

# Manual for converting foil sensor to float control on BMW R1200RT

## Preface

Also with this type of BMW, foil sensors have been used for measuring the level of the fuel for a number of years. Because there is no mounting place on the pump unit of this engine to mount a standard BMW float, like the GSA, I made the Float Control 2 with a modified float arm of a car brand.

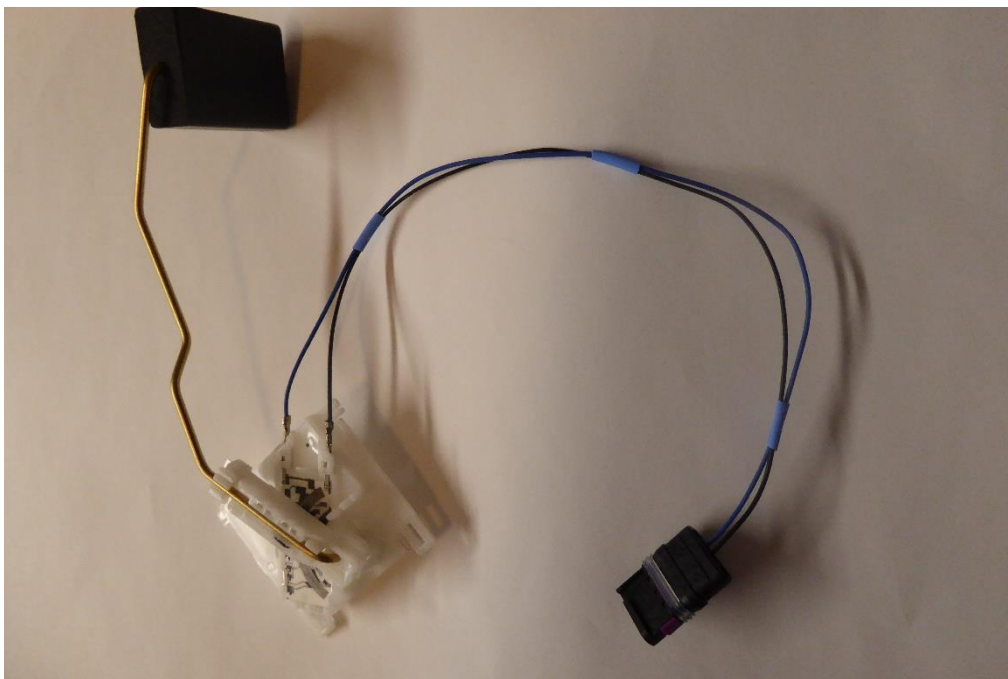


Photo 1: the float with modified float arm

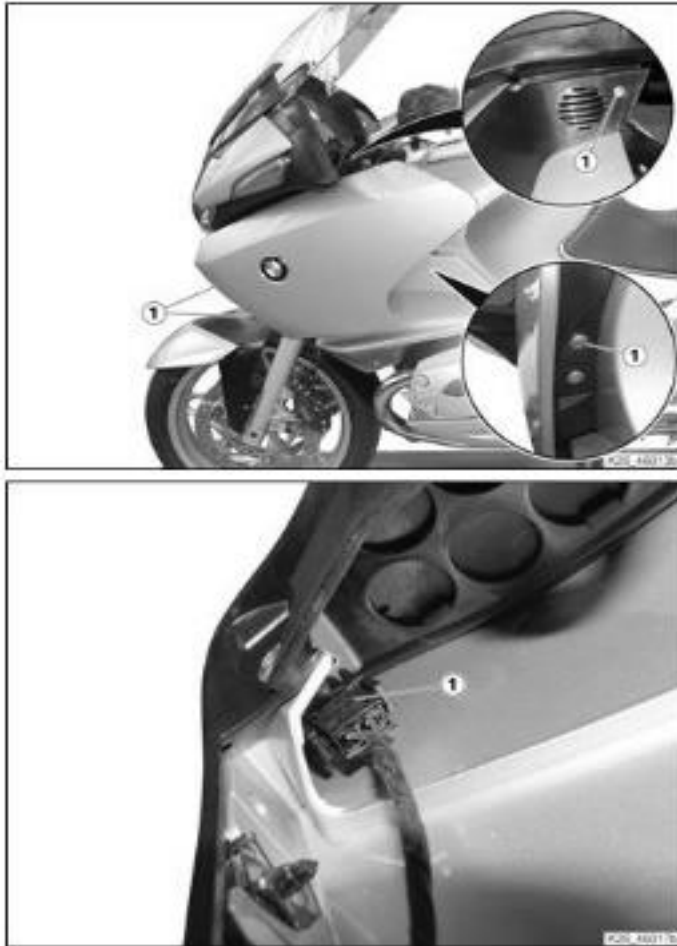
In the end, the Float Control 2 can be fitted neatly on top of the pump unit with ty-raps.



The heart of the Float Control 2 is formed by using a microcontroller with embedded software written on it.

