

FUEL LEVEL SENDER AND FLOAT ARM

**Fuel Level Sender and Float Arm Part No RF 5410 fitted to Bentley MKVI type fuel tanks
Bentley MKVI / Early R-R Silver Dawn / Silver Wraith SWB and SOME coach built Bentley R types / R-R Silver Dawn and Silver Wraith LWB**

N. W. Geeson

The Bentley MVI fuel tank is wedge shaped in side view and was also fitted to a number of R types/ late R-R Dawn with Park Ward coach built bodies and also a few more from other coach builders. In addition it was fitted to some Silver Wraith LWB cars. The later fuel tanks are “C” or “L” shaped in side view and were fitted to Standard Steel Bentley R types / R-R Silver Dawn.

In this description the term Sender has been used to mean fuel tank unit to which the float is attached and the term Gauge has been used to illustrate the dashboard fuel gauge. This is necessary because R-R used the term gauge to describe both units.



Fig 1. Ready to tilt the float sideways

A number of owners suffer problems with the fuel tank senders on MKVI type fuel tanks. Quite often the owner has withdrawn the sender from the fuel tank not realising that the float is situated in the second fuel cell from the front of the car.

Fig 1 shows the positioning of a RF 5410 tank sender, at this point it can be seen that the end of the float that is not connected to the float arm must be entered into the tank aperture first and then the sender must be angled and the float tilted so as to allow the float to pass over the first tank baffle.

The necessary positioning sometimes causes the float arm to be slightly bent out of line and it will then promptly foul the tank baffle during its operation and provide a false fuel level reading. Of

course you don't expect this to happen right away, no, it will only show up halfway through your next longest journey when the float will foul somehow through its arc of travel. Fig 2 and Fig 3 provide some idea of the shape of the float arm.

It is vital to check the tank sender whilst it is removed from the tank against the dashboard fuel gauge. At least that proves the gauge and sender before assembly, if a fault appears afterwards it is probable the float has fouled. In order to check the calibration of the float travel against the dash gauge it is necessary to couple a wire from the body of the tank sender to a suitable earthing point and switch on the ignition. This is necessary because the sender unit will have no tank earthing when it has been withdrawn from the tank. To check the calibration you no doubt need some assistance whilst you activate the float arm from underneath.



Fig 2. End view of the float arm



Fig 3. Side view of float arm

Please humour all the contributors of this web site by ensuring you blank off the aperture in the fuel tank caused by the absence of the sender unit before switching on any ignition supply! The dangers of fuel vapour meeting a 12 volt electric spark should be obvious, but if you do not know the answer to this equation it equals explosion, and all our contributors are really upset when Bentley and R-R products are unnecessarily damaged, and your helper will not be happy!

Realising that the majority of MkVI owners will not be able to judge the float arm dimensions from the photographs in Fig 2 and Fig 3, as usual we have provided more detail in Fig 4.

