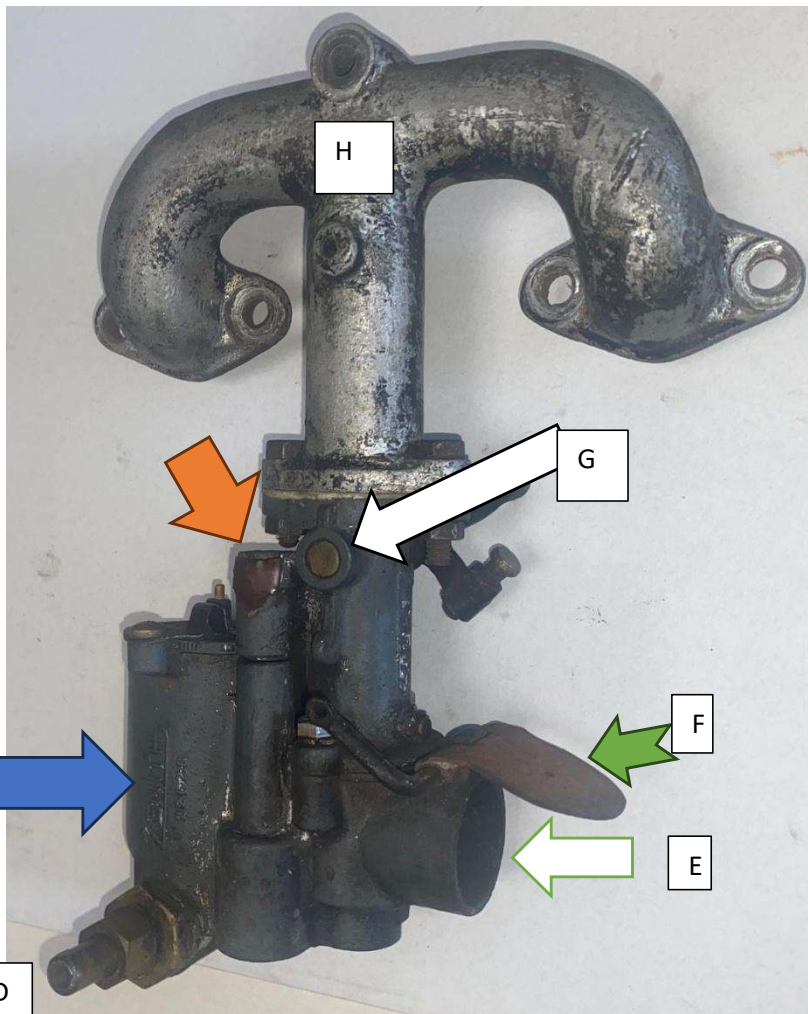


Beginners Guide to the early Carburettor (part 1, F Sibly)

The Float Chamber

The word carburettor comes from carburation, meaning to mix carbon with air.



There are effectively 3 chambers forming the carburettor

Blue Float **chamber**
Orange Compensating Jet **chamber**
Green Main Jet **chamber**

Other parts are:

D Petrol inlet from fuel tank or pump

E Air inlet

F Air strangler

G butterfly throttle valve spindle

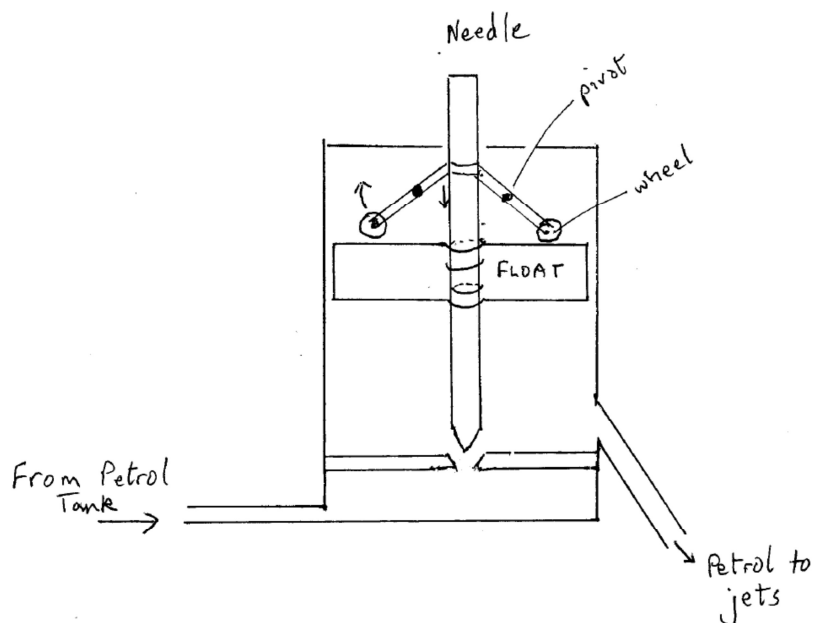
H inlet manifold (petrol air mixture goes through this to get into the inlet ports of the cylinders)

The photo shows an updraught carburettor, as the carburettor body is underneath the engine inlet (i.e. the inlet manifold), and so the air

petrol mix is being sucked upwards into the engine. Other designs are down-draught and side draught.

The first chamber that the petrol enters is the float chamber, the second and third chambers contain the jets, which mix the petrol with air.

The float chamber is a mechanism for keeping constant the pressure of petrol feeding the jets. It does this by providing a constant height of petrol above the jets. This is achieved by a see-saw mechanism of levers (see sketch), where, as the float rises, it pushes the needle downwards and into the petrol inlet, thus stopping more petrol entering the float chamber. This in turn increases the back pressure on the petrol pump, pushing the diaphragm down against its spring, inactivating it.



If the petrol-air mixture is wrong, it can be changed in one of two ways: changing the jet, or changing the height of the float.

The easiest change to understand is that if the petrol level is too high, then the final mixture fed to the engine becomes too rich because too much petrol is being forced through the jets (and vice versa). This height can be adjusted by moving the position of the needle on the float.

The carburettor shown is a Zenith updraught 22FZ or ZFB Carburettor. It is made from MAZAK which is an alloy of magnesium, zinc aluminium and chromium, and was used because it was easy to make components with, as it could be injection moulded. This material became known as “monkey metal” as it breaks easily. It was discontinued by 1945, and Zenith (an American company) adapted one of their post-war tractor carburettors for use in the A7. There is an excellent diagram of the 22FZ Carburettor on page B-9 of the Doug Woodrow Manual

CORRECTION to Beginners guide to the dynamo:

Ray Moses comments that when testing a dynamo, check that you are spinning it in the correct direction, as per the arrow on the casing. Join the Field and Dynamo terminals together. Check with a bulb or voltmeter between the F & D terminals and the earth