## Mounting

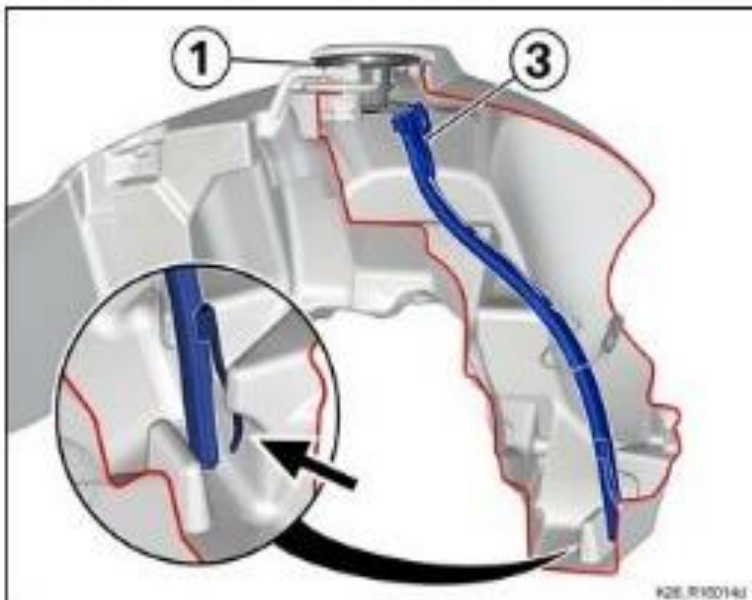
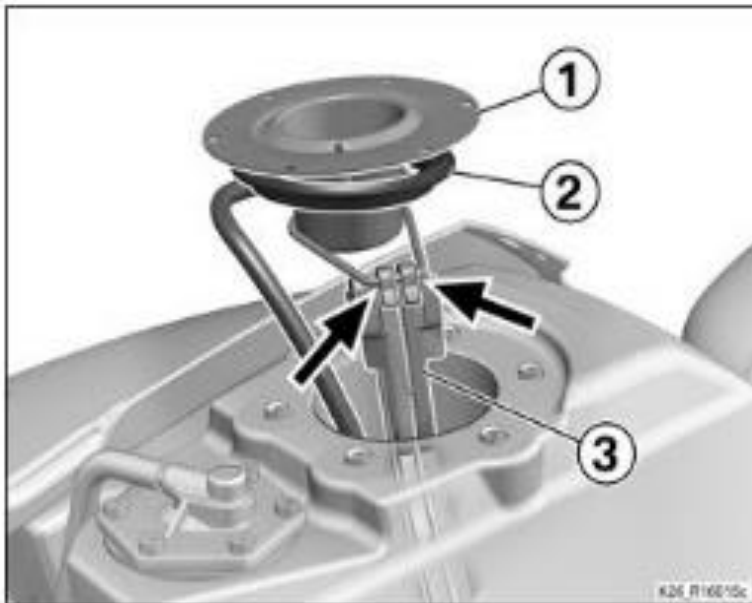
1. Make sure that there is little fuel in the tank (4 to 5 liters) , because after the float has been installed, the large inspection hole of the disassembled fuel cap makes it easier to see if the float is running properly.
2. Disassemble the plastic parts on the left side of the tank and the plastic parts on the tank to disassemble the fuel cap.



### Removing left fuel-tank cover



- Remove screws (1).
- Remove screws (2).
- Open catch (3).
- Remove fuel-tank cover (4).



3. Disconnect the connections on top of the pump unit. The fuel hose has a quick coupling so that you can pull it without leakage. See the photo below.

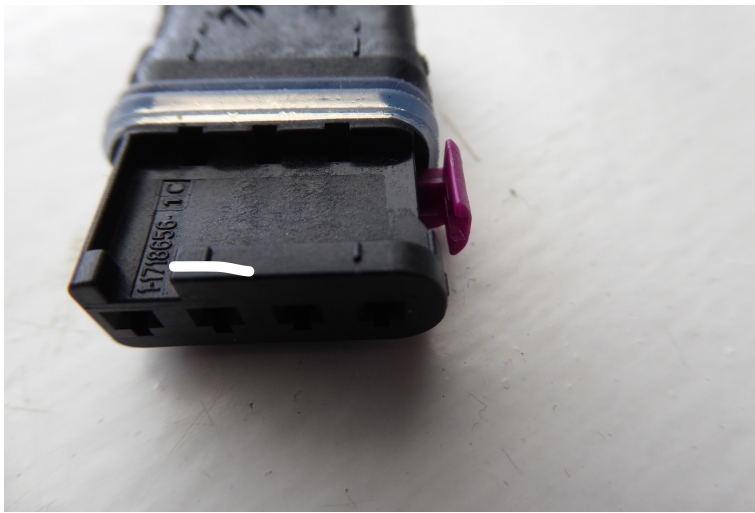




4. Loosen the large ring of the pump unit with a special tool or carefully loosen it with the hammer and screwdriver that you hold against the cams on the ring.
5. Lift the unit out of the tank and at the bottom pull the vent hose and the blue four-pole connector of the film sensor. You can use the pipe of the venting hose later on. A wire, which you connect to the float, to check the movement of the float.
6. Dry the pump unit and place it on a table and mark the holes by marking the drill holes of the float. Mount the float so that the float when it is in the lowest position, it just comes to the top of the green filter. Then plug the connector on the float into the connector at the bottom of the pump unit. Make sure that the vent hose is not in the way of the float and replace it with a longer one. See the photo below.
7. Voltage connection: the red and black wires on the Float Control 2 are for the voltage to make the FC2 work. Red is + and black is - (ground) and the + must be mounted behind the ignition lock on to the accessory plug that is attached in the left hand part of the fairing. Via the accessories connection you must supply the + and - to the FC2 with a relay. To connect wires you can use DUOFLUX, very handy because you can use the hot air of a paint stripper solder the wires together.



8. It has been found that sometimes the connectors have to be adjusted slightly, that is the female connector on the float and the female connector on the cable harness. I adapt it to the float myself, but I sometimes forget to check it. See the photo below. Cut the edge to a total width of ~8mm.



9. Reinstall the pump unit with the mounted float in the tank. See photo above

### **Calibration and commissioning.**

Before connecting the Float Control 2 to the connectors, you must first check (or have checked) that no error codes have been detected in the fuel system and a calibration must be carried out with a new foil sensor, which you can do better at a BMW dealer or another company that has such a foil sensor in stock. Afterwards you will have a normal view of the fuel supply again! See the photo below.

