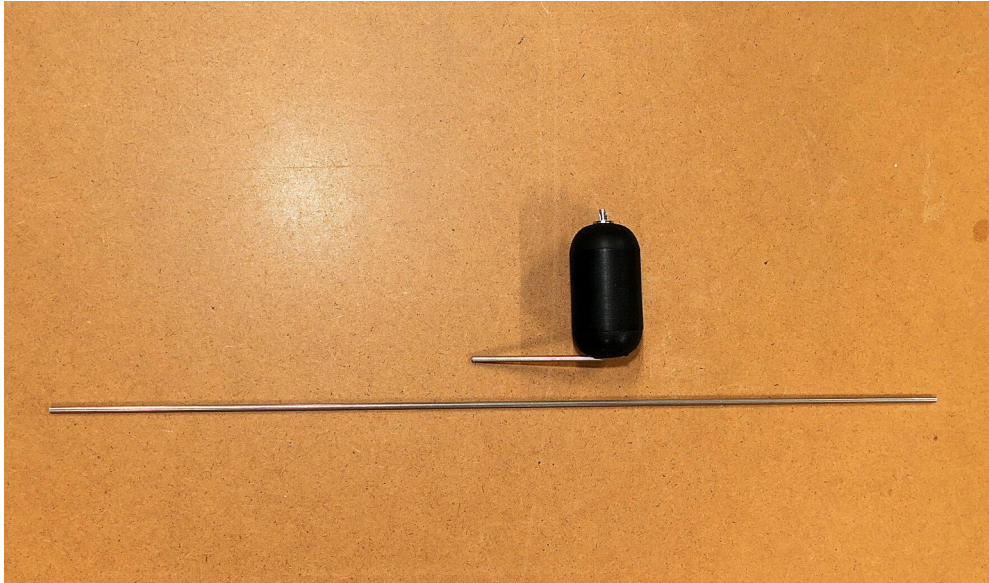
Reassemble the sensor without the extension piece. Make sure the sensor is in its most compact (short) form. Make sure that the white wire is not interfering with the travel of the “rotating arm”. (see Bosch instructions for names of parts)



This is what the reassembled sensor should look like. This unit has already had its shortened float arm installed

Now you shorten the float arm. Start by measuring the float arm (the thin metal rod) from the centre of the float, to two inches out from the float. Cut off the excess. Yes, it does need to be this short.

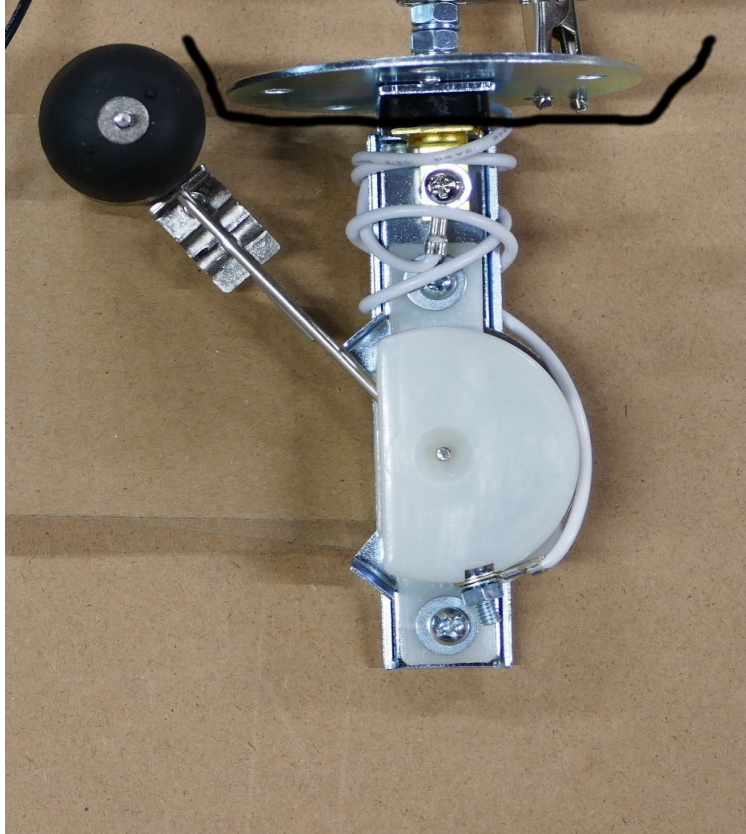
This is what the two parts look like. I'm sure you can find some use for that extra rod.