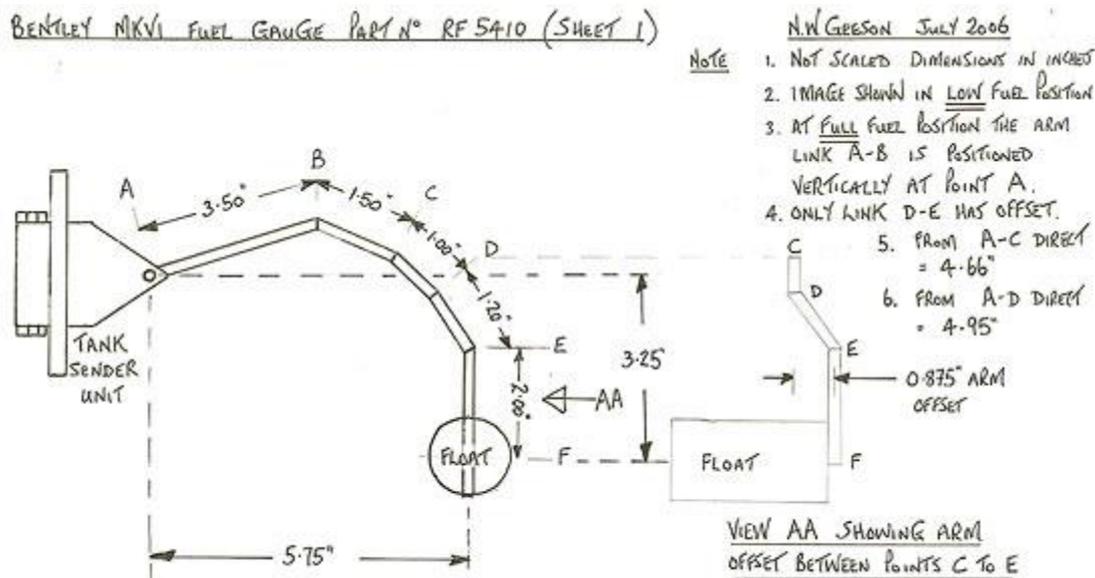


Fig 4. Float Arm measurements

In typical R-R fashion just to show that we can also complicate matters for no reason except to cater for some of our more demanding readers we have also provided Fig 5.

BENTLEY MKVI FUEL GAUGE PART N° RF 5410 (SHEET 2)

N.W. GEESON AUG 2006

NOTE

THIS ROUGH SKETCH IS INTENDED TO PROVIDE AN IDEA OF THE ANGLES OF THE FLOAT ARM AND IS FOR GENERAL INFO ONLY. USE SHEET 1 TO MANUFACTURE OR CHECK AN ARM.

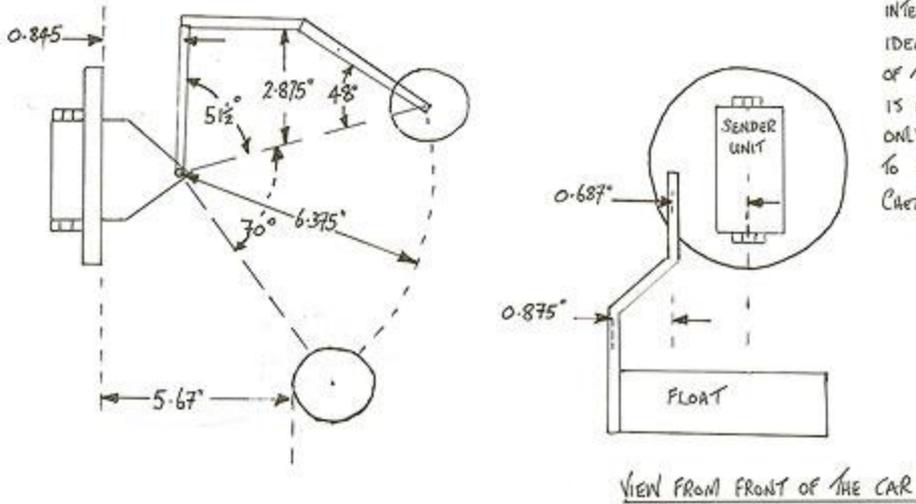


Fig 5. Float Arm Angles for the complicated

EARTHING FAULTS

A number of owners may experience a poor fuel tank earth problem when trying to fault find fuel gauge and sender problems. If poor earthing is suspected it is suggested that a suitable length of copper wiring is soldered to the outside of a large Jubilee clip, the clip is then secured around the steel fuel tank filler pipe at the tank end of the flexible rubber pipe. The other end of the wire is secured to the chassis side of one of the rear under wing body mountings. Do not over tighten the Jubilee clip or the filler pipe may crush and ensure all wire to metal connections are free of rust and paint. It is possible that the body mounting may need drilling to accept a holding bolt, remember to connect at the points mentioned otherwise the rubber tank filler or rubber body mounting will defeat the object of the exercise.