Install the float arm to the rotating arm. The float should be almost touching the clamp on the rotating arm. Note that the screw that Bosch uses to clamp the float to the rotating arm is of “minimal quality” (P.O.S.) Therefore, find a screwdriver that fits as closely to the slot as possible. You **really** have to get this screw tight, and you don't want to strip the slot.

Once I had the sensor and arm assembled, I tested the resistance with the arm fully up, and fully down. It was **very** close to the 33-240 ohm values that it is supposed to have. The next challenge is installing the sensor in the fuel tank and insuring that the float has the fullest up and down range as it can get.

You will notice in this photo that the float rises above the mounting flange of the sensor. In order to get the full range of the float, the flange has to be installed as far to the rear as it can be in the depression formed at the top of the tank for the fuel sensor. The shaky black line represents the depression for mounting the fuel sensor.



I have found that the sensor and float can be wiggled through a 1 1/2" hole. Since you have to hold down the sensor flange with #10 screws, you'll want to leave as much plastic to drill holes and install screws into. I have also decided to have the float facing the rear of the tank. Even though I tightened the float rod as tight as I dared, it's still too easy to knock it off level. I don't want to chance hitting the float with a gas nozzle.

Here's how I drilled my tank, slightly to the left of centre and exactly half the flange diameter from the rear edge of the flat surface. I used a 1/4" drill.

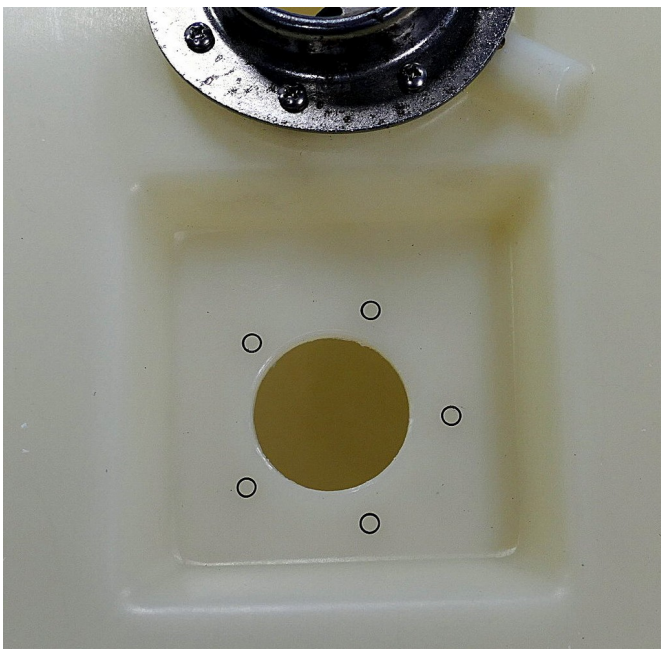


A hint for a very clean and exact sized hole, is to replace the drill bit in the hole cutter with a 1/4" rod. That way the spinning drill bit doesn't enlarge the guide hole, allowing the hole saw or cutter to wobble. Here's mine.



It's a useful trick when cutting holes for plastic windshield vents, since they require accurate hole sizes.

Here is a photo of the fuel tank with the 1 1/2" hole cut, and the screw holes marked. Please note that the mounting holes in the flange are not quite evenly spaced. Therefore make **sure** that you have oriented the fuel sensor properly before you mark the holes and you might want to put marks on both the flange and the cork gasket before you smear everything with gasket sealer.



I used #10 x 1/2" stainless steel screws and drilled their holes with a 9/64 drill bit.

You will have to connect a ground wire to one of the #10 SS screws. Keep the gasket seal away from this connection or you may never get a correct reading.

Here's the finished product. I used gasket seal top and bottom of the cork gasket. Be warned it's very easy to make a real mess with this stuff. I also used motorcycle type sealed bullet connectors on the sensor wires in case I ever have to repair or replace a sensor.

